

Quick-Guide multi camera system & DTRACK3

- ▶ AT7-80
- ▶ ARTTRACK6/M
- ▶ ARTTRACK5 (/C)
- ▶ TRACKPACK/E

03/2024

1 Safety advice:

- Do not touch the front pane or the lenses.
- Avoid shocks or severe vibrations.
- Do not install or use any equipment when it shows signs of damage.
- Use only original components and accessories from ART or authorized by ART.

The cameras emit infrared light:

- Keep a distance of min. 20 cm when operating near the cameras.
- The device is assigned to the Exempt Group according to IEC62471-1 and therefore poses no risk or hazard to the human eye or skin at this distance.



Standard accessory:

- 1 patch cable (Cat5) per camera
- 1 ceiling suspension D2 per camera
- 1 power cord
- 1 room calibration set
- DTRACK3 frontend software

Important note:

The tracking system is very sensitive to camera movements. Therefore the cameras have to be mounted securely to eliminate movement. Unintentional rotation of a camera will make its data worthless for tracking in most cases. Vibrations also have to be reduced to a minimum. Call your ART representative for more information.

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Mounting

It is vital to adjust the orientation of each camera such that the measurement volume is covered completely by the field of view (FoV) of all cameras. The calibration angle has to be seen by at least two cameras, while the FoV of all cameras has to overlap sufficiently for determination of the coordinate system. Feel free to contact ART in case you want to realize a complex installation. We will assist you in planning of your system.

Tripod:

The cameras are equipped with UNC 1/4" threads on both sides and can thus directly be mounted to tripod heads.

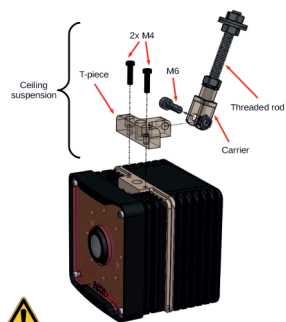
Wall/ceiling:

The ceiling suspension can be attached to the cameras on both bottom and top side of the housing. Attach the carrier with the T-piece pointing to the back of the device.

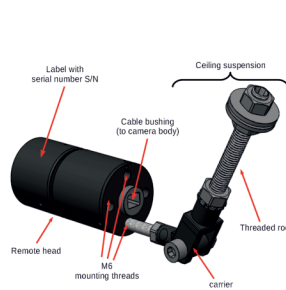
AT7-80, ARTTRACK5 or TRACKPACK/E
or ARTTRACK5/C camera body

ARTTRACK5/C remote head

ARTTRACK6/M



Be sure that the cameras are firmly mounted using strong wall plugs / anchors and screws when mounting to walls or ceilings. Loosely mounted cameras may pose a serious hazard to health and safety.



Note: The ARTTRACK5/C remote head has to be connected to its corresponding camera body. During mounting please ensure matching serial numbers for both parts (serial numbers can be found on body, head and connector).



Note: The ceiling suspension can be attached on two sides of the camera. The T-piece can be mounted pointing forward or backward. The threaded bolt is already connected to the carrier.

2

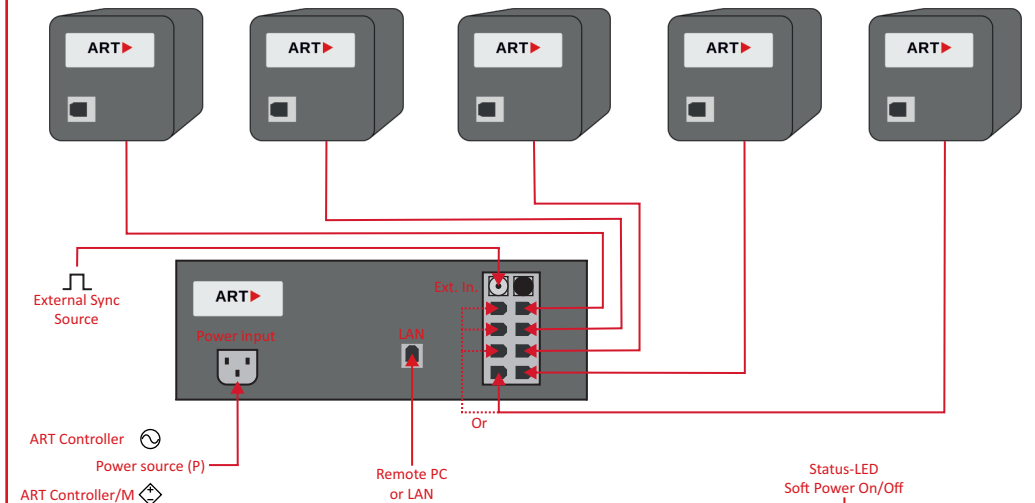
Installation

Use the patch cables (Cat5) to connect the cameras to the PoE+ ports of the controller. Then connect the controller to your local network (LAN) or to your remote PC. Use the power cord to connect the controller to a power source (P).

ART Controller: mains socket AC 100V/20A - 240V/16A, **ART Controller/M:** to external power supply DC 48 Volt



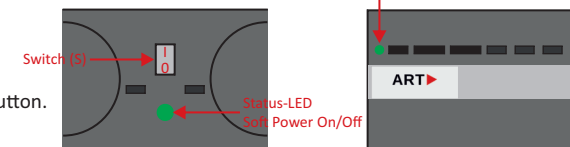
The ART Controller/M is designed to operate with AT7-80, ARTTRACK5 (/C), ARTTRACK6/M and TRACKPACK/E cameras up to 140 Watt of combined power consumption !



Starting the controller:

ART Controller: Flip the switch (S) on the front.

ART Controller/M: Press the „Soft Power On/Off“ button.



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Synchronization

Some applications (e.g. active stereo projection) require external synchronization. Connect the external source (signal: TTL or video) to the BNC plug (SYNC IN). For configuration open DTRACK3 → "Hardware" → "Synccard" and select the appropriate type of "supported synccard modes".

4

Connection to LAN

By default the controller is set up to support DHCP. If there is no DHCP server running the controller will use its fall back IP address (192.168.0.1) and subnet mask (255.255.255.0). Configure the IP address of your NIC (network interface on the remote PC) accordingly.

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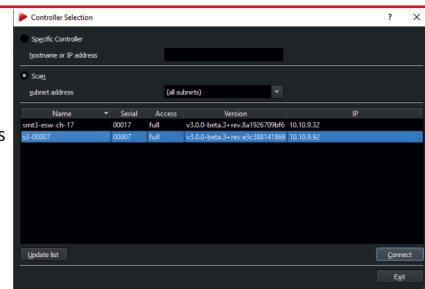
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5 Connecting to your controller

Install and start DTRACK3 on the remote PC.

Scan your LAN in order to find your controller. Identify your device by comparing the serial number with the corresponding one printed on its label. Select the appropriate entry and press "Connect".



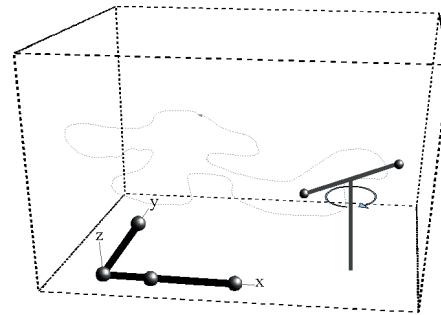
6 Room Calibration

Open "Tracking" → "Room Calibration". Select the appropriate calibration set (i.e. calibration angle and wand) that has been delivered with your tracking system.

Place the calibration angle inside the tracking volume of your cameras. Double-check that all of its markers are seen by at least two cameras, then press "Calibrate". The calibration will start within 5 seconds.

During the room calibration the current status is shown using a progress bar.

Move the wand gently in all possible directions (up/down, left/right, back/forth) and additionally rotate it within the measurement volume. If possible, try to walk around to maximize the coverage in all dimensions (see figure above). Also avoid quick and jerky movements. There is the possibility to adjust the coordinate system.



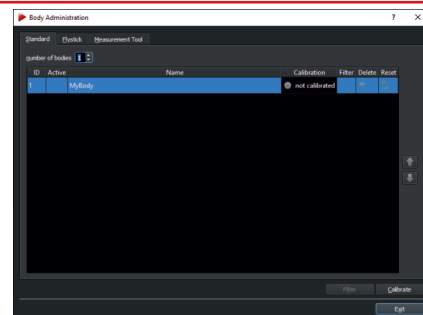
⚠ Try to fill and cover at least two thirds of the measurement volume. Moving the wand in a restricted volume will result in reduced accuracy of calibration or failure.

⚠ It is recommended to perform a room (re-) calibration on a regular basis (e.g. after a certain operating time of the tracking system) and especially if the camera setup was subject to extreme vibrations or changing environmental conditions (e.g. due to high or low temperatures).

7 Body Administration

Open "Tracking" → "Body Administration" and increase the "number of bodies" to 1. Tick the checkbox "active" and enter a name for the target.

Press "Calibrate" to open the "Body Calibration".

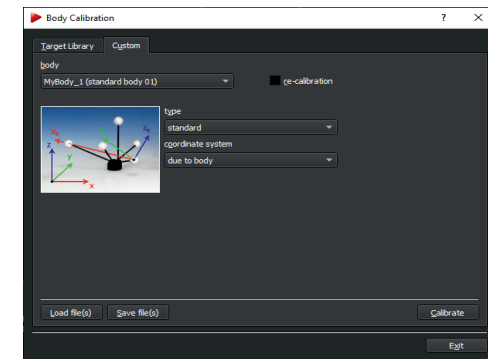


8 Body Calibration

Remove all disturbing reflections and press "Calibrate". The calibration will start within 5 seconds.

Move around the rigid body within the tracking volume verifying that all markers are recognised properly. During the body calibration the current status is shown using a progress bar.

Please double-check the number of markers and confirm the results, press "OK" and exit the dialogs.



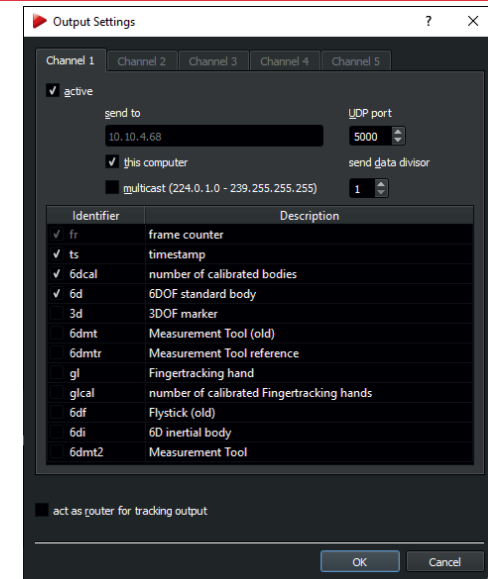
9 Output Settings

Open "Tracking" → "Output" to manage the data output via ethernet. You can send data to any computer within your local network.

Tick the checkboxes "active" and "this computer" and choose a UDP port number to send the data to the remote PC where DTRACK3 frontend is running. Alternatively enter the IP address of another receiving client.

Tick all applicable "identifier" check boxes according to your application and installed devices. Accept the changes and press "OK".

Please refer to the Programmer's Guide for the format of the data output.



10 Press "Start" to start the measurement.

Please refer to the Hardware Installation Guide and the User's Guide for more information. If you need further assistance please do not hesitate to contact our support.

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