

Flex Matrix Pro 16×16 4K60 Crosspoint Modular Matrix Switcher

5-Format Crosspoint — HDMI · DisplayPort · HDBaseT · Fiber · 12G-SDI — with Dante/AES67

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 16 inputs and 16 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.

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KEY FEATURES

- ✓ Up to 16 inputs and 16 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-PRO16X16	16×16 Crosspoint Matrix Switcher Frame (8 input + 4 output card slots)
FLEX-PRO16X16	16×16 Crosspoint Matrix Switcher Frame (16 input + 4 output card slots)
FLEX-PRO16X16	16×16 Crosspoint Matrix Switcher Frame (32 input + 4 output card slots)

FLEX PRO I/O CARDS

SKU	DESCRIPTION
INPUT CARDS (4 PORTS EACH)	
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
OUTPUT CARDS (4 PORTS EACH)	
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
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I/O Card Specifications

HDMI & DISPLAYPORT CARDS

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

CAT (HDBASET 3.0) CARDS

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

FIBER OPTIC CARDS

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

12G-SDI CARDS

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



Transmitters & Receivers

CAT TRANSMITTERS

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

CAT RECEIVER

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

FIBER TRANSMITTER & RECEIVER

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

Common Specifications (All TX/RX)

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



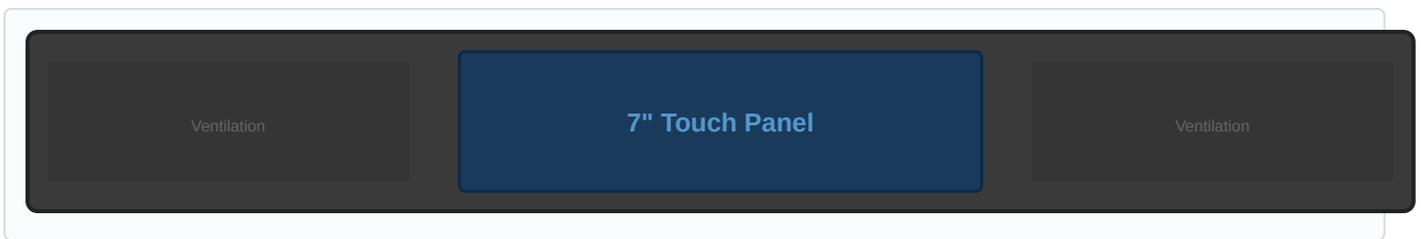
Chassis Specifications

VIDEO	
Standard	HDMI 2.0, HDCP 2.2
HDR	Supported
Max Data Rate	18 Gbps (HDMI/DP) • 11.88 Gbps (12G-SDI)
Max Resolution	4096×2160 @60Hz 4:4:4
Switching	Seamless (glitch-free crosspoint switching)
AUDIO	
Network Audio	Dante/AES67 (built-in via FLEX-MCU-Dante)
Pass-through	LPCM 8ch, Dolby Digital/TrueHD/DD+, DTS/DTS-HD MA/DTS:X
I/O CAPACITY (FLEX-PRO16X16)	
Input Card Slots	4 slots × 4 ports = 16 inputs max
Output Card Slots	4 slots × 4 ports = 16 outputs max
Card Types	HDMI, DisplayPort, CAT (HDBaseT 3.0), Fiber Optic, 12G-SDI
SIGNAL EXTENSION	
CAT (HDBaseT 3.0)	330ft (100m) via CAT6A • PoC supported
Fiber Optic	Multimode 984ft (300m) • Singlemode 6,562ft (2km)
12G-SDI	Per SMPTE standards (cable dependent)
CONTROL	
Front Panel	7" capacitive touchscreen
Network	TCP/IP (RJ45), Web GUI, Dante Controller, Dante Domain Manager
Serial	RS-232 • Bi-directional to endpoints
GENERAL	
Power	Redundant hot-swappable PSUs • 100–240VAC 50/60Hz
Compliance	TAA Compliant
Features	Video wall, quad view, independent scaling, CEC, EDID/HDCP management, preset save/recall

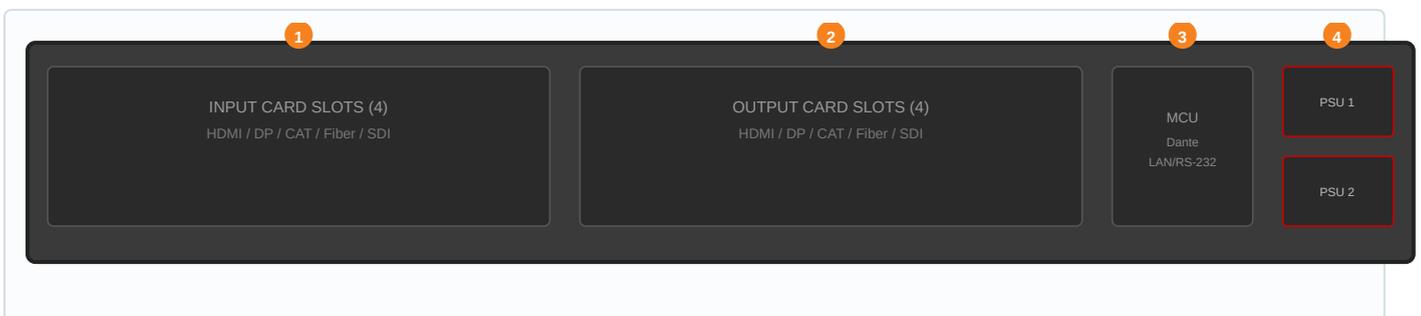


Panel Overview

FRONT PANEL



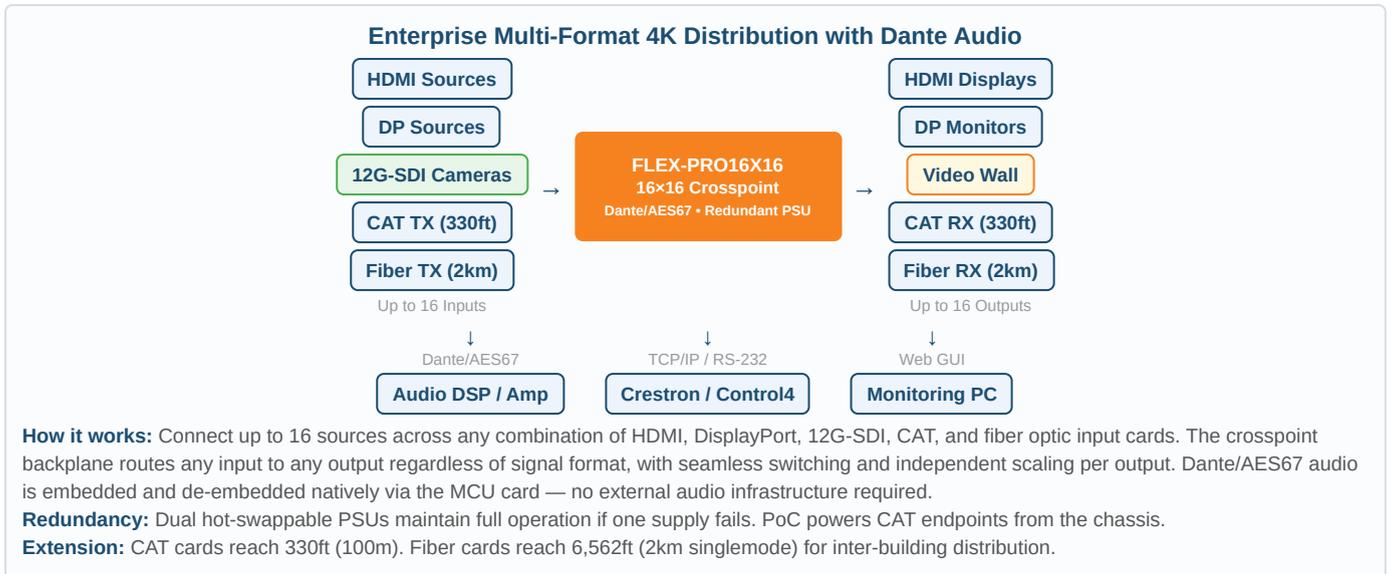
REAR PANEL



No.	Name	Function Description
1	Input Card Slots	4 modular slots. Each accepts a 4-port input card (HDMI, DP, CAT, Fiber, or SDI). Total: up to 16 inputs. Hot-swappable.
2	Output Card Slots	4 modular slots. Each accepts a 4-port output card (HDMI, DP, CAT, Fiber, or SDI). Total: up to 16 outputs. Hot-swappable.
3	MCU Board	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	Redundant PSUs	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.

