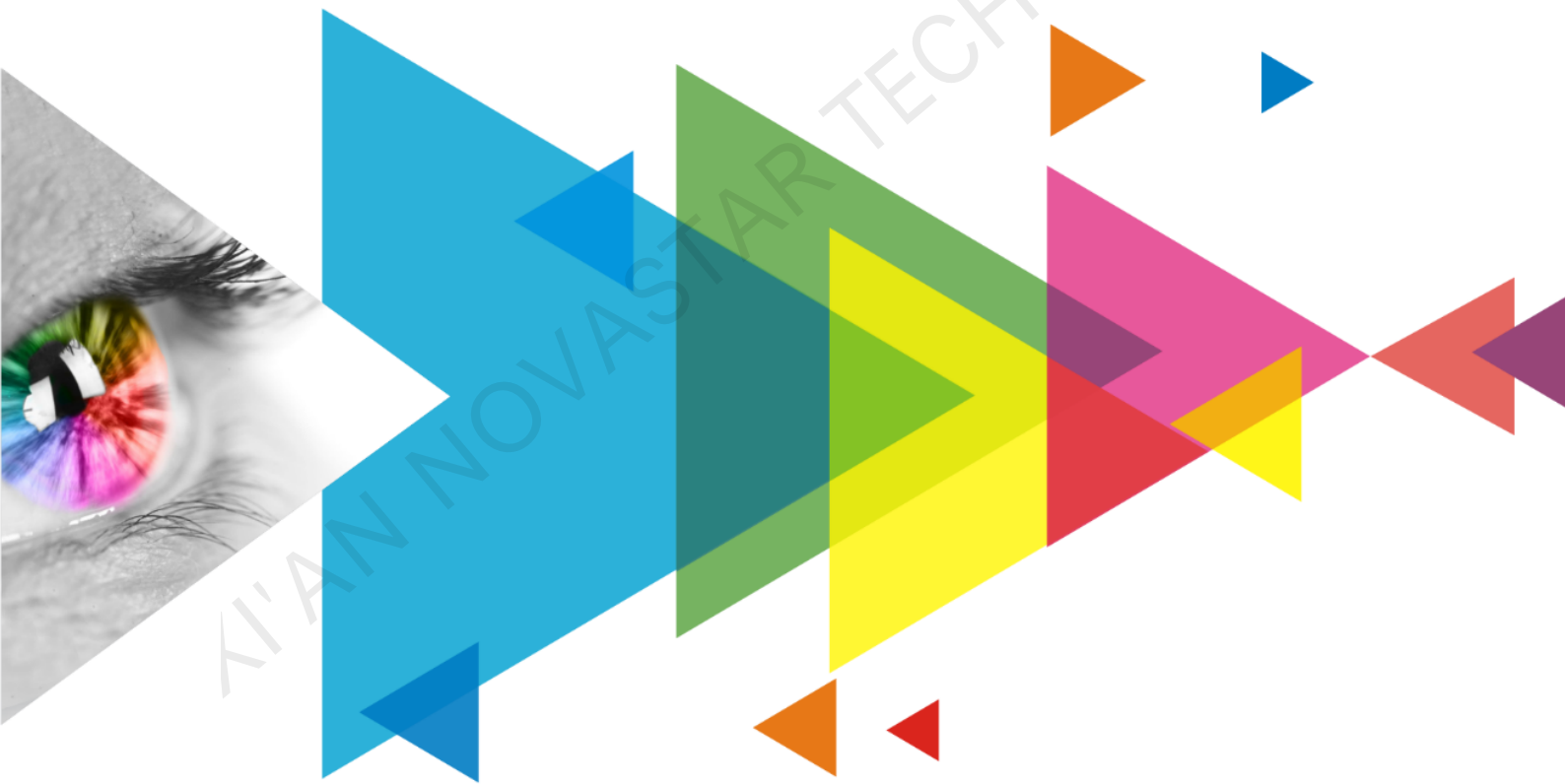


# MRV208

## Receiving Card



Specifications

## Change History

Document Version	Release Date	Description
V1.0.2	2022-03-26	<ul style="list-style-type: none"> <li>Added the feature of quick uploading of calibration coefficients.</li> <li>Added the dimensions diagram description.</li> <li>Updated the certifications description.</li> <li>Updated the pins section.</li> </ul>
V1.0.1	2019-09-18	<ul style="list-style-type: none"> <li>Optimized the product introduction.</li> <li>Optimized the feature description.</li> <li>Optimized the legends in the appearance diagram.</li> <li>Optimized the indicator description.</li> <li>Optimized the dimensions diagram.</li> </ul>
V1.0.0	2019-08-01	First release

## Introduction

The MRV208 is a general receiving card developed by NovaStar. A single MRV208 supports resolutions up to 256x256@60Hz. Supporting various functions such as pixel level brightness and chroma calibration, quick adjustment of dark or bright lines, and 3D, the MRV208 can significantly improve the display effect and user experience.

The MRV208 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 MRV208 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.**

## 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.
- Quick adjustment of dark or bright lines  
The dark or bright lines caused by splicing of modules and cabinets can be adjusted to improve the visual experience. The adjustment can be easily made and takes effect immediately.
- 3D function  
Working with the sending card that supports 3D function, the receiving card supports 3D image output.

### Improvements to Maintainability

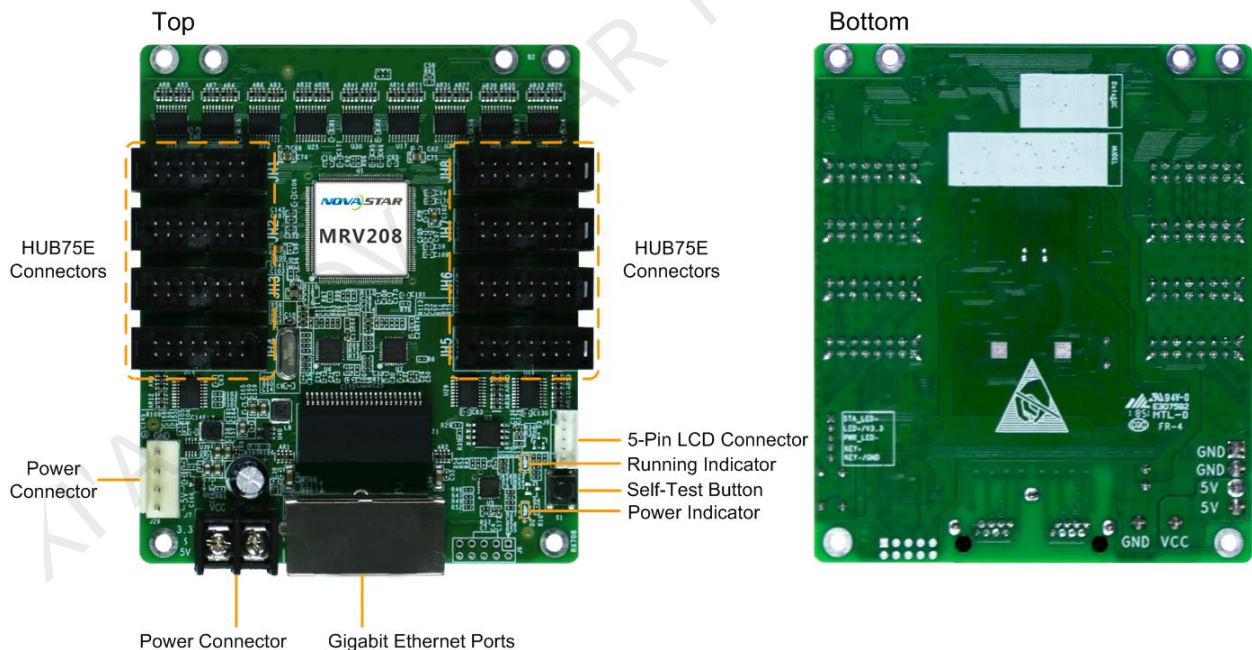
- Quick uploading of calibration coefficients  
The calibration coefficients can be quickly uploaded to the receiving card, improving efficiency greatly
- Mapping function  
The cabinets can display the receiving card number and Ethernet port information, allowing users to easily obtain the locations and connection topology of receiving cards.

- Setting of a pre-stored image in receiving card  
The image displayed on the screen 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 of 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.  
NovaLCT V5.2.0 or later is required.
- 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 main and backup line connections. If a fault occurs at a location of the lines, the screen can still display the image normally.
- Dual backup of configuration parameters  
The receiving card configuration parameters are stored in the application area and factory area of the receiving card at the same time. Users usually use the configuration parameters in the application area. If necessary, users can restore the configuration parameters in the factory area to the application area.
- 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.

## Appearance



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

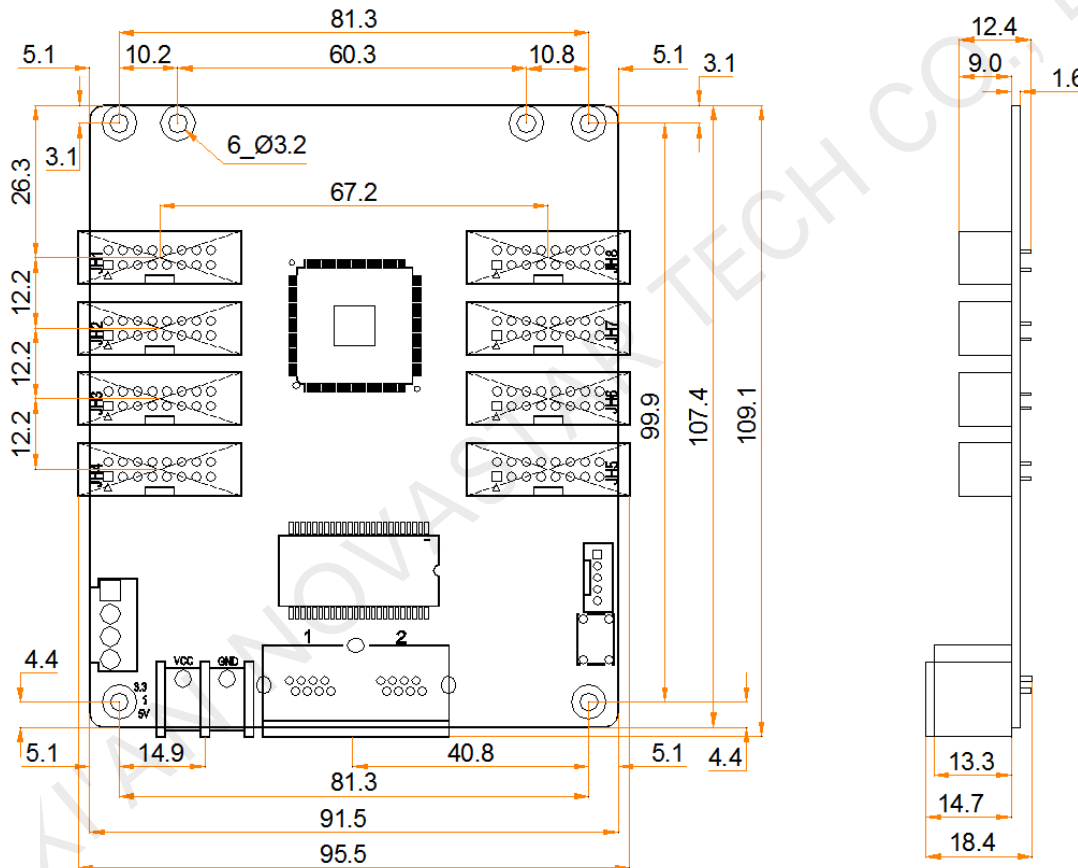
## Indicators

Indicator	Color	Status	Description
Running indicator	Green	Flashing once every 1s	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.

Indicator	Color	Status	Description
		Flashing 3 times every 0.5s	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.
		Flashing 8 times every 0.5s	A redundancy switchover occurred on the Ethernet port and the loop backup has taken effect.
Power indicator	Red	Always on	The power supply is normal.

## Dimensions

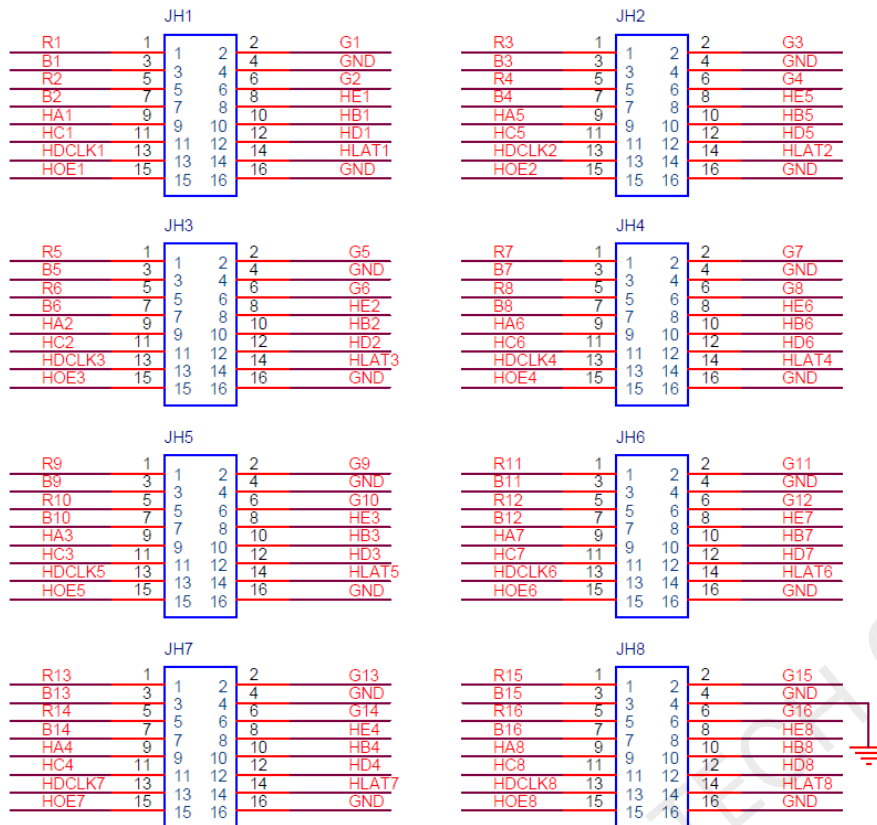
The board thickness is not greater than 2.0 mm, and the total thickness (board thickness + thickness of components on the top and bottom sides) is not greater than 19.0 mm. Ground connection (GND) is enabled for mounting holes.



Tolerance:  $\pm 0.3$  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

## Specifications

Maximum Resolution	256x256@60Hz	
Electrical Specifications	Input voltage	DC 3.3 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	Dimensions	95.5 mm × 109.1 mm × 18.4 mm

Specifications	Net weight	72.4 g
Packing Information	Packing specifications	An antistatic bag and anti-collision foam are provided for each receiving card. Each packing box contains 100 receiving cards.
	Packing box dimensions	650.0 mm × 500.0 mm × 200.0 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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