Pico
Installation Guide

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1. Introduction

The Tecella Pico is a USB-powered whole cell patch clamp amplifier. The Pico was designed with ease-of-setup and ease-of-use as top priorities. The digitizer, the headstage, the internal model cell, and the USB interface are all integrated into the Pico; therefore, the physical installation is reduced to simply connecting the USB cable to the Pico. No additional computer hardware is required, and no tools are needed to install the Pico.

1.1 Package Contents

Please confirm that you have the following components before beginning the installation process.

- Pico amplifier
- USB cable

1.2 Minimum Computer Requirements

The following are the minimum computer requirements.

- Processor (CPU)
  - Any multi-core Intel or AMD processor, or
  - Minimum 2GHz single-core Intel or AMD processor
- 3GB RAM (4GB or more recommended)
- 5GB free space on Hard Drive
- One free USB 2.0 port
- Windows 10, 8.1, 8, 7, Vista, XP

2. Installing the Tecella driver

Please refer to the attached documents for detailed instructions on installing the driver for your version of Windows.

The electronic versions can be found on the CD enclosed with your product under the folders "How_To_Install_Driver_on_...". Alternatively, it can be downloaded from the following link:

http://www.tecella.com/doc/Tecella_Driver_Installation.pdf

After the driver has been installed, the Pico is ready for use.

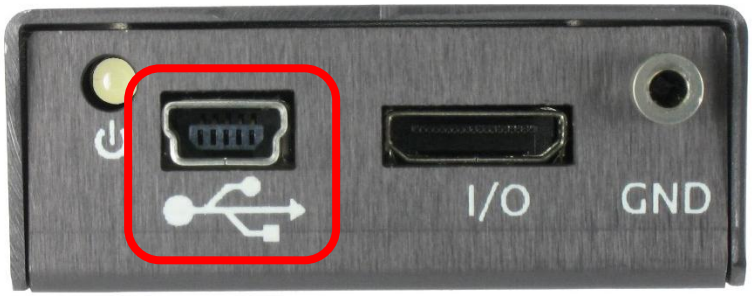
3. Connect the Pico

The Pico is powered by the USB. Therefore, only the USB cable connection and the ground reference connection are necessary to operate the Pico.

Optionally, the Break Out Box can be connected to the I/O port of the Pico for use with external digitizers.

These connections are described in the following sections.

3.1 Connect the USB cable

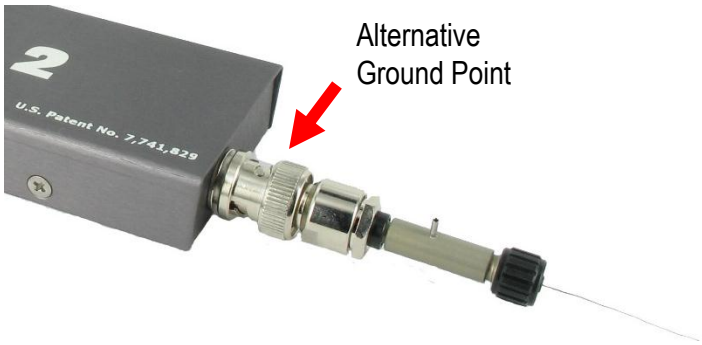


Attach the USB cable to the Pico and the computer.

When plugging in the Pico for the first time, the driver will automatically be installed. If queried, then follow the on-screen instructions to complete the installation of the Pico.

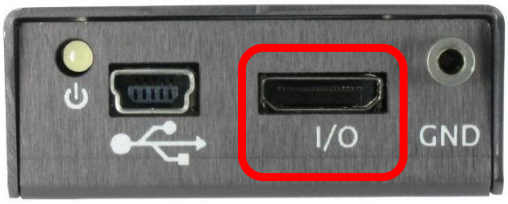
3.2 Connect the Ground reference

Connect the ground reference from your setup to the GND socket indicated below. The GND socket is a 2mm socket. An alternative ground point is the BNC connector shield.



3.3 Connect the Break Out Box – OPTIONAL

If using the optional Break Out Box, then connect the mini-HDMI cable supplied with the Break Out Box between the I/O port of the Pico and the Break Out Box. Please refer to the Break Out Box User Guide for its use and functionality.



Break Out Box

4. Set up the Software

The following software choices are available:

- WinWCP from the University of Strathclyde http://spider.science.strath.ac.uk/sipbs/software_ses.htm
- jClamp from SciSoft http://www.scisoftco.com/jclamp.html
- TecellaLab from Tecella http://www.tecella.com/download

Download and follow the instructions to install the appropriate software. Tips on installing and running some of the software(s) are provided in the following section(s).

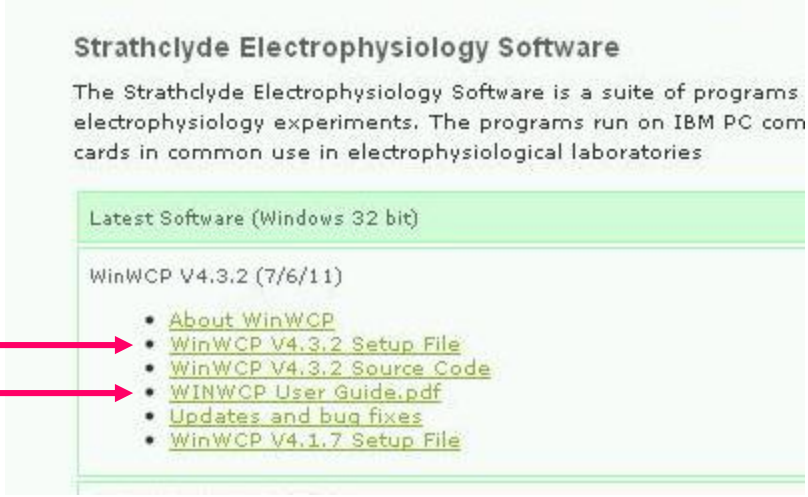
4.1 Tips on installing and running WinCP

Download the “Setup File” and “User Guide” from the University of Strathclyde’s WinWCP web site.

http://spider.science.strath.ac.uk/sipbs/showPage.php?page=software_ses

This is the software.
(WinWCP V.xxx Setup File)

This is the User Guide.



The User Guide can be found in the folder where WinWCP is installed, or can be downloaded from the above link, or from the direct link below.

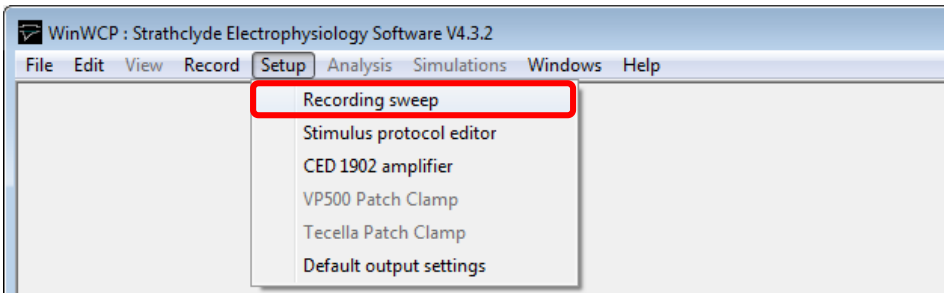
http://spider.science.strath.ac.uk/sipbs/media/40/ses/WINWCP%20User%20Guide.pdf

Run the Setup File, and follow the on-screen instructions to complete the installation process.

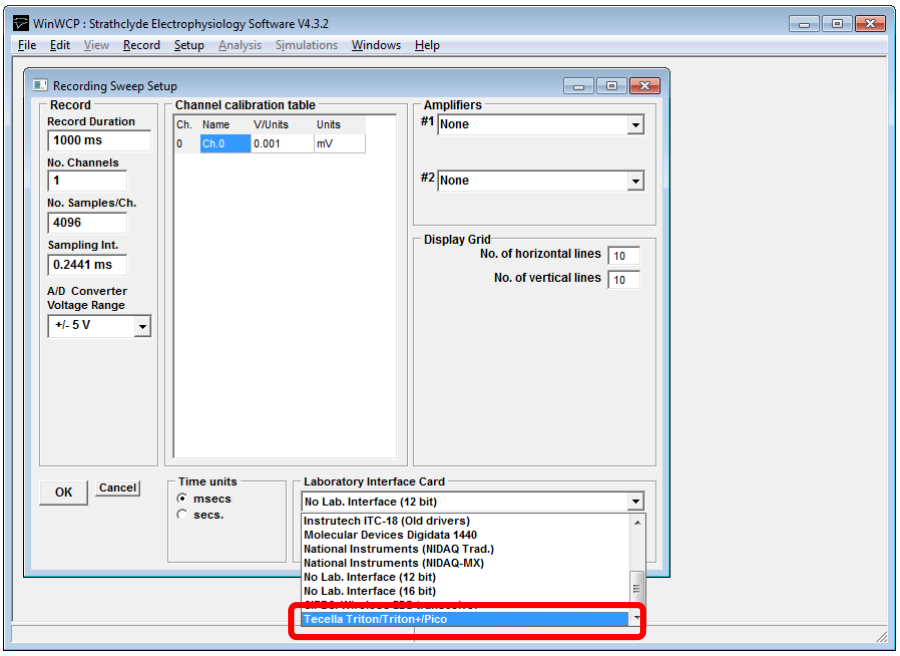
After installation, launch WinWCP from the Start menu, or by double-clicking on the WinWCP icon that has been created on your desktop as shown below.

For the first time only, you will need to set the Laboratory Interface Card by performing the following steps.

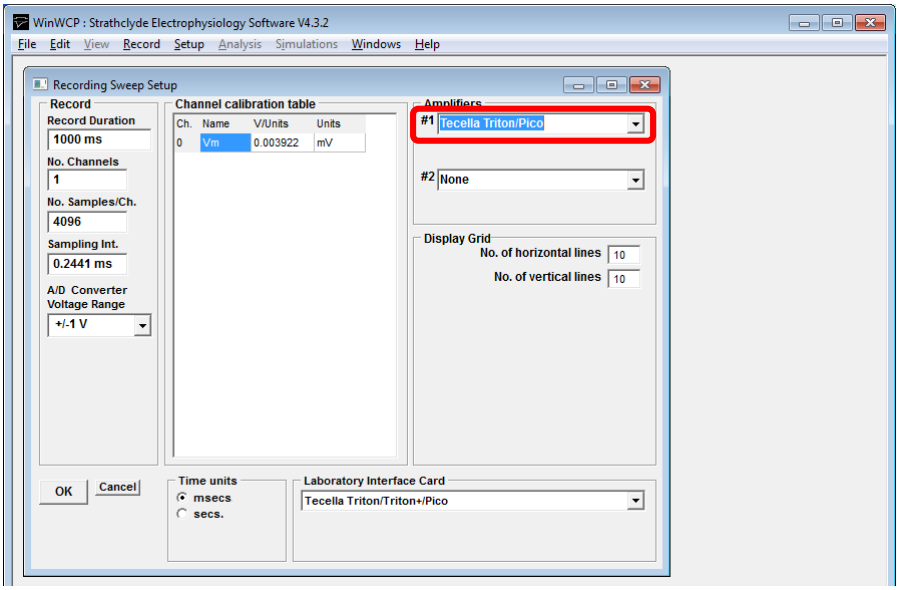
Setup > Recording sweep



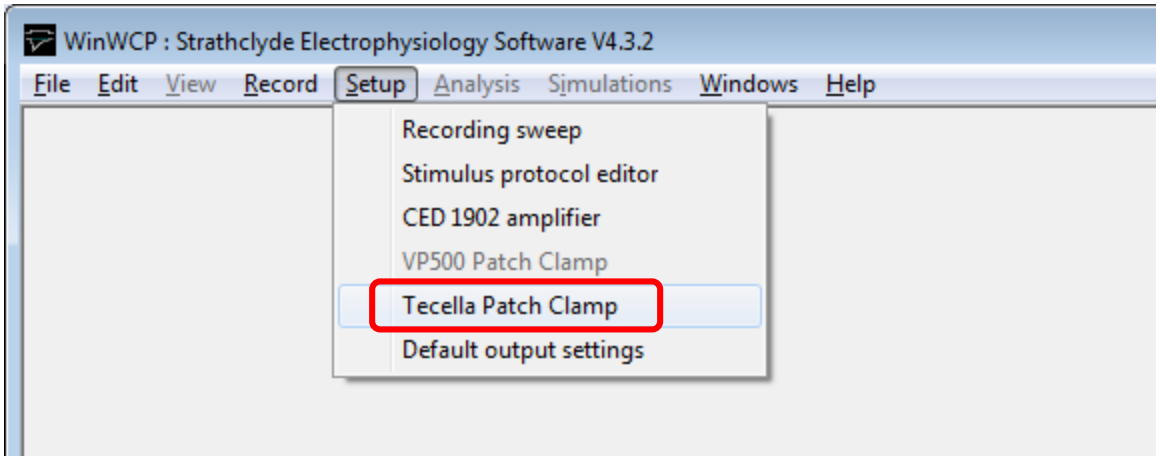
Laboratory Interface Card > Tecella Triton/Triton+/Pico



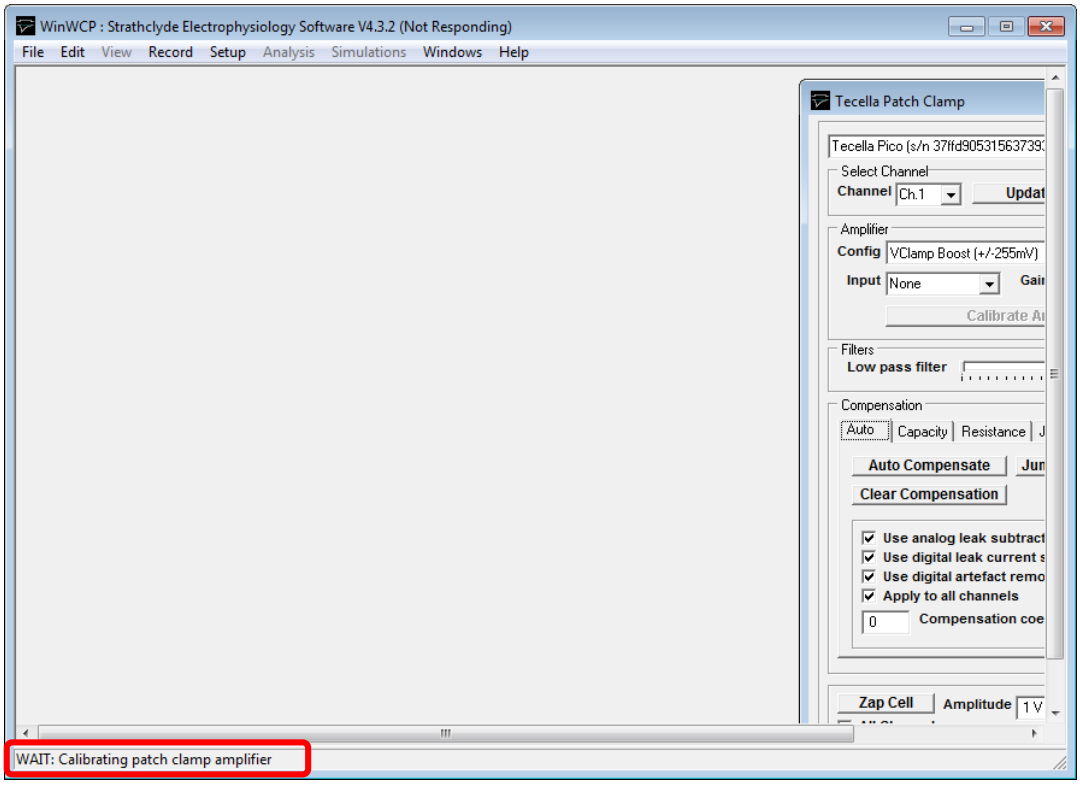
The Pico should now appear under “Amplifiers”.



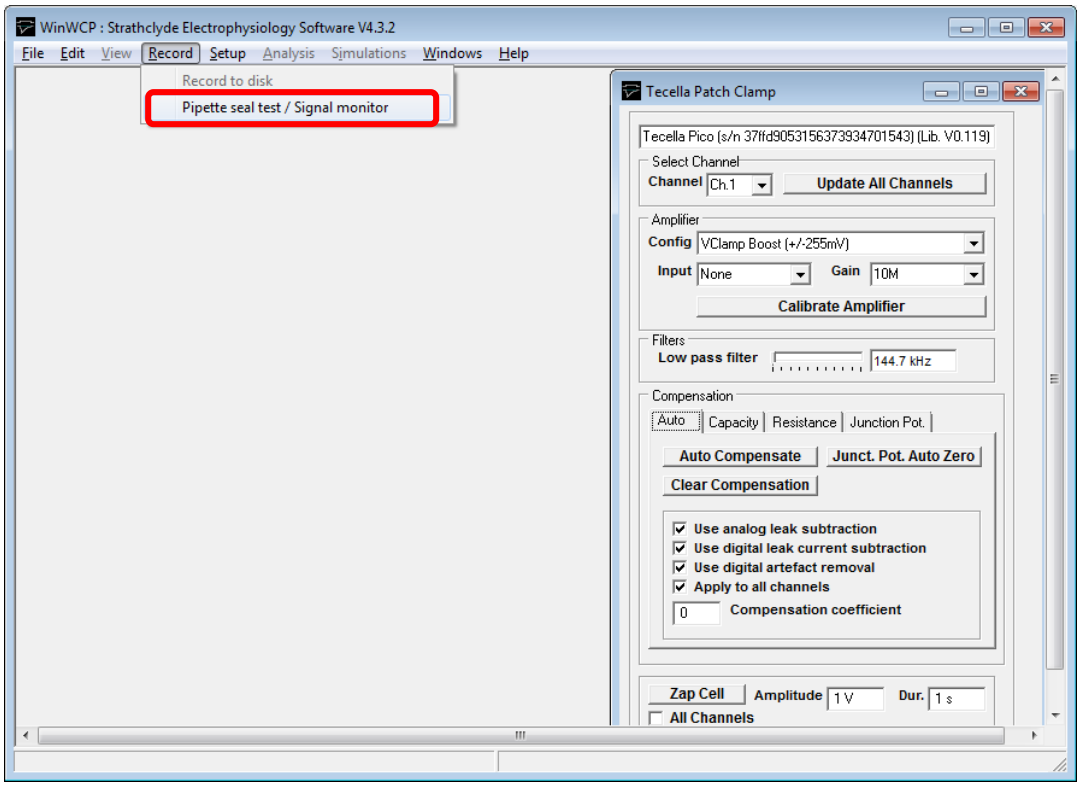
Setup > Tecella Patch Clamp



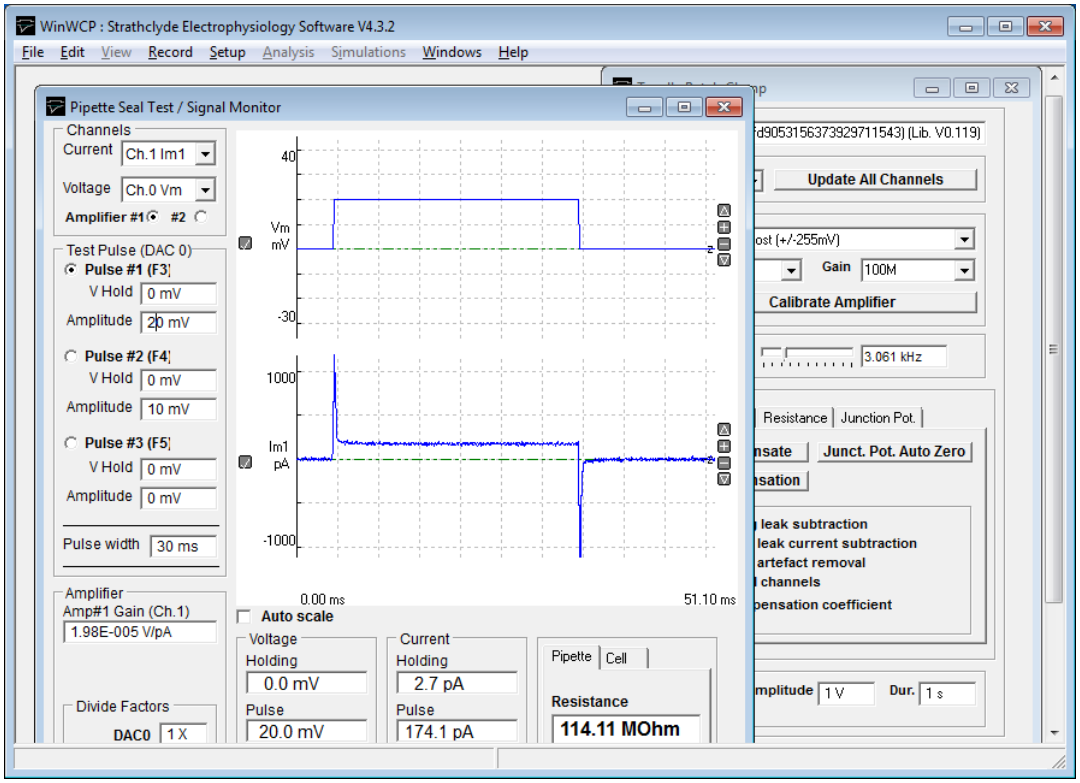
For the first time only, Pico will automatically be calibrated. **Calibration can take several minutes.** When the calibration is completed, the "WAIT" message at the bottom of the window will disappear.



Record > Pipette seal test / Signal monitor



Pipette Seal Test window appears.



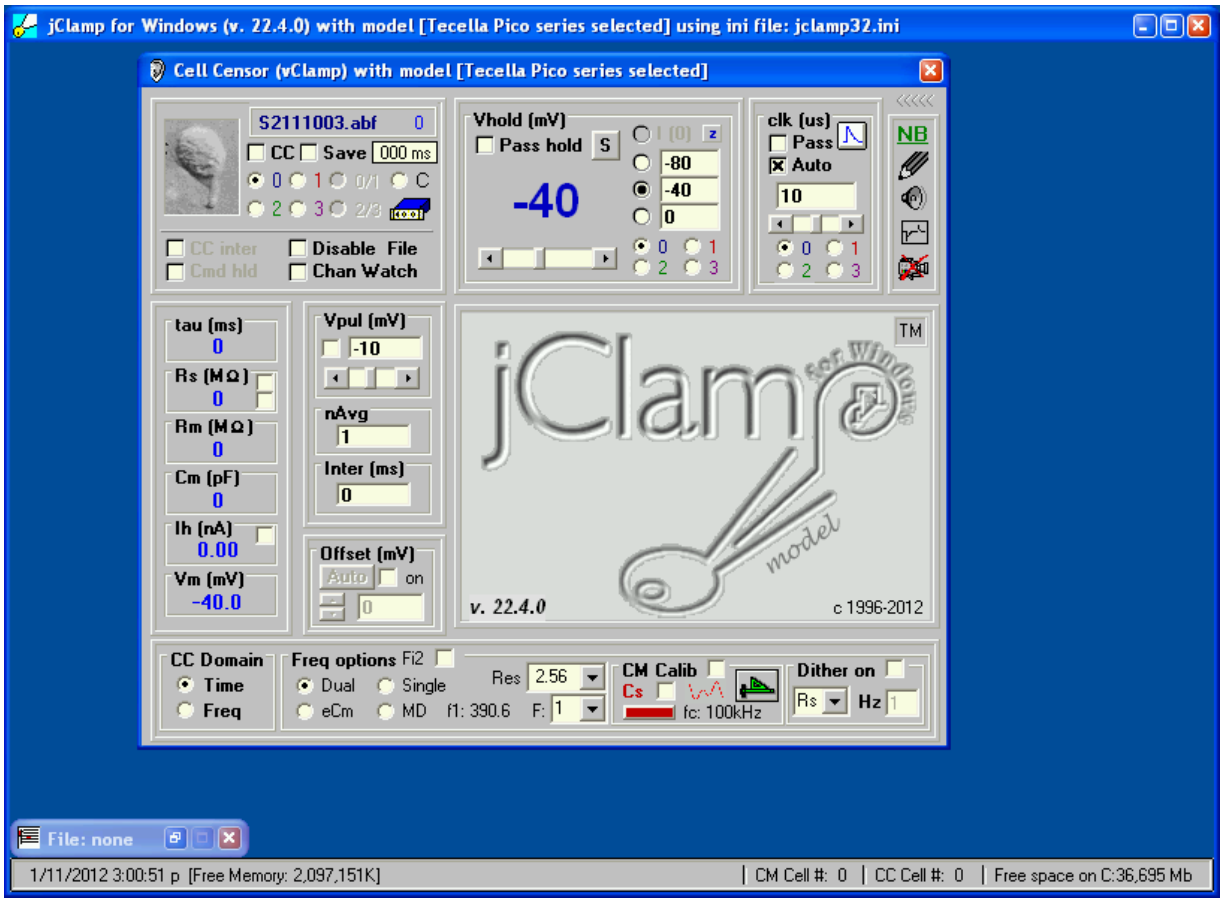
4.2 Tips on Installing and Running jClamp

Download the “Setup File” and “User Guide” from the University of Strathclyde’s WinWCP web site.

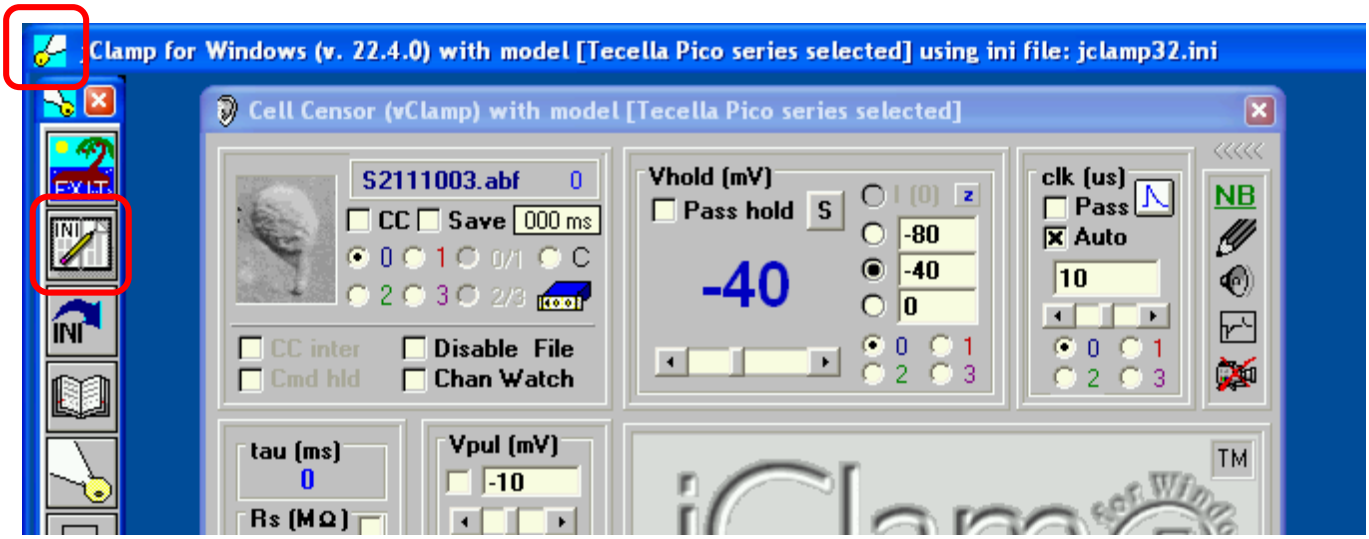
http://spider.science.strath.ac.uk/sipbs/showPage.php?page=software_ses

For the first time only, you will need to set the hardware to Pico.

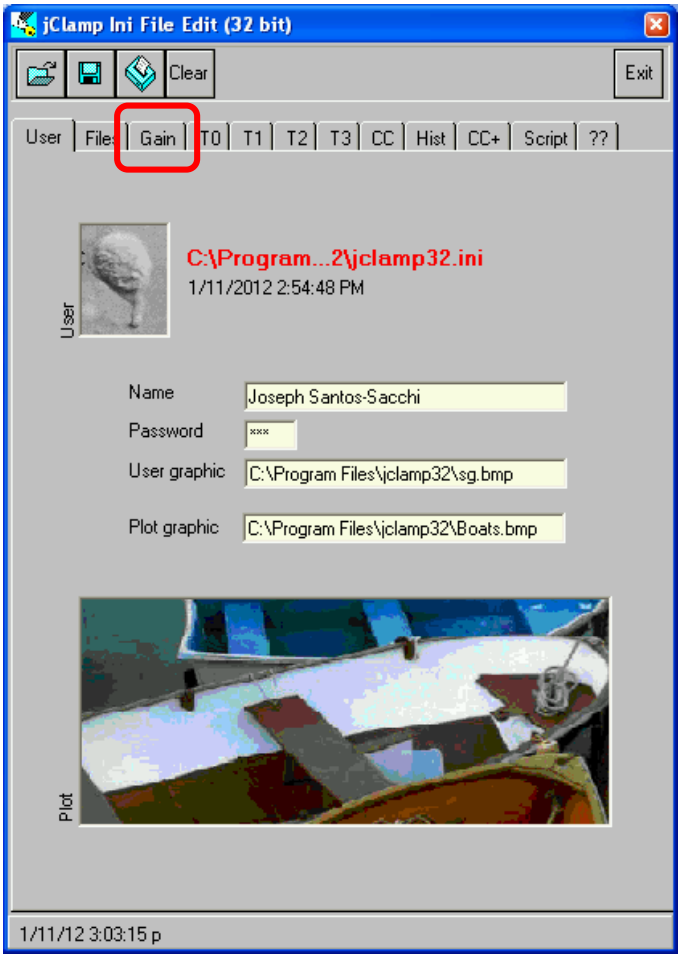
Double-click on the jClamp desktop icon to start jClamp.



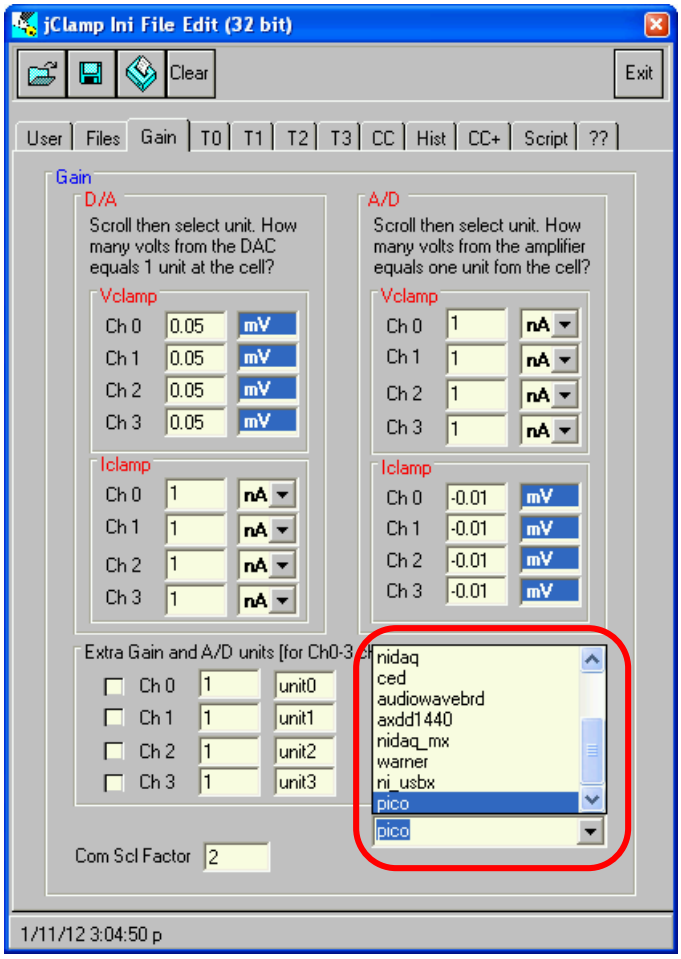
Mouse-over the upper left hand corner to display the menu. Then, click on the INI file editor icon.



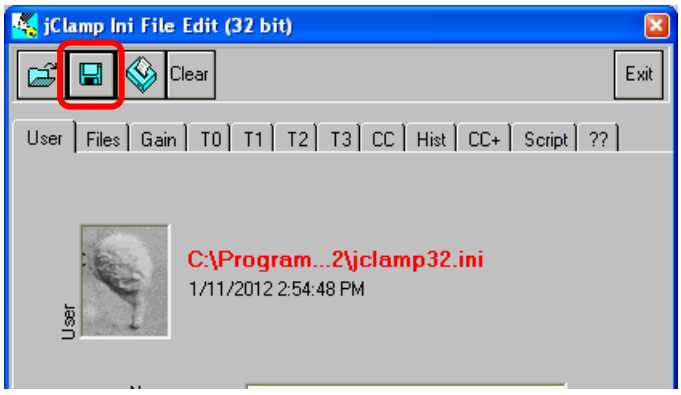
Select the “Gain” tab in the INI file editor.



Select “pico” in the lower right hand corner.



Be sure to save the changes. For most cases, saving to the default jClamp INI file is sufficient.



Please refer to the jClamp documentation to learn how to use the jClamp software.

4.3 Tips on Installing and Running TecellaLab

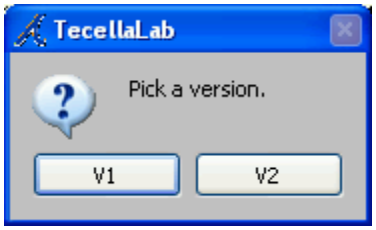
Download the latest TecellaLab release from the “Download” section of our website.

http://www.tecella.com/download

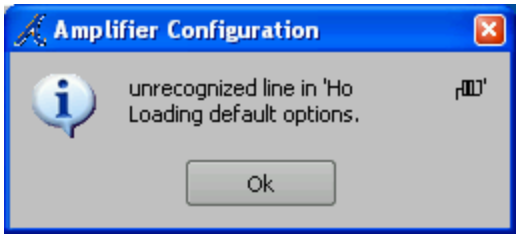
Unzip the downloaded file to a desired location. Double-click on the file named “TecellaLab.exe” to start TecellaLab.

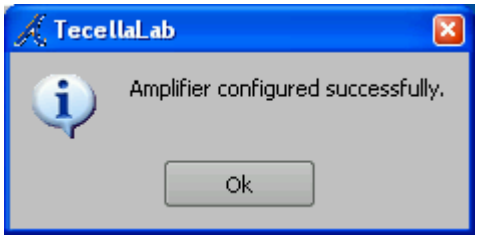
You will be prompted to “Pick a version” of the GUI. V1 is a simpler GUI, and is recommended for most users.

IMPORTANT NOTE: Trigger Out (Digital Out) function and Iclamp (current clamp) are not supported on V2 GUI. If you plan to use Trigger Out (Digital Out) or Iclamp, then please use V1 GUI.

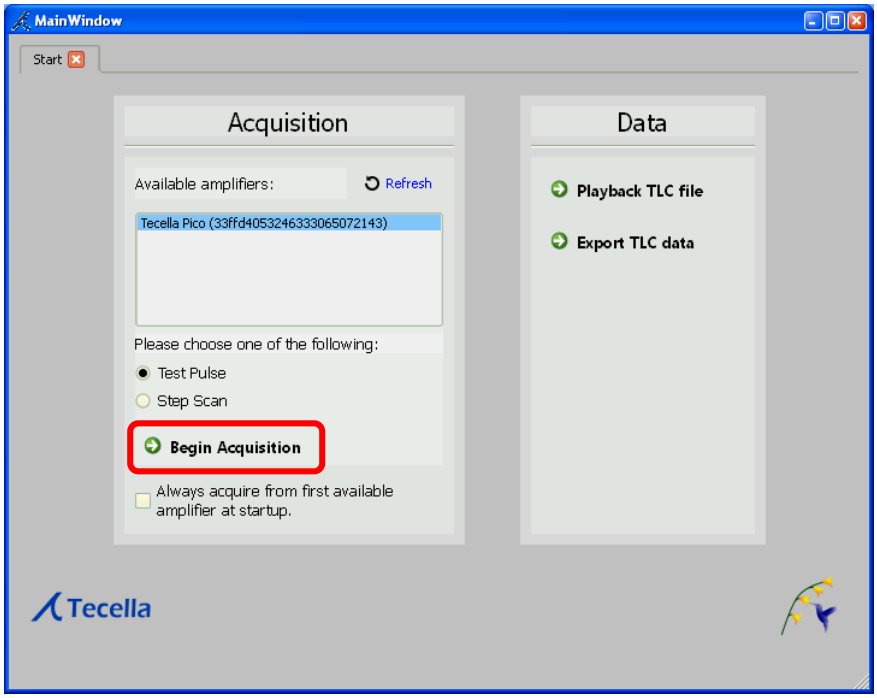


You might see either or both of the following screens. Ignore them by clicking on “OK”.

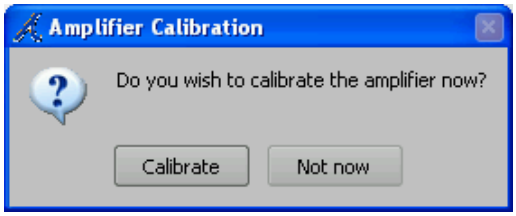




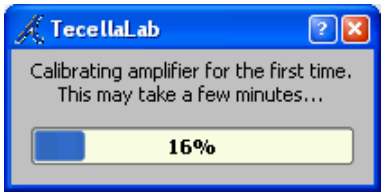
With the V1 GUI, you will see the following “Start” window. Simply click on “Begin Acquisition”. With the V2 GUI, you will not see this window.



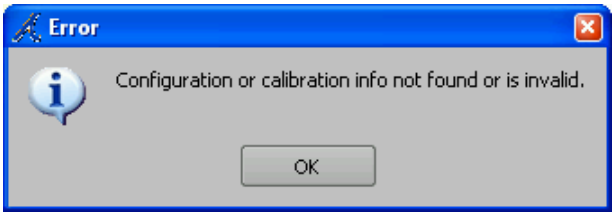
For the first time only, you will be asked whether to calibrate the amplifier. Click on “Calibrate”.



Calibration usually takes a minute or two.

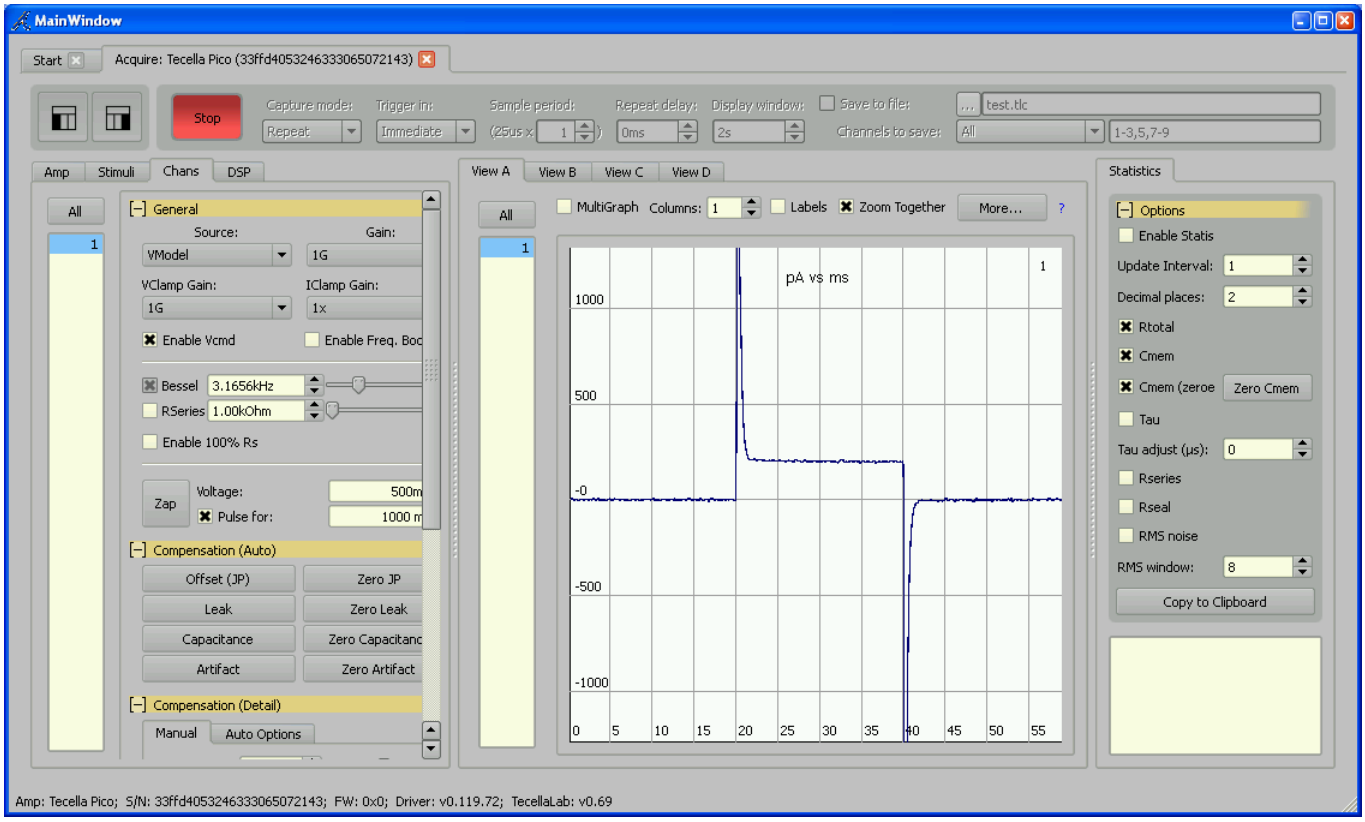


If you see the following dialog box, you can ignore it and click “OK”.

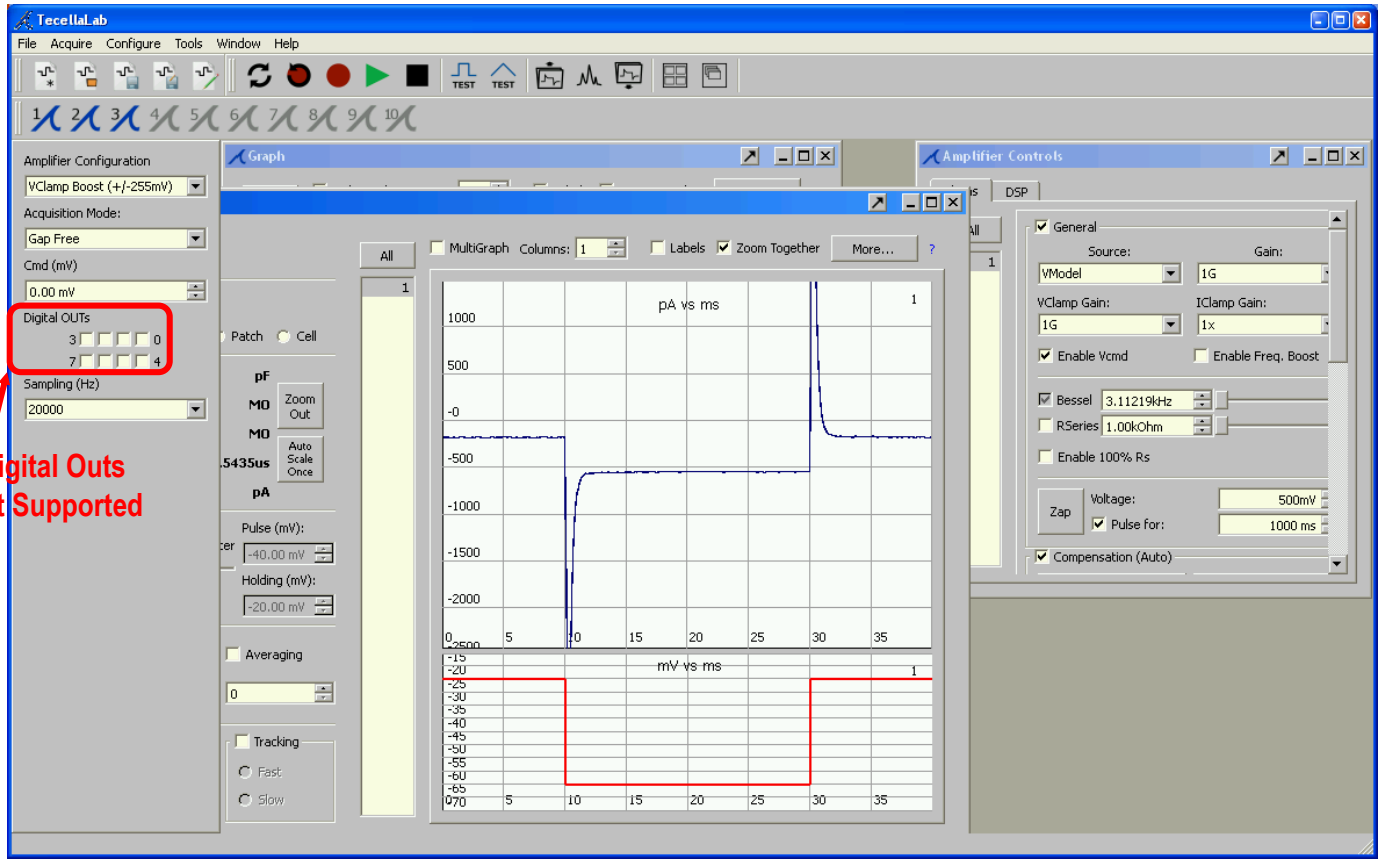


TecellaLab will start with whichever of the V1 GUI or the V2 GUI that was selected. V1 GUI is more stable, and is recommended. Trigger Out (Digital Out) function on V2 GUI is not supported.

V1 GUI:



V2 GUI:



Trigger Outs (Digital Outs) are not supported on V2 GUI, and are shifted on V1 GUI as the following.

V1 GUI:

Marking on Pico Break-Out Box (BOB) or Pico Trigger Cable	V1 GUI	V2 GUI
Trigger Out 1	Digital Out 4	Not Supported
Trigger Out 2	Digital Out 5	Not Supported
Trigger Out 3	Digital Out 6	Not Supported
Trigger Out 4	Digital Out 7	Not Supported

Trigger Outs (Digital Outs) can be set in the Stimulus Editor of V1 GUI as shown below.