Mooncell

A712 Receiving Card

Specification V4.1

Shenzhen Mooncell Electronics Co., Ltd

1 Product Overview

Product Introduction

A712 is a receiving card that fully researched and developed by Mooncell; it adopted 12x HUB75E interfaces; it can supports the maximum 24 groups of the parallel connection data;the maximum loading capacity could reach up to 512*384 pixels; with strong processing ability, supper reliability and high competitive price.

Application Scenarios

It could be widely used for high-end LED display area that requires high standards; and has significant advantages in application scenarios such as led rental display, TV Broadcast, LED display for respectable Event,High-end project,etc.

2 Function Introduction

Displaying Effect

It supports pixel level brightness and Chroma Calibration	Using it with the Mooncell Calibration Software to calibrate each one of the pixels on its brightness and Chroma. It can effectively eliminate the Chromatic aberration so as to enhance its consistency of the brightness and Chroma to a high level and result in a better displayed effects.
Multiple Solutions of the Displayed Effects are Supported	Using it with Monncell AutoLED Software, the Refresh and Grey Scale performances are able to take the precedence over other settings.
The Images on the led screen can be rotated 90 degree in a factor of multiple times	Using it with Mooncell AutoLED Software.
The images can be zoomed in or out	Using it with Mooncell AutoLED
Support low brightness and high gray (18bit +)	Improve the effect of low gray display, smoother screen transition

Support low latency	Support low-delay control and display of the receiving card, that is, on the basis of using the sending card, the time delay between the output of the signal source and the display of the light board is 2 frames
Support 3D	3D picture effect, you need to use 3D glasses to watch; transmit the format of the 3D signal to the 3D glasses by connecting the 3D signal transmitter.
Support RGB standalone gamma	Can independently customize the GAMMA value of RGB
HDR	Support HDR10 and HLG two video source standards; with the independent master with large load capacity, input HDR10 standard or HLG standard video source, can achieve greater brightness dynamic range and color space, greatly enhance the display image quality, make the picture more delicate and realistic
Quick light and dark line adjustment	Quickly adjust the bright and dark lines on the software, and quickly solve the bright and dark lines of the display screen caused by the splicing of the box and modules. It takes effect immediately during the adjustment process, which is simple and easy to use

Enhanced Operability:

The Receiving Card is Supported to detect its own Sequence number	Using the Network Port testing function on Mooncell AutoLED Software, the receiving card serial number and the Network Port Information will be displayed on the target cabinet. Users will be able to get to know the locations of the receiving cards as well as its Connection diagram.
Data Port User-Defined is supported	Using it with the Mooncell AutoLED Software, you can detect and edit the output data of the receiving cards.
To build up a complicated cabinet is supported	On AutoLED Software, there is an ‘Advanced Setting’, from here you can quickly arrange or structure the modules at your option.
To structure a complicated Led Screen is supported	On AutoLED Software, there is a “Complicated Led Screen Connection”, from here you can quickly arrange or structure the cabinet modules on your option.

Hardware Stability

Ethernet Cable Backup(Hot Backup)	The main cable will be having the loop connection. If there’s one cable breaks then still there will have another one to make sure the led display work properly.
	Dual receiving cards backup is supported(Dual Circuit backup design) Customized :when the main working receiving card fails, the other one (backup) will take its job to keep the led display working properly.

It supports to detect the voltage(customized)	It will detects the voltage status of the receiving cards.
It supports to detect the temperature(customized)	The operating temperature of the receiving cards could be detected.
It supports to detect the power status(customized)	The power status of the power supplies could be detected.

Smart Software and Hardware Stability

The receiving card can read the configuration data back from where it has been stored	You will be able to do this on Mooncell AutoLED Software.
It supports to detect the error rates of the network cable	On the Mooncell AutoLED Software, you can detect the network cable connectivity in real time to tell the condition of the network cables, so that you can get rid of any errors immediately.
Communication Monitoring Function	On Mooncell AutoLED Software, you can monitor the Working Status of the receiving cards in real time.

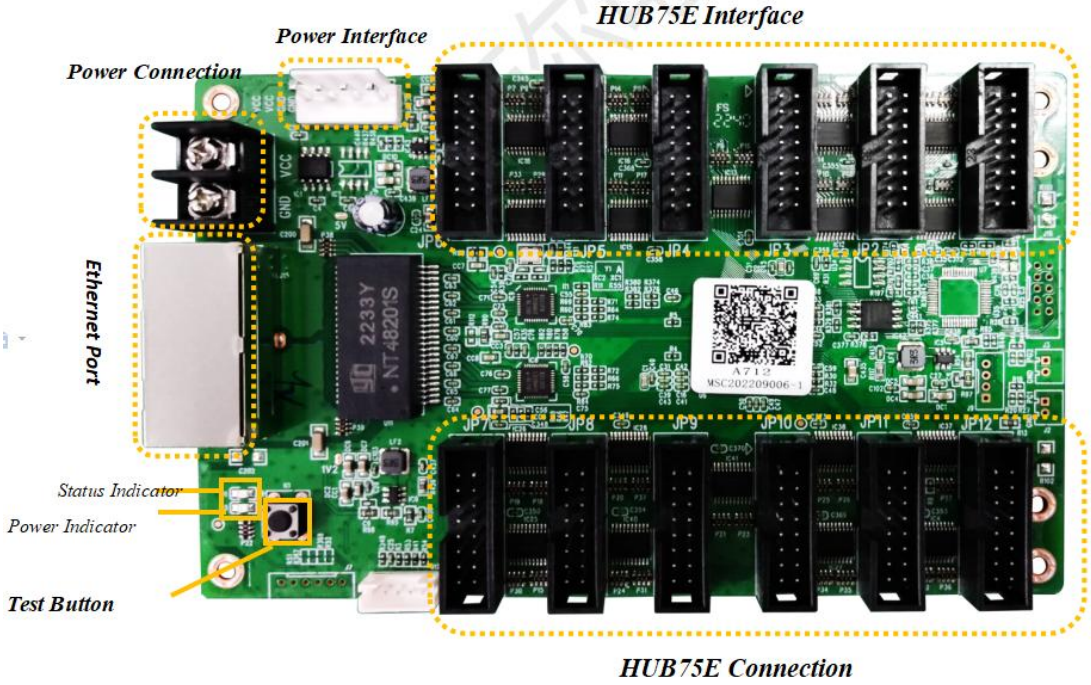
3 Product Parameters

RGB Parallel	Data Ports/ Interfaces/ QTY	Driver IC	Maximum Loading Capacity	Loading Capacity After lightness Calibrating （Pixels）	Loading Capacity after Color Calibrating
24 Groups	HUB75E/12	Conventional	512*384	512*256	256*320
		PWM	512*512	512*512	256*320

Basic Parameters

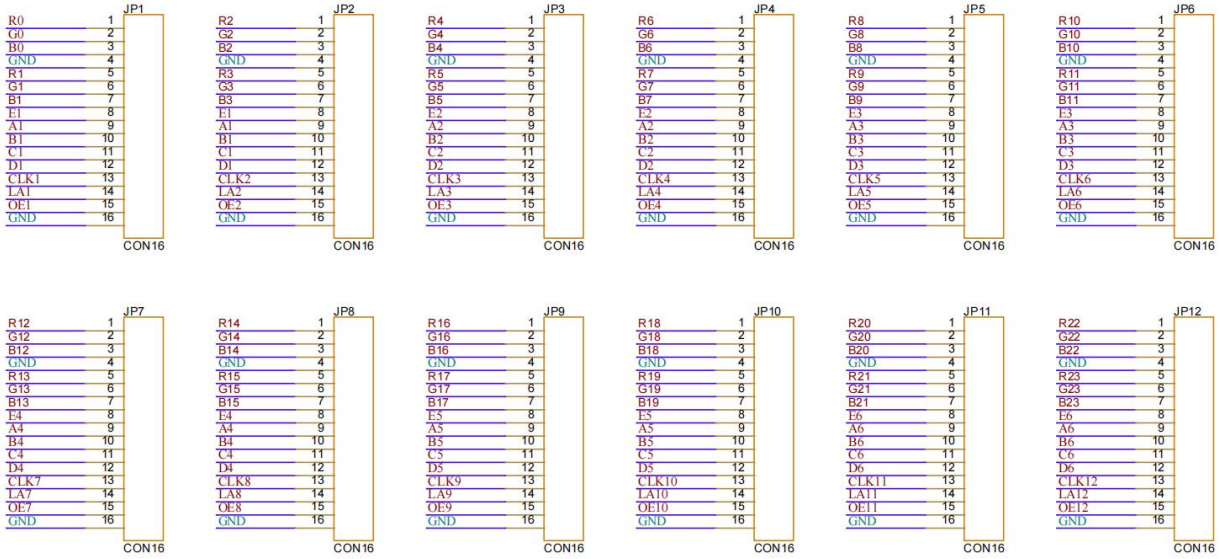
Single Network Pot Cascading Quantity	Scanning Lines Supported		
≤1000PCS	1-64 Scan		

Hardware Introduction



Output Port Definition

Port Definition of the 24 Groups of parallel connection data



JP1-JP12 PIN Definition:

Illustration	Definition	PIN#	PIN#	Definition	Illustration
RGB Data Output	R	1	2	G	RGB Data
	B	3	4	GND	GND
	R	5	6	G	RGB Data
	B	7	8	HE	Line Decoding Signal
Line Decoding Signal	HA	9	10	HB	
	HC	11	12	HD	
Shift Clock Output	CLK	13	14	LAT	Latch Signal
Display Enable(Remarks 1)	OE	15	16	GND	GND

Remarks 1: Pin # 15 is the display enable pin.

And When using the PWM chip it will be the GCLK Signal.

J16 Pin 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

J12 Indicator PIN Definition:

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

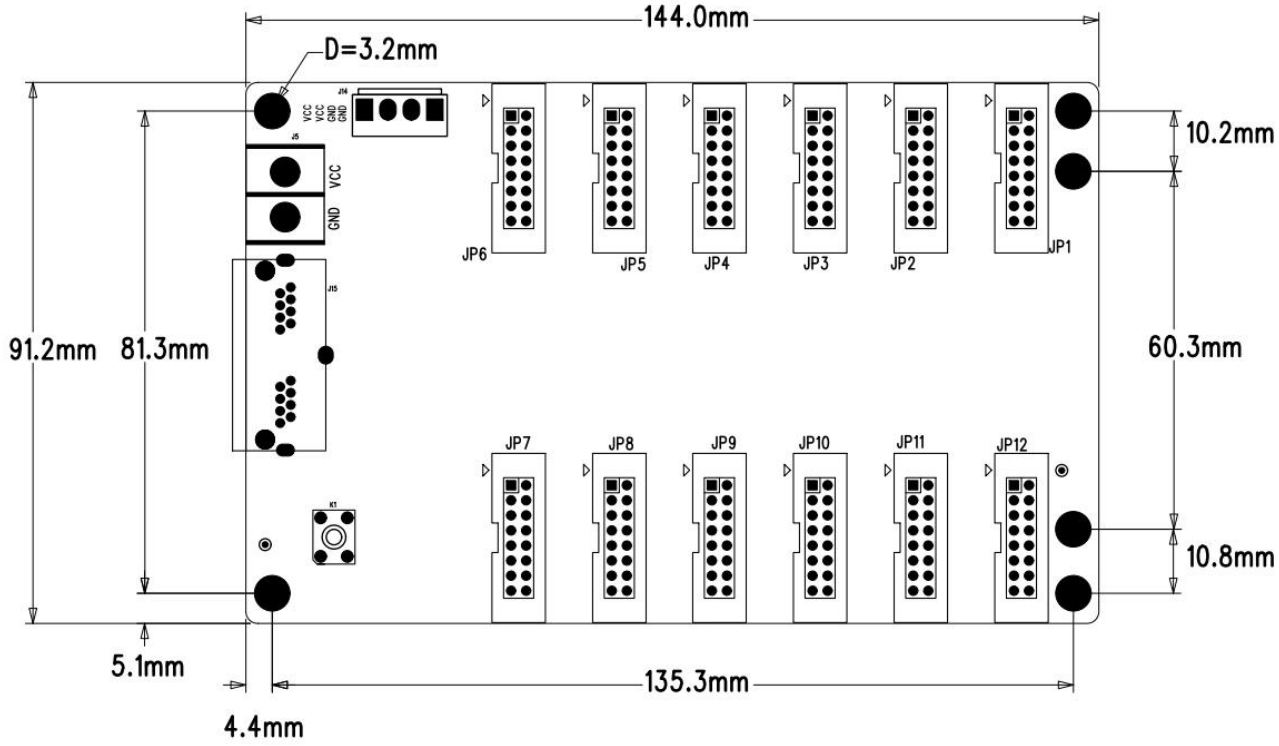
J14 Socket PIN Definition:

PIN#	1	2	3	4
Definition	VCC	VCC	GND	GND

Indicator Illustration

Indicator	Position	Status	Illustration
Status Indicator (Green)	U1	Flickering Slowly at a constant speed	The receiving card is working properly, The Ethernet Cable Connection is fine, No DVI Signal
		Flickering Fast at a constant speed	The receiving card is working properly, The Ethernet Cable Connection is fine, with DVI Signal
		It goes out	No Gigabit Ethernet Signal
		Fast Flickering 3 Tunes	The receiving card is working properly, The Ethernet Cable Loop Connection is fine, DVI Signal Input
Status Indicator	U3	Long Lasting On	Power is On

Dimensions


144.0mm
D=3.2mm
10.2mm
60.3mm
10.8mm
91.2mm
81.3mm
5.1mm
135.3mm
4.4mm
JP1
JP2
JP3
JP4
JP5
JP6
JP7
JP8
JP9
JP10
JP11
JP12
VCC
GND

4 Product Specifications

Specifications

Electric Parameters	Input Voltage	DC3.5-5.5V
	Rated Current	0.6A
	Rated Power	3W
Operating Environment	Operating Temperature	-20℃ - 70℃
	Operating Humidity	10%RH-90%RH
Storage Environment	Temperature	-25℃～125℃
Dimensions	144.02mmX91.19mm	
Net Weight	90.4g	
Certifications	It conforms to RoHS and CE-EMC standards.	

Precautions

1. **The testing (debugging) and installation should be done by the qualified professionals**
2. **Anti-Static, Water-Proof and Dust-Proof Required**