

Breaking the Distance Limits of HD Matrix Technology



HDR-ULTRA

HDMI 16x16 over Cat 5e/6

Route and distribute up to 16 HDMI HD 1080p, Multi-channel Audio, IR, up to 425 feet over single CAT5e/6 cable.



Break the Distance Limits with HDR-ULTRA

The HDR-ULTRA is a High Definition video router that enables users to route HD signals up to 425 feet over a single CAT 5e/6 cable, providing the ultimate solution to create clean and efficient video and digital signage systems in configurations up to 16x16.



Pristine high definition video has become the standard for entertainment, video systems and digital signage, but HD video routing has been confined by the necessity of short, bulky and unsightly cables. The HDR-ULTRA, utilizing HDBaseT technology, breaks the distance limits that have tethered users as it facilitates the routing of crystal clear 1080p HD video, multi-channel audio, Ethernet, IR and power up to an incredible 425 feet through the use of inexpensive CAT 5e/6 cables. With unprecedented flexibility and convenience, the HDR-ULTRA is overhauling the old challenges of HD Matrix routers with an elegant and easy-to-install solution.

The HDR-ULTRA can direct as many as 16 HD inputs and 16 HD outputs effortlessly. Routing HD signals across long distances from the user-friendly HDR-ULTRA exponentially increases users' ability to create the ideal digital video and audio experience in any environment.

The HDR-ULTRA gives users the option of remotely switching the source – the primary function of an HD router – as well as controlling the input sources, all from the same control. Thanks to reliable CAT 5e/6 connections, it's never been easier to manage signal switching and the sources being switched all from a single control. This additional functionality allows for superior routing and viewing in contexts like home entertainment, digital signage, medical systems, live events and countless other venues.

Features

- Switches any HDMI source input to any output up to 16x16
- Sources can be routed independently to any display
- Supports high definition video resolutions of 480p, 720p, 1080i and 1080p
- Supports PC resolutions VGA, SVGA, SXGA, UXGA and WUXGA (1920 x 1200)
- Supports digital video formats in Deep Color to 12bit per color
- Compatible with HDMI version 1.4 and DVI
- Supports 7.1 Digital Surround Sound Audio
- Supports EDID for total control of compliant displays
- Delivers uncompressed digital video with zero signal loss
- Input cable equalization
- HDMI Output up to 25 feet and longer with Premium HDMI Cables
- Switching controlled via RS-232, IR, SmartControl GUI or web server
- Front panel 4x40 LCD display
- Easy switching via front panel
- Browser Graphical User Interface (GUI)
- Web-based interface
- Telnet support
- Firmware upgradeable for future support
- Extends HDMI, IR output over single Cat5/5e/6 UTP cable
- Extends IR and signals for remote control
- Delivers uncompressed HD video up to 1080p @ 60Hz @ 48 bits and 3D
- Data signals up to 3.4 Gbps
- Support RC5 IR for local switching
- Support IR bypass for 36 to 60Khz

Applications

- Wall Displays
- Digital Signage
- Airports
- Dealer Rooms
- Control Rooms
- Audio/Visual Presentations
- Shopping Centers
- Security
- Point-of-Sale
- Hotels/Resorts
- KVM Switch

HDMI MATRIX SWITCHING MADE EASY

Users can locally switch between sources via the easy-to-operate front panel, or they can do so remotely through a RS-232, IR, or TCP/IP connection. The HDR-ULTRA can be controlled by SmartAVI's very own Windows®-based manager software, a cornerstone of all SmartAVI products.

FLEXIBLE CONTROL

HDR-ULTRA by SmartAVI can be controlled from the easily accessible LCD front panel and keypad that allows users to determine which inputs are connected to which outputs.

RS232: Controlling the HDR-ULTRA Matrix Switchers is effortless with SmartAVI's Windows®-based SmartControl software. Users can assign a unique name to each port on the Matrix along with a display for specific project requirements.

While all the functions of the Matrix are available locally on the front panel, SmartControl allows customization of all the Matrix's functions.

IR: Many system professionals prefer the IR control interface because it offers greater flexibility to manage the HDR-ULTRA switches at a distance. In some cases, the displays will not be visible from the Matrix, which would then make it necessary to control the Matrix with Infrared command signals.

TCP/IP: If users need to make changes instantly but can't be there in person, the Net-IP-Pro control module is the solution. SmartAVI's optional Net-IP-Pro module is effective for real-time remote control management. Simply connect the Net-IP-Pro module to the HDR-ULTRA Matrix while connected to the Internet and the Matrix can be controlled from anywhere in the world.

EDID EMULATION

Each input incorporates our unique "SmartEDID" programmable technology capable of learning video resolutions, audio settings and 3D data. The EDID memory of each display is stored in a single flash memory, giving users freedom to choose any EDID and emulation of any display.

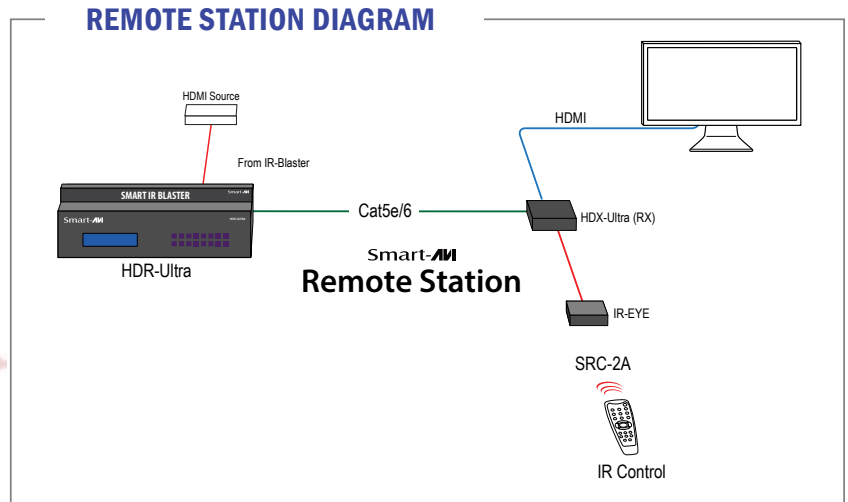
HDR-ULTRA enables HDMI and DVI sources to continuously read the EDID of a monitor with full emulation at any given time.

The EDID management allows learning and saving of up to 100 displays, including audio. With the support of HDMI 1.3 HDCP, HDR-ULTRA can learn EDID from any display device provided.

INFRARED CONTROL SUPPORT

Switching Inputs with Remote Control

Users can easily control the HDR-ULTRA Matrix via the SmartAVI remote control. The remote utilizes Philips RC5 IR transmission protocol and these signals can be used to switch inputs on the HDR-ULTRA. This handy feature gives users the freedom of remotely selecting inputs on the fly.



Control Devices with IR-Blaster

In addition to remote input switching, the SmartAVI remote control can also control the input itself. Sources like cable TV DVD players, and many others can be selected on the matrix router and then be adjusted. It all happens with the same remote and without the need to run any new cables.

SMART IR BLASTER

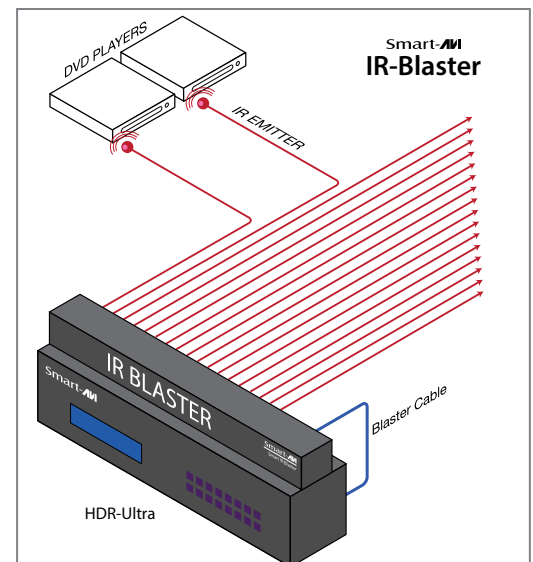
Front



Back



SMART IR BLASTER DIAGRAM



SmartAvi offers multiple solutions to control the HDR-ULTRA Series

- Windows application
- Web based application
- Front panel switches and LCD
- Easy protocol for integration with the most common control systems such as: AMX, Creston, and more.

SmartControl



SmartControl is the Windows® GUI application that enables users to control SmartAVI matrixes using graphic user interface without having to write the codes and send serial commands to the devices.

The software enables configuration of the size and type of the Matrix, including a preset defined at macro.

The software also enables identification by name for each source and display.



Net-IP-Pro



Net-IP-Pro gives the user full control of the matrixes from anywhere in the world through this advanced new web browser software.

Net-IP-Pro enables multiple users to control and configure the Matrix, including names of sources, names of displays, IP address and low level features of the Matrix.

The Net-IP-Pro enables the support of telnet for easy integration with other control systems.



EASY SWITCHING, EASY PROTOCOLS

Front Panel

The HDR ULTRA front panel enables one to switch directly from the Matrix without the use of any software.

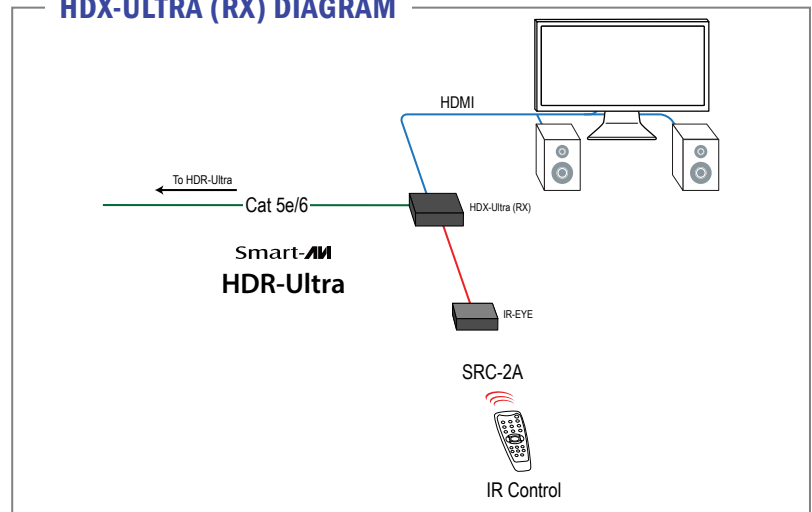
Its LCD (4x40) offers detailed information about the status of the switch at any given moment.



HDX-ULTRA Receiver



HDX-ULTRA (RX) DIAGRAM



HDX-ULTRA Technical Specifications

| VIDEO | |
|--------------------------|-------------------------------------|
| Format | HDMI 1.3 and HDCP compliant |
| HDTV Resolutions | 480p, 720p, 1080i, 1080p/60Hz/48bit |
| TV Resolution | 480i |
| Input Interface (TX) | HDMI Type A 19-pin Female TMDS |
| Output Interface (RX) | HDMI Type A 19-pin Female TMDS |
| Input Cable Length (TX) | Up to 40 ft. |
| Output Cable Length (RX) | Up to 40 ft. |
| AUDIO | |
| Format | Dolby TrueHD, DTS-HD MA |
| Input Interface | HDMI (Integrated) |
| Output Interface | HDMI (Integrated) |
| IR | |
| Signal Type | 38 KHz |
| Interface | 3.5 mm Jack Socket (Female) |

| SYSTEM | |
|--------------------|----------------------------------|
| Interface | RJ-45 |
| Cable Requirements | CAT5/5e/6 |
| Maximum Length | |
| OTHER | |
| Power | External 100-240 VAC/5VDC2A @10W |
| Dimensions | 5"W x 1.125"H x 4.125"D |
| Weight | 0.6 lbs. |
| Approvals | UL, CE, ROHS Compliant |
| Operating Temp. | 32-131°F (0-55 °C) |
| Storage Temp. | -4-185 °F (-20-85 °C) |
| Humidity | Up to 95% |

APPLICATION DIAGRAM

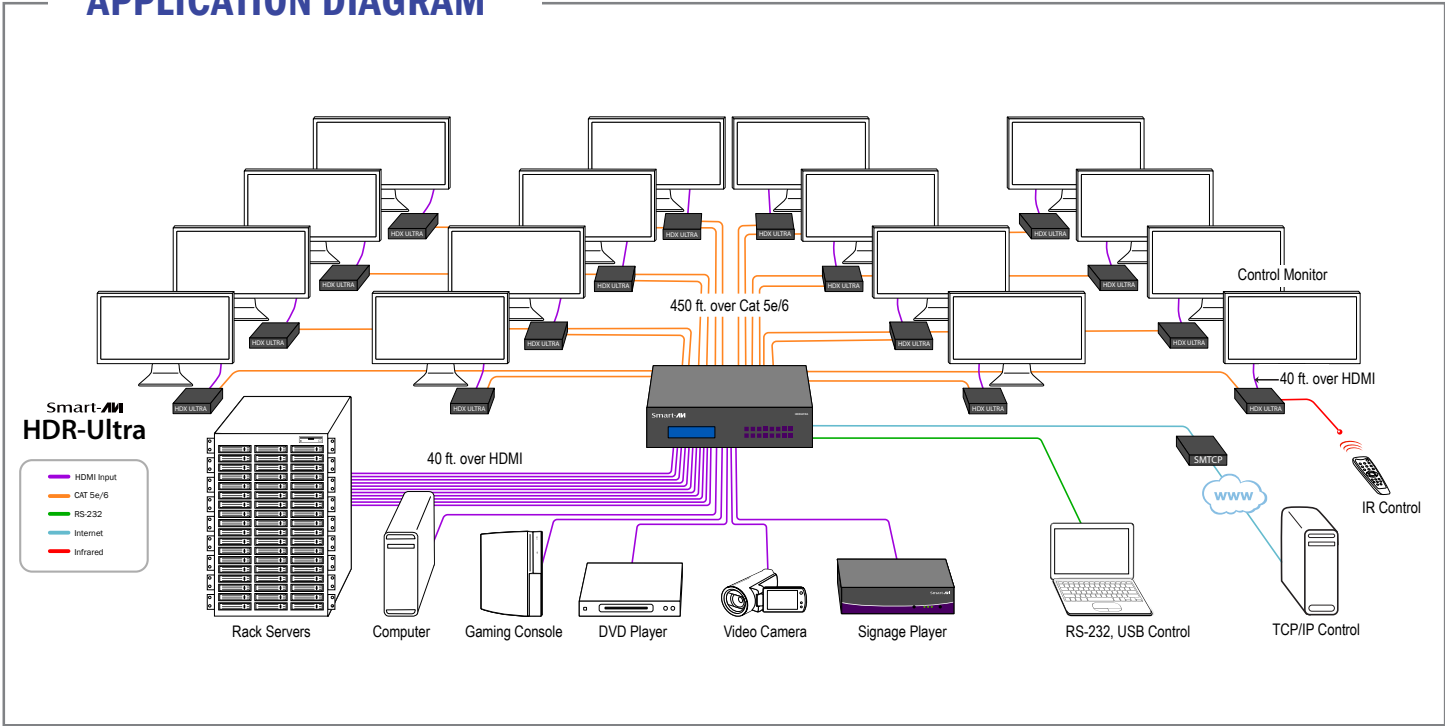
HDR ULTRA FRONT



HDR ULTRA BACK



APPLICATION DIAGRAM



SPECIFICATIONS AND ORDERING INFORMATION

HDR-ULTRA Technical Specifications

| VIDEO | |
|---------------------------|---|
| Video Amplifier Bandwidth | 3.2G |
| Input Video Signal | Video (TMDS) 0.5~1.0Vpp |
| Input DDC Signal | 5 volts |
| Signal Supports | HDMI Standard, DVI and HDCP compliant |
| Pixel Rates | Clock frequency beyond 165Mpix/second |
| Format | 4:4:4 and 4:2:2 data input formats |
| Resolution | 480, 720p, 1080i, 1080p HDMI formats and DVI up to 1920x1200x60hz |
| Input Cards | 2x HDMI Type A 19-pin Female TMDS |
| Output Cards | 2x RJ45 HDBaseT HDMI over UTP Transmission Full HD 1080p 36-bit color:450 ft cat6 23AWG |
| Input Slots | 8 cards of 2 hdmi input each |
| Output Slots | 8 cards of 2 RJ45 output each |
| Video Type | RGB/YCBCR : 24/30/36-bits,YCBCR: 8/10/12/16/20/24-bits |

| AUDIO | |
|------------------------|--|
| Audio Supported | DTS-HD Master Audio, Dolby True- HD & Dolby Digital Plus integrated in hdmi signal |
| POWER SUPPLY | |
| | 50/60Hz, 100~230 VAC |
| Consumption | 300W |
| CONTROLS AND IR BYPASS | |
| IR | Control is 38Khz RC5 Bypass IR from 30Khz to 60Khz |
| Front | 2x8 keyboard with 4x40 LCD |
| RS232 | 9600bps, Software flow DB9 Female |
| TCP/IP | Webserver, Telnet |
| OTHER | |
| Working Temperature | 0 to +40°C (+32° to +104° F) |
| Storage Temperature | -20° to +60°C (+20° to +140° F) |
| Weight | 15 lbs. |
| DIMENSIONS | |
| Size | 19 in W x 5.25 in H (3U) x 13 in D |

ORDERING INFORMATION

| Part No. | Description |
|-------------|--|
| HDRULT-0404 | HDR4X4-ULTRA Expandable HDMI 4X4 Matrix Switcher with CAT5 HDBaseT Outputs |
| HDRULT-0408 | HDR4X8-ULTRA Expandable HDMI 4X8 Matrix Switcher with CAT5 HDBaseT Outputs |
| HDRULT-0412 | HDR4X12-ULTRA Expandable HDMI 4X12 Matrix Switcher with CAT5 HDBaseT Outputs |
| HDRULT-0416 | HDR4X16-ULTRA Expandable HDMI 4X16 Matrix Switcher with CAT5 HDBaseT Outputs |
| HDRULT-0804 | HDR8X4-ULTRA Expandable HDMI 8X4 Matrix Switcher with CAT5 HDBaseT Outputs |
| HDRULT-0808 | HDR8X8-ULTRA Expandable HDMI 8X8 Matrix Switcher with CAT5 HDBaseT Outputs |
| HDRULT-0812 | HDR8X12-ULTRA Expandable HDMI 8X12 Matrix Switcher with CAT5 HDBaseT Outputs |
| HDRULT-0816 | HDR8X16-ULTRA Expandable HDMI 8X16 Matrix Switcher with CAT5 HDBaseT Outputs |
| HDRULT-1204 | HDR12X4-ULTRA Expandable HDMI 12X4 Matrix Switcher with CAT5 HDBaseT Outputs |
| HDRULT-1208 | HDR12X8-ULTRA Expandable HDMI 12X8 Matrix Switcher with CAT5 HDBaseT Outputs |
| HDRULT-1212 | HDR12X12-ULTRA Expandable HDMI 12X12 Matrix Switcher with CAT5 HDBaseT Outputs |
| HDRULT-1216 | HDR12X16-ULTRA Expandable HDMI 12X16 Matrix Switcher with CAT5 HDBaseT Outputs |
| HDRULT-1604 | HDR16X4-ULTRA Expandable HDMI 16X4 Matrix Switcher with CAT5 HDBaseT Outputs |
| HDRULT-1608 | HDR16X8-ULTRA Expandable HDMI 16X8 Matrix Switcher with CAT5 HDBaseT Outputs |
| HDRULT-1612 | HDR16X12-ULTRA Expandable HDMI 16X12 Matrix Switcher with CAT5 HDBaseT Outputs |
| HDRULT-1616 | HDR16X16-ULTRA Expandable HDMI 16X16 Matrix Switcher with CAT5 HDBaseT Outputs |
| HDRULT-IR16 | 16-Port IR Router for HDMI HDBaseT Matrix Switcher |
| HDRULT-RX | HDMI CAT5 Receiver for HDBaseT Matrix Switcher |



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