

E320

Receiving Card

Specification V2.3.2



Overview

E320 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. E320 single card can load up to 256×1024 pixels, support up to 32 groups of parallel data or 32 groups of serial data. Based on the technical advantages of conventional receiving cards, E320 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.
- Support 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.
- 7×24 h uninterrupted work.

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 can 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.

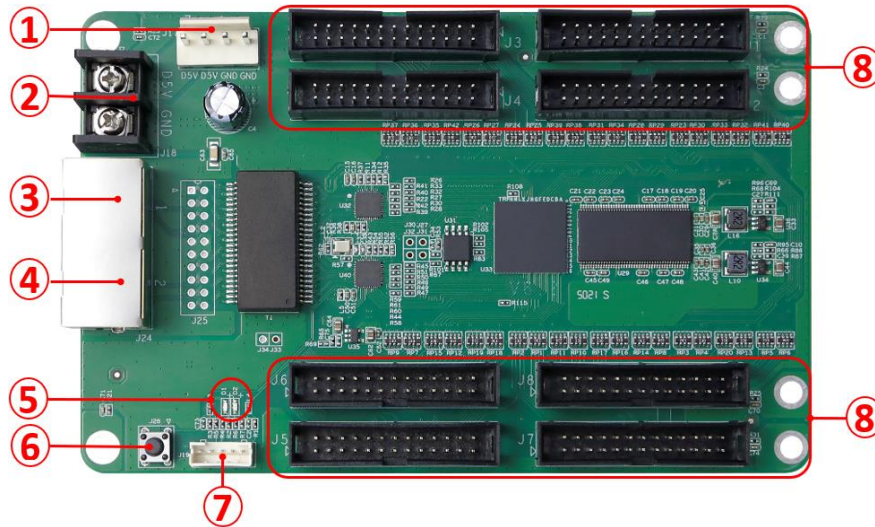
Firmware redundancy	It supports firmware program backup and can be upgraded safely. There is no need to worry about the loss of firmware program due to cable disconnection or power interruption during the upgrade process.
---------------------	---

Basic parameters

Control System Parameters	
Control Area	Normal chips: 128×1024pixels, PWM chips: 256×1024pixels, Shixin chips: 162×1024 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	32 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.

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	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).
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	External interface	For indicator light and test button.	
8	HUB pins	The signal output ports J1~J8 are connected to the display modules. For details, see the interface definition.	

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

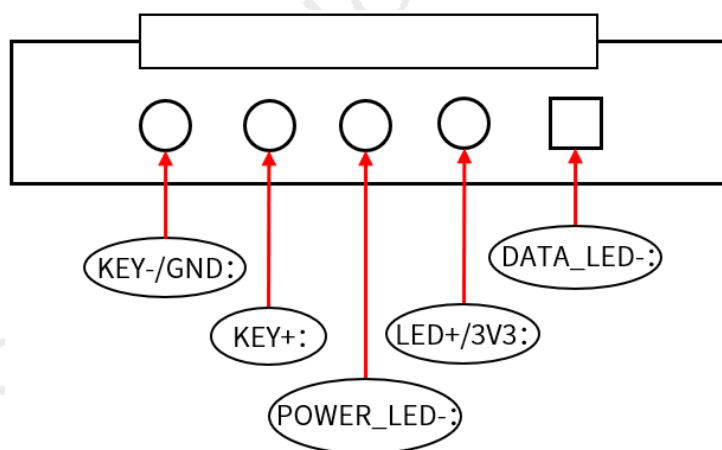
Equipment Specifications

Physical Specifications	
Hardware interface	HUB 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 / 145.2mm(5.72")×91.7mm(3.61")×18.4mm(0.72")
Weight	94g / 0.21lbs
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")×190.0mm(7.48")×501.0mm(19.72")
Certification Information	
RoHS	

Definitions of HUB

Instructions	Definition	Pin No.		Definition	Instructions
Data signal	RD1	1	2	GD1	Data signal
	BD1	3	4	GND	Ground connection
	RD2	5	6	GD2	Data signal
	BD2	7	8	GND	Ground connection
	RD3	9	10	GD3	Data signal
	BD3	11	12	GND	Ground connection
	RD4	13	14	GD4	Data signal
	BD4	15	16	GND	Ground connection
Row decoding signal	A	17	18	B	Row decoding signal
	C	19	20	D	
	E	21	22	GND	Ground connection
Serial clock	CLK	23	24	LAT	Signal lock
Display enable	OE	25	26	GND	Ground connection

Definition of External Interface



Unit: mm

Tolerance: $\pm 0.3\text{mm}$

Statement

Copyright © 2022 Colorlight Cloud Tech Ltd. . All rights reserved.

Without the express written permission of Colorlight Cloud Tech Ltd., no unit or individual may copy, copy, transcribe or translate part or all of the contents of this book. Not to be used for any commercial or profit-making purposes in any form or by any means.

 Colorlight® The logo is a registered trademark of Colorlight Cloud Tech Ltd.

Without the written permission of the company or the trademark owner, no unit or individual may in any way or for any reason use, reproduce, modify, disseminate, transcribe or infringe all or any part of the above-mentioned trademark, nor may it be bundled with other products. Use sales.

As factors such as product batches and production processes may change, in order to provide accurate product information, specification parameters, and product characteristics in order to match the actual product, the text description and picture effects in the document will be adjusted and revised appropriately. If it is necessary to carry out the above modification and adjustment without prior notice, please refer to the actual product.

Welcome to choose to use the products of Colorlight Cloud Tech Ltd. If you have any questions or suggestions in use, please contact us through official channels, we will try our best to support and listen to your valuable suggestions. For more information and updates, please visit the official website www.colorlightinside.com or scan the QR code.

Service Phone

4008 770 775

Colorlight Cloud Tech Ltd.

Official Website: www.colorlightinside.com
Head Office Address: Room 37F-39F, Building 8, Zone A,
Shenzhen International Innovation Valley, Vanke Cloud City, Dashi Yilu,
Nanshan District, Shenzhen, China

