

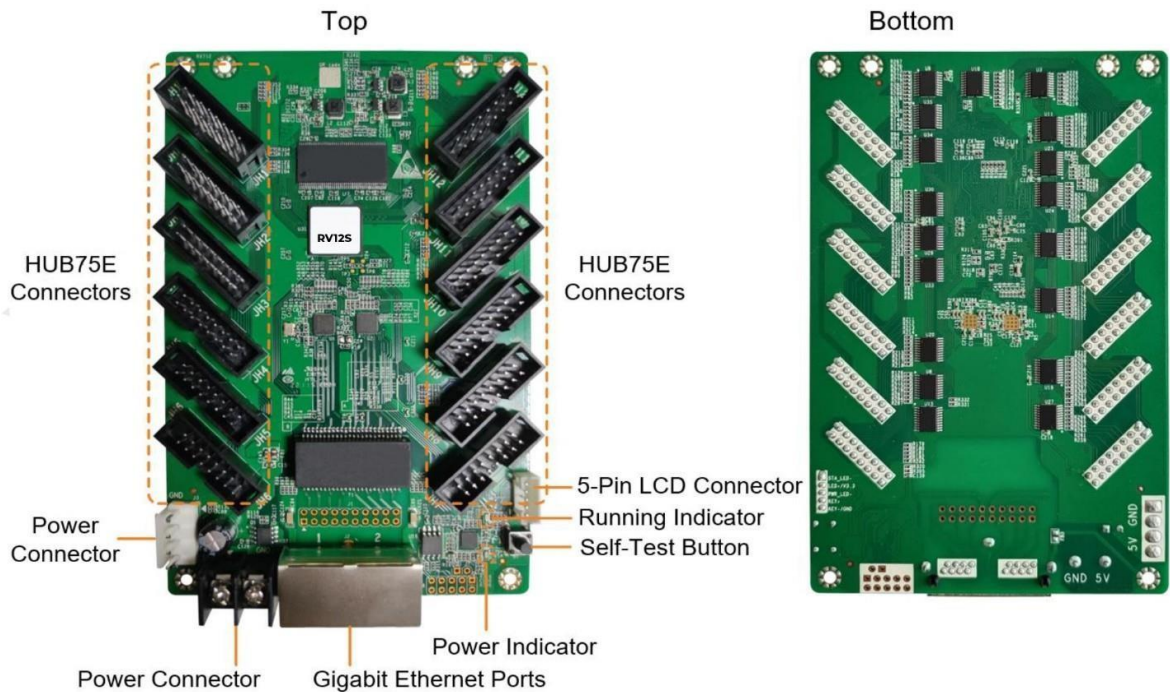


RECEIVING CARD

RV12S

01

APPEARANCE



02

INTRODUCTION

- The RV12S is a general receiving card developed by **TWT Tech Co., Ltd.** (hereinafter referred to as TWT). A single RV12S supports resolutions up to 512×384@60Hz (TWT V5.3.1 or later required). It supports various features such as pixel-level brightness and chroma calibration, quick adjustment of dark or bright lines, 3D functionality, individual gamma adjustment for RGB, and image rotation in 90° increments. The RV12S can significantly enhance display performance and user experience.
- The RV12S uses 12 standard HUB75E connectors for communication and supports up to 24 groups of parallel RGB data. On-site setup, operation, and maintenance were all taken into account when designing the hardware and software of the RV12S, allowing for an easier setup, more stable operation, and more efficient maintenance

Improvements To Display Effect

➤ Pixel level brightness and chroma calibration

Work with TWT'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 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.

➤ Individual gamma adjustment for RGB

The receiving card supports independent gamma adjustment for red, green and blue, which helps to control the uneven effect of the image in low gray level conditions and balance white deviation, creating more vivid images.

➤ Image rotation in 90° increments

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

Improvements to Maintainability

➤ 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. TWT 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. TWT 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 program backup

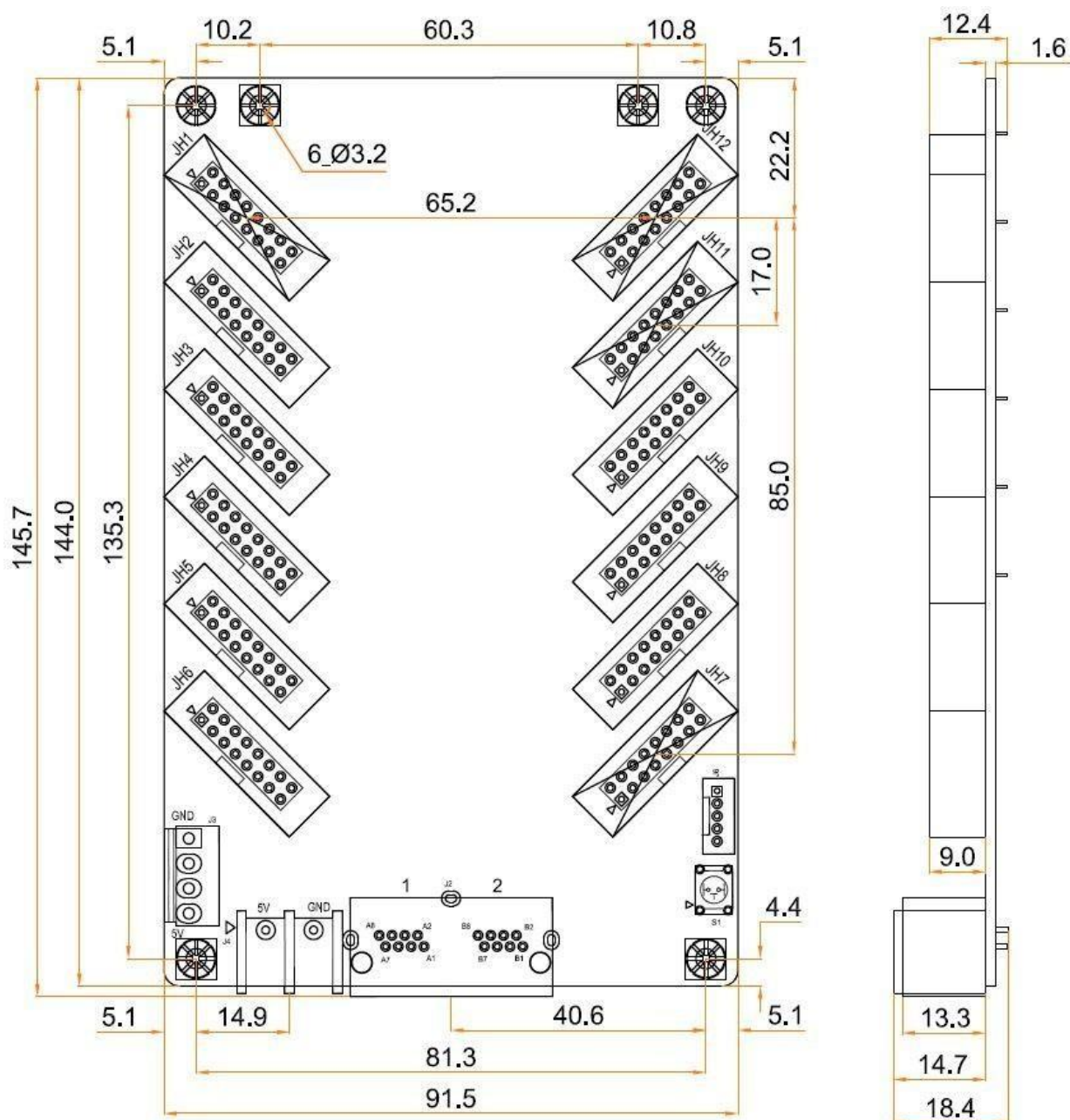
Two copies of firmware program are stored in the application area of the receiving card at the factory to avoid the problem that the receiving card may get stuck abnormally during program update.

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	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.
		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.



JH1					
R1	1	2	G1		
B1	3	4	GND		
R2	5	6	G2		
B2	7	8	HE1		
HA1	9	10	HB1		
HC1	11	12	HD1		
HDCLK1	13	14	HLAT1		
HOE1	15	16	GND		

JH2					
R3	1	2	G3		
B3	3	4	GND		
R4	5	6	G4		
B4	7	8	HE15		
HA15	9	10	HB15		
HC15	11	12	HD15		
HDCLK2	13	14	HLAT2		
HOE2	15	16	GND		

JH3					
R5	1	2	G5		
B5	3	4	GND		
R6	5	6	G6		
B6	7	8	HE2		
HA2	9	10	HB2		
HC2	11	12	HD2		
HDCLK3	13	14	HLAT3		
HOE3	15	16	GND		

JH4					
R7	1	2	G7		
B7	3	4	GND		
R8	5	6	G8		
B8	7	8	HE16		
HA16	9	10	HB16		
HC16	11	12	HD16		
HDCLK4	13	14	HLAT4		
HOE4	15	16	GND		

JH5					
R9	1	2	G9		
B9	3	4	GND		
R10	5	6	G10		
B10	7	8	HE3		
HA3	9	10	HB3		
HC3	11	12	HD3		
HDCLK5	13	14	HLAT5		
HOE5	15	16	GND		

JH6					
R11	1	2	G11		
B11	3	4	GND		
R12	5	6	G12		
B12	7	8	HE11		
HA11	9	10	HB11		
HC11	11	12	HD11		
HDCLK6	13	14	HLAT6		
HOE6	15	16	GND		

JH7					
R21	1	2	G21		
B21	3	4	GND		
R22	5	6	G22		
B22	7	8	HE6		
HA6	9	10	HB6		
HC6	11	12	HD6		
HDCLK11	13	14	HLAT11		
HOE11	15	16	GND		

JH8					
R23	1	2	G23		
B23	3	4	GND		
R24	5	6	G24		
B24	7	8	HE14		
HA14	9	10	HB14		
HC14	11	12	HD14		
HDCLK12	13	14	HLAT12		
HOE12	15	16	GND		

JH9					
R25	1	2	G25		
B25	3	4	GND		
R26	5	6	G26		
B26	7	8	HE7		
HA7	9	10	HB7		
HC7	11	12	HD7		
HDCLK13	13	14	HLAT13		
HOE13	15	16	GND		

JH10					
R27	1	2	G27		
B27	3	4	GND		
R28	5	6	G28		
B28	7	8	HE9		
HA9	9	10	HB9		
HC9	11	12	HD9		
HDCLK14	13	14	HLAT14		
HOE14	15	16	GND		

JH11					
R29	1	2	G29		
B29	3	4	GND		
R30	5	6	G30		
B30	7	8	HE8		
HA8	9	10	HB8		
HC8	11	12	HD8		
HDCLK15	13	14	HLAT15		
HOE15	15	16	GND		

JH12					
R31	1	2	G31		
B31	3	4	GND		
R32	5	6	G32		
B32	7	8	HE10		
HA10	9	10	HB10		
HC10	11	12	HD10		
HDCLK16	13	14	HLAT16		
HOE16	15	16	GND		

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
/	HA1	9	10	HB1	Line decoding signal
/	HC1	11	12	HD1	Line decoding signal
/	HDCLK1	13	14	HLAT1	Latch signal
/	HOE1	15	16	GND	Ground

Maximum Resolution	512×384@60Hz	
Electrical Specifications	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	145.7 mm × 91.5 mm × 18.4 mm
	Net weight	93.1 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

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TWT reserves the right to change products' dimensions and specifications without notice
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ADDRESS : 71 BUKIT BATOK CRESCENT #09-04 PRESTIGE CENTRE SINGAPORE 658071
TEL : +65 9798 4332

