



## Mirage Media Server Integration Guide for Crestron Control Systems

Version 3.2



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## Overview

This document describes how to integrate the Autonomic Controls MMS into a Crestron control system. This guide assumes that you have setup the MMS on the network and can access and control it from a computer on that network.

For instructions on setting up the MMS, please refer to its documentation.

This module allows for control of all functions of the MMS via an IP connection from the Crestron processor to the MMS. This module will also receive feedback from the module via that connection, including all browsing data, metadata, album art, and interactive prompts when user input is required. You can browse the local media library and any of the server's online radio services. For control of multiple outputs of the MMS, simply use a copy of this module and its corresponding TCP/IP client per output you'd like to control.

## Setting up the MMS for Crestron Control

### Requirements

The MMS module requires a Crestron 2 or 3 series control processor. In order to browse content by album cover and see now playing art, any touchpanels intended for this purpose must be able to display dynamic graphics and have an IP address on the same network as the MMS. Visit [www.crestron.com](http://www.crestron.com) to determine which touchpanels support these features.

If a touchpanel does not support dynamic graphics or is not IP connected, it can still control the server and receive feedback from it. However, only text feedback will operate.

### Preparation

Download the Crestron control module from [www.autonomic-controls.com/support\\_downloads.php](http://www.autonomic-controls.com/support_downloads.php). The control module downloads with several sample programs and a number of touchpanel resolutions. There are resolutions available in common touchpanel resolutions, including Mobile G phone and tablet sizes. Pages from these templates can be copied directly into a custom interfaces or used as a basis for such an interface.

Once the module zip file has been downloaded, unzip it to an easy to find location. It contains the sample programs (PRO2 XPanel, PRO2 Mobile G, AES XPanel, MC3 XPanel) as well as a Crosspoint example program, using a PRO2 with an XPanel and a Mobile G interface. You can import any of the sample programs into SIMPL Windows to import all necessary files into your database. However, the important module files are as follows:

1. **Autonomic MMS v3.2.umc** This is the main module. It wraps all sub-modules and SIMPL+ code into a cohesive, usable set of inputs and outputs for easy integration.
2. **Autonomic MMS IP Processor v3.1.usp** This is where the majority of our logic exists. It is a SIMPL+ module.
3. **Autonomic MMS Keyboard Controller v3.0.usp** This is our keyboard controller. It handles text input for various functions of the server and module.
4. **Autonomic MMS Alpha Search v3.0.umc** This module exists internally in the main module, and handles browsing by letter.

### Programming the Crestron Control System

In order to verify that the MMS is operating properly and to reduce the number of variables during the first integration, Autonomic Controls strongly recommends that one of the included sample programs is loaded to a processor for the purposes of familiarization. Afterwards, more in depth integration will be easier.

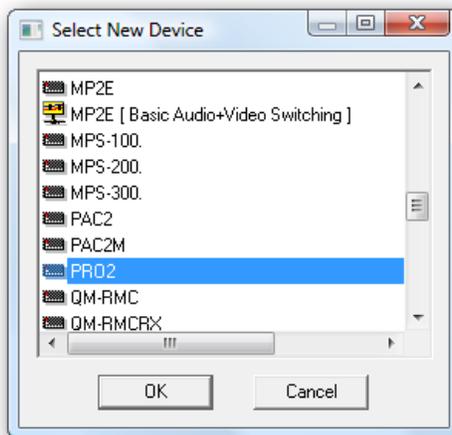
The first step is to open one of the sample programs in SIMPL Windows and modify the IP address of the TCP/IP Client and the MMS Source parameter of the main module.

### Changing the Processor Type

In SIMPL Windows, open the System View by clicking on the configure icon in toolbar.

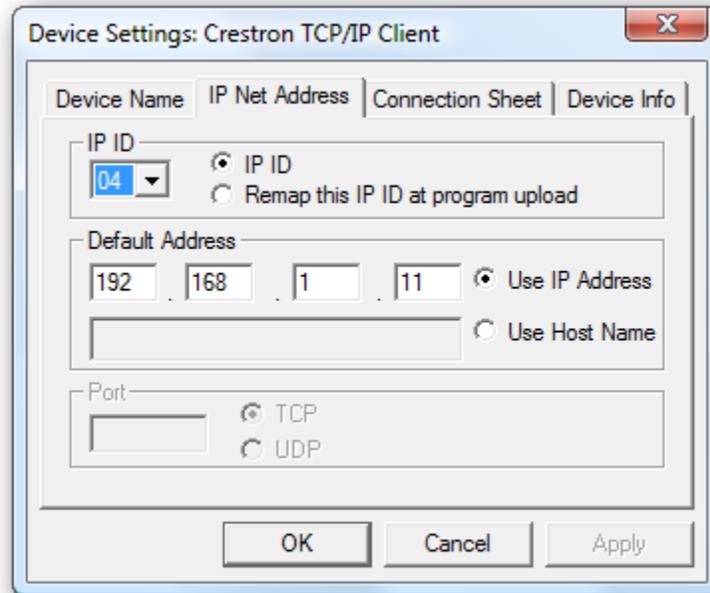


The sample program has a processor already selected (PRO2, AES, or MC3), but it can be changed to any 2 or 3 series processor. If necessary, change it to the processor in use by right-clicking the processor and selecting Replace Processor.



### Configuring the Media Server IP Address

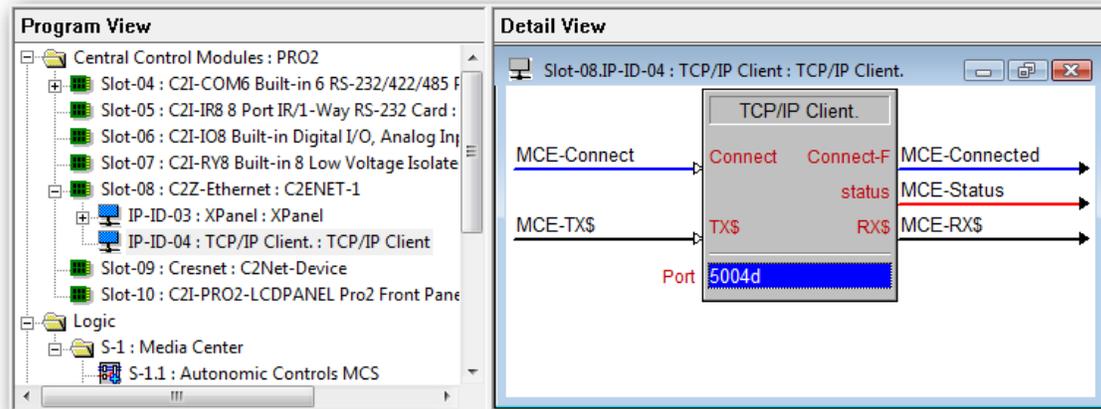
Expand the Ethernet card device in the system tree (in the case of the PRO2, the C2ENET-1 or C2ENET-2). Double click on the IP-ID assigned to the TCP/IP client intended for the MMS. Change the IP address in the subsequent windows to match the IP address of the MMS in question. Autonomic Controls strongly recommends that the MMS either be configured with a static IP or that the router is configured with a DHCP reservation for the MMS such that it always receives the same IP address from the router's DHCP server.



### Configuring the IP Communications Port Number

An IP port is a communications “channel” that two devices use to communicate with each other. An MMS uses the inbound port 5004 for IP communications with control clients. Multiple clients can be connected to this port at any given time. The server can distinguish one client from another. If the fully integrated system intends to control multiple outputs, these TCP/IP clients **should all be identical** except for their IP-IDs.

In SIMPL Windows, switch back to the Program View. Open the program tree and select the Ethernet slot, and then open the TCP/IP client symbol configured with the MMS’s IP address. Ensure that its ‘Port’ parameter is set to 5004d.



## Signal Specifications

### Inputs

| Signal Name                 | Signal Type | Signal Description                                                                                                                                                            |
|-----------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Connect</b>              | Digital     | Initiates TCP/IP connection while signal is high. High/1: Connect, Low/0: Disconnect (Level Sensitive). Drive this with panel activity or device selection logic (Crosspoint) |
| <b>Command\$</b>            | Serial      | Input for direct command strings                                                                                                                                              |
| <b>RX\$</b>                 | Serial      | Receive serial data from TCP/IP client                                                                                                                                        |
| <b>Status</b>               | Analog      | Analog status input from TCP/IP client                                                                                                                                        |
| <b>Events_Enabled</b>       | Digital     | Enables asynchronous messages from server to TCP/IP client. High/1: Enable, Low/0: Disable (Level Sensitive).                                                                 |
| <b>Browse_{#}</b>           | Digital     | Initiates browse command for media types (determined by context) on a rising edge.                                                                                            |
| <b>Browse_{Category}</b>    | Digital     | Initiates browsing the given category on a rising edge.                                                                                                                       |
| <b>CurrentList_AddQueue</b> | Digital     | Adds the currently listed media to the playback queue on a rising edge.                                                                                                       |
| <b>CurrentList_PlayNow</b>  | Digital     | Adds the currently listed media to the playback queue and begins playback immediately on a rising edge.                                                                       |
| <b>PlayPause</b>            | Digital     | Toggles the play state on a rising edge. Use this signal if there is a single button for Play and Pause on the interface                                                      |
| <b>Play</b>                 | Digital     | Sends a play command on a rising edge. Use this if there is a discrete play button in the interface.                                                                          |
| <b>Pause</b>                | Digital     | Sends a pause command on a rising edge. Use this if there is a discrete pause button in the interface.                                                                        |
| <b>Stop</b>                 | Digital     | Sends a stop command on a rising edge.                                                                                                                                        |
| <b>Skip_Next</b>            | Digital     | Advance to the next track in the queue on a rising edge. In SiriusXM, this will tune to the next station by station number.                                                   |
| <b>Skip_Prev</b>            | Digital     | Backtracks to the previous track in the queue on a rising edge. In SiriusXM, this will tune to the previous station by station number.                                        |
| <b>Seek_Back</b>            | Digital     | Seek back through the current track in 5-second increments while high. If held high, this will repeat until the beginning of the track.                                       |
| <b>Seek_Forward</b>         | Digital     | Seek forward through the current track in 5-second increments while high. If held high, this will repeat until the end of the track.                                          |
| <b>Shuffle_Toggle</b>       | Digital     | Toggle shuffle state on a rising edge.                                                                                                                                        |

|                           |         |                                                                                                                                 |
|---------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Repeat_Toggle</b>      | Digital | Toggle repeat state on a rising edge.                                                                                           |
| <b>Scrobble_Toggle</b>    | Digital | Toggle scrobble state on a rising edge. Scrobbling is only available if the MMS has LastFM credentials                          |
| <b>PageFlip_*_From_TP</b> | Digital | Receives page flip presses from interface and executes page logic on a rising edge.                                             |
| <b>PageFlip_KB</b>        | Digital | Displays the keyboard on a rising edge.                                                                                         |
| <b>PageFlip_KB_Off</b>    | Digital | Suppresses the keyboard on a rising edge.                                                                                       |
| <b>SavePlaylist</b>       | Digital | Discrete command to Save the current queue as a playlist. Function also available via contextual buttons.                       |
| <b>Search</b>             | Digital | Discrete command to search currently browsed media. Function also available via contextual buttons.                             |
| <b>Clear_Queue</b>        | Digital | Discrete command to remove all songs from the playback queue and stop playback. Function also available via contextual buttons. |
| <b>Zones</b>              | Digital | Discrete command to initiate browsing of zones available to MCS. Function also available via contextual buttons.                |
| <b>Actions</b>            | Digital | Discrete command to bring up action list for currently playing media. Function also available via contextual buttons.           |
| <b>Browse_Favorites</b>   | Digital | Initiates browsing the server's favorites on a rising edge.                                                                     |
| <b>Previous_Page</b>      | Digital | Browse previous number of list items.                                                                                           |
| <b>Next_Page</b>          | Digital | Browse next number of list items.                                                                                               |
| <b>Go_Back</b>            | Digital | Initiate last browse command in browse history.                                                                                 |
| <b>Home</b>               | Digital | Browse to top of list                                                                                                           |
| <b>End</b>                | Digital | Browse to end of list                                                                                                           |
| <b>Scrollbar_Position</b> | Analog  | Send an analog value (0-65535) to scroll through list of media.                                                                 |
| <b>Direct_Volume</b>      | Analog  | Set the volume of current instance directly (0-50)                                                                              |
| <b>Volume_Up</b>          | Digital | Increment volume of current instance                                                                                            |
| <b>Volume_Down</b>        | Digital | Decrement volume of current instance                                                                                            |
| <b>Up</b>                 | Digital | IR emulation Remote Up button.                                                                                                  |
| <b>Down</b>               | Digital | IR emulation Remote Down button.                                                                                                |
| <b>Left</b>               | Digital | IR emulation Remote Left button.                                                                                                |
| <b>Right</b>              | Digital | IR emulation Remote Right button.                                                                                               |
| <b>Select</b>             | Digital | IR emulation Select/Ok button.                                                                                                  |
| <b>Thumbs_Up</b>          | Digital | Thumbs Up function. This will have a slightly different response depending on which radio service is in use.                    |

|                              |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Thumbs_Down</b>           | Digital | Thumbs Down function. This will have a slightly different response depending on which radio service is in use.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Dialog_Button_*</b>       | Digital | Select buttons for user prompts from interface.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Art_Error_Monitor_*</b>   | Analog  | Analog from Dynamic Graphic objects' error join for list items. Tracks value of analog and re-propagates album art URL's as needed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Title_Select_*</b>        | Digital | Pulse to select the corresponding title in a list.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Title_AddToPlaylist_*</b> | Digital | Pulse to select the corresponding title in a list and add to the playback queue.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Title_PlayNow_*</b>       | Digital | Pulse to select the corresponding title in a list and play back title immediately.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Alpha_Search_Up</b>       | Digital | Jump to first letter feature: scroll down alphabet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Alpha_Search_Down</b>     | Digital | Jump to first letter feature: scroll up alphabet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Context_Button_*</b>      | Digital | <p>Pulse to send command for contextual buttons. Buttons 1-4 are multi-function based on current state of MCS.</p> <p>Button 1: Actions when on Now Playing page, PageFlip to Now Playing page when not on the Now Playing page, blank if on Now Playing page but no media is playing.</p> <p>Button 2: Save Playlist when browsing the Queue and there is media in the Queue, blank when browsing the Queue but the queue is empty, otherwise Zones.</p> <p>Button 3: Search when browsing media that is searchable, Clear Queue when on Now Playing or Browsing the Queue, otherwise blank.</p> <p>Button 4: Controls when not on the Remote page, otherwise blank.</p> |
| <b>Enable_Debugging</b>      | Digital | Outputs verbose debugging messages to the debugger while high. High/1 Enable, Low/0 Disable (level sensitive)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## Outputs

| Signal Name               | Signal Type | Signal Description                                                                                                                                                       |
|---------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| To_IP_Connect             | Digital     | Connection signal to TCP/IP Connect input.                                                                                                                               |
| IP_Status_Text\$          | Serial      | TCP/IP Client connection status message.                                                                                                                                 |
| TX\$                      | Serial      | Send serial data to TCP/IP client                                                                                                                                        |
| List_Position\$           | Serial      | Outputs current position in a list.                                                                                                                                      |
| List_Caption\$            | Serial      | Outputs title of currently browsed list.                                                                                                                                 |
| TrackLength_fb\$          | Serial      | Length in minutes:seconds of the currently playing track.                                                                                                                |
| TrackTime_fb\$            | Serial      | Progress in minutes:seconds of the currently playing track.                                                                                                              |
| TrackNumber_fb\$          | Serial      | The number of the currently playing track in the playback queue.                                                                                                         |
| Current_Media_Type        | Analog      | Analog value indicating the type of media that is currently being browsed.                                                                                               |
| Browse_Buttons_Mode       | Analog      | Analog value that determines the format of the browse buttons based on the MMS Configuration. 0 = Windows Media Center, 1 = Windows Media Player and iTunes (music only) |
| Service_Logo_fb           | Analog      | Feedback for the current radio service logo. 1 = LastFM, 2 = Pandora, 3 = SiriusXM, 4 = Rhapsody, 5 = Spotify, 6 = TuneIn, 7 = none/local content                        |
| Stars_fb                  | Analog      | Feedback for the current Stars value (for Rhapsody ratings). 0d-5d                                                                                                       |
| Transport_fb              | Analog      | Feedback for the current state of the transport. 0 = Stop, 1 = Play, 2 = Pause, 3 = Forward, 4 = Rewind.                                                                 |
| Current_Track_Progress_fb | Analog      | Progress of the currently playing media in an analog value (0-65535). For use with a gauge or slider.                                                                    |
| Play_fb                   | Digital     | Feedback for play state. 0 = not playing, 1 = playing.                                                                                                                   |
| Pause_fb                  | Digital     | Feedback for pause state. 0 = not paused, 1 = paused.                                                                                                                    |
| Stop_fb                   | Digital     | Feedback for stop state. 0 = not stopped, 1 = stopped.                                                                                                                   |
| Shuffle_fb                | Analog      | Feedback for state of Shuffle mode. 0 = off, 1 = on.                                                                                                                     |
| Repeat_fb                 | Analog      | Feedback for state of Repeat mode. 0 = off, 1 = on                                                                                                                       |

|                                |         |                                                                                                                                             |
|--------------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LastFM_Scrobble_fb</b>      | Analog  | Feedback for state of Scrobble mode. 0 = off, 1 = on                                                                                        |
| <b>PageFlip*_To_TP</b>         | Digital | Signals to drive appropriate subpages on interface.                                                                                         |
| <b>Display_DPad_To_TP</b>      | Digital | Signal to drive D_Pad subpage (for smaller format panels)                                                                                   |
| <b>Search_Enabled</b>          | Digital | High/1 if currently browsed media is searchable                                                                                             |
| <b>Alpha_Enabled</b>           | Digital | High/1 if currently browsed media is searchable by first letter                                                                             |
| <b>Chapters_Button</b>         | Digital | High/1 if current movie title has chapters available                                                                                        |
| <b>Dialog_Enabled</b>          | Digital | High/1 if MCS requires a dialog box for user input.                                                                                         |
| <b>Actions_Enabled</b>         | Analog  | High/1 currently playing media has actions associated with it.                                                                              |
| <b>Prev_Enabled</b>            | Analog  | In list browsing = 1 if there is previous media in the list. Use to enable/disable Previous page button on interface.                       |
| <b>Next_Enabled</b>            | Analog  | In list browsing = 1 if there is more media in the list. Use to enable/disable Next page button on interface.                               |
| <b>Back_Enabled</b>            | Analog  | High/1 if there is browse commands available in browse history. Use to enable/disable Back button on interface.                             |
| <b>Scroll_Enabled</b>          | Analog  | High/1 if list contains more items than number that can be displayed. Use to enable/disable scrollbar, Next/Prev page buttons on interface. |
| <b>ThumbsUp_Enabled</b>        | Analog  | Equals 1 if Thumbs Up button available (for Pandora, LastFM, and Rhapsody).                                                                 |
| <b>ThumbsDown_Enabled</b>      | Analog  | Equals 1 if Thumbs Down button available (for Pandora, LastFM, and Rhapsody)                                                                |
| <b>ScrollBar_fb</b>            | Analog  | Value for current position in list.                                                                                                         |
| <b>Volume_fb_Scaled</b>        | Analog  | Volume level for current instance (0-50).                                                                                                   |
| <b>Mute_fb</b>                 | Analog  | Feedback for current mute status. 1 = Muted, 0 = unmuted.                                                                                   |
| <b>Now_Playing_Art\$</b>       | Serial  | URL for Now Playing Artwork. Connect to dynamic graphics join. Angled artwork with reflection.                                              |
| <b>Now_Playing_Art_Small\$</b> | Serial  | URL for smaller size Now Playing Artwork. Use for smaller resolution panels. Angled artwork with reflection.                                |
| <b>Now_Playing_Thumb\$</b>     | Serial  | URL for Now Playing Artwork. Use for                                                                                                        |

|                                 |         |                                                                                                                                                           |
|---------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 |         | smaller resolution files. Flat artwork no reflection.                                                                                                     |
| <b>Now_Playing_Thumb_Full\$</b> | Serial  | URL for Now Playing Artwork. Uses height/width parameters in module parameters. Flat artwork no reflection.                                               |
| <b>Browse_Art\$</b>             | Serial  | URL for details artwork.                                                                                                                                  |
| <b>Browse_Art_Format</b>        | Analog  | Determines format of artwork for details.                                                                                                                 |
| <b>MetaData{#}\$</b>            | Serial  | Contextual media meta data for currently playing media.                                                                                                   |
| <b>MetaLabel{#}\$</b>           | Serial  | Contextual meta data labels for currently playing media.                                                                                                  |
| <b>MediaInfo{#}\$</b>           | Serial  | Contextual information data on currently playing media.                                                                                                   |
| <b>Dialog_Buttons</b>           | Analog  | Outputs number of dialog buttons needed to be displayed by MCS.                                                                                           |
| <b>Dialog_Caption\$</b>         | Serial  | Title of Dialog box.                                                                                                                                      |
| <b>Dialog_Text\$</b>            | Serial  | Instructions for Dialog box.                                                                                                                              |
| <b>Dialog_Default_Text\$</b>    | Serial  | Text to display in text field by default when dialog with keyboard entry is invoked.                                                                      |
| <b>Button_Text_{#}\$</b>        | Serial  | Labels for each of 3 dialog box response buttons.                                                                                                         |
| <b>List_AlbumArt_{#}\$</b>      | Serial  | URL for artwork for corresponding list item.                                                                                                              |
| <b>Title_Enabled_{#}</b>        | Analog  | Feedback if particular list field is enabled. (1 enable list field to display media, 0 disable list field to reflect no media ie. At end of list).        |
| <b>Title_Text_{#}\$</b>         | Serial  | Text to display for each corresponding list item.                                                                                                         |
| <b>List_SubText_{#}\$</b>       | Serial  | Sub Text to display for each corresponding list item.                                                                                                     |
| <b>Display_Alpha_Index</b>      | Digital | Drives search by first letter display when used.                                                                                                          |
| <b>Alpha_Index_Letter\$</b>     | Serial  | Feedback showing current letter when searching by first letter.                                                                                           |
| <b>Context_Button_{#}\$</b>     | Serial  | Text label for contextual buttons. Output of each corresponding signal reflects function as outlined in the Inputs section.                               |
| <b>Refresh</b>                  | Digital | Pulsed high when MCS requires a touchpanel refresh. Connect to an Ethernet Offline Manager refresh input or Poll Manager update request for an interface. |

## Parameters

The MMS module has six configurable parameters.

|                    |         |
|--------------------|---------|
| List Items         | 6d      |
| Thumbnails         | 6d      |
| MMS Source         | Digital |
| Art Style          | 3D      |
| Maximum Art Height | 280d    |
| Maximum Art Width  | 240d    |

**List Items** – This tells the module how many list items appear on the interface at a given time. If the list view is modified, set this number to the number of list items in that list. This value does not need to be changed for the sample programs.

**Thumbnails** – This parameter specifies how many thumbnails appear on the interface at a given time. If the thumbnail list view is modified, set this number to the number of list items in that list. This value does not need to be changed for the sample programs.

**Art Style** – This dropdown parameter defines the style of the Now Playing art. Flat is a simple flat image, while 3D is a slightly angled, reflected image.

**MMS Source** – This dropdown parameter defines the default MMS output to connect to. This is highly useful if connecting to a specific output and if controlling multiple outputs at the same time from multiple modules. Each module would specify a different output to control.

**Maximum Art Height & Width** – This allows the size of the Now Playing art to be configured to maximize the picture quality for variously sized touchpanels. These dimensions should match the size of the Now Playing art dynamic graphic object on the interface in question.

At this point, given that all parameters, inputs, and outputs are configured appropriately, it's time to upload the program to the processor. Do this as you would any other SIMPL program.

### Configure the Touch Panels

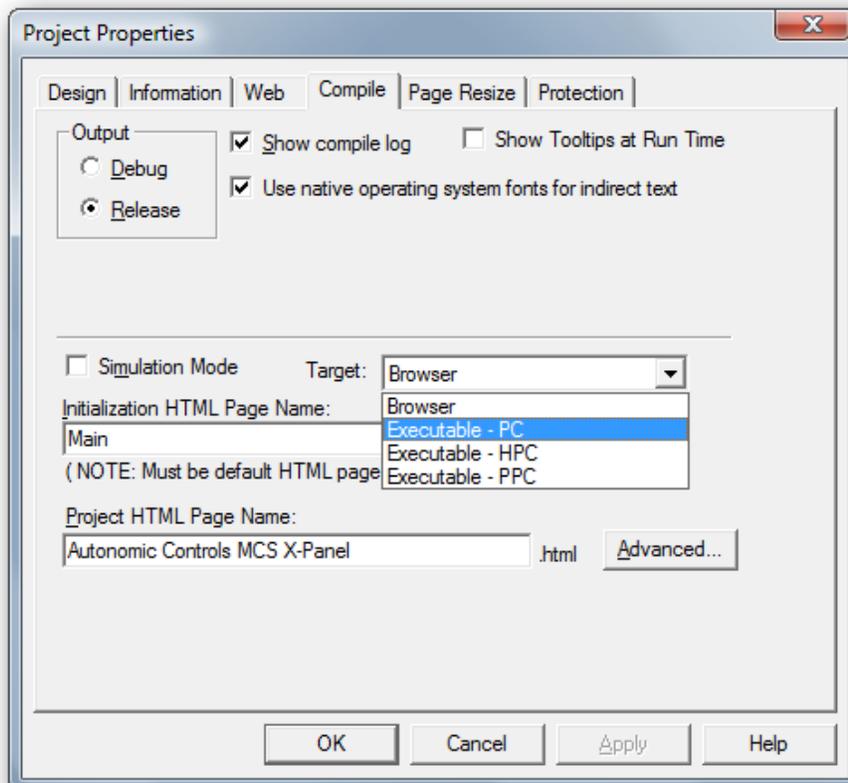
If testing is being done with a physical touchpanel, add that touchpanel to the sample program in use, and copy the digital, analog, and serial joins to it from the XPanel symbol. If testing is being done with the XPanel application, there is no need to modify the sample program further.

Additionally, there must be some logic to drive the Connect input on the MMS module. **For testing purposes, it is acceptable to set this signal to 1. However Autonomic Controls strongly recommends driving this signal with touchpanel activity logic or in use logic from a Crosspoint symbol in your finished program.**

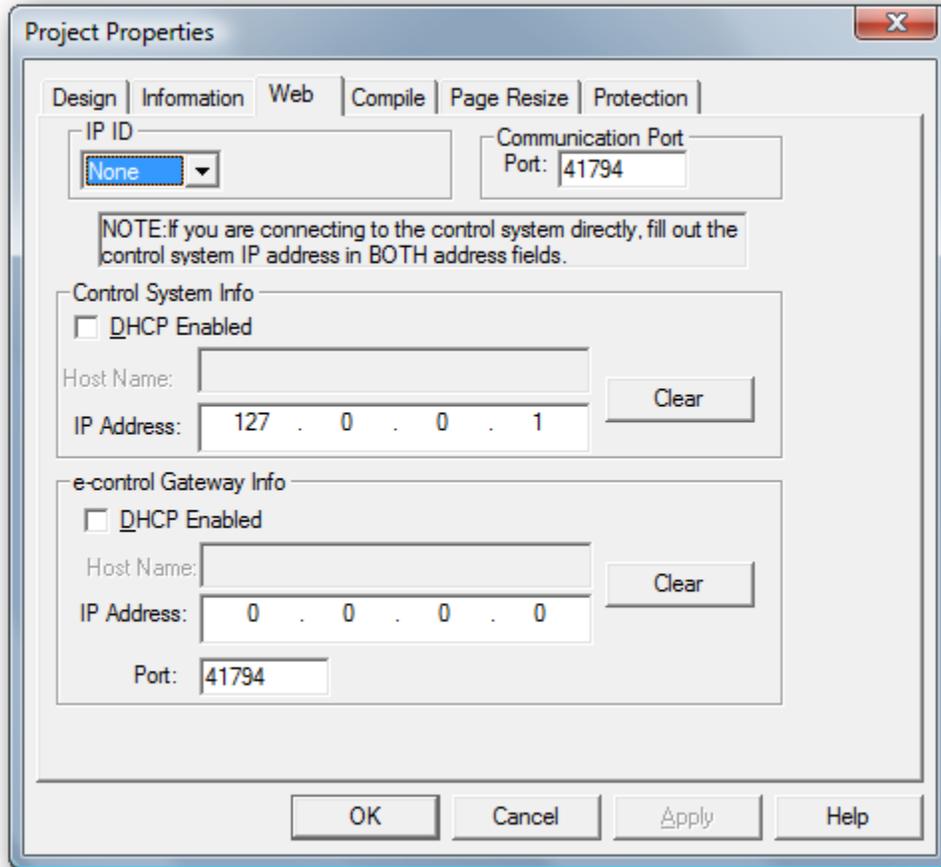
### Configuring the VT-Pro Files

This section will assist in configuring the XPanel projects for EXE consumption. If the project has been modified to use a physical touchpanel, no further configuration is required, simply upload the VT-Pro project to that panel.

Open the VT-Pro file suitable for the integration. Our sample interfaces are already configured for EXE XPanel use. Only the IP of the processor must be configured. Select the **Edit** menu, and then select **Properties**. On the subsequent window, on the **Compile** tab, ensure the Target mode is **Executable – PC**.



Then, under the **Web** tab, ensure the **Control System IP** and the **e-control Gateway Info IP** are both set to the IP of the processor.



Click OK to close the **Properties** window. To compile the project, open the **File** menu, then select **Compile**. An EXE will be generated in a folder in the same directory as the VT-Pro project. Run that EXE to interface with the program.

Our sample XPanel programs use the *Offline* signal on the XPanel's Ethernet Offline Manager through a NOT (to generate an *Online* signal as opposed to an *Offline* signal). This *Online* signal is tied to the **Connect** input on the MMS module, driving it high whenever the XPanel is online. If everything is configured appropriately, the XPanel should display the interface for the MMS.

# Mirage Media Server (MMS)



## Troubleshooting

### Cannot Establish a Connection with the MMS

- Is the server accessible and controllable via a web browser? Try <http://<server-ip>/Mirage> for control and <http://<server-ip>/config> for configuration, where <server-ip> is the IP address of the MMS (e.g. <http://192.168.1.58/Mirage> and <http://192.168.1.58/config>).
- Can the Crestron processor ping the MMS? Open text console and type ‘ping <server-ip>’ where <server-ip> is the IP of the MMS (e.g. ping 192.168.1.58). It will respond with an alive or dead notification.
- Is the Connect input on the module being **held** high or only pulsed? It does need to be **held** high for the duration of control.
- Ensure the IP table is properly populated on the Crestron processor in Toolbox.
- Does the issue persist with our sample program and interface?

### No Album Art is Displayed

- Does the issue persist with our sample program and interface?
- Use the URL found as the value of the **Now\_Playing\_Art\$** signal in a web browser. If the art works in the browser but not on the touchpanel, there is a route issue between the touchpanel and the MMS.
- Is there an **HTTP** route from the touchpanel to the MMS? If programming remotely, it is unlikely that an XPanel will have access through the job site’s firewall. Art is retrieved over port 80.

### Technical Support

Technical support is available via phone and email. Our email is [support@autonomic-controls.com](mailto:support@autonomic-controls.com). Our phone number is 914-598-1647, ext. 2.