RECEIVING CARD

RV12S

01 APPEARANCE

Top | Bottom

HUB75E Connectors
HUB75E Connectors
RV12S
Power Connector
5-Pin LCD Connector
Running Indicator
Self-Test Button
Power Connector
Gigabit Ethernet Ports
Power Indicator
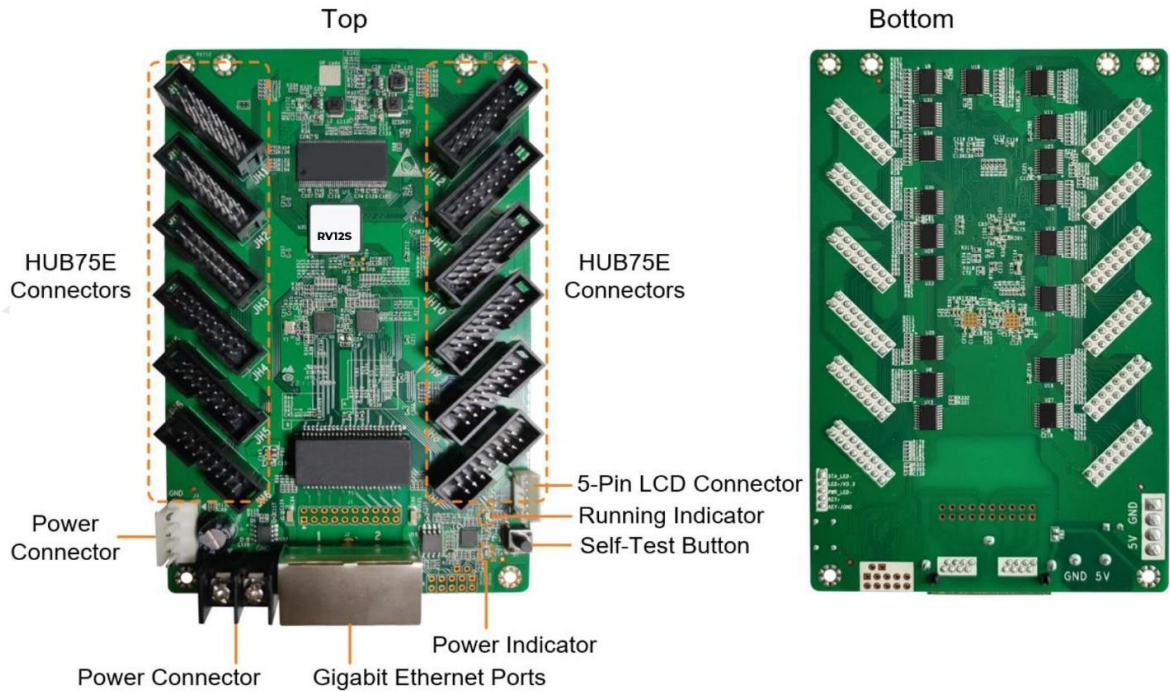
02 INTRODUCTION

➢ 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

03 FEATURES

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°).

03 FEATURES

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.

03 FEATURES

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.

04 APPEARANCE SPEC

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.

05 INDICATORS

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.

06 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.

07 PINS
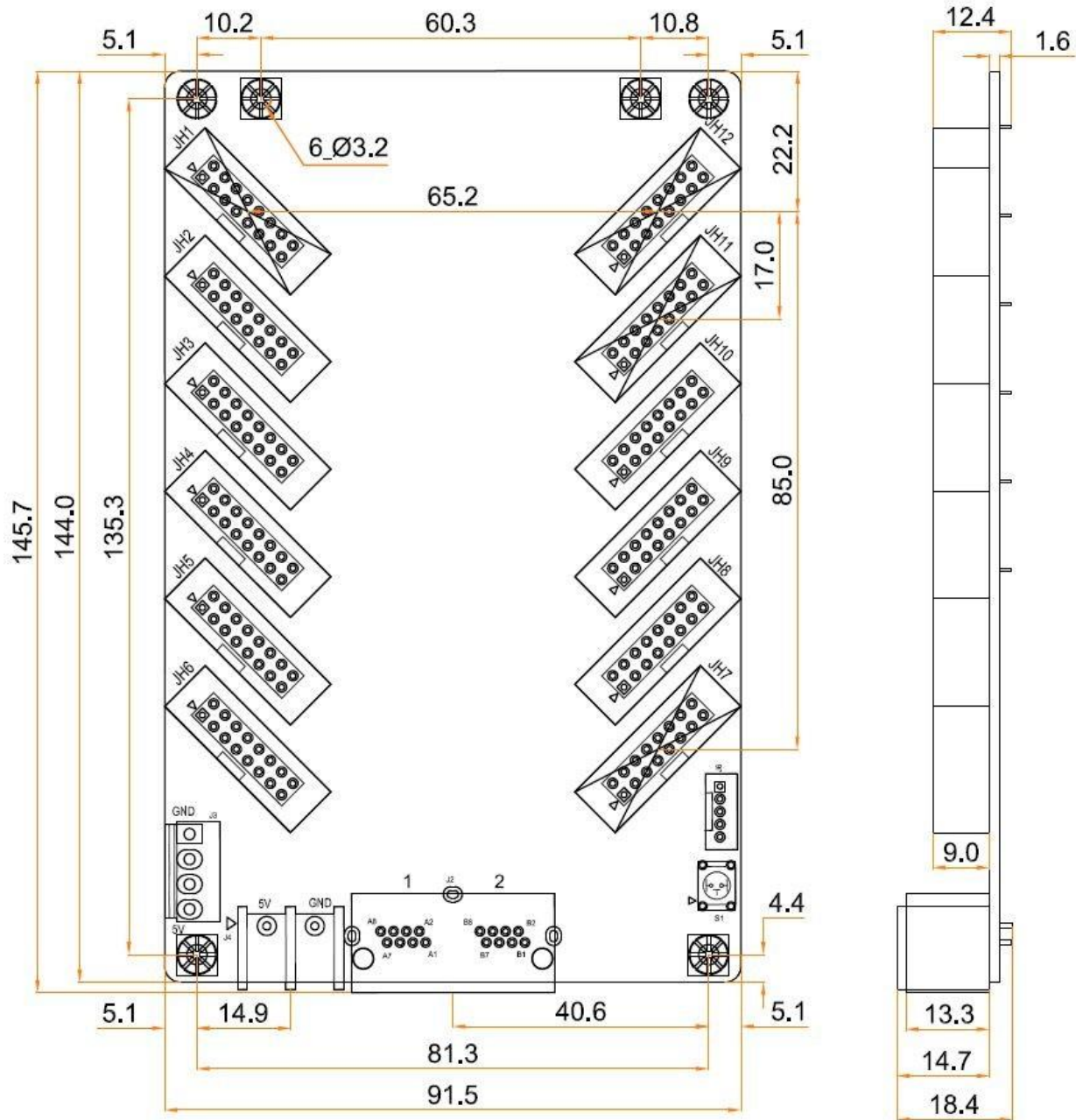
JH1

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

08 SPECIFICATIONS

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

APPLIED TECHNOLOGY AND SERVICES