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EPIC

**HDMI DISTRIBUTION
FOR INTEGRATORS**

Just Add **Power**
HDMI OVER IP PRODUCT GUIDE

ULTRA HD IP

Just Add  Power



4K video matrixing over IP

The 3G Ultra HD over IP transmitters and receivers can send 4K (2160p) and UHD video with HDCP 2.2, as well as 1080p and lower resolution content, from a mixture of HDMI 2.0 and HDMI 1.x source devices to any number and combination of HDMI 2.0 and HDMI 1.x displays over a standard Gigabit network.

Unlike other IP-based solutions, there's no need to use a costly 10Gb Managed Switch or fibre optic cabling. All that is needed to create any size of 4K-capable HDMI matrix is a single 3G Ultra HD over IP transmitter per HDMI 2.0 or HDMI 1.x source, a Layer 3 Gigabit Managed Switch, a 3G receiver per HDMI 2.0 or 1.x screen and a compatible control system atop a Cat 5e / 6 cabling infrastructure.



NO FIBRE & NO 10GB SWITCH NECESSARY

ULTRA^{HD} IP 4K

"Ultra HD over IP looks to be everything I dreamed of"
 (Joe Whitaker, CEDIA Board of Directors and Head of JW Designs).



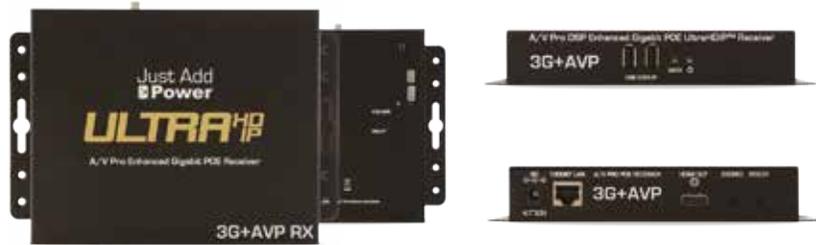
3G+AVPro Transmitter

VBS-HDMI-718AVP

Encodes 4K / UHD / Full HD or lower resolution video from 1 HDMI source into IP for distribution over a Gigabit network to multiple displays. Built-in Dolby Digital processor allows you to output 5.1 and stereo simultaneously in separate zones. Features Mic-in and Line-in ports that can be mixed with the HDMI audio stream, plus a stereo audio extractor with volume control, ground loop isolator and adjustable lip-sync delay (170ms), as well as 2-way CEC Control and a USB port for KVM over IP applications.

For support for all audio formats including uncompressed multichannel audio formats up to and including Dolby Atmos and DTS:X, use the new 3G+HIFI passthrough model of transmitter (coming 2016).

Max resolution input: 4K@60Hz 4:2:0



3G+AVPro Receiver

VBS-HDMI-518AVP

Decodes 4K / UHD / Full HD or lower resolution content from a HDMI source and displays it on a screen. The built-in 4K scaler can downscale 4K with HDCP 2.2 to 1080p for viewing on HDMI 1.x screens and can also upscale a 1080p or lower signal from a HDMI 1.x device to 2160p for viewing on 4K TVs. A selectable passthrough mode is also available. Features a stereo audio extractor with volume control, ground loop isolator and adjustable lip-sync delay (170ms), as well as 2-way CEC Control and two USB over IP ports for KVM applications.

Max resolution output: 4K@30Hz 4:2:0



On-board 4K up / downscaling

Receivers can downscale a 4K signal with HDCP 2.2 to 1080p for viewing on HDMI 1.x screens and also upscale a Full HD 1080p or lower signal from any HDMI 1.x device, outputting it at a maximum of 2160p for viewing on 4K TVs.*



HDCP 2.2 support

Integrate screens and sources with HDCP 2.2 encryption. 3G's seamless HDCP conversion allows HDCP 2.2 encrypted content to be shown on any display, even if it's not HDCP 2.2.



Dolby Atmos and DTS:X support

The soon-to-be-released 3G+HIFI models (coming 2016) with passthrough mode support Dolby Atmos and DTS:X, the latest object-based uncompressed multichannel audio formats, to deliver the highest calibre of home cinema experience possible.



Downmixing from Dolby Digital 5.1

3G+AVPro transmitters downmix as standard, transforming Dolby Digital 5.1 to Dolby PLII, which is decoded and output as 2.0 channel audio by stereo HDMI devices, while an AVR will convert it back to 5.1 multichannel audio.



Mix and match 3G and 2G in the same network

Existing 2G/2G+ installs can be updated using 3G devices in order to integrate HDMI 2.0 devices. 2G and 3G devices cannot talk directly to one another, though they can live and be bridged within the same network to work seamlessly together.



Ultra-low latency switching

3G devices have an incredibly low 22ms encode / decode latency over the network and switching between any resolution of source content is instant.



Power over Ethernet

3G transmitters and receivers are PoE, though you can utilise power supplies for non-PoE applications. It is possible to power large systems entirely from a PoE Gigabit Managed Switch.

*Max resolution output: 4K@30Hz 4:2:0. Just Add Power intends to add support for higher rated video standards and frame rates as the 3G platform is further developed.



Epic & Easy Distribution

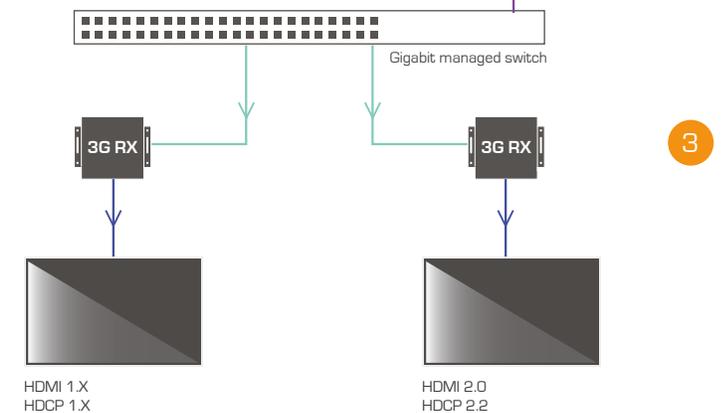
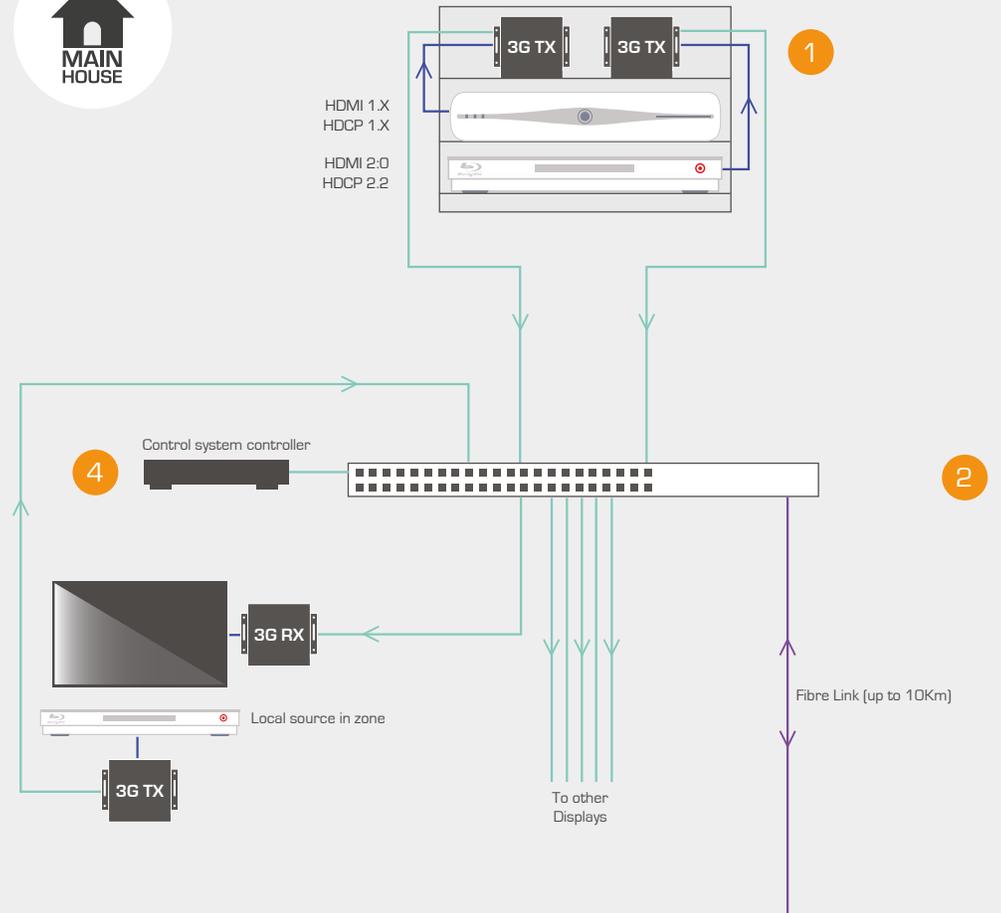
Create an any-size 4K HDMI matrix

There's just 4 elements needed to create any size of 4K-capable video matrix:

- 1 Source Transmitters**
 For each HDMI 2.0 and 1.x source device, you'll need one 3G transmitter. Connect 3G transmitters to source devices using HDMI cables. Source devices can be located in the rack or local to rooms, as shown in the wiring diagram to the right.
- 2 Managed Gigabit Switch**
 Each 3G transmitter is connected to an individual port on a Gigabit Managed Switch using Cat 5e/6 cable. Unlike other IP-based systems, you don't need a 10Gb Managed switch to send 4K over the network. You can stack switches via a fibre link in order to send HDMI up to distances of 10km, for distribution to multiple properties on an estate for example, as shown in the wiring diagram on the next page.
- 3 Display Receivers**
 Finally, you need a 3G receiver per HDMI 2.0 and 1.x display. These can downscale 2160p HDCP 2.2-encrypted content to 1080p for viewing on a legacy HDMI 1.x display. They can also upscale a 1080p (or lower) signal and output it as 3840x2160p to be shown on an HDMI 2.0 display. Alternatively, passthrough mode matches the native resolution of the HDMI source*.
- 4 Control System**
 A range of fully supported professional drivers are available free of charge for the major control brands shown below.



*Max resolution output: 4K@30Hz 4:2:0. Just Add Power intends to add support for higher rated video standards and frame rates as the 3G platform is further developed.



For specifying 4K over IP projects and purchasing Just Add Power products, contact sales@hdconnectivity.com or call **01684 576 348**. For further information and case study examples visit www.justaddpower.com

2G Transmitters

Any model of second generation transmitter encodes a single source device into IP for transmission over the Gigabit network. All models support a maximum of Full 1080p resolutions. You need 1 second generation (2G) transmitter per source. You can mix and match any of the second generation models listed below. Though a 2G transmitter cannot talk directly to a 3G receiver, you can create blended systems that have 2G and 3G living on the same network.



2G Transmitter

VB5-HDMI-408A (Standard) VB5-HDMI-408POE (PoE) VB5-HDMI-439A (Rackmount)



Delivers instant, seamless switching between same resolution content, compressed multi-channel audio support, stereo audio support, side-by-side 3D support, RS-232 Control (2-way), and video wall support (2x2 to 16x16). Also supports Just Add Power's Image Push, Image Pull and on-screen display features.



2G+ Transmitter

VB5-HDMI-418A (Standard) VB5-HDMI-418POE (PoE) VB5-HDMI-449A (Rackmount)



Same functionality as the 2G models but adds support for USB over IP, a stereo audio extractor with adjustable lip-sync delay (170ms), a HDMI pass-through port, 1-way CEC control, locking HDMI cables and a built-in RS-232 null modem.



2G+ HDI-SDI Transmitter

VB5-HDMI-428A (Standard) VB5-HDMI-428POE (PoE)



Encodes a signal from 1 SDI device into IP and sends it across a Gigabit network. Has a HD-SDI input, RJ45 / Cat output and a HDMI pass-through port.



2G+ AVPro Transmitter

VB5-HDMI-418AVP (PoE)



All the functionality of 2G and 2G+ models plus a Dolby Digital Sound Processor capable of converting Dolby Digital 5.1 into Dolby PLII for distribution over the network. Also has Line-in and Mic-In ports that are mixable with the HDMI audio signal, a stereo audio extractor with volume control, ground loop isolator and adjustable lip-sync delay (170ms), and 2-way CEC Control.



2G+4+ Video Tiling Processor (Coming Soon)

VB5-HDMI-459A (Rackmount)

A 1U rack-mountable video tiling processor. Delivers content from 4 HDMI sources to a single screen in a variety of viewing modes, including quad view and picture in a picture. Great for clients who are sports fans or for digital signage jobs.

2G Receivers

Any model of second generation receiver will decode an IP signal back into a HDMI signal and display it on a screen in a maximum resolution of Full HD 1080p. You need 1 second generation (2G) receiver per display. All models of 2G receiver can communicate with any of the 2G transmitters on the previous page. 2G receivers cannot receive a signal from 3G transmitters, but can live on the same network and blended systems can be created to bridge the two generations.

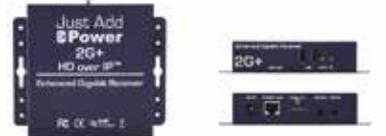


2G Receiver

VB5-HDMI-208A (Standard) VB5-HDMI-208POE (PoE)



Decodes sources from the HD over IP network to a HDMI output for connection to a display. PoE. Supports Full HD 1080p video and side-by-side 3D. Video wall support (2x2 to 16x16), compressed multi-channel or PCM 2.0 stereo audio formats supported.



2G+ Receiver

VB5-HDMI-218A (Standard) VB5-HDMI-218POE (PoE)



All the functionality of 2G receivers but adds: USB over IP, a stereo audio extractor with adjustable lip-sync delay (170ms), 1-way CEC control and support for locking HDMI cables.



2G+ AVPro Receiver

VB5-HDMI-218AVP (PoE)

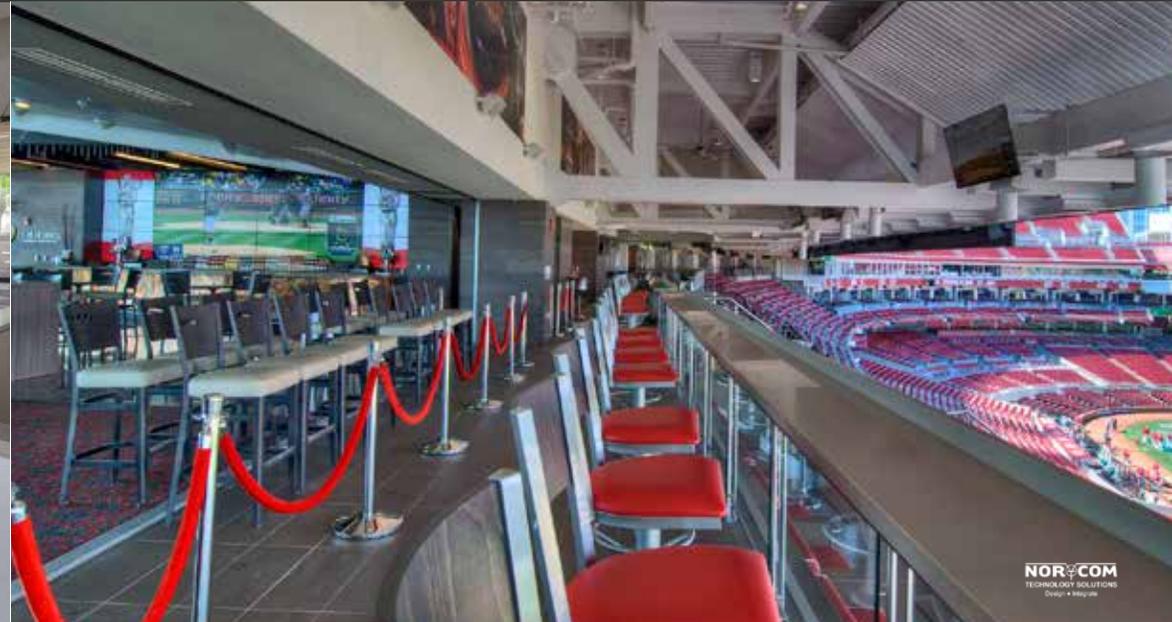


All the functionality of 2G and 2G+ receivers but adds: a stereo audio extractor with volume control, ground loop isolator and adjustable lip-sync delay (170ms), and 2-way CEC control.



Just Add Power is perfect for challenging residential projects that have requirements such as local sources or distribution between multiple properties on an estate. Image below: Face to Face Digital, UK.





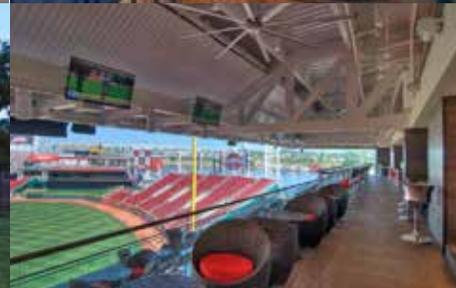
Simplistic Houston pad

Houston, Texas, USA
 12 sources x 7 displays
 Control: RTI
 Installer: Digital Delight

The initial design goal for this 5,500 sq. ft property in Houston Texas was to easily, efficiently and effectively distribute audio and video throughout the client's home.

Just Add Power's 2G HD over IP products provide the homeowner with access to live feeds from their IC Realtime® security cameras, a NuVo media player, AT&T U-verse® DVRs, Apple TV® and a Sony® Blu-ray player on any screen in the home.

For Control Digital Delight used RTI SURFiR remotes in combination with the RTIPanel application to deliver an easy-to-use system that exceeded the client's expectations by allowing them to manage all of the technology in the residence, while not overwhelming their day-to-day interactions within their home.



The Handlebar at the Great American Ballpark

Stadium Sports Bar
 Cincinnati, Ohio, USA
 15 sources x 68 displays
 3x6 video wall
 4x4 video wall
 Installer: Nor-Com
 Control: Crestron

Nor-Com's install at The Handlebar sports bar and grill in the Great American Ballpark shows just how creative integrators can be with video distribution when they use Just Add Power. A 3x6 8196 x 2304-pixel video wall covers the area behind the bar and allows for almost any selection and combination of source or content to be shown, including cable, broadcast, scoreboard feeds, instant replay, bullpen camera, pitch speed and Kiss Cam.

One of the most visually striking elements is two huge HD video columns that use LG 55-inch 5760 x 5400-pixel resolution displays to broadcast a range of live camera feeds, HD baseball programming and digital signage. A 4x5 social media wall with 50-inch Sharp LCD displays lets fans see and post promotions, tweets, Instagram photos and sponsor announcements.

VIDEOWALL DESIGN

Provide video walls for sports bars, retail spaces, live venues and reception areas without having to purchase an expensive video wall processor or narrow bezel displays.

All of the current Just Add Power devices have a built-in video wall processor that allows you to build a 2x2 up to a 16x16 video wall, and nearly any combination within that (i.e. 2x4, 1x8, 5x5, 6x2, 6x14, 12x16), whilst simultaneously supporting distribution to a virtually unlimited number of single screens too.

The Handlebar at the Great American Ballpark
15 sources x 68 displays | Multiple video walls
Integrator: Nor-Corn
Control: Crestron

Video Wall Support.

2G and 3G products let you easily integrate video walls from 2x2 to 16x16 within the same network as single screens.

Use any display

Any display model can be used to create a video wall with J Just Add Power- there's no need to use costly super narrow bezel screens.

4K resolution video walls

3G products let you create 4K/UHD video walls in full 3840 x 2160p resolutions on 4K displays or show 4K/UHD content on video walls built with 1080p displays.

Flip 180° or rotate 90°

3G products allow you to flip displays by 180° or rotate to 90° to create portrait video walls and overcome the annoying bump on the bottom of displays.

Video tiling

The 2G+4 video tiling processor enables four HDMI sources to be shown in a variety of viewing modes on one screen. When stacked, it can support up to 16 sources on one screen and be utilised on single screens, projectors and video walls alike for digital signage purposes.



Name

Infrastructure		2G	2G+	2G+AVPro	2G+4+	3G+AVPro
Min. cable & network infrastructure	Cat5e (Gigabit)					
Max. distance from switch (Cat5e)	328ft / 100m					
Rackmount option available	✓	✓	✗	✓	✓	✗ (Coming 2016)
Compatibility						
HDMI version	1.4	1.4	1.4	1.4	1.4	2.0
HDCP version	1.4 and earlier	2.2 and earlier				
PoE option	✓	✓	✓	✗	✗	✓
USB over IP	✗	✓	✓	✗	✗	✓
Video						
Full HD (1080p)	✓	✓	✓	✓	✓	✓
4K UHD (2160p)	✗	✗	✗	✗	✗	✓
4K / 1080p video scaling	✗	✗	✗	✗	✗	✓
3D support (side-byside)	✓	✓	✓	✓	✓	✓
3D support (all types)	✗	✗	✗	✗	✗	✓
Instant switching						
Supports video walls (2x2 to 16x16)	✓	✓	✓	✓	✓	✓ (Between any resolution)
4K Video wall + portrait display support	✗	✗	✗	✗	✗	✓
Video tiling - 4 sources on 1 screen	✗	✗	✗	✗	✓	✗
HDMI pass through on TX	✗	✓	✓	✓	✓	✗
Audio						
Uncompressed audio format support inc. Atmos and DTS:X	✗	✗	✗	✗	✗	✗ (coming Q1 2016 3G+HIFI TX)
Stereo or compressed multichannel audio	✓	✓	✓	✓	✓	✓
Dolby downmixing: 5.1 to 2.0	✗	✗	✓	✓	✓	✓
Stereo audio extractor with adjustable lip sync delay	✗	✓	✓	✓	✓	✓
Mic and Line-in ports mixable with HDMI	✗	✗	✓	✓	✗	✓
Control						
Two-way RS232 / RS232 matrix on LAN	✓	✓	✓	✗	✗	✓
Integrated Null Modem on RS232	✗	✓	✓	✗	✗	✓
CEC oneway	✗	✓	✓	✓	✓	✓
CEC two-way	✗	✗	✓	✗	✗	✓
On screen display API	✓	✓	✓	✓	✓	✓



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