USB LARGE FORMAT PANEL

JOYSTICK BROADCAST HEAD CONTROLLER

QUICK START GUIDE

QSG Product Code: MRMC-2261-00

Products Covered: MRMC-1033-02, MRMC-1542-00, MRMC-2084-00

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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 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 USB Large Format Panel (LFP) from Mark Roberts Motion Control (MRMC). The USB LFP is a robust controller designed for day-in, day-out use in professional studio and Outside Broadcast environments and provides full control of our complete range of MRMC heads and rigs.

The following variants of USB LFP are available at MRMC:

- **USB LFP**: Connects to the PC, laptop or tablet via a USB connection and can be configured to control a broad range of MRMC robotic heads via Flair or MHC software.

- **USB LFP for Polymotion Relay**: Connects to the heads in the same way as USB LFP but has specific functions for the Polymotion Relay system by MRMC.

Connecting the Cables

Example head: AFC

POWER IN

3-pin XLR,
24 Volts

24V ‐‐‐ 5A

$(+)$ — ● — $(-)$

Ethernet hub

Head power supply

1.   Connect the head to the PC running MHC using Ethernet.

> **Note**
>
> Make sure to plug in the Ethernet cable into the base of the head, not into the other Ethernet ports.

2.   Connect the PC to the USB LFP using the USB cable supplied.

3.   Connect power to your head(s) and power them up.

4.   Connect power to the USB LFP and power it up.

5.   When using the USB LFP on a Flair PC, switch on the PC and launch Flair. Refer to the *Hand Help Box Setup* section in the Flair Manual to understand how to configure the USB LFP controls to be used with Flair. Also, ensure that you set the **Joysticks: True** in the config.ini file.

6.   If using the USB LFP on an MHC PC:

   6.1   Switch on the PC and Microsoft Windows will start. Once Windows has loaded on the PC, MHC will start automatically. Once MHC started, you can start using the USB LFP.

> **Note**
>
> It will take approximately 60 seconds for the panel to start up. Once the LCD display and buttons are lit up with text displayed, the panel is ready to use.

   6.2   Select the head you want to control from the **HEAD SELECT** panel (not applicable for Polymotion Relay)

   The default configuration is:

   Head 1 = 192.168.1.236

   Head 2 = 192.168.1.237

   Head 3 = 192.168.1.238

   Head 4 = 192.168.1.239

   6.3   Ensure that the **MASTER SPEED** is set to the desired position.

    6.4   Set the **DIRECTION** toggle switches.

7.   Move your head using the Pan/Tilt/Focus/Zoom controls as desired.

Turning off the system

Turn off the PC first by shutting down Microsoft Windows in the normal way. As there is no power switch on the USB LFP or head, to turn these off you simply remove the power cable.

Note

Should the battery of the tablet run out, it may take up to 10 minutes to start up.

USB LFP Controls
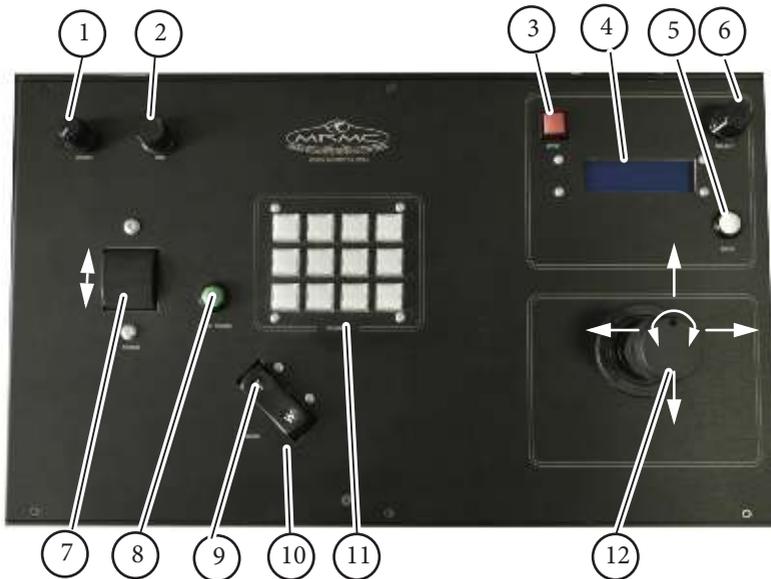
1.   Speed

2.   IRIS

3.   E-stop

4.   Screen for messages

5.   Back

6.   Head selection

7.   Focus

8.   Auto Focus

9.   **T**elephoto zoom

10. **W**ide angle zoom

11. Presets

12. (left/right) Pan
     (up/down) Tilt

Recording a preset

1. If you have multiple heads connected, select the head for which you want to record the preset using the buttons in the Head Select section on the USB LFP.

2. Press the **STORE** button.

3. If you haven't done so already, use the axes controls on the USB LFP to go to the head direction and position, and lens focus and zoom setting that you want to record.

4. Press one of the 12 preset buttons.

5. Repeat steps 2 and 3 to record additional preset moves, using a different preset button for each position.

   Pressing one of the numbered preset buttons will store the current settings to that button, overwriting the previous settings for that button.

Go To Preset

To go to a preset position, press one of the Preset buttons.

> Note
>
> If no preset has yet been stored then the default preset position is 0 for all axes.

Stop

Pressing this button would stop the selected robot.

Stop button

The top left button is a **STOP** button pressing which would stop the USB LFP controls from functioning. This can be used in situations where you want to avoid accidentally pressing any controls that result in the robot changing its position.

USB LFP for Polymotion Relay Controls
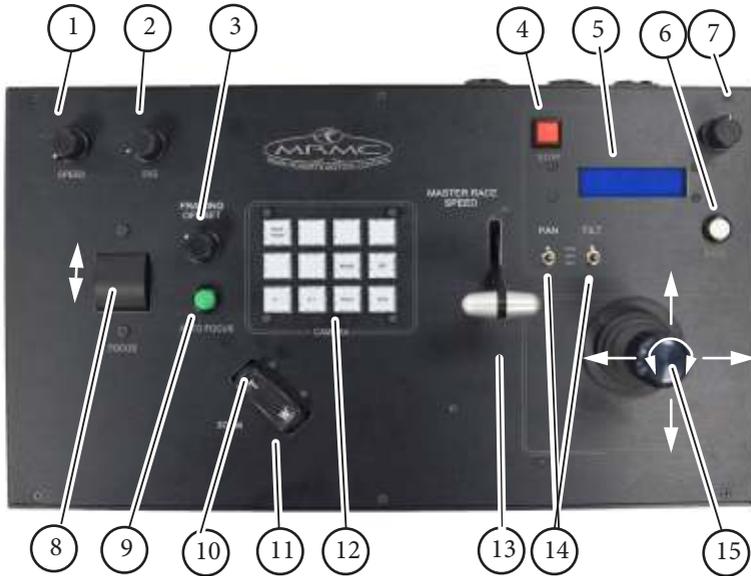
1. Speed
2. IRIS
3. Framing Offset
4. Not used
5. Screen for messages
6. Not used
7. Not used
8. Focus
9. Auto Focus
10. **T**elephoto zoom
11. **W**ide angle zoom
12. Function keys
13. Master Speed for all controls
14. Pan and tilt direction controls

15. (left/right) Pan
    (up/down) Tilt

Adjusting race speed

The **Master Race Speed** control can be used to alter the speed of all axes on all heads. Minor and temporary changes to the race speed can be made by twisting the top of the joystick on the LFP, rotating clockwise will increase the speed and rotating anti clockwise will reduce the race speed.

The **Master Race Speed** can be also adjusted during a race.

Function keys

Ready: All of the heads move to the starting point as defined by the race.

Run: Pressed when the race begins. Heads start to move along the race route at the speed specified by the Master Race Speed control.

Pause: Pauses the heads in their position; they will continue to move along the race route when you press **Run**.

Stop: Stops all the heads from moving. To start the head movement, you will need to press **Ready** and then **Run**.

Adjusting the race position

The position of the race point can be moved across the race track, it will move perpendicular to the direction of travel e.g.
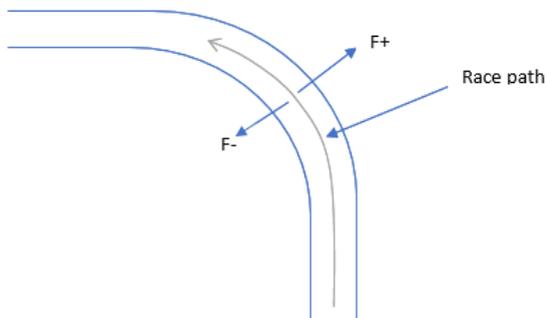
All heads will adjust according to this adjustment. This can be achieved by pressing the **F+** and **F-** buttons on the LFP. The amount the race point moves is governed by the Framing Offset knob on the LFP.

F+ - Moves the racing point away from the inside rail.

F- - Moves the racing point towards the inside rail.

Notes

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Appendix 1 **Troubleshooting**

Typical symptoms, causes, and actions

Symptoms or message on the controller	Cause and/or action
MHC does not detect changes in the focus control position	1. Go to **Control Panel > Devices and Printers** in Microsoft Windows. 2. With the USB Large Format Panel connected, right-click the device named **STM32 Human interface** and select R**emove Device** to remove it. 3. Unplug the USB Large Format Panel from the PC for a few seconds and plug it again. 4. Wait a few seconds. Windows should display notifications as the device is automatically detected and set up. 5. Start MHC Client and movements of the focus wheel should be detected within MHC. If this does not work then remove all devices from the PC that are not connected. 6. Reconnect USB Large Format Panel. 7. Restart MHC.

Notes

Appendix 2 **Back panel**

Connector summary
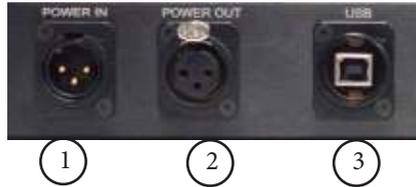
1. **POWER 24V IN** (12 Watts) input power connector, 3-pin XLR, 24 Volt DC power supply.

2. **POWER 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.

3. **USB** port for communication between the Broadcast Panel and the tablet.

Connector pin-out information

24V In connector

24V In is a (3-pin XLR Male) connector to supply power to the Broadcast Panel.

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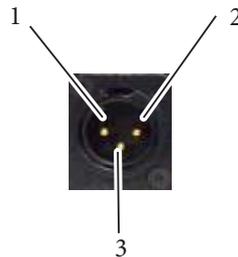
24V Out connector

24V Out is a (3-pin XLR Female) connector that can be used to power up any other equipment.

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

2   1

3
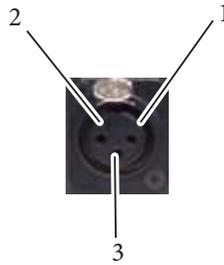
USB connector

USB is a USB Series B Male connector used for communication between the Broadcast Panel and the PC.

1. VCC
2. D-
3. D+
4. GND

2   1

3   4
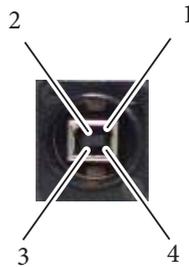
Appendix 3 **Specifications**

Weight: 2kg

Power requirements: 24 Volts DC

Temperature range: -10 to +45 °C
Humidity tolerance: 0% to 90% relative humidity, non-condensing

Dimensions are shown as follows. All measurements are in cm and exclude the tablet.

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