Motive

OptiTrack™

❶ Software Installation

Download the Motive software installer from the Motive Download Page: www.optitrack.com/downloads/

Run the installer and follow its prompts. Activate your software by launching Motive (once installation is finished) and clicking on the License Tool button in the Motive splash screen, or by using the OptiTrack License Activation Service: www.optitrack.com/support/

❷ Placing Cameras and Hubs

Cameras should be placed around the capture volume so that markers in the volume will be visible by at least two cameras at all times. Aim cameras so that their views overlap the most in the region where most of the capture will take place. When using tripods or camera stands, ensure that they are placed in stable positions. Any camera movement after calibration will require recalibrating the system. Cable strain-relief should be used at the camera end of camera cables to prevent potential damage to the camera.
For more information, visit:
wiki.optitrack.com/index.php?title=Prepare_Volume

❸ Cabling and Load Balancing

USB systems: When placing cameras, keep cable length restrictions in mind. USB cameras must be connected to hubs with cables not to exceed 5 meters in length. The hub must be connected directly to the computer with no more than one 5 meter USB cable and up to two 5 meter active USB extensions for a total of 15 meters between the computer and the hub. Additionally, OptiHubs require external power, and synchronization cables must be connected in a chain between OptiHubs. When connecting hubs to the computer, ensure the cameras are evenly split between the computer's USB controllers to optimize available bandwidth. The controller each camera is associated with can be viewed in the Device pane.

Ethernet systems: Ethernet cameras are subject to the limitations of the PoE (Power over Ethernet)and Ethernet communications standards, meaning that the distance between camera and switch must be less than 100 meters. Separate Ethernet camera network traffic from the office/local area network. If the computer used for capture is connected to an existing network then use a second Ethernet port or add-on network card for connecting the computer to the camera network. For best performance do not connect devices other than the capture computer to the camera network. Add-on network cards should be installed if additional Ethernet ports are required.

❹ Camera Calibration

Click the Layout → Calibrate menu item to access the calibration layout. Ensure that the volume is free of unwanted objects, and that all light interference has been physically masked off. Click Block Visible to use software masking to block any light sources or reflections that cannot be physically masked. Click Start Wanding to begin wanding. When enough samples have been collected, click on the Calculate button to begin calibration calculations. When the Ready to Apply button becomes enabled, click Apply Result to apply the calibration and save it to a file.

❺ Suit Up

Put on the motion capture suit and ensure that it is as tight as possible. Motive derives the position of each body segment from the markers that you will place on the suit, so preventing the shifting of markers due to a loose-fitting suit is essential.

❻ Define a Skeleton

Click the Layout → Create menu item to access the model creation layout. Have the actor you wish to define a skeleton for enter the volume wearing a suit that is fully and appropriately markered. You can select the marker set you wish to use from the dropdown in the skeleton pane and view the correct positioning if necessary. Once only the desired actor is in view and striking a T-pose, click Create.

❼ Record Data

Once the volume is calibrated and skeletons are defined, click the Layout → Capture menu item to access the capture layout. Press the red record button to begin capturing 3D data. Once data is captured, you can trajectorize, edit, and export your data in C3D, BVH, or FBX format for use with most 3D animation software.

❽ Label Data

Markers associated with Rigid Bodies and Skeletons are labeled automatically. Unconstrained markers can also be tracked, but need to be labeled manually. These markers can be grouped into MarkerSets - a collection of labels. MarkerSets are recorded with a take. Each marker is then labeled manually after trajectorization.

Need help?

Call technical support at 1-888-865-5535 or e-mail us at support@optitrack.com. For general information, please visit www.optitrack.com.