

**[E520X]**

# LED Receiving Card

Specification Sheet

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## Update History

VERSION	DATE	CONTENT
V1.0	2026/6/17	Initial Release

## Preface

Thank you very much for purchasing our company's product. Please read this specification sheet carefully before use.

All pictures in this specification sheet are for reference only; please refer to the actual product.

The descriptions in this specification sheet may not exactly correspond to the product or its accessories you purchased. Our company reserves the right to modify any information in this specification sheet at any time and will regularly improve or update the content of this specification sheet according to product function enhancements. Updated content will be included in new versions of this specification sheet without prior notice. Thank you for your understanding.

### Icon Conventions:



INSTRUCTION

Necessary tips, supplements, and explanations will help you better understand the content described in the specification.



NOTE

The instructions and guidelines for operation will guide you to use the device more conveniently and efficiently.



WARNING

There may be potential hazards; please be aware that the device can be used safely.

## Overview

The E520X receiving card is a display driver device for LED screens. A single card can carry a maximum of 512 × 512 pixels, uses 10 standard HUB320F interfaces, supports up to 40 groups of RGB parallel data, and is highly stable and easy to install.

The E520X receiving card is compatible with various types and specifications of LED screens; its excellent image processing capabilities enable perfect image quality display on large LED screens; and its convenient operation and maintenance implementation allow for easy construction and management of LED display control systems.

## Features

### Improved Display Quality

- **Brightness and chromaticity correction:** Supports integrated brightness and chromaticity correction, performing ultra-high precision brightness and chromaticity correction on individual points to eliminate color differences and ensure consistent brightness and chromaticity across the entire screen.
- **NBIT22:** Improves the grayscale of LED screen display by 64 times compared to the original effect, enriches the details of low grayscale images, makes grayscale transitions smoother, and makes the display effect more delicate.
- **Grayscale refinement:** Utilizing our company's proprietary PWM grayscale adjustment algorithm, every grayscale level, from low to high, is rendered with fine detail and smooth transition.
- **Advanced point-to-point seam correction:** When splicing LED cabinets and modules, uneven brightness may occur at the edges. Through simple settings and adjustments, the contrast difference between bright and dark edges can be resolved, maintaining consistent screen brightness.
- **Independent gamma adjustment:** Supports independent Gamma adjustment of R, G, and B on the LED screen, enabling more precise color temperature adjustment, a wider color gamut display, and restoration of the true colors.
- **Color management:** Performs unified color gamut conversion on video signals of different formats and standards, enabling LED screens to perfectly display the true colors of various video sources.
- **HDR function:** When used with an HDR-enabled sending controller, it accurately reproduces the brightness range of an image, making the picture more realistic.
- **3D display:** When used with a 3D-enabled sending controller, it can output 3D images.

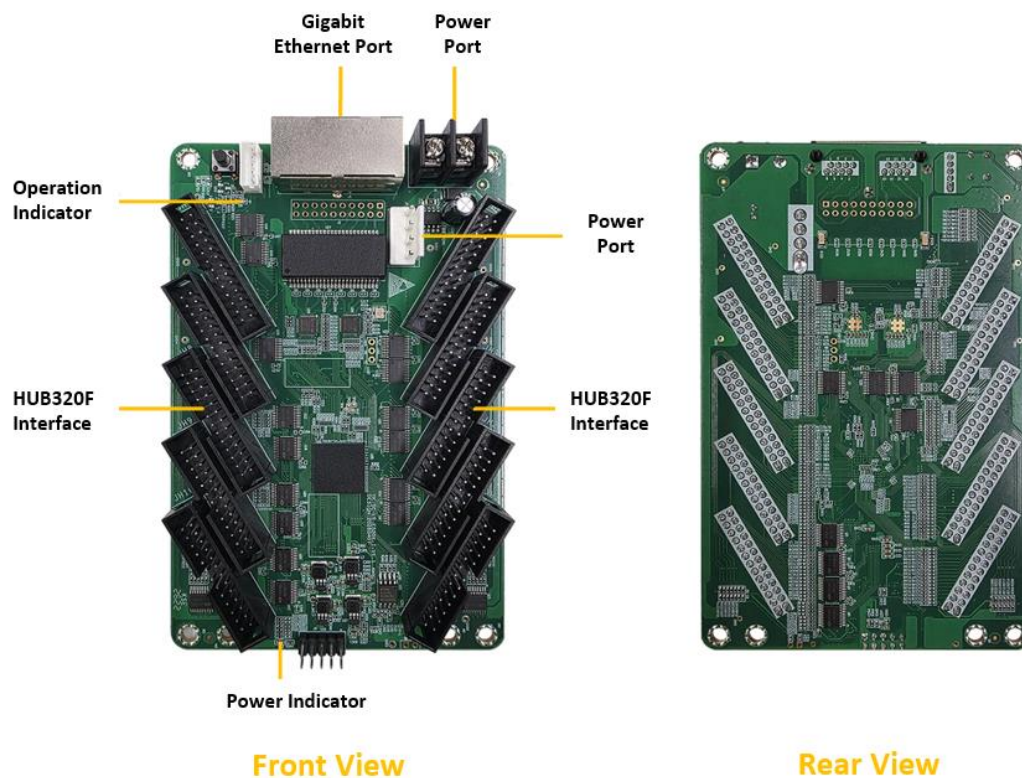
### Easy and Quick Operation

- **Screen rotation:** Supports screen rotation in multiples of 90° (0°/90°/180°/270°).
- **Pre-stored screens:** Pre-set the screen to display when the device is powered on or off to avoid black screen issues in case of malfunction.
- **Sequence function:** Displays the sending controller number, sending controller network port number, receiving card number, and receiving card signal input network port number on the cabinet, and obtains all screen layout information.

## Stable and Reliable Performance

- **Device monitoring:** Supports monitoring of receiving card temperature, voltage, communication status and abnormal alarms, realizing intelligent equipment operation and maintenance.
- **Automatic module calibration:** When replacing a module, the calibration coefficient is automatically applied without reconfiguration, making it simple and quick.
- **Correction coefficient backup:** The correction coefficients are stored in both the factory area and the application area of the receiving card. The correction coefficients in the application area are used by default. When needed, the correction coefficients in the factory area can be restored to the application area.
- **Loop backup:** A loop hot standby can be achieved between the receiving card and the sending controller via a network cable to minimize the impact of failure.
- **Firmware backup:** Supports firmware backup to ensure upgrade security and prevent problems with the receiving card due to upgrade anomalies.
- **Firmware program readback:** Supports reading back the firmware program and configuration parameters of the receiving card and saving them locally to avoid repeated operations.

## Appearance

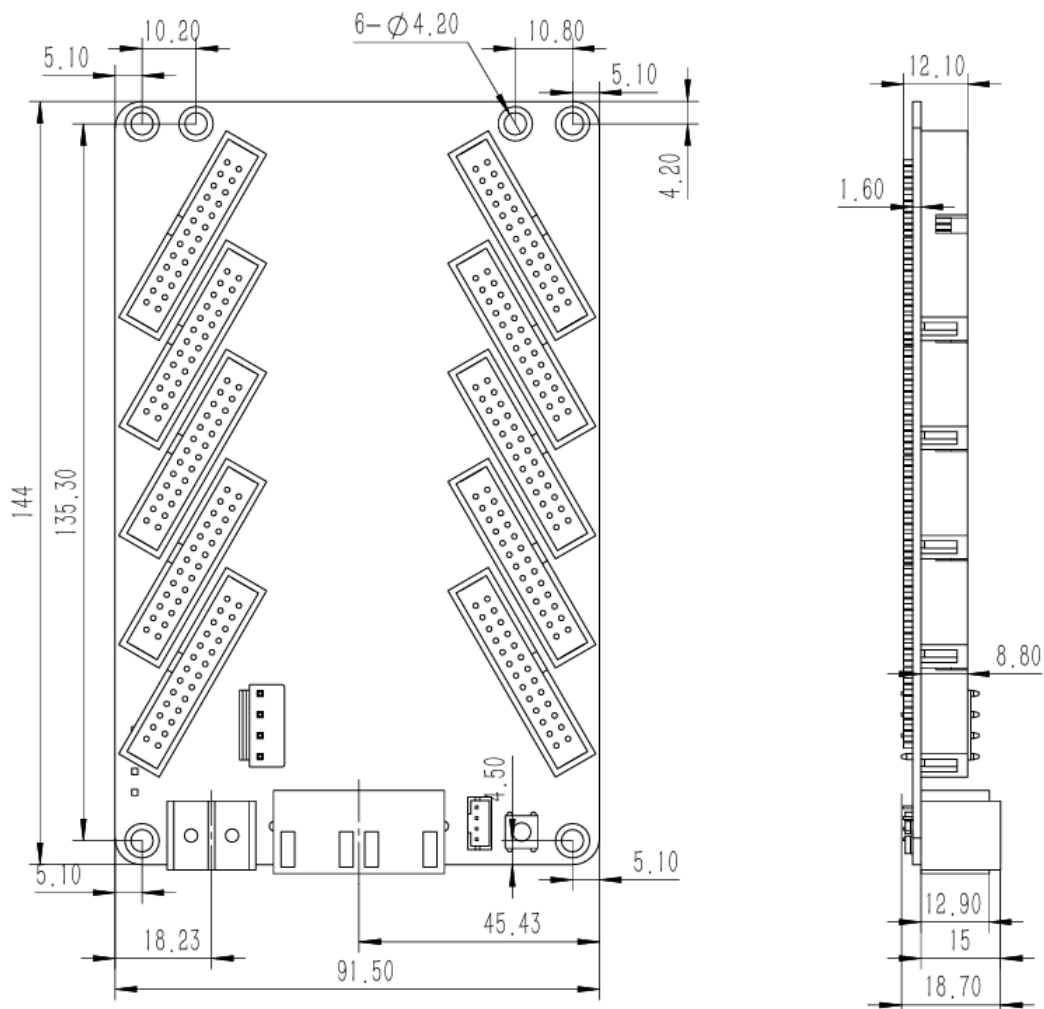


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## Indicator Light

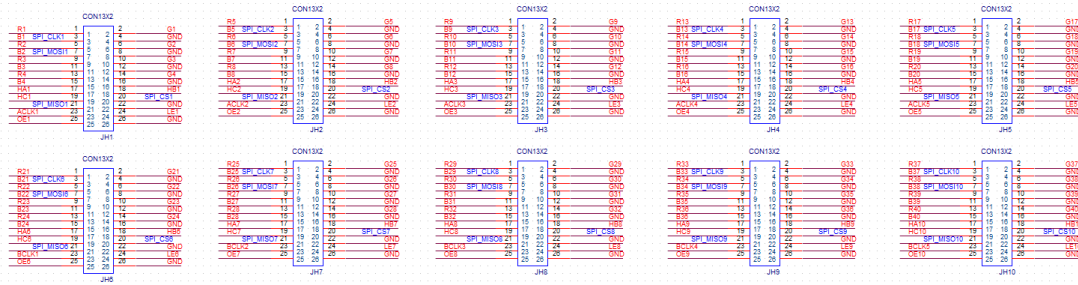
INDICATOR	COLOR	STATUS	DESCRIPTION
Power Indicator	Red	Steady On	Normal power input
Operation Indicator	Green	Steady On	No signal
		Flashes once every 1.5s	Network cable connected, signal input via Port A
		Flashes twice every 1.5s	Network cable connected, signal input via Port B
		Flashes 3 times every 1.5s	Network cable connected, hot standby mode for Port A & B
		Rapid continuous flashing	Backup program working

## Dimensions



Unit: mm

## Data Interface Diagram



Data Interface Definition (Take JH1 as an example)

/	R1	1	2	G1	/
B1/Serial Interface Clock Signal	B1/SPI_CLK1	3	4	GND	/
/	R2	5	6	G2	/
B2/Panel Flash Input Signal	B2/SPI_MOSI1	7	8	GND	/
/	R3	9	10	G3	/
/	B3	11	12	GND	/
/	R4	13	14	G4	/
/	B4	15	16	GND	/
Row Decode Signal	HA1	17	18	HB1	Row Decode Signal
Row Decode Signal	HC1	19	20	SPI_CS1	Serial Interface CS Signal
Panel Flash Output Signal	SPI_MISO1	21	22	GND	/
Shift Clock	ACLK1	23	24	LE1	Latch Signal
Display Enable Signal	OE1	25	26	GND	/

## Specifications

SPECIFICATION	DESCRIPTION	
Load Capacity	512 × 512 pixels	
Electrical	Input Voltage	DC 3.8 V – 5.5 V
	Rated Current	0.7 A
	Rated Power	3.8 W
Operating	Temperature	-20 °C to +70 °C
	Humidity	10% RH – 90% RH, non-condensing
Storage	Temperature	-25 °C to +125 °C
	Humidity	0% RH – 95% RH, non-condensing
Physical	Dimensions	91.5 mm × 144 mm × 18.7 mm
	Net Weight	99 g (weight of a single card)
Packaging	Card Packaging	Single-card blister packaging
	Packaging Dimensions	167 mm × 108 mm × 20 mm
	Outer Packaging	Blister packaging for cards, max. 100 cards per carton
	Carton Dimensions	600 mm × 500 mm × 200 mm

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