



## GO FAR, GO SIMPLE, GO 5PLAY™ WITH KRAMER'S HDBaseT SOLUTIONS



For every important AV application – business, education or home entertainment, Kramer connects! With Kramer's line of high-performance HDBaseT product solutions you can achieve high-quality distribution, amplification and switching over twisted pair category cable for all your video and audio signals!

\*To see our most current HDBaseT product offerings, visit our Web site at [www.KramerAV.com](http://www.KramerAV.com).





HDBaseT is the standard for distributing uncompressed HD multimedia content over CAT5e/6a cables.

Kramer's certified, high-performance, value-oriented HDBaseT products are designed for distribution switching and processing of digital video and audio along with Ethernet, control and Power over Ethernet (PoE).



### HDBaseT

Whether installing a video wall in an airport, a projector in a classroom or placing digital signage in a mall, cable length remains the biggest AV challenge for integrators. HDBaseT addresses this and many more key challenges. It is fast becoming the installer's connection of choice.

HDBaseT is a connectivity standard for whole-home and commercial distribution of uncompressed HD multimedia content with minimum latency. No video decoders/encoders are required and all formats are supported. The cornerstone of HDBaseT technology is 5Play™, a feature set that converges uncompressed full HD digital video, audio, 100BaseT Ethernet, Power over Ethernet and various control signals through a single standard 330ft (100m) twisted pair category cable.

Leading electronics manufacturers, working together in a cross-industry alliance have recognized HDBaseT as the new global HD standard for advanced digital media distribution.

### KRAMER'S ULTRA MODE - DARE TO GO WHERE OTHERS CAN'T

Kramer's HDBaseT range extenders, wall plates and SID-X2 step-in commander communicate video, audio, RS-232 and IR data as an integrated HDBaseT signal. Where standard industry cable provides a transmission range of 330ft (100m), Kramer's BC-DGKat623 cable extends that range to 430ft (130m). For demanding applications, Kramer's Extra Range models offer the Ultra mode that reaches up to 590ft (180m) with a resolution of 1080p@60Hz at 24 bits per pixel.

### HIGH-BANDWIDTH DIGITAL COPY PROTECTION (HDCP)

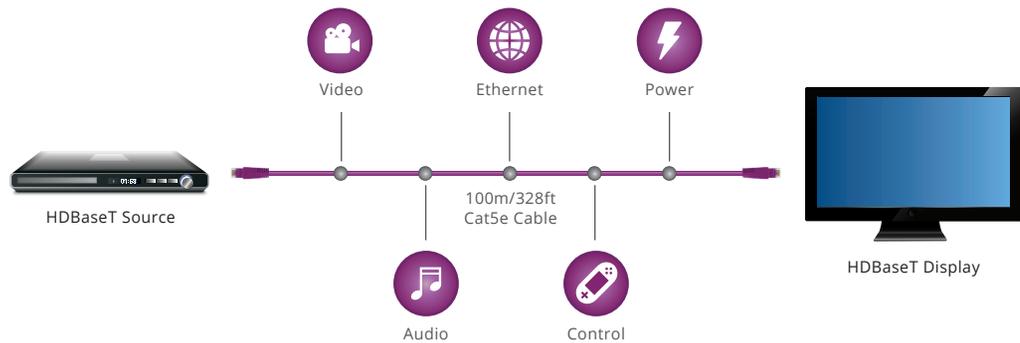
Improved copy protection is another benefit of HDBaseT. Since the video is passed through the HDMI chipset, HDBaseT supports all key HDMI 1.4 features, including HDCP. This very high degree of copy protection satisfies the requirements of many content producers.

For an HDCP encrypted signal to get from the source to the display, every product in the signal path must be HDCP compliant. As a result, HDBaseT helps reduce piracy and ensures that the highest quality content can be delivered to as wide an audience as possible.

## 5PLAY™ ON A SINGLE CABLE

HDBaseT technology empowers Plug and Play digital connectivity between HD video sources and remote displays. The 5Play feature set, converged through a single 330ft (100m) twisted pair category cable enables the delivery of:

-  **Video** – Uncompressed HD/3D video up to 4K resolution
-  **Audio** – Any standard digital audio format
-  **Ethernet** – 100BaseT Ethernet
-  **Control** – Various control signals including CEC, RS-232, USB and IR
-  **Power** – Up to 100W using Power over Ethernet



## DEFINING EDID

The Extended Display Identification Data (EDID) is a data structure that a display provides to describe its capabilities to the HDMI source. It is a handshake between the display and the source that ensures that the source sends the best possible signal to the display. The EDID communication enables the HDMI source to “know” what kind of monitor is connected to the output so it can output the optimal image and sound for that display. Among many possible pieces of information, the EDID data block includes the manufacturer’s name, the product type, the display size, native resolution, supported video resolutions and audio capabilities.

## KRAMER EDID HANDLING MECHANISM

Kramer uses a sophisticated and unique EDID handling mechanism that makes installation and operation of HDMI devices a Plug and Play experience. On many of Kramer’s machines, front panel push buttons allow the user to select a factory-set default EDID, or to copy and select an EDID from a connected display, etc.

KRAMER ELECTRONICS IS AN OFFICIALLY RECOGNIZED ADOPTER OF HDBaseT.

All our HDBaseT products are certified!

KRAMER’S HDBaseT FAMILY OF HIGH PERFORMANCE PRODUCTS ARE RENOWNED FOR EXTENDING, SWITCHING, AMPLIFYING AND SCALING DIGITAL SIGNALS



## **HDBaseT INSTALLATIONS AND APPLICATIONS**

Regardless of the application – professional, education, residential, medical or consumer, Kramer’s HDBaseT certified devices deliver a high-quality AV signal combined with control and Ethernet for a range of up to 590ft (180m) (1080p@60Hz, 24bpp in Ultra Mode using Kramer’s BC-DGKat623)

### **PROFESSIONAL MARKET**

Kramer HDBaseT professional products are essential for reliable and continuous transmission of high-definition video and audio, control and power to multiple remote display arrays.

### **CONSUMER MARKET**

HDBaseT is ideally suited for the consumer electronics market. It provides a high-quality digital interface between video and audio sources along with Ethernet, control and PoE. Using a single twisted pair category, Kramer’s HDBaseT products for Digital Den™ can distribute and switch digital signals to remote products such as set-top boxes, DVD and Blu-ray players, gaming consoles and displays such as plasmas, LCD televisions and projectors.

With Kramer you can create your own ultra-high quality Digital Den™ environment in your home.

### **EDUCATION MARKET**

Using HDBaseT, installers can connect a wall mounted projector to a distribution matrix with a single 330ft (100m) twisted pair category cable. Use any type of projector including the most advanced 3D projectors together with any software management. This type of networking is ideal for applications such as classrooms and auditoriums.

An HDBaseT network is easily implemented over the existing Ethernet infrastructure for low installation and maintenance costs looking forward to future upgradability.

### VM-4HDT

#### 1:4 4K Ultra-HD HDMI to HDBaseT Distribution Amplifier



The **VM-4HDT** is a high-quality 1:4 HDMI to HDBT distribution amplifier that takes one HDMI input, equalizes and reclocks the signal and distributes it to four HDBT identical outputs. The **VM-4HDT** distributes signals having resolutions of up to 4Kx2K and including WUXGA and 1080p.

#### FEATURES

- Max. Data Rate – 10.2Gbps (3.4Gbps per graphic channel), supports 4K UHD.
- HDMI Support – Deep Color, x.v.Color™ and 3D.
- HDCP Compliance – Sources that support HDCP output HDCP protected content.
- Kramer Equalization & re-Klocking™ Technology – Rebuilds the digital signal integrity to travel longer distances.
- I-EDIDPro™ Kramer Intelligent EDID Processing™ – An intelligent EDID handling and processing algorithm that ensures Plug and Play operation for HDMI systems.
- Default EDID – For fast and efficient connection.
- 3D Pass-Through.

### VM-212DT

#### 1:2+1 HDMI and HDBaseT 4K Ultra-HD to HDBaseT Distribution Amplifier



The **VM-212DT** is a looping 4K ultra-HD distribution amplifier for HDMI & HDBaseT signals. It reclocks and equalizes the signal and distributes it to two identical HDBaseT outputs and an HDMI loop. This product offers the versatility of control options and audio embedding.

#### FEATURES

- Max. Data Rate – 10.2Gbps (3.4Gbps per graphic channel) with 4K ultra-HD support.
- HDTV Compatible.
- HDCP Compliant – Works with sources that support HDCP repeater mode.
- HDMI Support – Deep Color, x.v.Color™ and 3D.
- Automatic Live Input Detection – Based on video clock presence.
- Automatic Analog Audio Detection & Embedding.
- Looping HDMI Output – Allow monitoring and cascading to additional DAs.
- I-EDIDPro™ Kramer Intelligent EDID Processing™ – Intelligent EDID handling & processing algorithm ensures Plug and Play operation for HDMI systems.
- Data Equalization and Reclocking.
- Support for Digital Audio Formats.
- Support for EDID Designer.

## VM-214DT

### 1:4+1 HDMI and HDBaseT 4K Ultra-HD to HDBaseT Distribution Amplifier



The **VM-214DT** is a looping 4K ultra-HD distribution amplifier for HDMI & HDBaseT signals. It reclocks and equalizes the signal and distributes it to four identical HDBaseT outputs and an HDMI loop. This product offers the versatility of control options and audio embedding.

#### FEATURES

- Max. Data Rate – 10.2Gbps (3.4Gbps per graphic channel) with 4K ultra-HD support.
- HDTV Compatible.
- HDCP Compliant – Works with sources that support HDCP repeater mode.
- HDMI Support – Deep Color, x.v.Color™ and 3D.
- Automatic Live Input Detection – Based on video clock presence.
- Automatic Analog Audio Detection & Embedding.
- Looping HDMI Output – Allow monitoring and cascading to additional DAs.
- I-EDIDPro™ Kramer Intelligent EDID Processing™ – Intelligent EDID handling & processing algorithm ensures Plug and Play operation for HDMI systems.
- Data Equalization and Reclocking.
- Support for Digital Audio Formats.
- Lockable EDID and Default EDID – For fast and efficient connection of the unit.
- Support for EDID Designer.

## RANGE EXTENDERS

### TP-590TXR/TP-590RXR

4K Ultra-HD HDMI & Control, Extended Range HDBaseT2.0 Transmitter & Receiver



The **TP-590TXR** and **TP-590RXR** are a high-performance, extended range, HDBaseT 2.0 technology, transmitter and receiver pair for HDMI, high-speed USB 2.0, audio, bidirectional RS-232 and IR signals. The **TP-590TXR** converts the HDMI, USB, audio, RS-232, Ethernet and IR input signals into an HDBaseT 2.0 twisted pair signal. The **TP-590RXR** converts the twisted pair signal back into HDMI, USB, audio, RS-232, Ethernet and IR signals.

#### FEATURES

- Max. Data Rate – 10.2Gbps (3.4Gbps per graphic channel) .
- HDTV Compatible.
- HDCP Compliant.
- HDBaseT V2 Support.
- 2K and 4K Support in Normal Mode.
- HDMI Support – Deep Color, x.v.Color™ and 3D.
- System Range – Up to 130m (430ft) in normal mode and up to 180m (590ft) in ultra mode (1080p @60Hz @24bpp) when using BC-HDKat6a cables.
- Cables – For optimum range and performance, use Kramer's BC-HDKat6a cable. Note that the transmission range depends on the signal resolution, source and display used. The distance using non-Kramer CAT 6 cable may not reach these ranges.
- EDID Pass Through – Passes EDID signals from the source to the display.
- USB Pass-Through – For connecting a peripheral device, such as, a mouse or a keyboard.
- Bidirectional RS-232 Interface – Data flows in both directions via the RS-232 interface, allowing status requests and device control.
- High Speed USB2.0 Pass-Through – For connecting a peripheral device, such as, a mouse or a keyboard.
- Power over Ethernet (PoE) – The transmitter can provide power over the TP cable to a PoE-compatible receiver.
- Audio Support – Embedding analog audio on the transmitter side and de-embedding of audio on the receiver side.
- Indicators – LED status indicators for input, output, HDBT link and power.

## TP-580T/TP-580R/WP-580T/WP-580R

### HDMI, Bidirectional RS-232, IR over Twisted Pair HDBaseT Transmitters/Receivers



The TP-580T, TP-580R, WP-580T and WP-580R are high-performance HDBaseT twisted pair transmitters and receivers for HDMI, bidirectional RS-232 and IR signals. The TP-580T converts HDMI, RS-232 and IR signals into a twisted pair signal that it transmits to a TP-580R receiver. The TP-580R converts the twisted pair signal back into HDMI, bidirectional RS-232 and IR signals. The wall plate (WP) versions handle HDMI transmission but do not handle RS-232 or IR signals.

#### FEATURES

- Max. Data Rate – 10.2Gbps (3.4Gbps per graphic channel).
- HDTV Compatible.
- HDCP Compliant.
- Certified HDBaseT™ Technology.
- HDMI Support – Deep Color, x.v.Color™, Lip Sync, HDMI Uncompressed Audio Channels, Dolby TrueHD, DTS-HD, CEC.
- 3D Pass-Through.
- EDID PassThru – Passes EDID signals between the source and display.
- 2K x 4K Support.
- Bidirectional RS-232 & IR Interfaces – Commands and data can flow in both directions via the RS-232 interface, allowing status requests and remote control of the destination unit (TP-580T/R only).
- System Range – Up to 70m (230ft) when using BC-HDKat6a cables.
- Cable – Shielded twisted pair (STP) cable recommended. For optimum range and performance use, use Kramer's BC-HDKat6a cable. Note that the transmission range depends on the signal resolution, graphics card and display used. The distance using non-Kramer CAT 5, CAT 6, and CAT 7 cables may not reach these ranges.
- Indicators – Status LEDs for input, output, link and power.
- Wall Plate Dimensions (WP Units) –
  - 12.4cm x 3.12cm x 7.9cm (4.88" x 1.29" x 3.12") US;
  - 15.1cm x 2.96cm x 8.6cm (5.95" x 1.17" x 3.39"),
  - 15.1cm x 2.96cm x 8.0cm (5.95" x 1.17" x 3.15") EU (W, D, H).2 gang EU/US.

## TP-582T/R

### 2x1 HDMI Plus Bidirectional RS-232, Ethernet & IR over HDBaseT Twisted Pair Switcher/Transmitter



The **TP-582T** and **TP-582R** are a high-quality twisted pair transmitter and receiver for HDMI, Ethernet 100BaseT, bidirectional RS-232 and IR signals. The **TP-582T** selects one of two HDMI inputs, and converts it with the Ethernet 100BaseT, RS-232 and IR input signals to an HDBaseT twisted pair signal. The **TP-582R** converts the HDBaseT twisted pair signal back to Ethernet 100BaseT, RS-232, IR and two HDMI outputs, and de-embeds the audio to S/PDIF and TOSLINK® audio outputs.

#### FEATURES

- Max. Data Rate – 6.75Gbps (2.25Gbps per graphic channel).
- HDBaseT Technology.
- HDTV Compatible.
- HDCP Compliance.
- HDMI Support – Deep Color, x.v.Color™, Lip Sync, HDMI Uncompressed Audio Channels, Dolby TrueHD, DTS-HD, CEC.
- 3D Pass-Through.
- EDID PassThru – Passes EDID signals between the source and display.
- Bidirectional RS-232 Interface – Commands and data can flow in both directions via the RS-232 interface, allowing status requests and control of the destination unit.
- Ethernet Interface – Passes 100BaseT.
- System Range – Signals of up to 6.75Gbps (up to 1080p@60Hz 36-bit) over a range of up to 130m (430ft) when using BC-HDKat6a cables.
- Cable – For optimum range and performance using HDBaseT™, use Kramer's BC-HDKat6a cable. Note that the transmission range depends on the signal resolution, source and display used. The distance using non-Kramer CAT 6 cable may not reach these ranges.
- Control – Front panel and contact closure switching.
- Indicators – Status LEDs for input selection, output, link and power.
- Compact MegaTOOLS® – 2 units can be rack mounted side-by-side in a 1U rack space with the optional RK-T2B rack adapter.

## TP-581T

### HDMI, Bidirectional RS-232, Ethernet & IR over HDBaseT Twisted Pair Transmitter



The **TP-581T** is a high-quality HDBaseT twisted pair transmitter for HDMI, Ethernet 100BaseT, bidirectional RS-232 and IR signals. The **TP-581T** takes the HDMI, Ethernet 100BaseT, RS-232 and IR input signals and converts them to an HDBaseT twisted pair signal. The **TP-582R** converts the HDBaseT twisted pair signal back to Ethernet 100BaseT, RS-232, IR and two HDMI outputs, and de-embeds the audio to S/PDIF and TOSLINK® audio outputs.

#### FEATURES

- Max. Data Rate – 6.75Gbps (2.25Gbps per graphic channel).
- HDBaseT Technology.
- HDTV Compatible.
- HDCP Compliance.
- HDMI Support – Deep Color, x.v.Color™, Lip Sync, HDMI Uncompressed Audio Channels, Dolby TrueHD, DTS-HD, CEC.
- 3D Pass-Through.
- EDID PassThru – Passes EDID signals between the source and display.
- Bidirectional RS-232 Interface – Commands and data can flow in both directions via the RS-232 interface, allowing status requests and control of the destination unit.
- Ethernet Interface – Passes 100BaseT.
- System Range – Signals of up to 6.75Gbps (up to 1080p@60Hz 36-bit) over a range of up to 130m (430ft) when using BC-HDKat6a cables.
- Cable – For optimum range and performance using HDBaseT™, use Kramer's BC-HDKat6a cable. Note that the transmission range depends on the signal resolution, source and display used. The distance using non-Kramer CAT 6 cable may not reach these ranges.
- Control – Front panel.
- Indicators – Status LEDs for input selection, output, link and power.
- Compact MegaTOOLS® – 2 units can be rack mounted side-by-side in a 1U rack space with the optional RK-T2B rack adapter.

## TP-588D

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### HDMI/DVI, Audio & Data over HDBaseT Twisted Pair Receiver



The **TP-588D** is a receiver for HDBaseT TP (twisted pair) signals from a compatible Kramer HDBaseT transmitter. It decodes the HDBaseT into DVI, HDMI, S/PDIF, balanced stereo audio, Ethernet and RS-232 signals. The device is used in conjunction with any Kramer HDBaseT switcher or transmitter, for example, the WP-5VH2 or the TP-580TXR.

#### FEATURES

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- Maximum Data Rate – 10.2Gbps data rate (3.4Gbps per graphics channel).
- HDTV Compatible.
- HDCP Compliant.
- Kramer Equalization & re-Klocking™ Technology – Rebuilds the digital signal to travel longer distances.
- I-EDIDPro™ Kramer Intelligent EDID Processing™ – Intelligent EDID handling & processing algorithm ensures Plug and Play operation for HDMI systems.
- Lockable EDID.
- System Range – Up to 130m (430ft) in normal mode and up to 180m (590ft) in ultra mode (1080p @60Hz @24bpp) when using BC-HDKat6a cable.
- Cable – Shielded twisted pair (STP) cable recommended. For optimum range and performance use, use Kramer's BC-HDKat6a cable. Note that the transmission range depends on the signal resolution, graphics card and display used. The distance using non-Kramer CAT 5, CAT 6, and CAT 7 cables may not reach these ranges.
- Power over Ethernet – The receiver can operate without a dedicated power supply when connected to a device that provides PoE.
- Compact MegaTOOLS® – 2 units can be rack mounted side-by-side in a 1U rack space with the optional RK-T2B rack adapter.

## TP-580TXR/TP-580RXR/WP-580TXR/WP-580RXR

### HDMI, Bidirectional RS-232 & IR over Extended Range HDBaseT Twisted Pair Transmitters/Receivers



The TP-580TXR, TP-580RXR, WP-580TXR and WP-580RXR are extended range HDBaseT twisted pair transmitters and receivers for HDMI, bidirectional RS-232 and IR signals. The TP-580TXR converts HDMI, RS-232, and IR signals into a twisted pair signal that it transmits to the TP-580RXR receiver. The TP-580RXR converts the twisted pair signal back into HDMI, bidirectional RS-232 and IR signals. The wall plate (WP) versions handle HDMI transmission but do not handle RS-232 or IR signals.

#### FEATURES

- Max. Data Rate – 10.2Gbps (3.4Gbps per graphic channel) in normal mode; 4.95Gbps (1.65Gbps per graphic channel) in ultra mode.
- HDTV Compatible.
- HDCP Compliant.
- Certified HDBaseT™ Technology.
- Max. Resolution – 1080p @60Hz in Ultra mode.
- HDMI Support – Deep Color, x.v.Color™, Lip Sync, HDMI Uncompressed Audio Channels, Dolby TrueHD, DTS-HD, CEC.
- 3D Pass-Through.
- EDID PassThru – Passes EDID signals between the source and display.
- 2K x 4K Support in Normal Mode.
- Bidirectional RS-232 & IR Interfaces – Commands and data can flow in both directions via the RS-232 interface, allowing status requests and remote control of the destination unit (TP-580TXR/RXR only).
- System Range – Up to 130m (430ft) normal mode; up to 180m (590ft) ultra mode (1080p @60Hz @24bpp) when using BC-HDKat6a cables.
- Cable – Shielded twisted pair (STP) cable recommended. For optimum range and performance use, use Kramer's BC-HDKat6a cable. Note that the transmission range depends on the signal resolution, graphics card and display used. The distance using non-Kramer CAT 5, CAT 6, and CAT 7 cables may not reach these ranges.
- Indicators – Status LEDs for input, output, link and power.
- Wall Plate Size – 2 gang EU/US.
- Compact DigiTOOLS® – 3 units can be rack mounted side-by-side in a 1U rack space with the optional RK-3T rack adapter.

### WP-20 (WP-5VH2)

Active Wall Plate – HDMI & Computer Graphics with Ethernet, Bidirectional RS-232 & Stereo Audio HDBaseT Transmitter



The **WP-20 (WP-5VH2)** ultra HD HDBaseT active wall plate auto switcher is the first of its kind to offer 4K resolution (at the 2K price point) with EDID management, HDMI, VGA, analog audio, and HDMI audio embedding and de-embedding. This product offers the versatility of a fully-featured auto-switcher with the convenience and simplicity of a wall plate. The **WP-20 (WP-5VH2)** is easy to configure, can be powered remotely over Ethernet (PoE) and is designed for any size room.

#### FEATURES

- Max. Data Rate – 10.2Gbps (3.4Gbps per graphic channel) with 4K ultra-HD support.
- HDTV Compatible.
- HDCP Compliant – Works with sources that support HDCP repeater mode.
- HDMI Support – Deep Color, x.v.Color™ and 3D.
- Automatic Live Input Detection – Based on video clock presence.
- Automatic Input Selection – Based on manual selection or last connected input.
- Automatic Analog Audio Detection & Embedding.
- I-EDIDPro™ Kramer Intelligent EDID Processing™ – Intelligent EDID handling & processing algorithm ensures Plug and Play operation for HDMI systems.
- Kramer Equalization & re-Klocking™ Technology – Rebuilds the digital signal to travel longer distances.
- Range – Up to 130m (430ft) in normal mode (1080p@60Hz @36bpp) and up to 180m (590ft) in extended range mode (1080p@60Hz @24bpp) when using BC-HDKat6a cables.
- Lockable EDID.
- Flexible Control Options – Via Kramer Protocol 3000 and embedded Web pages over RS-232.
- Digital Audio Format Support.
- Wall Plate – 2 gang European or US.

### DIP-20

HDMI & Computer Graphics with Ethernet, Bidirectional RS-232, IR & Stereo Audio HDBaseT Transmitter & Step-In Commander



The **DIP-20** is an 4K ultra HD HDBaseT transmitter and step-in commander for computer graphics video, HDMI, unbalanced stereo audio signals embedding and de-embedding. The **DIP-20** accepts an HDMI and PC graphics video input, an Ethernet signal, serial data, and an unbalanced stereo audio input (which is embedded into the output signal), and transmits the signal via HDBaseT (twisted pair) cable to a compatible receiver (for example, the TP-588D or the TP-580R XR). The **DIP-20** is a PoE (Power over Ethernet) provider and can power compatible PoE acceptors, (for example, the TP-588D and the TP-590R XR).

#### FEATURES

- Max. Data Rate – 10.2Gbps (3.4Gbps per graphic channel) with 4K ultra-HD support.
- HDTV Compatible.
- HDCP Compliant – Works with sources that support HDCP repeater mode.
- HDMI Support – Deep Color, x.v.Color™ and 3D.
- Automatic Live Input Detection – Based on video clock presence.
- Automatic Input Selection – Based on manual selection or last connected input.
- Automatic Analog Audio Detection & Embedding.
- I-EDIDPro™ Kramer Intelligent EDID Processing™ – Intelligent EDID handling & processing algorithm ensures Plug and Play operation for HDMI systems.
- Data Equalization & re-Klocking™ Technology.
- Local Balanced Audio De-Embedding..
- Support for Digital Audio Formats.
- Lockable EDID.

## SID-X2N

### 4-Input Multi-Format Video over HDBaseT Transmitter & Step-In Commander



The **SID-X2N** is an HDBaseT twisted pair transmitter and step-in commander for computer graphics video, HDMI, DVI, DisplayPort and unbalanced stereo audio signals.

#### FEATURES

- Max. Data Rate – 6.75Gbps (up to 1080p @60Hz 36bpp) in normal mode; up to 4.95Gbps (up to 1080p @60Hz 24bpp) in ultra mode.
- HDTV Compatible.
- HDCP Compliant – Works with sources that support HDCP repeater mode.
- HDMI Support – Deep Color, x.v.Color™ and 3D.
- I-EDIDPro™ Kramer Intelligent EDID Processing™ – Intelligent EDID handling & processing algorithm ensures Plug and Play operation for HDMI systems.
- Data Equalization and Reclocking.
- Input Signal Detection – Based on video clock presence.
- Automatic Input Selection – Based on manual selection or last connected input.
- Automatic Analog Audio Detection and Embedding.
- Local Balanced Audio De-Embedding.
- Support for Digital Audio Formats.
- Lockable EDID.
- System Range – Up to 130m (430ft) normal mode; up to 180m (590ft) ultra mode (1080p @60Hz @24bpp) when using BC-HDKat6a cables.
- Local Step-In Switching – Button & contact closure.
- Power Supply – Requires independent power supply.
- Compact MegaTOOLS® – 2 units can be rack mounted side-by-side in a 1U rack space with the optional RK-T2B rack adapter.

## VS-44DT

### 4K ultra-HD



The **VS-44DT** is an HDMI/HDBT matrix switcher for HDMI, HDBaseT and IR signals. The unit accepts up to four HDMI and IR inputs and routes any or all of them to any or all of four HDMI or HDBaseT and IR outputs for connection to compatible HDBaseT receivers, for example, the TP-580R XR and TP-588D.

#### FEATURES

- Max. Data Rate – 10.2Gbps (3.4Gbps per graphic channel) with 4K ultra-HD support.
- HDTV Compatible.
- HDCP Compliant.
- EDID Capture – Copies and stores the EDID from a display device.
- Range – Up to 130m (430ft) in normal mode (1080p@60Hz @36bpp) and up to 180m (590ft) in extended range mode (1080p@60Hz @24bpp) when using BC-HDKat6a cables.
- HDMI Support – 3D, Deep Color, x.v.Color™, Lip Sync, Dolby® TrueHD, Dolby Digital Plus, DTS-HD® and 7.1 multi-channel audio.
- Non-Volatile Memory – Stores and recalls preset matrix configurations.
- Automatic Output Shutdown – If no input signal is detected after a configurable idle period.
- Kramer Protocol 3000 Support.
- Lock Button – To prevent unwanted tampering with the settings.
- Flexible Control Options – Embedded Web server, RS-232, IR remote (included).
- Worldwide Power Supply – 100-240V AC.
- Standard 19" (2U).

## VS-88DT

### HDMI/HDBT Matrix Switcher



The **VS-88DT** is an HDMI/HDBT matrix switcher for HDMI, HDBaseT and IR signals. The unit accepts up to eight HDMI and IR inputs and routes any or all of them to any or all of eight HDMI or HDBaseT and IR outputs for connection to compatible HDBaseT receivers, for example, the TP-580R XR.

#### FEATURES

- Max. Data Rate – 6.75Gbps (2.25Gbps per graphic channel).
- HDTV Compatible.
- HDCP Compliant.
- EDID Capture – Copies and stores the EDID from a display device.
- System Range – Up to 130m (430ft) when using BC-HDKat6a cables.
- HDMI Support – 3D, Deep Color, x.v.Color™, Lip Sync, Dolby® TrueHD, Dolby Digital Plus, DTS-HD® and 7.1 multi-channel audio.
- Non-Volatile Memory – Stores and recalls preset matrix configurations.
- Automatic Output Shutdown – If no input signal is detected after a configurable idle period.
- LCD Display – 2 lines/20 characters for easy configuration and operation.
- Kramer Protocol 3000 Support.
- Lock Button – To prevent unwanted tampering with the settings.
- Flexible Control Options – Embedded Web server, RS-232, IR remote (included), software application.
- Worldwide Power Supply – 100-240V AC.
- Standard 19" (2U).

VP-773/VP-773A/VP-774/VP-774AMP

8/9-Input HDMI & HDBaseT ProScale Presentation Switcher/Scalers with 2K Support



VP-774AMP ▲

The VP-773/VP-773A/VP-774/VP-774AMP are high-performance presentation switchers and scalers. They accept one of eight inputs: one DisplayPort (DP), one composite video, two computer graphics and four HDMI signals. They scale the video, embed the audio, and simultaneously output the signal to two identical HDMI and one HDBaseT TP output, together with S/PDIF and balanced stereo audio outputs. The VP-774/VP-774AMP also include a 3G HD-SDI input with loop and output. The AMP units include an audio amplifier and speaker outputs.

FEATURES

- K-IIT XL™ Picture-in-Picture Image Insertion Technology – Ultra-stable picture-in-picture, picture-and-picture, and split screen capability. Any video source can be inserted into or positioned next to any other video source with full window positioning and sizing controls.
- Kramer’s PixPerfect™ Scaling Technology – Kramer’s precision pixel mapping and high quality scaling technology. High-quality 3:2 and 2:2 pull down de-interlacing and full up- and down-scaling of all video input signals.
- State-of-the-Art Video Processing Technology – For highest quality de-interlacing, noise reduction, and scaling performance for both standard-definition and high-definition signals.
- Ultra-Fast Fade-Thru-Black (FTB™) Switching – Video switching transitions are clean and ultra fast. The video fades to black and the new input fades from black for smooth, glitch-free switching. The output signal provides constant sync so the display never glitches.
- HDCP Compliant – The HDCP (High Definition Content Protection) license agreement allows copy-protected data on the HDMI input to pass only to the HDMI output.
- Advanced EDID Management – Per input; analyzes the EDID of a selectable Master connection to one of the outputs.
- Emergency Alert System – Activates a national or campus-wide notification, immediately displayed when an emergency situation develops. It uses automatic text overlaying, either via a crawler or a full screen cover up, as well as an optional audio alert.
- Max. Data Rate – 6.75Gbps (2.25Gbps per graphic channel).
- Multi-Standard SDI Support – SDI (SMPTE 259M), HD-SDI (SMPTE 292M) and 3G HD-SDI (SMPTE 424M) (VP-774 & VP-774AMP).
- Scaled Outputs – 2 HDMI & 1 HDBaseT; 1 3G HD-SDI (VP-774/VP-774AMP only), (all outputs work simultaneously).
- Output Resolutions – HDTV and computer graphics up to 2K and 1080p/UXGA with selectable refresh rates.
- HDMI Deep Color Support – For all inputs and outputs.
- Luma Keying – Via PIP window.
- Vertical Keystone Operation.
- Built-in Proc-Amp – With enhanced functions such as color correction, gamma and dither.
- Multi-Standard Video Support – NTSC (3.58/4.43), PAL (M/N/60) and SECAM with advanced de-interlacing options.
- Built-in Time Base Corrector – Stabilizes unstable video sources.
- Picture Zooming – Both on main and PIP window from 100% to 1600%, including separate V and H sharpness control.
- Input and Output Colorspace Control.
- Audio Support – Unbalanced stereo audio inputs, with two microphone inputs; digital stereo and balanced stereo outputs; input and output audio level adjustment.
- Selectable Microphone Talkover or Mix Modes.
- Microphone Inputs – 2 dynamic or condenser (with 48V phantom voltage).
- Audio Amplifier & Speaker Output – 2x10W (VP-773A, VP-774AMP).
- Automatic Detection and Selection of Embedded Audio – Automatically outputs the signal from the HDMI and DP embedded audio inputs or performs an analog takeover to output the respective analog audio input.
- Range – Up to 130m (430ft) normal mode; up to 180m (590ft) ultra mode (1080p @60Hz @24bpp) when using BC-HDKat6a cables.
- On-Screen Display (OSD) – For easy setup and adjustment, accessible via the IR remote control and via the front-panel buttons.
- Built-in Web Page Server.
- Non-Volatile Memory – Saves final settings.
- Firmware Upgrades – Via Ethernet and RS-232.
- Flexible Control Options – Front panel buttons, OSD (on-screen display) via front panel buttons or IR remote (remote control included), embedded Web server.
- Port Tunneling – A bidirectional RS-232 interface where simple control commands and data can flow in both directions from a controller to the VP-773 via the Ethernet, allowing status requests and control of the destination unit
- Selectable Power Save Modes – For efficient energy use.
- Worldwide Power Supply – 100-240V AC.
- Standard 19" (1U).

## VP-553

### Boardroom Presentation Switcher/Dual Scaler



The VP-553 is a high-performance 6x2 presentation switcher/scaler for HDMI, HDBaseT and analog signals, and a 4x1 USB switcher. The unit has dual, independent, scaled outputs, the first on both HDMI and HDBaseT connectors, and the second on an HDMI connector. Both can take from the six digital inputs: three HDBaseT and three HDMI signals; while the first also includes analog inputs – for two computer graphics signals, two composite video and two analog TP inputs. Analog, digital and embedded audio are supported, and the unit also includes a microphone input and rich DSP features.

### FEATURES

- Pix-Perfect™ Scaling Technology – Kramer's precision pixel mapping and high quality scaling technology. High-quality 3:2 and 2:2 pull down de-interlacing and full up- and down-scaling of video input signals.
- HDTV Compatible.
- HDCP Compliant – The HDCP (High Definition Content Protection) license agreement allows copy-protected data on the HDMI input to pass only to the HDMI outputs.
- HDBaseT Range – Up to 70m (230ft) using BC-HDKat6a cable.
- Cable – Shielded twisted pair (STP) cable recommended. For optimum range and performance use, use Kramer's BC-HDKat6a cable. Note that the transmission range depends on the signal resolution, graphics card and display used. The distance using non-Kramer CAT 5, CAT 6, and CAT 7 cables may not reach these ranges.
- Video Inputs – 3 HDMI connectors, 3 HDBaseT on RJ-45 connectors, 2 VGA on 15-pin HD connectors, each with unbalanced stereo audio on 3.5mm connectors; 2 VGA & audio over CAT 5 on RJ-45 connectors; 2 composite video on RCA connectors with unbalanced stereo audio on 3.5mm mini jacks.
- Scaled Outputs – 2 HDMI & 1 HDBaseT.
- Output Resolutions – HDTV and computer graphics and 1080p/UXGA with selectable refresh rates.
- 4x1 USB Switcher – Can be set to follow the switching of the video layer or can be used as an independent switcher.
- OSD (On Screen Display) – For easy setup and adjustment, accessible via the IR remote control and via the front panel buttons.
- Audio DSP – Powerful digital audio signal processing, including audio equalization, mixing, delay, etc.
- Input and Output Audio Level Adjustment.
- Selectable Microphone Talkover or Mix Modes.
- Automatic Audio Detection & Selection – On the HDMI input source, default selection is HDMI. If not present, the unit uses the audio from the analog input. Manual audio selection is also available.
- Audio Inputs – 3 analog HDMI audio, 2 analog PC audio on 3.5mm mini jacks; 2 stereo CV audio on RCA connectors each with individual level controls.
- Microphone Input – Dynamic or condenser (with 48V phantom voltage).
- Audio Outputs – 2 balanced stereo audio on terminal blocks.
- Multiple Aspect Ratio Selections – Full, overscan, underscan, letterbox & panscan.
- Built-in ProcAmp – Color, hue, sharpness, noise, contrast & brightness.
- Front Panel Control – Audio mute, video blanking & freeze frame.
- Front Panel Lockout.
- Built-in Web Pages – For easy setup and remote control.
- Firmware Upgrade – Via Ethernet.
- Non-Volatile Memory – Saves final settings.
- Flexible Control Options – Front panel, IR remote with OSD (on-screen display), Ethernet with built-in Web pages & RS-232.
- Worldwide Power Supply – 100-240V AC.
- Standard 19" (2U). Rack "ears" included.

## VP-427

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### HDBaseT to HDMI ProScale™ Receiver/Scaler



The Kramer **VP-427** is a receiver/scaler for HDBaseT twisted pair, HDMI, bidirectional RS-232 and IR signals. The unit receives an HDBaseT signal that it converts to HDMI, IR and RS-232 signals. It up- or down-scales the picture to match the resolution of the HDMI monitor.

#### FEATURES

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- Max. Data Rate – 6.75Gbps (2.25Gbps per graphic channel).
- Bidirectional RS-232 Port – For embedding/de-embedding control commands in the HDBaseT data stream.
- Infrared Input and Output Ports – For controlling devices over the HDBaseT data stream.
- System Range – Up to 70m (230ft).
- Embedded Audio – Support for LPCM 2CH.
- Constant Output Sync – Even when the input video signal is lost or interrupted.
- ProcAmp Control – Contrast, brightness, fine tune & R, G, B level/gain.
- On-Screen Display (OSD) – For easy setup and adjustment, accessible via the front-panel buttons.
- Non-Volatile Memory – Saves final settings.
- Freeze Button.
- USB Port – For upgrading firmware.
- Compact MegaTOOLS® – 2 units can be rack mounted side-by-side in a 1U rack space with the optional RK-T2B rack adapter.



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