Nova M3 MRV300 Receiving Card Specifications

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1. Functions

MRV300 is the standard model of Nova receiving card. It has the following characteristics:

1) Single card outputs 16-group of RGBR 'data;

2) Single card outputs 20-group of RGB data;

3) Single card outputs 64-group of serial data;

4) Single card support resolution 256x226;

5) Support configuration file readback;

6) Support temperature monitoring.

7) Support Ethernet cable communication status detection;

8) Support power supply voltage detection;

9) Support pixel by pixel brightness and chromaticity calibration. Brightness and chromaticity calibration coefficients for each LED;

10) Support pre-store picture setting;

11) Comply with EU RoHs standard;

12) Comply with EU CE-EMC standard.

2. Output interface definition

Under all the three different working modes of it, two 50P interface can output different data, and only one common program and software is required, no customized program necessary; interface is defined as follows:

1) 16-group data mode

Support 16-group of RGBR 'parallel data, defined as follows:
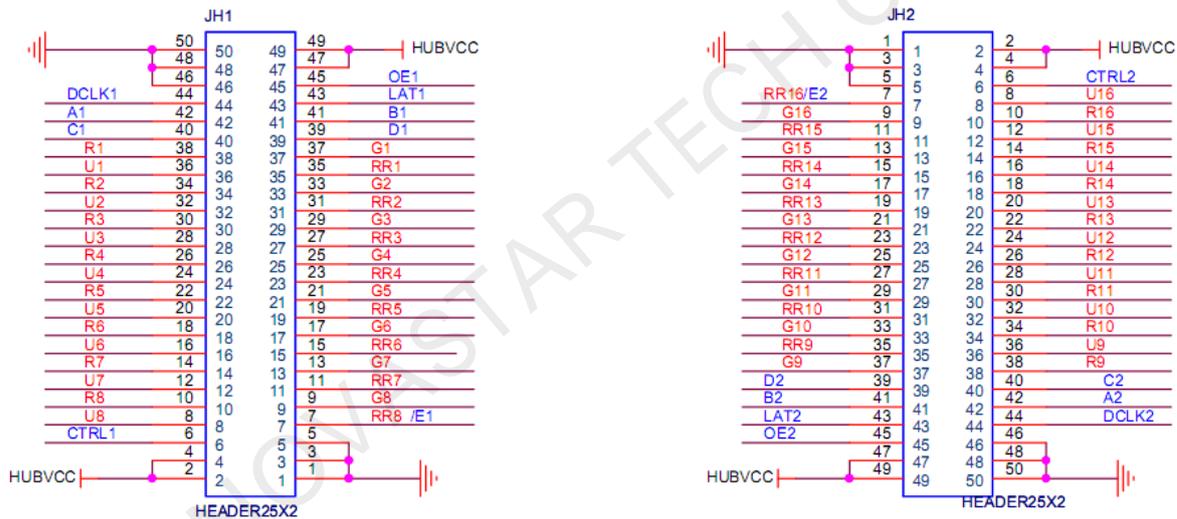
Virtual R signal in the last data group of each 50pin hub is decoding signal E at 1/32 scan mode.

JH1				JH2			
1	GND	VCC	2	1	GND	VCC	2
3	GND	VCC	4	3	GND	VCC	4
5	GND	CTRL1	6	5	GND	CTRL2	6
7	RR8/E1	U8	8	7	RR16/E2	U16	8
9	G8	R8	10	9	G16	R16	10
11	RR7	U7	12	11	RR15	U15	12
13	G7	R7	14	13	G15	R15	14
15	RR6	U6	16	15	RR14	U14	16
17	G6	R6	18	17	G14	R14	18

19	RR5	U5	20	19	RR13	U13	20
21	G5	R5	22	21	G13	R13	22
23	RR4	U4	24	23	RR12	U12	24
25	G4	R4	26	25	G12	R12	26
27	RR3	U3	28	27	RR11	U11	28
29	G3	R3	30	29	G11	R11	30
31	RR2	U2	32	31	RR10	U10	32
33	G2	R2	34	33	G10	R10	34
35	RR1	U1	36	35	RR9	U9	36
37	G1	R1	38	37	G9	R9	38
39	D1	C1	40	39	D2	C2	40
41	B1	A1	42	41	B2	A2	42
43	LAT1	DCLK1	44	43	LAT2	DCLK2	44
45	OE1	GND	46	45	OE2	GND	46
47	VCC	GND	48	47	VCC	GND	48
49	VCC	GND	50	49	VCC	GND	50

2) 20-group parallel data mode

Support 20 sets of parallel data, defined as follows:
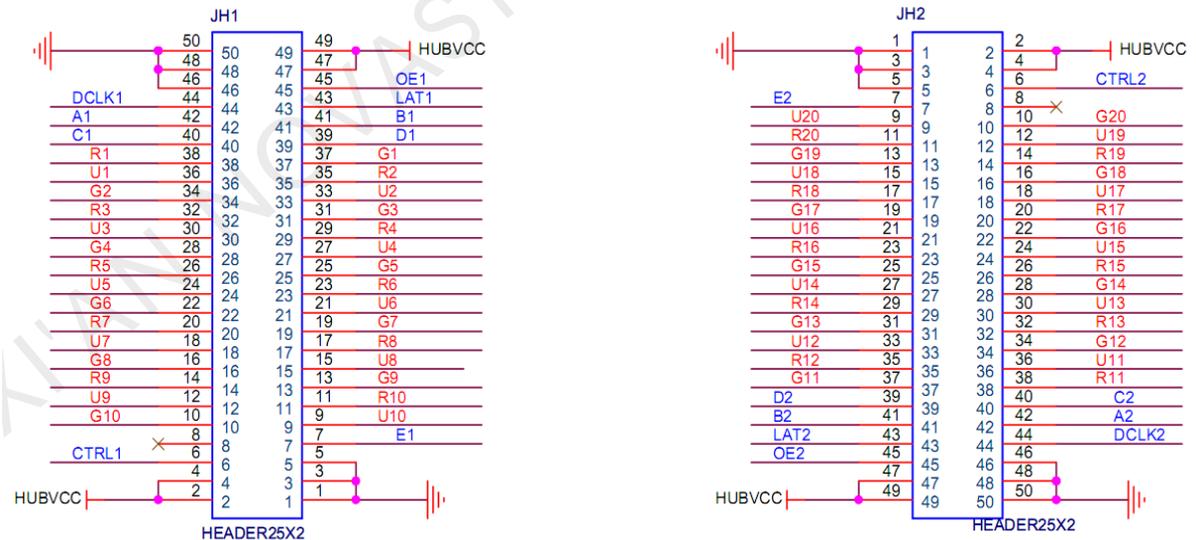
JH1				JH2			
1	GND	VCC	2	1	GND	VCC	2
3	GND	VCC	4	3	GND	VCC	4
5	GND	CTRL1	6	5	GND	CTRL2	6
7	E1	NC	8	7	E2	NC	8

9	U10	G10	10	9	U20	G20	10
11	R10	U9	12	11	R20	U19	12
13	G9	R9	14	13	G19	R19	14
15	U8	G8	16	15	U18	G18	16
17	R8	U7	18	17	R18	U17	18
19	G7	R7	20	19	G17	R17	20
21	U6	G6	22	21	R16	G16	22
23	R6	U5	24	23	R16	U15	24
25	G5	R5	26	25	G15	R15	26
27	U4	G4	28	27	U14	G14	28
29	R4	U3	30	29	R14	U13	30
31	G3	R3	32	31	G13	R13	32
33	U2	G2	34	33	U12	G12	34
35	R2	U1	36	35	R12	U11	36
37	G1	R1	38	37	G11	R11	38
39	D1	C1	40	39	D2	C2	40
41	B1	A1	42	41	B2	A2	42
43	LAT1	DCLK1	44	43	LAT2	DCLK2	44
45	OE1	GND	46	45	OE2	GND	46
47	VCC	GND	48	47	VCC	GND	48
49	VCC	GND	50	49	VCC	GND	50

3) **64-group serial data mode**

Support 64 sets of serial data, defined as follows:
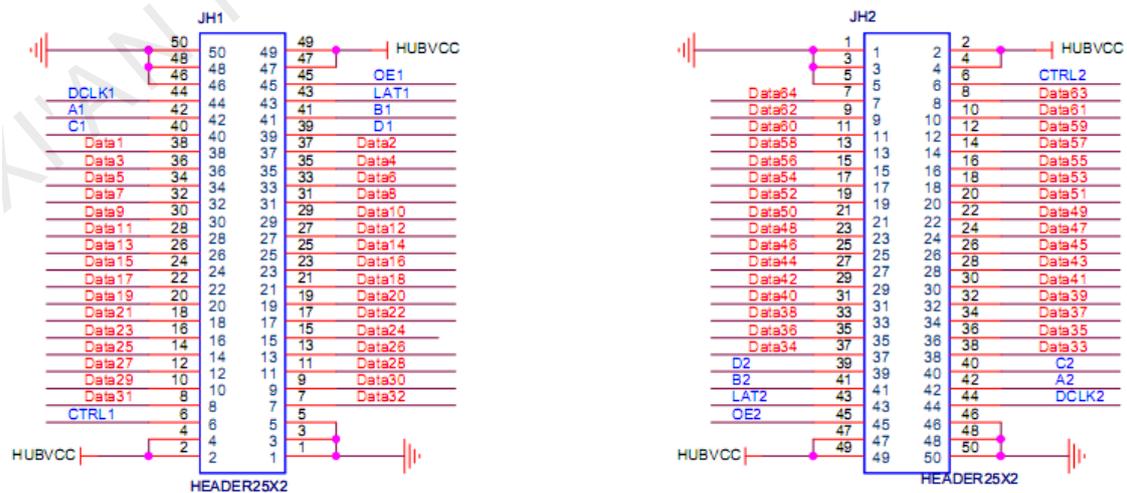
Under serial mode, there are 64 data cables totally. Each cable can drive

one LED bar independently.

In case of horizontal LED bar, the default is, Data1 drives the first row from the top, and Data64 drives the 64th row. (front view).

In case of vertical LED bar, the default is, Data1 drives the first column of from the left, and Data64 drives the 64th column. (front view).

JH1				JH2			
1	GND	VCC	2	1	GND	VCC	2
3	GND	VCC	4	3	GND	VCC	4
5	GND	CTRL1	6	5	GND	DCTRL2	6
7	Data32	Data31	8	7	Data64	Data63	8
9	Data30	Data29	10	9	Data62	Data61	10
11	Data28	Data27	12	11	Data61	Data60	12
13	Data26	Data25	14	13	Data58	Data57	14
15	Data24	Data23	16	15	Data56	Data55	16
17	Data22	Data21	18	17	Data54	Data53	18
19	Data20	Data19	20	19	Data52	Data51	20
21	Data18	Data17	22	21	Data50	Data49	22
23	Data16	Data15	24	23	Data48	Data47	24
25	Data14	Data13	26	25	Data46	Data45	26
27	Data12	Data11	28	27	Data44	Data43	28
29	Data10	Data9	30	29	Data42	Data41	30
31	Data8	Data7	32	31	Data40	Data39	32
33	Data6	Data5	34	33	Data38	Data37	34
35	Data4	Data3	36	35	Data36	Data35	36
37	Data2	Data1	38	37	Data34	Data33	38
39	D1	C1	40	39	D2	C2	40
41	B1	A1	42	41	B2	A2	42
43	LAT1	DCLK1	44	43	LAT2	DCLK2	44
45	OE1	GND	46	45	OE2	GND	46
47	VCC	GND	48	47	VCC	GND	48
49	VCC	GND	50	49	VCC	GND	50

3. Dimensions
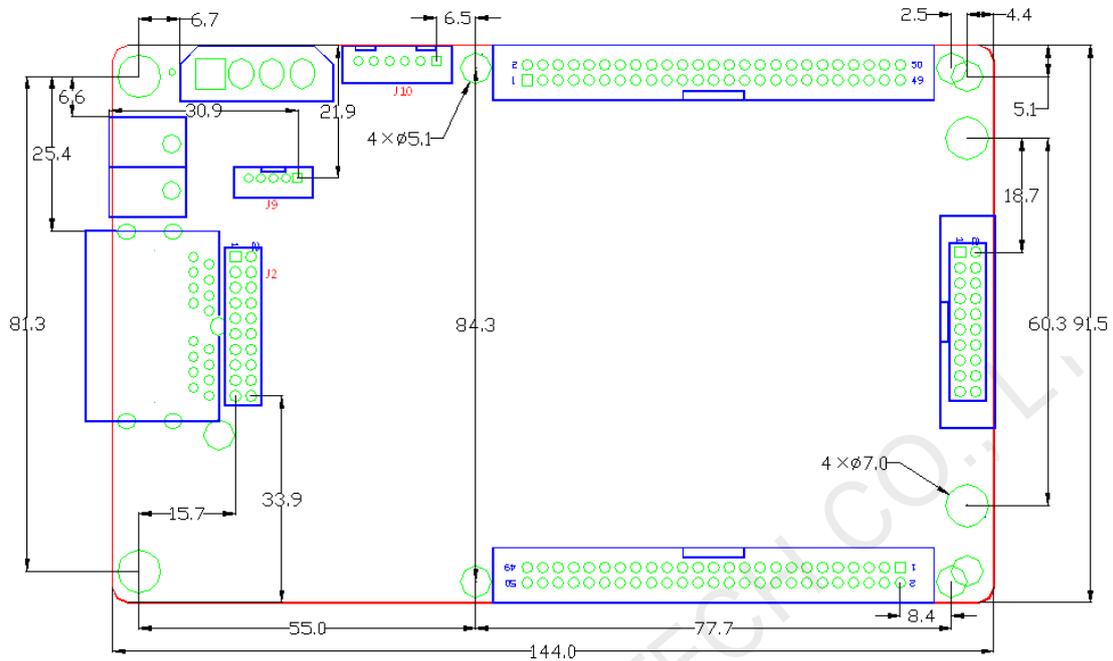
Fig. 1 MRV300 Dimensions

J2 definition（Connector interface of the network ports）

2	4	6	8	10	12	14	16	18	20
A0+	A1+	A2+	A3+	B0+	B1+	B2+	B3+	GND	VCC
1	3	5	7	9	11	13	15	17	19
A0-	A1-	A2-	A3-	B0-	B1-	B2-	B3-	GND	VCC

J9 definition（Indicator light Socket）

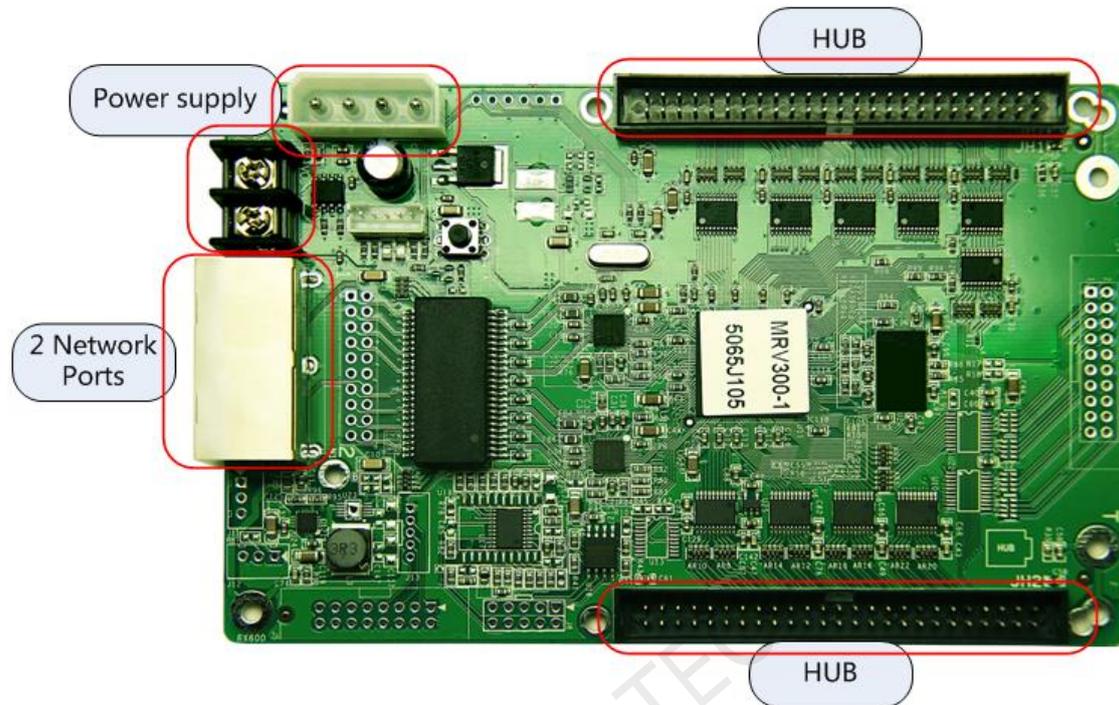| 1	2	3	4	5
STA_LED	LED +/3.3V	PWR_LED -	KEY +	KEY -/GND

4. Interface Description

Fig. 2 Interface Description of MRV300

5. Specific Model List

To meet the needs of different customers, Nova provides more specific models of the products, including standard products in stock, other models need to be customized;

Model	Specification
MRV300 - 1	Standard model, male connector on top
MRV300 - 2	Male connector on bottom
MRV300 - 3	Female connector on top
MRV300 - 4	Female connector on bottom

6. Working conditions

		Maximum	Minimum
Limit voltage (V)		6.0	3.0
Rated voltage (V)		5.5	3.3
Rated current (A)	0.5	0.55	0.45
Temperature of working environment (℃)		70.0	-20.0
Humidity of working environment (%)		90.0	10.0