MARK ROBERTS MOTION CONTROL

DUAL MONORAIL

QUICK START GUIDE

Products Covered: MRMC-1338-00, MRMC-1458-00A, MRMC-1510-00
QSG Product Code: MRMC-1511-00

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Overview

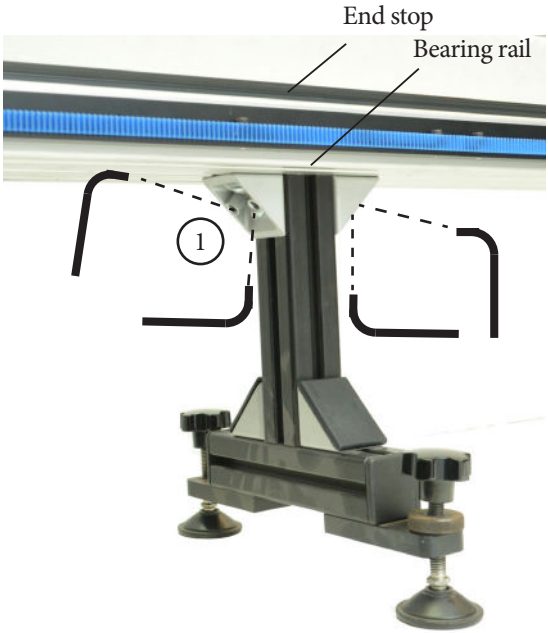
Thank you for using the Monorail Track from Mark Roberts Motion Control (MRMC). The Monorail is designed for reliable day-in, day out use in professional studio environments. The Monorail is designed to help you achieve smooth, repeatable camera motions. It is suitable for live action, stills, and time-lapse applications, and can handle a total camera and head payload of up to 18 Kg.

Safety

- Do not use around flammable gas. All electrical equipment can generate sparks that can ignite flammable gas.
- Keep Away From Pets And Children. The track and camera heads have powerful motors that can pinch, so take care not to get your hands trapped in the gears or cabling.
- Keep the equipment dry. The system has **not** been made weatherproof. Do not use with wet hands.
- Keep cables tidy. Use cable ties to keep them out of harm's way, and use the cable arm supplied with the Monorail to keep any trailing cables (such as Ethernet and power cables) away from the track motor gear and rack. If you have a head with slip rings then make use of them; avoid running any cables between the base of the head and the rotating part of the head or camera.

Assembling the Monorail

1. If your Monorail was delivered in sections, attach the leg unit to the main rail.

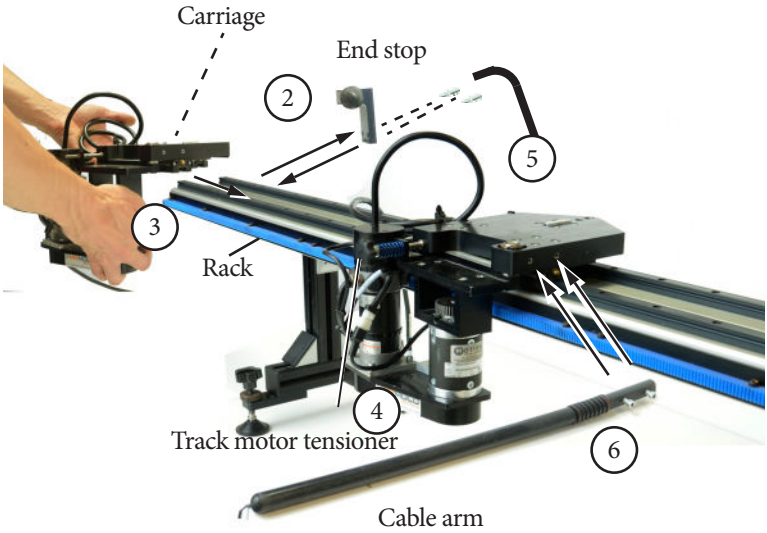


2. If your Monorail came with the end stops already installed, remove one of the stops from the end of the rail shown in the next picture, by removing the two bolts that hold the end stop on.

3. Before adding the carriage to the rail, loosen the bearing blocks, so that there's a bit of play on the bearings and make them easier to slide them on. Then tighten them up again once it's on the THK.

Carefully slide the carriage track bearings onto the bearing rail of the track as shown.

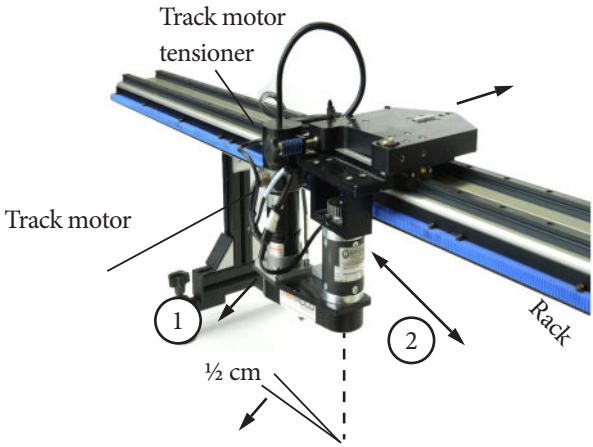
> Caution
>
> Misaligning the carriage can damage the track bearings. Carefully feed the first set of track bearings onto the bearing rail. As you push the carriage onto the rail, the track motor gear in the carriage will engage with the toothed rack and start to rotate. Keep going until the second set of track bearings engages with the bearing rail and the carriage is completely on the rail. Once all the bearings have slid on to the THK, tighten the bearings.



4. Make sure the track motor tensioner is tight. This holds the track motor gear (in the carriage) against the rack.
5. Replace the end stop on the track, and install the other end stop at the other end of the track if this has not already been done for you. **Make sure both end stops overlap the ends of the bearing rail so that the carriage cannot run off the end of the bearing rail.**
6. Attach the cable arm to the carriage.

Moving the carriage along the track by hand

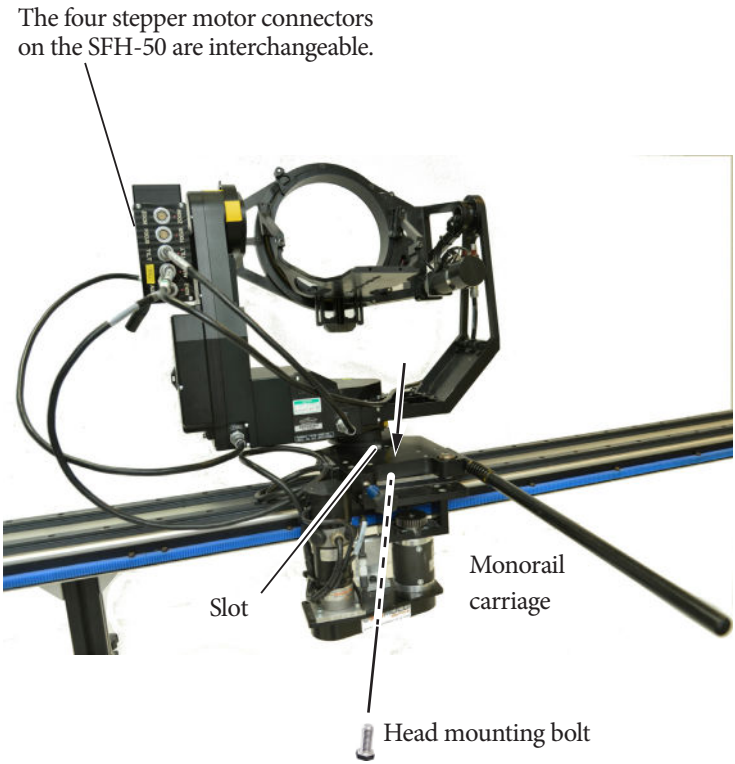
Although you can push the carriage along the track when the rig is switched off, this is not ideal as it stresses the track motor gears. The track motor and its gear are mounted on a sprung pivot with about ½ cm of movement, so if necessary you can move the carriage along the track by the following method:



1. Pull the track motor gear away from the rack on its spring. If necessary you can loosen the track motor tensioner, although this is not usually necessary.
2. Slide the carriage along the track.
3. Re-tighten the track motor tensioner if you loosened it.

Mounting a head onto the Monorail carriage

Example: SFH-50 head

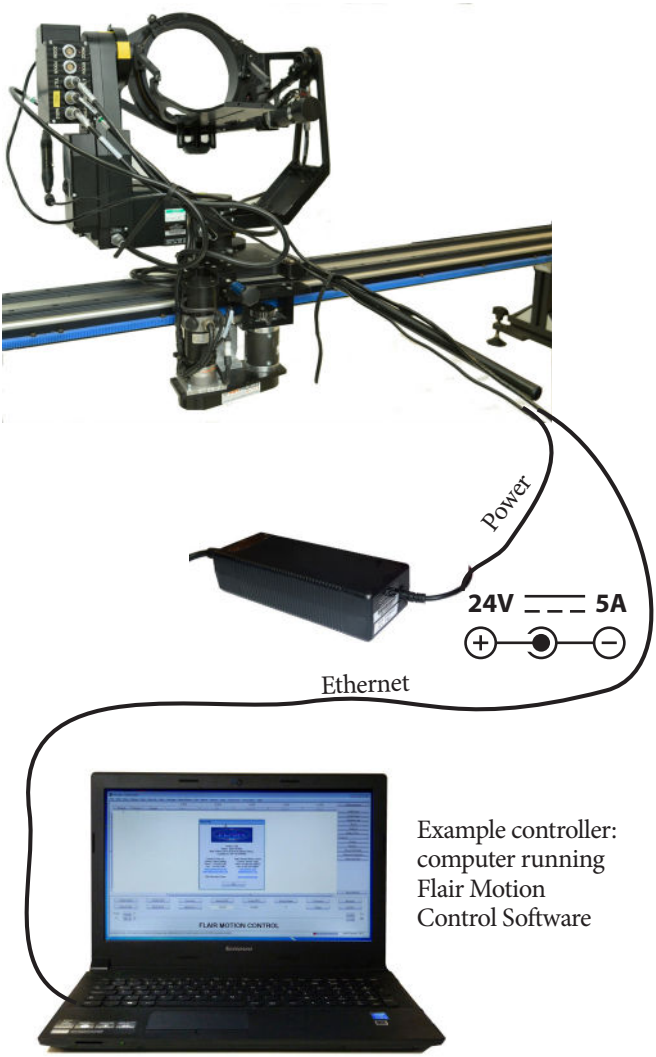


When mounting the head, make sure you line up the key (on the carriage) with the slot in the head.

Refer to the documentation that came with your head for details of connecting cables to the head and mounting a camera onto it.

The controller that you connect the head to can be any MRMC controller such as the Large Flat Panel (LFP), MSA-20 Handwheels, Joystick Controller, Mini MSA, or a PC running Flair Motion Control Software.

You use the cable arm on the Monorail in combination with cable ties to help tidy the trailing cables that go to the controller (usually Ethernet and Power), so they don't catch on the track or track motor when the rig is moving up and down the track:



Example controller: computer running Flair Motion Control Software

Datum magnet

The Monorail has a Datum magnet which can be detected by the Datum Switch on the Monorail carriage. The Datum magnet defines a fixed reference point on the track for the electronics. The rig controller (such as a Joystick Controller, Mini MSA, or computer running Flair Motion Control Software) can then use this position as the **home** position or **zero point**, from which all positions, movements, and soft limits along the track are measured.

> Hint
>
> If you move the Datum magnet to a different position along the track, remember to change the soft limits in your controller or Flair computer to cater for the new Home position.

Notes

Appendix 1 **Specifications**

Weight: 11.3 Kg for the Monorail track and legs
3.7 Kg for the carriage

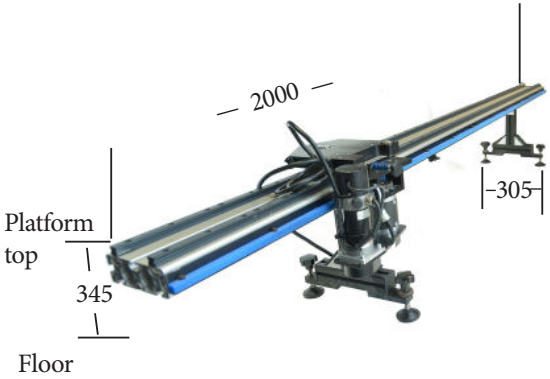
Power requirements: 24 Volts DC

Temperature range: 0-45 °C (32-113 °F)

Humidity tolerance: 0% to 85% relative humidity, non-condensing

Camera payload (head + camera): 18 Kg

Dimensions: All measurements are in mm:



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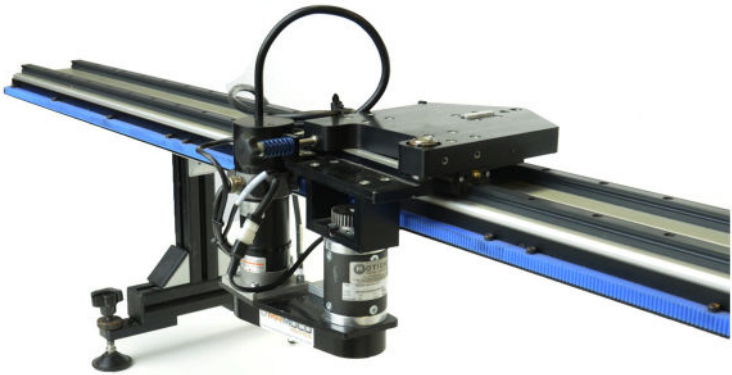

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