Just Add Power

AMP VLAN

RTI DRIVER in ID9

Revised 2023-02-21

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Overview

Supported Switches

The RTI driver supports all models of switch that are supported by AMP VLAN

AMP

AMP – Advanced Matrix Programmer – is software that runs on a Windows computer and configures supported managed switches and all attached Just Add Power devices.

AMP VLAN must be run on the switch before these drivers can control the system.

Requirements

Driver requirements:

- 3G system on firmware B2.1.2 or greater
- MaxColor system on any firmware
- Static Route applied to the router to provide network access to Just Add Power devices

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Setup Static Route

AMP VLAN systems require a Static Route to work. There are two ways to enable a Static Route:

- With Router
- Without Router

Report File

The information for the Static Route can be found in the AMP Report File, created when the system is configured and saved by the programmer in a helpful space.

The file can also be found in `C:\Users\{user}\Documents\Just Add Power\AMP\Projects` under the name of the project.

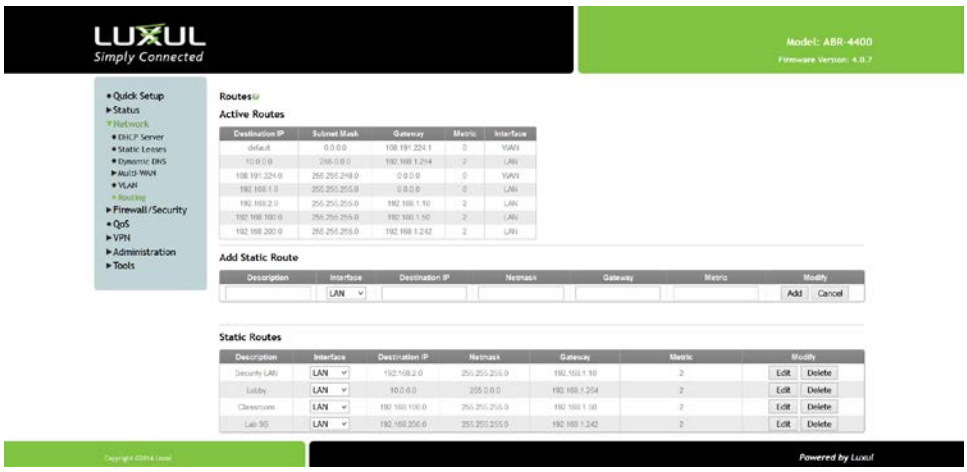
System Details			
Project Name:	JPSW HQ		
Date:	Mar 29 2022		
Switch Family:	Luxul		
Username:	admin		
Password:	admin		
Switch Total:	4		
Receiver Total:	151		
Transmitter Total:	40		
Static Route:	Destination IP	Netmask	Gateway
	172.20.0.0	255.255.0.0	10.4.20.1

With Router

Most routers have the ability to redirect network traffic internally to IP addresses that are not part of the normal data network. Just Add Power devices use this function to communicate with the Local Area Network without interfering with regular data traffic.

Access the web interface of the router and look for the section on **Routing** or **Static Routing**.

In the **Static Routing** section, enter the Destination IP, Netmask, and Gateway according to the JADConfig Report file for the Just Add Power system.



Static Route Page in Luxul Router

Without Router

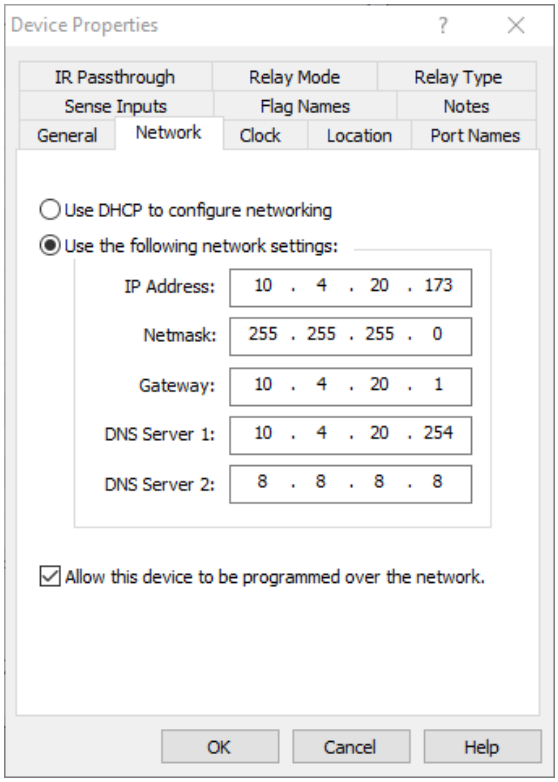
If the system does not have a router or the router does not have Static Routing, then the RTI processor network settings can be modified to communicate with Just Add Power devices. This does not affect the functioning of the system in any way.

Set the network settings of the RTI processor manually so that it uses the Just Add Power switch's IP address as the default gateway.

Example:

The image to the right has these details:

- RTI processor IP: 10.4.20.173
- Subnet mask: 255.255.255.0
- Gateway: 10.4.20.1 (Just Add Power switch IP)
- DNS Server 1: 10.4.20.254 (router IP)
- DNS Server 2: 8.8.8.8 (Google DNS)



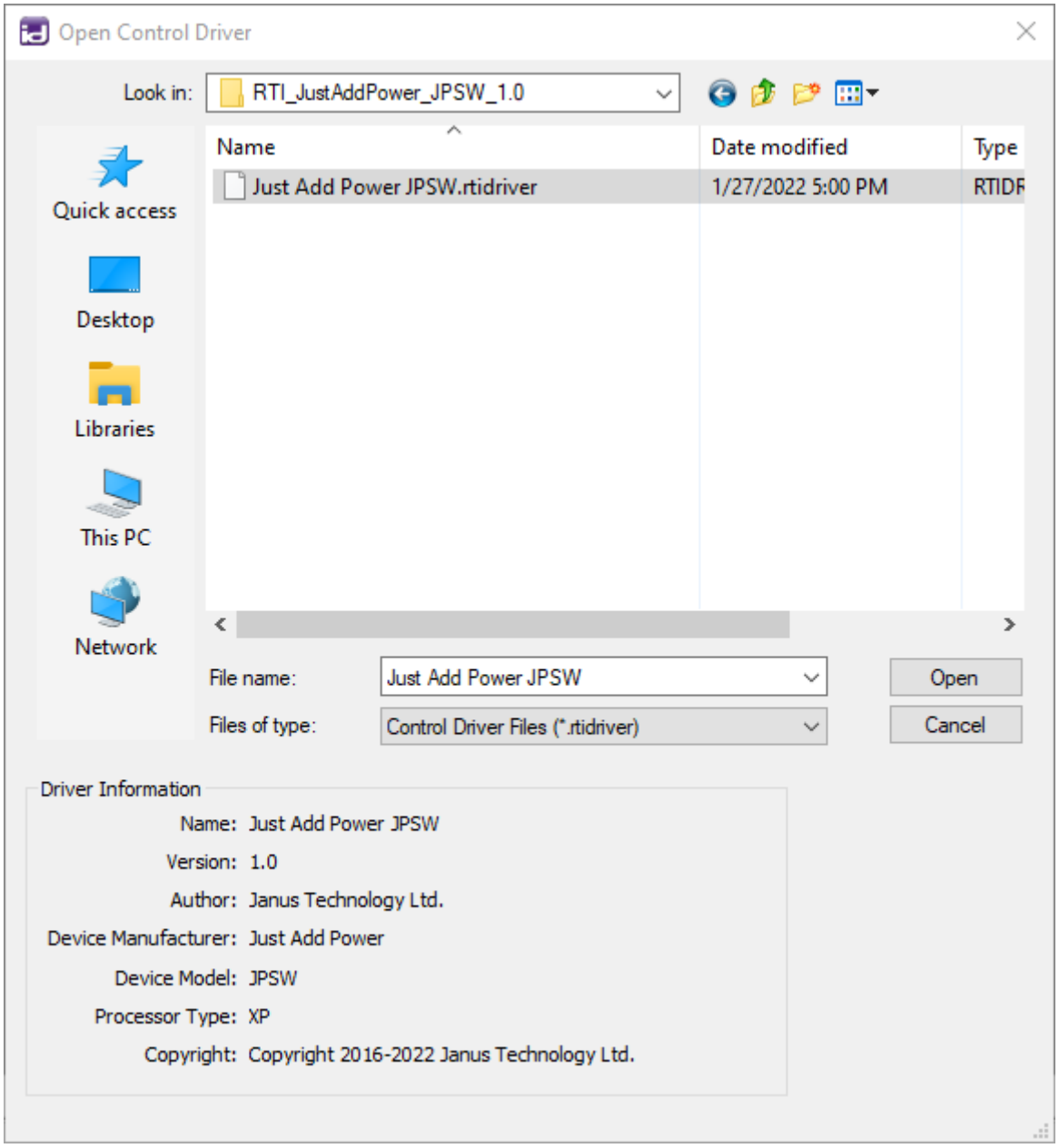
Matrix Control Driver

The matrix control driver – JPSW – provides HDMI matrix switching to set any display to watch any source

Add

In the XP processor **Drivers** menu, click **Add**. Navigate to the location of the driver and click **Open**.

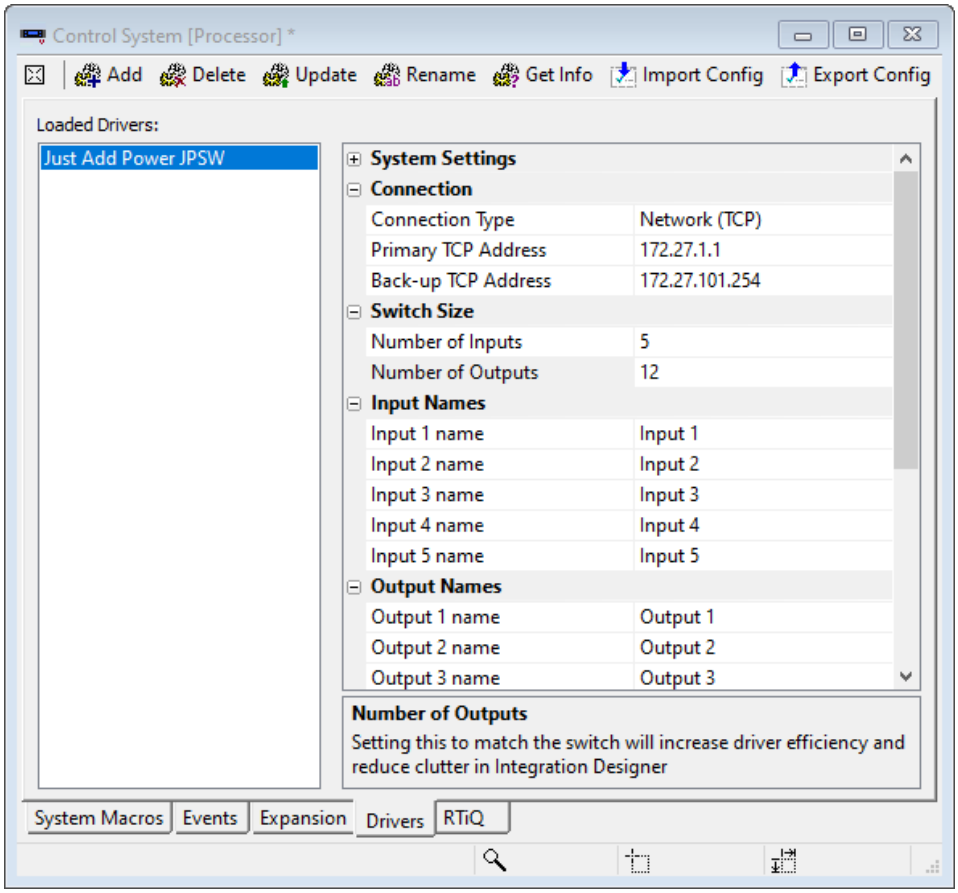
Load **ONLY ONE** JPSW driver.



Matrix Control Driver

Configure

1. In the XP processor **Drivers** tab, select the Matrix Control driver.
2. Set **Primary TCP Address** to the IP address of **any active Just Add Power device** in the system. We recommend using the **first active Receiver** at **172.27.1.1**.
3. Set the **Back-up TCP Address** to the IP address of **another active Just Add Power device** in the system, in case the Primary device fails. We recommend using the **first active Transmitter** at **172.27.101.254**.
4. In **Switch Size**, set **Number of Inputs** to the number of Transmitters in the system, and **Number of Outputs** to the number of Receivers in the system. These values do not affect the overall system size, only the number of **Input Names** and **Output Names** available.
5. Optional: Set **Input Names** and **Output Names** to the names of the sources and displays. Names carry over to all driver functions and are for ease-of-use for the programmer.



Matrix Control Driver Properties

Program

AMP VLAN Report File

To identify devices, the driver uses Input and Output numbering that matches the Report File.

=== Receivers ===				=== Transmitters ===			
Output	Switch	Port	IP Address	Input	Switch	Port	IP Address
1	1	1	172.20.1.1	1	1	38	172.20.101.254
2	1	2	172.20.1.2	2	1	39	172.20.102.254
3	1	3	172.20.1.3	3	1	40	172.20.103.254
4	1	4	172.20.1.4	4	1	41	172.20.104.254
5	1	5	172.20.1.5	5	1	42	172.20.105.254
6	1	6	172.20.1.6	6	1	43	172.20.106.254
7	1	7	172.20.1.7	7	1	44	172.20.107.254
8	1	8	172.20.1.8	8	1	45	172.20.108.254
9	1	9	172.20.1.9	9	1	46	172.20.109.254
10	1	10	172.20.1.10	10	1	47	172.20.110.254
11	1	11	172.20.1.11	11	2	45	172.20.111.254
12	1	12	172.20.1.12	12	2	46	172.20.112.254
13	1	13	172.20.1.13	13	2	47	172.20.113.254
14	1	14	172.20.1.14	14	2	48	172.20.114.254
15	1	15	172.20.1.15	15	3	31	172.20.115.254
16	1	16	172.20.1.16	16	3	32	172.20.116.254
17	1	17	172.20.1.17	17	3	33	172.20.117.254
18	1	18	172.20.1.18	18	3	34	172.20.118.254
19	1	19	172.20.1.19	19	3	35	172.20.119.254
20	1	20	172.20.1.20	20	3	36	172.20.120.254
21	1	21	172.20.1.21	21	3	37	172.20.121.254
22	1	22	172.20.1.22	22	3	38	172.20.122.254
23	1	23	172.20.1.23	23	3	39	172.20.123.254
24	1	24	172.20.1.24	24	3	40	172.20.124.254
25	1	25	172.20.1.25	25	3	41	172.20.125.254
26	1	26	172.20.1.26	26	3	42	172.20.126.254
27	1	27	172.20.1.27	27	3	43	172.20.127.254
28	1	28	172.20.1.28	28	3	44	172.20.128.254
29	1	29	172.20.1.29	29	3	45	172.20.129.254
30	1	30	172.20.1.30	30	3	46	172.20.130.254

Report File Shows Device Mapping

Mapping Devices

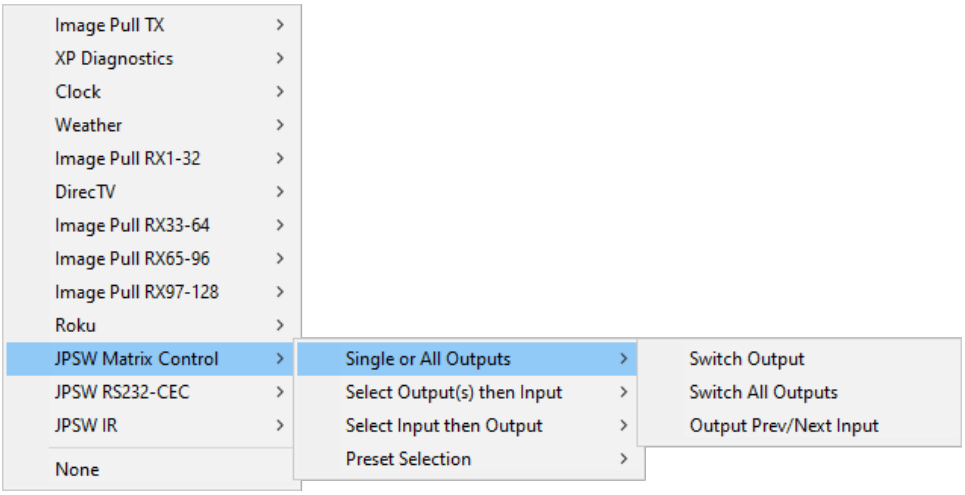
Output 1 in RTI corresponds to Output 1 in the Report File.

Input 1 in RTI corresponds to Input 1 in the Report File.

This mapping system allows for the system size to change without having to change programming.

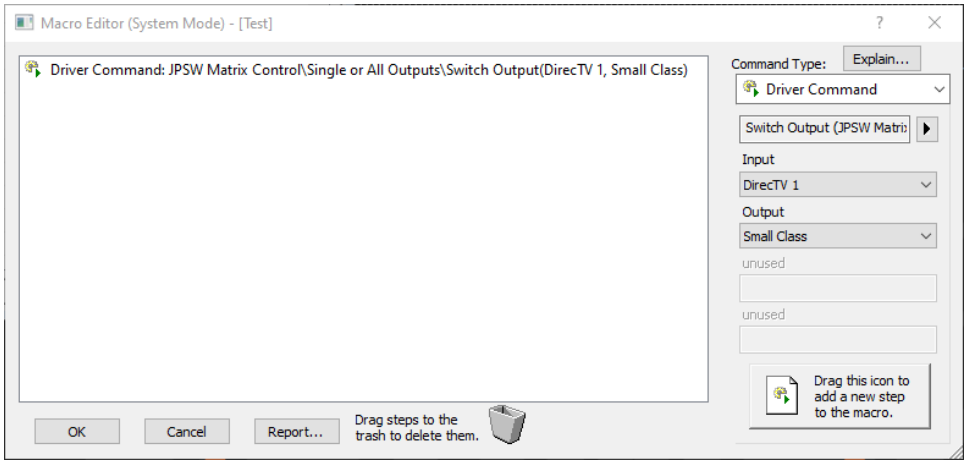
Single or All Outputs

Switch a single Output, switch all Outputs to the same Input, or go to the next/previous Input.



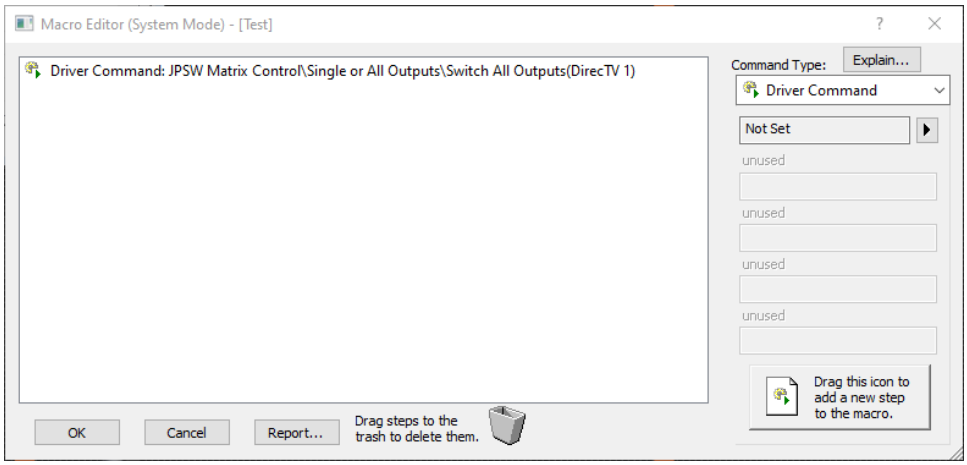
Switch Output

Switch a single Output to watch an Input.



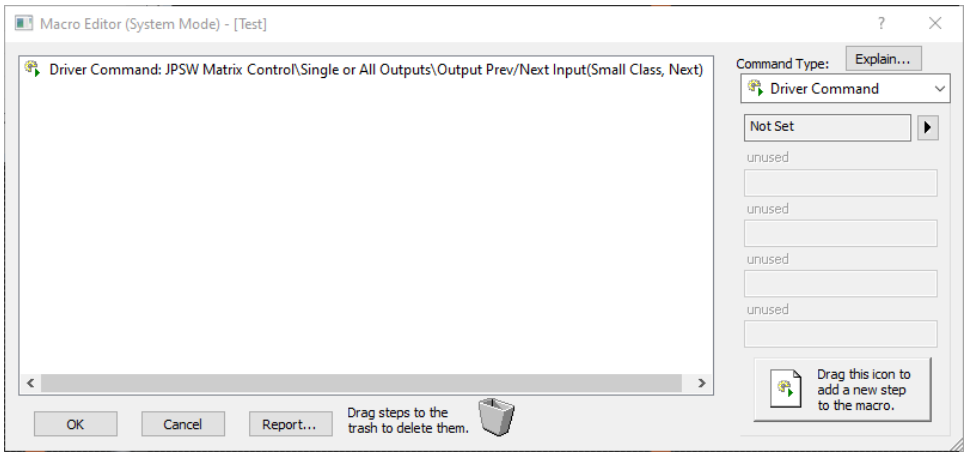
Switch All Outputs

Switch all Outputs to watch the same Input.



Output Prev/Next Input

Select an Output and have it watch the Next or Previous Input.

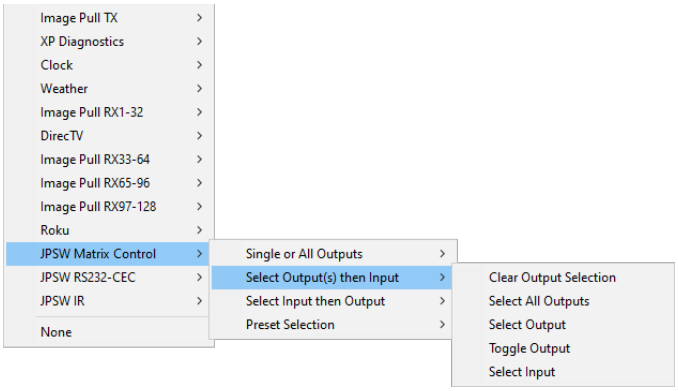


Select Output then Input

Select multiple Outputs and then switch all selected Outputs to the same Input. Each Output has a *Selected/Unselected* flag that is set by the driver. When **Select Input** is used, all Selected Outputs switch to watch that Input.

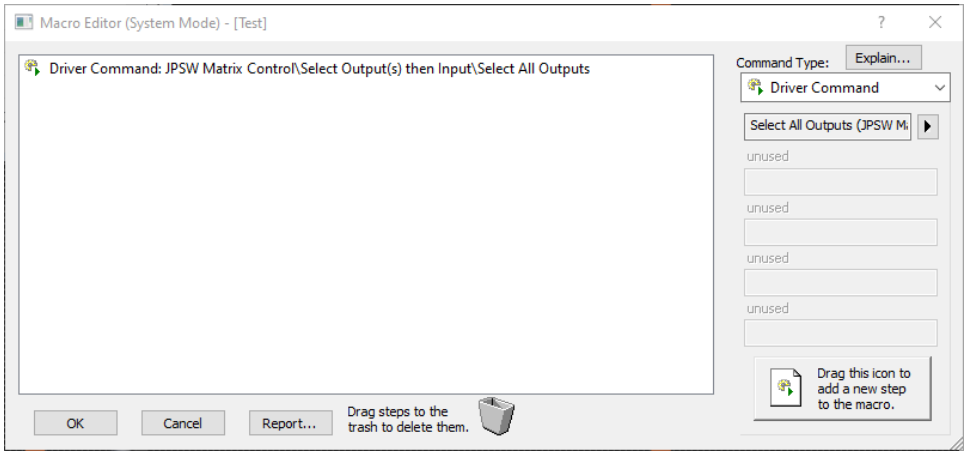
Can only be a Button Macro on an interface. Does not work as a System Macro.

Ideal – combined with video wall functions – for switching all displays in a video wall at the same time.



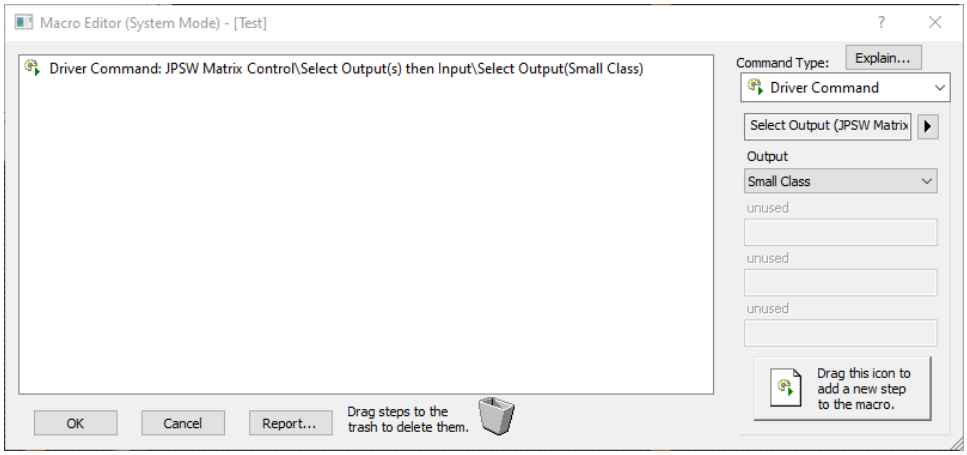
Select All Outputs

Sets all Outputs to *Selected*. Then use **Select Input** to switch all Selected Outputs.



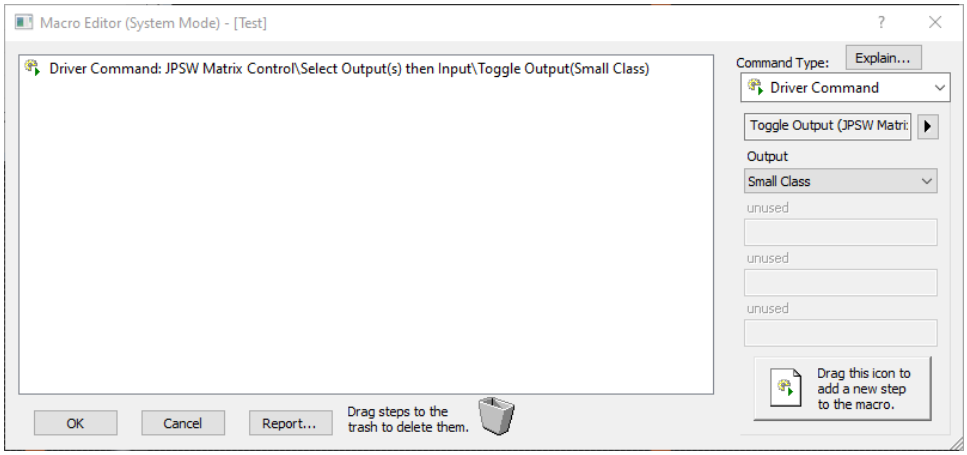
Select Output

Sets a single Output to *Selected*. Then use **Select Input** to switch all Selected Outputs.



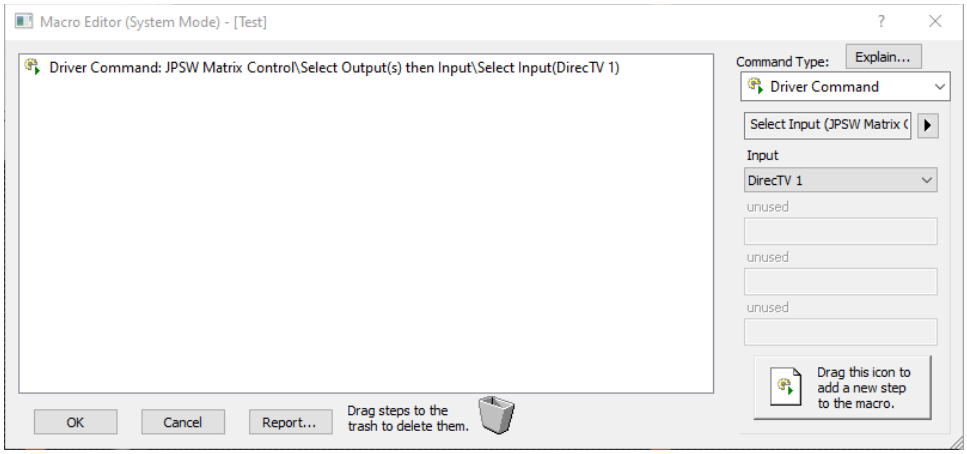
Toggle Output

Toggle Selection status of an Output to set a *Selected* Output to *Unselected* **or an** *Unselected* Output to *Selected*.



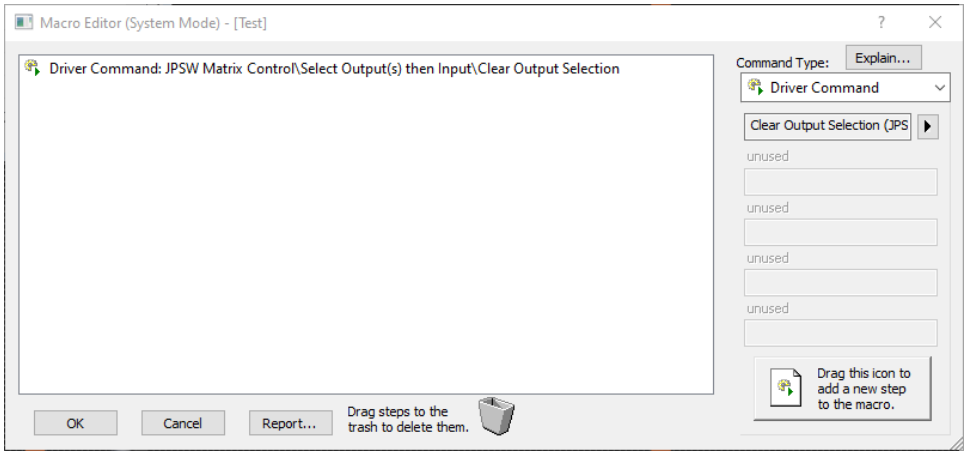
Select Input

Switch all *Selected* Outputs to the Selected Input. Only works when at least one Output is *Selected*.



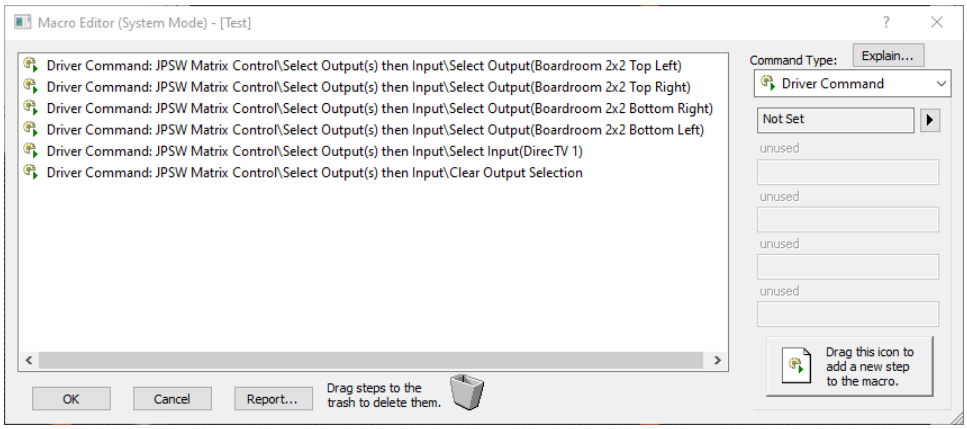
Clear Output Selection

Sets all Outputs to *Unselected*. Best used after **Select Input** to clear and prepare for a new switching command.


Macro Editor (System Mode) - [Test]
Driver Command: JPSW Matrix Control\Select Output(s) then Input\Clear Output Selection
Command Type:
Explain...
Driver Command
Clear Output Selection (JPS
unused
unused
unused
unused
Drag this icon to add a new step to the macro.
OK
Cancel
Report...
Drag steps to the trash to delete them.

Example

Select Output for all screens in a video wall, **Select Input** to go to that wall, then **Clear Output Selection** to prepare for the next switching command. All screens will switch at the same time.

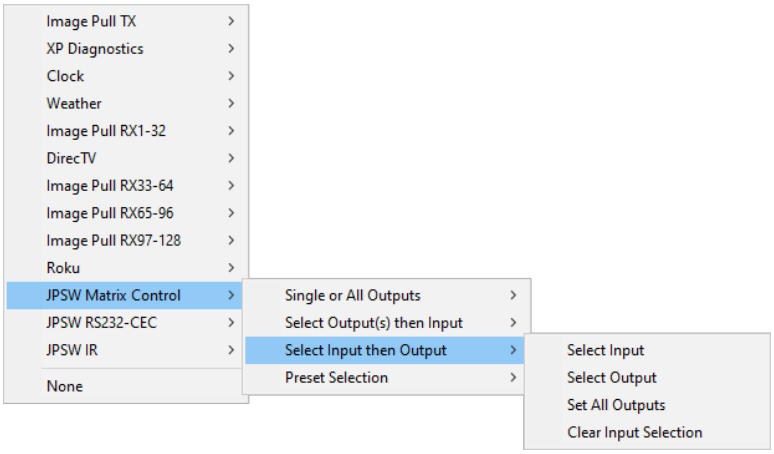


Select Input then Output

Select a single Input, then select an Output to instantly switch the Output to watch the Selected Input.

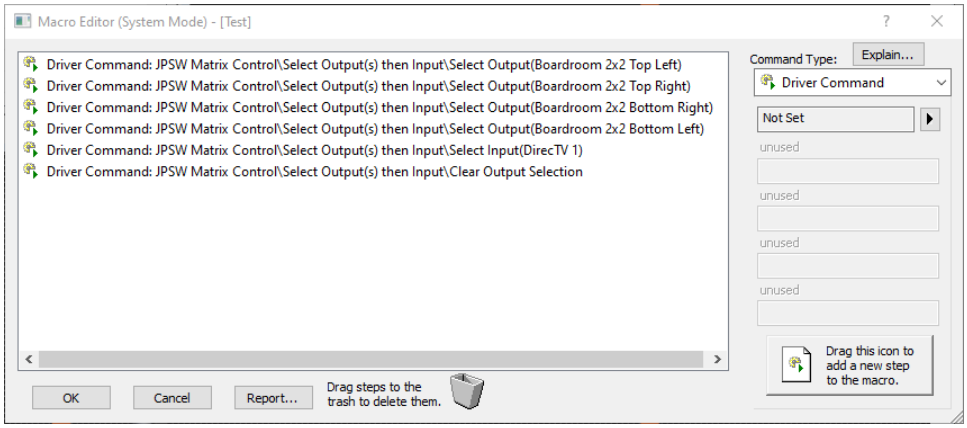
Only one Input can be Selected at a time; Selecting an Input sets all other Inputs to *Unselected*.

Can only be a Button Macro on an interface. Does not work as a System Macro.



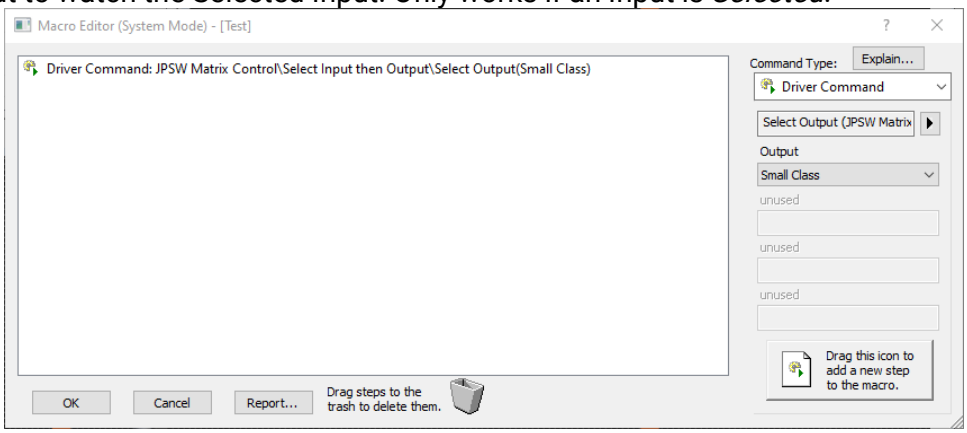
Select Input

Set an Input to *Selected* and all other Inputs to *Unselected*. Then use **Select Output** or **Set All Outputs** to switch to that Input.



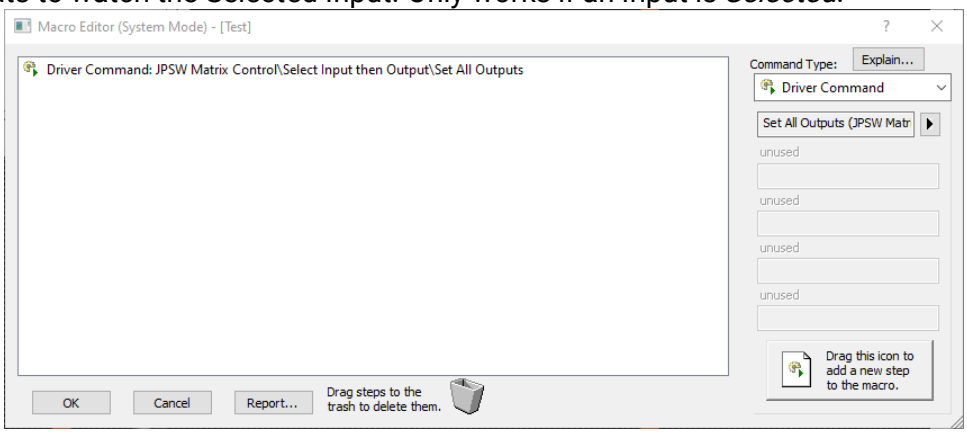
Select Output

Switches an Output to watch the Selected Input. Only works if an Input is *Selected*.



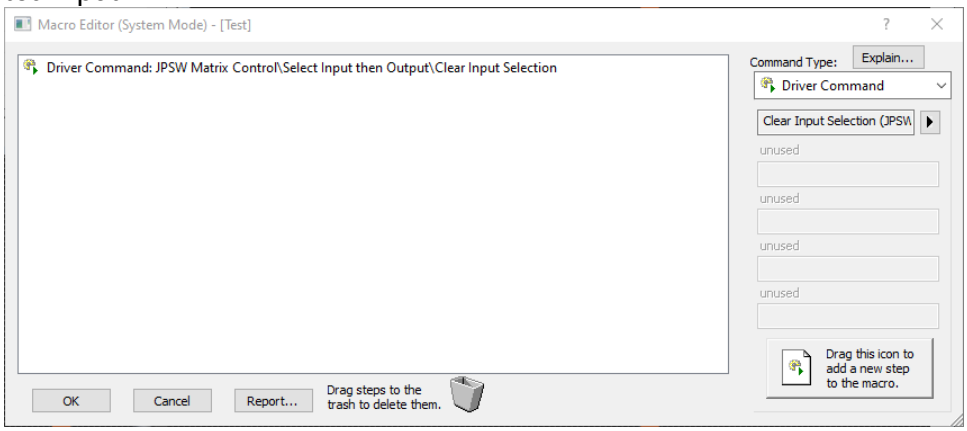
Set All Outputs

Switches all Outputs to watch the Selected Input. Only works if an Input is *Selected*.



Clear Input Selection

Unselect the Selected Input.

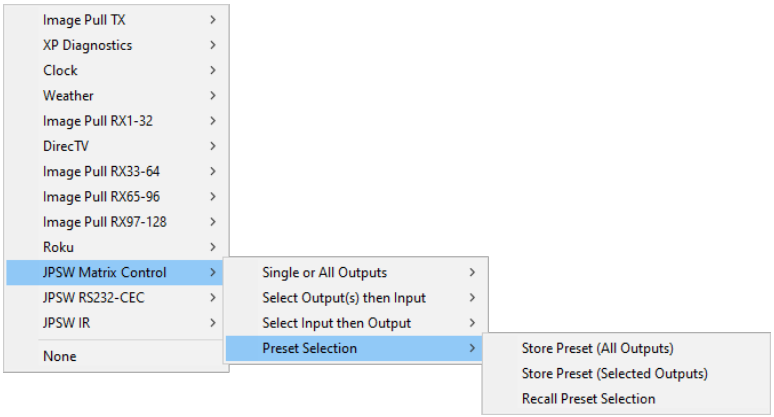


Preset Selection

Preset Selection gives the end-user the ability to build their own preset Input/Output routing and recall it later.

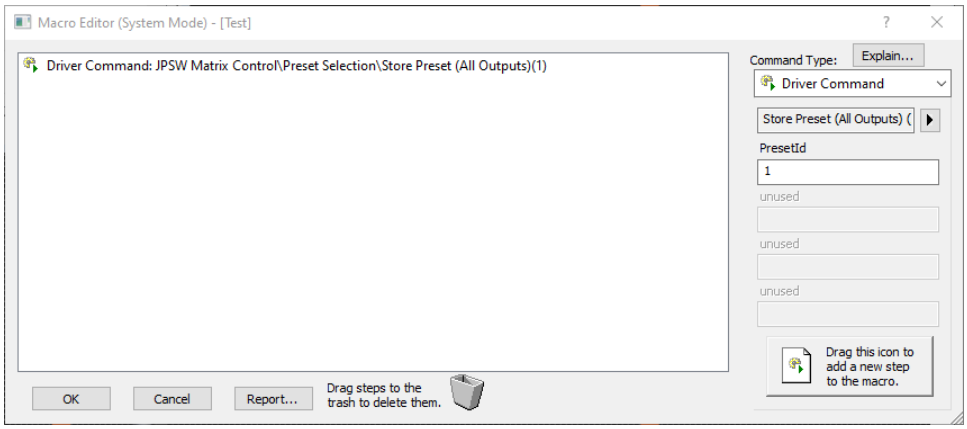
Presets can be set for all Outputs or a set of selected Outputs.

There are 16 PresetIDs available – numbered 1-16.



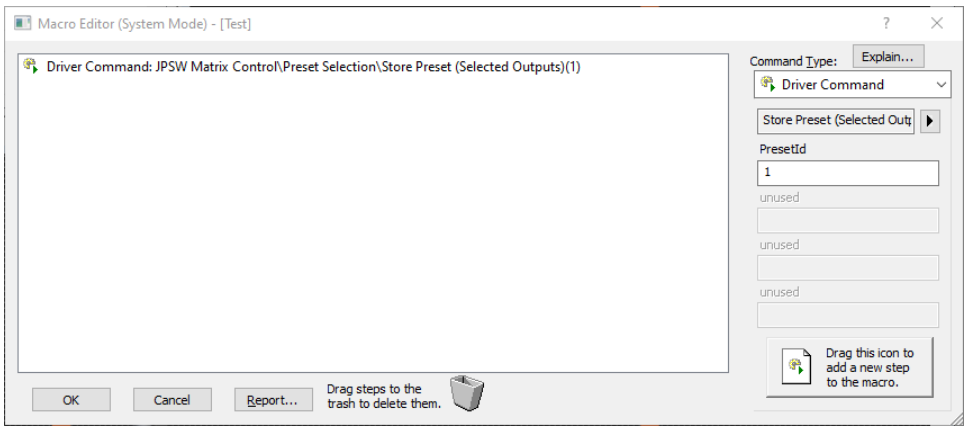
Store Preset (All Outputs)

Set a Preset (1-16) to remember all Output/Input combinations to be recalled at a later time.



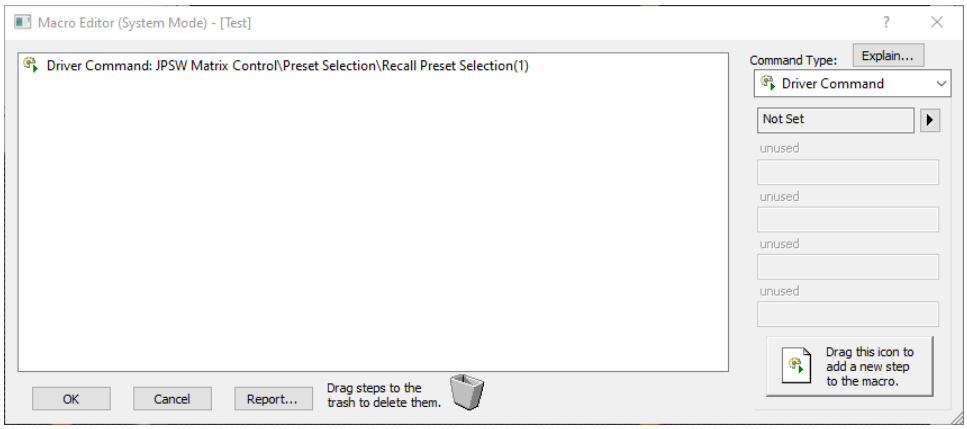
Store Preset (Selected Outputs)

Set a Preset (1-16) to remember the Output/Input combination for the selected outputs. Use **Select Output then Input** to select outputs.



Recall Preset Selection

Recall a Preset (1-16) to set the saved Outputs to watch their assigned Input.



System Variables

The Matrix Control driver keeps track of some system variables that can be used to enhance programming and assist in troubleshooting issues.

Operational Mode - String

Returns the status of the driver:

- Operational {TX}x{RX} – means the driver is fully functional and reading a system with that many Transmitters and Receivers.
- Connecting – means the device cannot communicate with the switch. Check that the IP in the driver matches the IP of the switch. This is also the placeholder text.

Operational - Boolean

Returns True if the driver is "Operational {TX}x{RX}" and returns False for any other value

Current Input Name – String

Returns the text name of the Input that the Output is currently watching.

One variable for each Output in the system.

Only tracks changes made by RTI.

Current Input Number – Integer

Returns the integer number of the Input that the Output is currently watching.

One variable for each Output in the system.

Only tracks changes made by RTI.

Input Selection - Boolean

Returns True if the Input is selected and returns False if the Input is unselected.

Responds to the **Select Input Then Output** function.

One variable for each Input in the system. Only tracks the remote the variable is added to.

Output Selection – Boolean

Returns True if the Output is selected and returns False if the Output is unselected.

Responds to the **Select Output Then Input** function.

One variable for each Output in the system. Only tracks the remote the variable is added to.

Troubleshooting

1. Switching isn't working
    - Confirm that driver settings are correct:
    - **TCP Address** is the IP Address of an **active Receiver**
    - Confirm that the switch has been configured with AMP VLAN. The driver will only control a switch configured with AMP VLAN.
    - Confirm that there is a Static Route.
    - Confirm that no modifications have been made to the switch after running AMP.
    - Check the Report File to confirm that the correct Transmitter and Receiver are being referenced.
    - Check that the Operational Mode variable of the driver shows **Operational {TX}x{RX}**.
2. A different display is switching than the one expected
    - Check the Report File to confirm that the correct Transmitter and Receiver are being referenced.
    - If a change has been made to the system with AMP, reboot the RTI processor to read the new system size.
    - Check that the Operational Mode variable of the driver shows **Operational {TX}x{RX}**.

MultiTxRxComms Driver

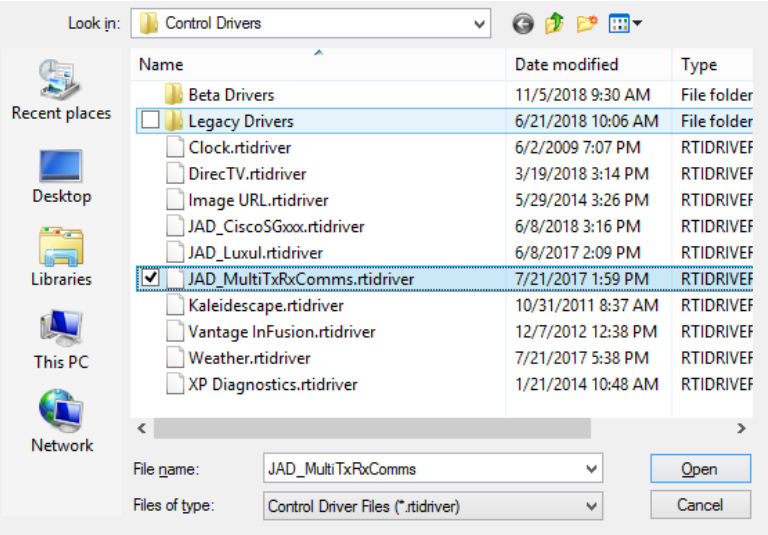
A Static Route must be set for the driver to have access to Just Add Power devices.

The MultiTxRxComms driver controls all Layer 3 features of Just Add Power devices:

1. RS232/IR/CEC control of endponts
2. Video Wall
3. Image Pull
4. Tiling Transmitter Layout
5. Audio/Video
6. Diagnostics
7. USB

Add

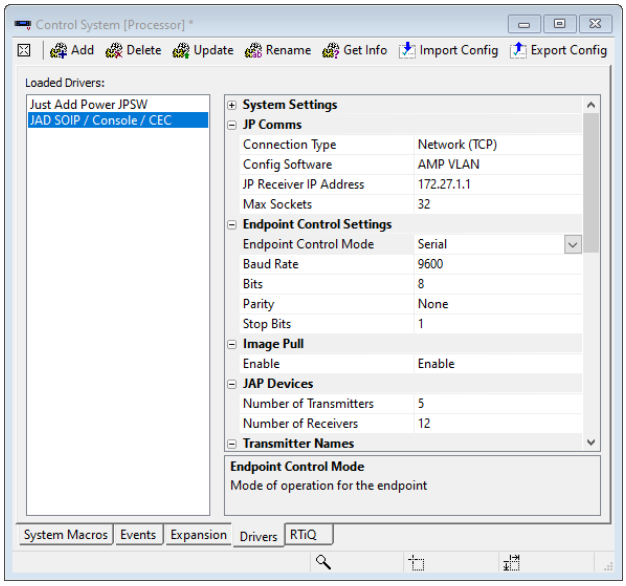
In the XP processor **Drivers** menu, click **Add**. Navigate to the location of the **MultiTxRxComms** driver and click **Open**. One driver will control all Just Add Power devices.



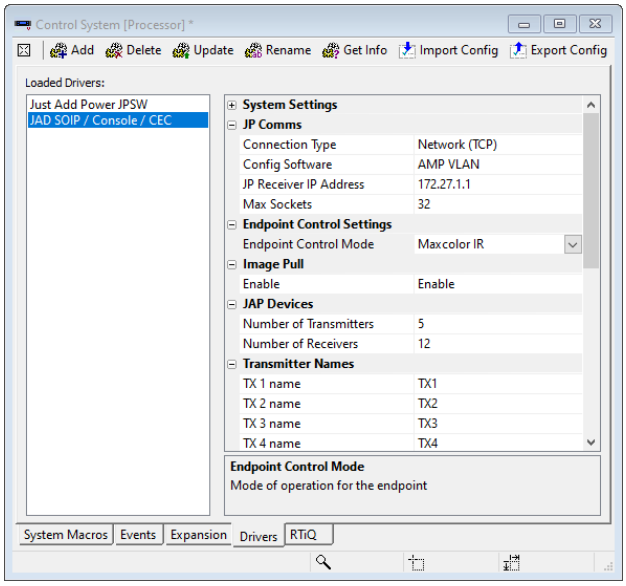
Load MultiTxRxComms Driver

Configure

1. In the XP processor **Drivers** tab, select the **JAD SOIP/Console/CEC** driver.
2. Set **Config Software** to **AMP VLAN**
3. Set **JP Receiver IP Address** to the IP of any device in the network. We recommend using the first Receiver at **172.27.1.1**. Refer to the Report file for additional device IPs.
4. Set **Max Sockets** to **32**. This will allow the driver to communicate with up to 32 devices simultaneously.
5. Set **Endpoint Control Settings** for RS232 or IR to control sources/displays through Just Add Power:
    - Set **Endpoint Control Mode**
        i. **Serial** for RS232 control. Set the **Baud Rate, Bits, Parity,** and **Stop Bits** to match the endpoint device(s). 9600-8n1 is most common.
        ii. **IRV1** if using IR with the Flux Capacitor v1
        iii. **IRV2** if using IR with the Flux Capacitor v2
        iv. **Maxcolor IR** if using the IR Out port on MaxColor devices
    - If using a mixture of Serial Port Settings – for example, some endpoints use IR and other endpoints use RS232 - load one MultiTxRxComms driver for each type. The driver sets Serial Port Settings as its first action.
6. Set **Image Pull** to **Enable** to allow the driver to display image snapshots on UIs.
7. Set **Number of Transmitters** and **Number of Receivers** according to system size. These values do not affect the overall system size, only the number of variables the driver creates for tracking activity.



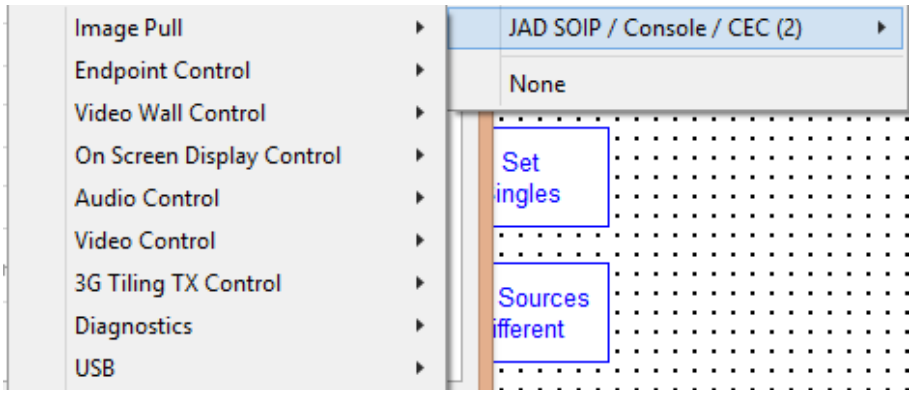
Serial Mode



Maxcolor IR Mode

Program

A single MultiTxRxComms driver will control all Just Add Power devices.



Report File

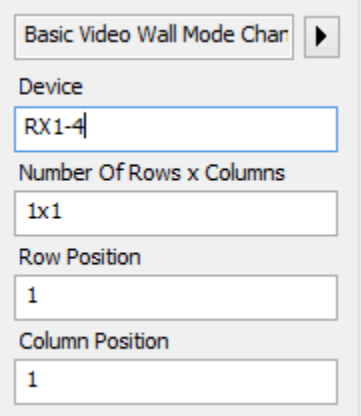
To identify devices, the driver uses a **TX#** and **RX#** identifier that matches the JADConfig Report file. Use the JADConfig Report file to identify the Transmitter or Receiver to send the commands to.

=== Receivers ===				=== Transmitters ===			
Output	Switch	Port	IP Address	Input	Switch	Port	IP Address
1	1	1	172.20.1.1	1	1	38	172.20.101.254
2	1	2	172.20.1.2	2	1	39	172.20.102.254
3	1	3	172.20.1.3	3	1	40	172.20.103.254
4	1	4	172.20.1.4	4	1	41	172.20.104.254
5	1	5	172.20.1.5	5	1	42	172.20.105.254
6	1	6	172.20.1.6	6	1	43	172.20.106.254
7	1	7	172.20.1.7	7	1	44	172.20.107.254
8	1	8	172.20.1.8	8	1	45	172.20.108.254
9	1	9	172.20.1.9	9	1	46	172.20.109.254
10	1	10	172.20.1.10	10	1	47	172.20.110.254
11	1	11	172.20.1.11	11	2	45	172.20.111.254
12	1	12	172.20.1.12	12	2	46	172.20.112.254
13	1	13	172.20.1.13	13	2	47	172.20.113.254
14	1	14	172.20.1.14	14	2	48	172.20.114.254
15	1	15	172.20.1.15	15	3	31	172.20.115.254
16	1	16	172.20.1.16	16	3	32	172.20.116.254
17	1	17	172.20.1.17	17	3	33	172.20.117.254
18	1	18	172.20.1.18	18	3	34	172.20.118.254
19	1	19	172.20.1.19	19	3	35	172.20.119.254
20	1	20	172.20.1.20	20	3	36	172.20.120.254
21	1	21	172.20.1.21	21	3	37	172.20.121.254
22	1	22	172.20.1.22	22	3	38	172.20.122.254
23	1	23	172.20.1.23	23	3	39	172.20.123.254
24	1	24	172.20.1.24	24	3	40	172.20.124.254
25	1	25	172.20.1.25	25	3	41	172.20.125.254
26	1	26	172.20.1.26	26	3	42	172.20.126.254
27	1	27	172.20.1.27	27	3	43	172.20.127.254
28	1	28	172.20.1.28	28	3	44	172.20.128.254
29	1	29	172.20.1.29	29	3	45	172.20.129.254
30	1	30	172.20.1.30	30	3	46	172.20.130.254

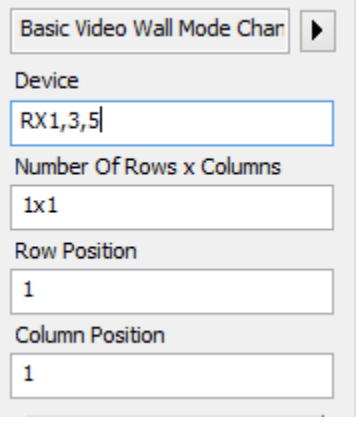
Report File Shows Device Mapping

Targeting Devices

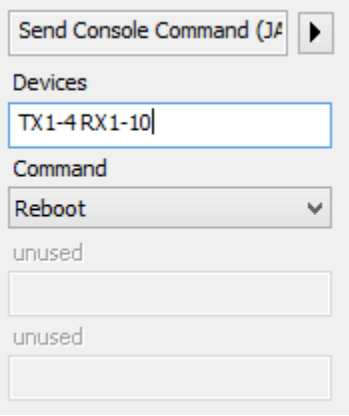
Commands can be targeted at multiple devices using a hyphen (-) to indicate consecutive devices and a comma (,) to indicate non-consecutive devices.
Transmitters and Receivers can be targeted in the same command by separating with a space.



Consecutive devices



Non-consecutive devices



Transmitters and Receivers

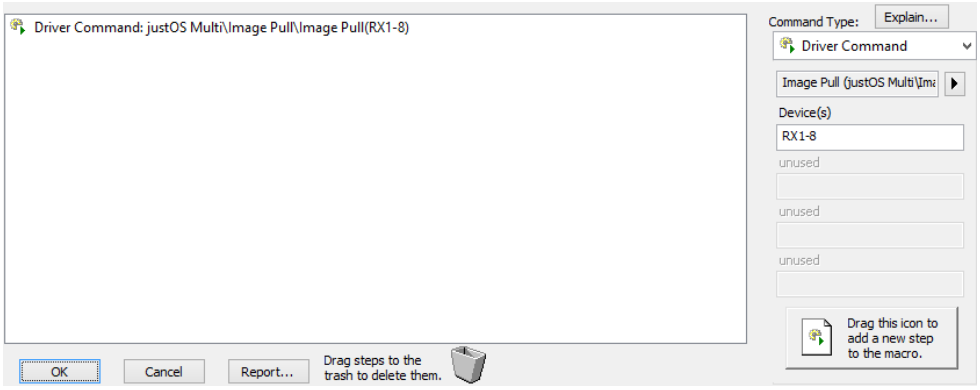
Image Pull

This command can target **Receivers** and **Transmitters**.

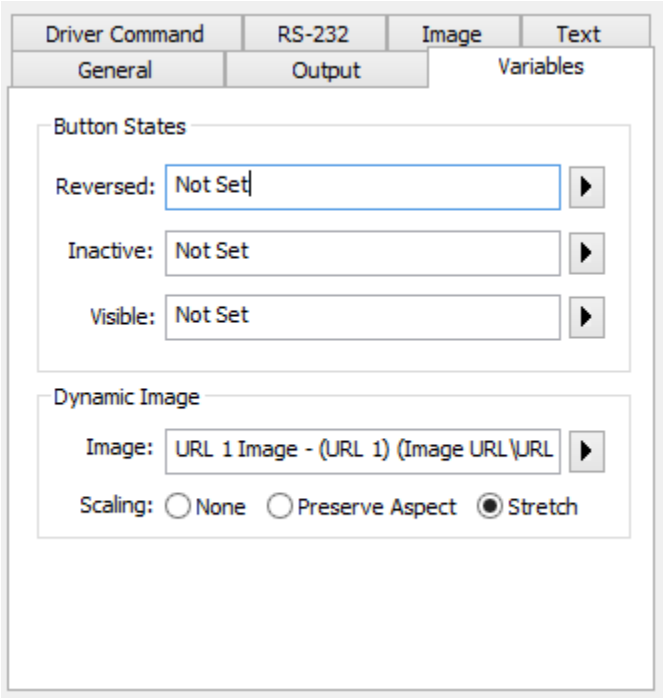
Update the image snapshot from a Just Add Power device.

This process is memory-intensive and should **NOT** execute more often than once every 3 seconds.

Pair with the ***Image URL*** driver to assign a ***Dynamic Image*** to a button.



Update Image Pull for Receivers 1-8



Assign Dynamic Image

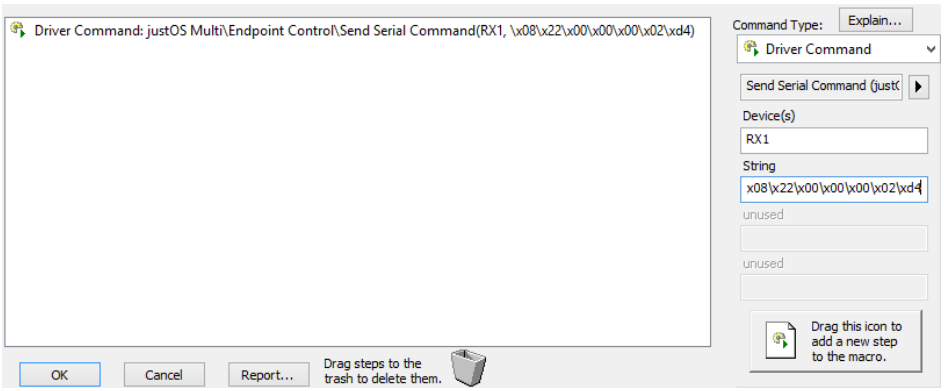
Endpoint Control

These commands can target **Receivers** and **Transmitters**.

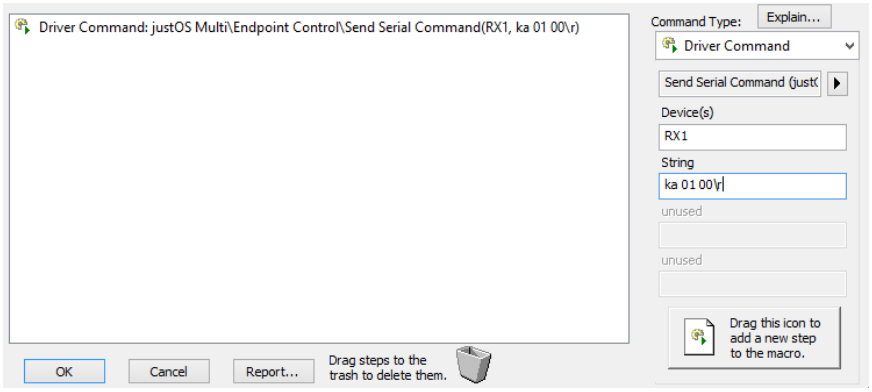
IR, RS232, CEC control of displays and sources. Sends commands to the targeted Transmitter or Receiver over IP, where it is converted to the appropriate type of signal. Does not use IR or RS232 ports on the RTI processor.

Send Serial Command

Send a serial command over IP to the serial port on a Just Add Power device. Supports ASCII and Hex formatted serial commands. Hex commands must be preceded with `\x`. ASCII commands that end with a carriage-return must end with `\r`.



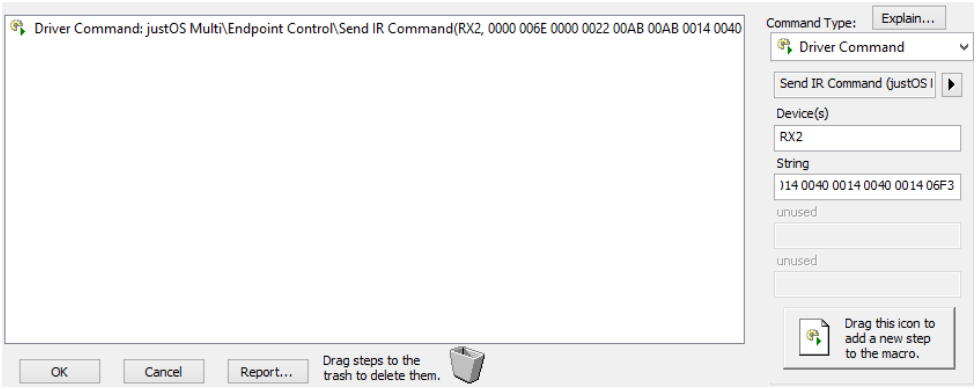
Send RS232 Hex command to Receiver 1



Send RS232 ASCII command to Receiver 1

Send IR Command

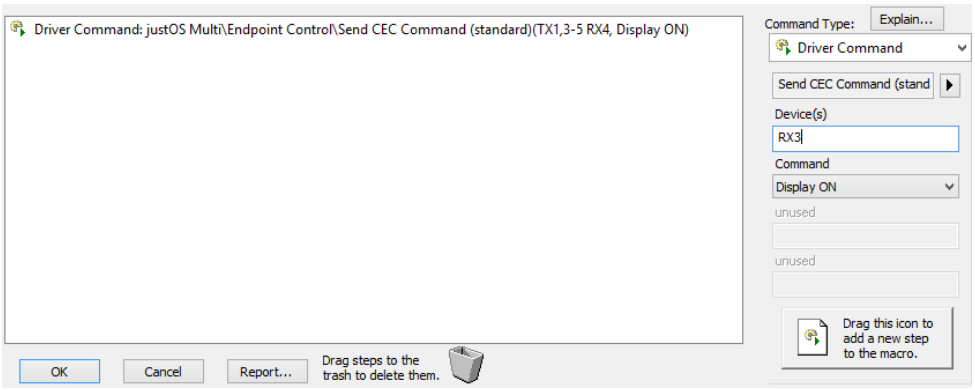
Supports Pronto and Global Cache formatted IR commands. IR commands require a Flux Capacitor IR Dongle v1 or v2. Carriage-return is not needed.



Send IR command to Receiver 2

Send CEC Command

Display On, Display Off, and Select HDMI 1 through standard commands. Send any CEC command through advanced commands



CEC Display On for Transmitters 1, 3-5 and Receiver 4

Video Wall Control

These commands can only target **Receivers**.

Set a Receiver to show a portion of a video wall. Combine multiple Receivers together to produce a video wall.

Set Full Wall

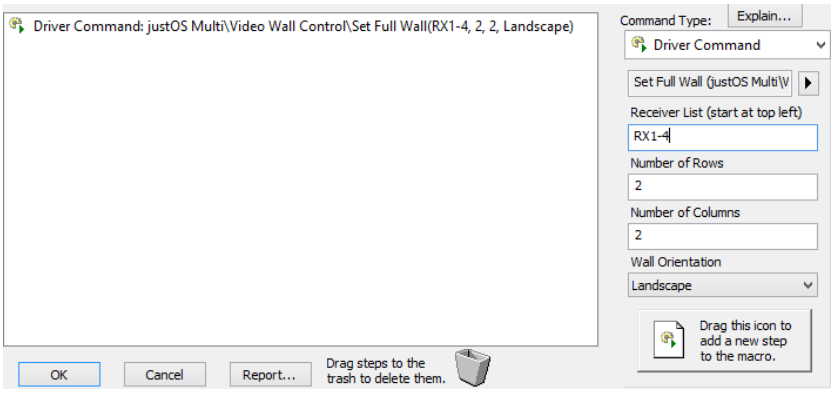
Set rotation and positioning for a video wall with one command.

Receiver List – Receivers in order of their position in the wall, starting in the top-left corner and going left-to-right, top-to-bottom like reading an English book.

Number of Rows – Vertical count of displays in the wall

Number of Columns – Horizontal count of displays in the wall

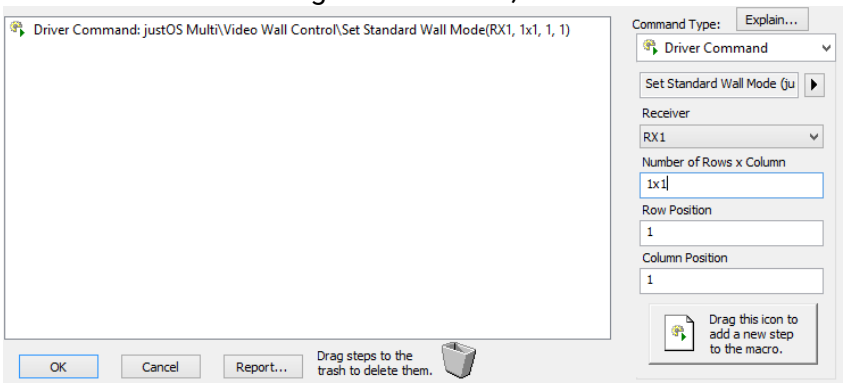
Wall Orientation – Landscape, Portrait 90, Portrait 270, or Inverted Top Row



Build a 2x2 Landscape Wall from Receivers 1-4

Set Standard Wall Mode

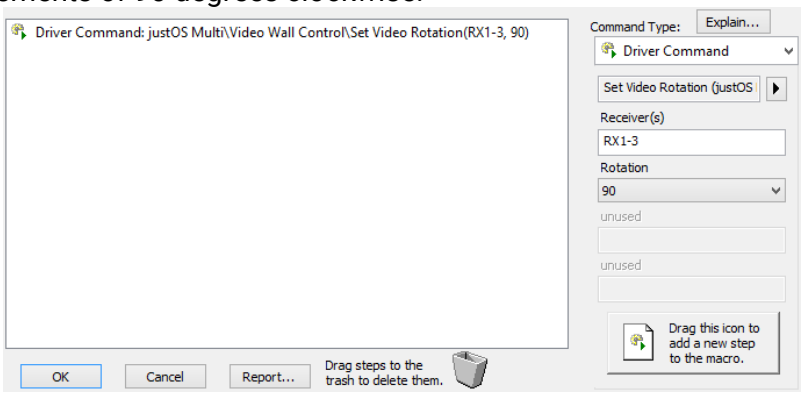
Customize the wall position of Receivers. Useful for putting multiple Receivers into single-screen, or building a video wall one Receiver at a time. When building a rotated wall, rotation must be done first.



Put Receiver 1 into Single-Screen

Set Video Rotation

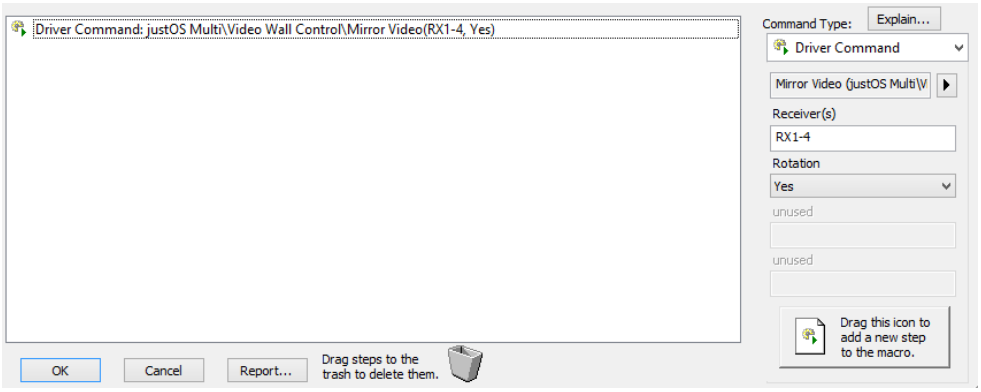
Rotate a Receiver in increments of 90 degrees clockwise.



Rotate video on Receivers 1-3 to 90° clockwise

Mirror Video

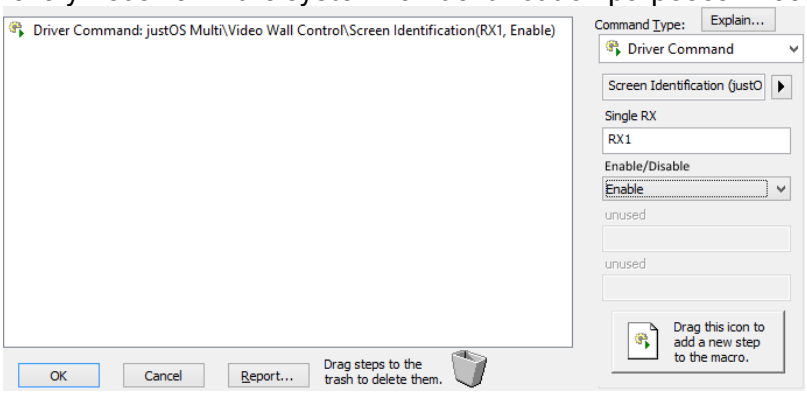
Horizontally mirror the video on a Receiver



Mirror Video on Receivers 1-4

Screen Identification

Prints green numbers on every Receiver in the system for identification purposes. Mostly used for diagnostics.



Enable Screen ID on all screens (Receiver 1 Triggers)

On-Screen Display Control

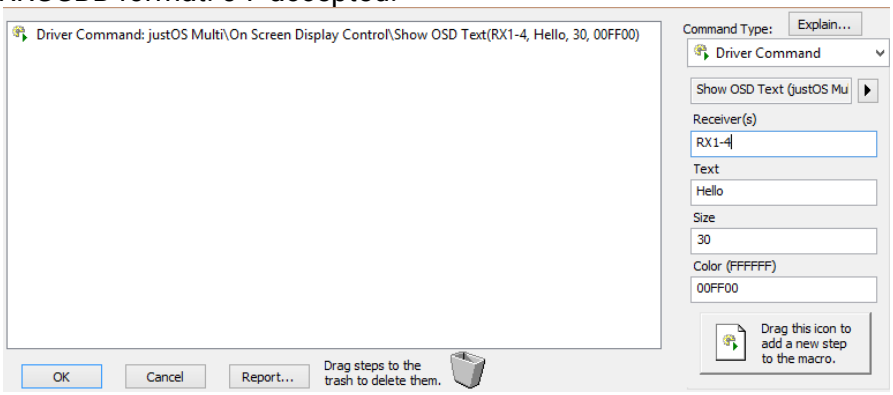
These commands can only target **Receivers**.

Display and hide custom text on a display

Show OSD Text

Print text on a Receiver.

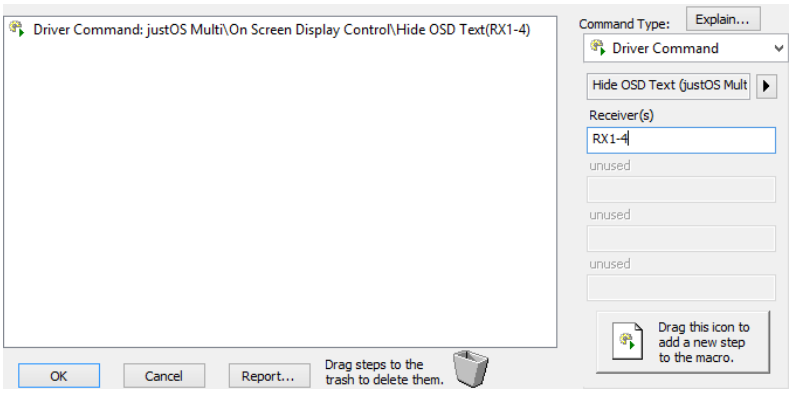
Text – String to be displayed
Size – Font size. Text will be larger for screens in video wall mode
Color – Text color in RRGGBB format. 0-F accepted.



Print 'Hello' in green on Receivers 1-4

Hide OSD Text

Remove text.



Remove text from Receivers 1-4

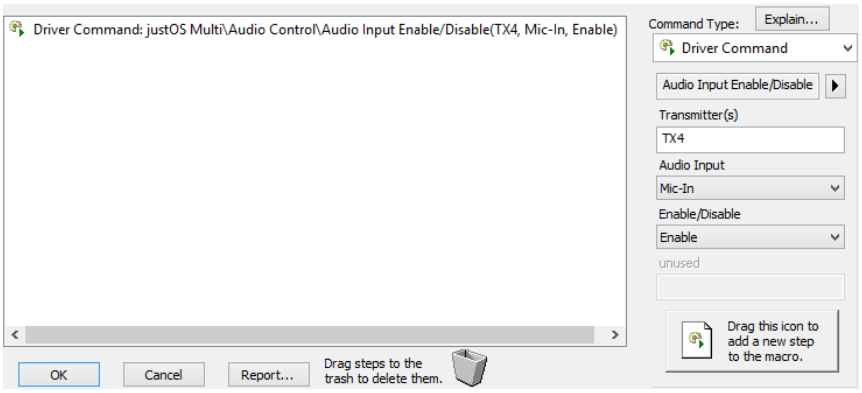
Audio Control

Manage the audio inputs on the AVP Transmitter and the stereo output on Transmitters and Receivers

Audio Input Enable/Disable

This command can only target an **AVP Transmitter**.

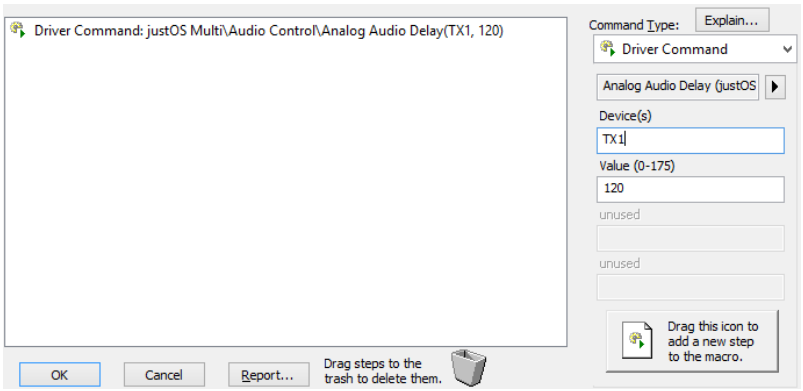
Enable and disable the audio signals on HDMI, Mic-In, and Line-In on an AVP Transmitter



Enable Mic-In on Transmitter 4

Analog Audio Delay

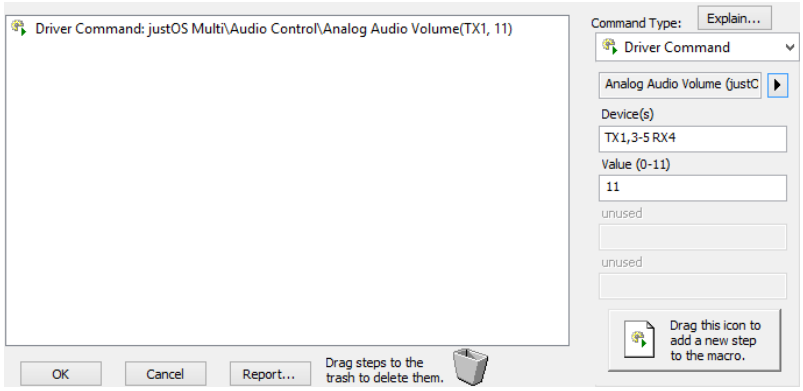
Set the audio delay value (ms) for the stereo output on a Transmitter or Receiver



Set stereo audio delay to 120ms on Transmitter 1

Analog Audio Volume

Set analog volume for the stereo output on a Transmitter or Receiver



Set volume to 11 on Transmitter 1

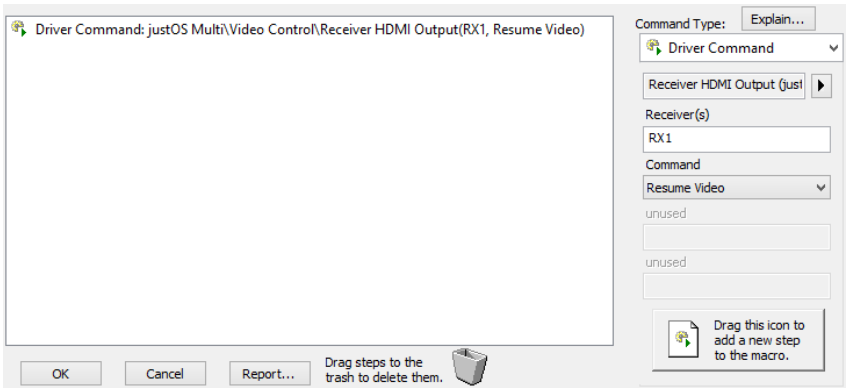
Video Control

Receiver HDMI Output

This command can only target a **Receiver**.

Modify the HDMI output of a Receiver

Pause Video – freezes the last frame on the screen
Output Black Video – display will show a solid black screen
Resume Video – resume the video at the current frame. Undo for **Pause** and **Output Black**
Show Debug Screen – disable network video services and show the debug screen
Leave Debug Screen – enable network video services. Undo for **Show Debug Screen.**
Disable HDMI port – turn off the HDMI port. Connected display will behave as if no device is attached
Enable HDMI port – turn on the HDMI port. Undo for **Disable HDMI port**.



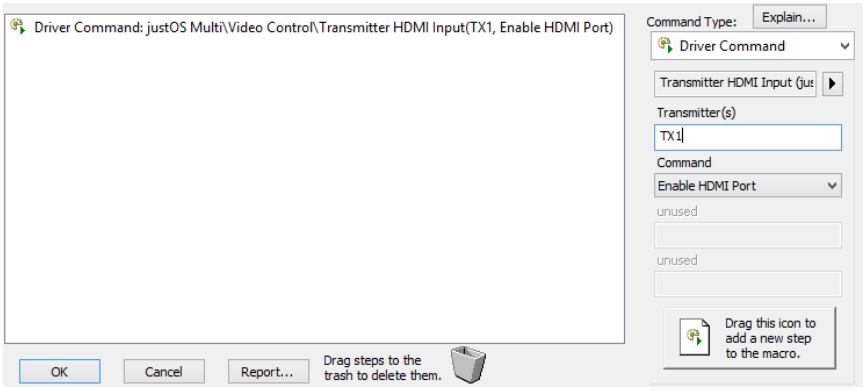
Resume Video on Receiver 1

Transmitter HDMI Input

This command can only target a **Transmitter**.

Modify the HDMI input of a Transmitter

Disable HDMI Port – turn off the HDMI port. The Transmitter will not respond to an active source.
Enable HDMI Port – turn on the HDMI port. Undo for **Disable HDMI Port**.
Disable HDIP – disable network video services. The Receivers will not be able to connect to this Transmitter.
Enable HDIP – enable network video services. Undo for **Disable HDIP**.



Enable HDMI Port on Transmitter 1

3G Tiling TX Control

These commands can only target a **Tiling Transmitter**. Only the Tiling Transmitter can change the layout.

Control a Tiling Transmitter to set preset layouts, build custom layouts, and set primary audio and video.

Layout Selection

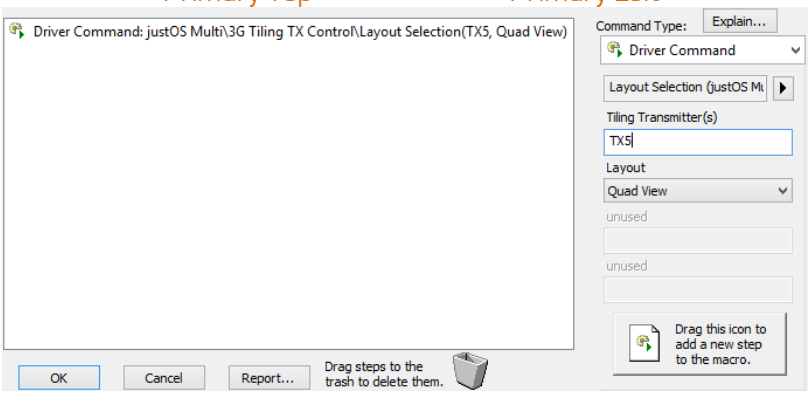
Set one of 5 layouts: 4 presets and 1 that recalls the last custom layout

Quad View

Primary Top

Primary Left

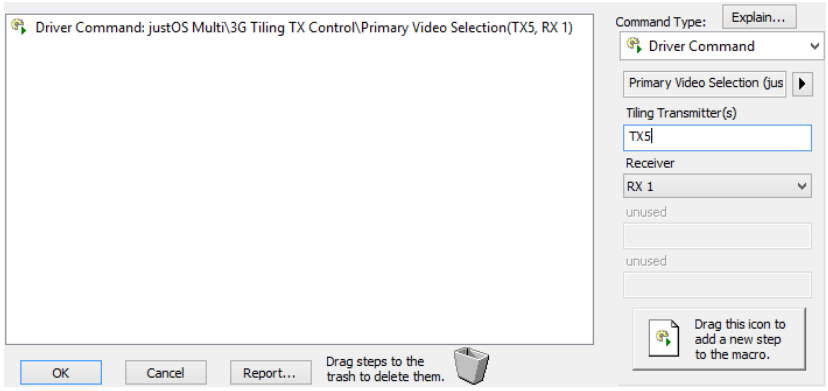
Single-screen



Set Quad Layout on Tiling Transmitter 5

Primary Video Selection

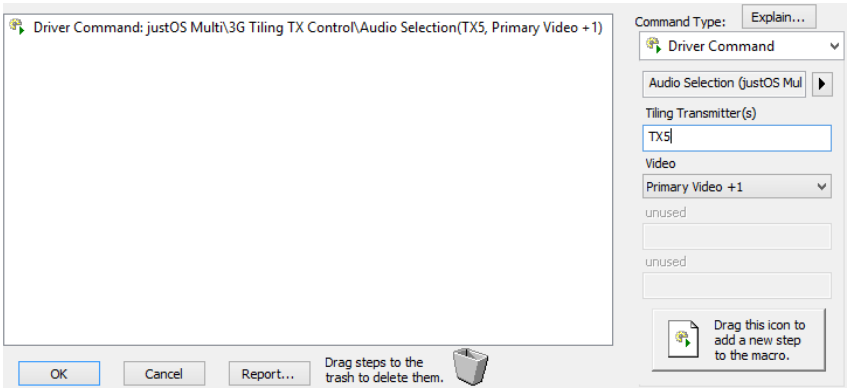
Set a Receiver to be the Primary Video.
Primary Video is used as a reference point for all other Tiling controls. The Primary Video is Screen 1 in any layout.



Set RX1 as Primary Video on Tiling Transmitter 5

Audio Selection

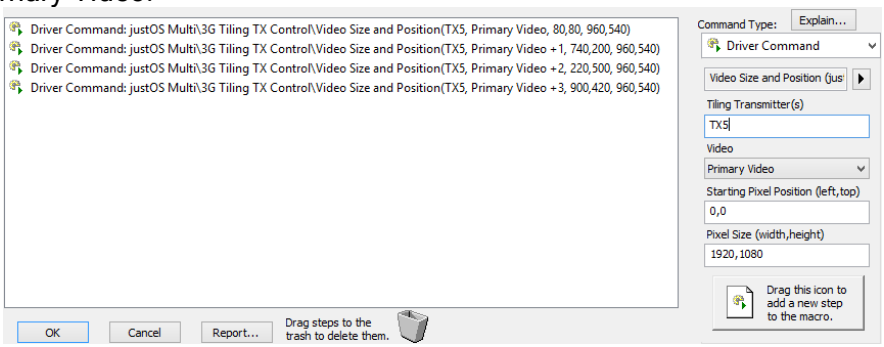
Set a Receiver to be the audio source. Selection is based on the Primary Video. +1 means the Receiver *after* the Primary Video.



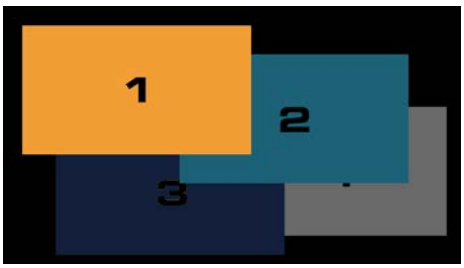
Set Audio as Primary Video +1 on Tiling Transmitter 5

Video Size and Position

Build a custom layout by drawing size and positions for each Receiver in the Tiler. Target is based on the Primary Video.



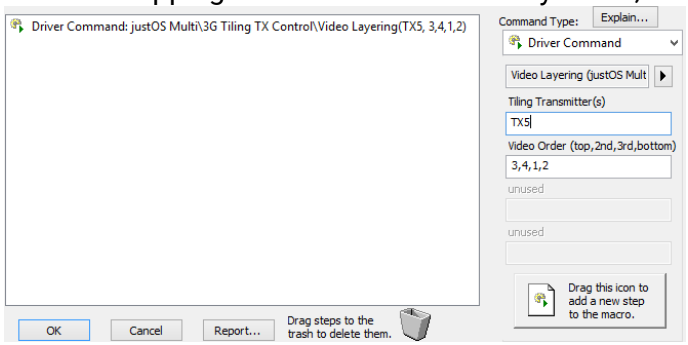
Draw Video Size and Position for 4 screens on Tiling Transmitter 5



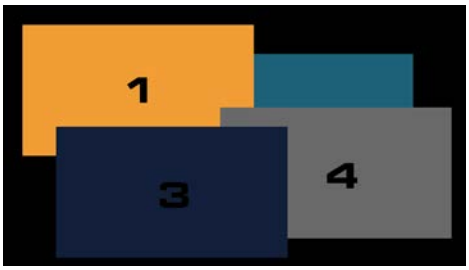
Resulting Layout

Video Layering

Set the order of overlapping screens. 1 is the Primary Video, 2 is Primary Video +1, etc.



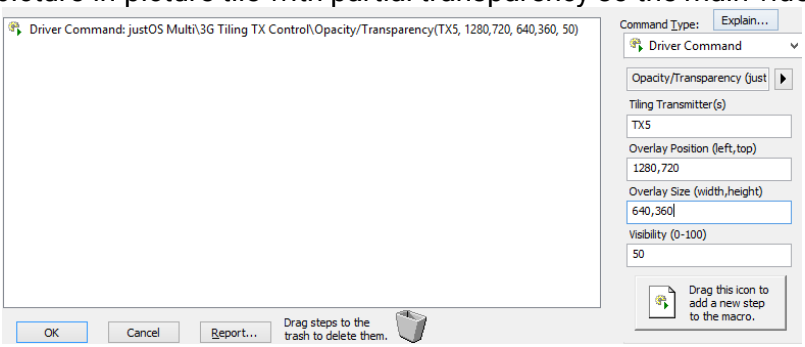
Layer Videos as 3,4,1,2 on Tiling Transmitter 5



Resulting Layers

Opacity/Transparency

Set a picture-in-picture tile with partial transparency so the main video behind is viewable.

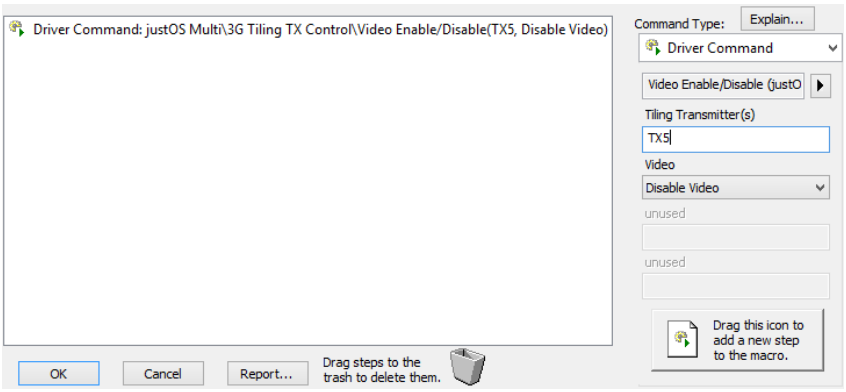


50% Transparency on Picture-in-Picture – Tiling Transmitter 5

Transparency PiP

Video Enable/Disable

Enable or disable the video output of the Tiling Transmitter. Disable is the same as holding the PF1 button on the unit.



Disable Video on Tiling Transmitter 5

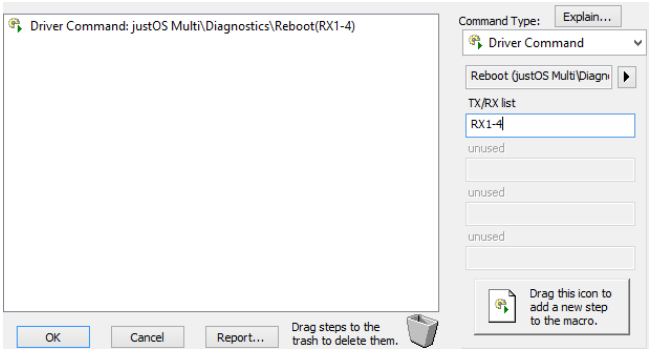
Diagnostics

These commands can target **Transmitters** or **Receivers**.

Reboot, identify, and check the status of devices in the system

Reboot

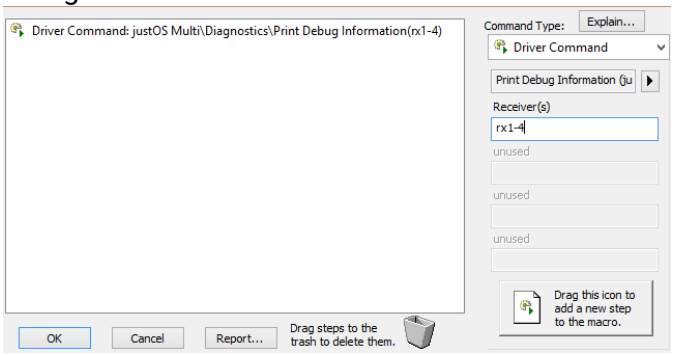
Reboot a unit



Reboot Receivers 1-4

Print Debug Information

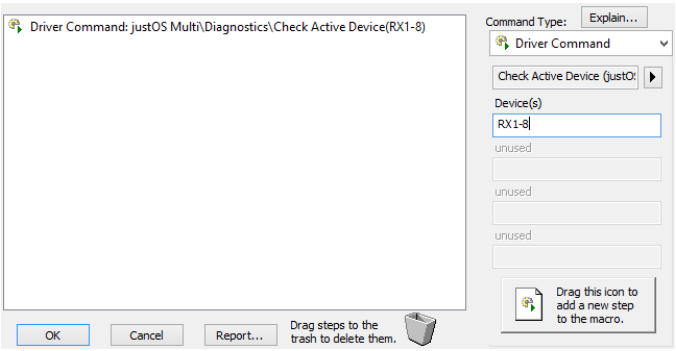
On-screen display of current settings of a device



Print Debug Information on Receivers 1-4

Check Active Devices

Update the Active Device flags in the driver variables

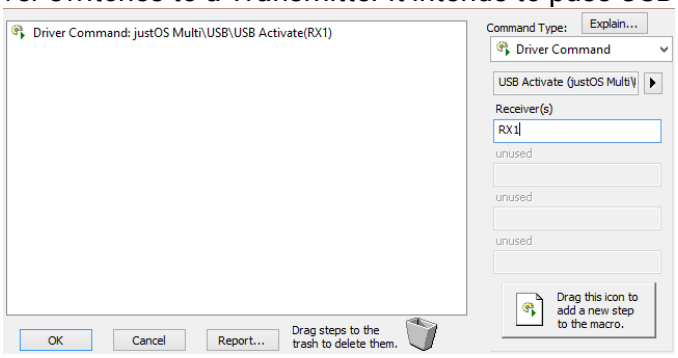


Check Active Status of Receivers 1-8

USB Activate

This command can only target a **Receiver**.

Sends a command to a Receiver to initiate USB control of the Transmitter it is currently watching. Command must be sent anytime a Receiver switches to a Transmitter it intends to pass USB controls to.



Activate USB control from Receiver 1 to active Transmitter

System Variables

The MultiTxRxComms driver tracks these variables:

Transmitter Active Status

Boolean
One variable per Transmitter
Activity is determined by a ping to the IP address of the device
True = active; False = inactive

Receiver Active Status

Boolean
One variable per Receiver
Activity is determined by a ping to the IP address of the device
True = active; False = inactive

Troubleshooting

1. Interface isn't sending commands as expected
    - Confirm the Static Route is functional by pinging the IP of an active device
    - Change the Default Gateway of the processor to be the same as the IP of the Cisco/Luxul switch. This bypasses the router.
    - Confirm that Properties are set correctly:
        - o **Device Network** and **Device Netmask** matches JADConfig Report file
        - o **Max Sockets** set to **32**
        - o **Serial Port Settings** match the endpoint control type
    - Rule out a case of mistaken identity
        - o Use the JADConfig Report file to
        - o TX1 reference the first Transmitter in the system, regardless of port connection
        - o RX1 references the first Receiver in the system, regardless of port connection
        - o Manually telnet to the target device and send a **reboot** command. The device will reboot.
    - Some UIs use the processor IP details, some use their own IP details. For example, iPads use their own IP details. If the Processor has its Default Gateway as the IP of the Cisco/Luxul switch, the iPad will not use those IP details. You will need to change the iPad Default Gateway to the IP of the Cisco/Luxul switch.

2. RS232 control of endpoints isn't working
    - Check all points from #1 above
    - Confirm that the Serial Port Mode is in Direct
    - Confirm that the Baud Rate matches the source/display Baud Rate
    - Swap the null modem jumper to the alternate position and try again. Whenever you modify another setting, try with the null modem jumper in each position. There is always a 50% chance it is in the wrong position.
        - o The most common jumper/wiring combination has the jumper closest to the RS232 port and a straight-through serial cable
        - o Moving the null modem jumper has the effect of swapping pins 2 & 3 (DB-9 format)
    - Manually send the command through PuTTY, Docklight, or a similar terminal emulator program
        - o Telnet to the device IP on port 6752. Send commands.
    - Remove the RS232 connection from the source/display and connect it to a PC running PuTTY/Docklight/etc. Execute the command through RTI and monitor the output.
        - o If the command comes through as expected, then either the command being sent is not valid or the null modem status of the source/display is the opposite of the PC connection. Recommended finding a different RS232 code set.
        - o If the command does not come through as expected, repeat all above points until the command comes through as expected. Recommend starting with the null modem jumper position

3. IR control of endpoints isn't working
    - Check all points from #1 above
    - Confirm that the Serial Port Mode is in IR Dongle v1 or IR Dongle v2
        - o Setting must match the version of the IR Dongle
        - o v2 is printed on v2. v1 has no v-printing
    - Swap the null modem jumper to the alternate position and try again. Whenever you modify another setting, try with the null modem jumper in each position. There is always a 50% chance it is in the wrong position.
        - o The most common jumper/wiring combination has the jumper furthest from the RS232 port and a straight-through serial cable (serial cable included with IR Dongle)
    - Manually send the command through PuTTY, Docklight, or a similar terminal emulator program
        - o Telnet to the device IP on port 4998. Send commands terminated with a carriage-return

- Remove the RS232 connection from the IR Dongle and connect it to a PC running PuTTY/Docklight/etc. Execute the command through RTI and monitor the output.
    - o If the command comes through as expected, then either the command being sent is not valid or the null modem status of the IR Dongle is the opposite of the PC connection. Recommend finding a different IR code set.
    - o If the command does not come through as expected, repeat all above points until the command comes through as expected. Recommend starting with the null modem jumper position.

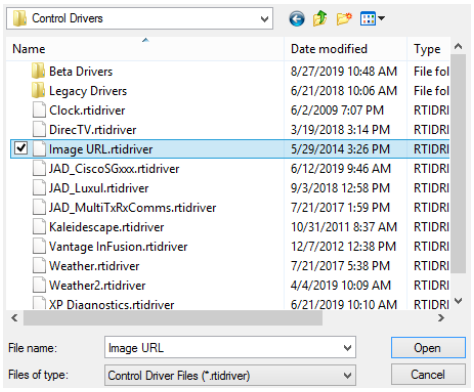
4. CEC control of endpoints isn't working
    - Check all points from #1 above
    - Manually send the command through PuTTY, Docklight, or a similar terminal emulator program
        - o Telnet to the device IP on port 23. Send commands terminated with a carriage-return.
    - Check source/display settings for CEC options. Confirm that CEC is enabled on the display.
    - Check both Display On and Display Off commands. We have found that some displays respond to one but not the other.

Image URL Driver

Image URL imports images from Just Add Power Transmitters and Receivers and makes them available as a Dynamic Image on GUIs.

Add

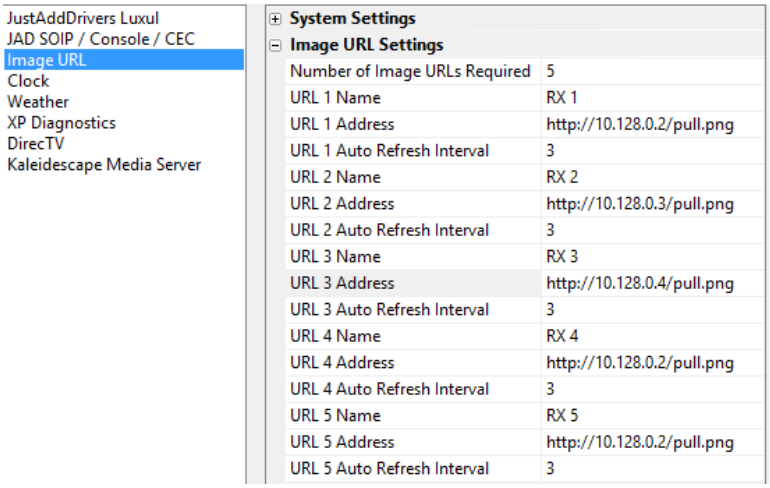
In the XP processor **Drivers** menu, click **Add**. Navigate to the location of the **Image URL** driver and click **Open**. One driver will provide access to 32 images.



Add Image URL

Configure

1. In the XP processor **Drivers** tab, select the **Image URL** driver.
2. Set **Number of Image URLs Required**, up to 32
3. Set **URL 1 Name** to a user-friendly name for the iamge
4. Set **URL 1 Address** to `http://[IP]/pull.png` where [IP] is the IP address of the Just Add Power device.
   - Example: `http://10.128.0.2/pull.png`
5. Set **URL 1 Auto Refresh Interval** to **3**. The image will automatically update every 3 seconds. Setting to **0** will disable automatic update.
6. Repeat for each other URL



Configure Image URL

Program

1. In the **MultiTxRxComms** driver, set **Image Pull** to **Enable**. This will enable Image Pull on the Just Add Power devices.
2. Create a Button or Event that executes the **Image Pull** command in the **MultiTxRxComms** driver. Do not run the command more than once every 3 seconds.

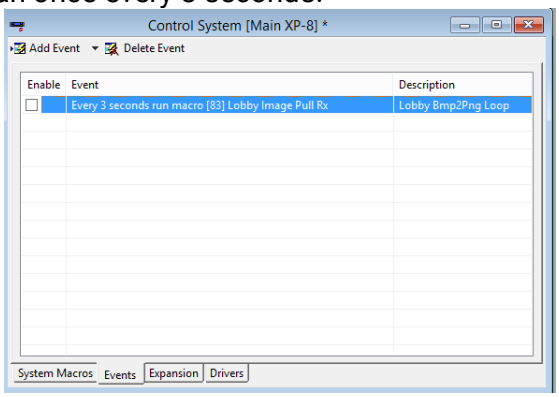
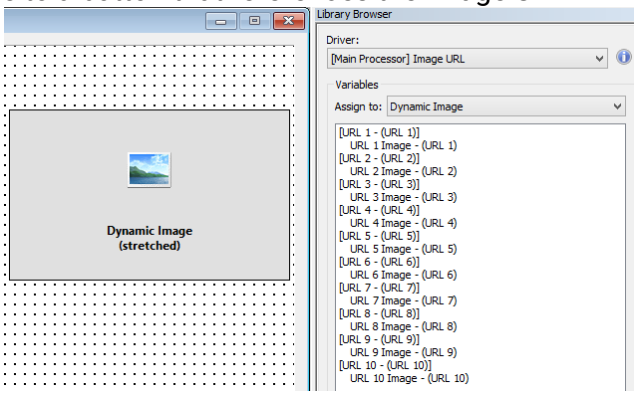


Image Pull Event

3. Assign a Dynamic Image to a button that references the Image URL.



Dynamic Image Button

Troubleshooting

1. Image doesn't load
    - Confirm the Static Route is functional by pinging the IP of an active device
    - Change the Default Gateway of the processor to be the same as the IP of the Cisco/Luxul switch. This bypasses the router.
    - Confirm that Properties are set correctly:
        - o **Device Network** and **Device Netmask** matches JADConfig Report file
        - o **Max Sockets** set to **32**
        - o **Serial Port Settings** match the endpoint control type
    - Rule out a case of mistaken identity
        - o Use the JADConfig Report file to
        - o TX1 reference the first Transmitter in the system, regardless of port connection
        - o RX1 references the first Receiver in the system, regardless of port connection
        - o Manually telnet to the target device and send a **reboot** command. The device will reboot.
    - Some UIs use the processor IP details, some use their own IP details. For example, iPads use their own IP details. If the Processor has its Default Gateway as the IP of the Cisco/Luxul switch, the iPad will not use those IP details. You will need to change the iPad Default Gateway to the IP of the Cisco/Luxul switch.
2. Image appears but doesn't update
    - Image update must be triggered by a command in the MultiTxRxComms driver
        - o Assign the Image Pull command to a button, or
        - o Assign the Image Pull command to a macro and add it to a Periodic Event