

PRODUCT SPECIFICATION

LED Poster Display Controller

HD-B8H

Updates:

Release version	Release time	Update Notes
V1.0	Jun 29, 2026	First release

Shenzhen Huidu Technology Co., Ltd.

1. Overview

HD-B8H is a dedicated control system for LED poster screens, integrating a media player, third-party applications and local programme production, enabling programme creation and playback directly on the terminal device. It offers powerful interactive and playback control capabilities, supporting wireless screen mirroring from devices running Windows, iOS, Android and other platforms. It supports the connection of peripheral devices such as central control units, cameras, speakers, sensors and infrared touchscreens. With a wide range of hardware interfaces and flexible playback and control functions, it is widely used in applications such as mobile LED display screens, digital signage and video wall displays.

2. Features

Input:

1. 1 * Gigabit Ethernet port for connecting to the network and communicating with external devices via TCP/UDP;
2. 2 * HDMI 1.4 inputs, supporting daisy-chaining and picture-in-picture functionality;
3. 2 * USB ports (USB 2.0 / USB 3.0) for playing content from USB flash drives, firmware updates or storage expansion, etc.;
4. 1 * OTG port (customisable OTG/USB mode; functions as a USB flash drive by default);
5. 1 * TTL sensor port for connecting various environmental monitoring sensors or GPS devices;
6. 1 * RS232 and 1 RS485 port (for integration with central control systems);
7. 1 * K0 relay port.

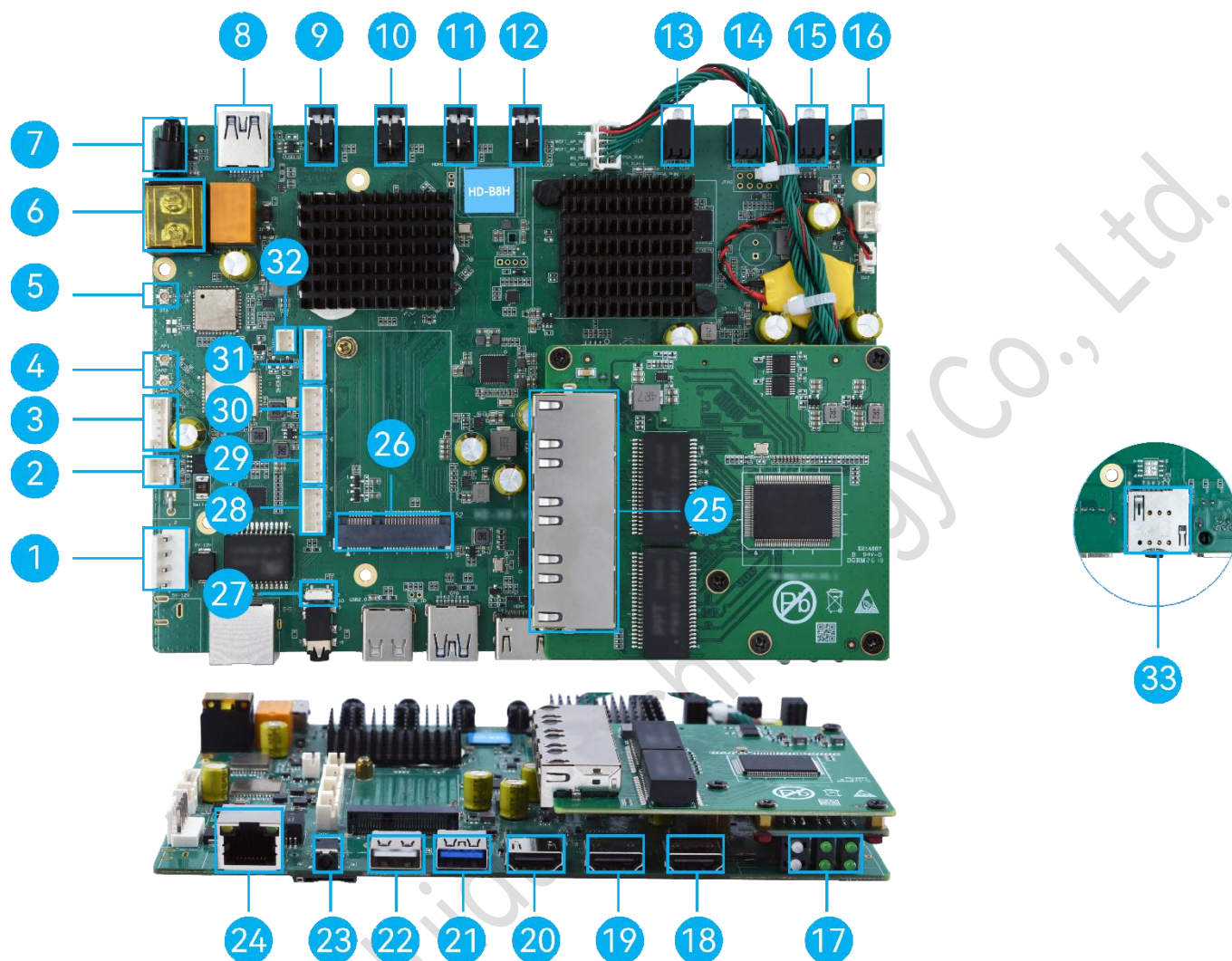
Output:

1. 4 * Gigabit Ethernet ports for cascading HD capture cards for display;
2. 1 * HDMI OUT port for cascading signal loop-out or video monitoring;
3. 1 * 2-pin MIC socket (reserved) for connecting external audio equipment;
4. 1 * standard 3.5mm TRS stereo audio output.

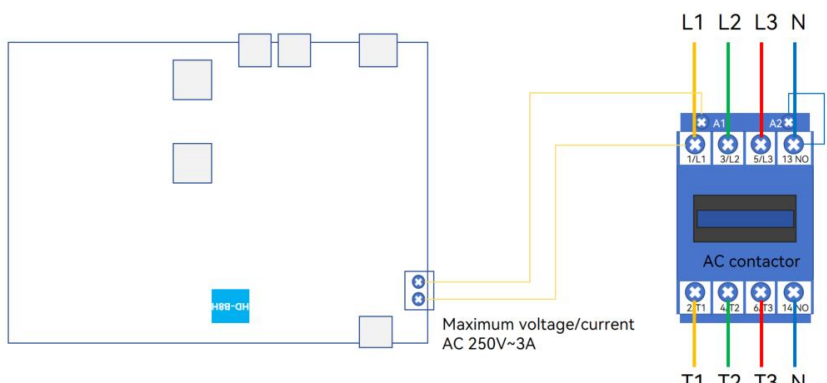
Function:

1. Supports 2.6 million pixels loading capacity; 8.8 million in a cascaded configuration; supports a maximum width of 65,536 pixels or a maximum height of 8,192 pixels; supports up to 14 units in a cascaded configuration;
2. Supports third-party applications;
3. Supports local programme editing, production and playback;
4. Multi-platform wireless screen mirroring, supporting Windows, MAC, iOS, Android and screen mirroring devices;
5. Dual Wi-Fi chips supporting the 2.4 GHz and 5 GHz bands, enabling high-resolution, low-latency screen mirroring, and allowing simultaneous operation of a Wi-Fi hotspot and wireless internet access;
6. Video playback performance: 2 channels of 4K, 6 channels of 1080p, 10 channels of 720p or 20 channels of 360p (Note: When the total pixel count of the splicing load exceeds 8.29 million pixels, support 1 channel of 4K, 3 channels of 1080p, 5 channels of 720p or 10 channels of 360p);
7. Enters low-power mode when on standby, with standby power consumption of less than 0.5W;
8. 1×RS232 and 1×RS485 for integration with central control systems.

3. Interface Description

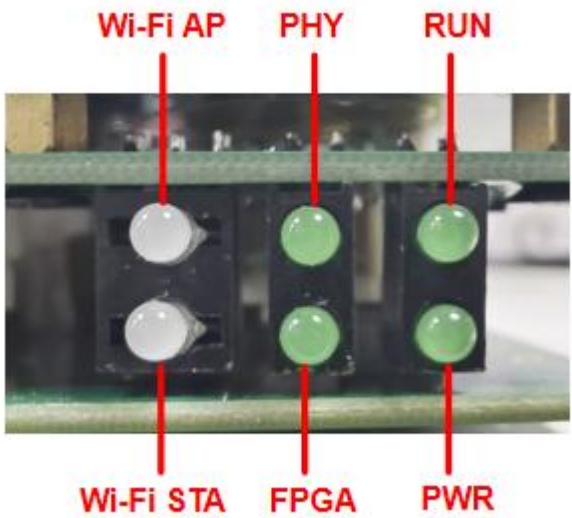


No.	Name	Description
1	Power interface	4Pin 5V power input interface
2	FAN interface ×2	Reserved 2Pin fan connector
3	UART interface	Reserved UART interface
4	Wi-Fi AP interface ×2	Wi-Fi antenna interface, used to connect Wi-Fi/Bluetooth antennas.
5	Wi-Fi STA interface ×1	Wi-Fi antenna interface, used to connect a Wi-Fi antenna.

6	K0 relay	Relay on/off, supports maximum load: AC 250V~3A or DC 30V~3A. The connection method is as follows: 
7	IR signal receiver head	Reserved infrared remote control signal receiver , no infrared indicator light.
8	USB 3.0	USB 3.0, for storing media , updating programs , upgrading firmware, or expanding storage capacity.
9	NEXT button	Reserved buttons, default program switching function, and the software can be set to screen test function.
10	ASYNC button	Reserved button for switching between synchronous and asynchronous modes Light not on: Current signal source is not in ASYNC mode Solid green light: Asynchronous playback
11	HDMI IN button	Reserved signal source switching button Light not on: Current signal source is not in HDMI IN mode Solid green light: Synchronization mode, input source detected is normal.

		Flashing green light: Synchronization mode, detecting abnormal input source.
12	HDMI LOOP button	Reserved signal source switching button Light not on: Current signal source is not in HDMI LOOP IN mode Solid green light: Synchronization mode, input source detected is normal. Flashing green light: Synchronization mode, detecting abnormal input source.
13	4G/5G indicator light	Reserved indicator lights Red light flashing: No SIM card detected. Solid red light: SIM card is out of credit or has no signal. Solid yellow light: Mobile network is normal, but connection to cloud server is not established. A solid green light indicates that the mobile network is functioning normally and is connected to the cloud server.
14	Wi-Fi STA indicator light	Reserved indicator lights Red light on: STA mode enabled, not bridged to router. Solid yellow light: Router connected to bridge, not connected to cloud server. A solid green light indicates that the router is bridged and connected to the cloud server. Red light flashing or not lit: STA mode malfunction.

15	Wi-Fi AP indicator light	Reserved indicator lights Light not on: AP mode not enabled or malfunctioning Flashing green light: AP mode is normal Red light flashing: AP mode malfunction
16	RUN indicator light	Reserved system indicator lights Flashing green light: Operating system is running normally The green light is always on or off: Operating system malfunction.
17	indicator light panel	Front-end device indicator board PWR indicator light : Solid green light indicates normal power input. RUN indicator light : Flashing green light indicates normal system operation. Refer to item 16 for further details. PHY indicator light : Reserved indicator light FPGA indicator light : Green light flashing , system is running normally. Wi-Fi AP indicator light : Refer to item 15 for details. Wi-Fi STA indicator light : Refer to item number 14 for details.

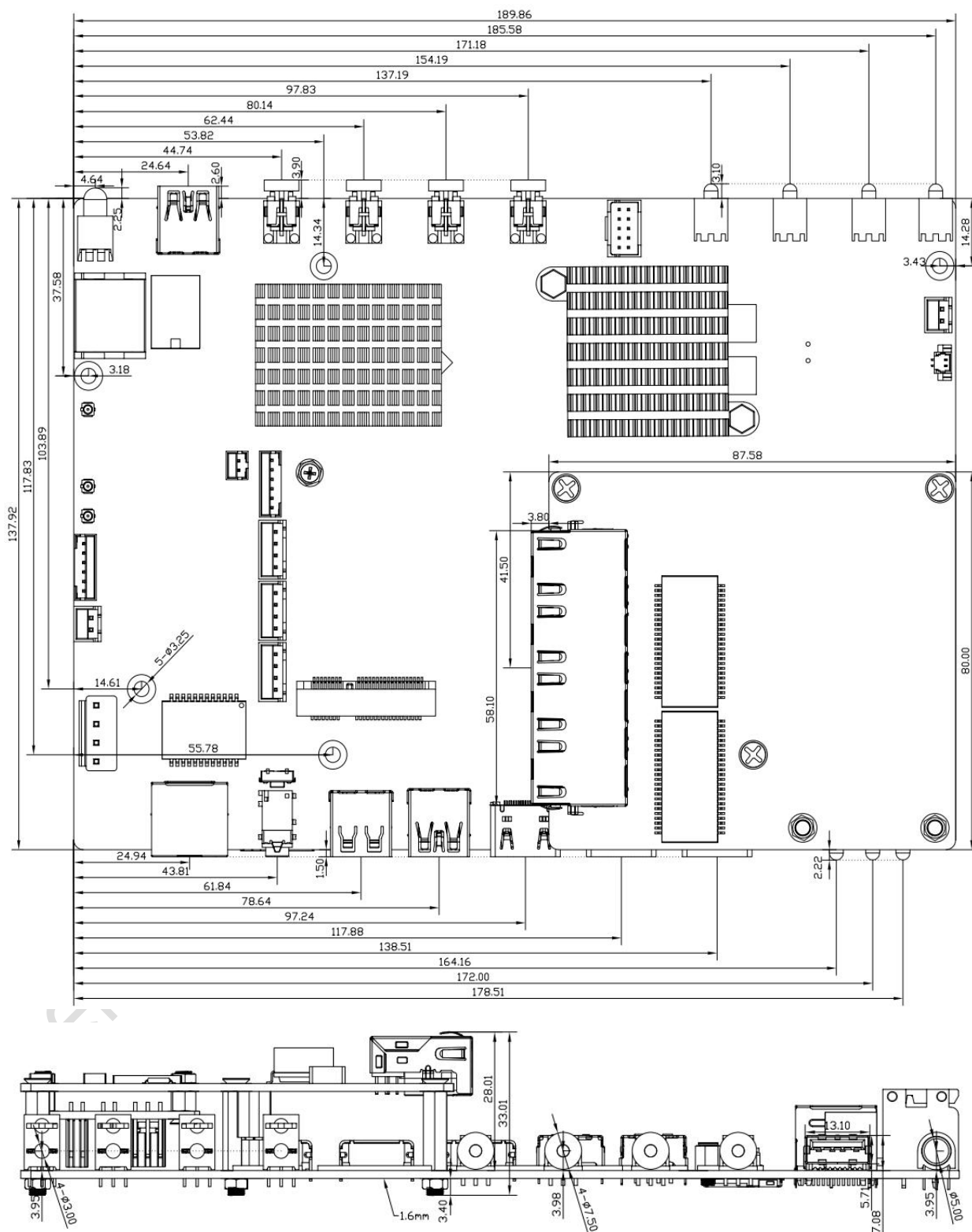
		
18	HDMI OUT port	HDMI Interface 1.4 is used for cascading data loop-out or video monitoring.
19	HDMI LOOP interface	HDMI LOOP IN interface, for simultaneous signal input or video wall input. Maximum resolution 2048×1152@60Hz Minimum resolution 800×600@60Hz HDMI 1.4 supports custom resolutions
20	HDMI IN interface	HDMI Interface 1.4, supporting adaptive scaling. Recommended resolution: 1920×1080@60Hz Maximum resolution 3840×2160@30Hz Minimum resolution 800×600@60Hz Supports custom resolutions and HDCP 1.4.
21	OTG interface	USB 3.0 Material storage, program updates, firmware upgrades, or capacity expansion (default USB flash drive function, configurable at

		the factory).
22	USB interface	USB 2.0 storage for materials, program updates, firmware upgrades, or capacity expansion.
23	audio interface	TRS 3.5mm standard dual-channel audio output port
24	Input network port	Gigabit Ethernet port, communicating with the outside world via TCP/UDP.
25	Output network ports × 4	4 RJ45 output network ports, cascaded HD receiver card display
26	PCIe-4G /5G interface	4G /5G module mount (optional function, installed by default with 4G /5G antenna).
27	RECOVERY interface	The factory reset button is located inside the audio port. With the device powered on, use a thin, long object (toothpick) to press and hold the RECOVERY button inside the audio port for 20 seconds, then release. This will enter factory settings.
28	TTL interface	Connect to external sensor accessories that use the TTL protocol , such as environmental monitoring sensors, multi-functional sensors, etc. (optional components).
29	RS485 interface	The RS485 interface allows connection to other sensors such as those for brightness, temperature, and humidity measurement via the RS485 protocol, as well as other peripherals to achieve corresponding functions.

30	RS232 interface	The RS232 interface allows connection to other RS232 protocol sensors such as brightness, temperature, and humidity sensors, as well as other peripherals to achieve corresponding functions.
31	DEBUG interface	Reserved debugging interface
32	MIC interface	Reserved differential microphone audio input interface
33	SIM card slot	Micro SIM card slot; inserting a SIM card provides 4G network access; remote control is achieved via the Xiaohui Cloud platform (4G module required).

4. Product Size

Dimensions (mm):



Tolerance: ± 0.3 , Unit: mm

5. Product Specifications

1. Basic parameters:

Electrical parameters	Input power	DC 5V (5V 6A)
storage space	RAM	4GB
	Internal storage	64GB
Storage environment	temperature	-40°C ~ 80°C
	humidity	0%RH ~ 80%RH (non-condensing)
Work environment	temperature	-40°C ~ 70°C
	humidity	0%RH ~ 80%RH (non-condensing)
size	189.86mm × 137.92mm × 33.01mm	
Protection level	IP20	
	Please take precautions against water damage, such as preventing water droplets from falling into the product, and avoiding wetting or rinsing the product.	
System software	Android 11.0 operating system software	
	Android terminal application software	
	FPGA software	
Main control parameters	Quad-core CPU with a maximum clock speed of 2.0GHz, Mali-G52 GPU; Support OpenGL ES 1.1/2.0/3.2, OpenCL 2.0, Vulkan 1.1; 1TOPS NPU.	

Packaging Information	1 × HD-B8 H
	1 × HDMI cable
	3 × Wi-Fi antennas
	1 × Certificate of Conformity

Options List:

Wireless screen mirroring code	Screen mirroring authorization code, used after screen mirroring function is activated.
USB screen mirroring device	Wireless screen mirroring device, plug and play, requires device activation before use.
4G/5G module	Select the appropriate 4G/5G module based on the region, and use it with a 4G/5G antenna.
USB to Audio	USB to 3.5mm TRS audio conversion.

2. Image decoding specifications:

category	decoding	size	Format	Remark
JPEG	JFIF file format 1.02	48×48pixels to 65536×65536 pixels	JPG, JPEG	
BMP	BMP	Unrestricted	BMP	NA
GIF	GIF	Unrestricted	GIF	NA
PNG	PNG	Unrestricted	PNG	NA
WEBP	WEBP	Unrestricted	WEBP	NA

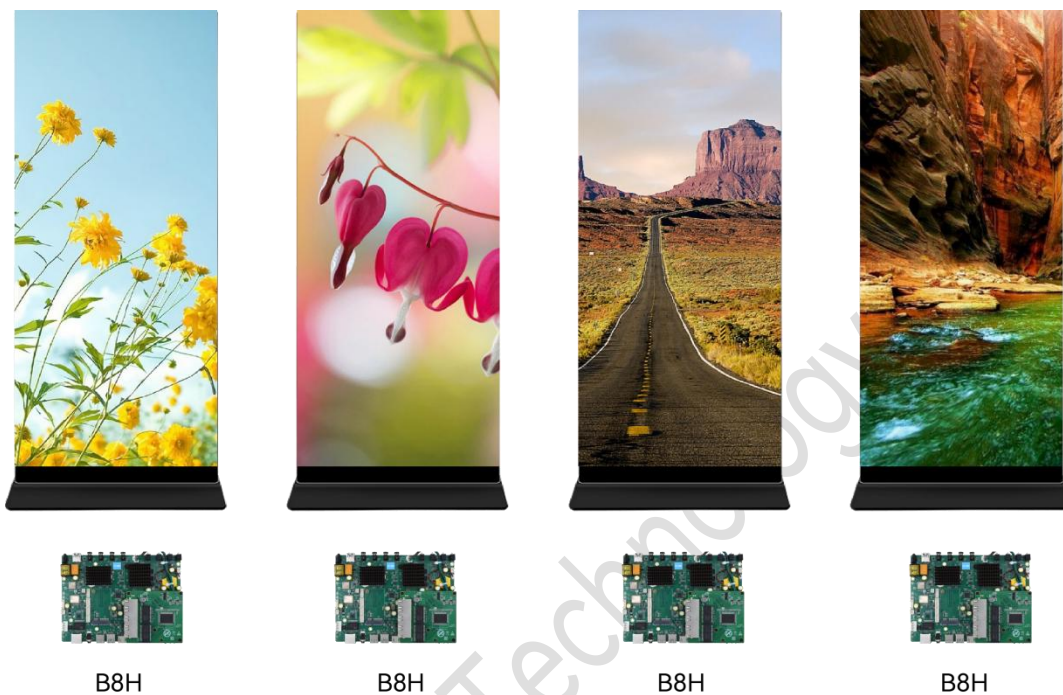
3. Video decoding specifications

Category	Decoding	Resolution	Maximum frame rate	Maximum bit rate	Format	Remark
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	MS and MPEG4 are not supported. v1/v2/v3, GMC
H.264/AVC	H.264	16×16 pixels to 4096×2304 pixels	2304P@60f ps	80Mbps	AVI, MKV, MP4, MOV, 3GP, TS, FLV	Supports Field Coding and MBAFF
MVC	H.264 MVC	16×16 pixels to 4096×2304 pixels	2304P@30f ps	100Mbps	MKV , TS	Only supports Stereo High Profile
H.265/HEVC	H.265/HEVC	64×64 pixels to 4096×2304	2304P@60f ps	100Mbps	MKV MP4, MOV, TS	Support Main Profile, Tile &

		pixels				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) 4CIF(704 ×576)	30fps	38.4Mbps	3GP, MOV, MP4	H.263+ is not supported.
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

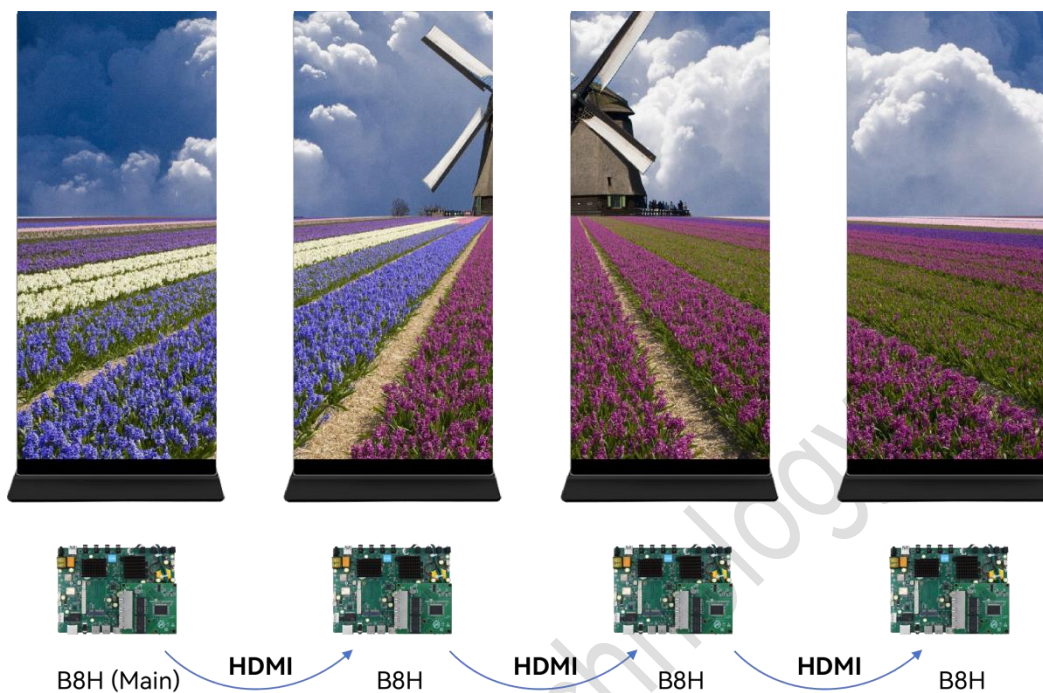
1. Independent playback: Each display screen shows its own picture, "each doing its own thing" and does not interfere with each other.



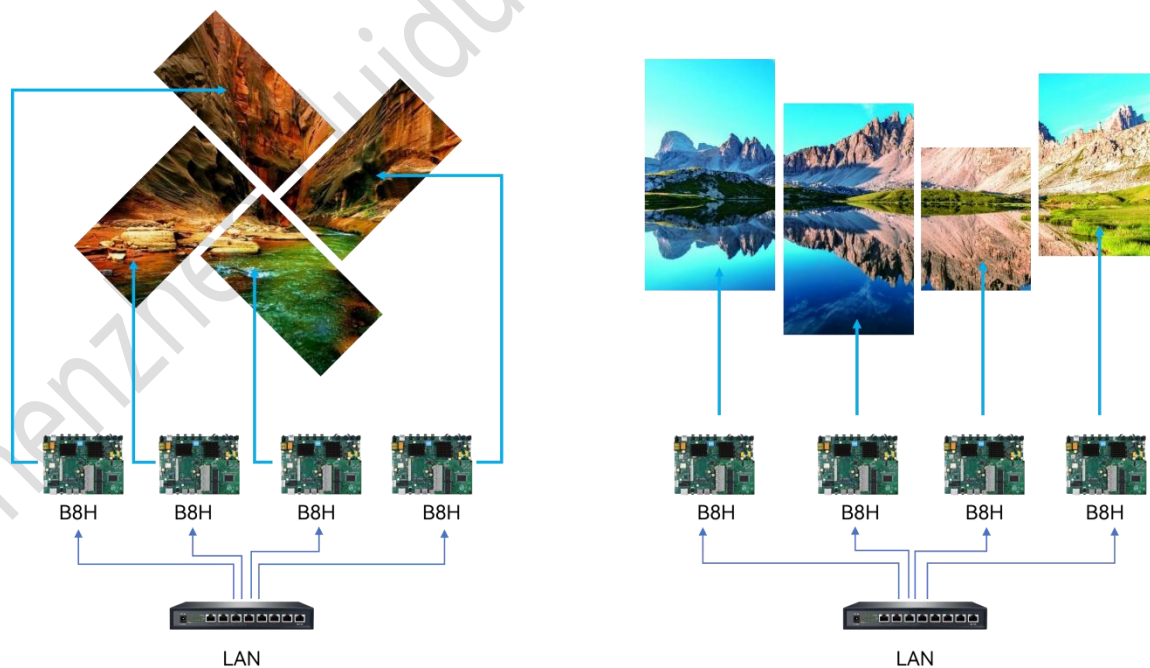
2. Multi-screen synchronization: Multiple independent displays show the same image simultaneously.



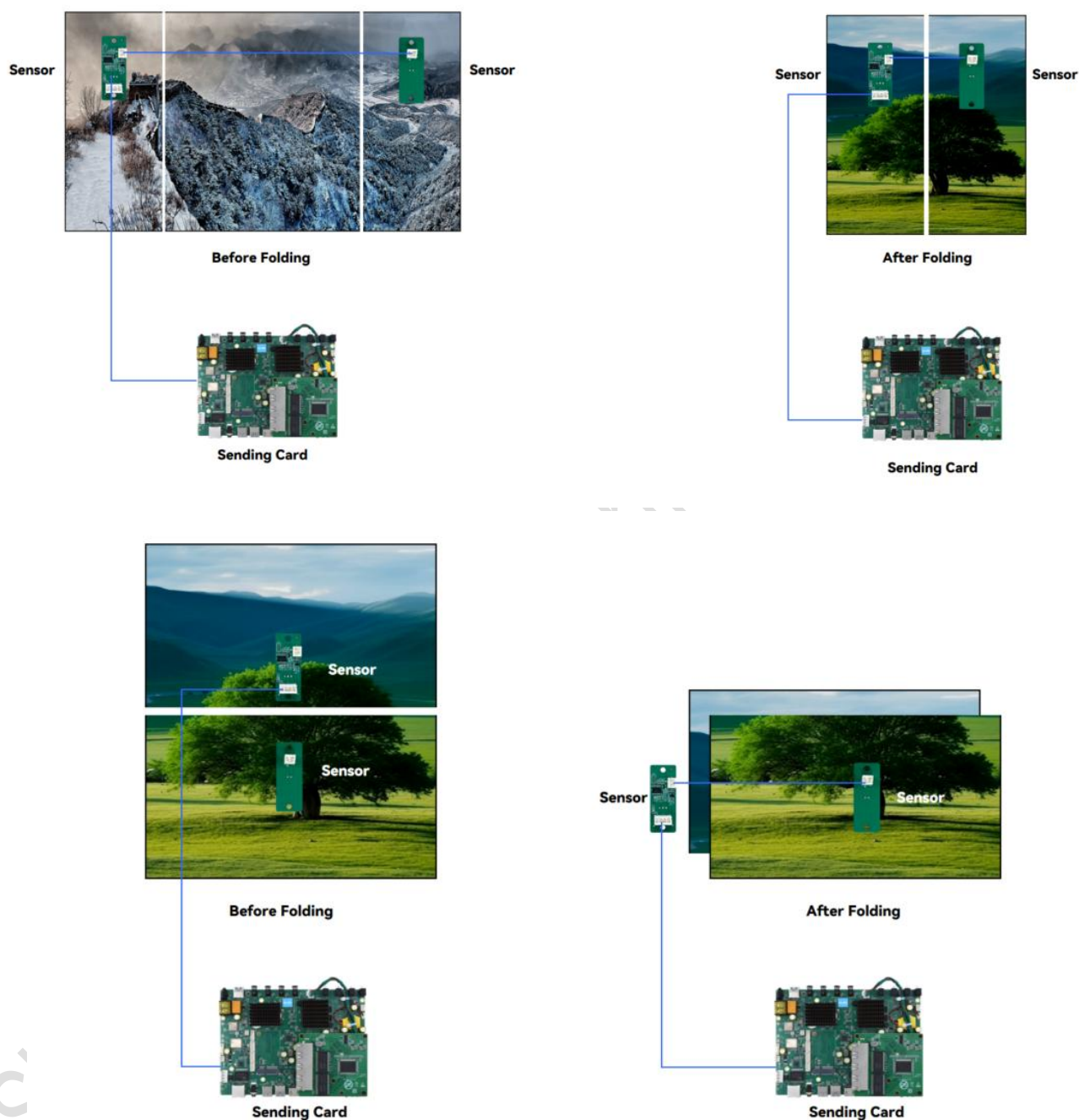
3. Video splicing: By cascading multiple displays via HDMI, the images from multiple displays are spliced together to form a complete picture.



4. Creative Display: Supports free splicing of multiple displays with different resolutions in any direction.



5. Foldable screen display: Supports automatic folding and program switching for both two-fold and three-fold screens.



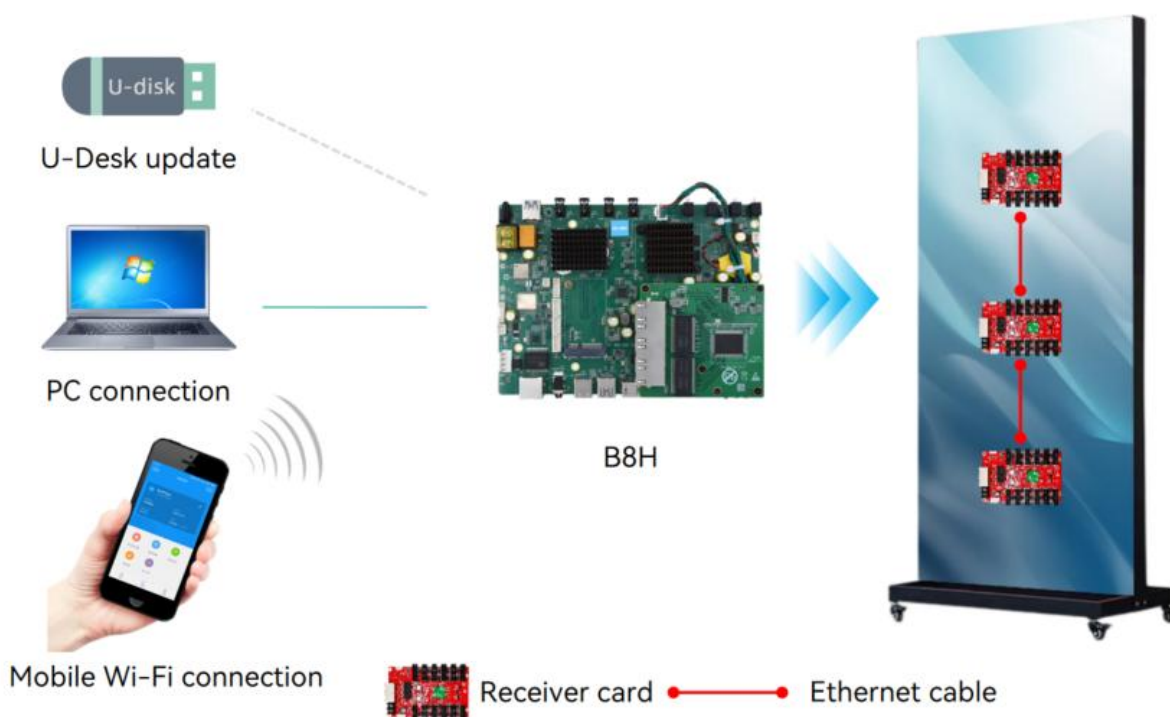
illustrate:

B8H in the application scenario diagram See the packing list for details of the LED poster screen dedicated control system product package.

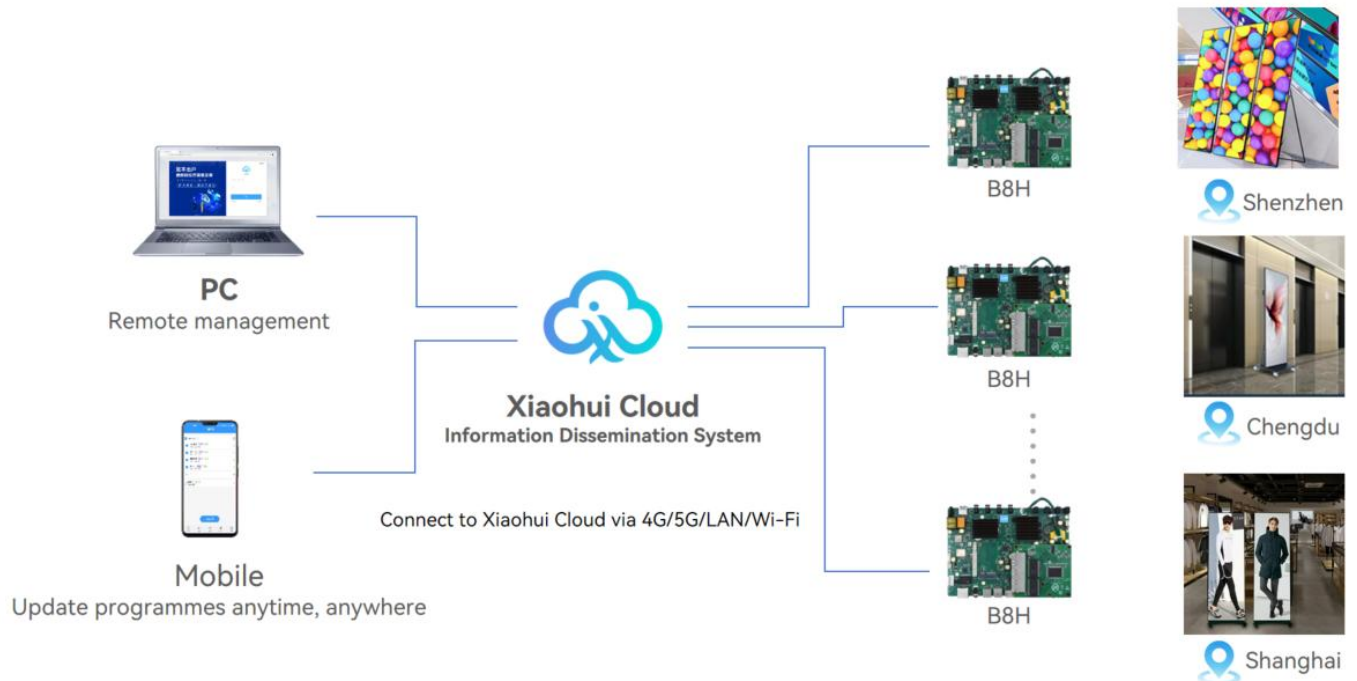
Optional equipment not included in the scene illustrations must be ordered separately. If you have any questions, please contact our business team.

7. Communication Methods

1. Standalone control, supports communication via Wi-Fi, direct Ethernet connection, and USB interface.



2. Cluster control, supporting remote control via the Internet.



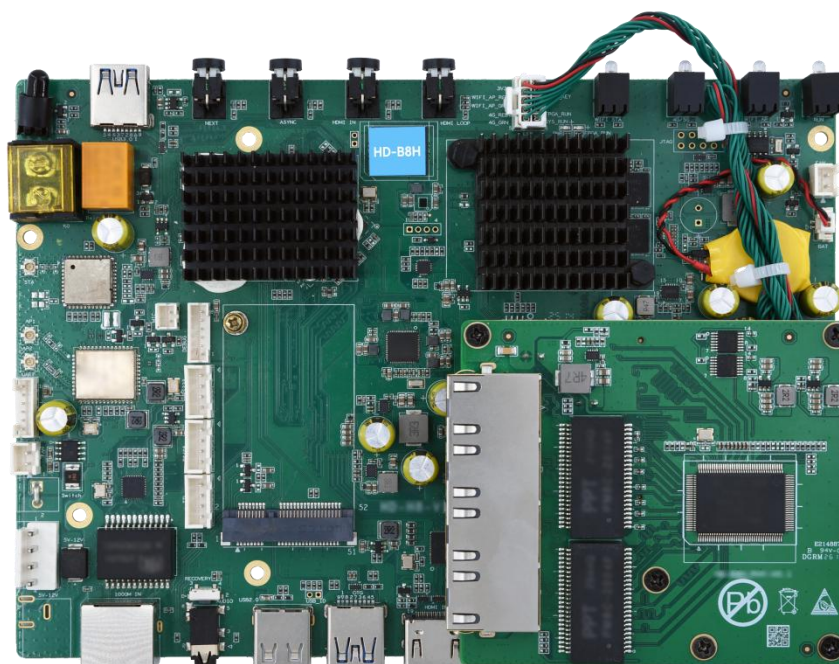
3. Synchronous control: Playback is synchronized via HDMI signal input.



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



Illustrate:

Copyright © 2026 Shenzhen Huidu Technology Co., Ltd.

Without the authorization of Shenzhen Huidu Technology Co., Ltd., no organization or individual may imitate, copy, modify or translate part or all of the contents of this specification.

Due to factors such as production batches, production processes, and functional upgrades, our company will appropriately adjust and revise relevant pictures, text descriptions, product parameters, and other related content. In the event of the above circumstances, no further notice will be given. The product pictures in the specification are for reference only. Please refer to the actual product.

The font used in this document is HarmonyOS Sans.