



MARK ROBERTS MOTION CONTROL

NETWORK BROADCAST PANEL

JOYSTICK BROADCAST HEAD CONTROLLER



QUICK START GUIDE

QSG Product Code: MPMC-2308-00

Products Covered: MPMC-2179-00, MPMC-2208-00

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

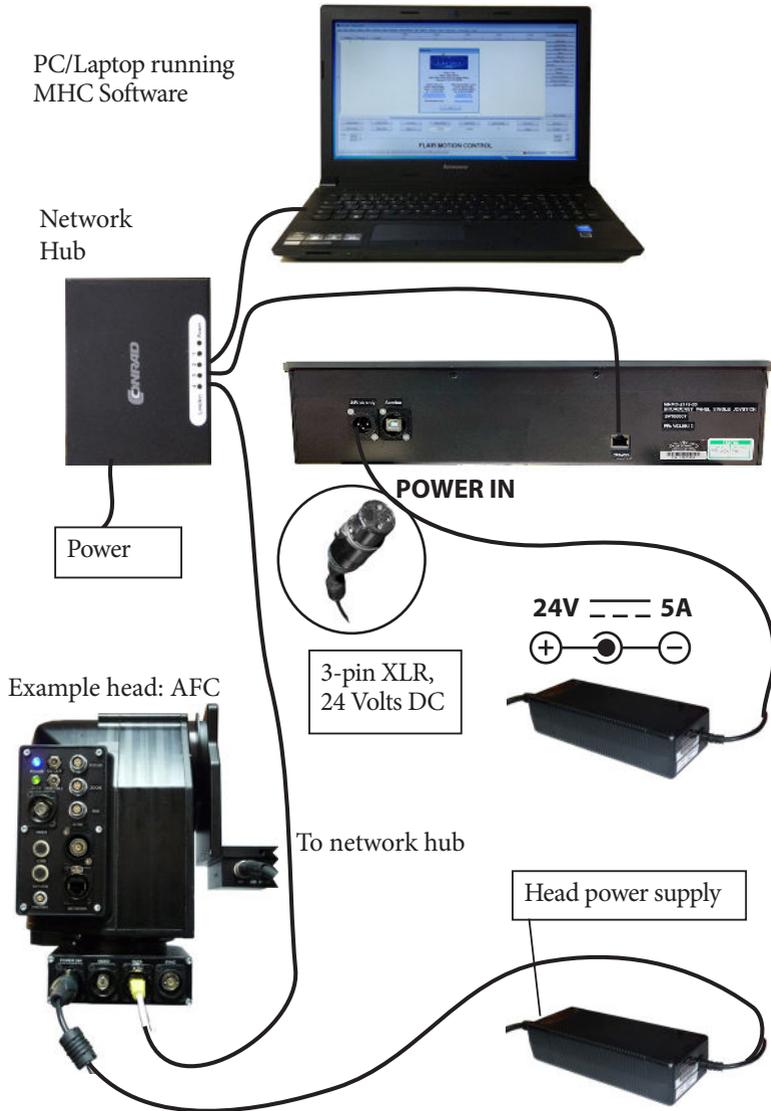
The following variants of Network Broadcast Panel are available at MRMC:

- **Network Broadcast Panel:** The Network Broadcast Panel connects to PC and head via network and can be configured to control the robotic head locally or remotely via MHC or RTL software.
- **Network Broadcast Panel with Dual Joystick:** Connects to an MHC or RTL PC via network connection and includes another joystick that can be configured for 3 additional axes on larger rigs.
- **USB Broadcast Panel:** 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 Broadcast Panel with Dual Joystick:** Connects to a Flair PC via a USB connection and includes another joystick that can be configured for 3 additional axes on larger rigs.

The panel includes the following features:

- Record and playback of static camera positions - You can store up to 16 static head “preset” positions (including lens settings) and go to any preset position at the touch of a button.
- Head select - You can switch control between up to 12 connected heads via Ethernet
- Focus and zoom control

Connecting the cables



Configuring the Network Broadcast Panel

1. Plug in the Ethernet cable to the back of the panel.
2. Connect the other end of the Ethernet cable to the Ethernet hub on the same network as the MHC PC/laptop.
3. Connect power to your head(s) and power them up.
4. Connect power to the Network Broadcast Panel and power it up.

It will take approximately 60 seconds for the panel to start up. Once the LCD display with text displayed, the panel is ready to set up. For the same PC, the Network Broadcast Panel needs to be set up only the first time.



5. Underneath the screen there are 4 buttons. By pressing each button you can cycle through the screens and discover various useful information. The following table describes the display for each button:

Button number	Display	Description
1		Shows the serial number of the unit and the firmware version installed on the Broadcast Panel
2		Displays the IP address and port number of the PC that the Broadcast Panel is configured to connect to.

Button number	Display	Description
3		<p>Displays the network settings (IP address, subnet mask and default gateway) that are configured for this Broadcast Panel</p>
4		<p>Displays the button combinations to press for specific actions.</p> <p>1+2: Connect</p> <p>3+4: Disconnect</p> <p>2+3: Settings</p>

- If you press the second and the third button at the same time, the settings menu will appear that will allow you to change the network settings of the panel.



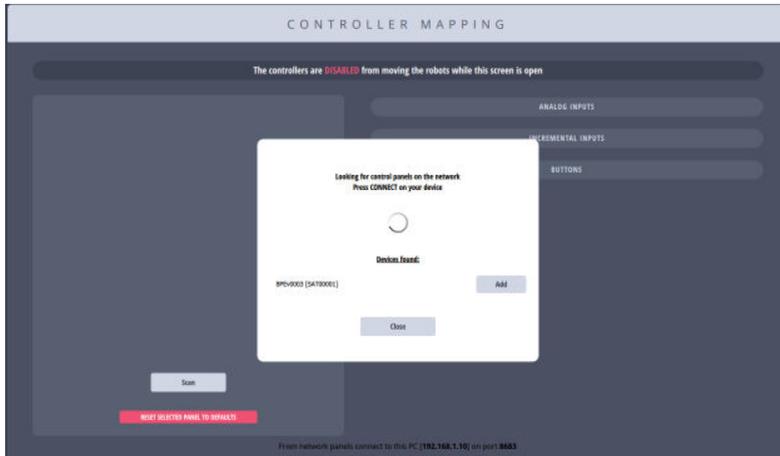
- Simply type in what you would like to save and press the **SAVE to x** button to save the input to the appropriate setting. For example, to change the IP address of the server PC, simply type the IP address using the appearing LED number buttons on the Broadcast Panel and press **SAVE Server IP**.
- Switch on the PC and Microsoft Windows will start. Once Windows has loaded, launch MHC.



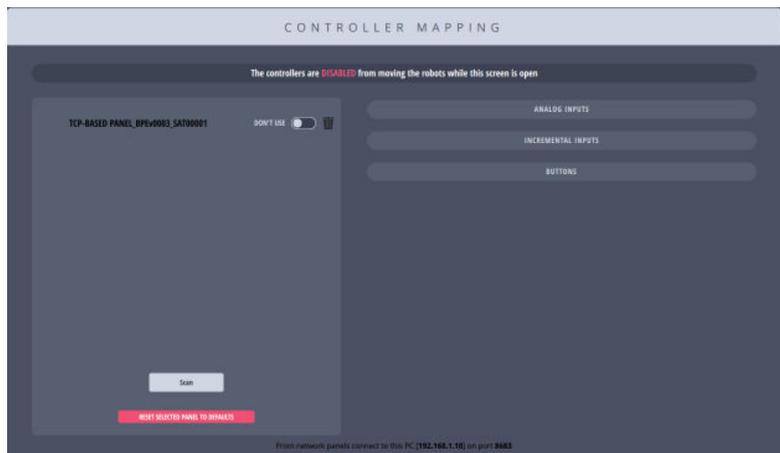
Note

Network Broadcast Panel is only available with MHC v3.3 or later.

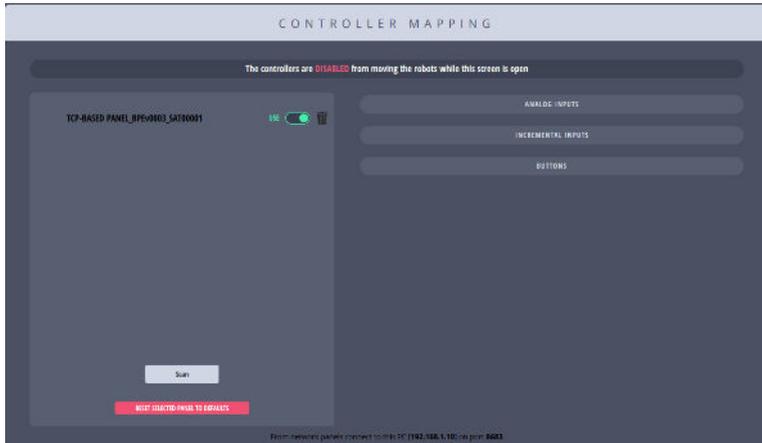
- Once MHC started, press buttons **1** and **2** together to establish the connection between Network Broadcast Panel and the PC.
- In the MHC client, navigate to the Controller Mapping page. Click **SCAN** and the connected Broadcast Controller will appear in the Scan List.



- Click **ADD** to add the Broadcast Panel to list of available joystick panels. The Network Broadcast Panel should now be appearing in the list of controllers.

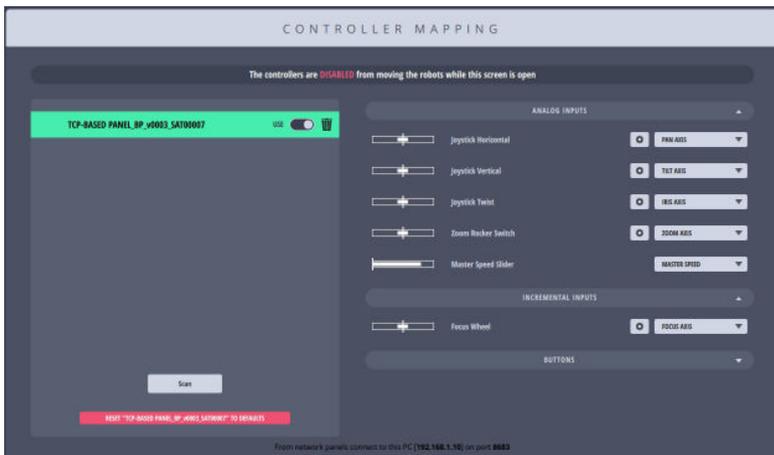


- Toggle the slider to **Use** to start ‘using’ the Panel with the MHC client.



- If you select the controller, it appears as green meaning that the appearing controls on the right of the page are those for the selected joystick and can be configured.

To test if the controller can be used, move the joystick on the Broadcast Panel and joystick slider in the Controller Mapping page on the right should move.



- Select the head you want to control from the **HEAD SELECT** panel.

15. Ensure that the **MASTER SPEED** is set to the desired position.
16. Set the **DIRECTION** toggle switches.
17. Move your head using the Pan/Tilt/Focus/Zoom controls as desired.

Modifying the Settings: Using the Broadcast Panel display

Once the set up is complete, you do not need to configure the Network Broadcast Panel again if you are using it with the same PC.

When you need to connect the Network Broadcast Panel with another PC or you want to modify the settings for any other reason, disconnect the Network Broadcast Panel, by pressing buttons 3 and 4 together and this will display the Settings screen and the associated LED buttons required to change the settings.

Modifying the Settings: Using the Server Page

Once connected to a network and powered on, the panel will create an HTML page. To access it, type in the IP of the panel in a browser followed by /config. This page only works properly when accessed via Firefox Browser. Download the browser here: <https://www.mozilla.org/en-GB/firefox/new/>.

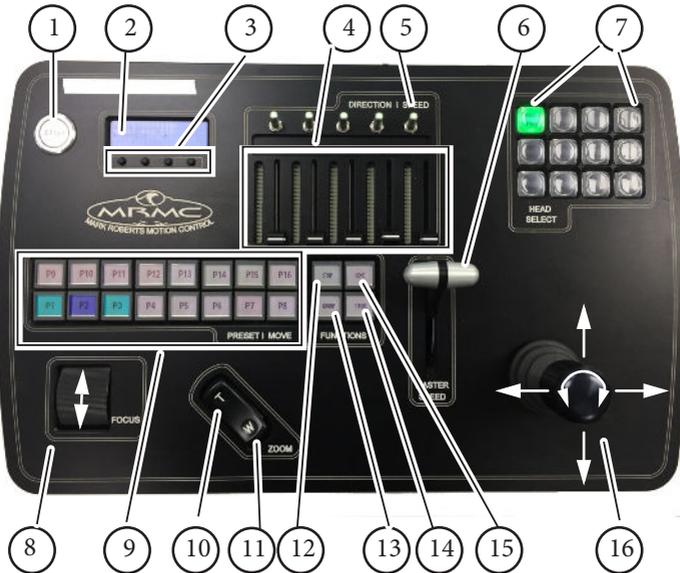
The screenshot shows a web browser window displaying the 'MPMC Saturn Board Configuration' page. The page has a dark theme with yellow text for titles and labels. It contains a table of system information and several configuration fields.

Name	Value
Serial	SA1010001
Firmware Version	v03.00.07
Server IP (if not)	192.168.1.68 (8882)
Hardware Ver	03.00.01
Device Identifier	MP_V01004

Below the table are several configuration fields, each with a 'Submit' button:

- IP Address:** 192.168.1.67
- Default Gateway:** 192.168.1.67
- Subnet Mask:** 255.255.255.0
- USB DCLIP:** 0
- MPMC Server IP:** 192.168.1.68
- MPMC Server Port:** 8882
- Update Rates (G1, G2, G3, C1, C2, C3):** 255, 255, 255, 1000, 1000
- MAC Address:** 19:2B:05:10:00:1000

Controls: Network Broadcast Panel



1. Disables the controls on the Broadcast Panel
2. Screen for messages
3. Buttons for settings and connection (see step 5 on page 5)
4. Reserved for future use in MHC; for axis speed control in RTL
5. Enable, disable or change direction of axes
6. Master Speed for all controls
7. Head selection
8. Focus
9. 16 **PRESETS** for recording and playing back static camera positions
10. Telephoto zoom
11. **Wide angle zoom**
12. Stop the preset
13. Set/activate group presets
14. Store the preset

15. Home the selected head
16. Camera head direction and position joystick

Note

Physical effects of most controls are adjustable in MHC, in terms of the **limit** (range) of motion, **direction**, **speed**, **damping** (smoothing of jerkiness in the controls), **input exponential** and **scale** (sensitivity).

Controls: Network Broadcast Panel with Dual Joystick



Network Broadcast Panel with Dual Joystick has an additional joystick that can be configured to use 3 additional axis on the robot in Flair. The other controls and button work exactly as the single joystick version. For details refer to *Controls: Network Broadcast Panel* on page 11.

Setting the control directions

In the Network Broadcast Panel you can specify the directions of the focus, zoom and joystick controls for your particular head, lens gearing attachments, and preference. For example, some people prefer the camera to point upward when the joystick is pulled back, while others prefer the opposite logic whereby pushing forward (“up”) on the joystick targets the camera upward in the scene. To set the control directions, you can toggle the controls in the Direction/Speed section of the panel. The following table describes the control position:

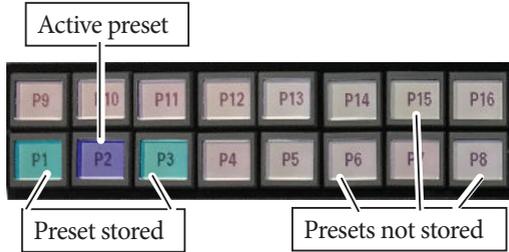
Position	LED	Description
Forward (Green light)		Enabled and head moves in the same direction as the joystick or control
Off (No light)		Disabled - Moving the axes control on the panel will not move the head
Reverse (Amber light)		Enabled and direction inverted - Moving the axis control will move the head in the opposite direction.

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 Network Broadcast Panel.
2. Press the **STORE** button.
3. If you haven't done so already, use the axes controls on the Network Broadcast Panel to go to the head direction and position, and lens focus and zoom setting that you want to record.
4. Press one of the 16 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.

Preset button states



Go To Preset

To go to a preset position, press one of the Preset buttons P1 – P16.

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.

Home

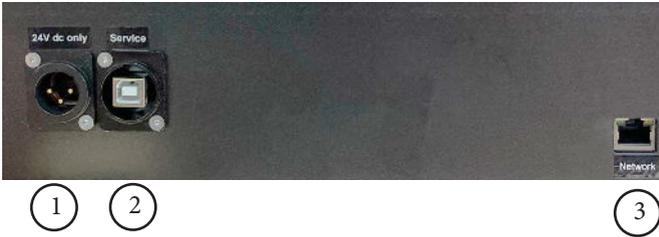
Pressing the **HOME** function button will home the first axis that can be homed in the selected robot. For an AFC head, the axis homed is the pan axis and for a Robotic Pod the axis homed would be the focus axis.

Stop button

The top left button is a **STOP** button pressing which would stop the Network Broadcast Panel 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.

Appendix 1 Back panel

Connector summary



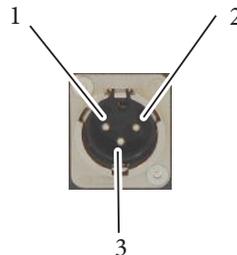
1. **POWER 24V IN** (12 Watts) input power connector, 3-pin XLR, 24 Volt DC power supply.
2. **SERVICE** Serial port for service. For MRMC use only
3. **ETHERNET** port for communication between the Network Broadcast Panel, PC and robotic head.

Connector pin-out information

24V In connector

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

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



Note

Notes

Notes



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