



INNOVATION IN MOTION

WHISPER HEAD

COMPACT, SILENT AND FAST ROBOTIC HEAD



QUICK START GUIDE

Product code: MRMC-1474-01

Part number: MRMC-1462-01

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Contents

Chapter 1	Quick Start	1
	Important safety instructions.....	1
	Power and connections.....	1
	General care.....	1
	Location.....	2
	Intellectual property.....	2
	Overview.....	2
	Connecting the cables.....	3
	Your first session.....	4
	Homing Procedure.....	4
	Head's behaviour after RESTORE AXIES SETTING.....	5
	Turning off the system.....	6
Appendix 1	Connectors	9
	Connector summary.....	9
	Connector pin-out information.....	9
	Serial connector.....	9
	48V In connector.....	9
Appendix 2	MHC	11
Appendix 3	Specifications	13

Chapter 1 Quick Start



Important safety instructions

To ensure the best from the product, please read this manual carefully. Keep it in the 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.
- 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 Whisper Head from Mark Roberts Motion Control (MRMC). Whisper Head is a near-silent and compact head designed for use with light-weight cameras in professional studio and Outside Broadcast environments. It gives you a smooth and real-time control over your choice of camera axes—pan and tilt. You can use the Ethernet connection on the Whisper head to connect directly or remotely to an MRMC controller such as a PC running MHC Software.

Connecting the cables



1. Connect the serial connector in the head to the RS-232 port on the AJA RovoCam camera.
2. Connect the PC to the breakout box with an ethernet cable.
3. Connect the Whisper Head to power using the provided 3-pin XLR 48V power cable. You might need to push the connector hard into the socket until it 'clicks'.

Your first session

1. If you are using the AJA RovoCam camera with the RovoRx-HDMI box, then connect this first. For more information on AJA's RovoCam camera and RovoRx-HDMI box, refer to their manuals.
2. Attach the cables to the Whisper head, breakout box, and camera, as described in the previous section.

Note

It is a good idea to attach the power cables last, after all the other cables are in place.

It is also recommended that you power up the PC last, after powering up the head, as powering up two devices simultaneously on the same Ethernet network can cause communication problems.

If you power the Whisper Head on and not connect it to MHC, there should be no movement in the Head.

3. Switch on the MHC PC.
4. Start the MHC Server on the MHC PC. A movement in the head is normal at this point as the head tries to reach the Home position for all the axes.
5. Start the MHC Client. Note that after starting the MHC Client, the head might take a few minutes to appear connected after which it is ready to use.

Homing Procedure

The following homing sequence is self-performed by the Whisper head when it is connected to MHC i.e. MHC PC turned on and in the MHC Admin login, the Rig Type is Whisper Head.

1. Head starts homing (all 5 axes) after about 5 seconds.
2. Pan axis tries to locate the sensor by panning 180 degrees to the left of where the head started.
 - If the sensor is found then it stops there.

- If the sensor is not found, the head will go back to the original position and pan to the right for about 180 degrees.
 - Absolute Encoder value is set as 0 when sensor is detected.
3. Tilt moves to the hard end stop and will stop horizontally.
 4. Absolute encoder position is 0 degrees once homed.
 5. Zoom will home to zero on wide.
 6. If AutoFocus is off, the camera will focus on FAR (there are 3 type with AJA camera and they are NEAR, FAR and MF).
 7. Iris will be zeroed/closed.

Head's behaviour after RESTORE AXIES SETTING

When doing RESTORE AXIS SETTING, you must complete each axis individually.

Performing RESTORE axis simultaneously on all axes will set the head to spin in an infinite loop. You need to power off/on and restore again to come out of this infinite loop.

Whisper Head will initially perform motor calibration based on its factory setting values (These values come from the motor manufactures, not set by MRMC). This part of the calibration will be different from Normal Power ON calibration explained in *Homing Procedure* on page 4. The process will make the head to spin full 360 degree rotation

Once the factory setting based calibration is done, it will do a Normal Power ON Homing as explained in *Homing Procedure* on page 4.

Once completed, do a Reset Head via MHC to set default axis values

Turning off the system



Turn off the PC by shutting down Microsoft Windows in the normal way. Do not remove the power cable to turn off the PC. It can damage the system.

Note

If you are using a tablet PC, should the battery of the tablet run out, it may take up to 10 min to start up.

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Appendix 1 Connectors

Connector summary

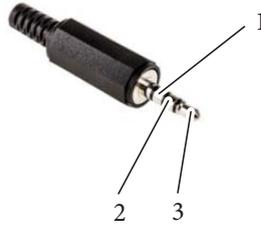
1. **SERIAL** input 3.5mm Male jack provides communications from MHC to the camera. For pin-out information see *Serial connector* on page 9.
2. **NETWORK** Ethernet RJ45 connector provides all communications and control between MHC and the Whisper head.
3. **POWER 48V** input power connector in the breakout box, 3-pin XLR, 48 Volt DC power supply. For pin-out information see *48V In connector* on page 9.

Connector pin-out information

Serial connector

3.5mm Male jack

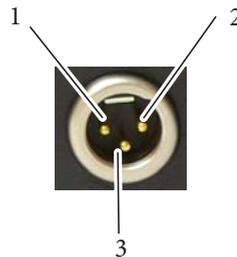
1. GND
2. RX
3. TX



48V In connector

48V In is a (3-pin XLR Male) connector to supply power to the Whisper head.

1. GND
2. N/C
3. +48V



Notes

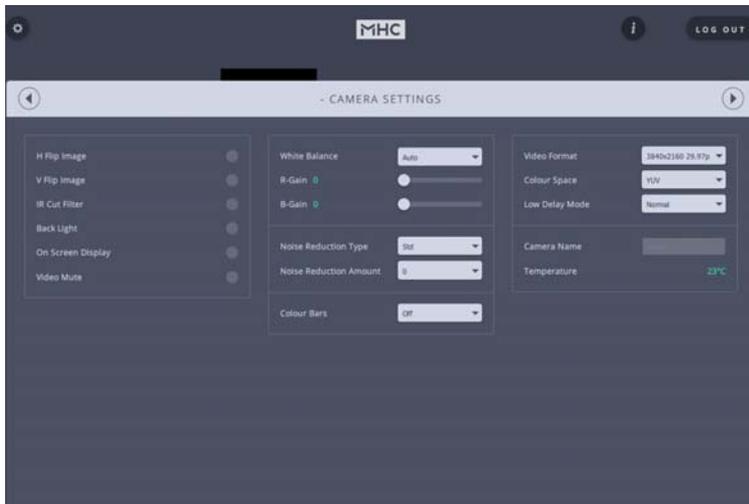
Appendix 2 MHC

MHC is the software by MRMC for controlling heads. For understanding MHC in detail, refer to the MHC Quick Start Guide. Additional screens have been added in MHC for VISCA protocol compatible camera, such as AJA's RovoCam. A new VISCA bar is added under the LiveView for this camera. To understand more about the VISCA protocol in relation with the AJA RovoCam camera, refer the RovoCam camera manual.



VISCA bar

When you click the cog below the LiveView, it opens the Camera Settings page for AJA's RovoCam camera.



Camera Settings page for AJA's RovoCam camera

Appendix 3 Specifications

Weight: 6.5 Kg

Power requirements: 48 Volts DC

Temperature range: -10 to +45 °C

Humidity tolerance: 0% to 90% relative humidity, non-condensing

IP Rating: IP68 (Excludes the camera)

Camera payload: 4kg

Pan and tilt manual control speed 0.05 degree to 180 degrees/sec max (both axes)

Pan movement 360 degrees continuous rotation.

Tilt movement -170 degrees to +170 degrees.

Accuracy of playback (angular resolution): Better than 0.01°.

Enclosure Die-cast aluminium

Dimensions are shown in the following pages. All measurements are in cm.



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