Arena

OptiTrack ™
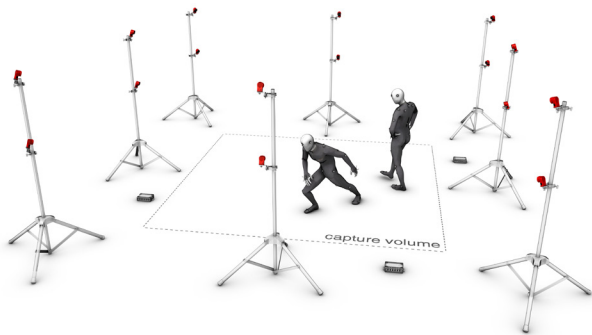
❶ Software installation

Download the Arena installer from the OptiTrack website: www.naturalpoint.com/optitrack/downloads/arena.html

Run the installer and follow its prompts.

Activate your license using the activation link placed on your desktop by the installer, or by using the online activation tool: www.naturalpoint.com/optitrack/support/

❷ Placing cameras and hubs

capture volume

Cameras should be placed around the capture volume so that the markers will be within view of at least two cameras at all times. Aim cameras so that the maximum overlap of camera view occurs in the region where most of the capture will be taking place. For more information, visit the Arena tutorials:

www.naturalpoint.com/optitrack/products/arena/tutorials.html

Recommended Setup Dimensions	USB	Ethernet
Minimum setup area	15' × 15'	15' × 15'
Maximum setup area	20' × 20'	40' × 40'
Minimum setup height	8'	8'
Maximum setup height	12'	14'

When using tripods or camera stands, ensure that they are placed in stable positions. Any camera movement after calibration will require recalibrating the system. Strain-relief camera cables to prevent damage to cameras and cables.

For hub or switch placement, divide the cameras into two sets using an imaginary line from the PC workstation to the two cameras farthest away from it. These two cameras will determine the placement of your first two hubs or switches. For each camera, run its USB or Ethernet cable toward the PC to be as close as possible. Locate a hub or switch here.

Need help?

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

❸ Cabling and load balancing

For USB systems: When placing cameras, keep cable length restrictions in mind. USB cameras must have no more than 5m between the camera and the hub with no extensions. The hub must be connected directly to the computer with no more than one 5m USB cable and up to two 5m active USB extensions for a total of 15m 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 USB controllers to optimize available bandwidth. The controller each camera is associated with can be viewed in the Assets explorer.

For Ethernet systems: Ethernet cameras are subject to the limitations of the PoE and Ethernet communications standards, meaning that the distance between camera and switch can be up to 100m.

Segment 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 Calibration wizard

Start the Arena software and choose Calibration Wizard from the Wizard menu. This will guide you through the process of wanding, calibrating, and setting the ground plane. Once you've completed the wizard, your capture volume is ready to use.

❺ Suit up

Put on the motion capture suit, and ensure that it is as tight as possible. Arena 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 Skeleton wizard

Choose Skeleton Wizard from the Arena software's Wizard menu. This will guide you through the process of placing markers for each body segment. Once all markers have been placed, the wizard will guide you through fine-tuning the software's default skeleton to match the actor's body dimensions. After the fine-tuning is complete, the Wizard can apply this skeleton to groups of points for automatic marker labeling.

❼ Press play

After the above steps have been completed, press the software's play button to activate the cameras. Once the actor enters the capture volume and strikes a T-pose, Arena should automatically detect the skeleton and begin tracking. Press the record button to begin capturing takes.