

# Mantel Mount

## MM860 v2 Motorized Display Mount

### Overview

This driver provides control and feedback of a Mantel Mount MM860. Each driver manages monitoring and control for a single mount. The driver supports UDP method of communication to the mount. The mount must be completely set up and connected to the Control4 processor via Cat5 network cabling or better.

### Version Compatibility

Driver version 1.0.0 (initial release) supports mount control box version 1 (MM860 v1).

Driver version 2.1.0 (current release) supports mount control box version 2 (MM860 v2).

Ensure the driver added to Composer matches the control box version of the mount. The control box version can be found on the label affixed to the control box. The driver version can be viewed by clicking the "Driver Version" button in the **Actions** tab, and then clicking the **Lua** tab to see the version printed in the output window.

The driver requires Control4 OS 3.1.1 or later.

### Known Issues

If network access is lost between the Control4 controller and the mount, control will not be possible. The driver will continue attempting to connect and when connection is restored the control and feedback of the mount will automatically resume.

### Event Notifications

The mount sends event notifications when a change in the device fault state is detected. The following fault states are supported:

<b>Code:</b>	<b>Fault State:</b>
0	No fault present
1	Mount was not in home position at power-up
2	Left actuator over-current
3	Right actuator over-current
4	Left actuator limit time-out

- 5 Right actuator limit time-out
- 6 Temperature sensor open or shorted
- 7 Excess temperature

The mount also provides event notifications when the mount starts moving, stops moving, and when the mount arrives at the home position.

Since the mount does not notify the driver of internal changes, polling for state is required. A heartbeat message is sent to the mount on a regular interval to monitor the device's current status. Driver variables are updated on each heartbeat response. Several program variables are available that reflect the current state of the device. The table below lists each variable and its possible return values.

## Variables

Variable	Description	Type	Returned Values
Formatted Temperature	Formatted temperature units.	String	I.E 96°F or 35.56°C
Last Event Source	Indicates last known event source.	String	<ul style="list-style-type: none"> <li>• RF Remote Control</li> <li>• Serial Port</li> <li>• Temperature Sensor</li> <li>• TV Current Sensor</li> </ul>
Last Preset	Indicates if last motion was caused by a Memory Recall.	Boolean	<ul style="list-style-type: none"> <li>• True</li> <li>• False</li> </ul>
Left Actuator Position	Indicates current left actuator encoder count.	Number	0 – 100
Left At Limit	Indicates if the left actuator is currently at limit.	Boolean	<ul style="list-style-type: none"> <li>• True</li> <li>• False</li> </ul>
Left Motor Current	Indicates current left motor current.	Number	0 – +INF
Mount Azimuth	Indicates current mount azimuth. 0 means the mount is currently as far right as it will go. 100 means the mount is currently as far left as it will go.	Number	0 – 100
Mount Elevation	Indicates the current mount elevation. 0 means the mount is stowed in the upright position. 100 means the mount is fully downright.	Number	0 – 100
Right Actuator Position	Indicates the current right actuator encoder count.	Number	0 – 100
Right At Limit	Indicates if the right actuator is currently at limit.	Boolean	<ul style="list-style-type: none"> <li>• True</li> <li>• False</li> </ul>

Right Motor Current	Indicates current right motor current.	Number	0 – +INF
Status	Indicates the current fault status.	String	<ul style="list-style-type: none"> <li>• No Fault</li> <li>• Mount Not At Home On Power Up</li> <li>• Left Actuator Over Current</li> <li>• Right Actuator Over Current</li> <li>• Left Actuator Limit Timeout</li> <li>• Right Actuator Limit Timeout</li> <li>• Temperature Sensor Open Or Shorted</li> <li>• Excess Temperature</li> </ul>
Temperature	Indicates the current temperature in Fahrenheit or Celsius.	Number	-INF – +INF
TV Current	Indicates whether TV current is currently detected.	Boolean	<ul style="list-style-type: none"> <li>• True</li> <li>• False</li> </ul>
TV State	Indicates the current TV state.	String	<ul style="list-style-type: none"> <li>• On</li> <li>• Off</li> </ul>

## Quick Configuration

- Complete installation and setup of all mounts and confirm that local control on the mount behaves as expected.
- Join the mount to the local area network (LAN) of the Control4 controller.
- Add one driver to the project solution for each mount to manage.
- For a network connection specify the network binding by following these steps:
  1. Click the **Connections** tab in Composer Pro.
  2. Click the **Network** tab.
  3. The mount driver should be listed in the **IP Network Connections** center portion of the screen. Double-click the mount item.
  4. Enter the IP address of the mount in the text field and click **Close**.
  5. The driver will automatically connect to the mount and begin initialization once the IP address is specified.

## Using the Advanced Properties Screen

**Log Level** - [0 – Fatal | 1 - Error | 2 - Warning | 3 - Info | 4 - Debug | 5 – Trace]

Sets how much information to log from the driver. This property should only be changed when working with C4 Technical Support. Set the level to **Trace** to see all driver output.

**Log Mode** - [Off | Print | Log | Print and Log)

Sets where to send any log output to. This property should only be changed when working with C4

Technical Support.

### **Network Port**

The network port this driver should use for UDP communications. This will default to 81. Changing this value means that you must also change the value inside of the MM860 web configuration page.

### **Connected to Network**

Read-only value indicates the driver is communicating to the mount when true, false indicates the driver is not communicating with the mount.

### **Driver Initialized**

Read-only value indicates the driver is initialized and ready for control and monitoring when true, false indicates the driver is not initialized. Initialized means that the driver has queried and updated all status information from the mount and that the driver is in sync with the current operational state of the mount.

### **Poll Interval**

Sets the polling time this driver should use when querying for device status. Cannot be set lower than 5 seconds.

### **Temperature Units**

Sets the temperature units to be used when converting temperature. Can be set to Celsius or Fahrenheit.

## **Actions**

### **Driver Version**

Press this button to print the version of the mount driver to the Lua output window in Composer Pro.

### **Jog**

Jog the mount left, right, up, or down.

### **Move**

Move the mount left, right, up, or down. **MOUNT WILL CONTINUE TO MOVE UNTIL A STOP COMMAND IS ISSUED.**

### **Home**

Sends the mount to the home position.

### **Stop**

Stop the mount in its current position.

### **Position**

Set the Elevation (up/down) and Azimuth (left-right) position for the mount. Input values are calculated

as a percentage.

- Elevation
  - 0 = Stowed/upright position
  - 100 = Extended/downright position
- Azimuth
  - 0 = Leftmost tilt position
  - 100 = Rightmost tilt position

### **Memory Recall**

Recalls the preset located at the corresponding memory index.

### **Memory Save**

Saves the current position to the corresponding memory index. You cannot overwrite the memory index value of 0.

### **ALPS Sensor**

Enables or disables the current sensor on the mount.

### **Clear Fault**

Clears the highest priority fault indicated by the current status.

### **Reconnect**

Reconnects/reinitializes the driver.

## **Troubleshooting**

If any loss of control or feedback occurs, confirm that:

- The mount is working locally.
- The mount is connected to the local area network.
- The Control4 controller is connected to the local area network.
- The Control4 controller can ping the network IP address of the mount.

Resolve the connection issue if one is found.

If a new mount is added to the project, add a new driver for each mount added. Nothing needs to be done to the existing drivers.

If a mount that already has a driver is replaced, ensure the driver IP address property matches the IP address of the new mount.

In case of further issues, contact Control4 Technical Support.

## **Change Log**

### **2.1**

Resolved memory leak.

### **2.0**

Resolved compatibility issue with control box v2 firmware.

### **1.0**

Initial release.