



MARK ROBERTS MOTION CONTROL

# MRMC ARC-UHD PTZ



## QUICK START GUIDE

QSG Product code: MRMC-2324-00

Product Covered: MRMC-2240-xx, MRMC-2250-xx, MRMC-2323-xx,  
MRMC-2322-xx

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<b>Contact information</b>	
<b>Mark Roberts Motion Control Ltd.</b>	
Unit 3, South East Studios	
Blindley Heath	
Surrey	
RH7 6JP	
United Kingdom	
Telephone:	+44 (0) 1342 838000
E-mail:	info@mrmoco.com (sales and general enquiries) broadcast.support@mrmoco.com (customer support)
Web:	www.mrmoco.com www.mrmocorentals.com

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# Chapter 1 Quick Start



## Important safety instructions

To ensure the best from the product, please read this manual carefully. Keep it in a safe place for future reference.

To reduce the risk of electric shock, do not remove the cover from the unit. No user serviceable parts inside. Refer servicing to qualified personnel.

## Power and connections

- This unit must be connected to a mains socket outlet with a protective earth connection.
- This unit is not disconnected from the AC power source as long as it is connected to the wall outlet.
- When not using the unit for a long period of time, ensure that the AC power cord is disconnected from the wall outlet.
- The AC wall outlet should be installed near to the unit and be easily accessible.
- Do not plug in or attempt to operate an obviously damaged unit.

## General care

- Do not force switches or external connections.
- When moving the unit, disconnect the mains cable and then disconnect the long umbilical cable.
- Do not attempt to clean the unit with chemical solvents or aerosol cleaners, as this may damage the unit. Use a clean dry cloth.
- Do not use around flammable gas. All electrical equipment can generate sparks that can ignite flammable gas.
- Keep away from pets and children. The head has powerful motors that can pinch, so take care not to get your hands trapped in the head or cabling.

- Keep cables tidy. Use cable ties to keep them out of harm's way. If you have a head with slip rings then make use of them; avoid running any cables between the base and the rotating head or camera.

## **Location**

Installation of this unit should be away from sources of excessive heat, vibration, and dust.

## **Intellectual property**

This product includes confidential and/or trade secret property. Therefore, you may not copy, modify, adapt, translate, distribute, reverse engineer, or decompile contents thereof.

## Overview

Thank you for using the MPMC ARC-UHD PTZ 3-axis PTZ camera, with driven pan and tilt and support for High Definition (HD) and Ultra-High Definition (UHD) output video rates at up to 60Hz progressive frame rates. Camera can support simultaneous output of SDI over coax and fibre for flexibility of adoption into existing infrastructure and workflows.

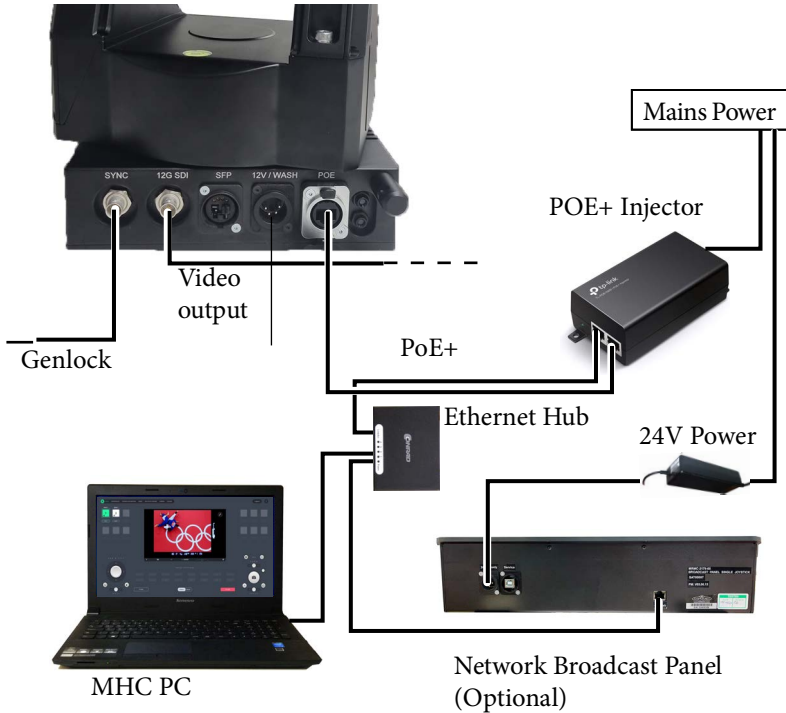
The ARC-UHD can be controlled using our MHC software or Polymotion Chat software for automated tracking and can also be controlled by third-parties via the MHC API or via the open Mark Roberts Protocol (MRP). It can be mounted overslung or underslung.

Some of the features of ARC-UHD include:

- Intended for deployment in broadcast applications and, as such, comes with genlock functionality and the facility to colour match to other cameras within a broadcast production.
- Delivers low-noise operation, especially at slow pan/tilt/zoom speeds.
- FreeD capable, outputting FreeD telemetry synchronised to the video reference genlock signal.
- Deployable in both standard and high-dynamic-range (Hybrid Log Gamma (HLG) workflows.
- Waterproof (IP65)IP, has cooling fan, and has integrated sunshade, lens wiper and provision for support/control of an external screen washing system. The sunshade can be removed in applications that don't require it. It can also be repositioned for underslung/overslung applications.

## Setting up the hardware

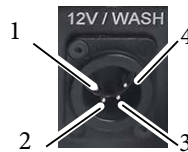
ARC-UHD PTZ connection panel



### Note

Optionally, the ARC-UHD PTZ head can be powered from the 12VDC port. Its pinouts are:

1. GND
2. Open
3. Open
4. +12



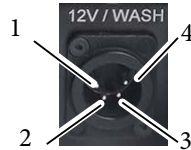


## MRMC ARC-UHD Washer Wiring

The ARC-UHD is able to operate an external washer pump. A relay is used to close a circuit to the pump. Wiring can be made up to suit as follows:

The relay is wired to the 12V/Wash connector on the ARC-UHD, as follows:

Appropriate mating connector would be a cable mount 4-pin XLR Socket.:

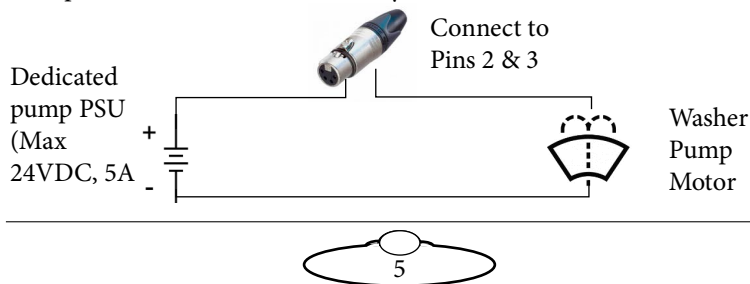


Pin	Function
1	Power supply GND to ARC-UHD
2	Relay connects pins 2-3 when wash is activated. Max current through relay: 5A. Mechanical contacts.
3	
4	Power supply +12V to ARC-UHD (Not 12V output, and not available when powered using POE++) (See note)

### Note

If a 12V washer pump is chosen and wiring routes are short it may be possible to use a common 12V PSU for the ARC-UHD and the pump. The option to use a dedicated washer pump power supply allows for considerable cable runs and customer flexibility, ensuring complete isolation of circuits.

In the example circuit below, the ARC-UHD is powered via POE++ and the 4 pin XLR is used for washer only.



## External synchronization function

External Synchronisation will start when you a valid synchronisation is connected to the external Genlock BNC. The possible external synchronization combinations are listed below:

Camera Format	Ext Sync In				
UHD/HD 60p/60i			1080i60	720p60	1080p30
UHD/HD 59.9p/59.9i	NTSC		1080i59.9	720p59.9	1080p29.9
UHD/HD 50p/50i		PAL	1080i50	720p50	1080p25

### External signal spec

- Tri-State SYNC: partial part of SMPTE 240M/274M
- NTSC Black burst: EBU N14/SMPTE RP-154/SMPTE 170M/SMPTE 318M
- PAL Black burst: ITU-R BT.470-6

#### Notes

- If the external synchronization signal is not stable, the unit will not enter the external synchronization mode.
- In the cases below, images or data will be disordered and may malfunction.
  - if you input signals other than the allowed external synchronization signals.
  - if you input external synchronization signals when the external synchronization is not supported.

# Appendix 1 Specifications

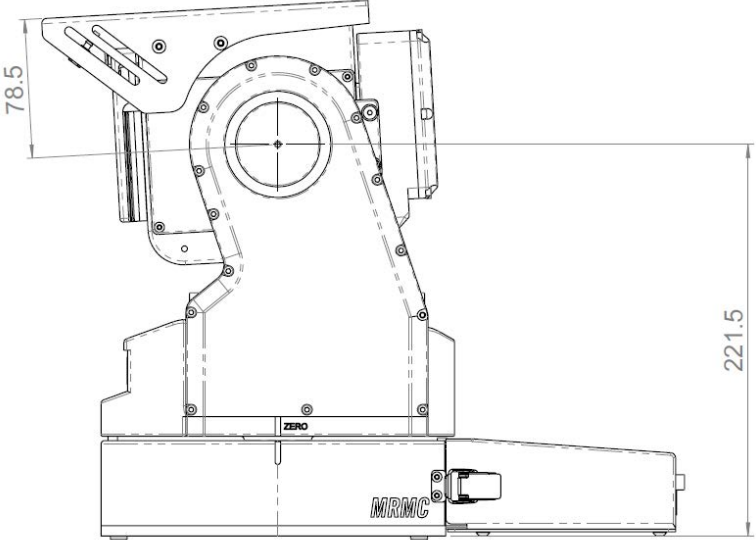
Physical	<ul style="list-style-type: none"><li>• Weight: 8.8Kg / 19.4 lbs</li><li>• Height: 300mm / 11.8 in (Nominal – when Tilt Horizontal)</li><li>• Diameter: 275 mm / 10.8 in (</li><li>• Mounting: 3/8” centre tapped hole in base. Or pair of M8 tapped holes in base.</li></ul>
Axes	<ul style="list-style-type: none"><li>• Tilt range: -25 to +90° from horizontal.</li><li>• Pan range: +/- 170 degrees.</li><li>• Axes Acceleration: 90°/s<sup>2</sup></li><li>• Max. Speed: 90 °/s</li><li>• Zoom: x18 optical zoom powered lens. f=6.6~120mm.</li><li>• Max. Aperture: 1.61 (wide) ~ 4.13 (tele).</li><li>• Roll (option): +/- 8° from horizontal.</li></ul>

<p>Camera</p>	<ul style="list-style-type: none"> <li>• Sensor: 1/1.8” rolling-shutter type colour CMOS sensor.</li> <li>• Supported Video Output Standards (Configurable at run time, via SW control).</li> <li>• UHD (3840 x 2160 Progressive) @ 50, 59.94 and 60Hz frame rates. (12G-SDI (Level A) SMPTE-2082)</li> <li>• HD (1920 x 1080 Progressive) @ 50, 59.94 and 60 Hz frame rates. (SMPTE-424M 3G-SDI Level A))</li> <li>• HD (1920 x 1080 Interlaced) @ 25, 29.97 and 30 Hz frame rates. (SMPTE-292M – HD-SDI (Level A)).</li> <li>• Above outputs on full-size BNC + LC fibre (1310nm) connection. Note: fibre being a factory fit cost option.</li> </ul>
<p>Cable reach</p>	<p>Coax: min 50m at UHD. 100m for HD Progressive, 150m for HD interlaced. Fibre: min. 2km (single mode).</p>
<p>Environmental</p>	<ul style="list-style-type: none"> <li>• -10°C to +40°C ambient (note: not full sun).</li> <li>• IP65 rated i.e., protected against dust and low-pressure water jets from any direction.</li> </ul>
<p>Power</p>	<p>PoE++ (60W) DC 12V In (5A max.)</p>

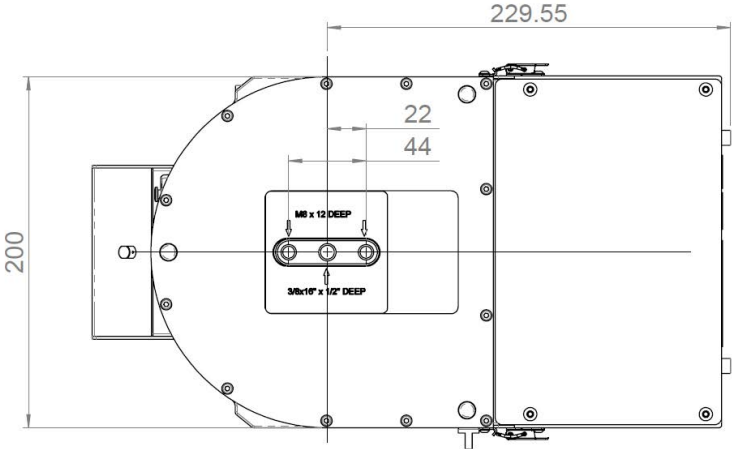
Notes

# Appendix 2 Dimensions

## ARC-UHD Head



# Base Plate





**Mark Roberts Motion Control Ltd.**

Unit 3, South East Studios, Blindley Heath, Surrey RH7 6JP

United Kingdom

Telephone: +44 (0) 1342 838000

[info@mrmoco.com](mailto:info@mrmoco.com)

[www.mrmoco.com](http://www.mrmoco.com)

