

VIDEO DISTRIBUTION PRODUCT GUIDE

2020



WELCOME TO OUR VIDEO DISTRIBUTION GUIDE



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MICHAEL ROBERTS

Business Manager

I have spent the last 10 years working for Invision and have built a vast knowledge of all products we supply to the custom install market. As Business Manager I work closely with our manufacturers to ensure our product range meets the need of this market.

This guide has been created for you to inform you on video distribution with WyeStorm and NetworkHD™. Should you require any further information on WyeStorm products please do not hesitate to contact myself or the team.

Michael Roberts Business Manager



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MARK TAYLOR

Commercial Director

Invision is the UK's fastest growing distributor of market leading systems for today's Smart Home, supplying professional installers with innovative products and integrated solutions.

Thanks to the support from our customers and vendors, 2016 was our most successful year ever and we are delighted to receive the CEDIA award for Distributor of the Year.

Our investment in products, training, service and support will continue during 2020, to provide you with one stop access to all the products you need for your next installation. Remember that we stock so you don't have to! All products are available on a next day delivery service to UK mainland destinations.

Our new 2020 product guides, organized by market category, are designed to bring you the very latest information from our exceptional product portfolio and I would welcome your feedback.

Mark Taylor Commercial Director



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WyreStorm

ABOUT WYRESTORM





WHAT WYRESTORM OFFER...

They're a leading manufacturer of award winning 4K and full HD AV signal distribution and control solutions for PRO AV/commercial, residential/ custom install and retail markets. Specialising in providing innovative single platform and hybrid solutions, WyreStorm products are developed to minimise system complexity and connectivity for increased ease of installation and reliability, while offering exceptional performance and functionality for the best value and end-user experience.

WyreStorm are a manufacturer proud to offer clear, unbiased opinions and advice. They aim to demystify what can be at times a confusing landscape with clear, impartial advice focused on dealer and end-user satisfaction to ensure the right technology is used and the right application achieved.

Out-of-box doesn't fit all applications - build to your specification. The modular architecture of our HDBaseT™ matrix switchers and NetworkHD™ AV over IP products enable solutions to be perfectly tailored and effortlessly expanded to applications, no matter the size, budget, function or complexity of the project.

WyreStorm have five technology platforms and counting. They're multi-platform approach to product design spans HDMI, HDBaseT™, H.264, JPEG2000 and SDVoE.

With offices in the US, UK, India and the Middle East, our own R&D and production facilities in Asia, and an ever growing network of distribution partners throughout the world, WyreStorm is ideally placed as a total solutions provider.



SELECTING THE RIGHT PRODUCT

It might seem obvious, but ensuring the correct technology is used for a particular application is essential to achieve true customer satisfaction. And it colours everything we do at WyreStorm.

With digital content distribution and AV applications now becoming such an essential part of so many industries, technology has evolved past HDMI and HDBaseT to offer more options than ever, with the arrival of AV over IP signifying the exciting convergence of the AV and IT worlds.

This new technology opens up markets and applications that were previously out of bounds due to limitations of the existing technology. Embracing all platforms is an opportunity for everyone to grow their business.

One Size Doesn't Fit All

It should be no surprise that some technologies are good at some things but less so for others. A buying decision should depend on variables, such as price, video quality, scalability, latency, audio support, skill competency and what extra value-added features can be offered, including advanced video processing. Recognising the rapid evolution of the industry over the past 3 years, WyreStorm has focused product development in its Pro AV Solutions, Installer Solutions and Express lines on a multiple technology approach to AV distribution to satisfy almost every application and buying criteria.

It's a fact the majority of install issues are due to products being used beyond their design scope or in scenarios they were not intended for. Competing manufacturers who focus narrowly on one or two platforms not only limit options available to the dealer, but also limit the applications they can support. Of course, they will not tell you this – their aim is to sell products regardless.

The truth is there is no single technology for all applications. There are many for any. Understanding each platform and correctly applying to your application is the key to total customer satisfaction.

Your AV Expert

An expert doesn't offer limited knowledge or experience in a narrow selection of technologies. At WyreStorm, we aim to be your AV expert on all technology platforms and applications with clear impartial advice, unbiased recommendations and clear system designs to enable you to provide the right technology for your application.

HDMI™



SUITABLE APPLICATIONS



- Still the best method of distributing and switching uncompressed HDMI 2.0 18Gb 4K/60 4:4:4, but limited to small footprint installations under 15m/50ft
- High quality uncompressed AV signal transmission
- Self-contained plug and play AV solution, but with limited ability to scale up inputs and outputs
- Uses pre-terminated, non upgradable cables but WyreStorm Active Optical Fiber HDMI cables can overcome distance limitations

HDBT™



SUITABLE APPLICATIONS



- Easiest way to distribute high bandwidth uncompressed 4K HDR content over distance within medium to large footprint installations
- Ideal for centralised distribution and basic switching/routing of up to 16 sources and 16 displays
- Supports 4K UHD transmissions up to 70m/230ft or 1080p to 100m/328ft
- Now capable of supporting 4K/60 4:4:4 and HDR content
- Support for video, multichannel audio, RS-232 and bidirectional IR control, remote powering of devices and Ethernet passthrough over a dedicated network
- Modular, multi-format transmission cards available for matrix switchers
- Easy to install but challenges exist when scaling up to systems over 16x16
- Huge variety of WyreStorm matrix switcher and extender solutions available

SELECTING THE RIGHT PRODUCT

400 Series



600 Series



100/200 Series



JPEG2000

- Cost effective, high quality delivery 4K HDR over a 1GbE Network with low latency of less than a single frame – the compromise is slightly higher bandwidth demands
- Ideal for decentralised system designs
- Plug-and-play modular PoE architecture easily scales up to the largest deployments
- Value add features includes 4K/2K auto-scaling, multi-channel audio up to DTS:X and Dolby Atmos, audio routing separate from video, IR pass-through, video wall up to 16x16 with rotation for landscape and portrait processing
- CEC one-touch play/standby
- Bidirectional RS-232 with major third party integration, including WyreStorm Enado™
- Free iPad control app enables access to an entire system with live video previews of all sources and selections

SDVoE

- Pinnacle of AV distribution offering mathematically lossless 4K/60 4:4:4 and HDR over 10GbE Network with Genlock zero latency – the compromise is higher bandwidth requiring a 10GbE Network
- Decentralised system design architecture offers ultimate scalability
- Value add features include discrete AV matrix switching, 4K/2K auto-scaling, multi-channel audio up to DTS:X and Dolby Atmos, PCM audio downmix, embedding/de-embedding with DAC/ADC
- Broadcast scaling, multi-view and video wall up to 5x5 with bezel correction
- Ultra-fast seamless source switching
- 1GbE passthrough, IR/RS-232 routing/generation and analog audio routing
- Bidirectional IR/RS-232 with major third party integration, including WyreStorm Enado™

H.264

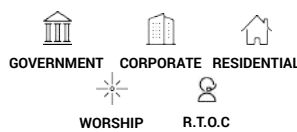
- Lowest cost, lowest bandwidth delivery of full HD over a 1GbE Network – the compromise is slightly higher latency
- Ideal for decentralised system designs
- Plug-and-play modular PoE architecture easily scales up to the largest deployments
- Value add features includes frameless switching, video wall processing up to 10x10, multi-screen monitoring or PiP video wall-like capabilities with 4K scaling
- CEC one-touch play/standby, full RS-232 control of displays with major third party integration, including WyreStorm Enado™
- Free iPad control app enables access to an entire system with live video previews of all sources and selections

All three NetworkHD™ platforms share the same unified setup and admin environment

SUITABLE APPLICATIONS



SUITABLE APPLICATIONS



SUITABLE APPLICATIONS



- Scalable, server-based IP control solution with Ethernet and control connectivity
- Fast, reliable and affordable device control for all WyreStorm platform installations
- Revolutionary remote management and access for both installer and user
- No need to download/update individual apps and configuration files to each control device
- Programmed via simple yet advanced web browser application
- Multi-platform interface runs on any browser-enabled client device for the greatest installer and end user experience
- BYOD end-user friendly connection of control devices via simple QR code scanning
- Customisable one touch control of individual devices or grouped into zones, with support for third party integration with providers such as DTVGameControl™ and Global Cache™

SUITABLE APPLICATIONS



MULTI-PLATFORM AV CONTROL SOLUTION

WyreStorm Enado™ redefines the integrators' ability to control AV distribution systems by combining powerful hardware and intuitive, cross-platform software to create an end to end AV distribution and control system that is always on, updated and accessible.



Enado™ Controller with 16x IR, 4x RS-232, 8x Ethernet, 4x Relay & 4x CC

ENA-001-010

- Server-based IP control solution with template based programming via a web browser
- No apps, licenses, software or drivers needed
- Highly scalable - use an almost unlimited number of control devices
- Instant update technology makes rolling out software updates and configuration changes instantaneous

Expand I/O with Global Cache



Enado Mini™ Web Server AV Control System

ENA-MINI-010

- All the features of its larger brother but without the legacy control outputs and a fraction of the price
- IR, RS-232 and Relay/CC outputs added using iTach and iTach Flex devices from Global Cache™
- Both Enado™ models support Enado™ v4 software and higher, featuring improved remote access and security, powerful IFTTT.com integration and much more

Expand I/O with Global Cache



AVoIP CONTROL

A revolution in AV control, WyreStorm's award-winning NetworkHD Touch™ app for iPad puts entire NetworkHD™ 100, 200 and 400 Series AVoIP systems at your fingertips for both single screen and video wall applications.



NETWORK HD™

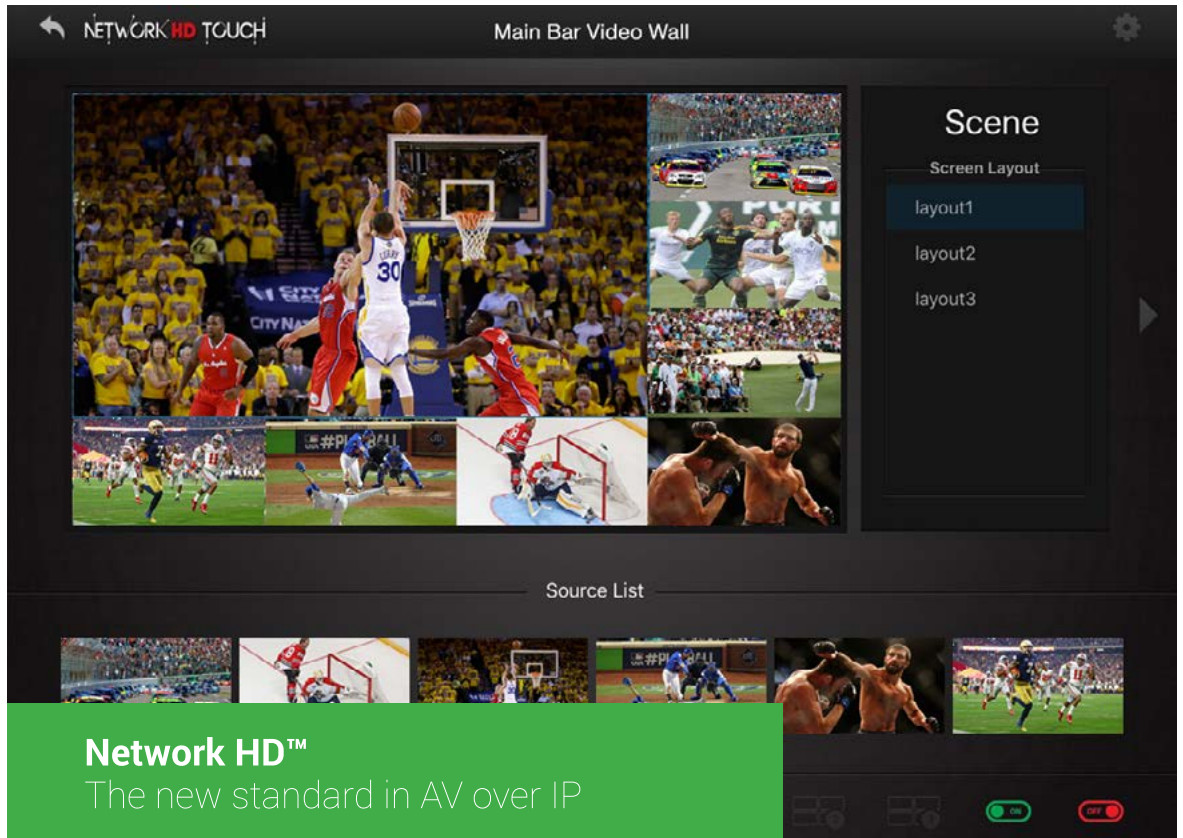
NetworkHD Touch™ Control App for iPad

- Free with all NetworkHD™ 100, 200 and 400 Series systems
- Full system access, including individual sources, displays and video wall configurations
- Live video preview of connected sources and displayed selections
- Drag and drop source switching
- Group displays into rooms, areas or video walls
- Automatic configuration
- Integrates with Enado™ for source control, QR code scanning and BYOD connectivity

See AV over IP section for more information

QUICKSYNC, SWITCHING AND SCALING

NETWORK HD



Network HD™
The new standard in AV over IP

POWERFULLY SIMPLE TO CONFIGURE AND USE

Traditional AV distribution systems involve lots of devices including separate digital and analog matrices, video wall and windowing processors, scalars, transmitters and receivers. NetworkHD™ achieves a higher performance using only three devices: encoder, decoder and controller. This simplified design reduces sync problems, failure points and overall cost of the system without compromising quality or functionality.

**Modular**

Unlike fixed port solutions, NetworkHD™ can grow by adding new displays and sources as needed.

**QuickSync™**

Super fast switching between sources (<500ms) means if you blink, you'll miss it.

**Multi-format Input**

Analog and digital sources using 200-Series NetworkHD™ products: DVI, VGA and HDMI inputs. 100-Series is HDMI only.

**Auto Discovery**

Setup is quick and easy with auto discovery of all connected sources and displays.

**PoE – Power over Ethernet**

Power over Ethernet allows the encoders and decoders to be powered over the network cable - no need for local power.

**Video Wall**

With the 200 Series products "NHD-210-RX" video walls are easily integrated into the system.

NETWORKHD™

NETWORK HD™

Stunning visually lossless 4K UHD video with HDR and multi-channel audio up to DTS:X and Dolby Atmos

Ultra low latency of less than a single frame

4K/1080p image scaling for mixed resolution installs

NetworkHD Touch™ iPad control app for live video previews and drag and drop source selection

Powerful audio matrix functionality routes audio separately from video to any decoder

Up to 16x16 video wall with rotation for portrait walls

CEC One-Touch play and standby, bidirectional IR or RS-232 control of connected devices

NETWORKHD™

NETWORKHD™

NETWORKHD™ 400 SERIES

Low latency 4K HDR over 1GbE with image scaling, multi channel audio and video wall processing using JPEG2000 technology

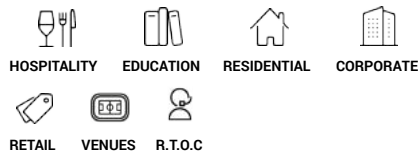
The NetworkHD™ 400 Series offers stunning 4K HDR video, multi channel audio support and 4K/2K auto-scaling to seamlessly handle distribution of mixed resolution sources, content and display devices over a 1GbE network.

Featuring incredibly low latency matrix switching and video wall capabilities, the 400 Series is the ideal AV over IP solution for systems where high quality and low latency are key requirements; making it perfect for both residential and commercial applications.

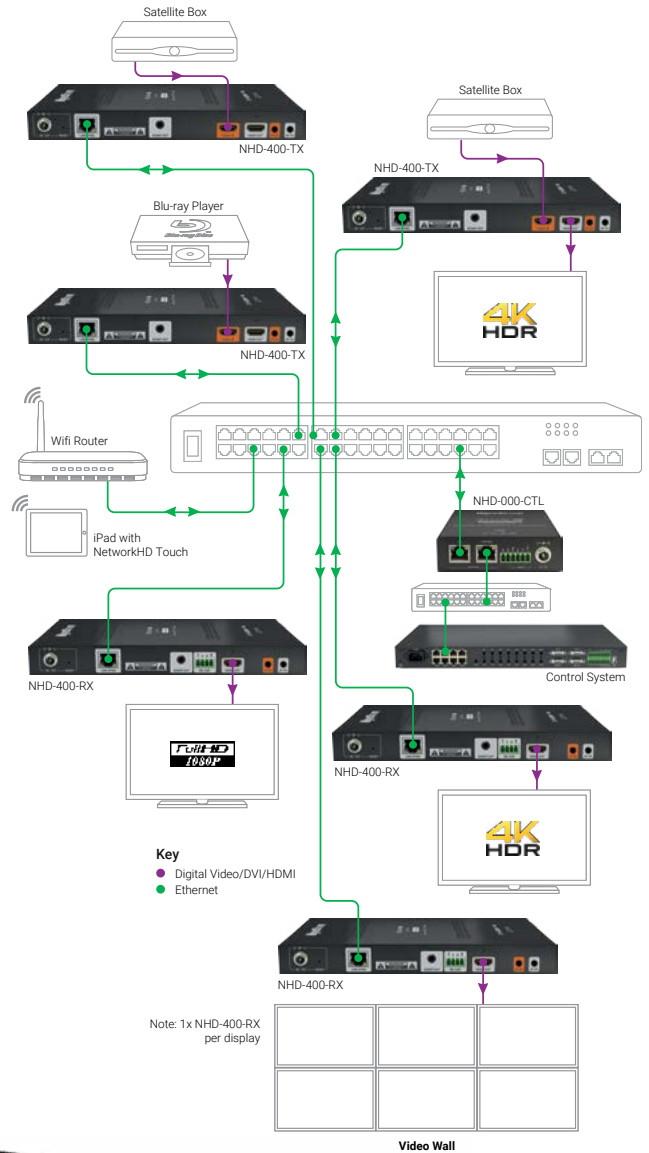
FEATURES:

- Stunning visually lossless 4K UHD video with HDR and multi channel audio up to DTS:X and Dolby Atmos
- Ultra-low latency of less than a single frame
- 4K/1080p image scaling for mixed resolution installs
- NetworkHD Touch™ iPad control app for live video previews and drag and drop source selection
- Powerful audio matrix functionality routes audio separately from video to any decoder
- Up to 16x16 video wall with rotation for portrait walls
- CEC One-Touch play and standby, bidirectional IR or RS-232 control of connected devices

SUITABLE APPLICATIONS



WYRESTORM WRITTEN DRIVERS AVAILABLE FOR MAJOR CONTROL SYSTEMS:



Note: 1x NHD-400-RX per display

NETWORKHD™ 400

NHD-400-TX

NHD-400-RX



Infinitely Scalable & Flexible Configuration



QUICKSYNC, SWITCHING AND SCALING


NetworkHD™ 400 Series 4K AV over IP JPEG2000 Encoder
NHD-400-TX

- Stunning visually lossless 4K UHD video with HDR and multi-channel audio up to DTS:X and Dolby Atmos
- Ultra low latency of less than a single frame
- Image scaling enables a mix of 4K and 1080p screens to be used throughout an install
- Free NetworkHD Touch™ iPad control app with live video preview and major control system integration including WyreStorm Enado™
- Powerful audio matrix functionality routes audio separately from video to any decoder
- Bidirectional IR, HDMI In and Out and analog audio output


NetworkHD™ 400 Series 4K AV over IP JPEG2000 Decoder
NHD-400-RX

- Stunning visually lossless 4K UHD video with HDR and multi-channel audio up to DTS:X and Dolby Atmos
- Ultra low latency of less than a single frame
- Image scaling enables a mix of 4K and 1080p screens to be used throughout an install
- Free NetworkHD Touch™ iPad control app with live video preview and major control system integration including WyreStorm Enado™
- Powerful audio matrix functionality routes audio separately from video to any decoder
- Bidirectional IR and analog audio output



ONE PER SYSTEM


Controller for NetworkHD™ Systems
NHD-000-CTL

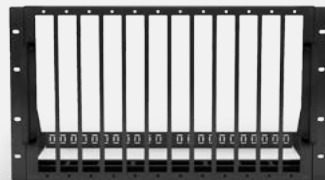
- Provides automatic discovery of network devices/H.264 encoders and decoders
- Simple, single screen browser configuration of encoder and decoder settings
- Interface to major control systems, including the Enado™ AV Control System
- Dual PoE Ethernet Ports for complete isolation of control and AV network traffic



CONTENT

NHD-400-TX-IW

- Stunning visually lossless 4K UHD HDMI video with HDR over 1 GbE / IP networks
- Ultra-low end-to-end latency – only a single video frame (16ms at 60fps)
- Auto-switching inputs between HDMI and VGA + Audio
- Multi-channel audio including DTS:X & Dolby ATMOS supported over HDMI
- Image scaling with 400 Series decoders – use a mix of 4K & 1080p displays throughout an installation


6U/12 Slot Rack Mount for NetworkHD™ 100/200/400 Series
NHD-000-RACK4

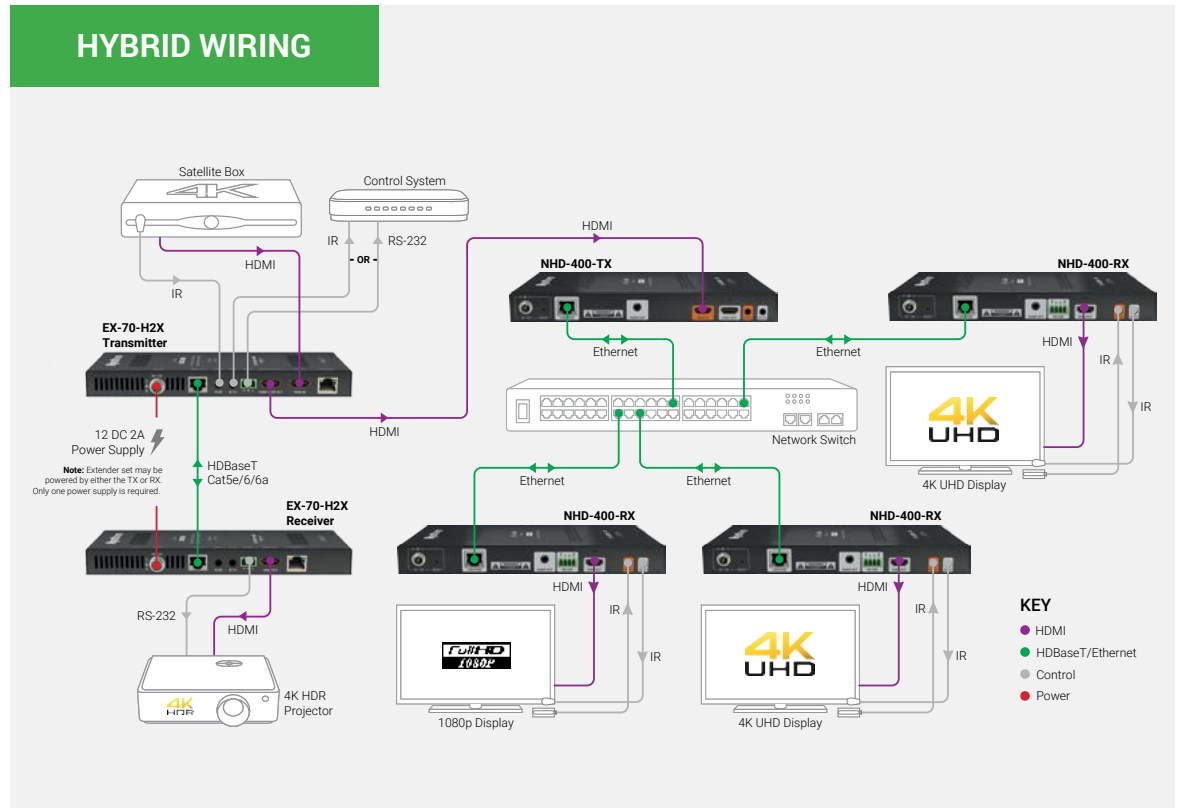
The NHD-000-RACK4 is a 6U rack mount that provides a clean installation for up to 12 NetworkHD™ 100, 200 and 400 Series encoders or decoders. The NHD-000-CTL NetworkHD controller and ENA-MINI-010 Enado Mini IP control solution are also compatible allowing for all required devices to be installed in a single location.

The slimline and thermally optimised design helps keep your centralized NetworkHD solution perfectly organized.

HYBRID WIRING EXAMPLE

HYBRID WIRING EXAMPLE 4K HDR SOURCE TRANSMISSION

Hybrid wiring diagram illustrating a 4K HDR (or HLG if Sky TV) source device connected to a NeworkHD 400 system via EX-70-H2X extender set. This setup allows pass through of 50Hz HDR (HLG) content without any loss in quality, ideal for larger TV screens or projectors.





NETWORKHD™ 600 SERIES

Lossless 4K/60 4:4:4 and HDR over 10GbE using SDVoE technology

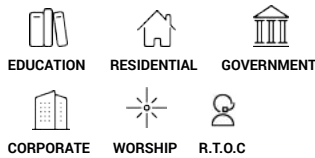
The WyreStorm NetworkHD™ 600 Series offers the ultimate AV over IP platform for when only the absolute best image quality will do.

Supporting highly scalable, secure and mathematically lossless high-bandwidth video content alongside multi channel audio and a variety of connectivity and control options. The 10GbE system is easily managed in a flexible, unified software environment for the ultimate AV over IP experience for commercial and high end residential applications.

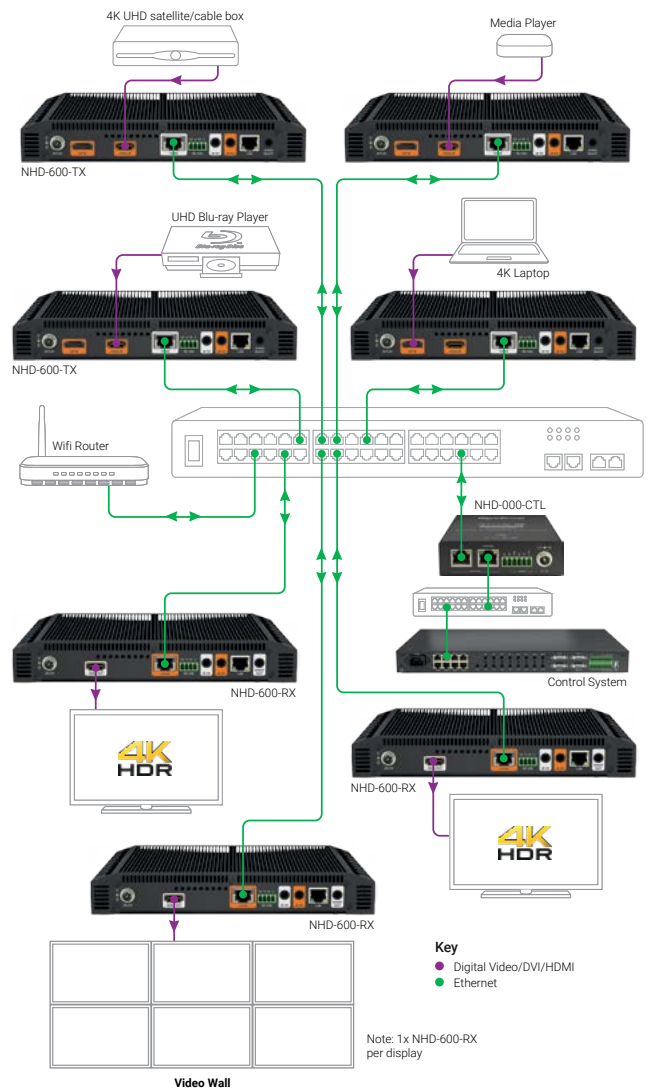
FEATURES:

- Highly scalable modular 10GbE AV distribution system for IP Networks utilizing the SDVoE technology standard
- Mathematically lossless with zero latency supporting 4K/60 4:4:4 encoding up to a pixel clock of 595MHz
- Powerful, discrete AV matrix switching with video scaling
- PCM audio downmix, embedding and de-embedding with DAC/ADC functions
- Broadcast scaling, multi-view and video walls up to 5x5
- Genlock mode with zero latency between source and display, ultra fast seamless video source switching
- Integrated 1GbE pass through, IR/RS-232 routing/generation and additional analog audio routing
- Next generation, fan-less chassis design combines noiseless operation with optimal heat dissipation to maintain premium device performance, reliability and MTBF

SUITABLE APPLICATIONS



WYRESTORM WRITTEN DRIVERS AVAILABLE FOR MAJOR CONTROL SYSTEMS:



NETWORKHD™ 600



Infinitely Scalable & Flexible Configuration

NETWORKHD™ 600



NetworkHD™ 600 Series 4K HDR AV over IP SDVoE Encoder

NHD-600-TX

- Uncompromised mathematically lossless AV encoding over 10GbE SDVoE
- Powerful, discrete AV matrix switching with video scaling
- Supports 4K/60 4:4:4 encoding up to a pixel clock of 595MHz
- HDMI and DisplayPort Inputs, PCM audio downmixing, embedding and de-embedding with DAC/ADC functions
- Genlock mode with zero AV latency between source and display and support for ultra fast, seamless video source switching
- Integrated 1GbE pass-through, IR/RS-232 routing/generation and additional analog audio routing
- Revolutionary fanless chassis design combines noiseless operation with optimal heat dissipation to maintain premium device performance, reliability and MTBF



NetworkHD™ 600 Series 4K HDR AV over IP SDVoE Decoder

NHD-600-RX

- Lossless AV decoding up to 4K/60 4:4:4 via 10GbE network using SDVoE
- Discrete AV matrix switching with video scaling
- HDMI output, PCM audio downmixing, embed/de-embed with DAC/ADC support
- Genlock mode with zero latency between source/display and seamless source switching
- Integrated 1GbE pass-through, bidirectional IR and RS-232 routing/generation and additional analog audio routing
- Unique fanless chassis design for optimal heat dissipation for premium device performance, reliability and MTBF



One per system



Controller for NetworkHD™ Systems

NHD-000-CTL

- Provides automatic discovery of all NetworkHD™ encoders and decoders
- Simple, single screen browser configuration of encoder and decoder settings
- Interface to major control systems, including the Enado™ AV Control System
- Dual PoE Ethernet Ports for complete isolation of control and AV network traffic



NetworkHD™ 7U Rack Mount for 600 Series

NHD-000-RACK3

- Compact steel 7U 19" rack mount kit for up to 8x NetworkHD™ 600 Series components
- Supports NetworkHD™ 600 Series encoders and decoders, plus NHD-000-CTL controller with adaptor
- Provides optimal thermal dissipation in a passively or actively cooled rack design to maintain premium device performance and MTBF
- Slimline design less than 6" deep allows for back to back mounting in an AV rack for increased equipment density, with lacing points for enhanced cable management
- Enables systems to be pre-built into the rack kit prior to arriving on site to improve speed and efficiency of installation





NETWORKHD™ 100 SERIES

Low bandwidth HD over 1GbE using H.264 technology.

Intended for commercial applications over 16x16, the NetworkHD™ 100 Series is an Ethernet-based HD over IP matrix solution using low bandwidth H.264 technology for distribution of HD video, audio and control signals over a 1GbE network using a standard PoE switch.

Featuring a simple, wizard based setup and auto detection of components, the 100 Series offers easy configuration and almost unlimited scalability to suit commercial applications of virtually any size.

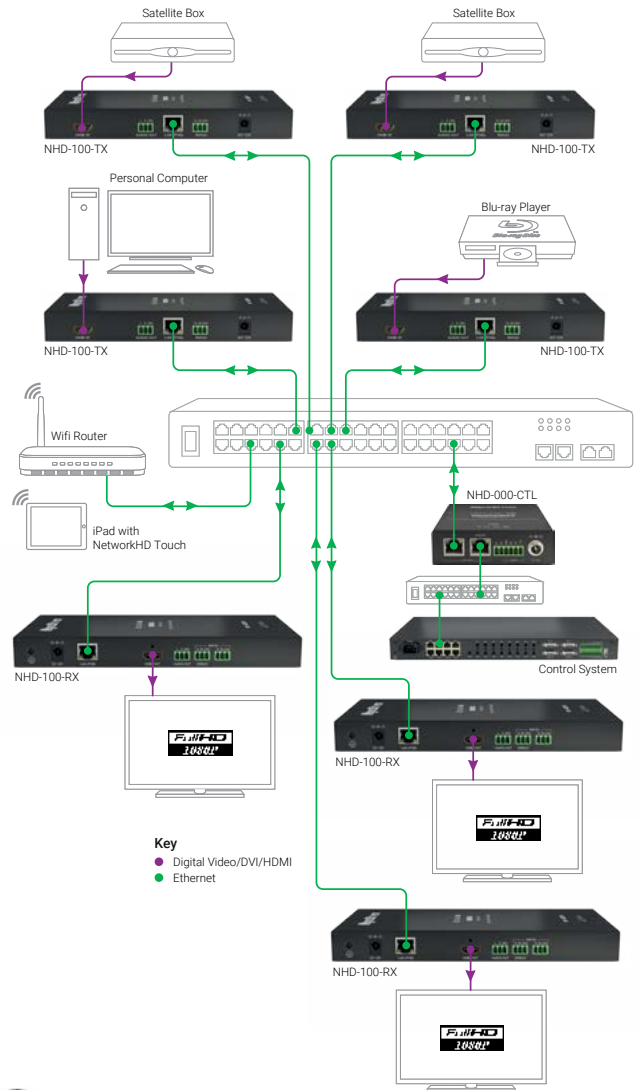
FEATURES:

- Highly scalable, high quality low-bandwidth solution using the most efficient compression technologies to allow for very large commercial AV deployments
- Supports input signal resolution up to 1920x1200 60Hz
- Plug and Play setup with quick networking configuration and auto discovery of components
- QuickSync™ instant switching
- Provides streaming output via Ethernet port
- Full RS-232 control of connected displays and CEC One-Touch Play
- Free NetworkHD Touch™ iPad control app for live video previews and drag and drop source selection
- Major control systems drivers available including the WyreStorm Enado™ Control System

SUITABLE APPLICATIONS



WYRESTORM WRITTEN DRIVERS AVAILABLE FOR MAJOR CONTROL SYSTEMS:



Key
 ● Digital Video/DVI/HDMI
 ● Ethernet

NHD-100-TX

NHD-100-RX



Infinitely Scalable & Flexible Configuration

NETWORKHD™ 100



NetworkHD™ 100 Series AV Over IP H.264 Encoder
NHD-100-TX

- Highly scalable AV over IP solution using the most efficient H.264 compression technology to allow for very large commercial AV deployments
- Configurable H.264 decoding technologies supporting up to 1920x1200 60fps at 40Mb/s and below
- Plug-and-Play setup with auto discovery of components
- Supports NetworkHD Touch™ iPad control app, WyreStorm Enado™ and major control systems

PoE HDMI H.264 HDCP



NetworkHD™ 100 Series AV Over IP H.264 Decoder
NHD-100-RX

- Compatible decoder for both 100 and 200 Series encoders supporting matrix-only functionality
- Industry-leading seamless source switching speeds of <500ms
- Full RS-232 control of connected displays and CEC One-Touch Play
- High or low latency modes (250ms - 60ms)
- Stereo audio breakout
- Supports NetworkHD Touch™ iPad control app, WyreStorm Enado™ and major control systems

PoE HDMI H.264 HDCP CEC

INPUT	OUTPUT
5	1+1

SCREENLINK



NetworkHD™ 5x1 Compact Presentation Switcher/Scaler with CEC Control, Mic Input and IP Output (1080p: 100m/328ft)
NHD-SW-0501

(SW-0501-HDBT HDBaseT model also available)

- 4x HDMI and 1x VGA + audio source inputs to mirrored NetworkHD™ (IP) and HDMI outputs
- WyreStorm ScreenLink™ allows screen mirroring from multiple network connected Windows or MacOS computers
- Mic input with phantom power, stereo audio inputs and auto-mix stereo audio output
- Auto-scaling up to 1920x1200 60Hz and auto CEC for display on/off
- NetworkHD Touch™, Enado™ and other major control system support

HDMI HDCP CEC



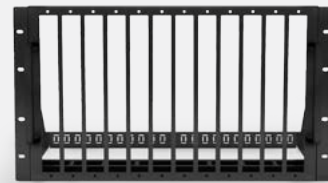
ONE PER SYSTEM



Controller for NetworkHD™ Systems
NHD-000-CTL

- Provides automatic discovery of network devices/H.264 encoders and decoders
- Simple, single screen browser configuration of encoder and decoder settings
- Integrates with major control systems, including WyreStorm Enado™ and the free NetworkHD Touch™ iPad control app
- Dual PoE Ethernet ports for complete isolation of control and AV network traffic

PoE



6U/12 Slot Rack Mount for NetworkHD™ 100/200/400 Series
NHD-000-RACK4

The NHD-000-RACK4 is a 6U rack mount that provides a clean installation for up to 12 NetworkHD™ 100, 200 and 400 Series encoders or decoders. The NHD-000-CTL NetworkHD controller and ENA-MINI-010 Enado Mini IP control solution are also compatible allowing for all required devices to be installed in a single location. The slimline and thermally optimised design helps keep your centralized NetworkHD solution perfectly organized.



NetworkHD™ 100 Series AV over IP H.264 Quad Encoder
NHD-140-TX

- Ultra low network bandwidth compact encoder for up to 4 simultaneous HDMI inputs
- 4 streams over 1 Ethernet connection reduces network switch requirements
- Hugely scalable I/O, utilizing multicast technology to allow for very large commercial AV deployments
- Supports all SD and HD video formats – including interlaced content
- Configurable encode bandwidth and audio delay



NETWORKHD™ 200 SERIES

Low bandwidth multi-format HD over 1GbE with video wall processing using H.264 technology.

The NetworkHD™ 200 Series utilises the same low bandwidth, infinitely scalable H.264 technology as the 100 Series, but adds powerful video wall support up to 16x16 and multi-format input connectivity of DVI, HDMI component and VGA for the best all round solution for commercial AV installations.

A 200 Series encoder can either be paired with a 100 series decoder for matrix switching to individual screens or NHD-210-RX decoder for video wall decoding, with both decoders including HDMI and analog audio breakout outputs, or an NHD-220-RX decoder for multiview monitoring.

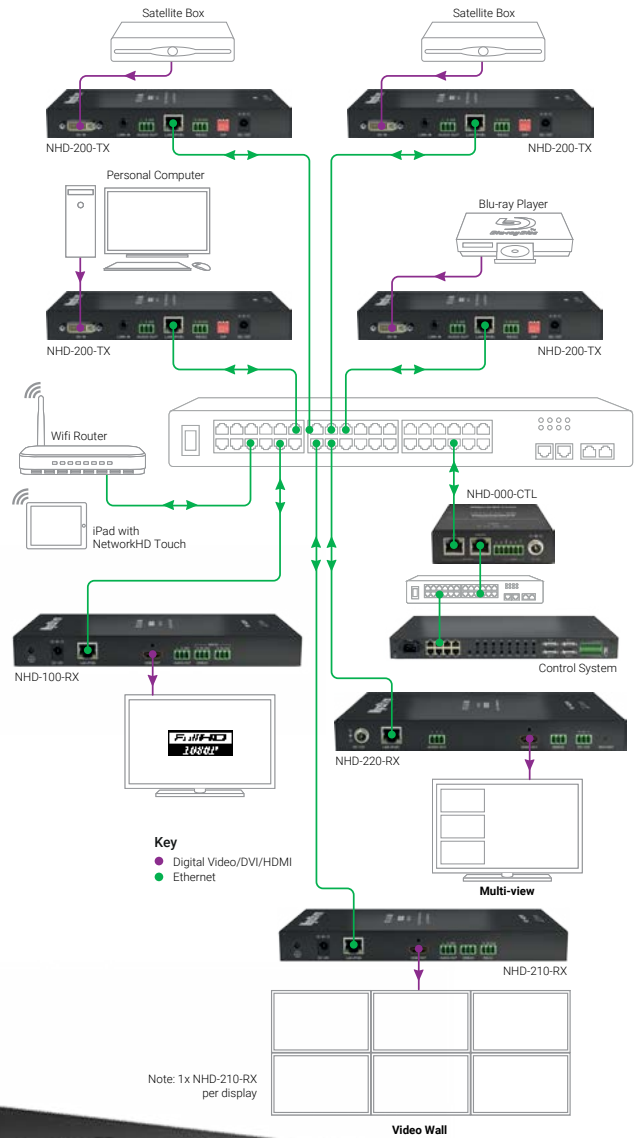
FEATURES:

- Shared 100 Series H.264 platform offering highly scalable low-bandwidth HD over IP distribution
- Matrix switching functionality with NHD-100-RX decoder
- Video wall processing functionality up to 10x10 screens with NHD-210-RX decoder
- Multi-screen monitoring or PIP video wall like capabilities with 4K scaling using the NHD-220-RX decoder
- Free NetworkHD Touch™ iPad control app for live video previews and drag and drop source selection
- Quick Sync™ instant source switching
- Full RS-232 control of connected displays and CEC One-Touch Play
- Supports video previewing on a PC or third party device
- Standards-based H.264/MPEG-4 AVC video compression

SUITABLE APPLICATIONS



WYRESTORM WRITTEN DRIVERS AVAILABLE FOR MAJOR CONTROL SYSTEMS:



NETWORKHD™ 200

NHD-200-TX

NHD-210-RX



Infinitely Scalable & Flexible Configuration



NetworkHD™ 200 Series AV Over IP H.264 Encoder with Video Wall Processing

NHD-200-TX

- Highly scalable full HD over IP solution using H.264 for very large commercial AV deployments requiring video wall functionality
- Multi-format DVI-I input supports DVI, HDMI, Component and VGA with stereo audio
- Plug and Play configuration with auto IP addressing and auto discovery of components
- Manual DIP setting

PoE H.264 HDCP



NetworkHD™ 200 Series AV Over IP H.264 Decoder with Video Wall Processing

NHD-210-RX

- Multi-format HD over IP AV distribution solution utilising H.264 compression
- Offers video wall functionality up to 16x16 screens and matrix switching
- HDMI and analog audio breakout outputs
- Instant switching between video sources with high quality and low latency modes
- Plug and play configuration, auto IP addressing and auto-discovery
- Supports NetworkHD Touch™ iPad control app, WyreStorm Enado™ and major control systems

PoE HDMI H.264 HDCP



NetworkHD™ AV Over IP H.264 Multi-View Decoder

NHD-220-RX

- Multi view capable of displaying 1 to 8 simultaneous NetworkHD™ Encoder streams on a single display
- Multiple layouts to choose from including grid view and special layouts
- 4K output for high quality scaling of single images or native display of multiple 1080p images
- Industry leading switching speeds of <500ms for virtually instantaneous seamless source switching
- Integration with leading 3rd party control systems including WyreStorm Enado™ and the new NetworkHD Touch™ app

4K PoE H.264 HDCP

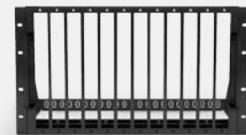


ONE PER SYSTEM



Controller for NetworkHD™ Systems

NHD-000-CTL



6U/12 Slot Rack Mount for NetworkHD™ 100/200/400 Series

NHD-000-RACK4



NetworkHD™ 200 Series AV over IP H.264 Multiview Processor

NHD-250-RX

- Multiview capable of displaying 1 to 9 simultaneous NetworkHD 2K encoder streams on a single 4K display
- Up to 6 simultaneous NetworkHD 2K encoder streams on a single 2K display in overlay mode
- Ideal for commercial monitoring of remote displays within a venue from a central location to quickly verify content transmitted to screens
- Multiple configurable layouts including hybrid grid layouts, PiP, PaP, arbitrary layouts and preset multiscreen arrangements

COMPARISON CHART

	400 SERIES	600 SERIES	100/200 SERIES
FEATURES			
Maximum Resolution	4K UHD	4K UHD/DCI	1920x1200 (1080p)
Video Compression Codec	JPEG-2000	SDVoE	H.264
Maximum 4K Timing	60fps 4:2:0	60fps 4:4:4	N/A
Multi Channel Audio	✓	✓	✗
Latency	16ms	0ms	250ms / 60ms
PoE	✓	✗	✓
Analog Audio Breakout	✓	✓	✓
Analog Audio Input	✗	✓	✓ (200 Series)
Analog Video Input	✗	✗	✓ (200 Series)
Audio Delay	✗	✗	✓
Auto-Discovery	✓	✓	✓
Background/Failsafe Image or Video	✓	✗	✓
Balanced Audio	✗	✗	✗
Video Wall	✓	✓	✓ (210-RX Only)
Bezel Gap Correction	✓	✓	✗
Image Rotation	✓	✗	✗
Bandwidth Control	✓	✓	✓
CEC	✓	✗	✓
One-shot Firmware Upgrade	✓	✓	✓
HDCP 2.2	✓	✓	✗
HDMI Pass-through on Tx	✓	✗	✗
HDR	✓	✓	✗
NetworkHD Touch™ Control	✓	✗	✓
Instant Switching	✗	✓	✓
IR Out	✓	✓	✗
IR Passthrough	✓	✓	✗
KVM (Keyboard/Video/Mouse)	✗	✗	✗
Maximum Video Wall Size	16x16	5x5	10x10
Multiview	✗	✓	✓ (220-RX Only)
Open Control API	✓	✓	✓
Network Type	1Gb Multi-cast	10Gb Multi-cast	1Gb Multi-cast
PC Software Suite	✓	✓	✓
Peak Bandwidth per Tx	850 Mb/s	10 Gb/s	40 Mb/s
Rack Mountable	Yes - NHD-000-RACK2	Yes - NHD-000-RACK3	Yes - NHD-000-RACK
Preview Stream	✓	✗	✓
RS-232 Out	✓	✓	✓
Small Form Factor	✓	✓	✓
Warranty (Years)	5	5	5
Drivers	Crestron, AMX, RTI, Control4, Enado™	Crestron, AMX, RTI, Control4, Enado™	Crestron, AMX, RTI, Control4, Enado™



NETWORKHD™ INTEGRATION

Luxul switches offering support for WyreStorm NetworkHD™ include the AMS-2624P, AMS-1208P, AMS-4424P, AMS-2600, XMS-5248P and XMS-7048P models. Also supported is the XMS-2624P, which offers a traditional front facing port alternative. As a leading innovator of high performance wifi and wired networking products, Luxul has expertise in delivering highly reliable solutions for use in the most demanding network deployments, ranging from residential and commercial LANs and WLANs to mobile wifi connectivity in heavy industrial and military applications.

WyreStorm NetworkHD™ is the most powerful, yet simplest range of HD over IP products on the market today and it is more important that our switch manufacturer partners are as well. Luxul's new range of AV switches have simple tick box configuration for NetworkHD™ to get the system set up in seconds, meaning that even the largest of installs is configured in a little more time than it takes to plug in all the equipment. James Meredith | **WyreStorm NetworkHD™ and Enado Global Product Manager**

AV-SERIES SWITCHES



AMS-2624P



AMS-4424P



AMS-2600



AMS-1208P

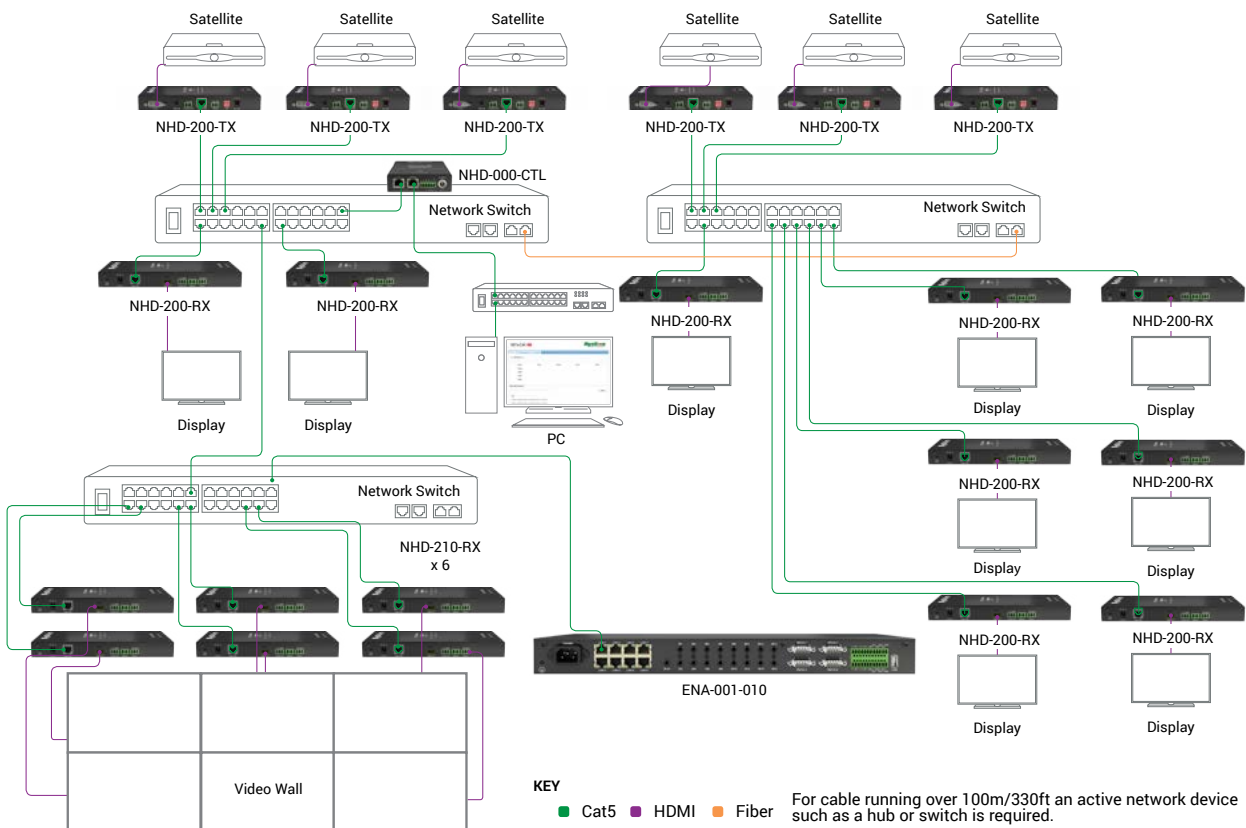
COMPARING SWITCHES

Model	Ports	Port Speed	SFP Expansion Ports	Back Bone Speed	Managed	Web Interface	Power Budget	Number of PoE/PoE+ Ports	Rack Mountable
XMS 1,000 Managed Gigabit Ethernet SMART Switch Series									
XMS-2624P	26	1 Gbps	4	48Gbps	Y	Y	320W	24 PoE+	Y
XMS-5248P	52	1 Gbps	2	140 Gbps	Y	Y	740W	48 PoE+	Y
XMS-7048P STACKABLE	52	1 Gbps	2	140 Gbps	Y	Y	740W	48 PoE+	Y
Gigabit AV Switches with Ports on Rear - Managed									
AMS-2600	24	1 Gbps	2	52 Gbps	Y	Y	N/A	N/A	Y
Gigabit AV Switches with Ports on Rear - Managed PoE									
AMS-1208P	12	1 Gbps	2	24 Gbps	Y	Y	130W	8 PoE+	Y
AMS-2624P	24	1 Gbps	2	52 Gbps	Y	Y	250W	24 PoE+	Y
AMS-4424P	26	1 Gbps	2	52 Gbps	Y	Y	250W	24 PoE+	Y
Accessories									
XSA-SFP1	Gigabit SFP/Mini-GBIC Multi-Mode Transceiver Module: Designed for use with Luxul Managed Switches. Allows for fibre cable extensions (from ethernet source) up to 550m.								
CAB-05SFP10G	SFP+ 10 Gigabit Stacking Cable (0.5m): Designed for use with Luxul Managed switches that have 10 Gigabit stacking ports. (Maximum of 16 stacked Luxul Switches.)								
XSA-SFP10G	10 Gigabit SFP+ MMF Mini GBIC Module: Designed for use with Luxul Managed Switches with 10 Gigabit uplinks/stacking ports. Allows for fibre cable extensions up to 300m.								



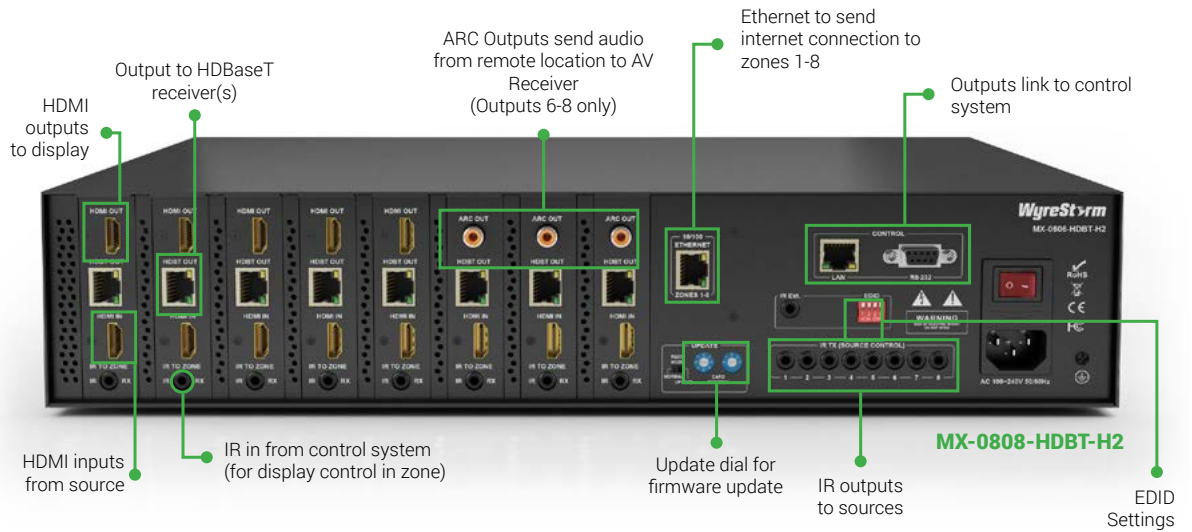
THE AV OVER IP STRIDERS - SPORTS BAR

With nine displays and a 3 x 2 video wall, this bar served up the perfect combination of NetworkHD™ 200 Series products. And with the Endo Control Solution, the entire wait staff has complete control of the system.



4K MATRIX SWITCHERS

4K MATRIX SWITCHERS



FULLY COMPLIANT

SMARTEDID

ENHANCED AUDIO FEATURES

4K HDCP 2.2



ARC

High Dynamic Range or HDR adds spice to the 4K mix by offering better contrast, greater brightness levels and a wider, more natural colour palette than traditional screen technology. The result makes films and TV shows look that bit closer to how our eyes see the world.

HDR10 has been around for a while but remains the standard form of HDR, currently competing with Dolby's own version of the technology, Dolby Vision.

HDCP 2.2 is the latest version of the HDCP digital content protection standard attached to all copyrighted 4K UHD content to protect the continually expanding amount of 4K UHD content available.

All WyreStorm 4K UHD matrix switchers, extenders, splitters and 4K over IP products already support this new encryption standard to ensure full compatibility with the very latest 4K HDR content, source and display devices.

WyreStorm's unique EDID management technology dynamically adjusts EDID demands by scanning active outputs and monitoring source switching.

This allows 4K content to be displayed when the selected screens are 4K and automatically switch the source to 1080p when a 2K screen is selected for the same source.

This is a perfect way to ensure that the highest resolution available from the source is displayed on screens that support its maximum resolution.

ARC, or 'Audio Return Channel' is essentially unique to the residential market. Unlike most HDMI information that flows 'downstream' to the screen, it allows audio information to flow 'upstream' from a smart TV to a compatible device, usually an AV receiver (AVR).

Therefore, a separate audio interconnection is not required. Content available within the TV, whether it be locally connected, network connected, or on-demand can have its audio sent via the ARC channel to a nearby connected AVR. This means that the content can be played through the local speakers just as if it were connected to the AVR itself.

The WyreStorm line features ARC compatible HDBaseT matrices and extenders that enable ARC content from a screen to be fed 'upstream' via HDBaseT over distances up to 100m/328ft to any audio amplification system.

ARC is also supported on the WyreStorm AMP-001-010 HDBaseT Repeating Receiver with Integrated 2.1 Audio Amplifier.

WYRESTORM WRITTEN DRIVERS AVAILABLE FOR MAJOR CONTROL SYSTEMS:



4K MATRIX SWITCHERS

INPUT	OUTPUT
4	4

2160p
4:4:4 60



4x4 4K HDR HDMI Matrix with HDCP 2.2

MX-0404-H2A

- 4x4 pure HDMI to HDMI 4K matrix with HDR
- Supports 18Gb/s 4K/60 4:4:4 sources to HDMI 2.0 standard
- SmartEDID dynamically detects display/source capabilities to output the highest resolution available
- HDCP 2.2 compliant
- Control via IR, RS-232, LAN or WebUI



INPUT	OUTPUT
6	6

2160p
4:4:4 60



6x6 4K HDR HDMI Matrix with HDCP 2.2

MX-0606-H2A

- 6x6 pure HDMI to HDMI 4K matrix with HDR
- Supports 18Gb/s 4K/60 4:4:4 sources to HDMI 2.0 standard
- SmartEDID dynamically detects display/source capabilities to output the highest resolution available
- HDCP 2.2 compliant
- Control via IR, RS-232, LAN or WebUI



INPUT	OUTPUT
4	4+1



4x4 4K HDR HDBaseT Matrix Kit with HDCP 2.2, Audio Breakout and 4x PoH Receivers (4K: 35m/115ft | 1080p: 70m/230ft)

MX-0404-HDBT-H2A-KIT

- HDBaseT transmission of 4K/60 4:2:0 up to 35m/98ft
- Output audio breakout via line level S/PDIF or 3.5mm phoenix port
- Supports 10-bit HDR at 24Hz over HDBaseT
- Single mirrored HDMI output for connection to local AVR or TV
- PoH technology powers the receivers from the matrix



INPUT	OUTPUT
4	4

2160p
4:4:4 60



4K HDR 4:4:4 60Hz HDBASET™ 4X4 MATRIX KIT WITH AUDIO DE-EMBED & CEC TRIGGERING (4K: 35M/114FT, 1080P: 70M/230FT)

MXV-0404-H2A-KIT

Offering transmission of 18Gbps HDMI content up to 35m/115ft by pairing HDBaseT with WyreStorm's powerful lossless compression algorithm, the MXV-0404-H2A-KIT brings the familiar power of the WyreStorm H2-series to a compact 1U chassis. Unlike competing compression methods such as CSC, which permanently remove color data, WyreStorm's VLC uses a lossless compression technology to ensure signal integrity.

4K HDR HDMI HDCP 2.2



4K HDR 4:4:4 60Hz HDBASET™ 4x8 (2xHDMI) Matrix Switch with 8x Toslink Zone Audio De-Embed (4K: 35m/115ft, 1080p: 70m/230ft)

MXV-0408-H2A

Offering transmission of 18Gbps HDMI content up to 35m/115ft by pairing HDBaseT with WyreStorm's powerful lossless compression algorithm, the MXV-0408-H2A brings the familiar power of the WyreStorm H2-series to a compact 1U chassis. Unlike competing compression methods, such as CSC which permanently remove color data, WyreStorm's VLC uses lossless compression technology to ensure signal integrity.



4K HDR 4:4:4 60Hz HDBASET™ 6x6 Matrix Switch with 6x Toslink Zone Audio De-Embed and 4 Mirrored HDMI Outputs (4K: 35m/115ft, 1080p: 70m/230ft)

MXV-0606-H2A

Offering transmission of 18Gbps HDMI content up to 35m/115ft by pairing HDBaseT with WyreStorm's powerful lossless compression algorithm, the MXV-0606-H2A brings the familiar power of the WyreStorm H2-series to a compact 1U chassis. Unlike competing compression methods such as CSC, which permanently remove color data, WyreStorm's VLC uses lossless compression technology to ensure signal integrity.



4K HDR 4:4:4 60Hz HDBASET™ 8x8 Matrix Switch with Assignable Audio De-Embed and 4 mirrored HDMI outputs (4K 35m/114ft, 1080p 70m/230ft)

MXV-0808-H2A

Offering transmission of 18Gbps HDMI content up to 35m/115ft by pairing HDBaseT with WyreStorm's powerful lossless compression algorithm, the MXV-0808-H2A brings the familiar power of the WyreStorm H2-series to a compact 1U chassis. Unlike competing compression methods such as CSC, which permanently remove color data, WyreStorm's VLC uses lossless compression technology to ensure signal integrity.



4K HDR 4:4:4 60Hz HDBASET™ Receiver with 2-Way IR and PoH (4K: 35m/115ft)

RXV-35-4K

Consumer HDMI content is now breaking through the once comfortable HDBaseT 'ceiling' of 10Gbps, with HFR (High Frame Rate). HDR is here already in the form of Blu-Ray, Satellite & Cable (HLG) and gaming content. The RXV-35-4K is the perfect companion for WyreStorm's MXV line-up of matrices when distances of under 35 meters are required.



4K HDR 4:4:4 60Hz HDBaseT™ 6x6 Matrix Switch with Zone Audio De-Embed and 4 Mirrored HDMI Outputs (4K: 70m/230ft, 1080p: 100m/328ft)

MXV-0606-H2A-70

Offering transmission of 18Gbps HDMI content up to 70m/230ft by pairing Class A HDBaseT with WyreStorm's powerful lossless compression algorithm, the MXV-0606-H2A-70 brings the familiar power of the WyreStorm H2-series to a compact 1U chassis. Unlike competing compression methods, such as CSC which permanently remove color data, WyreStorm's VLC uses lossless compression technology to ensure signal integrity. With 6 Class A HDBaseT zone outputs and 4 mirrored HDMI outputs—which can be paired with WyreStorm's hybrid HDMI cables or any extender—and CEC triggering for all 10 connected screens, the 6x6 MXV-70 enhances the offering for the modern home or commercial installation.



4K HDR 4:4:4 60Hz HDBaseT™ 8x8 Matrix Switch with Zone Audio De-Embed and 4 Mirrored HDMI Outputs (4K: 70m/230ft, 1080p: 100m/328ft)

MXV-0808-H2A-70

Offering transmission of 18Gbps HDMI content up to 70m/230ft by pairing Class A HDBaseT with WyreStorm's powerful lossless compression algorithm, the MXV-0808-H2A-70 brings the familiar power of the WyreStorm H2-series to a compact 1U chassis. Unlike competing compression methods such as CSC, which permanently remove color data, WyreStorm's VLC uses a lossless compression technology to ensure signal integrity.



4K HDR 4:4:4 60Hz HDBaseT™ Receiver for MXV H2A-70 Matrix with Bidirectional IR, RS-232 & PoH (4K: 70m/230ft)

RXV-70-4K-G2

Consumer HDMI content is now breaking through the once comfortable HDBaseT 'ceiling' of 10Gbps, with HFR (High Frame Rate). HDR is here already in the form of Blu-Ray, Satellite & Cable (HLG) and gaming content. The RXV-70-4K-G2 is the perfect companion for WyreStorm's MXV line-up of matrices also when distances of under 70 meters are required.



4K 4:4:4 60Hz In-Line HDMI Scaler with Audio Breakout

CON-H2-SCL

An essential tool when mixing 4K & 2K screens on the same distribution system, the CON-H2-SCL enables in-line scaling of HDMI content. An HDMI signal from a source device, DA or matrix is converted so that it can be accepted by the connected display. Via a powerful scaling chip, 4K/60 4:4:4 or 4:2:0 can be down-scaled to as low as 480P, likewise, content can be up-scaled to 4K/60 4:4:4. Set up & configuration is done using a simple PC tool which is part of WyreStorm Management Suite V1.6. The software tool allows management of the scaling function and EDID via a simple interface.



HDMI In-line Signal Re-Clocker with EDID Management, Automatic or Manual CEC, Audio De-embed and Relay Triggering

CON-H2-EDID

A multi-purpose installer tool, the CON-H2-EDID can perform a variety of tasks within an install. As an in-line device, it can act as an EDID manager to request specific content from a source, or as an audio de-embedder, extracting HDMI source audio via the S/PDIF or stereo mini-jack ports. Additionally, it can be a micro zone controller, sending CEC and RS-232 power triggers to connected projectors or screens and from its two relay ports, and can trigger devices in the zone using signal presence logic.

H2XC SERIES: TRUE 4K CUSTOM INSTALL

WyreStorm have taken the incredible power and flexibility of the H2X Series for larger projects and given it the modular treatment with the new H2XC Series custom matrix switcher, offering integrators the utmost in AV distribution and control versatility.

The H2XC features a 10 or 16-way H2X Series chassis that can be populated by any selection of multi format transmission card options supporting 18Gbps inputs and outputs, decentralised sources and 4K/60 4:4:4 over both copper and fibre. The result is a custom HDBaseT matrix solution for large projects requiring support for the latest 4K HDR content that gives the integrator the freedom to perfectly tailor the install to the application.

INPUT	OUTPUT
up to 10	up to 10+10

2160p
4:4:4 60



10x10 Modular HDBaseT 4K HDR and Audio DSP Matrix (4K: 70m/230ft | 1080p: 140m/459ft | Fibre: 300ft/984ft)

MX-1010-HDBT-H2XC

- Customisable 10-slot H2X Series video and audio matrix switcher chassis
- Up to 30-input audio matrix switching, including HDMI de-embed, S/PDIF in and ARC
- Populate with personal selection of multi format transmission card options including:
 - HDBaseT input and output supporting 4K/60 10-bit HDR to 70m/230ft and 1080p 48-bit to 140m/459ft
 - 18Gb/s 4K/60 4:4:4 and 4:2:2 HDR 12-bit over HDBT to 70m/230ft and multi-mode fibre to 300m/984ft
- Dedicated audio and video zone expansion



INPUT	OUTPUT
up to 16	up to 16+16

2160p
4:4:4 60



16x16 Modular HDBaseT 4K HDR and Audio DSP Matrix (4K: 70m/230ft | 1080p: 140m/459ft | Fibre: 300ft/984ft)

MX-1616-HDBT-H2XC

- Customisable 16-slot H2X Series video and audio matrix switcher chassis
- Up to 48-input audio matrix switching, including HDMI de-embed, S/PDIF in and ARC
- Populate with personal selection of multi-format transmission card options including:
 - HDBaseT input and output supporting 4K/60 10-bit HDR to 70m/230ft and 1080p 48-bit to 140m/459ft
 - 18Gb/s 4K/60 4:4:4 and 4:2:2 HDR 12-bit over HDBT to 70m/230ft and multi-mode fibre to 300m/984ft
- Dedicated audio and video zone expansion



Decentralise Your Sources

TX-H2X-HDBT

HDBaseT input module allows remote source connection that is also part of the wider multi zone distribution.

Visually Lossless 4K/60 4:4:4 Over HDBT

TX-H2X-VLC

Dynamically reacts to detected content with variable compression when needed to support 18Gbps 2160p 4:4:4 60Hz and 4K HDR transmissions over HDBaseT.



4K HDR with Extensive Audio Options

TX-H2X-HDMI

Local 18Gbps HDMI In/Out and HDBT over distance with ARC, S/PDIF In/Out and analog stereo Out for multi room audio system or AVR connection

4K/60 4:4:4 Goes Further with Fibre

TX-H2X-OM3

Utilizes our zero-latency, VLC technology within a 10Gbps multi-mode fibre module to deliver 18Gbps 4K/60 4:4:4 and HDR content/control up to 300m/984ft



HDMI Input, HDBaseT™ Output and Mirrored HDMI with Audio Input, DSP Output and IR to zone (4K: 70m/230ft | 1080p: 100m/328ft)

TX-H2X-HDMI

The standard transmission card found in the H2X platform, the TX-H2X-HDMI transmits 4K UHD signals from 70m/230ft over its Class A HDBaseT output and features an HDMI output that mirrors HDBaseT. The HDMI output is perfect for connecting to a local monitor, AVR, or signal extension via extender product or one of WyreStorm's Hybrid Active Optical Cables (HAOC).



HDBaseT Input, HDBaseT™ Output and Mirrored HDMI Output with Audio Input, DSP Output and IR to zone (4K: 70m/230ft | 1080p: 100m/328ft)

TX-H2X-HDBT

De-centralize sources connected to the H2X matrix platform with this HDBaseT input & output card. Accepting 4K UHD transmissions from 70m/230ft, this modular card allows source devices to be kept in-suit while making them part of the main distribution system.



18Gbps HDMI-Over-HDBaseT™ Modular Card for H2X Matrix with Audio DSP (2160p 4:4:4/60: 70m/230ft | 1080p: 100m/328ft)

TX-H2X-VLC

Experience HDBaseT transmission turned up to 11 with WyreStorm's new 18Gbps HDMI solution. Never one to shy away from embracing new technology, we've been sending lossless native 24Hz HDR-10 content over HDBaseT since 2016. Now though, content is going above the capability of HDBaseT with HFR (High Frame Rate) HDR here already in the form of Blu-Ray, Satellite & Cable (HLG) and gaming content.



18Gbps HDMI-Over-MultiMode Fiber Modular Card for H2X Matrix with Audio DSP (2160p 4:4:4/60: 300m/984ft | 1080p: 300m/984ft)

TX-H2X-OM3

With fiber optic cable now more accessible than ever, there's never been a better time to 'see the light' and send the highest possible bandwidth that currently exists (according to the HDMI 2.0 specification) over distances up to 300m/984ft. Attenuation and airborne interference are no longer a concern for HDMI content so, go long!



Audio Zone Expansion Card featuring HDMI Input, HDMI Output, Audio Input and DSP Output

TX-H2X-ADZ

Offering both an HDMI input & output, the ADZ card provides an 18Gbps link direct to the matrix backplane. Supporting both 2160p 4:4:4 8-bit & HDR content and multi-channel audio formats up to Dolby Atmos™, it offers the ability to use native HDMI connectivity without the need for a transmission port (reducing cost) and maintains an audio DSP output.



18GBPS HDMI-OVER-HDBASET™ RECEIVER (2160P 4:4:4/60: 70M/230FT | 1080P: 100M/328FT)

RXV-70-4K

- 4K UHD signals up to 70m/230ft (2160p 4:4:4 60Hz 8-bit) and 2K signals up to 140m/459ft (1200p 60Hz 16-bit)
- Supports HDMI2.0 video standard up to 18Gbps
- Compatible with HDR standards including HDR-10, HDR-10+, HLG and Dolby Vision (Dolby Vision supported up to 30Hz)
- HDCP 2.2 compatible



4K HDR HDMI-OVER-HDBASET™ RECEIVER WITH ARC & AUDIO RETURN (2160P 4:4:4/60: 70M/230FT | 1080P: 100M/328FT)

RXV-70-4K-ARC

- Supports ARC via HDMI or optical input for audio return over HDBaseT
- Selector switch for ARC (via HDMI) or Optical Return via Toslink
- Reliable HDBaseT-HDMI conversion over distance using single Cat6 cable
- 4K HDR signals up to 70m/230ft (2160p 4:4:4 60Hz 8-bit) and 2K signals up to 140m/459ft (1200p 60Hz)



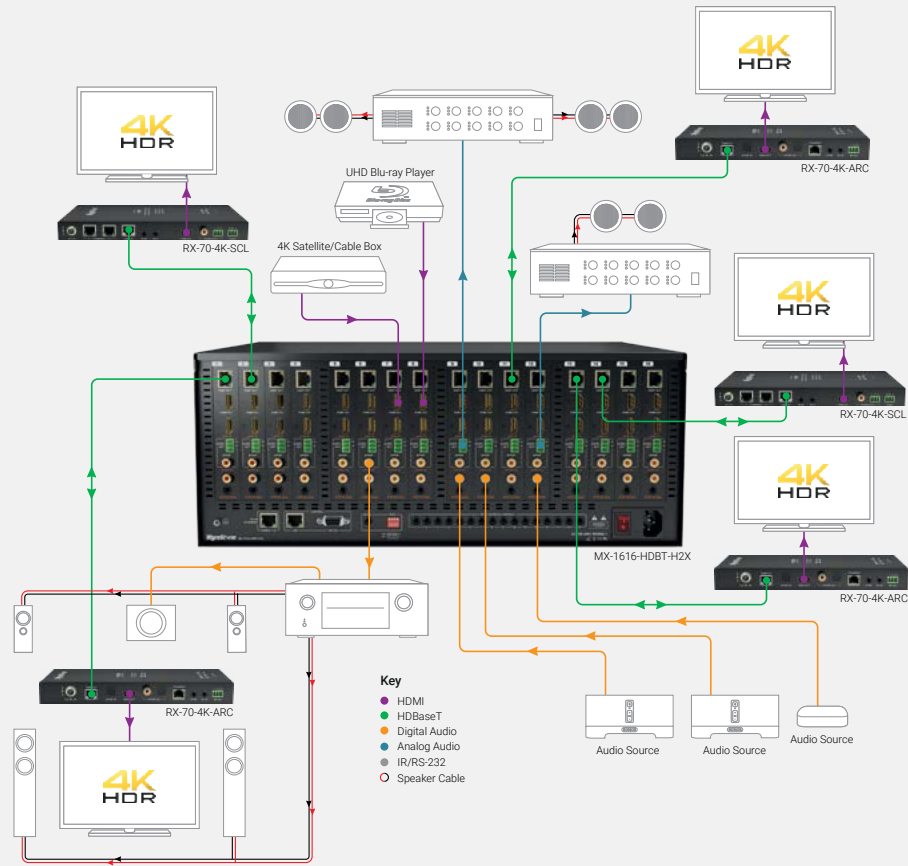
4K 4:4:4 60HZ 18GBPS HDMI HDCP 2.2 BIDIRECTIONAL IR OR RS-232 OVER OM3 MULTI-MODE FIBER

EXF-300-H2

WyreStorm's first fiber-optical extender, ensuring perfect transmission of 18Gbps HDMI signals to 300m/984ft. The EXF-300-H2 is compatible with 2160p 4:4:4/60 or high frame rate HDR content with HDCP 2.2 encryption, and will send it via a 10G OM3 multi-mode cable without any effect from EM or RF interference along the way.

H2X SERIES

Cat6 Cable Performance Guide



H2XC SERIES TRANSMISSION CARD OPTIONS



Decentralise Your Sources
TX-H2X-HDBT
 HDBaseT input module allows remote source connection that is also part of the wider multi zone distribution.



4K HDR with Extensive Audio Options
TX-H2X-HDMI
 Local 18Gbps HDMI In/Out and HDBT over distance with ARC, S/PDIF In/Out and analog stereo Out for multi room audio system or AVR connection.



Audio Zone Expansion Card featuring HDMI Input, HDMI Output, Audio Input and DSP Output
TX-H2X-ADZ
 Offering both an HDMI input & output, the ADZ card provides an 18Gbps link direct to the matrix backplane.



Visually Lossless 4K/60 4:4:4 Over HDBT
TX-H2X-VLC
 Dynamically reacts to detected content with variable compression when needed to support 18Gbps 4K/60 4:4:4 and HDR transmissions over HDBaseT.

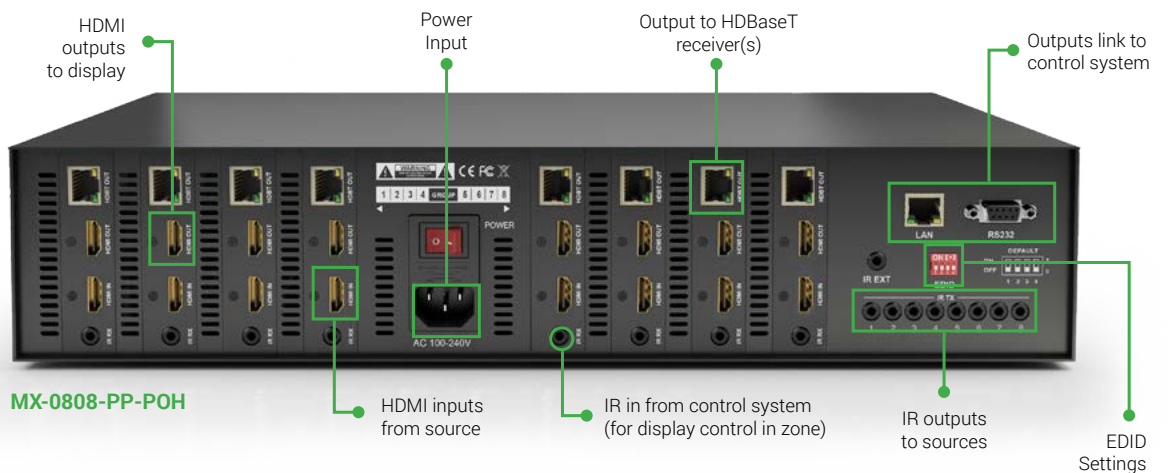
2160p
4:4:4 60



4K/60 4:4:4 Goes Further with Fibre
TX-H2X-OM3
 Utilises our zero-latency, VLC technology within a 10Gbps multi-mode fibre module to deliver 18Gbps 4K/60 4:4:4 and HDR content/control up to 300m/984ft.

2160p
4:4:4 60

2K MATRIX SWITCHERS



MX-0808-PP-POH

HDBaseT with Power



HDBaseT is the standard in multi-zone distribution of uncompressed video, multi channel audio, power, Ethernet and control over RS-232, IP and bidirectional IR along a single Cat5e/6 cable.

Power over HDBaseT (PoH) enables power to be transmitted along with the data via the cable to power receivers in display zones for greater convenience and flexibility during installation compared to a permanent mains connection.

As one of the first manufacturers to join the HDBaseT Alliance in 2010, WyreStorm is among the foremost experts in HDBaseT technology in the industry with one of the broadest, most comprehensive ranges of HDBaseT products available. So you can be sure we know our stuff.

The 4K or 2K Debate



We might live in a 4K world but that doesn't mean that every application needs 4K, particularly when it comes to commercial projects.

The hospitality sector might be leading the demand for 4K in bars, hotels, clubs and restaurants, but the truth is for applications such as signage, education or corporate, 2K still rules.

So, whether a project requires the use of existing 2K screens or if the application just doesn't call for that Ultra High Definition or HDR image quality, you can make considerable savings in your budget by staying HD while retaining all the benefits of rock solid AV and control delivery over distance.

Custom HD Delivery



Our line of custom 8x8 and 16x16 matrix chassis feature a selection of 11 modular multi format transmission cards, which can be combined in any configuration for truly custom HD distribution.

Transmission options include:

- HDMI, YUV, VGA, DVI with stereo audio
- HDMI out only, HDBaseT out only or audio only to skew the number of audio and video zones in an install
- HDBaseT input to support decentralised source connection and distribution through the matrix
- HDMI pass through source loop out to allow transmissions to be cascaded up to 7 times to daisy-chain multiple matrices supporting up to 784 screens

WYRESTORM WRITTEN DRIVERS AVAILABLE FOR MAJOR CONTROL SYSTEMS:



2K MATRIX SWITCHERS

INPUT	OUTPUT
4	4

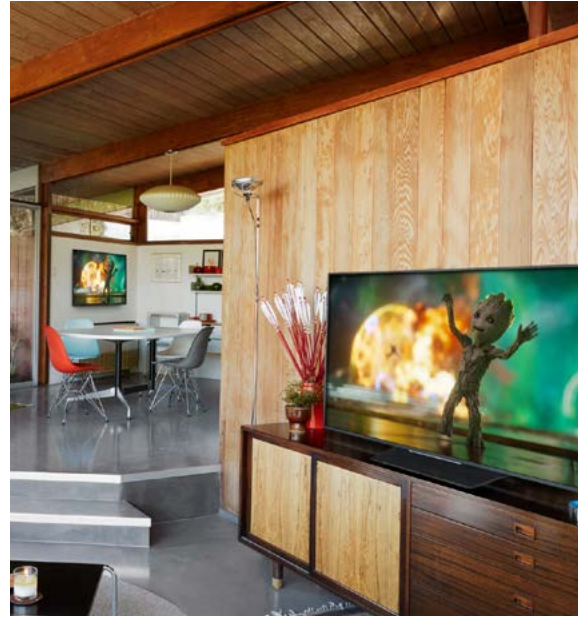


4x4 HDMI Matrix Kit with 4x UTP Receivers (1080p: 40m/131ft)

MX-0404-QI

- Conventional single UTP distribution of 1080p HD video/24bit and HD audio to 40m/131ft
- Includes 4 x 40m/131ft display receivers
- One way IR, Matrix control via RS-232 or LAN
- EDID management

HDMI HDCP



INPUT	OUTPUT
6	6+6



6x6 HDBaseT Matrix Switcher with PoH (1080p: 70m/230ft)

MX-0606-PP-POH

- 6x HDMI Input - 6x HDBaseT Output + 6x HDMI output (mirrored)
- Distributes 1080p and multi channel HD audio to 70m/230ft
- Control via Bidirectional IR, RS-232 and IP
- Routed serial commands to all outputs via RS-232 or IP
- QuickSync™ instant switching, EDID management
- WebUI gives simple switching interface and allows easy setup and configuration

HDBT HDMI HDCP PoH



INPUT	OUTPUT
8	8+8



8x8 HDBaseT Matrix Switcher with PoH (1080p: 70m/230ft)

MX-0808-PP-POH

- 8x HDMI Input - 8x HDBaseT Output + 8x HDMI output (mirrored)
- Distributes 1080p and multi channel HD audio to 70m/230ft
- Control via Bidirectional IR, RS-232 and IP
- Routed serial commands to all outputs via RS-232 or IP
- QuickSync™ instant switching, EDID management
- WebUI gives simple switching interface and allows easy setup and configuration

HDBT HDMI HDCP PoH

INPUT	OUTPUT
16	16+16



16x16 HDBaseT Matrix Switcher with PoH (1080p: 70m/230ft)

MX-1616-PP-POH

- 16x HDMI Inputs to 16x HDBaseT and 16x mirrored HDMI outputs
- Distributes 1080p and multi channel HD audio to 70m/230ft
- Control via bidirectional IR, RS-232 and IP
- Routed serial commands to all outputs via RS-232 or IP
- QuickSync™ instant switching, EDID management
- PoH powers all connected compatible HDBaseT receivers
- WebUI offers a simple switching interface and easy setup and configuration

HDBT HDMI HDCP PoH

RECEIVER OPTIONS


4K HDBaseT Receiver with Bidirectional IR, RS-232 & PoH (4K: 35m/115ft | 1080p: 70m/230ft)
RX-70-POH

- Receives 4K HDBaseT signals up to 35m/115ft and 1080p up to 70m/230ft from a compatible transmission device
- Bidirectional IR or RS-232 passthrough
- CEC passthrough
- Low profile 18mm chassis
- Internal EDID management



REMOTE INPUT OPTIONS FOR HDBASET INPUT CARD


4K VGA/HDMI over HDBaseT Transmitter (4K: 70m/230ft | 1080p: 100m/328ft)
TX-SW-0201

- Transmits 4K video, audio and control using HDBaseT via a single Cat5/6 cable directly into a projector or HDBaseT enabled display
- Connects and auto switches between HDMI and VGA sources
- Transmitter includes audio input to embed audio with the VGA signal
- Fully compatible with Epson, Sony, Panasonic and Digital Projection HDBaseT input-enabled projectors


HDBaseT Repeating Receiver with Integrated 2.1 Audio Amplifier (1080p: 70m/230ft)
AMP-001-010

- HDMI over HDBaseT extender and audio amplifier capable of transmitting 1080p up to 70m/230ft
- Features a 2x 25w Class D amplifier for amplification of local speakers and sub-woofer pre-out at the display
- Also allows for ARC and Local audio inputs (at the display)
- Transmissions can be daisy-chained up to 7x times for large venue installations using just one cascaded single cable output



IN-WALL TX AND
STANDALONE RX KITS ALSO
AVAILABLE ON P.38


4K HDMI/VGA over HDBaseT Auto-Switching In-Wall Transmitter (4K: 70m/230ft | 1080p: 100m/328ft)
TX-SW-IW-0201

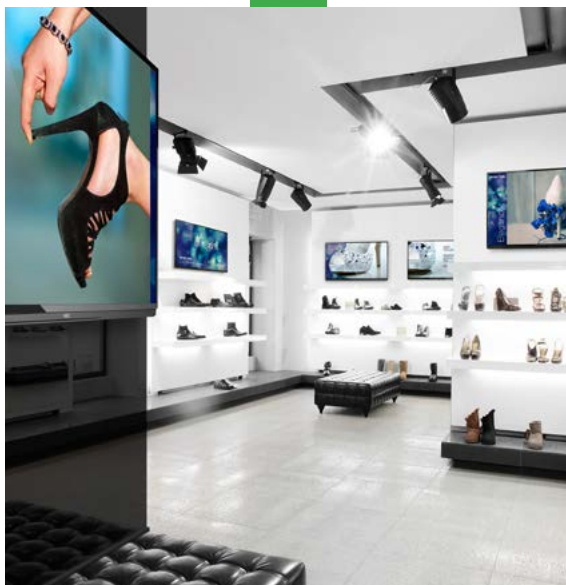
- HDMI/VGA auto-switching 2-Gang Decora wall plate extending 4K UHD video, audio, control, Ethernet and power up to 70m and 1080p to 100m
- Bidirectional IR and RS-232 control
- Power locally or PoH from a compatible WyreStorm receiver (RX-70-4K v2)
- Built in IR receiver window for easy TV/Projector control



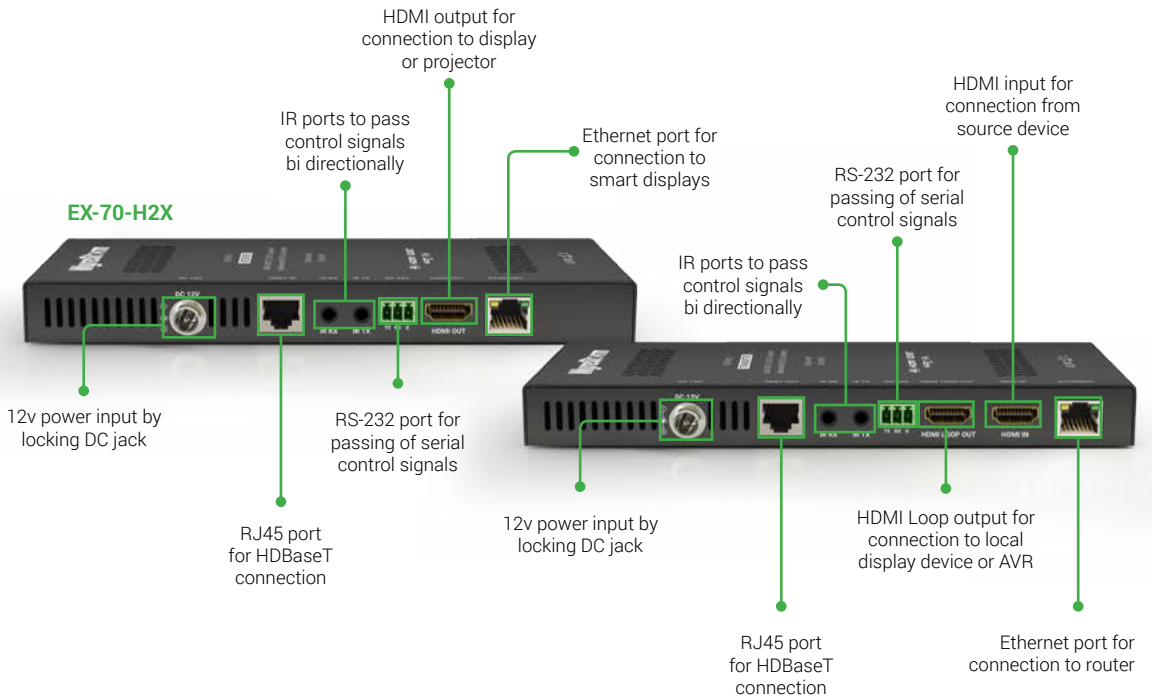
IN-WALL TX AND
STANDALONE RX KITS ALSO
AVAILABLE ON P.38


4K HDMI over HDBaseT In-Wall Transmitter (4K: 70m/230ft | 1080p: 100m/328ft)
TX-IW-70-POH

- 2-Gang Decora wall plate extending 4K UHD video (HDMI only), audio, control, Ethernet and power up to 70m and 1080p to 100m
- Bidirectional IR and RS-232 control
- Power locally or PoH from a compatible WyreStorm receiver (RX-70-4K v2)
- Built in IR receiver window for easy TV/Projector control



EXTENDERS



18Gbps Support

Fibre Revolution

Enhanced Audio with ARC

2160p
4:4:4 60



←ARC

4K 60Hz with 4:4:4 chroma sub sampling has been at the top of every AV integrator's wish list for a while without really anything available to support it. That's changed with the likes of Kaleidescape and Apple TV 4K offering full chroma, Xbox One X with high frame rate HDR gaming and full chroma output, and PC and laptop RGB at 4K 60Hz effectively the same as 4:4:4, but they are 4:2:0 at 10 or 12-bit, which still requires more bandwidth than HDBaseT can handle.

WyreStorm's latest line of extenders feature variable compression technology that enable 4K/60 4:4:4 and HDR transmissions to fit snugly within 10Gig HDBaseT and multi-mode fibre bandwidths to ensure your content is delivered point to point in all its glory, whatever the distance.

With optical cable technology cheaper than ever and module termination far quicker and easier than it used to be, fibre has become a far more realistic install option.

Full distance transmission is guaranteed without needing to consider electrical or radio interference from external factors beyond the integrator's control. Furthermore, as video bandwidth continues to increase, the potentially enormous bandwidth of fibre means it will be the only method of distributing 120Hz or 8K content over any distance.

WyreStorm products featuring fibre currently include a multimode fibre transmission card for the modular H2XC matrix switcher and receiver, extender set supporting transmissions up to 300m/984ft, and our line of Active Optical HDMI cables spanning 10m, 15m, 20m and 30m distances.

As the product numbers suggest, both EX-35-H2-ARC and EX-70-H2X-ARC extenders add Audio Return Channel functionality to their respective HDBaseT specifications to enable digital audio from a Smart TV to be sent back to the transmitter and broken out to an AVR or audio system.

Even older, not so smart TVs without true ARC functionality can get in on the action with audio de-embed functionality allowing audio to be sent back via its Toslink S/PDIF and analog inputs to allow even more to be done with your TV audio.

WYRESTORM WRITTEN DRIVERS AVAILABLE FOR MAJOR CONTROL SYSTEMS:



2K	4K UHD	4:4:4/60
40m	-	-



HDMI over UTP Extender with Bidirectional IR (1080p: 40m/131ft)

EX-40-G2

- Transmits 1080p content over UTP to 40m/131ft
- Bidirectional IR and RS-232 control with EDID management
- Ideal for short point to point applications
- Low profile 17mm chassis
- EX-40-G2 improves IR compatibility compared previous EX-40 model

HDMI HDCP

2K	4K UHD	4:4:4/60
70m	35m	-



HDBaseT Extender with Bidirectional IR and 2-Way PoH (1080p: 70m/230ft)

EX-70-G3

- Transmits 1080p content to 70m/230ft over HDBaseT for utmost signal reliability
- 2-way PoH offers greater installation options and convenience
- CEC and Bidirectional IR pass-through

HDBT HDMI HDCP PoH

2K	4K UHD	4:4:4/60	2160p 4:4:4 60
70m	35m	35m	



4K HDR HDBaseT Extender Set 2-Way PoH and Control (4K: 35m/115ft | 1080p: 70m/230ft)

EX-35-H2 (Version 2 available Q2 2018)

- Transmits 4K/60 4:4:4 or HDR at 60Hz up to 35m/115ft and 1080p content up to 70m/230ft
- 2-way PoH for maximum installation flexibility and convenience
- Bidirectional IR and RS-232
- HDCP 2.2 compliant

4K HDR HDBT HDMI HDCP 2.2 PoH

2K	4K UHD	4:4:4/60	2160p 4:4:4 60
70m	35m	35m	



4K HDR HDBaseT Extender with 2-Way PoH and ARC (4K: 35m/115ft | 1080p: 70m/230ft)

EX-35-H2-ARC

- Transmits 4K/60 4:4:4 or HDR at 60Hz up to 35m/115ft and 1080p content up to 70m/230ft
- S/PDIF input on receiver allows for audio from TVs without ARC to be sent to the transmitter
- 2-way PoH for maximum flexibility during installation
- Bidirectional IR and RS-232
- HDCP 2.2 compliant

4K HDR HDBT HDMI HDCP 2.2 PoH ARC

2K	4K UHD	4:4:4/60
100m	70m	-



4K HDR HDBaseT Extender with 2-Way PoH and Bidirectional Control (4K: 70m/230ft | 1080p: 100m/328ft)

EX-70-H2

- Transmits 4K/60 4:2:0 or HDR at 24Hz up to 70m/230ft and 1080p content up to 100m/328ft
- 2-way PoH for maximum flexibility during installation
- Bidirectional IR and RS-232
- HDCP 2.2 compliant

4K HDR HDBT HDMI HDCP 2.2 PoH

2K	4K UHD	4:4:4/60	2160p 4:4:4 60
100m	70m	70m	



4K HDR HDBaseT Extender with Ethernet and HDMI Loop Out (4K: 70m/230ft | 1080p: 100m/328ft)

EX-70-H2X (Version 2 available Q2 2018)

- Revised chipset increases compatibility with new 4K UHD sources
- HDBaseT extends 4K/60 4:4:4 or HDR at 60Hz up to 70m/230ft
- Transmission supports video, multichannel audio, bidirectional IR/RS-232, 2-Way power and Ethernet
- HDMI Loop Out cascades transmissions up to 3x times to create larger installs
- EDID adjustment, long cable mode, link meter

4K HDR HDBT HDMI HDCP 2.2 PoH

2K	4K UHD	4:4:4/60
100m	70m	-



4K HDR HDBaseT Extender Featuring ARC or Optical Audio Return (4K: 70m/230ft | 1080p: 100m/328ft)

EX-70-H2X-ARC

- Revised chipset increases compatibility with new 4K UHD sources
- Supports video, audio, bidirectional IR/RS-232, power and Ethernet
- Transmits 4K UHD @60Hz 4:2:0 or HDR @24Hz to 70m/230ft and 1080p content up to 100m/328ft
- TOSLINK input on receiver allows for audio from TVs without ARC support to send audio to the transmitter
- S/PDIF audio breakout on receiver
- HDCP 2.2 compliant



2K	4K UHD	4:4:4/60
300m	300m	300m

2160p
4:4:4 60



18Gbps HDMI over Multimode Fibre Extender with HDCP 2.2 (4K: 300m/984ft)

EXF-300-H2

- Extends 18Gbps HDMI transmissions using multimode fibre up to 300m/984ft
- Compatible with the latest HDR-10 content and 4K/60 4:4:4
- HDCP 2.2 compliant
- Passes IR or RS-232 control signals bidirectionally
- Ideal for long distance transmission in environments with high levels of EM or RF interference



2K	4K UHD	4:4:4/60
150m	100m	100m

2160p
4:4:4 60



18Gbps HDBaseT 2.0 5Play Extender with DSC and Quad USB2.0 (4K: 100m/328ft | 1080p: 150m/492ft)

EX-100-H2-PRO

- Most advanced HDBaseT 2.0 chipset technology extends 4K/60 4:4:4 and HDR up to 100m/328ft and 1080p content up to 150m/492ft
- VESA approved DSC technology applies visually lossless compression when required
- Extend video and HD audio, bidirectional control, 2-way power, Ethernet and USB over a single Cat6 cable up to 150m/492ft using Cat6
- 4x USB 2.0 throughput with both TX and RX able to act as host or device
- Bidirectional audio lane separate to TMDS

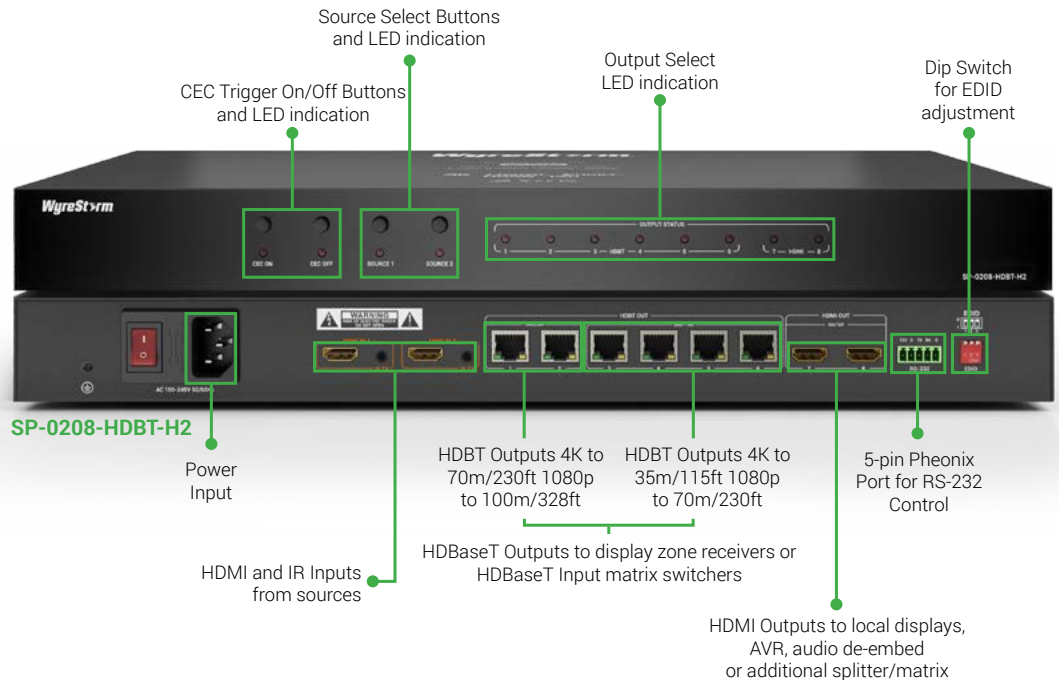


In-Wall 4K HDMI/VGA Auto Switching HDBaseT Extender Kit with Ethernet and PoH (4K HDMI: 70m/230ft | 1200p VGA: 100m/238ft)

TX-SW-IW-0201-KIT

- HDMI/VGA auto-switching HDBaseT 2-Gang Decora wall plate transmitter and 70m PoH receiver kit
- HDBaseT supporting video, audio, bidirectional IR/RS-232, power, Ethernet
- Extends 4K video HDMI to 70m/230ft and 1200p VGA to 100m/328ft
- Built-in IR receiver window for easy TV/Projector control
- HDCP 2.2 compliant





SPLIT THE **DIFFERENCE**

Multiply your multi screen and signage options with the new WyreStorm 2x8 4K UHD splitter featuring mixed HDBaseT and HDMI transmission.

Introducing the SP-0208-HDBT-H2, our latest 4K UltraHD splitter that's tailor made for multi screen and signage applications in hospitality and retail environments.

Featuring a choice of three transmission options, the dual HDMI inputs on the SP-0208 can be auto or manually switched to any of its eight outputs - including both HDBaseT and HDMI.

What that gives you is the option of distributing 4K to 35m/115ft or 1080p to 70m/230ft using Class B HDBaseT, or for longer distances, 4K to 70m and 1080p to 100m/328ft with Class A HDBaseT. Or for local connection, use the two HDMI outputs to feed additional screens or cascade to another splitter/matrix for Pro AV install options that are as powerful as they are flexible.

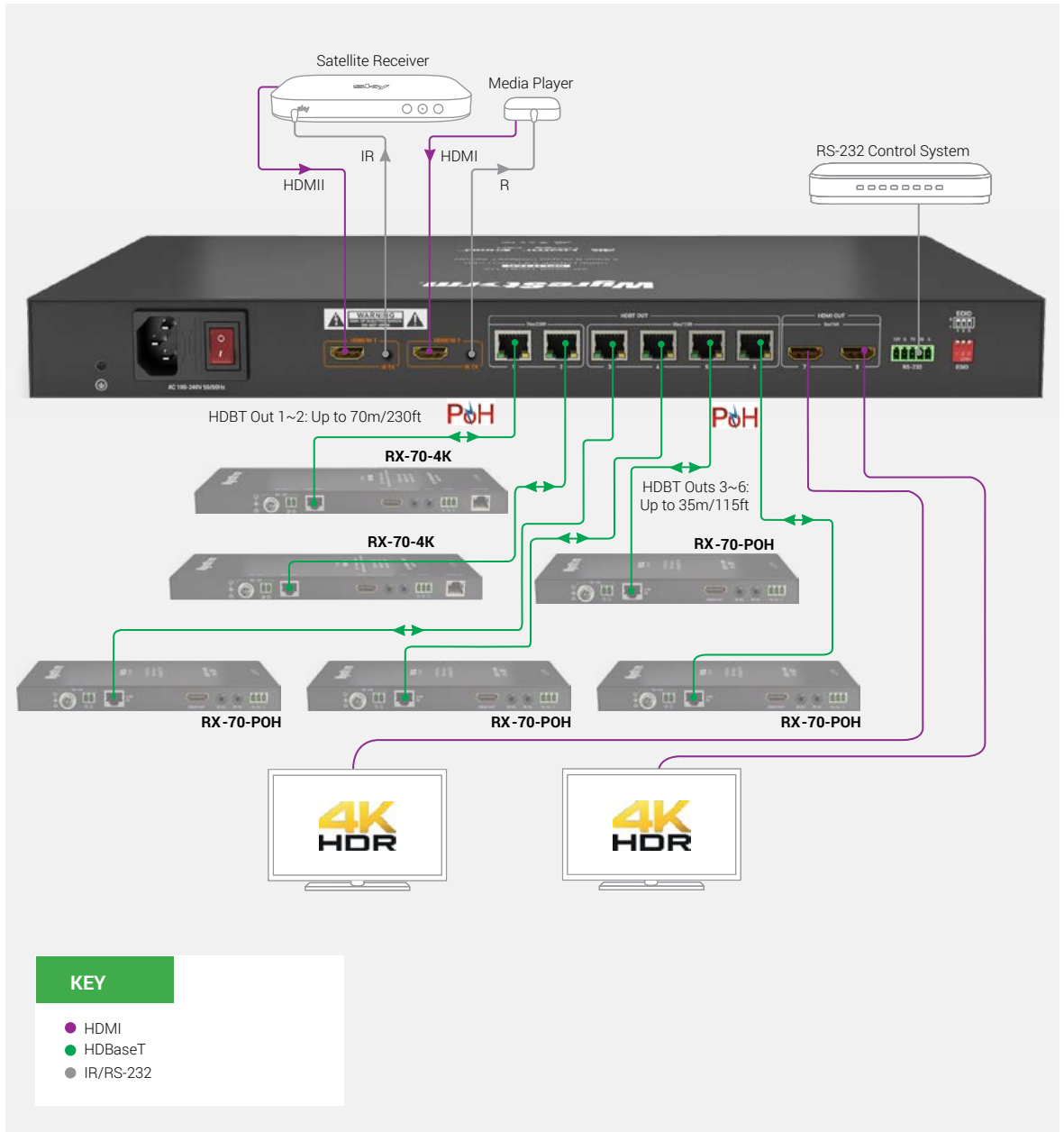
HDCP 2.2 compatible and supporting 4K 60Hz 4:2:0 and 4K 24Hz with 10-bit HDR, the SP-0208 includes manual EDID adjustment, PoH remote power to receivers and Active CEC control to power on/off compatible screens at the touch of a button.

Whether used as a standalone splitter solution or as part of a wider WyreStorm ecosystem, with a product this versatile, how you use the SP-0208-HDBT-H2 is completely up to you and your project.



SP-0208-HDBT-H2

2x8 4K UHD HDCP 2.2 HDBaseT Splitter with PoH and CEC (4K 35m/114ft | 1080p 70m/230ft)



KEY FEATURES

- Dual HDMI input 4K UHD splitter with automatic or manual switching
- 4x Class B HDBaseT outputs transmit 4K UHD content up to 35m/115ft
- 2x Class A HDBaseT outputs transmit 4K UHD content up to 70m/230ft
- 2x HDMI outputs can feed local screens or be used to cascade to another splitter or matrix
- Active-CEC enables all compatible screens to be powered on or off at the touch of a button
- Compatible with latest HDCP 2.2 content and 4K/60 4:2:0 or 4K/24 10-bit HDR
- PoH allows all HDBaseT receivers to be powered from the unit
- Independent IR control of both sources from HDBaseT zones
- Control via front panel or RS-232 with support for major control systems, including WyreStorm Enado
- EDID settings enable manual adjustment of source transmission

INPUT	OUTPUT
1	2

2160p
4:4:4 60



1:2 4K HDR HDMI Splitter

SP-0102-H2

- Easy plug and play splitting of a single HDMI or DVI source to up to 2x displays
- Supports 4K/60 4:4:4, HDCP 2.2 and HD audio formats
- Threaded DC power plug, LED power and I/O status indication and EDID adjustment
- Low profile 18mm chassis, with mounting brackets for flexible placement

4K HDR HDMI HDCP 2.2

INPUT	OUTPUT
1	4

2160p
4:4:4 60



1:4 4K HDR HDMI Splitter

SP-0104-H2

- Easy plug and play splitting of a single HDMI or DVI source to up to 4x displays
- Supports 4K/60 4:4:4, HDCP 2.2 and HD audio formats
- Threaded DC power plug, LED power and I/O status indication and EDID adjustment
- Low profile 18mm chassis, with mounting brackets for flexible placement

4K HDR HDMI HDCP 2.2

INPUT	OUTPUT
1	8

2160p
4:4:4 60



1:8 4K HDR HDMI Splitter

SP-0108-H2

- Easy plug and play splitting of a single HDMI or DVI source to up to 8x displays
- Supports 4K/60 4:4:4, HDCP 2.2 and HD audio formats
- Threaded DC power plug, LED power and I/O status indication and EDID adjustment
- Low profile 18mm chassis, with mounting brackets for flexible placement

4K HDR HDMI HDCP 2.2



INPUT	OUTPUT
2	2+4+2



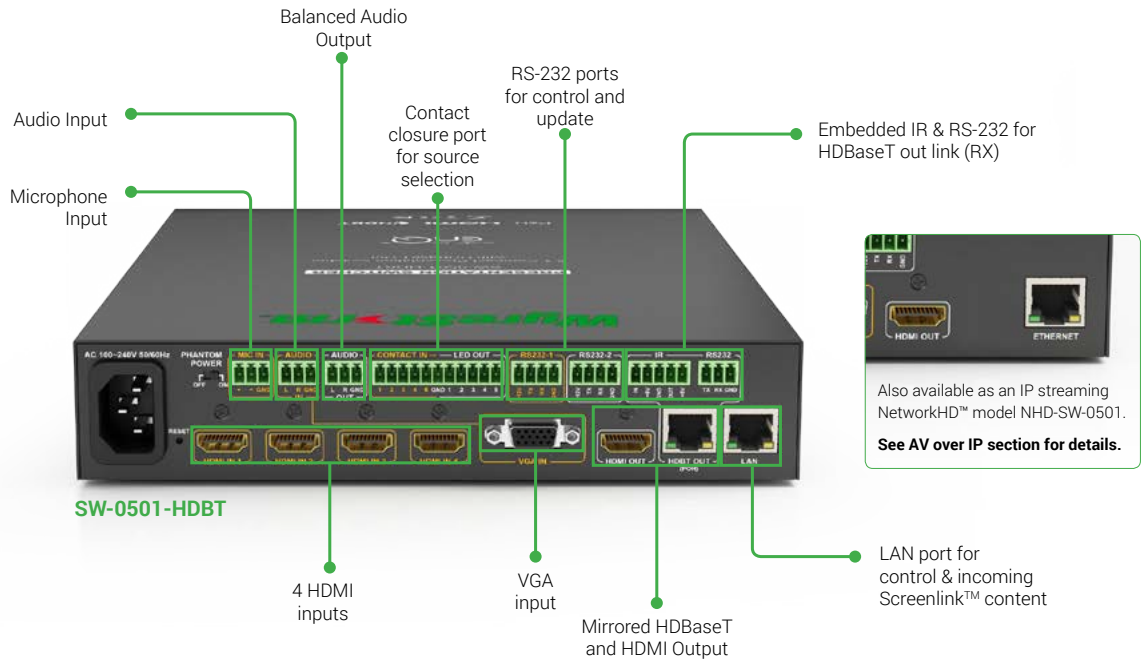
2:8 4K HDR Splitter Featuring 6x HDBaseT Outputs

SP-0208-HDBT-H2

- Dual HDMI input 4K HDR splitter with automatic or manual switching
- 2x and 4x HDBaseT outputs to accommodate various transmission distances within an installation
- Capable of transmitting 4K UHD content over both 35m/115ft or 70m/230ft
- 2x HDMI outputs can be used to cascade to another splitter or feed local screens
- Active CEC enables all compatible screens to be powered on/off
- Compatible with latest HDCP 2.2 content and 4K/60 4:2:0
- PoH enables all HDBaseT receivers to be powered from the unit
- Independent IR control of both sources from HDBaseT zones
- Control via front panel or RS-232 using the WyreStorm Enado™ control solution or TS-280 Touchscreen (arriving Q2 2018)
- EDID settings enable manual adjustment of source content

4K HDR HDBT HDCP 2.2 PoH

PRESENTATION SOLUTIONS



Collaboration

Comprehensive Control

Seamless Switching

SCREENLINK™

CEC



WyreStorm ScreenLink is collaboration software for wired or wireless (Wi-Fi) network display-sharing through WyreStorm 5x1 HDBaseT and IP presentation switcher models, the SW-0501-HDBT and NetworkHD™ NHD-SW-0501.

Supporting multiple Windows and Mac devices per WyreStorm presentation switcher, ScreenLink offers a screen mirroring solution that combines a hardwired connection for displaying uncompressed video without latency with the convenience of a wireless laptop connection for the best of both collaboration worlds.

Consumer Electronics Control (CEC) is capable of communicating power, switching and volume commands between devices. CEC commands are communicated via an HDMI cable and are typically used to enable 'consumer electronics' devices to communicate without the need for a separate control device.

WyreStorm has embraced this technology for several years, with our HDBaseT extenders passing CEC from screen to source. The new generation of WyreStorm switchers feature 'Active CEC' to enable the ability to trigger a power on/off screen command, with automatically or via the control protocol. So kiss goodbye to unsightly IP emitters attached to the front of displays.

We're all about placing the highest priority on the user experience. Optimising source switching speeds is an important way of doing just that.

Customers expect near instantaneous switching from one source to another. With our proprietary fast switching technology included on our full line of presentation switchers we deliver - and at industry leading speeds.

Whether using the SW-0501-HDBT presentation switcher in a boardroom, or the SM-0402-MV-HDMI multi view switcher in a huddle room, our seamless switching is so fast, if you blink you'll miss it!

WYRESTORM WRITTEN DRIVERS AVAILABLE FOR MAJOR CONTROL SYSTEMS:



INPUT	OUTPUT
2	1



2x1 VGA/HDMI Smart Switcher with CEC

SW-0201-4K

- Automatic or manual switching between HDMI and VGA inputs to a single HDMI output
- VGA audio embed
- Automatic or manual trigger of CEC enabled screen
- Contact output for desk plate button control



INPUT	OUTPUT
3+1	1



3x1 HDBaseT Smart Switcher/Extender with Scaling Receiver Featuring Relay Triggering and HDCP 2.2

EX-SW-0301-H2

- 3x input to single HDBaseT output switcher/extender for education or huddle room environments
- Featuring HDMI, DisplayPort and VGA inputs with auto/manual switching
- 2x automatically (condition based) or manually triggered relays on receiver
- Receiver has HDMI input for the connection of an additional external device, such as a signage player when a room is not in use
- Control TX via Ethernet port on RX
- Compatible with 4K/60 4:2:0 sources



INPUT	OUTPUT
4	1



4x1 HDMI/DisplayPort/VGA over HDBaseT Presentation Switcher with CEC Control (4K/30Hz: 70m/230ft | 1080p: 100m/328ft)

SW-0401-HDBT

- 4x input smart presentation switch with dual scaled outputs
- Mirrored HDMI out with up to 4K/30 scaler and balanced audio output
- HDBaseT transmission of 4K video, audio, power, Ethernet and control signals
- Built in CEC controller to turn on/off sink device by auto detecting source status
- Automatic switching between VGA, DisplayPort and two HDMI inputs



INPUT	OUTPUT
4+2	1+1



4x1 HDMI/VGA/DP/USB-C Switching Extender with USB2.0 KVM and Condition Based Relays (4K: 40m/131ft | 1080p: 70m/230ft)

EX-SW-0401-H2-PRO

- 4x input professional switcher/extender for video conference and meeting rooms
- Bidirectional USB2.0 for connection of webcams, smart whiteboards, touchscreens and microphones
- Inputs include HDMI, VGA, DisplayPort 1.3 and USB 3.1c
- Supports source content up to 4K/60 4:2:0
- Variable audio de-embed on receiver
- Automatic or manual CEC triggering for compatible connected screens or projectors



System Design Assistance

Need help planning a project? WyreStorm's system design team can work with you to produce a focused system schematic, outlining connections and equipment topology required to realise project aims, while utilising an optimised and budget-aware approach.

Whether you're a designer, specifier, integrator or project manager, working with a WyreStorm system design specialist will help focus your project and ensure the right technology is being used for the application. You'll benefit from functional and easy to follow system diagrams to use in project tenders and proposals that will add value to any opportunity, as well as separating you from the competition.

Contact them at systemdesigns@wyrestorm.com and let them help you get your project started!

INPUT	OUTPUT
4	2



4x2 Multi-View Scaling Matrix Switch with PiP and Dynamic Windowing

SW-0402-MV-HDMI

- Each input offers analog or digital AV connectivity options (HDMI, VGA, YUV + 2 audio)
- Dual HDMI out - duplicate output or 4x2 matrix
- View any or all sources on full/partial screen, PiP, 2x2 quad-screen view or anywhere on the screen
- Seamless switching, with scaling output up to 3840x2160p at 30Hz
- Advanced image processor controls source opacity and image border



INPUT	OUTPUT
5	1+1

SCREENLINK



5x1 Compact Presentation Switcher/Scaler with CEC Control, Mic Input and HDBaseT Output (1080p: 100m/328ft)

SW-0501-HDBT (NHD-SW-0501 IP STREAMING MOD EL ALSO AVAILABLE)

- 4x HDMI and 1x VGA + audio source inputs to HDBaseT and mirrored HDMI output
- Microphone input allows local audio to be mixed with sources and output via line out
- Built in scaler allows for instant source switching
- Automatically triggers display power over HDMI (CEC) or RS-232
- Auto scaler 640x480 to 1920x1200 at 60Hz
- WyreStorm ScreenLink™ collaboration software allows screen mirroring from multiple Windows PC or MacOS computers



SYSTEM BUILD CHECK LIST

SWITCHER	RECEIVER OPTIONS	REMOTE INPUT OPTIONS	CONTROL	
SW-0201-4K	-	-	-	-
SW-0401-HDBT	RX-70-POH	-	WyreStorm Enado™	Crestron
SW-0501-HDBT	AMP-001-010 RX-70-POH	-	WyreStorm Enado™	Crestron
NHD-SW-0501	NetworkHD™ 100/200 Series Decoder	-	WyreStorm NetworkHD Touch™ WyreStorm Enado™	Multiple third party control support - Visit NetworkHD™ website for details
SW-1001-HDBT	AMP-001-010 RX-70-POH	TX-0201 TX-IW-70-POH TX-IW-0201	WyreStorm Enado™	Crestron
SW-0402-MV-HDMI	-	-	WyreStorm Enado™	RTI Control4
SW-0402-MV-HDBT	RX-70-4K	-	WyreStorm Enado™	RTI Control4



SW-0501-HDBT

TIME TO HUDDLE

NHD-SW-0501

“I love wasting meeting time trying to connect devices and share my screen” - said no one, ever.

With so much time wasted during valuable meeting or class time trying to set up multi user content sharing, WyreStorm 5x1 HDBaseT and NetworkHD™ presentation switchers with ScreenLink display sharing offer a quicker, easier way to make the most of your meetings. Wired or wirelessly.

Available on HDBaseT (SW-0501-HDBT) or low bandwidth H.264 streamed platforms (NHD-SW-0501), both presentation switcher models include mirrored HDMI outputs and support connection of multiple simultaneous Windows and MacOS devices for access from any networkconnected location, whether within a single room, an entire building, facility or university campus.

And focusing on a flawless user experience, our free standalone ScreenLink display sharing software features a simple three step on screen setup process with fast connection of new devices to enable users of any technical ability to share their screens in seconds.

Learn more about ScreenLink and WyreStorm 5x1 HDBaseT and NetworkHD™ AVoIP presentation switchers at wyrestorm.com

RECEIVER OPTIONS


4K HDBaseT Receiver with Bidirectional IR, RS-232 & PoH (4K: 35m/115ft | 1080p: 70m/230ft)
RX-70-POH

- Receives 4K HDBaseT signals up to 35m/115ft and 1080p up to 70m/230ft from a compatible transmission device
- Bidirectional IR or RS-232 passthrough
- CEC passthrough
- Low profile 18mm chassis
- Internal EDID management



REMOTE INPUT OPTIONS FOR SW-1001-HDBT


4K VGA/HDMI over HDBaseT Transmitter (4K: 70m/230ft | 1080p: 100m/328ft)
TX-SW-0201

- Transmits 4K video, audio and control using HDBaseT via a single Cat5/6 cable directly into a projector or HDBaseT enabled display
- Connects and auto switches between HDMI and VGA sources
- Transmitter includes audio input to embed audio with the VGA signal
- Fully compatible with Epson, Sony, Panasonic and Digital Projection HDBaseT input-enabled projectors


HDBaseT Repeating Receiver with Integrated 2.1 Audio Amplifier (1080p: 70m/230ft)
AMP-001-010

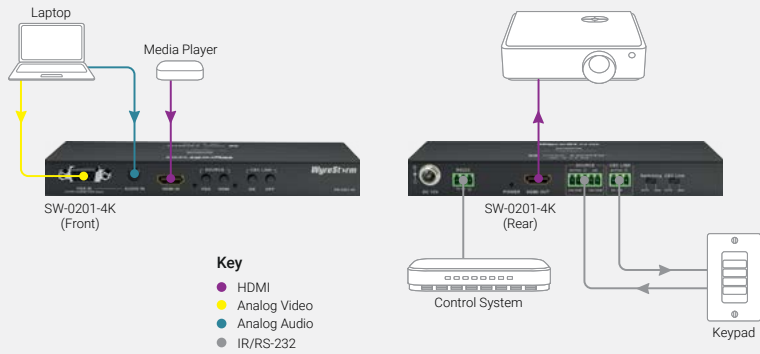
- HDMI over HDBaseT extender and audio amplifier capable of transmitting 1080p up to 70m/230ft
- Features a 2x 25w Class D amplifier for amplification of local speakers and subwoofer pre-out at the display
- Also allows for ARC and Local audio inputs (at the display)
- Transmissions can be daisy-chained up to 7x times for large venue installations using just one cascaded single cable output



PRESENTATION SOLUTIONS APPLICATIONS

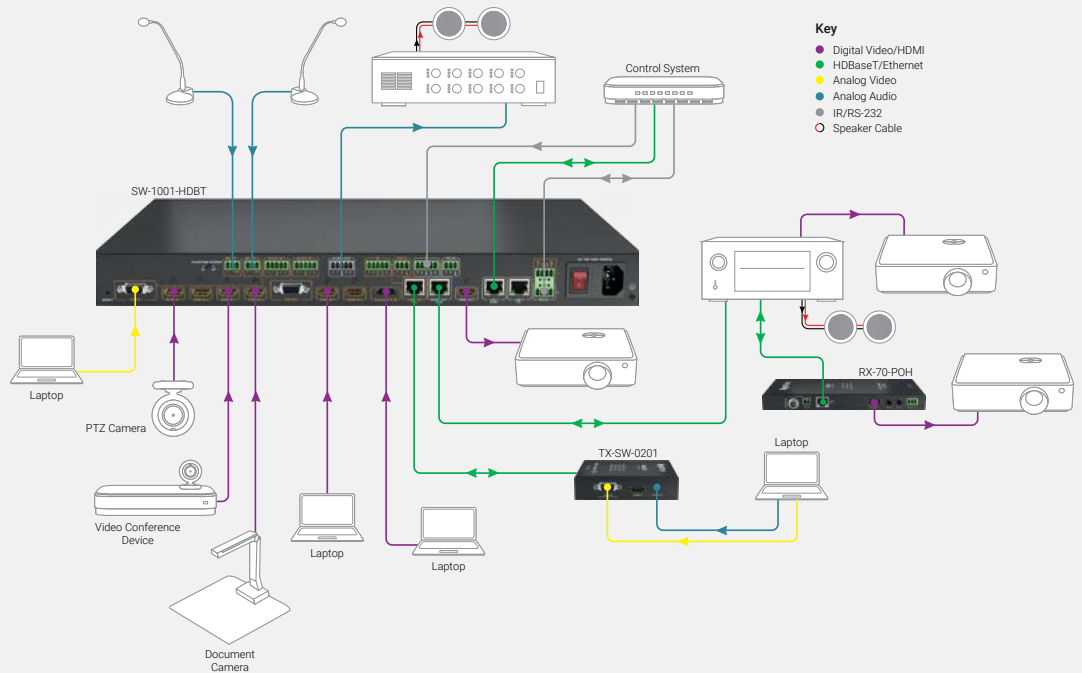
AUTO SWITCHING EXTENDER FOR SMALL MEETING ROOMS & CLASSROOMS

HDMI Cable Performance Guide



LARGE BOARD ROOM SOLUTION WITH REMOTE HDBaseT INPUT

Cat6 Cable Performance Guide



NEXT GENERATION CONTENT NEEDS NEXT GENERATION CONTENT DELIVERY

2160p
4:4:4 60

Experience the latest 4K UHD with HDR content in all its uncompressed 18Gbps glory with WyreStorm 10m, 15m, 20m and 30m HDMI cables using the latest active optical transmission technology.

Supporting video 4K/60 4:4:4 8-bit and HDR 12-bit at 4:2:2 with HDCP 2.2 for compatibility with the latest 4K UHD content, CAB-HAOC cables handle multichannel audio up to DTS:X and Dolby Atmos. What's more, when it comes to aiding control of devices, they also keep things effortlessly simple with support for both ARC and CEC.

Perfect for point to point use or as part of a WyreStorm 4K UHD matrix switcher system where mirrored HDMI outputs can be used to their full potential, these cables are an ideal solution for any environment where copper transmission may be susceptible to electromagnetic or radio frequency interference.

With install experience as important as transmission quality, our CAB-HAOC cables come ready spooled with 20mm heads easily fed through conduits and colour coded/labelled connections improving ease of install, cable management and adding that personal touch to your installation.

The perfect accessory to any WyreStorm 4K UHD distribution and an absolute must for today's AV projects requiring rock solid delivery of the latest content over full bandwidth 18Gbps HDMI.



4K/60 4:4:4

PRODUCTS:

EX-100-4K PRO
EX-35-H2
EX-35-H2-ARC

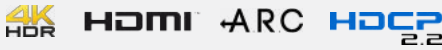
EXF-300-H2
EX-70-H2X
EX-100-H2 PRO



18Gbps/s Over Active Optical HDMI Cable

CAB-HAOC-10 | CAB-HAOC-15 | CAB-HAOC-20 | CAB-HAOC-30

- Uncompressed optical transmission of 18Gbps HDMI content to 10m/33ft
- Supports full bandwidth 2160p 60Hz at 4:4:4 8-bit
- Compatible with latest UHD HDR content at 4:2:0 60Hz 12-bit, including HDR-10 and Dolby Vision
- Perfect for use in environments with excessive EM or RF interference
- High quality aluminum construction with low-profile 20mm/0.79" head
- ARC and CEC enabled for true native HDMI communication
- Supports HDCP 2.2 content encryption



WyreStorm Express High Speed HDMI Cable

EXP-HDMI-0.5M | 1.0M | 2.0M | 3.0M | 5.0M | 10.0M | 15.0M

- High bandwidth, high speed 4K UHD and HD compatible
- Available in 0.5m/1.6ft, 1m/3.2ft, 3m/6.5ft, 5m/16.4ft, 10m/32ft, 15m/49ft cable lengths
- High quality, premium grade cable
- HDMI v1.4 certified
- Gold plated connections and 99.999% oxygen free copper cable/conductors (OFC) enhances conductivity
- Durable, cable sleeve to prevent twisting and snagging
- HDMI Male/Male Type A connectors



24Gbps 4-Core Active Optical HDMI Cable | 4K HDR 4:4:4/60, ARC, CEC, ALLM & VRR | Kevlar strengthened | ISF Certified

EXP-CAB-HAOC-2 | EXP-CAB-HAOC-4 | EXP-CAB-HAOC-6 | EXP-CAB-HAOC-8

The WyreStorm HAOC is a next generation HDMI cable designed for the next generation of 4K HDR content. It offers a unique feature set in both delivering uncompressed HDMI content at up to 24Gbps and compatibility with emerging HDMI technologies such as ALLM (Auto Low Latency Mode) & VRR (Variable Refresh Rate) using the latest in optical transmission technology.



Digital to Analog Audio Converter with Coax/Optical Inputs

EXP-CON-DAC

- Simple connection of modern digital sources to legacy analog systems
- Toslink Optical and S/PDIF Coaxial inputs with selectable switch
- Compact housing, 5v power with LED indication



Digital to Analog Audio Converter featuring Dolby Downmix with Coax/Optical Inputs

EXP-CON-DAC-D

- Converts 5.1 Dolby Digital multichannel audio to analog stereo
- Simple connection of modern digital sources to legacy analog systems
- Toslink Optical and S/PDIF Coaxial inputs with selectable switch
- Compact housing, 5v power with LED indication



4K Downscaler and HD Upscaler with Dolby Digital Downmixing

EXP-CON-4K-DD

- Inline solution for installations including both 4K UHD and HD displays while maintaining integrity of both
- Scales 1080p/60 to 4K/30 and scales back 4K UHD transmissions to 1080p/24
- Dolby Digital downmixing for conversion of 5.1ch to stereo PCM audio wherever required
- Switchable selection, including pass through mode on compact chassis with LED power indication



24Gbps 4-core Active Optical HDMI Cable | 4K HDR 4:4:4/60 | Kevlar strengthened | Detachable Head | Plenum, FT6 & CPR Rated

CAB-HAOC-30-C | CAB-HAOC-40-C | CAB-HAOC-50-C

The WyreStorm HAOC is a next generation HDMI cable designed for the next generation of 4K and 5K HDR content. It offers a unique feature set in both delivering uncompressed HDMI content at up to 24Gbps and compatibility with emerging HDMI technologies such as ALLM (Auto Low Latency Mode) & VRR (Variable Refresh Rate) using the latest in optical transmission technology.



AV ESSENTIALS MADE EASY

AV ESSENTIALS. **MADE EASY**

Available for sale in store and online, WyreStorm Express has been developed as a simple and affordable line of plug and play HDMI distribution products for 4K and HD connectivity in the home.

With a range spanning extenders, switchers, splitters, converters and cables, WyreStorm Express products are ideal for integrating satellite or cable boxes and the latest gaming consoles with consumer display devices.



INPUT	OUTPUT
1	2



1:2 4K HDMI Splitter

EXP-SP-0102-4K

- Supports up to 4K/30Hz 4:2:2 and 1080p/60Hz with HD audio and full 3D support
- Low profile 18mm housing
- HDCP compliant
- Threaded DC power plug, LED power and I/O status indication



4K HDMI HDCP

2K	4K UHD	4:4:4/60
50m	25m	-



4K HDMI over HDBaseT Extender with Bidirectional IR control

EXP-EX-HDBT-50

- HDBaseT extension of 4K content to 25m/82ft and 1080p/60Hz to 50m/164ft
- Supports multichannel audio up to DolbyHD, 36bit Deep Color and resolutions up to VESA 1920x1200
- Bidirectional IR control and EDID management
- Perfect for short point-to-point applications featuring 4K UHD and/or HD



4K HDBT HDCP

INPUT	OUTPUT
1	4



1:4 4K HDMI Splitter

EXP-SP-0104-4K

- Supports up to 4K/30Hz 4:2:2 and 1080p/60Hz with HD audio and full 3D
- Low profile 18mm housing
- HDCP compliant
- Threaded DC power plug, LED power and I/O status indication



4K HDMI HDCP

2K	4K UHD	4:4:4/60
50m	-	-



HDMI over Coax Extender

EXP-EX-COAX-50

- Transmits 1080p content to 50m/164ft using single coax cable
- Bidirectional IR control or source and display
- EDID and cable distance management encourage device compatibility
- Enhanced ESD protection and signal equalization reduces interference and increases reliability



HDMI



Digital to Analog Audio Converter with Coax/Optical Inputs

EXP-CON-DAC

- Simple connection of modern digital sources to legacy analog systems
- Toslink Optical and S/PDIF Coaxial inputs with selectable switch
- Compact housing, 5v power with LED indication

WyreStorm
Express



Digital to Analog Audio Converter featuring Dolby Downmix with Coax/Optical Inputs

EXP-CON-DAC-D

- Converts 5.1 Dolby Digital multichannel audio to analog stereo
- Simple connection of modern digital sources to legacy analog systems
- Toslink Optical and S/PDIF Coaxial inputs with selectable switch
- Compact housing, 5v power with LED indication

WyreStorm
Express



4K Downscaler and HD Upscaler with Dolby Digital Downmixing

EXP-CON-4K-DD

- Inline solution for installations including both 4K UHD and HD displays while maintaining integrity of both
- Scales 1080p/60 to 4K/30 and scales back 4K UHD transmissions to 1080p/24
- Dolby Digital downmixing for conversion of 5.1ch to stereo PCM audio wherever required
- Switchable selection, including pass through mode on compact chassis with LED power indication

WyreStorm
Express



INPUT	OUTPUT
3	1



3x1 HDMI Switcher with Remote Control

EXP-SW-0301

- Switches 3x HDMI/DVI sources to a single HDMI/DVI display device
- Supports 4K at 60Hz with HDCP 2.2 and multichannel audio
- Simple plug and play – no set up, driver or software required
- Automatically negotiated EDID between devices
- Passive operation - no PSU required
- Front panel and remote handset operation

WyreStorm
Express

4K UHD HDMI HDCP 2.2

INPUT	OUTPUT
5	1



5x1 HDMI Switcher with Remote Control

EXP-SW-0501

- Switches 5 HDMI/DVI sources to a single HDMI/DVI display device
- Supports 4K at 60Hz with HDCP 2.2 and multichannel audio
- Simple plug and play – no set up, driver or software required
- Automatically negotiated EDID between devices
- Passive operation - no PSU required
- Front panel and remote handset operation

WyreStorm
Express

4K UHD HDMI HDCP 2.2

INPUT	OUTPUT
4	2



4x2 HDMI Matrix Switcher with Remote Control

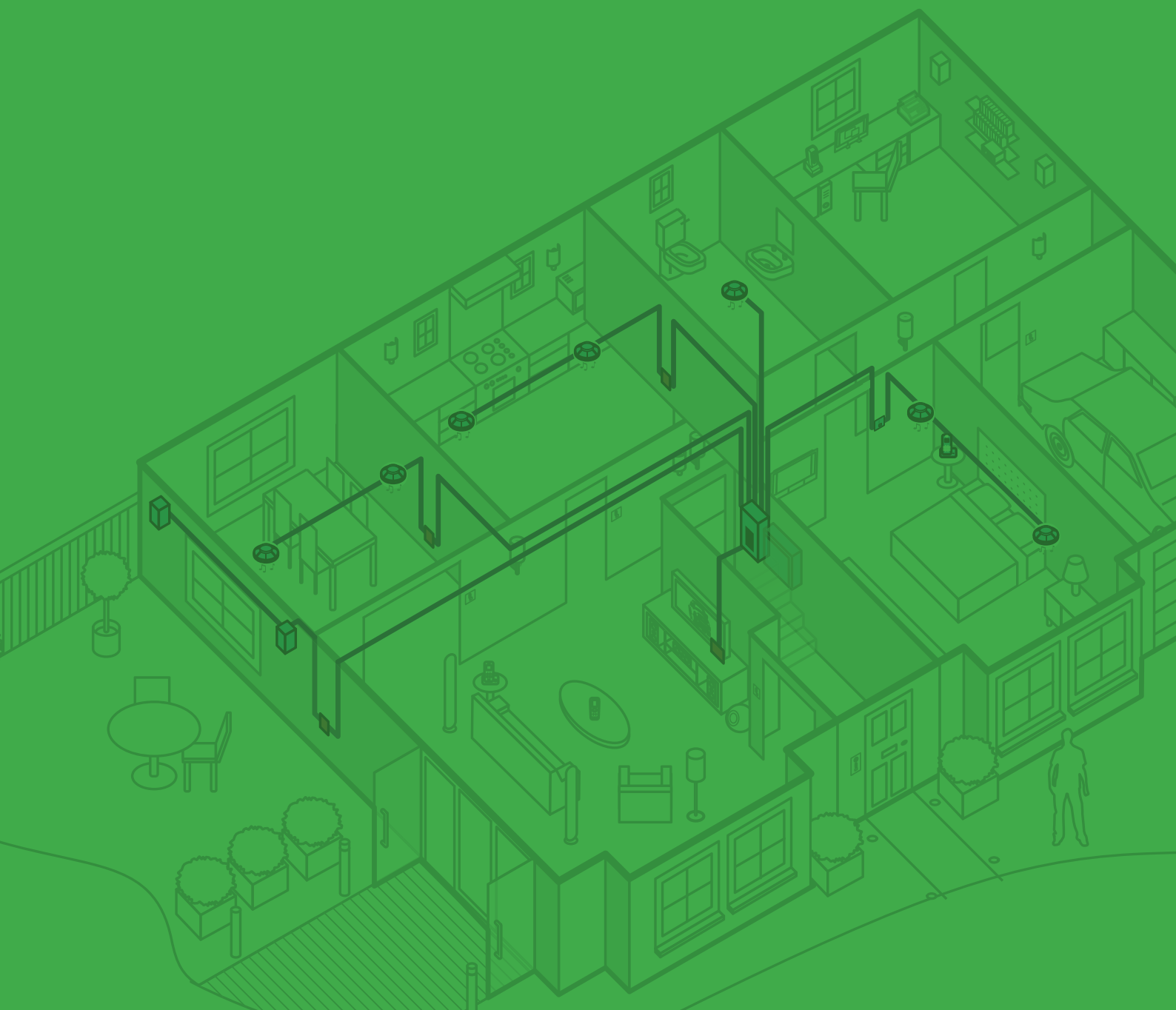
EXP-MX0402-010

- Simultaneous connect and switch up to 4x HDMI/DVI sources to 2x HDMI/DVI outputs
- 4K at 30Hz source support with HD multichannel audio
- Compact, plug and play switching ideal for small scale residential or commercial AV set-ups
- Simple selection via remote handset and front panel with LED status indication

WyreStorm
Express

4K HDMI

AV TESTING EQUIPMENT & WIRING GUIDELINES





MURIDEO TESTING EQUIPMENT

Murideo was created out of the need to bring more modern tools to the Custom/Commercial AV Integrator market. With in depth knowledge brought on from years of experience in the electronics industry, Murideo are determined to bring cutting edge tools to the world at large that were previously only available to select groups.



FRESCO SIX-A UHD AND HDR ANALYZER

This is a 18Gbps 4K Analyzer that can read HDR data at the same time as giving you live video preview. This is the new standard in analyzers, and paired with the Fresco SIX-G Generator becomes a full calibration and testing system.



FRESCO SIX-G GENERATOR

The Murideo SIX-G is for the AV Integration market to confirm HDMI 2.0(a) and HDCP 2.2 operation at the 18Gbps level. Additionally, the SIX-G is an excellent troubleshooting tool for distributed HDMI systems and a reference source for video calibration and is compatible with calMAN.



FOX AND HOUND TESTING KIT

This 18Gbps Generator and Analyzer kit was built as the ideal testing unit for all custom and commercial integrators. The Fox & Hound Test Kit comes with an 18Gbps Generator and 18Gbps Analyzer, these tools allow you to confirm correct bandwidth, HDCP, resolution, timing, HDR metadata and many more options that could cause system hiccups if not treated correctly.



FRESCO SIX-G AND SIX-A TEST SUITE

The Murideo Fresco pair comes with an 18Gbps Generator and 18Gbps Analyzer, these tools allow you to confirm correct bandwidth, HDCP, resolution, timing, HDR metadata and many more options. You are able to connect these devices directly to your computer to expanding your testing with a free software that comes with your pair. The Murideo Fresco pair is a must have for any HDMI Specialist, Calibrator, AV Product Manufacturer, HDMI Cable Manufacturer, Custom/Commercial Integrators, Content Masters and more.

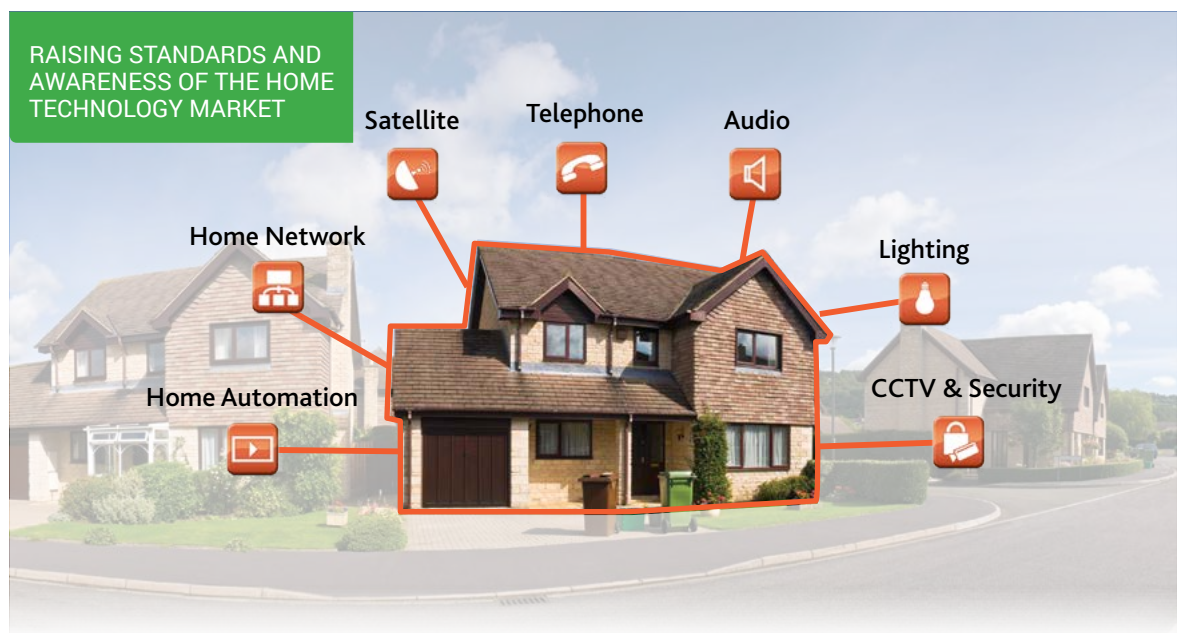
WHO ARE CEDIA

The Custom Electronic Design and Installation Association (CEDIA) is the international trade organisation representing the home electronic systems industry.

Their members specialise in the planning, design, supply and installation of automated electronic systems for the modern, intelligent home. The Association was founded in 1989 and has more than 3000 member companies worldwide. CEDIA is a not for profit Association and has offices located in the UK, the US, China and Australia.

CEDIA was created to develop and deliver educational programmes, Certification and trade shows to make sure that the industry is kept up to date with skills and technology relevant to this specialist market. Core to CEDIA is also raising the awareness and profile of the industry and the Association's members to a wide variety of audiences.

Home owners, builders, architects and interior designers are increasingly recognising CEDIA members as a professional resource. CEDIA is governed by its members, many of whom volunteer generously to ensure their peers have the finest education and industry support possible.



CEDIA'S AIM

The aim of these CEDIA Recommended Wiring Guidelines is to provide homeowners, builders, electricians and developers with guidance for the installation of the cabling infrastructure that is important to support today's digital and connected lifestyles.

CEDIA understands that though they would always recommend that you talk to a CEDIA specialist as soon as possible in your project life cycle, you may wish to undertake the project yourself. If at any time there is ever ambiguity, uncertainty or you would like further advice, please contact a CEDIA member company (www.cedia.org). The most expensive cable that can be installed is the one that did not get installed in the first place. Mistakes can be costly so it is vital to get the cabling infrastructure correct the first time round.

CEDIA™

The following information was supplied to us by CEDIA.
Full details on wiring guidelines can be found on the CEDIA website.

Scan code to download your copy NOW
or visit <http://www.cedia.co.uk/publications>



GRADES OF INSTALL

GRADES OF INSTALL

Each CEDIA wiring Grade has a minimum cabling requirement defined as a benchmark to correctly wire the services within the home. As the Grade level increases so does the complexity and level of product /technology that is required to correctly specify and design a system. **Grade 1** systems are simple enough that they can be installed by a homeowner with confident technical abilities, or by a qualified electrician. **Grade 2** system cabling demands some additional design input , they also can require a more complex installation depending on the multi room equipment to be installed and so may need help from a specialist CEDIA member. Due to the bespoke and customisable nature of **Grade 3** systems it is always recommended that a CEDIA member is consulted as early as possible in the project cycle life.

GRADE 1

A Grade 1 cabling infrastructure involves installing a combination of twisted pair data cable (called Cat 5e or Cat 6a) in combination with TV and satellite Coaxial cable (typically called CX100 or WF100) to most rooms in the house excluding lavatories and bathrooms. This will allow easy delivery of internet services, home networking, TV, Satellite, radio, telephone, conferencing and other entertainment services to these rooms. Modern construction techniques are very unfriendly to high speed wireless connections (WiFi) and a cable infrastructure will allow the wireless equipment to be optimally located for good signal strength and speed.

MINIMUM CABLING



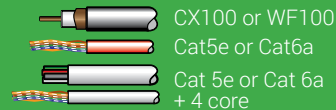
INSTALLATION

A homeowner or qualified electrician

GRADE 2

A Grade 2 cabling infrastructure includes all the cables in a Grade 1 infrastructure in addition to cables designed to enable the installation of whole house entertainment systems. These systems allow the use of discreetly hidden speakers and in wall control points to deliver and control a wide range of entertainment options. Used in conjunction with the cables installed for Grade 1, a Grade 2 system can deliver high quality music and TV pictures around a home fed from a central equipment hub.

MINIMUM CABLING



INSTALLATION

A qualified electrician (with audio system installation experience) or CEDIA member

GRADE 3

A Grade 3 system encompasses all the cables in a Grades 1 and 2 in addition to cables designed for Home Automation. This functionality can include a lighting control system, motorised curtains and blinds access control systems, CCTV networks, environmental and heating control, as well as systems that allow all of the above to be controlled and integrated by a single control system using in wall controls and hand held remote controls. Due to the bespoke nature of some of these systems, unlike Grade 1 and 2 generic recommendations cannot be made so it is essential to discuss your requirements for these advanced systems with a CEDIA member.

MINIMUM CABLING

Bespoke depending on design

INSTALLATION

CEDIA member only

SERVICE DESCRIPTION	DESCRIPTION	GRADE 1	GRADE 2	GRADE 3
Satellite, radio, digital and cable TV	Cabling for Satellite television, Freeview TV and Radio. Also provision for cable TV.	✓	✓	✓
Home network - Broadband and Wireless Internet	Cabling for a wired home network and a robust wireless network.	✓	✓	✓
Telephone	Cabling for telephone points and for devices requiring a telephone line connection (such as Sky).	✓	✓	✓
Multi Room audio	Cabling for speakers (such as in-ceiling) and audio control points from a AVHE (Audio Video Head End) location.		✓	✓
Scene setting lighting and blind control	Cabling for lighting control system and automated blinds, cabling and systems can vary.			✓
Home Automation	Bespoke cabling to allow control of multiple systems within the home.			✓
CCTV and Security	Bespoke cabling for CCTV and security coverage of the home, usually following a security risk assessment and design.			✓

GRADE 2 SERVICES

In addition to services provided in Grade 1, a Grade 2 wired home includes the provision of wiring a number of multi-room audio zones.



GRADE 2 DESCRIPTION

Cabling as listed in **Grade 1 PLUS:**

Additional 4 core speaker + Cat5e cabling for a multi room audio system.

Each speaker cable and Cat5e are run together, and provide wiring for an 'audio zone'. These cables must all start from a single location, known as the AVHE (Audio Video Head End). The AVHE is located at ELVHE location.

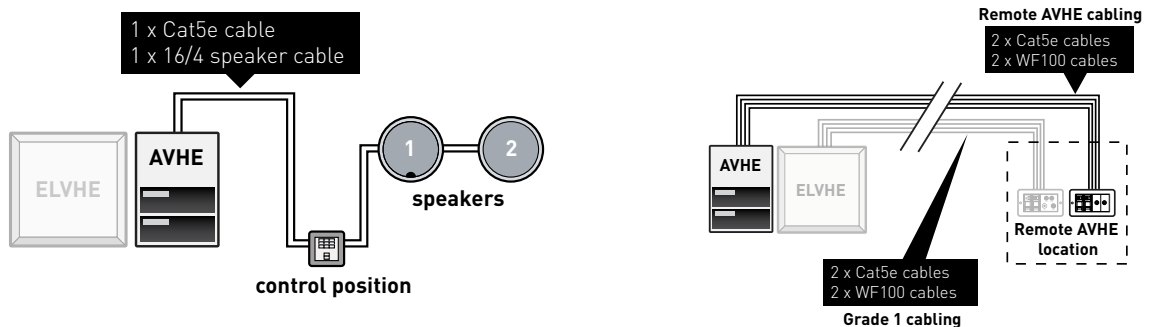
Additional cabling must be run to a suitable main living space location where **Grade 1** cabling has been terminated - e.g. the main lounge. This cabling is referred to as the 'Remote AVHE cabling*', and provides links to the AVHE for additional audio sources.

	DESCRIPTION	CABLING	CONNECTIONS (A TO B)
AUDIO ZONE	2 x Speakers locations 1 x Control point	1 x Cat5e 1 x 4 core speaker 1 x WF100	Speakers via control point — AVHE
REMOTE AVHE	Additional cabling for audio sources	2 x Cat5e 2 x WF100 + Grade 1 cabling	Remote AVHE location — AVHE

Each audio zone to be wired for multi-room audio will have a Cat5e+4 core speaker cable run via a suitable control position (typically a switch level backbox), and then from the control position to the first speaker and then looped to the second speaker. This is the principle of the CEA/CEDIA 2030-A standard. Wiring in this way allows for the following options.

- OPTION 1** - a remote keypad to be located in each room with a central amplifier.
- OPTION 2** - a remote sensor installed at each speaker with a central amplifier.
- OPTION 3** - a Cat 5e based speaker (with internal amplifier) with the speaker cable being used for power.

*Remote AVHE cabling - two additional Cat 5e and two additional Coax cables should be run to the AVHE location from the ELVHE. Grade 1 cabling should also be available at this location.



AUDIO CABLING

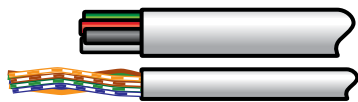
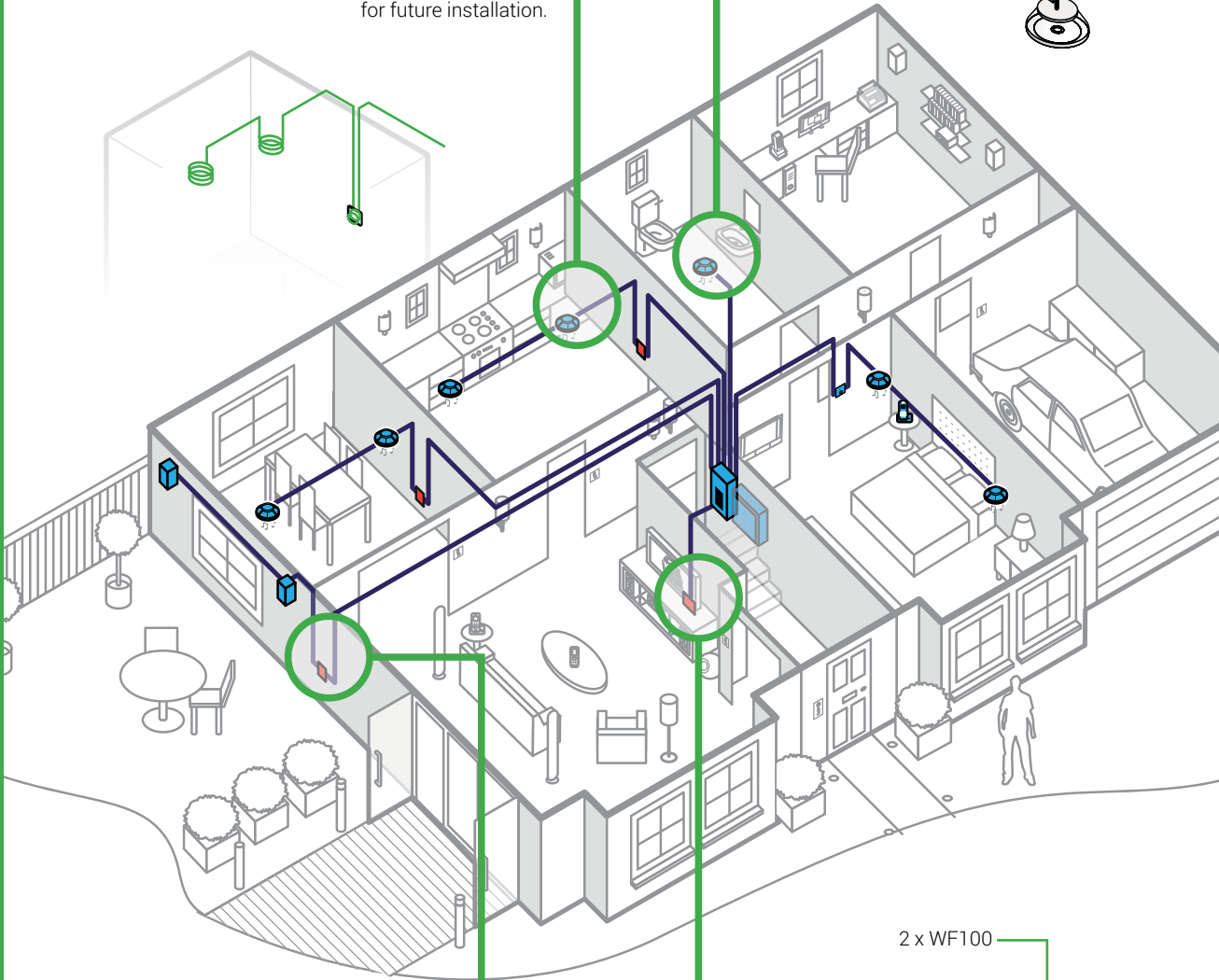
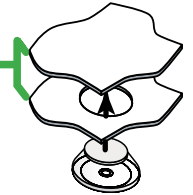
Cat5e (reference standard - TIA/EIA-568A) and 4 core speaker cabling (4 core speaker cable with 4 cores of 16 gauge). A 'shotgun' Cat5e and 4 core speaker cable helps to minimise cable runs.



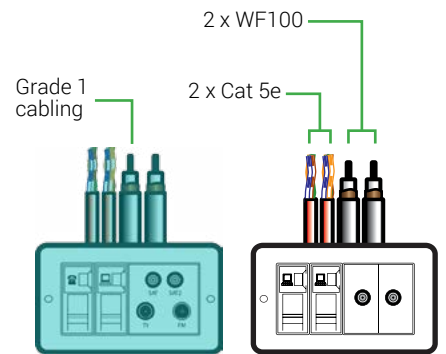
GRADE 2 INSTALL

15cm cable coils should be left at speaker pre-wire locations and 30cm coils in backboxes. All speaker locations should be accurately recorded for future installation.

In-ceiling speaker locations will need to be coordinated so that an unobstructed installation is possible. Avoid locating next to joist, beam or pipework. Minimum 200mm diameter void, 100mm clear depth required for installation of in-ceiling speakers.



1x Cat 5e + 1x 4 core speaker cable run via a control point location to speakers. This is called an Audio Zone. Shotgun cable can help minimise cable runs.

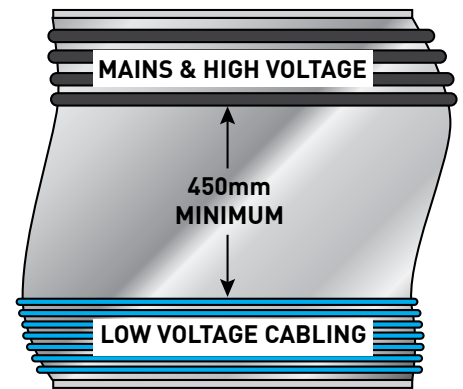


Additional cabling (2x Cat 5e + 2x WF100) is required for the REMOTE AVHE. Grade 1 cabling (2x Cat 5e + 2x WF100) should also be available here.

ELECTRICAL REQUIREMENTS

Low voltage and Extra Low Voltage cabling requires some special consideration when being run around the property. Due to the type of signals they carry, they are susceptible to interference from mains and high voltage cabling. A qualified electrician will be able to run these cables with this in mind, some guidelines are:

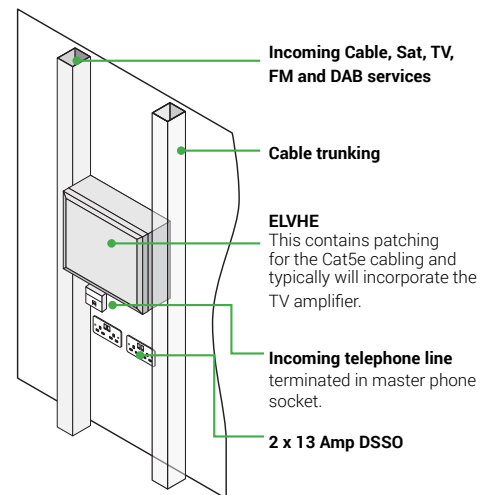
- Ensure all exposed cables (or those run underground) are sufficiently protected.
- If sockets are not to be terminated, leave tails on all cables - 3 metres at the equipment site, 30cm at a backbox.
- Label cables in a unique fashion using the supplied labels, fix near the backbox.
- Ensure cable entry into backboxes is from the bottom of or top of the backbox
- Cables shouldn't run parallel to mains/lighting cables for any distance greater than 2m, unless at least 4550mm apart. There are no problems if cables just cross at 90 degrees.



EXTRA LOW VOLTAGE HEAD END (ELVHE)

The ELVHE is where the incoming services and most cables will run back to. A location for this needs to be determined for the electrical contractor at an early stage. The ELVHE can be hidden away under the stairs or in a utility room, for example. It needs to be placed somewhere accessible and at an appropriate height from the floor so an electrician or engineer can safely work on it.

The panel needs 2 x 13 Amp double switched socket outlets located close to it. It is recommended that cable management be provided to run the cables to the ELVHE. Trunking can be used to feed cables directly into the cable knock-outs, or run alongside as indicated. The electrical contractor will decide the best way of managing the cables.

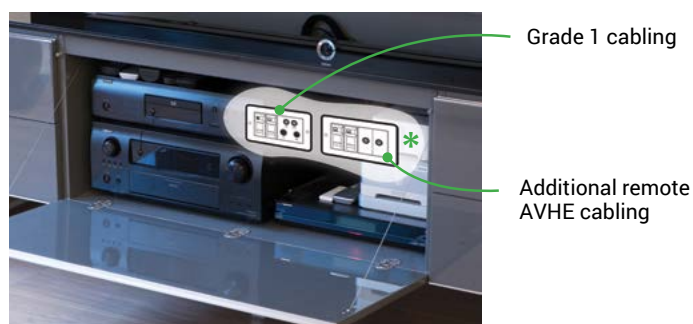


AUDIO VIDEO HEAD END (AVHE)

The AVHE is located at the ELVHE. A suitable patch or enclosure panel may be installed or shelving could be provided for the equipment (with the cables being terminated in a backbox with a faceplate at the shelving location). Ensure there is appropriate mains power adjacent to any head end equipment. Any AVHE location will need to be suitable ventilated.

REMOTE AVHE CABLING

The remote AVHE cabling should be run to a suitable main living space location where the Grade 1 cabling has been terminated - e.g. the main lounge. Consideration should be made as to where to house the audio sources and amplifier components - this may often be within a piece of joinery. Any equipment will need to be suitably ventilated.



Don't forget that suitable mains power supply will be required for the remote AVHE and any head end equipment.

TERMINATION'S

DO



Use sweeping bends, no tighter than the curve of a Coke can.

DON'T



Bend ratio = 4x diameter
Don't allow the cable to form right angles or sharp bends.

DO



Use tie wraps loosely on large bundles.

DON'T



Do not overstress cables by over tightening cable ties, especially to the point where crush stress is visible

DON'T



Don't allow the cable to kink, knot or snag while pulling it off the spool or out of the box; deforming the pair-twist will alter the performance of the cable.

DON'T



Don't allow the cable to kink, knot or snag while pulling it off the spool or out of the box; deforming the pair-twist will alter the performance of the cable.

DO



Use j-hooks or similar devices designed to support cables.

DON'T



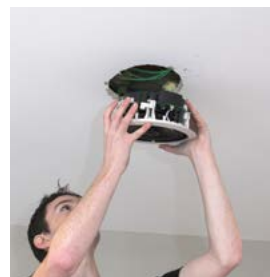
Do not overstress cables by overloading.



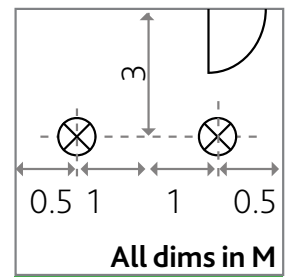
Pull cable using less than 25 pounds (11.3Kg) of pull-force.



Use a cable pulling accessory.



Ensure 15cm cable coils are left at speaker pre-wire locations to allow for easy installation.



All dims in M

Record any pre-wire locations accurately.

IMPORTANCE OF TESTING

"Fixing a fault at second fix is 10 times cheaper than fixing a fault at commissioning."

Do not leave all the testing to the end - perform appropriate testing at each stage. After each Cat5e cable has been terminated it must be continuity tested and wire mapped.

There are three categories of testing: **Verification, Qualification, Certification**

1 - VERIFICATION

Verification answers the following question:

"Do I have end to end continuity and a proper wiremap on the cable?"

Verification Tools Provide:

Basic Tools.
Basic continuity wiremap
Shorts or open in a cable
More Advanced Tools
Length and tone tracing



2 - QUALIFICATION

Qualification answers the following question:

"Can this cabling link support the bandwidth requirements of the network and applications?"

Qualification Tools Provide:

Identification of links that will not support certain network speeds and technologies. Distance to performance faults like crosstalk. Assurance that existing cabling will support new technologies, like Gigabit Ethernet (GBE) and VoIP, before upgrading.



3 - CERTIFICATION

Certification answers the following question:

"Does this cable comply with performance requirements of the International TIA or ISO standards?"

The definition of performance and the level ("Category or Class") of performance is defined by industry standards TIA/EIA-568B defines Cat5e, Cat6a, ISO/IEC 11801 and 61935 define Class C, D, E and F.

Industry standards specify a level of performance based on bandwidth analysis that is independent of a particular network technology.

ISO
TIA

WIREFAPPING

The wiremap shows some common examples of incorrect terminations that can show up in testing. These are used for testing to make sure pin 1 on patch panel goes to pin 1 on outlet etc.

Additional testing is possible for: Continuity, Shorts, Crossed Pairs, Reversed Pairs. Split Pairs will not be detected by a simple wiremap test, Split pairs will undermine balanced line operation. More sophisticated test required to detect split pairs.



For more information on these guidelines check out CEDIA's Wiring Requirements Guide.

SCAN THE QR CODE TO DOWNLOAD THE GUIDE



ICE CABLE CABLE.DONE.RIGHT**What do Ice Cable stand for?**

They have re-imagined every aspect of cable to save you time, increase performance and improve safety.

**LOW SMOKE, 0 HALOGEN****UNCHANGED WORKFLOW**

Change nothing about the way you work, ICE LSZH Cable is compatible with standard connectors and available in the same gauges as regular cable. This means installation is as simple as ever and no time will be wasted in changing the cable to the safer alternative.

THE SAFEST CHOICE

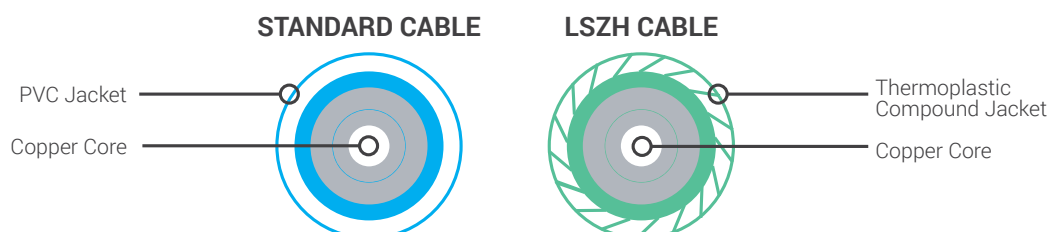
Our LSZH jackets are composed of the finest thermoplastic compounds to ensure that a limited amount of smoke and no halogen is released if the cable is exposed to high sources of heat.

KIND TO THE ENVIRONMENT

By using safer materials, LSZH cable reduces the amount of toxic and corrosive gases that are released in extreme heat. Perfect for poorly ventilated areas, ensure that no further damage is incurred.

FREE OF HALOGENATED MATERIALS

No Fluorine, no Chlorine, no Bromine, no Iodine or Astatine. Our cable jackets contain no halogenated materials meaning that there is no danger of toxic contamination if a fire occurs. Our cables reduce the damage caused to the respiratory systems of anyone nearby in the event of a fire.



NO HALOGEN | LIMITED SMOKE | TOXIC FREE

ICE CABLE CABLE.DONE.RIGHT

Certified to be High Quality

ICE Category Cable has been recognised as a certified HDBaseT product, utilising 5Play technology, with excellent ratings at long distance and Ultra HD4K video.



Certified HDBaseT™

Incorporated in 2010, the HDBaseT™ alliance was founded by LG, Samsung, Sony and Valens to standardise HDBaseT technology for home and commercial distribution.

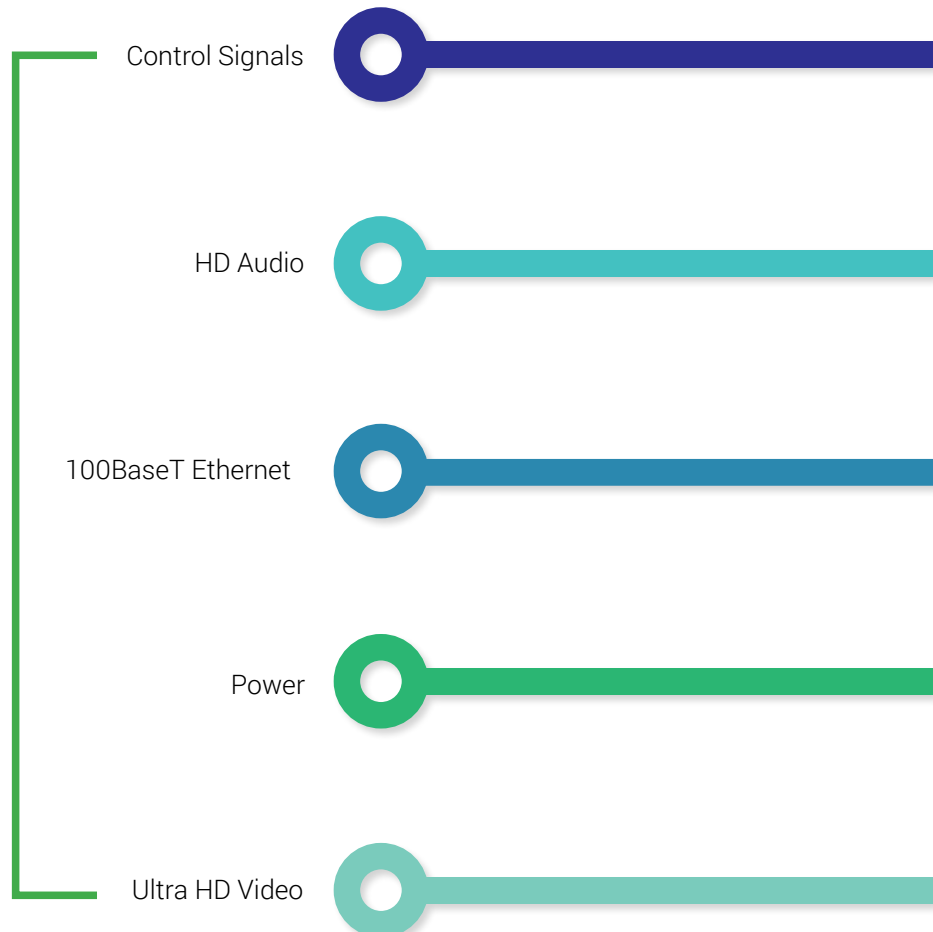


5Play™

The cornerstone of HDBaseT technology, 5Play is a feature set that joins uncompressed full HD digital video, audio, 100BaseT Ethernet, Power and various controls signals into a single LAN cable.



ALL THIS IN ONE CABLE



CABLE INSTALLERS



What does CPR mean for installers?

The construction Products Regulation (CPR) is a game changer for the supply of cable into the UK market as it makes it a legal requirement for cable to be tested and approved to agreed performance criteria.

Up until this point, it has not been illegal for substandard cable to be imported and sold in the UK. For contractors therefore, and for reputable cable manufacturers, the introduction of CPR is to be heartily welcomed as it introduces some legally binding regulations around the quality of cable offered for sale.


From 1st July 2017, all cable to be used for permanent installation in buildings must be tested for its performance in relation to fire. The tests required relate to the way the cables behave in a fire, rather than the ability of the cable to resist the effect of fire.

To be CPR compliant, a cable must be accompanied by a Declaration of Performance (DoP) to demonstrate that it has been tested and certified by a legally appointed notified testing body to comply with the relevant performance tests.

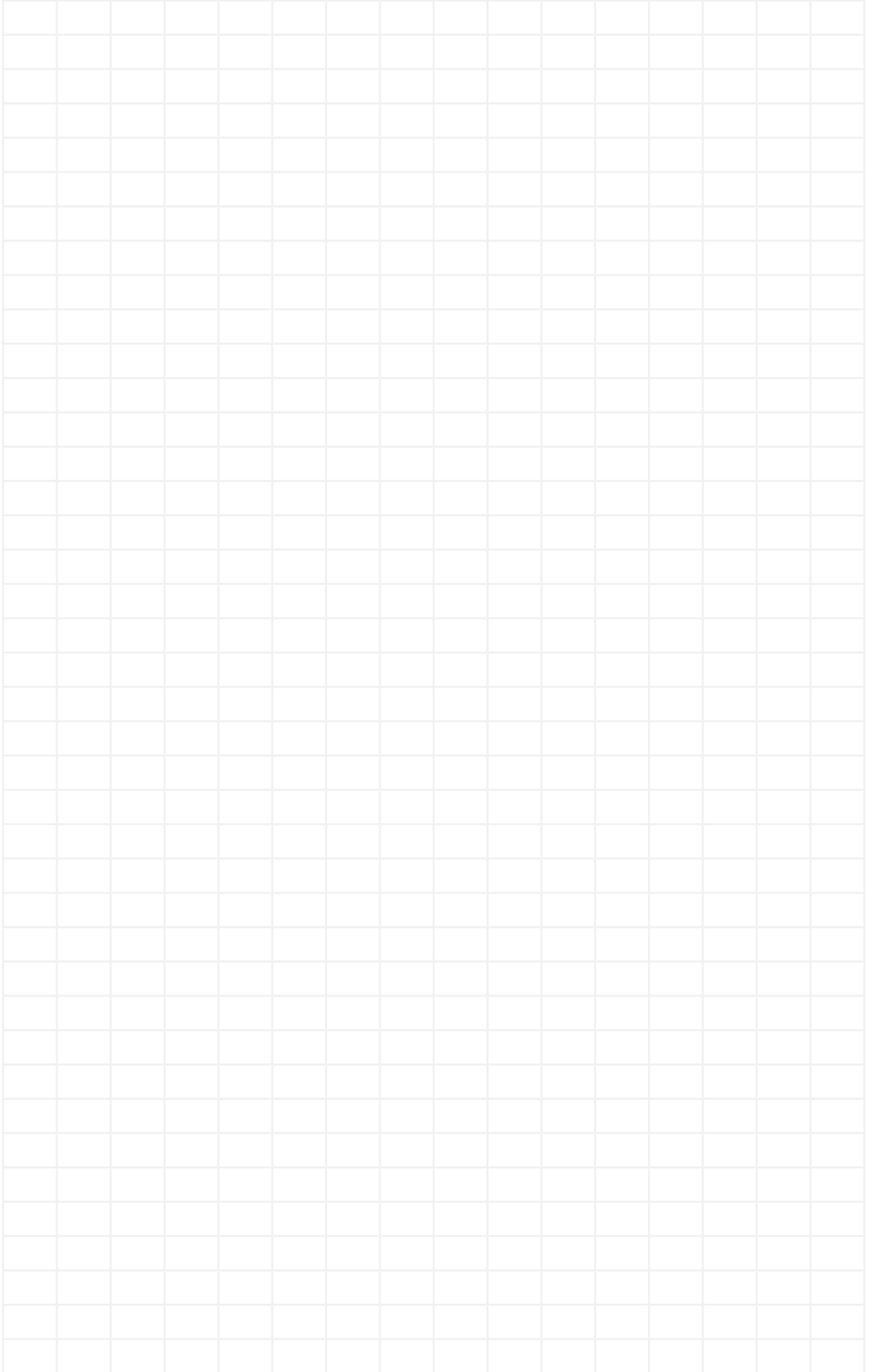
This puts a whole new level of responsibility on the manufacturers, distributors and wholesalers of cables, but makes life easier for contractors and installers.

As you would expect, ICE Cable has been working towards this new regulation for years and all Ice cable is fully compliant with the regulations. ICE Cable are delighted that the new regulations will help to remove substandard cable from the market: another step forward in the drive to improve the safety of products used in UK buildings.

For contractors buying cable made by reputable manufacturers and supplied through reputable wholesalers, the new regulation simply provides further assurance that the cable purchased performs as it should.

 XXXX	<i>CE marking, consisting of the "CE"-symbol</i> <i>Identification number of the product certification body</i>
AnyCo Ltd, PO Box 21, B-1050, Brussels, Belgium 13 (To be given by the manufacturer)	<i>Name and the registered address of the manufacturer, or identifying mark</i> <i>Last two digits of the year in which the marking was first affixed</i> <i>Reference number of the DoP</i>
EN 50575: 2013 (To be given by the manufacturer) Supply of electricity in buildings and other civil engineering works with the objective of limiting the generation and spread of fire and smoke Reaction to Fire: B2_{ca}-s1,d1,a1 Dangerous substances: none	<i>No. of European standard applied, as referenced in OJEU</i> <i>Unique identification code of the product-type</i> <i>Intended use of the product as laid down in the European standard applied</i> <i>Class of performance</i>

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