



# HDM-C6 Series HDMI-over-IP Video Systems

Control4 Driver User Guide

Version 1.5

Driver developed by



## Introduction

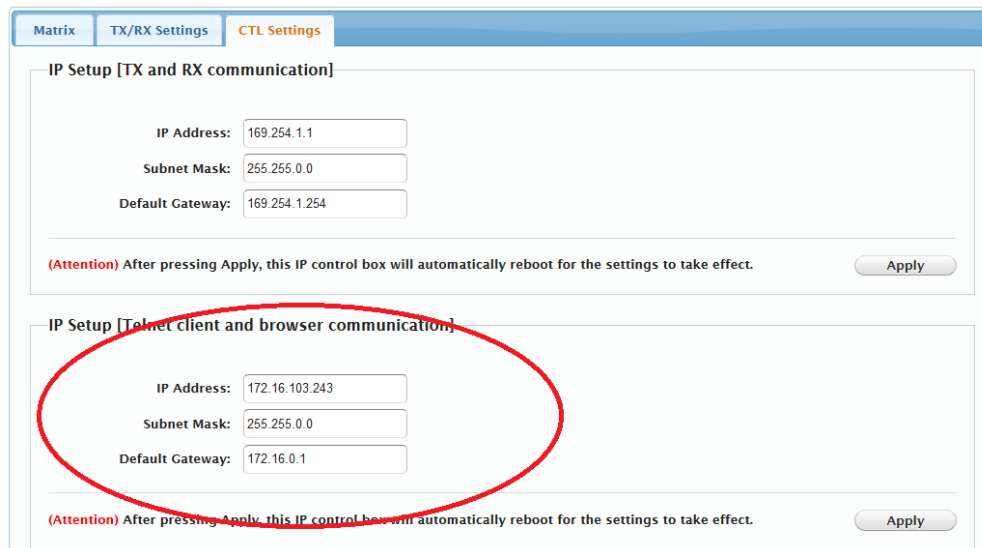
This driver has been designed to provide two-way control of Avenview HDM-C6 series HDMI-over-IP video systems, via TCP/IP. Three different types of driver file are included with the package, providing support for the original HDM-C6VWIP series products, as well as the newer HDM-C6MXIP and HDM-C6MVIP ranges.

## Avenview Configuration

It is recommended that the Avenview system be installed, configured and tested by a suitably qualified engineer, according to Avenview documentation, prior to integration with this driver. Some additional, specific configuration is required to ensure correct operation of the driver:

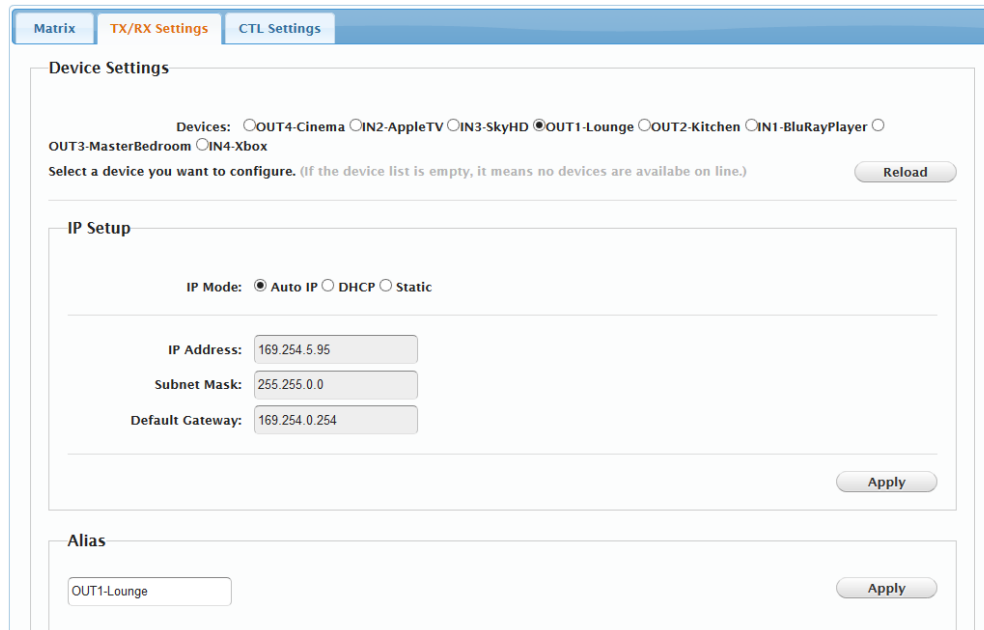
The Avenview Control Interface Telnet Client must be configured with a static IP address in the same range as the Control4 processor in order for the two to communicate:

1. Enter the IP address of the IP Control Box into the web browser of a computer connected to the same network, to display the Web Interface (the default IP address is "192.168.11.243" and default password is "admin").
2. Choose the **CTL Settings** tab.
3. Enter the static IP address information into the **IP Setup [Telnet client and browser communication]** section, and click **Apply**.



**Figure 1: Avenview CTL Settings**

It is additionally necessary to configure an **Alias** (name) for each transmitter (input) device and each receiver (output) device. Access the web interface as described above, this time choosing the **TX/RX Settings** tab. Note that the current device names are displayed in **Device Settings** at the top of the page. Select a device to display its current configuration:



**Figure 2: Avenview TX/RX Settings**

You can edit the device name in the **Alias** field, clicking Apply when done. Note that the name must comply with the following conventions:

For Transmitter (input) devices: *IN[number]-[name]*  
For Receiver (output) devices: *OUT[number]-[name]*

It is important that each name begins with "IN" or "OUT", which is then followed by the input or output number. You can then optionally add a hyphen (-) followed by an appropriate description for the device (note that no spaces are allowed). For example, in the screenshot above, the first input is named *IN1-BluRayPlayer*, equally valid is just *IN1*.

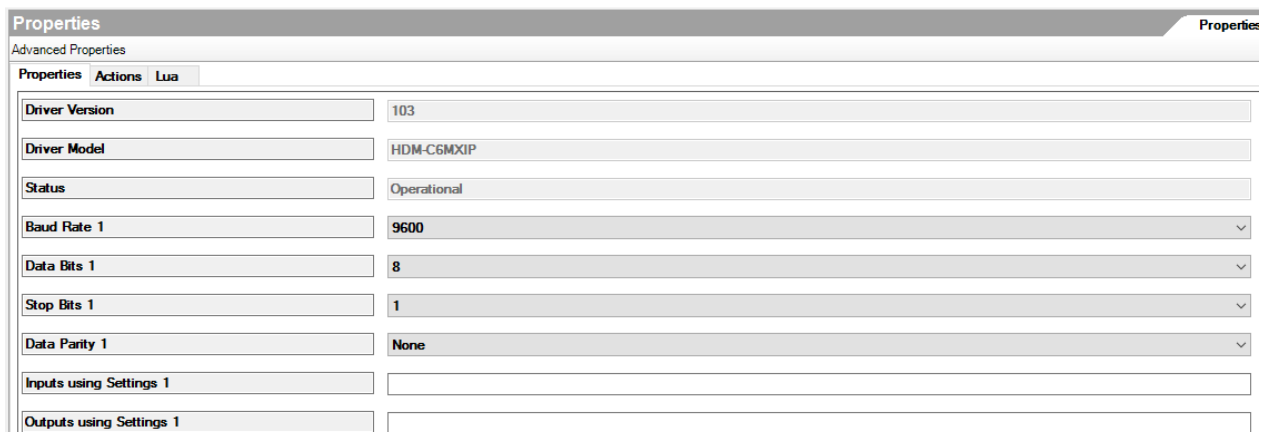
## Driver Installation & Configuration

Copy the .c4i files from the zip package to your Control4 driver location (for example, *My Documents\Control4\Drivers*) and then open Composer. The drivers can be found under:

**Device Type:** A/V Switch, **Manufacturer:** Avenview, **Model:** *nxm* HDM-C6yyyy

...where “*nxm*” is the number of inputs and outputs, and “*yyyy*” is the final four digits of the model number, designating the product range. Choose the version that most closely matches your needs. The drivers are all effectively the same; different output configurations are provided to avoid cluttering your project with unwanted inputs and outputs.

To establish a connection between the driver and the Avenview system, go to **Connections** and choose the **Network** tab. Double click on the Avenview device and enter its IP address in the window that appears. You may now configure the video connections in the **Control/AV** tab according to normal Control4 practice. Select the newly added driver in the **System Design** view to display its properties:



Properties	
Driver Version	103
Driver Model	HDM-C6MXIP
Status	Operational
Baud Rate 1	9600
Data Bits 1	8
Stop Bits 1	1
Data Parity 1	None
Inputs using Settings 1	
Outputs using Settings 1	

**Figure 3: Driver Properties**

The driver features a number of properties that report status or control configuration. Note that the Serial Port Settings Types provide a way of defining the settings for a serial port, which can then be applied to the serial ports of multiple inputs and outputs.

Property	Description
Driver version	The release version of the driver.
Driver Model	The model range of the connected system.
Status	Should be <b>Operational</b> when actually in communication with the Avenview system. Any other status indicates a connection problem of some sort.

Serial Port Settings type x	<b>Baud Rate x</b> - the baud rate in bits per second. <b>Data Bits x</b> - the number of data bits. <b>Stop Bits x</b> - the number of stop bits. <b>Data Parity x</b> - the parity bit setting. <b>Inputs using Settings x, Outputs using Settings x</b> - the transmitter and receiver units that should have their serial port configured to use these settings. Inputs and outputs can be specified as a comma separated list of numbers or number ranges, e.g. <b>1,2-5,7</b>
Debug Settings	<b>Debug Mode</b> - support use only <b>Debug Subsystems</b> - support use only <b>Debug Level</b> - support use only

**Table 1: Driver Properties**

## Driver Commands

The driver features a number of device-specific commands used for control. Wherever a list of inputs or outputs is required, these can be comma separated (e.g. **1,2,3,4**) or defined as a range (e.g. **1-4**), or a combination of the two (e.g. **1,2-4**).

Command	Description
Save Preset	Save all or part of the current input to output switching configuration as a preset. <b>Preset</b> Choose a preset number. <b>Outputs</b> The output numbers whose configuration should be saved. An empty list will save everything.
Recall Preset	Restore the input to output switching configuration saved as a preset. <b>Preset</b> Choose a preset number to recall.
Switch Multiple Outputs	Switches all listed outputs to the given input. <b>Input</b> input to show. <b>Outputs</b> list of outputs to switch to that input.
Tile Multiple Inputs On Output	Tiles the list of inputs on the given output. <b>Inputs</b> inputs to show. <b>Output</b> output on which to show the inputs.
Create Video Wall*	Define a video wall using a single host (input). <b>Wall Name</b> Choose a wall name (this is important as other commands refer to this name). <b>Size</b> The video wall screen configuration expressed as <b>w,h</b> or <b>wxh</b> . For example <b>2x2</b> creates a 2 x 2 (4 screen) video wall. <b>Input</b> The input to show on the wall. <b>Outputs</b> The output numbers used to create the video wall. This field must contain a number of outputs equal to the amount defined in the <b>Size</b> field.
Switch Video Wall*	Switch a video wall to show a new input. <b>Wall Name</b> The wall to switch, defined previously with <b>Create Video Wall</b> .

	<b>Input</b> The new input to shown on the wall.
Set Bezel Gap*	Define the size of the TV frame (video edge) to correct for large bezel screens in video wall mode. <b>Wall Name</b> The wall to configure, defined previously with <b>Create Video Wall</b> . <b>Screen Outside Width, Height</b> – the overall size of the television in mm (e.g. "600,550"). <b>Screen Image Width, Height</b> – the size of the actual screen in mm (e.g. "550,500").
Set Picture Parameters*	Define picture adjustment parameters for a video wall. Setting any parameter to zero leaves it unadjusted. Refer to Avenview documentation. <b>Wall Name</b> The wall to configure, defined previously with <b>Create Video Wall</b> . <b>Pixel Shift Right, Down</b> – Number of pixels to shift right and down. Can be negative for left and up. Must be a multiple of 8 (will be rounded to the nearest if not). <b>Horizontal/Vertical Overscale Factor</b> – Number of columns and rows by which to overscale the image. <b>Tearing Delay</b> – the tearing delay to apply <b>Outputs</b> – which outputs should use the given values
Create Multi-Host Video Wall*	Define a video wall using multiple hosts (inputs). <b>Wall Name</b> Choose a wall name (this is important as other commands refer to this name). <b>Size</b> The video wall screen configuration expressed as <b>w,h</b> or <b>wxh</b> . For example <b>2x2</b> creates a 2 x 2 (4 screen) video wall. <b>Inputs</b> The inputs to show on the wall. There must be one per row. <b>Outputs</b> The output numbers used to create the video wall. This field must contain a number of outputs equal to the amount defined in the <b>Size</b> field.
Switch Multi-Host Video Wall*	Switch a multi-host video wall to show new inputs. <b>Wall Name</b> The wall to switch, defined previously with <b>Create Multi-Host Video Wall</b> . <b>Inputs</b> The new inputs to shown on the wall. There must be one per row.
Reset Input	Reset a transmitter (input), e.g. to clear a fault. <b>Input</b> The input to reset.
RS232 Command String	Send a string to one or more serial ports. <b>Note that due to current protocol limitations only human readable text not including " (double quote) or &amp; (ampersand) can be sent.</b> The serial settings used will be taken from the driver properties corresponding to the given inputs and outputs. <b>Inputs</b> list of input serial ports to which to send the string. <b>Outputs</b> list of output serial ports to which to send the string. <b>CR Termination</b> whether to terminate the string with a carriage return. <b>Command</b> the string to send.
RS232 Custom Command String	Send a string to one or more serial ports. <b>Note that due to current protocol limitations only human readable text not including " (double quote) or &amp; (ampersand) can be sent.</b>

	<p>Custom serial settings are specified.</p> <p><b>Inputs</b> list of input serial ports to which to send the string.</p> <p><b>Outputs</b> list of output serial ports to which to send the string.</p> <p><b>Serial Settings</b> the serial settings to use in the form <i>&lt;baud&gt;-&lt;data bits&gt;&lt;parity&gt;&lt;stop bits&gt;</i> e.g. 9600-8n1.</p> <p><b>CR Termination</b> whether to terminate the string with a carriage return.</p> <p><b>Command</b> the string to send.</p>
CEC Command**	<p>Send a CEC command to specified outputs.</p> <p><b>Command</b> – choose a CEC command to send.</p> <p><b>Outputs</b> – the output number(s) to which the command should be sent. These can be comma separated (e.g. "1,2,3,4") or defined as a range (e.g. "1-4"), or a combination of the two (e.g. "1,2-4").</p>

**Table 2: Driver Commands**

\* These commands are only supported in the HDM-C6MVIP and HDM-C6VWIP drivers.

\*\* These commands are only supported in the HDM-C6MXIP and HDM-C6MVIP drivers.

## Driver Variables

The driver features a number of variables, providing feedback from the Avenview system.

Variable	Description
INxxx_Name	The name defined for a particular input in the Avenview system.
OUTxxx_Name	The name defined for a particular output in the Avenview system.

**Table 3: Driver Variables**

The names are taken from the part after the dash in the codename (see the above section entitled "Avenview Configuration" for more information).

## Troubleshooting

### The driver cannot control the Avenview system

- Confirm the Ethernet switch used by the Avenview system is correctly uplinked to the same network as the Control4 processor.
- Confirm that the correct IP address is defined in the Network Connections for the Avenview driver.

### Switching commands are failing

- Ensure you have named the devices correctly in the Avenview system. Read the section of this guide entitled "Avenview Configuration" for more information.

**An input is distorted, or is displaying only part of the complete image**

- Try sending the **Reset Input** command to the affected input.