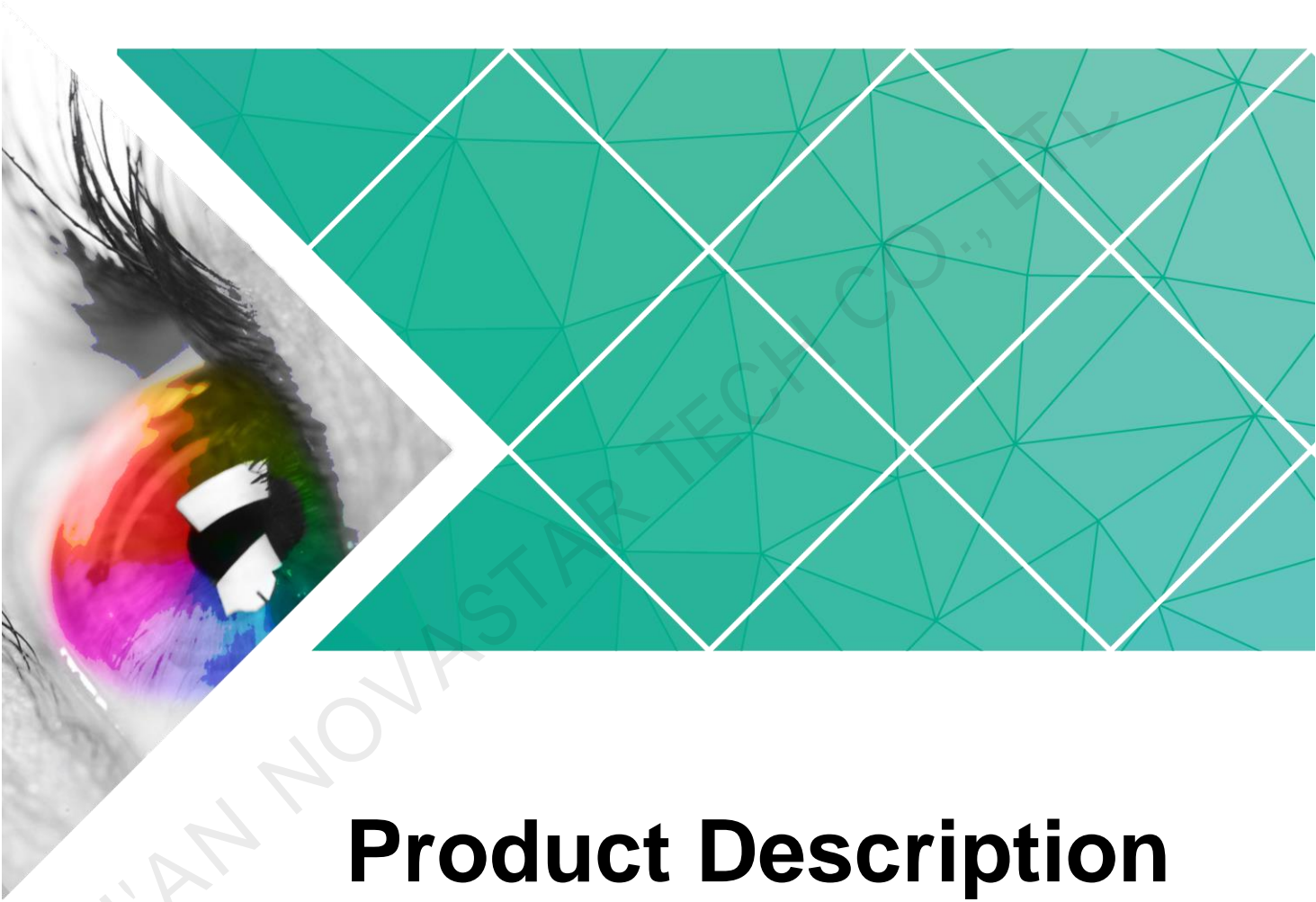


MRV366

Receiving Card



Product Description

Document Version: V1.0.1

Document Number: NS110100658

Copyright © 2018 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 registered trademark of Xi'an NovaStar Tech Co., Ltd.

Statement

You are welcome to use the product of Xi'an NovaStar Tech Co., Ltd. (hereinafter referred to as NovaStar). 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 contact info given in document. We will do our best to solve any issues, as well as evaluate and implement any suggestions.

XI'AN NOVASTAR TECH CO., LTD.

Change History

Version	Release Date	Description
V1.0.1	2018-09-26	Updated product images
V1.0.0	2018-01-10	First release

XI'AN NOVASTAR TECH CO., LTD

Contents

Change History	ii
1 Safety	1
2 Overview	2
3 Features	3
4 Hardware	4
4.1 Appearance.....	4
4.2 Dimensions	5
4.3 Indicators	5
4.4 Pin Definition.....	6
5 Firmware Update.....	7
6 Typical Networking	8
7 Specifications	10

1 Safety

This chapter illustrates safety of the MRV366 receiving card to ensure the product's storage, transport, installation and use safety.

Safety instructions are applicable to all personnel who come into contact with or use the product. Please pay attention to following points.

- Read through the instructions.
- Retain all instructions.
- Comply with all instructions.

Storage and Transport Safety

- Pay attention to dust and water prevention.
- Avoid long-term direct sunlight.
- Do not place the product in a position near fire and heat.
- Do not place the product in an area containing explosive materials.
- Do not place the product in a strong electromagnetic environment.
- Place the product in a stable position to prevent damage or personal injury caused by dropping.
- Save the packing box and materials for future storage and shipping of product. For maximum protection during storage and shipping, repack the product as it was originally packed at the factory.

Installation and Use Safety

- Only trained professionals may install the product.
- Plugging and unplugging operations are prohibited when the power is on.
- Ensure safe grounding of the product.
- Always wear a wrist band and insulating gloves.
- Do not place the product in an area that is frequently or strongly shaken.
- Perform regular dust removal.
- Rather than having the product disassembled and maintained by non-certified professionals, please contact NovaStar for maintenance at any time.
- Replace faulty parts only with the spare parts supplied by NovaStar.

2 Overview

The MRV366 is a new receiving card developed by NovaStar. A single MRV366 loads up to 512×256 pixels.

The MRV366 supports pixel level brightness and chroma calibration, which effectively removes color discrepancies, greatly improves LED display image consistency, and presents finer displays to users.

On-site setup, operation, and maintenance were all taken into account when designing the hardware and software of the MRV366, allowing for an easier setup, more stable operation, and more efficient maintenance.

Hardware design:

- Integrates 16 standard HUB75 connectors, which makes the HUB board unnecessary.
- Adopts the Gigabit Ethernet port, which can connect to the PC.

Software design:

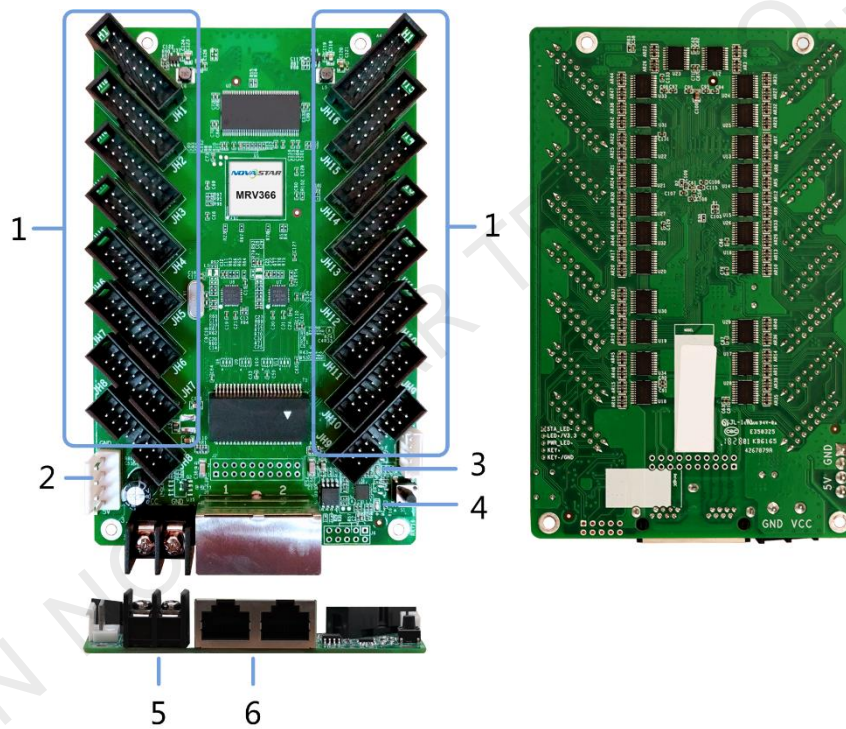
- Supports pixel level brightness and chroma calibration.
- Supports setting of pre-stored image in the receiving card.
- Supports status detection of temperature, voltage, Ethernet cable communication and video source signals.
- Supports 5-pin LCD module.

3 Features

Features	Description
Pixel level brightness and chroma calibration	Brightness and chroma calibration in NovaLCT for each pixel can remove color discrepancies effectively, make the brightness and chroma of the whole screen highly consistent, and improve the display effect.
Supports setting of pre-stored image in the 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.
Status detection of temperature, voltage, Ethernet cable communication and video source signals	In NovaLCT, the status of receiving card's temperature, voltage, Ethernet cable communication and video source signals can be detected.
Supports LCD module.	Supports NovaStar's general 5-pin LCD module. The LCD module is connected to the HUB board to display temperature, voltage, single operating time and total operating time of the receiving card.
Readback of configuration file	In NovaLCT, the configuration information stored in the receiving card can be read back.
Readback of firmware version	In NovaLCT, the firmware versions of the receiving card can be read back.

4 Hardware

4.1 Appearance



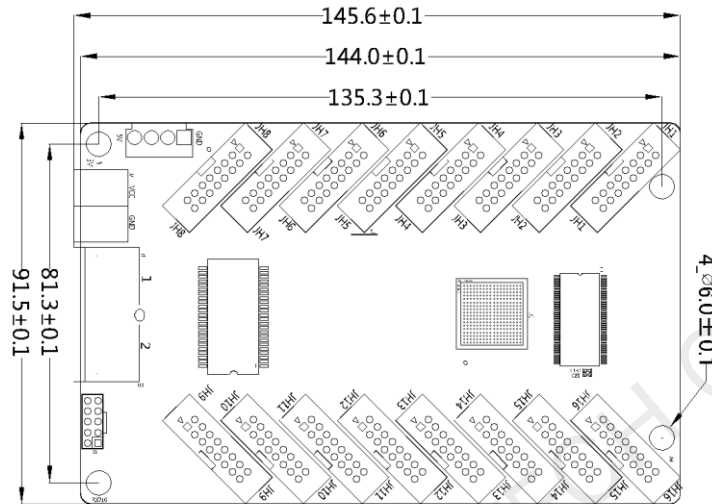
Product images provided in this file are for reference only. Actual products may differ from image shown.

No.	Description
1	HUB75 connectors
2	Power socket
3	D1, status indicator
4	D2, power indicator
5	Power socket
6	Gigabit Ethernet ports

4.2 Dimensions

The board thickness is not greater than 2.0 mm, and the total thickness (board thickness + thickness of components on front and rear panels) is not greater than 17.5 mm.

The unit of dimension chart is “mm”. The location holes are connected to signal grounds (GND).



4.3 Indicators

Indicator	Status	Description
Status indicator (green)	Flashing every other 1s	No sending card mode: The receiving card is functioning normally with no sending card connected. Ethernet cable connection is normal, and video source input is available.
	Flashing every other 0.5s	Sending card mode: Both the receiving card and the sending card are functioning normally. Ethernet cable connection is normal, and video source input is available.
	Flashing every other 3s	The receiving card is functioning normally, but the Ethernet cable connection is abnormal.
	Rapidly flashing for 3 times every other 3s	The receiving card is functioning normally. Ethernet cable connection is normal, but no video source input is available.
	Rapidly flashing every other 0.2s	Program loading fails in normal operating state, currently loading backup operating program.
Power indicator (red)	Always on	It is always on after the power is on.

4.4 Pin Definition

<p>JH1</p> <table border="1"> <tr><td>GND</td><td>16</td><td>15</td><td>HOE1</td></tr> <tr><td>HLAT1</td><td>14</td><td>13</td><td>HDCLK1</td></tr> <tr><td>HD1</td><td>12</td><td>11</td><td>HC1</td></tr> <tr><td>HB1</td><td>10</td><td>9</td><td>HA1</td></tr> <tr><td>HE1</td><td>8</td><td>7</td><td>B2</td></tr> <tr><td>G2</td><td>6</td><td>5</td><td>R2</td></tr> <tr><td>GND</td><td>4</td><td>3</td><td>B1</td></tr> <tr><td>G1</td><td>2</td><td>1</td><td>R1</td></tr> </table>	GND	16	15	HOE1	HLAT1	14	13	HDCLK1	HD1	12	11	HC1	HB1	10	9	HA1	HE1	8	7	B2	G2	6	5	R2	GND	4	3	B1	G1	2	1	R1	<p>JH2</p> <table border="1"> <tr><td>GND</td><td>16</td><td>15</td><td>HOE2</td></tr> <tr><td>HLAT2</td><td>14</td><td>13</td><td>HDCLK2</td></tr> <tr><td>HD2</td><td>12</td><td>11</td><td>HC2</td></tr> <tr><td>HB2</td><td>10</td><td>9</td><td>HA2</td></tr> <tr><td>HE2</td><td>8</td><td>7</td><td>B4</td></tr> <tr><td>G4</td><td>6</td><td>5</td><td>R4</td></tr> <tr><td>GND</td><td>4</td><td>3</td><td>B3</td></tr> <tr><td>G3</td><td>2</td><td>1</td><td>R3</td></tr> </table>	GND	16	15	HOE2	HLAT2	14	13	HDCLK2	HD2	12	11	HC2	HB2	10	9	HA2	HE2	8	7	B4	G4	6	5	R4	GND	4	3	B3	G3	2	1	R3	<p>JH3</p> <table border="1"> <tr><td>GND</td><td>16</td><td>15</td><td>HOE3</td></tr> <tr><td>HLAT3</td><td>14</td><td>13</td><td>HDCLK3</td></tr> <tr><td>HD3</td><td>12</td><td>11</td><td>HC3</td></tr> <tr><td>HB3</td><td>10</td><td>9</td><td>HA3</td></tr> <tr><td>HE3</td><td>8</td><td>7</td><td>B6</td></tr> <tr><td>G8</td><td>6</td><td>5</td><td>R6</td></tr> <tr><td>GND</td><td>4</td><td>3</td><td>B5</td></tr> <tr><td>G5</td><td>2</td><td>1</td><td>R5</td></tr> </table>	GND	16	15	HOE3	HLAT3	14	13	HDCLK3	HD3	12	11	HC3	HB3	10	9	HA3	HE3	8	7	B6	G8	6	5	R6	GND	4	3	B5	G5	2	1	R5
GND	16	15	HOE1																																																																																															
HLAT1	14	13	HDCLK1																																																																																															
HD1	12	11	HC1																																																																																															
HB1	10	9	HA1																																																																																															
HE1	8	7	B2																																																																																															
G2	6	5	R2																																																																																															
GND	4	3	B1																																																																																															
G1	2	1	R1																																																																																															
GND	16	15	HOE2																																																																																															
HLAT2	14	13	HDCLK2																																																																																															
HD2	12	11	HC2																																																																																															
HB2	10	9	HA2																																																																																															
HE2	8	7	B4																																																																																															
G4	6	5	R4																																																																																															
GND	4	3	B3																																																																																															
G3	2	1	R3																																																																																															
GND	16	15	HOE3																																																																																															
HLAT3	14	13	HDCLK3																																																																																															
HD3	12	11	HC3																																																																																															
HB3	10	9	HA3																																																																																															
HE3	8	7	B6																																																																																															
G8	6	5	R6																																																																																															
GND	4	3	B5																																																																																															
G5	2	1	R5																																																																																															
<p>JH4</p> <table border="1"> <tr><td>GND</td><td>16</td><td>15</td><td>HOE4</td></tr> <tr><td>HLAT4</td><td>14</td><td>13</td><td>HDCLK4</td></tr> <tr><td>HD4</td><td>12</td><td>11</td><td>HC4</td></tr> <tr><td>HB4</td><td>10</td><td>9</td><td>HA4</td></tr> <tr><td>HE4</td><td>8</td><td>7</td><td>B8</td></tr> <tr><td>G8</td><td>6</td><td>5</td><td>R8</td></tr> <tr><td>GND</td><td>4</td><td>3</td><td>B7</td></tr> <tr><td>G7</td><td>2</td><td>1</td><td>R7</td></tr> </table>	GND	16	15	HOE4	HLAT4	14	13	HDCLK4	HD4	12	11	HC4	HB4	10	9	HA4	HE4	8	7	B8	G8	6	5	R8	GND	4	3	B7	G7	2	1	R7	<p>JH5</p> <table border="1"> <tr><td>GND</td><td>16</td><td>15</td><td>HOE5</td></tr> <tr><td>HLAT5</td><td>14</td><td>13</td><td>HDCLK5</td></tr> <tr><td>HD5</td><td>12</td><td>11</td><td>HC5</td></tr> <tr><td>HB5</td><td>10</td><td>9</td><td>HA5</td></tr> <tr><td>HE5</td><td>8</td><td>7</td><td>B10</td></tr> <tr><td>G10</td><td>6</td><td>5</td><td>R10</td></tr> <tr><td>GND</td><td>4</td><td>3</td><td>B9</td></tr> <tr><td>G9</td><td>2</td><td>1</td><td>R9</td></tr> </table>	GND	16	15	HOE5	HLAT5	14	13	HDCLK5	HD5	12	11	HC5	HB5	10	9	HA5	HE5	8	7	B10	G10	6	5	R10	GND	4	3	B9	G9	2	1	R9	<p>JH6</p> <table border="1"> <tr><td>GND</td><td>16</td><td>15</td><td>HOE6</td></tr> <tr><td>HLAT6</td><td>14</td><td>13</td><td>HDCLK6</td></tr> <tr><td>HD6</td><td>12</td><td>11</td><td>HC6</td></tr> <tr><td>HB6</td><td>10</td><td>9</td><td>HA6</td></tr> <tr><td>HE6</td><td>8</td><td>7</td><td>B12</td></tr> <tr><td>G12</td><td>6</td><td>5</td><td>R12</td></tr> <tr><td>GND</td><td>4</td><td>3</td><td>B11</td></tr> <tr><td>G11</td><td>2</td><td>1</td><td>R11</td></tr> </table>	GND	16	15	HOE6	HLAT6	14	13	HDCLK6	HD6	12	11	HC6	HB6	10	9	HA6	HE6	8	7	B12	G12	6	5	R12	GND	4	3	B11	G11	2	1	R11
GND	16	15	HOE4																																																																																															
HLAT4	14	13	HDCLK4																																																																																															
HD4	12	11	HC4																																																																																															
HB4	10	9	HA4																																																																																															
HE4	8	7	B8																																																																																															
G8	6	5	R8																																																																																															
GND	4	3	B7																																																																																															
G7	2	1	R7																																																																																															
GND	16	15	HOE5																																																																																															
HLAT5	14	13	HDCLK5																																																																																															
HD5	12	11	HC5																																																																																															
HB5	10	9	HA5																																																																																															
HE5	8	7	B10																																																																																															
G10	6	5	R10																																																																																															
GND	4	3	B9																																																																																															
G9	2	1	R9																																																																																															
GND	16	15	HOE6																																																																																															
HLAT6	14	13	HDCLK6																																																																																															
HD6	12	11	HC6																																																																																															
HB6	10	9	HA6																																																																																															
HE6	8	7	B12																																																																																															
G12	6	5	R12																																																																																															
GND	4	3	B11																																																																																															
G11	2	1	R11																																																																																															
<p>JH7</p> <table border="1"> <tr><td>GND</td><td>16</td><td>15</td><td>HOE7</td></tr> <tr><td>HLAT7</td><td>14</td><td>13</td><td>HDCLK7</td></tr> <tr><td>HD7</td><td>12</td><td>11</td><td>HC7</td></tr> <tr><td>HB7</td><td>10</td><td>9</td><td>HA7</td></tr> <tr><td>HE7</td><td>8</td><td>7</td><td>B14</td></tr> <tr><td>G14</td><td>6</td><td>5</td><td>R14</td></tr> <tr><td>GND</td><td>4</td><td>3</td><td>B13</td></tr> <tr><td>G13</td><td>2</td><td>1</td><td>R13</td></tr> </table>	GND	16	15	HOE7	HLAT7	14	13	HDCLK7	HD7	12	11	HC7	HB7	10	9	HA7	HE7	8	7	B14	G14	6	5	R14	GND	4	3	B13	G13	2	1	R13	<p>JH8</p> <table border="1"> <tr><td>GND</td><td>16</td><td>15</td><td>HOE8</td></tr> <tr><td>HLAT8</td><td>14</td><td>13</td><td>HDCLK8</td></tr> <tr><td>HD8</td><td>12</td><td>11</td><td>HC8</td></tr> <tr><td>HB8</td><td>10</td><td>9</td><td>HA8</td></tr> <tr><td>HE8</td><td>8</td><td>7</td><td>B16</td></tr> <tr><td>G16</td><td>6</td><td>5</td><td>R16</td></tr> <tr><td>GND</td><td>4</td><td>3</td><td>B15</td></tr> <tr><td>G15</td><td>2</td><td>1</td><td>R15</td></tr> </table>	GND	16	15	HOE8	HLAT8	14	13	HDCLK8	HD8	12	11	HC8	HB8	10	9	HA8	HE8	8	7	B16	G16	6	5	R16	GND	4	3	B15	G15	2	1	R15	<p>JH9</p> <table border="1"> <tr><td>GND</td><td>16</td><td>15</td><td>HOE9</td></tr> <tr><td>HLAT9</td><td>14</td><td>13</td><td>HDCLK9</td></tr> <tr><td>HD9</td><td>12</td><td>11</td><td>HC9</td></tr> <tr><td>HB9</td><td>10</td><td>9</td><td>HA9</td></tr> <tr><td>HE9</td><td>8</td><td>7</td><td>B18</td></tr> <tr><td>G18</td><td>6</td><td>5</td><td>R18</td></tr> <tr><td>GND</td><td>4</td><td>3</td><td>B17</td></tr> <tr><td>G17</td><td>2</td><td>1</td><td>R17</td></tr> </table>	GND	16	15	HOE9	HLAT9	14	13	HDCLK9	HD9	12	11	HC9	HB9	10	9	HA9	HE9	8	7	B18	G18	6	5	R18	GND	4	3	B17	G17	2	1	R17
GND	16	15	HOE7																																																																																															
HLAT7	14	13	HDCLK7																																																																																															
HD7	12	11	HC7																																																																																															
HB7	10	9	HA7																																																																																															
HE7	8	7	B14																																																																																															
G14	6	5	R14																																																																																															
GND	4	3	B13																																																																																															
G13	2	1	R13																																																																																															
GND	16	15	HOE8																																																																																															
HLAT8	14	13	HDCLK8																																																																																															
HD8	12	11	HC8																																																																																															
HB8	10	9	HA8																																																																																															
HE8	8	7	B16																																																																																															
G16	6	5	R16																																																																																															
GND	4	3	B15																																																																																															
G15	2	1	R15																																																																																															
GND	16	15	HOE9																																																																																															
HLAT9	14	13	HDCLK9																																																																																															
HD9	12	11	HC9																																																																																															
HB9	10	9	HA9																																																																																															
HE9	8	7	B18																																																																																															
G18	6	5	R18																																																																																															
GND	4	3	B17																																																																																															
G17	2	1	R17																																																																																															
<p>JH10</p> <table border="1"> <tr><td>GND</td><td>16</td><td>15</td><td>HOE10</td></tr> <tr><td>HLAT10</td><td>14</td><td>13</td><td>HDCLK10</td></tr> <tr><td>HD10</td><td>12</td><td>11</td><td>HC10</td></tr> <tr><td>HB10</td><td>10</td><td>9</td><td>HA10</td></tr> <tr><td>HE10</td><td>8</td><td>7</td><td>B20</td></tr> <tr><td>G20</td><td>6</td><td>5</td><td>R20</td></tr> <tr><td>GND</td><td>4</td><td>3</td><td>B19</td></tr> <tr><td>G19</td><td>2</td><td>1</td><td>R19</td></tr> </table>	GND	16	15	HOE10	HLAT10	14	13	HDCLK10	HD10	12	11	HC10	HB10	10	9	HA10	HE10	8	7	B20	G20	6	5	R20	GND	4	3	B19	G19	2	1	R19	<p>JH11</p> <table border="1"> <tr><td>GND</td><td>16</td><td>15</td><td>HOE11</td></tr> <tr><td>HLAT11</td><td>14</td><td>13</td><td>HDCLK11</td></tr> <tr><td>HD11</td><td>12</td><td>11</td><td>HC11</td></tr> <tr><td>HB11</td><td>10</td><td>9</td><td>HA11</td></tr> <tr><td>HE11</td><td>8</td><td>7</td><td>B22</td></tr> <tr><td>G22</td><td>6</td><td>5</td><td>R22</td></tr> <tr><td>GND</td><td>4</td><td>3</td><td>B21</td></tr> <tr><td>G21</td><td>2</td><td>1</td><td>R21</td></tr> </table>	GND	16	15	HOE11	HLAT11	14	13	HDCLK11	HD11	12	11	HC11	HB11	10	9	HA11	HE11	8	7	B22	G22	6	5	R22	GND	4	3	B21	G21	2	1	R21	<p>JH12</p> <table border="1"> <tr><td>GND</td><td>16</td><td>15</td><td>HOE12</td></tr> <tr><td>HLAT12</td><td>14</td><td>13</td><td>HDCLK12</td></tr> <tr><td>HD12</td><td>12</td><td>11</td><td>HC12</td></tr> <tr><td>HB12</td><td>10</td><td>9</td><td>HA12</td></tr> <tr><td>HE12</td><td>8</td><td>7</td><td>B24</td></tr> <tr><td>G24</td><td>6</td><td>5</td><td>R24</td></tr> <tr><td>GND</td><td>4</td><td>3</td><td>B23</td></tr> <tr><td>G23</td><td>2</td><td>1</td><td>R23</td></tr> </table>	GND	16	15	HOE12	HLAT12	14	13	HDCLK12	HD12	12	11	HC12	HB12	10	9	HA12	HE12	8	7	B24	G24	6	5	R24	GND	4	3	B23	G23	2	1	R23
GND	16	15	HOE10																																																																																															
HLAT10	14	13	HDCLK10																																																																																															
HD10	12	11	HC10																																																																																															
HB10	10	9	HA10																																																																																															
HE10	8	7	B20																																																																																															
G20	6	5	R20																																																																																															
GND	4	3	B19																																																																																															
G19	2	1	R19																																																																																															
GND	16	15	HOE11																																																																																															
HLAT11	14	13	HDCLK11																																																																																															
HD11	12	11	HC11																																																																																															
HB11	10	9	HA11																																																																																															
HE11	8	7	B22																																																																																															
G22	6	5	R22																																																																																															
GND	4	3	B21																																																																																															
G21	2	1	R21																																																																																															
GND	16	15	HOE12																																																																																															
HLAT12	14	13	HDCLK12																																																																																															
HD12	12	11	HC12																																																																																															
HB12	10	9	HA12																																																																																															
HE12	8	7	B24																																																																																															
G24	6	5	R24																																																																																															
GND	4	3	B23																																																																																															
G23	2	1	R23																																																																																															
<p>JH13</p> <table border="1"> <tr><td>GND</td><td>16</td><td>15</td><td>HOE13</td></tr> <tr><td>HLAT13</td><td>14</td><td>13</td><td>HDCLK13</td></tr> <tr><td>HD13</td><td>12</td><td>11</td><td>HC13</td></tr> <tr><td>HB13</td><td>10</td><td>9</td><td>HA13</td></tr> <tr><td>HE13</td><td>8</td><td>7</td><td>B26</td></tr> <tr><td>G26</td><td>6</td><td>5</td><td>R26</td></tr> <tr><td>GND</td><td>4</td><td>3</td><td>B25</td></tr> <tr><td>G25</td><td>2</td><td>1</td><td>R25</td></tr> </table>	GND	16	15	HOE13	HLAT13	14	13	HDCLK13	HD13	12	11	HC13	HB13	10	9	HA13	HE13	8	7	B26	G26	6	5	R26	GND	4	3	B25	G25	2	1	R25	<p>JH14</p> <table border="1"> <tr><td>GND</td><td>16</td><td>15</td><td>HOE14</td></tr> <tr><td>HLAT14</td><td>14</td><td>13</td><td>HDCLK14</td></tr> <tr><td>HD14</td><td>12</td><td>11</td><td>HC14</td></tr> <tr><td>HB14</td><td>10</td><td>9</td><td>HA14</td></tr> <tr><td>HE14</td><td>8</td><td>7</td><td>B28</td></tr> <tr><td>G28</td><td>6</td><td>5</td><td>R28</td></tr> <tr><td>GND</td><td>4</td><td>3</td><td>B27</td></tr> <tr><td>G27</td><td>2</td><td>1</td><td>R27</td></tr> </table>	GND	16	15	HOE14	HLAT14	14	13	HDCLK14	HD14	12	11	HC14	HB14	10	9	HA14	HE14	8	7	B28	G28	6	5	R28	GND	4	3	B27	G27	2	1	R27	<p>JH15</p> <table border="1"> <tr><td>GND</td><td>16</td><td>15</td><td>HOE15</td></tr> <tr><td>HLAT15</td><td>14</td><td>13</td><td>HDCLK15</td></tr> <tr><td>HD15</td><td>12</td><td>11</td><td>HC15</td></tr> <tr><td>HB15</td><td>10</td><td>9</td><td>HA15</td></tr> <tr><td>HE15</td><td>8</td><td>7</td><td>B30</td></tr> <tr><td>G30</td><td>6</td><td>5</td><td>R30</td></tr> <tr><td>GND</td><td>4</td><td>3</td><td>B29</td></tr> <tr><td>G29</td><td>2</td><td>1</td><td>R29</td></tr> </table>	GND	16	15	HOE15	HLAT15	14	13	HDCLK15	HD15	12	11	HC15	HB15	10	9	HA15	HE15	8	7	B30	G30	6	5	R30	GND	4	3	B29	G29	2	1	R29
GND	16	15	HOE13																																																																																															
HLAT13	14	13	HDCLK13																																																																																															
HD13	12	11	HC13																																																																																															
HB13	10	9	HA13																																																																																															
HE13	8	7	B26																																																																																															
G26	6	5	R26																																																																																															
GND	4	3	B25																																																																																															
G25	2	1	R25																																																																																															
GND	16	15	HOE14																																																																																															
HLAT14	14	13	HDCLK14																																																																																															
HD14	12	11	HC14																																																																																															
HB14	10	9	HA14																																																																																															
HE14	8	7	B28																																																																																															
G28	6	5	R28																																																																																															
GND	4	3	B27																																																																																															
G27	2	1	R27																																																																																															
GND	16	15	HOE15																																																																																															
HLAT15	14	13	HDCLK15																																																																																															
HD15	12	11	HC15																																																																																															
HB15	10	9	HA15																																																																																															
HE15	8	7	B30																																																																																															
G30	6	5	R30																																																																																															
GND	4	3	B29																																																																																															
G29	2	1	R29																																																																																															
<p>JH16</p> <table border="1"> <tr><td>GND</td><td>16</td><td>15</td><td>HOE16</td></tr> <tr><td>HLAT16</td><td>14</td><td>13</td><td>HDCLK16</td></tr> <tr><td>HD16</td><td>12</td><td>11</td><td>HC16</td></tr> <tr><td>HB16</td><td>10</td><td>9</td><td>HA16</td></tr> <tr><td>HE16</td><td>8</td><td>7</td><td>B32</td></tr> <tr><td>G32</td><td>6</td><td>5</td><td>R32</td></tr> <tr><td>GND</td><td>4</td><td>3</td><td>B31</td></tr> <tr><td>G31</td><td>2</td><td>1</td><td>R31</td></tr> </table>	GND	16	15	HOE16	HLAT16	14	13	HDCLK16	HD16	12	11	HC16	HB16	10	9	HA16	HE16	8	7	B32	G32	6	5	R32	GND	4	3	B31	G31	2	1	R31																																																																		
GND	16	15	HOE16																																																																																															
HLAT16	14	13	HDCLK16																																																																																															
HD16	12	11	HC16																																																																																															
HB16	10	9	HA16																																																																																															
HE16	8	7	B32																																																																																															
G32	6	5	R32																																																																																															
GND	4	3	B31																																																																																															
G31	2	1	R31																																																																																															

Pin Definition			
GND	16	15	HOE
HLAT	14	13	HDCLK
HD	12	11	HC
HB	10	9	HA
HE	8	7	B
G	6	5	R
GND	4	3	B
G	2	1	R

5 Firmware Update

- Step 1 Visit www.novastar.tech to download the firmware update package and save it to PC.
- Step 2 Run NovaLCT and choose **User > Advanced Synchronous System User Login** to log in.
- Step 3 Type the secret code "**admin**" to enter the program loading page.
- Step 4 Click **Browse** to select the program (the firmware update package you saved on PC) path and then click **Update**.
- Step 5 (Optional) Click **Refresh** to check current hardware version information.

6 Typical Networking

The MRV366 is applicable to the LED display synchronous system which is generally composed of the LED display, receiving card, LED display controller and controller peripherals. The receiving card is connected to the LED display over HUB connectors.

The synchronous system requires connecting a computer to display the computer's images and texts on the LED display. The synchronous system's structure is shown in the following figure.

Figure 6-1 Sending card mode

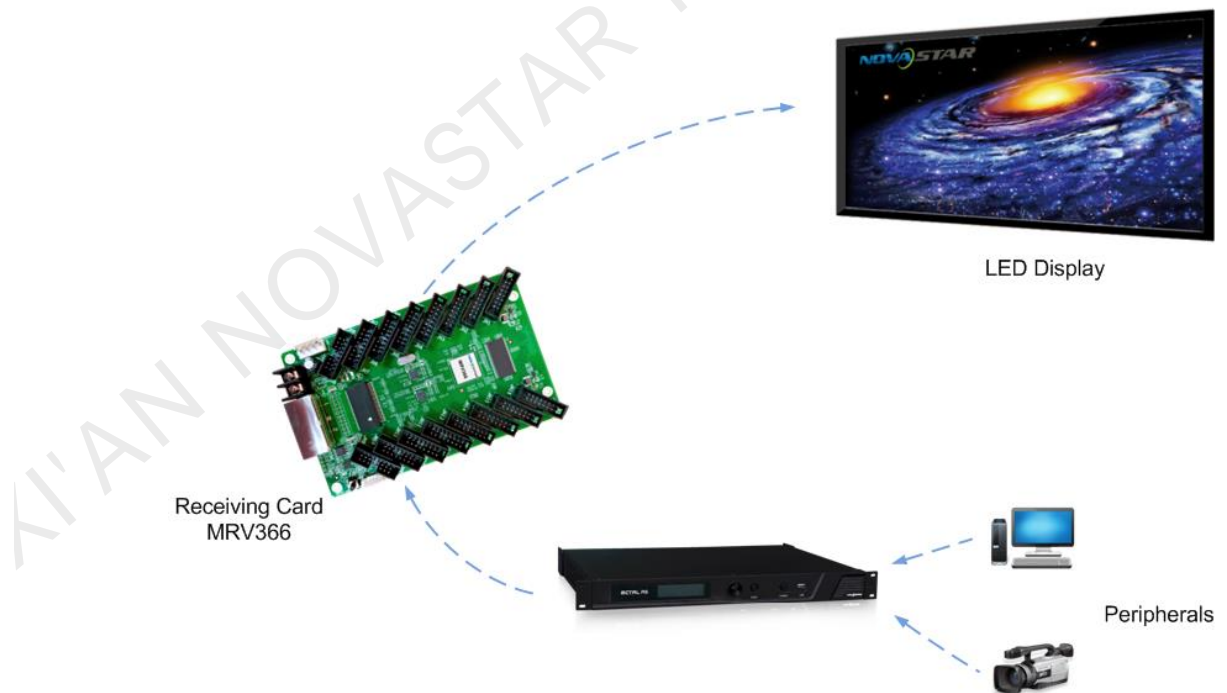


Figure 6-2 No sending card mode



7 Specifications

Electrical Parameters	Input voltage	DC 3.3 V–5.5 V
	Rated current	0.5 A
	Rated power consumption	2.5 W
Operating Environment	Temperature	-20°C–70°C
	Humidity	10% RH–90% RH
Storage Environment	Temperature	-25°C–125°C
Packing Information	Packing standard	An antistatic bag and anti-collision foam are provided for each receiving card. Each box contains 100 receiving cards.
	Packing box dimensions	650.0 mm × 500.0 mm × 200.0 mm
Dimensions	145.6 mm × 91.5 mm × 17.2 mm	
Net Weight	100.1 g	
Certifications	RoHS, EMC Class A	