

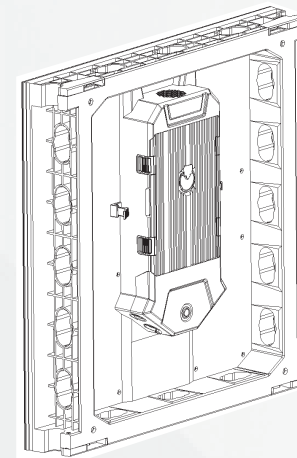


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## MG6S Series LED Screen User Manual



HQ address: YES TECH Optoelectric Industrial Park, No.108 Qingzhuhu Road,  
Kaifu District, Changsha City, Hunan Province, China

Tel: +86-731-84539619/84530058

Web: [www.yes-led.com](http://www.yes-led.com)

E-mail: [yestech@yes-led.com](mailto:yestech@yes-led.com)

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# CONTENTS

<b>Caution</b> .....	01
<b>Preface</b> .....	05
<b>Chapter 1</b> LED Cabinet .....	06
1.1 Cabinet Structure .....	06
<b>Chapter 2</b> Cabinet Connection .....	07
2.1 Connectors and Cabinet Mounting Socket Connection .....	07
2.2 Signal and Power Cable Connection .....	09
<b>Chapter 3</b> LED Screen Installation .....	11
3.1 Hanging Installation .....	18
3.2 Fixing Installation .....	23
3.3 Curving Installation .....	24
3.4 Dislocation Installation .....	26
<b>Chapter 4</b> Frequently Asked Questions For LED Screen .....	28
4.1 Software Questions .....	28
4.2 Hardware Questions .....	29
<b>Chapter 5</b> LED Screen Maintenance .....	30

## CAUTION

Warning: This is a CALSS A-level product. In the living environment, this product may cause radio interference. In this case, the user may be required to take practical actions for the interference.



### Caution 1:

In order to avoid any physical damage, please read carefully the User Manual before connecting the switches.

1. LED screen should only be operated by trained professionals.
2. Do not expose any part of the LED screen to naked flame/smoke.
3. Personnel operating the LED screen are advised to wear a safety helmet during operation.
4. Check all the AC power is connected before turning on the switch.
5. Turn off all switches of the LED screen, computer terminals, system box and monitors before performing any maintenance work.
6. Do not touch the power supply when the switch is turned on.

### Caution 2:

Please read the installation and operation instruction manual carefully in order to make sure the normal lifespan of LED screen and avoid any damage of electronic components, device driver and lose of data.

1. Turn off all switches including LED screen, computer terminal, system box and monitor before connecting any cables.
2. Wear anti-static ring before replacing any electronic components.
3. Do not hot plug any cables connected to computer terminals while the power is running. Ensure that all power is disconnected before unplugging any cable from the ports especially the serial line ports.
4. An indoor LED screen should not be used outdoor.
5. In order to ensure the safety, please check the condition of power cables every three months if rental usage, every year if fixing installation.

### Caution 3:

1. Making sure the LED screen should be properly grounded before working.
2. Indoor LED screen grounding resistance must be less than 1Ω.

### Caution 4:

1. The indoor LED screen can not be installed in damp environment, and the surface of LED screen cannot be directly touched by hand without being electrostatically shielded.
2. Air condition is required for indoor LED screen if the indoor environment without air condition or the indoor temperature is higher than 30 °C.
3. Regular electricity testing is required for indoor LED screen if long time no use. (regular electricity testing standard: at least 2 hours in a week increase gray scale stepwise)
4. The operating/storage environment should conform to the requirements in product parameter&specification sheet, otherwise it will damage the LED screen seriously.
5. Avoid the cabinet work under the conditions of high organic solvent detergent (such as kerosene, rust-proof oil, etc).

**Caution 5:****1. For CE certification warning**

Warning: This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

**2. For FCC certification warning**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

**Special statement:**

When the indoor LED screen is used for outdoor, our company will not be responsible for the damage caused by the rain and the dampness. Our company does not compensate for the personal injury or material loss caused by the users' arbitrarily transforming or repairing this product. Please contact our company beforehand when it is needed to repair or remould the product.

warranty period:

- ⦿ In principle, the product warranty period is based on the product warranty period specified on the quotation.
- ⦿ During the warranty period, our company will not guarantee any problems due to the following reasons.
  - Problems caused by the user's arbitrarily dismantling the product or failing to perform maintenance properly.
  - Problems caused by incorrect transport and storage.
  - Problems caused by the use of exceeding the rated parameters of the product.
  - Problems caused by improper installation.
  - Problems caused by fires, earthquakes, storms, floods, lightning and other natural disasters or riots, wars, radioactivity, etc. and other natural and man-made disasters.

Signs of restricted use of hazardous substances in electrical and electronic products:



1. The logo indicates that the environmental protection use period of electronic and electrical products is 10 years;
2. It means that the electrical and electronic products contain certain hazardous substances and can be used with confidence within the environmental protection use period. After the environmental protection period is exceeded, they should enter the recycling system.

## PREFACE

The indoor LED screen cabinet, Magic stage MG6S series, adopt polymer nano material, and apply the modular and standardized design concept. At present, 3 models (the pixel pitch will be enriched in the future design), including YMG6S-M02NFD, YMG6S-M03NFD, YMG6S-M04NFD, are compatible with the same cabinet.

The cabinet is very light and thin, only 5.6-5.9kg per cabinet, and supports front and back services. The installation is fast, convenient and more humanized. The image will not show dark streaks and flashes when being captured by camera, because the refresh rate of the LED screen is up to 3840Hz. With limitless screen size and curving installation, which can meet more market needs and broaden more application, our screen has become an important choice for stage show/rent, exhibitions, shows and commercial advertising.

To ensure that our products are used within reasonable conditions and get your recognition, we will explain installation process, using process and cautions in details. Please read this carefully before installing and testing screen.

Tips: If there is no special instruction, the operation method on the manual can apply to all the models of this series products.

## Chapter 1 LED Cabinet

The LED cabinet mainly includes power supply, modules, and receiving card. The cover of power supply box can be fixed and protect all accessories inside. All components inside should be neatly secured for connecting cabinets more easily.

### 1.1 Cabinet Structure

The cabinet structure of MG6S series products is made of polymer nanomaterial instead of the traditional aluminum alloy die-castings or steel material, so that the cabinet weight is much lighter. The cabinet size is 500mm\*500mm\*73mm. (Figure 1.1.1)

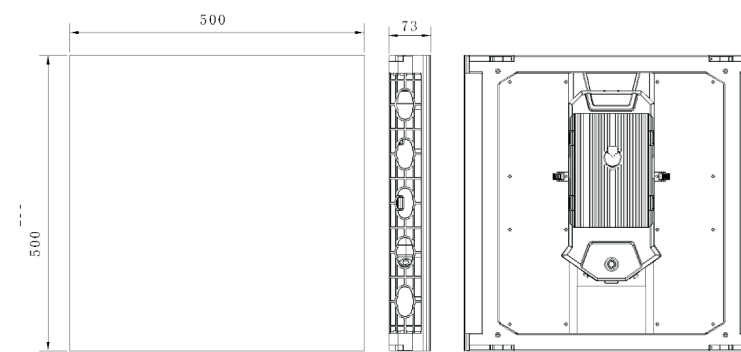
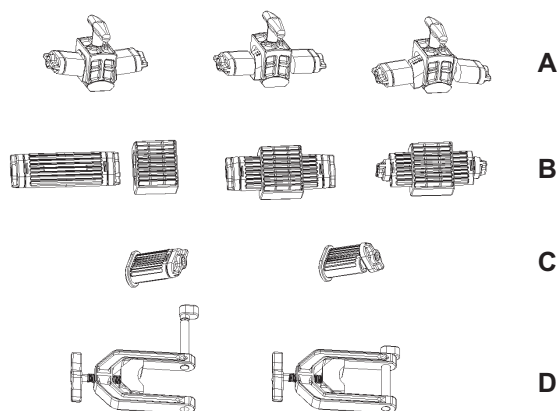


Figure 1.1.1 Cabinet view from all sides

## Chapter 2 Cabinet Connection

### 2.1 Connectors and Cabinet Mounting Socket Connection



As shown in Figure 2.1.1. A(curve connector), B(horizontal connector), C(vertical connector) and D (U-shape structure connector) are the connectors for cabinets. The connectors are used to join and fix the cabinets. Connectors A and B are used to connect the cabinets horizontally, while connector C is used to connect the cabinets vertically. Connector A is used for curving installation. After 2 cabinets are connected, they can be twisted, or stretched forth or back to form a cambered surface. Connector D is mainly used for fixing installation.

The maximum horizontal bearing capacity of connector A is 500 N, the safety bearing capacity is 200 N. It can be used more than 2000 times, and stored more than 3 years;

The maximum horizontal bearing capacity of connector B is 1500 N, the safety bearing capacity is 500 N. It can be used more than 2000 times, and stored more than 3 years;

The maximum horizontal bearing capacity of connector C is 7000 N, the safety bearing capacity is 1200 N. It can be used more than 2000 times, and stored more than 3 years.

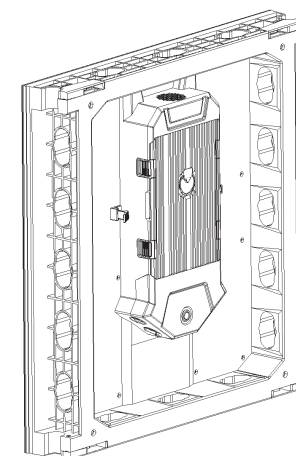


Figure 2.1.2 Mounting sockets of the cabinet

As shown in Figure 2.1.2, there are 3 mounting sockets and 2 half mounting sockets on the top and bottom of the frame. 5 mounting sockets on left and right side of the frame, where the connectors can be inserted. Tightly twist the end of the connectors to lock the cabinets in place. One by one, the cabinets can be connected easily and fast with “one slot and one twist”.

Please note: Our standard issue of the connectors would be 2 vertical connectors(C) and 3 horizontal connectors(B) as shown in Figure 2.1.3.

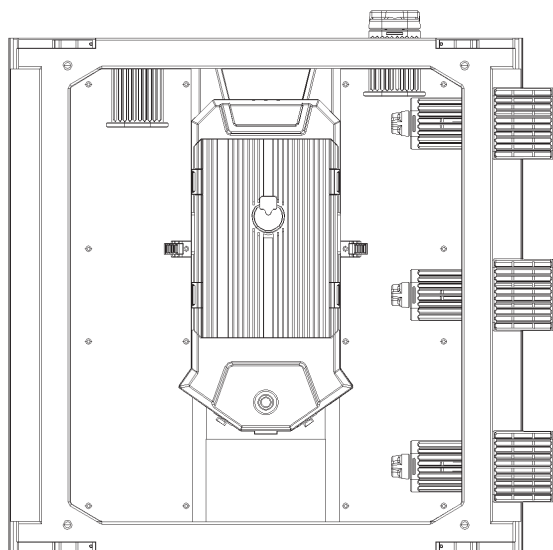


Figure 2.1.3 Standard connectors for cabinet

## 2.2 Signal and Power Cable Connection

MG6S adopt the no-wire outlet method, use Cat5 signal cable and power cable to connect, convenient the connection and usage between the cabinets. We only need to insert the connector of the last cabinet into input idle socket, the power cable connection is the same like this. One port input one port output, the input signal of the cabinet comes from the last cabinet output signal, the output signal of the cabinet connect next cabinet input signal.

But the signal transmit between the first cabinet of the screen and the sending card end (PC, video processor, etc) still use the network cable.

(fiber+converter is recommended when use the long distance signal transmit.)

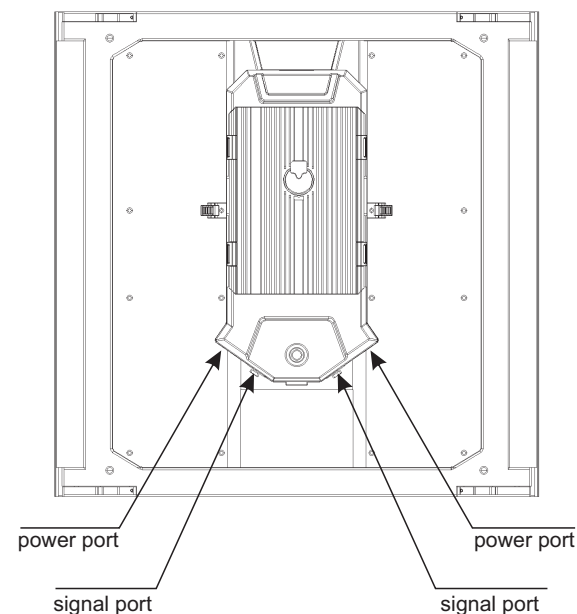


Figure 2.2.1 Signal cable and power cable connection between cabinets

The both signal ports can be flexibly as input or output according to your actual operation, as shown in Figure 2.2.1.

The signal line source is sending card end, including the PC with the sending card, control box, the video processor with sending card.

## Chapter 3 LED Screen Installation

For LED screen installation, we provide customers with hanging installation, fixing installation, curving installation and dislocation installation, the four installation methods can be used alone or mixed. Customers can choose an appropriate installation style according to the situation.

### Note 1:

All installation methods are required to avoid collision of the frontage 4 corners of the cabinet to other hard objects(as Figure 3.1), causing unnecessary damage and affecting the normal use of the cabinet.

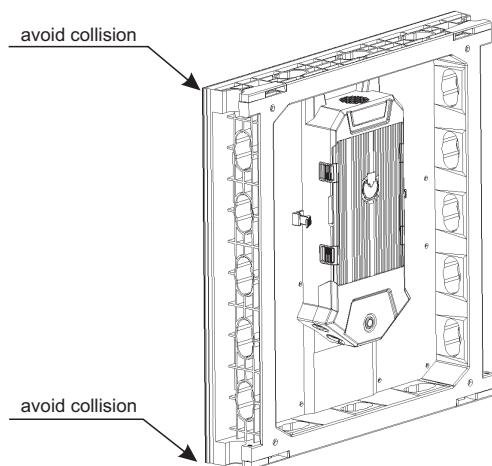


Figure 3.1 Cabinet front corners

### Note 2:

When taking out cabinet from flight case, make sure the top of the cabinet is in the same level and in a steady speed. Avoid any possible friction between the flight case clapboard and the cabinet. If the cabinet incline(Figure 3.2), which will affect the appearance and performance of the cabinet.

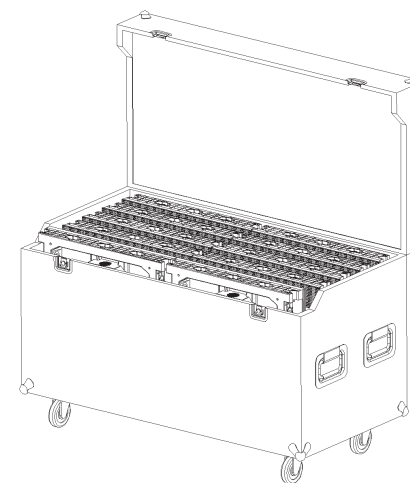


Figure 3.2 Taking out cabinets from flight case

### Note 3:

In general, unused cabinets must be placed in flight cases or cartons. However, in case of no flight cases or in other special conditions, the LED should be placed upwards, separating cabinets with foam or soft paper and then stack (stacked layers  $\leq 10$  PCS cabinet). Prohibit placing cabinet upright, in line of dominoes form (Figure 3.3).



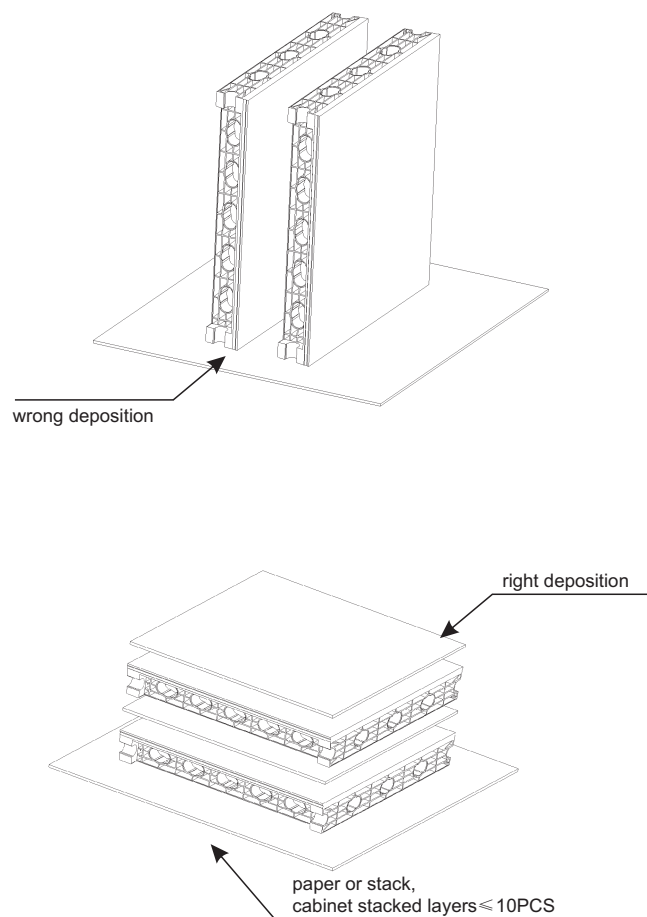


Figure 3.3 Cabinet deposition

Note 4:

When make the cascade connection of power cable and signal cable, in order to ensure the cables in queue, cables between two cabinets can be connected through the mounting hole. (Figure 3.4) Looking from the back of the screen, it needs an adapter to do up and down cascade connection for the rightmost two cabinets, while a signal cable is enough for the leftmost two cabinets.

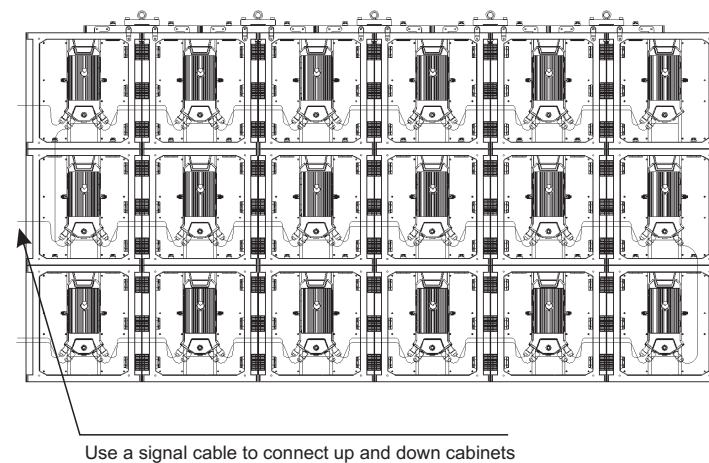


Figure 3.4 Power cable and signal cable connection through mounting hole

**Note 5:**

As shown in Figure 3.5, there are 4 multi-function holes in the four corners of the cabinets. When fixing installation, they are for electrostatic discharge(ESD), it's necessary to ensure that the structure parts(including trusses, steel frames, etc.) connected to the four holes are connected to the earth. When rental hanging installation, they are for fixing the plates between cabinets.

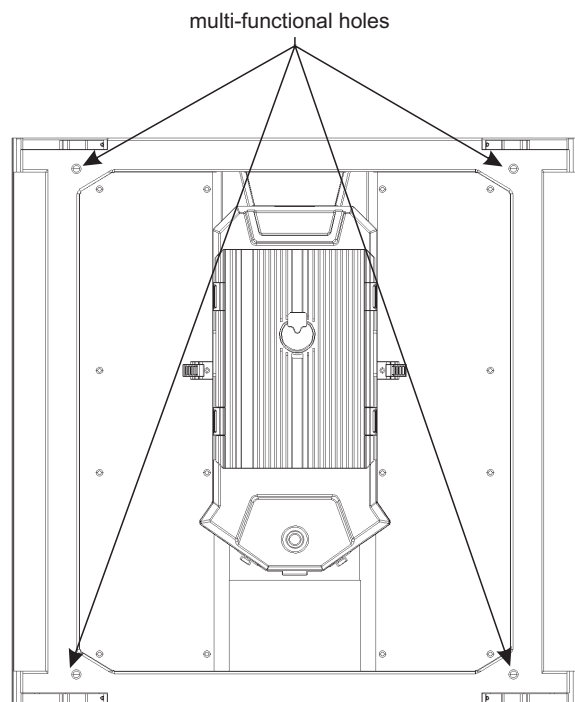


Figure 3.5 The diagram of position of multi-function holes in the cabinet

**Note 6:**

When using all types of connectors, in order to ensure the maximum strength connection effect, the locking head needs to be screwed into right place, that is, the locking head and the connector itself are in a vertical state.

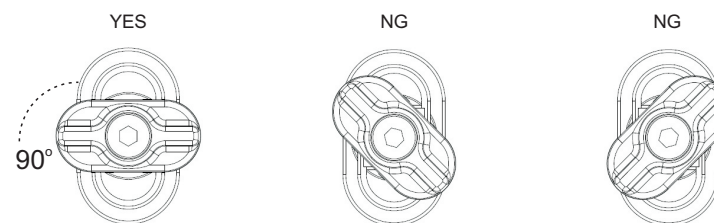
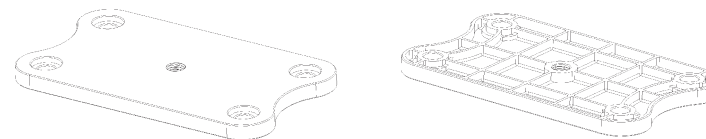


Figure 3.6 The using caution of the locking head of connector

**Note 7:**

In order to ensure the safe use of the cabinet and the better flatness of the LED screen, when the height of the hanging cabinet reaches  $\geq 4\text{m}$  (eight cabinets' height), it is necessary to install the connecting piece, as shown in Figure 3.7.



the connecting piece

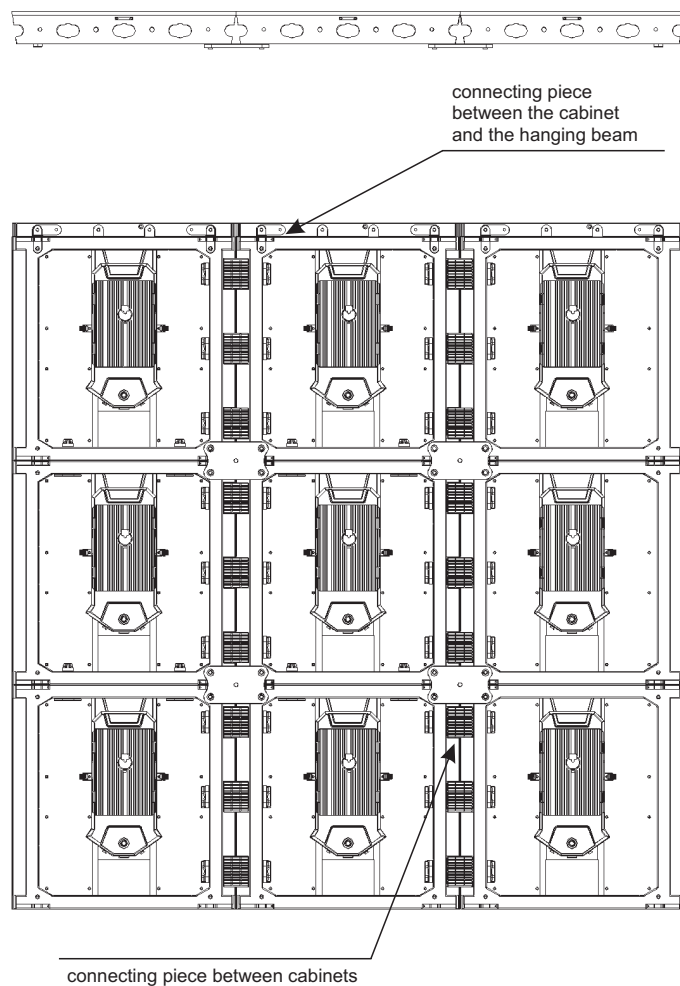


Figure 3.7 The diagram of installation of the connecting piece

### 3.1 Hanging Installation

The connecting piece connects the box and the hanging beam

1. The hanging method is to hang the cabinet with the hanging beam. For such installation method, it must have a suitable installation location, such as overhead beams or lintel being present. Furthermore, it is necessary to have a cover at the back of the LED screen. To install in this way, it can also be mounted on TRUSS lifting frame or other similar firm structures, as Figure 3.1.1.2.

In this way, the uppermost of the display is aluminum hanging beam, and below cabinets are connected, and then the lower cabinet is fastened with the upper one, and the right one connected with the left one, thus it can form a whole screen. The hanging beam structure as Figure 3.1.1.1, and the diagram of hanging beam mounted on the TRUSS frame with rope as Figure 3.1.1.2 and Figure 3.1.1.3. each complete hanging beam is made up of several short hanging beams with 3 holes. C-connectors should be installed between hanging beams.

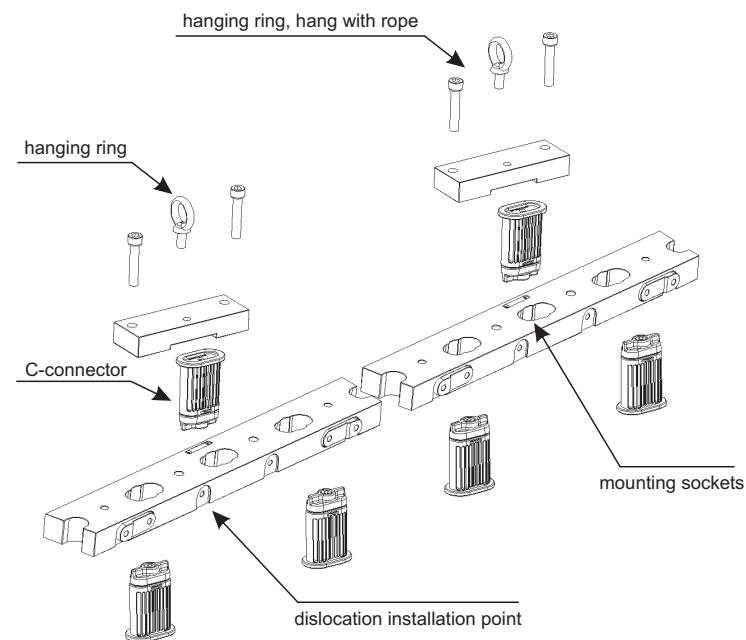


Figure 3.1.1.1 Aluminum hanging beam installation diagram

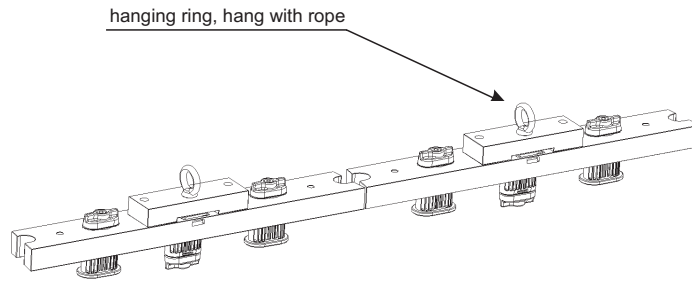


Figure 3.1.1.2 Aluminum hanging beam installation diagram

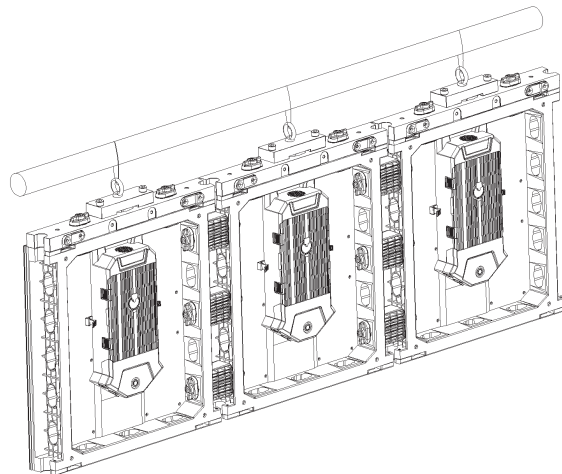


Figure 3.1.1.3 Hanging beam mounted on the TRUSS frame

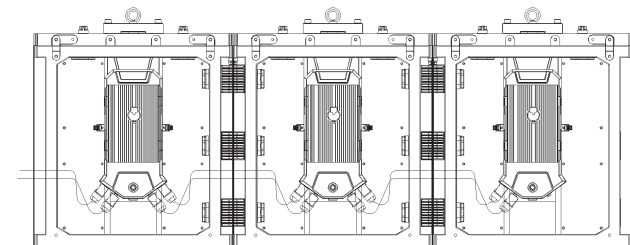
There are two connect options between hanging beam and the cabinet :

Option 1, the hanging beam is aligned with a single cabinet;

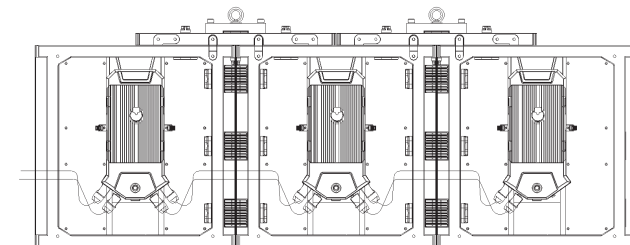
Option 2, dislocate installation across two cabinets. Here we recommend the option 2, as shown in Figure 3.1.1.4.

Based on our testing results, according to the mounting hole selection of each hanging beam, if use 4 hanging beam holes, the load weight is 12000N and security index is 6:1, 200kg, and it is safe within 20 cabinets height. Therefore, we should pay special attention to choose the quantity of connectors, using 4 pieces of C - connectors. Also, it is safe to keep the angle between rope and hanging beam to be 85°- 95° in hanging installation. Design sketch is shown as Figure 3.1.1.5 & 3.1.1.6.

Note: When you use hanging rope for hanging installation, please make sure every rope bear the weight even(rope in a tight condition). If the hanging height < 8 cabinets, using two C-connectors between cabinets; if the hanging height > 8 cabinets, using three C-connectors between cabinets.



Option 1



Option 2

Figure 3.1.1.4 Two connection options of aluminum hanging beam

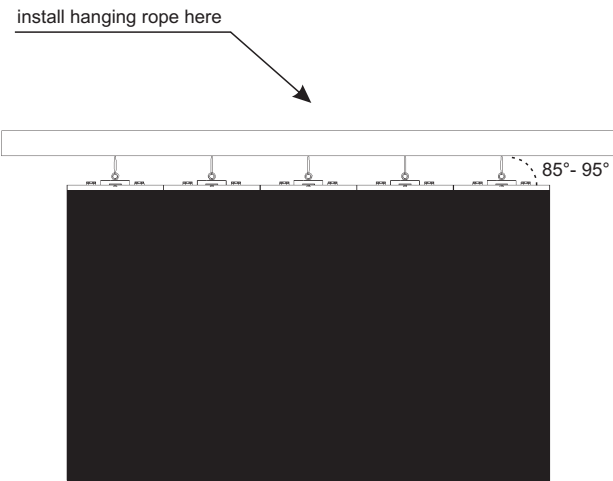


Figure 3.1.1.5 Front side design diagram of hanging installation

2. In addition, the hanging beam can also be used as ground support: When the ground is not flat, it can ensure flat installation of the screen, as Figure 3.1.2.1, 3.1.2.2.

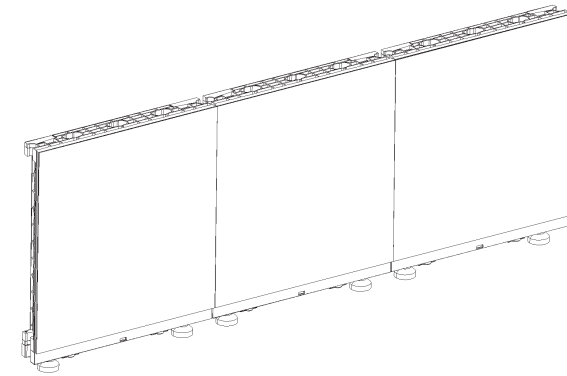


Figure 3.1.2.1 Design diagram of ground support installation in front side

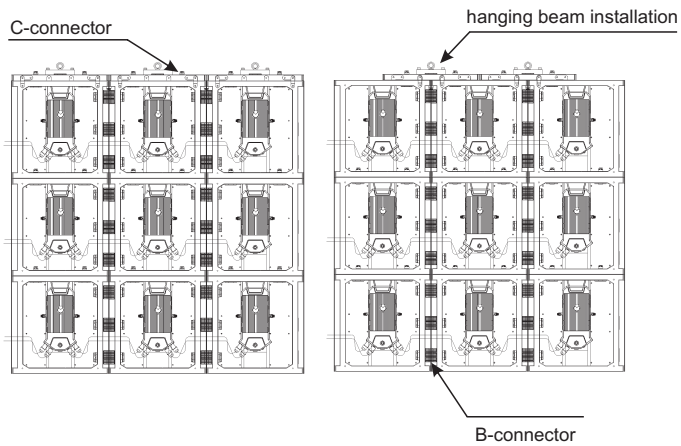


Figure 3.1.1.6 Two installation options of cabinets, design diagram in back side

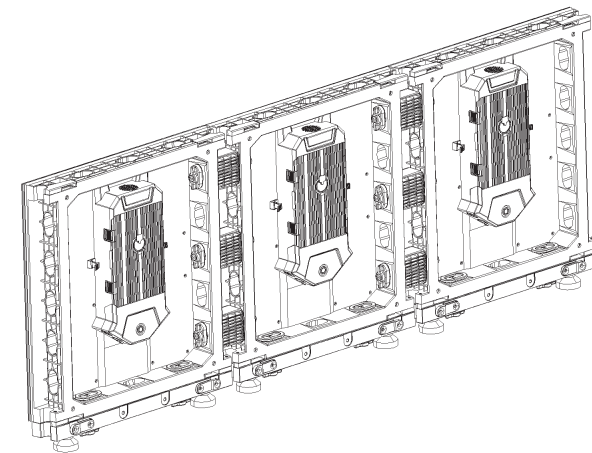


Figure 3.1.2.2 Design diagram of ground support installation in back side

### 3.2 Fixing Installation

Fixing installation means that the cabinet is attached to the wall or steel frame, fixed by connectors. The wall must be safe and firm. Using the connectors between cabinets and fixing on steel frame, which is fixed inside the wall, to ensure the firmness.

The connection of LED screen between fixing installation and hanging installation is same, to use connector (D-connector as Figure 2.1.1) fixing on steel frame rather than through hanging beam. 3 pcs of C-connectors is a base requirement, see Figure 3.2.2, 3.2.2.

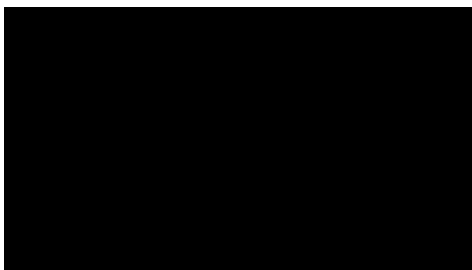


Figure 3.2.1 Design diagram of fixing installation in front side

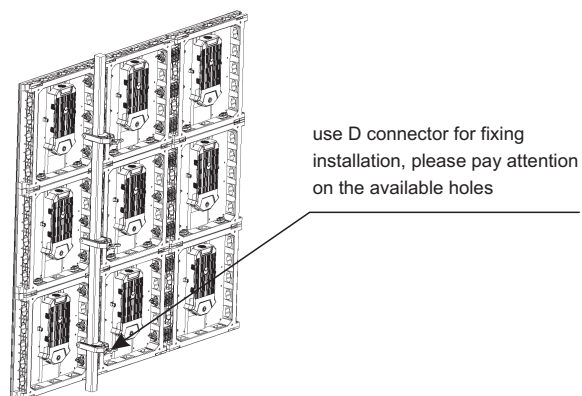


Figure 3.2.2 Design diagram of fixing installation in back side

### 3.3 Curving Installation

Curving installation adopts special connector to connect cabinet with each other, by twisting the connector angles to form arc screen.

Curving installation of LED screen is formed by using the curve connector which can be twisted (show as Figure 3.3.1 A - connector). Client can install the cabinet in concave, convex and "S" shape according to their requirements.

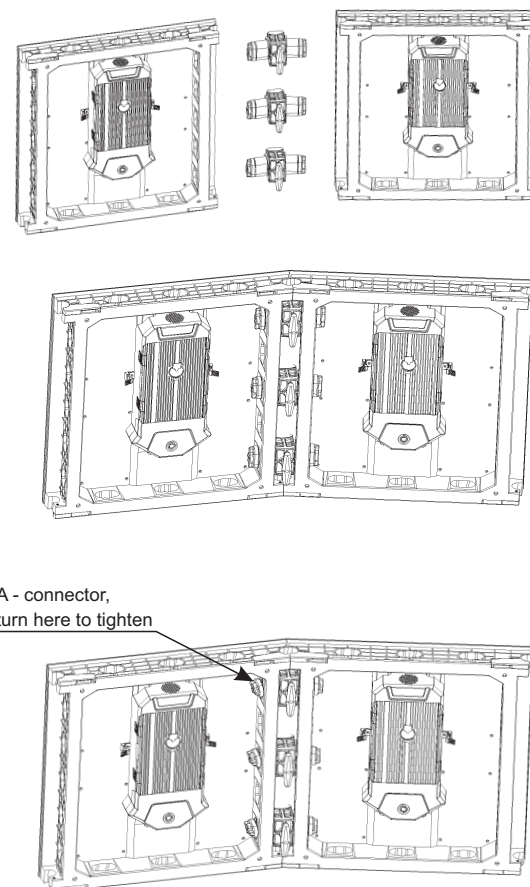


Figure 3.3.1 Curving installation diagram

As shown in Figure 3.3.1, install two cabinets as curved screen: Use A - connector, after ensure the cabinet surface is smooth, then twist two ends of A - connector, and then tighten the above butterfly screw. Figure 3.3.2 top view of concave, convex, and "S" shape.

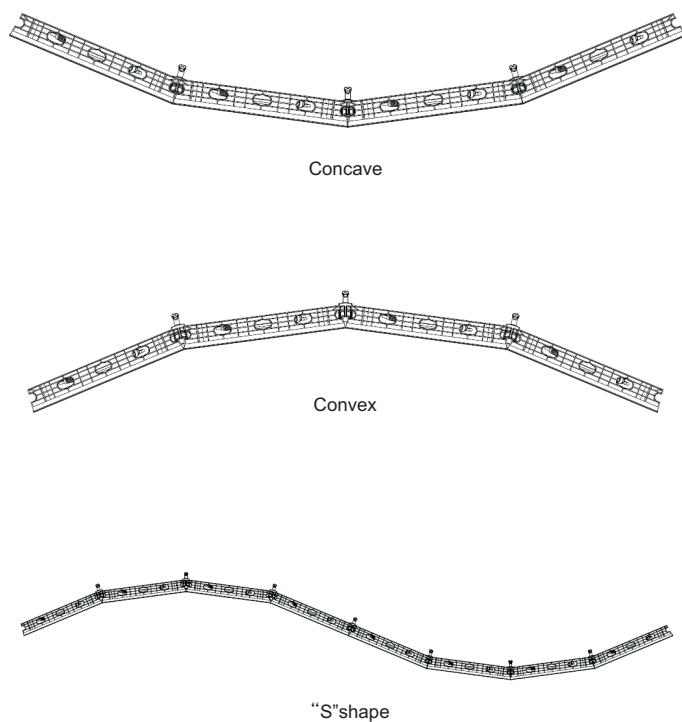


Figure 3.3.2 Top view of curving installation

### 3.4 Dislocation Installation

Compared with traditional LED screen, MG6S is designed with multiple dislocation mounting holes, providing a great possibility for customers' creative installation. The dislocation installation of horizontal, vertical, front&back all can be achieved. Different installation chooses different holes, see the details as Figure 3.4.1.

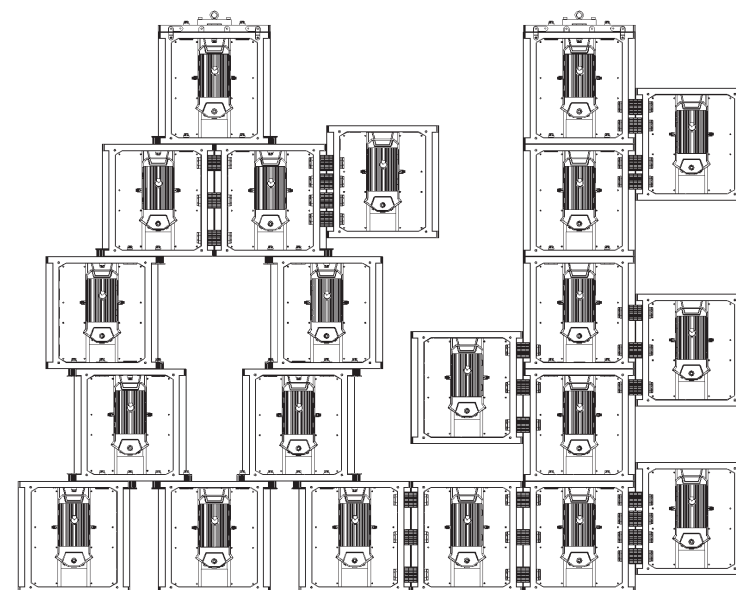


Figure 3.4.1 Horizontal/Vertical dislocation installation (creative design)

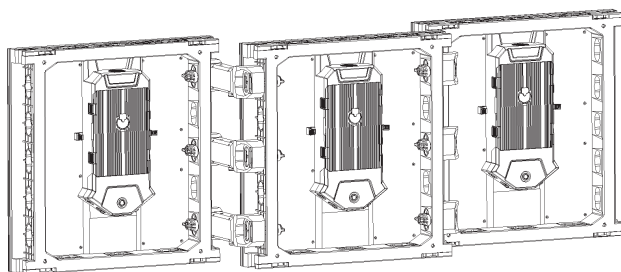


Figure 3.4.2 Front&back dislocation installation 1 (creative design)

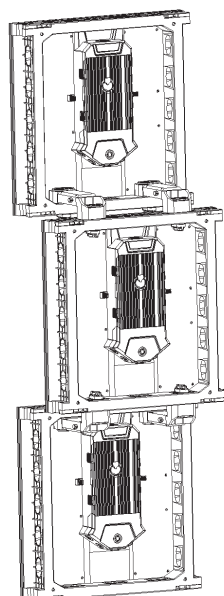


Figure 3.4.3 Front&back dislocation installation 2 (creative design)

## Chapter 4 Frequently Asked Questions For LED Screen

### 4.1 Software Questions

1. Connection interruption or prompt unable to find the control card when starting the software, or the interface of the software is not adjustable, that is, gray status, and there is no main controlling icon of the software LED control equipment list.

Solution:

- ① Change USB cable.
- ② Check the equipment connection in the equipment manager.
- ③ Ensure that the computer is no virus.
- ④ If it is the internal sending card, it is probably due to the loose slot or damaged PCI, or the interference of foreign matter. Please insert sending card again or clean PCI interface by rubber.

2. Indicator light of the output port for sending card is extinguished.

Solution:

- ① Relevant control software has not been installed, please ensure the software is successfully installed.
- ② The FPD of the graphics card is closed. Please right click "my computer" on the desktop, and then click properties →setting →advanced →display →FPD.



## 4.2 Hardware Questions

1. There is no content on the LED screen.

Solution:

- a. Check whether the screen is powered on.
- b. Check whether the output signal is open.
- c. Check whether display area is correct.

2. The cabinet of the LED screen is blurred or not bright enough in certain cabinets.

Solution:

- a. Check whether modules and HUB card is connected.
- b. Check whether the configuration file is uploaded correctly.
- c. Check whether the calibration is open or correct.
- d. Please change the broken masks if there is.

3. The picture of the cabinet is in a wrong order.

Solution: Please check the inner connection of each LED module to see if cables are well connected.

4. Some individual LED lamps are extinguished.

Solution: Please repair these dead LEDs.

## Chapter 5 LED Screen Maintenance

Proper use of the LED screen is very important for the long lifespan of the LED screen and the proper function. Daily maintenance of the LED screen must be finished carefully.

1. Please read the MG6S Series LED Screen User Manual carefully. The manufacturer do not take any legal liability of the consequence due to the incorrect, incomplete, irresponsible, or unsafe use of the installation system.

2. Handle the LED screen cabinet with care, avoid collision and strike.

3. Check the cabinet carefully to make sure there is no loose screw before using.

4. Please confirm the steel frames are kept in place firmly before installation, for the screen already been installed for a long time, regular checking the situation of the connection part is required. If found any loose part, adjust it timely, reinforce or change new hanging parts in time.

5. Keep the whole cabinet frame structure away from oil, acid and other corrosive material.

6. Pay attention to the anti-static work of the screen body, do not touch the LED face directly by hand, wearing gloves when you install and debugging of the screen is recommended.

7. Null line and firing line of the power cable in a computer or the control system can't be connected reversely, It should be connected strictly according to the original position.

8. If the power switch trip happened frequently, please check the screen or replace the power supply switch.

9. Before lighting the screen, turn on the PC first, then turn on the LED screen. When stopping work of the screen, first turn off the LED screen, then turn off the PC (otherwise, it will cause the screen highlights, burn the lamp, the consequences are serious).

10. If abnormalities such as short-circuit, tripping, wire burning, or smoking are found after moving the screen, the power-on test should not be repeated and the problem should be searched in priority.

11. Master the installation method, the original data recovery, backup, and controlling parameter setting, basic data preset modification.

12. Inspect virus regularly, and remove irrelevant data.

13. Software operation is under professional engineers.

14. Dismantle the LED screen after the events, please clean the water stains and dust on the two sides of each cabinet before putting them into the flight case, the internal space of flight case must be clean and dry, if there is moist, you must dry them in the sun, or dry it with the dryer. At the same time, too much friction should be avoided between cabinet and inner part of the flight case.

15. When installing and removing the LED screen, special attention must be paid to the protection of the LEDs on the four sides of the LED cabinet to prevent LEDs from damage.

16. Regarding the maintenance of the connectors:

a. Fill the cleaning liquid to the cleaner guns, such as DJW-618X cleaning liquid (Major element is: Dichloroethane, Trichloroethane or ethyl Alcohol).

b. Pointing the cleaner guns in a 45 degree, distance around 10-15cm, pointing to the dirty area of the connectors, press the switch, spot-spray clean the dirty area.

Attentions about cleaning the connectors:

a. Cleaner gun is high pressure, pointing to the people is very dangerous. Please keep it in a high position after use.

b. Please wear mask and protection glass, to avoid the cleaning liquid splash into the human eyes and mouth.

c. Cleaning work should be kept far away from fire. Firework is prohibited.

d. Cleaning work should be arranged in a natural ventilation atmosphere, or the open area.

17. Indoor LED screen need to be well ventilated, so the adhering moisture can be evaporate quickly, to reduce the humidity of the inside environment. But, please avoid the ventilation under calm winds and wet weather.

18. For the indoor screen, desiccant can be put in indoor environment, adopting physical moisture absorption to reduce the moisture of the air, reducing the probability of damping.

19. If there is air conditioner in a LED screen installation place, you can turn on the dehumidification mode to reduce the moisture.

20. Wet and rainy weather can cause the dew on the wall, please keep the cabinet away from the wet wall, to avoid contact with the dew on the wall.

21. Please keep the LED screen storage warehouse to be well ventilated, dry environment is a must. You can't let the wet weather inside the warehouse, please choose the high and dry location.