

# Flex Matrix Pro 32×32 4K60 Crosspoint Modular Matrix Switcher

Dante-Native Multi-Format Crosspoint for Broadcast, Corporate & Government AV

Large-venue AV installations demand a single matrix platform that routes every signal type — HDMI, DisplayPort, HDBaseT, fiber optic, and 12G-SDI — without deploying separate infrastructure for each transport format. The KanexPro Flex Pro Matrix switcher is a fully modular crosspoint matrix that consolidates up to 32 inputs and 32 outputs into one chassis, routing 4K/UHD 60Hz signals at 18Gbps with HDCP 2.2 compliance and seamless switching across every crosspoint.

Native Dante/AES67 audio networking eliminates external audio converters. Redundant hot-swappable PSUs ensure mission-critical uptime. PoC powers CAT endpoints from the chassis. TAA compliant for government procurement.

**Surge Protection Recommended** — This product contains sensitive electrical components. Use surge protection systems. Redundant power supplies provide failover but do not protect against line surges.

## TABLE OF CONTENTS

<b>1. Product Introduction</b>	1
1.1 Key Features	1
1.2 Flex Pro Chassis Models	2
<b>2. I/O Cards</b>	3
<b>3. Transmitters &amp; Receivers</b>	4
<b>4. Specifications</b>	5
<b>5. Panel Overview</b>	6
<b>6. Application Example</b>	7
<b>7. Troubleshooting &amp; Warranty</b>	8

## KEY FEATURES

- ✓ Up to 32 inputs and 32 outputs of 4K/UHD HDMI video via hot-swappable 4-port modular cards
- ✓ Five I/O card types: HDMI, DisplayPort, CAT (HDBaseT 3.0), Fiber Optic, and 12G-SDI
- ✓ HDMI 2.0, 18Gbps, HDCP 2.2, HDR support with seamless switching
- ✓ Native Dante/AES67 network audio via built-in MCU card
- ✓ Redundant hot-swappable power supplies
- ✓ PoC (Power Over CAT) to power TX/RX from main chassis
- ✓ Video wall, quad view, independent scaling, CEC display control
- ✓ 7" front panel touch control, RS-232, TCP/IP, Web GUI
- ✓ TAA compliant



## Flex Pro Chassis Models

SKU	DESCRIPTION
FLEX-PRO16X16	16×16 Crosspoint Matrix Switcher Frame (4 input + 4 output card slots)
FLEX-PRO32X32	32×32 Crosspoint Matrix Switcher Frame (8 input + 8 output card slots)
FLEX-PRO32X32	32×32 Crosspoint Matrix Switcher Frame (16 input + 8 output card slots)
FLEX-PRO32X32	32×32 Crosspoint Matrix Switcher Frame (32 input + 8 output card slots)

### FLEX PRO I/O CARDS

SKU	DESCRIPTION
<b>INPUT CARDS (4 PORTS EACH)</b>	
FLEX-PROHDMI-IN	4× HDMI Input Card — 4K60, scaling, HDCP 2.2, Dante/AES67
FLEX-PRODP-IN	4× DisplayPort Input Card — 4K60, scaling, HDCP 2.2, Dante/AES67
FLEX-PROCAT-IN	4× CAT Input Card — 4K60 up to 330ft (100m) via CAT6A
FLEX-PROFIB-IN	4× Fiber Optic Input Card — multimode 984ft / singlemode 6,562ft
FLEX-PROSDI-IN	4× 12G-SDI Input Card — supports 12G/6G/3G/HD-SDI, up to 11.88Gbps
<b>OUTPUT CARDS (4 PORTS EACH)</b>	
FLEX-PROHDMI-OUT	4× HDMI Output Card — 4K60, scaling, HDCP 2.2, Dante/AES67
FLEX-PRODP-OUT	4× DisplayPort Output Card — 4K60, scaling, HDCP 2.2, Dante/AES67
FLEX-PROCAT-OUT	4× CAT Output Card — 4K60 up to 330ft (100m) via CAT6A
FLEX-PROFIB-OUT	4× Fiber Optic Output Card — multimode 984ft / singlemode 6,562ft
FLEX-PROSDI-OUT	4× 12G-SDI Output Card — supports 12G/6G/3G/HD-SDI, up to 11.88Gbps

### MCU CARD

FLEX-MCU-Dante	Main Control Unit with built-in Dante/AES67 audio embedding and de-embedding
----------------	--



## I/O Card Specifications

### HDMI & DISPLAYPORT CARDS

<b>Ports per Card</b>	4× HDMI or 4× DisplayPort
<b>Resolution</b>	Up to 4K/60Hz 4:4:4 (4096×2160)
<b>Audio</b>	8-channel LPCM High-Res Audio, Dante/AES67
<b>Compliance</b>	HDMI 2.0, HDCP 2.2
<b>Features</b>	Scaling, HDR, auto cable compensation, auto reclocking, seamless switching, hot-swappable
<b>Power</b>	+5VDC 250mA on HDMI ports for peripheral devices

### CAT (HDBASET 3.0) CARDS

<b>Ports per Card</b>	4× RJ45 (CAT6A)
<b>Distance</b>	330ft (100m) uncompressed 4K60 4:4:4
<b>Audio</b>	8-channel LPCM, Dante/AES67
<b>Features</b>	PoC, bi-directional RS-232, scaling, EDID/HDCP management, hot-swappable

### FIBER OPTIC CARDS

<b>Ports per Card</b>	4× LC Fiber (adaptive singlemode/multimode)
<b>Distance</b>	Multimode: 984ft (300m) • Singlemode: 6,562ft (2km)
<b>Audio</b>	8-channel LPCM, Dante/AES67
<b>Features</b>	Scaling, HDR, EDID/HDCP management, hot-swappable

### 12G-SDI CARDS

<b>Ports per Card</b>	4× BNC (12G-SDI)
<b>SDI Standards</b>	12G-SDI, 6G-SDI, 3G-SDI, HD-SDI • SMPTE/ITU compliant
<b>Data Rate</b>	Up to 11.88 Gbps
<b>Audio</b>	Dante/AES67
<b>Features</b>	Auto cable compensation, auto reclocking, scaling, hot-swappable



## Transmitters & Receivers

### CAT TRANSMITTERS

FLEX-PROCAT-TX — 4K HDMI TO CAT TRANSMITTER	
<b>Input</b>	1× HDMI (Deep Color, 3D, 4K)
<b>Output</b>	1× HDBaseT 3.0 (RJ45)
<b>Distance</b>	330ft (100m) via CAT6A
<b>Resolution</b>	Up to 4K/60Hz 4:4:4 (4096×2160)
<b>Audio</b>	Dolby Digital/TrueHD, DTS/DTS-HD MA, LPCM 8ch
<b>Control</b>	Bi-directional RS-232 (Phoenix connector)
<b>Power</b>	DC 12V or PoC from chassis • 10W max
<b>Dimensions</b>	6×5.4×1.25" (152×137×32mm) • 2 lbs
FLEX-PROCATWP-TX — WALL PLATE TRANSMITTER (1-GANG DECORA)	
<b>Form Factor</b>	1-gang Decora-style wall plate
<b>Specs</b>	Same as FLEX-PROCAT-TX
<b>Dimensions</b>	1.94×3.06×4" (49×78×102mm) • 1 lb

### CAT RECEIVER

FLEX-PROCAT-RX — 4K CAT TO HDMI RECEIVER	
<b>Input</b>	1× HDBaseT 3.0 (RJ45)
<b>Output</b>	1× HDMI (Deep Color, 3D, 4K)
<b>Distance</b>	330ft (100m) via CAT6A
<b>Power</b>	DC 12V or PoC from chassis • 10W max
<b>Dimensions</b>	6×5.4×1.25" (152×137×32mm) • 2 lbs

### FIBER TRANSMITTER & RECEIVER

FLEX-PROFIB-TX / FLEX-PROFIB-RX	
<b>Connector</b>	1× LC Fiber (adaptive singlemode/multimode)
<b>Distance</b>	Singlemode: 6,562ft (2km) • Multimode: 984ft (300m)
<b>Control</b>	Bi-directional RS-232, audio insertion (Phoenix)
<b>Power</b>	DC 12V • 10W max
<b>Dimensions</b>	6×5.4×1.25" (152×137×32mm) • 2 lbs

### Common Specifications (All TX/RX)

<b>Compliance</b>	HDMI 2.0, HDCP 2.2, HDR, TAA
<b>Bandwidth</b>	18 Gbps
<b>Operating Temp</b>	32–117°F (0–47°C)
<b>Humidity</b>	0–90% non-condensing



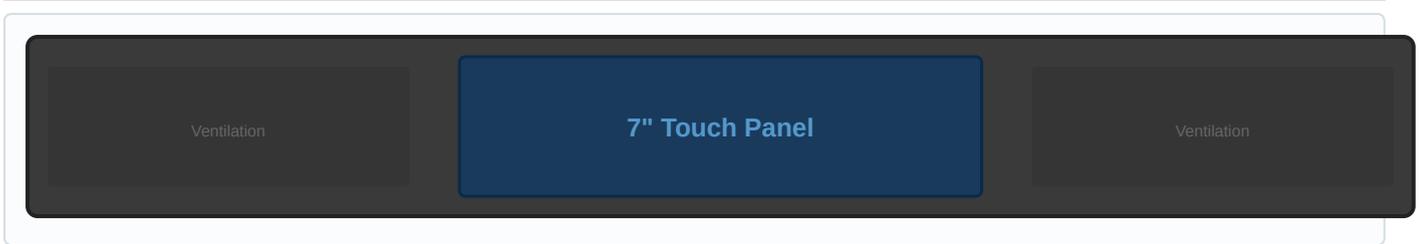
## Chassis Specifications

VIDEO	
<b>Standard</b>	HDMI 2.0, HDCP 2.2
<b>HDR</b>	Supported
<b>Max Data Rate</b>	18 Gbps (HDMI/DP) • 11.88 Gbps (12G-SDI)
<b>Max Resolution</b>	4096×2160 @60Hz 4:4:4
<b>Switching</b>	Seamless (glitch-free crosspoint switching)
AUDIO	
<b>Network Audio</b>	Dante/AES67 (built-in via FLEX-MCU-Dante)
<b>Pass-through</b>	LPCM 8ch, Dolby Digital/TrueHD/DD+, DTS/DTS-HD MA/DTS:X
I/O CAPACITY (FLEX-PRO32X32)	
<b>Input Card Slots</b>	8 slots × 4 ports = 32 inputs max
<b>Output Card Slots</b>	8 slots × 4 ports = 32 outputs max
<b>Card Types</b>	HDMI, DisplayPort, CAT (HDBaseT 3.0), Fiber Optic, 12G-SDI
SIGNAL EXTENSION	
<b>CAT (HDBaseT 3.0)</b>	330ft (100m) via CAT6A • PoC supported
<b>Fiber Optic</b>	Multimode 984ft (300m) • Singlemode 6,562ft (2km)
<b>12G-SDI</b>	Per SMPTE standards (cable dependent)
CONTROL	
<b>Front Panel</b>	7" capacitive touchscreen
<b>Network</b>	TCP/IP (RJ45), Web GUI, Dante Controller, Dante Domain Manager
<b>Serial</b>	RS-232 • Bi-directional to endpoints
GENERAL	
<b>Power</b>	Redundant hot-swappable PSUs • 100–240VAC 50/60Hz
<b>Compliance</b>	TAA Compliant
<b>Features</b>	Video wall, quad view, independent scaling, CEC, EDID/HDCP management, preset save/recall

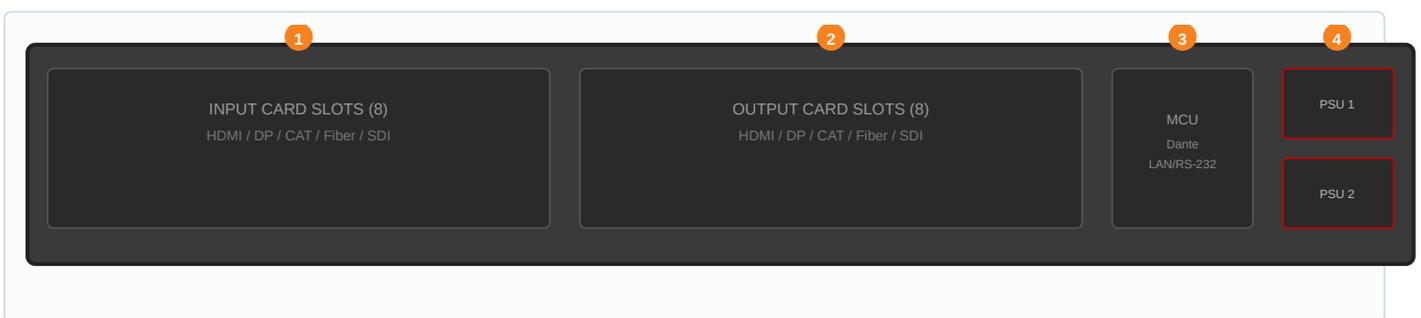


## Panel Overview

### FRONT PANEL



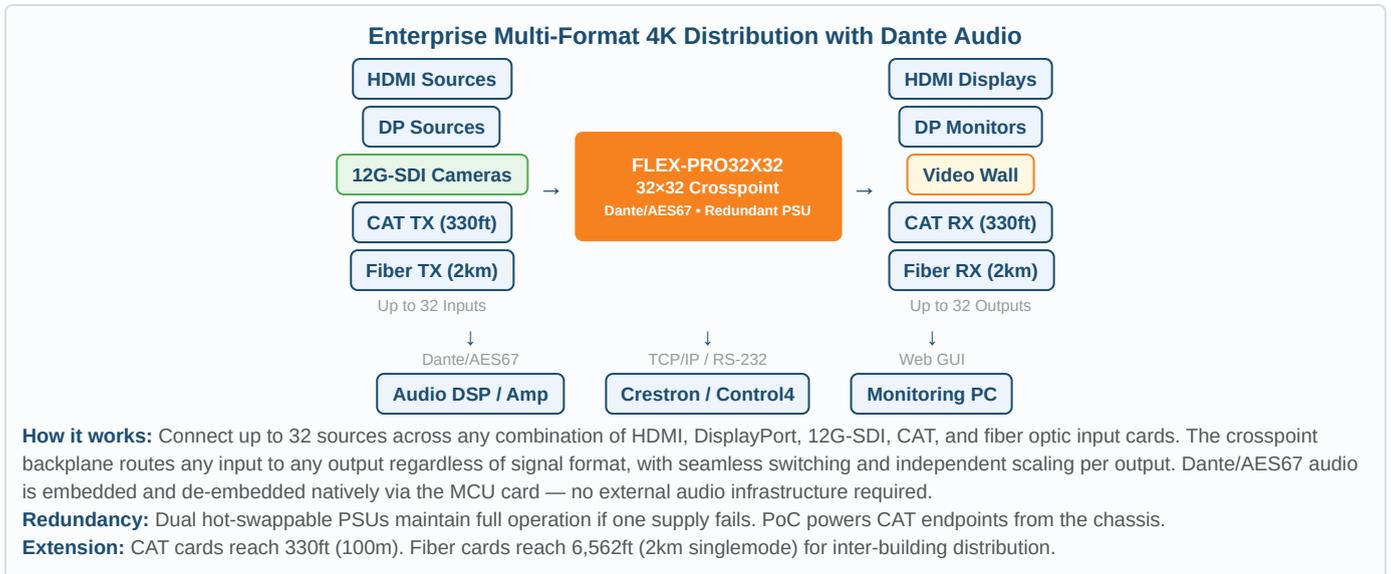
### REAR PANEL



No.	Name	Function Description
1	<b>Input Card Slots</b>	8 modular slots. Each accepts a 4-port input card (HDMI, DP, CAT, Fiber, or SDI). Total: up to 32 inputs. Hot-swappable.
2	<b>Output Card Slots</b>	8 modular slots. Each accepts a 4-port output card (HDMI, DP, CAT, Fiber, or SDI). Total: up to 32 outputs. Hot-swappable.
3	<b>MCU Board</b>	Main Control Unit with built-in Dante/AES67. LAN (RJ45) for TCP/IP, Web GUI, and Dante Controller. RS-232 for serial control. Firmware update port.
4	<b>Redundant PSUs</b>	Dual hot-swappable power supplies (100–240VAC 50/60Hz). If one fails, the second maintains full operation.



## Application Example



## Troubleshooting

### Q: No video on one or more outputs?

A: Verify the output card is fully seated and the card LED indicates normal operation. Check that the source is active on the corresponding input card. For CAT/Fiber outputs, confirm the receiver is powered (or PoC is enabled) and connected. Try matching EDID to the display's native resolution.

### Q: Dante audio not routing?

A: Verify the FLEX-MCU-Dante card is installed and the Dante network is connected via the MCU LAN port. Open Dante Controller software to confirm the device is visible on the Dante network. Check that audio routes are configured in Dante Controller.

### Q: One power supply shows a fault LED?

A: The second PSU maintains full operation automatically. Replace the faulty PSU by sliding it out and inserting a replacement — no power-down required. Verify the replacement PSU LED returns to normal.

### Q: CAT endpoint not receiving signal at full 4K60?

A: Confirm CAT6A cable is used (CAT5e/6 may limit bandwidth). Verify cable length does not exceed 330ft (100m). Check that PoC power is reaching the endpoint. Try resetting the endpoint via the chassis control interface.

### Q: Cannot access the Web GUI?

A: Connect to the LAN port on the MCU board. Verify your PC is on the same subnet as the chassis. Default network settings are available in the chassis touch panel under System Info → LAN.

## WARRANTY INFORMATION

KanexPro products purchased from an Authorized Reseller after September 1, 2015 are covered by a **3-Year Limited Warranty**. KanexPro will repair or replace defective products free of charge for necessary parts, labor, and shipping. This warranty extends to the original end-user purchaser and is non-transferrable. For full warranty details, visit [kanexpro.com/warranty](http://kanexpro.com/warranty).

