

MPX-VW1616-4K

Intelligent 4K Hybrid LED/LCD Video Wall & Splicing Processor



PRODUCT OVERVIEW

The MPX-VW1616-4K is a modular hybrid splicing matrix designed for professional multimedia environments. Its FPGA-based architecture supports flexible mixed input/output card configurations, seamless switching, 4K capture and splicing, input cropping, window scaling/overlay, KVM management and multi-client browser-based control.

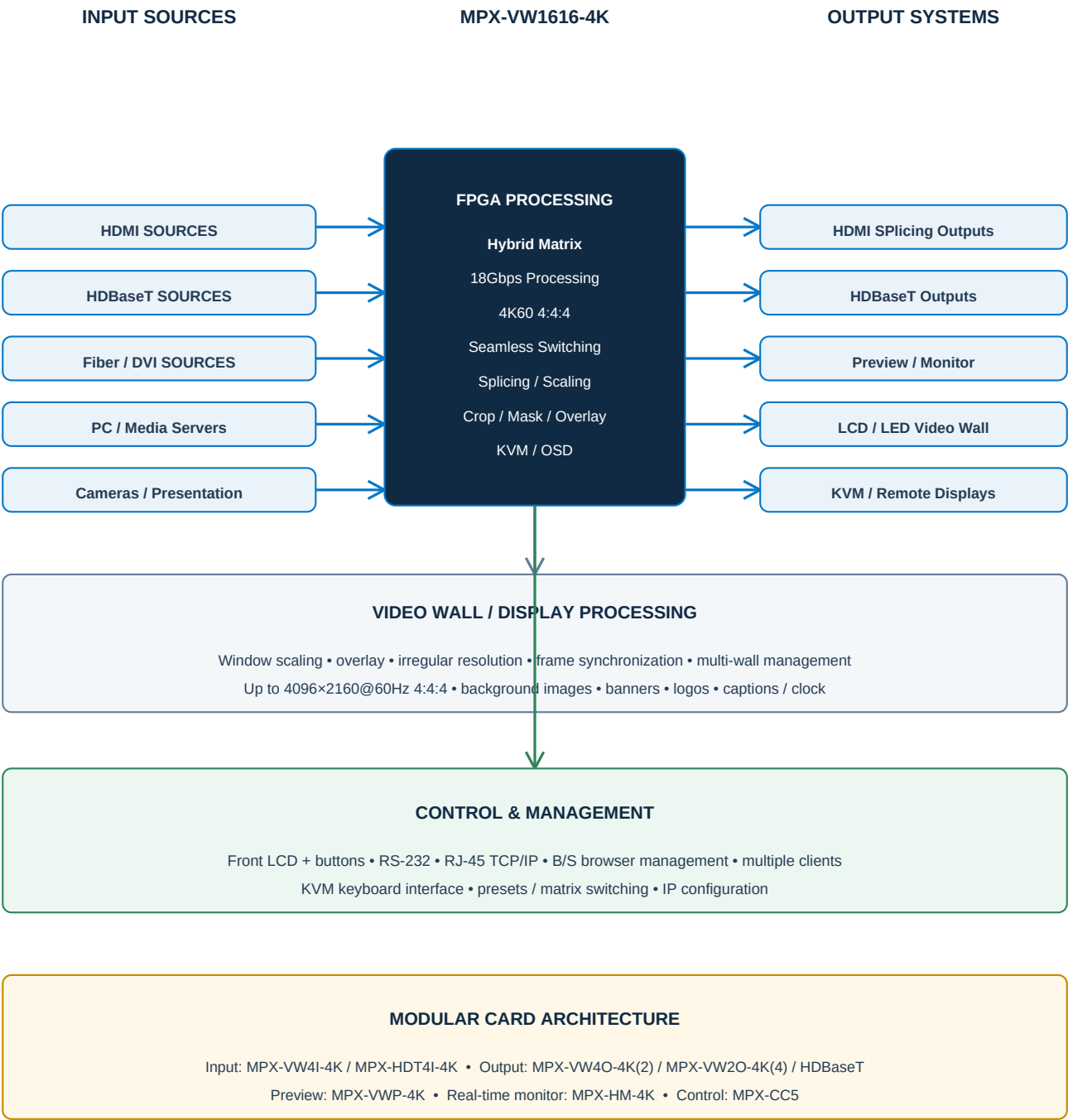
KEY FEATURES

- 16×16 class hybrid matrix architecture with modular card expansion
- HDMI and HDBaseT input options; HDMI/HDBaseT seamless and splicing output options
- 4096×2160@60Hz 4:4:4 support with 18Gbps interface bandwidth
- FPGA hardware processing for low-latency, flicker-free parallel processing
- Video wall splicing, window scaling, overlay and irregular resolution settings
- Real-time crop, black-edge removal, edge masking and region enlargement
- KVM management for mouse/keyboard control of multiple computers
- Front-panel LCD, RS-232, RJ-45 TCP/IP and browser-based B/S management
- Hot-swappable fans, redundant power supply and online maintenance/expansion
- Channel logos, character overlays, banners, welcome slogans and real-time clock

System-Level Diagram

Professional signal-flow architecture for MPX-VW1616-4K

HYBRID INPUT → PROCESSING → VIDEO WALL OUTPUT



Vector redraw based on the supplied MPX-VW1616-4K manual; intended for clear engineering reference.

Technical Specifications

Core specifications and supported card architecture

MATRIX & VIDEO

Model	MPX-VW1616-4K
Architecture	Modular hybrid LED/LCD splicing matrix
Connectable input cards / channels	7 cards / 28 channels
Connectable output cards / channels	4 cards / 16 channels
Supported input cards	MPX-VW4I-4K; MPX-HDT4I-4K
Seamless output cards	MPX-HDT4O-4K; MPX-HDT2O-4K
Splicing output cards	MPX-VW4O-4K(2); MPX-VW2O-4K(4)
Preview card	MPX-VWP-4K
Real-time monitor card	MPX-HM-4K
Video resolution	Up to 4096 × 2160 @ 60Hz; backward compatible
Interface bandwidth	18Gbps
Video processing	Fiber / DVI / HDMI / HDBaseT cross-conversion; seamless and splicing output

CONTROL & INTERFACES

Serial control	9600 baud, 8 data bits, 1 stop bit, no parity
RS-232 connectors	9-pin female: 2=TX, 3=RX, 5=GND; 9-pin male: 2=RX, 3=TX, 5=GND
Keyboard interface	4-pin 3.8mm Phoenix; compatible with MCP100 extension keyboard
Ethernet interface	RJ-45 female connector
Ethernet protocol / rate	TCP/IP; adaptive 10M/100M, full or half duplex
System power	100–240VAC, 50/60Hz, international adaptive supply
Operating temperature	0°C to +50°C
Operating humidity	20%–70%
MTBF	30,000 hours
Warranty	1-year free warranty; lifetime maintenance

CHASSIS OPTIONS

3.5U	445 × 400 × 156 mm • approx. 14 kg • idle power approx. 15W
6.5U	445 × 400 × 289 mm • approx. 22 kg • idle power approx. 40W
11U	445 × 400 × 489 mm • approx. 29 kg • idle power approx. 90W

Hardware & Applications

Panel reference and typical professional deployment

FRONT & REAR PANEL REFERENCE

MPX -VW1616-4K rear panel:



The supplied manual identifies the front panel LCD, channel buttons and control command buttons, while the rear panel provides modular input/output cards, keyboard, USB, Ethernet and RS-232 interfaces. The exact panel arrangement depends on installed cards.

APPLICATIONS

Corporate / Control Rooms

Centralized routing and multi-display management for operational environments.

Education & Training

Flexible source switching, KVM management and large-format visual presentation.

LED / LCD Video Walls

Modular output architecture with scaling, synchronization and irregular-resolution support.

Command & Control

High-resolution multi-source splicing, cropping, masking and synchronized display walls.

Broadcast / Event AV

Seamless switching, video wall composition, overlays and multi-client control.

ENGINEERING HIGHLIGHTS

- Parallel signal processing designed to avoid black screens, flicker and fragments with low latency.
- Frame synchronization addresses image misalignment and tearing in high-speed scenes.
- Intelligent scaling preserves image detail and sharpness.
- Background images can be retained through power loss and used as splicing base images.
- Window locking and batch-operation confirmation help maintain fixed display layouts.
- Multiple display-wall groups can be managed simultaneously with real-time output mapping.
- Hot-swappable fans and redundant power supplies support continuous operation and serviceability.

SOURCE BASIS

Specifications and hardware visuals are based on the supplied MPX-VW1616-4K user manual, Version 1.0 dated 2024-07-09. The system diagram is a clean vector redraw of the documented architecture and supported card types, created for improved readability.