

# MultiDisplay Manager

## Features, Supported Configurations, and Best Practices

### MultiDisplay Manager v1

The initial release of the MultiDisplay Manager caters to commercial and retail audio/video deployments like sports bars, restaurants, and hotels. The features included in the launch of MDM were engineered for single-page control of multiple displays (TVs) in a single room that were connected through a video distribution system to available sources (generally cable channels or satellite channels), and a single audio source that was perhaps played to multiple zones through a separate audio distribution system.

During the MultiDisplay Public Beta we received feedback regarding enhancements, features, and use cases that did not fit our initial launch specification. We are reviewing each of your comments and requests, and are prioritizing features that we hope to include in the next update.

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### MultiDisplay Control

MDM can control up to 18 different displays (3 rows of 6 devices each) from each page (called a "Wall"), providing easy source selection, accessible transport controls, and volume and power commands. MDM runs on Control4 T3 or T4 Touchscreens, or with the Control4 App on an iPad or Android Tablet running in landscape mode.

Tapping a TV on the MultiDisplay Interface selects it and pull up the ribbon of available TV channels. Find additional sources by tapping the Audio Sources or Video Sources button in the bottom navigation bar.

To have multiple TVs display the same source, tap to select each of the desired TVs first, then tap the source to select it for all of the selected displays simultaneously.

**BEST PRACTICE:** When configuring the TVs in the MDM Agent, size the TVs appropriately, and lay out their virtual representation to match their physical size and layout. This streamlines content selection.

**BEST PRACTICE:** For systems with many TVs, or systems with a few TVs in many locations, create multiple Walls instead of crowding a single Wall.

**BEST PRACTICE:** If the customer will use iPads and Android tablets to control MDM, lock the device in landscape mode. MDM is be visible while the tablet is in portrait mode.

**BEST PRACTICE:** Add each display to one Wall only. Adding a display to multiple Walls creates problems.

**AVOID:** Do not use MDM in scenarios that must be controlled with the Control4 App on an iPhone or Android Phone, or through a remote: SR260 or Neeo. These devices do not support MDM.

## Video Source Selection

The initial release of MDM was designed for scenarios where the customer would change channels on multiple TVs from a single page in the interface.

When one or more displays are selected in the MultiDisplay UI, a ribbon of TV channels pops up from which the user can swipe and tap to select the desired channel. Those channels are populated by the device's Cloud: UHF/VHF, cable, satellite, DISH, DirecTV. For assistance in adding or creating channels, [read this KnowledgeBase article](#), or [watch this Smart Skill](#).

Select additional sources by tapping the Video Sources button in the navigation bar at the bottom.

**BEST PRACTICE:** Verify that all cable boxes, satellite boxes, and/or displays have the appropriate connections to their respective clouds.

**BEST PRACTICE:** Create a Channels template that can be used again and again. On the Media page, add/create all the desired channels, and paste custom cover art for each channel. Then right-click on that Cloud and select Export Media List in the pop-up menu. On the next job, right-click the Cloud and select Import Media List.

**BEST PRACTICE:** Determine the sources to be used at each display, and teach the customer how to change sources (channel ribbon or Video Sources button) to gauge their interest in using the MDM or a different approach.

**AVOID:** Do not add EVERY channel available, as it makes the Channel Ribbon unbearably tedious. Only include channels the customer will use.

## Independent Audio Selection

MDM lets the customer select an audio source independently from the video source, allowing the end user to watch content from one device while they listen to media from a different source.

**BEST PRACTICE:** To take advantage of Independent Audio Selection, design the system to accommodate independent audio and video paths, preferably with an audio distribution system completely separate from the video distribution system.

**AVOID:** Not all components, AVRs in particular, can independently select audio and video from different inputs, resulting in a situation where the end user can only listen to the currently selected video source. Check all devices for compatibility.

## Audio Endpoint

While the MDM does allow for Independent Audio Selection, there is no change in functionality regarding the requirements for a valid audio path, or the functionality of the Audio Endpoint.

When configuring the MultiDisplay Agent in Composer Pro, select an Audio Zone—a Room—with its defined Endpoints.

- Independent Audio Selection requires that the MDM completely ignore the Video's Audio Endpoint and Video Volume.
- To play audio through the MDM, the audio sources need a physical, connected path to that Zone's/Room's Audio Endpoint and Audio Volume.
- Audio Endpoint 2 does not provide a means for the customer to toggle between speakers.

The initial design of MDM was engineered for scenarios where multiple TVs are being used, but only a single audio source is being distributed, whether through one or many zones.



**BEST PRACTICE:** Make sure that all desired audio sources are connected to the Audio Endpoint / Audio Zone for that Wall.

**BEST PRACTICE:** If the sources are located locally at each display, connect either the source's audio out, or the TV's audio out to the Audio Endpoint / Audio Zone for that Wall.

**BEST PRACTICE:** If the audio sources should be heard through multiple zones (the whole restaurant or bar), and not just the zone for that wall, verify that all desired audio sources have a physical connection (directly or through that TV's audio output) to the audio distribution system, and verify that the Wall's Audio Endpoint / Audio Zone is connected to that same audio distribution system.

**AVOID:** Do not use MDM where the desired experience is to provide audio by muting and unmuting different TVs depending on which source they want to hear.

**AVOID:** Do not use MDM with a single TV in multiple rooms, where each room has its own independent zone of audio that the customer would also want to control.

## Presets

The MultiDisplay User Interface provides the customer with control over multiple displays. However, the MultiDisplay Presets provide automated experiences for the customer, allowing them to quickly, seamlessly, and even automatically execute a pre-configured MultiDisplay scene.

In the MultiDisplay User Interface, select a common audio/video configuration for the displays that the customer would regularly use. Once you've selected all displays' sources and the audio path, tap the Preset Menu at the top, tap the Pencil button to create/edit a new Preset, and then tap the Snapshot button to record the current settings. Name the Preset and then tap Done.

**BEST PRACTICE:** Create a Preset for each common configuration, including an "All Off" Preset.

**BEST PRACTICE:** For ease of use, Favorite each of the Presets to the Room View for easy single-touch selection.

**BEST PRACTICE:** Program presets to execute additional functionality: lighting scenes, blinds, default volumes, announcements, etc.

**BEST PRACTICE:** Add the MultiDisplay Scenario Driver to the project and program it to toggle a Wall or Presets from another room (MultiDisplay and Presets only show up in their room).

**BEST PRACTICE:** Show the customer how; unless you teach them, they won't know how to edit presets when they need to. Ensure that the end users demonstrate to you how to add, edit, delete and Favorite Presets.

**AVOID:** Don't add too much programming to MultiDisplay Presets. The end user may edit the Preset but cannot edit the programming that is tied to it.

## Default Sources

Within the MultiDisplay Agent in Composer Pro, there is an option to set a Default Source for the audio and for each display. Whenever the MultiDisplay button is tapped from the user interface, the Wall ALWAYS immediately recalls those sources.

We do not recommended using the Default Sources unless the customer ALWAYS wants those sources when first powering on a Wall (for example, first thing in the morning for a hotel lobby and café, opening shift at the sports bar, etc.).

**NOTE:** THIS DEFAULT SOURCE CANNOT BE CHANGED BY THE END USER. If the customer wants to change a default channel, app, or source on any display, a technician must make that change inside Composer Pro.

**BEST PRACTICE:** Only use the Default Sources if there is a single configuration, or the customer will never change their mind.

**AVOID:** Generally, do not use the Default Sources. Use Presets instead, which can be edited by the customer on their own, whenever and as often as they want.



## Programming

MDM does more than provide a control solution. It comes with programming options for automated experiences.

On the Programming page, the MDM provides these Events:

- When MultiDisplay Selected: <Wall Name>
- When MultiDisplay Off: <Wall Name>
- Preset Selected: <Preset Name>

These Events allow you to program additional functions for a more immersive experience: lights, shades, thermostat, ceiling fans, fireplaces, announcements, etc.

On the Programming page, the MDM provides these Actions:

- MultiDisplay On: <Wall Name>
- MultiDisplay Off: <Wall Name>
- Select Preset: <Preset Name>
- Sync Audio to Video Selection

These options allow you to programmatically execute Wall selection, changing Presets, and powering the Wall off. For example: When [time of day / employee door lock unlocked / Opening Shift button pressed] -> MultiDisplay On, or Select Preset.

**BEST PRACTICE:** In commercial and retail deployments, Wall selection, Preset execution and Wall Off programming can be incorporated into Macros for effortless control by any employee.

**BEST PRACTICE:** Depending on the aptitude of the end user, demonstrate how they can use When/Then to add programming to MultiDisplay, or how MultiDisplay can be programmed to execute.

**AVOID:** Do not hide MDM and rely solely on programming to control the displays and their sources. Though the programming can provide effortless automated experiences, provide the MultiDisplay User Interface to allow them to make any manual selections or device controls as needed.

## Sync Audio To Video

The initial release of MDM was designed to select and control a single distributed audio source, and select and control many video sources. Usually that audio source, like music playing in the restaurant or bar, is separate and independent from any of the video sources being displayed.

However, there are circumstances when the audio source is going to be the same as the video source, like hearing the sporting event that you are watching. If that display changes channels or apps to watch a different game, the audio should also change to that channel or app allowing end users to hear the new game they are watching. Because Independent Audio Selection is the default, this type of Audio-Follows-Video functionality is not automatic; it must be programmed.

On the Actions side of the Programming page, the MDM Agent has an option for Sync Audio to Video Selection. When this is on, the Wall's Audio Zone always changes its source to match the last selected video source.

**BEST PRACTICE:** Program Sync Audio to Video to execute when a Wall turns on, or when a Preset is selected, based on time of day, or a button press.

**BEST PRACTICE:** Program a way to turn off Sync Audio to Video, defaulting the MultiDisplay functionality back to Independent Audio Selection.

**AVOID:** Do not use Sync Audio to Video programming in scenarios where the audio should always follow a single display, instead of changing based on any display's newly selected video source. In this scenario, have the end user manually select the correct audio source to match the desired video source.

## MultiDisplay Scenario Driver

The MDM can be unhidden from any room in the project for easy access from anywhere. However, the MultiDisplay Presets are only visible to that room. For scenarios where the customer needs a UI button to toggle a Wall, Presets, or MultiDisplay experience, you can use the MultiDisplay Scenario Driver.

This driver has an icon set for ON and for OFF, can default to Watch or to Watch and Listen, and can display a custom text string for ON and OFF on List Navigators.

On the Programming page, the MultiDisplay Scenario Driver provides these Events:

- When MultiDisplay Button Selected
- When MultiDisplay Button Off
- When MultiDisplay Button On

The MultiDisplay Scenario Driver provides these Actions that change the icon state:

- Selected
- Set State Off
- Set State On
- Toggle State

To avoid situations where too many button taps, or manually controlling a device gets the driver out of sync with the actual state, use the MultiDisplay Scenario Driver with a Boolean Variable. For example:

```
When <Game Day> MultiDisplay Button Selected
  -> Toggle Game Day Boolean Variable
When Game Day Boolean Variable Changes State
  ? IF Game Day = TRUE
    -> Select Preset: Game Day
    -> Execute Game Day Macro
    -> Set State On <Game Day> MultiDisplay Button
  ? IF Game Day = FALSE
    -> Select Preset: All Off
    -> Execute Closing Time Macro
    -> Set State Off <Game Day> MultiDisplay Button
```

## Full Screen and MultiView for Video Walls

Some video distribution solutions allow a single source to be scaled up to be displayed as a single image on a 2x2 or 3x3 video wall of TVs, or scaled down to show many sources tiled onto a single TV.

Currently, video walls are not supported within the MDM, and the scaling commands necessary for video walls are not included in the MultiDisplay Interface.

**BEST PRACTICE:** Include integration options for video walls that do not include the MDM. One option is to use an experience button that



is programmed to toggle between the 2x2 and 4x1 states.

**NOTE:** While the video wall is active, metadata for the included displays might not reflect correctly within the MDM.

**AVOID:** Do not include the MDM as the control method for video wall deployments that require a single image to multiple TVs, or tiling multiple sources on a single TV.