



## **EXTRON MVC121 Plus**

### **Overview:**

There are many uses of this driver, however the main purpose is to allow an installer to easily overlay and mix up to 2 microphones (more if using another mixer in addition to the MVC121 Plus) with program audio in a conference room scenario.

### **Features:**

- 2-Way RS-232 communication
- Discrete Volume & Mute Control & Feedback
- Easily Mix Up to 2 Microphones over Program Audio
- Includes 3 easy-to-use experience buttons for controlling microphone mute and volume levels via a Control interface
- Includes 1 universal microphone experience button for other applications
- Includes 3 Contact sensors to use for various programming events.

### **Installation:**

Here is the suggested method of configuring the driver:

#### **\*FIRST\* \*IMPORTANT\***

Load the saved MVC121+ configuration file (Included) into your MVC121 Plus to properly configure the inputs, outputs, and gain levels of the MVC121 Plus

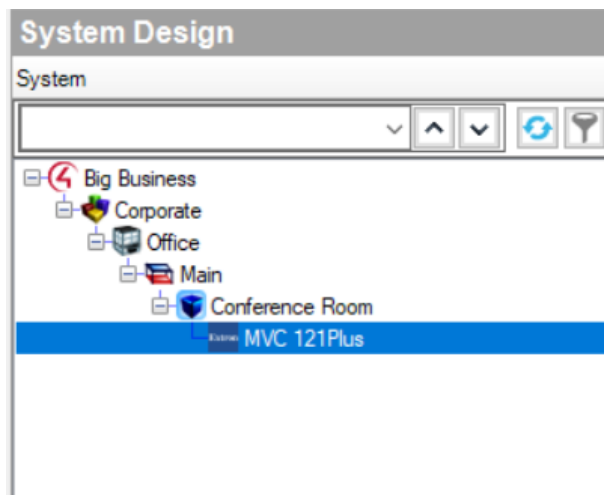
--Then--

Place the MVC121 Plus and microphone experience drivers into your Control4 driver directory. (Typically *C:\Users\yourusername\Documents\Control4\Drivers*)

Create 1 room:

A) Conference Room

Add the MVC121 Plus driver to the project



Make a physical connection AND programming connection between your line level program audio source and “Program Input (Input 3)” on the MVC121 Plus. In this example, the television audio output is connected to the MVC121 Plus.

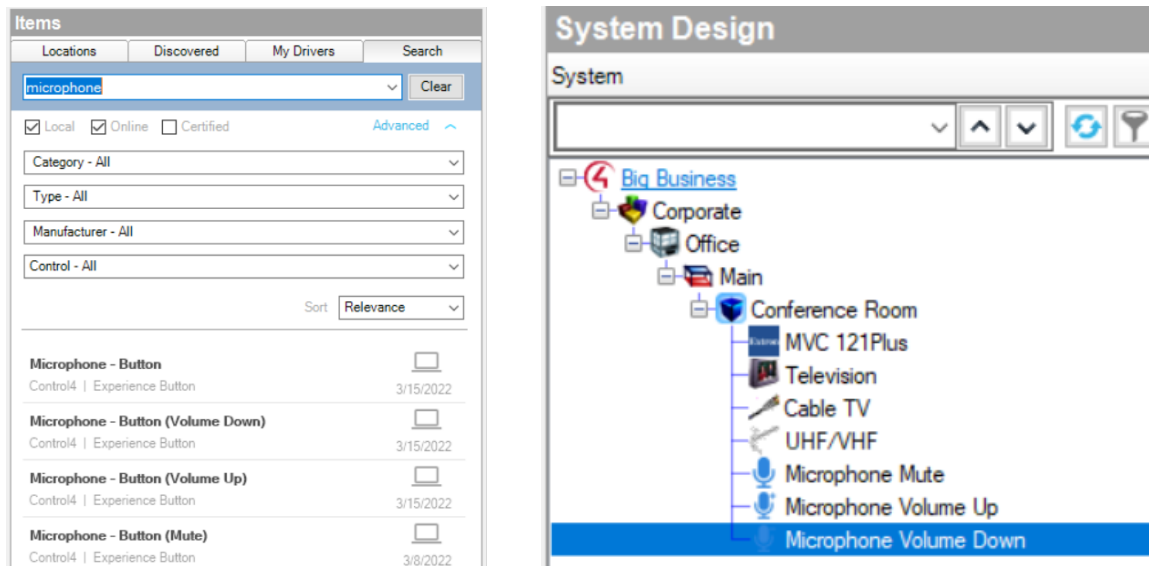
Connections		Control & Audio Video Connections				
Control/AV		MVC 121Plus				
<div> <div>Big Business</div> <div>Corporate</div> <div>Office</div> <div>Main</div> <div>Conference Room</div> <div>MVC 121Plus</div> <div>Television</div> <div>Cable TV</div> <div>UHF/VHF</div> </div>		Name	Type	Connection	Input/Output	Connected To
		<b>Audio/Video Inputs</b>				
		Program Input (Input 3)	Audio	STEREO	Input	Television->Output
		<b>Audio/Video Outputs</b>				
		Program Output	Audio	STEREO	Output	
		<b>Control Inputs</b>				
		Serial RS-232	Control	RS_232	Input	
		<b>Control Outputs</b>				
		Digital Input 1	Control	CONTACT_SENSOR	Output	
		Digital Input 2	Control	CONTACT_SENSOR	Output	
		Digital Input 3	Control	CONTACT_SENSOR	Output	

Set the MVC121 Plus as the Audio endpoint 1, Audio Volume 1 endpoint, Video Volume 1 endpoint, and Video's Audio endpoint 1 endpoints for the Conference Room:

Connections		Control & Audio Video Connections				
Control/AV		Conference Room				
<div> <div>Big Business</div> <div>Corporate</div> <div>Office</div> <div>Main</div> <div>Conference Room</div> <div>MVC 121Plus</div> <div>Television</div> <div>Cable TV</div> <div>UHF/VHF</div> </div>		Name	Type	Connection	Input/Output	Connected To
		<b>Control Inputs</b>				
		IR Input Control	Control	IR_IN	Input	
		<b>Room Control</b>				
		Video End-Point	RoomControl	VIDEO_SELECTION	Input	Television->Room Control
		Audio End-Point 1	RoomControl	AUDIO_SELECTION	Input	MVC 121Plus->Room Selection - Program Output
		Video's Audio End-Point 1	RoomControl	AUDIO_SELECTION	Input	MVC 121Plus->Room Selection - Program Output
		Video Volume 1	RoomControl	AUDIO_VOLUME	Input	MVC 121Plus->Room Selection - Program Output
		Audio Volume 1	RoomControl	AUDIO_VOLUME	Input	MVC 121Plus->Room Selection - Program Output
		On-Screen Device	RoomControl	ONSCREEN_SELECTI...	Input	
		Video Volume 2	RoomControl	AUDIO_VOLUME	Input	

Included in this driver package are 4 microphone experience buttons that are used to control microphone levels and mute status from any Control4 navigator.

Search and add the “Microphone – Button (Mute)”, “Microphone – Button (Volume Up)”, and “Microphone – Button (Volume Down)” drivers to the project.



Bind the Experience Buttons to the corresponding BUTTON\_LINK connections on the MVC 121 Plus

Connections		Control & Audio Video Connections				
Control/AV	Network	MVC 121Plus				
		Name	Type	Connection	Input/Output	Connected To
		<b>Audio/Video Outputs</b>				
		Program Output	Audio	STEREO	Output	
		<b>Control Inputs</b>				
		Serial RS-232	Control	RS_232	Input	
		<b>Control Outputs</b>				
		Digital Input 1	Control	CONTACT_SENSOR	Output	
		Digital Input 2	Control	CONTACT_SENSOR	Output	
		Digital Input 3	Control	CONTACT_SENSOR	Output	
		Mic 1 Volume Up	Control	BUTTON_LINK	Output	Microphone Volume Up->Volume Up
		Mic 1 Volume Down	Control	BUTTON_LINK	Output	Microphone Volume Down->Volume Down
		Mic 1 Mute Toggle	Control	BUTTON_LINK	Output	Microphone Mute->Toggle
		Mic 2 Volume Up	Control	BUTTON_LINK	Output	
		Mic 2 Volume Down	Control	BUTTON_LINK	Output	

Make a physical and programming connection between the serial connection on the MVC121 Plus and an open serial port on your Control4 devices.

Connections		Control & Audio Video Connections				
Control/AV		EA-1				
<div> <div>Big Business</div> <div>Corporate</div> <div>Office</div> <div>Main</div> <div>Conference Room</div> <div>MVC 121Plus</div> <div>Television</div> <div>Cable TV</div> <div>UHF/VHF</div> <div>Microphone Mute</div> <div>Microphone Volume Up</div> <div>Microphone Volume Down</div> <div>EA-1</div> <div>UIDevice</div> </div>		Name	Type	Connection	Input/Output	Connected To
		Audio/Video Inputs				
		Internet Input	Audio	RF_INTERNET	Input	
		Digital Audio Client	Audio	DIGITAL_AUDIO_CLIE...	Input	Digital Media->Digital Audio
		Audio/Video Outputs				
		HDMI (Audio/Video)	Audio	HDMI	Output	
		Digital Audio	Audio	DIGITAL_AUDIO_SER...	Output	Digital Media->Digital Audio
		Control Outputs				
		SERIAL 1	Control	RS_232	Output	MVC 121Plus->Serial RS-232
		SERIAL 2	Control	RS_232	Output	
		IR OUT 1	Control	IR_OUT	Output	
		IR OUT 2	Control	IR_OUT	Output	
		IR OUT 3	Control	IR_OUT	Output	
		IR OUT 4	Control	IR_OUT	Output	

### \*IMPORTANT\*

Connect the MVC121 Plus Pinouts according to the manual to the proper RS-232 pinouts on the Control4 controller... If you are not able to properly communicate with the MVC121 Plus, you may want to switch from strait-through to NULL wiring.

Enter a valid activation code on the Properties tap of the driver (Or use free 72 hour trial)

Refresh Navigators

That's It!

\*Don't forget to "unhide" the microphone experience buttons in Navigator.

### Additional Features:

- 1) You can change the color of the microphone experience buttons via the color property on the properties tab.

Properties

Properties Sum

Advanced Properties

Properties

Documentation

Lua

Driver Version

1

Icon Color

Blue

Debug Mode

Off



- 2) Bind the BUTTON\_LINK connections on the MVC121 Plus driver to Keypad buttons to control volume and mute features of the microphones.

Connections		Control & Audio Video Connections				
Control/AV		Configurable Keypad				
		Name	Type	Connection	Input/Output	Connected To
		Control Inputs				
		Mic Mute Button Link	Control	BUTTON_LINK	Input	MVC 121Plus->Mic 1 Mute Toggle
		Ambient Light Level (Follo...	Control	AMBIENT_LEVEL	Input	
		Control Outputs				
		Ambient Light Level (Sour...	Control	AMBIENT_LEVEL	Output	

Don't forget to set the color of the Button LEDs to:

- a. LED Behavior = "Follow Connection"
- b. On Color = Color you prefer LED to be when Mute is ON
- c. Off Color = Color you prefer LED to be when Mute is OFF

**LED Behavior** Follow Connection

**On Color**

**Off Color**

- 3) The experience button called "Microphone – Button" is a universal experience button with an analog audio connection that can be added to any Control4 system and configured as an analog audio source. Icon color can be chosen from the Properties page as well.

Properties:

License Status: Displays the current license status of the driver according to Blackwire Designs licensing server.

License Key: Input the license key from your Blackwire Designs dealer account and press the "set" button to activate the driver.

Front Panel Lockout: Allows you to enable or disable the buttons/dials on the front of the MVC121 Plus chassis.

Mic 1 Maximum Volume: Allows you to set the maximum volume level of Microphone 1 in the overall audio mix

Mic 2 Maximum Volume: Allows you to set the maximum volume level of

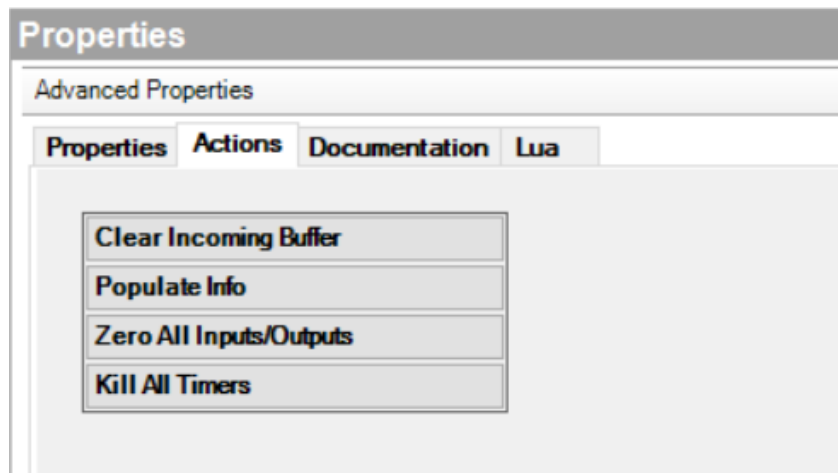
Microphone 2 in the overall audio mix

Program Out Maximum Volume: Allows you to set the maximum volume level of Program Audio in the overall audio mix

Command Delay: Displays the delay (in milliseconds) that Control4 will delay transmitting consecutive RS-232 commands to the Extron MVC121 Plus device. If it is determined that some commands are 'missed/ignored' by the MVC121 Plus device, adjust the command delay to speed up or slow down transmitted commands.

Debug Mode: Select a mode to debug the driver. Debug mode will revert to "off" after a predetermined time.

### Actions:



Clear Incoming Buffer: Forces all timers within the driver to expire. Use if it is determined the MVC121 Plus has stopped responding to commands.

Populate Info: Requests product details from the MVC121 Plus device and displays it on the Properties tab. Use if the product details did not automatically populate on the Properties tab.

Zero All Inputs/Outputs: Resets all volume levels to the original volume levels.

Kill All Timers: Forces all timers within the driver to expire. Use if it is determined the MVC121 Plus has stopped responding to commands.

### Limitations:

-Because of the limited volume range of the MVC121 Plus (-12db to 24db in 1db increments), you will notice volume increments will go up by 3ish % when you adjust

the volume with Control4. Additionally, you may notice that when you set a Maximum volume level via the properties page, the volume level you set might change slightly to the nearest 3<sup>rd</sup> percentage. Additionally, the slider on Control4 navigators may be slightly different than the actual volume levels due to rounding errors.

**\*IMPORTANT\***

-Out of the box, the Digital inputs might continue to mute the inputs despite being configured as “No Action” in the Extron configuration software. This is a firmware bug confirmed by Extron. To fix this, change each trigger type to “Level, Lo”, apply, then close the configure digital input box. Re-open the configure digital input menu, and set each trigger type to “No Action/Off”. Hit apply and then close the configure digital input box. [The Digital inputs may result in undesired behavior if you skip this step.](#)

-This driver requires Composer version 2.8.2 or higher. Using on a previous version may work, however it is untested.