



Security advice:

- Do not use any components if looking damaged!
- Do not use any different cables than supplied with the system!
- Do not plug in the TRACKPACK Camera or Controller connection cables to any standard ethernet ports!
- Do not look directly into the camera from short distance (<30cm) for a longer period of time (>30sec)!

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Included in delivery for two-/four- camera version:

- ✓ 2 (4) TRACKPACK cameras
- ✓ 2 (4) ceiling suspensions D2
- ✓ 2 (4) Firewire A (Firewire B) cables
- ✓ 2 (4) RJ45 cables
- ✓ 1 room calibration set
- ✓ 2 standard bodies/targets
- ✓ 1 TRACKPACK Controller
- ✓ 1 DTrack2 frontend software

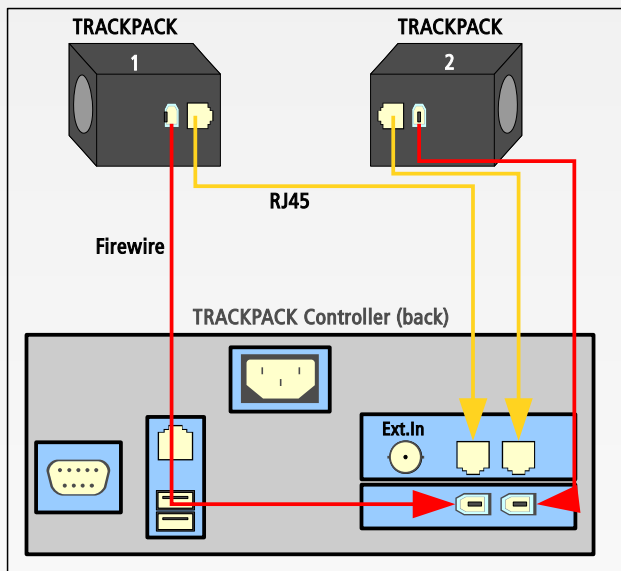
Important note:

The tracking system is very sensitive to camera movements. Therefore, the cameras have to be mounted in a way that reduces camera movements (especially vibrations). A camera rotation of just 0.2° will make camera data worthless for tracking in most cases.

1

Mount the cameras at the desired position before connecting the cables! Please keep the distance between the cameras in a range of 1 to 2 meters.

Connect the TRACKPACKs with the TRACKPACK Controller using the delivered Firewire A (B) and the RJ45 cables.



Synchronization:

Default setting is internal synchronization. Some applications (e.g. active stereo projection, etc.) require an external synchronization. Use the BNC plug "Ext.In" on the back of the TRACKPACK Controller as external synchronization input.

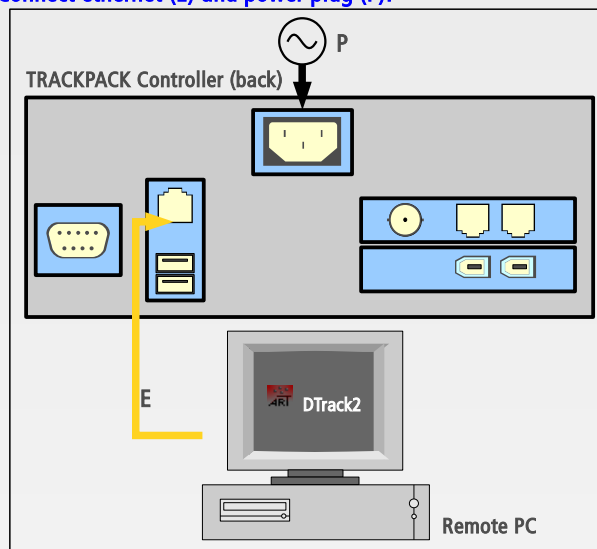
In DTrack2, select "Settings" → "Synccard". You can select the type of synchronization which fits to your application out of "supported Synccard modes".

➤ **WARNING: The RJ45 connector is NOT an ethernet connector!** Connecting it to any other than the equivalent port of the TRACKPACK Controller may damage the camera or the connected partner.

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➤ **WARNING: All cables have to be connected before powering up the system!** The TRACKPACK Controller will be switched on when the power plug is connected and the power switch is pressed!

The TRACKPACK Controller is managed by a remote PC via DTrack2 frontend software (for software installation guide please refer to the user manual). When delivered, the TRACKPACK Controller is configured to support DHCP. Connect ethernet (E) and power plug (P).



Press the switch on the front side of the TRACKPACK Controller to start it. If it is booting without connected ethernet cable or if a DHCP server is not available, it will use its standard IP address (192.168.0.1) and subnet mask (255.255.255.0).

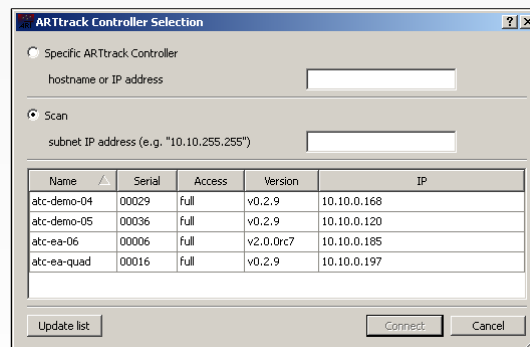
It is possible to configure the IP address of the TRACKPACK Controller without the DTrack2 Frontend. You only need a standard USB flash drive (FAT32 formatted) on which you save a setup file (for the format please refer to the user manual) and plug it into the TRACKPACK Controller.

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Start DTrack2 on the remote PC.

You can enter an IP address or scan the network in order to find your TRACKPACK Controller. You can identify it by the serial number which is printed on the label.

Select the appropriate TRACKPACK Controller and press "Connect".

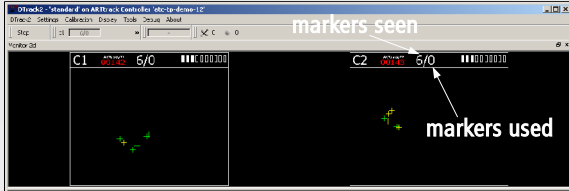


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Room calibration:

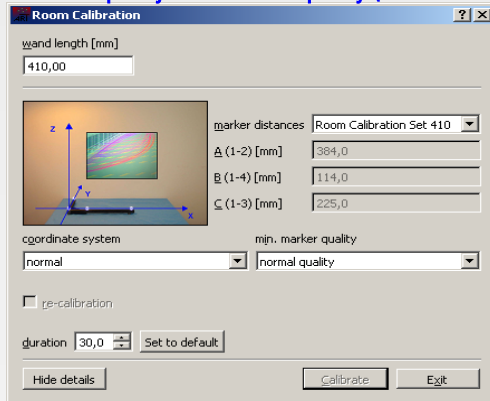
Select "Calibration" → "Room".

The "Monitor 2DOF" view is started in the background. All cameras should see four markers (→ angle) plus two belonging to the wand (i.e. markers seen = 6). Other reflections have to be eliminated before starting the room calibration (i.e. markers seen > 6). Please refer to the user manual for more details.



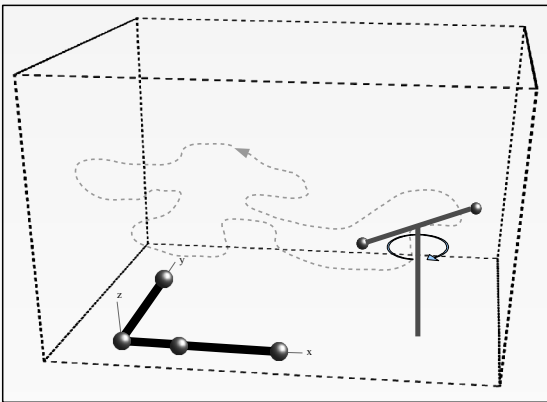
Enter values for room calibration:

- wand length ... see label on the wand
- marker distances ... room calibration set TP / 410
- coordinate system ... according to your setup
- min. marker quality ... normal quality (recommended)



Press „Calibrate“ → the calibration starts within 5 seconds.

Move the wand gently in the measurement volume, in order to generate a virtual point cloud. This point cloud should fill at least about 2/3 of the measurement volume. It is used for calculation of IR cameras positions, so moving the wand in only a very small volume will result in reduced accuracy of calibration.



After a successful room calibration, the DTrack2 info window with the calibration results is displayed. The number of valid frames should be greater than 70% for each camera.

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Body calibration:

Define the desired number of rigid bodies in "Settings" → "Tracking" → "number of 6DOF standard bodies".

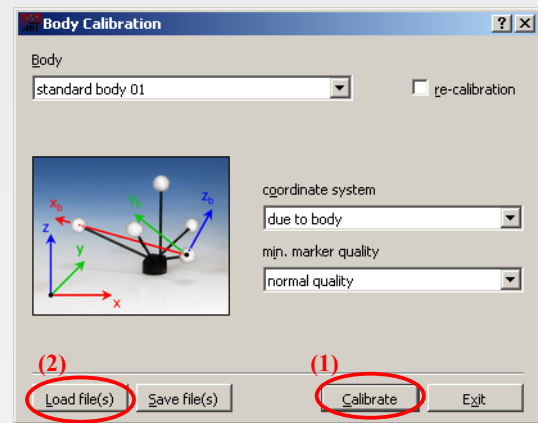
You can either perform a body calibration with the tracking system (1) or load a body file (2).

(1) Place the body within tracking range of the cameras. The cameras should see each marker of the body. Remove disturbing reflections before starting the calibration. Please refer to user manual for more details.

Select "Calibration" → "Body" and define the orientation of the body coordinate system relative to the body.

Press "Calibrate" → the calibration starts within 5 seconds

(2) In DTrack2, select "Calibration" → "Body" → "Load file(s)" (body calibration files are available on request)



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Output settings:

Now, that you have set up the tracking system correctly it is time to define where the data has to be sent to.

In DTrack2, select "Settings" → "Output". You can either select "this computer" (remote PC) or enter an IP address of the computer you want to send data to. By ticking the checkboxes you can define the data to be transmitted.

Press "Start" to start measurement.

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Please refer to the user manual for a more detailed description of the ART tracking system. If you need further assistance please do not hesitate to contact our support:

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