

MHL712

Integrated Sending/Receiving Card

Specification V4.0



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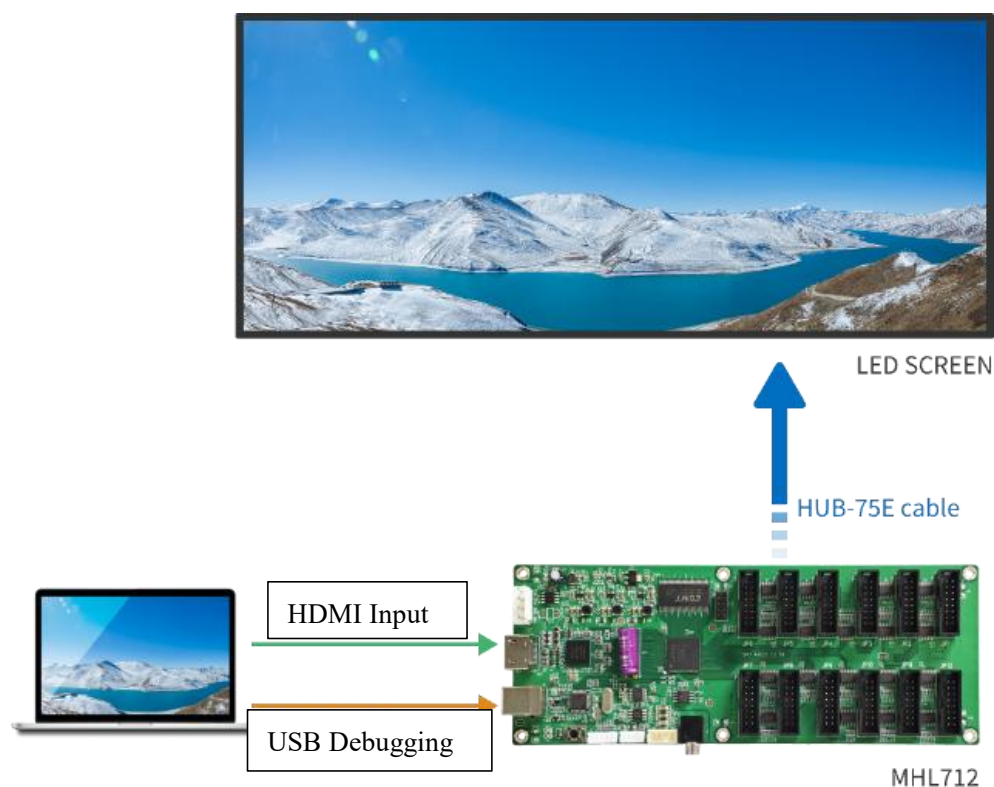
1 Update Records

Document Version	Hardware Version	Release Time	Update Record
V4.0	MHL712 (V1.0.1)	July 23(th), 2025	First release

2 Product Introduction

MHL712 is a sending-receiving integrated card independently developed and launched by mooncell, supporting up to 512×512 (PWM) pixels and a maximum of 24 parallel RGB data groups. Featuring HDMI 1.4 input and 12 onboard standard HUB75E interfaces, it delivers exceptional stability, powerful processing capabilities, ultra-stable performance, and outstanding cost-effectiveness.

HDMI input synchronizes display output without requiring additional transmitter cards for control.



3 Product Characteristics

3.1 Input

- 1×HDMI 1.4 video signal input, backward compatible; supports resolutions up to 1920×1200@60Hz

3.2 Output

- • Synchronously transmitted to the LED display via 12 standard HUB75E interfaces

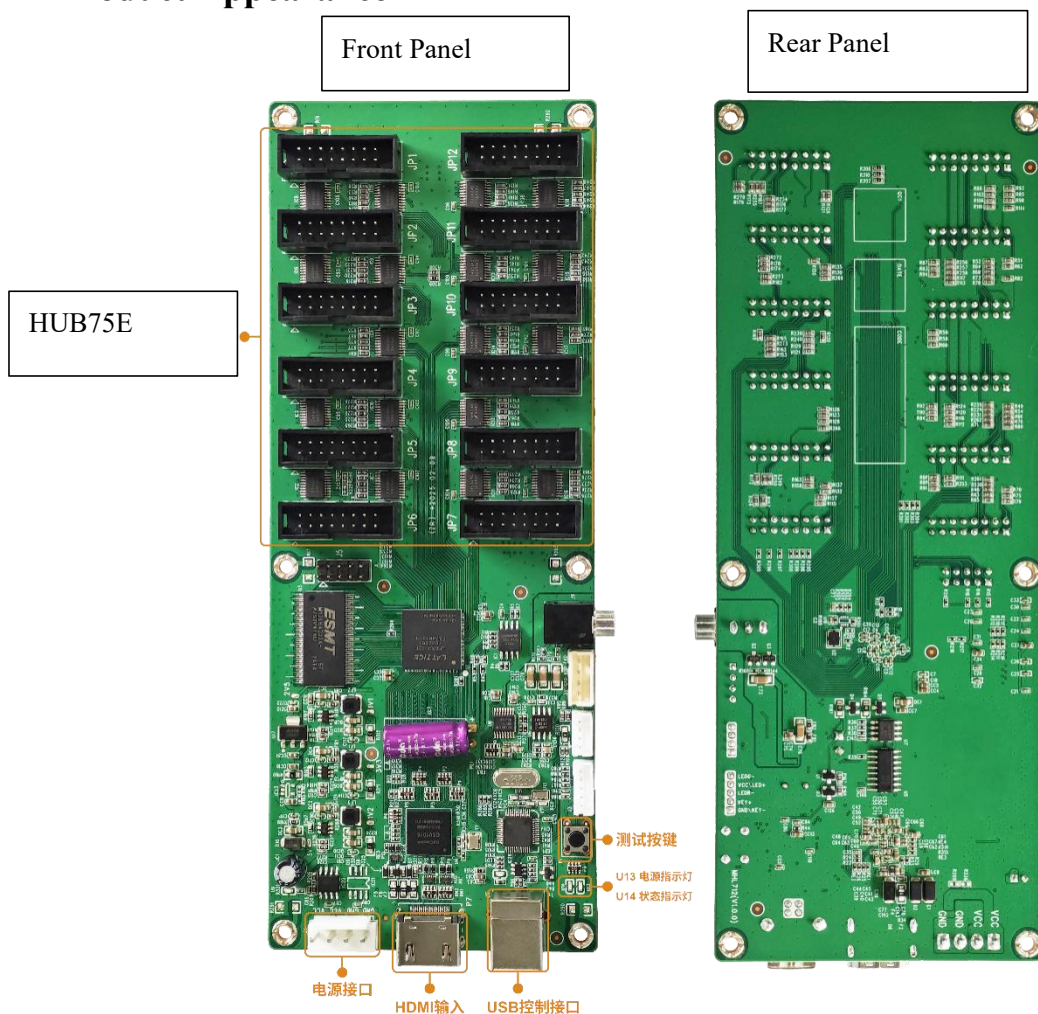
3.3 Control Interface

- • 1×USB port for PC communication, supporting debugging via AutoLED software, such as sending cabinet files and adjusting brightness.

3.4 Function

- Supports multiple preset resolutions: 1024×768, 1280×1024, 1366×768, 1600×1200, 1920×1080, 2048×1152, 2560×960, with custom resolution capability
- Supports manufacturer identification codes
- Supports encryption
- Supports AutoLED software for online FPGA and MCU upgrades
- Supports low latency
- Supports self-test screens
- Supports calibration

4 Product Appearance



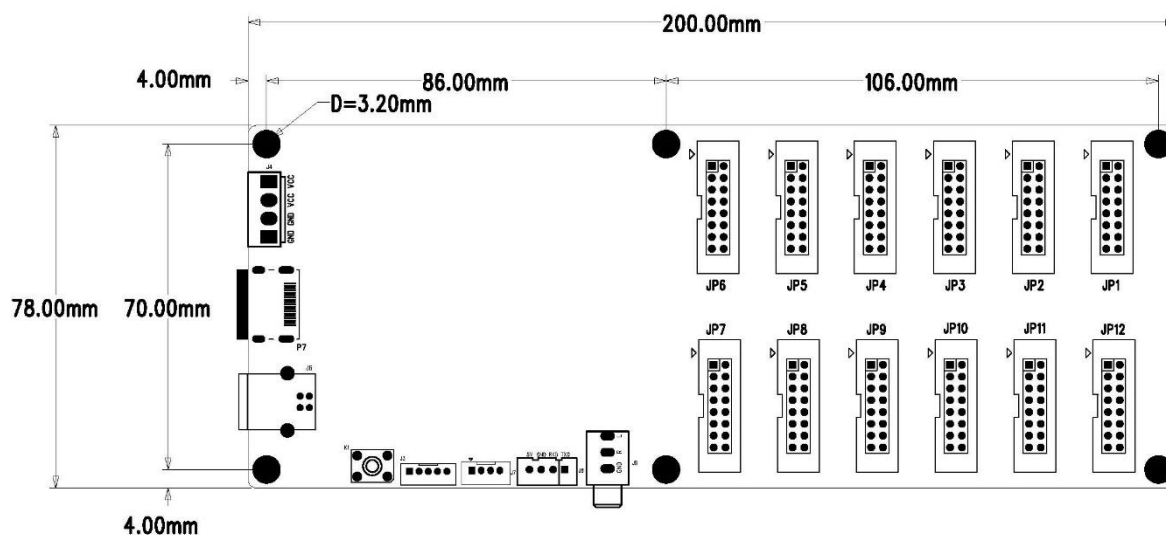
*Product images are for reference only. The actual product shall prevail upon purchase.

4.1 Data Interface Illustration

#	Interface	Illustration
1	HUB75E Interface	12×HUB75E
2	Power connector	Connect power supply
3	HDMI Input	1×HDMI 1.4 input port Port type: HDMI-A Signal standard: HDMI 1.4, backward compatible Resolution: 1920×1200@60Hz

4	USB(B type Interface)	USB port for connecting to a PC for debugging	
	Test Button	Self-Test Button	
	Status Indicator (Green) U14	Flashing	With HDMI input, the receiver card functions normally.
		Constant extinction	Without HDMI input.
5	Power Indicator (Red) U13	A steady red light indicates normal power supply.	

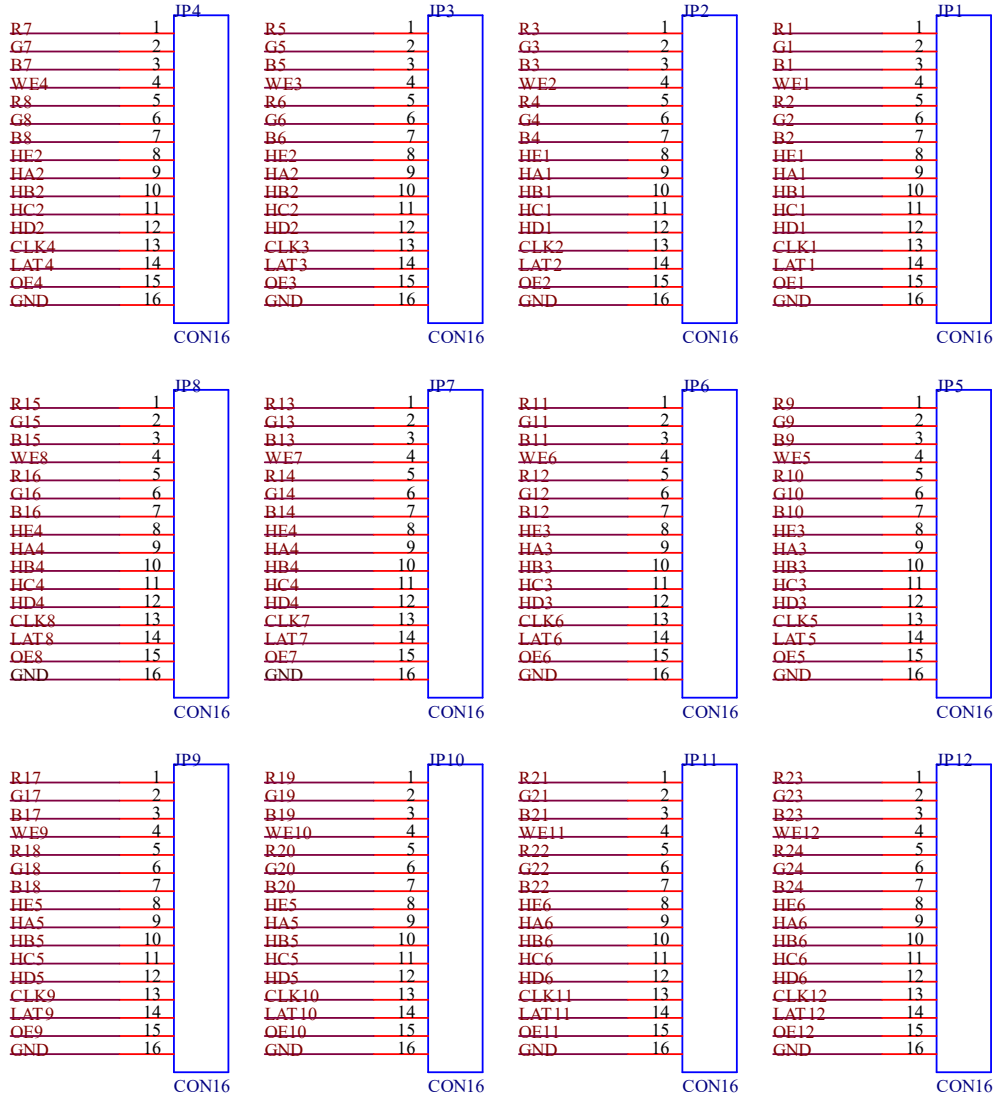
4.2 Product Dimensions



Tolerance: ± 0.3 Unit: mm

4.3 Output Interface Definition

24 groups of parallel data interface definitions



JP1——JP12 Data Interface Definition

Illustration	Definition	Pin	Pin	Definition	Illustration
RGB Data Output	R	1	2	G	RGB Data Output
	B	3	4	WE	
	R	5	6	G	RGB Data Output
	B	7	8	HE	Row Decoder Signal
Decoding signal	HA	9	10	HB	
	HC	11	12	HD	
Shift Clock Output	CLK	13	14	LAT	Latch Signal Output
Display Enable (Note 1)	OE	15	16	GND	Ground

Note 1: Pin 15 is the display enable pin. When using a PWM chip, it serves as the GCLK signal.

JJ1 Interface Definition

Definition	Pin	Pin	Definition
+5V	1	2	+5V
GND	3	4	GND
PROGRAMN	5	6	DOME
GND	7	8	CLK_A
CS_A	9	10	MOSI_A
MISO_A	11	12	GND
CLK_B	13	14	CS_B
MOSI_B	15	16	MISO_B

J5 Interface Definition

Definition	Pin	Pin	Definition
+5V	1	2	GND
FLS_CS	3	4	FLS_DO
FLS_CLK	5	6	FLS_DI
PROGRAM_B	7	8	mCONF_DONE
GND	9	10	+5V

J15 Indicator Interface Definition

Pin	1	2	3	4
Definition	GND	SCLK	SWDIO	+3.3V

J3 Indicator Interface Definition

Pin	1	2	3	4	5
Definition	GND/KEY-	KEY+	LEDR-	VCC/LED+	LEDG-

J4 Definition of Power Outlet

Pin	1	2	3	4
Definition	VCC	VCC	GND	GND

5 Product Parameters

5.1 Basic Parameters

Three-wire Parallel (RGB)	Data Interface	Drive IC	Maximum Load Capacity (pixels)	Brightness Correction Band Load (pixel)	Chromaticity Correction Band Load (pixel)
24 Groups	HUB75E	Conventional	512×384	512×256	256×320
	12	PWM	512×512	512×512	256×320
Number of cascaded cards			Support scanning lines		
≤1000PCS			1-128 扫		

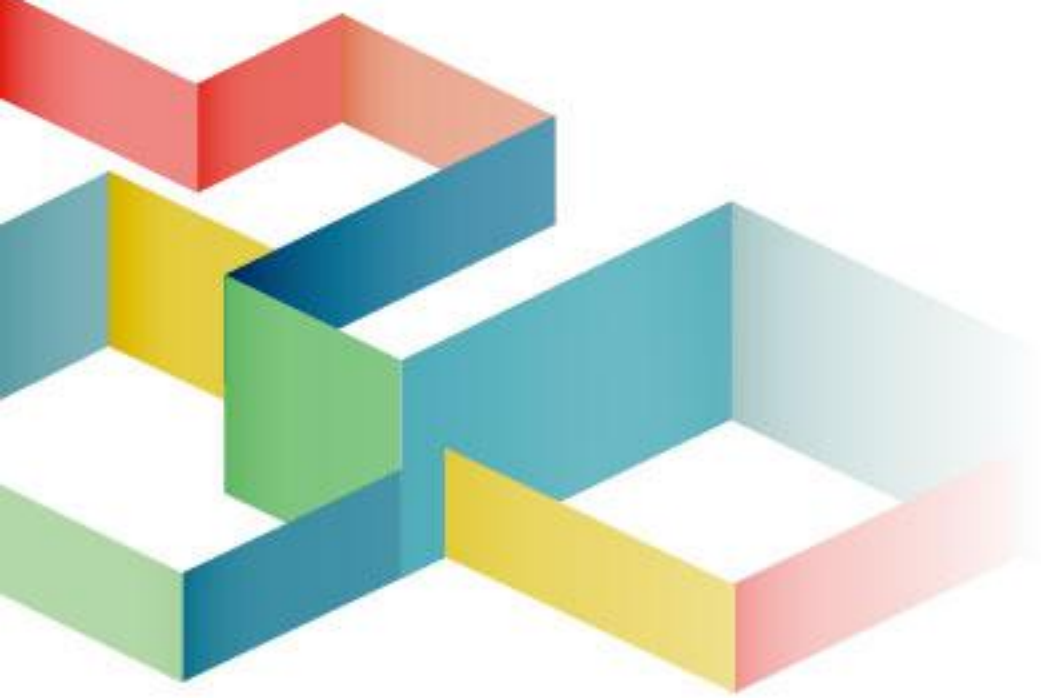
5.2 Specification

Electrical parameters	Input voltage	DC3.5~5.5V
	Rated current	0.5A
	Rated power	3W
Working environment	Working temperature	-20°C~70°C
	Working humidity	10%RH~90%RH no condensation
Storage environment	Temperature	-40°C~85°C
Board size	175mm×52mm	
Net weight	106.7g Description: Weight of single card	
Outer packing size	620×315×285mm	
Gross weight of product	16Kg Description: Including wire, accessories	
Pack Mode	100pcs/Carton	
Certificate Information	Comply with RoHS standards and CE-EMC standards.	

* Current and power consumption may vary according to different factors such as product usage, environment and settings.

6 Precautions

- The installation process must be completed by professionals.
- Must be antistatic.
- Please pay attention to waterproof and dust removal.



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