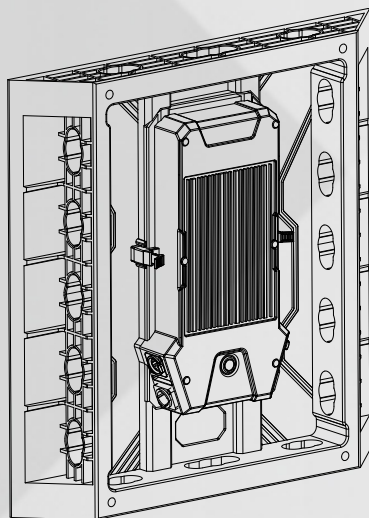




MG7S Cube Series LED Screen

User Manual



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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.
7. In order to ensure long-term stable and reliable operation of the product, when the ambient temperature exceeds the product's nominal operating temperature ($>50^{\circ}\text{C}$), the outdoor P3.9 series 1/8S product needs to be derated by 20% by reducing the brightness. Please consult the manufacturer for handling matters.

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 , 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. Avoid the cabinet work under the conditions of high organic solvent detergent (such as kerosene, rust-proof oil, etc).
5. 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)
6. The operating/storage environment should conform to the requirements in product parameter&specification sheet, otherwise it will damage the LED screen seriously.
7. 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. LED screen grounding resistance must be less than 1Ω
3. The 240V high voltage input leakage current of this product is less than or equal to $4.5\text{mA}/\text{m}^2$.
4. If the LED screen is equipped with flight cases, the flight cases should not be exposed to rain. After each performance is completed, please pay attention to the moisture-proof treatment of the flight cases.

Caution 4:

1. Warnings regarding to the CE certification:

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

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,
- (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 cause the user can not 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 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:

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.

Sign for restricted use of harmful substances in electronic and electrical products :



1. The sign indicates that the environmental protection period of electronic and electrical products is 10 years;
2. It indicates that the electronic and electrical products contain some harmful substances, which can be used safely within the environmental protection period. They should be entered the recycling system after exceeding the environmental protection period.

Preface

Magic stage MG7S Cube series cabinet adopts the high Polymer nanomaterial, it is very light and thin, only 6.5kg per cabinet. The product's consistency is better, and the anti-corrosion and waterproof performance are stronger than traditional metal plated cabinet. The installation is faster and more humanization. Used as a supporting product of the MG7S series, the MG7S Cube realizes creative installation methods such as curved surface installation of the main body of the display unit, which more satisfies the market demand and broadens the application space, making it an ideal choice for stage performances/rentals, exhibitions, performances. An important choice for commercial advertisements such as, gatherings, etc.

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.

Chapter 1 LED Cabinet

The LED cabinet mainly includes power supply, modules, and receiving card.

1.1 Cabinet Structure

The cabinet structure of MG7S series products is made of high 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)

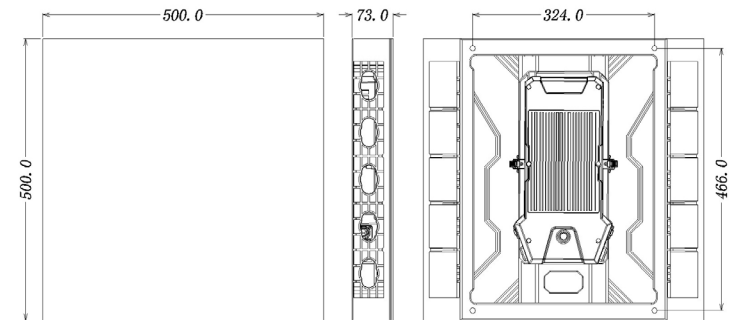


Figure 1.1.1 Cabinet view from all sides

Chapter 2 LED Screen Installation

2.1 Connectors and Cabinet Mounting Socket Connection

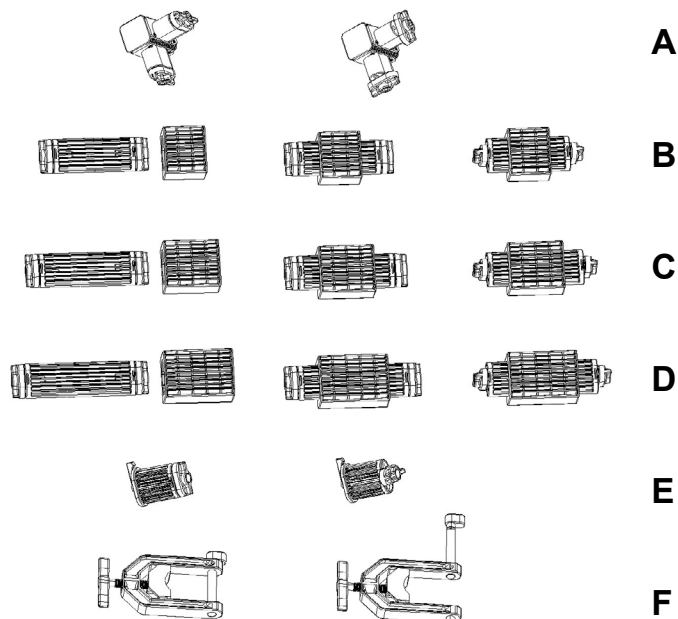


Figure 2.1.2 Mounting sockets of the cabinet

As shown in Figure 2.1.1, A, B, C and D are used to connect the cabinets horizontally, while connector E is used to connect the cabinets vertically. Connector A is used for right angle installation. Connector F is mainly used for fixing installation.

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

The maximum horizontal bearing capacity of Connector B,C,D is

1500N, the safety bearing capacity is 500N. It can be used more than 2000 times, and stored more than 3 years;

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

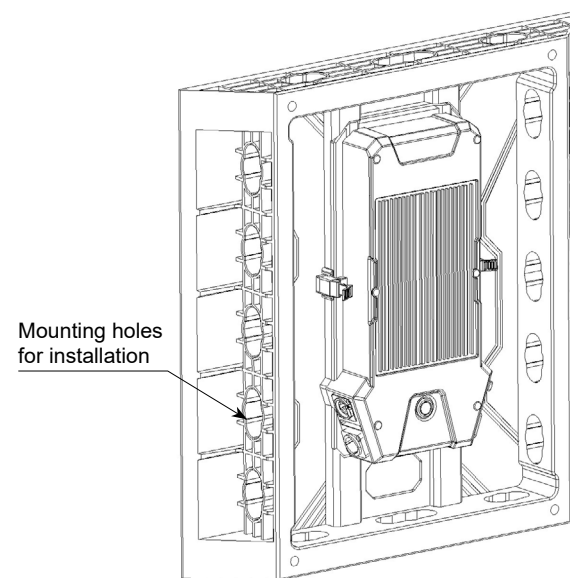


Figure 2.1.2 Mounting sockets of the cabinet

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, 3 horizontal connectors(150mm) and 2 right angle connectors as shown in Figure 2.1.3.

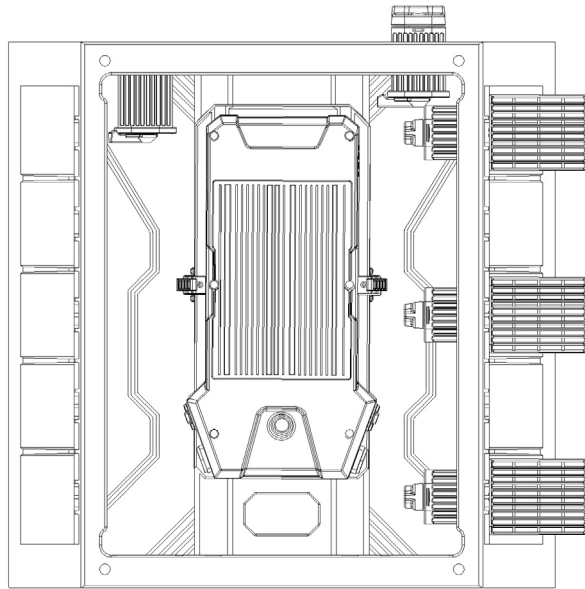


Figure 2.1.3 Standard connectors for cabinet

2.2 Signal and Power Cable Connection

Adopting Cat5 cable (signal cable) (Figure 2.21) and power cable (Figure 2.2.2) to connect each cabinets. MG7S standard cabinet using two cables fixing on the cabinet, one signal cable and one power cable. The signal transmit between the first cabinet of the screen and the sending card end(PC,video processor, etc) use the long signal cable; the signal transmit between cabinet and cabinet use short fixed signal cable.

One cabinet be connected by 2 signal cables, one port input and 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, this connection way is as same as power cable.



Figure 2.21 Cat5 Cable (signal cable)



Figure 2.2.2 Power cable

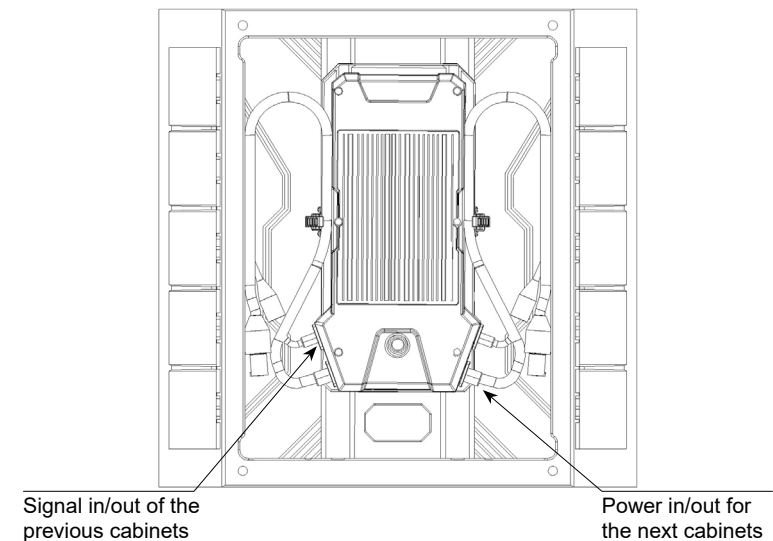


Figure 2.2.3 Signal cable and power cable connection between cabinets

The both signal ports can be flexibly as input or output according to your actual operation, as shown in Figure 2.2.3.

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

3.1 CAUTION

All installation methods are required to avoid collision of the frontage 4 corners of the cabinet (as Figure 3.1.1), causing unnecessary damage and affecting the normal use of the cabinet.

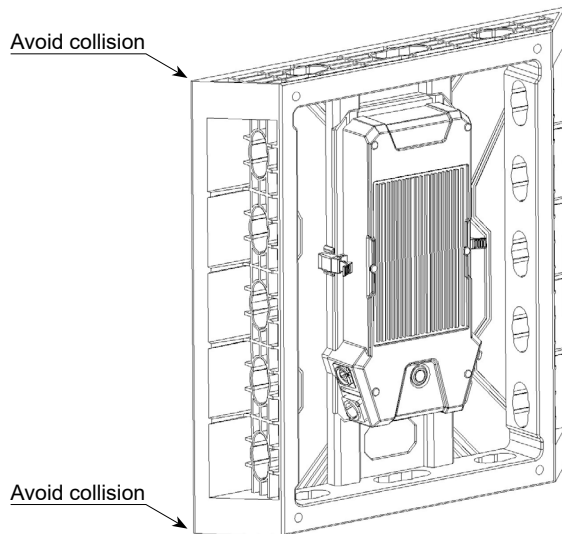


Figure3.1 Cabinet front corners

Note 2:

When taking out cabinets from flight case, make sure the cabinets remain level and in a steady speed. Avoid any possible friction between the flight case clapboard and the cabinet if the cabinet inclined (Figure 3.1.2), which will affect the outlook and performance of the cabinet. When using Flight case open from top, please be noticed the installation method (Figure 3.1.2), when you put the cabinet into flight case, the first row and last row need to be put opposite, both towards the interior of the flight case, to prevent damage to the lamp surface during transportation.

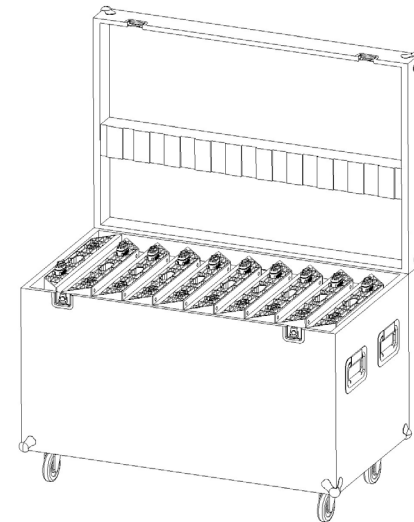


Figure 3.1.2 Taking out cabinets from flight case

Note 3:

In general, unused cabinets must be placed in flight cases or carton. However, in case of no flight cases or in other special conditions, the LEDs should be placed upwards, separating cabinets with foam or soft paper and when stack (stacked layers ≤ 10 PCS cabinet). Prohibit placing cabinet upright, in line of dominoes form (Figure 3.1.3).

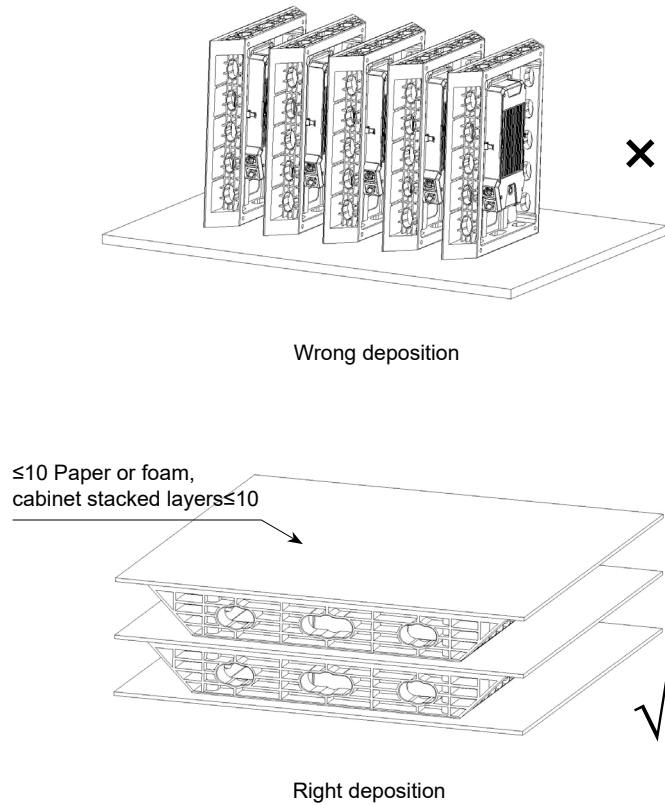


Figure 3.1.3 Cabinet deposition

Note 4:

When make the cascade connection of power cable and signal cable, in order to ensure the cables in queue and beautiful, cables between two cabinets can be connected through the mounting hole. After finishing the cascade connection of power cable and signal cable, ought to be cover tightly the unused connector jack lid. (Figure 3.4)

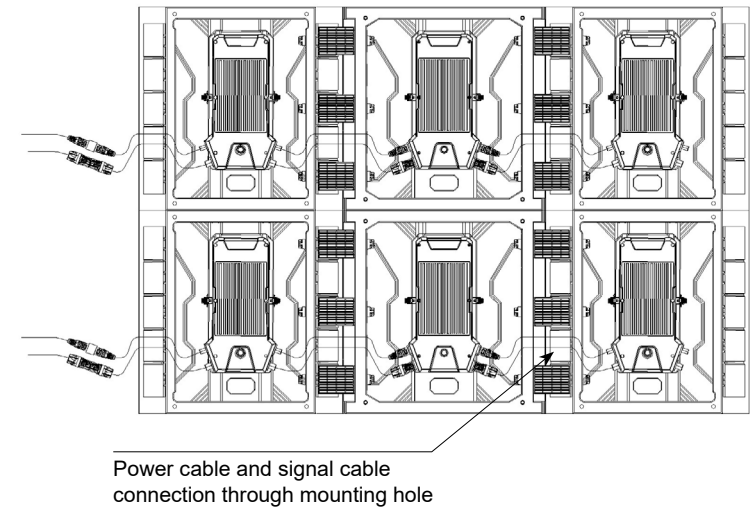


Figure 3.1.4 Power cable and signal cable connection through mounting hole

Note 5:

When the event is finished, the LED cabinets should be kept into the flight case or other places, please arrange the power cable and signal cable as Figure 3.1.5, put the cabinet in the right place after cleaning it. Handle gently when put the cabinets into the flight case.

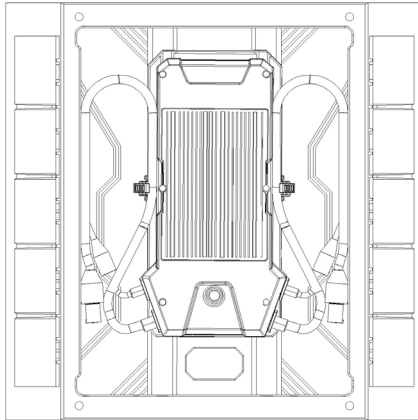


Figure 3.5 Cable putting

Note 6:

The cabinet can not be installed inclined (can not be above 45°) when cabinet used in outdoor, otherwise, there will have dropsy in mounting holes.

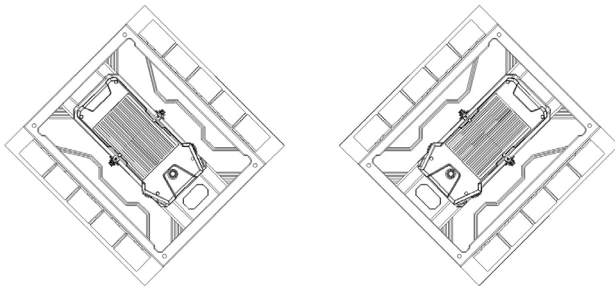


Figure 3.6 Cabinet can not be installed inclined (can not be above 45°)

Note 7:

As shown in Figure 3.1.7, there are 4 multi-functional holes in the four corners of the cabinets. When fixing installation, they are for electrostatic discharge(ESD), it's necessary to ensure that the structural parts(including trusses, steel frames, etc.) connected to the four holes are connected to the earth. When use MG7S cube for hanging installation, It is necessary to provide a connection plate between cabinets.

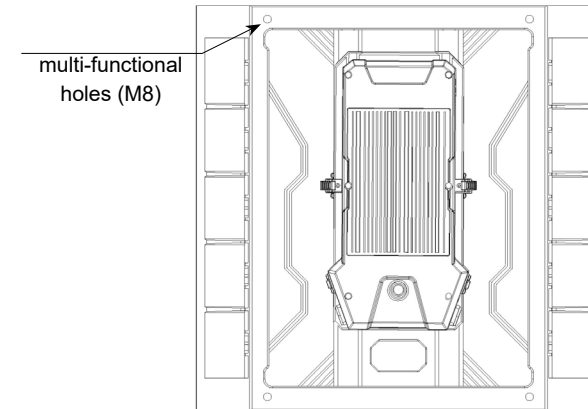


Figure 3.1.7 The diagram of position of multi-functional holes in the cabinet

Note 8:

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.

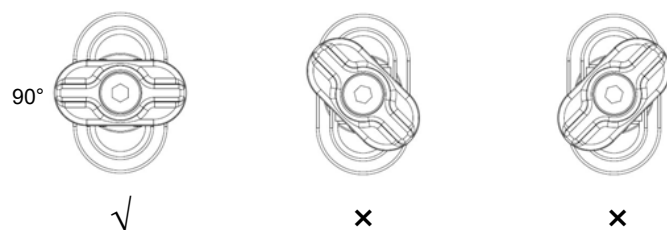


Figure 3.8 The using caution of the locking head of connector

3.2 MG7S Cube cabinet installation

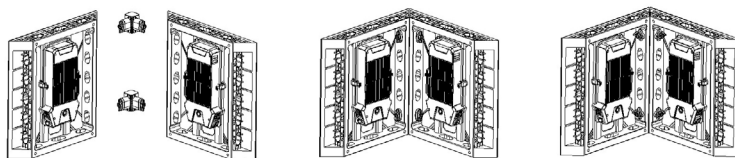


Figure 3.2.1 Right-angle diagram of splicing two cabinets

If the multi-layer cabinets are spliced at right angles, the installation position of the A-type connector is only installed in the first and fifth installation hole positions of the topmost cabinet, and the other layers of cabinets are installed in the first and fourth installation hole, as shown in Figure 3.2.1.

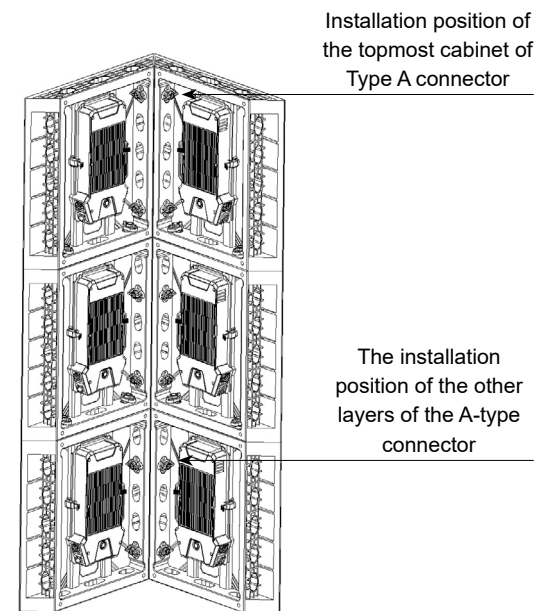


Figure 3.2.2 Installation position diagram of Type A connector

When connecting the MG7S Cube cabinet to the left and right sides of the MG7S cabinet, use C-type connectors; when connecting to the left and right sides of the MG7S-T cabinet, use B-type connectors; when connecting to the MG7S Cube cabinet, use D-type connectors Connectors, as shown in Figure 3.2.2.

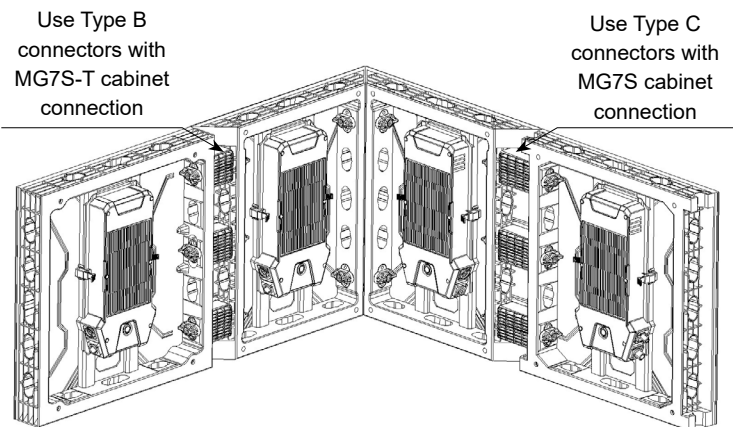
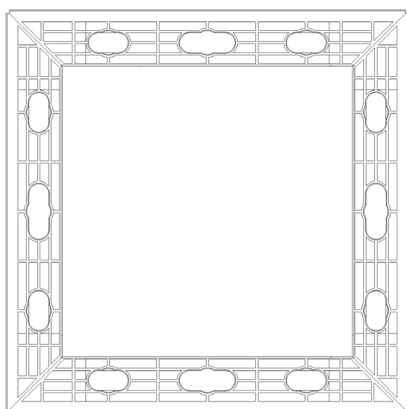


Figure 3.2.3 Splicing with MG7S and MG7S-T cabinets



MG7S cube cabinet

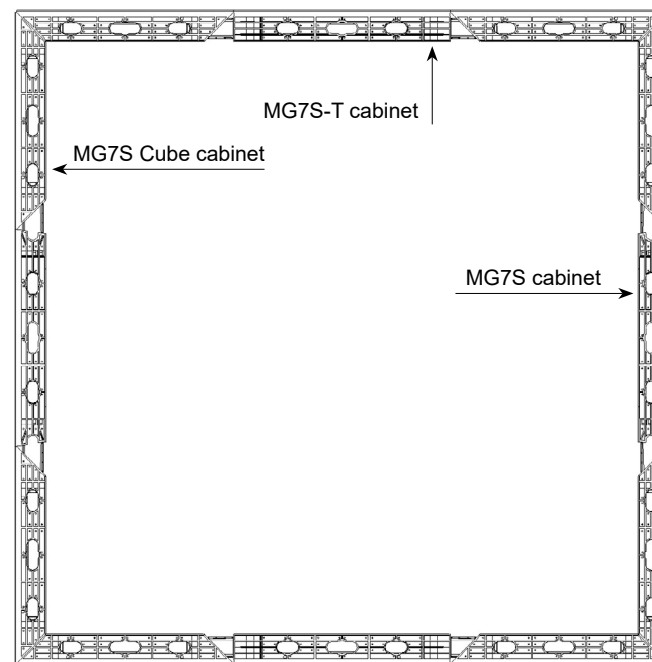


Figure 3.2.4 Effect drawing of cabinet splicing cube

By customizing the connecting pieces at different angles, the MG7S Cube cabinet can realize the splicing of regular polygonal shapes such as pentagons, hexagons, heptagons, and octagons, as shown in Figure 3.2.5.

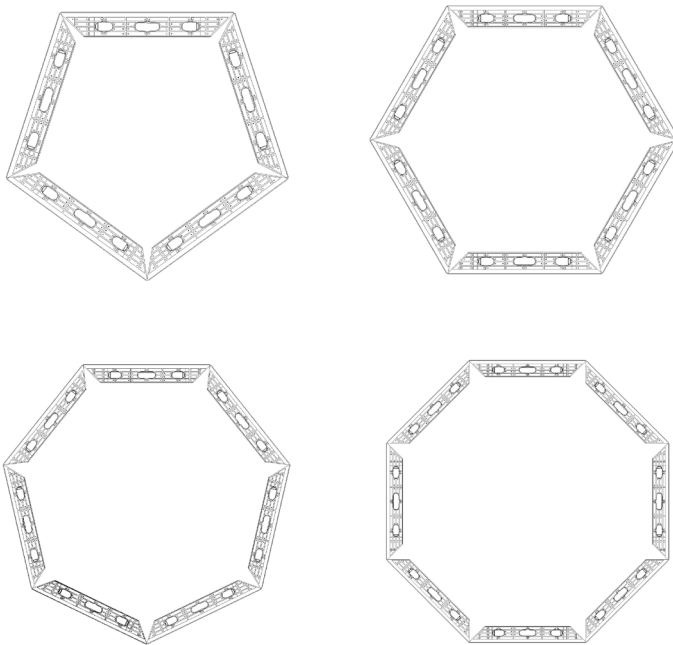


Figure 3.2.5 Effect drawing of cabinet splicing regular polygon

Chapter 4 Frequently 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.

Solutions:

Change USB cable. Check the equipment connection in the equipment manager, Ensure that the computer is no virus. 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.

Solutions:

Solution: Relevant control software has not been installed, please ensure the software is successfully installed, 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.

Solutions:

- 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.

Solutions:

- 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 MG7 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 there is short circuit, switch trip, wire burning, smoke and other abnormal phenomenon after removing, please don't repeat electricity test, and check the problem timely.

11. The proper way to remove a power supply: turn the cabinet back up and keep the connector upward; loosen the screws on aluminum cooling board and lift the aluminum cooling board up horizontally to 30 ~ 40mm (meanwhile observing the power supply box interior), overturn the aluminum cooling board to right slowly (Attention to prevent radiator's fan crashing other component), then start checking and repairing.

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

13. Inspect virus regularly, and remove irrelevant data.

14. Software operation is under professional engineers.

15. Please do not perform in the storm(rain, dust) and strong wind;

16. 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.

17. 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.

18. 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.

19. Outdoor display not only need to consider the wet problem, but also to do waterproof, dust proof and other routine maintenance work; good sealed installation can help the LED screen to reduce the risk of water go inside. Regular cleaning attached to the dust of inside and outside the screen also help LED screen better heat dissipation, reduce the water vapor attached;

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. 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.



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