



Kramer Matrix Switchers

Modular and Fixed Pro AV Solutions

KramerAV.com

Highlights at a Glance

■ **Expand Easily**

Kramer modular matrix switchers are expandable in groups of 2 inputs and/or 2 outputs to 16x16, 4 inputs and/or 4 outputs to 32x32 or in groups of 8 inputs and/or 8 outputs to 64x64.

■ **Flexible Infrastructure Conversion**

Copper, fiber and twisted pair can be used at the same time based on which input/output cards you choose.

The matrix receives digital or VGA signals from compatible Kramer transmitters and sends converted signals to compatible Kramer receivers.

■ **HDCP Compliant**

Kramer's modular matrix switcher system is fully HDCP compliant.

■ **Equalization & Re-Klocking™ Technology**

Kramer equalization & re-Klocking™ technology rebuilds the digital signal to travel longer distances.

■ **EDID Capture**

Copies and stores EDID from a display device.

■ **Dynamic Portprocessing™ Technology**

Each port adjusts its color space, color depth and audio presence based on the maximum capabilities of the display.

■ **Flexible Control Options**

Controlling is easy and versatile via the front panel, IR remote, RS-232 (K-Router™ Windows®-based software included), and Ethernet.

■ **Internal Test Pattern Generator**

The test pattern generator provides a first-go/no-go indication. It tests the inputs and outputs of the router from the source to the switcher and from the switcher to the display, without sacrificing a real source. It also highlights an additional built-in monitor port where any inputs can be routed.

■ **Future Proof**

Systems can be reconfigured by adding or removing modules or changing signal types. New cards are constantly being developed with the most up-to-date formats and technologies.

■ **Redundant Power Supply**

The VS-1616DN-EM, VS-3232DN-EM and VS-6464DN-EM include an optional redundant power supply for mission critical installations.

■ **A Complete System Can Include All Module Types**

A fully integrated modular matrix system can include DVI, HDMI™, HDCP (HDMI over DVI), VGA, HDBaseT (including XTRA range), HDBaseT Lite, HDMI with analog/digital audio, dual-link DVI, DVI over fiber, HDMI over twisted pair, and HDMI over fiber in a 16x16, 32x32 or 64x64 frame.

For more information, visit us at: www.KramerAV.com

Complete Line of Modular Matrix Switchers

Any Format. Any Wire. Any AV Application.

Whatever the size, environment or complexity of your installation, Kramer modular matrix switchers provide optimal AV customization. Purchase a standalone unit. Add whatever formats you need.

■ Three Expandable Frame Sizes: 16x16, 32x32, 64x64

- VS-1616DN-EM: 2 inputs or outputs per I/O card
- VS-3232DN-EM: 4 inputs or outputs per I/O card
- VS-6464DN-EM: 8 inputs or outputs per I/O card

■ Built-In Test Pattern Generator

Test all inputs and outputs across the entire signal path from source to display. The built-in test pattern generator keeps you from sacrificing an input for testing or purchasing an expensive external test generator.

■ Convenient Variety of Control Options

Kramer's modular digital matrix switchers include front panel buttons, IR, RS-232 via touch screen controller or PC, and Ethernet.

■ Present Solved. Future Proofed.

Our modular matrix switching approach offers a flexible solution for both current requirements and future technologies.



32x32 Frame Example Overview

Manage with **KRAMER**
NETWORK

Front panel numeric keypad

HDCP-enabled through the HDMI core

2-line LCD monitor for operational status and configuration menu

IR receiver

Optional redundant power supply



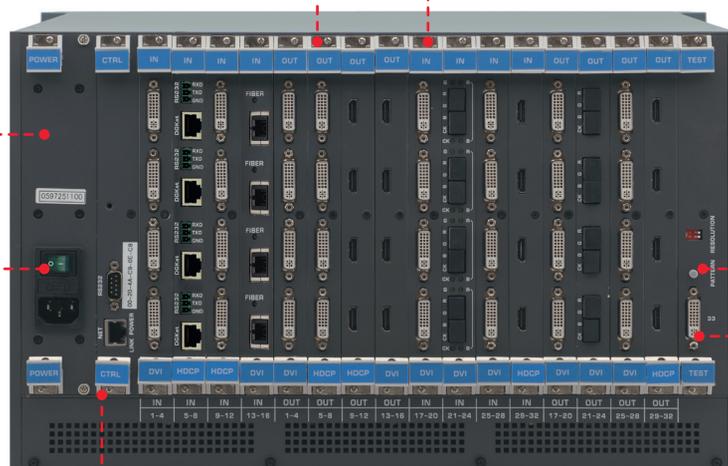
32x32 digital matrix switcher (front)

Ultra high-speed 3.4Gbps digital crosspoint with automatic infrastructure conversion

Variety of input and output cards expandable from 4x4 to 32x32

Power inlet for one or two swappable power supplies

Test pattern generator



32x32 digital matrix switcher (back)

Management & communication card

Local monitoring output

Modular Matrix Switchers

Whatever the size, environment or complexity of your installation, Kramer modular matrix switchers offer optimal customization for all your AV needs and a complete end-to-end AV solution for both current requirements and future technologies.

Manage with **KRAMER**
NETWORK



VS-1616DN-EM

2x2 to 16x16 multi-format

* A special version is available with IEC 60601-1 medical compliance

VS-6464DN-EM

8x8 to 64x64 multi-format

VS-3232DN-EM

4x4 to 32x32 multi-format

Highlights

- Mix multiple signal formats in a single system: HDMI, HDBaseT, DGKat™, and fiber; distribute them using multiple cabling infrastructures
- Redundant hot swappable power supply (optional)
- Kramer Network support for switching, card status, port status, Firmware upgrades, and more
- Modular, easily replaceable, low-noise cooling system
- HDTV & HDCP compliance: DVI (HDCP), HDMI, F670, HDBaseT, HDMI with audio, and DGKat™ cards
- DGKat™ signal integration: Kramer's unique technology for converting TMDS, control and communication for signals over twisted pair cables. *Use Kramer UNIKat cables for optimum performance.
- Max. data rate: 10.2Gbps (3.4Gbps per graphic channel) when using compatible cards

Applications

Kramer modular matrix switchers can be used for just about any audio/video space or multiple spaces, including conference rooms, boardrooms, large hotel event rooms, sports bars, houses of worship, and public transportation venues.

Card Types For Modular Matrix Switchers

Cards for the 16x16 and 32x32 Modular Chassis



UHD-IN2-F16/UHD-OUT2-F16



UHD-IN4-F32/UHD-OUT4-F32

UHD

- Max. data rate: 8.91Gbps (2.97Gbps per graphic channel)
- HDTV compatible; HDCP compliant
- HDMI support
- 3D pass-through
- Kramer equalization & re-Klocking™ technology



UHDA-IN2-F16/UHDA-OUT2-F16



UHDA-IN4-F32/UHDA-OUT4-F32

UHDA

- Analog audio embedding/de-embedding
- Max. data rate: 8.91Gbps (2.97Gbps per graphic channel)
- HDTV compatible; HDCP compliant
- HDMI support
- Audio: selectable stereo embedded/de-embedded/ARC

Cards for the 16x16 and 32x32 Modular Chassis



DTAxr-IN2-F16/DTAxr-OUT2-F16



DTAxr-IN4-F32/DTAxr-OUT4-F32

HDBaseT Extra Range with Analog Audio

- HDMI, analog audio, bidirectional RS-232, Ethernet, & IR over HDBaseT twisted pair
- Transmitter/receiver
- Max. data rate: 10.2Gbps (3.4Gbps per graphic channel)
- HDBaseT technology; HDTV compatible; HDCP compliant
- 3D pass-through
- System range: Up to 130m (430ft) at 2K, 100m (330ft) at 4K UHD



DT-IN2-F16/DT-OUT2-F16



DT-IN4-F32/DT-OUT4-F32

HDBaseT Lite

- HDMI, bidirectional RS-232 & IR over HDBaseT twisted pair receiver/transmitter
- Max. data rate: 10.2Gbps (3.4Gbps per graphic channel)
- HDBaseT technology; HDTV compatible; HDCP compliant
- 3D pass-through
- 2K & 4K support
- System range: Up to 70m (230ft) at 2K, 40m (130ft) at 4K UHD

Cards for the 16x16 and 32x32 Modular Chassis



HDBT-IN2-F16/HDBT-OUT2-F16



HDBT-IN4-F32/HDBT-OUT4-F32

HDBaseT Extra Range

- HDMI, bidirectional RS-232, Ethernet, & IR over HDBaseT twisted pair
- Transmitter/receiver
- Max. data rate: 6.75Gbps (2.25Gbps per graphic channel)
- HDBaseT technology; HDTV compatible; HDCP compliant
- 3D pass-through
- System range: Up to 130m (430ft) normal mode; up to 180m (590ft) ultra-mode (1080p @60Hz @24bpp) when using BC-UNIKat cables



HS-OUT2-F16

HDMI Scaler-Switcher

- Scaled output
- HDMI, HDCP, EDID
- Immediate frame-to-frame switching support

Cards for the 16x16 and 32x32 Modular Chassis



HAD-IN2-F16/HAD-OUT2-F16



HAD-IN4-F32/HAD-OUT4-F32



HAA-IN2-F16/HAA-OUT2-F16



HAA-IN4-F32/HAA-OUT4-F32

HDMI with Digital Audio

- Digital audio embedding/de-embedding
- Max. data rate: 6.75Gbps (2.25Gbps per graphic channel)
- HDTV compatible; HDCP compliant
- HDMI support
- Audio: SPDIF embedding up to 5.1 compressed channels

HDMI with Analog Audio

- Analog audio embedding/de-embedding
- Max. data rate: 6.75Gbps (2.25Gbps per graphic channel)
- HDTV compatible; HDCP compliant
- HDMI support
- Audio: selectable stereo embedded/de-embedded/ARC

Cards for the 16x16, 32x32 and 64x64 Modular Chassis



HDCP-IN2-F16/HDCP-OUT2-F16



HDCP-IN4-F32/HDCP-OUT4-F32



HDCP-IN8-F64/HDCP-OUT8-F64



DGKat-IN2-F16/DGKat-OUT2-F16



DGKat-IN4-F32/DGKat-OUT4-F32



DGKat-IN8-F64/DGKat-OUT8-F64

HDCP (HDMI over DVI)

- Max. data rate: 6.75Gbps (2.25Gbps per graphic channel)
- HDTV compatible; HDCP compliant
- HDMI support
- 3D pass-through
- DVI connectors
- Kramer equalization & re-Klocking™ technology

HDMI over Twisted Pair

- 4.95Gbps (1.65Gbps per graphic channel)
- System range: Up to 90m with 1080p@60Hz using BC-UNIKat cable
- HDTV compatible; HDCP compliant; DGKat™ signal integration
- 3D pass-through
- Bidirectional local RS-232 port
- Kramer equalization & re-Klocking™ technology
- Power Connect™ system

Cards for the 16x16, 32x32 and 64x64 Modular Chassis



F670-IN2-F16/F670-OUT2-F16



F670-IN4-F32/F670-OUT4-F32



F670-IN8-F64/F670-OUT8-F64



F610-IN2-F16/F610-OUT2-F16



F610-IN4-F32/F610-OUT4-F32



F610-IN8-F64/F610-OUT8-F64

HDMI over Fiber (670)

- Max. data rate: 6.75Gbps (2.25Gbps per graphic channel)
- HDTV compatible; HDCP compliant
- 3D pass-through
- Compatible with 670R/T
- SC fiber connectors

DVI over Fiber (610)

- Max. data rate: 4.95Gbps (1.65Gbps per graphic channel)
- System range: Up to 500m (1640ft)
- HDTV compatible
- Compatible with Kramer 610R/T detachable optical transmitter and receiver over LC optical cable
- Multi-mode fiber optic cable with 4 simplex or 2 duplex LC fiber connectors
- 4 LC optical connectors for R, G, B & clock
- Kramer equalization & re-Klocking™ technology

Cards for the 16x16 and 32x32 Modular Chassis



SDIA-IN2-F16



SDIA-IN4-F32

SDI with Analog Audio

- Max. data rate: 3Gbps
- Multi-standard operation: SDI, HD-SDI, 3G HD-SDI
- Stereo audio embedding



VGA-IN2-F16/VGA-OUT2-F16

VGA

- Max bandwidth: 450MHz
- Auto or user-defined resolution detection and phase mode
- Adjustable brightness and contrast

Cards for the 16x16, 32x32 and 64x64 Modular Chassis



DVI-IN2-F16/DVI-OUT2-F16



DVI-IN4-F64/DVI-OUT4-F64



DVI-IN8-F64/DVI-OUT8-F64

DVI

- Max. data rate: 4.95Gbps (1.65Gbps per graphic channel)
- DVI rev. 1.0
- HDTV compatible
- Kramer equalization & re-Klocking™ technology



DL-IN1-F16/DL-OUT1-F16



DL-IN2-F32/DL-OUT2-F32

Dual Link DVI

- Dual-link DVI
- DVI rev. 1.0
- HDTV compatible
- Kramer equalization & re-Klocking™ technology

* Dual-link DVI cards have half the inputs and outputs of the other cards

Cards for the 16x16, 32x32 and 64x64 Modular Chassis



VGAA-IN2-F16/VGAA-OUT2-F16



VGAA-IN4-F32/VGAA-OUT4-F32



VGAA-IN8-F64/VGAA-OUT8-F64

VGA with Analog Audio

- Max. data rate: 4.95Gbps (1.65Gbps per graphic channel)
- HDTV compatible
- Analog audio over breakaway connector



AAD-IN2-F16/AAD-OUT2-F16



AAD-IN4-F32/AAD-OUT4-F32

Analog & Digital Audio

- Analog audio over balanced connector
- Digital audio over S/PDIF RCA connector

4K60 HDMI Matrix Switchers

This family offers powerful 4K60 matrix switchers with a wide variety of sizes. Optional auto switching modes along with support for Kramer Step-in™ functionality (via DIP-31 auto switchers) give you tremendous flexibility and cost-effective scalability. Some products include audio embedding and de-embedding.



VS-42UHD
4x2 4K60 4:2:0 HDMI
Automatic Matrix Switcher

VS-44UHD
4x4 4K60 4:2:0
Matrix Switcher

VS-48UHD
4x8 4K60 4:2:0
Matrix Switcher

VS-62H
6x2 4K60 4:2:0 HDMI
Automatic Matrix Switcher

VS-66UHD
6x6 4K60 4:2:0
Matrix Switcher

VS-84UHD
8x8 4K60 4:2:0
Matrix Switcher

VS-88UHD
8x8 4K60 4:2:0
Matrix Switcher

Highlights

- Embedded web pages for remote configuration and operation
- Versatile control options: RS-232, Ethernet, IR remote control, optional remote IR receiver, contact closure, and front-panel buttons
- Internal pattern generator
- Max. data rate: Up to 8.91Gbps (2.97Gbps per graphics channel)
- HDCP 1.4 compliant
- Breakaway HDMI and analog audio routing to two balanced audio ports

Applications

The 4K60 HDMI matrix switcher family is designed for multiple-display installations such as conference rooms, lecture halls and hotel lobbies.

4K60 4:4:4 HDMI Matrix Switchers

Powerful 4K60 matrix switchers giving you tremendous flexibility and cost-effective scalability.



VS-42H2

4x2 4K HDR HDCP 2.2
Matrix Switcher

VS-44H2A

4x4 4K HDR HDCP 2.2
Matrix Switchers with
Audio De-embedding

VS-88H2

8x8 4K HDR HDCP 2.2
Matrix Switchers

Highlights

- Active source detection for priority, last-connected automatic and manual switching
- HDCP 2.2 compliant
- Embedded web pages for remote configuration and operation
- Versatile control options: RS-232, Ethernet, IR remote control, contact closure, and front-panel buttons
- Max. data rate: Up to 17.82 Gbps (5.94 Gbps per graphics channel)

Applications

The 4K60 HDMI matrix switcher family is designed for multiple-display installations such as conference rooms, lecture halls and hotel lobbies.

4K60 HDMI Matrix Switchers with Analog Audio

This family offers powerful 4K60 matrix switchers with audio embedding and de-embedding. Optional auto switching modes along with support for Kramer Step-in™ functionality (via DIP-31 auto switchers).



VS-44UHDA

4x4 4K60 4:2:0 HDMI
Matrix Switcher with Audio
Embedding/De-embedding

VS-88UHDA

8x8 4K60 4:2:0 HDMI
Matrix Switcher with Audio
Embedding/De-embedding

Highlights

- Highly flexible independent audio matrix with ARC support
- Step-in over HDMI
- Active source detection for priority, last-connected automatic and manual switching
- Embedded web pages for remote configuration and operation
- Versatile control options: RS-232, Ethernet, IR remote control, optional remote IR receiver, contact closure, and front-panel buttons
- Internal pattern generator
- Size – Standard 19" (1U). Rack ears included.

Applications

The 4K60 HDMI matrix switcher family is designed for multiple-display installations such as conference rooms, lecture halls and hotel lobbies.

4K HDMI/HDBaseT Matrix Switchers

Kramer 4K HDMI/HDBaseT matrix switchers offer complete AV solutions for switching, distribution, distance, and control in one multi-purpose package that unclutters the rack.



VS-44DT

4x4 4K60 4:2:0
HDMI/HDBaseT
Extended-reach
with PoE

VS-62DT

6x2 4K60 4:2:0
HDMI/HDBaseT
Long-reach
with PoE

VS-622DT

6x2 4K60 4:2:0
HDMI/HDBaseT
with PoE, Power
Amplifier & Maestro
Room Automation

VS-84UT

8x4 4K60 4:2:0 HDMI/
HDBaseT 2.0 Matrix
Switcher & Master Room
Controller with PoE,
Power Amplifier & Maestro
Room Automation

VS-88UT

8x8 4K60 4:2:0 HDMI/
HDBaseT 2.0 Matrix
Switcher and Master Room
Controller with PoE, Power
Amplifier & Maestro
Room Automation

Highlights

- Versatile combination of HDBaseT and HDMI inputs/outputs
- PoE provider
- Flexible control options: Embedded web server, Ethernet, RS-232, IR (remote included)
- HDTV & HDCP compliant

Applications

This family is ideal for long-distance installations such as large hotel event rooms with floating walls, large conference rooms and lecture halls.

1080p HDMI/HDBaseT Matrix Switcher

The VS-88DT matrix switcher routes up to eight HDMI and IR inputs to any or all of eight HDMI or HDBaseT and IR outputs for connection to compatible HDBaseT receivers like the TP-580RXR.



VS-88DT

8x8 HDMI to HDMI or HDBaseT
Matrix Switcher

Highlights

- HDMI & HDBaseT support
- HDTV & HDCP compliant
- Max. data rate: 6.75Gbps (2.25Gbps per graphic channel)
- Flexible control options: Embedded web server, RS-232, IR remote (included), software application

Applications

The VS-88DT is used for applications such as collaborative classrooms, hotel lobbies and rental and staging.

Seamless Matrix Switchers with Video Wall

Kramer 4K HDMI/HDBaseT matrix switchers offer complete AV solutions for switching, distribution, distance, and control in one multi-purpose package that unclutters the rack.



VSM-4x4A

4x4 with Seamless Switching,
Multi-scaling & Audio De-embedding

VSM-4x4HFS

4x4 with Seamless Matrix Switching
& Multi-scaling

Highlights

- Operation modes: Seamless matrix switcher, video wall, dual display (PIP/P&P), and quad display
- PixPerfect™ scaling: Kramer's precision pixel mapping and advanced scaling technology
- Flexible control options: Front-panel buttons, IR remote control with on-screen display (OSD), RS-232, built-in web browser (Ethernet)
- 4 HDMI inputs and 4 scaled HDMI outputs
- Bezel correction options: In video wall mode

Applications

These seamless matrix switchers are designed for presentation environments that require a variety of multi-source display options to either a single output or multiple outputs.

About Kramer

Kramer has been on the leading edge of Pro AV innovation for over 35 years. With hundreds of employees and partners serving thousands of customers across six continents, we remain committed to delivering smart technology products and solutions for a wide variety of markets and applications.

AV Beyond The Box

At our core, we are a technology company dedicated to finding better, smarter solutions, not bigger boxes. At Kramer, we go beyond the box with end-to-end solutions that blend cutting-edge cloud technologies, advanced software and time-tested hardware. The result is that our customers get the solutions they need without paying extra for features they don't need.

Customer Support

Our reputation is based on providing game-changing innovation for over three decades. We stand behind every product we ship and pride ourselves on maintaining personal relationships with our customers. That's what sets us apart from our competitors.



AV BEYOND THE BOX



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