

4K UHD Over IP Network - Encoder • Decoder

Visionary Solutions 4K UHD over IP cinema quality, ultra-low latency (~1 frame - visually lossless), encoder and decoder bypass the constraints of traditional switch matrix systems by harnessing the flexibility and scalability of converged IP networks.

- ▶ Distribute 4K video over Gigabit Ethernet Network
- ▶ Unlimited Distribution
- ▶ Low-Cost network switches are used
- ▶ No fiber or 10 Gigabit switch required
- ▶ Any number and combination of inputs/outputs
- ▶ Standard network cabling (CAT5e/6)
- ▶ Utilize existing network resources
- ▶ Rapid deployment
- ▶ Single network for AV and IT

How It Works

An encoder is connected to an AV source signal (HDMI), (camera, media player, PC or Server, BluRay or digital signage player).

The signal is converted into a packetized network stream that's compatible with off-the-shelf IGMP enabled Gigabit Ethernet (GbE) switches (Jumbo Frames enabled).

Using existing Cat5e/6 infrastructure, users can connect Cat5e/6 to any decoder anywhere on the same GbE network.

The decoder takes the IP packets received over Cat5e/6 cables, converts them back into an HDMI signal connecting directly to a display, delivering visually lossless video along with RS232 controls.

Any signal from any encoder can be sent to any combination of decoders on the network. The signals can easily be controlled with the software provided to create different outputs on the display side; including video wall or matrix switching.



- In Room Magnification / Image Magnification
- Commercial & Residential AV systems
- Sports bars
- Retail
- Live venues
- Stadiums
- Reception areas
- Classroom/Education
- Digital Signage
- Luxury Transport
- Boardroom systems
- Collaborative PC systems
- Command & Control Rooms
- Courtrooms

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Features

- ▶ **HDMI over IP** - Transport 4K Ultra-High-Definition (UHD) 2160p60(4:2:0)/2160p30(4:4:4) over Gigabit Ethernet Networks
- ▶ **High Dynamic Range (HDR)**
- ▶ **Point-to-Point, Point-to-Multipoint, and Multipoint-to-Multipoint capable**
- ▶ **Auto Video Scaler** - 4K in/1080P out, 1080P in /4K out
- ▶ **Audio embedding and de-embedding** - supports digital and stereo analog audio
- ▶ **HDMI 2.0 and HDCP 2.2 Compliant**
- ▶ **Adjustable bitrate** - 10 - 200 Mbps or Auto (850Mbps max)
- ▶ **POE**
- ▶ **Scalable**
Extensible AV Distribution - escape traditional fixed matrix limits
Expand the video matrix by adding encoders or decoders
Allows for practically any combination of inputs and outputs
- ▶ **Matrix and Built in Video Wall functions**
A Single platform to support distributed displays and Video Walls; without separate expensive video wall processors & controllers
Enhanced Video Wall functionality - supports video rotation 180/270 degrees
Easily Create Video Walls using normal commodity displays
Built-in processor that allows you to build up to a 8x16 Video Wall
- ▶ **Seamless Fast Switching** - tearing free, no black screen, no frame lock
- ▶ **Control** - A Control System lets you select what content is displayed - 3rd Party Control Drivers (QSC, Symetrix, Crestron, AMX, etc.) *API providing access to the full range of features on the encoders and decoders offered to qualified System Integrators.
- ▶ **RS232 over IP** - control any device with an RS232 interface
- ▶ **USB 2.0 over IP** - control practically any remotely located device using USB devices and interfaces. Also supports KVM over IP.

Specifications	E4100	D4100
Size	123/147mm(w/Flange)(W) x 132mm(L) x 40mm(H), 370g	
Ethernet Port Protocol	POE, UTP/STP 1000Mbps (8K Jumbo Frame required) IP, UDP, TCP, ICMP, IGMP	
HDMI Port*	19 pin type A female	
RS232 Port	Phoenix Euro Block 3.81mm pitch - 5 pins	
DC Jack (Power)	ψ2.0/DC5V, 2A	
Audio Jack (Line In/Out)	Phoenix Euro Block 3.81mm pitch - 4 pins	
USB Port	Type-B USB2.0	Type-A USB2.0
LAN Bandwidth	850Mbps max. for each source	
Max. Supported Timing	2160p@60fps	
Max. Distance	120M (UTP) between 2 devices (Encoder/Decoder/Ether Switch)	
Built-in Output Scaler		Downscale to 1/2 Upscale from horizontal pixels < = 1920
Latency	~1 frame ~ 17ms at 60 fps, ~33m at 30fps	
Video Wall		Up to 8 x16 display Image rotation (180/270°) Accurate frame gap compensation Tearing free
USB Redirection	KM over IP: dedicated for KVM application, USB over IP: support any kind of USB HID devices	
HDMI Audio Redirection	2 Ch LPCM 8 Ch LPCM 5.1 Ch NLPCM 7.1 Ch NLPCM	
HDMI Audio Extraction	2 Ch LPCM (32KHz~96KHz)	
Stereo Audio Redirection	LINE IN (switch off HDMI audio)	LINE OUT
RS232 Redirection	Transparent binary data transmission	
HDMI 3D Support	HDMI 2.0 3D: TnB, SbS, F.P.	
Compression Technology	JPEG2000 based visually lossless video compression algorithm	
Certificate	CE/FCC	
Compliance	HDMI 2.0/HDCP 2.2/RoHS	
Operating Temperature	0~70°C	
Operating Humidity	10~85% RH (no condensation)	
Storage Temperature	-10~80°C	
Storage Humidity	5~95% RH (no condensation)	

E4100 Encoder



VDC 5-12
LAN POE
HDMI INPUT
HDMI LOOP



PWR LINK
RS232
AUDIO INPUT
USB

D4100 Decoder



VDC 5-12
LAN POE
HDMI OUTPUT



PWR LINK
RS232
AUDIO OUTPUT
USB