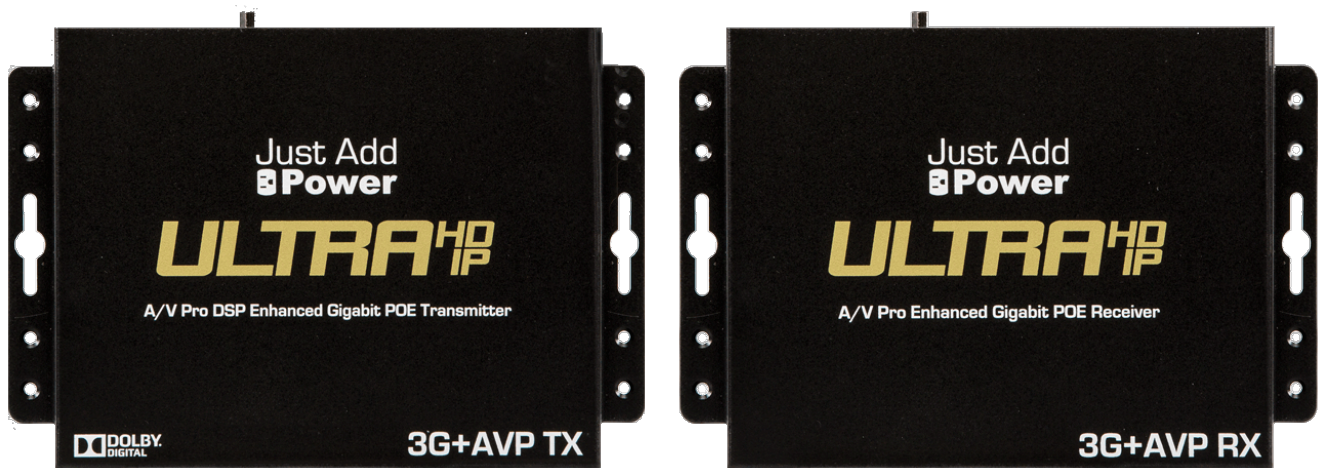




3G PROJECT PLANNING GUIDE

Revised 2015-12-10

Table of Contents

How the Just Add Power Solution Works	4
HDMI 2.0 & HDCP 2.2	5
MorePlay™ Feature-Set	6
Comparison Chart	7
Product Listing	8
Contact Information	8
Layer 2 vs Layer 3	9
System Components	10
Transmitters & Receivers	11
One Source to One Display	12
One Source to Many Displays	13
Many Sources to Many Displays	14
Many Sources to Many Displays with Video Wall	15
Managed Gigabit Ethernet Switch	16
Supported Switches	16
Luxul	17
Recommended Model	17
Power over Ethernet	17
Stacking	18
Cisco	19
Recommended Model	19
Power over Ethernet	19
Stacking	20

Configuration	21
JADConfig	21
Custom	21
Control	22
Licensed Control System Drivers	22
Other Control System Drivers	23
DTV Game Control	24
Media Switcher	25
URC Total Control powered by DashOS	26
Vantage	27
Custom Control System Drivers	28
Certifications	29
Additional Network Considerations	30
Appendix	31
Dimensions	31
Diagrams	32
518AVP	32
718AVP	32

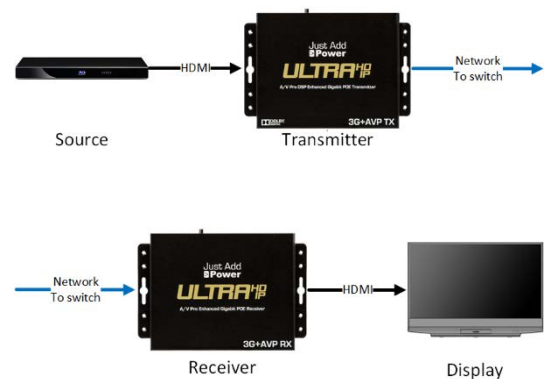
How the Just Add Power Solution Works

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 UltraHD with 3G. As long as the source can be converted to HDMI, the Just Add Power 3G solution can distribute it.

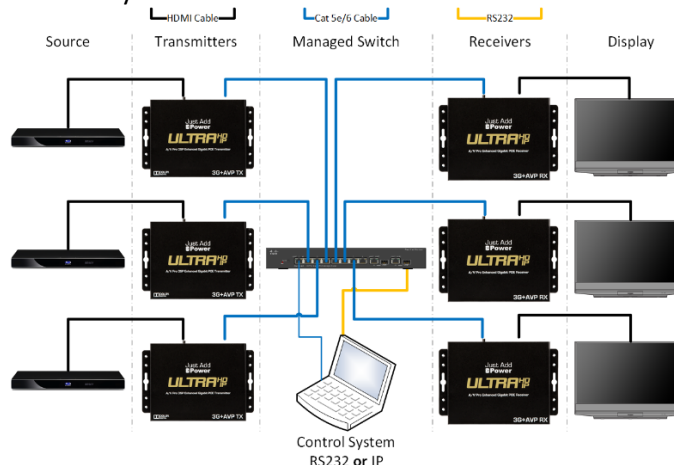
A Just Add Power system consists of two devices: an encoder and a decoder

- **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 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 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 3G installation, the following pieces are needed

- 1 Receiver per display
- 1 Transmitter per source
- A managed gigabit Ethernet switch with **Jumbo Frame** support
- A Control System to manage HDMI switching
- Cat 5e and HDMI cabling for each Receiver and Transmitter

HDMI 2.0 & HDCP 2.2

HDMI 2.0 supported

- Input resolutions up to 4096x2160p @ 60Hz

HDCP 2.2 supported

- Watch 4K sources in native resolution with the latest copy-protection standard
- Watch 4K sources in 1080p on HDCP 1.x devices
 - Built-in 1080p scalar in every Just Add Power 3G Receiver
- Watch 1080p sources in 4K with built-in scalar

MorePlay™ Feature-Set

The Just Add Power 3G HDMI over IP system supports all these features on one Cat5e cable:

- Lossless 2160p UltraHD HDMI 2.0 with HDCP 2.2 supported
 - Instant-Seamless switching between any resolution HDMI source (2160, 1080, 720, 480, interlaced, progressive)
 - Mix/match legacy HD monitors with new UltraHD monitors – watch everything, everywhere
 - Improved Interlaced video format support – now lossless
 - Ultra low latency – better for live video end user experience vs AVB
- Easy to Bridge to existing 2G installations with an integrated 1080p Scalar and Seamless HDCP conversion
- EDID Magic™ – take full control of EDID-management
- All audio formats supported – including lossless and Dolby ATMOS
 - Dolby Digital Sound Processor – capable of converting Dolby Digital 5.1 audio to Dolby Pro Logic II for stereo distribution
 - Line- and Mic-In ports on Transmitter – mixable with HDMI audio signal
 - Stereo Audio extractor with amplifier, ground loop isolator, and adjustable Audio Delay
- Enhanced Video Wall
 - Up to 16 rows and 16 columns
 - Rotate picture for portrait and flipped displays
 - No more Tears
- Endpoint Control
 - 2-way RS-232 Control
 - Built-in RS-232 Null Modem
 - 2-way CEC Control
- USB 2.0
- MorePlay
 - Image Push – upload a background image so you never have a black screen
 - Image Pull – capture a video screenshot on any network-accessible device
 - Image Pop – overlay a full color image/logo on top of the HDMI signal with alpha channel transparency
 - On-Screen Display
 - Gigabit Ethernet
- All 3D formats
- PoE preferred, but now safe to use with almost any DC power supply – DC 4.7~23V
- Locking HDMI cables

Comparison Chart

Feature/Function	2G+AVP	3G+AVP
Maximum LAN Bandwidth	125 Mbps	400 Mbps
Maximum Sources Supported per LAN	~4,000	~4,000
Maximum HDMI Displays Supported per LAN	~65,000	~65,000
Required Minimum Switch Speed	Gigabit	Gigabit
4K @ 60Hz resolution support		✓
Instant-Seamless Switching	✓	✓
Integrated video scalar for legacy HDTV support		✓
Embedded Video Wall Application	✓	✓
Rotate and Flip Video Output		✓
PCM 2.0 and Compressed Multi-Channel Audio Formats Supported (i.e. Dolby [®] 5.1)	✓	✓
All audio formats – including lossless and Dolby ATMOS		✓
5.1 Dolby Digital transformation to 2-channel audio	✓	✓
Integrated Stereo Audio Extractor (3.5mm) with up to 170ms of Audio Delay on Transmitter and Receiver	✓	✓
Mic- and Line-In 3.5mm ports, mixable with HDMI Audio signal	✓	✓
Independent RS-232 Control of Endpoints Over LAN Connection	✓	✓
Integrated Null Modem Jumpers on RS-232	✓	✓
2-way CEC over IP	✓	✓
USB over IP Supported	✓	✓
Image Push – upload a background image	✓	✓
Image Pull – preview video from a source or display	✓	✓
Locking HDMI Cables Supported	✓	✓
On Screen Display API	✓	✓
All 3D Formats Supported		✓

Product Listing

Receivers

Receivers - Displays			
Model	PoE	Description	Image
3G+AVP			
518AVP	✓	A/V Pro Enhanced Gigabit PoE Receiver	

Transmitters

Transmitters - Sources				
Model	PoE	Inputs	Description	Image
3G+AVP				
718AVP	✓	1	A/V Pro DSP Enhanced Gigabit PoE Transmitter	

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 ext 1

Main Office: +1-727-517-4053 ext 1

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](#) with Jumbo Frame support
- An IP-based [control system](#) to communicate with the Ethernet switch and Just Add Power devices

Note:

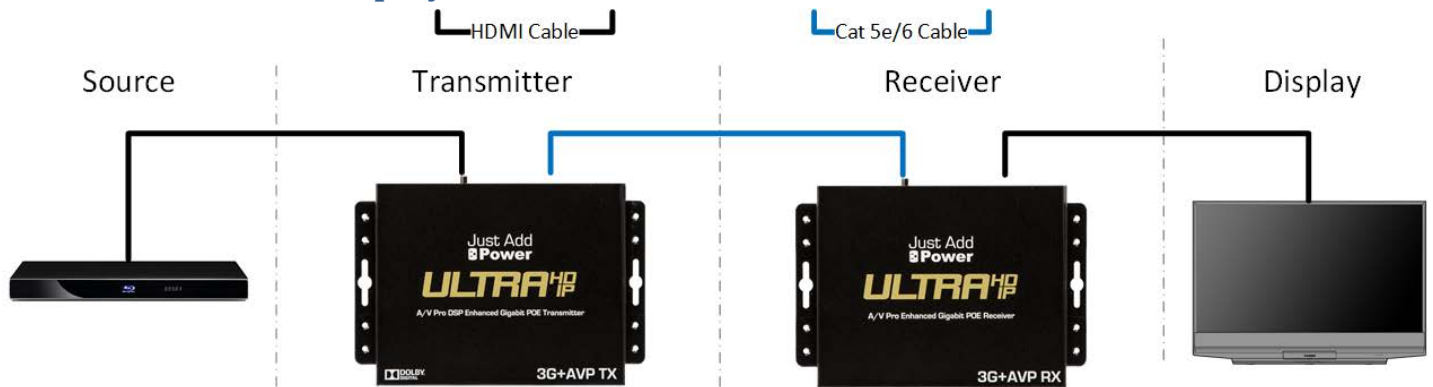
Simpler systems may not require a managed switch or control system. See [Transmitters & Receivers](#) section for more information.

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](#)
- [One Source to Many Displays](#)
- [Many Sources to Many Displays](#)
- [Many Sources to Many Displays with Video Wall](#)

One Source to One Display



Components

- 1 source device
 - 1 Just Add Power 3G Transmitter
- 1 display device
 - 1 Just Add Power 3G Receiver
- 2 HDMI cables
- 1 Cat 5e 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 cable.

Configuration

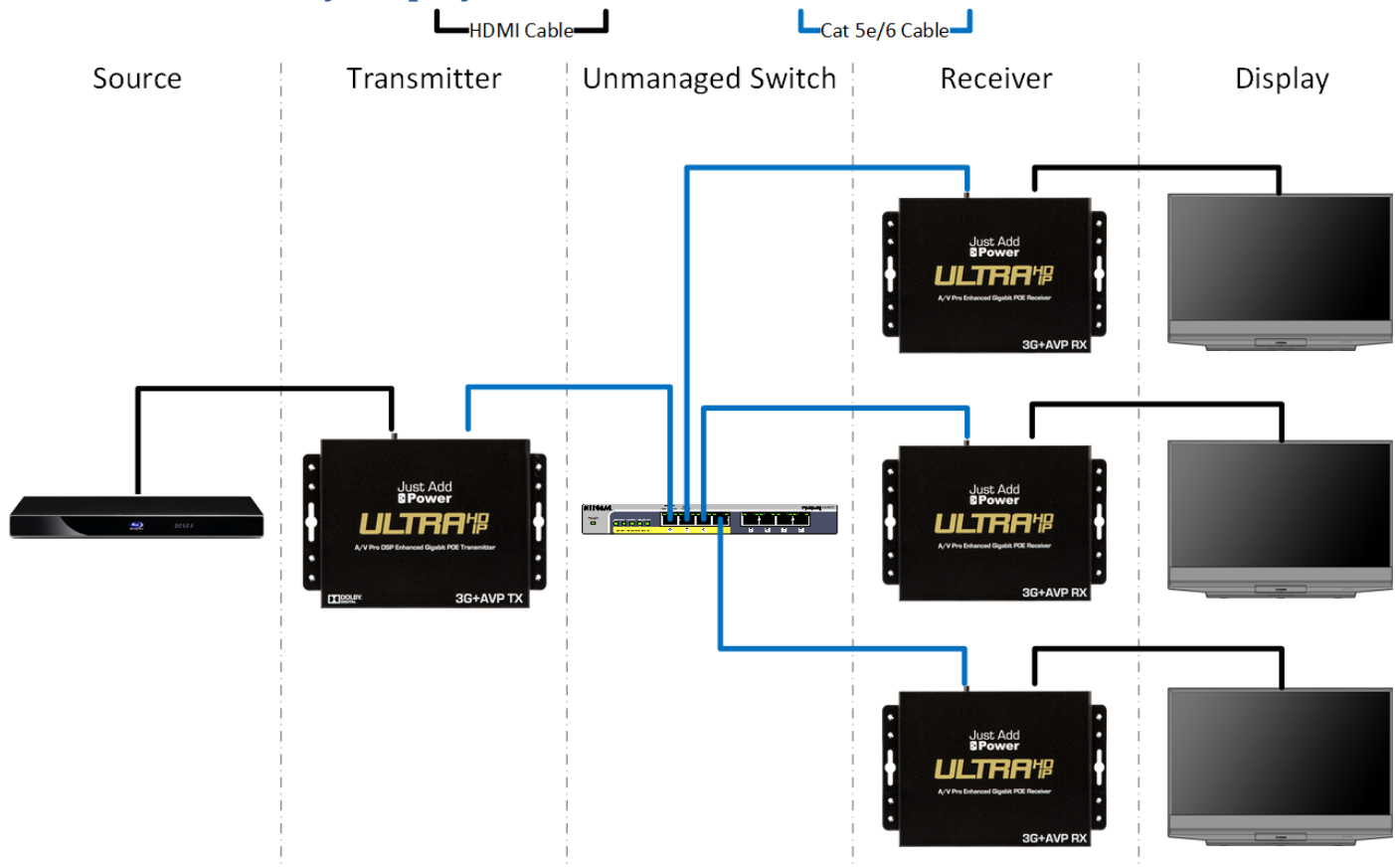
No configuration required.

One Just Add Power 3G Transmitter/Receiver pair can be connected:

- Point-to-point with a Cat5e cable
- Through a gigabit Ethernet switch
 - Switch must support Jumbo Frames
- 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

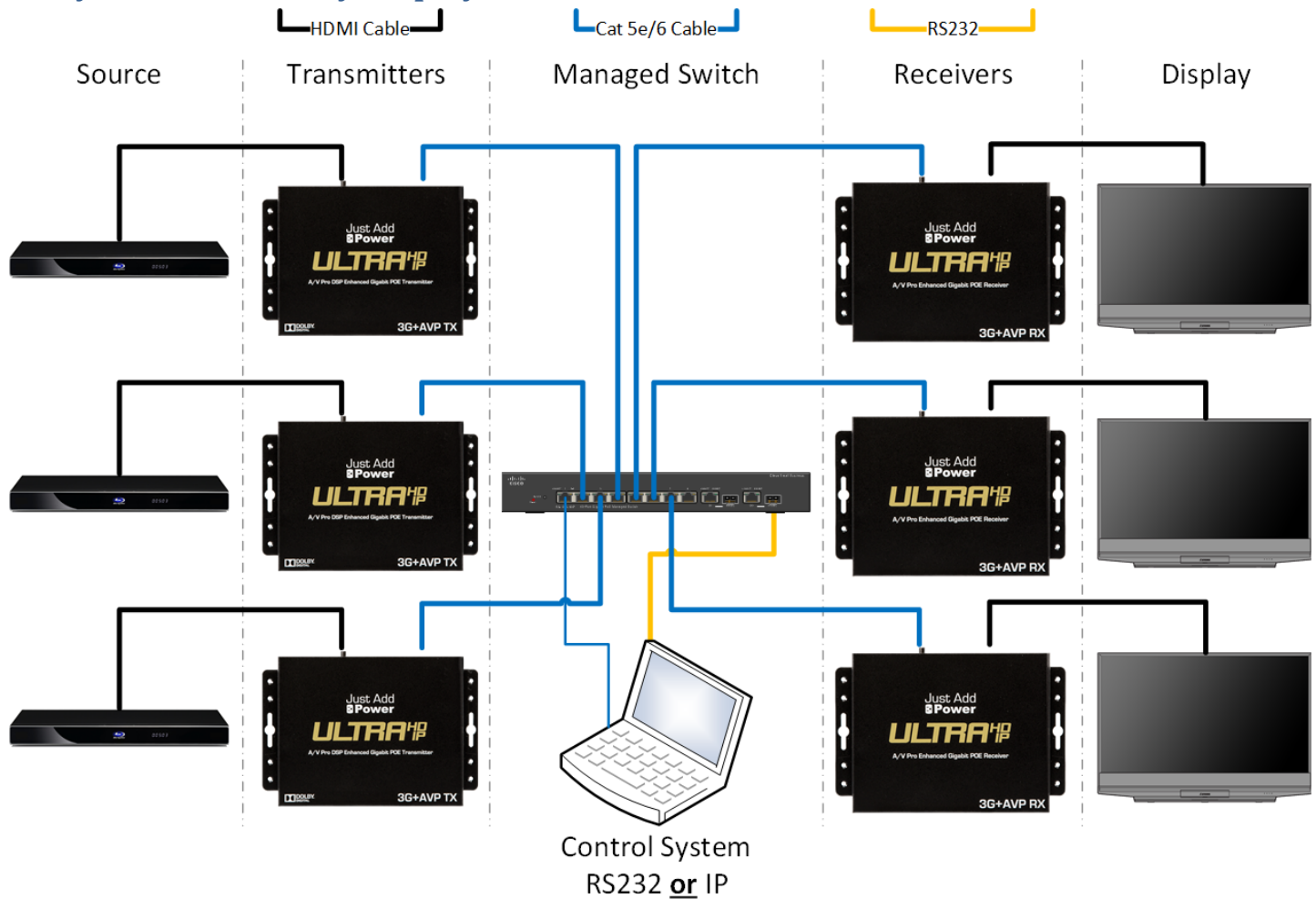
- 1 source device
 - 1 Just Add Power 3G Transmitter
- Multiple displays
 - 1 Just Add Power 3G Receiver per display
- 1 Unmanaged gigabit Ethernet switch or better
 - Switch must support Jumbo Frames
- 1 Cat 5e cable per Just Add Power 3G Transmitter and 3G Receiver
- 1 HDMI cable per Just Add Power 3G Transmitter and 3G 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 3G Transmitter per source device
- Multiple displays
 - 1 Just Add Power 3G Receiver per display
- Managed gigabit Ethernet switch
 - Switch must support Jumbo Frames
- One HDMI cable per Just Add Power 3G Transmitter and 3G Receiver
- One Cat 5e cable per Just Add Power 3G Transmitter and 3G Receiver
- RS-232- or IP-based control system to communicate with the managed gigabit Ethernet switch

Configuration

When multiple Transmitters are traveling over the same network, the managed gigabit Ethernet 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](#).

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 3G 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	Stacking	Maximum Devices
Luxul	AMS-1208P	✓	✓		9
	AMS-2616P	✓	✓		25
	XMS-2624P	✓	✓		25
	AMS-4424P	✓	✓	✓	368
Cisco	SG300	✓	✓		51
	SG500	✓	✓	✓	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 and Just Add Power 3G.

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	✓	✓	✓	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 3G 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

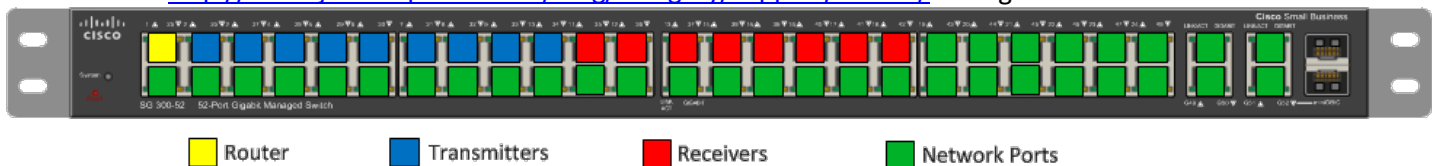
Fiber	Bandwidth	Description	Max Distance
SFP-10G-SR	5 Gb / 10 Gb	850-nm wavelength Multimode fiber	300 m / 1000 ft
SFP-10G-LR	5 Gb / 10 Gb	1310-nm wavelength Single-mode fiber	10 km / 6 mi
SFP-10G-LRM	5 Gb / 10Gb	1310-nm wavelength Single- or multimode fiber	300 m / 1000 ft

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
 - o Switching drivers
 - o Receiver and Transmitter control drivers – gives access to RS-232, CEC, video wall, on-screen display, and other Just Add Power Layer 3 features
 - o **ONLY** work with switches configured with JADConfig
- Just Add Power Licensed Control System Drivers
 - o AMX
 - o Control4
 - o Crestron
 - o Elan G (no license key needed – included in g! Tools)
 - o 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.

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

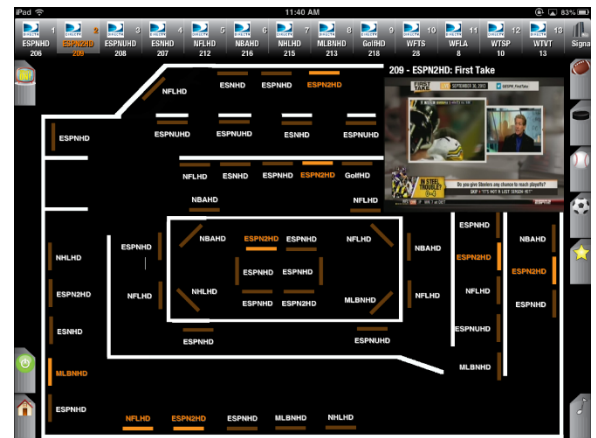
DTV Game Control



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.

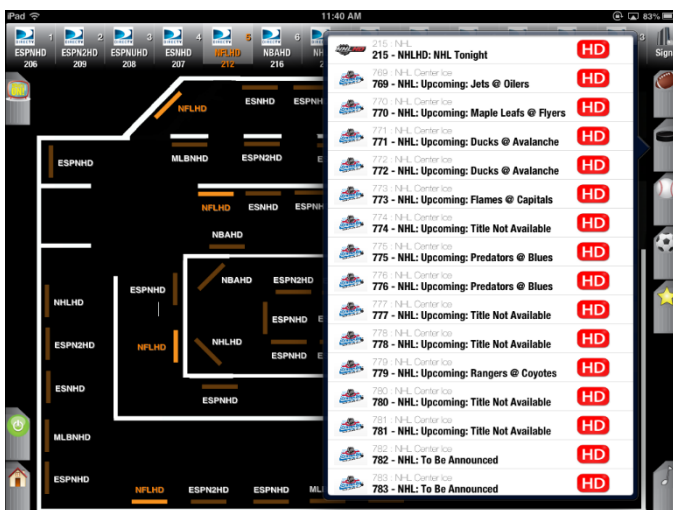
Standard Features of DTV GameControl

- 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.

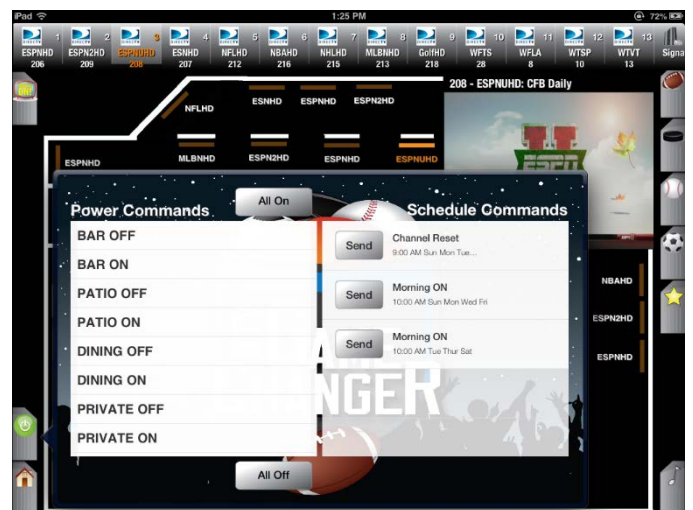


Floor Plan Layout

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.



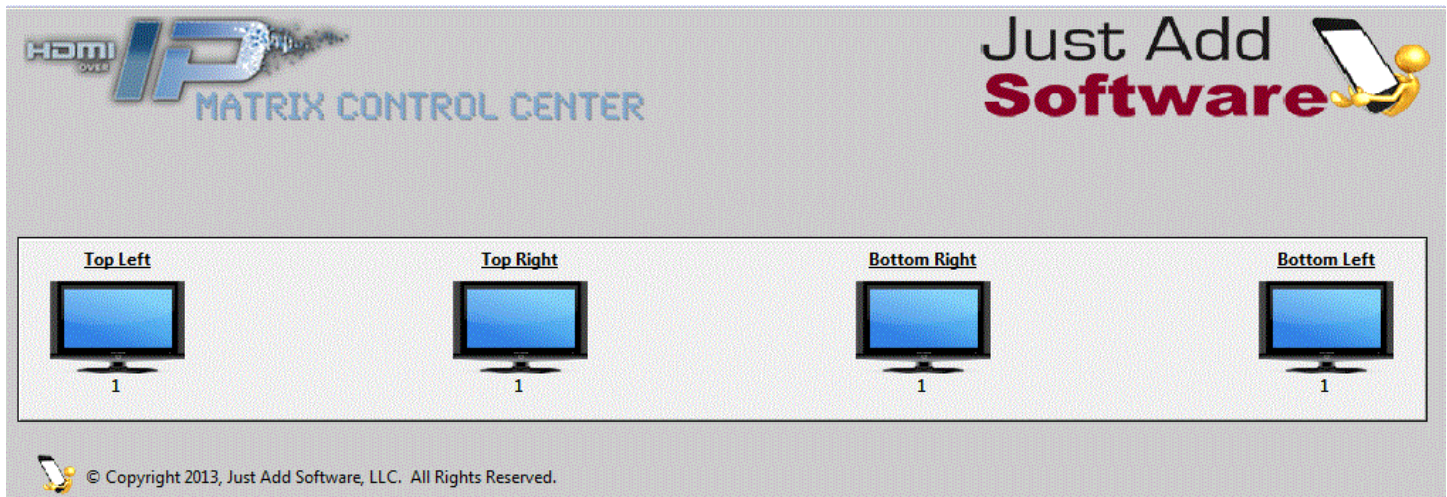
Favorites



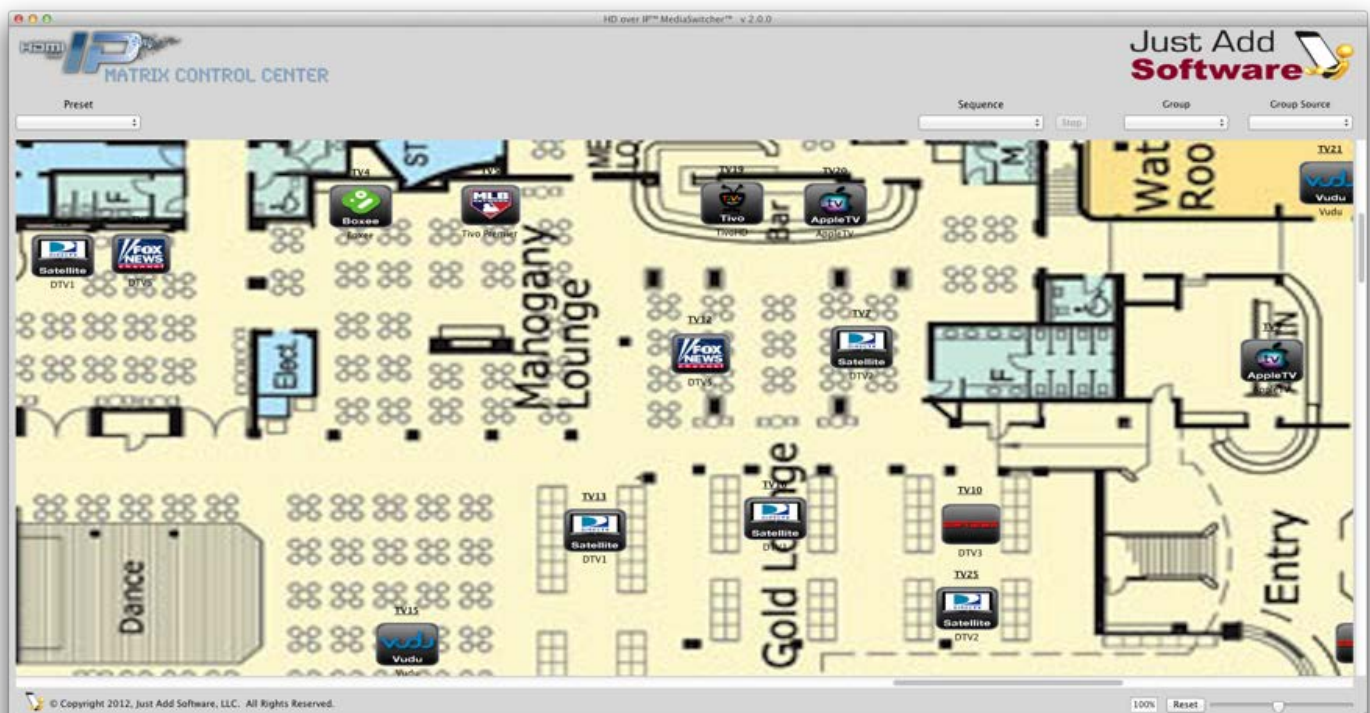
Power Commands

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

2-Way Module Command

Name :

Available Devices :

Available Command :

Parameters

Shell Command

Example

`cec_tv_off.sh`

Result

☐ Save the result

Variable :

OK Cancel

CEC Driver 1

2-Way Module Command

Name :

Available Devices :

Available Command :

Parameters

Bytes to Send

Example

`0xEF 0x82 0x20 0x00`

Result

☐ Save the result

Variable :

OK Cancel

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

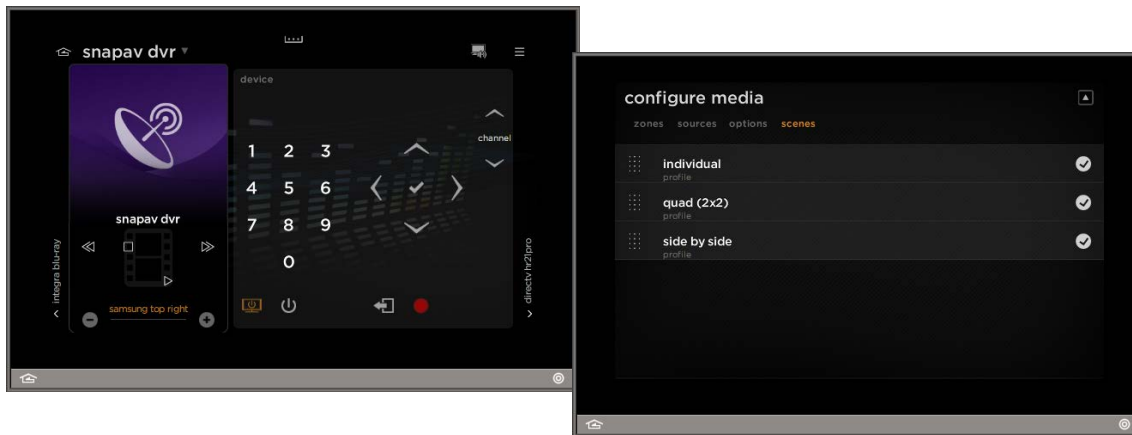


Links

<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

Input Name	Connected Source	Widget Action	
VGA			
HDMI 4			
HDMI 3			
HDMI 2			
HDMI	Top Left Zone		
Blu-Ray In			
Cameras In			
DirecTV In			
SVideo			
Component 2			
Component			
Video 2			
Video			
Tuner			

Name	Top Left Zone
Category	Video Zone
Display Name	Top Left
VID	53
Area	Project : Conference Room
Log Level	None
Position	1
Modes	
Mode	
Column Position	1
Total Columns	1
Total Rows	1
Row Position	1
Mode	
Column Position	1
Total Columns	2
Total Rows	1
Row Position	1
Mode	
Column Position	1
Total Columns	2
Total Rows	2
Row Position	1
Exclude From Audio Widget	☒ True

Object Explorer

Drivers

Views: Jinan, JiuZhou, Just Add Power, Cisco SG300 2G, JVC

Show Icon Legend

Vantage Objects

Drivers

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
 - o HDMI 2.0
- HDCP 2.2 Compliant
- FCC/CE/ROHS Compliance
- Dolby Digital Certification
 - o 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 3G 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 650 Mbps. A gigabit managed network switch is needed.
- A managed switch is needed because traffic from 3G 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

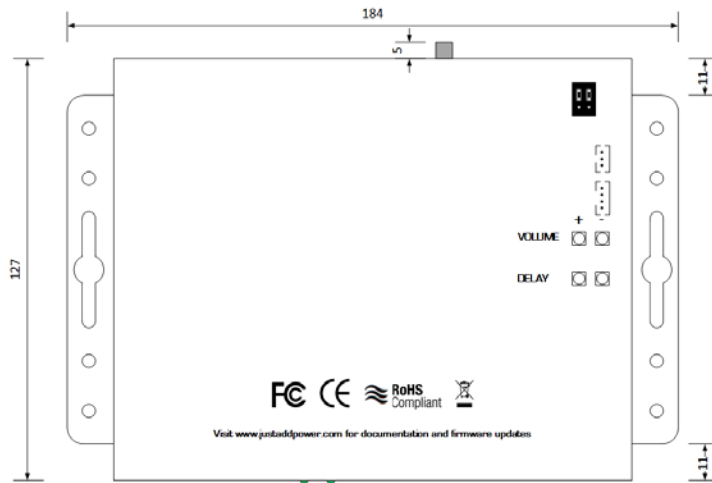
Dimensions

Model Number	Name	Dimensions (mm)	Description
518AVP	3G+AVP Receiver	186 x 127 x 30	A/V Pro DSP Enhanced Gigabit PoE UltraHDIP Receiver
718AVP	3G+AVP Transmitter	199 x 127 x 31	A/V Pro DSP Enhanced Gigabit PoE UltraHDIP Transmitter

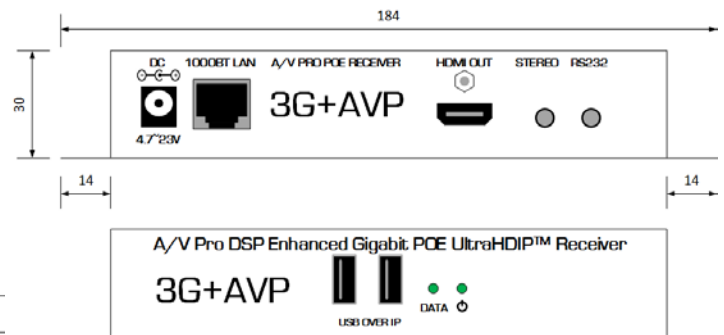
Diagrams

518AVP

All measurements in millimeters (mm)



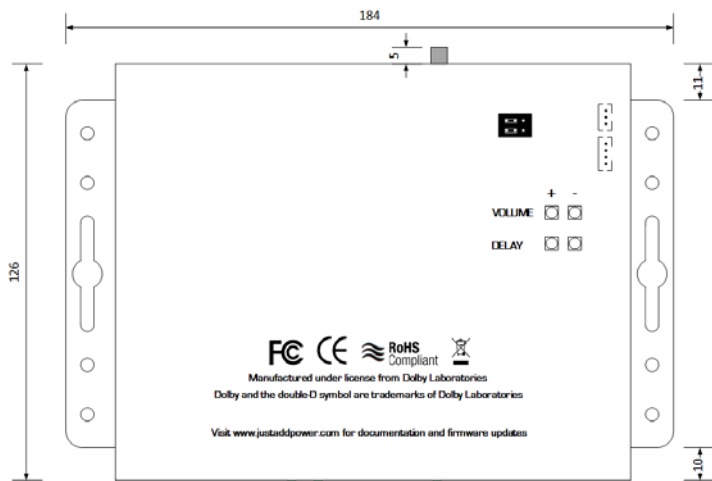
518AVP Bottom



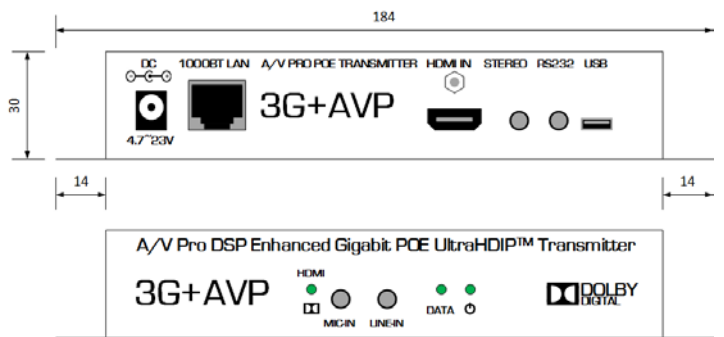
518AVP Front/Back

718AVP

All measurements in millimeters (mm)



718AVP Bottom



718AVP Front/Back