



ZH LED Control System



ZH-Z4M Video Processor

Product Specification





Product Specification

ZH-Z4M

I. Product Introduction:

The ZH-Z4M is a two-in-one HD video processor and transmitter card developed for large-screen LED display systems. It utilizes industry-leading lossless scaling technology and supports HD HDMI/USB flash drive input, audio output, and standard Gigabit Ethernet output, providing customers with a high-definition display solution for large LED screens. This product supports one-touch switching between synchronous HD video source and asynchronous USB flash drive content display, greatly simplifying the user's operation process and truly achieving the goal of simple operation. This product system supports online upgrades, ensuring customers can upgrade to new features from time to time.

II. Functional Features

1. Multiple signal inputs: HDMI, USB;
2. Simultaneous audio and video input;
3. Output signal interfaces: LAN (RJ45) x 4 (with network port connection status indicator), maximum supported resolution of 2.6 million pixels, customizable resolutions up to 8192 pixels wide and 4096 pixels high; Audio (PJ35) x 1;
4. Built-in USB flash drive playback function: Directly insert a USB flash drive to automatically play videos or photos from the USB flash drive;
5. Supports image brightness, contrast, saturation, and color temperature adjustment;
6. EDID configuration management: Supports reading, modifying, and customizing EDID (Extended Display Identification Data);
7. Super Resolution Amplification Technology: A video compensation processing algorithm. It reduces images without size restrictions while preserving image detail and mitigating out-of-focus effects caused by multiple upscaling.
8. Border removal/cropping: Resolves black borders in input signals and allows arbitrary cropping of any signal



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source (while maintaining full screen).

9. Channel protection: Protects device input and output I/O ports from overvoltage and overcurrent. Channels are independent and complementary.

10. Custom resolutions supported.

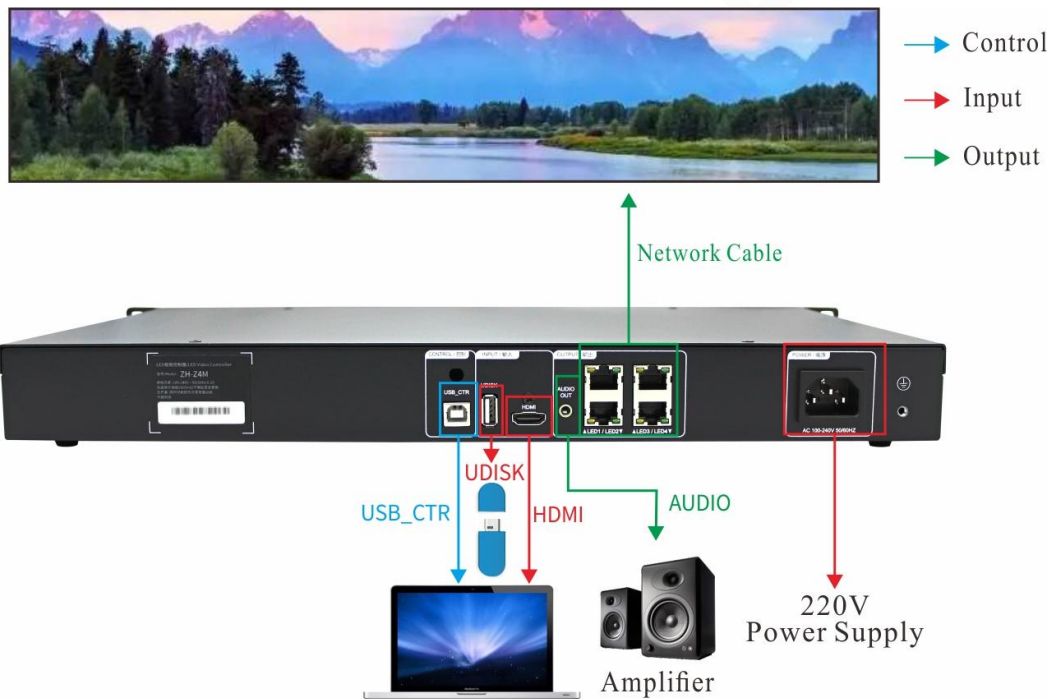
11. LED screen testing: Switch between black, blue, and red screens.

12. Smart settings supported.

13. Scene recall and saving supported.

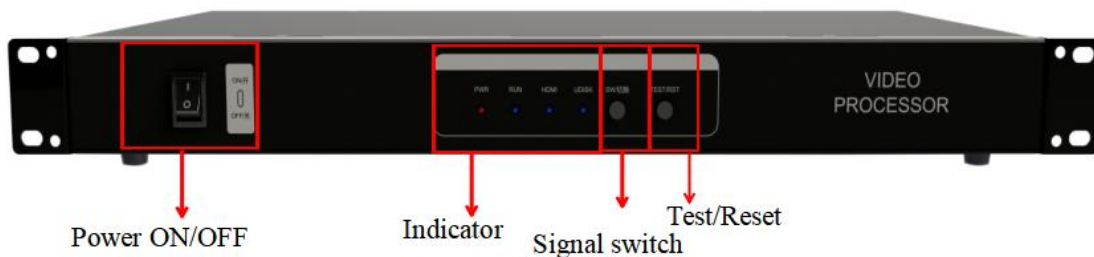
14. Online system upgrades supported.

III. System Topology



IV. Hardware Introduction:

The Front Panel

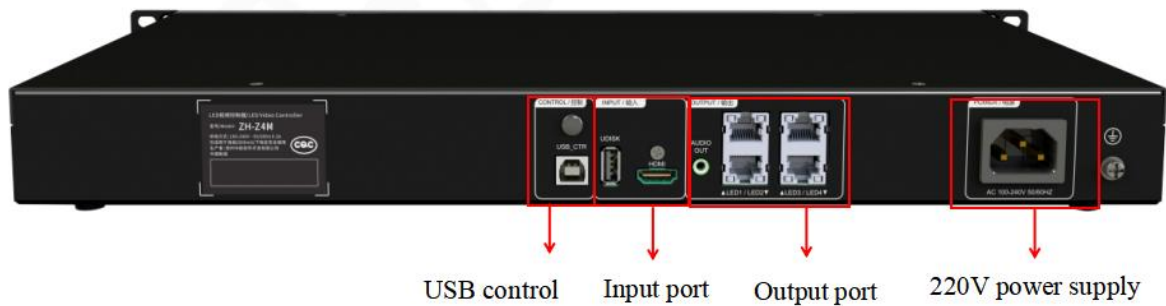




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Power ON/OFF	Power switch
Indicator	RUN: Run indicator; PWR: Power indicator; HDMI/USB: On/off indicates signal presence/absence.
Signal switch	Click to switch between USB/HDMI signal.
Test/Reset	Click to enter test mode, long press to rest

The Back Panel



USB control	USB_CTR: set the parameter
Input port	HDMI: High-definition HDMI signal input. USB flash drive: Reads and displays videos and images from a USB flash drive.
Output port	AUDIO OUT: Connect to powered speakers. Network Port: LED1/LED2/LED3/LED4 connect to the receiving card.
220V power supply	220V power input interface

V. Parameters:

Input Standard:

Input Port	Number	Resolution specifications
HDMI	1	EIA/CEA-861 standard, compliant with HDMI1.4 standard, supports HDMI input audio data output
USB	1	Standard USB2.0 interface

Output Standard:



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Port	Quantity	Resolution specification
LED	4	Standard gigabit port
AUDIO	1	3.5mm standard audio interface

Device specification:

Input power	AC 100~240V, 50/60HZ, No more than 2A
Working temperature	-20~70°C
Volume size	482*243*44.5(mm,L*W*H)
Weight	≈2KG

VI. Hardware Diagram:

Unit: mm

