



MARK ROBERTS MOTION CONTROL

SLH



QUICK START GUIDE

QSG Product code: MPMC-2199-00

Product Covered: MPMC-2177-00, MPMC-2178-00

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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.

Keep the brakes on caster wheels on when using the SLH lift column.

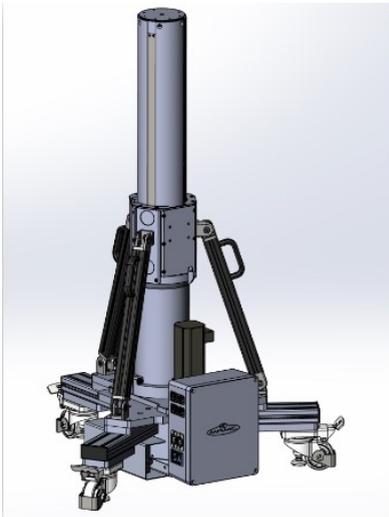
Intellectual property

This product includes confidential and/or trade secret property.

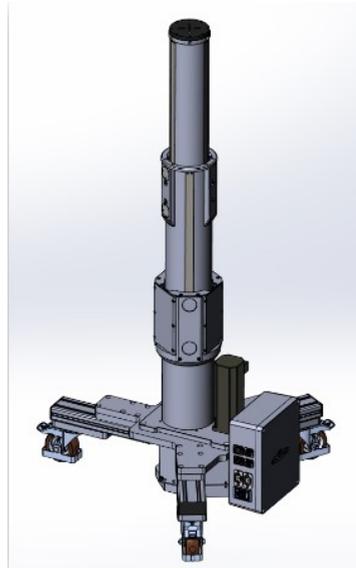
Therefore, you may not copy, modify, adapt, translate, distribute, reverse engineer, or decompile contents thereof.

Overview

Thank you for using the SLH lift column from Mark Roberts Motion Control (MRMC). The versatility of the SLH to work with a wide range of camera and robotic head system and lens combination and fully remotely operable makes it suitable for Studio environments. It has a high payload capacity of 45kg and can be Integrated with MRMC Polymotion Chat for full automation with natural motion. You can use the Ethernet connection on the SLH to connect directly to a PC running Multi-Head Controller (MHC) or RTL software. SLH comes in two variants:



SLH-1 Fixed Single Stage
Lift Column



SLH-2 Fixed Two Stage Lift
Column



SLH-2 with full lift

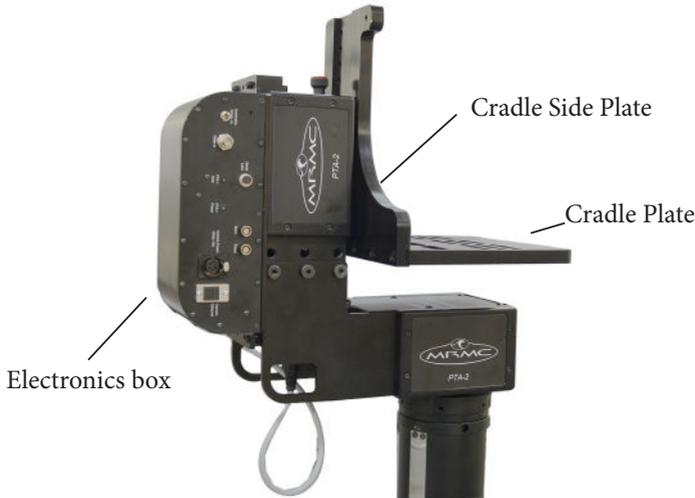


SLH-2 with lowest height

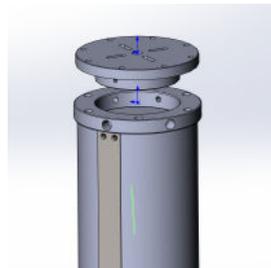
Setting up the hardware

Mounting PTA-2 on SLH/TRH Lift Column

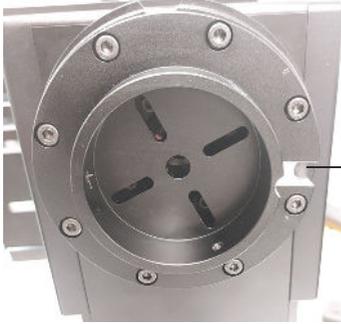
PTA can be mounted overslung on a TRH /SLH type lift column.



1. Power up the lift column and use the rocker switch on the side of the control box to move the lift column up and down. Network connection is not required yet. Lower the product before working on the load. The parent control system will have to reset the robot after using the switch.
2. The Top of the SLH comes with a mounting disc which drops into a cup in the column. This disc will accept many MRMC products, including the PTA-2.
3. Fit the column disc to the PTA-2 taking notice of the key slot location. Ensure that the key slot lines up with the red mark and button as the head is lowered



into the cup – rotate the pan axis/head to line up before lowering it in place. The button will then ensure that the fixing bolts line up.

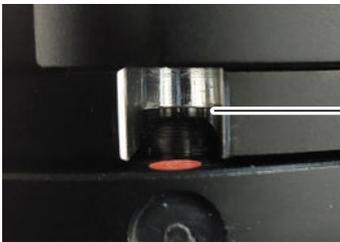


Key slot



Red mark and location button

Line up the slot with the red dot before lowering into the cup

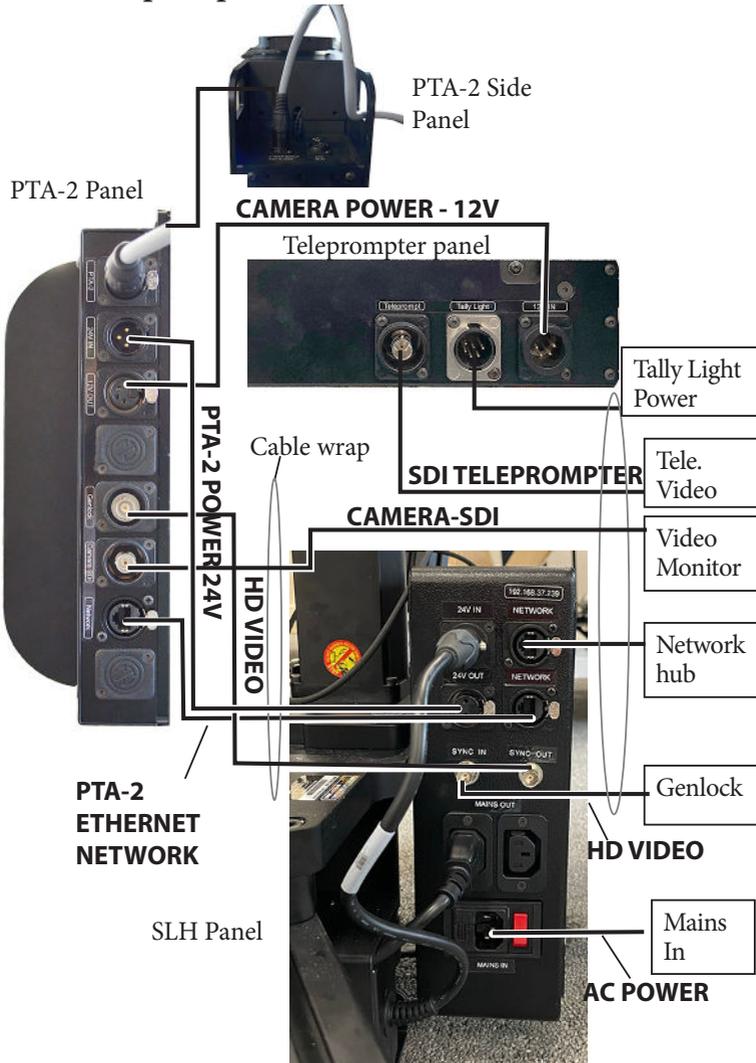


Lined up when fitted

For further instructions on how to mount the camera and teleprompter on PTA-2, see *PTA-2 Quick Start Guide*.

Connecting the cables

PTA-2 - Teleprompter - SLH Connections



Notes

Appendix 1 SLH connectors

SLH Connector panel summary



1. **24V IN** input connector for power to the PTA-2 head. This usually connects to the SLH/TRH or Dual Rail **24V OUT** connector via the umbilical. For connector pin-out, refer to *24V In connector* on page 11.
2. **24V OUT** output connector, 3-pin XLR, 24 Volt DC power supply which can be used to power any device or head that uses 24 Volt DC power. For connector pin-out, refer to *24V OUT connector* on page 11.
3. **SYNC IN** connector for sync/genlock signal from studio source. This is a pass through connection to **SYNC OUT**. For connector pin-out, refer to *Sync connector* on page 12.

- 4, 7 **MAINS OUT** connectors, 240V AC. You normally connect one of these to the 24V PSU to power the SLH. For connector pin-out, refer to *Mains Out connector* on page 13.
5. **MAINS IN** power input connector, 240V AC, for the SLH, head, and camera. For connector pin-out, refer to *Mains Out connector* on page 13.
6. **MAINS SWITCH**. You should only power on SLH when all mechanical parts are securely mounted in place and all cables are connected.
8. **SYNC OUT** connector is a pass through connection from **SYNC IN** and is normally used to pass sync/genlock signal to the camera or vice versa. For connector pin-out, refer to *Sync connector* on page 12.
- 9, 10. **NETWORK** connectors are the RJ45 connectors for communications between multiple Ethernet devices in the SLH and PTA-2 system. These two connectors share a common Ethernet hub within the SLH panel. You normally connect one of these to the **NETWORK** connector PTA-2 connector panel and the other to the network hub in the rest of the network.

SLH Motor Connector Panel summary



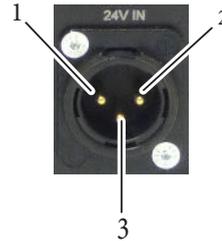
1. **Rocker switch** to move the SLH lift column up or down.
2. **MOTOR POWER** connector for power to the SLH column motor. For connector pin-out, refer to *Motor Power connector* on page 14.
3. **MOTOR ENCODER** connector is used to communicate with the motor drive. For connector pin-out, refer to *Motor Encoder connector* on page 14.
4. **BISS ENCODER** is used to communicate with BISS motor drive. For connector pin-out, refer to *BISS Encoder connector* on page 15.

Connector pin-outs

24V In connector

Power to supply the head and the power output connector on the junction box. It is a XLR 3-Way (Male) connector. The PTA-2 can run from 12-35 Volts DC.

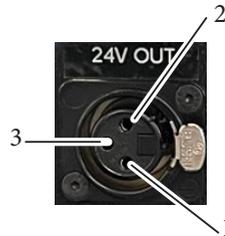
1. GND
2. +24V
3. N/C



24V OUT connector

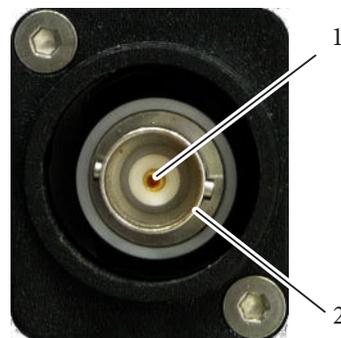
General purpose 24VDC OUT 3-way XLR (female) connector.

1. GND
2. +24VOUT
3. N/C



Sync connector

This is a multi-purpose **SYNC** connector and can be used for synchronization or genlock signals between the camera and SLH in either direction. There is no further connection to the circuitry inside the head. Note that although the **SYNC** and **VIDEO** connectors are similar they are **not** interchangeable. The circuitry for the **VIDEO** connector has a higher speed rating (3 GHz) than that of the **SYNC** connector which only needs to handle the synchronisation



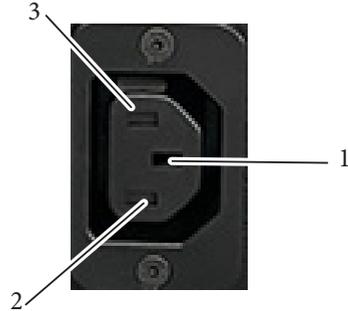
signal, so you should only put the video signal through the **VIDEO** connectors and not the **SYNC** connectors.

1. VIDEO (inner)
2. GND (outer)

Mains Out connector

Power output, usually connected to the 24V DC PSU to power the SLH.

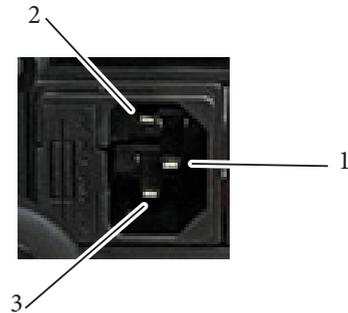
1. Earth
2. Live
3. Neutral



Mains In connector

Power input connector for SLH and its attachments. 240 Volts AC. It is a 3-Way (Male) C14 IEC connector.

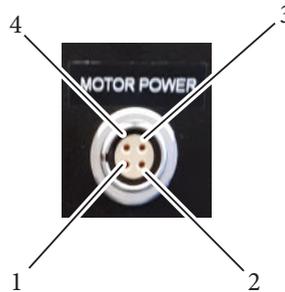
1. Earth
2. Live
3. Neutral



Motor Power connector

Lemo 4 way panel mount connector to power the lift motor.

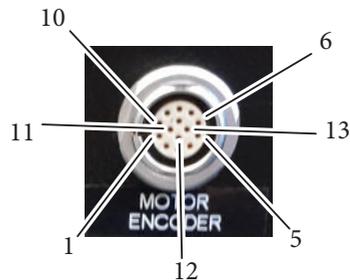
1. A
2. GND
3. C
4. B



Motor Encoder connector

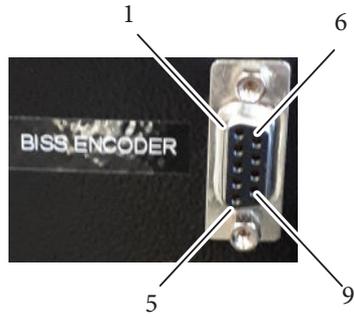
Lemo 14 Way size panel mount

1. thermo+
2. 5V
3. 0V
4. cha+
5. cha-
6. chb+
7. chb-
8. chz+
9. chz-
10. halla
11. hallb
12. hallc
13. gnd
14. sheild



BISS Encoder connector

1. Shield
2. MA+
3. MA-
4. N/C
5. 5V
6. SL+
7. SL-
8. N/C
9. GND



Notes

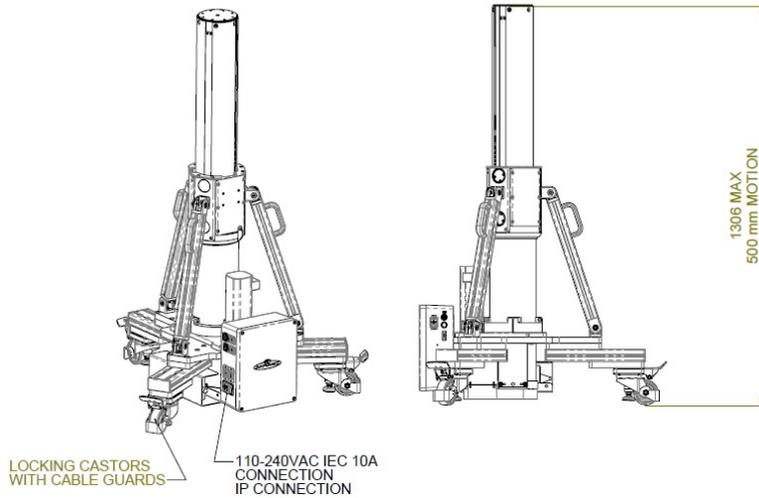
Notes

Appendix 2 Specifications

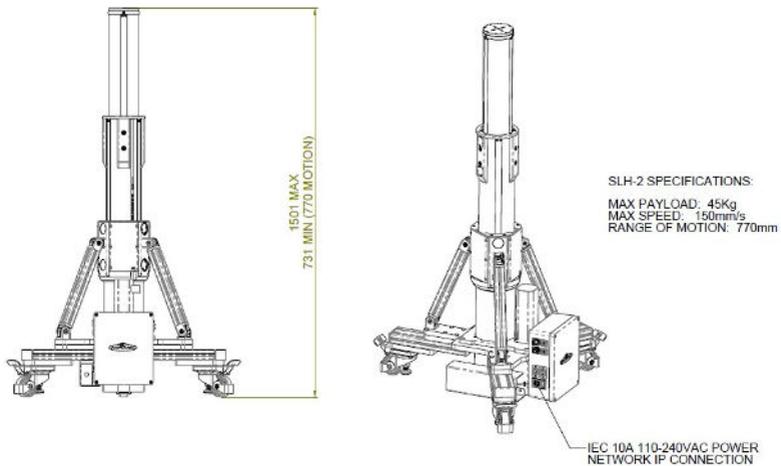
Size of operational space	~ 1m ³
Weight	19kg
Maximum payload	SLH-1: 60kg (PTA-2 + Teleprompter + Camera) SLH-2: 45kg (PTA-2 + Teleprompter + Camera)
Maximum speed	SLH-1: 75mm/s SLH-2: 150mm/s
Lift range	SLH-1: 500mm SLH-2: 770mm
Maximum payload inertia	2.5Kgm ²
Power requirements	24 Volts DC 10A Optional 110V 16A and UK/EU/US
Temperature range	0-45 °C (32-113 °F)
Humidity tolerance	0% to 85% relative humidity, non-condensing
IP Rating	IP65 (with connector plate seal modification)

Connections	<ul style="list-style-type: none">• RJ45 Ethernet• Camera sync pass through (for head Genlock)• Genlock• Mains IN• Mains OUT (for 24V PSU)• Power: Supplied with 240V 16A Optional 110V 16A and UK/EU/US
Accuracy of playback (angular resolution)	0.3 arc-min

SLH-1 and SLH-2

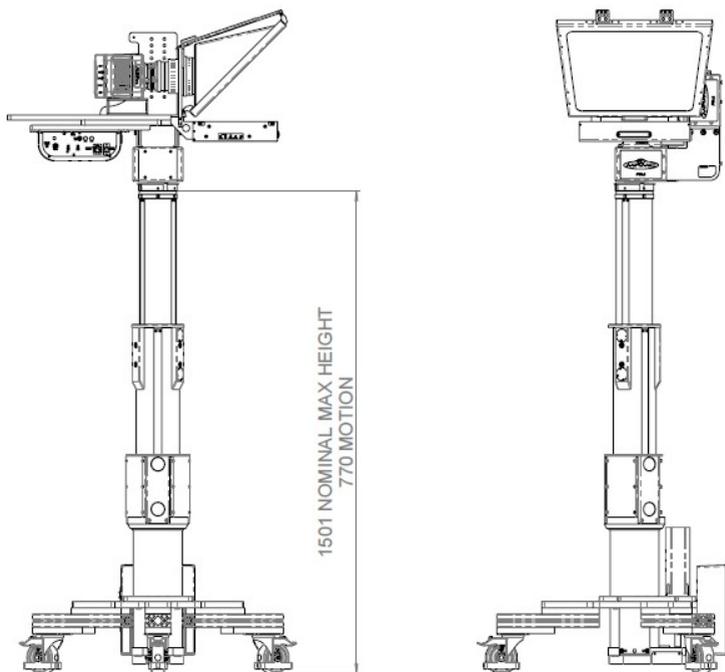


SLH-1



SLH-2

SLH-2 with PTA-2 and Teleprompter



Notes

Notes



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