

Quick-Guide ART Controller/M ▶

Safety advice:

Do not install or use in case of any equipment damage.

Included in delivery:

- ART Controller/M
- DC/DC converter & power supply connector (available in automotive version only)
- AC/DC Power supply and cable (available in AC version only)
- Fan (available in automotive version only)
- Mounting equipment

The ART Controller/M is a robust and compact controller for ART tracking systems. Depending on the user requirements, it is available with the following three accessory options:



Figure 1. ART Controller/M

1. V394051: ART Controller/M (Mini Controller - AC Version)

This ART Controller/M package is used in standard applications where AC power is available. It contains an external power supply.

2. V394052: ART Controller/M (Mini Controller - Automotive Version)

This ART Controller/M automotive version is designed for applications where AC power is not available e.g., when integrated in a vehicle. This package is delivered with a DC/DC converter with wide input range. It also comes with an external fan for additional cooling of the controller.

3. V394053: ART Controller/M (Mini Controller - Automotive & AC Version)

The ART Controller/M Automotive & AC version is combining both packages. It includes both power options as well as the external fan.


Installation:

The ART Controller/M is a DC powered device. Connect it either to the external power supply or to the 48V output of the DC/DC converter provided. The back panel of the ATC/M is shown in figure 3 with a close-up of the power supply socket in figure 2.

Please make sure that the input of the external power supply is in the allowed voltage and frequency range printed on the power supply.

The ART Controller/M automotive version comes with DC/DC converter to be connected to the vehicles power supply (e.g. car battery).

The connection diagram of the DC/DC converter can be found in its corresponding datasheet.

 If the controller powers ART cameras via Gigabit Ethernet PoE+ the input voltage must be 48 V! Using power supplies not authorized by ART voids warranty on both controller and all attached cameras.

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Use the patch cables (Cat5) to connect the cameras to the PoE+ ports of the controller (see figure 3, ART cameras). Then connect the controller (see figure 3, Remote PC / LAN) to your local network (LAN) or to your remote PC.

Pin	Definition
1	+9 – 48V _{in}
2	Ignition (IGN)
3	GND

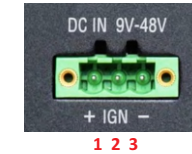


Figure 2. Power supply socket close-up and pin definition

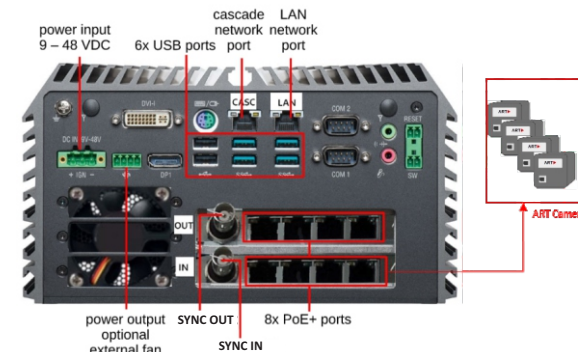


Figure 3. ART Controller/M back panel



Figure 4. Fan

Mounting the fan:

The additional fan can be mounted with screws on the top or side of the controller to cool the ART Controller/M in extreme heating conditions as shown in above figure 4. To power it connect it on the back of ART Controller/M (see figure 3, between power supply socket and display port input DPI).

Starting the ART Controller/M:

Press the 'Soft Power On/Off' button on the front.

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".

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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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".

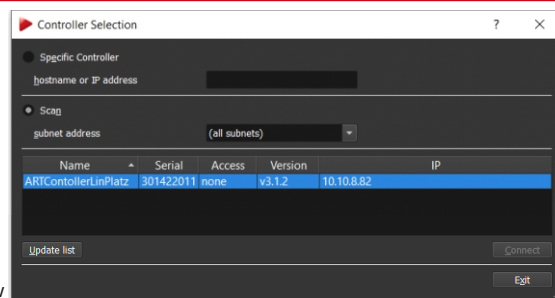


Figure 5. DTRACK controller selection window

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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.

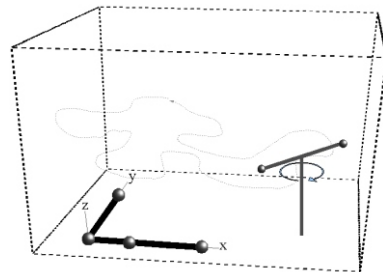




Figure 6. Room calibration

 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).

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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".

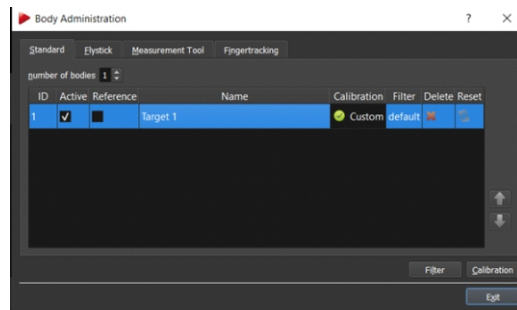


Figure 7. DTRACK3 body administration window

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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.

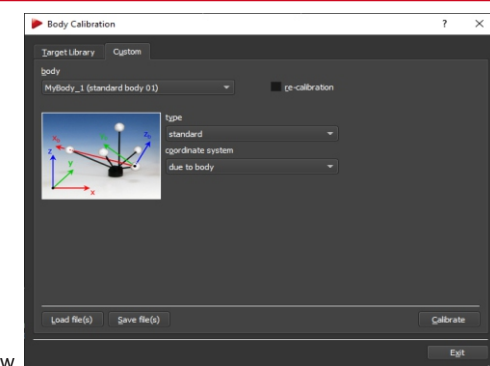


Figure 8. DTRACK3 body calibration window

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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" checkboxes 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.

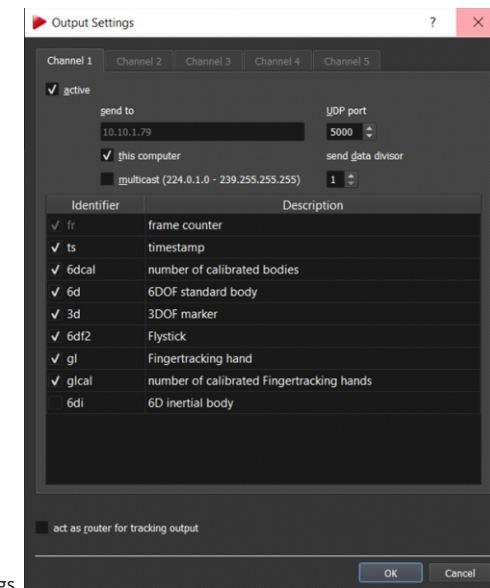


Figure 9. DTRACK output settings

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Press "Start" to start the measurement.

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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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