



PRODUCT SPECIFICATION

Professional LED Poster Screen Control System **HD-B8L**

Version: V1.0

Updates:

Release version	Release time	Update Notes
V1.0	May 15, 2025	First release

1. Overview

HD-B8L is a new control system for LED poster screens, which integrates player, third-party APP letter sending and local production program, and can replace computer to produce and play programs directly on the terminal equipment. HD-B8L has powerful interactive and broadcasting control ability, and supports Windows, iOS, Android and other platform terminals to wirelessly cast the screen. It supports the access of peripherals such as center control, camera, speaker, sensor, infrared touch, etc. With rich hardware interface and flexible broadcast control function, it is widely used in different application scenarios such as mobile poster screens, mirror screens, and splicing screens.

2. Features

Input:

1. Support 1 Gigabit input network port to connect to the network, communicate with the outside world through TCP/UDP;
2. Support 2 HDMI1.4 input interface, support cascade splicing, picture-in-picture function;
3. Support 2 USB (USB 2.0 / USB 3.0), for USB disk program playback, firmware upgrade or capacity expansion, etc;
4. Support 1 OTG interface (customized OTG/USB mode, default USB disk function);
5. Support 1 TTL sensor interface, external each environment monitoring sensor or GPS, etc;
6. Support 1 RS232 and RS485 interface (center control docking);
7. Support 1 K0 relay interface.

Output:

1. Standard 2 Gigabit output network ports, Cascade with receiving card to realize display screen loading;
2. 1 HDMI OUT signal output, for cascading signal loop-out or screen monitoring;
3. 1 2PIN MIC interface, (reserved) for external audio equipment;
4. 1 TRS 3.5mm standard dual-channel audio output.

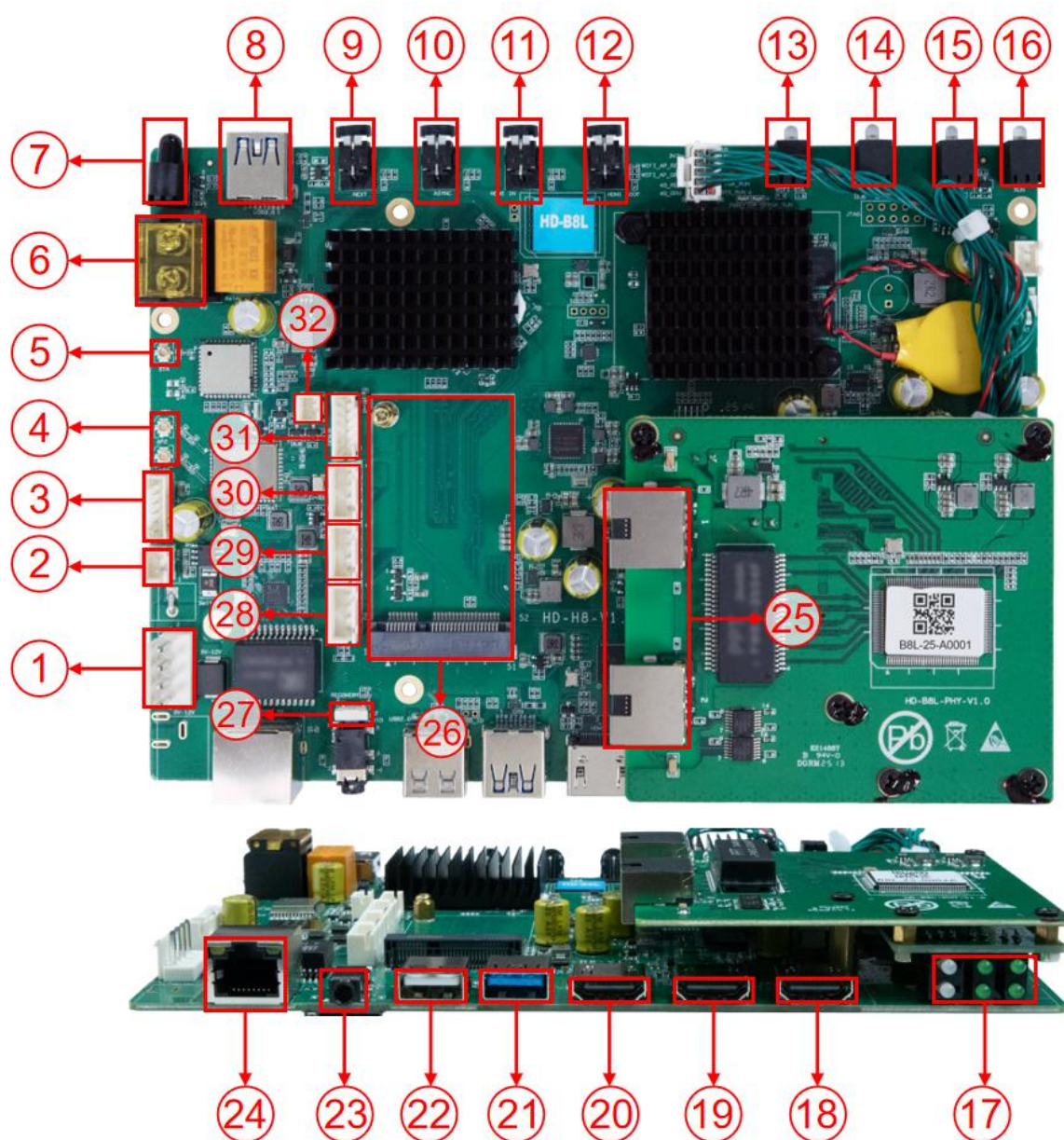
Function:

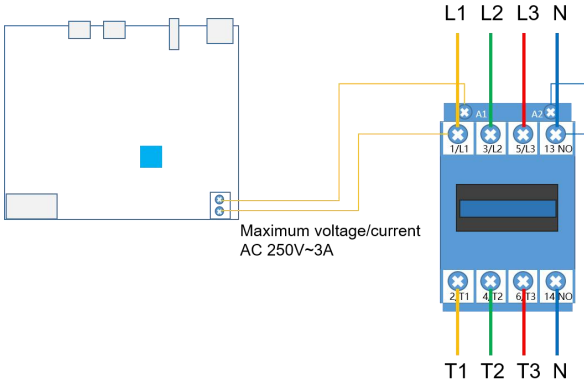
1. Single card supports 1,300,000 pixels; cascading supports 5,240,000 pixels with maximum width of 65,536 pixels or height of 8,192 pixels; maximum cascading support of 14 units;
2. Supports third-party information publishing software (APP)
3. Supports local content editing, production and playback;
4. Multi-platform wireless screen mirroring compatible with Windows, iOS, Android and dedicated casting

devices;

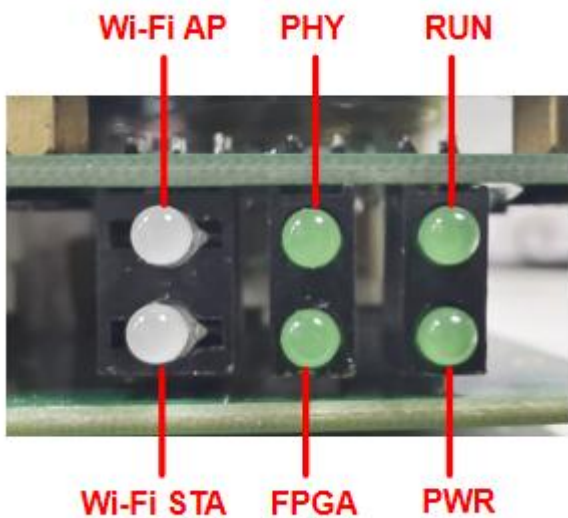
5. Dual Wi-Fi chips supporting 2.4G/5G bands, enabling high-resolution low-latency casting with simultaneous Wi-Fi hotspot and internet access;
6. Video playback capacity: 2×4K or 6×1080P or 10×720P or 20×360P streams;
7. Low-power standby mode with <0.5W power consumption;
8. 1×RS232 and 1×RS485 for central control integration.

3. Interface Description



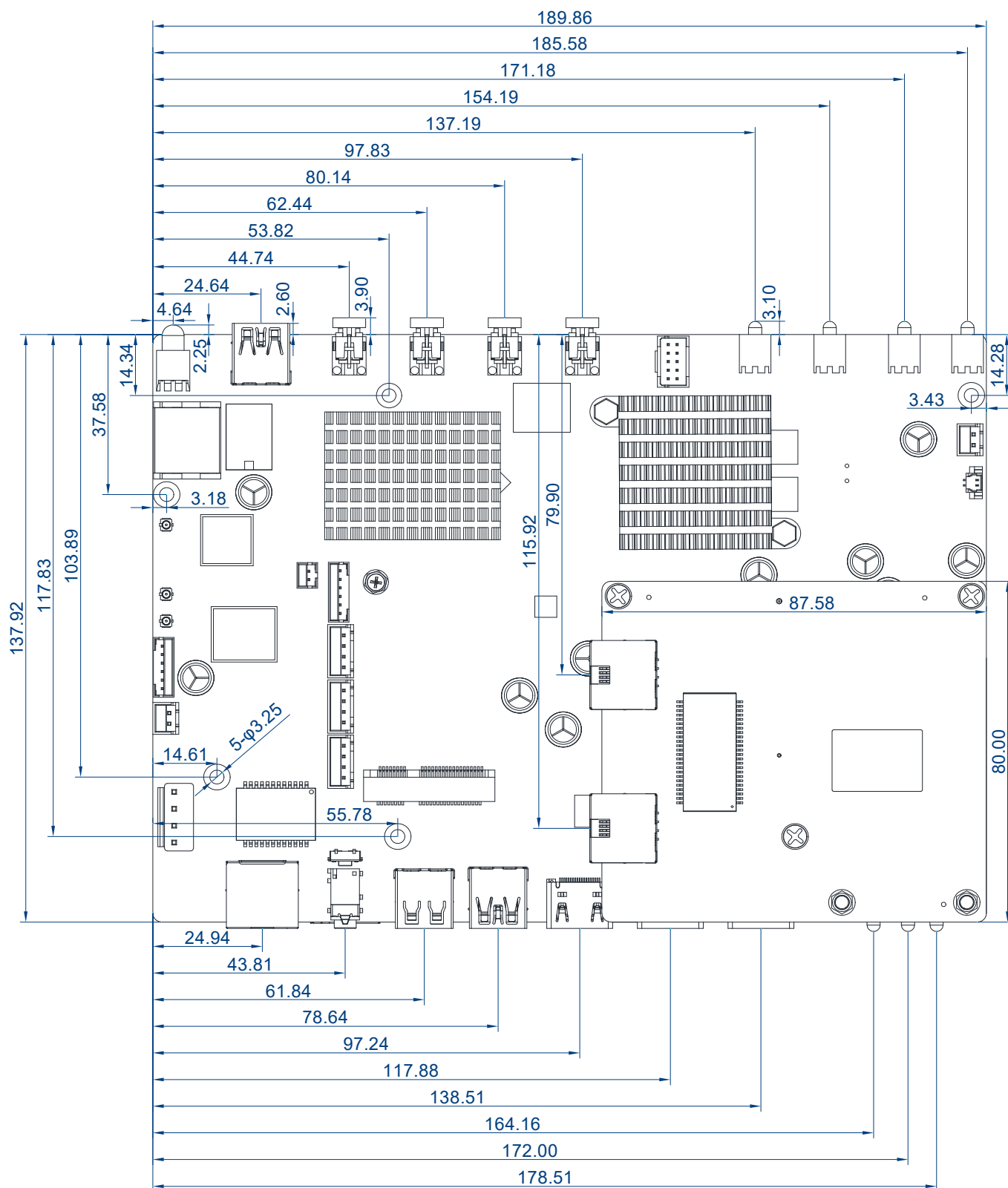
Number	Name	Description
1	Power seat	4PIN 5V input interface.
2	FAN interface×2	Reserved 2PIN fan connector
3	UART interface	Reserved UART interface
4	Wi-Fi AP interface×2	Wi-Fi antenna connector for Wi-Fi/Bluetooth antenna connection
5	Wi-Fi STA interface×1	Wi-Fi antenna connector for connecting Wi-Fi antenna
6	K0 Relay	Relay on/off, supports maximum load: AC 250V~3A or DC 30V~3A. Connection method is as follows: 
7	IR Signal Receiver	Reserved infrared remote control signal receiving head, no infrared indicator light
8	USB 3.0	USB 3.0, clip storage, program updates, firmware upgrades or capacity expansion
9	NEXT button	Reserved keys, default program switching function, software can be set to screen test function
10	ASYNC button	Reserve key for switching between asynchronous and synchronous modes Lamp does not light up: current signal source is not in ASYNC mode Green light always on: Asynchronous playback
11	HDMI input	Reserve source switching button No light: current source is not HDMI IN mode Green light is always on: synchronization mode, detect input source normal Green light blinking: synchronization mode, detecting abnormal input source

12	HDMI LOOP	Reserve source switching button Lamp does not light: the current source is not HDMI LOOP mode Green light is always on: synchronization mode, detect the input source is normal Green light blinking: synchronization mode, detecting abnormal input source
13	4G/5G Indicator	Reservation Indicator Red blinking: SIM card not detected Red light is always on: SIM card owes money or has no signal Yellow light is always on: mobile network is normal, not connected to the cloud server Green light is always on: mobile network is normal and connected to the cloud server.
14	Wi-Fi STA indicator	Reservation Indicator Red light is always on: STA mode is on, not connected to the router. Yellow light is always on: the bridge is connected to the router, but not connected to the cloud server. Green light is always on: the bridge is connected to the router and the cloud server is connected. Red light is blinking or not on: STA mode is abnormal
15	Wi-Fi AP indicator	Reservation Indicator Lamp does not light: AP mode is not turned on or abnormal Green light flashing: AP mode is normal Red blinking: AP mode abnormal
16	RUN indicator	Reserved System Indicator Blinking green: Operating system is running normally Long green light or no light: abnormal operation of the operating system

17	Indicator board	Front device indicator board PWR indicator: green light is always on, power input is normal RUN indicator: green light flashing, the system is running normally, refer to serial number 16 for instructions PHY Indicator: reserved indicator light FPGA indicator: green blinking, the system is running normally Wi-Fi AP indicator: refer to serial number 15 for description. Wi-Fi STA indicator: refer to serial number 14 for description. 
18	HDMI OUT interface	HDMI1.4b output interface, for cascading data loop-out or screen monitoring
19	HDMI LOOP interface	HDMI 1.4 interface, synchronized signal input or splice input interface Maximum resolution 2048×1152@60Hz Minimum resolution 800×600@60Hz Support customized resolution
20	HDMI IN interface	HDMI 1.4 interface, support adaptive scaling Recommended resolution 1920×1080@60Hz Maximum resolution 3840×2160@30Hz Minimum resolution 800×600@60Hz Support customized resolution, support HDCP 1.4

21	OTG interface	USB 3.0 used for material storage, program updates, firmware upgrades or capacity expansion (default USB flash drive function, factory configurable)
22	USB interface	USB2.0, used for material storage, updating programs, insert programs or expanding capacity.
23	TRS audio output	TRS 3.5mm standard dual-channel audio output port.
24	Output network port	Gigabit Ethernet port for communication with the outside world via TCP/UDP
25	Output network port × 2	2 RJ45 output network port, cascade HD receiver card display
26	PCIE-4G/5G seat	4G/5G module holder (optional function, installed with 4G/5G antenna by default).
27	RECOVERY interface	Restore the factory button in the audio port, the device is powered on at the same time using a thin object (toothpick) through the AUDIO audio port against the inside of the RECOVERY button for 20 seconds and then release it, to enter the restoration of factory settings
28	TTL interface	Connection of TTL protocol external sensor accessories, such as environmental monitoring, multi-function sensors, etc. (optional device)
29	RS485 interface	RS485 interface, connect RS485 protocol brightness, temperature and humidity and other sensors, as well as connecting other peripherals to achieve the corresponding function
30	RS232 interface	RS232 interface, connect RS232 protocol brightness, temperature and humidity and other sensors, as well as connecting other peripherals to achieve the corresponding function
31	DEBUG interface	Prepared debugging interface
32	MIC interface	Differential MIC audio input reserved

4. Product Size



Tolerance: ± 0.3 , Unit: mm

5. Product Specifications

1. Basic parameters:

Electrical parameters	Input power	DC 5V (5V 6A)
	Maximum power consumption	21W
Storage	Running memory	4GB
	Internal storage	64GB
Storage environment	Temperature	-40°C ~ 80°C
	Humidity	0%RH ~ 80%RH (No condensation)
Work environment	Temperature	-40°C ~ 70°C
	Humidity	0%RH ~ 80%RH (No condensation)
Packaging information	List: ● 1×B8L; ● 1×HDMI Cable; ● 3×WiFi Antenna; ● 1×Certificate of conformity;	
Size	189.86mm×137.92mm×24.80mm	
Net weight	0.60KG (±10g)	
Protection level	IP20 Please pay attention to waterproofing, such as preventing water from dripping into the product, and do not get the product wet or rinse it	
System software	Android 11.0 operating system software Android terminal application software FPGA software	

Options List:

Wireless screen casting code	Screen casting authorization code, used after screen casting function is activated
USB Screen Thrower	Wireless screen thrower, plug and play, need to activate the device to use first
4G/5G Module	Optional 4G/5G module according to different regions, with 4G/5G antenna to be used

2. Image decoding specifications:

Category	Decoding	Size	Format	Note
JPEG	JFIF file format 1.02	48×48 pixels to 65536×65536 pixels	JPG, JPEG	
BMP	BMP	Unlimited	BMP	NA
GIF	GIF	Unlimited	GIF	NA
PNG	PNG	Unlimited	PNG	NA
WEBP	WEBP	Unlimited	WEBP	NA

3. Video decoding specifications

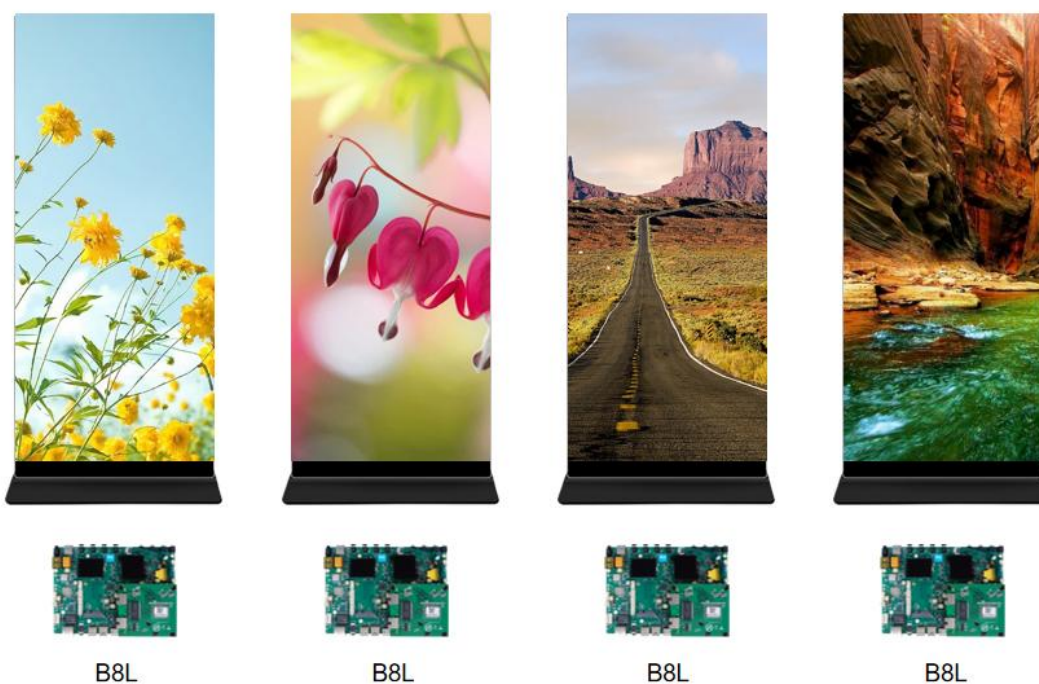
Category	Decoding	Resolution	Maximum frame rate	Maximum bit rate	Format	Note
MPEG-1/2	MPEG-1/2	48×48 pixels to 1920×1088 pixels	30fps	80Mbps	DAT, MPG, VOB, TS	Support Field Coding

MPEG-4	MPEG4	48×48 pixels to 1920×1088 pixels	30fps	38.4Mbps	AVI, MKV, MP4, MOV, 3GP	Not Support MS, MPEG4 v1/v2/v3, GMC
H.264/AVC	H.264	16×16 pixels to 4096×2304 pixels	2304P@60 fps	80Mbps	AVI, MKV, MP4, MOV, 3GP, TS, FLV	Support Field Coding, MBAFF
MVC	H.264 MVC	16×16 pixels to 4096×2304 pixels	2304P@30 fps	100Mbps	MKV, TS	Only Support Stereo High Profile
H.265/HEVC	H.265/HEVC	64×64 pixels to 4096×2304 pixels	2304P@60 fps	100Mbps	MKV, MP4, MOV, TS	Support Main Profile, Tile & Slice
GOOGLE VP8	VP8	48×48 pixels to 1920×1088 pixels	30fps	38.4Mbps	WEBM, MKV	NA
GOOGLE VP9	VP9	64×64 pixels to 4096×2304 pixels	60fps	80Mbps	WEBM, MKV	NA
H.263	H.263	SQCIF(128× 96) QCIF(176× 144) CIF(352 ×288)	30fps	38.4Mbps	3GP, MOV, MP4	Unsupported H.263+

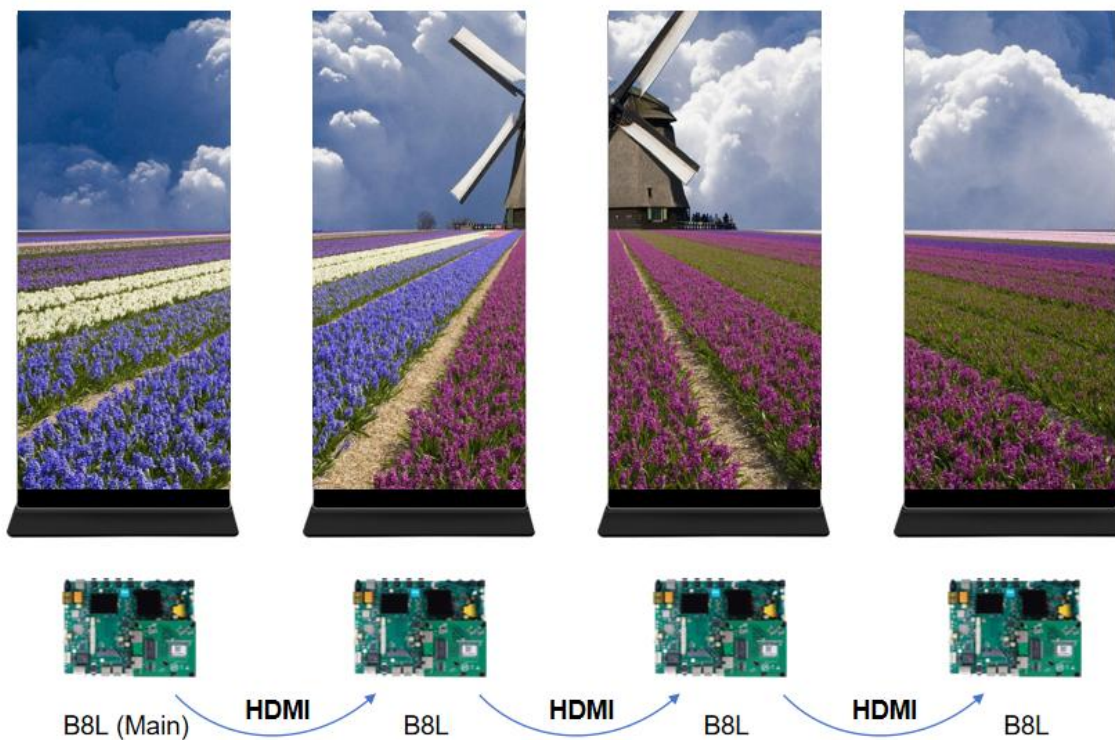
		4CIF(704×576)				
VC-1	VC-1	48×48 pixels to 1920×1088 pixels	30fps	45Mbps	WMV, ASF, TS, MKV, AVI	NA
MOTION JPEG	MJPEG	48×48 pixels to 1920×1088 pixels	60fps	60Mbps	AVI	NA

6. Poster Screen Application

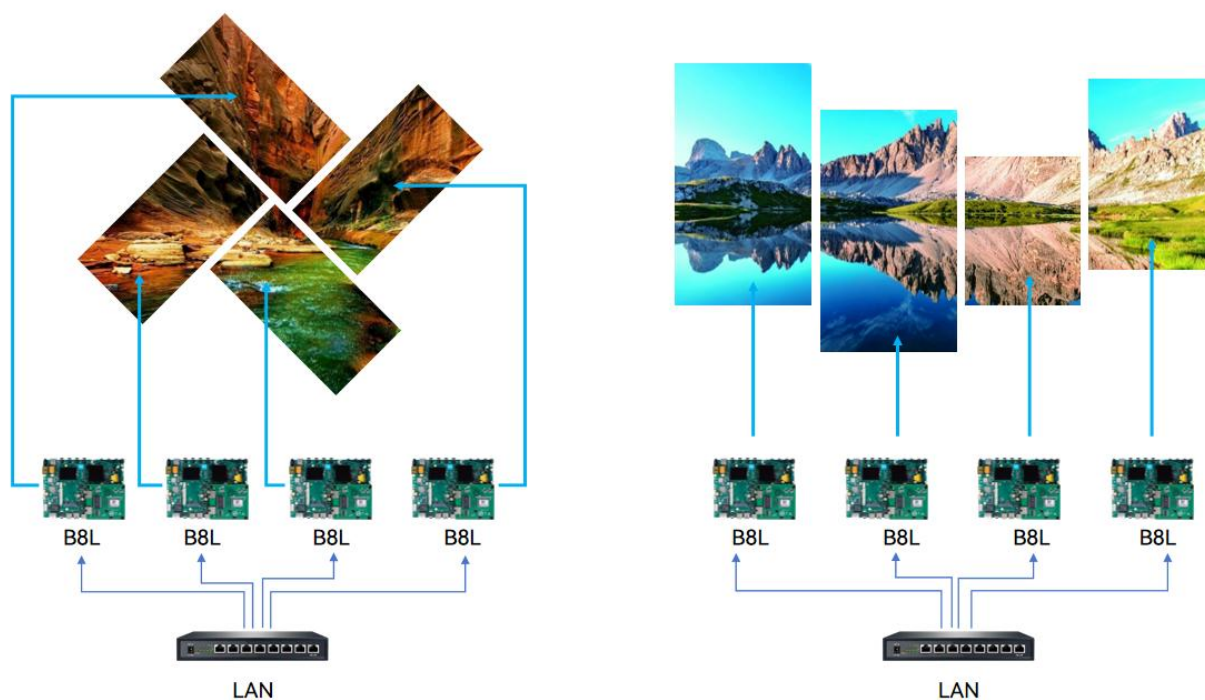
- Display independently:** Each display screen is independent and plays independently without interfering with each other.



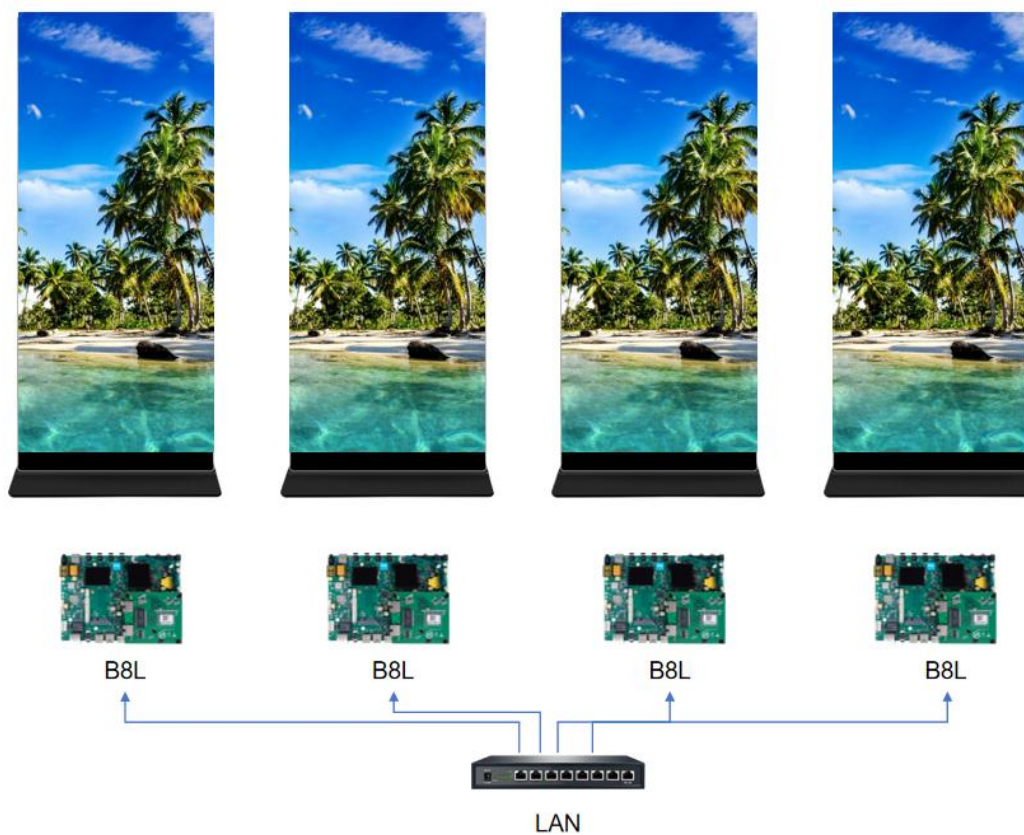
2. **Spliced display**: With HDMI high-definition cable connected to put the contents of multiple display screens into a whole picture.



3. **Creative display**: supports 360° free splicing of multiple displays with different resolutions in any direction.



4. **Multi-screen synchronization display** : Multiple independent displays synchronously display the same image at the same time.

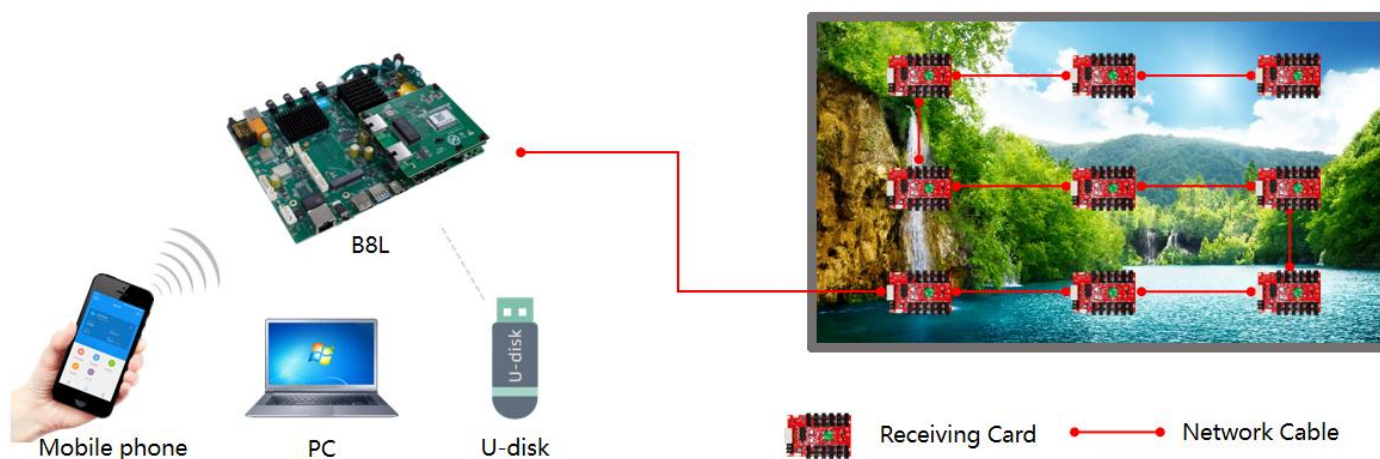


Description:

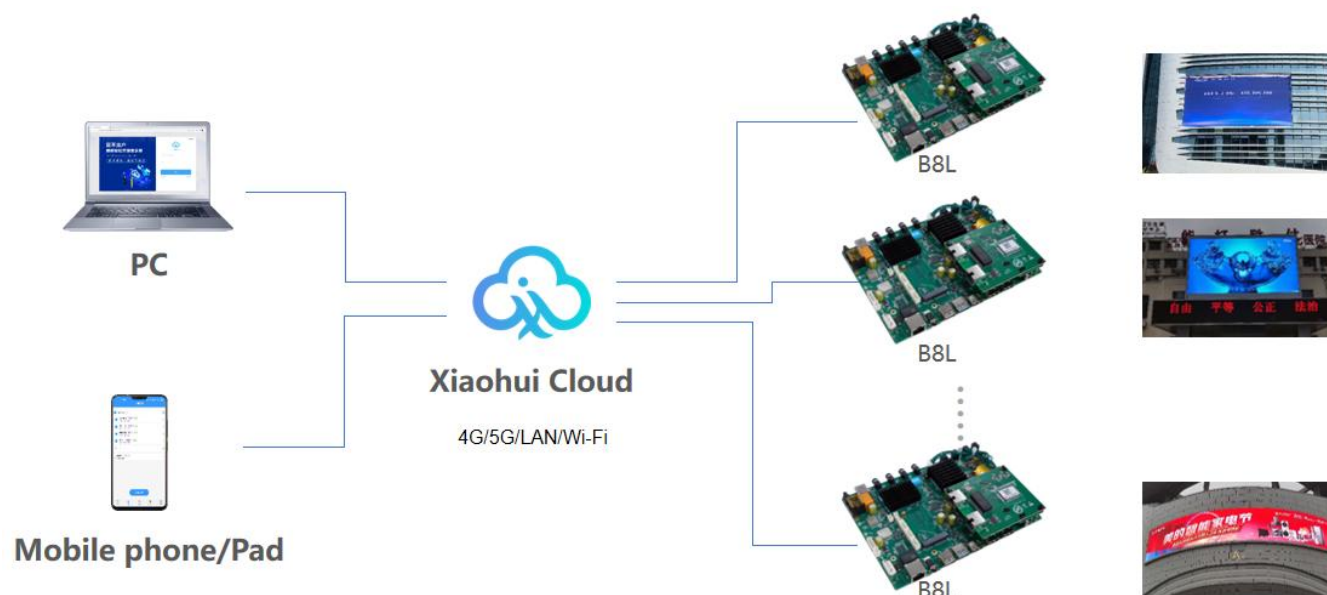
1. The B8L LED Poster Screen Specialized Control System product package in the application scenario diagram is detailed in the packing list.
2. The optional equipment not included in the scene diagram needs to be purchased in a separate order, if you have any questions, please contact our business colleagues to deal with.

7. Communication Methods

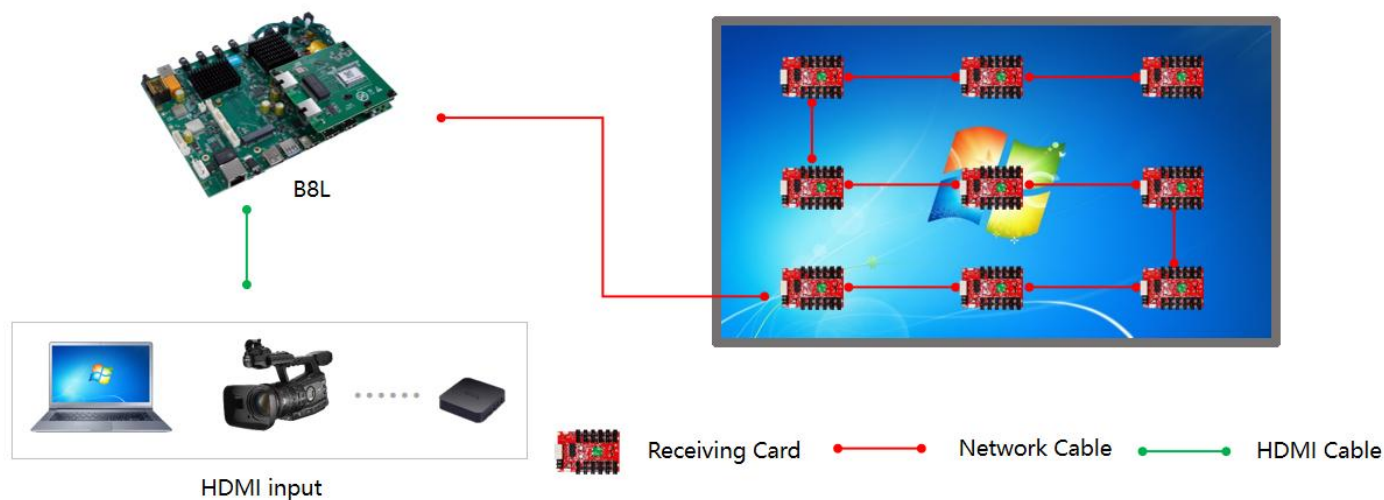
1. Stand-alone control, supports Wi-Fi, network port direct connection, and USB interface for communication.



2. Cluster control, support Internet remote control.



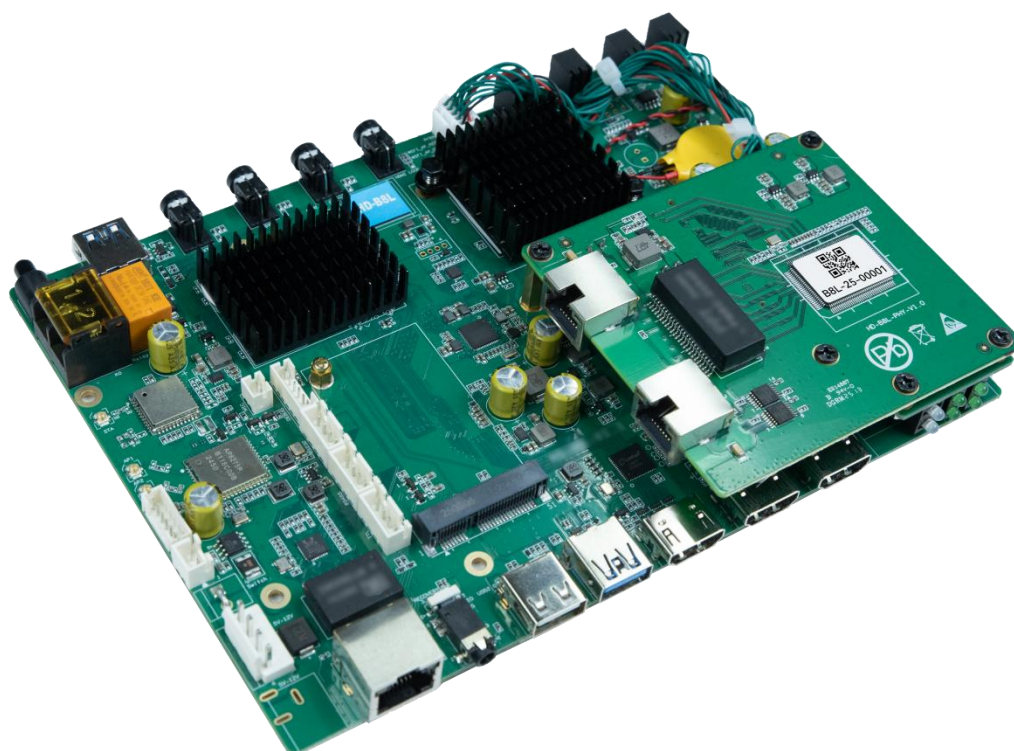
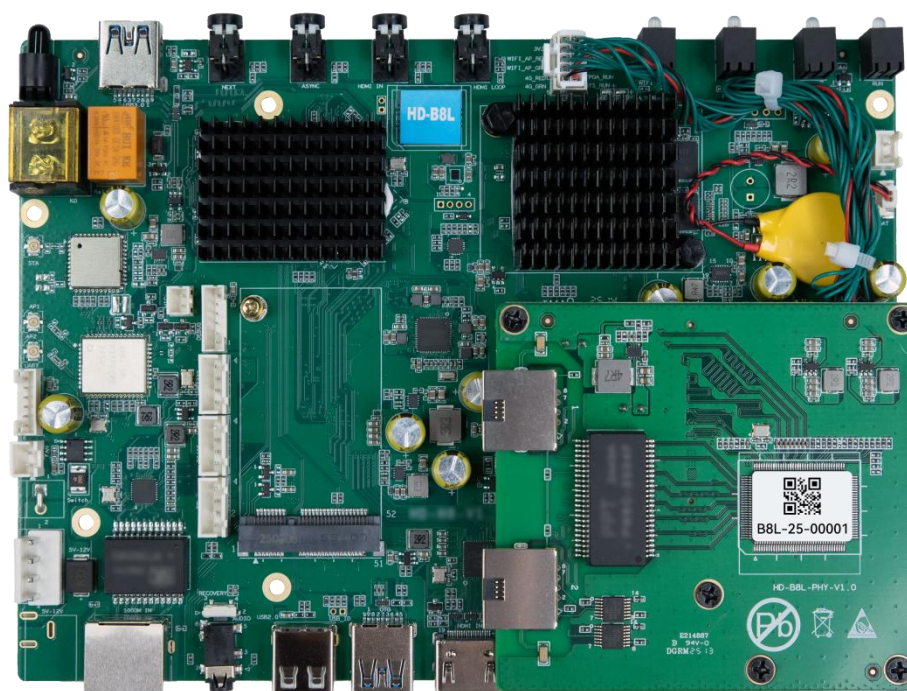
3. Synchronous control, synchronous playback via HDMI signal input.



8. System Supporting Software

Name	Type	Description
HDPlayer	PC	Local display screen management system, used for configuring, program editing, program publishing, etc.
Xiaohui Cloud	Web	Cloud display information release system, log in through the browser, realize LED display remote cluster management and information release functions
LEDArt	Mobile APP	Supports Android, IOS, and Harmony platforms to realize the control of LED display screens and wireless program publishing.

9. Attachment: Product Appearance



Declaration:

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