



MVB20E

2IN1 Video Processor

Specification V4.0



CONTENT

1	Update Records	3
2	Product Introduction	3
3	Product Characteristics	3
	3.1 Improve the display effect	3
	3.2 Diversified Display Function	4
4	Application Scenarios	5
5	Product Appearance	5
	5.1 Data Interface Illustration	6
	5.2 Dimensions	10
6	Product Specification	11
	6.1 Basic Parameters	11
	6.2 Specification	11
	6.3 Video source Characteristics	12
7	Precautions	12

1 Update Records

Document Version	Hardware Version	Release Time	Update Record
V4.0	MVB20E (V1.0.0)	June 30(th), 2025	First release

2 Product Introduction

MVB20E is an easy-to-operate and feature-rich device that specially developed for LED displays. The maximum load of a single device 13 million pixels, supports a maximum width of 15360 pixels, and a maximum height of 15360 pixels; Up to 5 windows can be opened simultaneously. (The 4K channel occupies two windows; HDMI3 and DP are designated as 4K channels.) It supports 4K high-definition multi-type interface input, integrates professional display control technology and powerful video processing capabilities, and it simplifies the scene environment to build a video processor. Using high-performance image processing chip; with advanced interlaced image adaptive processing technology and ultra-clear noise reduction engine, eliminating video image motion smearing and jagged phenomenon, the video image enhancement technology makes the image clearer and more detailed, rich in details, and full of colors , Image quality is stable..

3 Product Characteristics

3.1 Improve the display effect

- Multiple input interfaces
1×HDMI2.0、2×HDMI1.4、2×DVI,
1×DP1.2 (Either HDMI2 or this port can be used at a time; only one signal can be input simultaneously.)
- EDID, Support custom EDID management

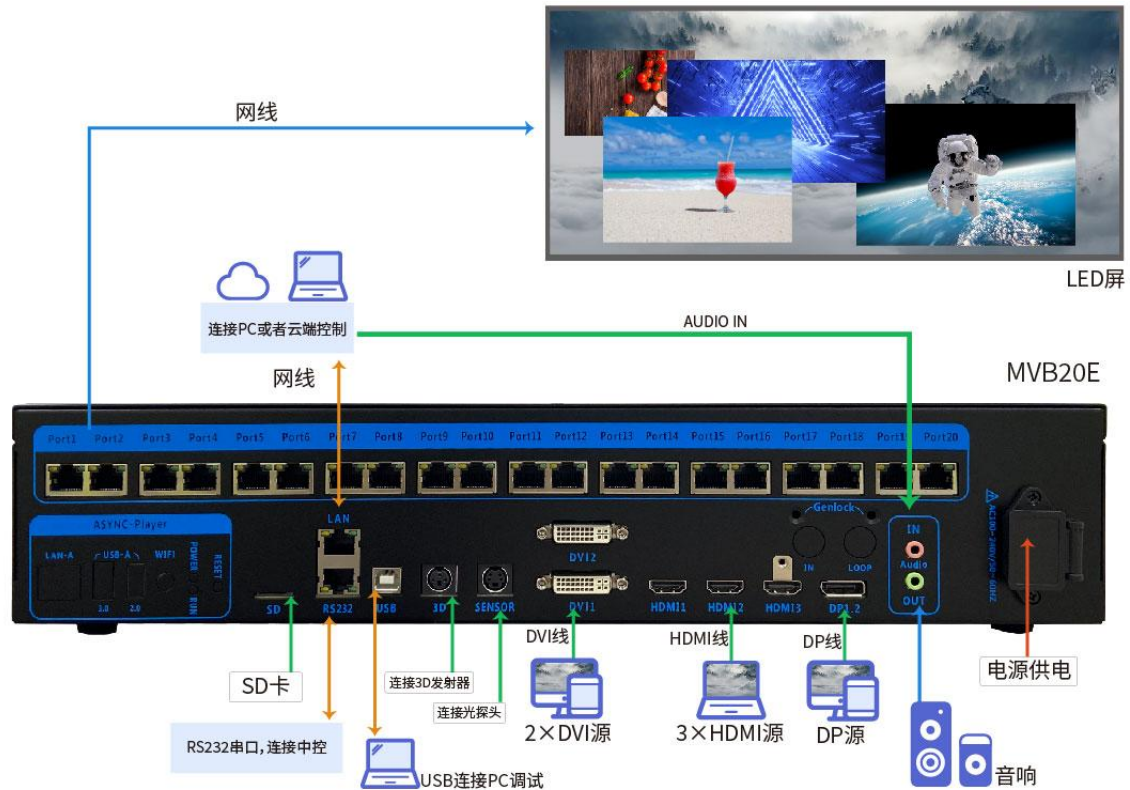
- Output interface
 - 20 gigabit network ports
- Maximum load 13 million pixels, custom output resolution, regular version maximum width 15360, maximum height 15360.
- Audio interface: Support audio input and output

3.2 Diversified Display Function

- Supports Picture-in-Picture functionality: Embed additional video streams within the primary 4K input display
- Supports multi-layer functionality: 1×4K window + 1×2K window; or 5×2K windows, enabling window overlay, roaming, and seamless switching
- Supports creation of 10 user preset scenes as templates for direct recall and convenient operation
- Features built-in clock with scheduled scene template switching
- Supports external brightness sensors to automatically adjust LED display brightness based on ambient light
- Supports 3D display with active 3D technology
- Supports HDR display
- Supports key lock function
- Supports inspection mode and SD card backup/restore
- Supports PC software control for window opening, resizing, and drag-and-drop positioning
- Supports image freeze and one-touch blackout for output screens

4 Application Scenarios

It is suitable for many application scenarios such as small and medium-sized LED displays in shopping malls, hotels, exhibitions, TV studios, etc.



5 Product Appearance



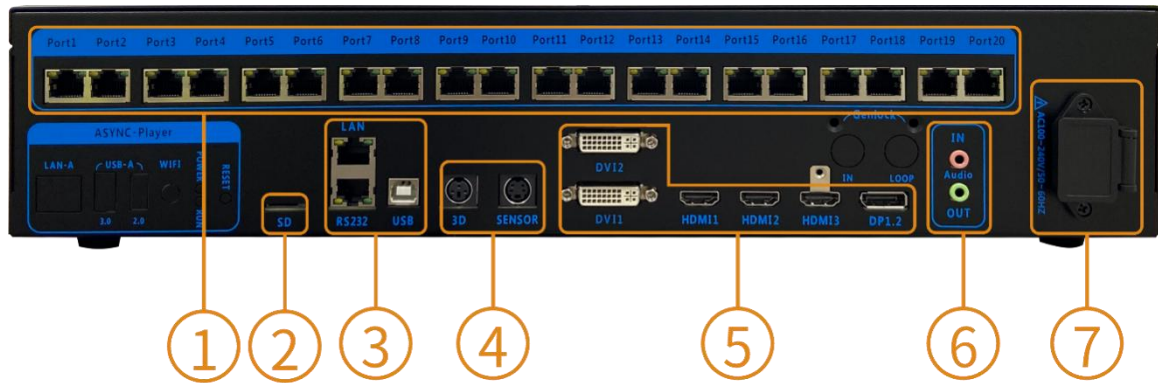
*Product images are for reference only. The actual product shall prevail upon purchase.

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.	
3	Knob	<p>1 、 In the main interface,press the knob to enter the menu operation interface;</p> <p>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.</p> <p>3 、 Once the menu that is with parameters selected, you could rotate the knob to adjust the parameters.</p> <p>4. Long press to unlock the menu.</p>	
3	Esc	Return(ESC)/Cancel the current menu or operation.	
4	Input Signal	DVI1	<p>DVI Source/Digital Key 1:</p> <p>Off: This signal source is not selected</p> <p>Flashing: This signal source is selected but no signal is present</p> <p>On: This signal source is selected and a signal is present</p>
		DVI2	<p>DVI Source/Digital Key 2:</p> <p>Off: This signal source is not selected</p> <p>Flashing: This signal source is selected but no signal is present</p> <p>On: This signal source is selected and a signal is present</p>
		HDMI1	<p>HDMI1 Source/Digital Key 3:</p> <p>Off: This source is not selected</p> <p>Flashing: This source is selected but no signal is present</p> <p>Solid: This source is selected and a signal is present</p>
		HDMI2	<p>HDMI2 Source Digital Indicator 6:</p> <p>Off: This source is not selected</p> <p>Flashing: This source is selected but no signal is present</p> <p>On: This source is selected and a signal is present</p>

		DP	DP Source/Num 8: Off: This source is not selected Flashing: This source is selected but no signal is present On: This source is selected and a signal is present
		HDMI3	HDMI3 Source/Digital Key 7: Off: This source is not selected Flashing: This source is selected but no signal is present On: This source is selected and a signal is present
5	Function Button	WIN	WIN/Num 4: Layer Selection
		PART	PART/Num 5: Partial/Fullscreen Shortcut Button
		TEMPLATE	Open multiple windows; use this key to switch between them
		HDMI4	HDMI4/Number 9: Quick key for adjusting screen size Built-in playback board signal source
		FREEZE	FREEZE/Num 0: Custom Black Screen or Freeze
		MODE	Load scene shortcut key

Rear Panel



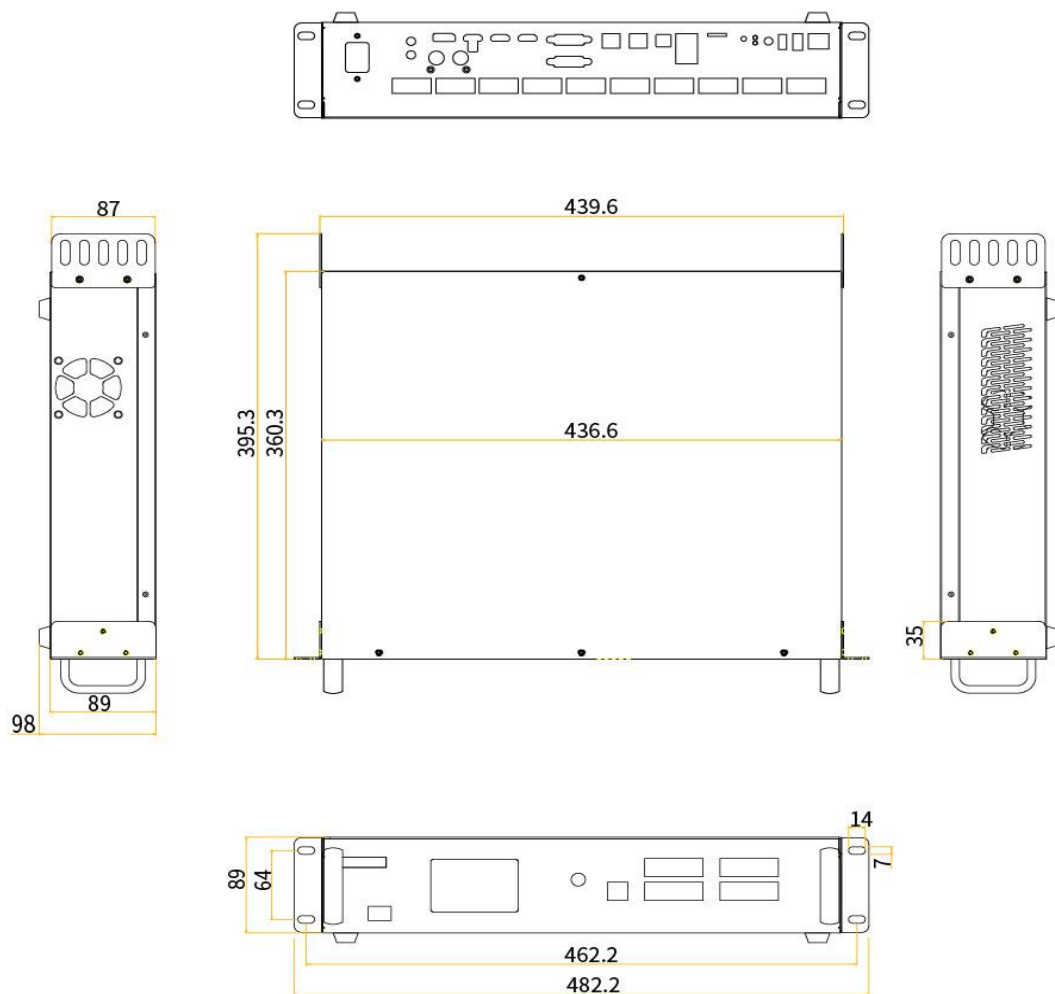
*Product images are for reference only. The actual product shall prevail upon purchase.

Output Interface			
#	Interface	QTY	Illustration
5	HDMI3	1	1×HDMI 2.0, 1×DP1.2 : (Select one of two signals; only one signal can be input at a time). Supports video source inputs up to 3840×2160@60Hz and 7680×1080@60Hz
	DP1.2	1	Supports custom resolutions Maximum width: 7680 (7680×1080@60Hz) Maximum height: 7680 (1080×7680@60Hz)
	HDMI1/HDMI2	2	1×HDMI 1.4 Supports video source input up to 2304×1152@60Hz resolution Supports custom resolutions Maximum width: 3840 (3840×604@60Hz) Maximum height: 3840 (640×3840@60Hz) Does not support interlaced signal input
	DVI1/DVI2	2	2×DVI Supports video source input up to 1920×1200@60Hz resolution Supports custom resolutions Maximum width: 3840 (3840×604@60Hz) Maximum height: 3840 (640×3840@60Hz) Does not support interlaced signal input

Output Interface			
#	Interface Type	QTY	Illustration
1	Network Port	20	<p>20 Gigabit Ethernet port output connectors to the receiver card.</p> <p>Network port indicator light description:</p> <ul style="list-style-type: none"> - Dual lights are always on: the power is turned on, but the receiving card is not detected. - Dual lights are not on: the power supply is not connected. - The yellow light is always on, the green light is flashing: the signal is normal and communication is in progress.
AUDIO Interface			
#	Interface	QTY	Illustration
6	Audio in	1	3.5mmAudio Interface Input
	Audio Out	1	3.5mmAudio Interface Output
Control Interface			
#	Interface Type	QTY	Illustration
3	LAN	1	100M Ethernet Port, Reserved Port
	RS232	1	Serial Port
	USB-B	1	Configure Port to connect to the PC
	Update	1	1×USB2.0, USB Drive Upgrade
Backup and restore			
#	Interface Type	QTY	Illustration
2	SD	1	SD Card: Stores large-screen configuration parameters for data inspection.

Extended Function Interface			
#	Interface Type	QTY	Illustration
4	3D	1	Connect the 3D transmitter
	SENSOR	1	Connect the light sensor probe to enable automatic brightness adjustment
Output Interface			
#	Interface Type	QTY	Illustration
7	Power Supply	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	13 million Pixels
Maximum width/height of whole machine	Pixels are controlled within 13 million points Widest: 15360 Highest: 15360	

*When the load height exceeds 8192 points, the overall load capacity gradually decreases with increasing height, but remains no less than 11.98 million points.

*The horizontal resolution of 4K input sources must be a multiple of 4.

*The horizontal resolution of the output canvas must be a multiple of 4.

6.2 Specification

Electrical parameters	Input voltage	AC-100-240V-50/60HZ
	Rated current	36W
Working environment	Working temperature	0°C~50°C
	Working humidity	5%RH~85%RH has no condensation.
Storage environment	Temperature	-10°C~60°C
Board size	482.2mm×395.3mm×98	
Net weight	4.8 kg	
Outer packing size	560×455×190mm	
Gross weight of product	6.9 Kg Description: Including wire, accessories	
Packing mode	3 PCS /box	
Accessory	1 × power cord, 1 × USB2.0 cable, 1 × HDMI cable, 1*DVI cable, 1*DP Cable, 1 × certificate	

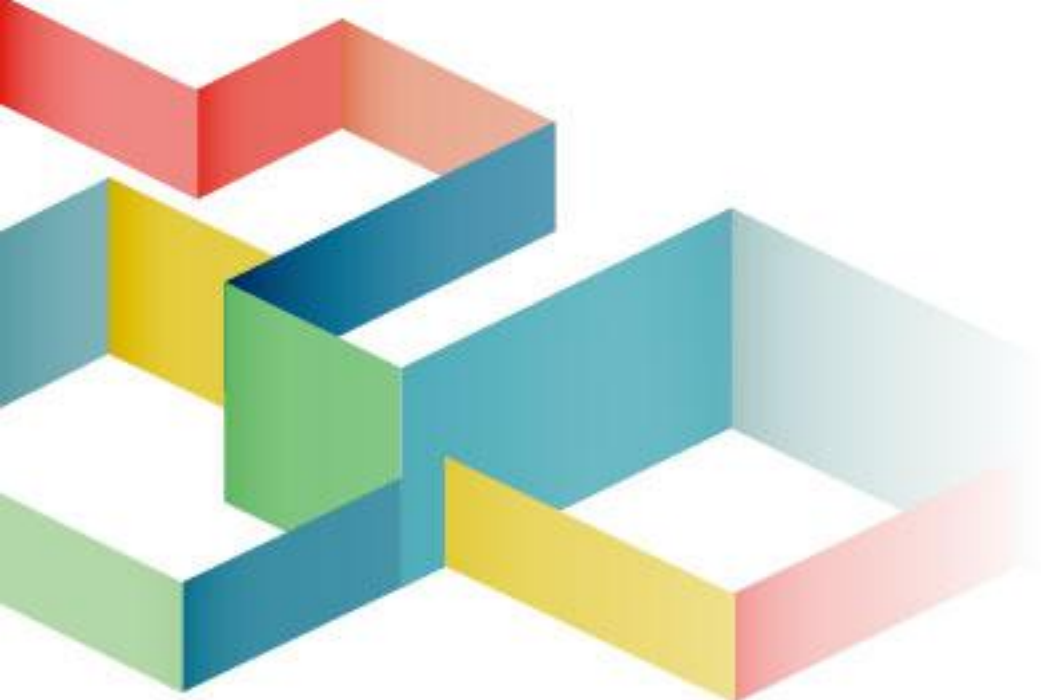
*Current and power consumption may vary depending on factors such as product usage, environment, and settings.

6.3 Video source Characteristics

Input Interface	Color Depth		Maximum input resolution
HDMI1.4	8bit	RGB4:4:4	3840x2160@30Hz
		YCbCr4:4:4	
		YCbCr4:2:2	
HDMI2.0/DP1.2	8bit/10bit	RGB4:4:4	3840x2160@60Hz
		YCbCr4:4:4	
		YCbCr4:2:2	
DVI	8bit	RGB4:4:4	1920*1200@60Hz
		YCbCr4:4:4	
		YCbCr4:2:2	

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.



National after-sales services hotline: 400-881-3531

Official website: www.mooncell.com.cn

Address: Mooncell Building, Third Industrial Zone, Baoshi
South Road, Shiyan Street, Baoan District, Shenzhen

