## mh\_Macro\_Recorder User Manual By Martin P. Heigan (2025) Introduction

mh\_macro\_recorder.exe is a standalone Windows application for high-precision mouse and keyboard macro recording and playback. It features smooth interpolation, adjustable playback speeds, start delay and loop toggles, and responsive always-on-top controls for recording, pausing, resuming, and aborting sessions.

## Installation

1. Download \*\*mh\_macro\_recorder.exe\*\* from the official distribution source.  
2. Save the file to any folder (no installer needed).  
3. (Optional) Create a desktop shortcut for quick access.  
4. Ensure execution permissions; if blocked, right-click → \*\*Properties\*\* → \*\*Unblock\*\*.

## Launching the Application

Double-click \*\*mh\_macro\_recorder.exe\*\*. On first run, click \*\*Run\*\* at any security prompt. The main window opens centered at the bottom of the screen, dynamically sized to fit controls.

## Main GUI Layout

- \*\*Record Controls:\*\* Opens the Record Controls popup.  
- \*\*Save:\*\* Save the current macro as JSON.  
- \*\*Load:\*\* Load a JSON macro for playback.  
- \*\*Play:\*\* Opens Playback Controls and starts execution.  
- \*\*Playback Speed, Start Delay, Loop Playback:\*\* Positioned after \*\*Play\*\*, all in one row:  
 - \*\*Playback Speed:\*\* Choose 1.0×, 1.5×, or 2.0×.  
 - \*\*Start Delay:\*\* Delay start by 0s, 1s, 3s, 5s, or 10s.  
 - \*\*Loop Playback:\*\* Toggle continuous looping.  
- The window auto-sizes to prevent any button cutoff.

## Record Controls Popup

- Always-on-top (300×60px). Status label shows \*\*Ready to record\*\* or \*\*Recording…\*\*.  
- \*\*START\*\* (green): Begin recording.  
- \*\*STOP\*\* (red): End recording and close popup.  
- \*\*PAUSE\*\* (orange): Suspend recording.  
- \*\*RESUME\*\* (blue): Resume recording.  
- Press \*\*Esc\*\* or close (X) to stop and re-open later.

## Playback Controls Popup

- Always-on-top (300×60px), triggered on \*\*Play\*\*.  
- \*\*ABORT\*\* (red): Instantly stop playback, even mid-motion.  
- \*\*PAUSE\*\* (orange): Suspend playback.  
- \*\*RESUME\*\* (green): Continue playback.  
- Press \*\*Esc\*\* to abort and close.

## Precision & Interpolation

Mouse movements replay in <5px interpolation steps with interrupt checks between steps. Keyboard events follow exact recorded timestamps.

## Playback Speed & Timing

Playback uses absolute scheduling: recorded timestamps are divided by the speed multiplier, with an optional start delay before execution. Loop toggle can replay the macro continuously.

## Saving and Loading Macros

- \*\*Save:\*\* Opens a dialog to save the macro as a JSON file.  
- \*\*Load:\*\* Opens a dialog to load a JSON macro.  
- Loaded macros play back accurately with the selected speed, delay, and loop settings.