灰度科技
HUIDU TECHNOLOGY

PRODUCT
SPECIFICATION

4K Super Controller

HD-A7

V2.3

1. Overview

HD-A7 is a 4K super controller for full-color LED display, it support 4K video decoding, the Max support for 4K@30Hz output, support asynchronous mode and synchronous mode playback, support multi-windows display, Support a wide range of media formats such as video, image, GIF, text, WPS document, office document, table, clock and timing, and other rich content.

HD-A7 comes with dual-frequency Wi-Fi, support mobile APP wireless control; support "XiaoHui Cloud" platform remote cluster management; support multi-terminal device update program; support optional mobile phone/tablet wireless casting screen display; Onboard 32GB high-capacity storage space, support USB expansion and update programs; support external various environmental monitoring sensors.

HD-A7 is suitable for hotels, shopping malls, conference rooms, display exhibitions, studio and other fields LED display. It easy to operate, comprehensive functions.

2. Features

Input:

1. Support 1 channel Gigabit communication network port, used for debugging parameters, send programs;

2. Support 1 channel HDMI IN interface, support synchronous picture auto-scaling, support the same asynchronous picture-in-picture function;

3. Support 4 channel HDM input interface and 1 channel DP input interface, synchronous playback;

4. Support 3 channel USB HOST interface, used for using U disk to update/plug programs or expand capacity, 1 channel USB OTG interface;

5. Support 2-way sensor input interface, external various environmental detection sensors.

Output:

1. 8-channel Gigabit output network port on board, cascade receiver card to control LED display;

2. Asynchronous mode has a maximum loading capacity of 5.16 million pixels and a maximum width of 65,536 pixels; synchronous mode has a maximum loading capacity of 5.2 million pixels and a maximum width of 16,000 pixels;

3. 1-channel TRS 3.5mm standard dual-channel audio output.

Functions:

1. Standard 2.4GHz and 5GHz dual-frequency Wi-Fi, support for cell phone wireless control (support STA mode, in which the device can be connected to a nearby Wi-Fi network);

2. Support for hard decoding of high-definition video, support for multi-channel video window playback (support for 1-channel 4K video or 4-channel 1080P video playback);

3. Support synchronous mode, asynchronous mode switching playback. Support synchronous mode, asynchronous mode switching playback, support synchronous mode, asynchronous mode mixed playback;

4. Support voice control;

5. Support optional 4G/5G access to the small gray cloud platform to achieve remote cluster management over the Internet;

6. Support optional mobile phone, tablet PC wireless casting.

3. Appearance Description

Front Panel:
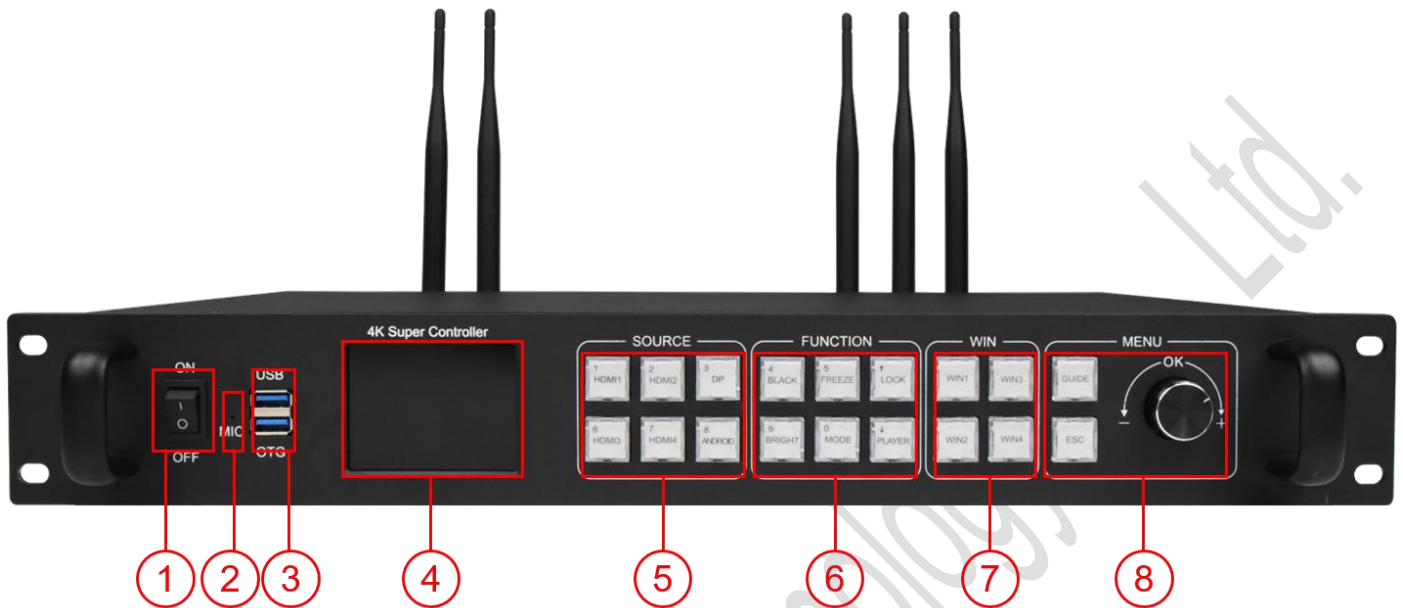
No.	Name	Description
1	Power switch	Control the on and off of the AC power supply of the player box.
2	MIC interface	-
3	USB interface	USB3.0: Used for updating programs or expanding memory; OTG: Used for debugging or upgrading firmware (default OTG function, factory configurable).
4	LCD screen	Debugging display menus, screen parameters and other information
5	SOURCE	Input signal selection area; Key multiplexing function for digital selection, generally used when setting resolution. ANDROID: with asynchronous switching keys.
6	FUNCTION	Function keys, key multiplexing function for digital selection, generally used when setting resolution.

		BLACK: a key to black screen.
		FREEZE: a key to freeze the screen.
		LOCK: key lock to prevent misuse.
		BRIGHT: quickly call out the brightness setting button.
		MODE: quickly call out the preset mode call menu.
		PLAYER: playback button.
7	WIN	Selection of opened screen windows.
8	MENU	Selection buttons: rotate for selection, press key for confirmation.
		GUIDE: Quickly call up the "Smart Navigation" setting interface.
		ESC: Exit/Return key.

Note: The number of antennas is determined by the optional features, 1 Wi-Fi antenna by default, 1*4G antenna for 4G optional, 4*5G antennas for 5G optional.
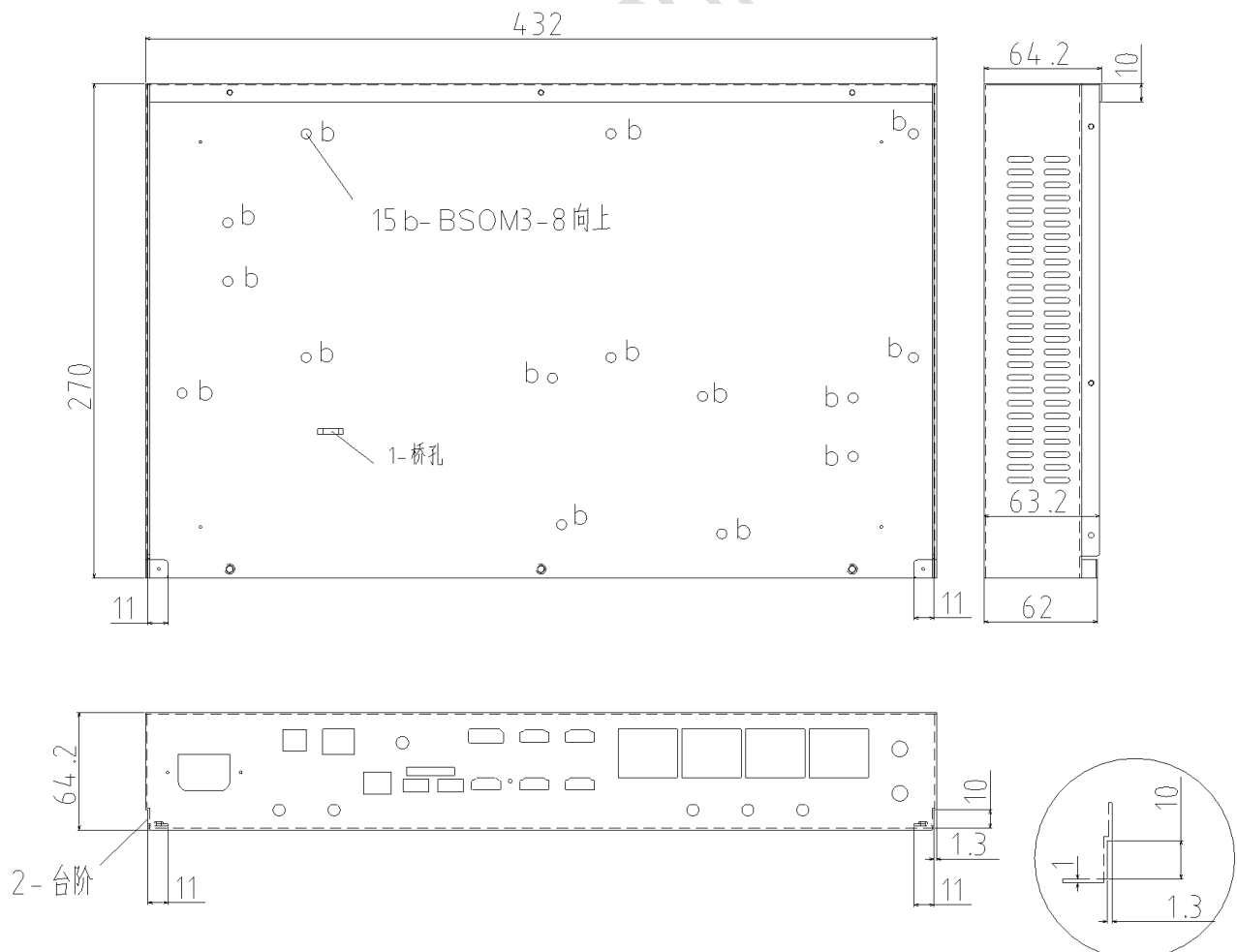
Rear panel:
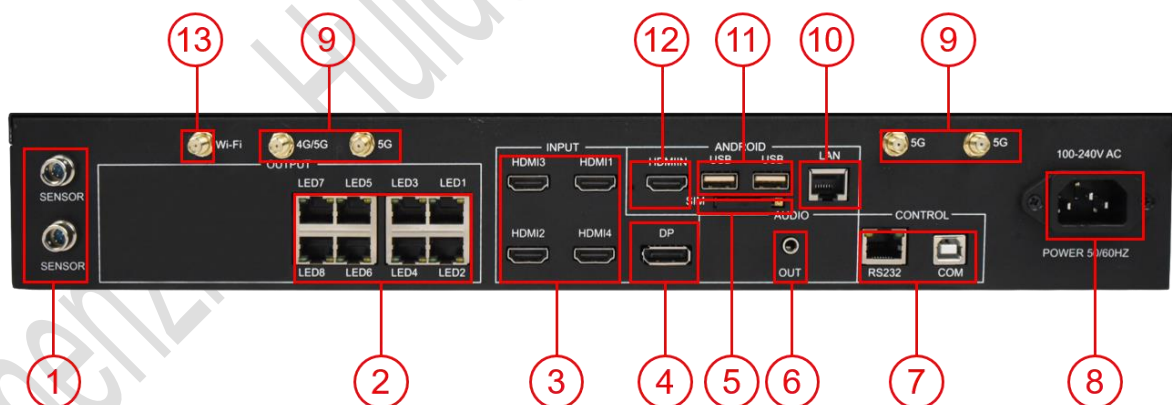
No.	Name	Description
1	Sensor interface	The interface for connecting various sensors, such as environmental monitoring equipment, multi-function sensors, etc.
2	RJ45 output	Connect the receiving card.
3	HDMI input	Synchronous signal input, can be connected to computers, set-top boxes and other equipment, timing synchronization playback.
4	DP input	Synchronous signal input interface.

5	SIM card slot	Insert 4G/5G card for networking.
6	Audio interface	TRS 3.5mm standard two-channel audio output interface.
7	Serial port	RS232 serial port communication and control.
8	Power switch	For access to alternating current, AC 100-240V 50/60Hz.
9	Antenna interface	An interface for connecting an external 4G or 5G antenna (not standard).
10	LAN	Debugging interface, which can be connected to the Internet and local area network.
11	USB 2.0	Directly programs playback or expand storage capacity.
12	HDMI IN	Synchronous mode signal input interface, which can be mixed with asynchronous mode.
13	Wi-Fi antenna interface	For connecting a Wi-Fi antenna.

4. Dimensions

5. Parameters

1. Basic Parameters

Electrical parameters	Input Power	AC 100-240V 50/60Hz
	Maximum power consumption	72W
Storage space	Running memory	4G
	Internal storage	32GB
Storage environment	Temperature	-40℃～80℃
	Humidity	0%RH～95%RH（non-condensing）
Working environment	Temperature	-10℃～45℃
	Humidity	0%RH～95%RH（non-condensing）
Packaging Information	List: 1×4K super controller; 1×USB-B cable (debugging); 1×HDMI cable; 1×power cable; 1×U disk; 1×Wi-Fi glue stick antenna; 1×Bluetooth remote control; 1×Certificate of Conformity. Note: 4G/5G antenna with 4G/5G module optional 1pcs/4pcs.	
Sizes	432mm×270mm×64.2mm	
Weights	4.8kg（packaging included）	

| Protection class	IP20
	Please pay attention to waterproofing, e.g. prevent water from dripping into the product and do not wet or rinse the product.
System software	Android 10.0 OS Software
	Android Terminal Application Software
	FPGA Software Microcontroller Software
	TV Software

2. Image Decoding Specifications

Form	Decoder	Sizes	Specification	Note
JPEG	JPEG	48×48 to 8176×8176	JPG, JPEG	Does not support non-interlaced scanning Supports SRGB JPEG Supports Adobe RGB JPEG
BMP	BMP	NA	BMP	NA
GIF	GIF	NA	GIF	NA
PNG	PNG	NA	PNG	NA
WEBP	WEBP	NA	WEBP	NA

3. Video Decoding Specifications

| Form	Decoder	Resolution	Maximum frame rate	Specification	Note
MPEG-1/2	MPEG-1/2	1920×1080	1080P@60fps	DAT, MPG, VOB, TS	Support Field Coding
MPEG-4	MPEG-4	1920×1080	1080P@60fps	AVI, MKV, MP4, MOV, 3GP	Unsupported MS, MPEG4 v1/v2/v3, GMC
H.264/AVC	H.264	1920×1080/3840×2160	4k×2k@30fps	AVI, MKV, MP4, MOV, 3GP, TS, FLV	Support Field Coding, MBAFF
MVC	H.264 MVC	96×96 to 1920×1080	1080P@30fps	MKV , TS	Only support Stereo High Profile
H.265/HEVC	H.265/HEVC	3840×2160/1920×1080	4K×2K@60fps	MKV , MP4, MOV , TS	Support Main Profile, Tile & Slice
VP8	VP8	96×96 to 1920×1080	1080P@30fps	WEBM , MKV	NA
VP9	VP9	3840×2160/1920×1080	4K×2K@60fps	WEBM , MKV	NA
H.263	H.263	1920×1080	1080P@60fps	3GP, MOV, MP4	Unsupported H.263+
VC-1	VC-1	1920×1080	1080P@60fps	WMV, ASF, TS, MKV, AVI	NA

6．Control Method

1. Internet remote cluster control: A7 controller can be connected to the Internet through 4G/5G (optional),

network cable connection, and Wi-Fi Bridge (Station mode).
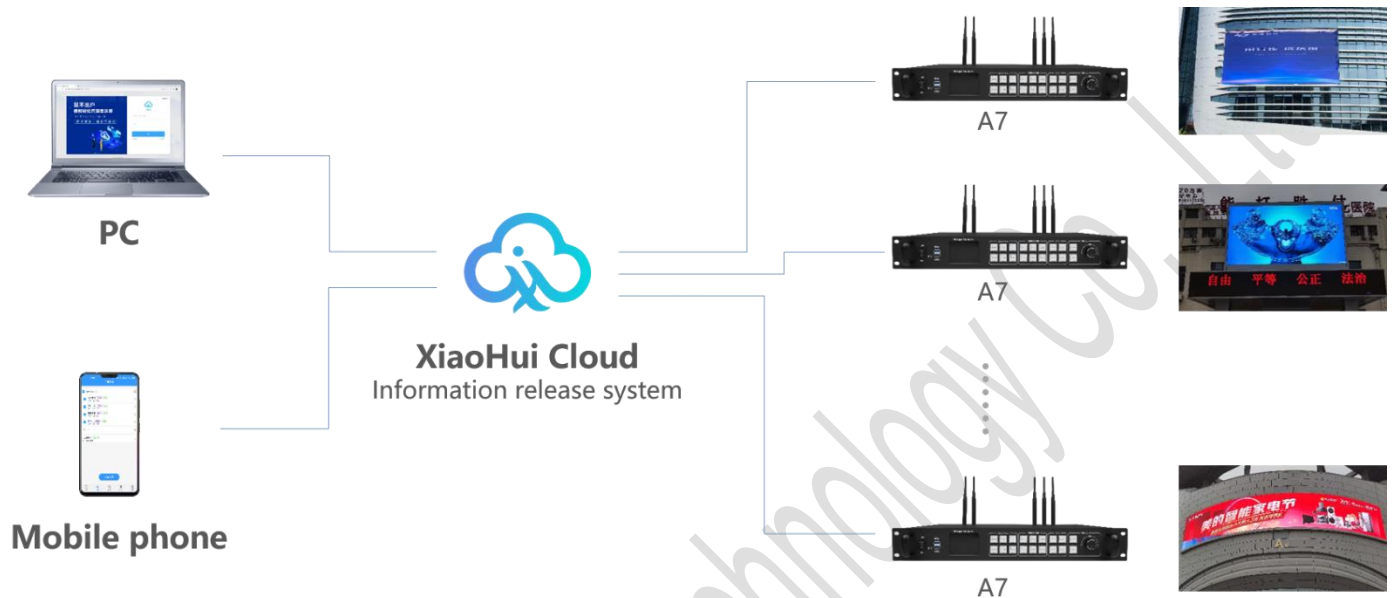
2. Asynchronous control: update the program through network cable connection, Wi-Fi connection and U disk.

The local area network (cluster) control can be connected to the local area network network through network

cable connection and Wi-Fi Bridge.
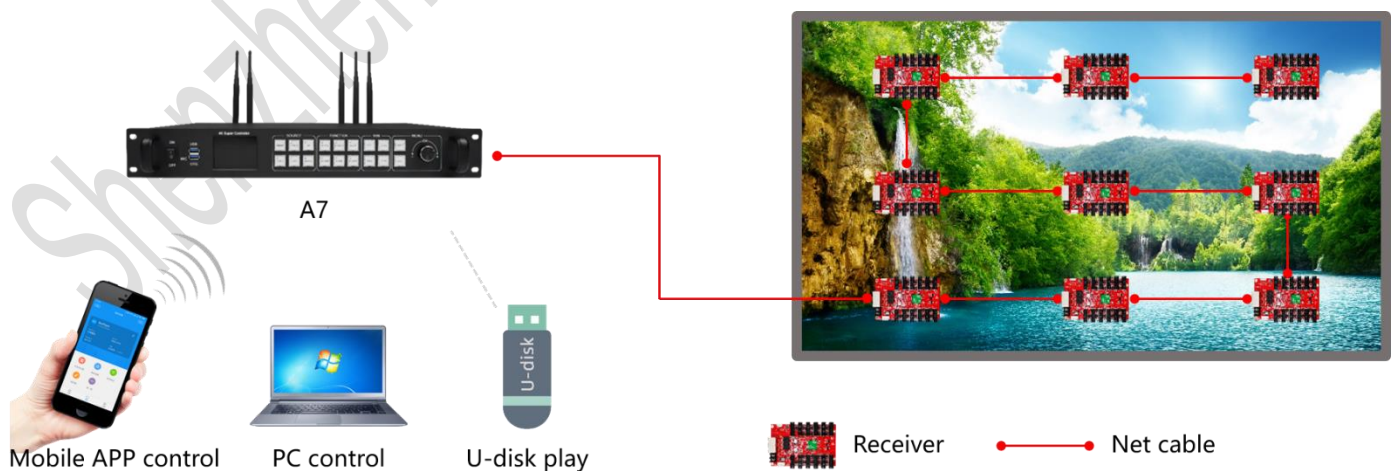
3. Real-time screen synchronization display: support HDMI/DP signal input synchronization playback, support 4 windows screen playback and multi-channel synchronization signal switch arbitrarily.

A7

Arbitrary switching of multi-channel video signal input

Receiver ●————● Net cable ●————● HDMI/DP
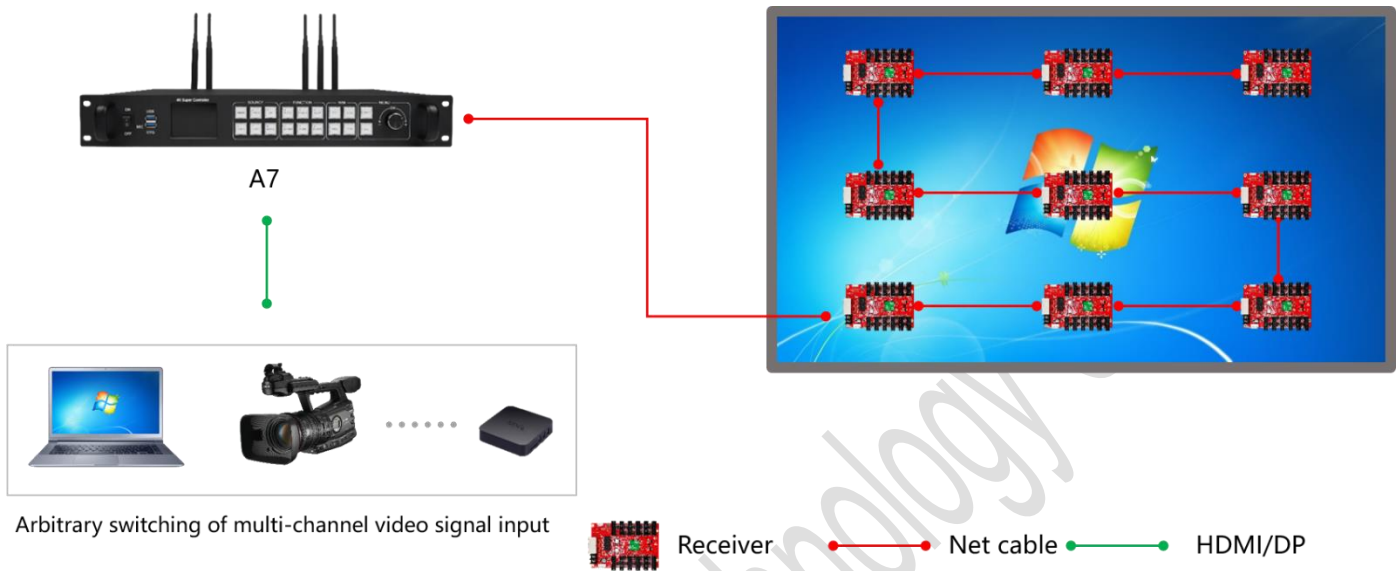
4. Screen projection display: The display content of the mobile phone/tablet is wirelessly projected to the display screen (Optional function).

A7

Pad and mobile phone wireless projection

Receiver ●————● Net cable
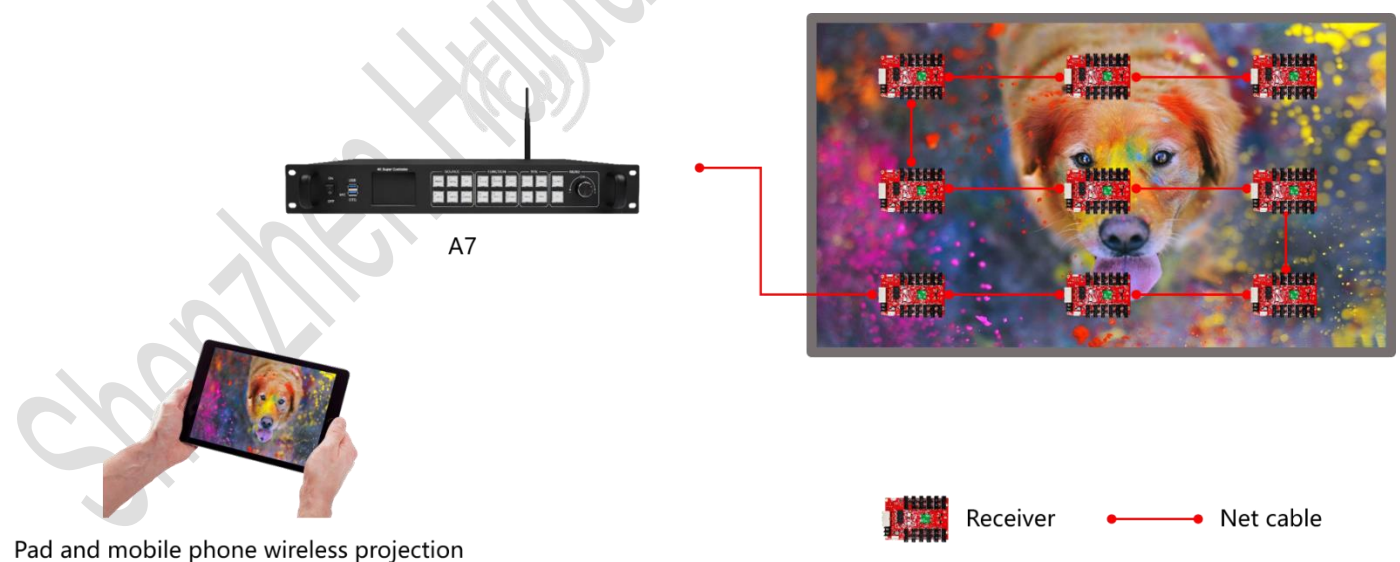
7. Product Appearance

Declaration:

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