

Switch To A Single Source

Six Established Matrix Switchers to invest in 2023.

From Hall Technologies to Lightware, here are the six latest matrix switchers that are investment-worthy in 2023. This feature is intended only as a guide and does not endorse any product.

Matrix switchers – the term derives from the fact that the amount of audio and video inputs against the amount of audio and video outputs forms a complex matrix, and the switchers help route the audio and video inputs into a single (or multiple) audio and video outputs at any given point in time. Basically, matrix switchers help crystallize the art of coherence in the audiovisual world.

Orei 2x2 HDMI Matrix W/Audio Out

An impressive amplifier-powered matrix, the Orei 2x2 HDMI Matrix W/ Audio Out allows users to achieve a seamless audio or video transmission via duplicating 2 HDMI signal up to 8K resolution. Compact, sturdy, and easily operable, this matrix switcher offers best use-case in B2B spaces such as trade shows, conference venues, and large lecture halls.

Main Features include:

- Split two HDMI 2.1 input signal to two HDMI output signals identical to the input signal (Both output will have to support 8K)
- 8K 40 Gbps Powered HDMI Splitter
- Input: 2x HDMI & Outputs: 2x HDMI 1x Optical 1x L/R Analog
- EDID management
- Built-in Equalizer, Retiming and Driver
- 2 in 2 out HDMI Matrix
- Supported resolution: up to 8K, 4K/120Hz, 1080p, 720p, HDR, HDR10, HDR10+ Dolby Vision, HLG Pass Through
- Supports HDMI Audio Formats
- HDCP 2.3 Compliant
- Includes 100-240 50/60 Hz auto switching power supply
- Lifetime OREI Tech Support & 12-Month Manufacturer's Warranty

Technical Specifications:

- Inputs: 2 x HDMI Type A (19-pin female)
- Output Ports: 2 x HDMI Type A (19-pin female)
- Video Bandwidth: 40 Gbps
- Video Resolution: Up to 8K@60Hz YCBCR 4:2:0 10bit, 8K30 RGB/YCBCR 4:4:4 10bit or, 4K120 RGB/YCBCR 4:4:4 10bit
- HDMI Audio Formats: LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD
- HDMI Compliance: HDMI 2.1
- Power Supply: Input: AC100 - 240V 50/60Hz, Output: DC 5V/1A (US/EU standards, CE/FCC/UL certified)
- Power Consumption: 2.25W (Max)
- Weight: 258 g

Key Digital KD – MLV4X4Pro

A classic matrix switcher, the Key Digital KD-MLV4X4Pro is a seamless 4K-enabled UHD HDMI matrix switcher that features multi-view tiling, independent audio matrix and AV routing, and mirrored outputs.

Main Features include:

- Multi-view Tiling Processor: Simultaneously watch multiple sources on a single screen
- Seamless Switching: Un-interrupted screen transitions during source selection while in full-screen mode
- Built-In UHDoTP Tx with PoC: 4 included KD-EXMLVRx units are powered by KD-MLV4x4Pro
- Mirrored Outputs: Simultaneously active HDMI + UHDoTP connections per output show same AV signal at same time for a total of 8 possible displays connected
- Independent Audio Matrix: Audio output ports may be routed separately from HDMI + UHDoTP ports.
- Video Resolution: Up to 3840 x 2160p 4:2:0 at 60fps supported on inputs & 3840 x 2160p 4:4:4 at 30fps supported on outputs.

Technical Specifications:

- Input (Each): 1 HDMI Connector, Type A, 19 Pin Female
- Output (Each): 1 HDMI Connector, Type A, 19 Pin Female
- Output (Each): Balanced/unbalanced line level audio on 6-pin terminal block. Drives 2VRMS line audio input with a sampling rate of 192KHz
- Output (each): Toslink optical digital audio following SPDIF format (IEC 60958). Supports sampling rate up to 192KHz
- Video Bandwidth: TMDS bandwidth 10.2 Gbps
- HDMI Video/Audio Signal: Input Video Signal - 1.2 Volts p-p
- Analog Audio Max Output Level: 4dBu on 150kΩ, DC coupling
- Audio Bandwidth: 20Hz to 20kHz @ 0dBu
- TND + Noise: 0.33% @0dBu @ 1kHz
- Optical Max Output Level: 1Vpp on 75Ω, DC coupling
- Power: 12V/5A (60W) AC Power Supply with Grounded, 2.1mm ID DC Power Jack with Screw In Type
- Product Weight: 8.02 lb / 3.64 kg

Tobo 4K HDMI 4x2 Matrix Switch

The Tobo 4K HDMI 4x2 Matrix Switch supports a maximum resolution of upto 4096x2160/30Hz. Not just that, the 2-in-1 switcher and splitter also features support for ARC function, 3D video format, and HDMI1.4b version, making it an ideal choice for anyone looking for a robust matrix switcher.

Main Features Include:

- Support HDMI1.4b version
- Support ARC function
- Support 3D video format
- Support maximum resolution of up to 4096*2160/30Hz
- The TMDS clock is 320Mhz at the maximum rate of 3.2G
- Support 8/10/12 bit deep color
- When the resolution is 1080P or less, the standard AWG26 cable is supported. The input transmission distance is 15 meters, and the output transmission distance is 25 meters
- When the resolution is 4K, the standard AWG26 cable is supported. The input distance is 12 meters and the output transmission distance is 15 meters
- Supports 3.5 mm stereo audio interface output and fiber output
- Supports switching or distributing 4-way HDMI input into 2 way HDMI output
- Support 5.1 channels
- Support 5V-12V wide voltage input

Technical Specifications:

- HDMI version: HDMI 1.4b
- HDMI resolution: 4096*2160/30Hz
- Support audio format: DTS-HD/Dolby-trueHD/LPCM7.1/DTS/Dolby-AC3/DSD
- Max bandwidth: 320MHz
- HDMI input port: 4
- HDMI output port: 2
- Max working current: 1000mA
- Operating Temperature range: (-15 to +55°C)
- Dimension: approx.180x71.3x21(mm)/7.08x2.8x0.82"
- Weight: approx.320g



Lightware MMX8x8-HT440

Lightware's Matrix Switcher is designed specifically for conference spaces. With four HDMI and four TPS2 inputs and outputs, 4K, 3D, and HDCP compatibility, this matrix switcher is the right choice when it comes to cost effective conference room installations. But this matrix switcher's features don't just end here.

Main Features include:

- Extends DVI or HDMI 1.4 + Ethernet + RS-232 + IR over one CAT5/6/7 cable
- Built-in PoE injector* for remote powering extenders
- Balanced analog audio output for audio de-embedding
- Command injection on RS-232 and IR ports
- Built-in Event Manager control automation feature.

Technical Specifications:

- 4K / UHD (30Hz RGB 4:4:4 60Hz YCbCr 4:2:0) and 3D capabilities
- Four HDMI input ports
- Four TPS2 (HDBaseT) input ports
- Four HDMI output ports
- Four TPS (HDBaseT) output ports
- Up to 170 m transmission over TPS Long Reach Mode for Full HD signals
- Eight balanced bi-directional analog audio ports
- Ethernet port for device control
- Two ethernet ports for external device control
- Two bi-directional RS-232 ports
- Two serial/IR ports for display control
- Four IR ports for display control
- Four relay output ports
- Six GPIO port + 5V + GND
- PoE function to feed remote power to connected devices
- Front panel LCD and jog dial button
- Event Manager built-in control feature
- Power consumption (max): 122W



Aten VP3520 5x2 True 4K

Ideal for use in meeting rooms, training rooms, and classrooms, the 4K enabled presentation matrix switch from Aten also features HDR technology that delivers seamless, crystal-clear images. With all the features required to deliver a truly professional presentations – such as multiple control options, flexible audio de-embedding capability, and the ability to connect with multiple AV devices – the Aten VP3520 is an engineering marvel of its kind.

Main features include:

- Superior video quality – True 4K resolutions up to 4096 x 2160 @ 60 Hz (4:4:4) (HDMI) / 4096 x 2160 @ 60 Hz (4:2:0) (HDBaseT)
- 4K Scaler – features a 4K video scaler to convert input resolutions to the optimum display resolutions
- Auto display on / off control – supports display control through CEC, IR, RS-232, PLink and controls projector screen through relay port
- Audio amplifier – 2 x 10 W built-in power amplifier with speaker outputs on terminal block connectors

Technical Specifications:

- Interfaces: 3 x HDMI Type A female (Black); 2 x HDBaseT (RJ-45) Female (Silver) with PoH
- Max. Distance: HDMI: 4K@60Hz (4:4:4) at 5m; 4K@30Hz at 10m; 1080p@60Hz at 15m; HDBaseT: 4K@30Hz at 35m (Cat 5e/6) / 40m (Cat 6a/ATEN 2L-2910 Cat6); 1080p@60Hz at 60m (Cat 5e/6) / 70m (Cat 6a/ATEN 2L-2910 Cat6)
- Max. Resolution: HDMI: Up to 4096 x 2160 / 3840 x 2160 @ 60Hz (4:4:4); HDBaseT: Up to 4096 x 2160 / 3840 x 2160 @ 60Hz (4:2:0) ; Up to 4096 x 2160 / 3840 x 2160 @ 30Hz (4:4:4)
- IR: 1 x Mini Stereo Jack Female (Black); VP device control; 1 x Captive Screw Connector, 2-pole; AV device control
- Ethernet: 1 x RJ-45 Female (Silver); Support PLink protocol
- Operating Temperature: 0-40°C
- Storage Temperature: -20 - 60°C
- Humidity: 0 - 80% RH, Non-Condensing
- Housing: Metal
- Weight: 3.80 kg (8.37 lb)
- Dimensions (L x W x H): 43.24 x 27.23 x 4.40 cm; (17.02 x 10.72 x 1.73 in.)



Hall Technologies HSM-44-UHD

Superlative quality, ease of use, and multiple control options make Hall Technologies' HSM-44 - UHD 4x4 Matrix Video Switcher the last, but not the least, entry in this list. Ideal for settings such as conference rooms, houses of worship, multimedia presentation spaces, and more, this matrix video switcher supports upto 4K HDMI resolutions along with Dolby, DTS, as well as HD audio standards.

Main features include:

- HDMI 2.0 version (Support 4K@60Hz YUV4:4:4)
- Bandwidth up to 18Gbps
- HDCP2.2 input, HDCP2.2 output
- HDCP1.4 input, HDCP1.4 output
- Support HDR10
- 4xHDMI Input, 4xHDMI output
- Analog and Digital Audio extraction
- Any one of the 4 Ultra HD sources to any one of the 4 Ultra HD displays
- Support Panel Button, Local IR, RS232 Control with command, IP Control, Web GUI Control
- Support Dolby True HD and DTS-HD master audio, Dolby Atmos under copy EDID mode
- Support firmware updating through USB port

Technical Specifications:

- Video Input Ports: (4) HDMI 2.0
- Video Output Ports: (4) HDMI 2.0
- HDCP: HDCP 2.2 and HDCP 1.4
- HD Resolutions: Up to 4K60 (4:4:4)
- Audio Output Ports: (4) Toslink (S/PDIF) digital supports all formats listed below
- (4) 3.5 mm (Analog Stereo, L/R, supports only 2-channel formats)
- 16/20/24 bits per sample and up to 96 KHz Sampling Rate
- Control: Front Panel / Telnet / RS-232/ IR / WebGUI
- Power Supply: External 5V 4A
- Power Consumption: Max 12.5 W /Min 4 W
- Color: Black
- 10%~90%, non-condensing
- Dimensions: Device (including protrusions): 8.50" (216 mm) W x 5.00" (127 mm) D x 1.75" (45 mm) H
- Weight: Device: 2.05 lbs. (0.93 kg)
- MTBF: 90,000 hours

