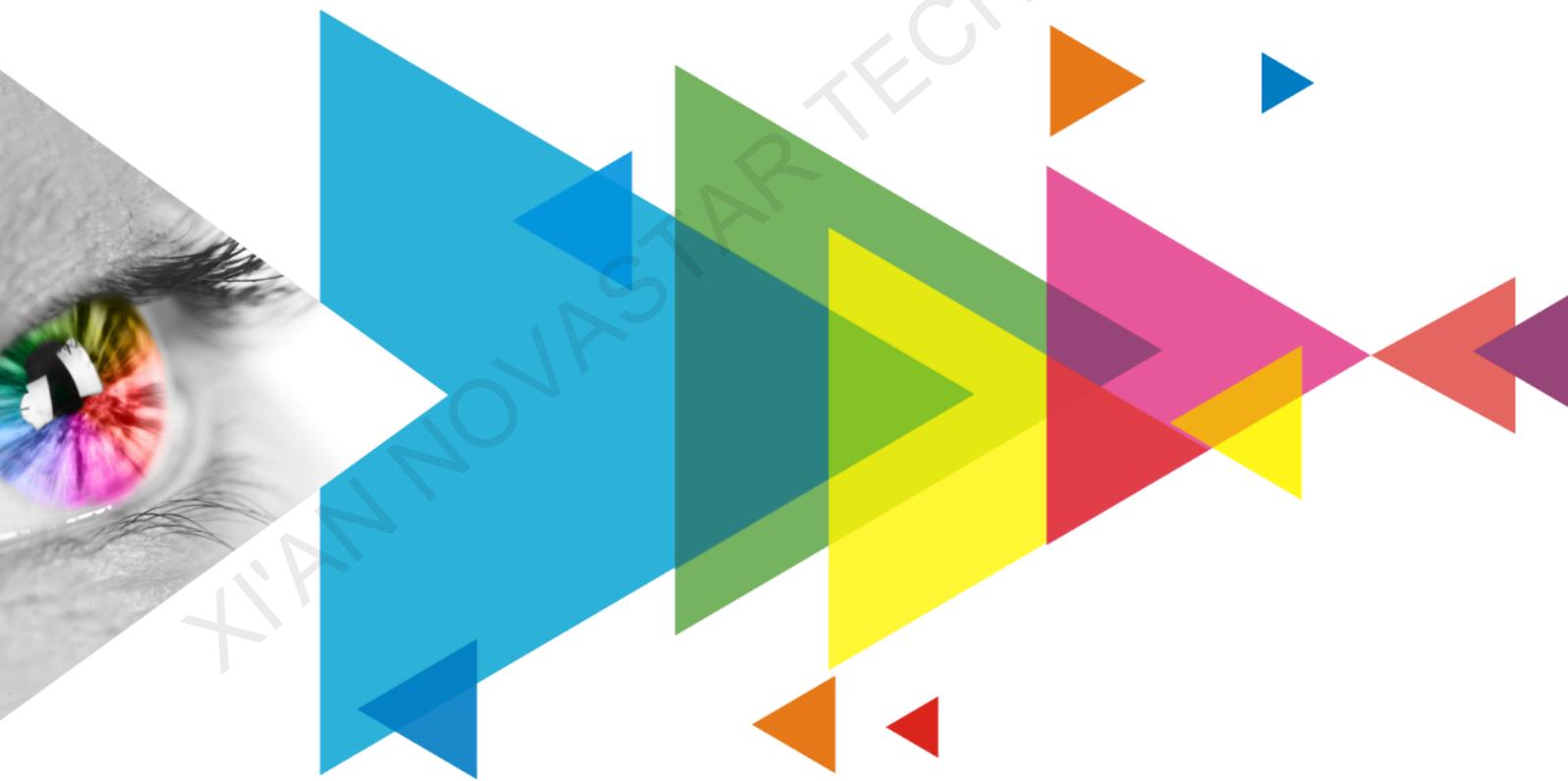


MRV208 Receiving Card

V1.0.0 NS110100818



Specifications

Change History

| Document Version | Firmware Version | Release Date | Description |
|------------------|------------------|--------------|---------------|
| V1.0.0 | V4.5.1.0 | 2019-08-01 | First release |

Introduction

The MRV208 is a general receiving card developed by NovaStar. A single MRV208 can load up to 256×256 pixels. With various functions such as 12-bit precision pixel level brightness and chroma calibration, 3D function, and Mapping function, the MRV208 can improve the display effect and user experience.

The MRV208 uses 8 standard HUB75 connectors, resulting in high stability and reliability. It also supports up to 16 sets of parallel RGB data, applicable to many applications.

On-site setup, operation, and maintenance were all taken into account when designing the hardware and software of the MRV208, allowing for an easier setup, more stable operation, and more efficient maintenance.

Features

Improvement to Display Effect

- Pixel level brightness and chroma calibration
Working with NovaLCT and NovaCLB, the receiving card supports 12-bit precision brightness and chroma calibration on each LED, which can effectively remove color discrepancies and greatly improve LED display brightness and chroma consistency, allowing for better image quality.
- Quick seam correction
Working with NovaLCT, the receiving card supports quick adjustment of bright and dark lines caused by splicing of cabinets and modules. This function is easy to use and the adjustment can take effect immediately.
- 3D function
Working with the independent controller which supports 3D function, users can enable the 3D function in NovaLCT or on operation panel of the controller, and set 3D parameters to allow for 3D display effects.

Improvements to Maintainability

- Mapping function
After the Mapping function is enabled in NovaLCT, target cabinet will display the receiving card number and Ethernet port information of sending device, allowing user to easily obtain the location and wiring route of receiving card.
- Setting of pre-stored image on receiving card
In NovaLCT, a specified image can be set as the LED screen startup image or as the image to be displayed on LED screen when the Ethernet cable is disconnected or no video source signal is available.

- Voltage and temperature monitoring
The voltage and temperature of the receiving card can be monitored without using peripherals. The monitoring data can be checked in NovaLCT.
- Cabinet LCD
The receiving card supports LCD of cabinet. The LCD can display temperature, voltage, single operating time and total operating time of the receiving card.
- Bit error rate monitoring
The receiving card can work with NovaLCT (V5.2.0 or later) to monitor the network communication quality between sending device and receiving card, or between receiving cards, and record the number of errors to help troubleshoot network communication problems.
- Readback of firmware program
In NovaLCT, the receiving card firmware program can be read back and saved to local computer.
- Readback of configuration parameters
In NovaLCT, the receiving card configuration parameters can be read back and saved to local computer.

Improvements to Reliability

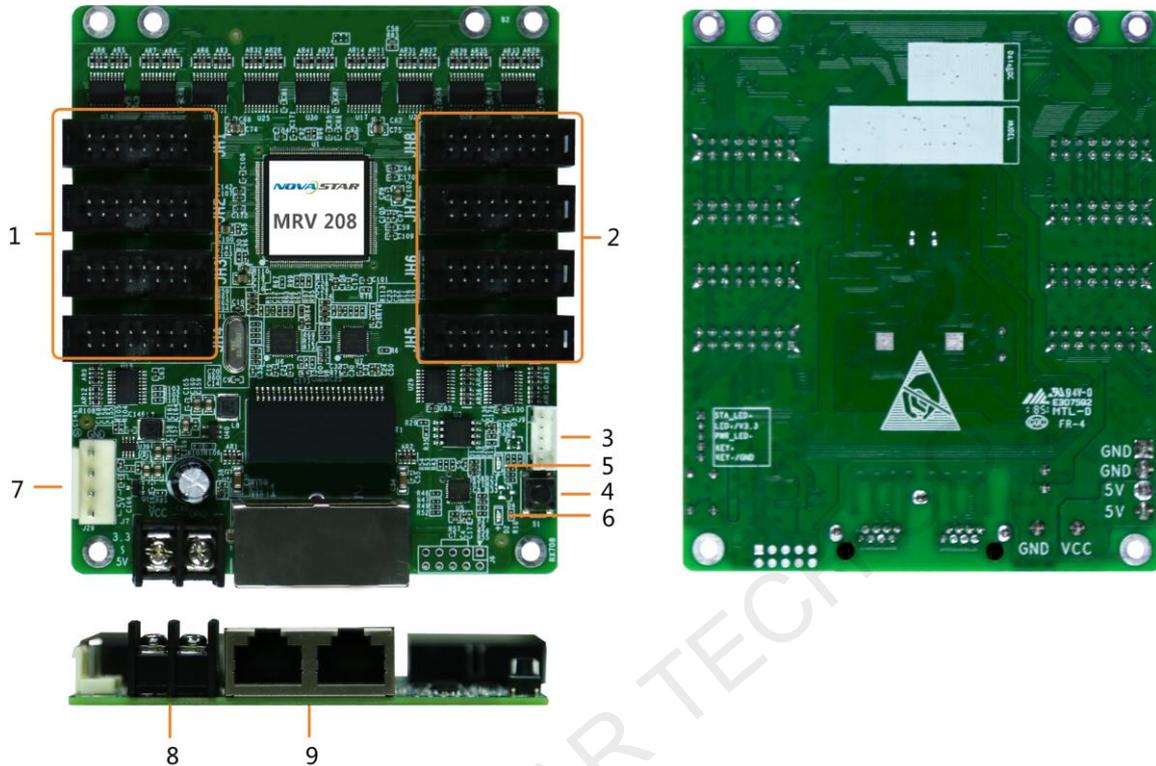
- Loop backup
The receiving card can improve the reliability for cascading of receiving cards through main and backup redundant mechanism. If either main or backup cascading lines fail, the other will begin to work to ensure uninterrupted operation of the display.
- Dual backup of configuration parameters

Two copies of receiving card configuration parameters can be saved in receiving card via NovaLCT and one copy serves as backup.

Two copies of application programs are saved in the receiving card at the factory to avoid the problem that the receiving card may get stuck due to program update exception.

- Dual backup of program

Appearance



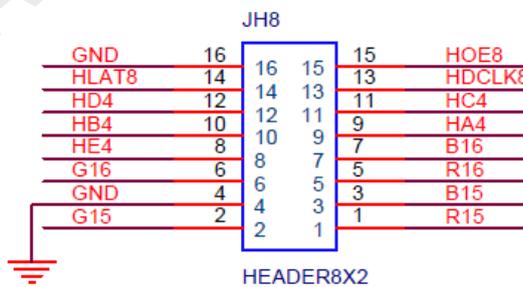
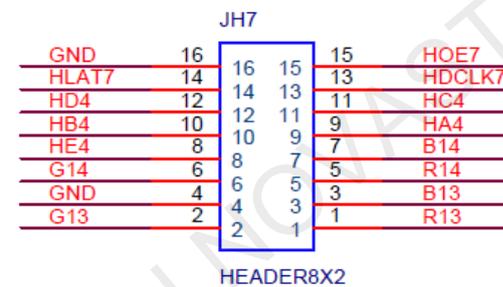
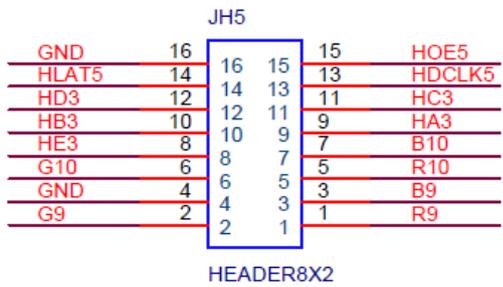
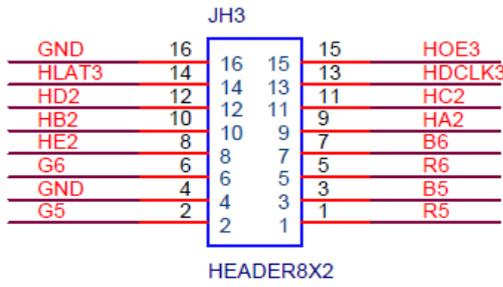
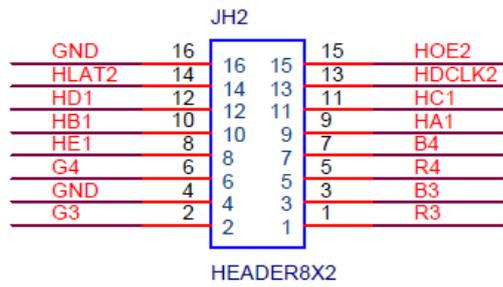
All product pictures shown in this document are for illustration purpose only. Actual product may vary.

| | | | | |
|-------------|---------------------|---------------------|------------------|-----------------------|
| No. | 1/2 | 3 | 4 | 5 |
| Type | HUB75 connector | 5-pin LCD connector | Self-test button | D1, status indicator |
| No. | 6 | 7 | 8 | 9 |
| Type | D2, power indicator | Power connector | Power connector | Gigabit Ethernet port |

Indicator Status

| Indicator | Status | Description |
|--------------------------|-------------------------------------|--|
| Status indicator (Green) | Flashing once every other 0.5s | Receiving card is functioning normally. Ethernet cable connection is normal, and video source input is available. |
| | Flashing once every other 3s | Receiving card is functioning normally, but Ethernet cable connection is abnormal. |
| | Flashing for 3 times every other 1s | Receiving card is functioning normally. Ethernet cable connection is normal, but no video source input is available. |
| | Flashing once every other 0.2s | Program loading fails in normal operating state, currently loading backup operating program. |
| | Flashing for 8 times every other 1s | Sending card's backup Ethernet port is now active. Receiving card is functioning normally. |

Pins



| Pin Definition | | | | | |
|----------------------|-----|----|----|------|----------------------|
| Ground | GND | 16 | 15 | OE | Display enable |
| Latch signal | LAT | 14 | 13 | DCLK | Shift clock |
| Line decoding signal | HD | 12 | 11 | HC | Line decoding signal |
| Line decoding signal | HB | 10 | 9 | HA | Line decoding signal |
| Line decoding signal | HE | 8 | 7 | B | / |
| / | G | 6 | 5 | R | / |
| Ground | GND | 4 | 3 | B | / |
| / | G | 2 | 1 | R | / |

Specifications

| | | |
|----------------------------------|-------------------------|--|
| Maximum Loading Capacity | 256×256 pixels | |
| Electrical Specifications | Input voltage | DC 3.3 V–5.0 V |
| | Rated current | 0.5 A |
| | Rated power consumption | 2.5 W |
| Operating Environment | Temperature | -20°C to +70°C |
| | Humidity | 10% RH–90% RH, non-condensing |
| Storage Environment | Temperature | -25°C to +125°C |
| | Humidity | 0% RH–95% RH, non-condensing |
| Physical Specifications | Dimensions | 95.5 mm × 109.1 mm × 17.2 mm |
| | 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 |
| Certifications | RoHS | |

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