Datasheet

VWP-SP-50 | UHD 4K LCD Multi view Video Wall Controller with Seamless Splicing and Auto Signals Backup Support 4SLT



Key features

- Modular plug-in design supporting up to 132 inputs and 76 outputs
- 152 mixed layers with adjustable position, size, roaming, and zooming
- Full/single screen brightness control, static frame, and seamless switching
- 256 user scenes for flexible saving and recall
- Genlock video sync with cascade for frame-accurate multi-screen playback
- Signal hot backup and redundant power for uninterrupted operation
- 4K@60Hz 4:4:4 ultra-HD input/output via HDMI 2.0 and DP1.2
- HDR10 image processing with 8/10/12-bit color depth
- Multi-level screen management with up to 9 groups per unit
- Arbitrary splicing: single/full screen, overlap, movement, up to 8 windows per output card
- Special-shaped splicing with pixel-level point-to-point display
- Streaming protocol support: ONVIF, RTSP, IP camera and NVR compatibility
- Flexible input/output card mix: DVI, HDMI, HDMI 2.0, DP1.2, VGA, SDI, CVBS, YPbPr
- Control via PC software, RS-232, Ethernet, mobile app, or keypad with encryption
- Output frame synchronization eliminates tearing and “jelly effect”
- Custom output resolutions and display group management per port
- Automated backup and scheduling: PC scene, task timing, and carousela

Product Overview

The Macsys VWP-SP-50 is a next-generation UHD 4K LCD Multiview Videowall Controller engineered for mission-critical display environments. Featuring a modular, plug-in architecture, it supports up to 132 input channels and 76 output channels, delivering unmatched flexibility and scalability for control rooms, command centers, security monitoring hubs, and immersive visualization setups.

This controller ensures seamless splicing and real-time 4K@60Hz 4:4:4 ultra-HD processing with ultra-low latency and lossless image quality. Advanced features like Genlock synchronization, hot signal backup, redundant power supply, and multi-level screen group control enable uninterrupted and precise multi-screen management.

With support for a wide range of input formats including HDMI 2.0, DP1.2, DVI, VGA, SDI, CVBS, and YPbPr, as well as HDR10 high dynamic range and multiple streaming protocols (ONVIF, RTSP), the VWP-SP-50 empowers operators to manage complex video walls effortlessly. It combines centralized software control, RS-232, Ethernet, and mobile app integration to deliver the ultimate in reliability, scalability, and professional-grade performance.

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Technical Specification

Feature	Details
Architecture	Modular plug-in, mother/daughter card design
Input/Output Scale	2U switching main box with 4 slots; supports 1 output slot, 4 input slots, 2 public slots; 4–12 input / 4–12 output; built-in 2 fans and control card
Input Channel	4–12 input Channel
Output Channel	4–12 output Channel
Input Interface	VGA (DB15PIN), DVI (DVI-I, DVI-D signal only), HDMI (HDMI 2.0), DP1.1, DP1.2, CVBS (BNC), SDI (BNC), YPbPr (DB15PIN, needs VGA conversion cable)
Input Resolution	VGA input supports maximum resolution : 1920×1080@60Hz, supports common resolution: 848×480@60Hz, 640×480@60Hz, 800×600@60Hz, 1280×720@60Hz, 2360×768@60Hz, 1366×768@60Hz, 1024×768@60Hz, 1440×900@60Hz, 1280×1024@60Hz, 1680×1050@60Hz, 1920×1080@60Hz, 1600×1200@60Hz; DVI: 1920×1200@60Hz and below resolution; HDMI: 3840×2160@60Hz and below resolution; DP: 3840×2160@60Hz and below resolution; CVBS: 576i/480i; SDI: HD-SD/3G-SDI; YPBPR: 480p,576p, 720p,1080p
Output Interface	DVI full digital DVI-I, HDMI 1.3A, HDMI 2.0 TMDS signal
Output Resolution	Max 3840×2160@60Hz (downward compatible), Custom/smart mode output resolution per port
Control Port	RS-232 (9-pin COM with serial loop out), Ethernet network control, RS485 control
Display Mode	Single screen 2-16 windows, multi-screen roaming, overlay, arbitrary zoom
Splicing Mode	Regular and special-shaped screen splicing
Window Adjustment	Smooth adjustment of input signal window size and position
Control Software	Multi-screen splicing control software, support for both PC and mobile app control
Layer Support	Up to 152 mixed layers, adjustable position/size, roaming, zooming, static frame
Scene Storage	256 user-defined scenes, software & hardware scene mode switching
Synchronization	Genlock video source sync, cascade synchronization, frame synchronization across screens
Signal Backup	Dual hot backup with configurable redundancy, signal source can be backed up
Group/Resolution Management	Yes; advanced per-port, multi-level screen/group management, 9 groups/unit
Brightness Adjustment	Full and single screen brightness adjustable

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Feature	Details
Streaming Protocol Support	ONVIF, RTSP, IP camera/NVR compatibility
Input Source Cropping	Supports input source cutting/cropping
Input Source Naming	Supports labeling of signal source/input for easy identification
Authorization & Encryption	Primary/secondary authorization, keypad encryption options
EDID & HDCP	EDID management and HDCP supported; advanced timing management
HDR/Chroma Support	4K@60Hz 4:4:4 ultra-HD, HDR10, 8/10/12-bit color, no stutter/frame loss
Multi-cascade Support	Supports multiple device cascades for large video wall setups
Max Display Groups/Screens	Supports 76 outputs / 152 screens simultaneous display
Engineering Lock	Extra engineering lock for secure transmission
OSD Layers & Subtitles	OSD/font/subtitle layer, customizable size/color
LED/LCD Hybrid	Hybrid LED/LCD/special-shaped splicing
Max. Windows per Output	Up to 8 windows per card/output
Window Management	Support for roaming, zooming, static frame, seamless switching
Scene/Task Management	PC scene creation, timing, carousel, task scheduling
I/O Card Combination	Flexible mother and daughter card mix-and-match
Voltage	AC 220V ~ 240V, 60Hz
Load Power Consumption	2080W
Operating Temperature	0°C to 70°C
Size	2U
Certifications	CE, RoHS compliance

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