Just Add Power

CONTROL4

DRIVER GUIDE

Revised 2021-09-10

Table of Contents

Download

Control4 driver downloads can be found on the Just Add Power support site at support.justaddpower.com.

You can find the complete Control4 drivers and JADConfig in the Knowledge Base at support.justaddpower.com

- Control4 driver section: support.justaddpower.com/kb/section/11/
    - Luxul drivers: https://support.justaddpower.com/kb/article/58/
    - Cisco drivers: https://support.justaddpower.com/kb/article/59/

- JADConfig: support.justaddpower.com/kb/article/69/

After you download the drivers, extract the files and copy them into the Control4 Driver directory.

Run JADConfig

JADConfig is software that runs on a Windows computer and configures supported managed switches and all attached Just Add Power devices.

Download

You can find JADConfig and the complete Control4 drivers in the Knowledge Base at support.justaddpower.com

- JADConfig article: support.justaddpower.com/kb/article/69/
- Control4 driver section: support.justaddpower.com/kb/section/11/

Configuration

JADConfig must be run on the switch before the driver can control the system.

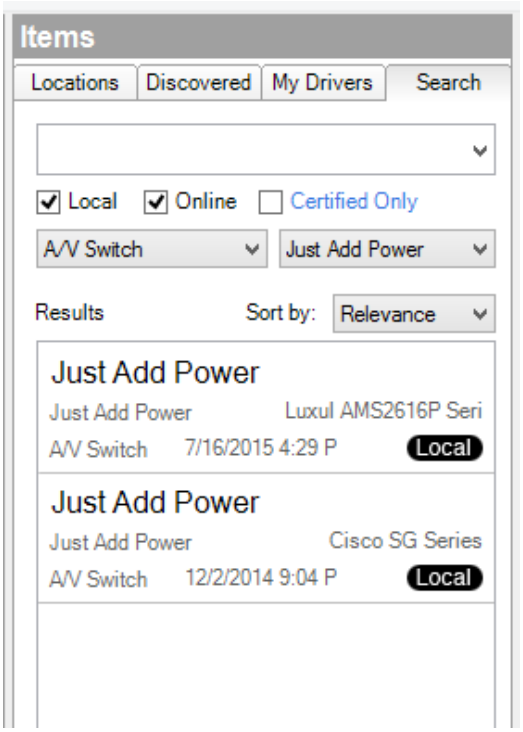
If Layer 3 control – Video Wall, CEC control, RS232 control, IR control, On-Screen Display, Image Pull – will be used in the system, please be sure to Export the text document provided at the end of JADConfig. It contains the IP addresses to all Just Add Power devices in the system, as well as the *Static Route* that must be added to the router in order to access the Just Add Power devices.

```
Configuration generated at 14:22 on Mon 22 April 2013

Note that the following static route must be added to your router so that
the control system can access the JAP devices:

Network: 192.168.100.0    Netmask: 255.255.255.0    Gateway: 192.168.1.254

Just Add Power Device Configuration:

P02) Transmitter 1, 192.168.100.2 / 255.255.255.0 (gateway 192.168.100.1)
P03) Transmitter 2, 192.168.100.6 / 255.255.255.0 (gateway 192.168.100.5)
P04) Transmitter 3, 192.168.100.10 / 255.255.255.0 (gateway 192.168.100.9)
P05) Transmitter 4, 192.168.100.14 / 255.255.255.0 (gateway 192.168.100.13)
P06) Transmitter 5, 192.168.100.18 / 255.255.255.0 (gateway 192.168.100.17)
P07) Transmitter 6, 192.168.100.22 / 255.255.255.0 (gateway 192.168.100.21)
P08) Transmitter 7, 192.168.100.26 / 255.255.255.0 (gateway 192.168.100.25)
P09) Transmitter 8, 192.168.100.30 / 255.255.255.0 (gateway 192.168.100.29)
P10) Receiver 1, 192.168.100.130 / 255.255.255.0 (gateway 192.168.100.129)
P11) Receiver 2, 192.168.100.131 / 255.255.255.0 (gateway 192.168.100.129)
P12) Receiver 3, 192.168.100.132 / 255.255.255.0 (gateway 192.168.100.129)
P13) Receiver 4, 192.168.100.133 / 255.255.255.0 (gateway 192.168.100.129)
P14) Receiver 5, 192.168.100.134 / 255.255.255.0 (gateway 192.168.100.129)
P15) Receiver 6, 192.168.100.135 / 255.255.255.0 (gateway 192.168.100.129)
```

Setup Switching Driver

Add Switching Driver

In *System Design,* to go the *Items* window on the right side and choose the Search tab. Set Device Type to A/V Switch, Manufacturer to Just Add Power, and make sure that Local is checked.



There are two switching drivers:

- avswitch_ip_JustAddPower_CiscoSG300.c4i
  - Cisco SG Series – controls all models of Cisco switches
    - SG300
    - SG350
    - SG500
    - SG500X
    - SG550X

- avswitch_ip_JustAddPower_Luxul.c4i
  - Luxul Series – controls all models of Luxul switches
    - AMS-1208P
    - AMS-2600
    - AMS-2616P
    - XMS-2624P
    - AMS-4424P
    - XMS-5248P
    - XMS-7048P

Double-click on the switching driver that matches the switch model to add it to the system.

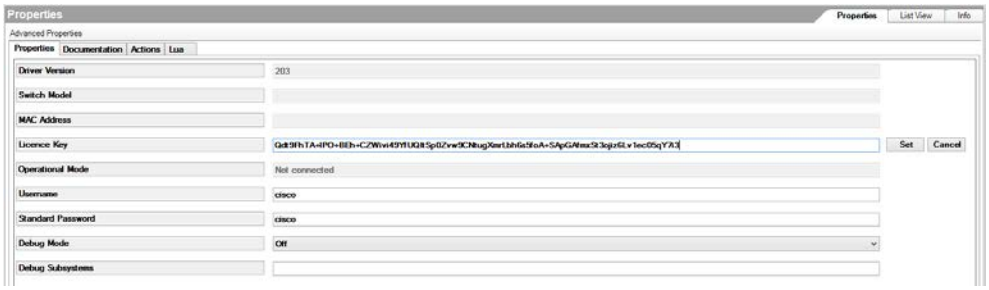
Configure Switching Driver

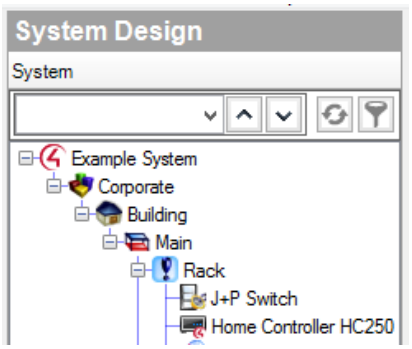
After the driver is added, it needs to be configured to work with the switch as it was configured by JADConfig.

System Design

1. Select the switch driver

2. In the *Properties* window, enter the License Key and click *Set*. Additional information about the driver can be found under the Documentation tab.

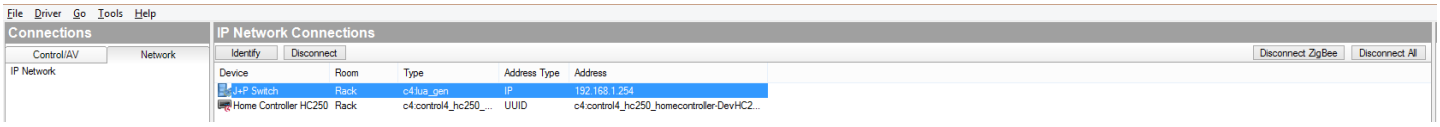




Connections – Network

3. Select *Connections* in the bottom left corner, and select the *Network* tab from the *Connections* window. The switching driver will be listed as a Device.

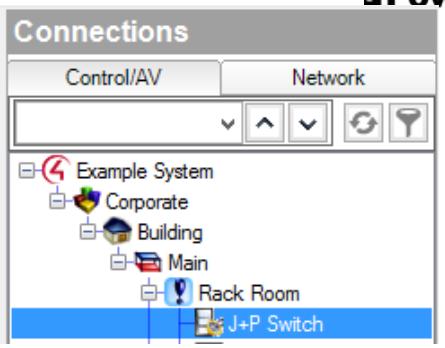
4. Double-click on the switching driver and add the IP of the switch that was configured by JADConfig (example shows a switch IP of `192.168.1.254`)



5. Go back to the *System Design* window. In *Properties*, the *Operational Mode* will reflect the status of the driver:

Operational Mode	Meaning
NxM _____ Licenced	Switch configuration of N inputs and M outputs with valid license key
NxM _____ Demo	Switch configuration of N inputs and M outputs with invalid license key. Works for 30 minutes then stops.
Not Connected/Logging In/Connected	Only seen briefly while the driver logs in. If seen for more than 1 minute, contact support.
Connecting	Driver is attempting to connect but failing. Check that IP address is correct, network is connected to port 1 of the switch, and the Director can connect to the network
Invalid Username or Password	Username/password do not match the login information for the switch. Check these values under Properties.

Connections – Control/AV

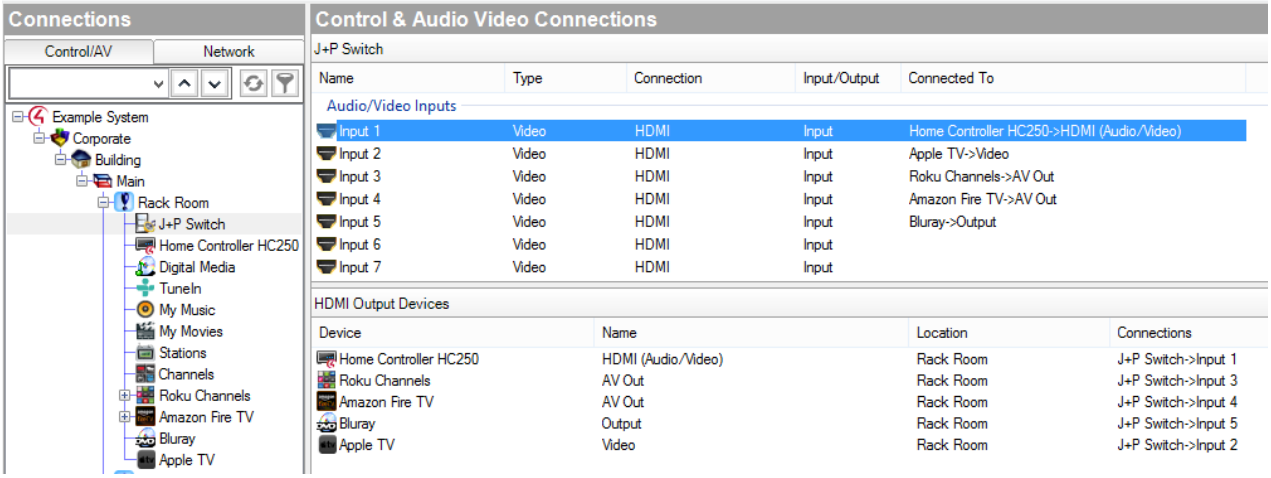


6. Select the *Control/AV* tab from the *Connections* window.

7. Select the switching driver from the *Connections* window.

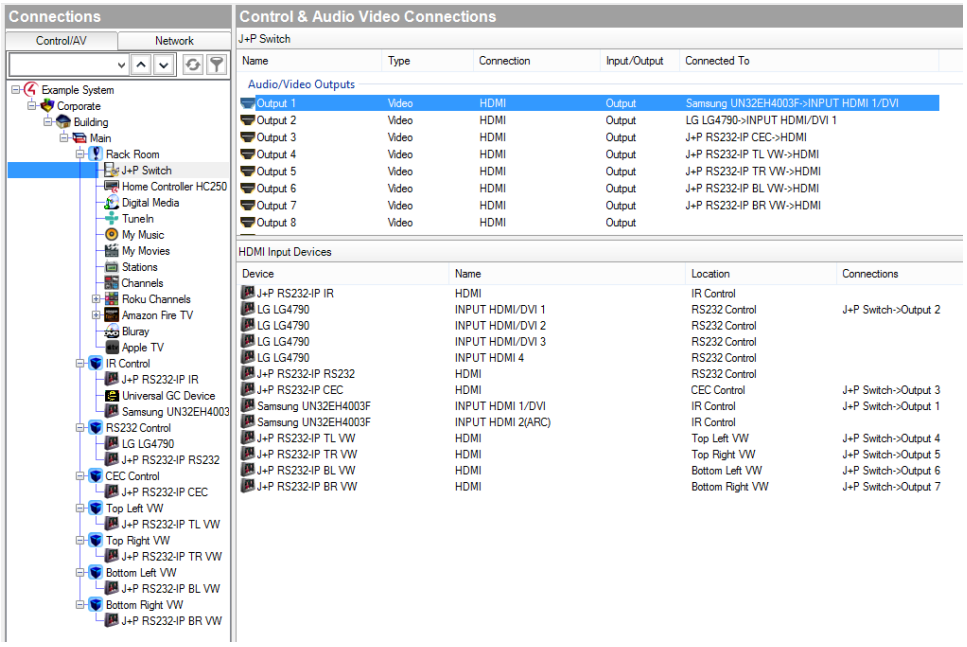
8. Under *Audio/Video Inputs*, select HDMI Input 1 and drag to the source device that it is connected to.
   HDMI Input 1 is Transmitter 1 – the first Transmitter in the system.

9. Repeat step 8 for each HDMI Input in the system. HDMI Input # will always match the Transmitter #.

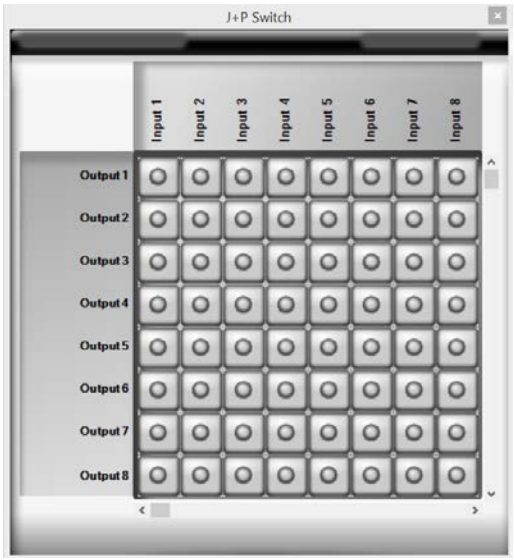


10. Scroll down to *Audio/Video Outputs*. Select HDMI Output 1 and drag to the display device that it is connected to.
    HDMI Output 1 is Receiver 1 – the first Receiver in the system.

11. Repeat step 10 for each HDMI Output in the system. HDMI Output # will always match the Receiver #.



12. Switching control can be tested by double-clicking on the switching driver. A popup grid will appear that allows switching of displays based on Input and Output numbering.



Advanced Programming

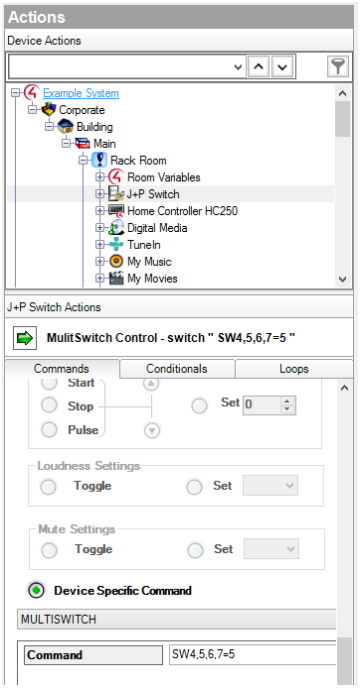
Advanced Programming requires knowledge of how to use the *Agents* and *Programming* tabs in Composer.

The switching drivers have additional functions for

- Multiswitch – switch multiple displays at once, like for a video wall
- PoE Control – turn on and off PoE for specific ports
- Favorites – create and save input/output assignments for later recall with one button
- Save – save the current configuration of the switch

Multiswitch

Switch multiple displays to one source in one command. It is most often used to switch all video wall displays together.



Command

```
SW1,2,3,4=5
```

- Case-sensitive – SW must be capitalized
- 1,2,3,4 are Output numbers separated by commas. Any amount of Outputs can be switched at the same time.
- 5 is the Input number to switch the Outputs to

Examples

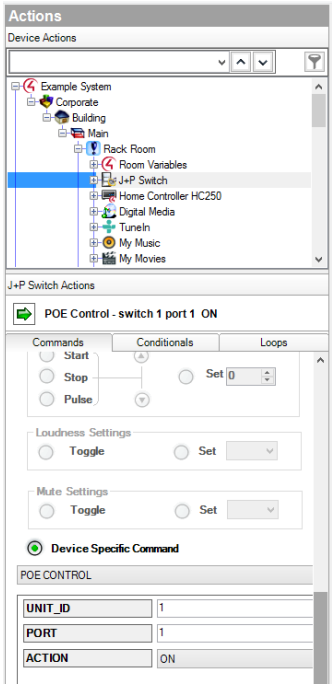
- Example 1
  - `SW4,5,6,7=1`
  - Switch Outputs 4, 5, 6, and 7 to Input 1

- Example 2
  - `SW1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16=4`
  - Switch Outputs 1-16 to Input 4

PoE Control

Turn Power over Ethernet on and off for PoE switches

- UNIT_ID – stack unit number for stacked switches. If unstacked switch, set to 1.
- PORT – port on the switch
- ACTION – *ON* or *OFF*



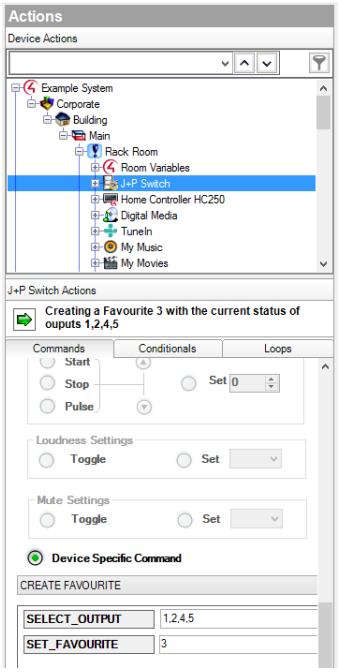
Favorites

Create and save input/output assignments for later recall with one button

Create Favourite

Store an input/output combination as a Favorite to be recalled later

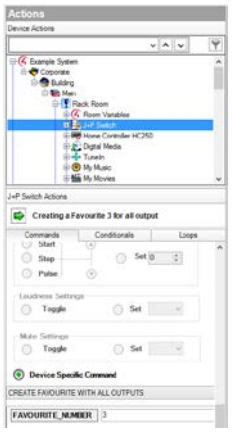
- Select_Output = choose the outputs to be saved in the favorite, separated by commas
  - Example: `1,2,4,5`
  - This example will save the inputs that are being watched by output 1, 2, 4, and 5 in memory
- Set_Favorite = choose the favorite ID to save configuration as. Valid values are 1-16. Shared with *Create Favourite with All Outputs*.
  - Example: 3
  - Saves the input numbers being watched by the outputs listed in *Select_Output* to Favorite 3 so the configuration for those outputs can be recalled later with one button
- Create Favourite Example:
  - `Select_Output: 1,2,4,5`
  - `Set_Favorite: 3`
  - Identifies the inputs being watched by outputs 1, 2, 4, and 5. Saves the output/input combination to Favorite 3. When Favorite 3 is later recalled, outputs 1, 2, 4, and 5 will be switched back to their input assigned when the *Create Favourite* function was executed.



Create Favourite with All Outputs

Store all input/output combinations as a Favorite to be recalled later

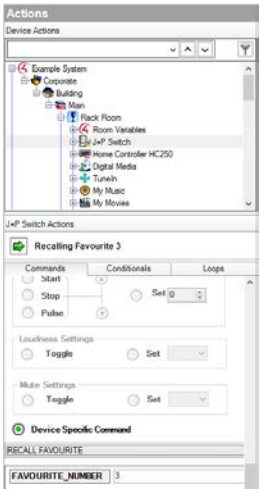
- Favourite_Number = choose the Favorite ID to save configuration as. Valid values are 1-16. Shared with *Create Favourite*.
- Example
  - `Favourite_Number: 3`
  - Identifies the inputs being watched by all outputs. Saves the output/input combination to Favorite 3, erasing any data that was previously stored as Favorite 3. When Favorite 3 is later recalled, all outputs will be switched back to their input assigned when the *Create Favourite with All Outputs* function was executed.



Recall Favourite

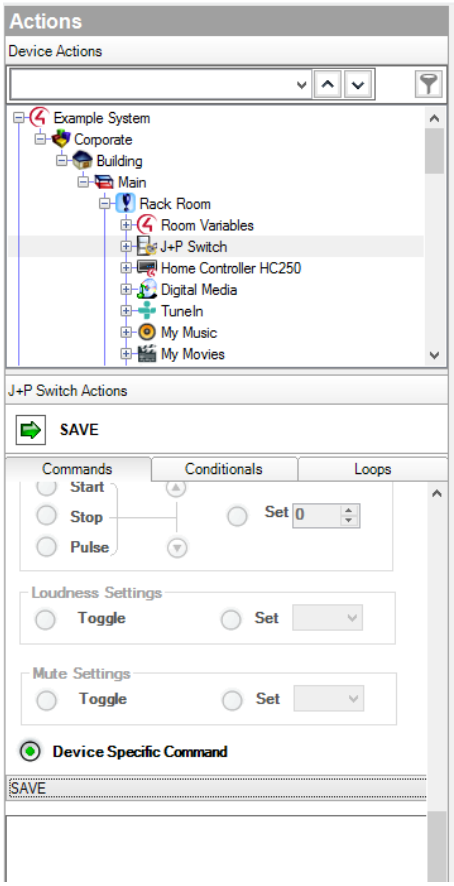
Recall a Favorite ID and switch the input/output combinations for that Favorite ID

- Favourite_Number = choose the Favorite ID to recall the configuration for. Valid values are 1-16. Recalls a Favorite stored with *Create Favourite* or *Create Favourite with All Outputs*.
- Example
  - Favourite_Number: 3
  - Recall Favorite 3 and switch all outputs to the inputs that were assigned when Favorite 3 was created.



Save

Save the switch configuration in its current state. If the switch reboots, it will return to that configuration.



Setup RS232 Control

Add Static Route

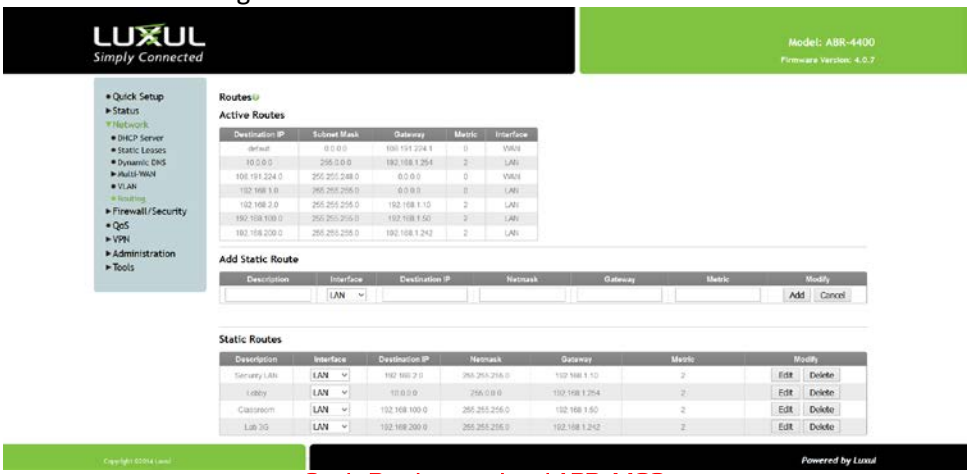
A static route allows the Control4 processor to communicate with the Just Add Power devices for endpoint control. This pathway must exist in order for any Layer 3 functions to work.
The information for the static route that needs to be added is in the JADConfig Report file.

```
Note that the following static route must be added to your router so that the control system can
access the JAP devices:

Network: 192.168.200.0    Netmask: 255.255.255.0    Gateway: 192.168.1.77
```

There are two options for activating Layer 3 communication: 1) With Router and 2) Without Router

Static Route With Router

1. Access the web interface of the internet router connected to port 1 of the managed switch and look for a section labeled ***Routing***. The exact location or name of this section in the menus differs depending on the router.
2. Once in the ***Routing*** section, look for an option that allows the Static Route to be added to the Local Area Network. It may be called *LAN & Wireless*, *Local Area Network*, etc.
3. If the only Static Route option is *WAN*, *Internet*, or *Wide Area Network*, then that internet router is most likely not capable of the Static Routing function needed. A different router is needed.

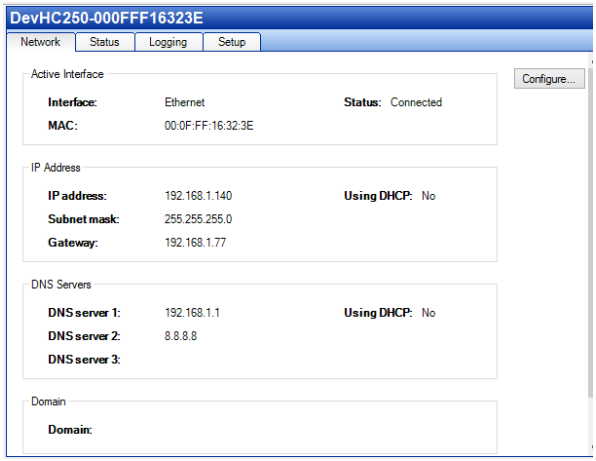


Static Routing on a Luxul ABR-4400

Static Route Without Router

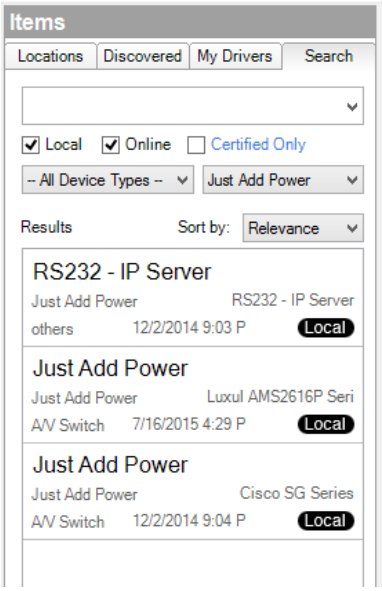
If the router does not have Static Routing (or there is no router), then the IP settings of the Control4 processor must be changed to allow the Static Route.

1. In Composer, select *Tools* → *System Manager*.
2. Connect to the Control4 processor, select the network tab, and choose *Configure…*
3. Assign the Control4 processor a static IP address and Subnet mask that matches the network
4. Set the Gateway of the Control4 processor to the IP address of the Just Add Power switch (192.168.1.77 in the image)
5. Set the DNS to the router (if it exists).



IP settings with switch IP of 192.168.1.77

Add & Configure RS232-IP Server Driver



In *System Design,* to go the *Items* window on the right side and choose the Search tab. Set Manufacturer to Just Add Power and make sure that Local is checked.

There is one RS232-IP Server driver: proxy_ip_JustAddPower_TerminalServer.c4i

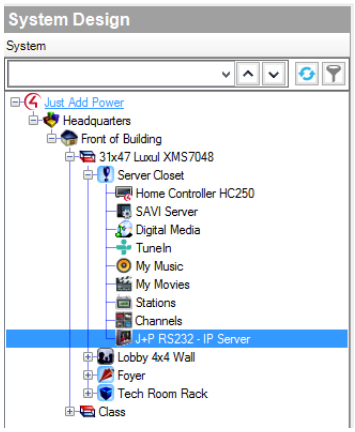
Each instance of the driver controls one Just Add Power device, so load one driver for each endpoint that needs control.

The RS232-IP Server Driver controls

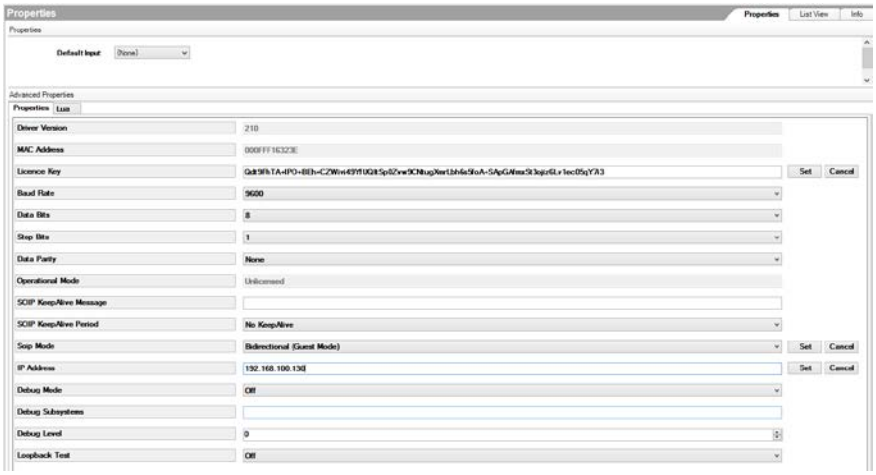
- RS232
- CEC
- IR
- Video Wall
- On-Screen Display
- Tiling Transmitter
- other Layer 3 features

Add one RS232-IP Server to the system for **each** device that needs RS232 control.

System Design



1. Select the RS232-IP Server driver
2. In the *Properties* window, enter the *Licence Key*. The driver will not work without a license key.
3. Set the *Baud Rate*, *Data Bits*, *Stop Bits*, and *Data Parity* to match the endpoint device's serial settings.
4. Set *Soip Mode* to *Bidirectional (Guest Mode)* for RS232 control
5. Set *IP Address* to the IP address of the Just Add Power device that is controlling the endpoint device.
6. (Optional) Set the *SOIP KeepAlive Message* or *SOIP KeepAlive Period* if needed.

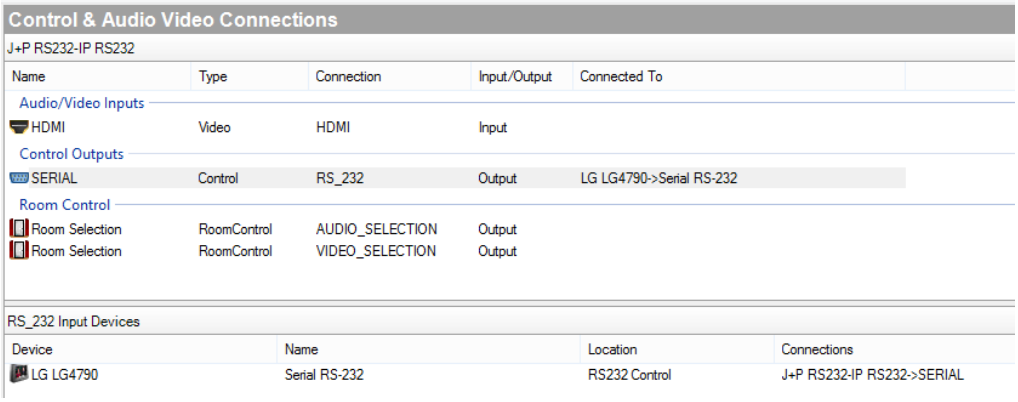


Connections – Network

7. No network connections are necessary. The IP address of the Just Add Power device is in *System Design – Properties*.

Connections – Control/AV

8. Select *Connections* in the bottom left corner, and select the *Control/AV* tab from the *Connections* window.
9. Select the RS232-IP Server driver from the *Connections* window. Connect the *SERIAL* output port of the RS232-IP Server to the serial port of the TV driver



10. No HDMI connection is necessary. The TV driver will have the HDMI connected.
11. Repeat for each RS232-IP Server performing RS232 control.

Setup CEC Control

Add Static Route

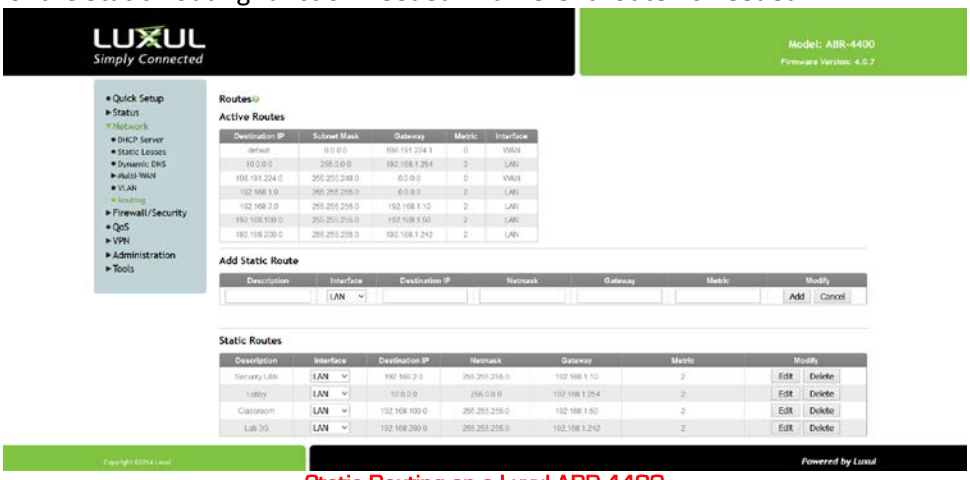
A static route allows the Control4 processor to communicate with the Just Add Power devices for endpoint control. This pathway must exist in order for any Layer 3 functions to work.
The information for the static route that needs to be added is in the JADConfig Report file.

```
Note that the following static route must be added to your router so that the control system can
access the JAP devices:

Network: 192.168.200.0    Netmask: 255.255.255.0    Gateway: 192.168.1.77
```

There are two options for activating Layer 3 communication: 1) With Router and 2) Without Router

Static Route With Router

1. Access the web interface of the internet router connected to port 1 of the managed switch and look for a section labeled ***Routing***. The exact location or name of this section in the menus differs depending on the router.
2. Once in the ***Routing*** section, look for an option that allows the Static Route to be added to the Local Area Network. It may be called *LAN & Wireless*, *Local Area Network*, etc.
3. If the only Static Route option is *WAN*, *Internet*, or *Wide Area Network*, then that internet router is most likely not capable of the Static Routing function needed. A different router is needed.

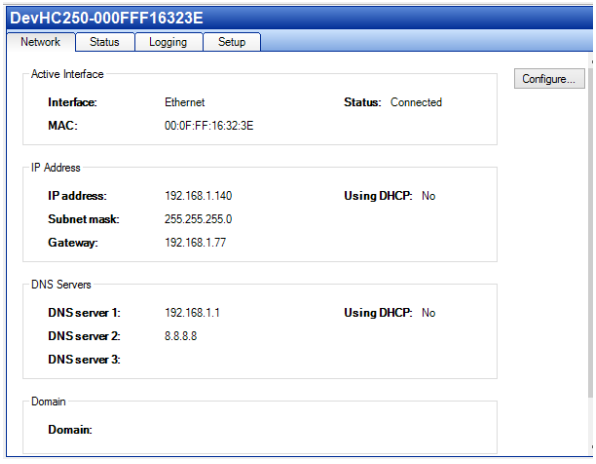


Static Routing on a Luxul ABR-4400

Static Route Without Router

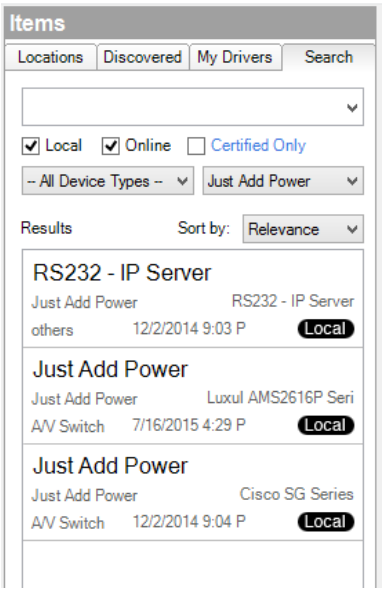
If the router does not have Static Routing (or there is no router), then the IP settings of the Control4 processor must be changed to allow the Static Route.

1. In Composer, select *Tools* → *System Manager*.
2. Connect to the Control4 processor, select the network tab, and choose *Configure…*
3. Assign the Control4 processor a static IP address and Subnet mask that matches the network
4. Set the Gateway of the Control4 processor to the IP address of the Just Add Power switch (192.168.1.77 in the image)
5. Set the DNS to the router (if it exists).



IP settings with switch IP of 192.168.1.77

Add & Configure RS232-IP Server Driver



In *System Design,* to go the *Items* window on the right side and choose the Search tab. Set Manufacturer to Just Add Power and make sure that Local is checked.

There is one RS232-IP Server driver: proxy_ip_JustAddPower_TerminalServer.c4i

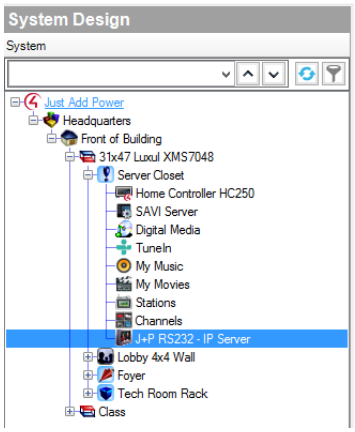
Each instance of the driver controls one Just Add Power device, so load one driver for each endpoint that needs control.

The RS232-IP Server Driver controls

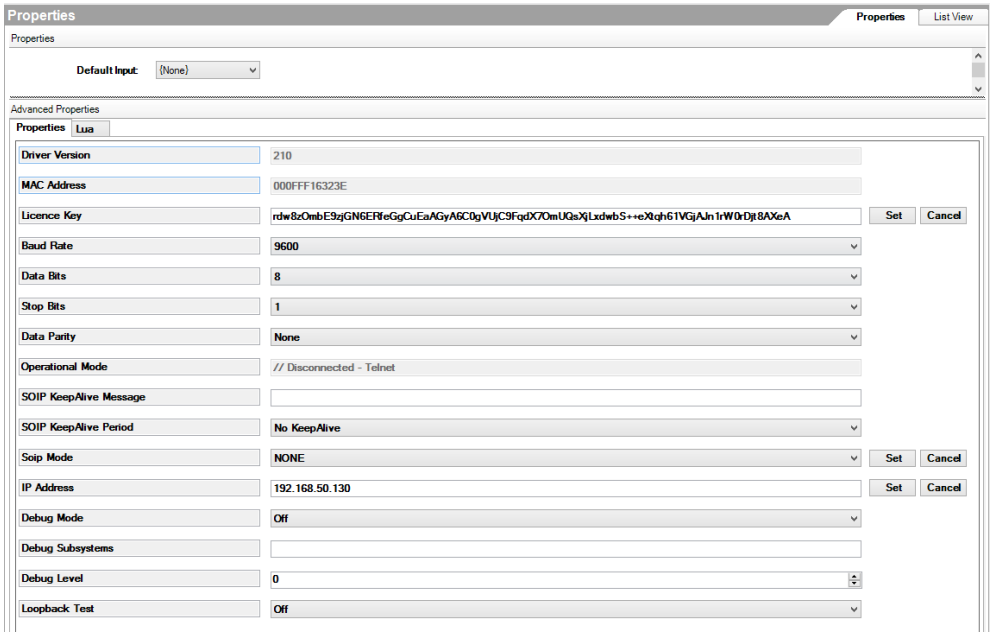
- RS232
- CEC
- IR
- Video Wall
- On-Screen Display
- Tiling Transmitter
- other Layer 3 features

Add one RS232-IP Server to the system for **each** device that needs CEC control.

System Design



1. Select the RS232-IP Server driver
2. In the *Properties* window, enter the *Licence Key*. The driver will not work without a license key.
3. (Optional) Set *Soip Mode* to *NONE*
4. Set *IP Address* to the IP address of the Just Add Power device that is controlling the endpoint device.



Connections – Network

5. No network connections are necessary. The IP address of the Just Add Power device is in *System Design – Properties*.

Connections – Control/AV

6. Select *Connections* in the bottom left corner, and select the *Control/AV* tab from the *Connections* window.
7. Select the RS232-IP Server driver from the *Connections* window. Connect the *HDMI Input* port of the RS232-IP Server to the correct *Output* number on the switching driver. (Use the JADConfig Report file to determine the *Output* number).

Control & Audio Video Connections

J+P RS232-IP CEC

Name	Type	Connection	Input/Output	Connected To
Audio/Video Inputs				
HDMI	Video	HDMI	Input	J+P Switch->Output 3
Control Outputs				
SERIAL	Control	RS_232	Output	
Room Control				
Room Selection	RoomControl	AUDIO_SELECTION	Output	CEC Control->Video's Audio End-Point 1
Room Selection	RoomControl	VIDEO_SELECTION	Output	CEC Control->Video End-Point

8. There is no need to load a TV driver when using CEC control. The RS232-IP driver performs all functions.
9. Repeat for each RS232-IP Server performing CEC control.

Setup IR Control

Add Static Route

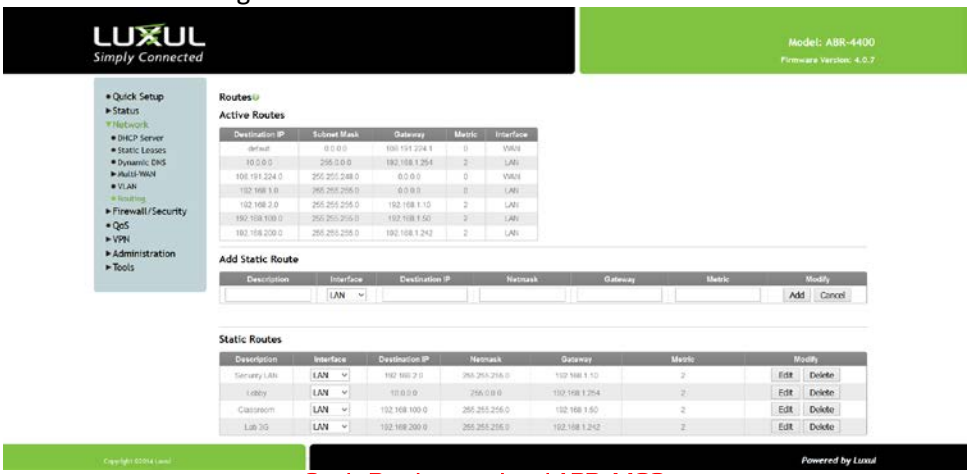
A static route allows the Control4 processor to communicate with the Just Add Power devices for endpoint control. This pathway must exist in order for any Layer 3 functions to work.
The information for the static route that needs to be added is in the JADConfig Report file.

```
Note that the following static route must be added to your router so that the control system can
access the JAP devices:

Network: 192.168.200.0    Netmask: 255.255.255.0    Gateway: 192.168.1.77
```

There are two options for activating Layer 3 communication: 1) With Router and 2) Without Router

Static Route With Router

4. Access the web interface of the internet router connected to port 1 of the managed switch and look for a section labeled ***Routing***. The exact location or name of this section in the menus differs depending on the router.
5. Once in the ***Routing*** section, look for an option that allows the Static Route to be added to the Local Area Network. It may be called *LAN & Wireless*, *Local Area Network*, etc.
6. If the only Static Route option is *WAN*, *Internet*, or *Wide Area Network*, then that internet router is most likely not capable of the Static Routing function needed. A different router is needed.

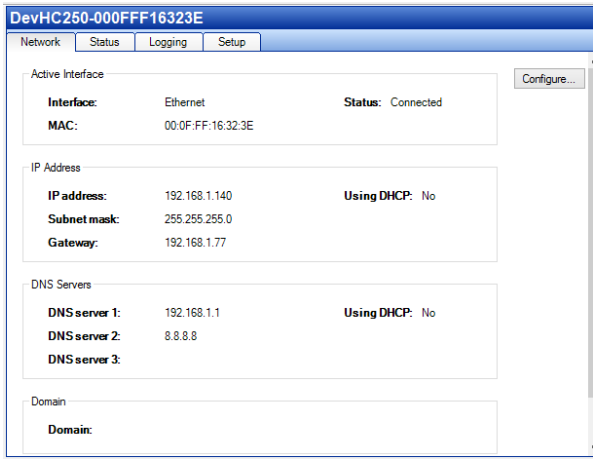


Static Routing on a Luxul ABR-4400

Static Route Without Router

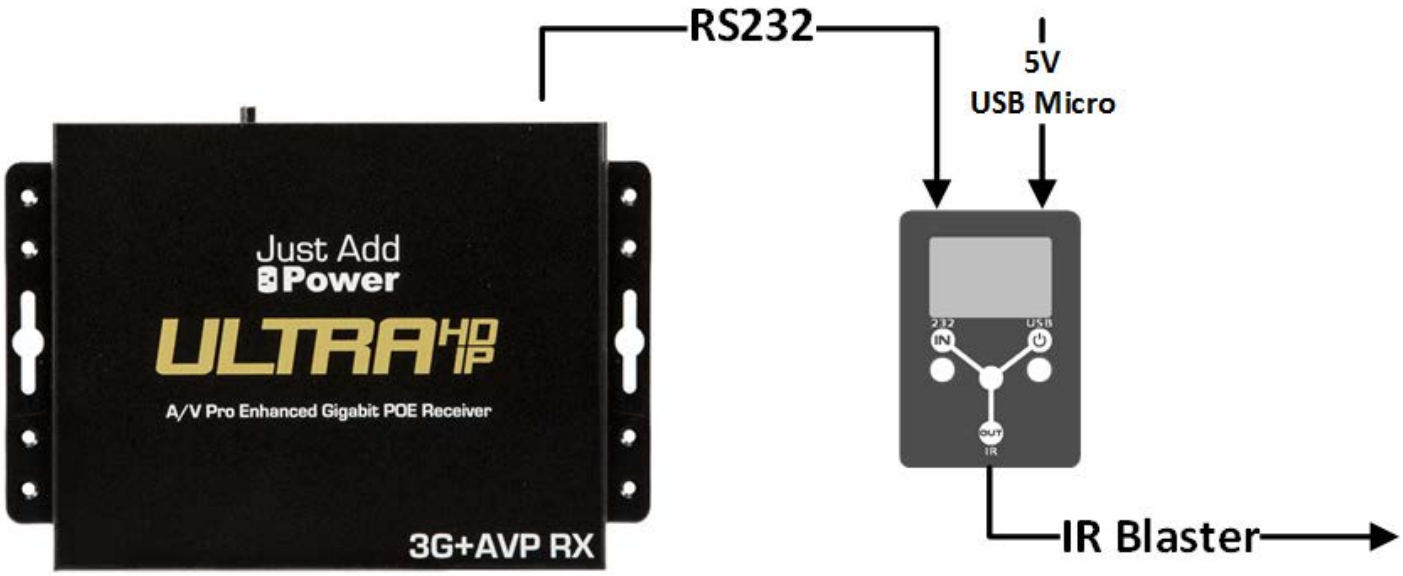
If the router does not have Static Routing (or there is no router), then the IP settings of the Control4 processor must be changed to allow the Static Route.

6. In Composer, select *Tools* → *System Manager*.
7. Connect to the Control4 processor, select the network tab, and choose *Configure…*
8. Assign the Control4 processor a static IP address and Subnet mask that matches the network
9. Set the Gateway of the Control4 processor to the IP address of the Just Add Power switch (192.168.1.77 in the image)
10. Set the DNS to the router (if it exists).



IP settings with switch IP of 192.168.1.77

Connect IR Dongle



Included Cabling

The following hardware is included with the Flux Capacitor.

1. IR Blaster
2. 3.5mm-to-3.5mm stereo plug cable
3. USB A Male to Micro USB cable
4. USB power tab – Y cable

IR Blaster

Stereo plug

USB A Male to Micro USB

USB power tap

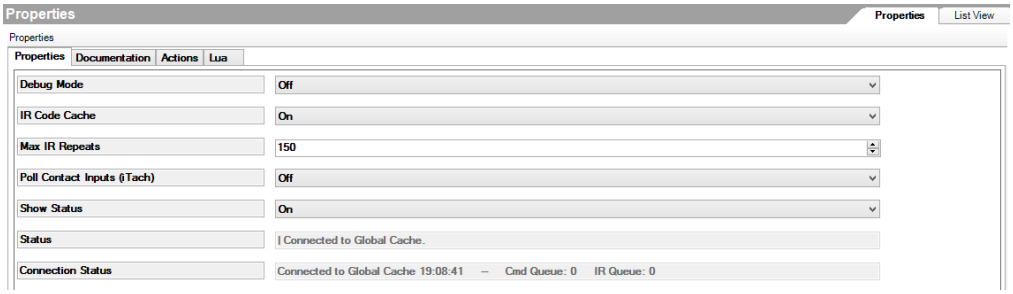
Add & Configure Universal GC Device Driver

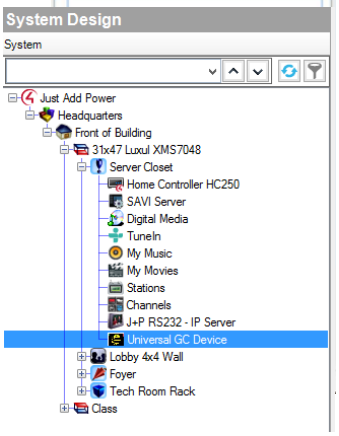
In *System Design,* to go the *Items* window on the right side and choose the Search tab. Set Manufacturer to Global Cache.

Each instance of the driver controls one IR Dongle, so load one driver for each endpoint that needs IR control.

System Design

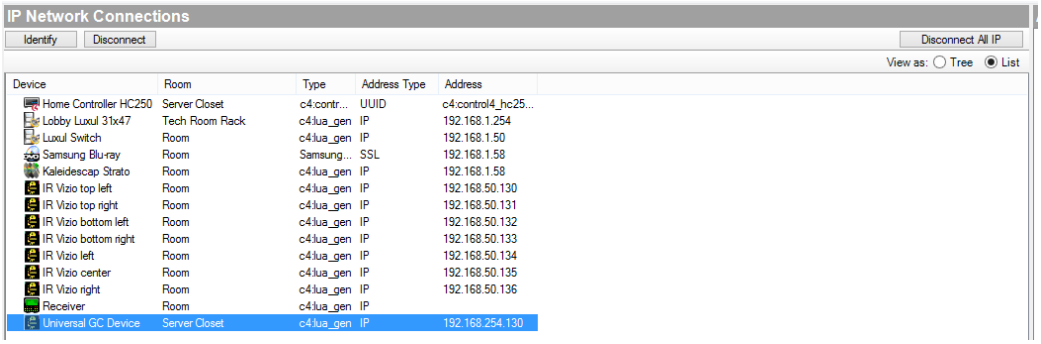
1. No settings need to be applied in *System Design*. The *Status* and *Connection Status* boxes will populate when the driver is fully configured.





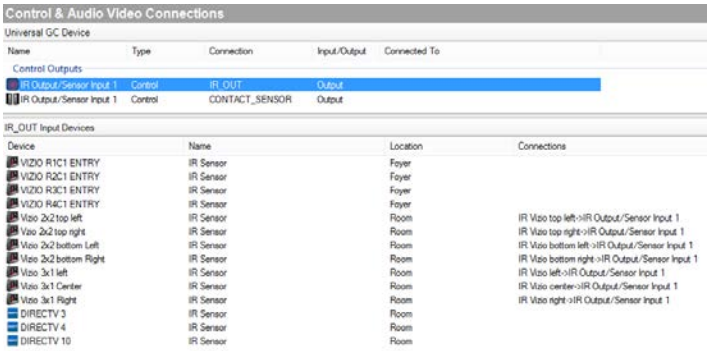
Connections – Network

2. Select the *Network* tab from the *Connections* window.
3. Set the IP Address to the IP of the Just Add Power device that the IR Dongle is connected to (available in the JADConfig Report file).



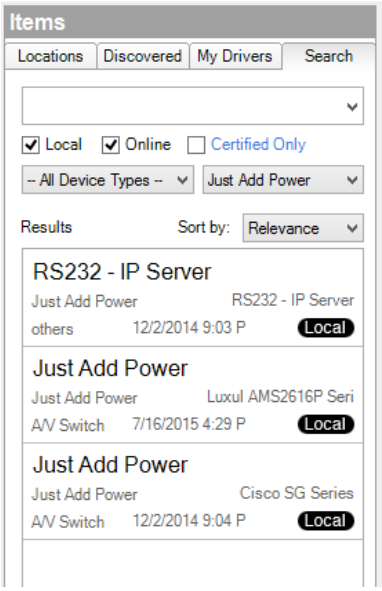
Connections – Control/AV

4. Select the *Control/AV* tab from the *Connections* window.
5. Select the Universal GC Device driver from the *Connections* window. Connect the *IR Output/Sensor Input 1* connection to the *IR Sensor* of the device being controlled.



6. Repeat for each Universal GC Device driver.

Add & Configure RS232-IP Server Driver



In *System Design,* to go the *Items* window on the right side and choose the Search tab. Set Manufacturer to Just Add Power and make sure that Local is checked.

There is one RS232-IP Server driver: proxy_ip_JustAddPower_TerminalServer.c4i

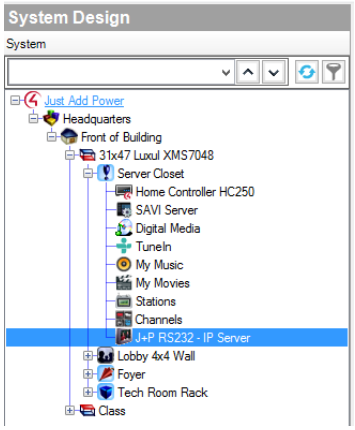
Each instance of the driver controls one Just Add Power device, so load one driver for each endpoint that needs control.

The RS232-IP Server Driver controls

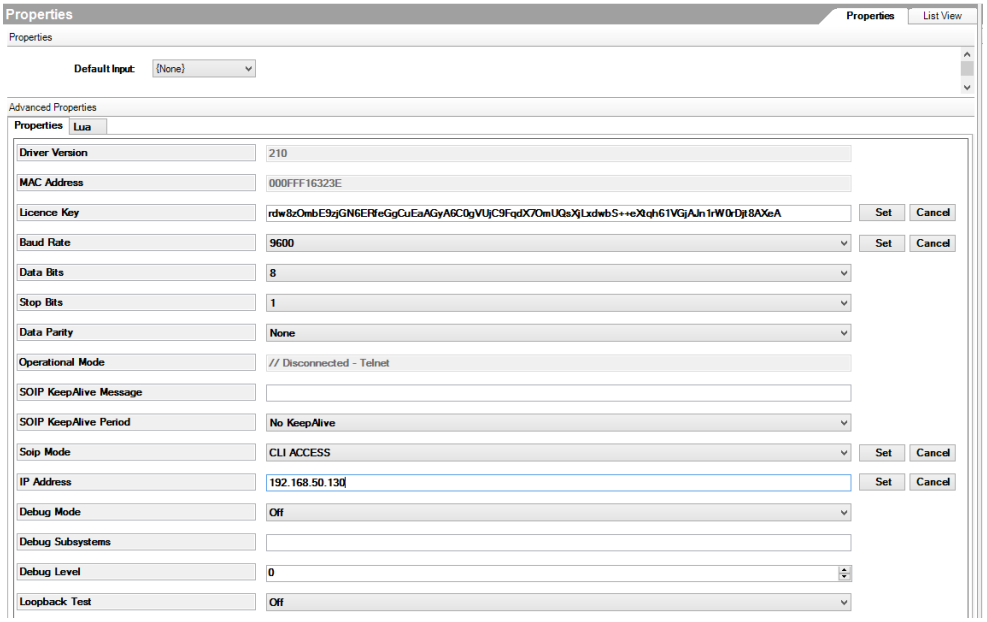
- RS232
- CEC
- IR
- Video Wall
- On-Screen Display
- Tiling Transmitter
- other Layer 3 features

Add one RS232-IP Server to the system for **each** device that needs RS232 control.

System Design



1. Select the RS232-IP Server driver
2. In the *Properties* window, enter the *Licence Key*. The driver will not work without a license key.
3. Set the *Baud Rate* to 9600, *Data Bits* to 8, *Stop Bits* to 1, and *Data Parity* to none.
4. Set *Soip Mode* to *CLI ACCESS*.
5. Set *IP Address* to the IP address of the Just Add Power device that is connected to the IR Dongle.



Connections – Network

6. No network connections are necessary. The IP address of the Just Add Power device is in *System Design – Properties*.

Connections – Control/AV

7. No Control/AV connections are needed. HDMI connection is made to the TV driver and IR connection is made to the Universal GC driver.
8. Repeat for each RS232-IP Server performing IR control.

Advanced RS232-IP Server Programming

Advanced Programming requires knowledge of how to use the *Agents* and *Programming* tabs in Composer.

A Static Route must be present on the router to use Advanced Programming functions.

All Advanced Programming functions require use of the RS232-IP server driver and has functions for:

- Video Wall – set video wall mode and adjust tearing delay
- CEC – use Consumer Electronic Control on the endpoint device (built into base driver function as of v2.10)
- Console Command – pre-programmed and custom functions
- Audio Delay – adjust audio delay on the stereo out port

Add Static Route

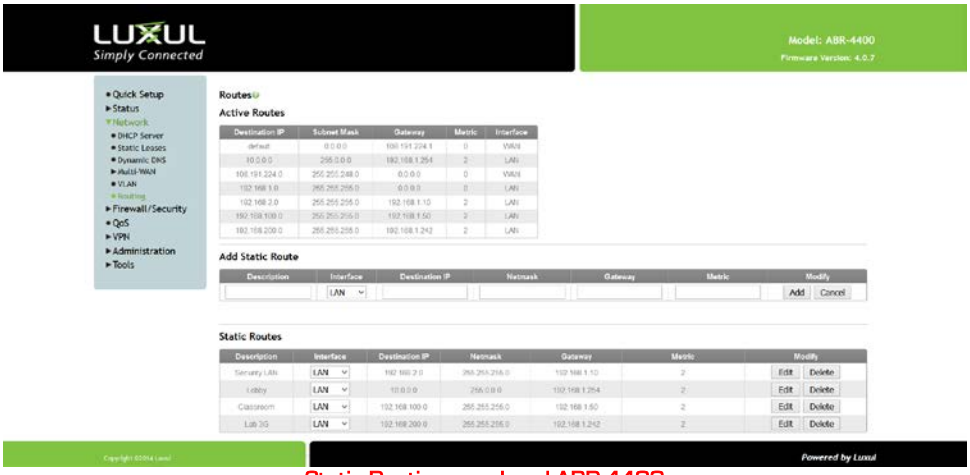
A static route is a pathway for the Control4 system on the local area network (LAN) to communicate with the Just Add Power devices on a separate subnet. This pathway must exist in order for the RS232-IP Server driver to work.
The information for the static route that needs to be added is in the JADConfig Report file.

```
Note that the following static route must be added to your router so that the control system can
access the JAP devices:

Network: 192.168.200.0    Netmask: 255.255.255.0    Gateway: 192.168.1.77
```

The Static Route is applied to a router. However, if the router does not have Static Route capabilities, then there is an alternative.

Static Route With Router

1. Access the web interface of the internet router connected to port 1 of the managed switch and look for a section labeled ***Routing***. The exact location or name of this section in the menus differs depending on the router.
2. Once in the ***Routing*** section, look for an option that allows the Static Route to be added to the Local Area Network. It may be called *LAN & Wireless*, *Local Area Network*, etc.
3. If the only Static Route option is *WAN*, *Internet*, or *Wide Area Network*, then that internet router is most likely not capable of the Static Routing function needed. A different router is needed.

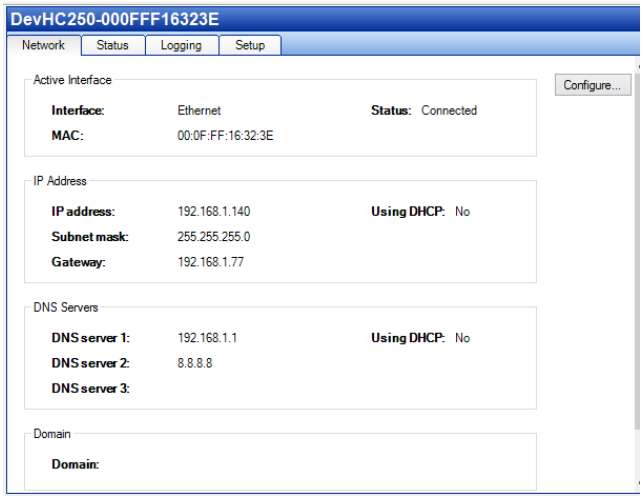


Static Routing on a Luxul ABR-4400

Static Route Without Router

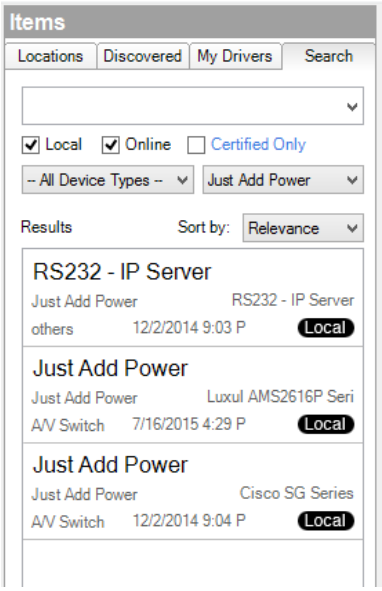
If the router does not have Static Routing (or there is no router), then the IP settings of the Control4 processor must be changed to allow the Static Route.

1. In Composer, select *Tools* → *System Manager*.
2. Connect to the Control4 processor, select the network tab, and choose *Configure…*
3. Assign the Control4 processor a static IP address and Subnet mask that matches the network
4. Set the Gateway of the Control4 processor to the IP address of the Just Add Power switch (192.168.1.77 in the image)
5. Set the DNS to the router (if it exists).



IP settings with switch IP of 192.168.1.77

Add & Configure RS232-IP Server Driver



In *System Design,* to go the *Items* window on the right side and choose the Search tab. Set Manufacturer to Just Add Power and make sure that Local is checked.

There is one RS232-IP Server driver: proxy_ip_JustAddPower_TerminalServer.c4i

Each instance of the driver controls one Just Add Power device, so load one driver for each endpoint that needs control.

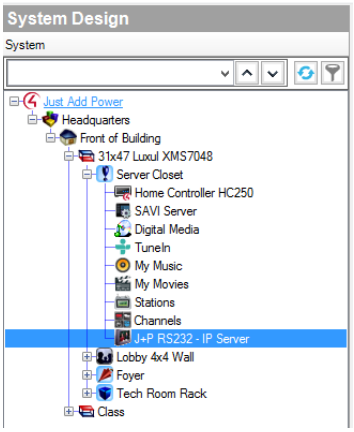
The RS232-IP Server Driver controls

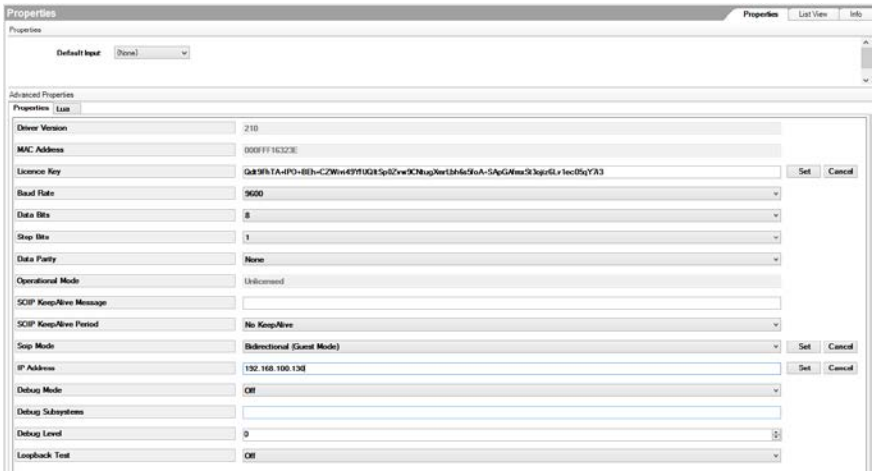
- RS232
- CEC
- IR
- Video Wall
- On-Screen Display
- Tiling Transmitter
- other Layer 3 features

Add one RS232-IP Server to the system for **each** device that needs Advanced Programming control. RS232-IP Servers that are performing IR/CEC/RS232 control can also be used for Advanced Programming.

System Design

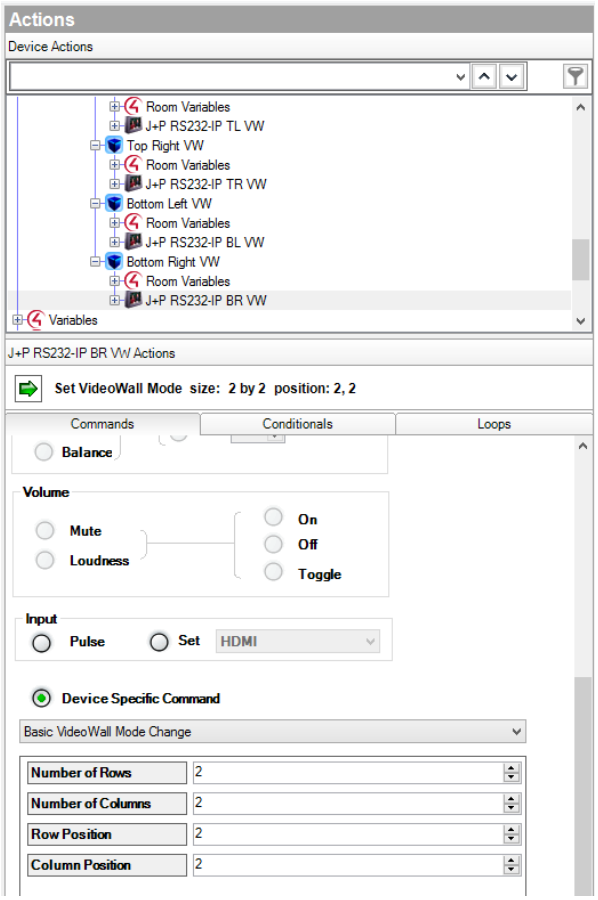
1. Select the RS232-IP Server driver
2. In the *Properties* window, enter the *Licence Key*. The driver will not work without a license key.
3. Set *IP Address* to the IP address of the Just Add Power device that is controlling the endpoint device.



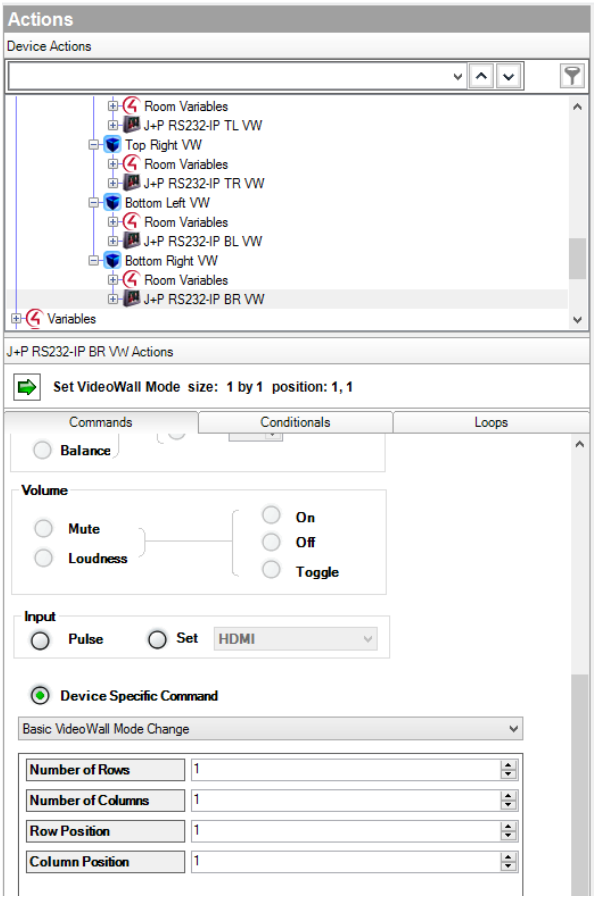


Video Wall

Set the Just Add Power Receiver into video wall mode. Just Add Power video walls can be up to 16 rows and 16 columns. Combine video wall commands for multiple RS232-IP Server drivers together to create a full wall. See the Video Wall Walkthrough section for more information.



Bottom Right Display of a 2x2



Single-Screen

CEC

Consumer Electronics Control is control of endpoint devices passed through the HDMI cable. The current version of the RS232-IP Server driver has CEC commands built into the remote.

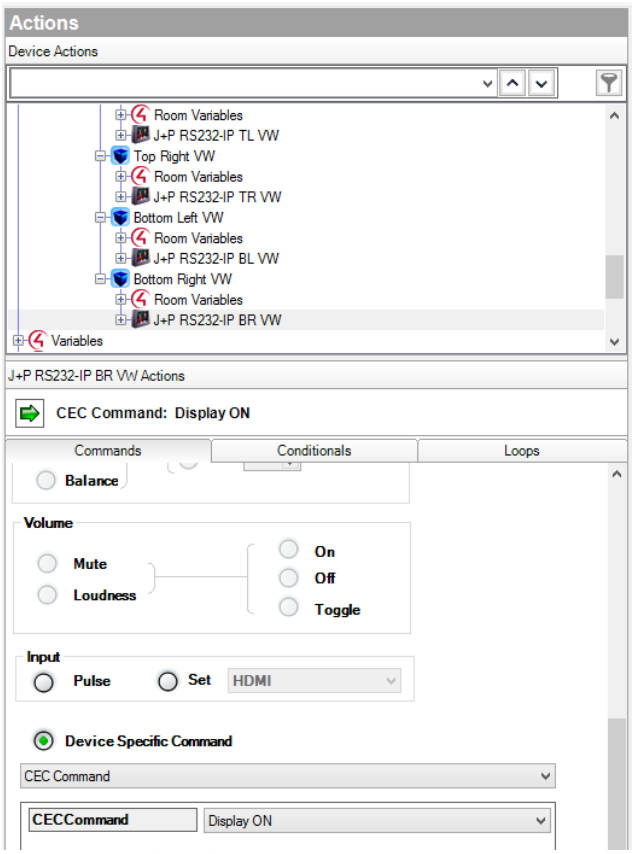
CEC Command

Pre-programmed CEC commands:

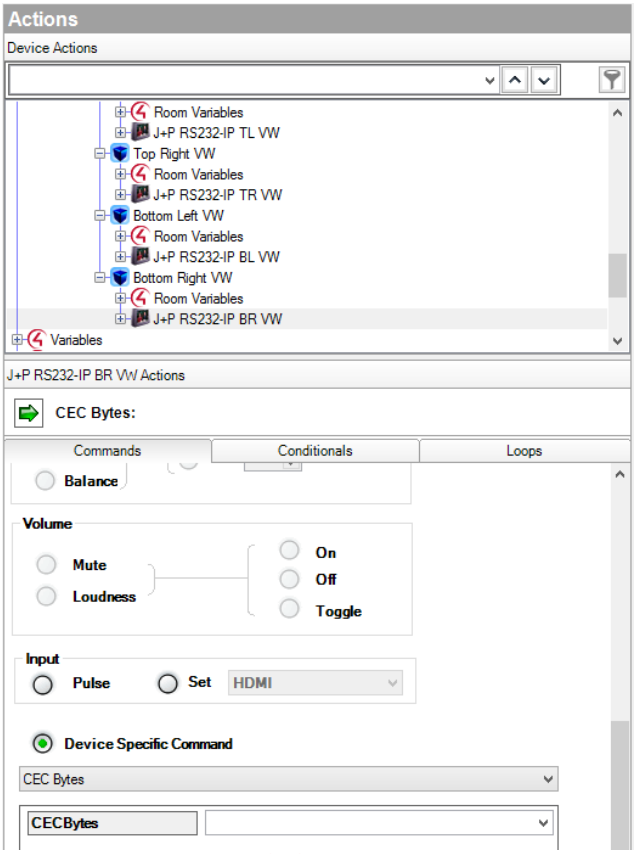
- Display ON – power on the display
- Display OFF – power off the display
- TV Speakers ON – enable the display speakers (not functional on most displays)
- TV Speakers OFF – disable the display speakers (not functional on most displays)
- Force HDMI Selection – Select HDMI Input 1

CEC Bytes

Send custom CEC commands



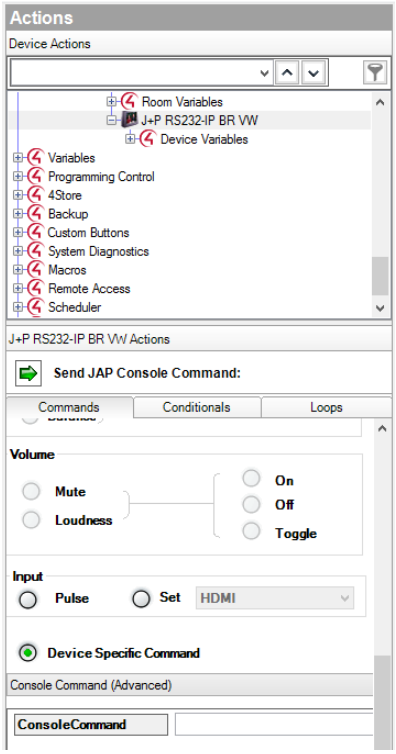
CEC Command – Display ON



CEC Bytes

Console Command

Pre-Programmed



- Audio Delay Decrease – decrease the audio delay on the Stereo Out port by 1
- Audio Delay Increase – increase the audio delay on the Stereo Out port by 1
- Capture RX EDID – send to RX to capture the EDID from attached display and send back to Transmitter
- Link RESTART – restart the video-over-ip link
- Link STOP – disable the video-over-ip link
- Link Watchdog Disable – disable aggressive HDMI handshaking (default)
- Link Watchdog Enable – enable aggressive HDMI handshaking
- Reboot – reboot the unit
- RX HDMI OFF – disable the HDMI port on the Receiver and output nothing
- RX HDMI ON – enable the HDMI port to output video if present
- RX HDMI Mute/Darken – RX HDMI will output black screen
- TX HDMI OFF – enable the HDMI port on the Transmitter
- TX HDMI ON – disable the HDMI port on the Transmitter
- TX Video Mode 0 – set video encoding to Mode 0. Only use on Transmitter
- TX Video Mode 1 – set video encoding to Mode 1. Only use on Transmitter
- TX Video Mode 2 – set video encoding to Mode 2. Only use on Transmitter
- TX Video Mode 3 – set video encoding to Mode 3. Only use on Transmitter
- TX Video Mode Dynamic – set video encoding to dynamic mode (default). Only use on Transmitter
- USB/IP Enable – enable USB functionality on devices
- USB/IP Take Control – take control of the USB link to the device
- USB/IP Disable – disable USB control
- Watch 1080i as 1080p – convert 1080i to 1080p (default)
- Watch 1080i as 720p – convert 1080i video to 720p. 2G Only

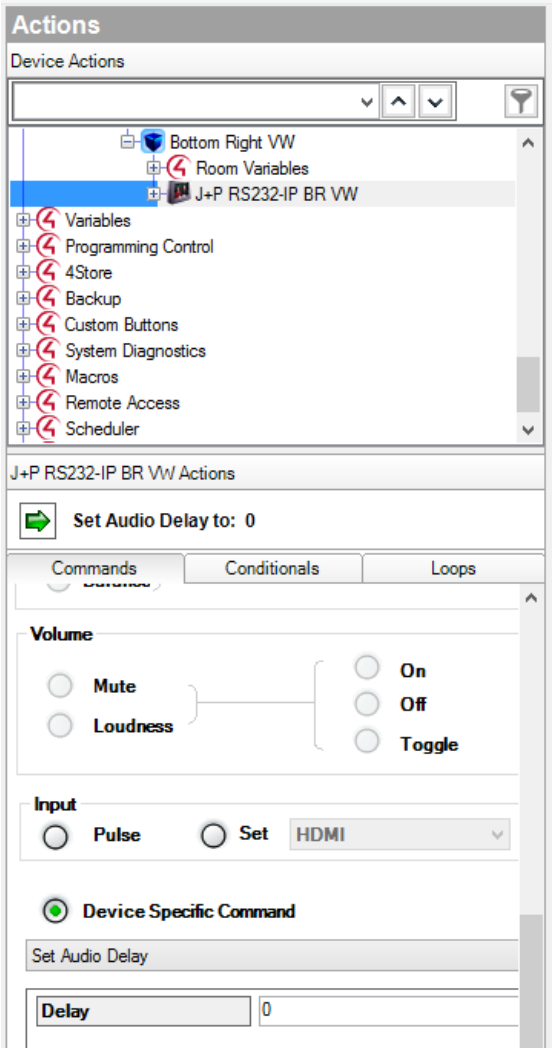
Console Command (Advanced)

Any console command can be sent through this option. The exact command is needed.

Audio Delay

Sets the audio delay on the stereo audio output port to a specific value. Valid values are 1-32.

Value	Delay (ms)	Value	Delay (ms)	Value	Delay (ms)
1	6	10	67	19	129
2	13	11	74	20	135
3	20	12	82	21	142
4	27	13	88	22	149
5	33	14	95	23	156
6	40	15	101	24	163
7	47	16	108	25	170
8	54	17	115		
9	61	18	122		

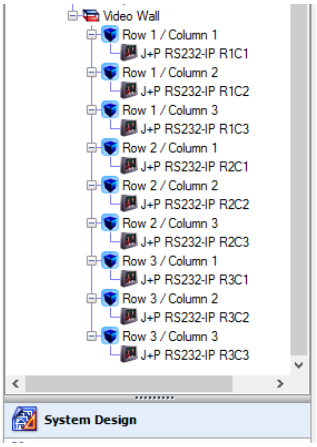


Video Wall Walkthrough

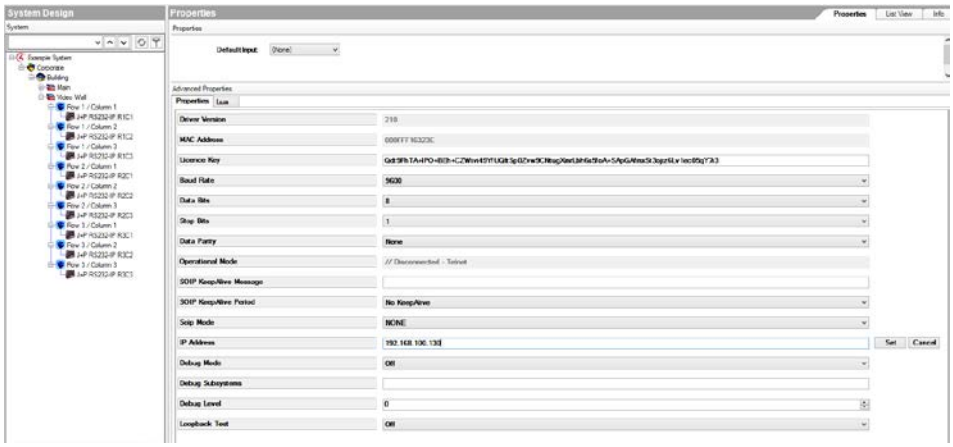
These step-by-step instructions will create a 3x3 video wall and program the macros needed to control it.

Driver Addition and Room Assignment

1. Under *System Design* in Composer, load one *Room* into the project for each display in the video wall and name them accordingly. This example is for a 3x3 wall, so add 9 *Rooms*.
2. Add a Just Add Power RS232-IP Server driver for each TV in the video wall. Rename the drivers according to their wall position for simpler identification.
3. (Optional) Add the appropriate TV driver for your project to each *Room*. The TV driver only needs to be added if the TV is being controlled with RS232 or IR.
4. Assign the license key and IP address for each corresponding Receiver in the video wall to its RS232-IP Server driver.



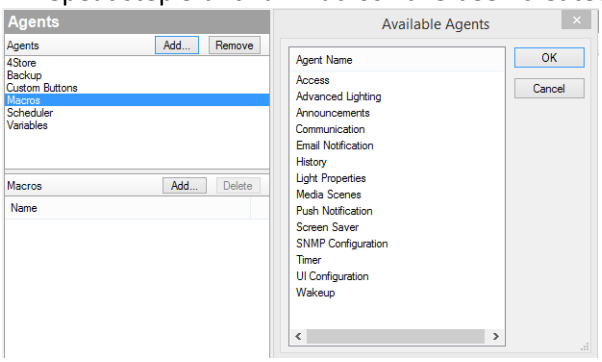
Steps 1-2



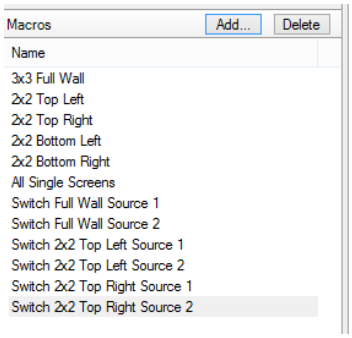
Step 4

Enabling and Creating Macros

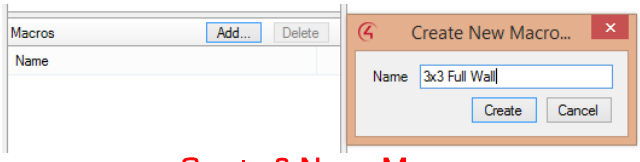
1. Under *Agents* in Composer, click on *Add*, and add *Macros* to the *Agents* window if not already there.
2. In the *Macros* window, click on *Add* and name the macro according to the function it will perform.
3. Repeat step 3 until all macros have been created.



Add Macros



All Macros



Create & Name Macro

Programming Macros

The two examples below use a 3x3 video wall and show two different layouts possible on the video wall. Using these two examples as a template, a programmer can create any video wall setup.

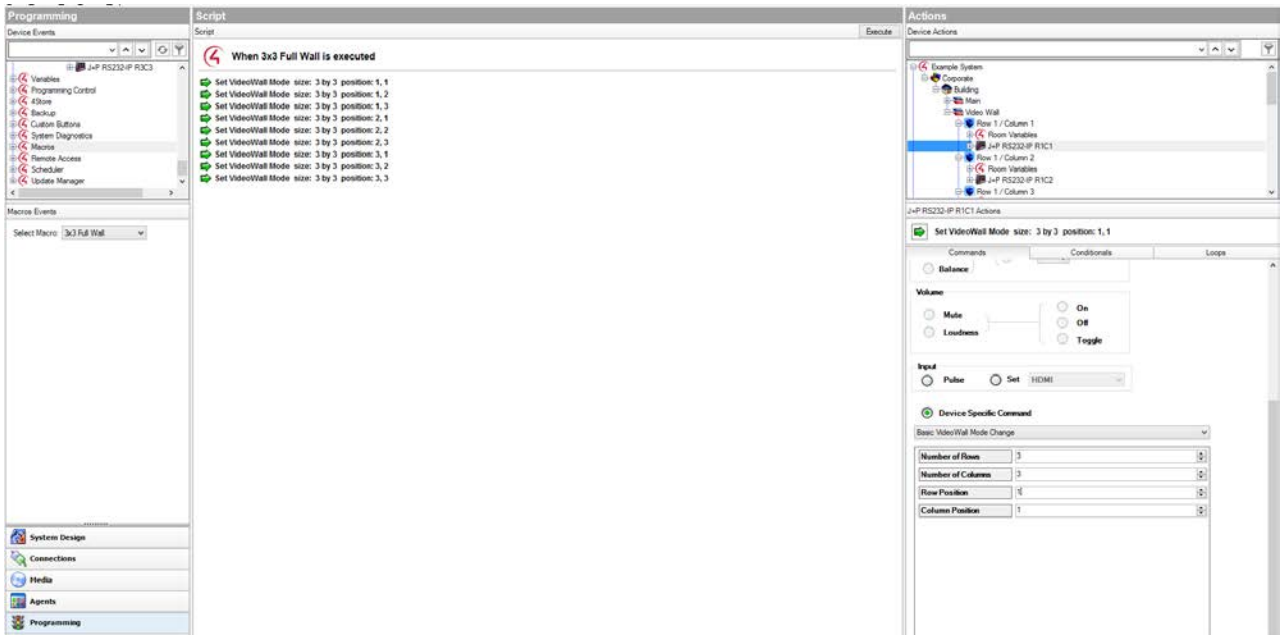
- Create a 3x3 Wall
- Create a 2x2 Wall with Single Screens

Create a 3x3 Wall

In order to change a full 3x3 wall to watch the same source, two macros are involved: one macro to switch all screens to the same source, and a second macro to change the video wall mode on the Receivers. They will be combined together later to perform the entire action in one button press.

Set Video Wall 3x3 Mode

1. Under *Programming* in *Composer*, scroll down and select *Macros* in the *Device Events* list. Select the *3x3 Full Wall* macro
2. In *Device Actions* on the right side, select the driver for the Row 1, Column 1 Receiver.
3. Scroll down to *Device Specific Commands* and select *Basic Video Wall Mode Change*. Set *Number of Rows* to 3. Set *Number of Columns* to 3. Set *Row Position* to 1. Set *Column Position* to 1.
4. Drag the green arrow into the *Script* window to add it to the macro.
5. In Device Actions on the right side, select the driver for the Row 1, Column 2 Receiver.
6. Scroll down to Device Specific Commands and select Basic Video Wall Mode Change. Set Number of Rows to 3. Set Number of Columns to 3. Set Row Position to 1. Set Column Position to 2
7. Drag the green arrow into the Script window to add it to the macro.
8. Repeat until all 9 displays have their Row and Column Positions assigned in the macro. There will be 9 commands in the macro when finished.

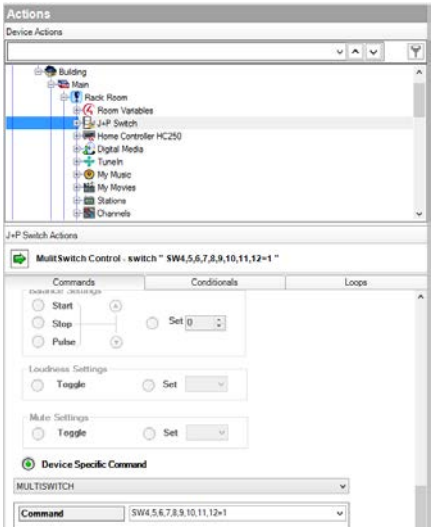


Switch Sources

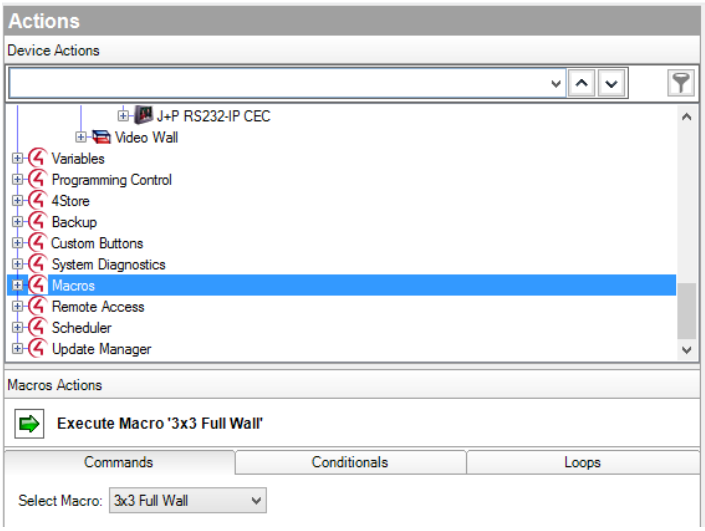
1. Under *Programming* in *Composer*, scroll down and select *Macros* in the *Device Events* list. Select the *Switch Full Wall Source 1* macro
2. In *Device Actions* on the right side, select the switching driver.
3. Scroll down to *Device Specific Commands* and select *MULTISWITCH*.
4. The command structure for *MULTISWITCH* is:

   `SW4,5,6,7,8,9,10,11,12=1`

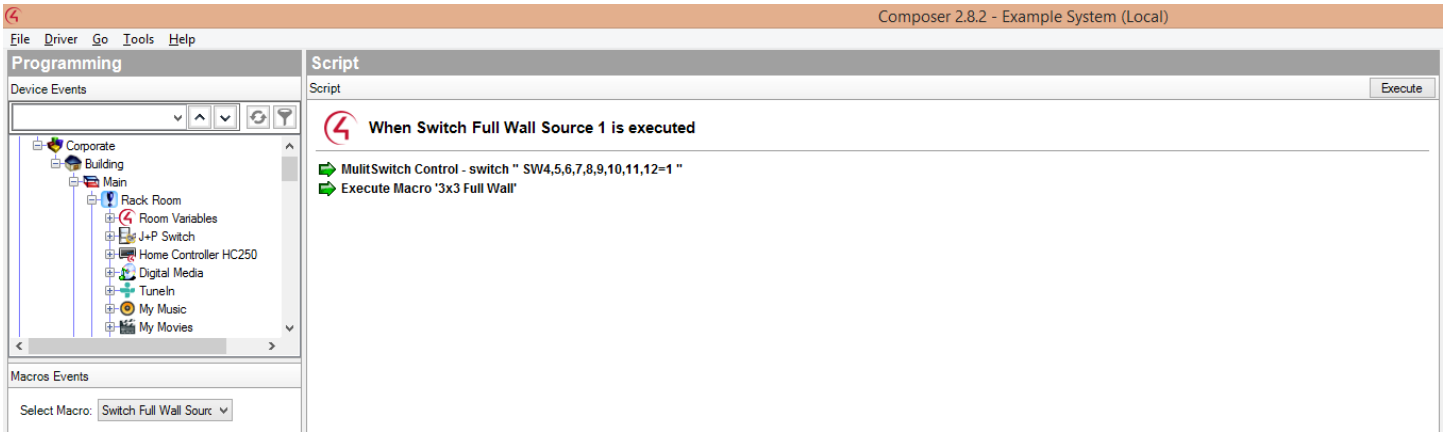
   a. SW must be **CAPITALIZED**
   b. `4,5,6,7,8,9,10,11,12` are the outputs that are to be switched according to *Connections* for the video wall screens.
   c. = sign separates the outputs from inputs
   d. 1 is the input number that the outputs will be switched to
5. Add the appropriate *MULTISWITCH* command to the macro by dragging the green arrow into the *Script* window
6. Add the *3x3 Full Wall* macro to this macro
   a. In *Device Actions* on the right side, select *Macros*
   b. Select the *3x3 Full Wall* macro from the dropdown list
   c. Drag the green arrow into the *Script* window
7. The completed macro will switch 9 screens to watch source 1 and change the Receivers to video wall mode
8. Duplicate this macro for every source in the system that will be on the full wall.



Step 4-5



Step 6



Step 7

Create a 2x2 Wall with Single Screens

There are many other video wall modes to be made out of a 3x3 wall. One example is a 2x2 wall with 5 single screens. All of the commands will be combined into a single macro in this example.

Set Video Wall 2x2 and Single Screen Modes

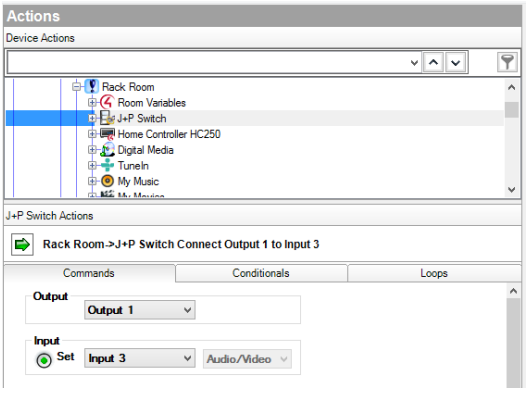
1. Under *Programming* in *Composer*, scroll down and select *Macros* in the *Device Events* list. Select the *2x2 Top Left* macro
2. In *Device Actions* on the right side, select the driver for the Row 1, Column 1 Receiver.
3. Scroll down to *Device Specific Commands* and select *Basic Video Wall Mode Change*. Set *Number of Rows* to 2. Set *Number of Columns* to 2. Set *Row Position* to 1. Set *Column Position* to 1.
4. Drag the green arrow into the *Script* window to add it to the macro.
5. Repeat steps 2-4 for the other 3 Receivers that make up the 2x2 wall portion, changing the *Row Position* and *Column Position* for each screen.
6. Select the driver for the Row 1, Column 3 Receiver.
7. Scroll down to *Device Specific Commands* and select *Basic Video Wall Mode Change*. Set *Number of Rows* to 1. Set *Number of Columns* to 1. Set *Row Position* to 1. Set *Column Position* to 1. This will put the Receiver into single-screen mode.
8. Drag the green arrow into the *Script* window to add it to the macro.
9. Repeat steps 7-8 for the other 4 Receivers that are in single-screen.
10. The video wall mode is set. Move to Switch Sources section on the next page to finish the macro.

Switch Sources

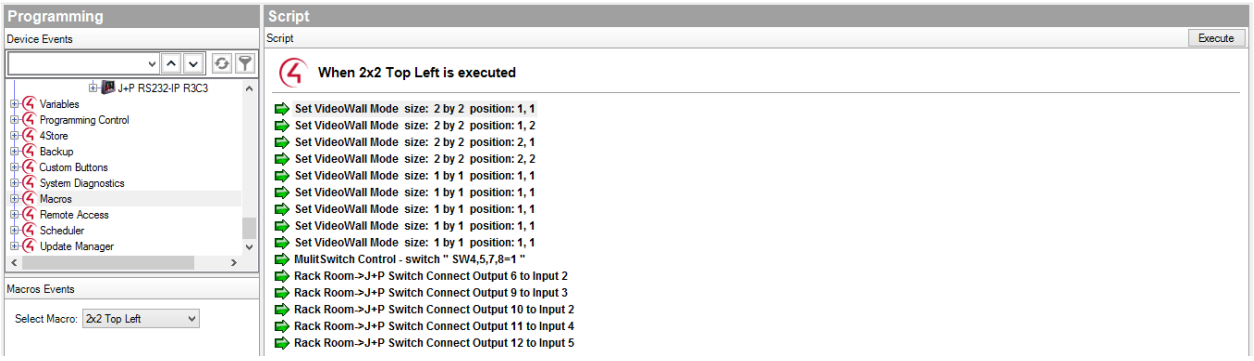
1. In Device Actions on the right side, select the switching driver
2. Scroll down to *Device Specific Commands* and select *MULTISWITCH*
3. The command structure for *MULTISWITCH* is:

   `SW4,5,7,8=1`

   a. SW must be **CAPITALIZED**
   b. 4,5,7,8 are the output numbers for the top left 2x2 that are to be switched according to *Connections* for the video wall screens.
   c. = sign separates the outputs from inputs
   d. 1 is the input number that the outputs will be switched to
4. Add the appropriate *MULTISWITCH* command for the 2x2 screens to the *2x2 Top Left* macro by dragging the green arrow into the *Script* window
5. Create commands to switch the single-screen displays:
   a. In the switching driver, select the *Output* for the Receiver and the *Input* for the source you want to show
   b. Add the command to the macro by dragging the green arrow into the *Script* window
   c. Repeat steps a-b for each single screen display in the wall
6. The full macro is complete!



Step 5



Full Macro

Tiling Walkthrough

The Just Add Power Tiling Transmitter consists of:

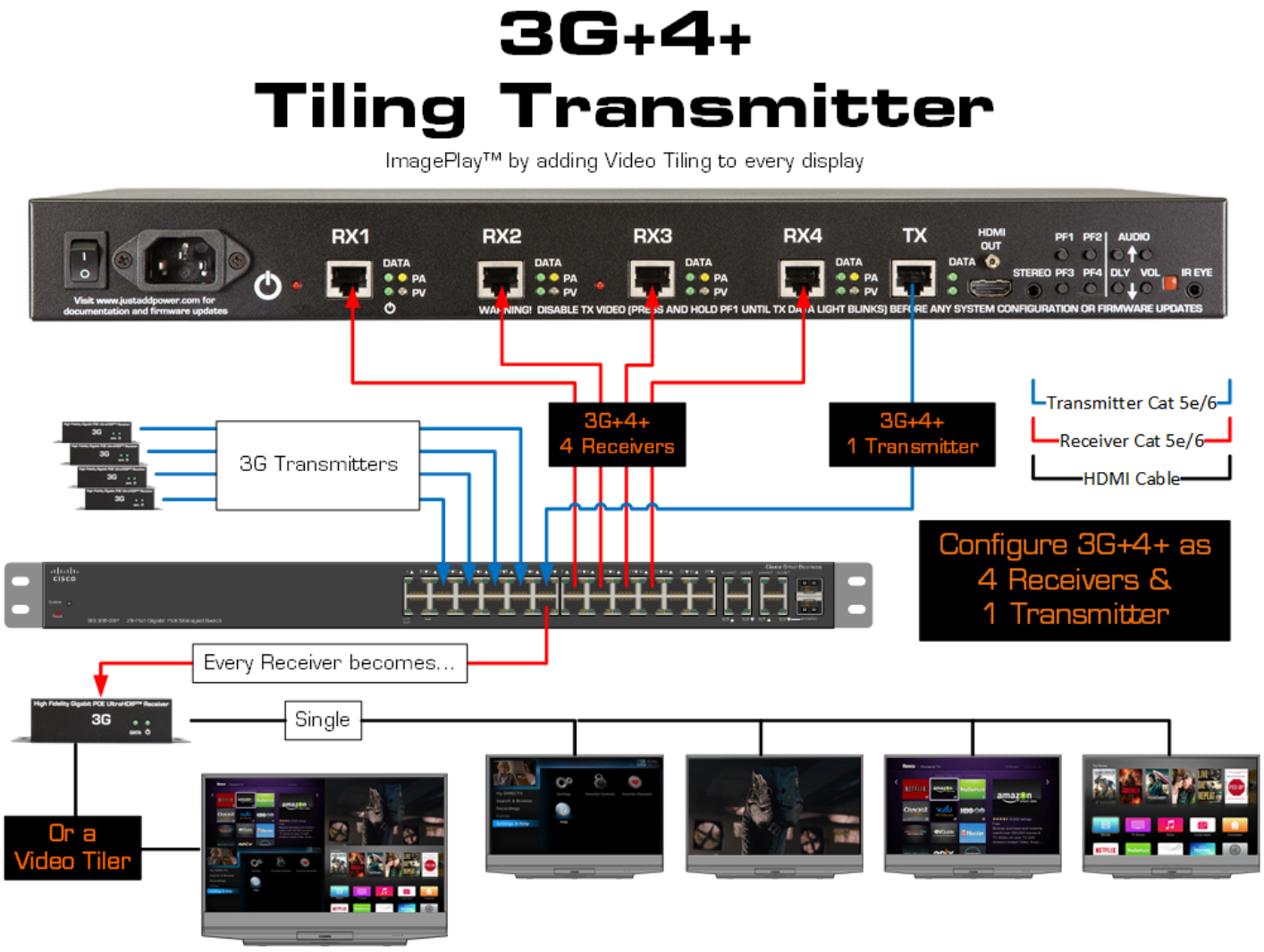
- Four Just Add Power Receivers that can watch any Transmitter in the system
- One Just Add Power Transmitter that can broadcast video to any Receiver in the system

The four videos being viewed by the Receivers are compiled into one video layout and output by the Transmitter as a single, unique video signal. The compiled video signal from the Transmitter can be viewed on any Receiver in the system.

The Receivers in the Tiling Transmitter can be switched like any Receiver in the system, making them act like 4 Displays. The Transmitter is an additional source in the system; if a system has 6 Transmitters and a Tiling Transmitter, that system has 7 Sources.

The Tiling Transmitter isn't confined to one room because of the way the Transmitter distributes video. This creates an uncommon situation for Control4: Control4 expects each room to have one display and each display to be located in a different room, but the Tiling Transmitter is 4 displays that are in the rack.

There are a variety of ways for controlling a Tiling Transmitter with Control4. The method is a good example of how a Tiling Transmitter can be integrated with Control4, but each system requires different considerations.



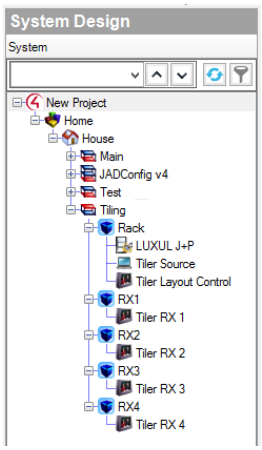
Driver Setup and Connection

Part 1 - Receivers

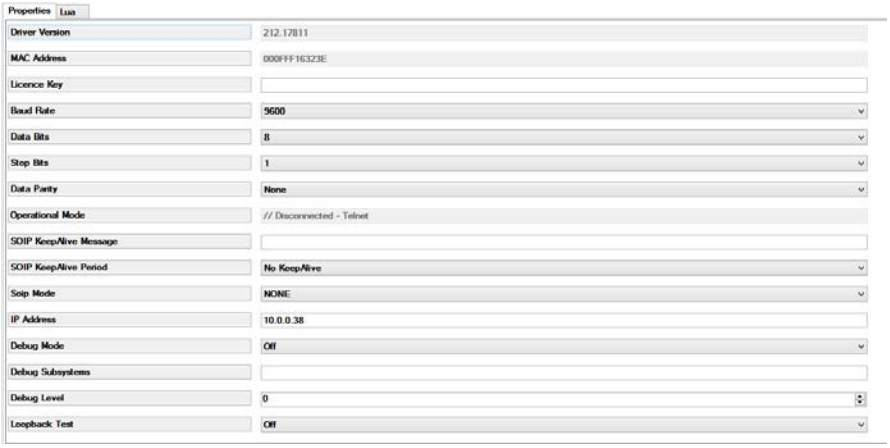
1. In *System Design*, load four *Rooms* into the project – one for each Receiver in the Tiler – and name them accordingly.
2. Add 4 Just Add Power RS232-IP Server drivers – one in each *Room* – as displays for switching the 4 Receivers. Rename the drivers for ease of understanding. These drivers will be connected later as Outputs.
3. In *Properties*, assign the license key and IP addresses from the JADConfig Report File for the 4 Tiling Receivers.
4. In *Connections* → *Control/AV*, connect the HDMI Input of the four Tiling Receivers to the HDMI Outputs numbers on the switching driver according to the JADConfig Report File.

Part 2 - Transmitter

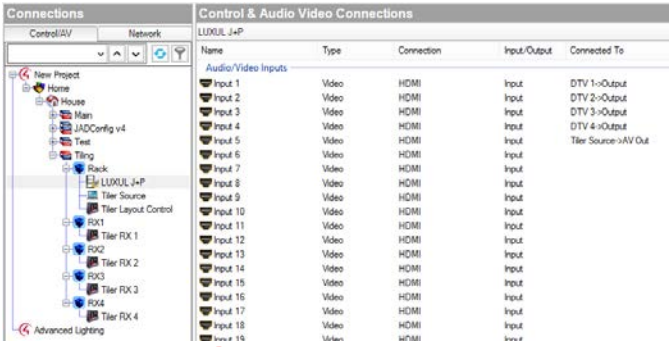
1. In *System Design*, add a generic source to the rack area to represent the Tiling Transmitter, for example the *PC – UI Button* driver. Rename it to reflect that it is a Tiling Transmitter instead of a PC. This driver will be connected later as an Input.
2. Add a Just Add Power RS232-IP Server driver to the rack area and rename it appropriately – aka *Tiler Layout Control*. This driver will be used to adjust the layout of the Tiling Transmitter.
3. In *Properties*, assign the license key and IP address from the JADConfig Report File for the Tiling Transmitter.
4. In *Connections* → *Control/AV*, connect the HDMI Output of the Tiling Transmitter to the HDMI Input number on the switching driver according to the JADConfig Report File.



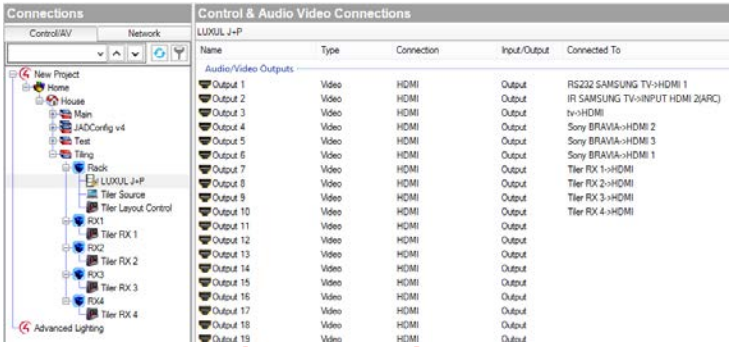
System Design



Properties



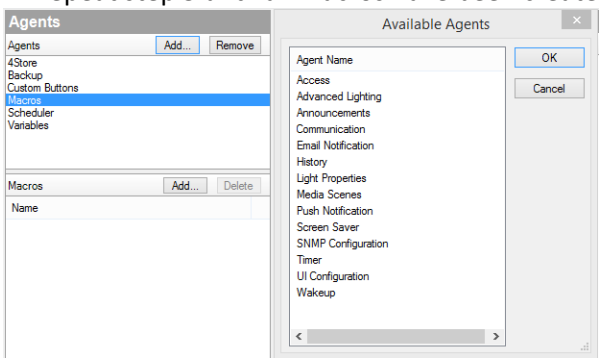
Connections – Inputs



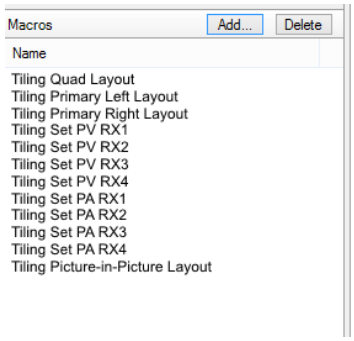
Connections - Outputs

Enabling and Creating Macros

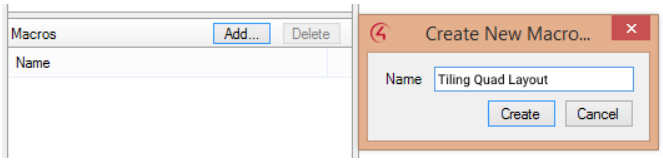
1. Under *Agents* in Composer, click on *Add*, and add *Macros* to the *Agents* window if not already there.
2. In the *Macros* window, click on *Add* and name the macro according to the function it will perform.
3. Repeat step 3 until all macros have been created.



Add Macros



All Macros



Create & Name Macro

Programming Macros

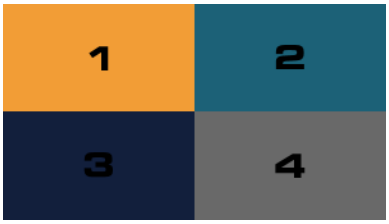
To change the output format of a Tiling Transmitter, the command must be sent to the IP of the Transmitter board.

1. Go to the Programming tab of Composer
2. On the right bar under **Actions**, choose the RS232-IP server driver that is assigned to the IP of the Transmitter – named Tiler Layout Control in an earlier section
3. Below in **Commands**, choose **Device Specific Command** and then the dropdown option for **Console Command (Advanced)**
4. Using the Tiling Transmitter manual available at support.justaddpower.com, enter the desired command. Examples below:

Name	Command
Layout: Quad View	`_4in1_layout.sh 4`
Layout: Secondary Right	`_4in1_layout.sh 2`
Layout: Secondary Bottom	`_4in1_layout.sh 3`
Set RX1 as Primary Video	`_4in1_primary_video.sh 1`
Set RX1 as Primary Audio	`_4in1_focus.sh 1`

Secondary Right

Secondary Bottom



Quad View