

06590-M-0005

Getting Started with your Multi-Probe Micromanipulator (MPM) System

Read this document first!

Work through this checklist to efficiently set up your MPM System and learn the basic principles of operation. This process will help you to achieve maximum benefits in the shortest time.

CHECKLIST

Before your hardware arrives

As soon as you receive your order acknowledgement, download and explore the latest MPM Software. You will learn how to use the system, choose many settings and configurations, plan your physical setup, and practice using the software.

Do these steps:

- 1. Create a user account on the MPM User Portal
- 2. Download and install the latest software on your PC
- 3. Watch the Pathfinder software how-to videos on the portal
- 4. Use Simulation Mode to explore system capabilities and practice using the software
- 5. Read the Pathfinder calibration guide

After your hardware arrives

Now that you are familiar with the software and have practiced the basic operation of all the control features, you can immediately set up your hardware correctly for your experiment.

Do these steps:

- 6. Watch the hardware how-to videos on the MPM User Portal
- 7. Set up your hardware

BEFORE YOUR HARDWARE ARRIVES

1. Create a user account on the MPM User Portal

An MPM User Portal account is required to get support.

Complete the form at <https://www.newscaletech.com/register/>

Your request will be reviewed by a human. We'll get back to you within one business day. If you need immediate access, please call +1 (585) 924 4450 option 2, or email MPMsupport@newscaletech.com

2. Download and install the latest software on your PC

Log in to the portal.

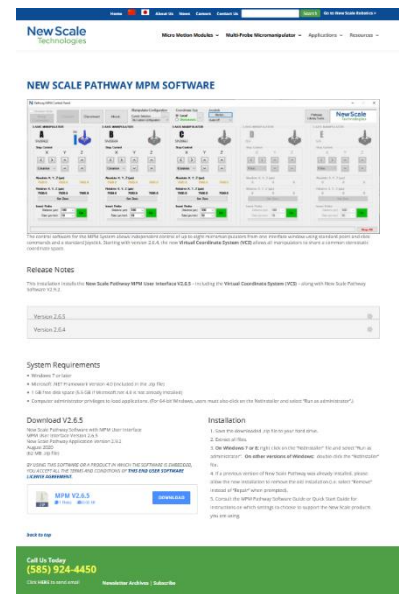
Navigate to “MPM Software & User Guides.”

Here you will find many resources including software. Scroll down -or- click the menu item “New Scale Pathfinder MPM Software.”

Download the .zip file and extract all files.

To install the software:

- Consult the *Pathfinder MPM Software Guide* (included in the .zip) for instructions on which settings to choose.
- or-
- Navigate to “MPM How-To Videos” on the portal and watch **video 4 | Software Installation & Connection** (you won't need to connect your adapters at this time)



3. Watch the Pathfinder VCS software how-to videos on the MPM User Portal

Navigate to “MPM How-To Videos” on the portal

Watch the video 6 | Simulation Mode Setup (1:58)

Watch any additional software videos to learn about key aspects of system operation. We recommend watching the following videos now:

- 7 | VCS – Viewer Basic Controls (1:41)
- 8 | VCS – Viewer Scene Selection (1:33)
- 9 | VCS – Viewer Virtual Probe Visuals (1:14)
- 10 | VCS – Calibrating the Virtual Coordinate System (5:28)
- 11 | VCS – Setting an Insertion Path (2:22)



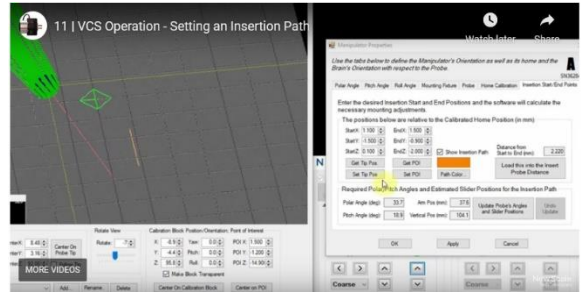
Please also consult the user guide:
06263-M-0003
Pathfinder MPM Software Guide

4. Use Simulation Mode to explore system capabilities and practice using the software

Even before your hardware arrives, you can use the MPM System simulation mode to learn and safely practice the basic operation of all the control features.

The joystick or game controller can also be used in simulation mode.

If you know the area of the brain you want to explore, you can enter stereotactic Start and Stop coordinates from your brain atlas into the Virtual Coordinate System and run an experiment in simulation mode.



Watch video 11 | VCS – Setting an Insertion Path (2:22)

Through this simulation exercise, you can determine in advance how you will set up your hardware. You can safely test your settings and explore different configurations.

You will determine a workable height for the MPM Platform, and the the exact positioning of each MPM Arm (polar angle, pitch angle, arm height and arm length). When you are ready to proceed to the next step, you will be able to immediately set up your hardware correctly for the purpose of this experiment.

5. Read the Pathfinder calibration guide

Calibration is essential for accurate probe placement using Pathfinder software, particularly when also using open source trajectory planning applications, like Neuropixels Trajectory Explorer (Peters Lab, University of Oxford) or Pinpoint (Virtual Brain Lab at the Steinmetz Lab, University of Washington).

We recommend you download the user guide, *MPM Pathfinder Software – Simulation Calibration Steps*, which reviews how to calibrate the probe location in Pathfinder for realistic simulation when using Trajectory Explorer or Pinpoint to plan trajectories.

This guide is found in the **MPM User Portal**, as described in section 1.

AFTER YOUR HARDWARE ARRIVES

6. Watch the hardware how-to videos on the MPM User Portal

We recommend watching the following videos now:

- 1 | **System Assembly – Manipulator Arms & Probe Mounts** (3:43)
- 2 | **System Assembly – MPM Platform** (2:35)

And if applicable:

- 3 | Special Considerations for UPRIGHT system (no platform)



7. Set up your hardware

Refer to the how-to videos and *MPM Hardware Guide* and set up your hardware.

Run your experiments in Simulation Mode (see step 4) to determine the platform height and manipulator arm positioning for your experiment. Run the Speed Performance Test to verify that your system is working properly.

Please also consult the user guide:

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MPM Hardware Guide

Contact Us

For questions or support call +1 (585) 924 4450 option 2, or email MPMsupport@newscaletech.com



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