

# DH7508-S

Receiving Card



## Specifications

## Change History

Document Version	Release Date	Description
V1.2.1	2024-07-25	Added 3D.
V1.2.0	2024-07-05	<ul style="list-style-type: none"><li>• Added seam correction with mobile phones.</li><li>• Updated the load capacity information.</li><li>• Deleted 3D.</li></ul>
V1.1.0	2024-06-14	Deleted support for settings of a stored image in the receiving card.
V1.0.3	2023-12-30	Updated product feature descriptions.
V1.0.2	2023-03-25	<ul style="list-style-type: none"><li>• Updated the loading capacity.</li><li>• Updated the dimensions diagram.</li></ul>
V1.0.1	2022-08-31	<ul style="list-style-type: none"><li>• Added the table of appearance description.</li><li>• Updated the input voltage.</li><li>• Updated the packing Information.</li></ul>

## Introduction

The DH7508-S is a cost-effective receiving card developed by Xi'an NovaStar Tech Co., Ltd. (hereinafter referred to as NovaStar). For PWM driver ICs, a single DH7508-S supports resolutions up to 512×512@60Hz. For common driver ICs, a single DH7508-S supports resolutions up to 512×384@60Hz. Supporting various functions such as Brightness Calibration, Seam Correction with Mobile Phones, Quick Adjustment of Dark or Bright Lines, 3D, Individual Gamma Adjustment for RGB, and 90° Image Rotation, the DH7508-S can significantly improve the display effect and user experience.

The DH7508-S uses 8 standard HUB75E connectors for high stability communication and supports up to 16 groups of parallel RGB data. Thanks to its EMC compliant hardware design, the MRV432 has improved electromagnetic compatibility and is suitable to 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

- Brightness Calibration

Work with NovaStar's high-precision calibration system to calibrate the brightness of each pixel, effectively removing brightness differences and enabling high brightness consistency.

- Seam Correction with Mobile Phones

The brightness discrepancies in seams caused by splicing modules or cabinets can be automatically or manually adjusted via mobile phone software, enhancing the overall visual experience. (Requires working with the TU series products)

- Quick Adjustment of Dark or Bright Lines

The different brightness of seams caused by splicing of modules or cabinets can be corrected to improve the visual experience. The correction is easy and takes effect immediately.

- 3D

Work with the controller that supports 3D function to enable 3D output.

- Individual Gamma Adjustment for RGB

Working with NovaLCT (V5.2.0 or later) and the controller that supports this function, the receiving card supports individual adjustment to red gamma, green gamma and blue gamma, which can effectively control image non-uniformity at low grayscale conditions and white balance offset, allowing for a more realistic image.

- 90° Image Rotation

The display image can be rotated in multiples of 90° (0°/90°/180°/270°).

## Improvements to Maintainability

- **Quick Uploading of Calibration Coefficients**

Upload the calibration coefficients quickly to the receiving cards to improve efficiency.
- **Mapping 1.1**

The cabinets can display the controller number, receiving card number, and Ethernet port information, allowing users to easily obtain the locations and connection topology of receiving cards.
- **Temperature and Voltage Monitoring**

Real-time monitoring of the temperature and voltage of the receiving card, without the need for other external devices.
- **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.
- **Firmware Program Readback**

The receiving card firmware program can be read back and saved to the local computer.
- **Configuration Parameter Readback**

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

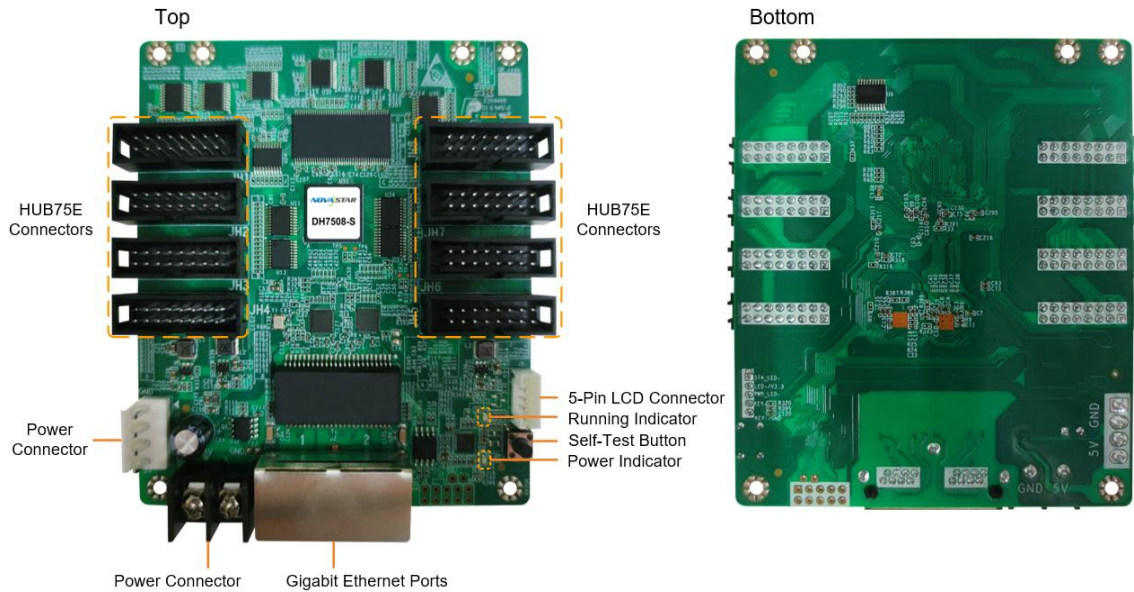
## Improvements to Reliability

- **Loop Backup**

The receiving card and controller 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 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.

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.

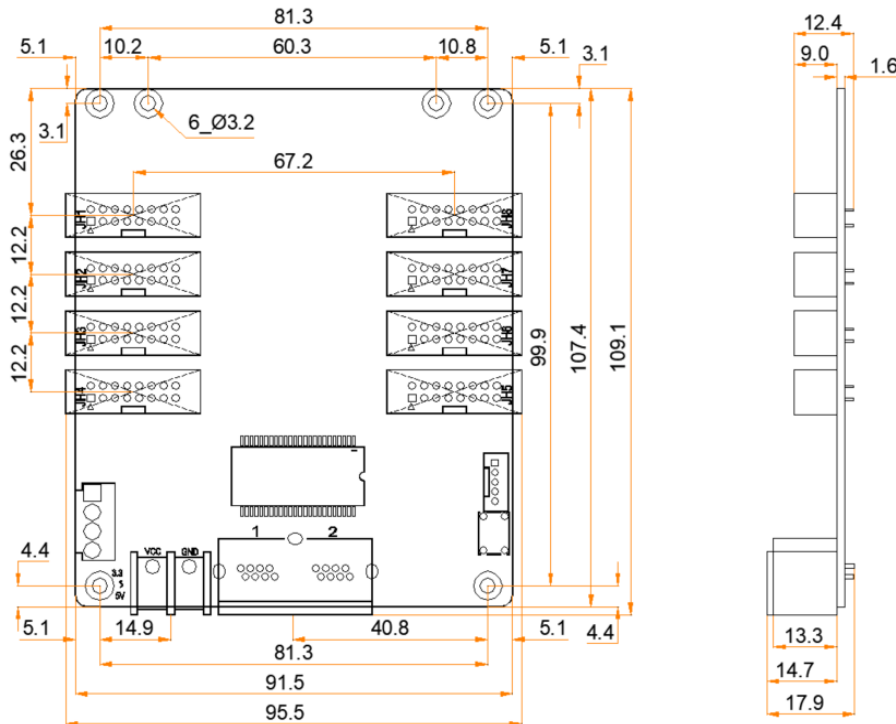
## Indicator

Indicators	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.

Indicators	Color	Status	Description
		Flashing once every 3s	Ethernet cable connection is abnormal.
		Flashing 3 times every 0.5s	Ethernet cable connection is normal, but video source input is unavailable.
		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 input 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 18.5 mm.

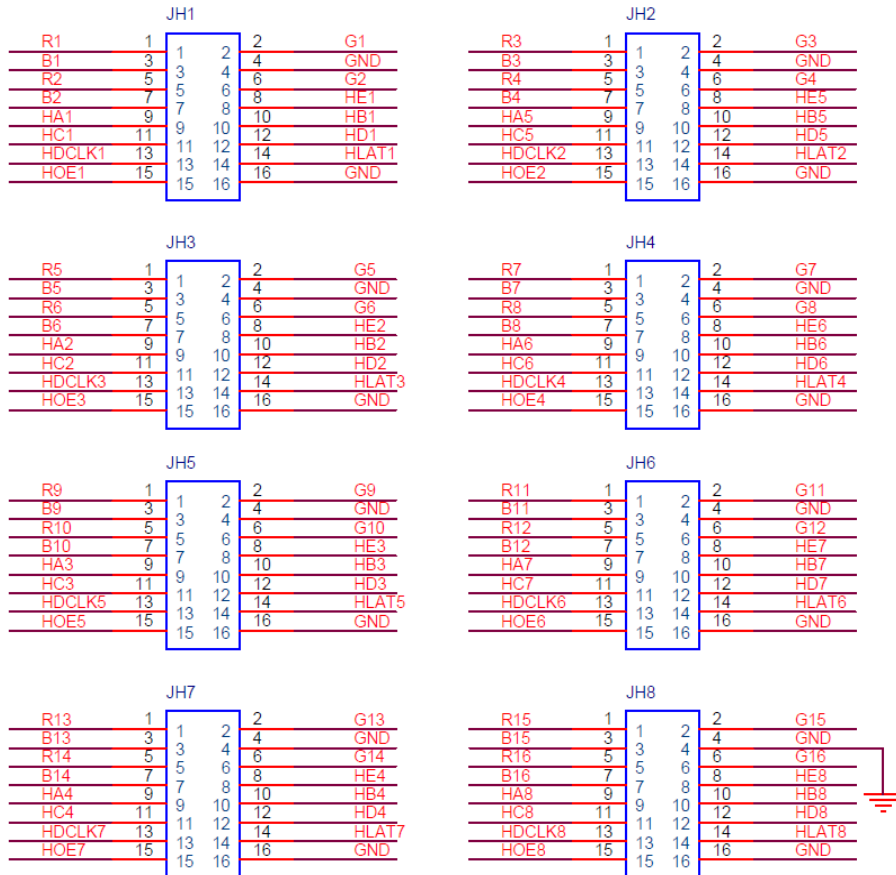


Tolerance: ±0.3 Unit: mm

**Note**

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

**Pins**



Pin Definitions (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.

Pin Definitions (JH1 as an example)					
Display enable signal	HOE1	15	16	GND	Ground

## Specifications

Maximum Resolution	512×512@60Hz (PWM driver IC)	
	512×384@60Hz (common driver IC)	
Electrical Parameters	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	95.5 mm × 109.1 mm × 17.9 mm
	Net weight	72.4 g Note: It is the weight of a single receiving card only.
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.



## Copyright

**Copyright © 2024 Xi'an NovaStar Tech Co., Ltd. All Rights Reserved.**

No part of this document may be copied, reproduced, extracted or transmitted in any form or by any means without the prior written consent of Xi'an NovaStar Tech Co., Ltd.

**Trademark**

 is a trademark of Xi'an NovaStar Tech Co., Ltd.

**Statement**

Thank you for choosing NovaStar's product. This document is intended to help you understand and use the product. For accuracy and reliability, NovaStar may make improvements and/or changes to this document at any time and without notice. If you experience any problems in use or have any suggestions, please contact us via the contact information given in this document. We will do our best to solve any issues, as well as evaluate and implement any suggestions.

| [Official website](http://www.novastar.tech)  
| [www.novastar.tech](http://www.novastar.tech)

| [Technical support](mailto:support@novastar.tech)  
| [support@novastar.tech](mailto:support@novastar.tech)