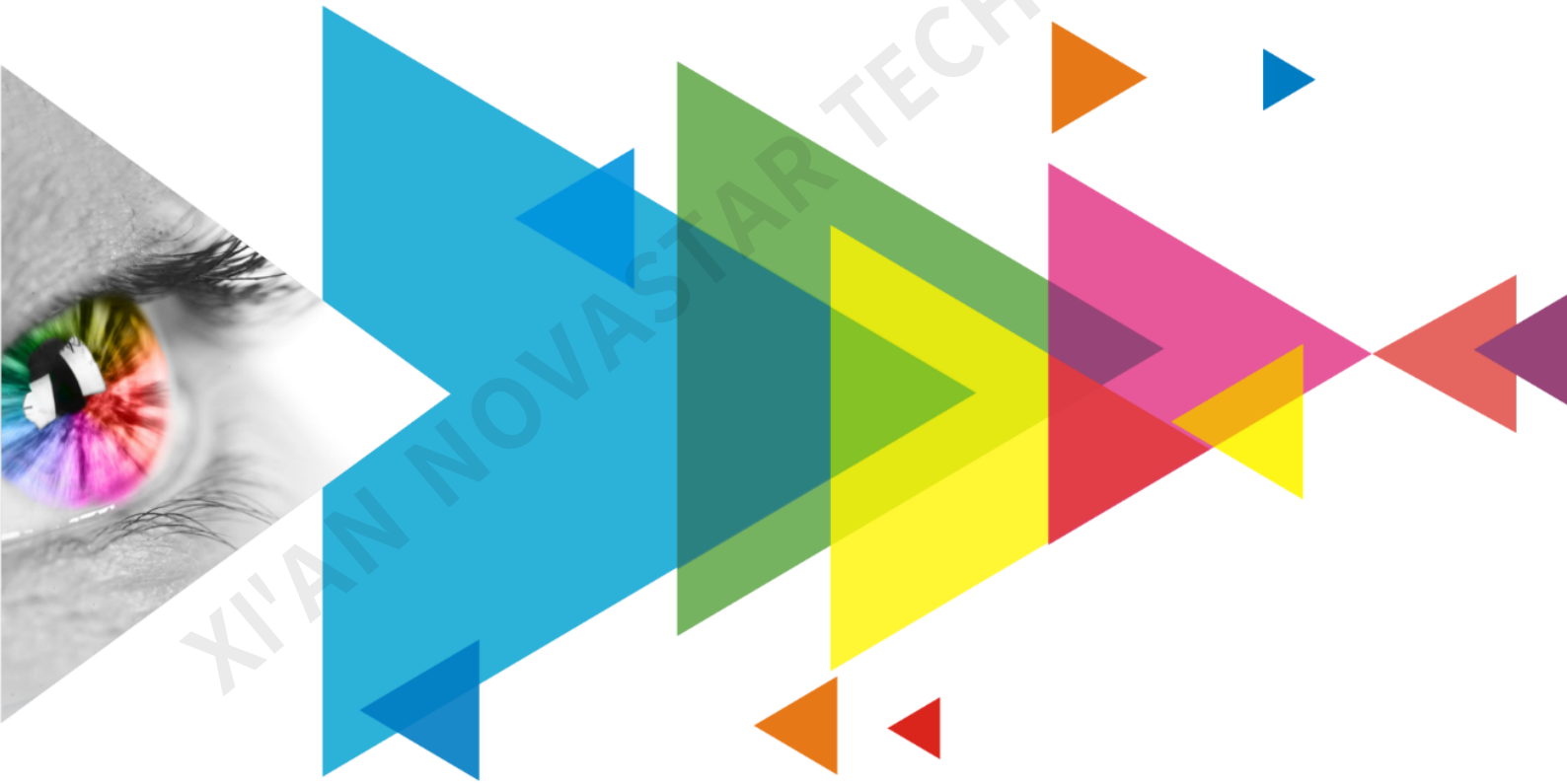
MRV328

Receiving Card



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Specifications

Change History

Document Version	Release Date	Description
V1.2.7	2022-12-27	• Updated the description of the maximum resolution. • Updated the dimensions diagram.
V1.2.6	2022-08-31	• Added the table of appearance description. • Updated the input voltage. • Updated the packing information.
V1.2.5	2022-03-26	• Added the dimensions diagram description. • Updated the certifications description. • Updated the pins section.
V1.2.4	2021-08-25	• Updated the description of features. • Updated the appearance diagram. • Added the certification related description.
V1.2.3	2021-02-06	• Updated the product introduction. • Updated the certification information.
V1.2.2	2020-09-11	• Optimized the product introduction. • Optimized the feature description. • Optimized the legends in the appearance diagram. • Optimized the indicator description. • Optimized the dimensions diagram. • Added the pin description.

Introduction

The MRV328 is a general receiving card that supports up to 1/32 scan. For PWM driver ICs, a single MRV328 supports resolutions up to 256×256@60Hz. Supporting various functions such as pixel level brightness and chroma calibration, quick adjustment of dark or bright lines, and 3D, the MRV328 can significantly improve the display effect and user experience.

The MRV328 uses 8 standard HUB75E connectors for communication, resulting in high stability. It supports up to 16 groups of parallel RGB data. Thanks to its EMC compliant hardware design, the MRV328 has improved electromagnetic compatibility and is suitable for various on-site setups.

Certifications

RoHS, EMC Class A

If the product does not have the relevant certifications required by the countries or regions where it is to be sold, please contact NovaStar to confirm or address the problem. Otherwise, the customer shall be responsible for the legal risks caused or NovaStar has the right to claim compensation.

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Features

Improvements to Display Effect

- Pixel level brightness and chroma calibration
  Work with NovaStar's high-precision calibration system to calibrate the brightness and chroma of each pixel, effectively removing brightness differences and chroma differences, and enabling high brightness consistency and chroma consistency.
- 3D function
  Working with the sending card that supports 3D function, the receiving card supports 3D output.
- Quick adjustment of dark or bright lines
  The dark or bright lines caused by splicing of modules or cabinets can be adjusted to improve the visual experience. The adjustment is easy and takes effect immediately.

Improvements to Maintainability

- Quick uploading of calibration coefficients
  Upload the calibration coefficients quickly to the receiving cards to improve efficiency.
- Setting of a pre-stored image in receiving card
  The image displayed during startup, or displayed when the Ethernet cable is disconnected or there is no video signal can be customized.
- Temperature and voltage monitoring
  The receiving card temperature and voltage can be monitored without using peripherals.
- Cabinet LCD
  The LCD module connected to the cabinet can display the temperature, voltage, single run time and total run time of the receiving card.
- Bit error detection
  The Ethernet port communication quality of the receiving card can be monitored and the number of erroneous packets can be recorded to help troubleshoot network communication problems.

  NovaLCT V5.2.0 or later is required.
- Firmware program readback
  The receiving card firmware program can be read back and saved to the local computer.

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- Configuration parameter readback
  The receiving card configuration parameters can be read back and saved to the local computer.

Improvements to Reliability

- Loop backup
  The receiving card and sending card form a loop via the primary and backup line connections. When a fault occurs at a location of the lines, the screen can still display the image normally.
- Dual program backup
  Two copies of firmware program are stored in the application area of the receiving card at the factory to avoid the problem that the receiving card may get stuck abnormally during program update.

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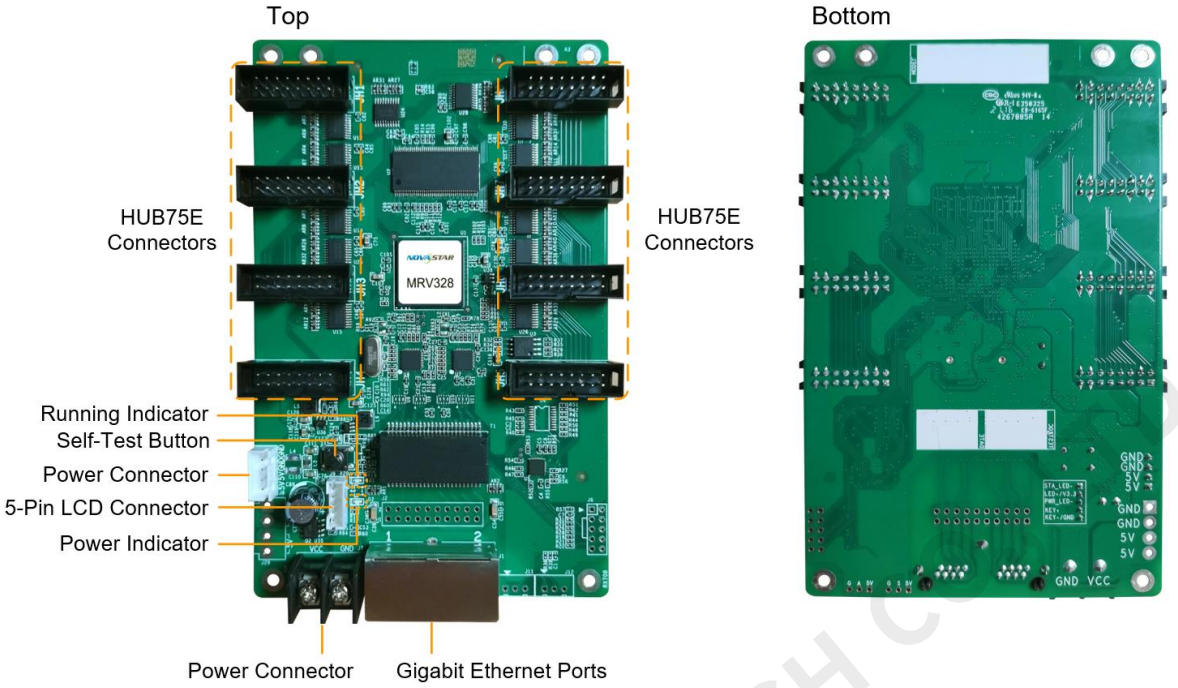
Appearance



All product pictures shown in this document are for illustration purpose only. Actual product may vary.

Name	Description
HUB75E Connectors	Connect to the module.
Power Connector	Connect to the input power. Either of the connectors can be chosen.
Gigabit Ethernet Ports	Connect to the sending card, and cascade other receiving cards. Each connector can be used as input or output.
Self-Test Button	Set the test pattern. After the Ethernet cable is disconnected, press the button twice, and the test pattern will be displayed on the screen. Press the button again to switch the pattern.
5-Pin LCD Connector	Connect to the LCD.

Indicators

Indicator	Color	Status	Description
Running indicator	Green	Flashing once every 0.5s	The receiving card is functioning normally. Ethernet cable connection is normal, and video source input is available.
		Flashing once every 3s	Ethernet cable connection is abnormal.
		Flashing 3 times every 1s	Ethernet cable connection is normal, but no video source input is available.
		Flashing once every 0.2s	The receiving card failed to load the program in the application area and is now using the backup program.
Power indicator	Red	Always on	The power supply is normal.

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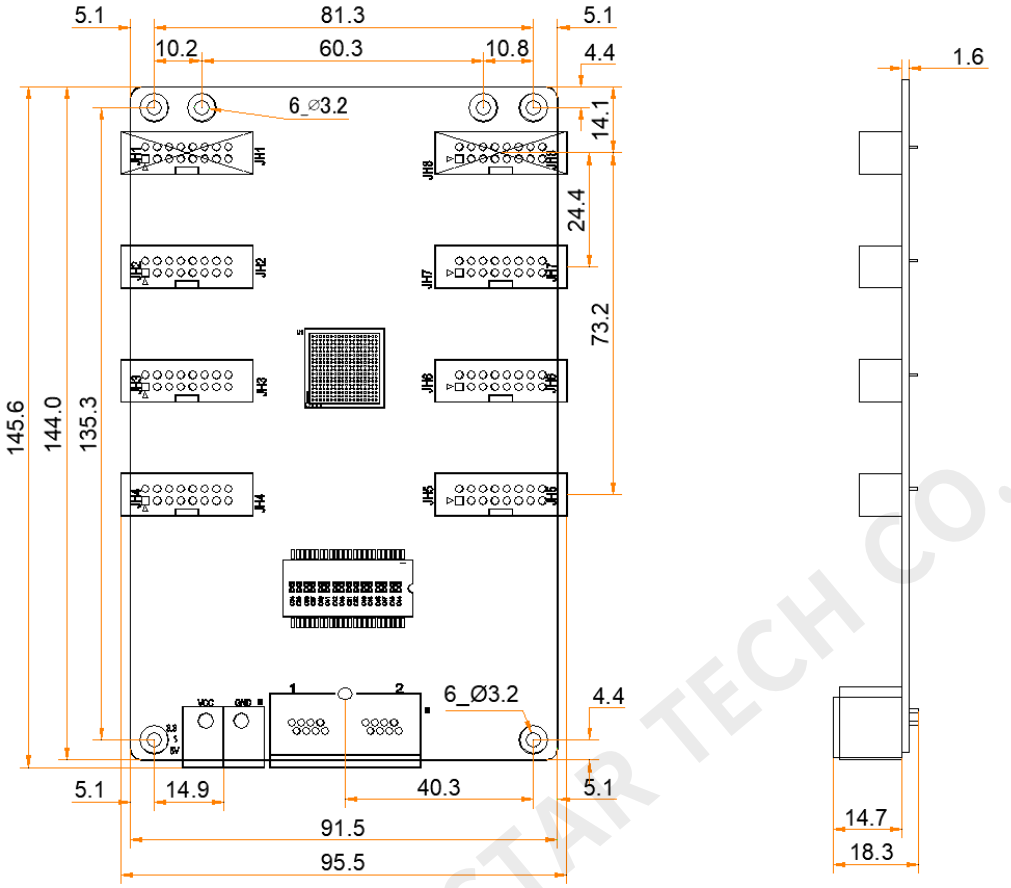
Dimensions

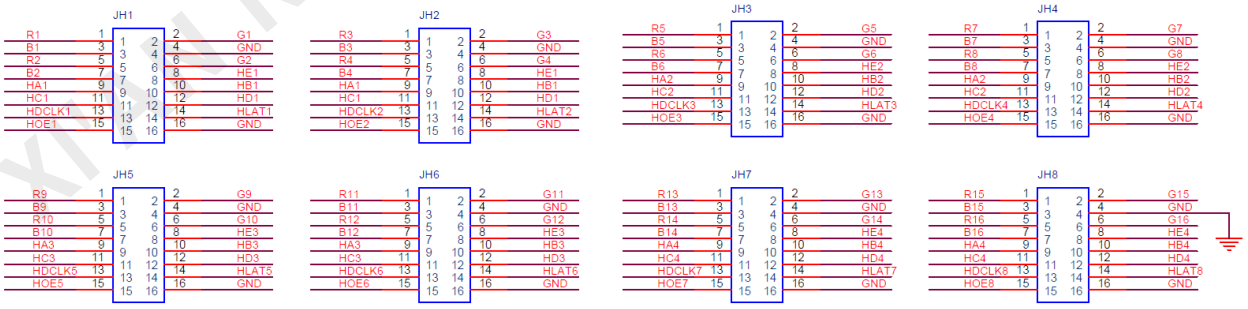
The board thickness is not greater than 2.0 mm, and the total thickness (board thickness + thickness of components on the top and bottom sides) is not greater than 19.0 mm. Ground connection (GND) is enabled for mounting holes.



Tolerance: ±0.3 Unit: mm

To make molds or trepan mounting holes, please contact NovaStar for a higher-precision structural drawing.

Pins



Pin Definitions (Take JH1 as an example)					
/	R1	1	2	G1	/
/	B1	3	4	GND	Ground
/	R2	5	6	G2	/
/	B2	7	8	HE1	Line decoding signal
Line decoding signal	HA1	9	10	HB1	Line decoding signal
Line decoding signal	HC1	11	12	HD1	Line decoding signal
Shift clock	HDCLK1	13	14	HLAT1	Latch signal
Display enable signal	HOE1	15	16	GND	Ground

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Specifications

Maximum Resolution	256×256@60Hz (PWM driver ICs)	
Electrical Specifications	Input voltage	DC 3.8 V to 5.5 V
	Rated current	0.5 A
	Rated power consumption	2.5 W
Operating Environment	Temperature	–20°C to +70°C
	Humidity	10% RH to 90% RH, non-condensing
Storage Environment	Temperature	–25°C to +125°C
	Humidity	0% RH to 95% RH, non-condensing
Physical Specifications	Dimensions	145.6 mm × 95.5 mm × 18.3 mm
	Net weight	85.5 g
Packing Information	Packing specifications	Each receiving card is packaged in a blister pack. Each packing box contains 100 receiving cards.
	Packing box dimensions	625.0 mm × 180.0 mm × 470.0 mm

The amount of current and power consumption may vary depending on various factors such as product settings, usage, and environment.

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