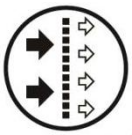
LR3.9-7.8 User Manual



High transparency

Lightweight

Fast operation

Curved design

High refresh

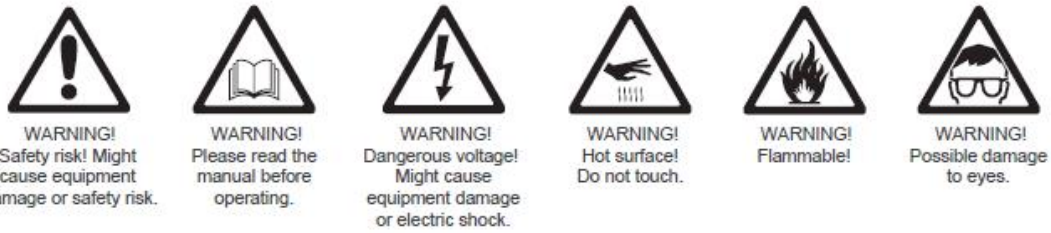
Catalogue

Safety Information

WARNING!

Please read the safety measures listed in this section carefully before installing, powering on, operating, or doing maintenance on this product.

The following marks on the product and in this manual indicate important safety measures.



WARNING: Be sure to understand and follow all safety guidelines, safety instructions, warnings and precautions listed in this manual. This product is for professional use only!
This product may result in serious injury or death due to fire hazard, electric shock, and crushing hazard.

Please read this manual carefully before installing, powering up, operating and maintenance of this product. Follow safety instructions in this manual and on the product. If you have any questions, please seek help from Absen.

Beware of Electric Shock!

• To prevent electric shock the device must be properly grounded during installation. Do not ignore using the grounding plug, or else there is a risk of electric shock.
• During a lightning storm, please disconnect the device's power supply, or provide other suitable lightning protection. If the equipment is not in use for a long time, please unplug the power cord.
• When performing any installation or maintenance work (e.g. removing the fuses, etc.,) make sure to turn off the master switch.
• Disconnect AC power when the product is not in use, or before disassembling, or installing the product.
• The AC power used in this product must comply with local building and electrical codes, and should be equipped with overload and ground fault protection.
• The main power switch should be installed at a location near the product and should be clearly visible and easily reached. This way in case of any failure the power can be promptly disconnected.
• Before using this product check all electrical distribution equipment, cables and all connected devices, and make sure all meet current requirements.
• Use appropriate power cords. Please select the appropriate power cord according to the required power and current capacity, and ensure the power cord is not damaged, aged or wet. If any overheating occurs, replace power cord immediately.

• For any other questions, please consult a professional.

Beware of Fire!

• Use a circuit breaker or fuse protection to avoid fire caused by power supply cables overloading.

• Maintain good ventilation around the display screen, controller, power supply and other devices, and keep a minimum 0.1 meter gap with other objects.

• Do not stick or hang anything on the screen.

• Do not modify the product, do not add or remove parts.

• Do not use the product in case ambient temperature is over 55 ℃.

Beware of Injury!

• Warning: Wear a helmet to avoid injury.

• Ensure any structures used to support, fix and connect the equipment can withstand at least 10 times the weight of all the equipment.

• When stacking products, please hold products firmly to prevent tipping or falling.

• Ensure all components and steel frames are securely installed.

• When installing, repairing, or moving the product, ensure the working area is free of obstacles, and ensure the working platform is securely and stably fixed.

• In the absence of proper eye protection, please do not look directly at the lit screen from within a 1 meter distance.

• Do not use any optical devices that have converging functions to look at the screen to avoid burning the eyes.

WARNING: Beware of suspended loads.

LED lamps used in the module are sensitive and can be damaged by ESD (electrostatic discharge). To prevent damage to LED lamps, do not touch when the device is running or switched off.

WARNING: The manufacturer shall not bear any responsibility for any incorrect, inappropriate, irresponsible or unsafe system installation.

Product Disposal

• Any component that has a recycling bin label can be recycled.

• For more information on collecting, reusing and recycling, please contact the local or regional waste management unit.

• Please contact us directly for detailed environmental performance information.

1 . Product Introduction

LR3.9-7.8 is a transparent LED display screen specially designed for stage rental use. LR3.9-7.8 uses die-casting aluminum structure and LED curtain with more than 50% transparency, greatly reducing wind resistance and better cooling effect. The cabinet dimension is 1000*500mm, and its weight is no more than 6kg.
The product is primarily used at live music in order to create mysterious stage effect and as a medium for video broadcast, information transmission, and so on.

1.1 Product Main Features

• The transparency of LR3.9-7.8 is as high as 50%, which can create a mysterious stage effect.

• LR3.9-7.8 has thin panel and hollowed-out PCB, which can bring the advantage of light weight, making operation and movement more convenient. One panel's weight is no more than 6kg.

• The advanced lock system with safety mechanism makes the installation firmer, and the two-handle design makes the operation faster.

• LR3.9-7.8 has curve connection blocks, which are available to support curve from -15 degree to +15 degree, giving users unlimited design flexibility of flat, concave and convex screen. Meanwhile, LR3.9-7.8 can also offer 90 degree splicing screens, and support splicing with the curve screen to make creative design.

• LR3.9-7.8 supports high refresh rate, which can quickly achieve dynamic response to prevent vivid display performance whereas the product with low refresh rate resulted in low-quality display performance and scanning lines when photos taken.

• LR3.9-7.8 is available for both hanging installation and fixed installation, for more efficient space utilization for customers.

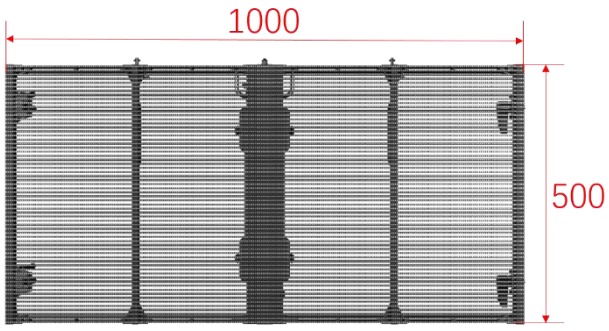
1.2 Product Specifications

Parameters		LR3.9-7.8
Physical Parameters	LED Type	SMD1921
	Pixel Pitch (mm)	Horizontal 3.9 - Vertical 7.8
	Cabinet Pixels	256*64
	Pixel Density (Pixels / m^2)	34544
	Module size (L × W)/(mm)	500*250
	Panel size (L × W × H)/(mm)	1000*500*77.2
	Cabinet Material	Die-cast Aluminum
	Cabinet Weight (kg/Cabinet)	6
	Grayscale	14
	Refresh Rate (Hz)	3840
	Drive Mode	1/16
	Signal Transmission Distance (m)	UTP cable: < 100 m; Single-mode fiber: < 10 km
Optical Parameters	Brightness (nit)	2500
	Viewing Angle (H/V)(°)	160/150
Electrical Parameters	AC Input Voltage (V)	100~240
	Power Consumption (Max/Avg.)(W/m^2)	335/112
Environmental Parameters	Storage Temperature (˚C)	-40~+60
	Working Temperature (˚C)	-20~+50
	Storage Temperature (RH)	10%~90%
	Working Humidity (RH)	10%~90%
	Ingress Protection	IP65/IP54
	Product Life (hrs)	100000
Leasing Product Installation	Panel Installation Method	Hanging/Fixed
	Maximum number of hoisted cabinets	20

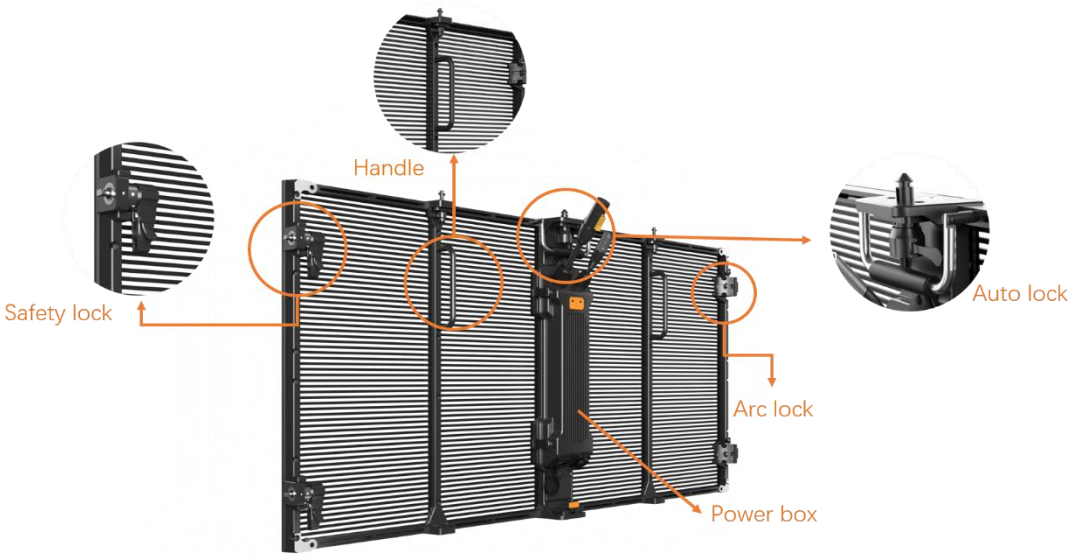
Remark: Power consumption tolerance: ±15%, according to the actual situation.

1.3 Cabinet

1.3.1 Cabinet dimension figure

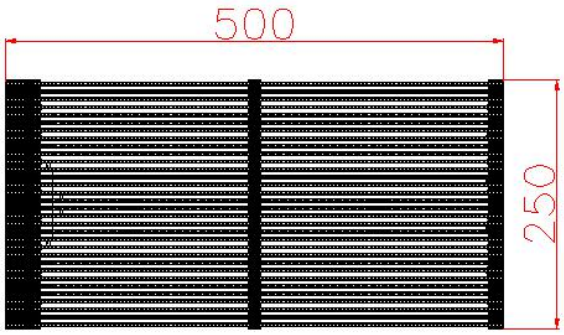


1.3.2 Cabinet structure description



1.4 Module

1.4.1 Module dimension figure



1.4.2 Features of Module

- A cabinet consists of 4 modules, and each module is fixed by 9 screws.

- After removing the fixing screws on the power box adapter and the box frame to remove the module.

- Industrial-grade waterproof socket to make more stable, and the fast elastic plug which can make usage and maintenance more convenience.

1.5 Power Supply

1.5.1 Power Output characteristics

Output Voltage	Regulation	Min. Current	Rated Current
+4.5V	±5%	0A	50A

1.5.2 Power Input characteristics

Input Voltage Range	90Vac to 264Vac
Normal Voltage Range	100Vac to 240Vac
Frequency Range	47Hz-63Hz
Max Input AC Current	3.5Amax. at full load condition
Inrush Current (cold state)	60A typ. Peak@230Vac
Efficiency (full load)	89%@220VAac
Leakage Current	Less than 3.5 mA, @ 240Vac input
Normal Output Power	250W
Input Fuse	T5AH/250Vac
Power Factor	>0.95@ full Load 220Vac input (Universal AC Input With Active PFC)

1.6 Receive Card

The A5S receiving card is connected to the Hub board through the card slot. Meanwhile, the Hub board which plays the role of transit is also connected to the module, power supply and data cable.

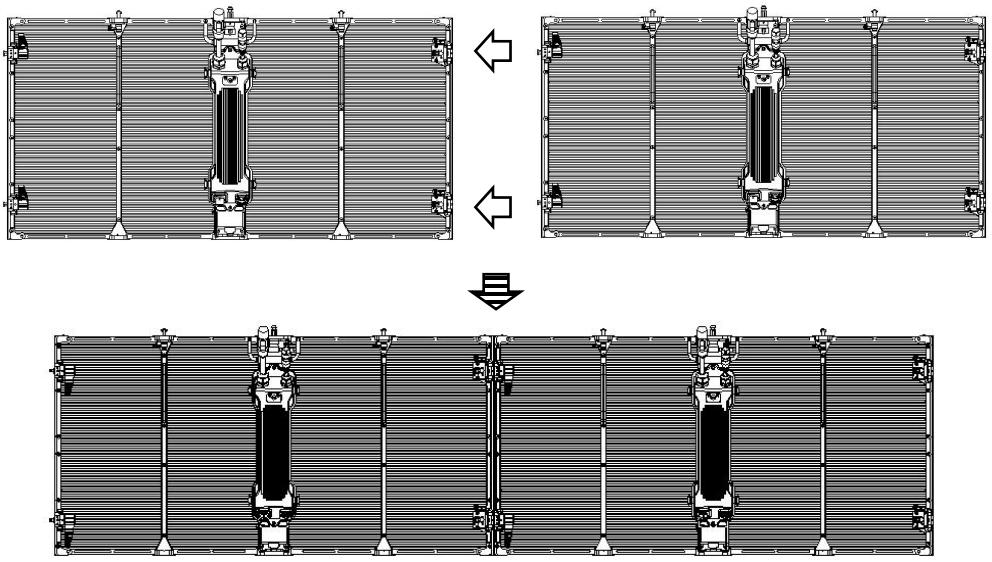
2 . Product Installation

2.1 Preparation Before Installation

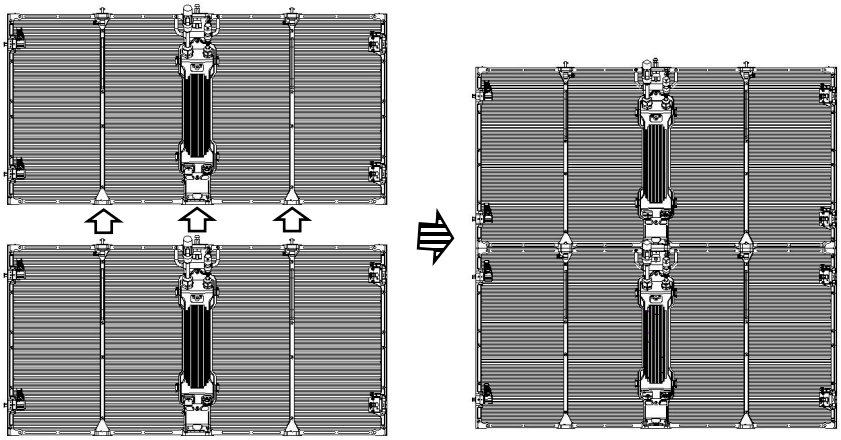
- Conventional panels cannot be installed on the seashore, and panels with special anti-salt-alkali materials can be installed on the seashore
- The humidity at the installation site must not exceed 85RH;
- The installation site temperature should be -20 ℃ ~ 50 ℃, and the panels with special low temperature materials can be installed at -30 ℃ ~ 20 ℃.

2.2 Cabinets Splicing

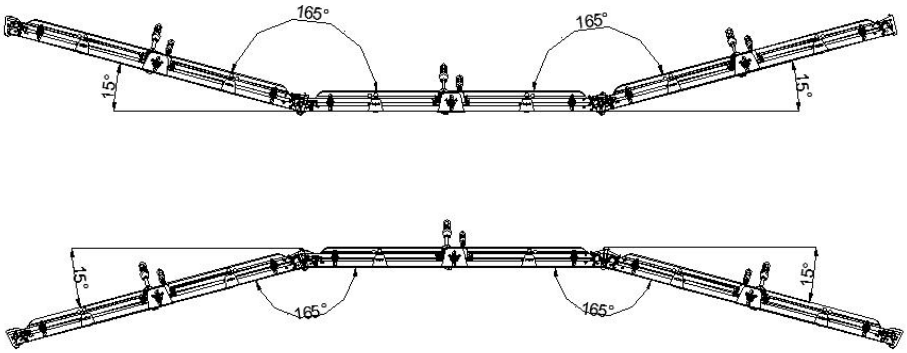
2.2.1 Splicing horizontally



2.2.2 Splicing vertically

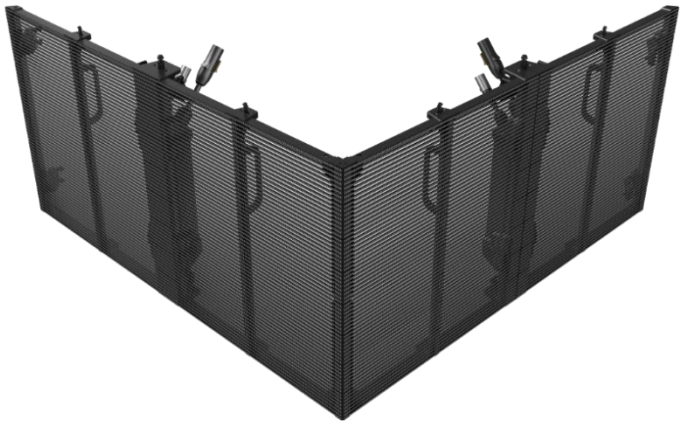


2.2.3 Curve and Convex Splicing



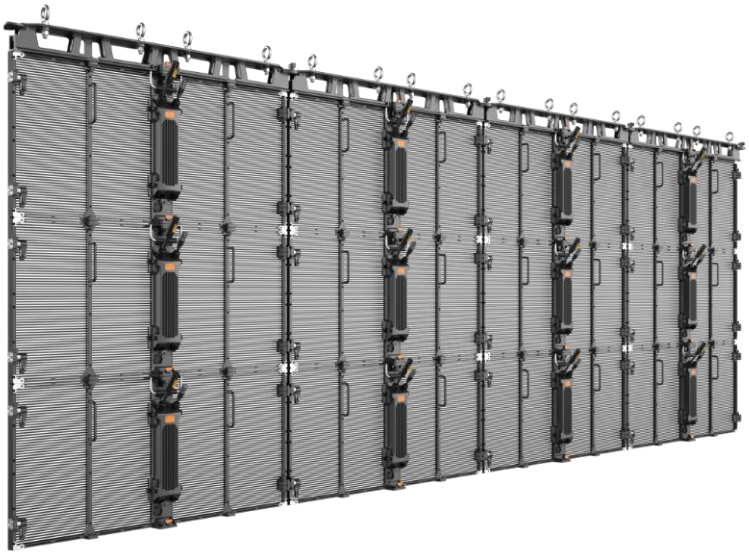
Note: LR3.9-7.8 supports curve form -15 degree to +15 degree by adjusting the arc lock to create multiple splicing effect.

2.2.4 90-degree Splicing

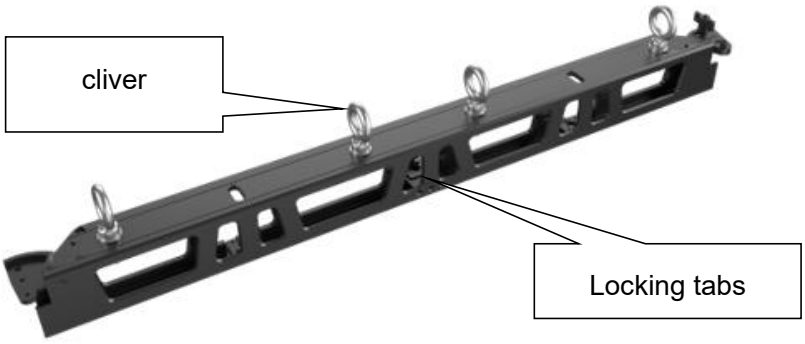


Note: 90-degree splicing screen fixed by right angle connector.

2.2 Hanging Installation



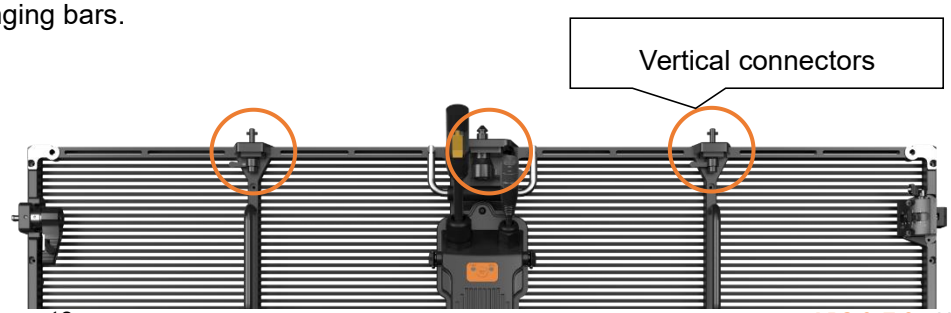
2.2.1 Preparation for hanging installation



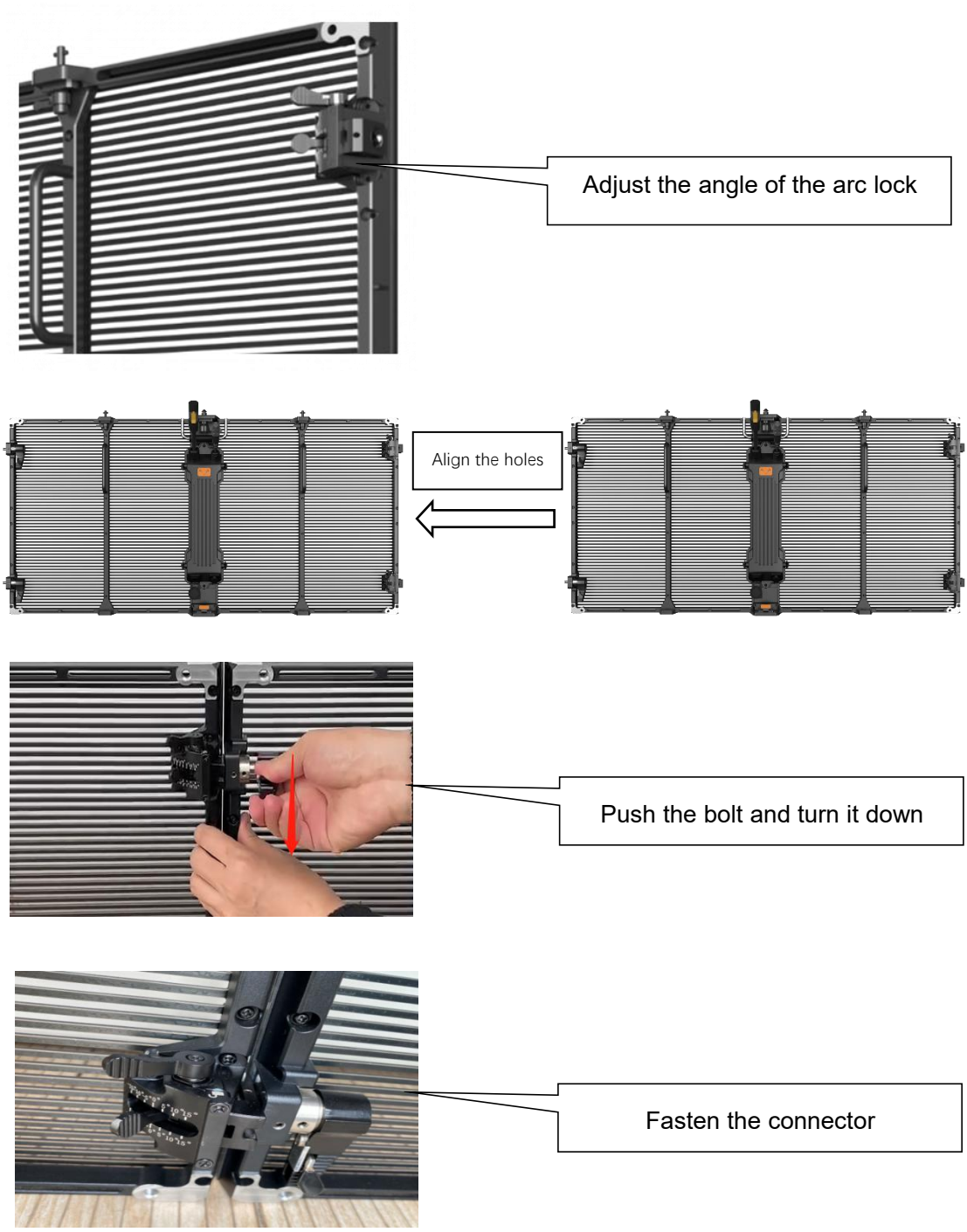
Note: 1000mm single hanging bar is used for hanging installation

2.2.2 Hanging installation steps

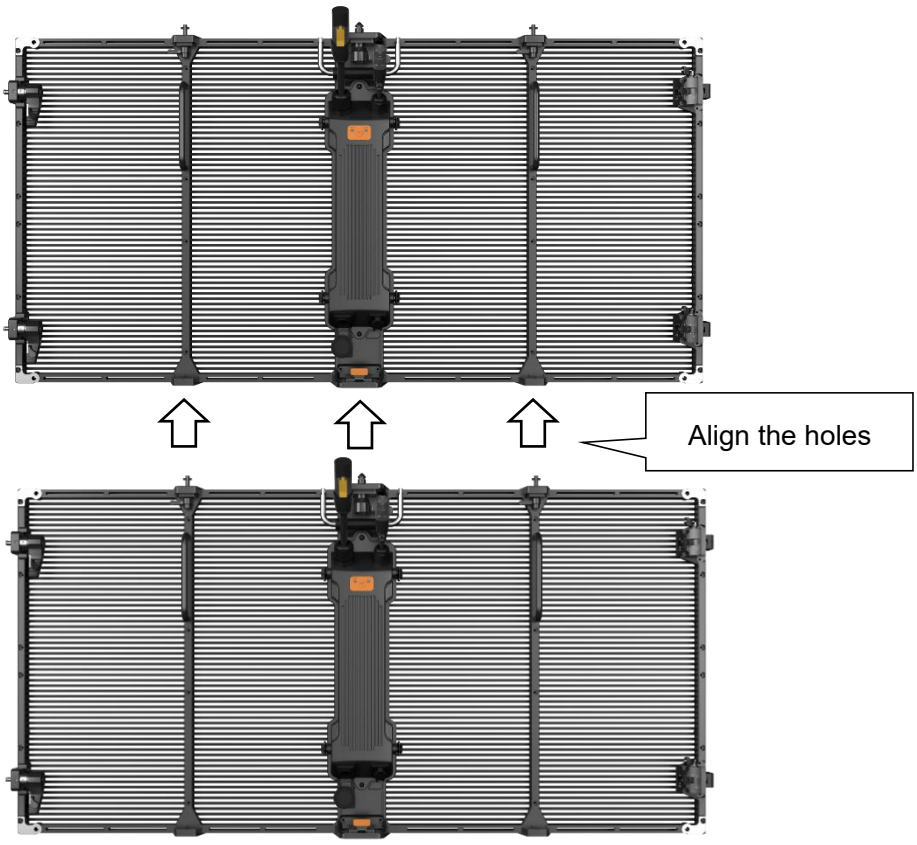
Step 1, Fix the hanging bars on the truss with wire rope, and connect the hanging bars horizontally with block.
Step 2, Use the vertical connectors to fix the first row cabinets to the locking tabs of the hanging bars.

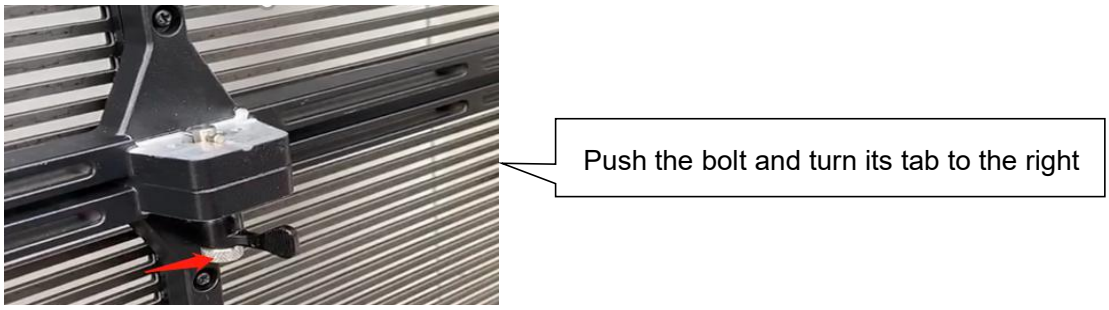


Step 3, Splicing the first row cabinets horizontally: First, adjust the angle of the arc lock and fix it; Then, align the connection holes of the left and right cabinets; After that, push the bolt of the horizontal connector into the hole; Last, fasten the bolt by turning it down.



Step 4, Install other cabinets from top to bottom: First, align the connection holes of upper and lower cabinet; Then, let the connector tab to the left; After that, push the bolt of the vertical connector into the hole; Last, fasten the connector by turning its tab to right.

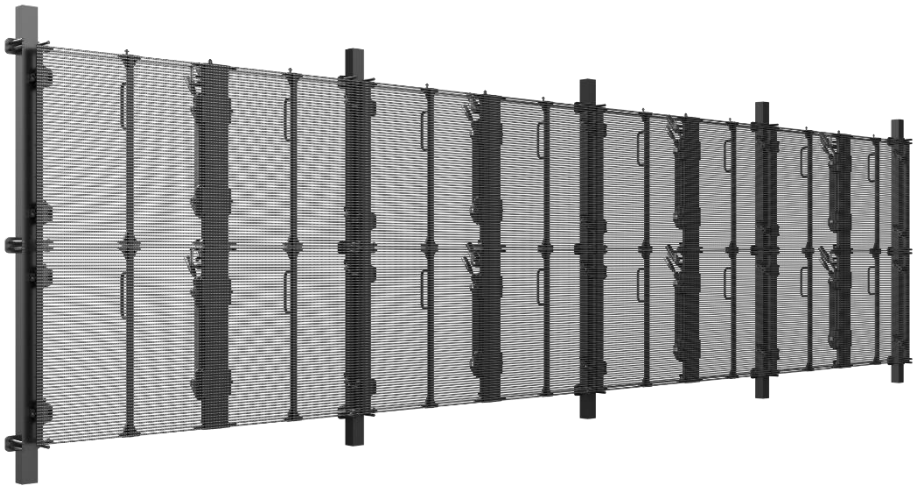




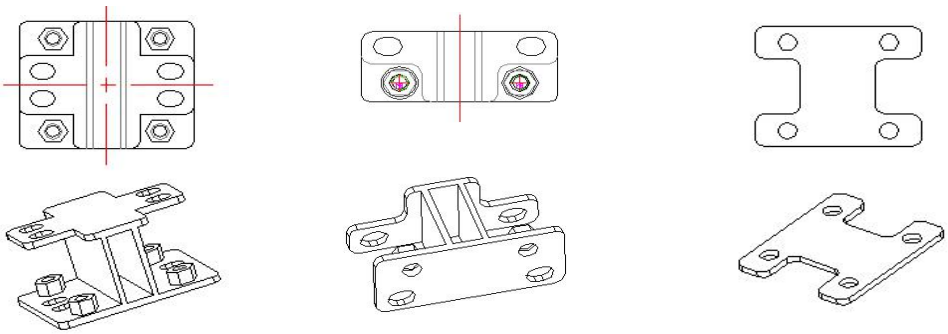
Step 5, Connect the power cables and the network cables between the cabinets.

Note: Maximum number of installations: 20

2.3 Fixed Installation



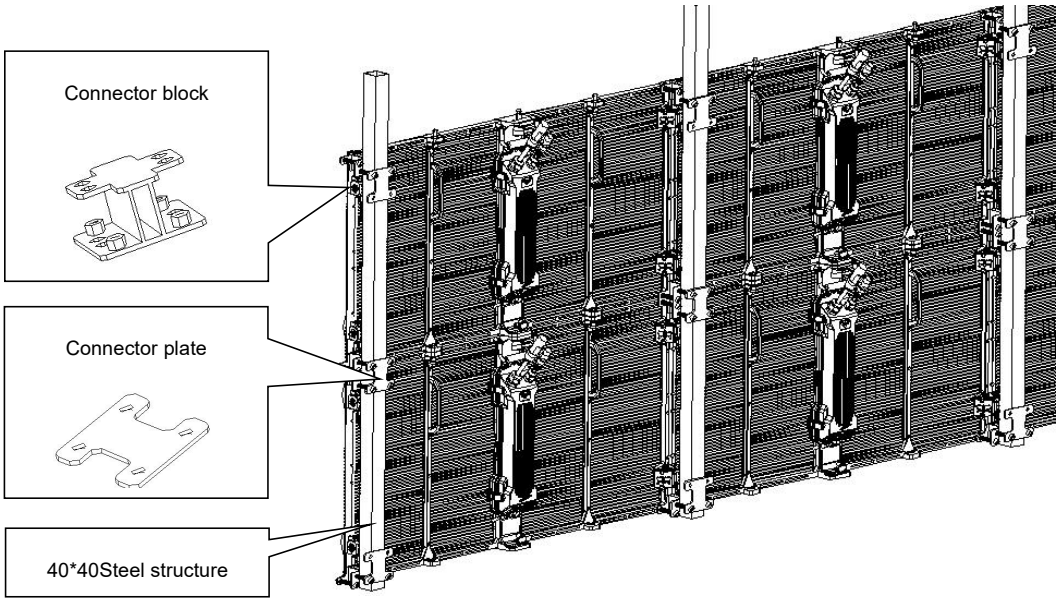
2.3.1 Preparation for fixed installation

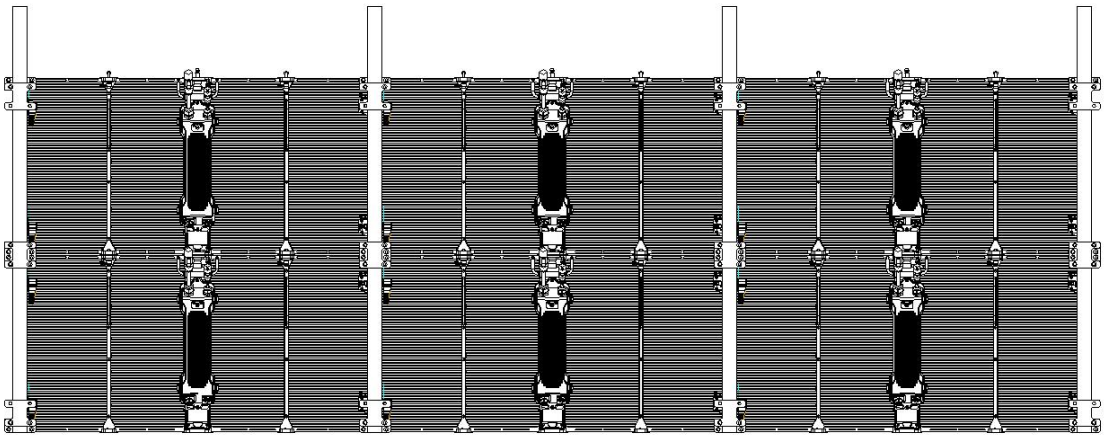


Note: Absen only offer connector block and connector plates for fixed installation if customer needs.

2.3.2 Fixed installation steps

Step 1, Fixing the cabinets by connector block.
Step 2, Connect the cabinets to the steel structure by connector plates.
(Please watch the installation video for details)


Connector block
Connector plate
40*40Steel structure



3 . Product Cabling

3.1 Attention of Cabling

LR series network cables and power cables are connected by aviation heads, as above:
Note: The connecting cables between the cabinets should pass through the cabinets as much as possible. If the connection method changed, please set the same connection method in the software settings. Please refer to the software for more details.

Note:

1. Load capacity of main power cable and main network cable.

2. Checking.

After the cabinet wiring is completed, use a multimeter to measure whether there is a short circuit between the AC input (L / N / PE) and DC output (VCC / GND) of the power supply. If so, please check the wiring carefully. Please make sure the circuit is normal before power on. To avoid the entire screen being burned due to the wrong working voltage, please pay attention to the working voltage range of the cabinet when use.

3. Turn on the screen and check the effect.

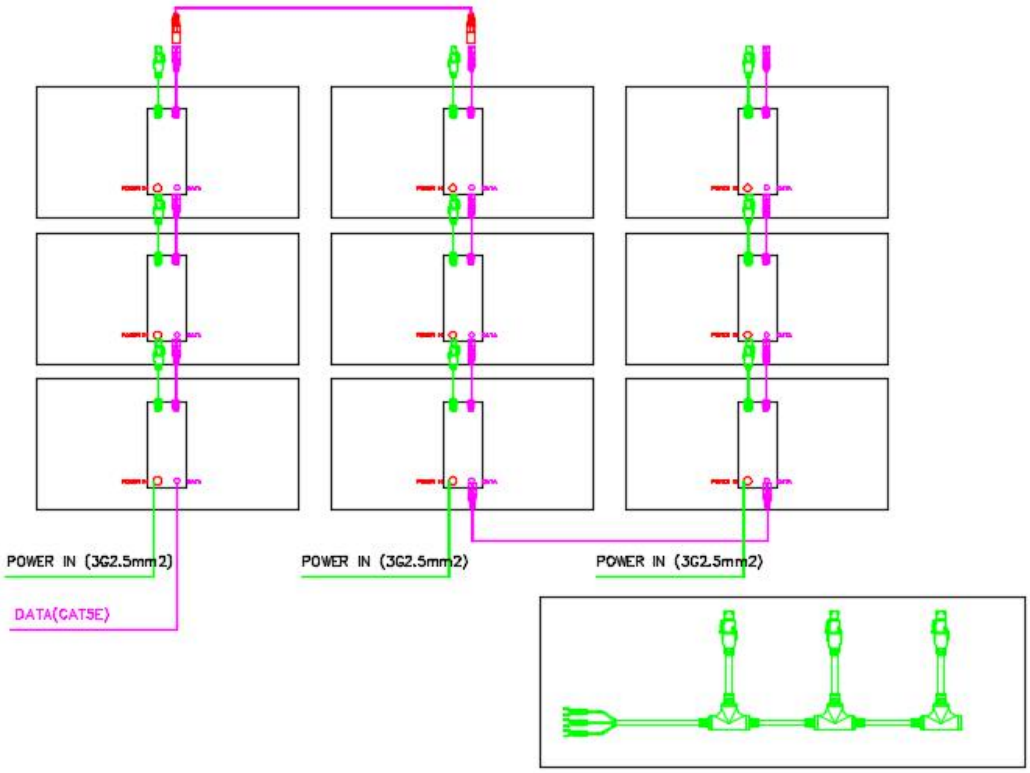
When the screen is powered on, play high-definition content, such as video, text, images, etc. It is suggested to make sure the resolution of the content consistent with the resolution of the screen, otherwise the content will be compressed, thus affecting the overall performance.

4. For software operation, please refer to the software instruction manual.

Power cable routing: Details of the loaded box: When 220V power supply, a single power line can load up to 16 cabinets, and when 110V power supply, a single power line can load up to 8 cabinets.

Network cable routing: The signal cables are connected from left to right. Please calculate the resolution according to the pixels of each cabinet. Note that the maximum load of a single network port does not exceed 650,000 pixels.

3.2 Wring Diagram



4 . Maintenance

4.1 Preparation of Maintenance Tools

	Type	Function	Picture
List	Adjustable wrench	Fix the connecting piece of the box and tighten the M10 * 60 bolt	
	Phillips screwdriver	Disassembly module & power supply & receiving card & adaptor plate	
	multimeter	Measuring power lines and distribution boxes	

	Small Phillips screwdriver	Installing and removing mask	
	Spirit level	Measuring structure	
	laser spirit level	Measuring structure	
	band tape	Measuring structure	

4.2 Module Maintenance

The modules of LR3.9-7.8 support rear maintenance only.

4.2.1 Module maintenance steps

Step 1, Remove power box from panel by loosening four buckles.

Step 2, Loosen the fixing screws of the module with a cross screwdriver, then take out the module from panel.

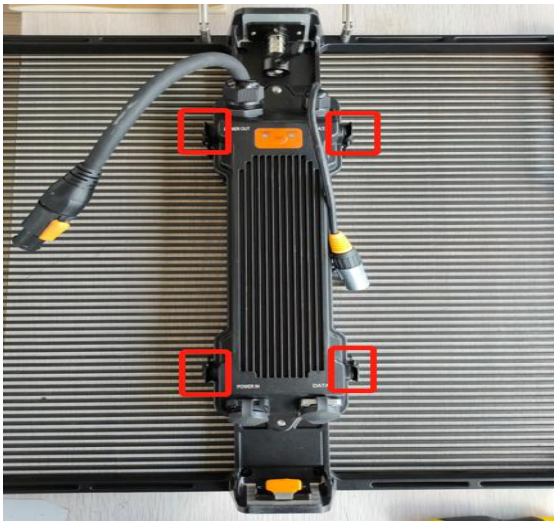
Note:
1. Each module is fixed by 9 screws.
2. When the socket on the module is relatively tight with the adapter board, you can use a flat-blade screwdriver to slightly pry the contact position between the module and the adapter board. To avoid module damage, please pay attention to force evenly when remove the module.

4.3 Power Supply Maintenance

The power supply of LR3.9-7.8 supports rear maintenance only.

4.3.1 Power supply maintenance steps

Step 1, Open the four buckles of the power box.



Step 2, Place the power supply horizontally and open the cover.

Step 3, Remove the adapter board and other wiring (The red area is a high-voltage danger area: the voltage is 110V / 220V AC. The green area is a low-voltage area: power supply details is 5V DC)

Step 4, Remove the fixed screw of power supply
Step 5, Replace the new power supply and tighten the fixing screws;
Step 6, Connect the power cable on the power supply; The red area is a high-voltage danger area: the voltage is 110V / 220V AC. The green area is a low-voltage area: power supply details is 5V DC.
Note: For avoid high voltage electric shock, please disconnect the screen power before disassembly; Please distinguish between live, neutral, and ground, 5V positive and negative power cables.

4.4 Receive Card Maintenance

The receive card of LR3.9-7.8 supports rear maintenance only.

4.4.1 Receive card maintenance steps

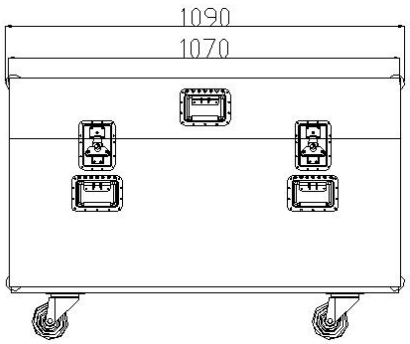
Step 1, Remove the power box of the cabinet, please refer to 4.3 for more specific operations.
Step 2, Place the power supply horizontally and open the cover.
Step 3, Remove the screws of the receiving card (please note the blue circle mark).
Step 4, Unplug the receiving card and replace it.
Step 5, Install a new receiving card on the HUB card, please note that the direction of the receiving card is opposite to the direction of the arrow on the HUB board (please note the yellow box mark).
Step 6, Install the fixing screws.

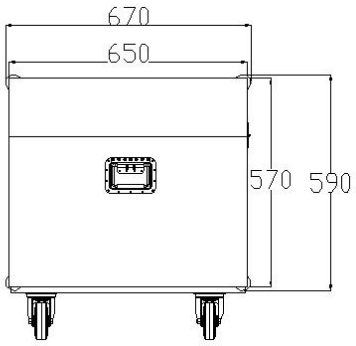
4.5 Hub Maintenance

The Hub card of LR3.9-7.8 supports rear maintenance only.
Please refer to the maintenance method of the receiving card, then remove the fixing screw which are marked with red circle when maintaining Hub card.

5. Flight Case

Flight case of LR3.9-7.8 is 6 in 1.





6. Common Faults and troubleshooting

No.	Common faults	Solution
1	Some modules are black	1. Check whether the power plug of the corresponding module is tightly inserted;
		2. Check whether the power cable of the corresponding module is burnt out;
		3. Check whether the switch power supply of the corresponding module has no output;
		4. Check whether the flat cable of the corresponding module is malfunctioning;
		5. Replace the flat cable of the corresponding module;
		6. Replace the module;
		7. Replace the receiving card;
		8. Send rcfg file;
2	The whole screen is black	1. Check whether the screen power is on;
		2. Check whether the DVI cable or HDMI cable is loose;
		3. Check whether the main data cable is inserted tightly;
		4. Check whether the sending card is powered on and whether the running indicator is flashing;
		5. Replace the sending card;
		6, Connecting the computer to an LCD display, check whether there is output on video card;
		7. Update the video card driver;
		8. Replace the computer;
3	Screen show scrambled image	1. Check whether the power plug of the receiving card is tightly inserted;
		2. Check whether the power cable of the receiving card is burnt out;
		3. Check whether the power supply has no output;
		4. Check the data cable of the receiving card;
		5. Replace the data cable;
		6. Send the rcfg file;
		7. Upgrade the firmware version of the receiving card;
		8. Replace the receiving card;
4	Chromatic aberration between modules	1. Check whether the module power plug is plugged tightly;
		2. Replace the flat cable;
		3. Replace the power supply;
		4. Replace the module;
		5. Replace the receiving card;
5	All panels display the same content	1. Set the screen connection on software;
		2. Check whether the data port is wrong.

6	No control system detected	1. Check the USB cable;
		2. Check whether the computer USB port is malfunctioning;
		3. Update the USB driver;
		4. Replace the USB cable;
		5. Replace the sending card;
7	No multi-function card detected	1. Check whether the distribution box is in the automatic state;
		2. Check whether the multi-function card is powered;
		3. Replace the power supply of the multi-function card;
		4. Check whether the main data cable is inserted into the wrong data port;
		5. Check whether the sending card data port is malfunctioning;
		6. Re-add the multi-function card;
		7. Replace the multi-function card;
		8. Replace the sending card;
8	No full screen display	1. Check whether the setting of the playback window is normal;
		2. Check the output resolution of the video processor;
		3. Check the output window of the video processor;

Absen

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