AVPro Edge AC-EX40-444-PLUS-KIT 4K60 HDR Ultra Slim HDMI/HDBaseT Extender (Transmitter/Receiver) Kit with Bi-Directional USB/KVM

The AC-EX40-444-PLUS-KIT is a revolutionary 4K60 4:4:4, HDR and 18Gbps supported HDBaseT extender over single CAT-6a/7 UTP/STP.

AVPro Edge presents its 18Gbps over copper extender. Using ICT (Invisible Compression Technology) we have achieved what was thought to be impossible. We can deliver a virtually lossless high bandwidth 4K HDR signal with support for all signals up to 18Gbps. Deep Color and HDR Metadata remain intact making the transmission free of artifacts like banding. Other similar devices will deliver a sub-par image that has very visible banding and color shifting.

Key benefits of using AC-EX40-444-PLUS-KIT:

Invisible Compression Technology: ICT is a revolution in HDMI extension technology. This proprietary technology can compress high bandwidth HDMI signals into a more manageable size to fit through a CAT Cable "pipe". The ICT algorithm can manage all flavors of HDR including 4:4:4, 4:2:2, and 4:2:0 as well as signals up to 18Gbps and 4K 60Hz 4:4:4. The architecture of ICT allows it to be compatible with all chroma subsampling types, color spaces and HDMI Deep Color up to 12 Bit. Our technology is unique because it is truly invisible. It is not only invisible to the human eye, it is invisible to HDMI test gear and other sink devices, what comes in is what goes out. What makes ICT special is that we preserve HDR Metadata and color information and depth in its full, original, integrity. Other compression technologies sacrifice these to save space and it will cause very visible banding, color shifting and motion artifacts in the image.

This technology is backed by extensive testing in side by side comparisons of ICT vs direct connected sources. The setup is two identical displays and a single source. The source is split and sent to both displays, one using ICT and one with an 18Gbps cable. The movie is shown in HDR and evaluators are brought into determine which one is compressed. The results are conclusive, it is invisible. Even to the most trained eye.

Extend 4K 60 4:4:4 and HDR Signals over Category Cable: The length of manufactured HDMI cable is unchangeable after it is made and they are unreliable after a short distance. Additionally, HDMI connectors can only be terminated in specialized factory environment due to its extremely high frequencies and high density. This does not allow installers or users to remake or make cables on a DIY basis. CAT-6A cables are available widely and can be reworked easily by the installer or end-user. Additionally, using CAT cable allows the user to change components as technology changes. By using AC-EX40-444-PLUS-KIT, the transmission distance for HD 1080P is up to 70 meters (330') and UHD, 4K resolution the distance reaches an impressive 40 meters (230').

KVM (Keyboard Video Mouse): USB extension makes this unit a favored KVM solution. You have the ability to extend USB bi-directionally, so Rx to Tx, or even Tx to Rx. This allows you to control a Keyboard, Mouse or Pan-Tilt-Zoom camera from 40 meters away. This is perfect for schools, contractors, drafting houses, constructions companies and more.

Down Scaling: The AC-EX40-444-PLUS-KIT has a scaling circuit built into the transmitter. The scaler can scale 4K (and HDR) --> 1080P. A common application for this is when you have a 4K distribution and you have one or two displays that are older. You can use the extender to scale down where you need to and not have to reduce the entire system. The AC-EX40-444-PLUS-KIT does the heavy lifting, eliminating the need to add additional boxes.   This is an ideal choice for extension for projects requiring an 18Gbps matrix switcher like the AC-MX1616-AUHD.

Total EDID Management: The AC-EX40-444-PLUS-KIT has robust EDID control. EDID management allows you to manage the input device and request specific video resolutions and/or audio codecs. the following EDID options are available:

- EDID Bypass
- 1080P 2CH Audio
- 1080P 8CH Audio
- 4K60 4:2:0 2CH Audio
- 4K60 4:2:0 8CH Audio
- 4K60 4:4:4 HDR 2CH Audio
- 4K60 4:4:4 HDR 8CH Audio
- USER EDID – EDID Copy

The EDID Copy Function allows you to copy and save from any display or projector you want to.

Audio Return Channel (ARC): The Audio Return Channel in HDMI 1.4 and 2.0 enables a TV, via a single HDMI cable or Toslink, to send audio data "upstream" to an A/V receiver or surround audio controller, our extender will continue the upstream audio all the way to the Transmitter. There it can be connected via HDMI ARC or Toslink.

On Board Troubleshooting: This unit allows you to generate a 1080P or 4K test pattern to identify external problems (source, repeater, displays, etc...). You can now be sure that your wiring is correct and get to the bottom of problems quickly should they arise, without having to worrying if the source or sink is working properly. You can generate a test pattern from the Tx or the Rx so you can verify total system infrastructure integrity.

Cascade: AC-EX40-444-PLUS-KIT features HDMI signal equalization and amplification. This allows for a "daisy chain" of AC-EX40-444-PLUS-KIT extenders for extremely long distance transmission. With our unique bi-directional power, there is no need for a power source where the Rx and Tx meet up in a daisy chain, simply power the first Tx and the

second Rx and power will be provided to the middle remotely.

IR & RS232 Management: IR & RS-232 are bidirectional and can control the sources from the sinks or vice versa. In addition you can use the I-PASS port to plug you Control System emitter ports directly into the IR (I-PASS) port on the transmitter (via mono 3.5mm cable) for clean and reliable IR pass through, our unique VPC (Voltage Protection Circuit) allows you to do this without wear and tear on the electronics inside.

Features:

- HDMI 2.0(a/b)
- 18Gbps Bandwidth Support (Using ICT)
- Ultra Slim (.47 inch/12mm)
- Up to 4K60 4:4:4 Support
- Full HDR Support (HDR 10 & 12 Bit)
- HDR, HDR10+ and HLG Support
- 4K --> 1080P Down-scaling for mixed systems
- Audio Return Channel on HDMI or TOSLINK (ARC)
- EDID Management and EDID emulate
- 4K & HD Test Patterns built into Tx and Rx for troubleshooting
- Ethernet Hub Capability (10/100)
- L/R Audio Extraction on Tx and Rx
- HDCP 2.2 (and all earlier versions supported)
- USB Extension
- CEC Pass Through
- 3D Support
- 70M (330ft) on 1080P (Cat6a)
- Up to 40M (230ft) on 4K (up to 4K60 4:4:4, HDR) (Cat6a)
- Bi-directional 48v PoH (Power Over HDBaseT, only one Power Supply Needed)
- I-Pass Feature for control system "pass-through"
- 3-20v protection circuit built in for safe IR transport
- Bi Directional RS232 Transport
- LED Status, Link, Power indication lights
- Use single UTP/STP LAN cable (CAT-6A) with substitute HDMI cable to achieve long distance transmission
- Supports uncompressed PCM 2- Ch., LPCM 5.1 & 7.1, Dolby Digital, DTS, Dolby TrueHD, DTS HD-Master Audio, Atmos on HDMI
- ESD protection circuitry (Inputs & Outputs) to 7KV
- Can Cascade