Hand Engine Pro 3.0.3 - Release Notes - Final

New version	Hand Engine Pro 3.0.3
Previous version	Hand Engine 2.2.2 SDK
Deprecated versions	N/A
Release date	3rd October 2023
Operating system	Windows 10 or later, 64bit
Meaning of icons	+added, ^changed, !note, #fixed, -removed
Recommended	**FIRMWARE** **Firmware for the MoCap Pro glove - Studio model:** MoCap Pro Studio glove firmware update 2.1.16 or higher Bluetooth Dongle firmware update 2.1.16 or higher Both are included in the Firmware Updater Tool within Hand Engine.

1. Introduction

This document describes the new Hand Engine Pro version 3.0.3 release. This release includes:

- Support for the MoCap Pro Studio glove

- A new calibration method, called Smart Calibration

- New inbuilt Firmware Updater tool

- A new hand model is displayed on the Hand Engine interface

- A new live streaming workflow for Unreal Engine and Unity via the Hand Engine SDK.

It is recommended to upgrade only if you have acquired the new MoCap Pro Studio gloves. All other customers are advised to continue using Hand Engine 2.2.2 SDK.

If you are upgrading from Hand Engine 2.2.2 SDK, you must reactivate your license by going into **Help** → **Deactivate License** from the top left menu.

It is recommended to use the latest firmware.

2. Major Changes

+Support for the MoCap Pro Studio glove is now available.

+Smart Calibration is a new calibration method that replaces the previous Express Calibration. It is based on 7 static poses the actor has to perform following the instructions on screen.

+Firmware Updater tool has been implemented to facilitate the update into a one-click process. Always make sure the gloves have enough battery and are within 30cm of the dongle when updating.

+New interface hand model is now available, also known as 'Robot Hands'.

^The glove data transfer rate was reduced from 120HZ to 60Hz, which is the capability of the Studio glove.

-Support for the MoCap Pro SuperSplay glove has been removed, this model is now deprecated and not being produced anymore. If you still own the SuperSplay gloves we recommend using Hand Engine version 2.2.2-SDK.

-Support for the MoCap Pro Fidelity glove has been temporarily disabled. It will be reinstated in the upcoming releases of Hand Engine 3. The current release is targeted at the Studio glove customers.

-Express Calibration is unavailable with the Studio gloves.

-Advanced Calibration is unavailable with the Studio gloves.

3. Other Changes

+Glove connectivity drop-down options clearly label the left or right hand.

+Glove status bar dynamically updates when the glove is connected.

+New Unity streaming workflow via the Hand Engine SDK and the new StretchSense plugin. The retargeting process can be done via the new plugin.

+New Unreal Engine streaming workflow via the Hand Engine SDK and the new StretchSense plugin. The retargeting process can be done via the new plugin.

^Xsens streaming default port updated to 6940 to match the default port in MVN.

^SDK default port updated to 60062 to match the port the Unreal and Unity plugin listens to. If you are streaming hand data to OptiTrack Motive the port needs to be updated to 50051.

-Glove wired connection is unavailable with the Studio gloves.

-The pose Editor tool has been temporarily disabled, it is unavailable with the Studio gloves.

-WiFi App support has been temporarily disabled, it will be reinstated in the upcoming releases of Hand Engine 3.

-SD card recording is unavailable with the Studio gloves.

-The Batch Processing tool has been temporarily disabled, it will be reinstated in the upcoming releases of Hand Engine 3.

#Issue where multiple previously connected USB COMPORT devices are restored in the glove connectivity drop-down even if the USB dongles are not physically connected to the PC has been fixed. The COM port options now tell whether it's a left or right-hand glove, and they only display on their respective hand side.

4. Known Issues

User Interface

- Constantly hovering the cursor over dropdown options from the Help menu on the UI may cause Hand Engine to crash.
- The Install Directory shortcut from the Help menu on the UI is non-functional (if you are upgrading from version 2.2.2 of the SDK, the shortcut will take you to the location of v2.2.2).
  The correct Hand Engine 3.0.3 Pro directory is: C:\Users\<*user_name*>\AppData\Roaming\HandEngine-3.0.3-PRO.
- If the PC enters sleep/hibernation mode, Hand Engine crashes upon waking up.

Calibration

- Performance issues when using the *Smart Calibration:*
  - The *MoCap Pro Studio* has a slightly muted thumb motion, particularly in the *Paddle* and *Paddle Reach* poses.
- At the end of the calibration, the hand animation may freeze for a couple of seconds as the final model is trained.

Streaming

- Depending on the memory of your PC, streaming on more than 5 performers (10 pairs of gloves) into *Unity, MotionBuilder, Maya, or Unreal Engine* can lead to drops in performance quality. Please see the bottom of the *Hand Engine* webpage for minimum PC requirements: https://stretchsense.com/solution/hand-engine/

Recording

- When recording there will be a 1-second keyframe gap in the *FCurve* within the first 2 seconds of the recorded FBX file due to the time it takes for the recording message to be sent out.

Tools

- Firmware Updater:
  - Access to the Firmware Updater tool gets blocked after closing Hand Engine with the Settings window open. In order to unblock the tool, open and close the Settings window again.
  - Certain failures during the firmware update process such as the dongle being unplugged, USB port issues, glove losing connection may result in getting the update stuck. Restarting Hand Engine and running the update again fixes these issues.
- Remapping: The Remapping Tool is currently non-functional when streaming into a custom character in MotionBuilder and Maya