

Just Add **Power**

RTI DRIVER GUIDE

Revised 2020-12-31

Table of Contents

Information.....	1
Download.....	1
Supported Switches.....	1
JADConfig.....	1
Just Add Power Firmware.....	1
Changes.....	1
Previous Driver Versions.....	2
Switching Driver.....	3
Add.....	3
Configure.....	4
Program.....	5
Single or All Outputs.....	6
Select Output then Input.....	7
Select Input then Output.....	9
Preset Selection.....	11
POE Selection.....	12
Save PowerOn Configuration.....	13
System Variables.....	14
Troubleshooting.....	15
MultiTxRxComms Driver.....	16
Add.....	16
Setup Static Route.....	17
With Router.....	17
Without Router.....	17
Configure.....	18
Program.....	19
Image Pull.....	20
Endpoint Control.....	21
Video Wall Control.....	23
On-Screen Display Control.....	25
Audio Control.....	26
Video Control.....	27

3G Tiling TX Control.....	28
Diagnostics	31
USB Activate	32
System Variables.....	33
Troubleshooting.....	34
Image URL Driver	36
Add.....	36
Configure	36
Program	37
Troubleshooting.....	38

Information

Download

<https://support.justaddpower.com/kb/section/9/>

Supported Switches

The RTI driver supports all models of Cisco and Luxul switches that are supported by JADConfig.

JADConfig

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

JADConfig must be run on the switch before these drivers 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.

Just Add Power Firmware

The MultiTxRxComms driver v5.x only works with 3G systems and requires that Just Add Power units be on justOS firmware – version **B1.2.1** and later.

The Cisco and Luxul switching drivers can be used with both 2G and 3G systems on any version of firmware.

Changes

Licensing

When the driver loads, it checks for the presence of Just Add Power devices and licenses based on detected devices. License keys have been **removed** from all drivers starting with:

- Cisco Switching – v7.0
- Luxul Switching – v4.0
- MultiTxRxComms – v5.1

TxRxComms

The following functions in the Endpoint Control driver – MultiTxRxComms – have changed and will need to be re-built when updating to v5.x:

- Send Serial Command
- Send IR Command
- Set Video Wall Mode
- Reboot

Previous Driver Versions

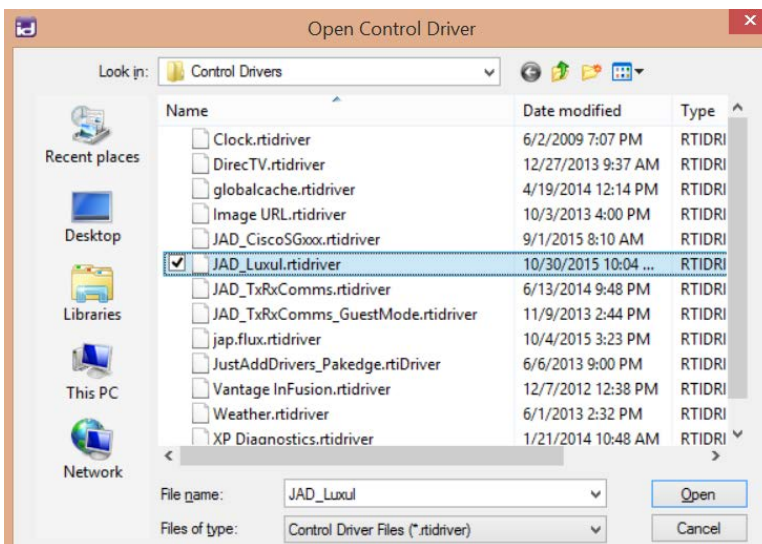
Legacy driver versions are still available on the support website for use with all 2G systems and 3G systems on older firmware.

Switching Driver

There are two Switching drivers, one for each model of supported switch: Cisco and Luxul.
 The Switching driver controls HDMI matrix switching – Input/Output routing.

Add

In the XP processor **Drivers** menu, click **Add**. Navigate to the location of the appropriate switch driver and click **Open**. Only one driver is needed.



Luxul Driver

Configure

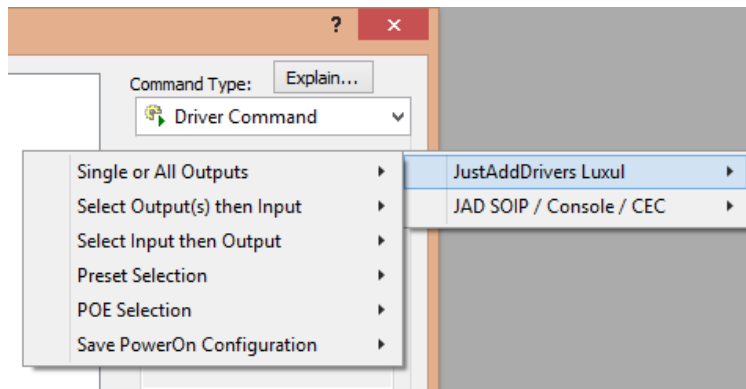
1. In the XP processor **Drivers** tab, select the switch driver.
2. Set **TCP Address** to the IP address assigned to the Cisco/Luxul switch.
3. In **Switch Size**, set **Number of Inputs** to the number of Transmitters in the system, and **Number of Outputs** to the number of Receivers in the system. These values do not affect the overall system size, only the number of **Input Names** and **Output Names** available.
4. 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.

Loaded Drivers:

JustAddDrivers Luxul	+	System Settings
JAD SOIP / Console / CEC	-	Connection
Image URL	Connection Type	Network (TCP)
XP Diagnostics	TCP Address	192.168.1.99
JustAddDrivers Cisco SG300	-	User Details
	User Name	admin
	User Password	admin
	-	Switch Size
	Number of Inputs	5
	Number of Outputs	5
	-	Input Names
	Input 1 name	Input 1
	Input 2 name	Input 2
	Input 3 name	Input 3
	Input 4 name	Input 4
	Input 5 name	Input 5
	-	Output Names
	Output 1 name	Output 1
	Output 2 name	Output 2
	Output 3 name	Output 3
	Output 4 name	Output 4
	Output 5 name	Output 5

Switching Driver Properties

Program



Switching Commands

System Size

Input and Output selection is done with a dropdown menu. The number of Inputs and Outputs is modified by the **Switch Size** setting in the driver.

JADConfig Report File

To identify devices, the driver uses Input and Output numbering that matches the JADConfig Report file. Use the **Configuration** column in the JADConfig Report file to identify Transmitters and Receivers.

Stack;Port	Configuration	MAC Address	IP Address	Netmask	Gateway	Model	Firmware
1;1	Control	-	-	-	-	-	-
1;2	Transmitter 1	c2:00:00:02:46:97	10.0.0.2	255.0.0.0	10.0.0.1	3G+AVP TX	B1.2.1
1;3	Transmitter 2	c2:00:00:02:57:a1	10.0.0.6	255.0.0.0	10.0.0.5	3G+4+ TX	B1.2.1
1;4	Receiver 1	c2:00:00:02:1c:24	10.128.0.2	255.0.0.0	10.128.0.1	3G RX	B1.2.1
1;5	Receiver 2	c2:00:00:01:b0:db	10.128.0.3	255.0.0.0	10.128.0.1	3G+AVP RX	B1.2.1
1;6	Receiver 3	c2:00:00:02:57:89	10.128.0.4	255.0.0.0	10.128.0.1	3G+4+ RX	B1.2.1
1;7	Receiver 4	c2:00:00:02:57:88	10.128.0.5	255.0.0.0	10.128.0.1	3G+4+ RX	B1.2.1
1;8	Receiver 5	c2:00:00:02:57:85	10.128.0.6	255.0.0.0	10.128.0.1	3G+4+ RX	B1.2.1

Report File Shows Device Targeting

Targeting Devices

Use the **Configuration** column in the JADConfig Report file to identify devices.

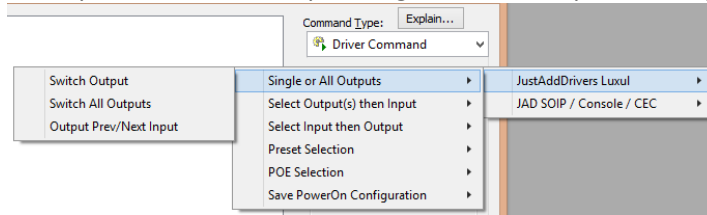
Input 1 = Transmitter 1. The port connection does not matter.

Output 1 = Receiver 1. The port connection does not matter.

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

Single or All Outputs

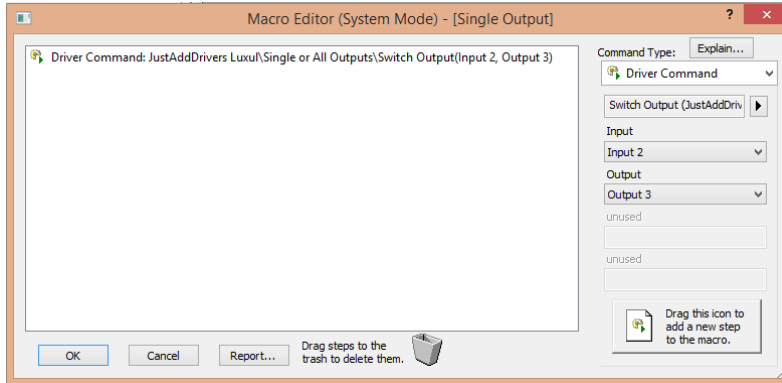
Switch a single output, switch all outputs to the same input, or go to the next/previous input.



Single or All Outputs Categories

Switch Output

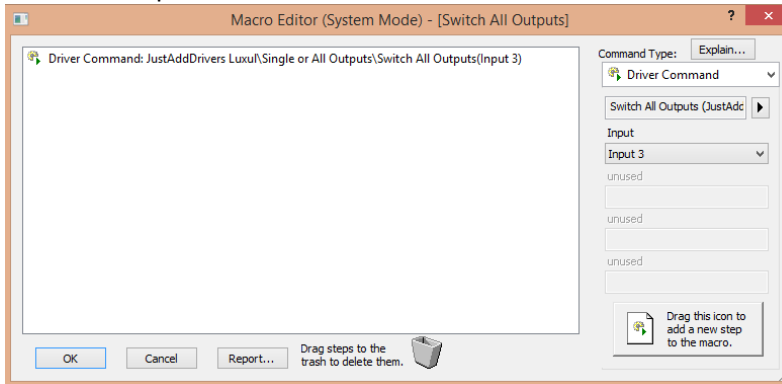
Switch a single Output to watch an Input.



Switch Output 3 to Input 2

Switch All Outputs

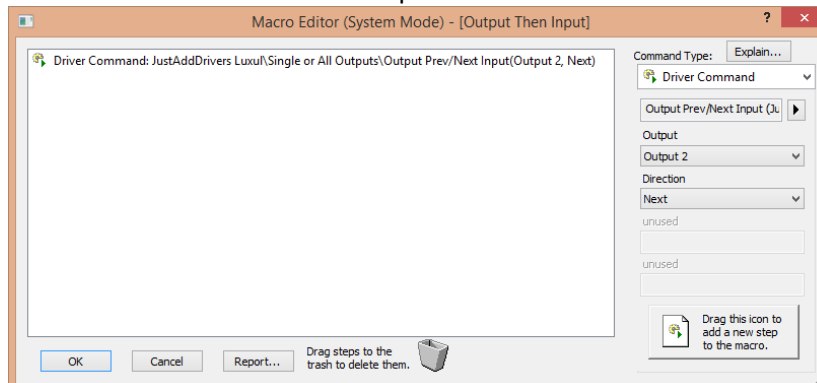
Switch all Outputs to watch the same Input.



Switch All Outputs to Input 3

Output Prev/Next Input

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



Switch Output 2 to Next Input

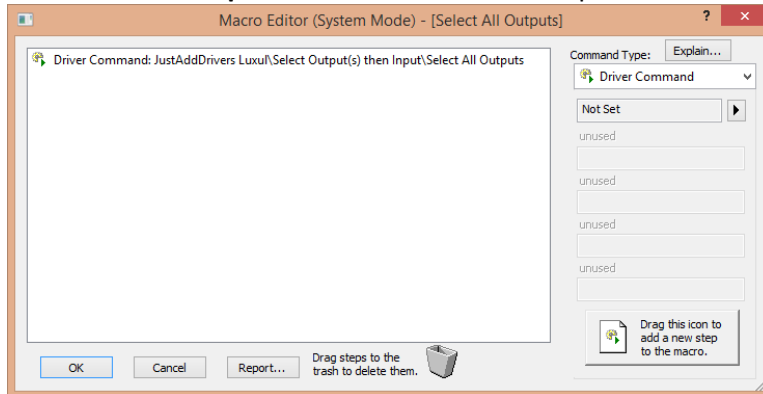
Select Output then Input

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.

Cannot be a System Macro, because *toggle* functions are not recorded system-wide. Can only be a Button Macro.

Select All Outputs

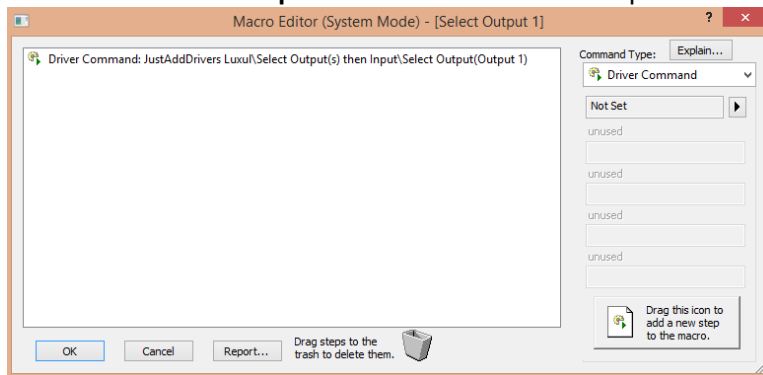
Sets all Outputs to *Selected*. Then use **Select Input** to switch all Selected Outputs.



Select All Outputs

Select Output

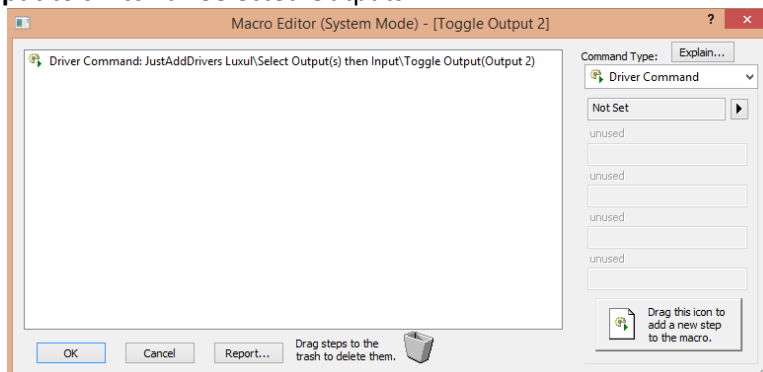
Sets a single Output to *Selected*. Then use **Select Input** to switch all Selected Outputs.



Select Output 1

Toggle Output

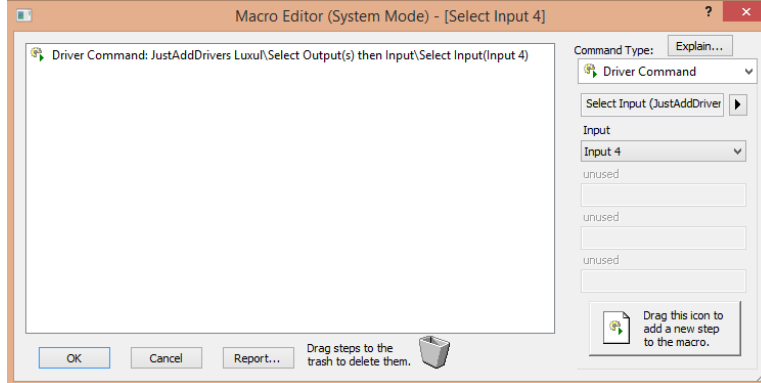
Toggle Selection status of an Output. A *Selected* Output will become *Unselected*; an *Unselected* Output will become *Selected*. Then use **Select Input** to switch all Selected Outputs.



Toggle Output 2

Select Input

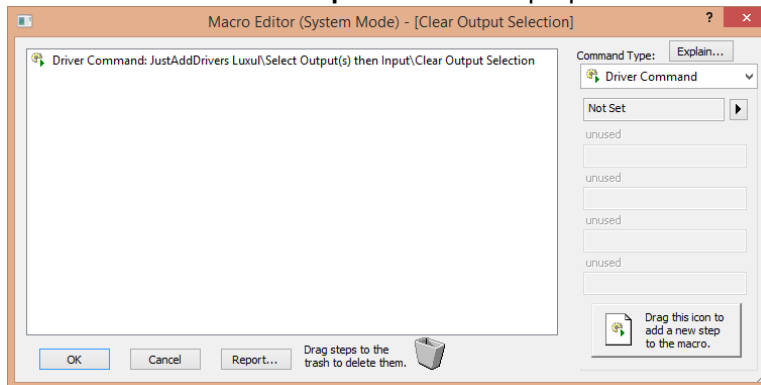
Switch all *Selected* Outputs to the Selected Input. Only works when at least one Output is *Selected*.



Select Input 4

Clear Output Selection

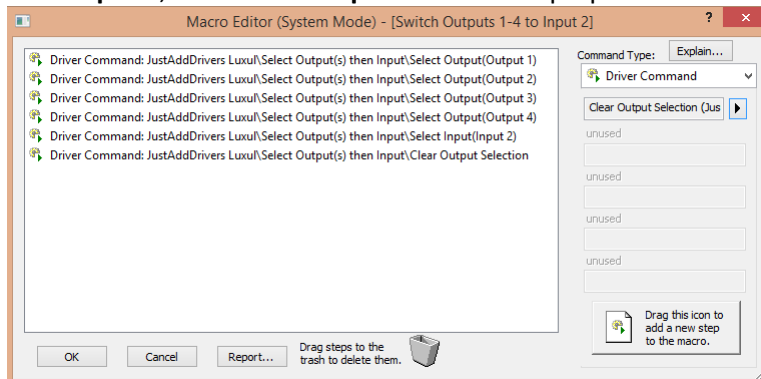
Sets all Outputs to *Unselected*. Best used after **Select Input** to clear and prepare for a new switching command.



Clear Output Selection

Examples

1. **Select Output 1-4, Select Input 2, then Clear Output Selection** to prepare for the next switching command.



Select Outputs 1-4, switch to Input 2, then Clear Output Selection

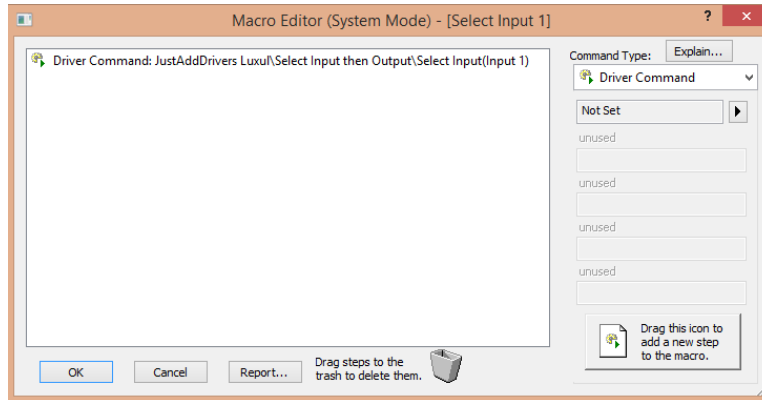
Select Input then Output

Select an 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*.

Cannot be a System Macro, because *toggle* functions are not recorded system-wide. Can only be a Button Macro.

Select Input

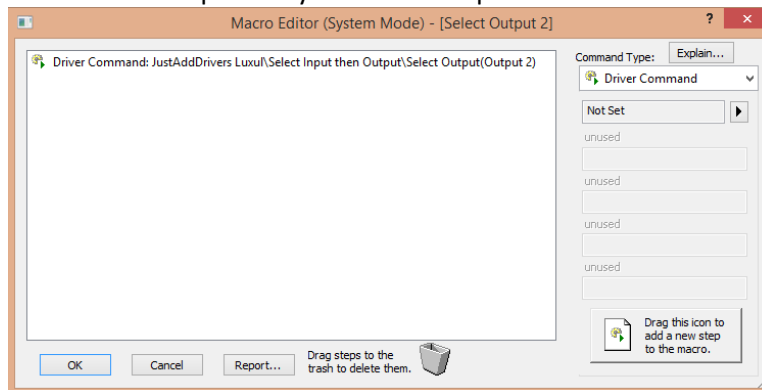
Set an Input to *Selected* and all other Inputs to *Unselected*. Then use **Select Output** or **Set All Outputs** to switch to that Input.



Select Input 1

Select Output

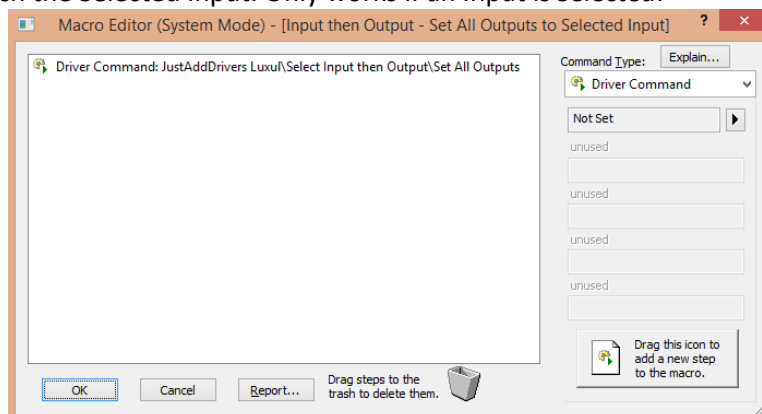
Switches an Output to watch the Selected Input. Only works if an Input is *Selected*.



Select Output 2

Set All Outputs

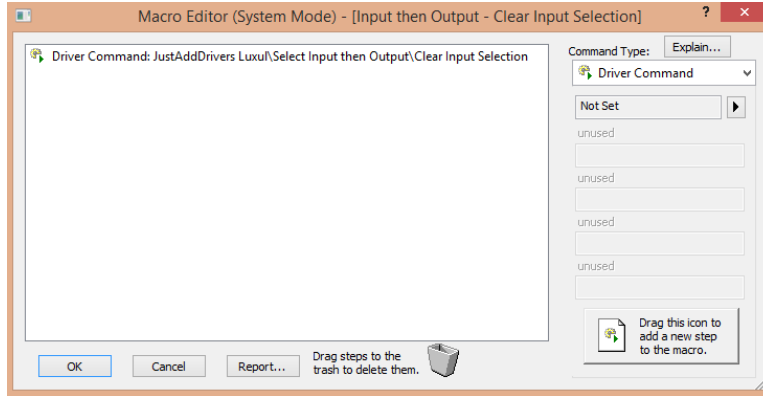
Switches all Outputs to watch the Selected Input. Only works if an Input is *Selected*.



Set All Outputs

Clear Input Selection

Unselect the Selected Input.



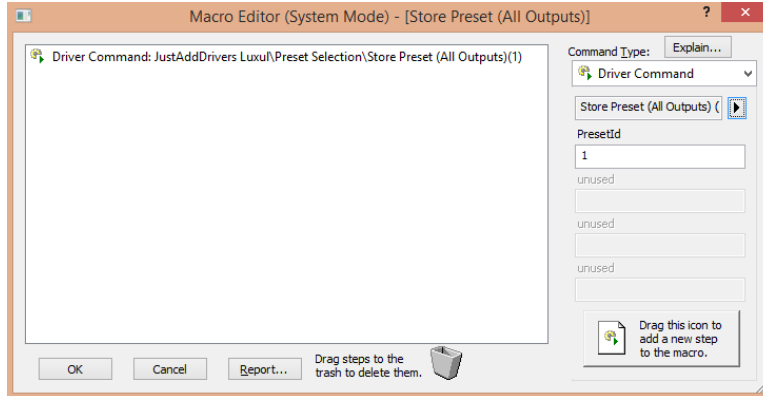
Clear Input Selection

Preset Selection

Save a system configuration – Output/Input matching – to be recalled later. Presets can be set for all Outputs or a subset of Outputs. There are 16 PresetIDs available numbered 1-16.

Store Preset (All Outputs)

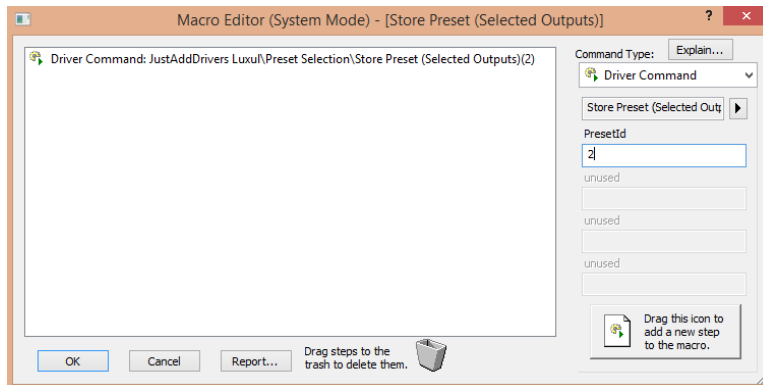
Set a Preset (1-16) to remember all Output/Input combinations to be recalled at a later time.



Store All Outputs as Preset ID 1

Store Preset (Selected Outputs)

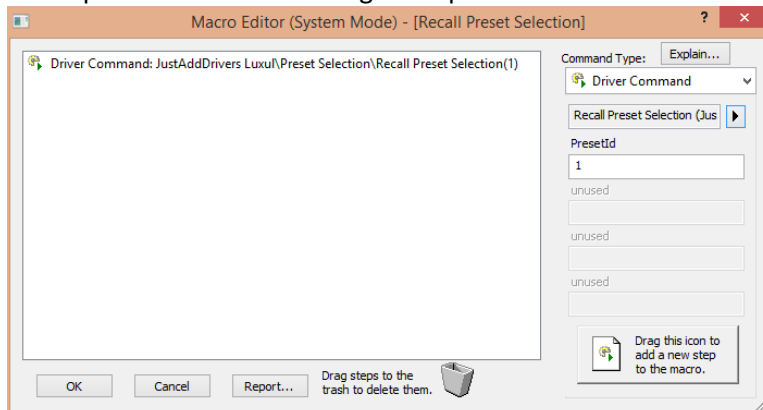
Set a Preset (1-16) to remember the Output/Input combination for the selected outputs. Use **Select Output then Input** to select outputs.



Store Selected Outputs as Preset ID 2

Recall Preset Selection

Recall a Preset (1-16) to set all Outputs to watch their assigned Input on that Preset.



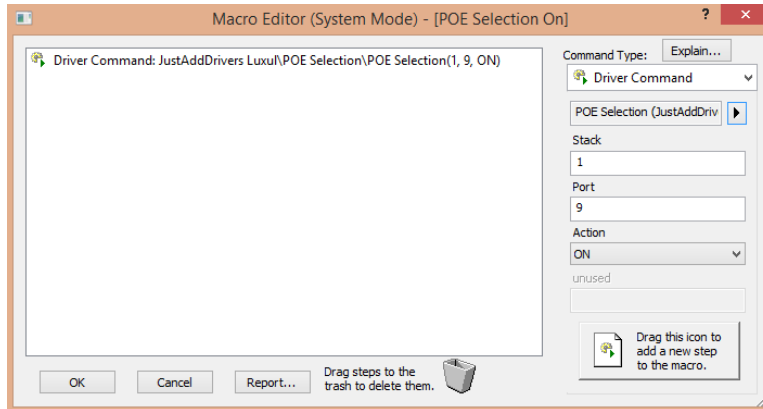
Recall Preset ID 1

POE Selection

Toggles Power over Ethernet for individual ports on the switch. Used to remotely power-cycle POE devices through program control.

On

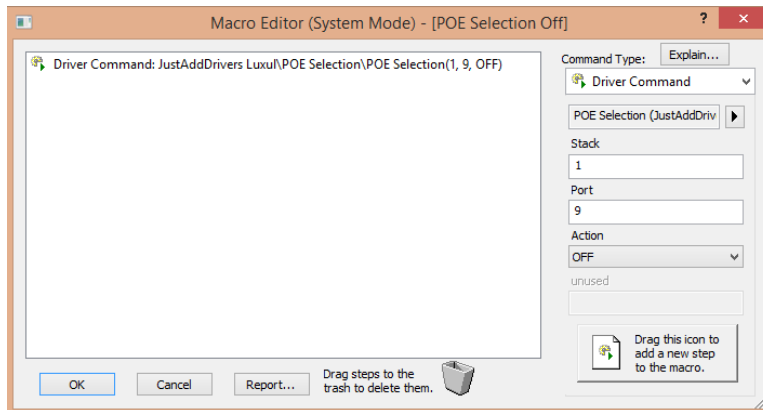
Enable POE on a port.



Enable POE on Stack 1 Port 9

Off

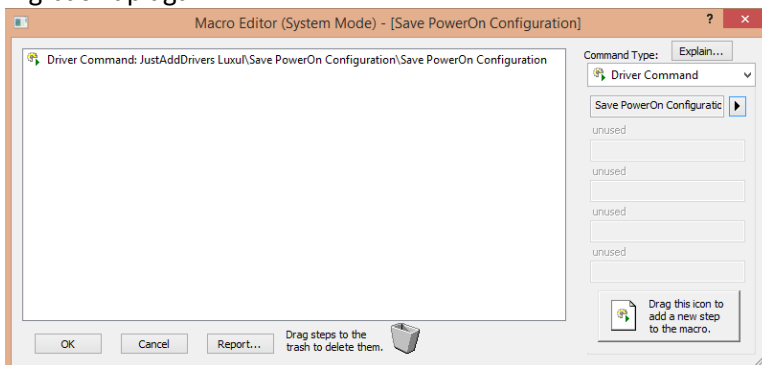
Disable POE on a port.



Disable POE on Stack 1 Port 9

Save PowerOn Configuration

Saves the Output/Input combination in the current configuration. If the switch loses power, the system will return to the last-saved state upon powering back up again.



Save Switch Configuration

System Variables

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

Operational Mode

Returns the status of the driver:

- Demo – means there is no license key entered or license key is invalid
- Licensed – means the license key is valid and full features are enabled
- 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.

Model Number

Returns the model of switch being controlled by the driver

Licence Status

Returns the license status of the driver

Output Current Input

Returns the name of the Input currently being watched by that Output.

XXX = Receiver number as connected to the Cisco SG300. First Receiver on the switch is 001.

Output Selected

Returns a true/false value reporting whether the output is marked as Selected in the driver. This variable is toggled by **Select Output then Input**.

Input Selected

Returns a true/false value reporting whether the input is marked as Selected in the driver. This variable is toggled by **Select Input then Output**.

Troubleshooting

1. Switching isn't working
 - Confirm that driver settings are correct:
 - **TCP Address** is the IP Address of the Cisco/Luxul switch
 - **User Name** is the username of the Cisco/Luxul switch
 - **User Password** is the password of the Cisco/Luxul switch
 - Confirm that the switch has been configured with JADConfig. The driver will only control a switch configured with JADConfig.
 - Confirm that no modifications have been made to the switch after JADConfig was run. Changes may cause the driver to incorrectly read the switch configuration.
 - Confirm that Just Add Power devices are connected to the switch. The driver will only switch ports with Just Add Power devices attached.
 - Reboot the switch and the RTI processor.
 - Check that the Operational Mode variable of the driver is marked as "Licensed". This can be done by adding the variable to Button Text, or by going to the IP address of the RTI processor with the XP Diagnostics driver running.

2. A different display is switching than the one expected
 - On boot-up, the switching driver maps port connections on the switch to the Input and Output numbering in the RTI interface
 - The JADConfig Report file shows the mapping used by the switching driver
 - RTI switching references devices by their Input and Output numbering
 - Transmitter 1 on the Report = Input 1 in RTI
 - Receiver 1 on the Report = Output 1 in RTI

Stack;Port	Configuration	MAC Address	IP Address	Netmask	Gateway	Model	Firmware
1;1	Control	-	-	-	-	-	-
1;2	Transmitter 1	c2:00:00:02:46:97	10.0.0.2	255.0.0.0	10.0.0.1	3G+AVP TX	B1.2.1
1;3	Transmitter 2	c2:00:00:02:57:a1	10.0.0.6	255.0.0.0	10.0.0.5	3G+4+ TX	B1.2.1
1;4	Receiver 1	c2:00:00:02:1c:24	10.128.0.2	255.0.0.0	10.128.0.1	3G RX	B1.2.1
1;5	Receiver 2	c2:00:00:01:b0:db	10.128.0.3	255.0.0.0	10.128.0.1	3G+AVP RX	B1.2.1
1;6	Receiver 3	c2:00:00:02:57:89	10.128.0.4	255.0.0.0	10.128.0.1	3G+4+ RX	B1.2.1
1;7	Receiver 4	c2:00:00:02:57:88	10.128.0.5	255.0.0.0	10.128.0.1	3G+4+ RX	B1.2.1
1;8	Receiver 5	c2:00:00:02:57:85	10.128.0.6	255.0.0.0	10.128.0.1	3G+4+ RX	B1.2.1

Output 1 will switch port 1/4 in this system

MultiTxRxComms Driver

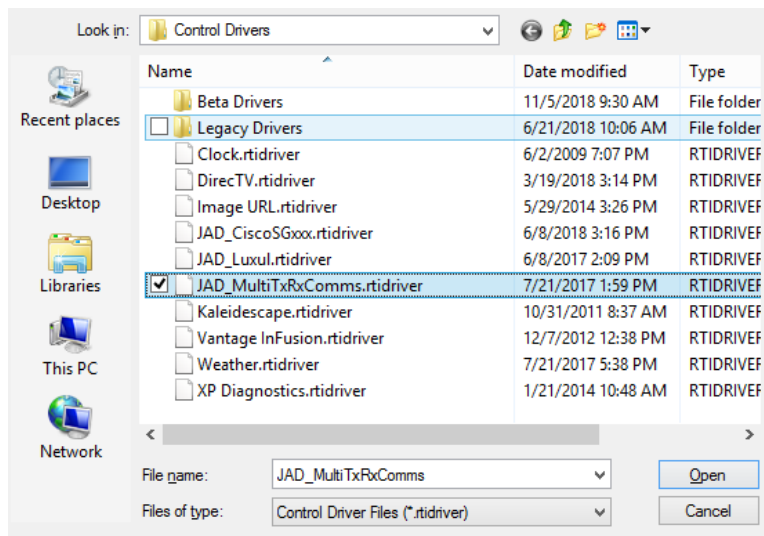
A Static Route must be set for the driver to have access to Just Add Power devices.

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

1. RS232/IR/CEC control of endpoints
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

Setup Static Route

The MultiTxRxComms driver requires a Static Route to work. There are two ways to enable a Static Route:

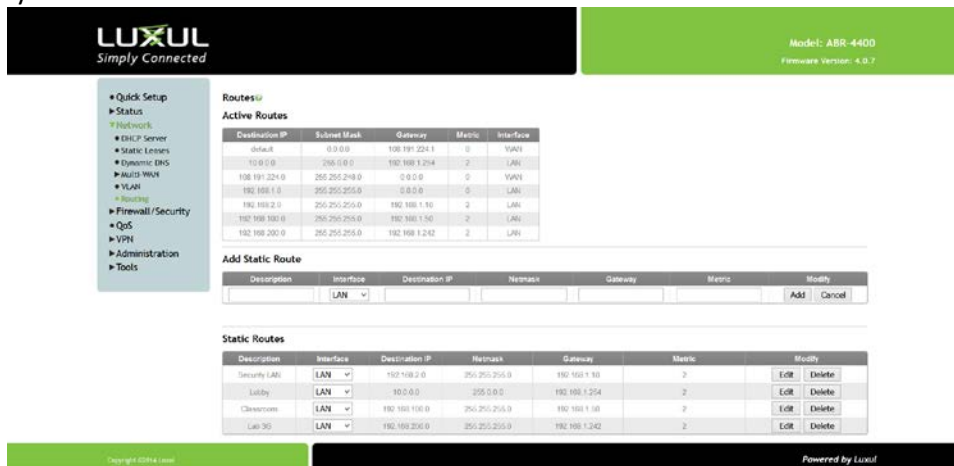
- [With Router](#)
- [Without Router](#)

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

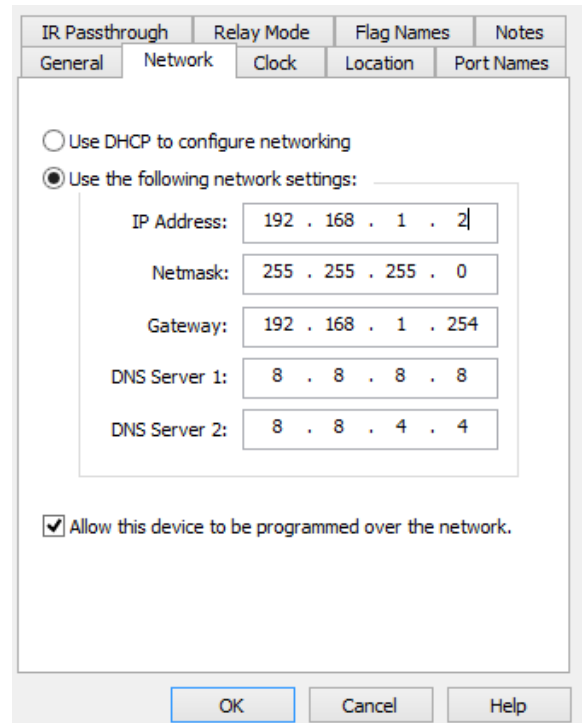
Without Router

If the system does not have a router or the router does not have Static Routing, then the RTI processor settings can be modified to communicate with Just Add Power devices.

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

Example:

The Just Add Power switch has been configured with an IP address of 192.168.1.254 and a subnet mask of 255.255.255.0. The IP address of the RTI processor is 192.168.1.2.



Configure

1. In the XP processor **Drivers** tab, select the **JAD SOIP/Console/CEC** driver.
2. Open the JADConfig Report file for the system. The Static Route information is used to define the range of Device IPs.
3. Set **Device Network** to the **Network** value in the Report file.
4. Set the **Device Netmask** to the **Netmask** value in the Report file.
5. Set **Max Sockets** to **32**. This will allow the driver to communicate with 32 devices simultaneously.
6. Set **Serial Port Settings** if using RS232 or IR control:
 - a. Set **Serial Port Mode**
 - i. **Direct** for RS232 control. Set the **Baud Rate** to match the endpoint device.
 - ii. **IR Dongle v1** if using IR with the Flux Capacitor v1
 - iii. **IR Dongle v2** if using IR with the Flux Capacitor v2
 - b. If using a mixture of Serial Port Settings, load one MultiTxRxComms driver for each type. The driver sets Serial Port Settings as its first action.
7. Set **Image Pull** to **Enable** to allow the driver to display image snapshots on UIs.
8. 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.

Loaded Drivers:

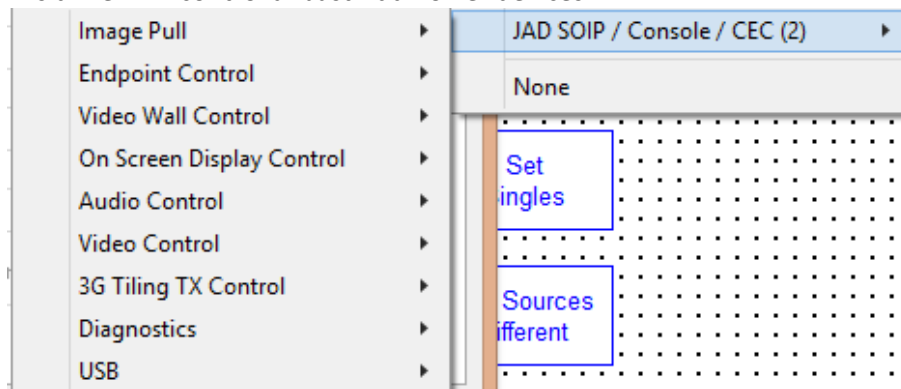
JustAddDrivers Luxul
Image URL
XP Diagnostics
JustAddDrivers Cisco SG300
JAD SOIP / Console / CEC

+ System Settings	
- JAP Comms	
Connection Type	Network (TCP)
JAP Device Network	172.16.0.0
JAP Device Netmask	255.255.0.0
Max Sockets	32
- Serial Port Settings	
Serial Port Mode	Direct ▼
Baud Rate	9600
Bits	8
Parity	None
Stop Bits	1
- Image Pull	
Enable	Enable
- JAP Devices	
Number of Transmitters	8
Number of Receivers	8

MultiTxRxComms Properties

Program

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



JADConfig 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.

Stack;Port	Configuration	MAC Address	IP Address	Netmask	Gateway	Model	Firmware
1;1	Control	-	-	-	-	-	-
1;2	Transmitter 1	c2:00:00:02:46:97	10.0.0.2	255.0.0.0	10.0.0.1	3G+AVP TX	B1.2.1
1;3	Transmitter 2	c2:00:00:02:57:a1	10.0.0.6	255.0.0.0	10.0.0.5	3G+4+ TX	B1.2.1
1;4	Receiver 1	c2:00:00:02:1c:24	10.128.0.2	255.0.0.0	10.128.0.1	3G RX	B1.2.1
1;5	Receiver 2	c2:00:00:01:b0:db	10.128.0.3	255.0.0.0	10.128.0.1	3G+AVP RX	B1.2.1
1;6	Receiver 3	c2:00:00:02:57:89	10.128.0.4	255.0.0.0	10.128.0.1	3G+4+ RX	B1.2.1
1;7	Receiver 4	c2:00:00:02:57:88	10.128.0.5	255.0.0.0	10.128.0.1	3G+4+ RX	B1.2.1
1;8	Receiver 5	c2:00:00:02:57:85	10.128.0.6	255.0.0.0	10.128.0.1	3G+4+ RX	B1.2.1

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.

Basic Video Wall Mode Char ▶

Device
RX1-4

Number Of Rows x Columns
1x1

Row Position
1

Column Position
1

Consecutive devices

Basic Video Wall Mode Char ▶

Device
RX1,3,5

Number Of Rows x Columns
1x1

Row Position
1

Column Position
1

Non-consecutive devices

Send Console Command (J#) ▶

Devices
TX1-4 RX1-10

Command
Reboot

unused

unused

Transmitters and Receivers

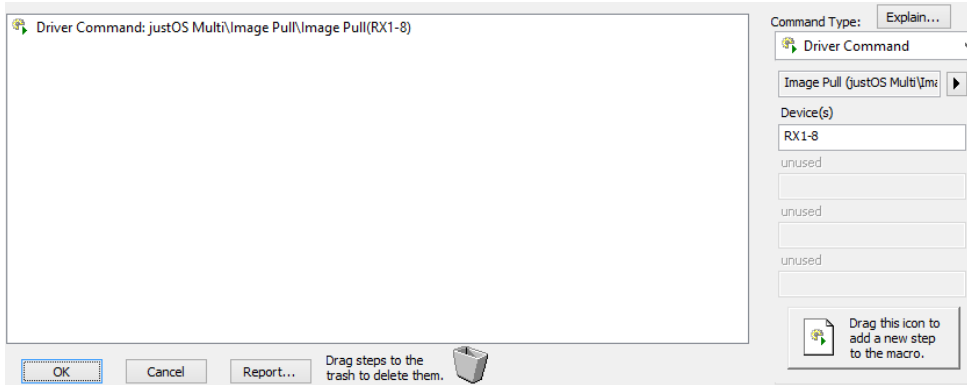
Image Pull

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

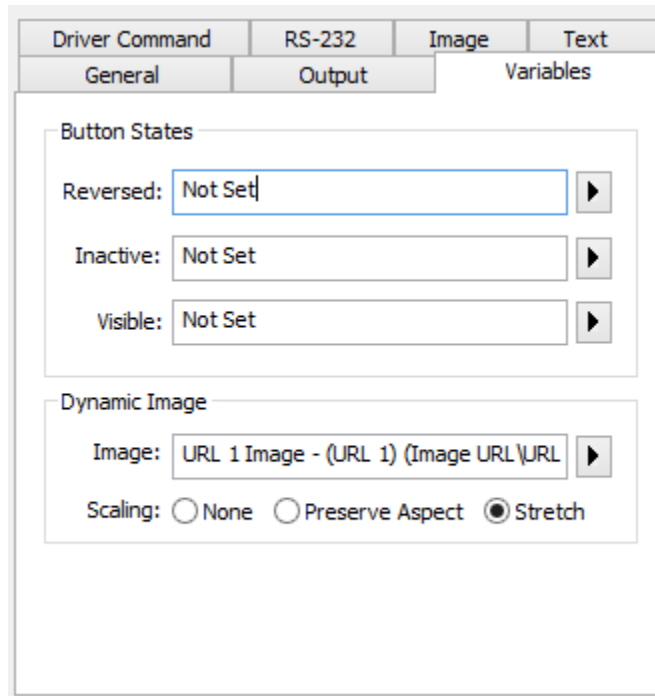
Update the image snapshot from a Just Add Power device.

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

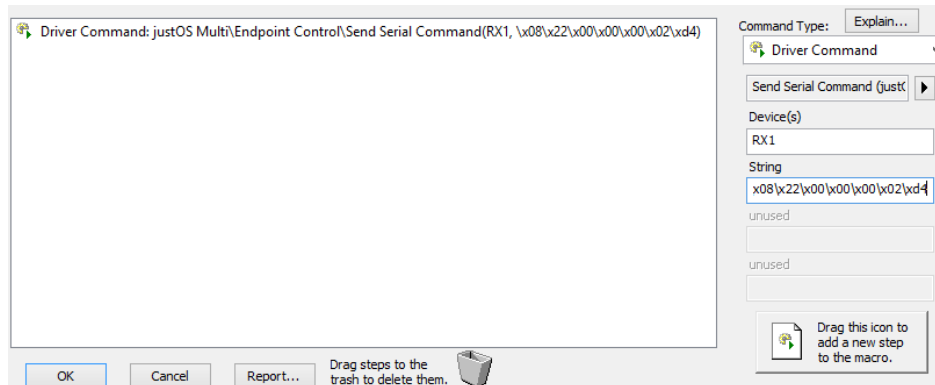
Endpoint Control

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

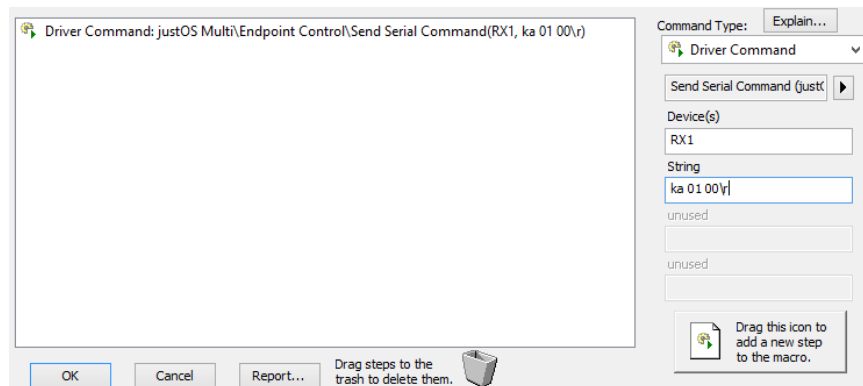
IR, RS232, CEC control of displays and sources. Sends commands to the targeted Transmitter or Receiver over IP, where it is converted to the appropriate type of signal. Does not use IR or RS232 ports on the RTI processor.

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.



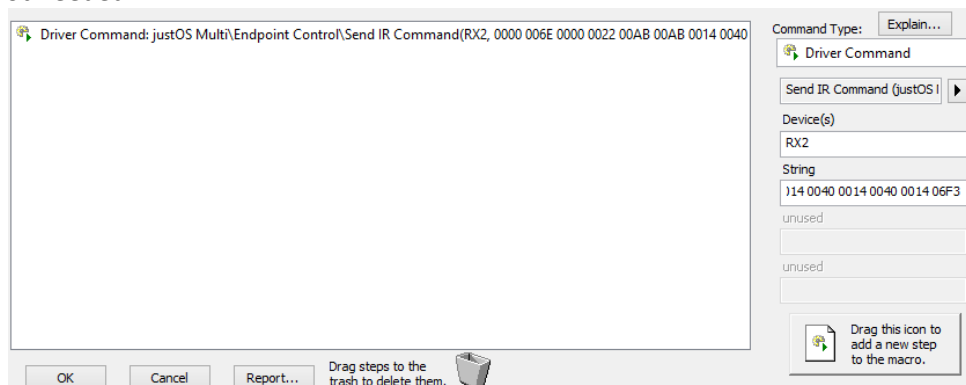
Send RS232 Hex command to Receiver 1



Send RS232 ASCII command to Receiver 1

Send IR Command

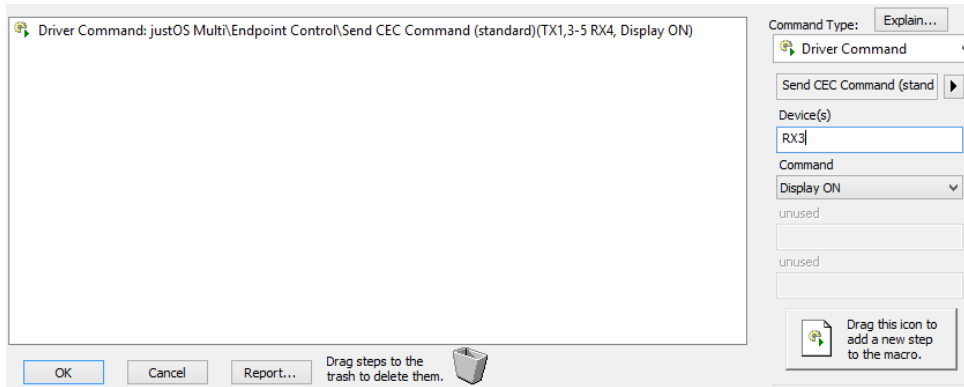
Supports Pronto and Global Cache formatted IR commands. IR commands require a Flux Capacitor IR Dongle v1 or v2. Carriage-return is not needed.



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

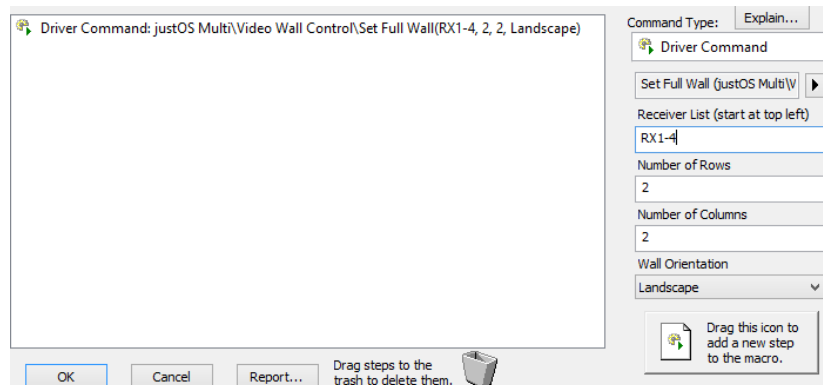
Set rotation and positioning for a video wall with one command.

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

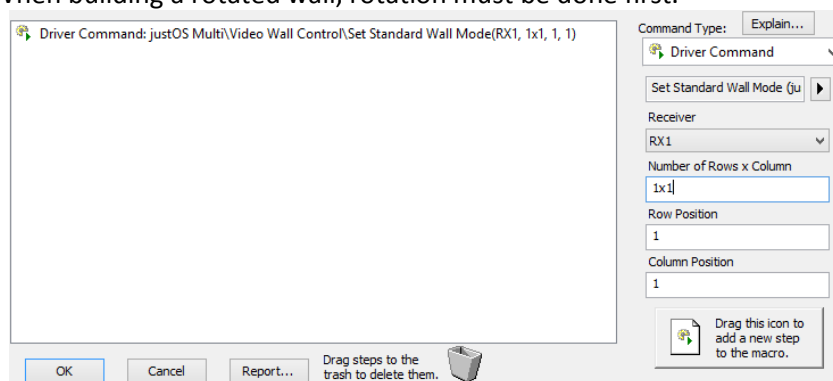
Wall Orientation – Landscape, Portrait 90, Portrait 270, or Inverted Top Row



Build a 2x2 Landscape Wall from Receivers 1-4

Set Standard Wall Mode

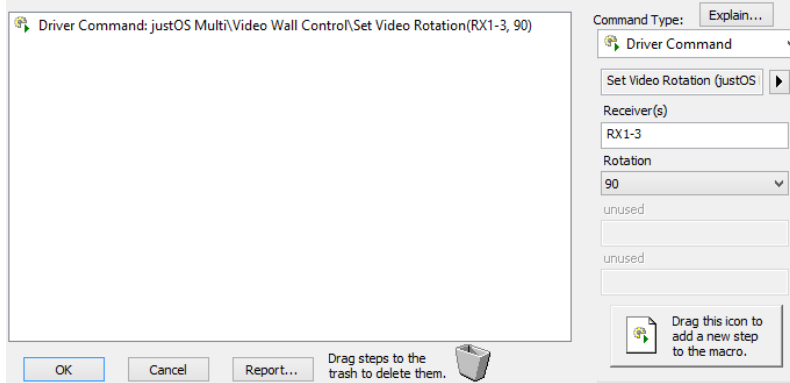
Customize the wall position of Receivers. Useful for putting multiple Receivers into single-screen, or building a video wall one Receiver at a time. When building a rotated wall, rotation must be done first.



Put Receiver 1 into Single-Screen

Set Video Rotation

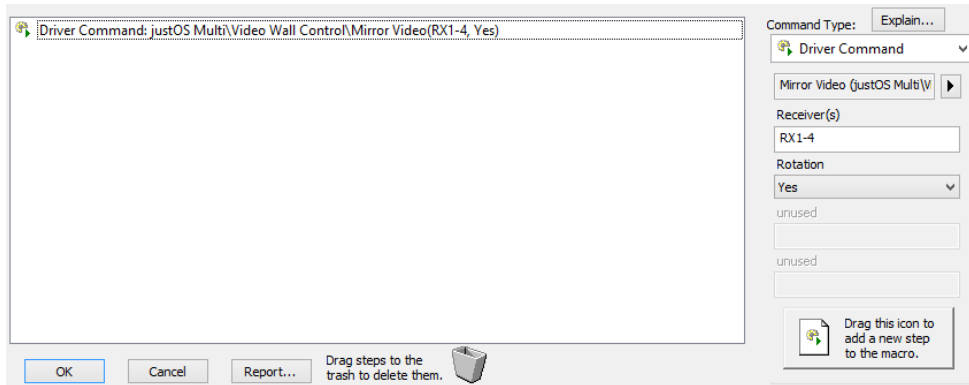
Rotate a Receiver in increments of 90 degrees clockwise.



Rotate video on Receivers 1-3 to 90° clockwise

Mirror Video

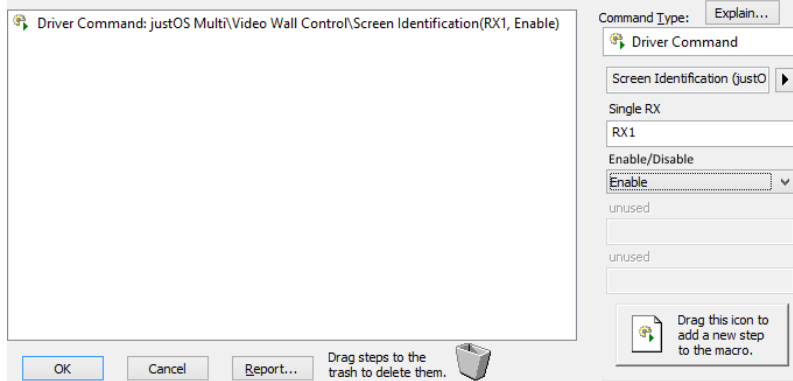
Horizontally mirror the video on a Receiver



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

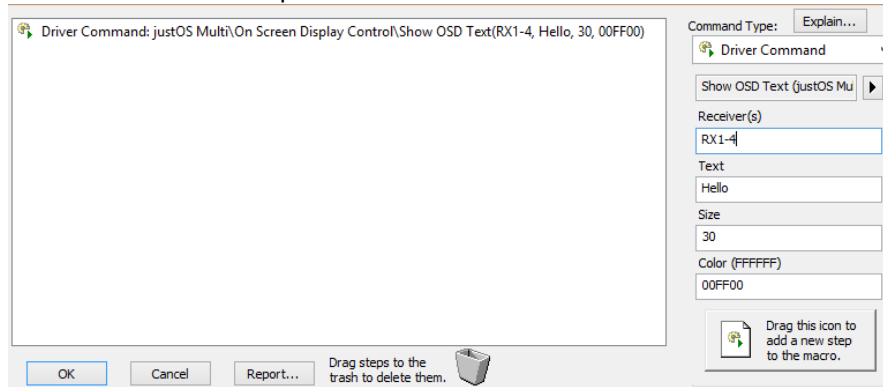
Show OSD Text

Print text on a Receiver.

Text – String to be displayed

Size – Font size. Text will be larger for screens in video wall mode

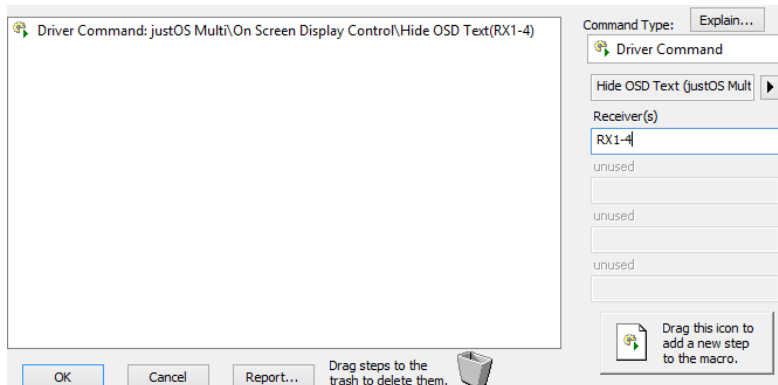
Color – Text color in RRGGBB format. 0-F accepted.



Print 'Hello' in green on Receivers 1-4

Hide OSD Text

Remove text.



Remove text from Receivers 1-4

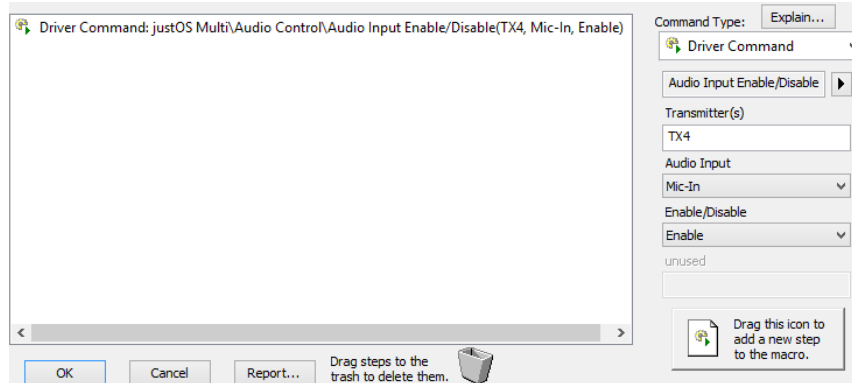
Audio Control

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**.

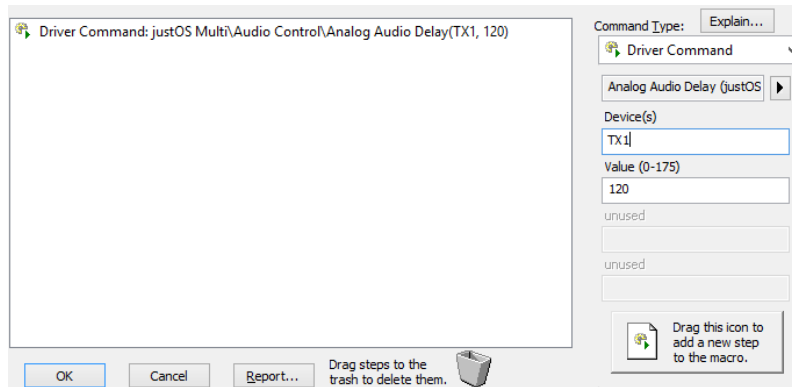
Enable and disable the audio signals on HDMI, Mic-In, and Line-In on an AVP Transmitter



Enable Mic-In on Transmitter 4

Analog Audio Delay

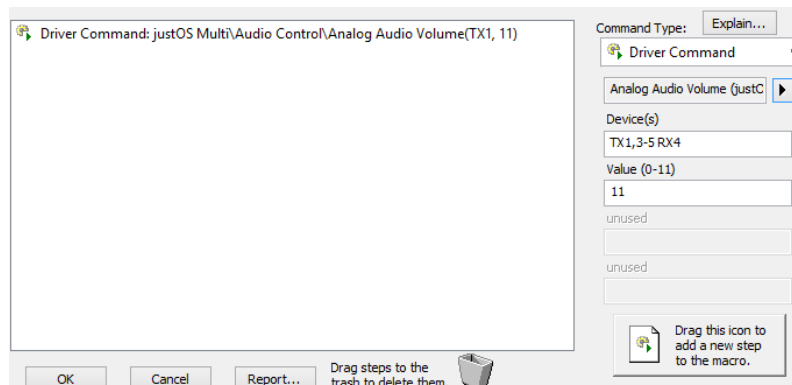
Set the audio delay value (ms) for the stereo output on a Transmitter or Receiver



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

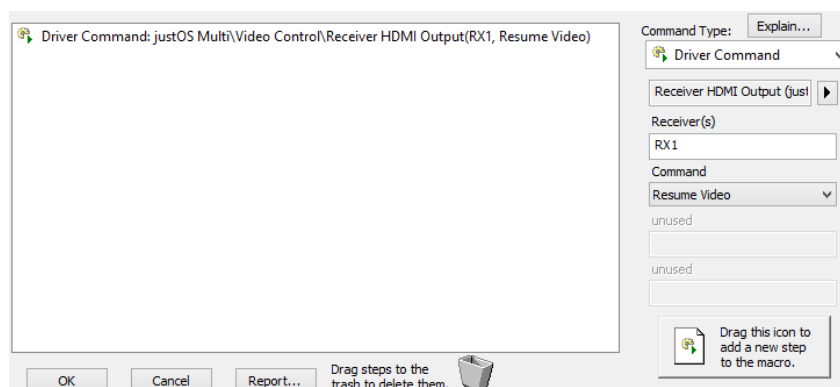
Resume Video – resume the video at the current frame. Undo for **Pause** and **Output Black**

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**.

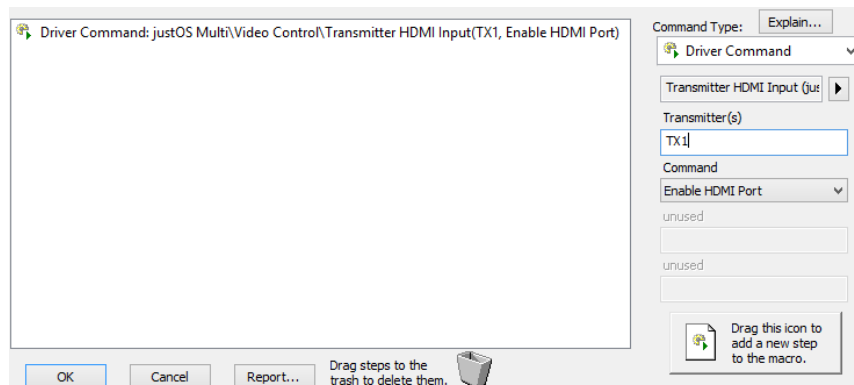
Modify the HDMI input of a Transmitter

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

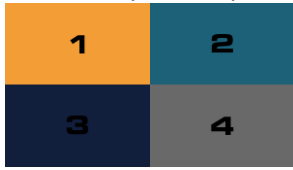
3G Tiling TX Control

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



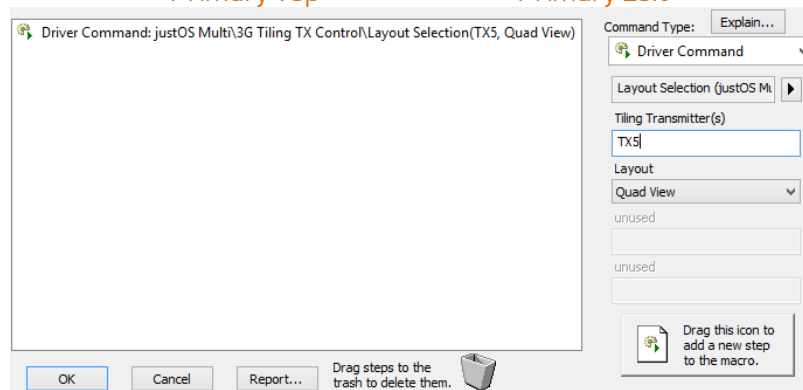
Primary Top



Primary Left



Single-screen

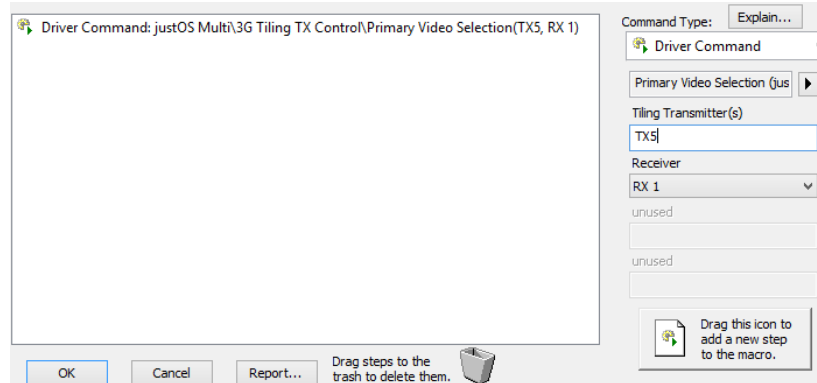


Set Quad Layout on Tiling Transmitter 5

Primary Video Selection

Set a Receiver to be the Primary Video.

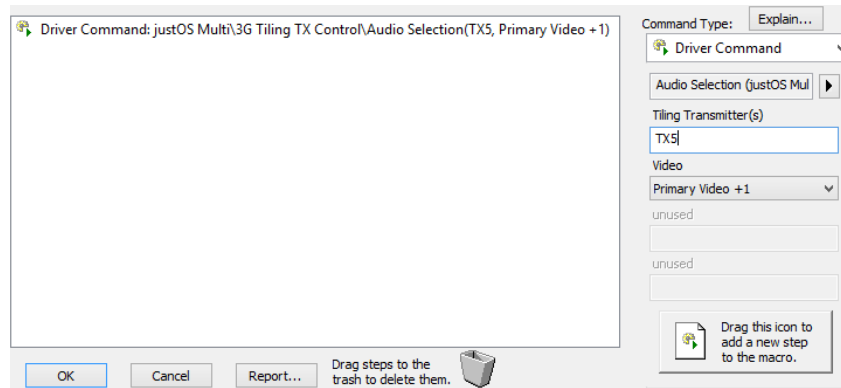
Primary Video is used as a reference point for all other Tiling controls. The Primary Video is Screen 1 in any layout.



Set RX1 as Primary Video on Tiling Transmitter 5

Audio Selection

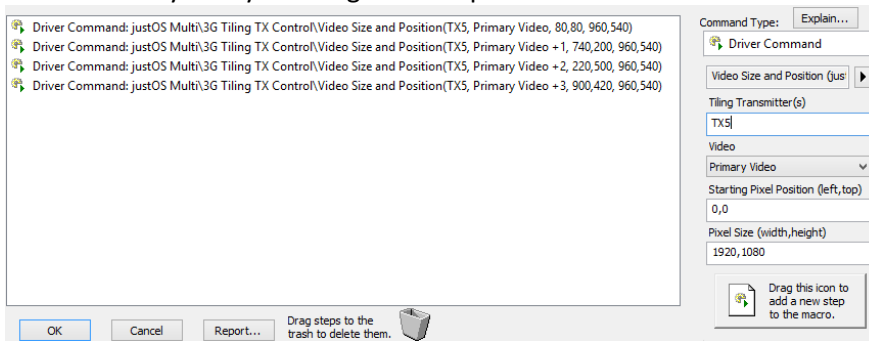
Set a Receiver to be the audio source. Selection is based on the Primary Video. +1 means the Receiver *after* the Primary Video.



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.



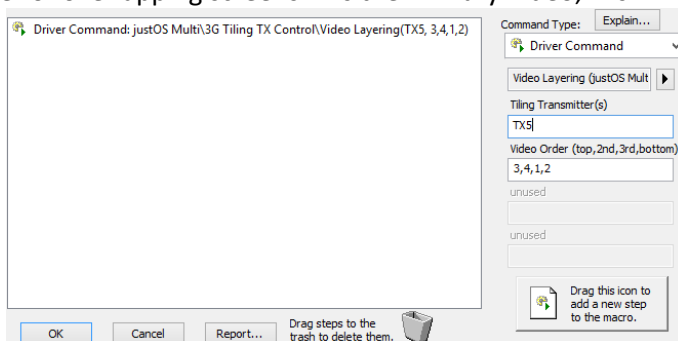
Draw Video Size and Position for 4 screens on Tiling Transmitter 5



Resulting Layout

Video Layering

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



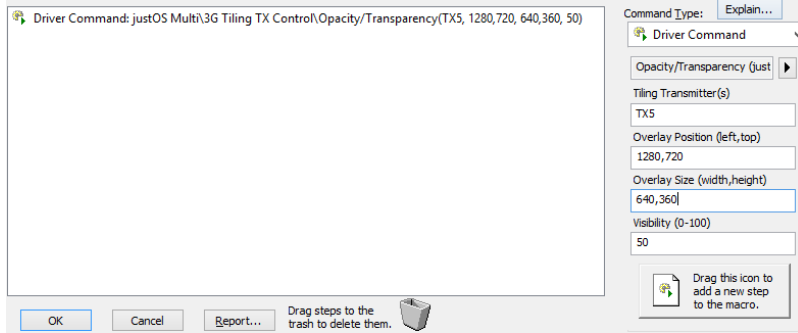
Layer Videos as 3,4,1,2 on Tiling Transmitter 5



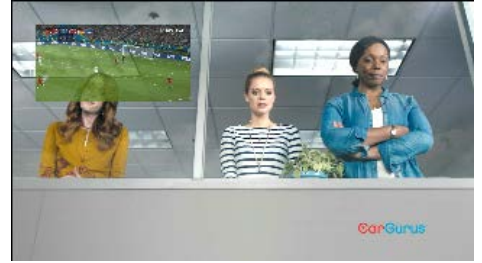
Resulting Layers

Opacity/Transparency

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



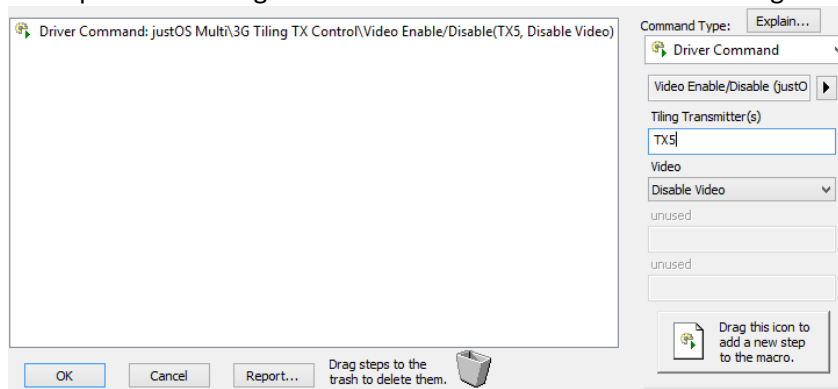
50% Transparency on Picture-in-Picture – Tiling Transmitter 5



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

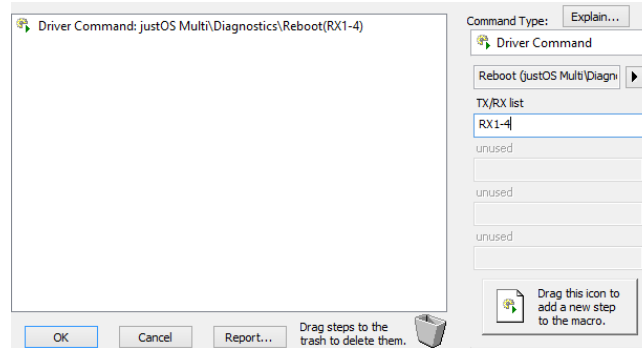
Diagnostics

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

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

Reboot

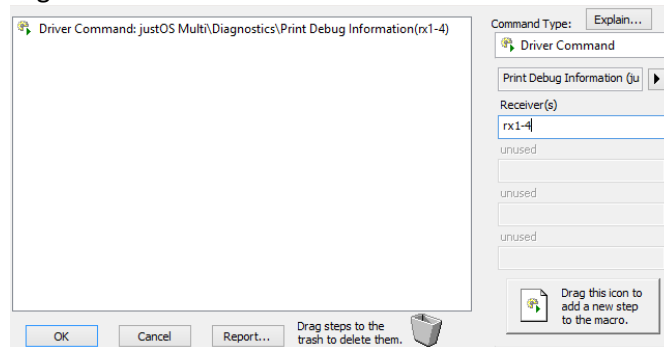
Reboot a unit



Reboot Receivers 1-4

Print Debug Information

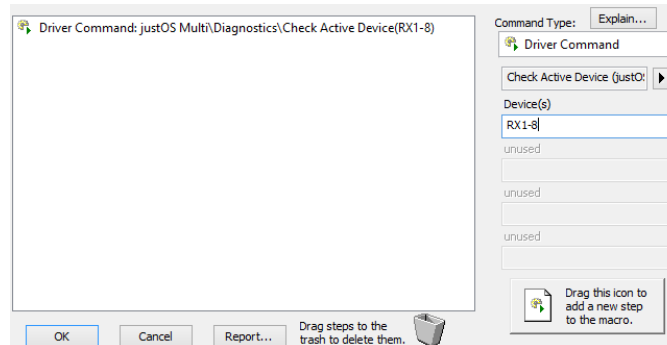
On-screen display of current settings of a device



Print Debug Information on Receivers 1-4

Check Active Devices

Update the Active Device flags in the driver variables

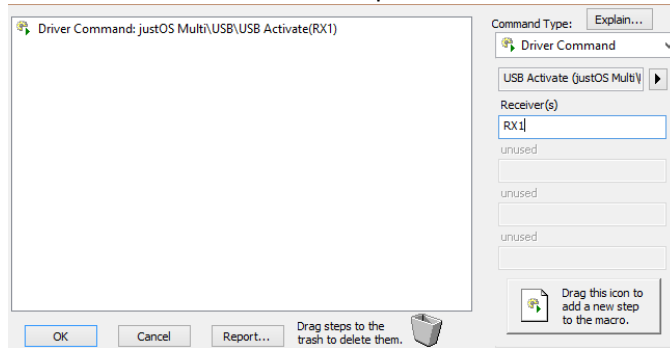


Check Active Status of Receivers 1-8

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:
 - **Device Network** and **Device Netmask** matches JADConfig Report file
 - **Max Sockets** set to **32**
 - **Serial Port Settings** match the endpoint control type
 - Rule out a case of mistaken identity
 - Use the JADConfig Report file to
 - TX1 reference the first Transmitter in the system, regardless of port connection
 - RX1 references the first Receiver in the system, regardless of port connection
 - 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.
 - The most common jumper/wiring combination has the jumper closest to the RS232 port and a straight-through serial cable
 - 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
 - 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.
 - 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.
 - 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
 - Setting must match the version of the IR Dongle
 - 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.
 - 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
 - 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.
 - 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.
 - 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

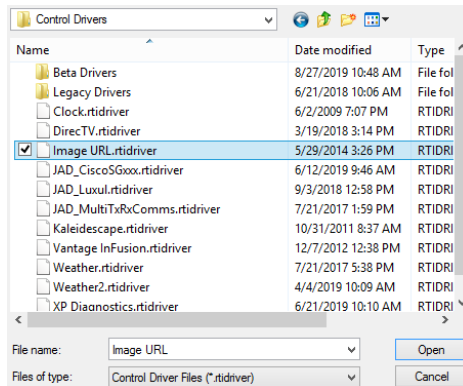
- Check all points from #1 above
- Manually send the command through PuTTY, Docklight, or a similar terminal emulator program
 - Telnet to the device IP on port 23. Send commands terminated with a carriage-return.
- Check source/display settings for CEC options. Confirm that CEC is enabled on the display.
- 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

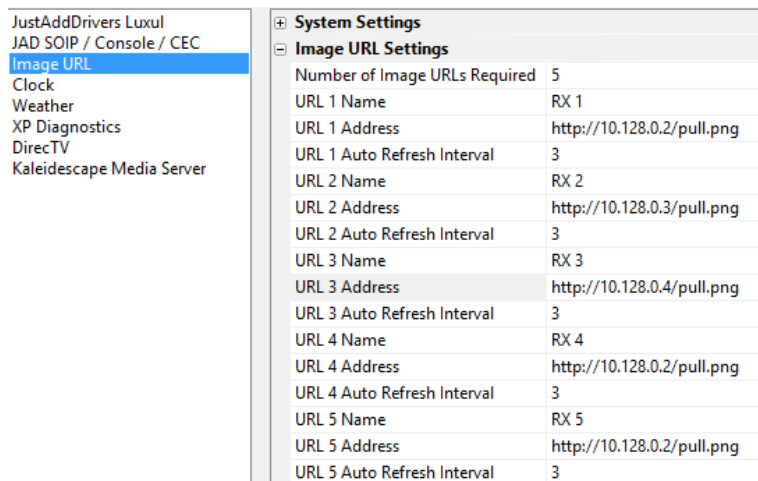
In the XP processor **Drivers** menu, click **Add**. Navigate to the location of the **Image URL** driver and click **Open**. One driver will provide access to 32 images.



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 image
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.

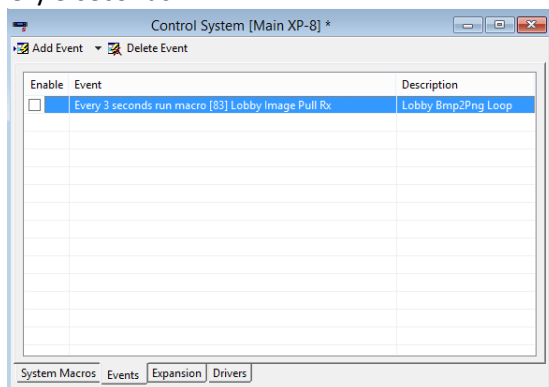
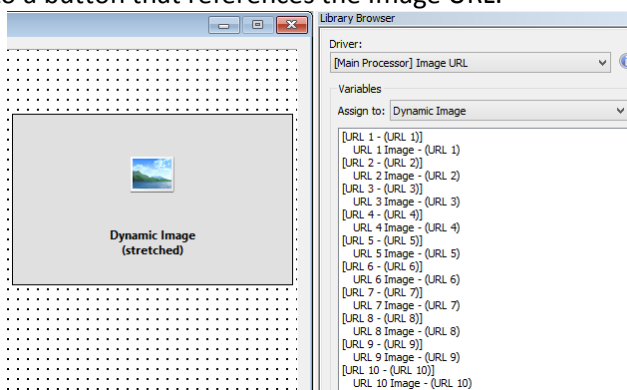


Image Pull Event

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:
 - **Device Network** and **Device Netmask** matches JADConfig Report file
 - **Max Sockets** set to **32**
 - **Serial Port Settings** match the endpoint control type
 - Rule out a case of mistaken identity
 - Use the JADConfig Report file to
 - TX1 reference the first Transmitter in the system, regardless of port connection
 - RX1 references the first Receiver in the system, regardless of port connection
 - 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
 - Assign the Image Pull command to a button, or
 - Assign the Image Pull command to a macro and add it to a Periodic Event