Colorlight

E80

Receiving Card

Specification V4.2.1

Overview

E80 receiving card is a specially introduced high cost-effect product of Colorlight, which is designed for customers to save cost, reduce points of fault and failure rate. E80 single card can load up to 128×1024 pixels, support up to 16 groups of parallel data or 32 groups of serial data. Based on the technical advantages of conventional receiving cards, E80 can be integrate into HUB75 interfaces, which is more reliable and more economical on the premise of ensuring high-quality display.

Features

Display effect

- 8bit video source input.
- Color temperature adjustment.
- 240Hz frame rate.
- Better gray at low brightness.

Correction processing

- Pixel-to-pixel calibration in brightness and chromaticity.

Easy maintenance

- Highlight and OSD.
- Screen rotation.
- Data group offset.
- Any pump row and any pump column and any pump point.
- Quick firmware upgrade and quick release of correction coefficients.

Stable and reliable

- Loop redundancy.
- Ethernet cable status monitoring.
- Firmware program redundancy and readback.
- 7×24h uninterrupted work.

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Feature details

Display effect	
8bit	8bit color depth video source input and output, monochrome grayscale is 256, can be matched with 16777216 kinds of mixed colors
Frame rate	Adaptive frame rate technology, not only supports 23.98/24/29.97/30/50/59.94/60Hz regular and non-integer frame rates, but also outputs and displays 120/240Hz high frame rate pictures, which greatly improves picture fluency and reduces drag film. (*it will affect the load)
Color temperature adjustment	Color temperature adjustment, that is, saturation adjustment, to enhance the expressiveness of the picture.
Better gray at low brightness	By optimizing the gamma meter algorithm, the display screen can maintain the integrity and perfect display of gray scale when reducing the brightness, showing the display effect of low brightness and high gray scale.
Calibration	8bit precision brightness and chromaticity correction point by point, which can effectively eliminate the chromatic aberration of the lamp point, ensure the uniformity and consistency of the color brightness of the entire screen, and improve the overall display effect.
Shortcut operation	
Cabinet highlight	Using the control software, you can quickly mark the selected target cabinet, display a flashing box on the front of the cabinet, and change the flashing frequency of the cabinet indicator at the same time, which is convenient for front and rear maintenance.
Quick OSD	Using the control software, you can quickly mark the actual hardware connection serial number of the receiving card corresponding to the Ethernet port, which is convenient for setting the connection relationship of the screen.
Image rotation	Single cabinet image to be rotated at 90°/180°/270° angles, and with part of the main control, the single cabinet image can be rotated and displayed at any angle.
Data group offset	Screen offset in units of data groups, suitable for simple special-shaped screens.
Hardware monitoring	
Bit error detection	It supports the detection of data transmission quality and error code between receiving cards, and easily and quickly identify the cabinet with abnormal hardware connection, which is convenient for maintenance.
Redundancy	
Loop redundancy	The redundant Ethernet port is used to increase the connection with the transmitting equipment and increase the reliability of cascading between equipment. When one circuit fails, it can realize seamless switching to the other circuit and ensure the normal display of the screen.

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Firmware redundancy	It supports firmware program backup and can be upgraded safely. There is no need to worry about the loss of firmware program due to cable disconnection or power interruption during the upgrade process.

Basic parameters

Control System Parameters	
Control Area	Normal chips: 64×1024pixels, PWM chips: 128×1024 pixels, Shixin chips: 81×1024 pixels.
Ethernet Port Exchange	Supported, arbitrary use.
Display Module Compatibility	
Chip Support	Normal chips, PWM chips, Shixin chips.
Scan Type	Up to 1/128 scan.
Module Specifications Supported	Module of any row and column within 13312pixels.
Cable Direction	Route from left to right, from right to left, from top to bottom, from bottom to top.
Data Group	16 groups of parallel RGB full color data and 32 groups of serial RGB data, which can be expanded to 128 groups of serial data, data groups can be exchanged freely.
Data Folded	• Normal chips: 2~8 fold horizontally, 2~4 fold vertically. • PWM and Shixin chips: horizontal or vertical 2~8 fold.
Module pumping point, row and column	Any pumping point and any pumping row and any pumping column.
Monitoring Function	
Bit Error Monitoring	Monitor the total number of data packets and error packets to check network quality.
Pixel-to-Pixel Calibration	
Brightness Calibration	8bit
Chromaticity Calibration	8bit
Other features	
Redundancy	Loop redundancy and firmware redundancy.
Optional functions	Shaped screen.

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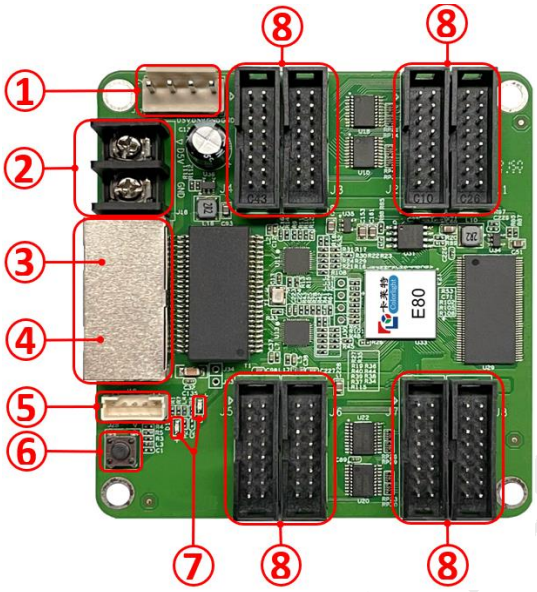
Hardware

Appearance



Interface

S/N	Name	Function	
1	Power 1	Connect to DC 3.8V~5.5V power supply for the receiving card, only use one of them.	
2	Power 2		
3	Network port A	RJ45，for transmitting data signals, dual network ports can enter and exit at will, and the system will automatically identify.	
4	Network port B		
5	External interface	For indicator light and test button.	
6	Test button	The attached test procedures can achieve four kinds of monochrome display (red, green, blue and white), as well as horizontal, vertical and other display scan modes.	
7	Power indicator light D1	Red indicator light shows that the power supply is normal.	
	Signal indicator D2	Flashes once per second	Receiving card: normal working, Ethernet cable connection: normal.
		Flashes 10 times per second	Receiving card: normal working, Cabinet: Highlight.
		Flashes 4 times per second	Receiving card: back up sender cards (Loop redundancy status).
8	HUB pins	HUB75 Interface, J1~J8 connected to display modules.	

* The product photos in this article are for reference only, and only the actual purchase shall prevail.

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Equipment Specifications

Physical Specifications	
Hardware interface	HUB75 interfaces
Ethernet port transmission rate	1Gb/s
Communication Distance	Recommended: CAT5e cable≤100m
Compatible with Transmission Equipment	Gigabit switch, Gigabit fiber converter, Gigabit fiber switch
Size	L×W×H / 86.8mm(3.42")×91.7mm(3.61")×18.4mm(0.72")
Weight	61g / 0.13lbs
Electrical specification	
Voltage	DC 3.8~5.5V，0.6A
Rated power	3.0W
Body Static Resistance	2KV
Operating environment	
Temperature	-25°C~75°C（-13°F~167°F)
Humidity	0%RH-80%RH, no condensation
Storage and transport environment	
Temperature	-40°C~125°C（-40°F~257°F)
Humidity	0%RH-90%RH, no condensation
Package information	
Packaging rules	Standard blister card tray device, 100 cards per carton.
Package size	W×H×D / 603.0mm(23.74")×463.0mm(18.23")×140.0mm(5.51")
Certification Information	
RoHS	

Definitions of HUB75

Data signal			Scanning signal			Control signal	
GD1	GND	GD2	E	B	D	LAT	GND
2	4	6	8	10	12	14	16
1	3	5	7	9	11	13	15
RD1	BD1	RD2	BD2	A	C	CLK	OE
Data signal				Scanning signal		Control signal	

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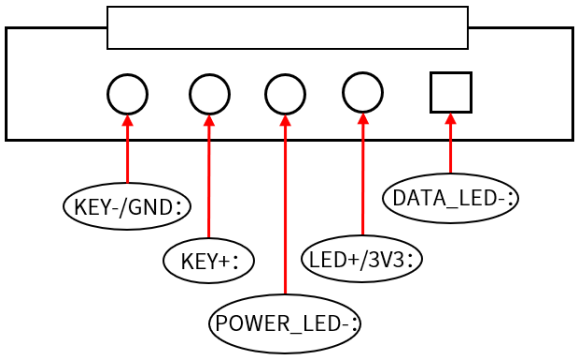
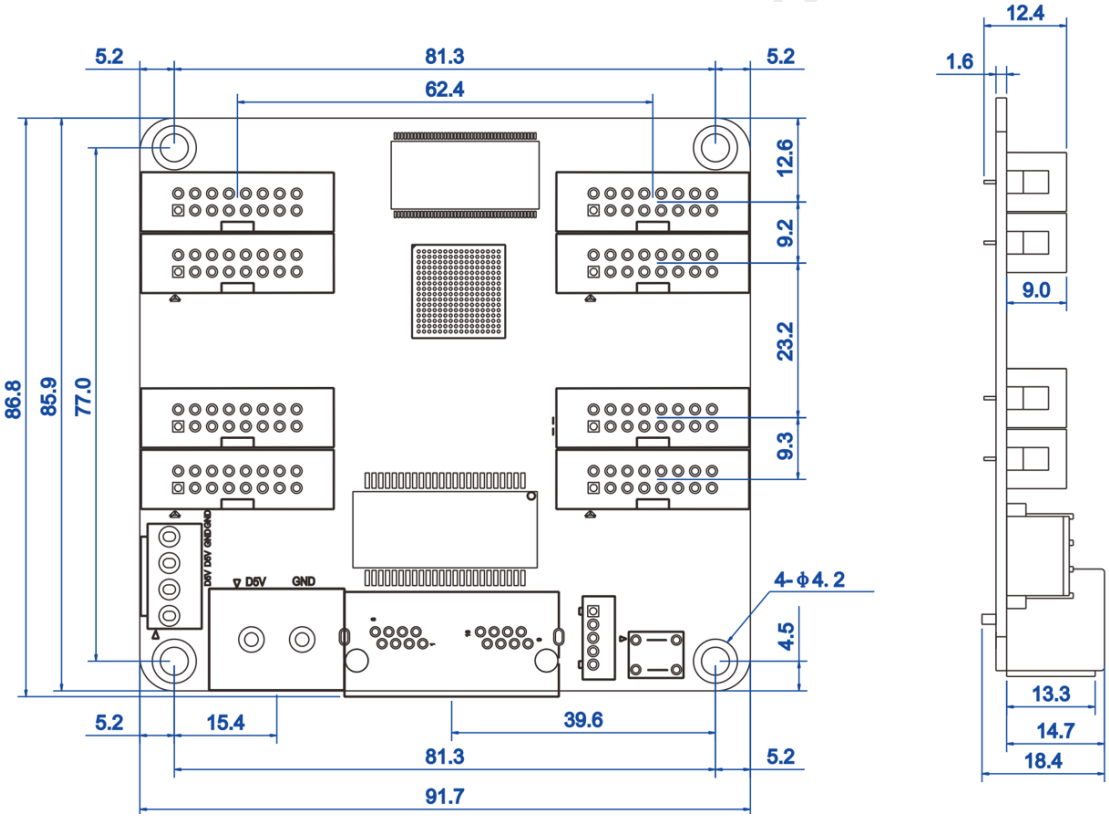
Definition of External Interface



Reference dimensions

Unit: mm

Tolerance: ±0.3mm



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