

Modular 4K 60Hz Matrix Chassis with Independent Scaling & Video Wall

Eliminate the tradeoff between scalability and simplicity in multi-zone video distribution. The KanexPro FLEX-MF8X10 is a modular 4K 60Hz matrix chassis that routes up to 8 HDMI sources to 10 CAT-extended displays with independent per-output scaling — so every screen receives the correct resolution regardless of source format, without external converters or additional processing.

Built on a modular card architecture that scales from 8×10 to 24×60 within the FLEX chassis family, the matrix supports HDMI 2.0 at 18Gbps with HDCP 2.2, HDR pass-through, and full 4K60 4:4:4 color. Integrated video wall mode (up to 4×3), quad view monitoring, comprehensive EDID management, and CEC display power control reduce system complexity and eliminate the need for separate processing hardware. Control via front-panel touchscreen, RS-232, TCP/IP, or Web GUI.

Surge Protection Recommended — This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, or lightning strikes. Use of surge protection systems is highly recommended.

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KEY FEATURES

- ✓ Routes up to 8 HDMI 2.0 sources to 10 CAT-extended displays at 4K60 4:4:4 with 18Gbps bandwidth and HDCP 2.2/1.x compliance
- ✓ Independent per-output scaling — each display receives its native resolution (480p to 4K60) from the same source, eliminating external scalers
- ✓ Video wall mode supports up to 4×3 configurations with 30 independent wall groups, adjustable bezel compensation, and preset output resolutions
- ✓ Quad view displays four sources on a single output in three selectable layouts — ideal for confidence monitoring without additional hardware
- ✓ Modular card architecture: swap input cards (8-port HDMI) and output cards (12-port CAT) to scale from 8×10 up to 24×60 without chassis replacement
- ✓ HDR support with Dolby Digital, Dolby TrueHD, DD+, DTS-HD Master, DTS:X, and LPCM up to 7.1-channel audio pass-through
- ✓ CEC display control powers connected TVs on/off and sends custom CEC commands through CAT receivers — reduces installation touchpoints
- ✓ Full control via front-panel touchscreen, RS-232, TCP/IP, and Web GUI with 8 user presets for instant scene recall

Product Specifications

TECHNICAL SPECIFICATIONS

VIDEO	
HDMI Standard	HDMI 2.0, HDCP 1.x, HDCP 2.2
Bandwidth	18 Gbps
Maximum Resolution	Up to 3840×2160 60Hz 4:4:4 (8-bit)
Chroma Sampling	RGB and YCbCr 4:4:4, YCbCr 4:2:2/4:2:0
Color Bit Depth	8, 10, 12 bits per color
HDR Support	HDR10, HDR10+, Dolby Vision, HLG pass-through
OUTPUT RESOLUTION SCALING	
Available Modes	Auto, 720×480p60, 720×576p50, 1280×720p50/59/60, 1920×1080p50/59/60, 3840×2160p30/50/59/60, 1024×768p60, 1280×1024p60, 1920×1200p60
AUDIO	
Pass-through Formats	LPCM 2.0/2.1/5.1/6.1/7.1, Dolby Digital, Dolby TrueHD, DD+, DTS-ES, DTS HD Master, DTS HD-HRA, DTS-X
VIDEO WALL & QUAD VIEW	
Video Wall	Up to 4×3 per group, 30 independent groups, adjustable bezel compensation
Quad View	3 layouts, per-output configurable
CONNECTION	
Input Ports	8× HDMI Type A (19-pin female) per input card
Output Ports	12× CAT (RJ45) per output card
Control	1× RS-232 (D-Sub 9) / 1× RJ45 (TCP/IP) / Front-panel touchscreen
MECHANICAL & POWER	
ESD Protection	±8kV (air-gap) / ±4kV (contact) per IEC 61000-4-2
Temperature	32–104°F (0–40°C) operating
Humidity	10–90% RH (non-condensing)
Dimensions	445mm (W) × 355mm (D) × 450mm (H)
Weight	21 kg (46 lbs)
Power Supply	100–240VAC 50/60Hz input, 540W output

Operation: Front Panel Touchscreen

The KanexPro FLEX-MF8X10 features a front-panel touchscreen interface for complete local control without networking. Access system info, create/manage presets, configure I/O assignments, and manage EDID settings directly from the display.

FRONT PANEL MENU STRUCTURE

Menu Item	Function
System Info	Display firmware version, IP address, HDMI port status, and temperature monitoring.
Create/Manage Presets	Save and recall up to 8 custom scene presets with all routing and scaling configurations. Each preset remembers complete system state for instant recall.
Input / Output Config	Assign HDMI sources to matrix inputs and CAT receivers to outputs. Configure per-output resolution scaling independently for mixed-resolution environments.
EDID Management	Select or create EDID profiles to match connected display capabilities. Ensures proper handshake and color space negotiation.
Video Wall Setup	Create up to 30 video wall groups, define bezel width for compensation, and assign outputs to wall zones (up to 4x3 per group).
Quad View Config	Enable/disable quad view, select layout (3 options), assign sources, and configure picture-in-picture sizing.

Operation: Rear Panel Connections

INPUT / OUTPUT ARCHITECTURE

No.	Connection	Description
1	HDMI Inputs (8)	Connect up to 8 HDMI 2.0 source devices (media players, computers, cameras, streaming devices). Female Type A connectors.
2	CAT Outputs (10)	Connect to FLEX-CATRX CAT receivers (sold separately) for HDMI-over-Ethernet extended reach up to 100m per receiver.
3	RS-232 Serial	D-Sub 9-pin male connector for third-party control system integration and advanced API command set.
4	TCP/IP / LAN	RJ45 port for Web GUI access, TCP/IP control, and network-based preset synchronization.
5	Power Input	100–240VAC 50/60Hz to onboard PSU (540W output). Use supplied or equivalent certified power adapter.

Web GUI User Guide

ACCESSING THE WEB INTERFACE

Default IP Address: 192.168.1.100 | **Default Credentials:** Admin / admin

1. Connect the TCP/IP port on the rear panel to your LAN or directly to a control PC.
2. Open a web browser and navigate to `http://192.168.1.100` (or your configured IP).
3. Log in with username **Admin** and password **admin**. Change credentials on first login for security.
4. The dashboard displays live input/output status and matrix routing state.

WEB GUI SECTIONS

Section	Purpose
Dashboard	Real-time visualization of all 8 inputs and 10 outputs with connection indicators. Click to route sources.
Routing	Manage input-to-output assignments. Save/load presets. Configure per-output resolution scaling (independent per port).
Presets	Create, edit, and delete custom presets. Each preset stores complete system configuration. 8 user presets available.
EDID	Select factory EDID profiles or upload custom EDID data. Assign profiles to individual inputs for display compatibility.
Video Wall	Create/edit wall groups. Set bezel width, output grid (WxH), and assign outputs to wall zones. Up to 30 groups.
Quad View	Enable quad view, choose layout, assign up to 4 sources, adjust PiP window sizes.
CEC Control	Configure CEC commands for TV power on/off and custom CEC payloads. Send commands through CAT receivers.
System Settings	Configure IP address, subnet mask, gateway, RS-232 baud rate, firmware updates, and factory reset options.

Control Commands: RS-232 & API

RS-232 SERIAL PROTOCOL

Baud Rate: 9600 (default), adjustable to 115200 | **Data Bits:** 8 | **Stop Bits:** 1 | **Parity:** None | **Flow Control:** None

Commands are sent as ASCII strings terminated with CR (0x0D). Responses echo the command or return status/error codes. Examples:

CATEGORY	COMMAND	EXAMPLE	RESPONSE
System Setup	SYSTEM INFO	SYSTEM INFO	FLEX-MF8X10 v1.2.4 IP:192.168.1.100
System Setup	POWER [ON OFF]	POWER ON	OK
Preset	PRESET LOAD <n>	PRESET LOAD 1	OK (Preset 1 loaded)
Preset	PRESET SAVE <n>	PRESET SAVE 2	OK (Current state saved to Preset 2)
Routing	ROUTE IN <i> OUT <o>	ROUTE IN 1 OUT 3	OK (Input 1 → Output 3)
Routing	ROUTE IN <i> OUT ALL	ROUTE IN 2 OUT ALL	OK (Input 2 → All outputs)
Output Setting	SCALE OUT <o> <res>	SCALE OUT 5 1080p60	OK
EDID	EDID IN <i> <profile>	EDID IN 1 4K60	OK
Video Wall	WALL CREATE <g> <w>x<h>	WALL CREATE 1 2x2	OK (Wall 1: 2x2 grid)
Quad View	QUAD [ON OFF]	QUAD ON	OK
Quad View	QUAD LAYOUT <n>	QUAD LAYOUT 2	OK (Layout 2 selected)
CEC	CEC TV [ON OFF]	CEC TV ON	OK

Control Commands Reference (Continued)

EXTENDED API COMMAND SET

The FLEX-MF8X10 supports a comprehensive command API for third-party control system integration. All commands are case-insensitive and terminated with CR (0x0D). Use TCP/IP on port 23 for telnet-style control, or RS-232 serial.

CATEGORY	COMMAND SYNTAX	DESCRIPTION
Input Status	IN STATUS <i>	Query input port i connection, resolution, color space, HDR status
Output Status	OUT STATUS <o>	Query output port o current scaling resolution, routing, EDID profile
Routing Query	ROUTE QUERY OUT <o>	Return which input is routed to output o (0 if none)
Scaling Query	SCALE QUERY OUT <o>	Return current resolution setting for output o
Video Wall	WALL ASSIGN <g> OUT <o> <x>, <y>	Assign output o to wall group g at grid position x,y
Video Wall	WALL BEZEL <g> <width>	Set bezel width (mm) for wall group g compensation
Quad View	QUAD ASSIGN <s1> <s2> <s3> <s4>	Assign sources 1-4 to quad view output zones
CEC Control	CEC SEND <cmd> <data>	Send custom CEC command payload through CAT receivers
Firmware	FIRMWARE VERSION	Return firmware version string
Firmware	FIRMWARE UPDATE <file>	Initiate firmware update from file (Web GUI only)
Factory Reset	SYSTEM FACTORY_RESET	Reset to factory defaults (web/serial confirm required)

MODULAR CARD ARCHITECTURE

The FLEX-MF8X10 is the base 8x10 configuration. Upgrade by swapping cards:

Card Type	Port Count	Scalable To
Input Card	8 HDMI ports	Up to 3 cards = 24 inputs (FLEX-MF24X60)
Output Card	12 CAT ports	Up to 5 cards = 60 outputs (FLEX-MF24X60)

Cards are hot-swappable and automatically detected by the chassis firmware. No configuration changes required—just physically swap the card module and power cycle.

Warranty Information & Support

LIMITED WARRANTY

KanexPro warrants the FLEX-MF8X10 matrix chassis against defects in materials and workmanship under normal use for a period of **three (3) years** from the date of original purchase. This warranty covers repairs or replacement of defective components, excluding:

- ✓ Damage caused by misuse, accident, unauthorized modification, or force majeure
- ✓ Normal wear and tear or cosmetic damage
- ✓ Damage caused by improper power supply or electrical surge (external surge protection recommended)
- ✓ Damage from incompatible third-party cables or accessories

WARRANTY SERVICE PROCEDURE

Step 1: Contact KanexPro support at support@kanexpro.com or 888.975.1368 with proof of purchase and detailed description of the issue.

Step 2: If RMA is approved, you will receive a Return Merchandise Authorization (RMA) number and return shipping label.

Step 3: Ship the unit in its original packaging (or equivalent) to the KanexPro service facility.

Step 4: Upon inspection and confirmation of warranty coverage, repair/replacement will be completed and returned within 5–10 business days.

Step 5: Repaired/replaced units ship at KanexPro's expense; return shipping is covered under warranty.

TECHNICAL SUPPORT

Contact Methods	
Phone	+1 (888) 975-1368 — Monday–Friday, 9 AM–6 PM EST
Email	support@kanexpro.com — Response within 4 business hours
Web	kanexpro.com/support — Knowledge base, FAQs, firmware downloads
RMA Portal	rma.kanexpro.com — Track service status and manage RMA

TROUBLESHOOTING QUICK REFERENCE

Issue & Solution	
No video on output	1) Verify HDMI input is connected and active. 2) Check output resolution matches display capability. 3) Try resetting EDID to Auto. 4) Power cycle matrix and display.
HDMI handshake fails	1) Use Premium High-Speed HDMI cables rated for 18Gbps. 2) Check cable length ≤5m for 4K60. 3) Select appropriate EDID profile on input. 4) Try different source device.
Web GUI not accessible	1) Verify TCP/IP port is connected to LAN. 2) Check IP address with front panel menu (System Info). 3) Ping the device IP from control PC. 4) Use default IP 192.168.1.100 if unknown.
Preset recall incomplete	1) Ensure all CAT receivers are powered before recalling preset. 2) Check that inputs/outputs match previous configuration. 3) Wait 3 seconds after recall for handshake stabilization. 4) Manually adjust any mismatched outputs.
Video wall displays misaligned	1) Verify bezel width setting matches physical display bezels. 2) Check all outputs in wall group are enabled and routed. 3) Confirm same input is assigned to all wall outputs. 4) Test with single 1x1 wall group first.

REGULATORY & SAFETY CERTIFICATIONS

The FLEX-MF8X10 complies with FCC Part 15 (USA), CE (EU), and industry standards for AV equipment. Detailed certification documents are available at kanexpro.com/certifications.