



Hand Engine 2.1.0 Release Notes

New version	Hand Engine 2.1.0
Previous version	Hand Engine 2.0.0
Deprecated versions	Hand Engine 1.5.2
Release date	16/08/22
Operating system	Windows 10, 64bit
Meaning of icons	+added, ^changed, !note, #fixed, -removed
Requirement	<p>FIRMWARE UPDATES</p> <p>Firmware for the MoCap Pro glove - SuperSplay model:</p> <p>MoCap Pro SuperSplay Glove firmware update 01.01.03 or higher</p> <p>Bluetooth Dongle firmware update 01.01.04 or higher</p> <p>Both are included in Launcher firmware bundle version SuperSplay Bundle 1.9 available in your account section of our website</p> <p>Firmware for the MoCap Pro glove - Fidelity model:</p> <p>MoCap Pro Fidelity Glove firmware update 01.00.00 or higher</p> <p>Bluetooth Dongle firmware update 01.01.04 or higher</p> <p>Both are included in Launcher firmware bundle version Fidelity Bundle 1.0 available in your account section of our website</p> <p>FIRMWARE UPDATE INSTRUCTIONS</p> <p>Firmware Update Process via Launcher (Beta)</p> <ul style="list-style-type: none"> • How to Update Your Mocap Pro Glove and USB Dongle Firmware via the StretchSense Launcher <p>Legacy Firmware Update Process</p> <ul style="list-style-type: none"> • Bootloader Recovery (if not using Launcher) • Glove Firmware Update Process • Dongle Firmware Update Process <p>OTHER UPDATES</p> <p>StretchSense WiFi App</p> <p>If using StretchSense Wi-Fi App then this will also require an update, which you can download from Google Play</p> <ul style="list-style-type: none"> • StretchSense Wi-Fi (UDP) Link App version 1.18 or higher <p>Plugins</p> <p><i>MotionBuilder</i> Plugin has been updated to 01.00.20. Please download from the account section of our website</p>

1. Introduction

This document describes the new features, improvements and bug fixes included in software update 2.1.0 for *Hand Engine*. For in-depth guides on specific features please visit the *StretchSense Knowledge Base* <https://get.stretchsense.com/knowledge>.

2. Major Changes

Express Tuning reintroduced for SuperSplay and added for Fidelity

+ Support for *Express Calibration Tuning* using *Blend Poses* for both the *MoCap Pro SuperSplay Glove* and *MoCap Pro Fidelity Glove*.

3. Other Changes

^ On the *Training* tab in the *Advanced Calibration* view the *Training Configuration Detected* labels have been updated to match those used during the StretchSense onboarding process and on the StretchSense website:

- **Express** = *Express Calibration* only
- **Tuned Express** = *Express* plus 1 or more *Blend* poses
- **Express with Key Pose** = *Express* plus 1 or more *Key Pose* poses (previously Hybrid Express)
- **Tuned Express with Key Pose** = *Express* plus 1 or more *Blend* poses and 1 or more *Key Pose* poses

- **Blend Pose** = Only *Blend* poses (previously called Blend)
- **Blend Pose with Key Pose** = 1 or more *Blend* poses and 1 or more *Key Pose* poses (previously called Hybrid)
- **Key Pose** = Only *Key Pose* poses (previously called Pose)

+ You can now use a single *Key Pose* in combination with *Express*, *Tuned Express* or *Blend* where previously you had to use two or more *Key Poses*.

+ *Hand Engine 2.1.0* prevents users from exiting *Hand Engine* during recording. Users must stop recording before they exit the application.

4. Bug Fixes

User Interface

- Fixed an intermittent bug where, having quit the previous *Hand Engine* session while the gloves were still connected, a blank user interface appeared upon restarting *Hand Engine*.

Installation

- Fixed an installation issue faced by users with certain PC permissions by allowing users to install to all user profiles.
- Fixed an issue where installing to all users can cause a hard crash of *Hand Engine* when attempting to record data.

SD Card Recording

- Fixed an issue where SD card recording trigger could become out of sync with start and stop recording when using the Wi-Fi Bridge App as an input source.

Remapping

- Fixed an issue with remapping onto character rigs with asymmetric left and right joint hierarchy.

Importing Express Calibrations

- When importing a calibration that only contains *Express Calibration* (and no captured poses), the user no longer has to capture a single pose (any pose) before clicking the *Train* button to train the imported *Express Calibration*.

Pose Editor

- Fixed formatting issues by adding a scroll bar to the 'Select Base Pose' dropdown.

5. Known Issues

User Interface

- On load, multiple previously connected USB COMPORT devices are restored in the source dropdown even if the USB dongles are not physically connected to the PC. These sources are not available to be connected to. However, if you reconnect these USB dongles to your PC you are able to be connect and calibrate.
- If your *Remap Profile Name* is longer than 62 characters it will extend the boundaries of the UI element on the *Remapping Target* dropdown.

Calibration

- If using multiple *Key Poses* for *Blend with Key Pose*, *Express with Key Pose* and *Tuned Express with Key Pose*, we recommend that the poses be dissimilar or at opposite joint angles to each other, i.e. *Fist* and *Paddle L* or *Thumb Up* and *Paddle*.
- Performance issue with the *MoCap Pro SuperSplay* with the index and pinky splay being overly sensitive when using *Express Calibration*.
- At the end of an *Express Calibration* the hand animation may freeze for less than a second as the final model is trained.

Streaming

- If streaming from *Xsens MVN* to *Unreal Engine 5* via *MVN LiveLink*, we suggest setting up finger streaming from *Hand Engine 2.0.0* into *MVN* after the *MVN LiveLink* connection has already been established in *UE5*. If you attempt to setup streaming from *Hand Engine 2.0.0* to *MVN* before setting up the *MVN LiveLink*, it is possible to run into an issue where the *MVN LiveLink* will not connect in *UE5*.
- Depending on the memory of your PC, streaming on more than 5 performers (10 pairs of gloves) into *Unity*, *MotionBuilder*, or *Unreal Engine* can lead to drops in performance quality. Please see the bottom of the *Hand Engine* webpage for minimum PC requirements: <http://stretchsense.com/solution/hand-engine/>.

Recording

- When recording via a wireless connection (i.e. Bluetooth dongle or Wi-Fi app) there will be a 1 second keyframe gap in the *FCurve* within the first 2 seconds of the recorded FBX file.
- When recording is triggered, if you are also recording to SD card (i.e. SD Card Recording set to "Triggered by Record") there will be a delay in the hand animation in the viewport of up to 2 seconds. This is due to a delay in the operations associated with the SD card trigger on the Glove circuit. This does not affect the recording itself, only the viewport.

Remapping

- Sometimes when loading a new FBX file which is similar to an existing FBX file used in remapping, the joint selector dropdowns in the user interface may not appear. The current workaround is to select a new root joint for the hand and set up the remap again from the start.

- When loading in a new FBX the *Remap Profile Name* from the most recent remap profile setup will populate the *Remap Profile Name* text field. We recommend making sure to rename the profile name before updating any joints to avoid overwriting previously created remapping profiles.
- It is not currently possible to delete *Remap Profiles* you have previously created yet.

File Playback

- *File Playback* with an *Express Calibration* is only possible when a minimum of 1 pose has been captured i.e. at least one pose must be checked in the *Blend* column of the *Hand Training* tab in the *Advanced Calibration View*.

Wi-Fi App

- Depending on your PC specifications, phone specifications and Wi-Fi network latency, it is possible to run into performance issues when using the Wi-Fi app for 4 or more performers. The Wi-Fi app continues to receive regular updates so please keep up to date with the latest available version on [Google Play](#) and keep up to date with the Knowledge Base for recommendations on setup when using the Wi-Fi app: <https://get.stretchsense.com/knowledge/how-to-setup-a-wi-fi-bridge-using-an-android-phone-doc-5030-preview-feature>.

Wired Connection

- SD card recording is not possible when using a wired connection for the *MoCap Pro SuperSplay* and *MoCap Pro Fidelity*. We recommend setting this to "off" when using the wired connection.
- When using a wired connection, the *MoCap Pro SuperSplay* will disconnect when recording is stopped if SD card record is set to "Triggered by Record". We recommend setting this to "Off" when using a wired connection. This issue will be fixed in a future glove firmware update to the *MoCap Pro SuperSplay*.
- When using a wired connection, the *Timecode Jam Sync* indicator for the *MoCap Pro Fidelity* is not activating even when within an acceptable range of 2 frames. This will be fixed in a future glove firmware update to the *MoCap Pro Fidelity*.

Launcher

- *Hand Engine 2.1.0* can not be launched by the *StretchSense Launcher Beta 0.7.4*. The *Launcher* can still be used for firmware updates.