.AV Framework™ Software for DMPS3

Operations Guide

Crestron Electronics, Inc.

This document was written by the Technical Publications department at Crestron.

Contents

.AV Framework™ Software for DMPS3

Introduction

The Crestron® DMPS3 Series of DigitalMedia™ presentation systems come with the built-in .AV Framework™ program, which enables complete system configuration and control.

The latest version of the program and all projects are available on the DMPS3 series product web pages at www.crestron.com, as well as in the firmware upgrade .zip file. The zipped package file includes the following:

- The .AV Framework program
- The touch screen .AV Framework project
- The DM-DGE-200-C .AV Framework project

In addition to operating with a TSW-752, TSW-1052, TSW-760, or TSW-1060 touch screen, a DM-DGE-200-C digital graphics engine, an MP-B10 or MP-B20 media presentation button panel, or XPanel, .AV Framework offers direct integration with Crestron Connect It™ cable caddies, such as the TT-100 and TT2-100 presentation interfaces, and with the AirMedia® presentation gateway.

Configuration

Settings for .AV Framework may be configured using the included web-based configuration utility. The configuration utility is accessible from a web browser if the IP address or hostname of the DMPS3 device is known.

Use the configuration utility to configure system settings, to add devices to the .AV Framework, to configure the inputs and outputs of the DMPS3 device, and to manage saved configurations. The configuration utility also provides screens that display the status of the system and an activity log, as well as screens for adding and managing users.

Prior to accessing the configuration utility, ensure that all hardware in the .AV Framework system has been updated to the latest firmware versions. Additionally, load the files that are included in the zipped package file as follows:

NOTE: The program and project files must be used as a version-matched set and may not be edited or customized.

- Load the .AV Framework program file (AVFPlugin.cpz) to Program 01 on the DMPS3 device.
- Load the touch screen .AV Framework project file (AVF_TSW.vtz) to the supported touch screen as a custom project.
- Load the DM-DGE-200-C .AV Framework project file (AVF_DGE.vtz) to the DM-DGE-200-C as a custom project.

NOTE: Use Crestron Toolbox™ software to access firmware updates and to modify the Ethernet settings and the IP table of the DMPS3 device. For more information, refer to the embedded Crestron Toolbox help file.

NOTE: If the firmware detects an older version of the .AV Framework program in the Program 01 slot when the update is applied, it will update the program automatically (for .AV Framework versions 4.*x* and above only). If no program is detected, or if a user program is detected, the program update is not applied.

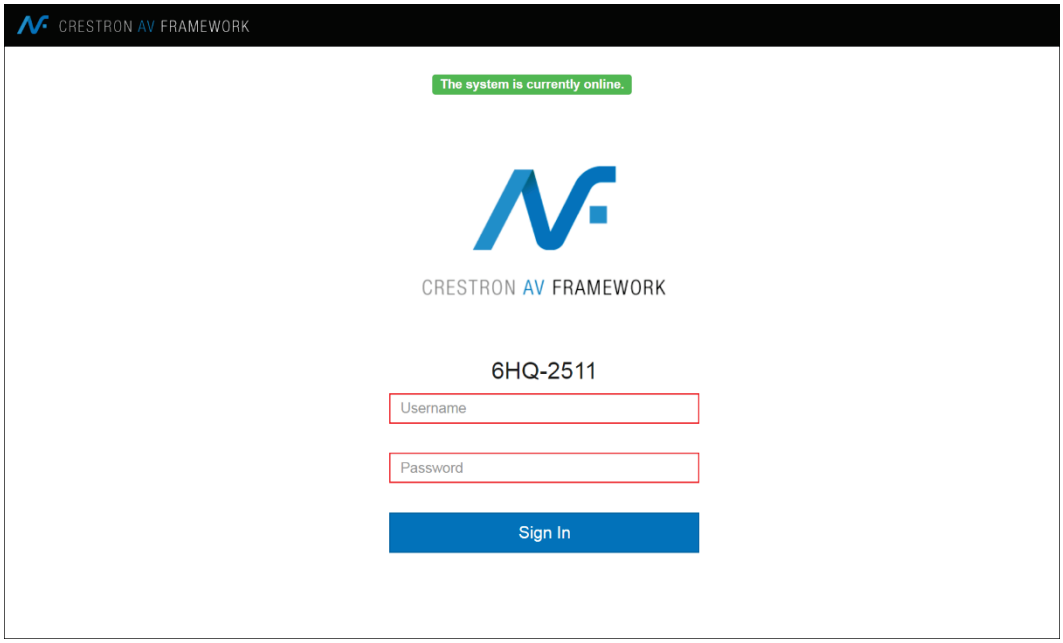
Access the Configuration Utility

To access the configuration utility from a web browser, perform the following procedure:

1. Open a supported web browser. Supported web browsers include the Firefox® browser, the Internet Explorer® browser, the Microsoft Edge® browser, the Safari® browser, and the Chrome® browser.
2. Enter the IP address or the hostname of the DMPS3 device in the browser URL field, appending ":8008" to the IP address or hostname (e.g., "*xxx.xxx.xxx.xxx*:8008").

   The .AV Framework login screen displays.

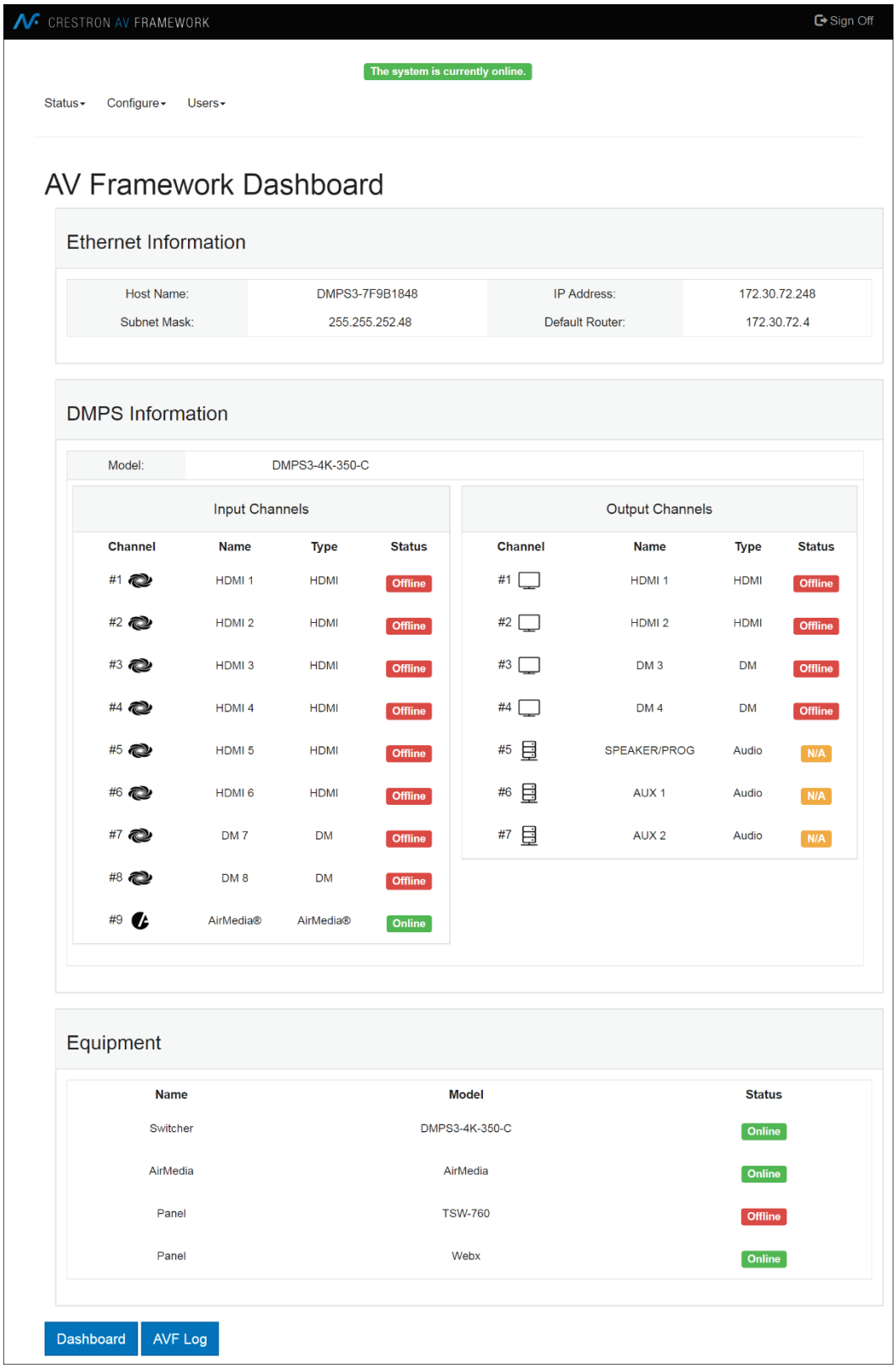
.AV Framework Login Page



3. Enter the default username and password ("admin") in the **Username** and **Password** text fields.
4. Click **Sign In**.

If the login is successful, the **AV Framework Dashboard** page (the utility's default page) displays.

AV Framework Dashboard Page

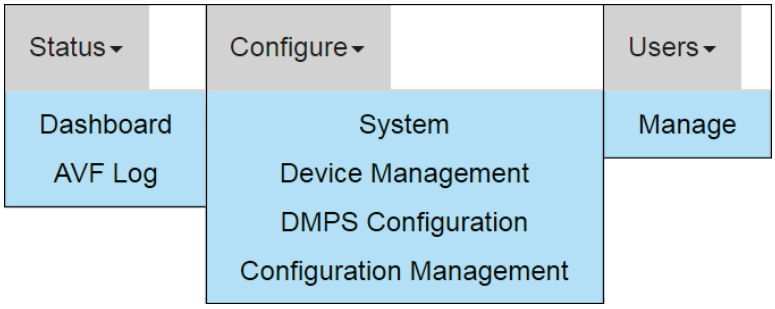


Navigate the Configuration Utility

Use the drop-down menus on the top left of the screen to navigate the configuration utility. The menus are always visible on the top left of any of the configuration pages and provide the following selections.

- Status
  - Dashboard
  - AVF Log
- Configure
  - System
  - Device Management
  - DMPS Configuration
  - Configuration Management
- Users
  - Manage

Drop-down Menus



The AV Framework Dashboard page is the default page that displays upon logging in, as shown in the image on the preceding page.

Click Sign Out on the top right of any page to sign out of the configuration utility.

Status Menu

The Status menu provides selections for viewing the status of the network, the DMPS3 device, and connected devices. The Status menu also provides access to the activity log. These menu selections are described in the sections that follow.

Navigational controls are also provided on the bottom of each status page:

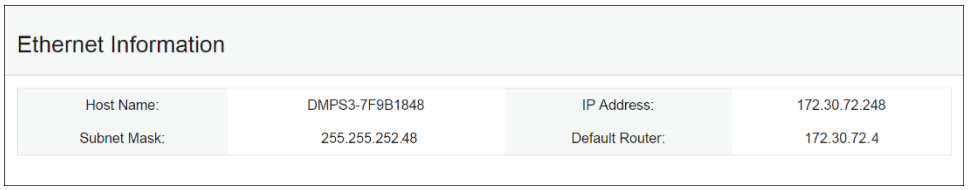
- Select Dashboard to display the AV Framework Dashboard page.
- Select AVF Log to display the AVF Log page.

AV Framework Dashboard

Navigate to **Status** > **Dashboard** to display the **AV Framework Dashboard** page. The **AV Framework Dashboard** page displays the following information.

Ethernet Information

AV Framework Dashboard - Ethernet Information

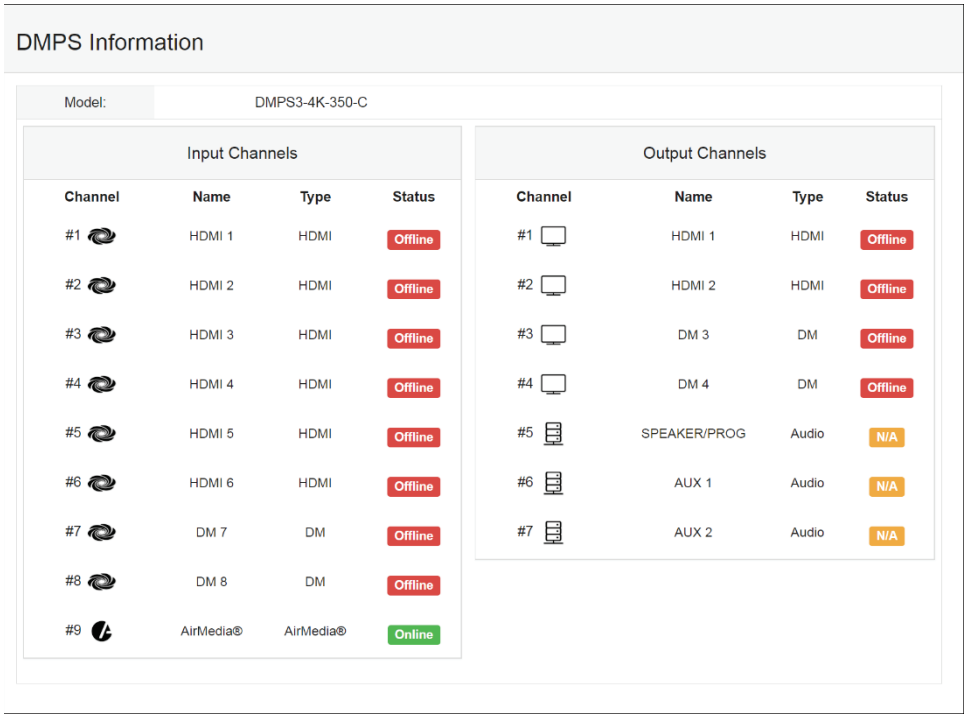


The **Ethernet Information** section displays the host name, the IP address, the subnet mask address, and the default router address of the DMPS3 device.

For more information on configuring Ethernet settings, refer to page 10.

DMPS Information

AV Framework Dashboard - DMPS Information



The **DMPS Information** section displays the name and the model of the DMPS3 device, as well as the channel number, icon, name, connection type, and status (**Online**, **Offline**, or **N/A**) of the DMPS3 device input and output channels.

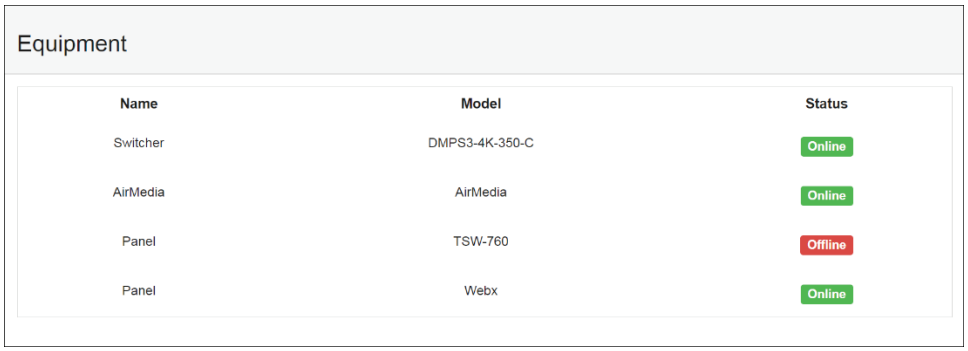
For more information on configuring input and output channels of the DMPS3 device, refer to page 24.

The status for input and output channels indicates the following information:

- Online
  - **Input:** The source is sending content.
  - **Output:** The sync is receiving content.
- Offline
  - **Input:** The source is not sending content or is not present.
  - **Output:** The sync is not receiving content or is not present.
- **N/A:** The device status is not reported (shown for CEC-controlled displays, non-controlled displays, IR-controlled devices, and for devices connected to the DMPS3 device through the AUX1, AUX2, and SPEAKER ports).

Equipment

AV Framework Dashboard - Equipment



The **Equipment** section displays the name, model, and status (**Online**, **Offline**, or **N/A**) of any equipment connected to .AV Framework, including the DMPS3 device.

For more information on connecting equipment to .AV Framework, refer to page 19.

NOTE: Two touch screen devices (TSW-760 and Webx) are added by default to new .AV Framework configurations. These devices may be edited or deleted depending on the system configuration.

NOTE: The Webx touch screen device is used to display and test the touch screen project through the .AV Framework program's built-in web XPanel. For more information, refer to "XPanel" on page 45.

NOTE: Additional devices are added by default to new .AV Framework configurations for certain DMPS3 devices.

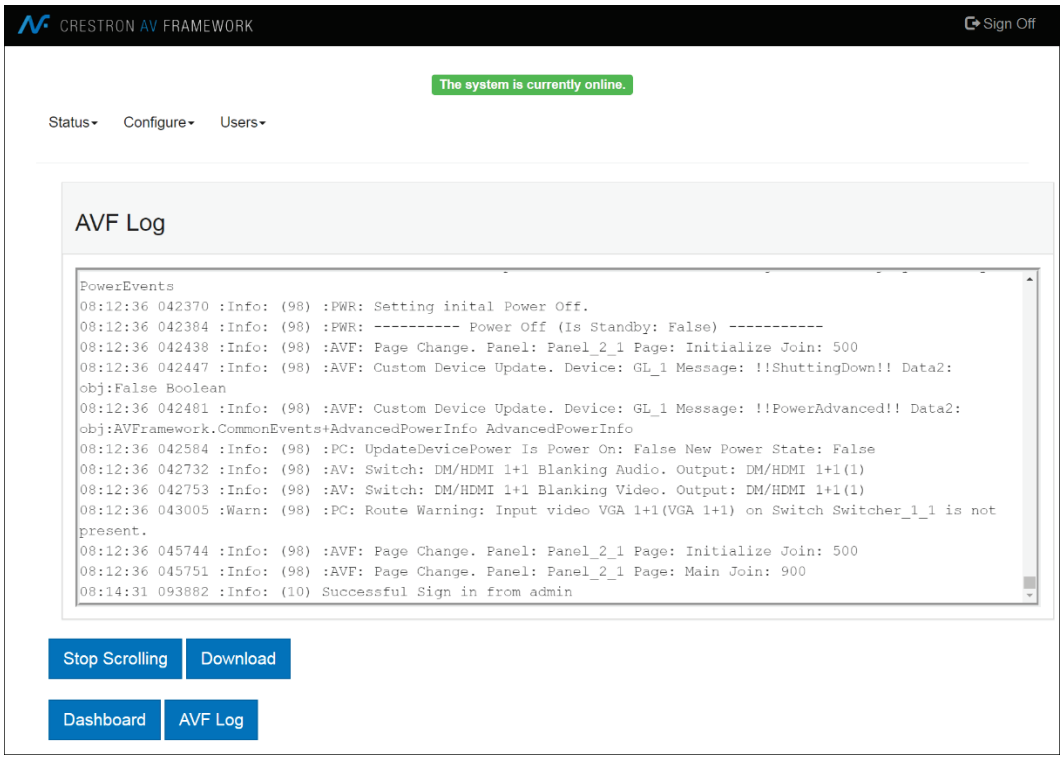
The status for connected equipment indicates the following information:

- **Online:** The device is detected and is providing feedback to .AV Framework.
- **Offline:** The device was once detected, but it is no longer detected by .AV Framework.
- **N/A:** The device status is not reported (shown for CEC-controlled displays, non-controlled displays, IR-controlled devices, and for devices connected to the DMPS3 device through the AUX1, AUX2, and SPEAKER ports).

AVF Log

Navigate to **Status** > **AVF Log** to display the **AVF Log** page.

AVF Log Page



Use the **AVF Log** page to display the event log for .AV Framework. Event logs are recorded at a set interval and may be viewed and downloaded from this page.

- Select **Stop Scrolling** to prevent the activity log from automatically scrolling. Select **Scrolling** to resume scrolling if **Stop Scrolling** is selected.
- Select **Download** to download the activity log to the host computer as a text file.

Configure Menu

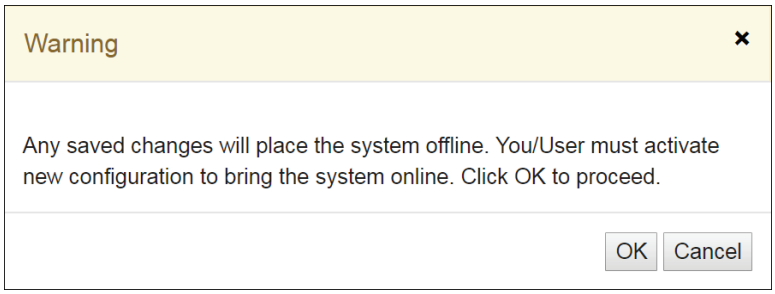
The **Configure** menu provides selections for configuring system settings, Crestron Fusion® service connection settings, relay behavior settings, custom logos, and device drivers. The **Configure** menu also provides selections for adding devices to .AV Framework, for configuring the input and output channels of the DMPS3 devices, and for managing configuration settings. These menu selections are described in the sections that follow.

Navigational controls are also provided on the bottom of each configuration page:

- Select **System** to display the **System Setup** page.
- Select **Device Mgmt** to display the **Device Management** page.
- Select **DMPS Config** to display the **Inputs/Outputs** page.
- Select **Config Mgmt** to display the **Manage Configuration** page.

NOTE: If any changes are made to the .AV Framework system settings, a warning message is displayed.

Warning Message



Click **OK** to continue to save the changes and **Cancel** to cancel changes. Once changes are saved, the green status bar on the top of the page turns red and displays "The system is currently offline, activate or revert configuration."

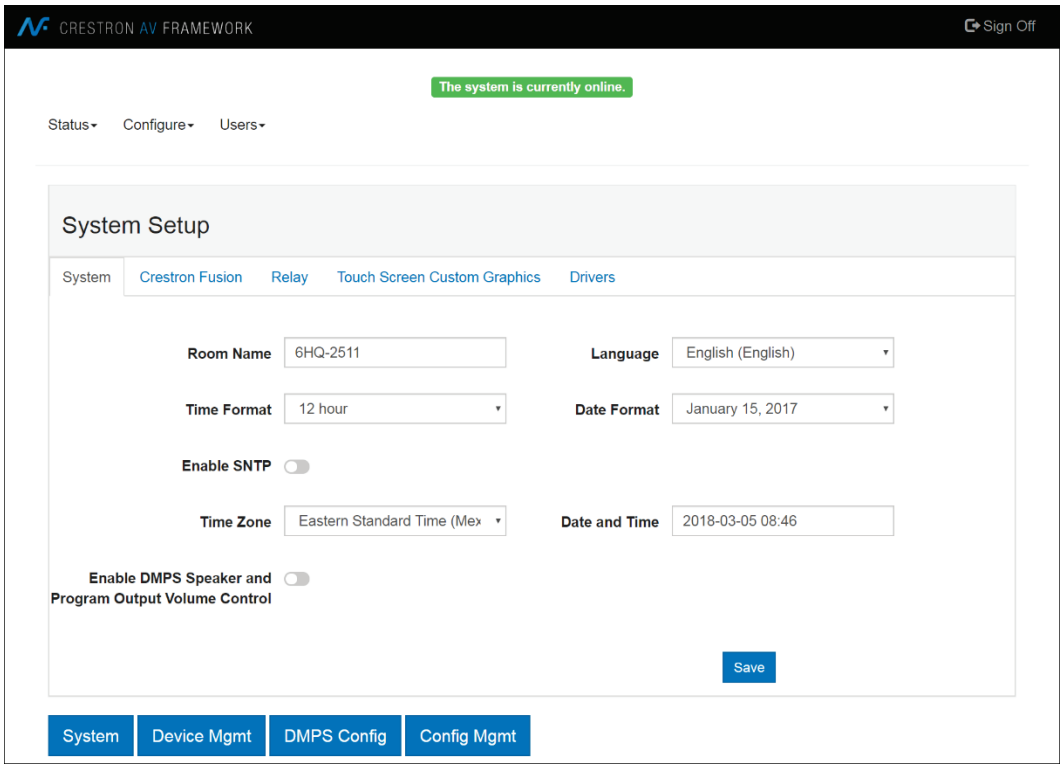
System Offline Message

This dialogue is normal, but the .AV Framework configuration must be activated before the system comes back online. Click **Activate** to activate any saved changes, or click **Revert** to revert the system back to the previous configuration. For more information, refer to page 27.

System Setup

Navigate to **Configure > System** to display the **System Setup** page.

System Setup Page

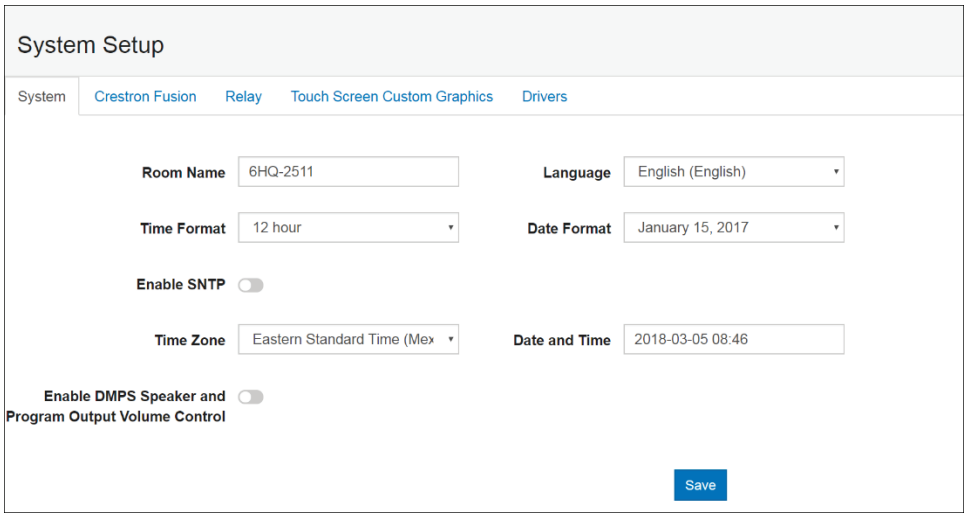


The system setup page provides tabs for configuring the .AV Framework system settings, Crestron Fusion settings, relay commands, custom graphics, and device drivers.

System

Click the **System** tab to display the System settings.

System Setup - System



Use the System settings to configure general settings for AV Framework:

- **Room Name:** Enter a name for the room associated with the system.
- **Language:** Use the drop-down menu to select the language displayed by .AV Framework.
- **Time Format:** Use the drop-down menu to select between 12 hour and 24 hour format for displaying time.
- **Date Format:** Use the drop-down menu to select a format for displaying the date.
- **Enable SNTP:** Toggle the switch to enable or disable using SNTP (Simple Network Time Protocol) to set the date and time.
- **SNTP Server:** If **Enable SNTP** is enabled, enter the URL of the SNTP server used to set the date and time.
- **Time Zone:** Use the drop-down menu to select a time zone.
- **Date and Time:** If **Enable SNTP** is disabled, use the pop-up windows to set the date and time manually.

  NOTE: **Enable SNTP**, **SNTP Server**, **Date and Time**, and **Time Zone** are hidden from the **System** window if the .AV Framework system is connected to Crestron Fusion, as .AV Framework receives date and time settings from Crestron Fusion in this configuration.

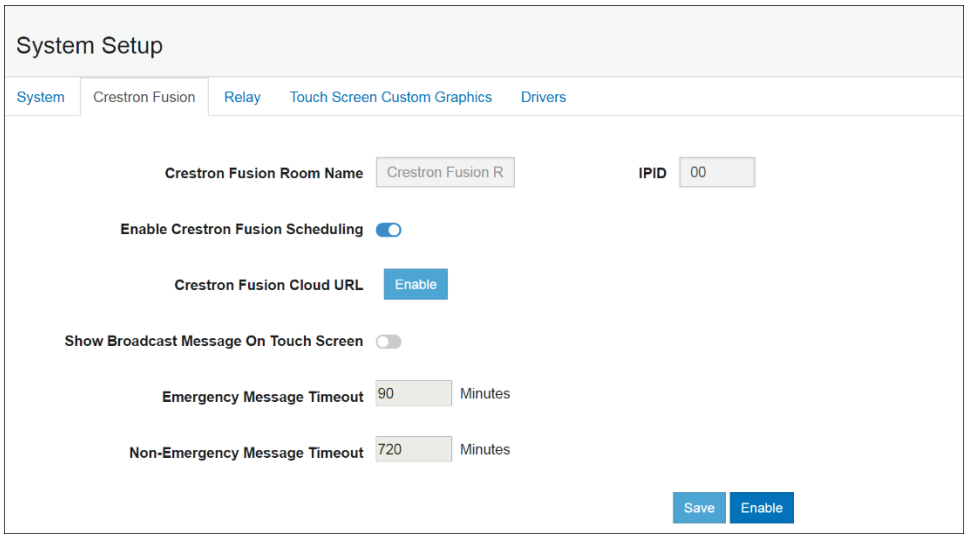
- **Enable DMPS Speaker and Program Output Volume Control:** Toggle the switch to enable or disable the internal DMPS3 volume controller. If enabled, the DMPS3 device controls the volume on both the internal amplifier (if the DMPS3 device is equipped with one) and the program output.
- **Enable Microphones**: If **Enable DMPS Speaker and Program Output Volume Control** is selected, toggle the switch to enable or disable the microphones on input devices (if applicable).

Click **Save** to save the current settings.

Crestron Fusion

Click the **Crestron Fusion** tab to display the Crestron Fusion settings.

System Setup - Crestron Fusion



Use the Crestron Fusion settings to set up a connection between a Crestron Fusion account and .AV Framework:

- **Crestron Fusion Room Name:** Enter the name of the room in Crestron Fusion associated with .AV Framework.
- **IPID:** Enter the IP ID of the selected Crestron Fusion room.
- **Enable Crestron Fusion Scheduling:** Use the drop-down menu to enable or disable Crestron Fusion scheduling for .AV Framework.
- **Crestron Fusion Cloud URL:** Click **Enable** to display a field for entering the URL of the Crestron Fusion server. If the URL is enabled, click **Disable** to disable the URL.
- **Show Broadcast Message on Touch Screen:** Toggle the switch on or off to enable or disable showing broadcast messages from Crestron Fusion on the connected touch screen.
- **Emergency Message Timeout:** Enter the time, in minutes, it takes for an emergency broadcast from the Crestron Fusion server to time out.
- **Non-Emergency Message Timeout:** Enter the time, in minutes, it takes for a nonemergency broadcast from the Crestron Fusion server to time out.

NOTE: For more information about connecting .AV Framework to Crestron Fusion, refer to page 51.

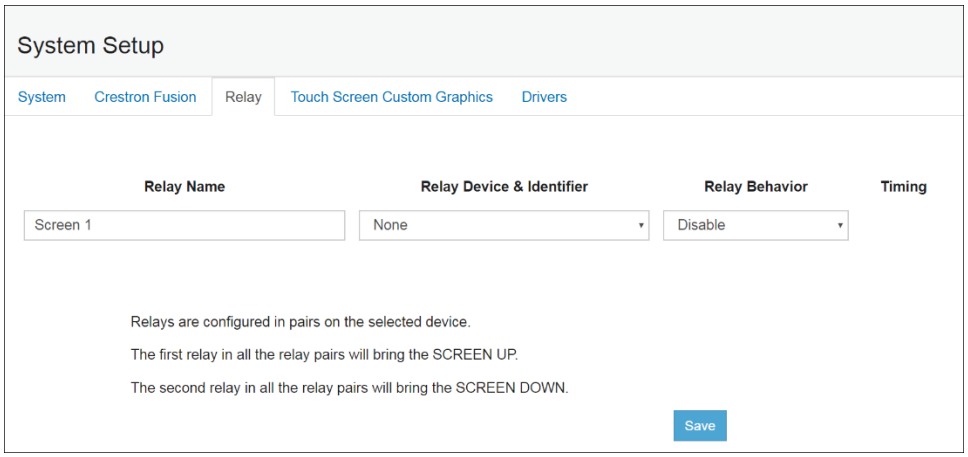
NOTE: If .AV Framework is connected to a Crestron Fusion on-premises server, connections are made using either traditional (outbound) or inbound communications. For more information, refer to the Crestron Fusion 10 On-Premises Software Getting Started Guide (Doc. 7685) at www.crestron.com/manuals.

Click **Save** to save the current settings. Click **Enable** to enable a connection to Crestron Fusion. Click **Disable** to disable the connection.

Relay

Click the **Relay** tab to display the Relay settings.

System Setup - Relay



Use the Relay settings to select a relay behavior for connected video display sources, such as a projector:

- **Relay Name:** Enter a name for the relay.
- **Relay Device & Identifier:** Use the drop-down menu to select a relay pair from the available configured devices.

  NOTE: A specific device relay pair may have only one saved configuration.

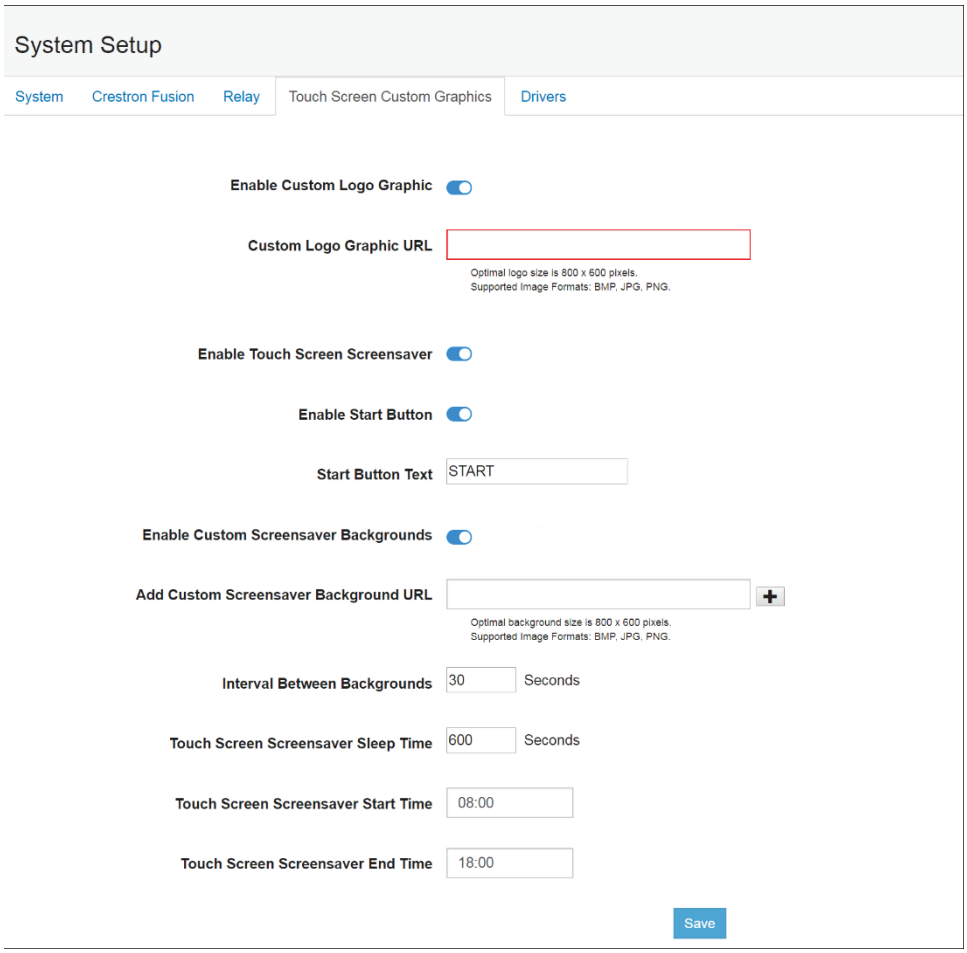
- **Relay Behavior**: Use the drop-down menu to select one of the following relay behaviors for the chosen relay pair:
  - **Momentary**: The chosen video source is set (turned on) or reset (turned off) by a relay command, and remains in the selected state for the duration specified in the **Timing** field.
  - **Latching**: The chosen video source is set (turned on) or reset (turned off) by a relay command, and remains in the selected state until an inverse relay command is sent.
  - **Disable**: Relay behavior is disabled for the chosen video source.
- **Timing:** If **Momentary** is selected for **Relay Behavior**, enter the duration in seconds that the video source remains in a specified state following a relay command.

Click **Save** to save the current settings. Click **Enable** to enable the relay settings. Click **Disable** to disable the relay settings.

Touch Screen Custom Graphics

Click the **Touch Screen Custom Graphics** tab to display the Touch Screen Custom Graphics panel.

System Setup - Touch Screen Custom Graphics



Use the Touch Screen Custom Graphics panel to enable or disable a custom logo graphic, to enable or disable a custom touch screen screensaver, and to select custom screensaver backgrounds:

- **Enable Custom Logo Graphic:** Toggle the switch to enable or disable setting a custom logo graphic for the touch screen project.

  NOTE: Custom logo graphics may be set only if .AV Framework is not connected to Crestron Fusion.

- **Custom Logo Graphic URL:** If **Enable Custom Logo Graphic** is selected, enter the URL of the desired custom logo graphic source file.

  NOTE: .AV Framework allocates an area of 800 x 600 pixels for the custom logo graphic. Custom graphics larger than 800 x 600 pixels are not accepted and must be scaled down manually. Custom graphics smaller than 800 x 600 pixels are not scaled up, so these graphics should be resized for optimal image quality. Supported custom graphic file types are BMP, JPG, and PNG.

- **Enable Touch Screen Screensaver:** Toggle the switch to enable or disable a touch screen screensaver for the touch screen project.
- **Enable Start Button:** If **Enable Touch Screen Screensaver** is enabled and if .AV Framework is not connected to a scheduling calendar, toggle the switch to enable or disable adding a **Start** button to the touch screen project.

  NOTE: The **Start** button is used to switch to the system's default route for systems that are not connected to a scheduling calendar. For more information, refer to "Home Screen Overview" on page 31.

- **Start Button Text:** If **Enable Start Button** is enabled, enter the text that is displayed on the **Start** button in the touch screen project.
- **Enable Custom Screensaver Backgrounds:** If **Enable Touch Screen Screensaver** is selected, toggle the switch on or off to enable or disable custom background graphics for the touch screen screensaver.
- **Add Custom Screensaver Background URL**: If **Enable Custom Screensaver Backgrounds** is selected, enter the URL of the desired custom background image source file.

  NOTE: Up to 15 custom background URLs may be added. Select the plus (+) button next to a text field to add a new background URL once the URL has been entered. Select the minus (-) button next to an existing background URL to delete the URL. At least one background is required if **Enable Custom Screensaver Backgrounds** is enabled.

  NOTE: .AV Framework allocates an area of 800 x 600 pixels for the custom screensaver background graphic. Custom graphics larger than 800 x 600 pixels are not accepted and must be scaled down manually. Custom graphics smaller than 800 x 600 pixels are not scaled up, so these graphics should be resized for optimal image quality. Supported custom graphic file types are BMP, JPG, and PNG.

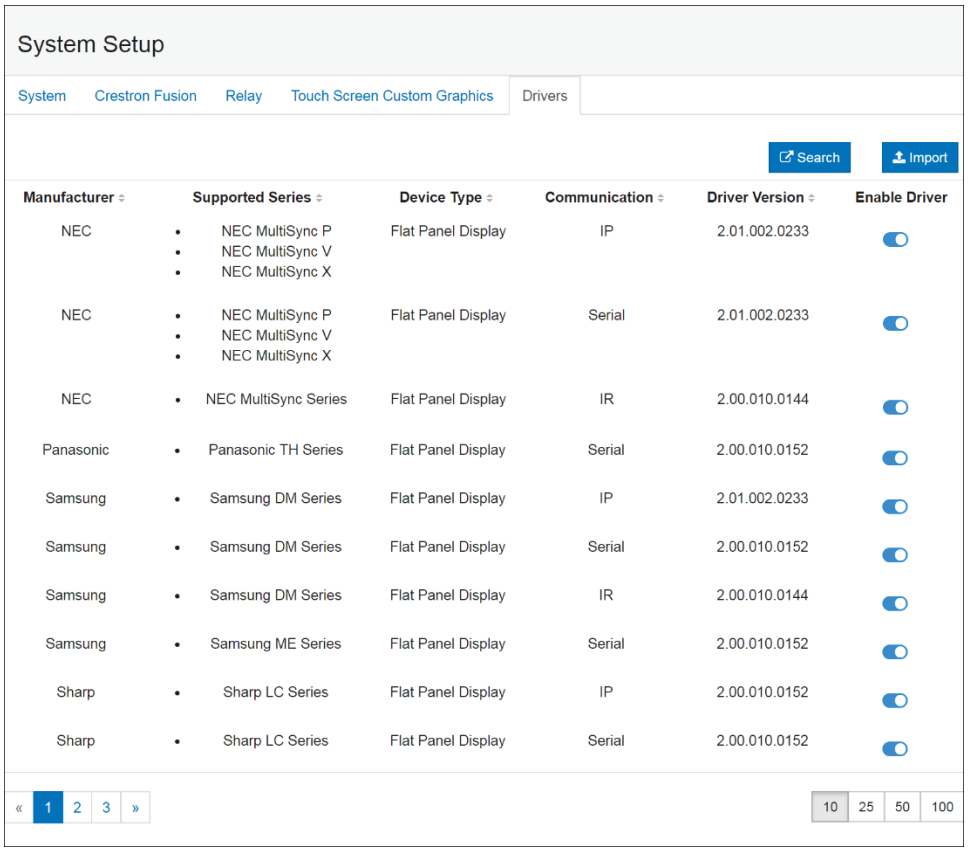
- **Interval Between Backgrounds:** Enter the duration in seconds that a background image displays on the screensaver before switching to the next image.
- **Touch Screen Screensaver Sleep Time:** Enter the time in seconds that the touch screen must be idle before the screensaver is activated.
- **Touch Screen Screensaver Start Time:** Enter the time of day in 24-hour format when the screensaver becomes active.
- **Touch Screen Screensaver End Time:** Enter the time of day in 24-hour format when the screensaver becomes inactive.

Click **Save** to save the current settings.

Drivers

Click the **Drivers** tab to display the Drivers settings

System Setup - Drivers



Use the Drivers settings to manage and to add device drivers to .AV Framework.

The image above shows examples of drivers for NEC® MultiSync® displays, Panasonic® displays, Samsung® displays, and Sharp® displays. Device drivers are displayed in table format, and the following information is available for each installed driver:

- **Manufacturer:** The manufacturer of the device
- **Supported Series:** The model series supported by the driver
- **Device Type:** The type of device (such as flat panel display or projector)
- **Communication:** The communication method used by the device (such as IR, CEC, or serial)
- **Driver Version:** The version of the installed driver

Each driver also has an **Enable Driver** switch that is used to enable or disable the driver in .AV Framework.

Navigate through the available device drivers by clicking a page number on the bottom left of the window. (Click the left or right carets [**«** or **»**] to move forward or backward when there are more than four pages.) Additionally, click one of the numbers on the bottom right of the window (**10**, **25**, **50**, or **100**) to display up to that number of drivers on a single page.

Click the **Search** button to open the Crestron Certified Drivers web portal (https://drivers.crestron.io) in a new window. After logging in, use the **Driver Search** tab to locate and download specific device drivers.

NOTE: New users to the Crestron Certified Drivers web portal must create an account in order to search for and download device drivers.

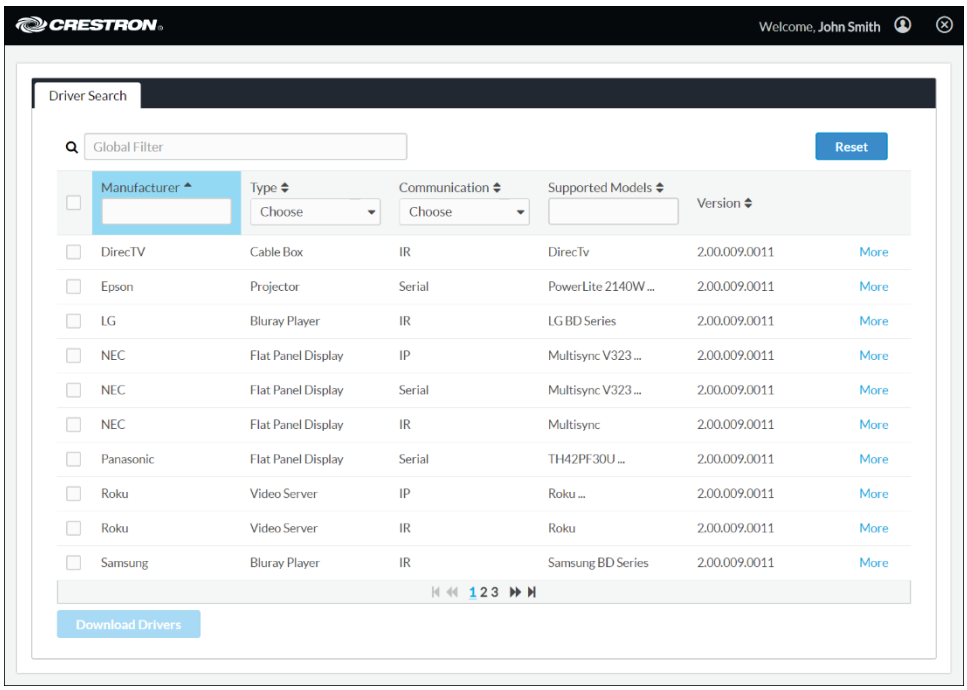
Importing Device Drivers

Additional device drivers may be downloaded from the Crestron Certified Drivers web portal and loaded into .AV Framework. Use the following procedure to import device drivers into .AV Framework with the web configuration utility:

1. Log in to the Crestron Certified Drivers web portal.

   The Driver Search page displays.

   Crestron Certified Drivers Portal Driver Search Page



2. Use the following options to navigate the Crestron Certified Drivers web portal:

   - Type a manufacturer name, device type, communication method, or supported model in the **Global Filter** text box to filter drivers based on that search term.
   - Type a search term in the text box, or use the drop-down menu underneath a column heading to filter drivers by the driver information shown in that column. Use the up and down arrows next to the column header to sort the information in that column in alphabetical or reverse alphabetical order, respectively.
   - Navigate through the available device drivers by clicking a page number or by using the left and right arrows at the bottom of the page.

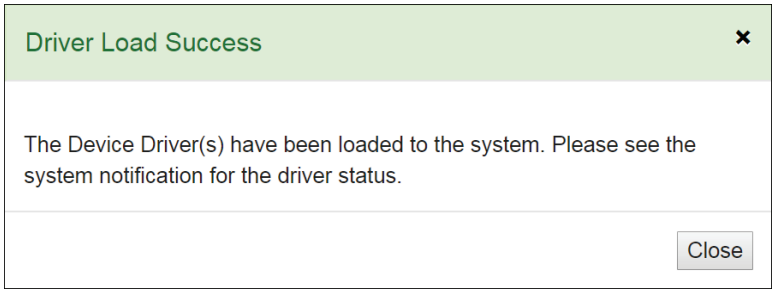
     NOTE: Click **More** next to a driver name to view additional information about that driver. Drivers may also be downloaded individually from this page.

3. Select the device driver(s) by clicking the check box to the left of a driver name.
4. Once all drivers have been selected, click **Download Drivers** to download the drivers to the host computer. All selected drivers download as .pkg files within a single zipped file.
5. Navigate to **System > Drivers** in the .AV Framework configuration utility.
6. Click **Import** at the top right of the **Drivers** window.
7. Select the .zip file containing the driver .pkg files, and click **Open**.

If the driver(s) are uploaded successfully, a notification displays indicating that the installation was successful.

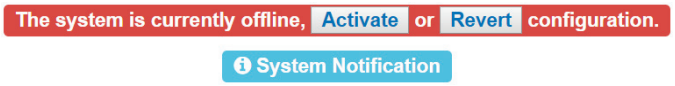
CAUTION: Do not activate the new configuration until the notification displays indicating that the drivers were loaded successfully. This notification may take several minutes to display if a large number of drivers are uploaded in the same .zip file.

Driver Load Success Window



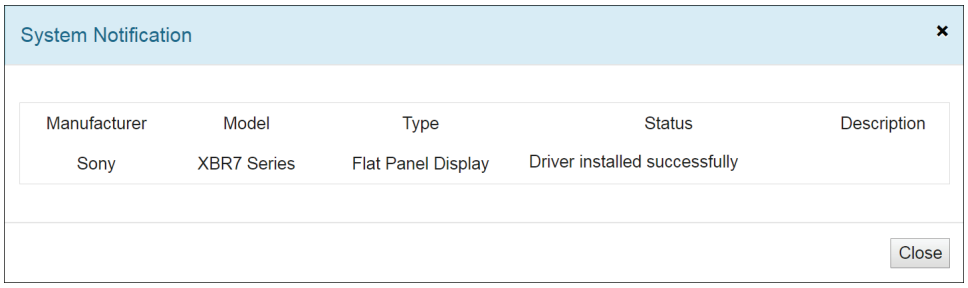
After the upload completes, a **System Notification** icon displays under the system status message bar.

System Notification Message



Click the **System Notification** icon to open a window that displays the driver manufacturer, model, type, and installation status. The following image shows the installation status of a Sony® XBR7 Series flat panel display.

System Notification Window



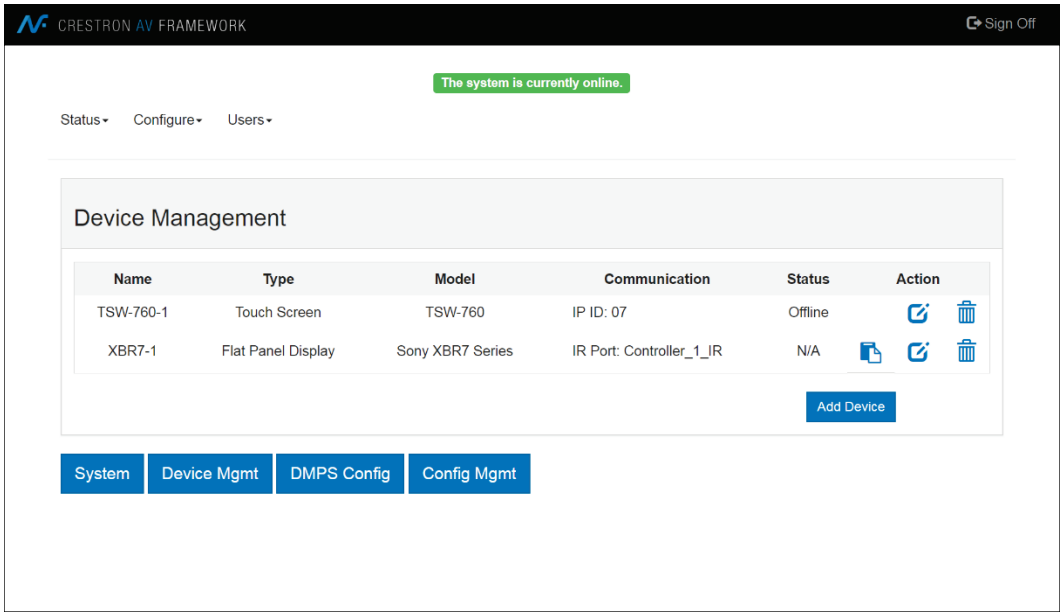
If the driver upload is successful, the **Status** column displays "Driver installed successfully."

If the driver fails to upload, the **Status** column displays "Driver failed to install." Ensure that the correct file was selected and that the DMPS3 device is functioning properly. If the driver installation continues to fail, contact Crestron customer service for assistance.

Device Management

Navigate to **Configure** > **Device Management** to display the **Device Management** page.

Device Management Page

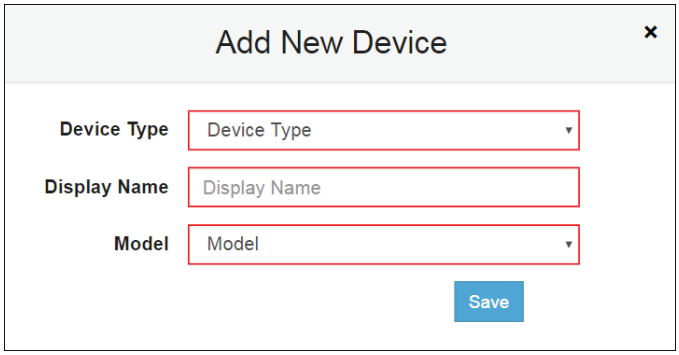


Use the **Device Management** page to add a device to .AV Framework, to view information about connected devices, and to edit or remove a device.

Add a Device

Click **Add Device** to add a device to .AV Framework. The **Add New Device** window opens.

Add New Device Window



Enter the following information for the chosen device.

NOTE: Before a device may be added to .AV Framework, the chosen device must be connected to the DMPS3 control system. For more information, refer to "Appendix A: Interface Setup" on page 43.

NOTE: Certain device types and models require additional information to be entered (such as setting transport control details). Additional drop-down menus and text fields are provided when these device types and/or models are selected. For a complete list of these additional fields, refer to "Appendix B: Add New Device Additional Fields" on page 58.

NOTE: Be sure to select the correct device type and model when adding a device via an IP connection, and confirm that the IP ID is assigned to the correct IP device. If a device was previously added to .AV Framework with an IP ID that is assigned to a different device, that device registers even though it is no longer connected.

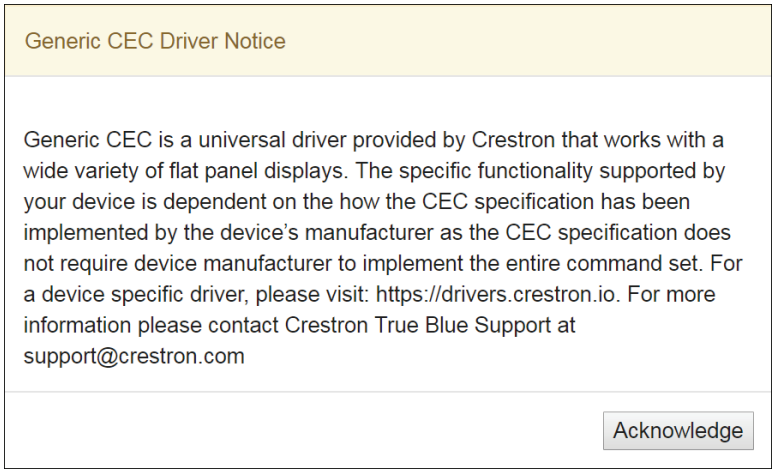
NOTE: Any endpoints should be added to .AV Framework prior to the addition of other devices. Once an endpoint is added to .AV Framework, the endpoint's communication ports are available as additional selections for device transport and control.

- **Device Type:** Use the drop-down menu to select the type of the chosen device from the available options.
- **Display Name:** Enter a display name for the device in the text field.
- **Model:** Use the drop-down menu to select the model of the chosen device from the available options.

Once the correct device information is entered, click **Save** to add the device or click the **x** button to close the window and to discard any changes.

NOTE: After a CEC-controlled device or a Crestron Connected® device is added, a notice is displayed. The notice for CEC drivers is shown as an example.

Generic CEC Driver Notice



This notice explains the Crestron CEC and Crestron Connected drivers are generic drivers that are designed to work with a wide variety of devices, and that device functionality using CEC or Crestron Connected control is limited to the level of functionality implemented by the device manufacturer. Click **Acknowledge** to return to the **Device Management** page.

Certain flat panel displays and projectors require their drivers to be installed before the devices are added to .AV Framework.

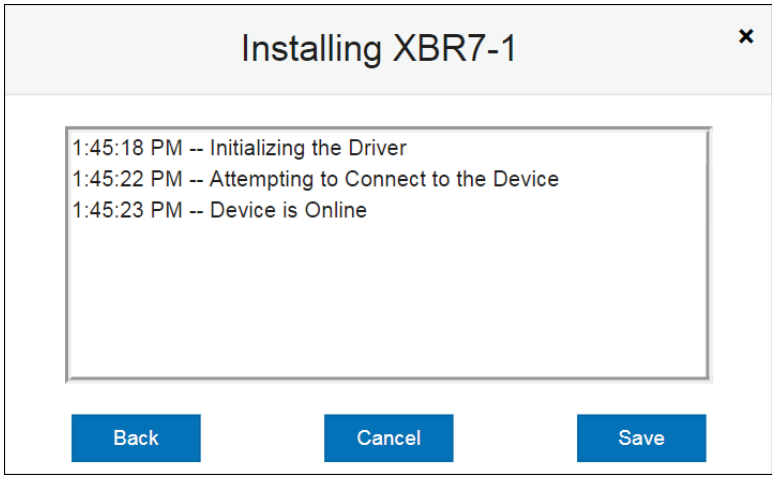
NOTE: The appropriate device driver must be added to .AV Framework before the device may be selected and added to the system. For more information on loading device drivers, refer to "Drivers," starting on page 16.

NOTE: Certain device drivers require a username and password to initiate control communications. Additional **User Name** and **Password** fields are provided in the **Add New Device** widow for these devices. These fields are set to optional or required depending on the device driver.

After the appropriate driver is added to .AV Framework, use the drop-down menus in the **Add New Device** window to select the device. Enter the required information for the device, and then click **Save**.

A window showing the status of the driver installation displays. If the device driver requires a username and password, the window also shows the status of the driver authentication.

Installing XBR7-1 Window



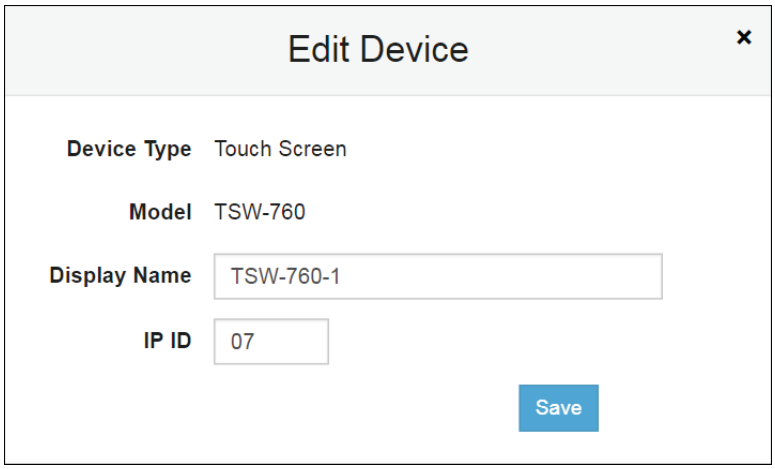
Click **Back** to return to the **Add New Device** window. Click **Cancel** to cancel installing the device driver. Click **Save** to save the device and return to the **Device Management** page.

Edit a Device

After a device is added to .AV Framework, it appears in the list of devices on the **Device Management** page. The display name, device type, device model, transport details, and device status are provided for each device.

Click the editing icon ( ) next to a device to edit the device. The **Edit Device** window opens.

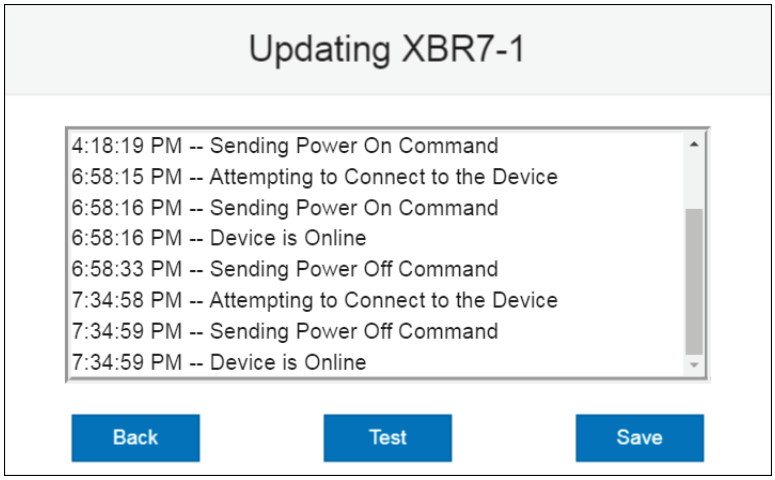
Devices Page - Edit Device Window



Use the **Edit Device** window to edit the display name, transport details, and any other device settings provided for the chosen device. Click **Save** to save any changes or click the **x** button to close the window and to discard any changes.

For flat panel displays and projectors with installed device drivers, a window showing the updated status of the device displays after changes are saved.

Updating XBR7-1 Window



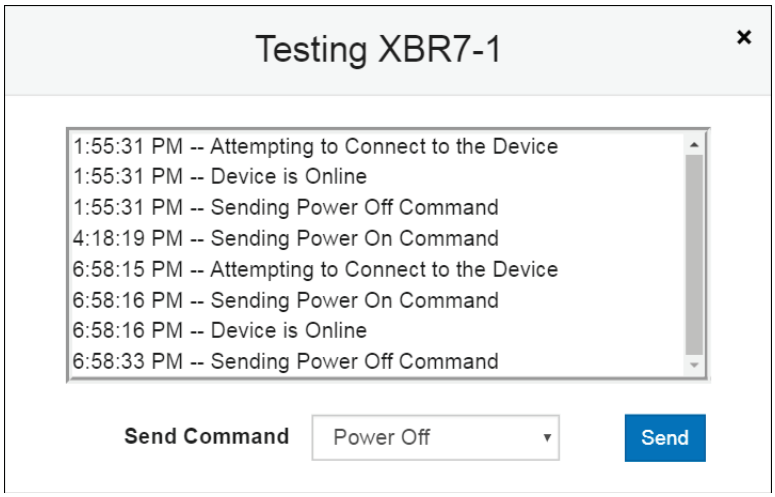
Click **Back** to return to the **Edit Device** window. Click **Save** to save the device and return to the **Device Management** page.

Click **Test** to display a window for sending test commands to the device. For more information, refer to "Test a Device" on the following page.

Test a Device

For flat panel displays and projectors with installed device drivers, click the test icon ( ) to send test commands to the device. A window showing the status of the driver test displays.

Testing XBR7-1 Window



To send test commands to the device, select a command from the **Send Command** drop-down menu, and then click **Send**. .AV Framework attempts to send the chosen command to the device.

NOTE: The configuration utility does not provide feedback about whether the command was sent successfully. Verify that the command was received on the device.

Delete a Device

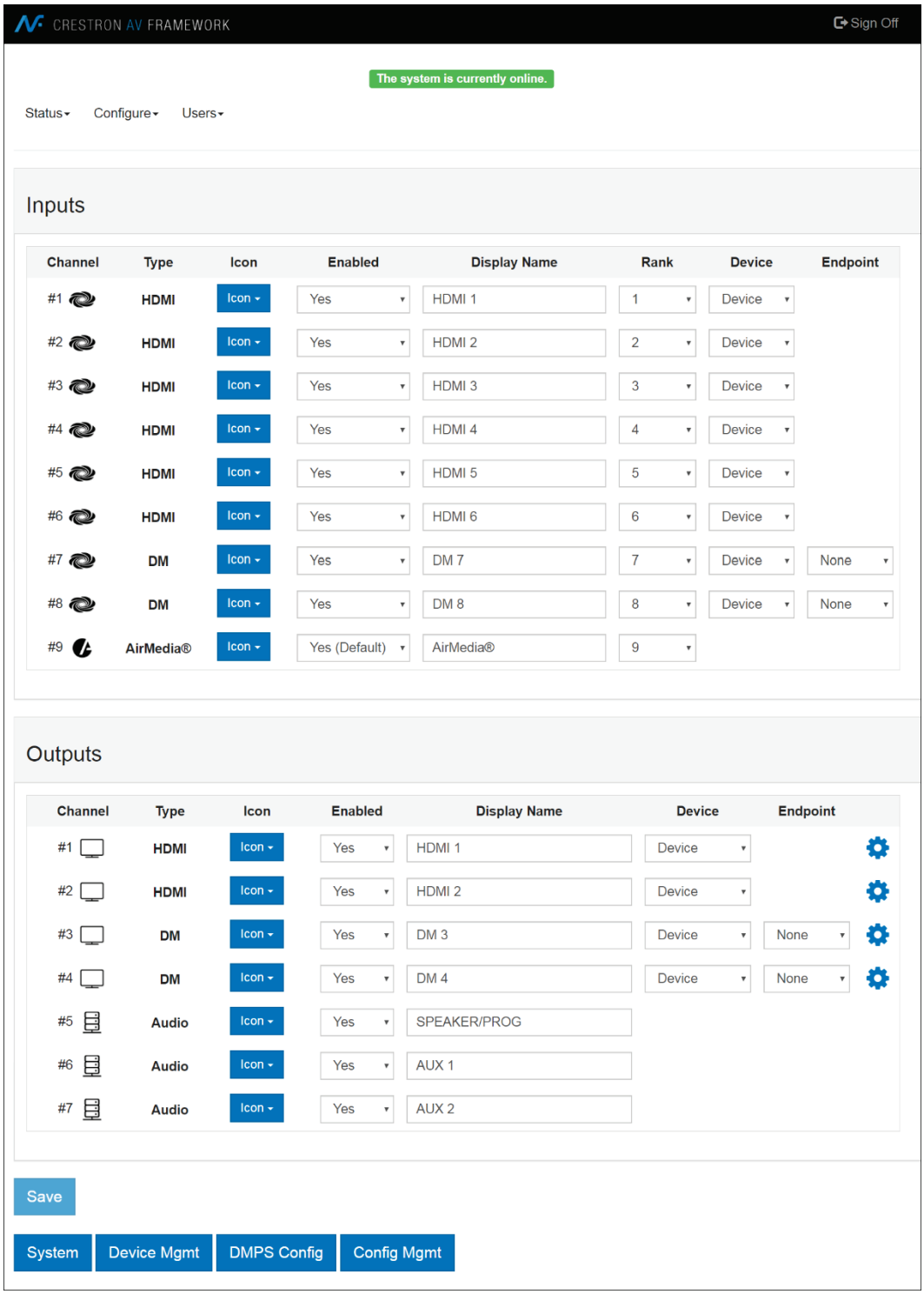
Click the trash can icon ( ) next to a device to delete the device.

A warning message is displayed. Click **OK** to delete the device or **Cancel** to cancel the deletion.

Inputs/Outputs

Navigate to **Configure** > **DMPS Configuration** to display the Input/Outputs page.

Inputs/Outputs Page



Use the Inputs/Outputs page to configure the input and output channels of the DMPS3 device.

The following information may be viewed and configured for each input and output channel unless otherwise noted.

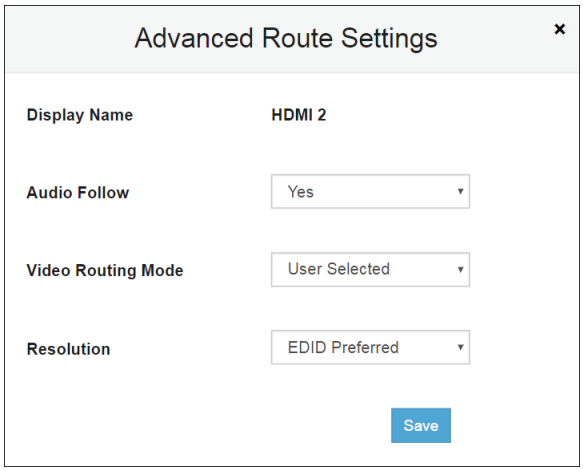
NOTE: Input 9 on the DMPS3-4K-350-C and Input 8 on the DMPS3-4K-250-C are reserved for the device's internal AirMedia presentation gateway, and these channels display only if an AirMedia license has been purchased and activated for the device. The "Device" and "Endpoint" fields are not configurable for the internal AirMedia input.

For more information on activating a purchased AirMedia license, refer to the DMPS3-4K-250-C/DMPS3-4K-350-C DO Guide (Doc. 8215) at www.crestron.com/manuals.

- **Channel:** This column displays the number of the input or output channel on the DMPS3 device and the chosen icon for that channel.
- **Type:** This column displays the type of input or output channel (such as HDMI® input, DM® input, or Audio).
- **Icon:** Use the drop-down menu to select an icon for the channel.
- **Enabled:** Use the drop-down menu to enable or disable the channel on the .AV Framework system.
- **Display Name:** Enter the display name of the device connected to the channel.
- **Rank (Inputs Only):** Use the drop-down menu to select a number (1—8) to determine the order that the input displays appear when selecting a source to present from the touch screen.
- **Device:** Use the drop-down menu to select the device connected to the channel. (For more information on adding devices to .AV Framework, refer to page 19.)
- **Endpoint (DM Channels Only):** Use the drop-down menu to select a connected DM endpoint for the channel.

Additionally, each HDMI or DM output channel has a gear icon ( ) at the far right of its respective column in the **Outputs** window. Click the gear icon to open the **Advanced Route Settings** window.

Advanced Route Settings Window



The following settings may be configured using the **Advanced Route Settings** window.

NOTE: For more information regarding advanced routing behavior and to view advanced routing use cases, refer to "Appendix C: Advanced Routing Behavior and Use Cases" on page 68.

- **Audio Follow:** Select one of the following options to set the audio follow behavior for the selected output channel:
  - **Yes:** Audio is routed to the output channel.
  - **Yes with Volume Control:** Audio is routed to the output channel, and volume may be controlled by the touch screen (if **Enable DMPS Speaker and Program Output Volume Control** is selected on the **System Setup** page.)
  - **No:** Audio is not routed to the output channel.
- **Video Routing Mode:** Select one of the following options to set the video routing behavior for the selected output channel:

  NOTE: Output 1 supports only user-selected routes. Fixed routes and follow routes are supported only on other video output channels.

  - **User Selected:** The video source selected manually by the user is routed to the output channel.
  - **Fixed:** Video is routed to the output channel from a fixed input channel after the first manual route is created on the system.
  - **Follow:** Video is routed to the output channel from another output channel configured for manual routing.

    (For example, if a user manually routes Input 1 to Output 1 and Output 2 is set to follow Output 1, Input 1 is also shown on Output 2.)
- **Fixed Route:** If **Video Routing Mode** is set to **Fixed**, select the input channel to be routed to the selected output channel.
- **Follows Route:** If **Video Routing Mode** is set to **Follow**, select the output channel to be routed to the selected output channel.
- **Resolution (HDMI Outputs Only):** Use the drop-down menu to select the video output resolution.

Click **Save** to save any changes or click the **x** button to close the window and to discard any changes.

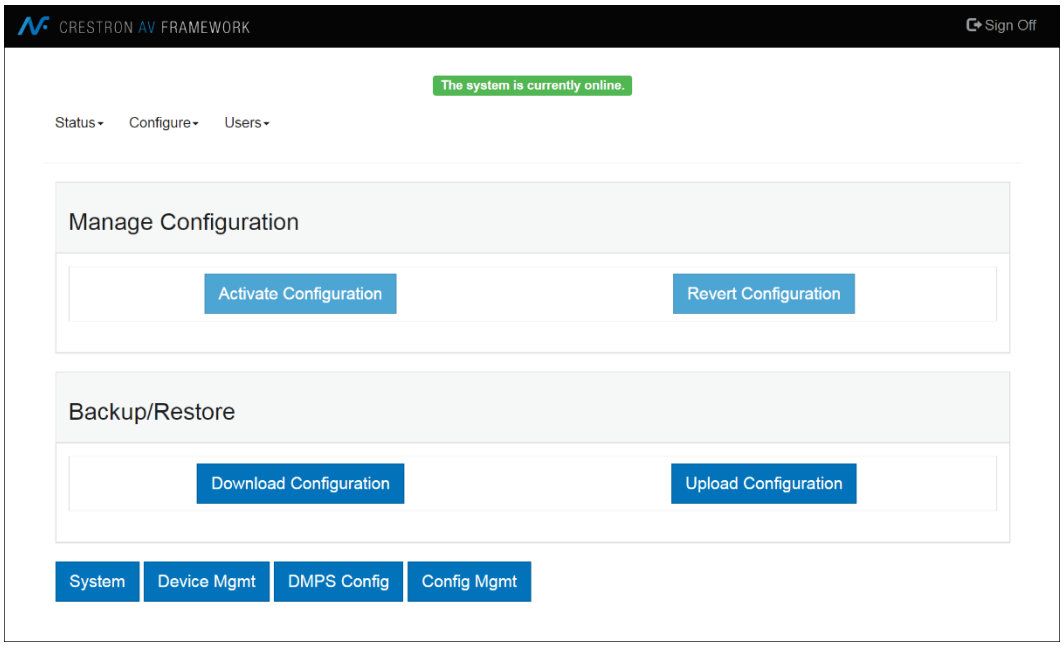
Once all changes to the input and output channels have been made, click **Save** at the bottom of the **Inputs/Outputs** page.

NOTE: The DMPS3-200-C, DMPS3-300-C, and DMPS3-300-C-AEC switchers use autoswitching behavior for port configuration and audio/video routing, which overrides any input or output configurations set in .AV Framework.

Manage Configuration

Navigate to **Configure** > **Configuration Management** to display the **Manage Configurations** page.

Manage Configurations Page



Use the **Manage Configurations** page to activate new configuration settings or to revert to a prior configuration. The **Manage Configurations** page also provides controls to download and upload configuration files.

If saved changes have been made to the configuration, click **Activate Configuration** to activate the new configuration settings or click **Revert Configuration** to revert to the previous configuration.

The user interface project displays a configuration in progress message.

Configuration in Progress Screen

NOTE: If any changes are saved while configuring .AV Framework, the green status bar on the top of the screen turns red and displays "The system is currently offline, activate or revert configuration." Once this message is displayed, any connected devices go offline and may not be used, and changes must be activated for the devices to go back online. Once the configuration is activated, the status bar turns green and displays "The system is currently online."

Click **Download Configuration** to download the current configuration settings as a .zip file. The downloaded .zip file includes XML files that contain the current configuration settings and any device driver files that are loaded in .AV Framework.

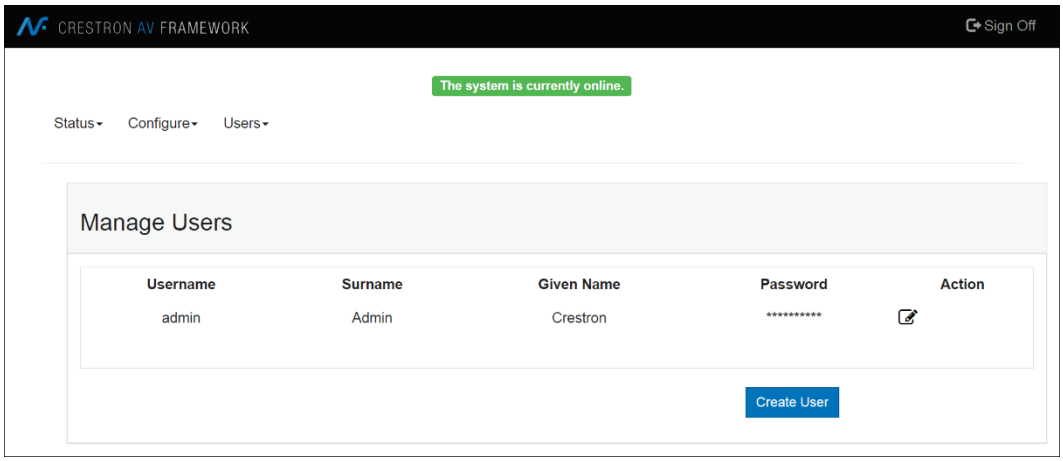
Click **Upload Configuration** to upload saved configuration files to the configuration utility. Saved configuration files may be used to configure similar rooms by uploading the configuration files to the corresponding .AV Framework systems.

Users Menu

The **Users** menu provides a selection for adding, editing, and deleting users in the .AV Framework system.

Navigate to **Users** > **Manage** to display the **Manage Users** page.

Manage Users Page



Use the **Manage Users** page to manage, add, and edit .AV Framework users. The following information is provided for each user:

- **Username:** The username created for the user

  NOTE: The administrative account for .AV Framework is specified by the username "admin." This username may not be changed.

- **Surname:** The user's last name
- **Given Name:** The user's first name
- **Password:** A string of asterisks indicating that a password has been entered

An action button ( ) is also provided for each user in the **Action** column of the user table. Click this button to edit the username, surname, given name, and password for a user.

To create a new user, click **Create User** at the bottom right of the window. A new row appears in the users table. Enter the appropriate information for that user in the various text fields, and then click the check ( ) button in the **Action** column. (Click the **x** button at any time during this process to cancel creating a new user.)

To delete a user, click the trash can icon ( ) in the **Action** column for that user. A warning message appears. Click **OK** to delete the user or **Cancel** to cancel the deletion.

NOTE: The "admin" account may not be deleted.

Operation

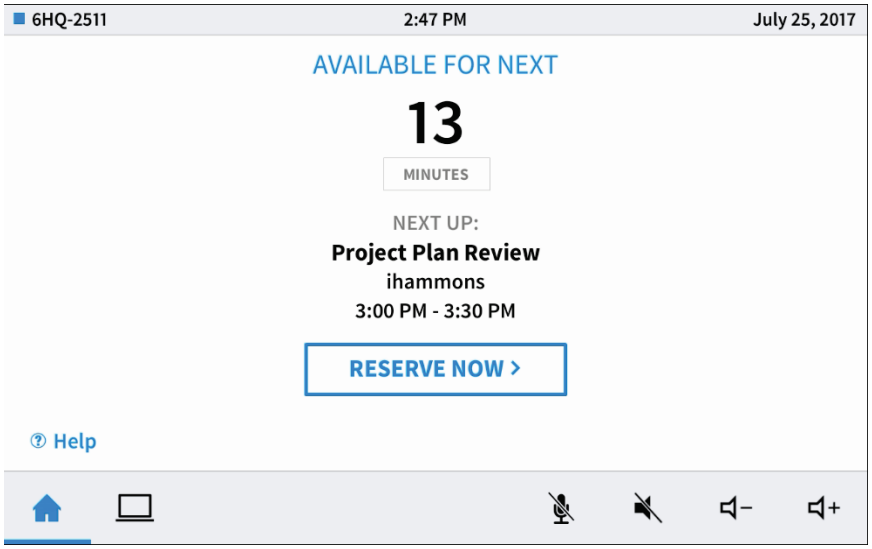
The .AV Framework touch screen project provides a collection of room scheduling and BYOD (bring your own device) presentation capabilities. The various screens that comprise the user interface are described in the sections that follow.

Display Overview

Each screen in the .AV Framework touch screen project has a status bar that provides the room name and the time and date (set using the web-based configuration utility). The status bar also has a square status icon next to the room name that turns red when the room is reserved and blue if the room is available.

Each screen also has a footer bar that provides buttons for navigating and controlling the system volume (when DMPS3 volume control is activated). The following image shows a typical home screen (the project's default page) with the status bar and footer bar.

Home Screen (Room Available) - Status and Footer Bars



The footer bar provides the same buttons regardless of which screen is selected. Refer to the following tables for more information on footer button functionality.

Navigation Buttons

	The home button navigates to the home screen.
	The present button navigates to the present screen

Volume Control Buttons

	The mic mute button mutes or unmutes the device microphone.
	The volume mute button mutes or unmutes the device volume.
–	The volume lower button incrementally lowers the device volume.
+	The volume raise button incrementally raises the device volume.

NOTE: The volume control buttons and the volume bar are visible only if DMPS3 speaker and volume output controls are enabled on the DMPS3 device (set using the web-based configuration utility) and if the device driver supports volume control. For more information, refer to "System" on page 10.

Home Screen Overview

The home screen is the default screen of the touch screen project. The home screen indicates whether the associated room is either available or reserved for meetings if .AV Framework is connected to a scheduling calendar. If the room is available, the home screen allows an ad hoc meeting to be reserved from the touch screen. If the room is reserved, the home screen displays current meeting information and the time remaining in the meeting.

If .AV Framework is not connected to a scheduling calendar, the home screen displays a custom logo (if enabled) or the date and time, and provides a button is used to switch to the system's default route.

The home screen may be accessed at any time by touching the home (⌂) button on the footer bar.

Home Screen (No Scheduling Calendar Connected)

If .AV Framework is not connected to a scheduling calendar, the home screen displays the following information:

- A custom logo (if enabled through the configuration utility)
- The time and date (if no custom logo is enabled)
- A START button that switches to the system's default route automatically

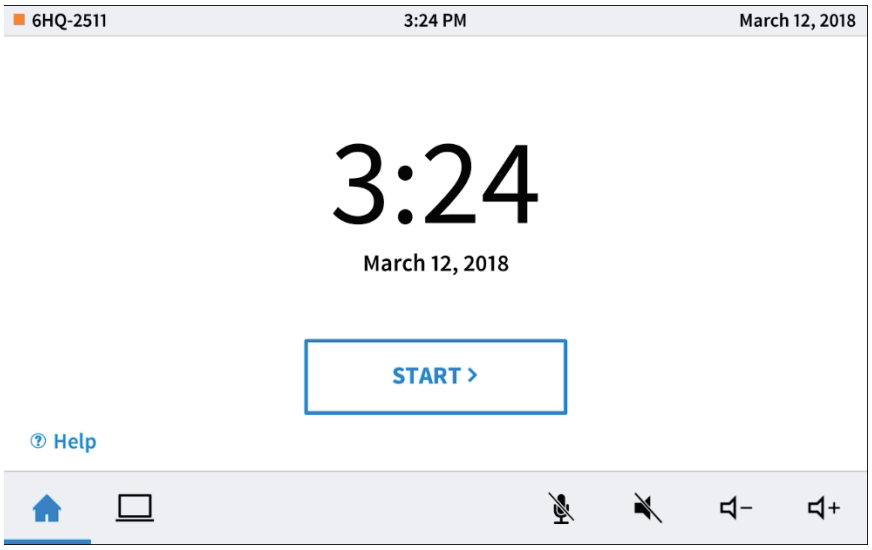
  NOTE: The START button text may be customized by using the configuration utility. For more information, refer to "Touch Screen Custom Graphics" on page 14.

  NOTE: For more information on setting the system's default route, refer to "Inputs/Outputs" on page 24.

- A Help button that provides more information on the functions and controls of this screen

The image on the following page shows a typical home screen when .AV Framework is not connected to a scheduling calendar.

Home Screen (No Scheduling Calendar Connected)



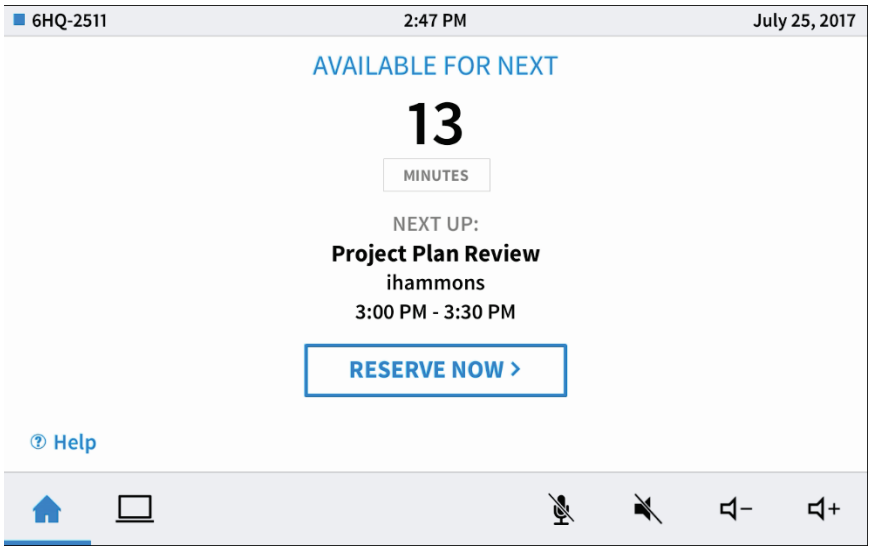
Home Screen (Room Available)

If .AV Framework is connected to a scheduling calendar and the room is available, the home screen displays the following information:

- The time remaining (in minutes) until the next scheduled meeting occurs
- The name, organizer, and duration of the next scheduled meeting
- A RESERVE NOW > button that allows an ad hoc meeting to be scheduled through the touch screen
- A Help button that provides more information on the functions of this screen

The following image shows a typical home screen when the room is available.

Home Screen (Room Available)

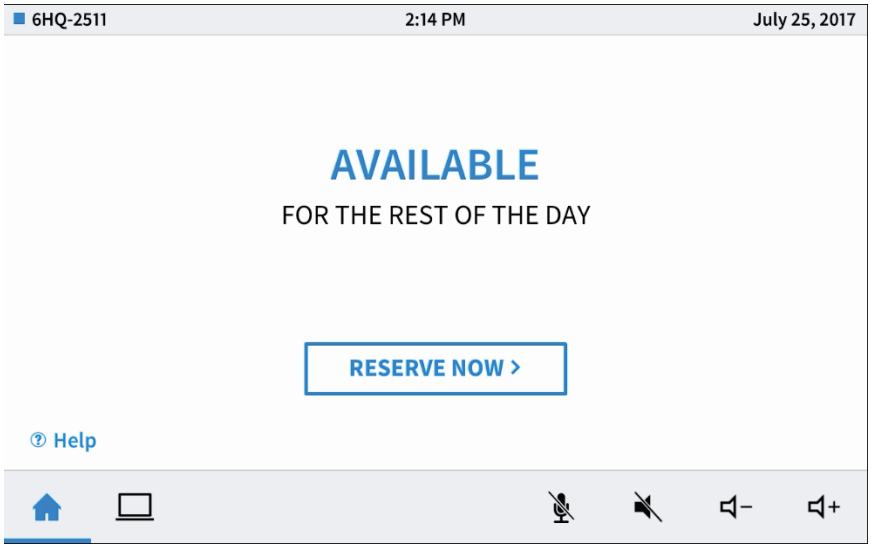


If the room is available for the rest of the day, the home screen displays the following information:

- A RESERVE NOW > button that allows an ad hoc meeting to be scheduled through the touch screen
- A Help button that provides more information on the functions of this screen

The following image shows a typical home screen when the room is available for the rest of the day.

Home Screen (Room Available for the Rest of the Day)



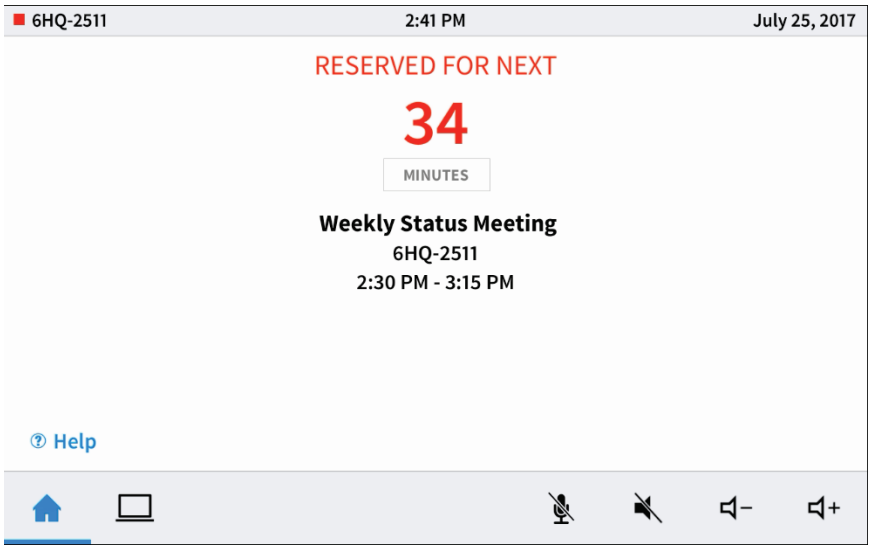
Home Screen (Room Reserved)

If the room is not available, the home screen displays the following information:

- The time remaining (in minutes) until the current meeting ends
- The name, organizer, and duration of the current meeting
- The duration and name of the next scheduled meeting
- A Help button that provides more information on the functions of this screen

The image on the following page shows a typical home screen when the room is reserved.

Home Screen (Room Reserved)

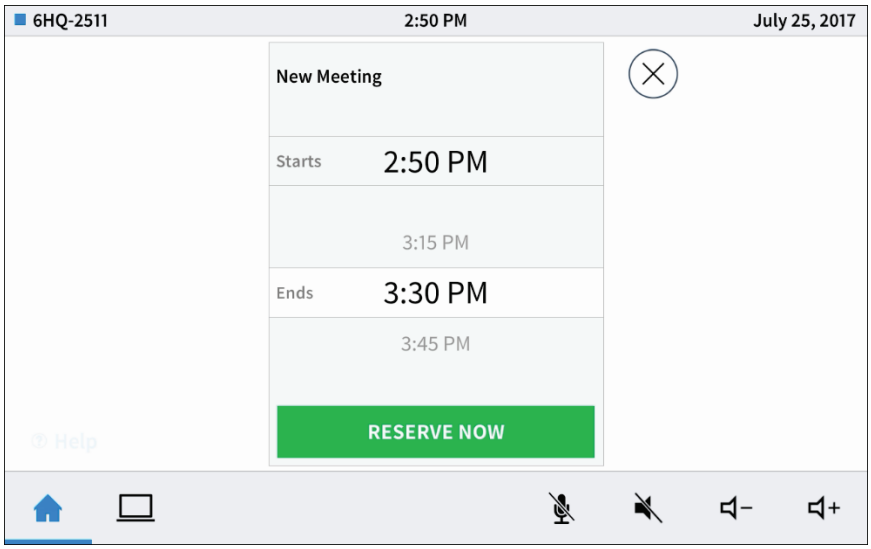


Reserving a Meeting from the Home Screen

Use the following procedure to reserve an ad hoc meeting from the home screen when the room is available:

1. Touch RESERVE NOW > on the home screen. The new meeting screen displays.

   New Meeting Screen



2. Touch one of the available meeting end times to set the duration of the meeting. The room may be reserved for up to three lengths:
   - Until the current half hour interval ends (If the current time is 10:17AM, the end time for this option is 10:30AM.)
   - Until the current half hour interval ends plus 30 minutes (If the current time is 10:17AM, the end time for this option is 11:00AM.)
   - Until the current half hour interval ends plus 60 minutes (If the current time is 10:17AM, the end time for this option is 11:30AM.)

   NOTE: These options are available only if a meeting is not already scheduled during that timeframe.
3. Touch **RESERVE NOW** to reserve the meeting.

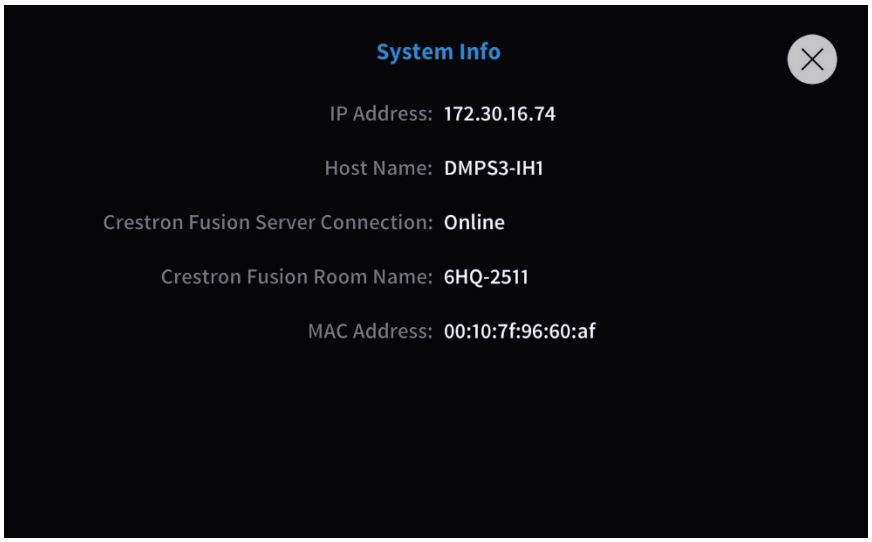
To discard the reservation, touch the **x** button on the top right of the screen.

Accessing the System Info Screen

To access the **System Info** screen, touch and hold the **Help** button on the home screen for 20 seconds.

The **System Info** screen displays the device IP address, the device hostname, the Crestron Fusion server connection status, the Crestron Fusion room name, and the device MAC address.

System Info Screen



To exit the **System Info** screen and return to the home screen, touch the **x** button on the top right of the screen.

Present a Source Screen Overview

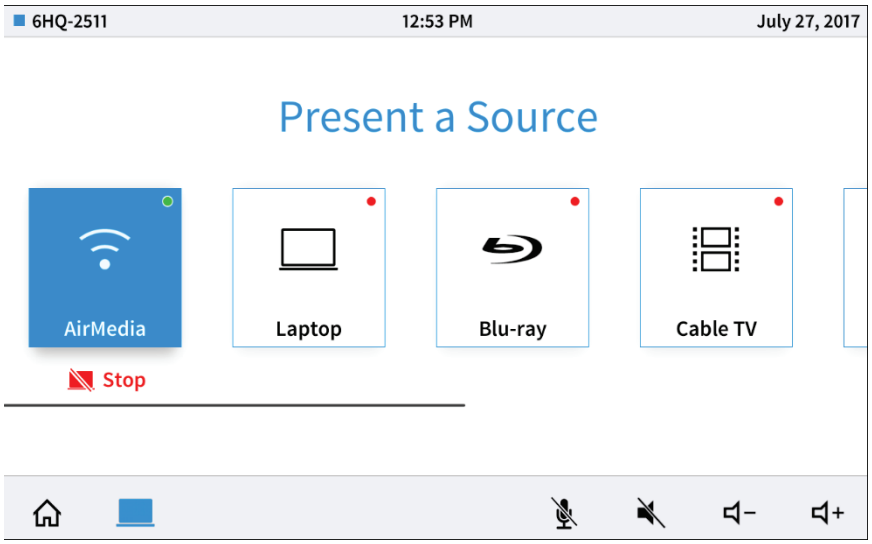
The present screen allows content to be routed from a connected device to the main display in the room via .AV Framework.

Select one of the available presentation options on the present screen to route that source to the main display. The present screen provides different options depending on the number of display outputs supported by the DMPS3 device.

Present a Source Screen - Single Display

If the DMPS3 device supports a single display, the present screen appears as shown in the following image.

Present a Source Screen (Single Display)



Select one of the available presentation options to route the selected source to the main display. The source is controlled directly through the touch screen project.

Each available source has a green or red icon in the top right corner of the selectable box. A green icon indicates that video signal is present for that source, while a red icon indicates that video signal is not present.

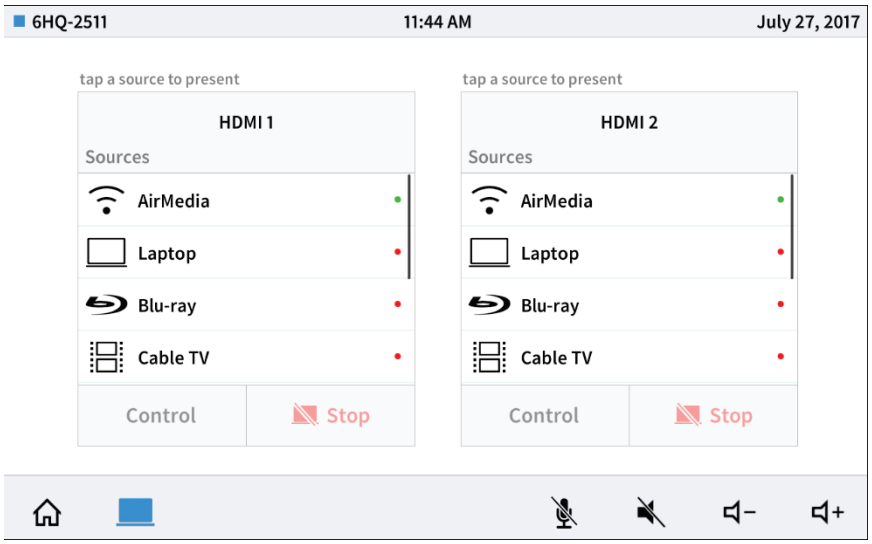
NOTE: If a source is active, the source's background tile turns blue and a **Stop** button is shown. Press the **Stop** button to stop routing the source to the display.

NOTE: If one source is enabled for presentation, the control page for that source loads automatically when the present screen is accessed.

Present a Source Screen - Dual Display

If the DMPS3 device supports dual-display presenting, the present screen appears as shown in the following image:

Present a Source Screen (Dual Display)



The present screen for dual-display presenting contains two columns (one for each display). Select one of the available presentation options in the appropriate column to route the selected source to the desired display. Once a source is chosen, the following controls are available:

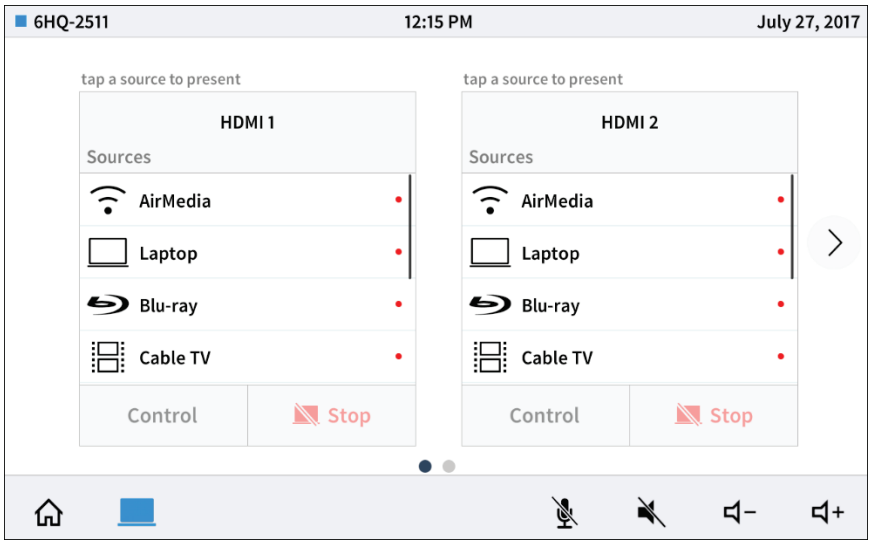
- Press Control to display the control settings for the chosen source.
- Press Stop to stop presenting the chosen source.
- Press the speaker icon to the right of the chosen source name to adjust the volume settings for the source.

Each available source has a green or red icon on the right side of the source's column. A green icon indicates that video signal is present for that source, while a red icon indicates that video signal is not present.

Present a Source Screen - More than Two Displays

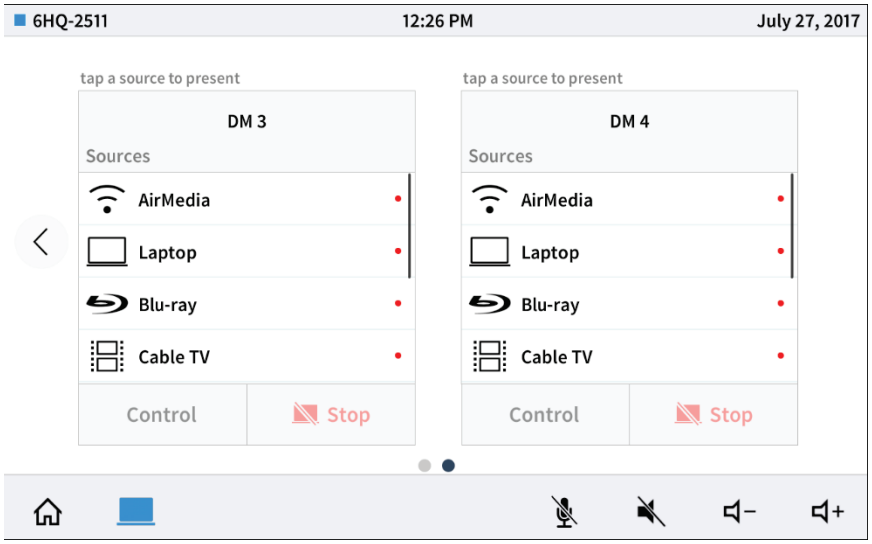
In a system with more than two displays, the present screen divides the displays across multiple pages as shown in the following image.

Present a Source Screen (More than Two Displays)



The present screen for two or more displays is functionally similar to the present screen for dual display. However, additional displays may be accessed by touching the arrow icon (>) on the far right of the screen.

Present a Source Screen (More than Two Displays) - Second Page

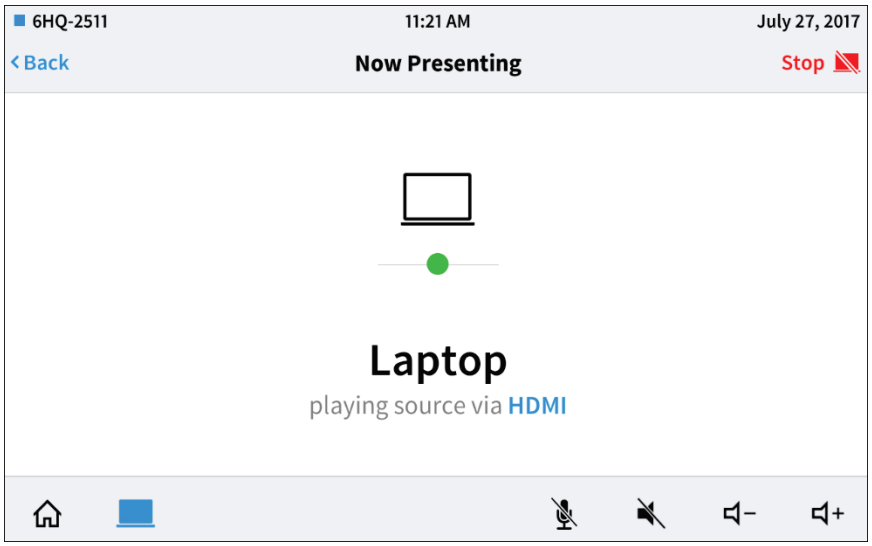


Use the arrows on the far left and far right of the screens to navigate through the available display screens. (Two displays are shown per screen.) Each screen contains page indicator dots to show the total number of display screens and to indicate the screen that is currently selected (represented by an dark gray dot).

Now Presenting Screen - HDMI Source

When a source connected by HDMI (such as a Laptop) is selected, the following screen is displayed.

Present Screen - HDMI Source



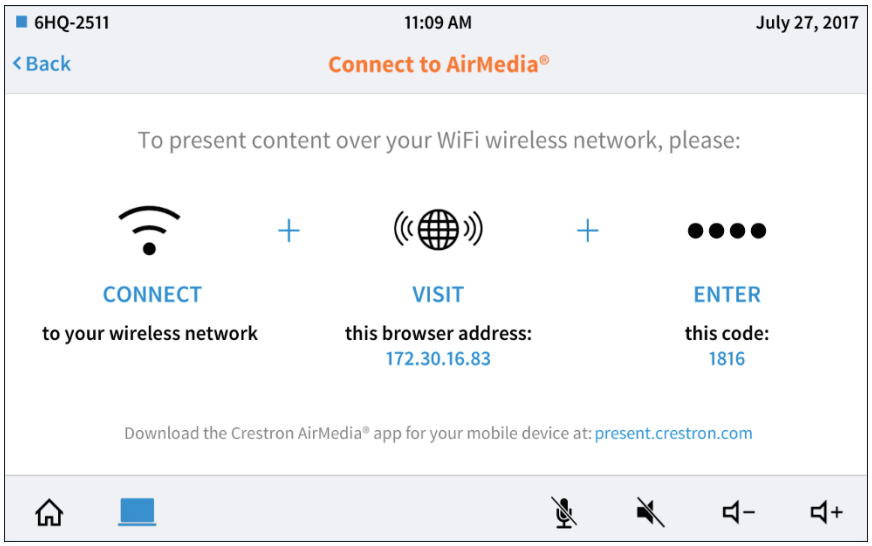
The Now Presenting screen for HDMI displays the input name and connection type. The circle icon in the center of the screen turns green if the source is connected and turns red if the source is disconnected.

Press Stop on the top right of the screen to disconnect from the HDMI source. Press < BACK to return to the Present a Source screen. (Pressing < BACK does not disconnect the source.)

Connect to AirMedia Screen

When an AirMedia source is selected and the wireless connection has not already been established, the following screen is displayed.

Connect to AirMedia Screen



The Connect to AirMedia screen displays instructions for connecting to the AirMedia device over a wireless network. Once this connection has been established, AirMedia may be selected as a presentation source.

If the connection code has been disabled, a version of the Connect to AirMedia screen displays that omits this step. For more information on disabling the connection code, refer to the AirMedia device's documentation at www.crestron.com/manuals.

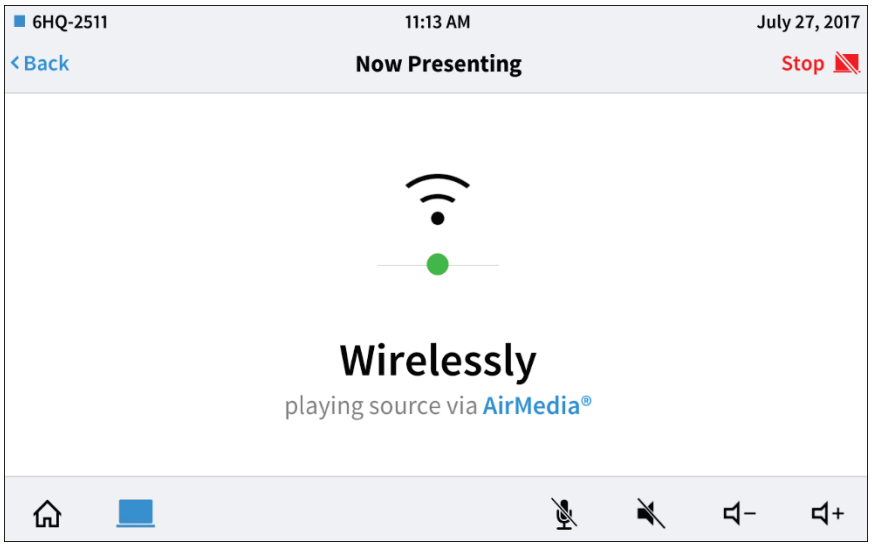
Connect to AirMedia Screen - Connection Code Disabled

Press < BACK to return to the Present a Source screen.

Now Presenting Screen - AirMedia Source

When an AirMedia source is selected (once a wireless connection has been established), the following screen is displayed.

Present Screen - AirMedia Source



The **Now Presenting** screen for AirMedia displays that the source is connected wirelessly over AirMedia. The circle icon in the center of the screen turns green if the source is connected and turns red if the source is disconnected.

Press **Stop** on the top right of the screen to disconnect from the AirMedia source. Press **< BACK** to return to the **Present a Source** screen. (Pressing **< BACK** does not disconnect the source.)

Now Presenting Screen - Other Source Devices

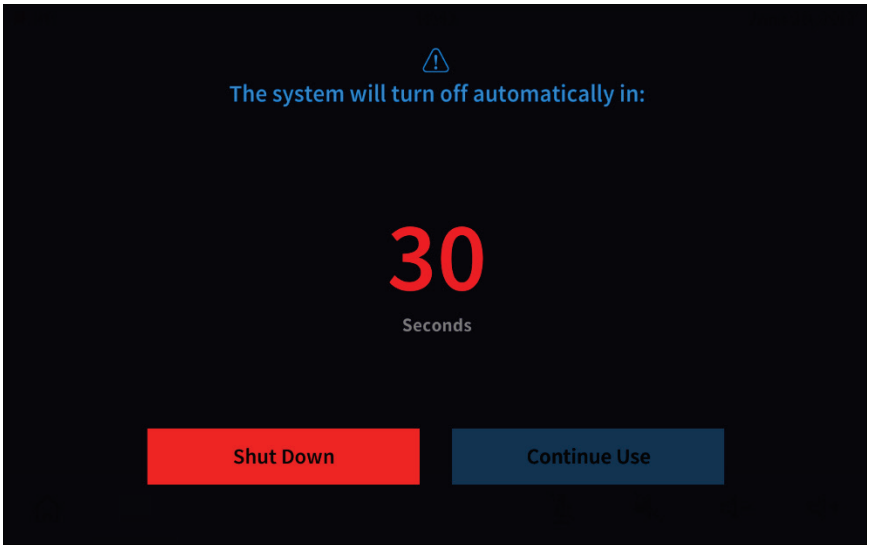
The touch screen project provides custom **Now Presenting** screens for certain source devices, such as cable TV receivers and video servers, which include controls that are specific to the device.

To view more examples of **Now Presenting** screens for other source devices, refer to the .AV Framework DMPS UI Guide at www.crestron.com/manuals.

System Notifications

When system turn off is triggered (for example, by pressing the power hard button on the touch panel), the following screen displays.

System Turn Off Message Screen



This screen shows the number of seconds until .AV Framework powers off. Touch the **Shut Down** button to shut the system down now, or touch the **Continue Use** to cancel system shutdown.

Appendix A: Interface Setup

This section provides information on how to connect various supported interfaces to the control system.

TSW-752/TSW-1052/TSW-760/TSW-1060

To connect a Crestron TSW-752, TSW-1052, TSW-760, or TSW-1060 to .AV Framework:

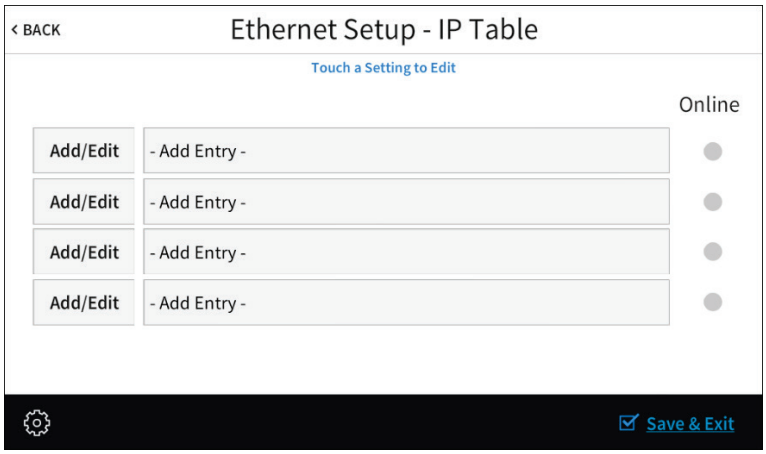
NOTE: The .AV Framework touch screen project must be loaded on the touch screen prior to use.

NOTE: The .AV Framework program defaults to IP ID 03 for the touch screen.

NOTE: Ethernet setup screens for the TSW-760 and TSW-1060 are shown. Similar Ethernet setup screens are used to connect the TSW-752 and TSW-1052.

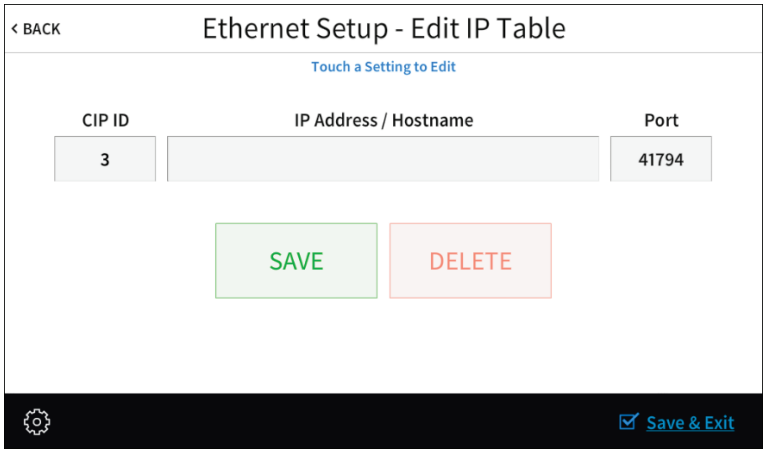
1. On the **Setup** screen, tap **IP Table Setup** to display the **Ethernet Setup - IP Table** screen. The **Ethernet Setup - IP Table** screen displays up to four IP table settings.

   Ethernet Setup - IP Table Screen



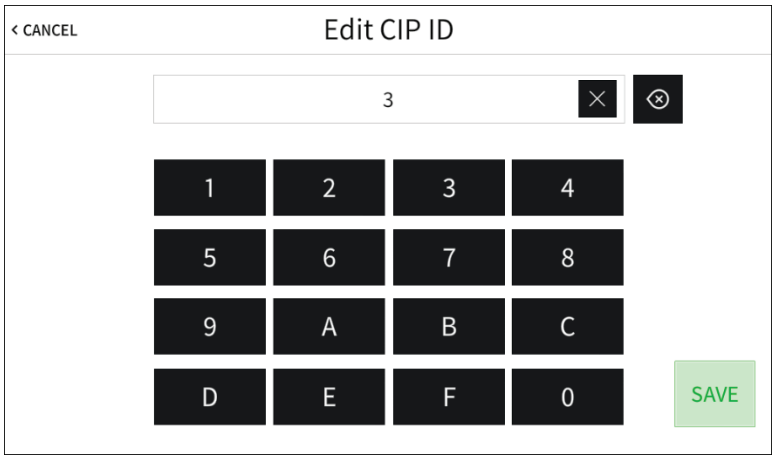
2. To add or edit an entry, tap the corresponding **Add/Edit** button. The **Ethernet Setup - Edit IP Table Entry** screen is displayed.

   Ethernet Setup - Edit IP Table Screen



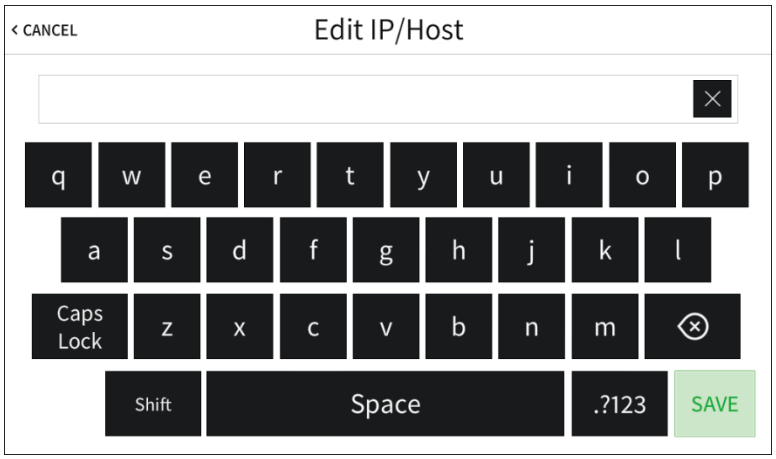
3. Tap the text field below **CIP ID** to display the on-screen hex keypad.

Edit CIP ID Screen



4. Use the keypad to enter the CIP ID of the DMPS3 device running the .AV Framework program.
   - Tap the clear button ( ) in the text field to clear any previous entry.
   - Tap the delete button ( ) to delete the last digit.
   - Tap **SAVE** to save a new entry or tap **< CANCEL** to discard any changes.
5. Tap the text field below **IP Address / Hostname** to display the on-screen keyboard.

Edit IP/Host Screen



6. Use the keyboard to enter the IP address or hostname of the DMPS3 device running the .AV Framework program.
   - Tap the clear button ( ) in the text field to clear any previous entry.
   - Tap the delete button ( ) to delete the last digit.
   - Tap **SAVE** to save a new entry or tap **< CANCEL** to discard any changes. The display returns to the **Ethernet Setup - IP Table** screen.

7. Tap the text field below **Port** to display the on-screen numeric keypad (not shown), and use the keypad to enter the port number of the DMPS3 device running the .AV Framework program (if necessary).
8. On the **Ethernet Setup - IP Table** screen, tap **SAVE** to save the current entry or **DELETE** to clear it.

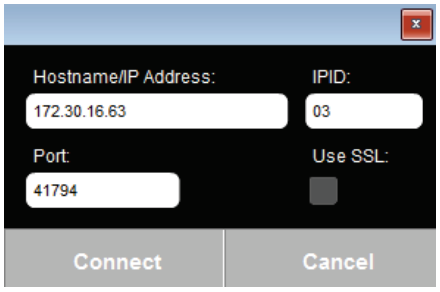
XPanel

To configure a virtual touch screen project with XPanel:

NOTE: Add and configure the XPanel touch screen project as an additional touch screen device in the .AV Framework configuration utility.

1. Install XPanel by running **Crestron XPanel installer.air** (for Macintosh® systems) or **Crestron XPanel installer.exe** (for Windows® systems).
2. Load the touch screen project .vtz file in XPanel.
3. Access the configuration screen by selecting **Options** > **Host Settings**.
4. Enter the IP address of the DMPS3 device running the .AV Framework program.
5. Enter a unique IP ID.
6. Click **Connect**.

Configuration Screen



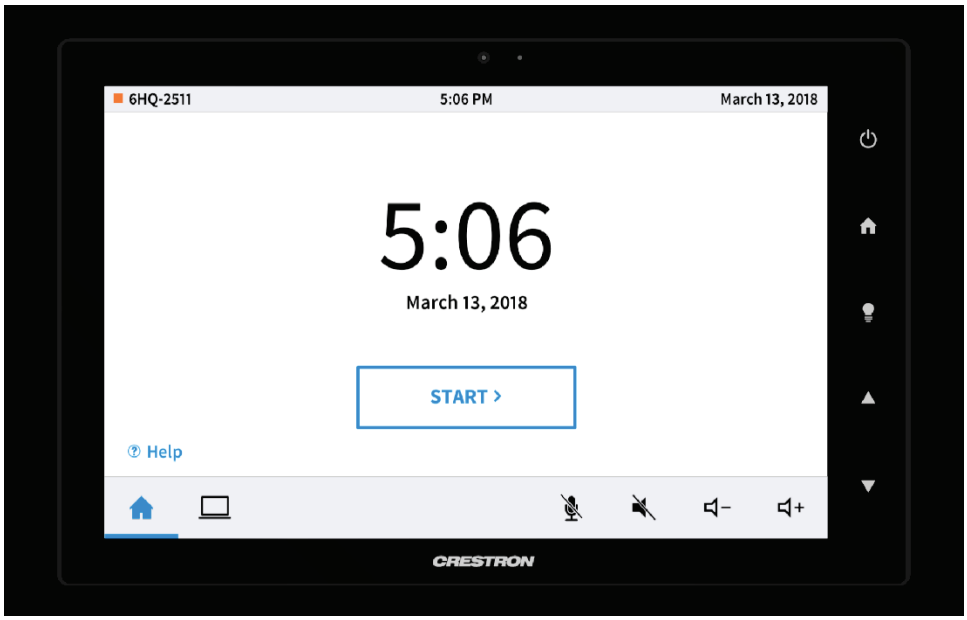
The touch screen project may also be displayed and tested using the .AV Framework program's built-in web XPanel interface.

NOTE: Prior to accessing the web XPanel interface, confirm that a touch screen device has been added to the .AV Framework system with IP ID 04.

NOTE: A touch screen device (Webx) with IP ID 04 is added by default to new .AV Framework configurations. For existing .AV Framework configurations, add a new touch screen device to the system with IP ID 04 prior to accessing the web XPanel interface.

Enter the IP address or the hostname of the DMPS3 device in the browser URL field, appending "/avf" to the IP address or hostname (e.g., "*xxx.xxx.xxx.xxx*/avf"). The web XPanel interface displays.

Web XPanel Interface



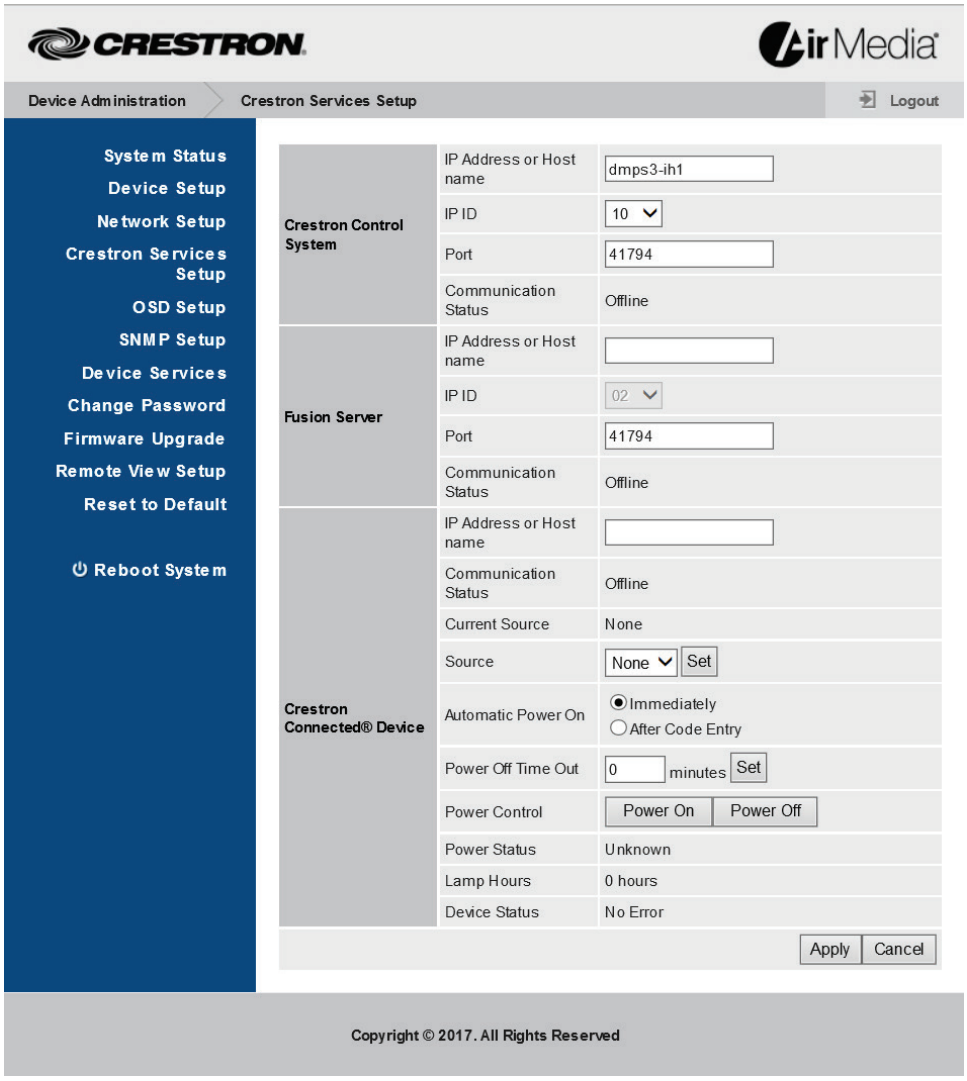
All touch screen project functions and screens may be tested through the web XPanel interface. Additionally, the virtual touch screen hard buttons (with the exception of the center lightbulb button) provide the same functionality as a physical touch screen.

AM-100/AM-101

To connect with a Crestron AM-100 or an AM-101:

1. Use a web browser to connect to the AirMedia device's IP address.
2. Click **Device Administration** to display the login page, then log in to the configuration utility. The default password is "admin."
3. Select **Crestron Services Setup** from the column on the left side of the page.

Device Administration - Crestron Services Setup



4. Enter the IP address of the DMPS3 in the **Crestron Control System** section.
5. Set an **IP ID**.
6. Set the **Port** to 41794.
7. Click **Apply**.

TT-100/TT2-100

Each Crestron TT-100 and TT2-100 cable caddy connects to a USB input on the DMPS3 device. A cable caddy may be configured on any USB port routing any input device.

NOTE: Configuration is accomplished using the web-based setup screens described in the “Devices” section on page 19.

NOTE: If the DMPS3 device does not have a USB input, the cable caddy device may be connected to the DMPS3 device via the Cresnet® network, or it may be connected to a DigitalMedia transmitter with USB inputs that has been added to .AV Framework.

MP-B10/MP-B20

A Crestron MP-B10 or MP-B20 media presentation button panel may be connected to .AV Framework in place of a touch screen for device routing and source control. A button panel may also be connected directly to the DMPS3 device via Cresnet.

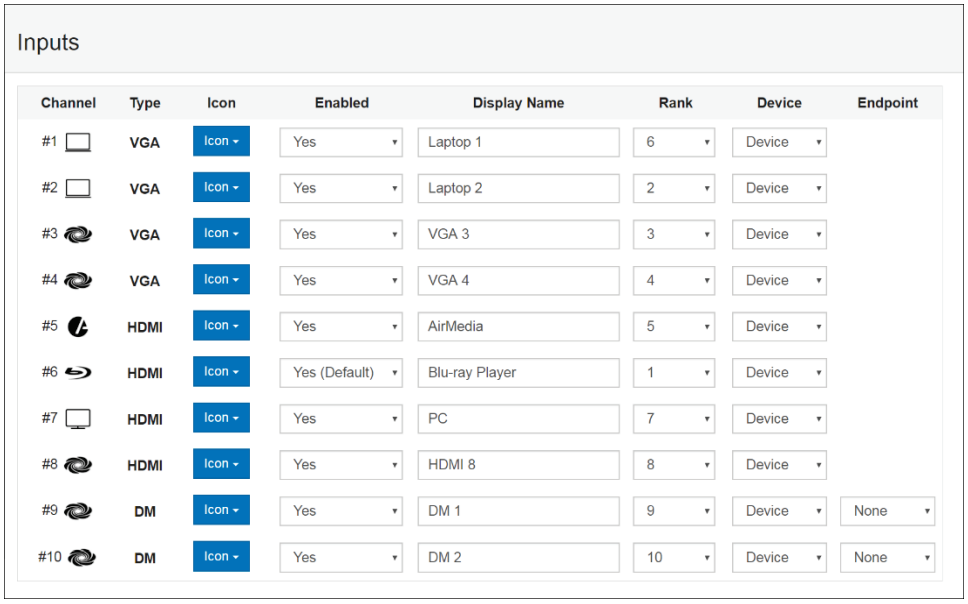
NOTE: No more than two button panels may be added to the same configuration. A touch screen and a button panel may also not be added to the same configuration.

NOTE: The button panels control inputs routed to display output 1. For DMPS3 devices with multiple outputs, paired outputs may be configured. For more information, refer to "Appendix C: Advanced Routing Behavior and Use Cases" on page 68.

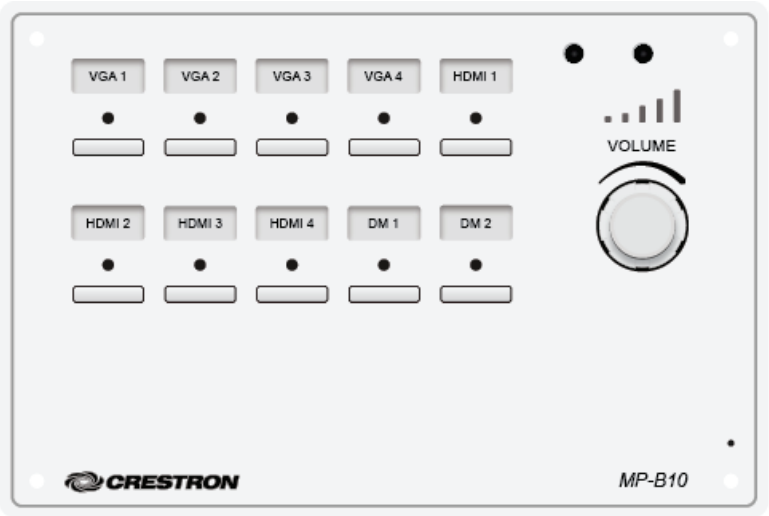
NOTE: If .AV Framework is powered off from the button panel, power on functionality is disabled until after a 30-second period has elapsed.

NOTE: If .AV Framework is controlled using a button panel and a connected display device requires a warm-up or cool-down period, button panel functions are disabled until the warm-up or cool-down period has completed.

System Configuration Screen Showing DMPS3-4K-150-C Inputs



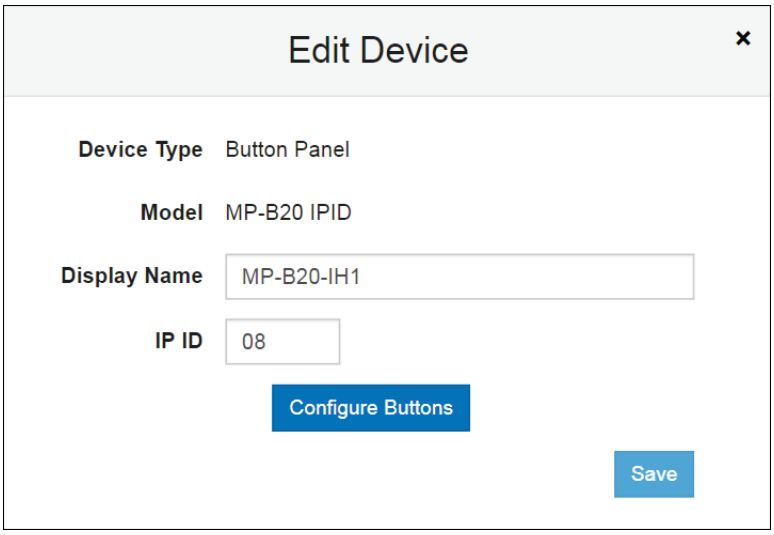
MP-B10 Buttons with DMPS3-4K-150-C



The scroll wheel on the MP-B10 adjusts volume level.

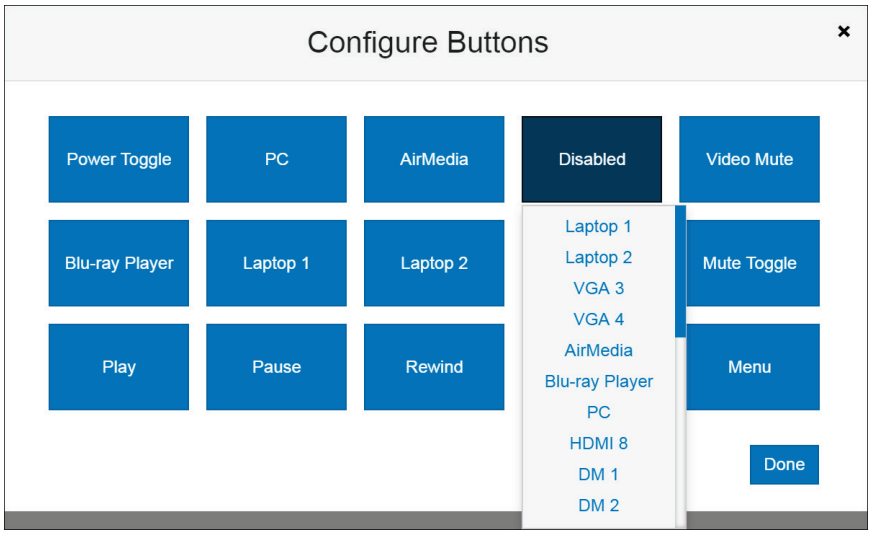
The .AV Framework configuration utility also provides screens that may be used to configure each button individually.

Edit Device Window - MP-B20



When adding or editing a button panel, click **Configure Buttons** to display the **Configure Buttons** window. The MP-B20 **Configure Buttons** window is shown on the following page.

Configure Buttons Window - MP-B20



Each button on the button panel may be configured by clicking its respecitve button in the **Configure Buttons** window. A drop-down menu displays when a button is clicked.

Select one of the DMPS3 device's input channels from the drop-down menu to map that input to the button, or select one of the functions below to map that function to the button:

NOTE: To view illustrations showing button locations on the MP-B10 and MP-B20, refer to the MP-B10/MP-B20 DO Guide (Doc. 7934) at www.crestron.com/manuals.

NOTE: The default input names for the DMPS3 device may be customized in the configuration utility. For more information, refer to "Inputs/Outputs" on page 24.

- **Disabled:** Disables the button (default setting)
- **Power On:** Turns system power on
- **Power Off:** Turns system power off
- **Power Toggle:** Toggles between turning system power on and off
- **Mute On:** Turns speaker mute on
- **Mute Off:** Turns speaker mute off
- **Mute Toggle:** Toggles between turning speaker mute on and off
- **Video Mute:** Toggles between turning video mute on the output(s) on and off
- **Vol Up:** Raises the system volume
- **Vol Down:** Lowers the system volume
- **Play:** Activates the play function for supported source devices
- **Pause:** Activates the pause function for supported source devices
- **Rewind:** Activates the rewind function for supported source devices
- **Fast Forward:** Activates the fast forward function for supported source devices
- **Menu:** Activates the menu function for supported source devices

Click **Done** to save any changes and to exit the **Configure Buttons** window.

NOTE: When an MP-B20 is used to control .AV Framework, the device's 5-way navigation pad is only functional when an appropriate source device input, such as a Blu-ray Disc® player or a media server, is selected. Each button on the navigation pad is mapped to the appropriate function on the selected device's menu.

GLS-ODT-C-CN/GLS-OIR-C-CN

The Crestron GLS-ODT-C-CN and CLS-OIR-C-CN occupancy sensors connect to .AV Framework over Cresnet.

NOTE: Configuration is accomplished with the web-based setup screens described in the "Devices" section on page 19.

Crestron Fusion

Connecting to Crestron Fusion

To connect with Crestron Fusion, use the following procedure:

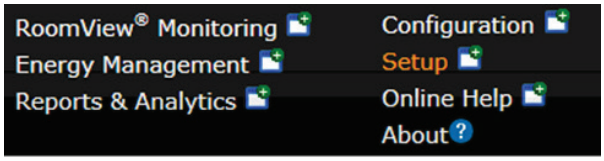
1. Log in to the Crestron Fusion server.
2. From the Crestron Fusion header tab, click **Open**.

   Crestron Fusion Cloud Header Tab

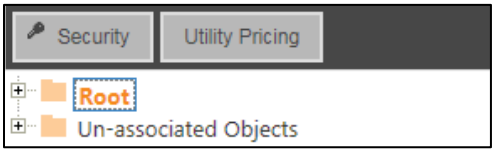
3. From the pull-down tab, click **Setup**.

   Pull-Down Tab

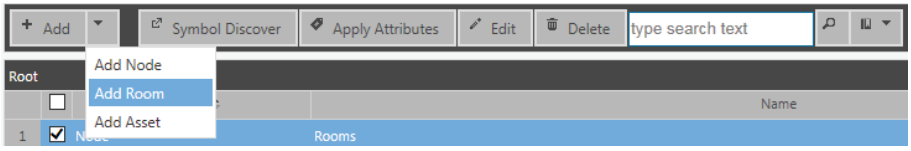
4. Click the + symbol next to **Root** node to expand the tree. Click the **Rooms** node to select the node.

   Root Node

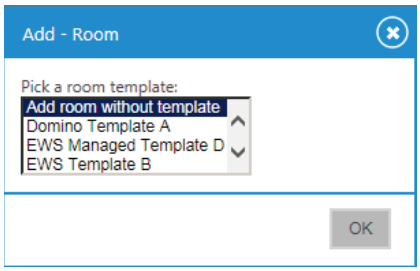
5. Click **Add**. From the drop-down list, click **Add Room**.

   Add Drop-Down List

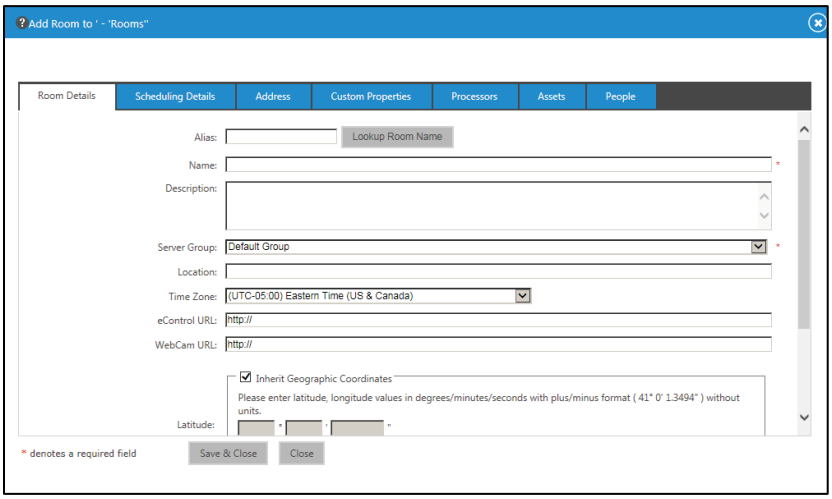
The **Add - Room** window opens.

Add - Room Window



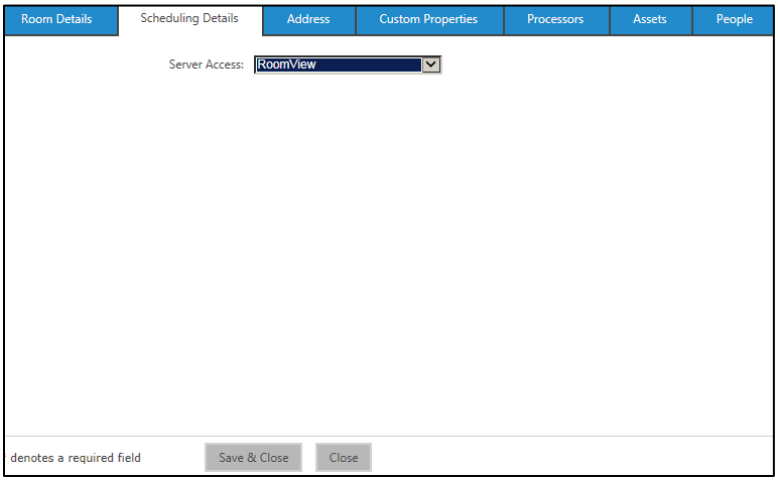
6. From the drop-down list, make a selection and then click **OK**. The **Add Room to '*Rooms*'** window opens with the **Room Details** tab selected.

Room Details Tab



7. Enter information into the required fields as indicated by the red asterisks. Enter optional information as desired.
8. Click the **Scheduling Details** tab.

Scheduling Details Tab

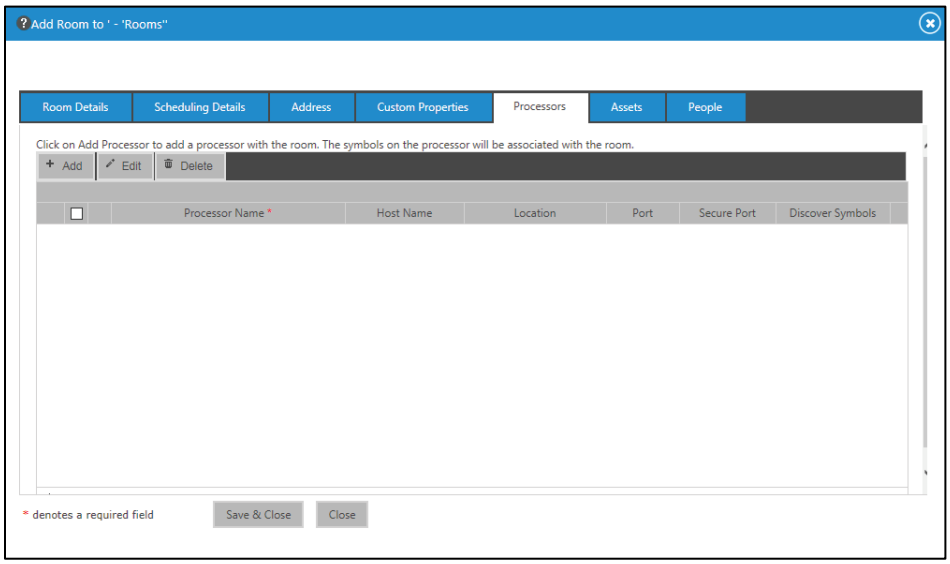


9. In the **Server Access** field, select the RoomView® scheduling application from the drop-down list.

NOTE: The user may change to another scheduling calendar at a later time.

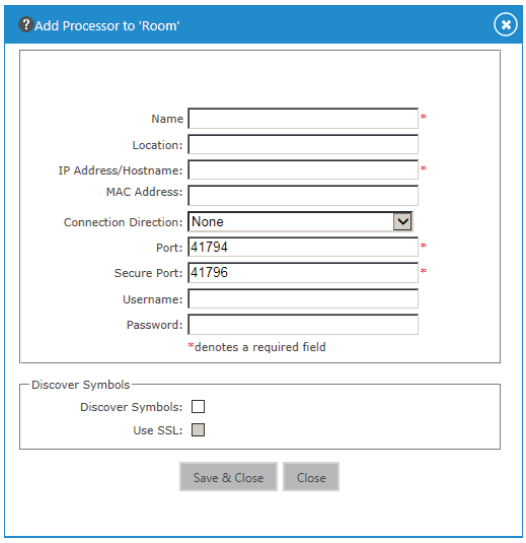
10. Click the **Processors** tab, and then click **Add**.

Processors Tab



The **Add Processor to 'Room'** dialog box opens.

Add Processor to 'Room' Dialog Box



11. Enter the processor information into the required fields as indicated by the red asterisks. Enter optional information as desired.
12. Click the **Discover Symbols** check box.

NOTE: If the **Discover Symbols** check box is selected in the **Add Processor to 'Room'** dialog box and the control program symbol being used is version 7.2 or higher, the Symbol Discover feature automatically imports the symbol information into the Crestron Fusion database.

13. Click the **Use SSL** check box if **Discover Symbols** was selected and if the processor is configured for Secure CTP Toolbox connections only.

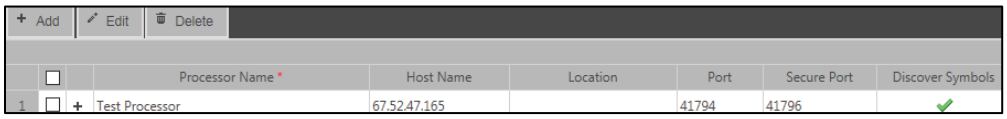
NOTE: In the Crestron SystemBuilder™ and D3 Pro® platforms, the Symbol Discover feature is not supported on symbols below version 7.2.

14. Click **Save & Close**.

NOTE: Steps 15 through 21 are not necessary if the **Discover Symbols** check box is selected in the **Add Processor to 'Room'** dialog box.

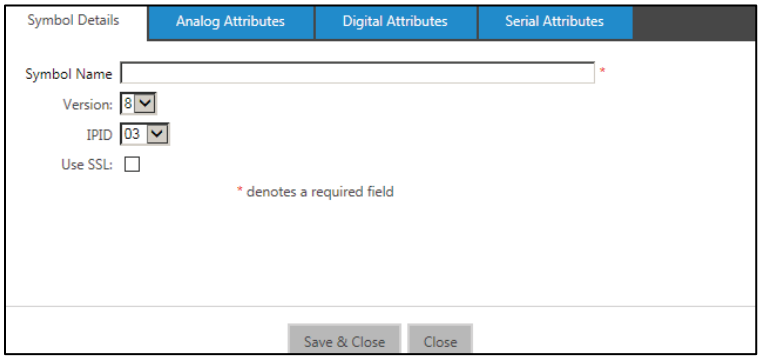
15. Click the **+** symbol next to the processor name to add, edit, or delete a symbol.

Add, Edit, or Delete Symbol



16. Click **Add**. The **Add Symbol to 'New Processor'** window opens with the **Symbol Details** tab selected.

Symbol Details Tab



17. In the **Symbol Name** field, enter a name. Enter optional information as desired.
18. Set the **Version** and the **IPID** to match the Crestron Fusion symbol in the program.

NOTE: The version 8 symbol is the same as the Crestron Fusion Room symbol in Crestron SIMPL. If using SystemBuilder or D3 Pro, select the version 6 symbol.

19. Click the **Use SSL** check box if the processor is configured for Secure CIP connections only.
20. Click **Save & Close** to save the symbol, and then click **Save & Close** again to save the room.

NOTE: To associate the room with a node other than the selected **Rooms** node, click and drag the new room to that node. The room is not associated with the new node.

Controlling and Monitoring with Crestron Fusion

Room monitoring and control in Crestron Fusion use the following attributes.

System Monitors (Read Only)

TYPE	FUNCTION
Serial	Fusion Error Message
Serial	Fusion Log Text
Serial	Fusion Device Usage

Controller (Read Only)

TYPE	FUNCTION
Serial	Name
Serial	Host Name
Serial	IP Address
Serial	Subnet Mask
Serial	Default Router
Digital	Connected

Environment (Read Only)

TYPE	FUNCTION
Analog	System Volume

Environment (Read/Write)

TYPE	FUNCTION
Digital	System Power
Digital	System Mute

Switch (Read Only)

TYPE	FUNCTION
Serial	Display Name
Serial	Model
Serial	Input Channels Enabled
Serial	Output Channels Enabled
Serial	Input 1 Name
Serial	Input 2 Name
Serial	Input 3 Name
Serial	Input 4 Name
Serial	Input 5 Name
Serial	Input 6 Name
Serial	Input 7 Name
Serial	Input 8 Name
Serial	Input 9 Name
Serial	Input 10 Name
Serial	Output 1 Name
Serial	Output 2 Name
Serial	Output 3 Name
Digital	Connected

Monitor the assets connected to the system using the following attributes:

DM Transmitter (Read Only)

TYPE	FUNCTION
Digital	Connected

DM Receiver (Read Only)

TYPE	FUNCTION
Digital	Connected

TSW-752/TSW-1052 (Read Only)

TYPE	FUNCTION
Digital	Connected

TSW-760/TSW-1060 (Read Only)

TYPE	FUNCTION
Digital	Connected

Display (Read Only)

TYPE	FUNCTION
Digital	Connected

Blu-ray Disc Player (Read Only)

TYPE	FUNCTION
Digital	Connected

AM-100/AM-101 (Read Only)

TYPE	FUNCTION
Digital	Connected

MP-B10 (Read Only)

TYPE	FUNCTION
Digital	Connected

TT-100 (Read Only)

TYPE	FUNCTION
Digital	Connected

Fusion Occupancy Sensor (Read Only)

TYPE	FUNCTION
Analog	Online Status
Digital	OccSensorEnabled
Analog	OccSensorTimeout
Serial	Room Occupancy Information
Digital	Room Occupied
Digital	Room Unoccupied

Appendix B: Add New Device Additional Fields

Refer to the below tables for information about the various fields associated with each device class when adding a device to .AV Framework.

AirMedia

Add New Device Fields - AirMedia

FIELD	DESCRIPTION	SUPPORTED VALUES
Display Name	The user-defined display name of the AirMedia device	
Model	The model name of the supported AirMedia device	AM-100, AM-101
Control	The transport method used for device control	IP ID
IP ID	The IP ID of the AirMedia device.	

Blu-ray Player

Add New Device Fields - Blu-ray Player

FIELD	DESCRIPTION	SUPPORTED VALUES
Display Name	The user-defined display name of the Blu-ray Disc player	
Model	The model name of the supported Blu-ray Disc player	[Any supported Blu-ray Disc player]
Control	The transport method used for device control	IR
Communications Port	The device port used to control the Blu-ray Disc player	[Any unused IR port on the .AV Framework system]

Button Panel

Add New Device Fields - Button Panel

FIELD	DESCRIPTION	SUPPORTED VALUES
Display Name	The user-defined display name of the button panel device	
Model	The model name of the supported button panel device	MP-B10 Cresnet, MP-B10 IPID, MP-B20 Cresnet, MP-B20 IPID
Control	The transport method used for device control	Cresnet (for MP-B10 Cresnet and MP-B20 Cresnet), IP ID (for MP-B10 IPID and MP-B20 IPID)
Cresnet ID[1]	The Cresnet ID of the button panel device	
IP ID[2]	The IP ID of the button panel device	

1. This field is provided when MP-B10 Cresnet or MP-B20 Cresnet is selected for Model.
2. This field is provided when MP-B10 IPID or MP-B20 IPID is selected for Model.

NOTE: The **Add New Device** window also provides a **Configure Buttons** selection when **Button Panel** is selected as the device type, which may be used to configure individual buttons on the button panel. For more information, refer to "MP-B10/MP-B20" on page 48.

Cable Caddy

Add New Device Fields - Cable Caddy

FIELD	DESCRIPTION	SUPPORTED VALUES
Display Name	The user-defined display name of the cable caddy device	
Model	The model name of the supported cable caddy device	TT-100 Cresnet, TT-100 USB, TT2-100 Cresnet, TT2-100 USB
Control	The transport method used for device control	Cresnet (for TT-100 Cresnet and TT2-100 Cresnet), USB (for TT-100 USB and TT2-100 USB)
Default Source[1]	The default DMPS3 device input channel used by the cable caddy device	[Any unused DMPS3 device input channel]
Secondary Source[1]	The secondary DMPS3 device input channel used by the cable caddy device	[Any unused DMPS3 device input channel]
Cresnet ID[2]	The Cresnet ID of the cable caddy device	
Communications Port[3]	The device port used to control the cable caddy device	[Any unused USB input on the .AV Framework system][4]

1. The TT-100 and TT2-100 first attempt to create a route from the default source. If the TT-100 and TT2-100 cannot create a route from the default source, they automatically switch to the secondary source.
2. This field is provided when **TT-100 Cresnet** or **TT2-100 Cresnet** is selected for **Model**.
3. This field is provided when **TT-100 USB** or **TT2-100 USB** is selected for **Model**.
4. The DMPS3 device must support USB routing for the DMPS3 device port to appear on this list. If a DMPS3-4K-200-C or DMPS3-4K-300-C is used, a device that supports USB routing (such as the DM-TX-401-C) must be added to .AV Framework.

Cable TV

Add New Device Fields - Cable TV

FIELD	DESCRIPTION	SUPPORTED VALUES
Display Name	The user-defined display name of the cable TV receiver	
Model	The model name of the supported cable TV receiver	[Any supported cable TV receiver]
Control	The transport method used for device control	IR, IP
Communications Port[1]	The device IR port used to control the cable TV receiver	[Any unused IR port on the .AV Framework system]
IP[2]	The IP address of the cable TV receiver	

1. This field is provided when an IR-controlled cable TV receiver is selected for **Model**.
2. This field is provided when an IP-controlled cable TV receiver is selected for **Model**.

Crestron IO

Add New Device Fields - Crestron IO

FIELD	DESCRIPTION	SUPPORTED VALUES
Display Name	The user-defined display name of the Crestron IO device	
Model	The model name of the supported Crestron IO device	C2N-IO
Control	The transport method used for device control	Cresnet
Cresnet ID	The Cresnet ID of the Crestron IO device	

Digital Graphics Engine

Add New Device Fields - Digital Graphics Engine

FIELD	DESCRIPTION	SUPPORTED VALUES
Display Name	The user-defined display name of the digital graphics engine	
Model	The model name of the supported digital graphics engine	DM-DGE-200C
Control	The transport method used for device control	IP ID
IP ID	The IP ID of the digital graphics engine	

DigitalMedia Receiver

Add New Device Fields - DigitalMedia Receiver

FIELD	DESCRIPTION	SUPPORTED VALUES
Display Name	The user-defined display name of the DigitalMedia receiver	
Model	The model name of the supported DigitalMedia receiver	DM-RMC-4K-100-C, DM-RMC-4K-100-C-1G
Control[1]	The transport method used for device control	IP ID
Digital Media	Sets whether the DigitalMedia receiver is connected to the DMPS3 device via a DM connection	Yes, No
IP ID[1]	The IP ID of the DigitalMedia receiver	

1. These fields are provided when **No** is selected for **Digital Media**.

DigitalMedia Scaling Receiver

Add New Device Fields - DigitalMedia Scaling Receiver

FIELD	DESCRIPTION	SUPPORTED VALUES
Display Name	The user-defined display name of the DigitalMedia scaling receiver	
Model	The model name of the supported DigitalMedia scaling receiver	DM-RMC-200-C, DM-RMC-4K-SCALER-C, DM-RMC-SCALER-C
Control[1]	The transport method used for device control	IP ID
Digital Media	Sets whether the DigitalMedia scaling receiver is connected to the DMPS3 device via a DM connection	Yes, No
IP ID[1]	The IP ID of the DigitalMedia scaling receiver	

(Continued on following page)

Add New Device Fields - DigitalMedia Scaling Receiver (continued)

FIELD	DESCRIPTION	SUPPORTED VALUES
Resolution	The desired scaling resolution output of the DigitalMedia scaling receiver	EDID Preferred, 640x480 60Hz PC, 720x480p 60Hz NTSC, 720x576i 25Hz PAL, 720x576p 50Hz PAL, 800x600 60Hz PC, 848x480 60Hz PC, 1024x768 60Hz PC, 1280x720p 50Hz PAL, 1280x720p 60Hz NTSC, 1280x768 60Hz PC, 1280x768 60Hz PC RB, 1280x800 60Hz PC, 1280x800 60Hz PC RB, 1280x960 60Hz PC, 1280x1024 60Hz PC, 1360x768 60Hz PC, 1366x768 60Hz PC, 1366x768 60Hz PC RB, 1400x1050 60Hz PC, 1400x1050 60Hz PC RB, 1440x900 60Hz PC, 1440x900 60Hz PC RB, 1600x900 60Hz PC RB, 1600x1200 60Hz PC, 1680x1050 60Hz PC, 1680x1050 60Hz PC RB, 1920x1080i 25Hz PAL, 1920x1080i 30Hz NTSC, 1920x1080p 50Hz PAL, 1920x1080p 60Hz NTSC, 1920x1200 60Hz PC RB, 2048x1152 60Hz PC RB, 2048x1080 At 60Hz[2], 1792x1344 PC[2], 1856x1392 PC[2], 1920x1440 PC[2], 2048x1536 PC[2], 2560x1080 PC[2], 2560x1440 PC[2], 2560x1600 PC RB[2], 3840x2160p At 24Hz[2], 3840x2160p At 25Hz[2], 3840x2160p At 30Hz[2], 4096x2160p At 24Hz[2], 4096x2160p At 25Hz[2], 4096x2160p At 30Hz[2], 3840x2160p At 50Hz[2], 3840x2160p At 60Hz[2], 4096x2160p At 50Hz[2], 4096x2160p At 60Hz[2],

(Continued on following page)

Add New Device Fields - DigitalMedia Scaling Receiver (continued)

FIELD	DESCRIPTION	SUPPORTED VALUES
Resolution (continued)	The desired scaling resolution output of the DigitalMedia scaling receiver	4096x2160p At 60Hz PC VESA RB V2[2], 1680x720 At 24Hz[2], 1680x720 At 25Hz[2], 1680x720 At 30Hz[2], 1680x720 At 50Hz[2], 1680x720 At 60Hz[2], 2560x1080 At 24Hz[2], 2560x1080 At 25Hz[2], 2560x1080 At 30Hz[2], 2560x1080 At 50Hz[2], 2560x1080 At 60Hz[2],
Display Mode	The desired display mode of the DigitalMedia scaling receiver	Maintain, Stretch, Zoom

1. These fields are provided when **No** is selected for **Digital Media**.
2. These output resolutions are available only when the DM-RMC-4K-SCALER-C is used.

DigitalMedia Transmitter

Add New Device Fields - DigitalMedia Transmitter

FIELD	DESCRIPTION	SUPPORTED VALUES
Display Name	The user-defined display name of the DigitalMedia transmitter	
Model	The model name of the supported DigitalMedia transmitter	DM-TX-200-C-2G, DM-TX-201-C, DM-TX-401-C, DM-TX-4K-100-C-1G, DM-TX-4K-202-C, DM-TX-4K-302-C
Control[1]	The transport method used for device control	IP ID
Digital Media	Sets whether the DigitalMedia transmitter is connected to the DMPS3 device via a DM connection	Yes, No
IP ID[1]	The IP ID of the DigitalMedia transmitter	

1. These fields are provided when **No** is selected for **Digital Media**.

Flat Panel Display

Add New Device Fields - Flat Panel Display

FIELD	DESCRIPTION	SUPPORTED VALUES
Display Name	The user-defined display name of the flat panel display	
Model	The model name of the supported flat panel display	[Any supported flat panel display]
Control	The transport method used for device control	CEC, IP ID, IP, Serial, IR
Default Input[1]	The default HDMI input of the flat panel display	HDMI1, HDMI2, HDMI3, HDMI4
Communications Port[2, 5, 6]	The device port used to control the flat panel display	Switcher_1_CEC, Switcher_2_CEC, Controller_1_IR, Controller_2_IR, Controller_3_IR, Controller_4_IR, Controller_1_Serial, Controller_2_Serial
IP ID[3]	The IP ID of the flat panel display	
IP[4]	The IP address of the flat panel display	
Port[4]	The port number of the flat panel display	
Channel[4, 5]	The Wi-Fi® network channel of the flat panel display	
User Name[7]	A username (required or optional) for initiating device control communications	
Password[7]	A password (required or optional) for initiating device control communications	

1. This field is provided when a flat panel display that uses a transport method for device control is selected.
2. This field is provided when a CEC controlled flat panel display is selected for **Model**.
3. This field is provided when a Crestron Connected controlled flat panel display is selected for **Model**.
4. Some or all of these fields are provided when an IP controlled flat panel display is selected for **Model** and **IP** is selected for **Control**.
5. Some or all of these fields are provided when a serially controlled flat panel display is selected for **Model** and **Serial** is selected for **Control**.
6. Some or all of these fields are provided when an IR controlled flat panel display is selected for **Model** and **IR** is selected for **Control**.
7. These fields are provided when a device driver for a flat panel display requires a username and password to initiate control communications.

Occupancy Sensor

Add New Device Fields - Occupancy Sensor

FIELD	DESCRIPTION	SUPPORTED VALUES
Display Name	The user-defined display name of the occupancy sensor device	
Model	The model name of the supported occupancy sensor device	GLS-ODT-C-CN, GLS-OIR-C-CN
Control	The transport method used for device control	Cresnet
Cresnet ID	The Cresnet ID of the occupancy sensor device	
Use Sensor Timeout	Sets whether system timeout is determined by the occupancy sensor device (For example, if **Yes** is selected, the system times out if no occupancy is detected in a room)	Yes, No
Timeout Minutes[1]	The number of minutes that it takes for the system to time out if sensor timeout is not used	
Turn System On	Sets whether the .AV Framework system turns on if motion is detected by the occupancy sensor device	Yes, No
Turn System Off	Sets whether the .AV Framework system turns off if no occupancy is detected by the occupancy sensor device	Yes, No
Route Default Video	Sets whether default video is routed when the .AV Framework system is turned on by the occupancy sensor.	Yes, No

1. This field is provided when **No** is selected for **Use Sensor Timeout**.

Projector

Add New Device Fields - Projector

FIELD	DESCRIPTION	SUPPORTED VALUES
Display Name	The user-defined display name of the projector	
Model	The model name of the supported projector	[Any supported projector]
Control	The transport method used for device control	IP, Serial
Default Input	The default HDMI input of the projector	HDMI1, HDMI2, HDMI3, HDMI4
IP[1]	The IP address of the projector	
Port[1]	The port number of the projector	
Communications Port[2]	The device port used to control the projector	[Any unused Serial port on the .AV Framework system]
Warm Up Time[3, 4]	The duration that a "warming up" message is displayed on the .AV Framework user interface after the projector is turned on, in seconds	[Minimum value is the default defined by the driver; maximum value is 300 seconds]
Cool Down Time[3, 4]	The duration that a "cooling down" message is displayed on the .AV Framework user interface after the projector is turned off, in seconds	[Minimum value is the default defined by the driver; maximum value is 300 seconds]
User Name[5]	A username (required or optional) for initiating device control communications	
Password[5]	A password (required or optional) for initiating device control communications	

1. These fields are provided when **IP** is selected for **Control**.
2. This field is provided when **Serial** is selected for **Control**.
3. All controls on the user interface are temporarily locked out until the message times out.
4. These fields are provided only if the projector driver supports this functionality.
5. These fields are provided when a device driver for a projector requires a username and password to initiate control communications.

NOTE: If the selected projector driver supports video mute, a blank projector screen is outputted to the projector when video mute is enabled.

Room Availability Hallway Sign

Add New Device Fields - Room Availability Hallway Sign

FIELD	DESCRIPTION	SUPPORTED VALUES
Display Name	The user-defined display name of the room hallway sign	
Model	The model name of the supported room hallway sign	SSW/SSC
Control	The transport method used for device control	Cresnet
Cresnet ID	The Cresnet ID of the room hallway sign	

Touch Screen

Add New Device Fields - Touch Screen

FIELD	DESCRIPTION	SUPPORTED VALUES
Display Name	The user-defined display name of the touch screen device	
Model	The model name of the supported touch screen device	TSW-1052, TSW-1060, TSW-752, TSW-760, Webx
Control	The transport method used for device control	IP ID
IP ID	The IP ID of the touch screen device	

NOTE: Select **Webx** using the **Model** drop-down menu when configuring a virtual touch screen project with the .AV Framework program's built-in web XPanel interface. For more information, refer to "XPanel" on page 45.

Video Server

Add New Device Fields - Video Server

FIELD	DESCRIPTION	SUPPORTED VALUES
Display Name	The user-defined display name of the video server device	
Model	The model name of the supported video server device	[Any supported video server device]
Control	The transport method used for device control	IR, IP
IP ID	The IP ID of the touch screen device	
Communications Port [1]	The device port used to control the video server device	[Any unused IR port on the .AV Framework system]
IP[2]	The IP address of the video server device	

1. This field is provided when **IR** is selected for **Control**.
2. This field is provided when **IP** is selected for **Control**.

Appendix C: Advanced Routing Behavior and Use Cases

.AV Framework allows for advanced routing to be configured on the DMPS3 device to support a wide variety of commercial and education applications. This appendix explains the different advanced routing behaviors and provides sample use cases to show how these advanced routes function within different .AV Framework systems.

NOTE: For more information on configuring advanced routing behavior using the web interface configuration utility, refer to page 24.

NOTE: Output 1 supports manual routes only. Fixed routes and follows routes are only supported on other video output channels.

Interactive Classroom (Fixed Routing)

When Fixed video routing is selected for a DMPS3 output channel, the output channel receives a video source from a chosen input channel only after the first manual route is created on the system. For example, if Output 2 is configured to receive a fixed video route from Input 6, this route remains constant regardless of any manual routes that are created on the system.

The following use case describes an interactive classroom that uses fixed routing behavior.

System components:

DMPS3 Device: DMPS3-4K-300-C

- Device inputs
  - Input 1: Instructor PC
  - Input 2: Laptop
  - Input 3: Document camera
  - Input 4: AM-101 AirMedia device
  - Input 5: Blu-ray Disc player
- Device outputs
  - Output 1: Not used
  - Output 2: Display monitor (configured for fixed routing to Input 1)
  - Output 3: Projector (configured for manual routing)
- LAN connection
  - TSW-1060 touch screen
- Cresnet connection
  - GLS-ODT-C-CN occupancy sensor

In this use case, the classroom display monitor (Output 2) is configured to have a fixed route to the instructor PC (Input 1). This fixed route remains constant even if one of the other inputs, such as the Laptop (Input 2), is manually routed to the projector (Output 3) through the .AV Framework touch screen project.

Town Hall Meeting Space (Follows Routing)

When Follows video routing is selected for a DMPS3 output channel, the output channel receives a video source from another chosen output channel that is configured for manual routing. For example, if a user manually routes video from Input 1 to Output 1, and Output 2 is set to follow Output 1, video from Input 1 is also shown on Output 2.

The following use case describes a town hall meeting space that uses follows routing behavior.

System components:

DMPS3 Device: DMPS3-4K-200-C

- Device inputs
  - Input 1: DM-TX-100-C-1G DigitalMedia transmitter
  - Input 2: AM-101 AirMedia device
  - Input 3: Blu-ray Disc player
  - Input 4: Digital signage player
- Device outputs
  - Output 1: Display monitor for speaker (manual routing)
  - Output 3: DM-RMC-4K-SCALER-C connected to large display monitor for audience (configured for follows routing to output 1)
- LAN connection
  - TSW-1060 touch screen

In this use case, the large display monitor for the audience (Output 3) is configured to follow any manual route created between an input and the speaker's display monitor (Output 1) through the touch screen project. For example, if a manual route is created between a laptop that is presenting wirelessly via AirMedia (Input 2) and the speaker's display monitor (Output 1), the video source routed from the laptop is also routed to the large display monitor (Output 3).

Appendix D: Deleting the .AV Framework Program

If necessary, the .AV Framework program may be deleted from the DMPS3 device. Use the following procedure to delete the .AV Framework program:

1. Open Crestron Toolbox, and then connect to the DMPS3 device.
2. Select **View** > **System Info**. The **System Info** window loads.
3. Locate the **Program** section on the top right of the **System Info** window, and then click the ▶ button. A new dialog box opens.
4. Select the .AV Framework program, and then click **Erase**. (.AV Framework is located in Program 01 by default.)
5. In the new dialog box, click **Erase All Program Files**.
6. When the confirmation dialog box opens, click **Yes**.

The .AV Framework program may also be overwritten by a custom user program.

This page is intentionally left blank.

Crestron Electronics, Inc.
15 Volvo Drive, Rockleigh, NJ 07647
Tel: 888.CRESTRON
Fax: 201.767.7576
www.crestron.com

Operations Guide – DOC. 7887G
(2046217)
03.18
Specifications subject to
change without notice.