



M10

2IN1 Video Processor

Specification V4.0



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1 Update Records

Document Version	Hardware Version	Release Time	Update Record
V4.0	M10 (V1.0.0)	July 17(th), 2025	First release

2 Product Introduction

M10 is a 10-network port 2-in-1 processor developed by Mooncell for LED display, which integrates professional 4K main control and powerful 4K multi-screen video processing capabilities. It supports two device working modes: sending card mode and processor mode. 10 Gigabit network port output, the maximum load of a single device is 6.50 million pixels, the widest is 15360 pixels, and the highest is 15360 pixels. It is easy to operate and has rich functions, which is conducive to simplifying the on-site construction environment. The M10 can receive and process multiple types of video signals, featuring high-definition 4K@30Hz image processing. It supports 3*screen display, capable of simultaneously handling 3* 4K@30Hz signals, with HDMI and DVI loop-through; SDI input and loop-through, delivering premium image display. M10 features a brand-new appearance and button knob interaction design, which supports LCD intelligent screen matching and device network port backup testing, layer attribute settings, synchronization settings, scene settings, etc., simplifying device operation.

3 Product Characteristics

3.1 Improve the display effect

- Multiple input interfaces
 - 1×HDMI1.4 (IN&LOOP)
 - 1×HDMI1.4
 - 1×DVI (IN&LOOP)
 - 1×SDI (IN&LOOP)

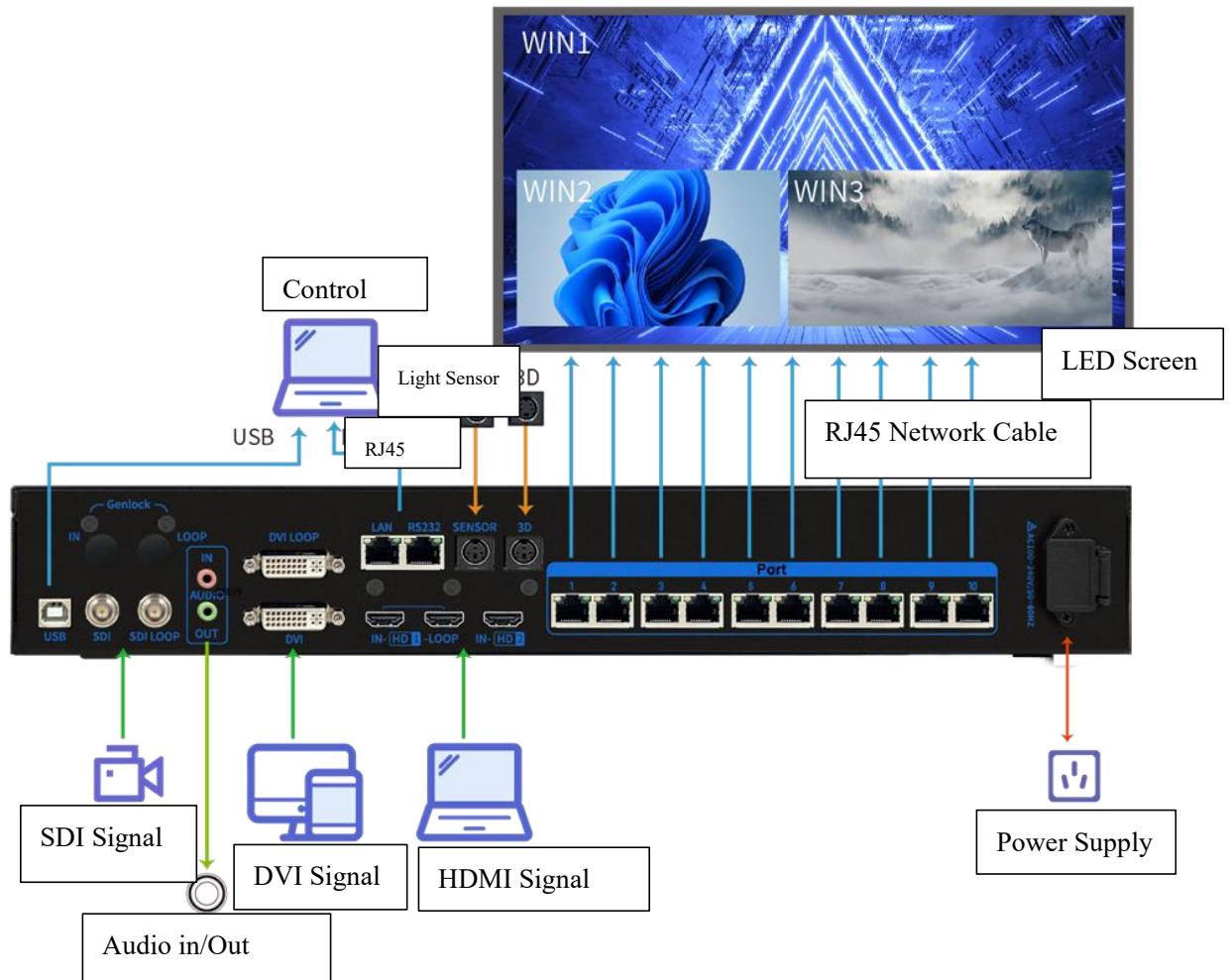
- Output interface
 - 10 gigabit network ports
 - Maximum load 6.50 million pixels, custom output resolution, maximum width 15360 pixels, maximum height 15360 pixels
- Support HDMI audio input
 - 1 channel 3.5MM interface audio input, 1 channel 3.5MM interface audio output

3.2 Diversified Display Function

- It supports to have just one-click to get the black screen.
- Support dual mode switching. Support sending card mode, processor mode
- The same type of input interface supports splicing input
- Support 3 screen display, 3*4K@30Hz at the same time, the size and position can be adjusted separately, and the layer priority can be adjusted
- Video processing capability, support output screen scaling. Support one-click full-screen zoom, pixel to pixel, Support arbitrary interception of input sources
- Support multi-scene saving and recall. Support 10 kinds of scene templates, directly call
- Support backup, device backup, Network port backup test, input source hot backup
- 3D: With 3D transmitter and matching 3D glasses, achieve 3D display effect
- Support brightness adjustment
- EDID management, support input resolution management of DVI, HDMI, SDI interfaces
- Support key lock function
- Support data inspection function
- Support PC software to control window opening, drag and drop the window size and position arbitrarily
- Support USB interface, 100M network control, support RS232 serial port protocol control
- The front panel's intuitive LCD display interface and clear button light prompts simplify the control operation of the system

4 Application Scenarios

M10 is used in large-scale stage theatre performances, exhibitions, bars, KTV and other project application scenarios of large LED displays.



5 Product Appearance



*Product images are for reference only. The actual product shall prevail upon purchase.

5.1 Data Interface Illustration

#	Keys	Illustrations
1	ON/OFF	Power ON/OFF
2	LCD Display	To display the current status of the device and to have the menu settings. LCD Resolution 320×240
3	Knob	1 、 In the main interface,press the knob to enter the menu operation interface; 2、 In the menu operation interface,rotate the knob to choose the menu, press the knob to select the current menu or enter its sub-menu. 3 、 Once the menu that is with parameters selected, you could rotate the knob to adjust the parameters, and make sure to double press the knob to confirm.
4	Esc	Return(ESC)/Cancel the current menu or operation.
5	Key	Function: Layers and function buttons Input: Input source and function buttons

Key Illustration		
Key	#	Illustration
WIN1	1	WIN1 layer on, off and layer status display: - Blue is always on: Layer is on - Blue flashing: Layer is being edited - Blue is always off: the layer is not open
WIN2	2	WIN2 layer on, off and layer status display: - Blue is always on: Layer is on - Blue flashing: Layer is being edited - Blue is always off: the layer is not open
WIN3	3	WIN3 layer on, off and layer status display: - Blue is always on: Layer is on - Blue flashing: Layer is being edited - Blue is always off: the layer is not open
SCALE	6	Blue is on: WIN1 full screen display Blue is always off: custom/Pixel-to-pixel
MODE	7	Save and load scene shortcuts
FN	8	Customizable shortcuts
DVI1	4	Input source key description: Blue blinking: The source is selected, but there is no signal
HDMI1	5	
SDI	9	
HDMI2	0	
TEST	/	Enter the test settings menu, the blue light is always on
BLACK	/	Black screen shortcut, blue light is always on

Rear Panel



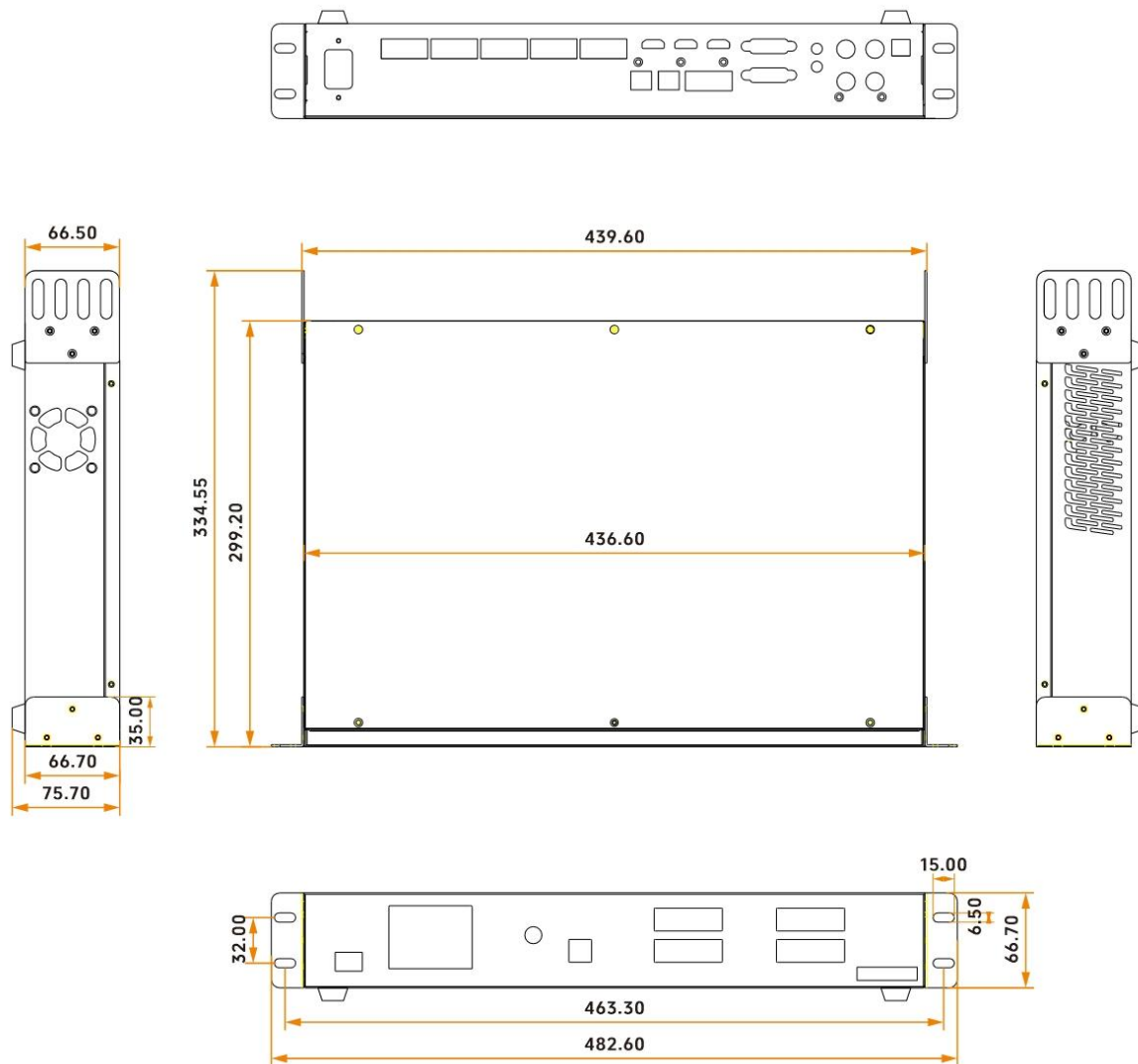
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Rear panel description		
Input Interface		
Interface	QTY	Illustration
HDMI1 IN HDMI2	2	2 × HDMI1.4 input interface: - Interface form: HDMI-A - Signal standard: HDMI 1.4 backward compatible - Supports audio input - Support 10bit - Maximum support 3840 × 1080@60Hz/3840 × 2160@30Hz video source input - Support HDCP1.4 - Does not support interlaced signal input - Support two HDMI1.4 splicing inputs - Support custom resolution Custom maximum width: 4092 (4092 x 1136@60Hz) Custom maximum height: 3981 (1060 x 3981@60Hz)
DVI	1	1 x DVI input interface: - Interface form: DVI-I socket - Signal standard: DVI 1.0, HDMI 1.3 backward compatible - Supports up to 1920 x 1200@60Hz video source input - Support HDCP1.4 - Does not support interlaced signal input - Support custom resolution Custom maximum width: 3840 (3840 x 640@60Hz) Custom maximum height: 640 (640 x 3840@60Hz) - Support two DVI splicing inputs

SDI	1	1 × SDI input interface: - Supports ST-424 (3G), ST-292 (HD) and ST-259 (SD) standard video source inputs - Single channel supports up to 1920 × 1080@60Hz resolution video source input - Support de-interlacing - Does not support input resolution and bit depth settings
Output Interface		
Interface	QTY	Illustration
Network Port	10	10 Gigabit network port output: - Single network port 650,000 pixels - Maximum load 6.50 million pixels, limit width 15360, limit height 15360 Network port status indicator description: - Plug in the network cable. The green light is always on, and the yellow light is flashing.
HDMI1 LOOP	1	1 × HDMI1.4 loop-out interface: Interface form: HDMI-A Signal standard: HDMI 1.4 backward compatible Resolution: VESA standard, ≤ 3840 × 2160@30Hz Support audio input
DVI LOOP	1	1 × DVI 1.0 loop-out interface: Interface form: DVI-I socket Signal standard: DVI 1.0
SDI LOOP	1	1 × SDI loop out interface: Meets 3G-SD standard, does not support interlaced scanning
Audio Interface		
Interface	QTY	Illustration
AUDIO IN	1	1 channel standard 3.5MM interface audio input
AUDIO OUT	1	1 channel standard 3.5MM interface audio output

Control Interface		
Interface	QTY	Illustration
USB	1	1×USB 2.0 (Rectangular Port), Control and debug the sending card via computer
LAN	1	100Mbps Ethernet port for network-controlled devices
RS232	1	Serial port for integration with central control systems
Extended Function Interface		
Interface	QTY	Illustration
3D	1	Connect 3D Transmitter
SENSOR	1	Connect the optical sensor to capture ambient light levels and enable automatic brightness adjustment.
Power supply interface		
Interface	QTY	Illustration
Power connector	1	AC-100-240V-50/60Hz AC Power Interface

5.2 Dimensions



Tolerance: ± 0.3 Unit: mm

6 Product Specification

6.1 Basic Parameters

Loading capacity	Single network port	The maximum load is 655360 pixels, and the network port load is 1280×512 .
	Whole Unit	6.50 million Pixels
Output Resolution	Pixels are controlled within 6.50 million points Widest:15360 Highest: 15360 VESA Standard, $\leq 3840 \times 2160 @ 30\text{Hz}$	
Input Resolution	Supports up to $3840 \times 1080 @ 60\text{Hz} / 3840 \times 2160 @ 30\text{Hz}$	

*Note: The load capacity of a network port depends on its load-bearing method. The greater the port's load-bearing width, the higher its load capacity; conversely, the smaller the width, the lower the capacity. It is recommended to use a load-bearing method with a wider port width, as ports with widths that are multiples of 960 achieve the highest utilization.

6.2 Specification

Electrical parameters	Rated voltage	AC-100-240V-50/60HZ
	Rated Power	36W
Working environment	Working temperature	$0^{\circ}\text{C} \sim 50^{\circ}\text{C}$
	Working humidity	5%RH~85%RH has no condensation.
Storage environment	Temperature	$-10^{\circ}\text{C} \sim 60^{\circ}\text{C}$
Board size	482.6×334.55×75.7mm	
Net weight	3.71 kg	
Outer packing size	515×130×375mm	
Gross weight of product	5.07 Kg Description: Including wire, accessories	
Packing mode	1 PCS /box	
Accessory	1 × power cord, 1 × USB cable, 1 × HDMI1.4 cable, 1 × DVI cable, 1 × SDI cable, 1 × certificate	

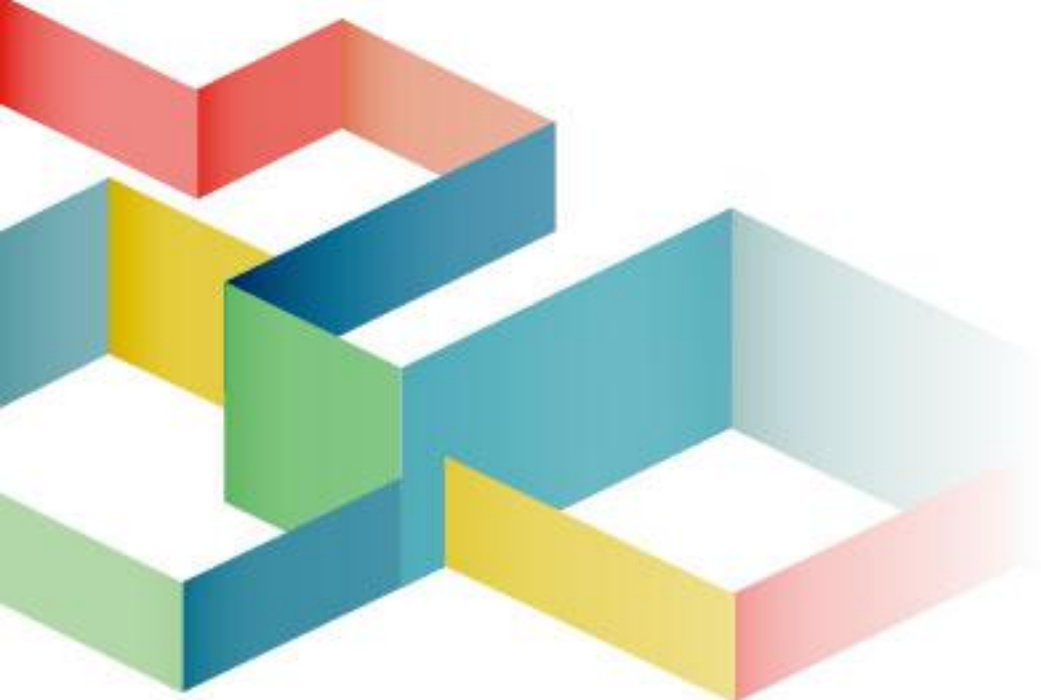
*Current and power consumption may vary depending on factors such as product usage, environment, and settings.

6.3 Video source Characteristics

Input Interface	Color Depth		Maximum input resolution
HDMI1.4	10bit	RGB4:4:4	3840x2160@30Hz
		YCbCr4:4:4	
		YCbCr4:2:2	
DVI（HDMI1.3）	8bit	RGB4:4:4	1920x1200@60Hz
		YCbCr4:2:2	
		YCbCr4:4:4	
SDI	Maximum Input Resolution: 1920×1080@60Hz		
	Input resolution and bit depth cannot be configured		
	Supports ST-424 (3G), ST-292 (HD), and ST-259 (SD) standard video inputs		

7 Precautions

- High voltage hazard: This product operates at AC 100V~240V.
- Do not allow liquids or metal fragments and other conductive materials to enter the device, to prevent safety accidents.
- Please use the device in a dry and clean environment.



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