HDiP

created by Just Add Power

2G PROJECT PLANNING GUIDE

Revised 2015-12-10

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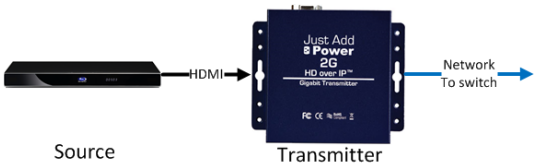
How the Just Add Power Solution Works

The Just Add Power HD over IP solution is an HDMI audio/video distribution system that uses the Local Area Network infrastructure. Just Add Power devices are network appliances, and conform to all networking protocols and standards for wiring and reliability. Therefore, audio and video is capable of traveling anywhere that data on the Local Area Network can travel.

The strengths of the Just Add Power HD/IP solution are in its versatility, quality, and feature-set. It is uniquely scalable for the job at hand, no matter how many sources and displays an installation may require. There is no limit of static 2x2, 4x4, 8x8 input/output ranges. 2x9? Sure! 1x13? Of course! 7x58? Easy! Content can be transmitted in resolutions up to 1080p60 with 2G, and UltraHD with 3G. As long as the source can be converted to HDMI or SDI, the Just Add Power solution can distribute it.

A Just Add Power system consists of two devices: an encoder and a decoder

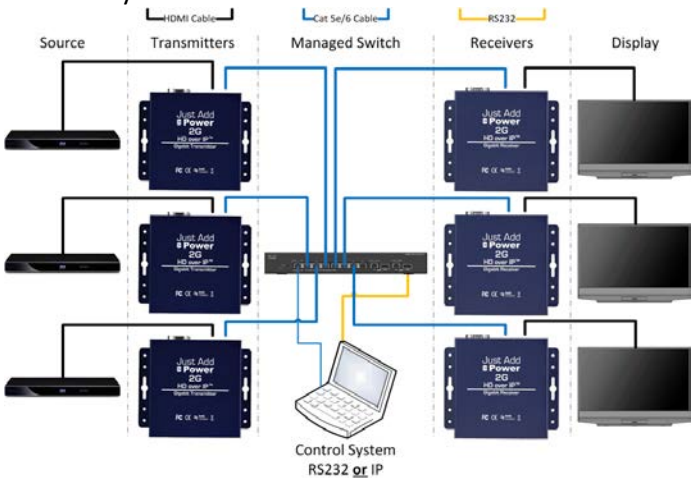
- **Just Add Power Transmitter** – Connected to the source device via HDMI cable. The source device can be a Blu-Ray player, cable box, media server, DirecTV, or other device with an HDMI output. The Transmitter converts the HDMI signal into a network packet that is sent over Cat5e/6/7 cables.



- **Just Add Power Receiver** – Connected to the display device via HDMI cable. The display device can be a TV, monitor, AV receiver, or other device with an HDMI input. The Receiver takes network packets received over Cat5e/6/7 cables and converts them into an HDMI signal.

The center of a Just Add Power HDMI matrix is a managed gigabit Ethernet switch.

- Think of the managed gigabit Ethernet switch as a **network-controlled matrix switcher** that just *happens* to be a network switch
- All Transmitters and Receivers connect via Ethernet cable to the managed gigabit Ethernet switch
- The switch is configured to exactly the amount of Transmitters and Receivers needed



To realize a Just Add Power installation, the following pieces are needed:

- 1 Receiver per display
- 1 Transmitter per source
- A managed gigabit Ethernet switch
- A Control System to manage the switching of displays to watch different sources

MorePlay™ Feature-Set

All Just Add Power devices support all these features on one network cable:

- Lossless 1080p video
- Instant, Seamless Switching
- Multi-channel Audio
- RS-232 Control (2-way)
- Video Wall
- EDID Magic™
- Image Push
- Image Pull
- On-Screen Display
- 3D Support
- IR Over IP
- Gigabit Ethernet
- DVI video formats with HDMI-to-DVI Adapter (sold separately)

2G+ has these added features:

- USB 2.0
- Stereo Audio extractor with adjustable Audio Delay
- HDMI pass-through on Transmitter
- 1-way CEC Control
- Locking HDMI cables
- Built-in RS-232 Null Modem
- See Appendix for more information

AVP has all 2G+ features plus:

- Dolby Digital Sound Processor – capable of converting multi-channel audio to 2-channel audio for distribution
- Line- and Mic-In ports on Transmitter – mixable with HDMI audio signal
- Audio Amplifier and Ground Loop Isolator on Stereo Audio extractor
- 2-way CEC Control

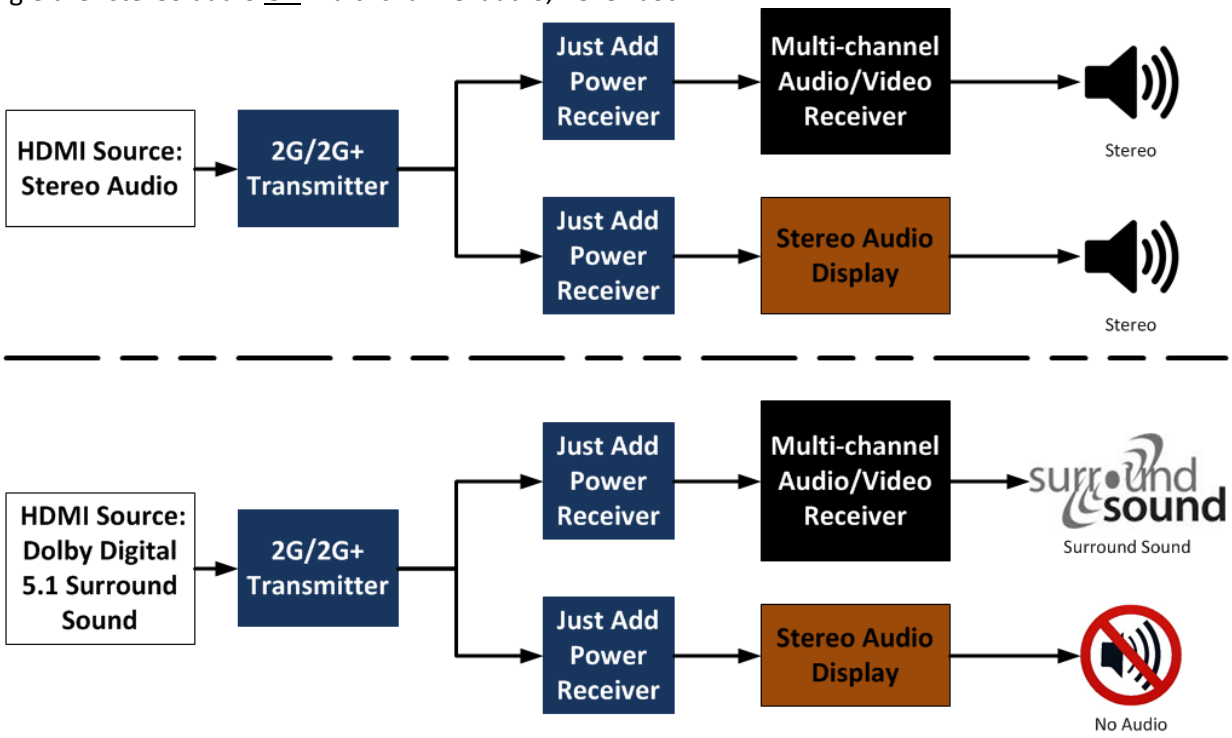
All Just Add Power 2G models are compatible with each other; mix-and-match in any combination!

Comparison Chart

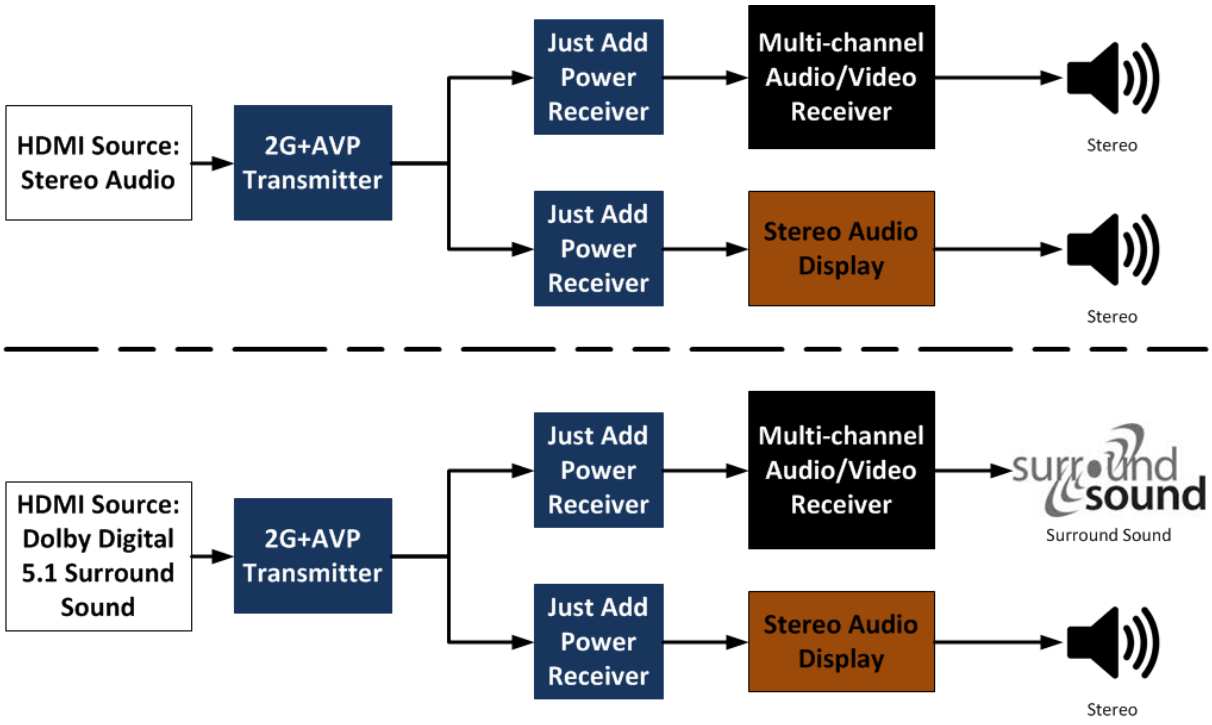
Feature/Function	2G	2G+	2G+AVP
Maximum LAN Bandwidth	150Mbps	150Mbps	150Mbps
Maximum Sources Supported per LAN	~4,000	~4,000	~4,000
Maximum HDMI Displays Supported per LAN	~65,000	~65,000	~65,000
Required Minimum Switch Speed	Gigabit	Gigabit	Gigabit
Compatible with All 2G Models	✓	✓	✓
Embedded Video Wall Application	✓	✓	✓
On Screen Display API	✓	✓	✓
Image Push – upload a background image	✓	✓	✓
Image Pull – preview video from a source or display	✓	✓	✓
Side-by-Side 3D Formats Supported	✓	✓	✓
PCM 2.0 and Compressed Multi-Channel Audio Formats Supported (i.e. Dolby® 5.1)	✓	✓	✓
Integrated Stereo Audio Extractor (3.5mm) with up to 170ms of Audio Delay on Transmitter and Receiver		✓	✓
Audio Amplifier and Ground Loop Isolator on Stereo Audio Extractor			✓
5.1 Dolby Digital transformation to 2-channel audio			✓
Mic- and Line-In 3.5mm ports, mixable with HDMI Audio signal			✓
Independent RS-232 Control of Endpoints Over LAN Connection	✓	✓	✓
Real-Time Management Console Interface via RS-232 or Telnet	✓	✓	✓
Integrated Null Modem Jumpers on RS-232		✓	✓
1-way CEC over IP		✓	✓
2-way CEC over IP			✓
HDMI Pass-Through Port on Transmitter		✓	✓
USB over IP Supported		✓	✓
Locking HDMI Cables Supported		✓	✓

2G+AVP Digital Sound Processor

HDMI is only capable of carrying **one** audio format at a time. In a distributed system, this means that each source is outputting either stereo audio **OR** multi-channel audio, never both.

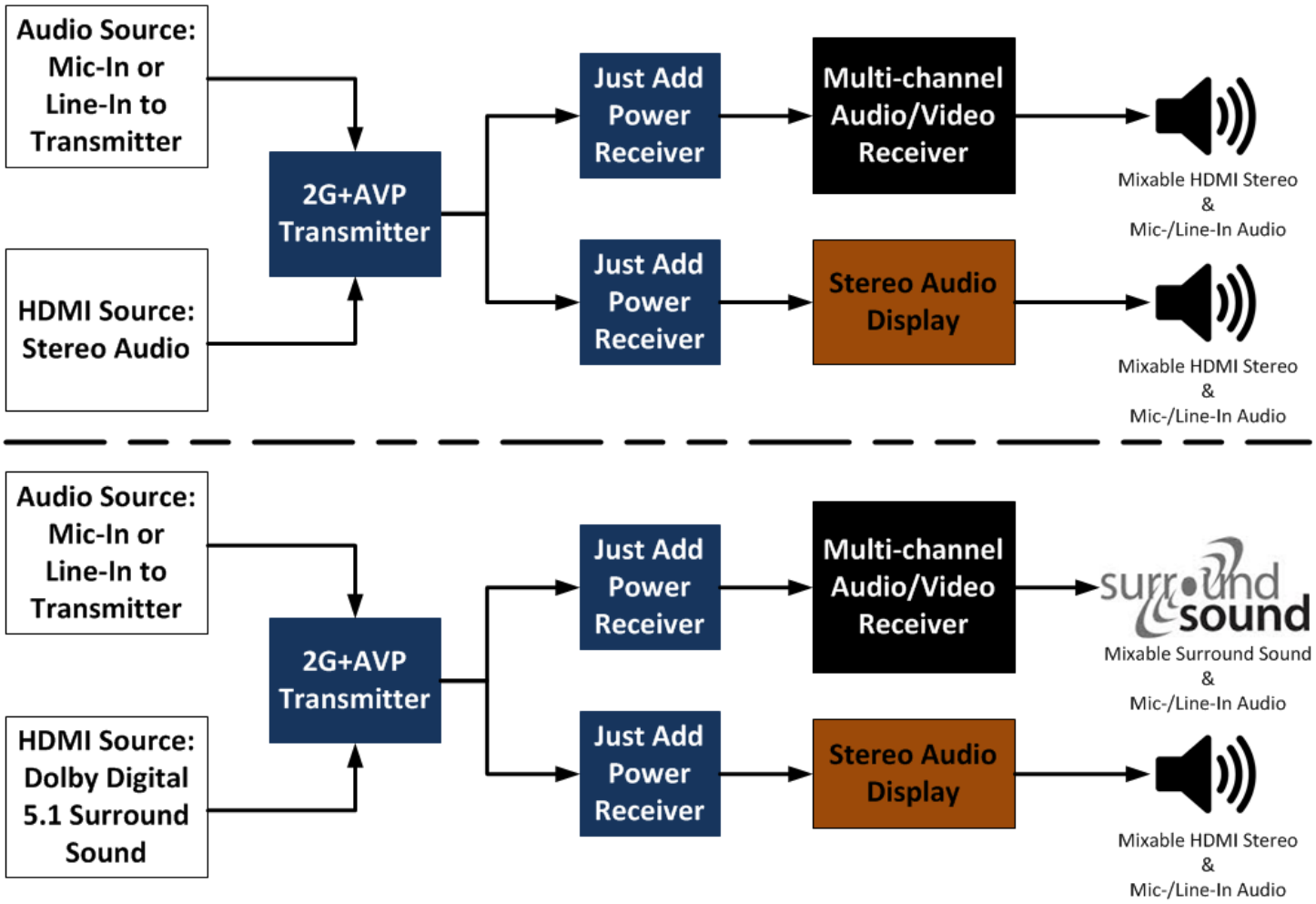


Just Add Power 2G+AVP Transmitter eliminates the hassle of distributing stereo and multi-channel with the inclusion of a Dolby Digital Sound Processor. This allows a source to output both stereo **AND** 5.1 Dolby Digital audio to an entire system on the same HDMI cable.



2G+AVP Mic-In and Line-In

The Just Add Power 2G+AVP Transmitter also has Mic-In and Line-In ports. Using the Digital Sound Processor, HDMI audio and Mic-/Line-In audio can be output to **ANY** Just Add Power Receiver in the installation.



Product Listing

Mix-and-match 2G, 2G+, and 2G+AVP according to the hardware needs in each zone.

Receivers

Receivers - Displays			
Model	PoE	Description	Image
2G			
208A		Standard Gigabit Receiver	
208PoE	✔	PoE Gigabit Receiver	
2G+			
218A		Enhanced Gigabit Receiver	
218PoE	✔	Enhanced PoE Gigabit Receiver	
2G+AVP			
218AVP	✔	A/V Pro Enhanced Gigabit PoE Receiver	

Transmitters

Transmitters – Sources				
Model	**PoE**	**Inputs**	**Description**	**Image**
2G				
408A		1	Standard Gigabit Transmitter	
408PoE	✔	1	PoE Gigabit Transmitter	
439A		3	3-in-1 Rackmount Transmitter	
2G+				
418A		1	Enhanced Gigabit Transmitter	
418PoE	✔	1	Enhanced PoE Gigabit Transmitter	
428A		1	SDI Gigabit Transmitter	
428PoE	✔	1	SDI PoE Gigabit Transmitter	
449A		3	Enhanced 3-in-1 Rackmount Transmitter	
2G+AVP				
418AVP	✔	1	A/V Pro DSP Enhanced Gigabit PoE Transmitter	

2G+4+ Tiling Transmitter

2G+4+ - Tiling Transmitter			
Model	PoE	Description	Image
2G+4+			
459A		Tiling Transmitter Compiles 4 videos into one signal Watchable on any Receiver	

Contact Information

Contact Just Add Power Worldwide to find a distributor near you.

Website

www.justaddpower.com

Email

sales@justaddpower.com

Phone

Toll Free: +1-888-390-1750
+1-800-615-0206

Main Office: +1-727-517-4053

Fax: +1-727-517-4054

Layer 2 vs Layer 3

Layer 2

Layer 2 describes a basic matrix switching system controlled via RS-232 or IP. Every display can be controlled to watch any source. Endpoint control is **NOT** accessible natively, but could be with creative programming or additional hardware.

Layer 3

Layer 3 describes a matrix switching system controlled via IP that also supports endpoint control of RS-232 or CEC devices and console API features built into all Just Add Power devices. Console API features include video wall management, on-screen display, Image Pull™, and others.

Feature	Layer 2	Layer 3
Matrix Switching	✓	✓
RS-232 control of endpoints	✓ Limited	✓
CEC control		✓
Video Wall management		✓
Logical USB enable/disable		✓
On-screen Display		✓
Image Pull – preview video from a source or display		✓
Image Push – upload a background image	✓	✓
Gigabit internet access on same CatX cable		✓

System Components

A complete Just Add Power system will have the following pieces:

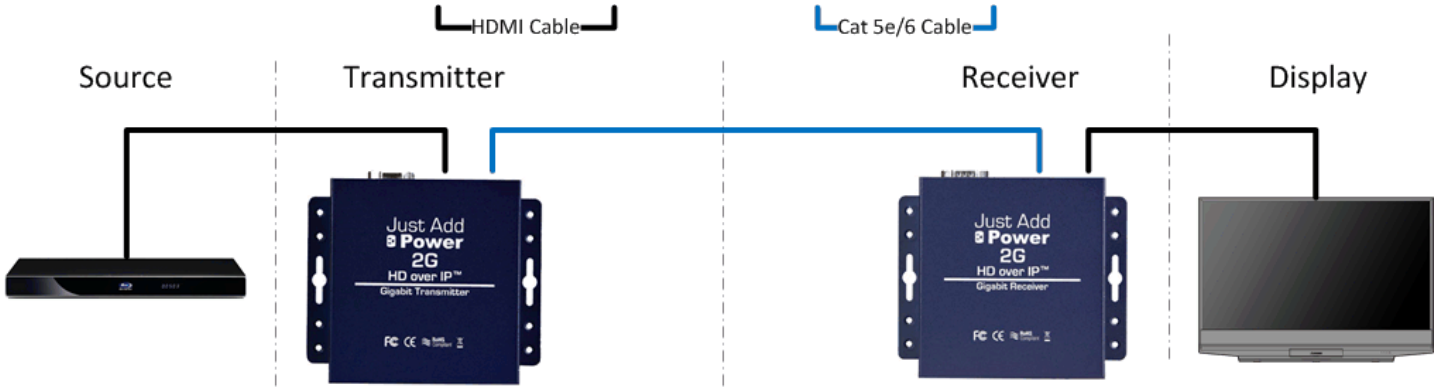
- One Transmitter for every source device
- One Receiver for every display device
- One managed gigabit Ethernet switch
- An IP-based control system to communicate with the Ethernet switch and Just Add Power devices

Note:
Simpler systems may not require a managed switch or control system. See Transmitters & Receivers section for more information.

Transmitters & Receivers

The number of Transmitters (inputs) and Receivers (outputs) determines the level of configuration needed for a system. Each example below has the full list of hardware needed for that type of system. Click the link to jump:

One Source to One Display



Components

- 1 source device
- 1 Just Add Power Transmitter
- 1 display device
- 1 Just Add Power Receiver
- 2 HDMI cables
- 1 Cat 5e/6/7 cable

Just Add Power devices on the **same firmware version** are plug-and-play. They need only to be connected together in order for video transmission to begin. In the simplest installation – one Transmitter sending to one Receiver – no switch is needed; the Receiver and Transmitter can be connected point-to-point with a single Cat 5e/6 cable.

Configuration

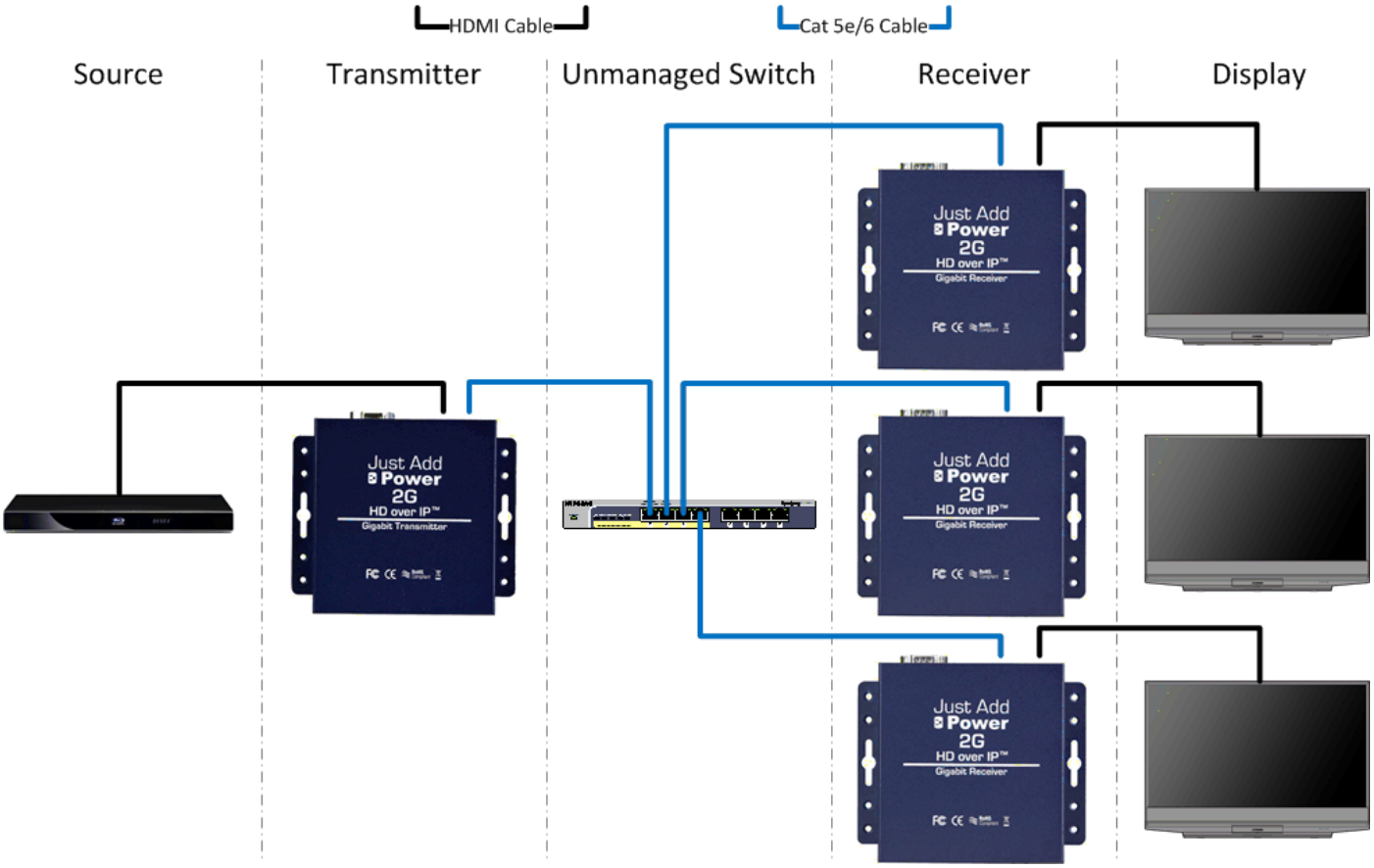
No configuration required.

One Just Add Power Transmitter/Receiver pair can be connected:

- Point-to-point with a Cat5 cable
- Through a switch
- Through an established network topology

When Just Add Power devices and other data share the same network switch, Just Add Power devices must be isolated from other data in separate VLANs.

One Source to Many Displays



Components

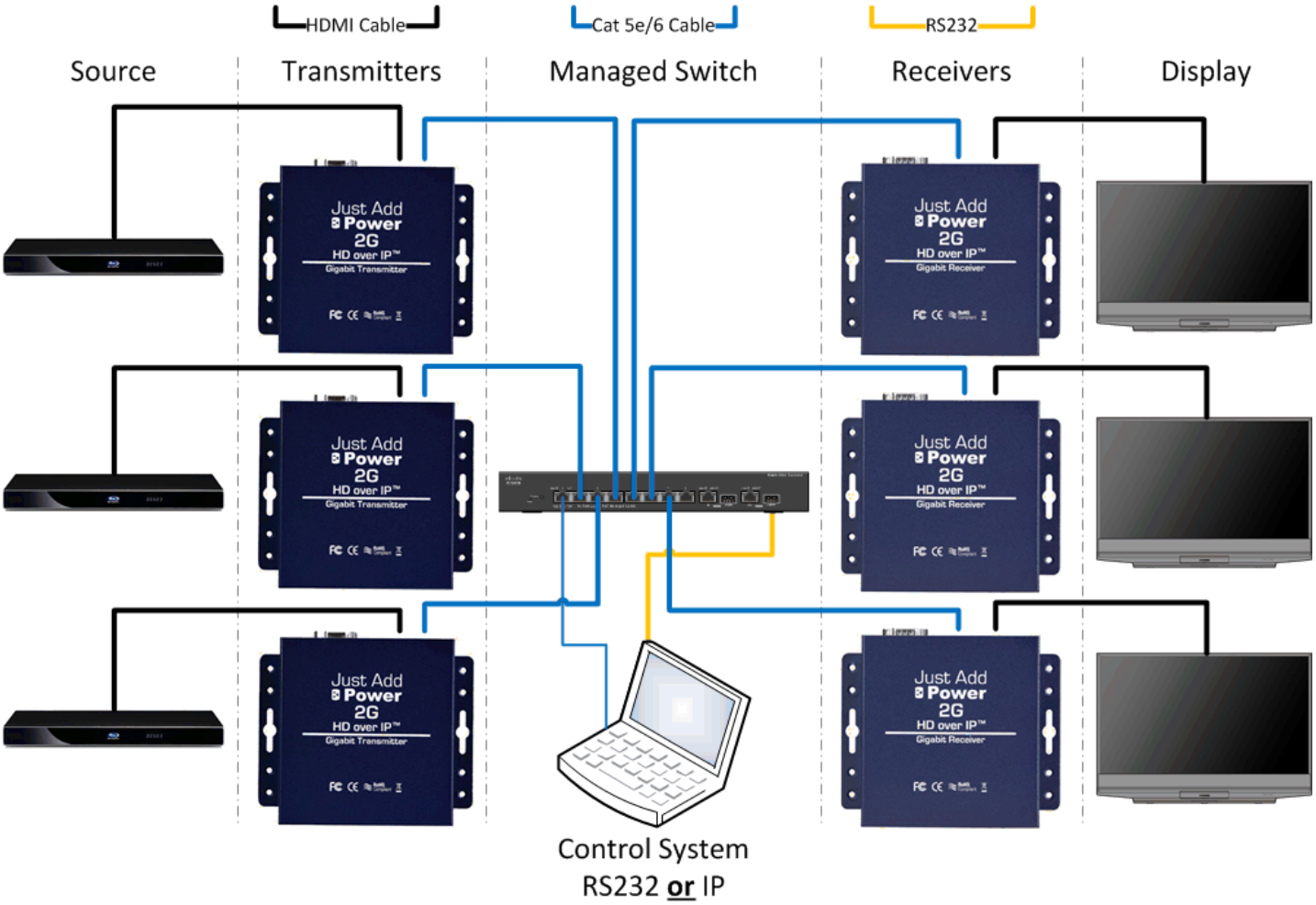
- 1 source device
  - 1 Just Add Power Transmitter
- Multiple displays
  - 1 Just Add Power Receiver per display
- 1 Unmanaged network switch or better
- 1 Cat 5e/6/7 cable per Just Add Power Transmitter and Receiver
- 1 HDMI cable per Just Add Power Transmitter and Receiver

Configuration

No configuration required if switch is dedicated to **ONLY** Just Add Power devices.

In a situation where there is already a network backbone in place, a **MANAGED** network switch is needed to separate Transmitter from regular network traffic. Otherwise, the Transmitter ***WILL*** prevent other network traffic from reaching its destination.

Many Sources to Many Displays



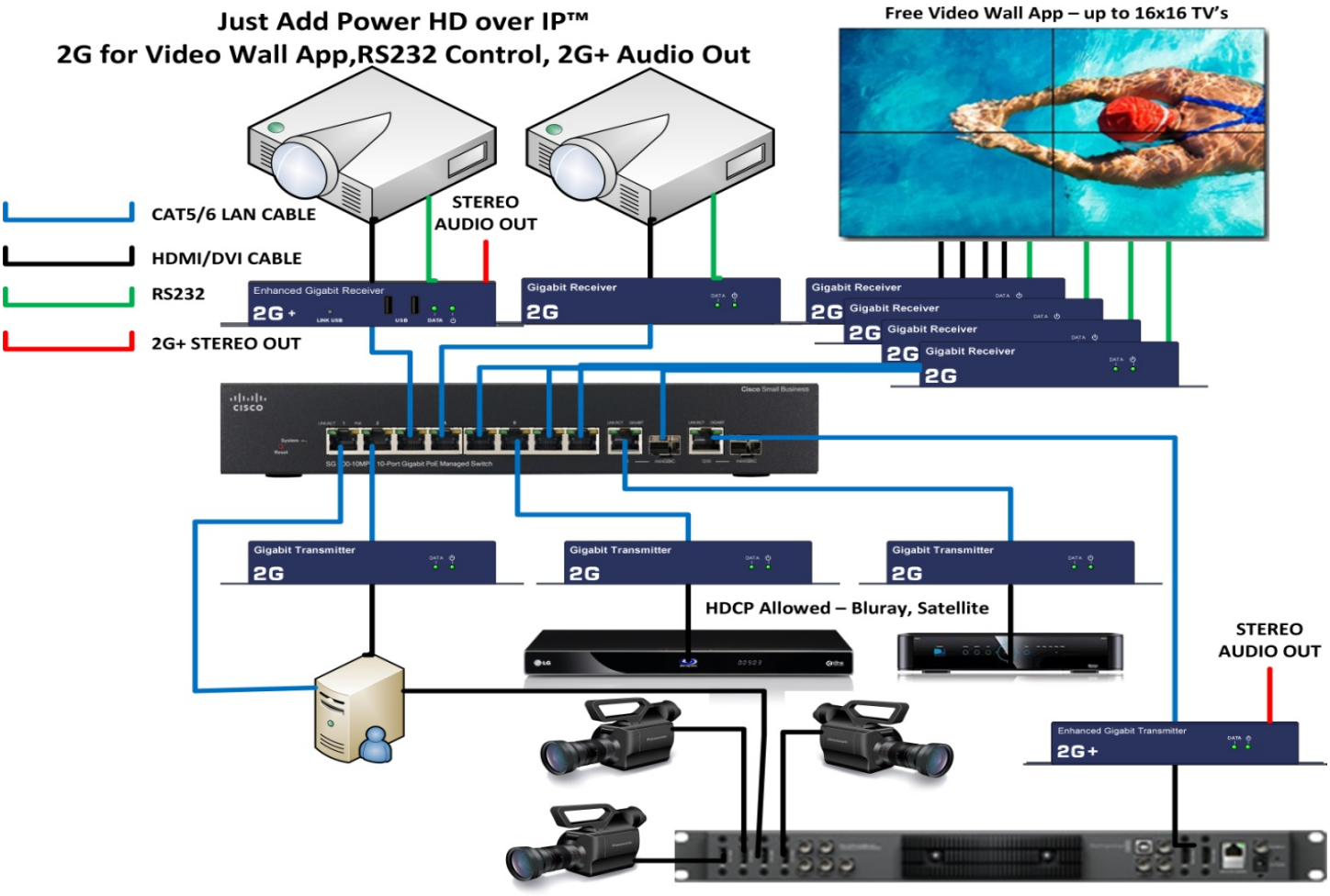
Components

- Multiple source devices
  - 1 Just Add Power Transmitter per source device
- Multiple displays
  - 1 Just Add Power Receiver per display
- Managed network switch
- One HDMI cable per Just Add Power Transmitter and Receiver
- One Cat 5e/6/7 cable per Just Add Power Transmitter and Receiver
- RS-232- or IP-based control system to communicate with the managed network switch

Configuration

When multiple Transmitters are traveling over the same network, the managed network switch must be configured so that Receivers are only watching one Transmitter at a time. Configuration options can be found in System Configuration and Control.

Many Source to Many Displays with Video Wall



Components

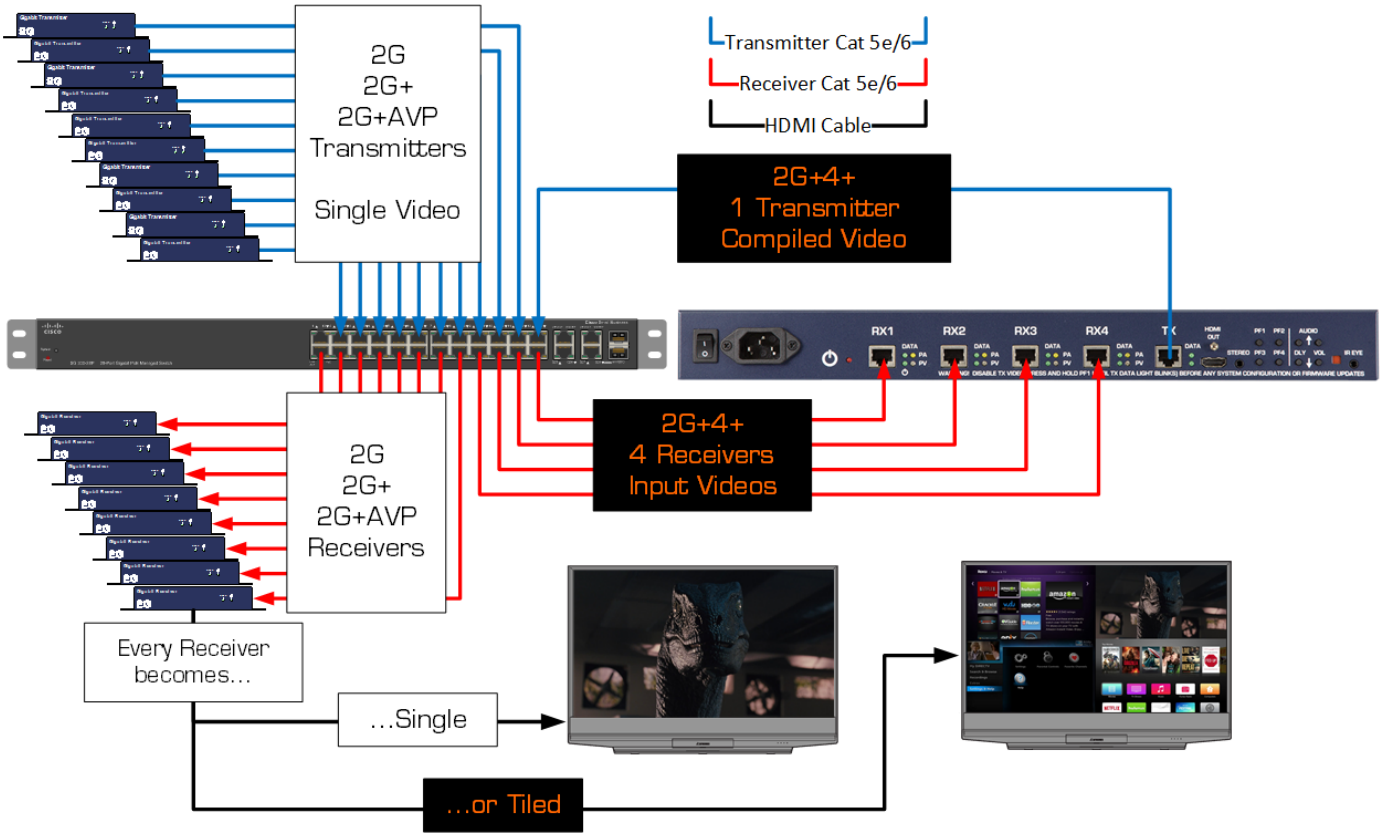
- Multiple source devices
  - 1x Just Add Power Transmitter per source device
- Multiple standalone displays
  - 1x Just Add Power Receiver per display
- Video Wall Displays (any video wall size from 2x2 to 16x16 displays) – smaller bezel works best!
  - 1x Just Add Power Receiver per display
- Managed network switch
- One HDMI cable per Just Add Power Transmitter and Receiver
- One Cat 5e/6/7 cable per Just Add Power Transmitter and Receiver
- IP-based control system to communicate with the managed network switch and Just Add Power devices
- Requires Layer 3 Configuration

Configuration

When multiple Transmitters are traveling over the same network, the managed network switch must be configured so that Receivers are only watching one Transmitter at a time. Configuration options can be found in System Configuration and Control.

After system configuration is complete, setup each Video Wall. Contact support@justaddpower.com for documentation related to Video Wall Setup.

Many Source to Many Displays with 2G+4+ Tiling Transmitter



Components

- Multiple source devices
  - 1x Just Add Power Transmitter per source device
- Multiple displays
  - 1x Just Add Power Receiver per display
- 2G+4+ Tiling Transmitter
  - Tiling Processor should be treated as 4 Receivers and 1 Transmitter for configuration
  - 4 Receiver ports on the 2G+4+ accept video input from Transmitters in the Just Add Power system
  - Single Transmitter port on the 2G+4+ uses the 4 Receiver signals to create one compiled video output
  - Compiled video output is viewable on every Receiver in the system
  - Stackable – Multiple 2G+4+ devices allow tiling at multiple levels
- Managed network switch
- One HDMI cable per Just Add Power Transmitter and Receiver
- One Cat 5e/6/7 cable per Just Add Power Transmitter and Receiver
- IP-based control system to communicate with the managed network switch and Just Add Power devices
- Requires Layer 3 Configuration

Configuration

When multiple Transmitters are traveling over the same network, the managed network switch must be configured so that Receivers are only watching one Transmitter at a time. Configuration options can be found in System Configuration and Control.

Adding a 2G+4+ Tiling Transmitter to a system is the same as adding 4 Receivers and 1 Transmitter.

Managed Gigabit Ethernet Switch

When deciding on an Ethernet switch, treat the Just Add Power system like a network-controlled matrix switcher that just happens to be an Ethernet switch.

Supported Switches

The following Managed Ethernet switches have been tested and found to be compatible with the Just Add Power HD over IP solution. This is not a complete list of switches that work with Just Add Power devices. Many switches that are not listed have been found by our dealers to work excellently.

Make	Model	Driver Supported	Layer 3 Capable	Stackable	Maximum Devices
Luxul	AMS-1208P	✔	✔		9
	AMS-2616P	✔	✔		25
	XMS-2624P	✔	✔		25
	AMS-4424P	✔	✔	✔	368
Cisco	SG300	✔	✔		51
	SG500 & SG500X	✔	✔	✔	376

Luxul

Make	Model	Driver Supported	Layer 3 Capable	Stacking	Maximum Devices
Luxul	**AMS-1208P**	✔	✔		**9**
	AMS-2616P	✔	✔		**25**
	XMS-2624P	✔	✔		**25**
	AMS-4424P	✔	✔	✔	**368**

Recommended Model

Match total number of devices from the left-most column with the number of sources on the top row.

Total Devices	Less than 8 Sources	8-40 Sources	40+ Sources
2-9 (Tx + Rx)	AMS-1208P	AMS-1208P	N/A
10-25 (Tx + Rx)	AMS-2616P Or XMS-2624P	AMS-2616P Or XMS-2624P	N/A
26-368 (Tx + Rx)	AMS-4424P	AMS-4424P	AMS-4424P
368+ (Tx + Rx)	*Contact Support*	*Contact Support*	*Contact Support*

Power over Ethernet

Power over Ethernet form factors are available on both Just Add Power Transmitters and Receivers.

Just Add Power devices are ***Class 3***, mid-power devices according to IEEE 802.3-2008 specifications. They will draw no more than **10 Watts** under normal operating circumstances.

When planning an installation using Power over Ethernet, plan for ***10 Watts per port*** with a Just Add Power PoE device.

Switch Model	PoE ports	Wattage Available
Luxul AMS-1208P	8	130 Watts
Luxul AMS-2616P	16 (ports 9-24)	250 Watts
Luxul XMS-2624P	24	370 Watts
Luxul AMS-4424P	24	250 Watts

Power specs from www.luxul.com on 2015-10-22

Stacking

For a system with more than 23 devices, multiple switches must be used. The details of the project determine which type of switch, cabling, and SFP modules are needed.

Switch	Stacking Cable	Bandwidth	Max Distance
AMS-4424P	SFP Copper	10 Gigabit	0.5 m / 1.5 ft
	SFP Fiber	10 Gigabit	300 m / 1000 ft

Stacking Modules

These 10-Gigabit copper and fiber modules are supported by the Luxul AMS-4424P.

Copper	Bandwidth	Description	Length
CAB-05SFP+	10 Gb	Copper, 0.5 meters	0.5 m/1.5 ft

Fiber	Bandwidth	Description	Max Distance
XSA-SFP+	10 Gb	850-nm wavelength Multi-mode fiber	300 m/1000 ft

Cisco

Make	Model	Driver Supported	Layer 3 Capable	Stacking	Maximum Devices
Cisco	SG300	✔	✔		51
	SG500 & SG500X	✔	✔	✔	376

Recommended Model

Match total number of devices from the left-most column with the number of sources on the top row.

Total Devices	Less than 8 Sources (Tx)	8-40 Sources (Tx)	40+ Sources (Tx)
2-51 (Tx + Rx)	SG300	SG300	SG300
52-376 (Tx + Rx)	SG500	SG500X	SG500X
376+ (Tx + Rx)	*Contact Support*	*Contact Support*	*Contact Support*

Power over Ethernet

Power over Ethernet form factors are available on both Just Add Power Transmitters and Receivers.

Just Add Power 2G devices are ***Class 3***, mid-power devices according to IEEE 802.3-2008 specifications. They will draw no more than **10 Watts** under normal operating circumstances.

When planning an installation using Power over Ethernet, plan for ***10 Watts per port*** with a Just Add Power PoE device.

Switch Model	PoE ports	Wattage Available	
		P model	MP model
Cisco SG300-10P or MP	8	62 Watts	124 Watts
Cisco SG300-28P or MP	24	180 Watts	375 Watts
Cisco SG300-52P or MP	48	375 Watts	740 Watts
Cisco SG500-28P or MP	24	180 Watts	740 Watts
Cisco SG500-52P or MP	48	375 Watts	740 Watts
Cisco SG500X-24P or MP	24	375 Watts	740 Watts
Cisco SG500X-48P or MP	48	375 Watts	740 Watts

Power specs from www.cisco.com on March 10, 2014

Stacking

For a system with more than 51 devices, multiple switches must be used. The details of the project determine which type of switch, cabling, and SFP modules are needed.

Switch	Stacking Cable	Bandwidth	Max Distance
SG500 Stack	SFP Copper	5 Gigabit	5 m / 16 ft
	SFP Fiber	5 Gigabit	10 km / 6 mi
SG500X Stack	SFP Copper	10 Gigabit	5 m / 16 ft
	SFP Fiber	10 Gigabit	10 km / 6 mi

Stacking Modules

These copper and fiber modules are supported by the SG500 and SG500X switches. SG500 has a maximum stacking bandwidth of 5 Gigabits, and SG500X has a maximum stacking bandwidth of 10 Gigabits.

Copper	Bandwidth	Description	Length
SFP-H10GB-CU1M	10 Gb / 5 Gb	Twinax cable, passive, 30 AWG	1 m / 3 ft
SFP-H10GB-CU3M	10 Gb / 5 Gb	Twinax cable, passive, 30 AWG	3 m / 10 ft
SFP-H10GB-CU5M	10 Gb / 5 Gb	Twinax cable, passive, 30 AWG	5 m / 16 ft

Fiber	Bandwidth	Description	Max Distance
SFP-10G-SR	5 Gb / 10 Gb	850-nm wavelength Multimode fiber	300 m / 1000 ft
SFP-10G-LR	5 Gb / 10 Gb	1310-nm wavelength Single-mode fiber	10 km / 6 mi
SFP-10G-LRM	5 Gb / 10Gb	1310-nm wavelength Single- or multimode fiber	300 m / 1000 ft

Configuration

Just Add Drivers Configuration software – JADConfig – configures the switch and all attached Just Add Power devices and interfaces with licensed control system drivers.

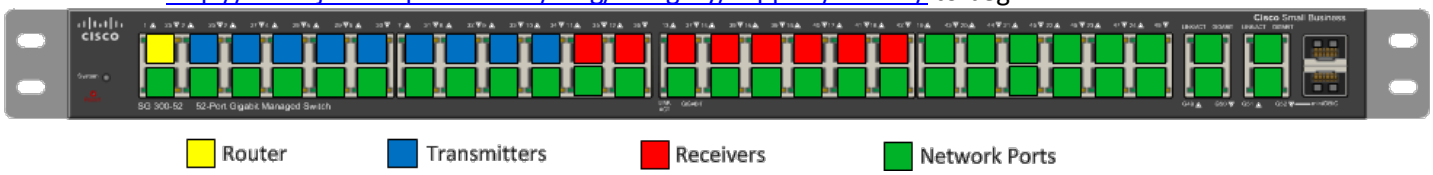
JADConfig

- Just Add Drivers Configuration software
  - Configures network switch
  - Configures Just Add Power devices in pre-defined IP ranges
  - Configures port 1 as LAN port for connection to the rest of network, Transmitters starting on port 2, and Receivers starting after Transmitters
  - Any unused ports at the end are placed on the LAN the same as port 1

- Works with switch models:
  - Luxul AMS-1208P
  - Luxul AMS-2616P
  - Luxul XMS-2624P
  - Luxul AMS-4424P
  - Cisco SG300 Series
  - Cisco SG500 Series
  - Pakedge S24P

- Can be used with licensed control system drivers or custom control system drivers

- Go to http://www.justaddpower.com/blog/category/support/drivers/ to begin



Custom

Configuration of the network switch and Just Add Power devices can be done manually. Just Add Power has switch configuration guides for the following models of switches:

- Luxul AMS1208P & 2616P
- Luxul AMS4424P
- Cisco SG300
- Cisco SG500
- Cisco Catalyst 2960 and 2960S
- Cisco Catalyst 3750
- Dell PowerConnect 3500
- Dell PowerConnect 6200
- Netgear GSM 7200
- Pakedge S24P
- Pakedge SW24-GBM

Control

In a multiple-Transmitter system, a control system performs matrix switching and endpoint control. While Just Add Power provides licensed drivers for some control systems, we are capable of working with any control system capable of RS-232 or IP control.

Licensed Control System Drivers

- IP-based drivers
  - Switching drivers
  - Receiver and Transmitter control drivers – gives access to RS-232, CEC, video wall, on-screen display, and other Just Add Power Layer 3 features
  - **ONLY** work with switches configured with JADConfig

- Just Add Power Licensed Control System Drivers
  - AMX
  - Control4
  - Crestron
  - Elan G (no license key needed – included in g! Tools)
  - RTI

- E-mail drivers@justaddpower.com with the MAC Address of the control system processor (Serial Number for AMX) to receive a free license key

- Go to www.justaddpower.com to download

Other Control System Drivers

Just Add Power did not develop the control system drivers listed below, but collaborated in their development and compatibility with JADConfig. Click on the Control System name to jump to the informational page.

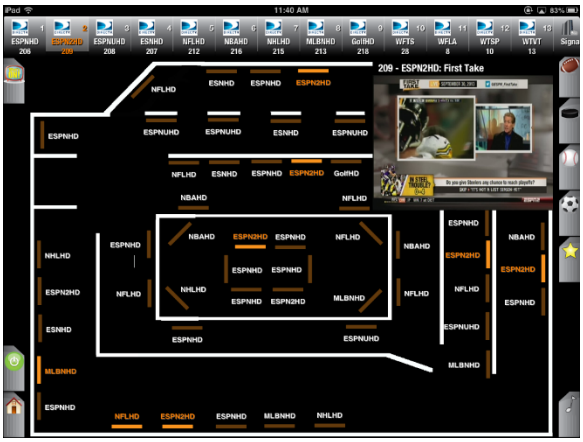
Control System	Website
DTV Game Control	www.dtvgamechanger.com
MediaSwitcher	www.justaddsoftware.net
URC Total Control powered by DashOS	www.dashos.net
Vantage	www.vantagecontrols.com

DTV Game Control

The DTV GameControl application is the premiere iOS solution for DirecTV and Just Add Power in sports bars and restaurants. The Apple iPad application offers simple setup coupled with a high-end customer experience. The floor plan based app detects and controls all Just Add Power, DirecTV receivers, and Global Caché devices on a network. DTV GameControl creates a uniquely integrated programming guide, delivering sports content at your fingertips. This level of automation provides seamless and effortless control of the DirecTV system, putting what your customers want where they want to watch it. Now sports bars and restaurants can easily implement large scale multi-zone HDTV entertainment. DTVGameControl makes even the largest venues easy to manage, effortlessly controlling video walls and virtually unlimited screens and sources.

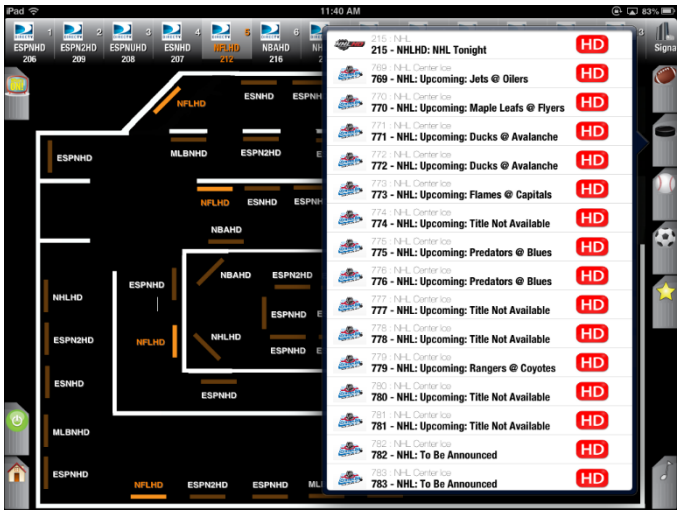
Standard Features of DTV GameControl

- Multi page/floor plan
- Single or Multiple Video Wall control
- Just Add Power CEC and RS232 Support
- Global Cache support for industry IR controlled devices
- DBX and BSS Audio control Support
- System On Timers, including IO recall, TV Power, and DirecTV Channels
- Admin and User pass codes
- No PC for setup
- Backup to the iTunes cloud.

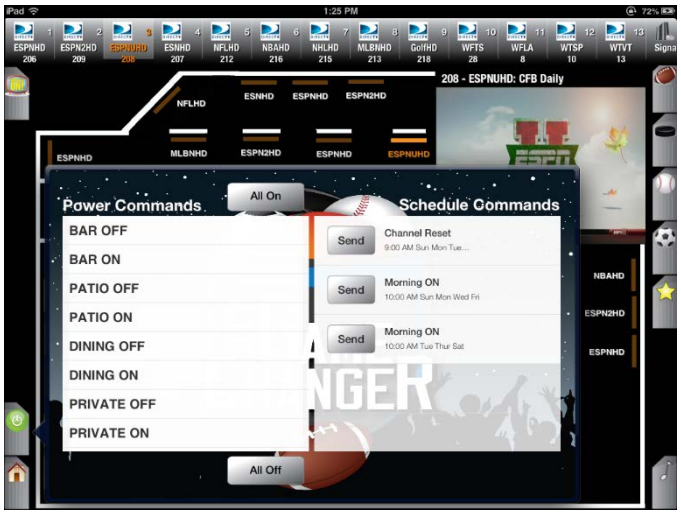


Floor Plan Layout

DTV GameControl application, created by Automation Connection, LLC, is the most innovative affordable subscription based control solution. DTV GameControl is offered through a dealer network with RMI and based out of St. Petersburg, FL. For further inquiries please go to www.dtvgamechanger.com.



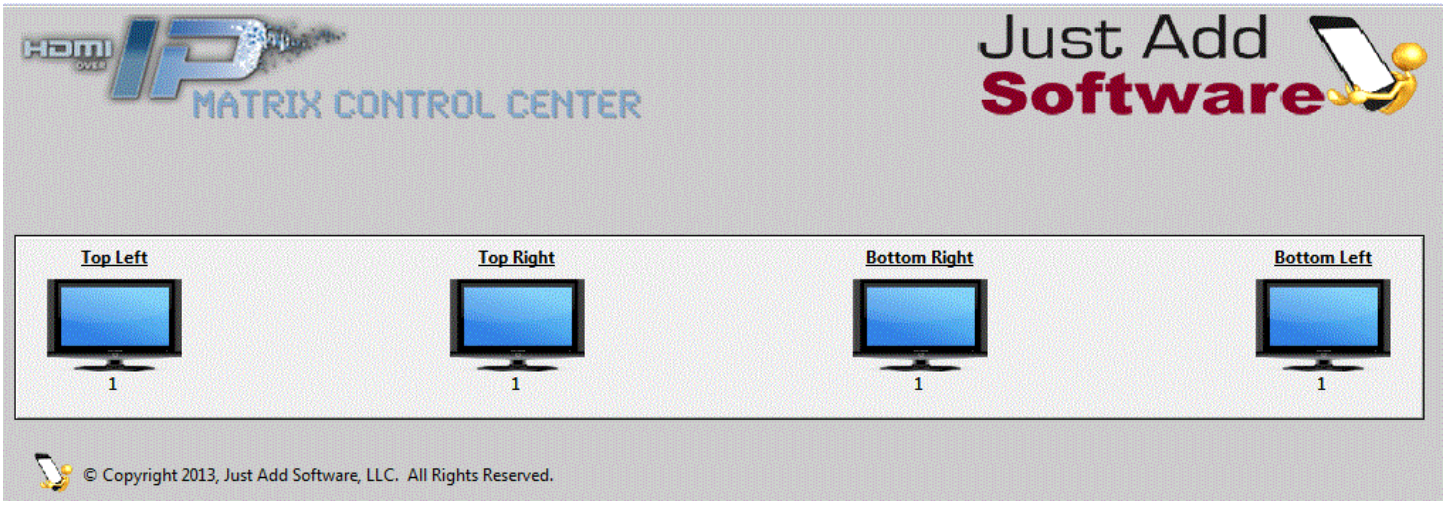
Favorites



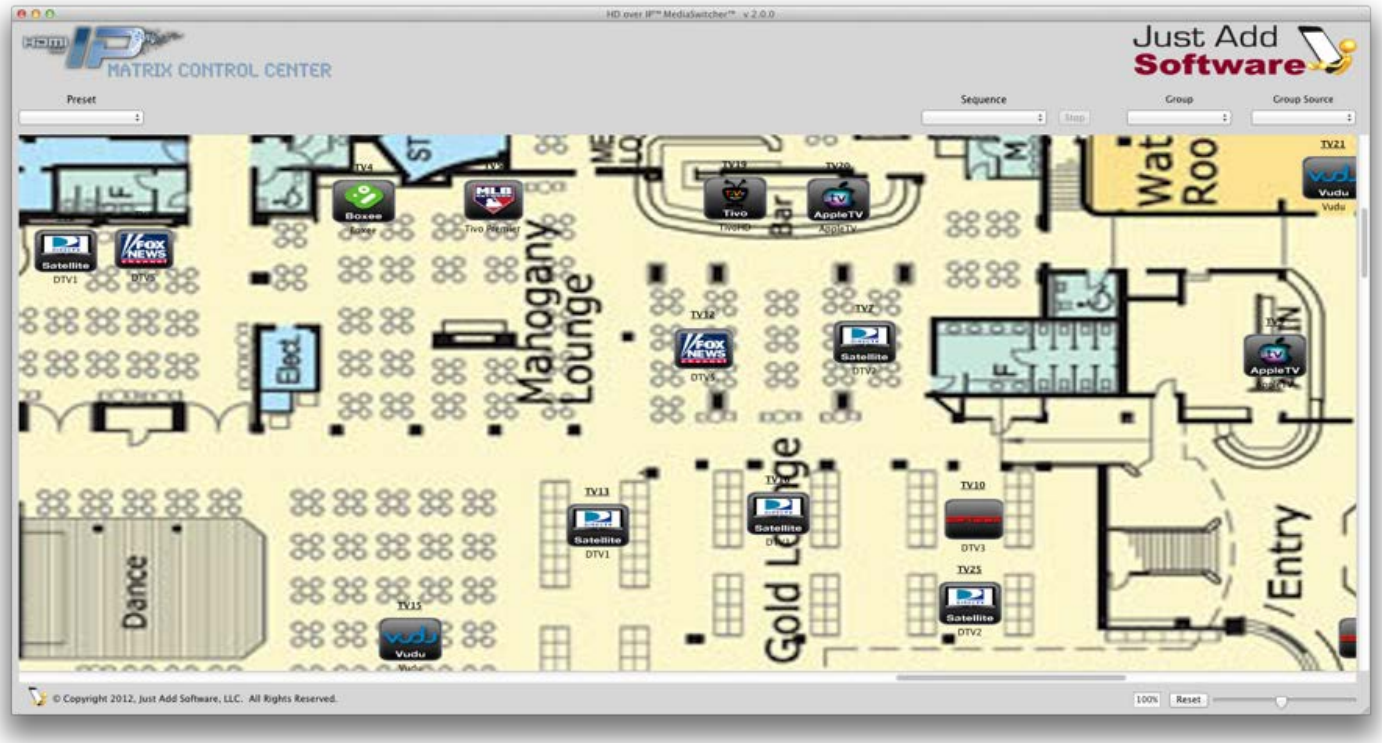
Power Commands

Media Switcher

Just Add Software licenses Media Switcher - a software-based control system compatible with Mac, Windows, and Linux. Go to www.justaddsoftware.net for more information.



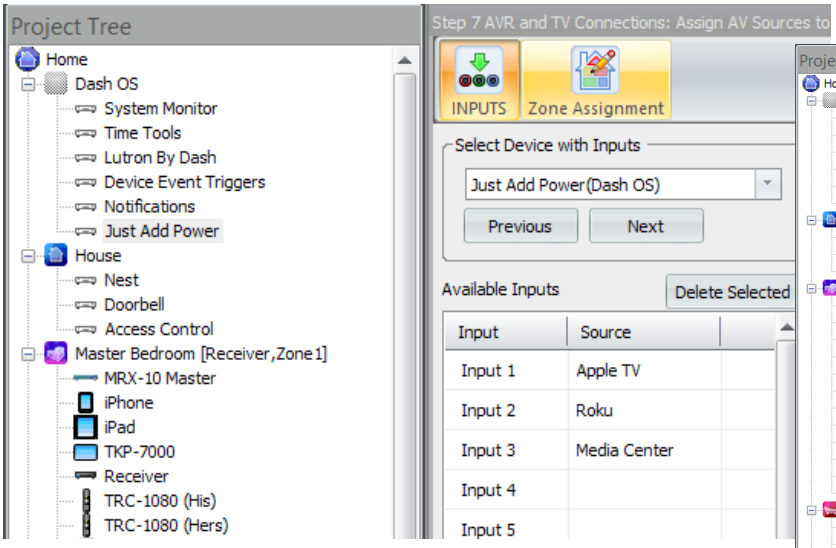
- Software-based control system – no proprietary control hardware required
- Ideal for installations with a computer as the point of control
- Built-in Video Wall application
- Customizable interface



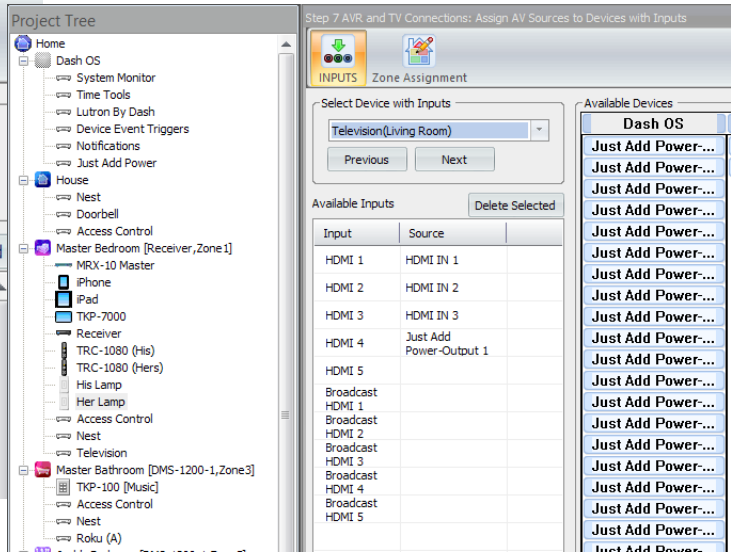
URC Total Control powered by DashOS

- Auto CEC Driver for Televisions and AVR's
- Auto Input Configuration Driver
- Platform for Just Add Power on URC's Automation Platform
- Cloud Logging for easy debug & troubleshoot
- Cloud Management & Monitoring of the entire system
- Ongoing Support for All Just Add Power features
- Reactive Push Notifications, Custom CEC & Shell, Video Wall, RS-232/Serial and More!
- **NOW FREE** for Just Add Power Customers!
- Go to www.dashos.net to begin

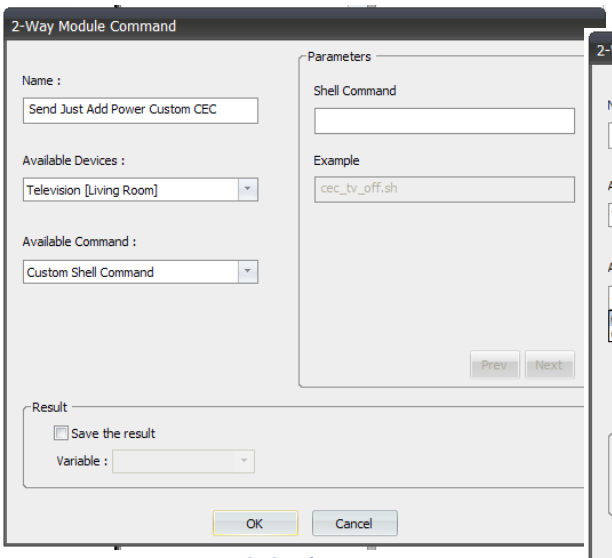
Video Example: https://www.youtube.com/watch?v=pOVx96fipIA



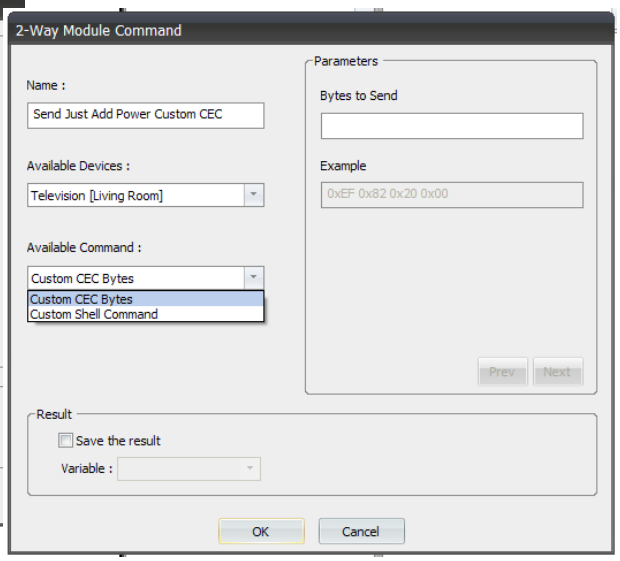
Auto-Config Driver – Assign Inputs



Auto-Config Driver – Assign Outputs



CEC Driver 1



CEC Driver 2

Vantage

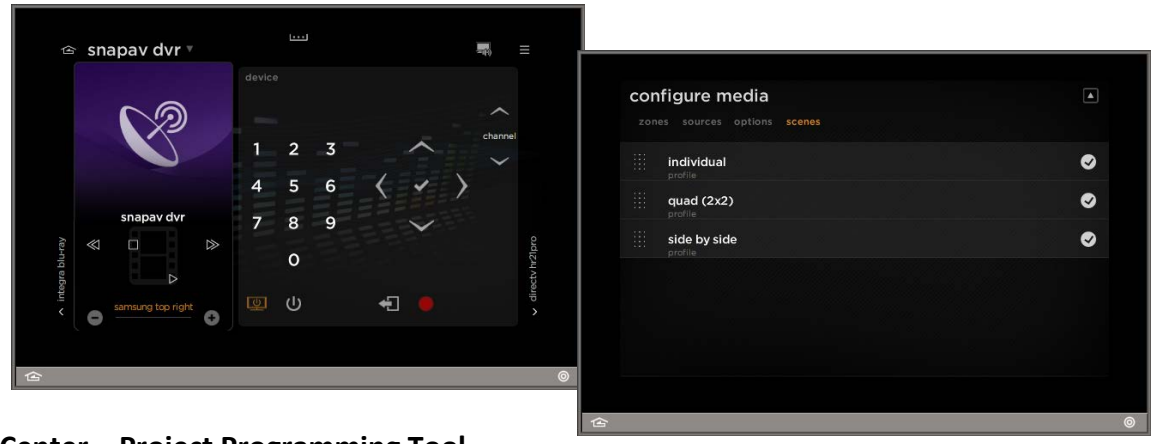
- Supports Cisco SG300 and SG500
- Fully bi-directional driver
- Easy drag-n-drop setup – single displays to full video walls
- Equinox compatible! Video Widget automatically added to EQ touchscreens and EQ Apps.
- Supports full zone and source control/feedback
- Personalized user experience based on profiles and widgets

Links

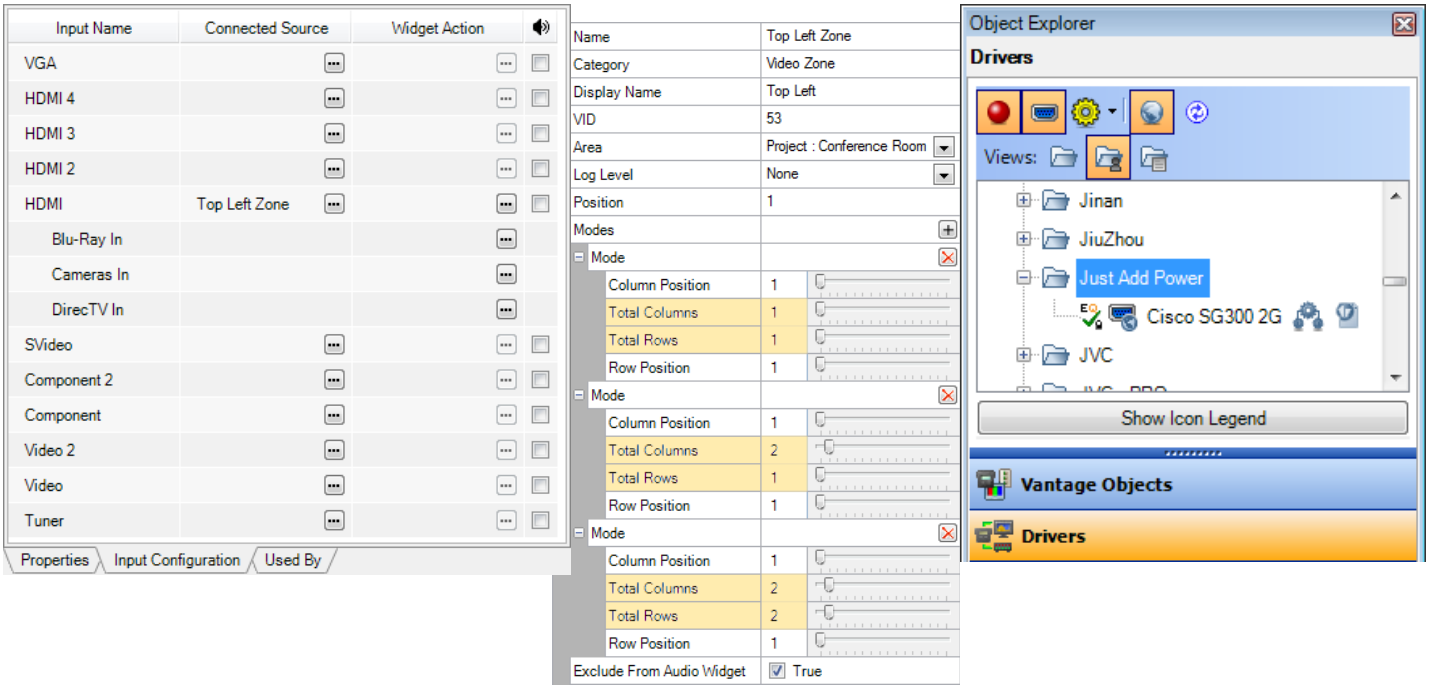
http://www.vantagecontrols.com/products/widgets/video-widget.aspx

http://dealer.vantagecontrols.com/resources-tools/issheets.php?t=Integration%20Guide&s=category__c

User Interface – Equinox (touchscreens and apps)



Design Center – Project Programming Tool



Custom Control System Drivers

Just Add Power can provide the information needed to allow a dealer to write a custom control driver that works with **ANY** control system capable of sending IP or RS-232 commands. Please contact support@justaddpower.com for more information.

Just Add Power has examples of drivers for these control systems that can be modified to fit the size of the system:

- Control4
- Crestron
- Elan G
- RTI
- Savant
- URC

Certifications

- HDMI Certified
- HDCP Compliant
- FCC/CE/ROHS Compliance
- Dolby Digital Certification
    - Manufactured under license from Dolby Laboratories (Dolby and the double-D symbol are trademarks of Dolby Laboratories)

Additional Network Considerations

- Requires Multicast to be enabled on the network and IGMP Snooping to be disabled
- The factory default IP address of each 2G device is in the 169.254.X.X range.
- Devices automatically assign themselves an IP address. There will never be 2 devices in an installation with the same IP address as long as they are set to do this.
    - Static IPs can be set if reliable access to devices is required (JADConfig does this automatically)
    - Devices do not have to match the current IP scheme (if added to an established network).
- Devices have an accessible web page that can be used to check firmware version, upgrade firmware, or apply commands to the devices.
- Transmitters send a maximum of 150 Mbps. A gigabit managed network switch is needed.
- A managed switch is needed because traffic from 2G Transmitters must be separated from each other, and from regular network traffic.
    - ***Analogy:*** Our devices are allowed to drive on the **road (switch)** but they are like crazy drivers that take up the entire road and run everyone else off of it if they get in the way. By creating separate **lanes (VLANs)** we keep our crazy driver in his own lane so that he doesn't run over all of the other cars.
- **WILL NOT** work over a routed network; only works within a Local Area Network (LAN)

Appendix

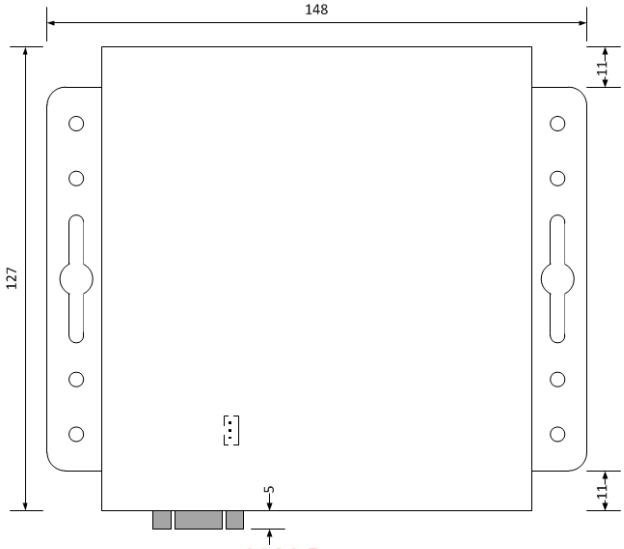
Dimensions

Model Number	Name	Dimensions (mm)	Description
208A	2G Receiver	148 x 127 x 30	Gigabit Receiver
208PoE	2G PoE Receiver	189 x 127 x 28	Gigabit Power Over Ethernet Receiver
218A	2G+ Receiver	148 x 127 x 30	Enhanced Gigabit Receiver
218PoE	2G+ PoE Receiver	186 x 127 x 30	Enhanced Gigabit Power Over Ethernet Receiver
218AVP	2G+AVP Receiver	186 x 127 x 30	A/V Pro Enhanced Gigabit Power Over Ethernet Receiver
408A	2G Transmitter	148 x 127 x 30	Gigabit Transmitter
408PoE	2G PoE Transmitter	187 x 127 x 30	Gigabit Power Over Ethernet Transmitter
418A	2G+ Transmitter	160 x 127 x 31	Enhanced Gigabit Transmitter
418PoE	2G+ PoE Transmitter	199 x 127 x 31	Enhanced Gigabit Power Over Ethernet Transmitter
418AVP	2G+AVP Transmitter	199 x 127 x 31	A/V Pro DSP Enhanced Gigabit Power Over Ethernet Receiver
428A	2G+ SDI Transmitter	160 x 127 x 31	HD-SDI to HDMI Enhanced Gigabit Transmitter
428PoE	2G+ SDI Transmitter	199 x 127 x 31	HD-SDI to HDMI Enhanced Gigabit Power Over Ethernet Transmitter
439A	2G Rackmount Transmitter	429 x 250 x 44.5	3-in-1 Gigabit Transmitter
449A	2G+ Rackmount Transmitter	429 x 250 x 44.5	3-in-1 Enhanced Gigabit Transmitter

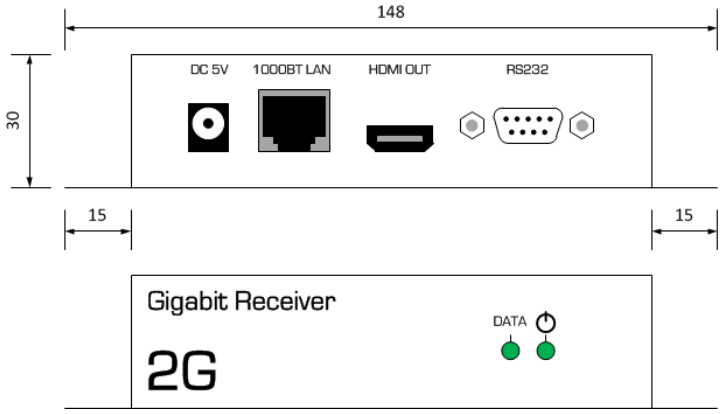
Diagrams

208A

All measurements in millimeters (mm)



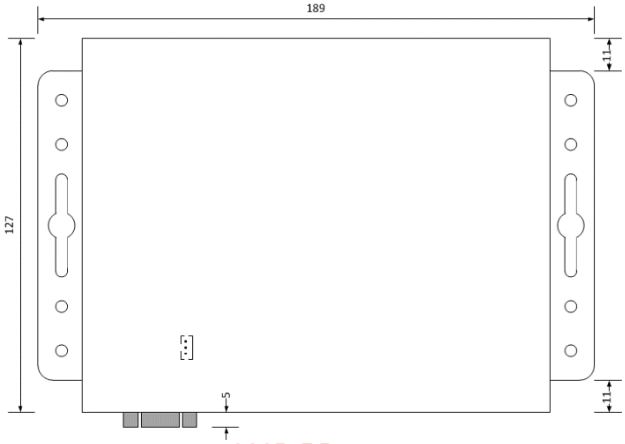
208A Bottom



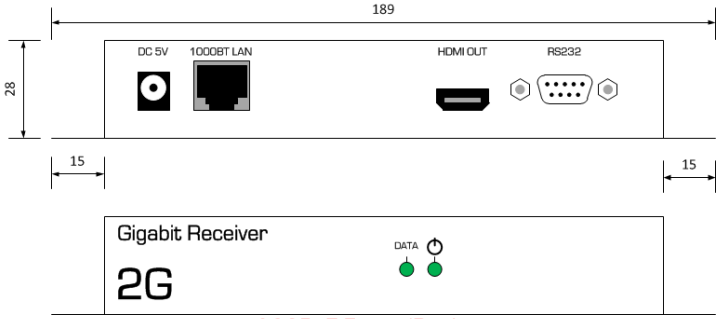
208A Front/Back

208POE

All measurements in millimeters (mm)



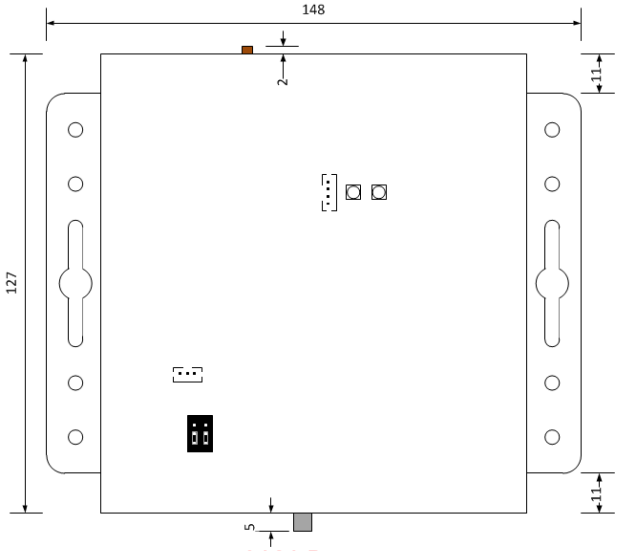
208PoE Bottom



208PoE Front/Back

218A

All measurements in millimeters (mm)



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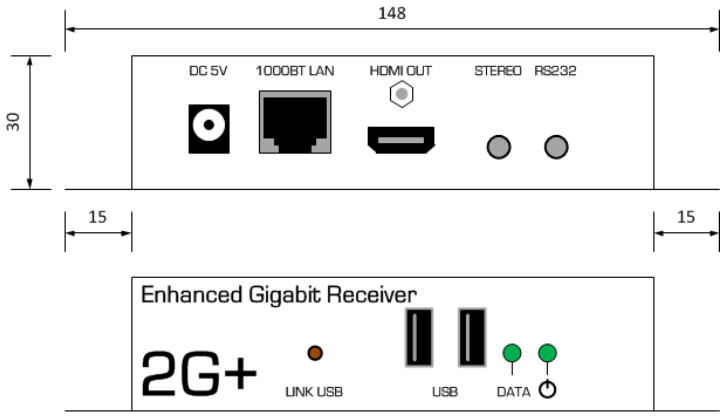
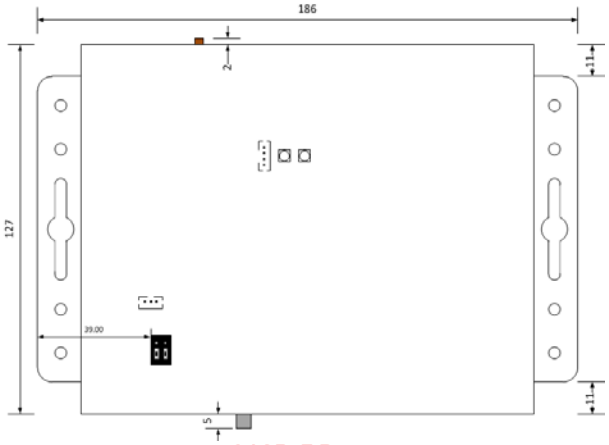


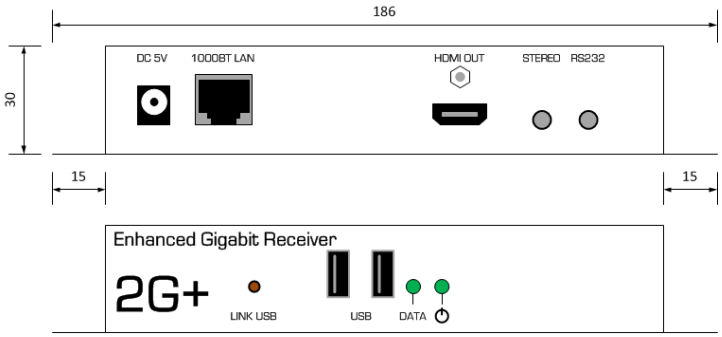
218A Front/Back

218PoE

All measurements in millimeters (mm)



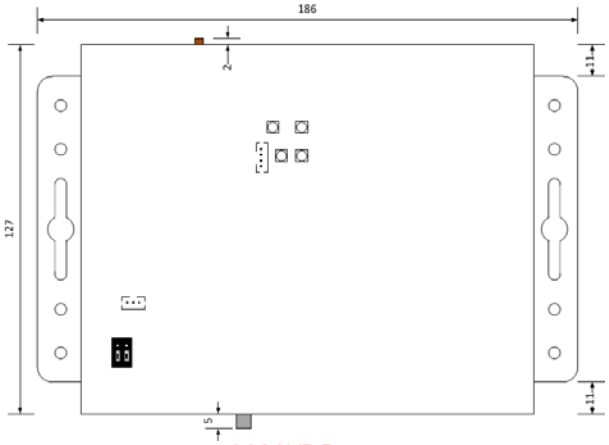
218PoE Bottom



218PoE Front/Back

218AVP

All measurements in millimeters (mm)



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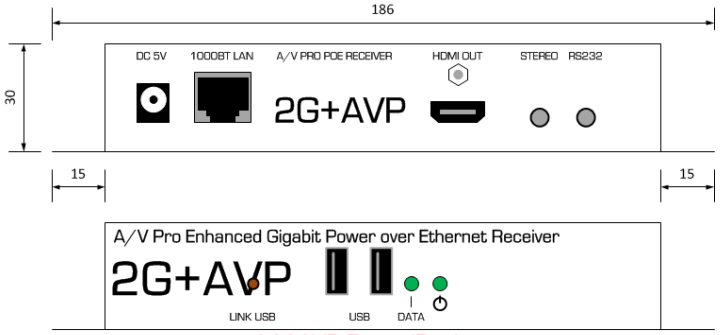
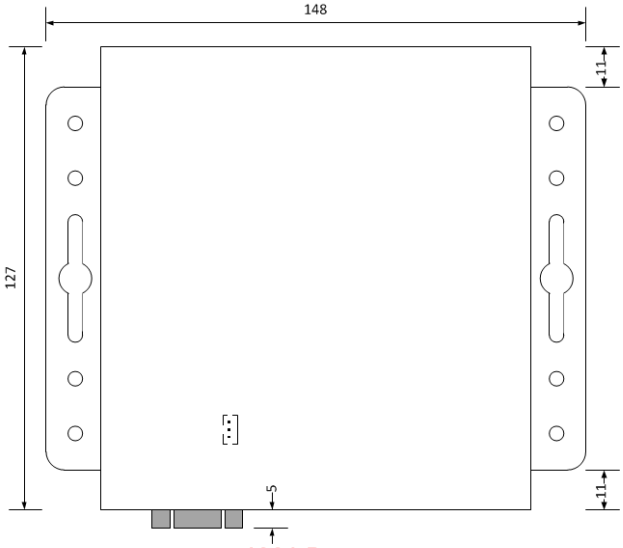


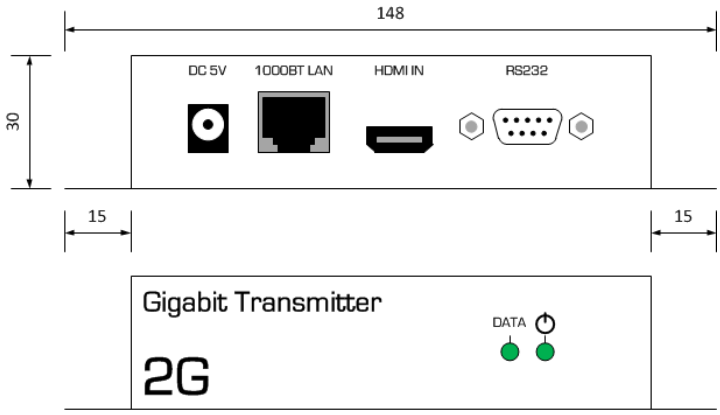
218AVP Front/Back

408A

All measurements in millimeters (mm)



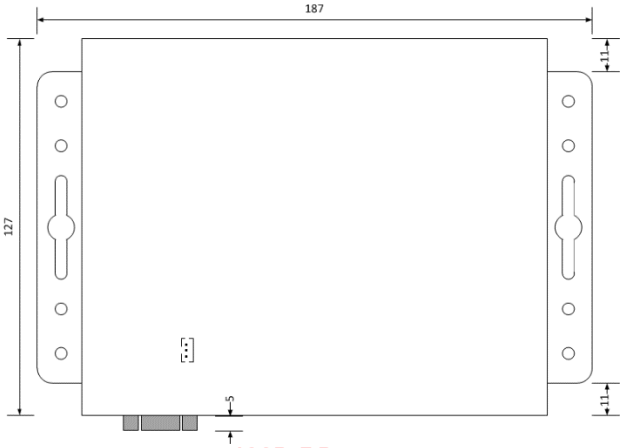
408A Bottom



408A Front/Back

408PoE

All measurements in millimeters (mm)



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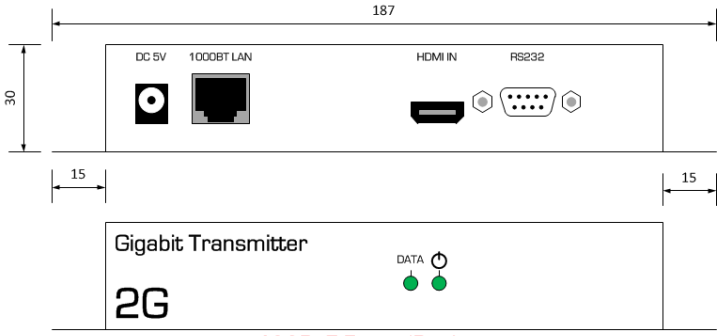
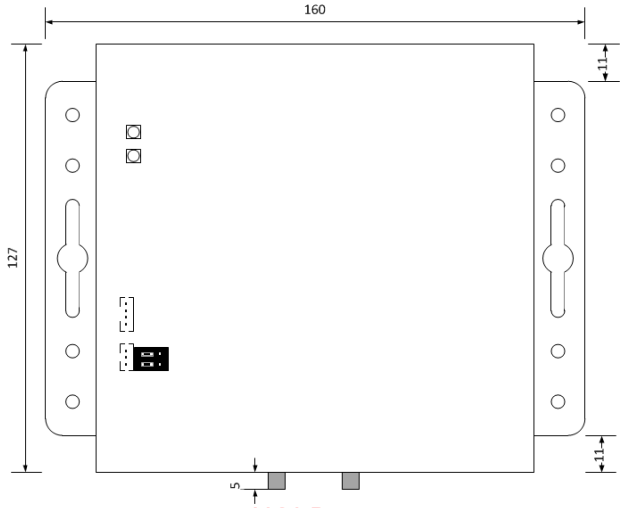


408PoE Front/Back

418A

All measurements in millimeters (mm)



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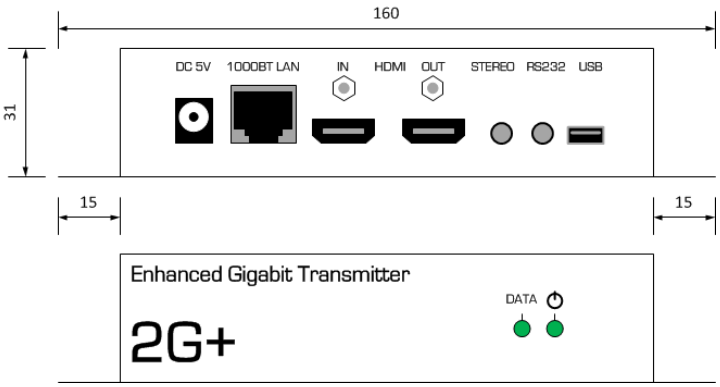
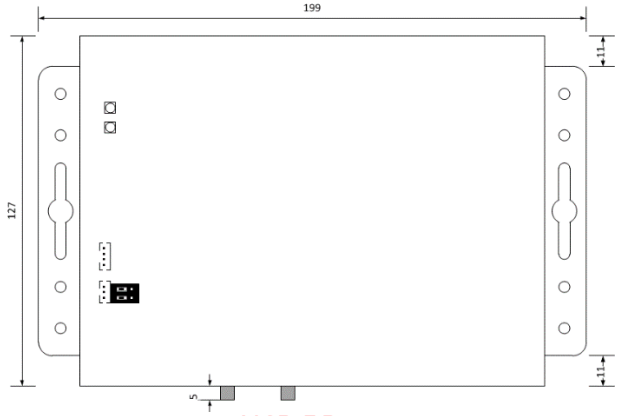


418A Front/Back

418PoE

All measurements in millimeters (mm)



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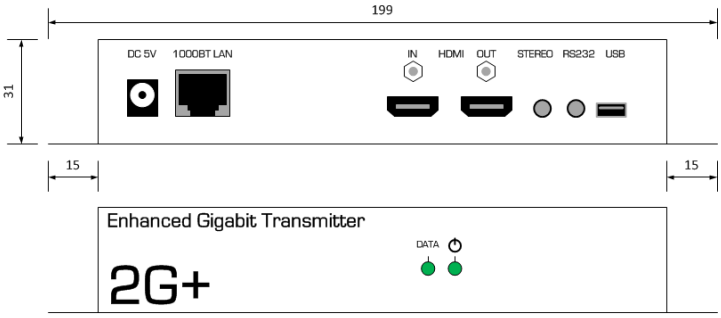
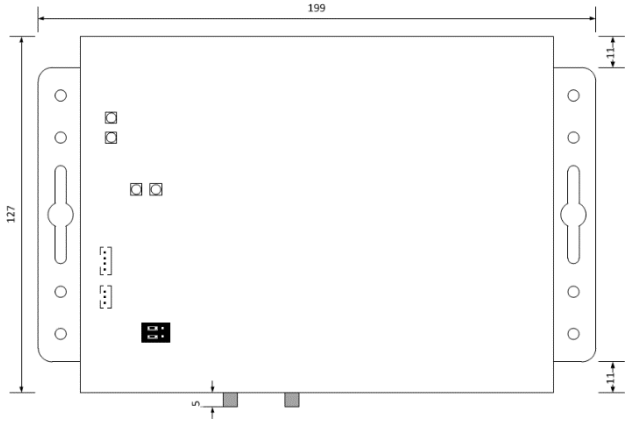


418PoE Front/Back

418AVP

All measurements in millimeters (mm)



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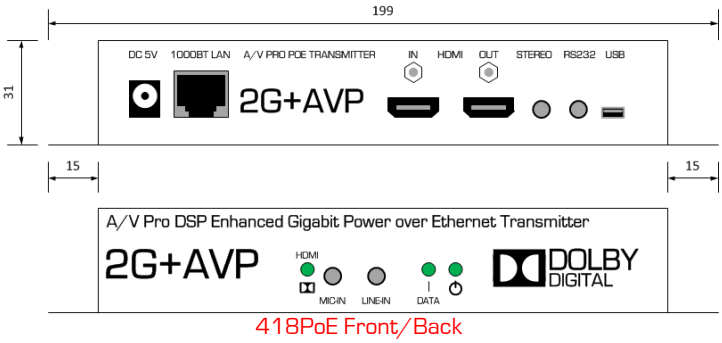

418PoE Front/Back

428A

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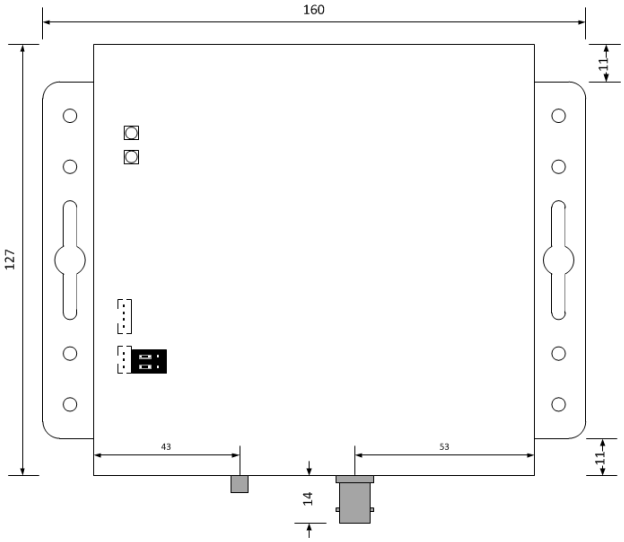

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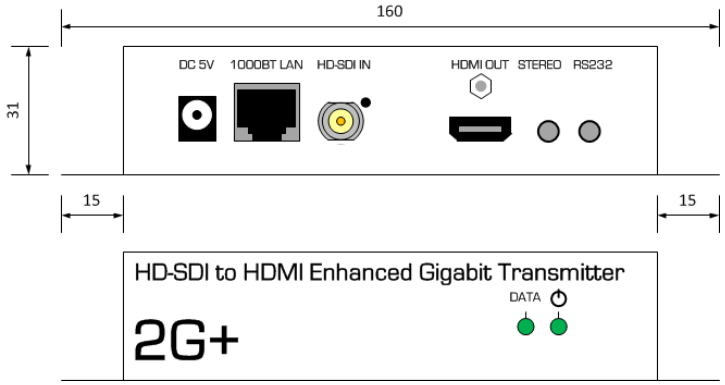
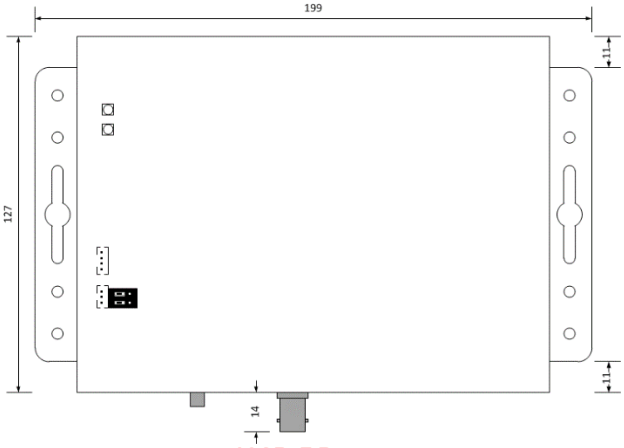


428A Front/Back

428PoE

All measurements in millimeters (mm)



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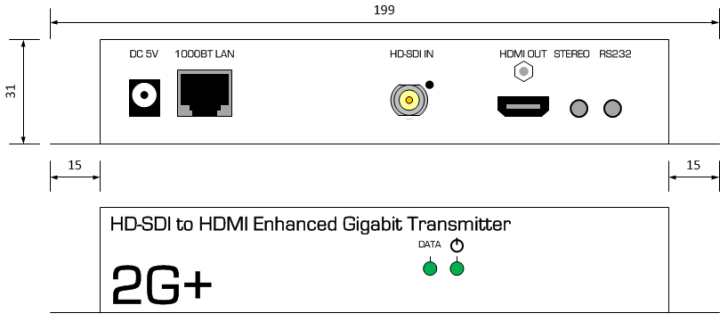

428PoE Front/Back

439A

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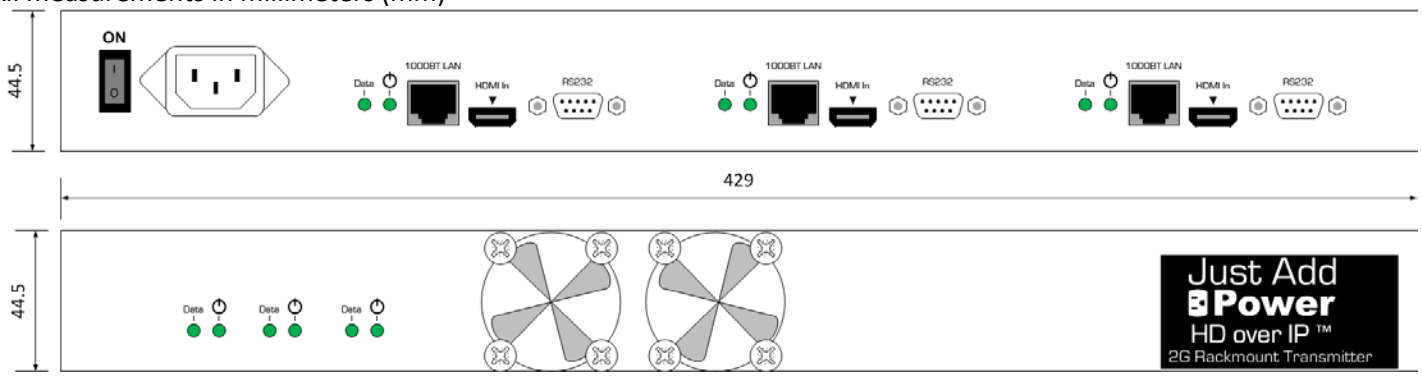

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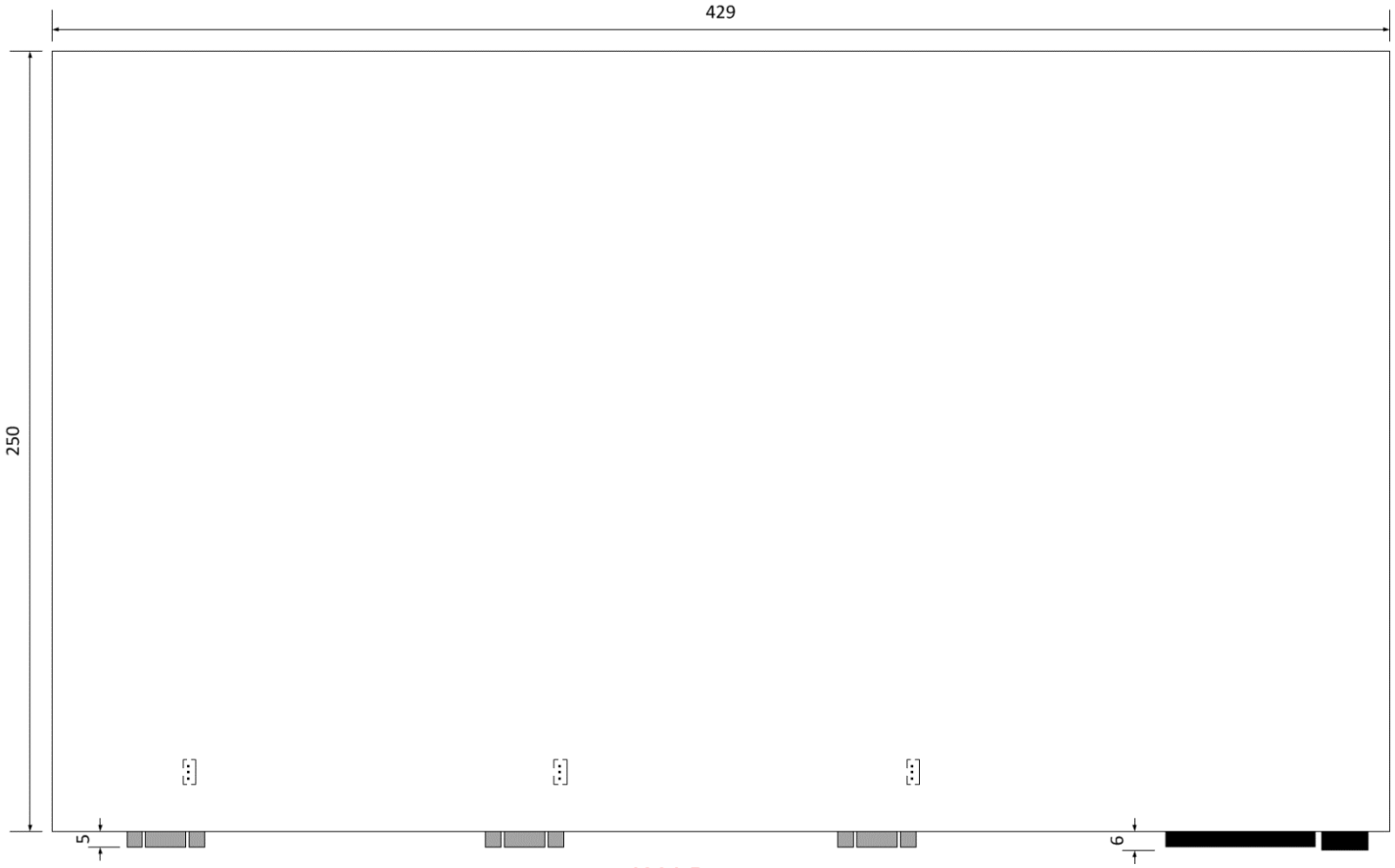
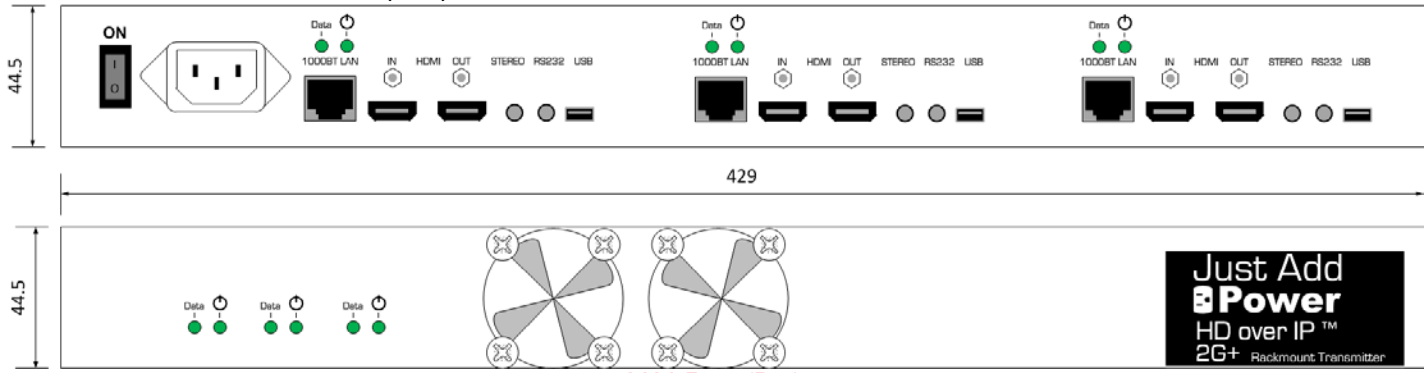


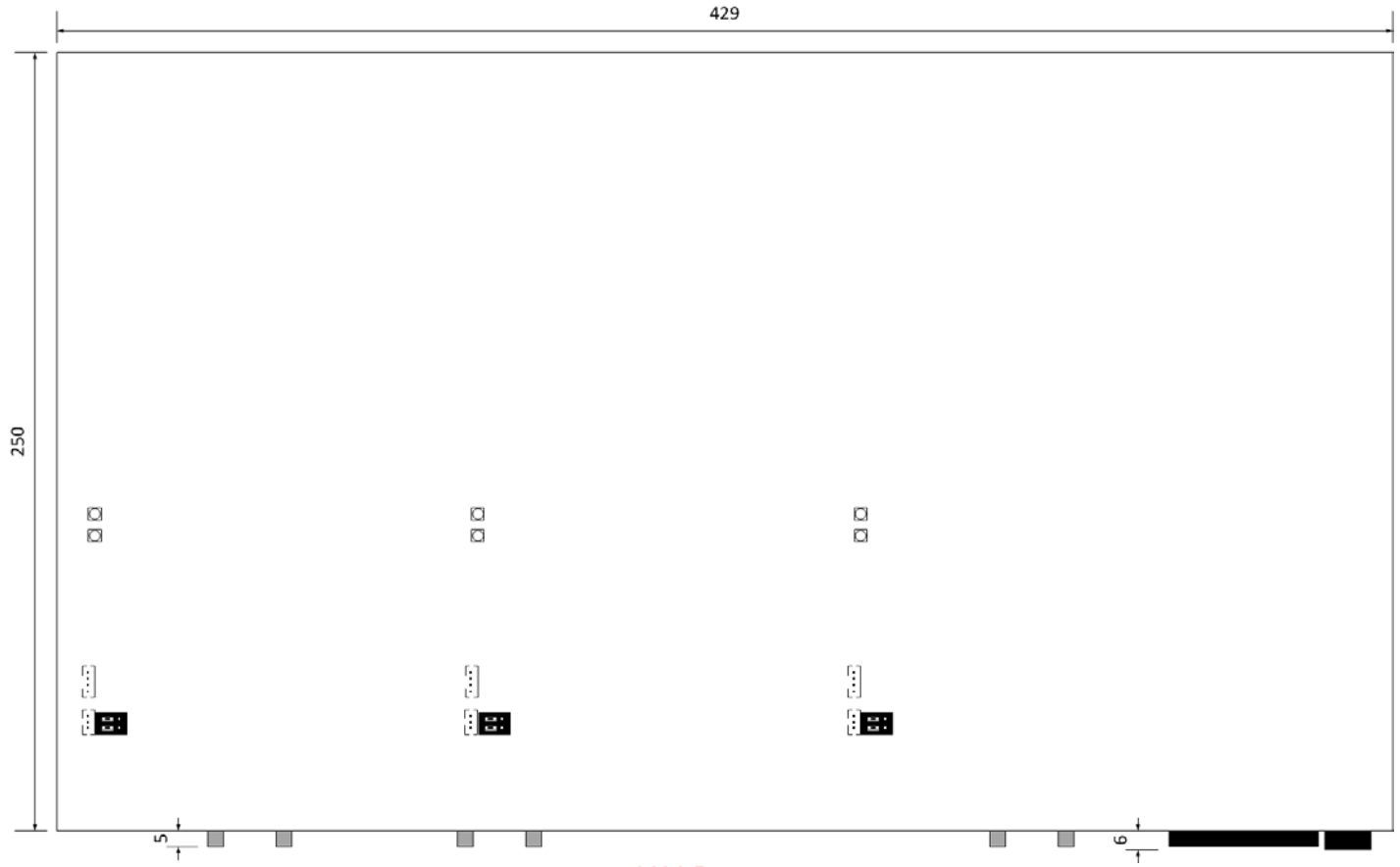
439A Bottom

449A

All measurements in millimeters (mm)



449A Front/Back



449A Bottom