YES TECH

MG15 Series LED Screen
User Manual

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CONTENTS

CAUTION

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. 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.

Caution3:

1. Making sure the LED screen should be properly grounded before working.
2. LED screen grounding resistance must be less than 1Ω.
3. 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.The display screen must not be installed in a wet environment and cannot be directly touched by hand without electrostatic protection.
2. The display screen should be equipped with air conditioning in the absence of indoor air conditioning or indoor ambient temperature above 30 ℃.

PREFACE

Magic MG15 series LED display cabinet, as a MG accessory products. The product is divided into 0 °direction cabinet and 90 °direction cabinet. At present, there are two models of YMG15-M04NFD,YMG15-M04UFQ. MG15 by connecting with other MG series products, can realize creative installation methods such as circle, more meet the market demand, widen the application place, make it become stage show / lease, Important choices for commercial advertisements such as exhibitions, performances, rallies, 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.If there is no special instruction, the operation method on the manual can apply to all the models of this series products.

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.

Chapter 1 LED Cabinet

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

1.1 Cabinet Structure

Magic MG15 series cabinets frame structure is made of polymer nanotechnology material, compared with traditional metal structure, the weight of cabinet body is reduced.
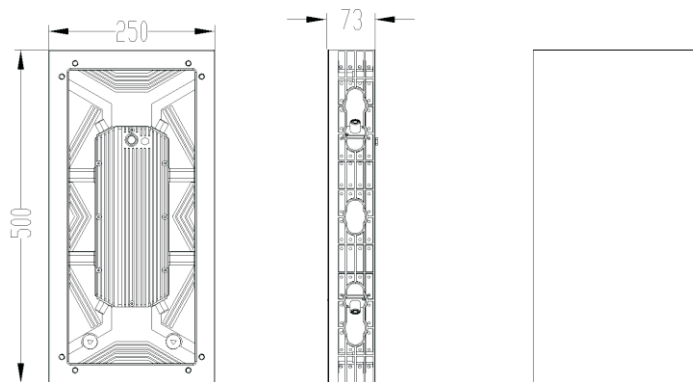 The cabinet size is 250mm*500mm*73mm. (Figure 1.1.1)

Figure 1.1.1 Cabinet view from all sides

Chapter 2 Cabinet Connection

2.1 Connectors and Cabinet Mounting Socket Connection
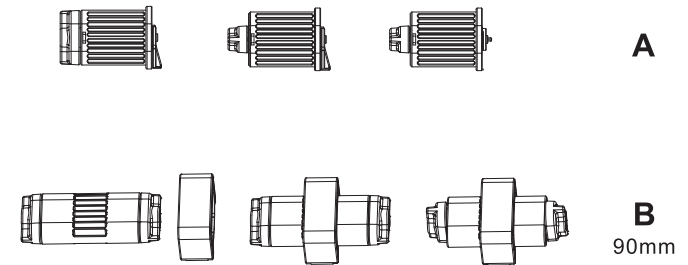
A

B
90mm

Figure 2.1.1 Connectors for cabinet

As shown in Figure 2.1.1. A&B is the connector of the cabinet. Connectors are mainly used for connecting and fixing between cabinets.

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

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

On the back of each cabinet frame (Figure 2.1.2), there are three fixed mounting sockets on the 500mm direction border, and one fixed installation socket on the 250mm direction frame, which is inserted into the connecting member respectively, and the two cabinets can be stitched together by tightening and fixing. That is, a set of rotation can quickly and stably realize the connection between the cabinet body.
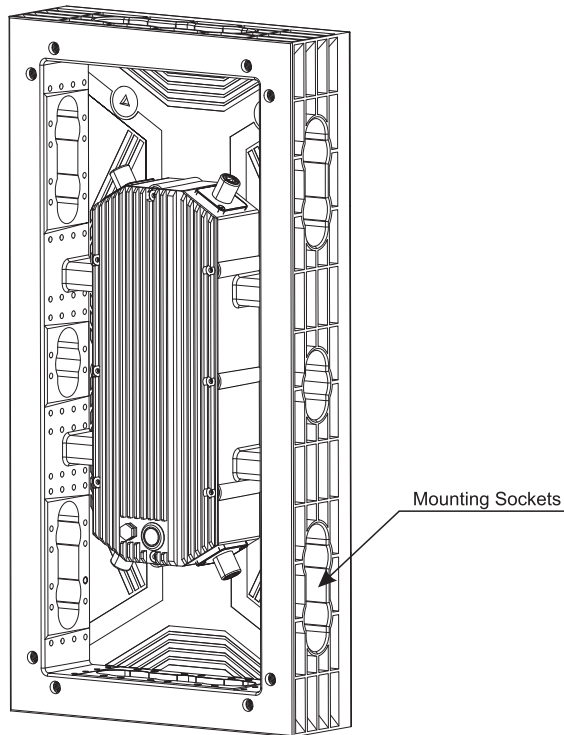
Mounting Sockets

Figure 2.1.2 Mounting Sockets of the cabinet

2.2 Signal and Power Cable Connection between Cabinets

Cabinets are connected by five kinds of network lines (Figure. 2.2.1) and power lines (Figure. 2.2.2). The MG15 standard cabinet body adopts four-out mode, that is, the cabinet body has two signal lines and two power lines. Signal connection between the cabinet requires the use of signal connection, the power can be directly docked connected.

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.
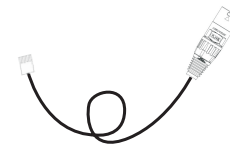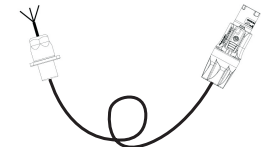

Figure 2.21 Cat5 cable (signal cable)   Figure 2.2.2 Power cable

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 & Packing

In order to achieve various modeling effects, different installation sockets are designed for the MG15 cabinet, which is realized by staggered installation with other MG series products. Before installation, special attention should be paid to the following two points:

Note 1:
All installation methods are required to avoid collision of the frontage 4 corners of the cabinet (as Figure 3.1), causing unnecessary damage and affecting the normal use of the cabinet.
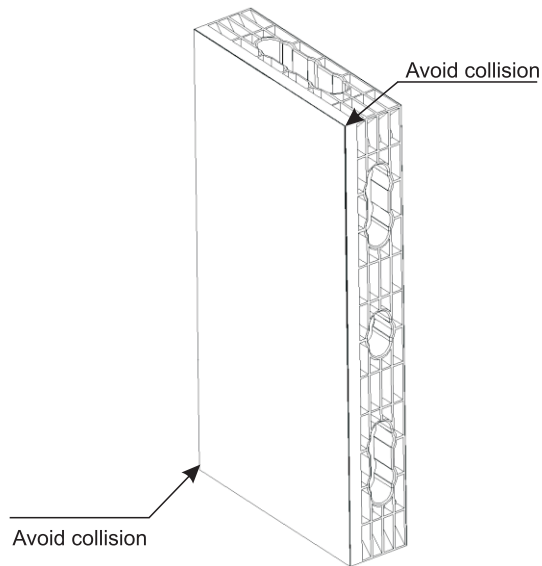
Note 2:
When using all types of connectors, in order to ensure the maximum strength connection effect, the locking head needs to be screwed into right place, that is, the locking head and the connector itself are in a vertical state.
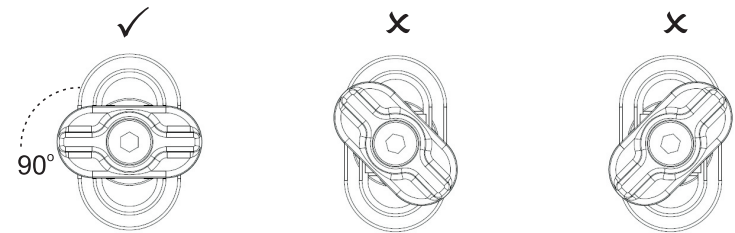
Avoid collision

90°

Figure 3.2 Considerations for the use of connectors locks

Avoid collision

Figure3.1 Cabinet front corners

3.1 MG15 Cabinet Installation

MG 15 has two specification definitions, which can solve the problem of angle of view under different assembling mode by rotating lamp bead. Contains two models: 0 °direction and 90 °direction, as shown in Figure. 3.1.1.

When the MG15 is connected to the MG6/MG7/MG12/MG13/MG14 cabinet, it is necessary to use the MG upper and lower connector (A connector) to assemble the connection, as shown in figure 3.1.2 ~ figure 3.1.6. However, for horizontal connection between MG15 and MG6/MG7 cabinet , use the 90mm through connector (B connection) shown in figure 3.1.3.

0° Direction

90° Direction
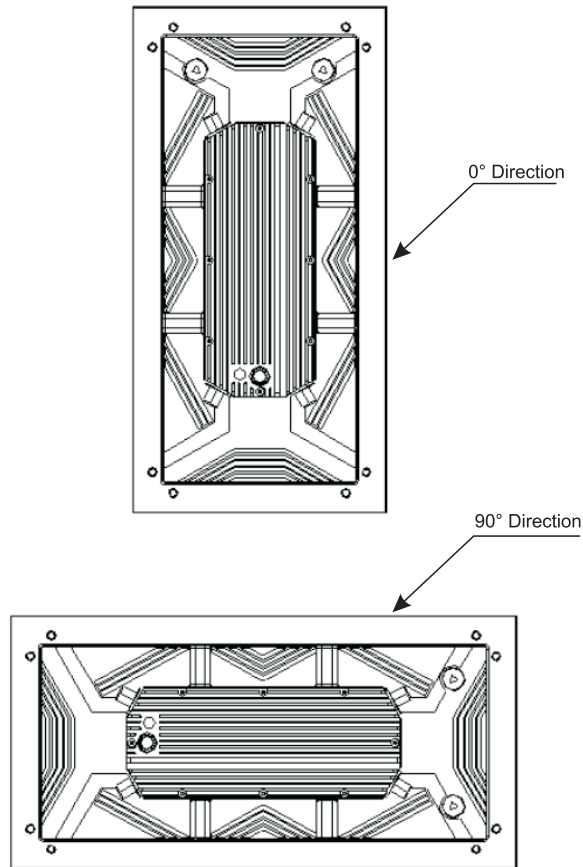
Figure 3.1.1 Two Specification Definition of Cabinet

A connector

A connector
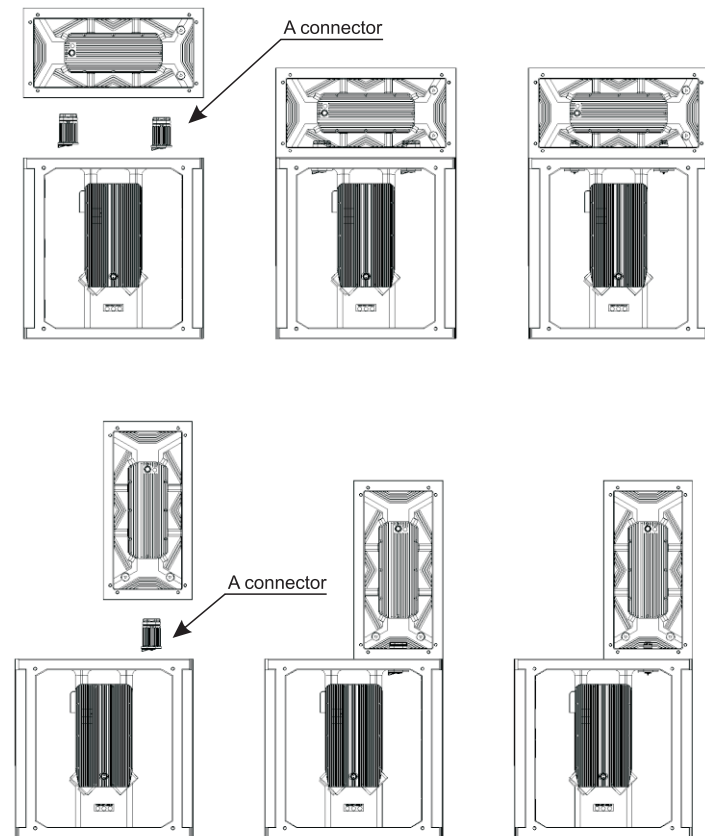
Figure 3.1.2 MG15 Connected to MG7 (or MG6) Cabinet

Use B connector when connecting
horizontally with MG7/MG6(90mm)

A connector
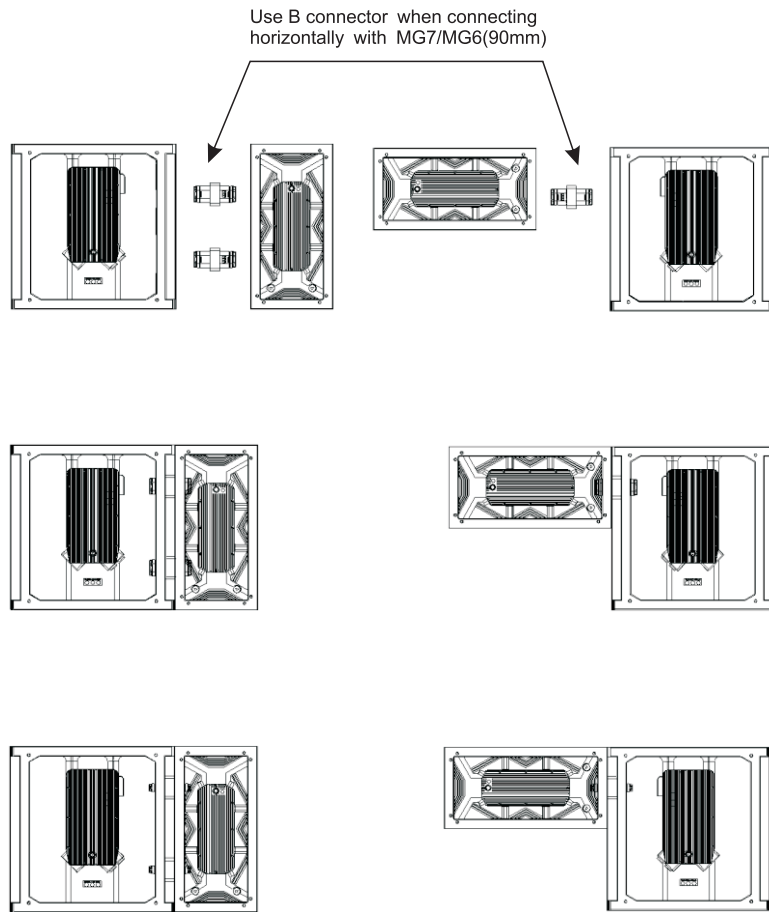
Figure 3.1. 3 Connection between MG15 and MG7 (MG6) cabinet
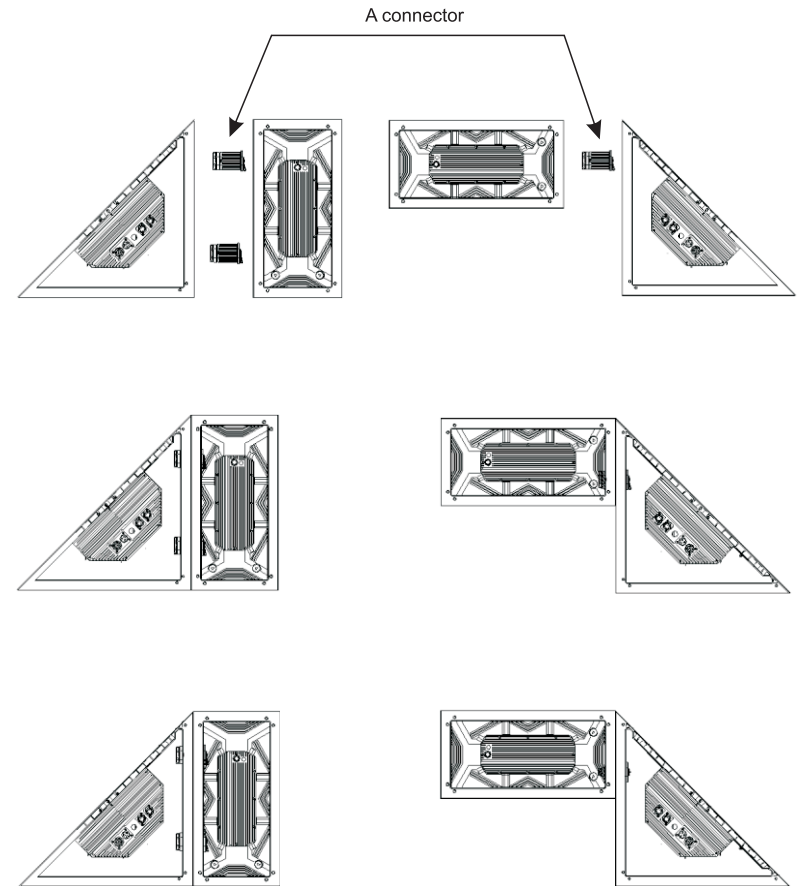
Figure 3.1. 4 Connection between MG15 and MG12 cabinet
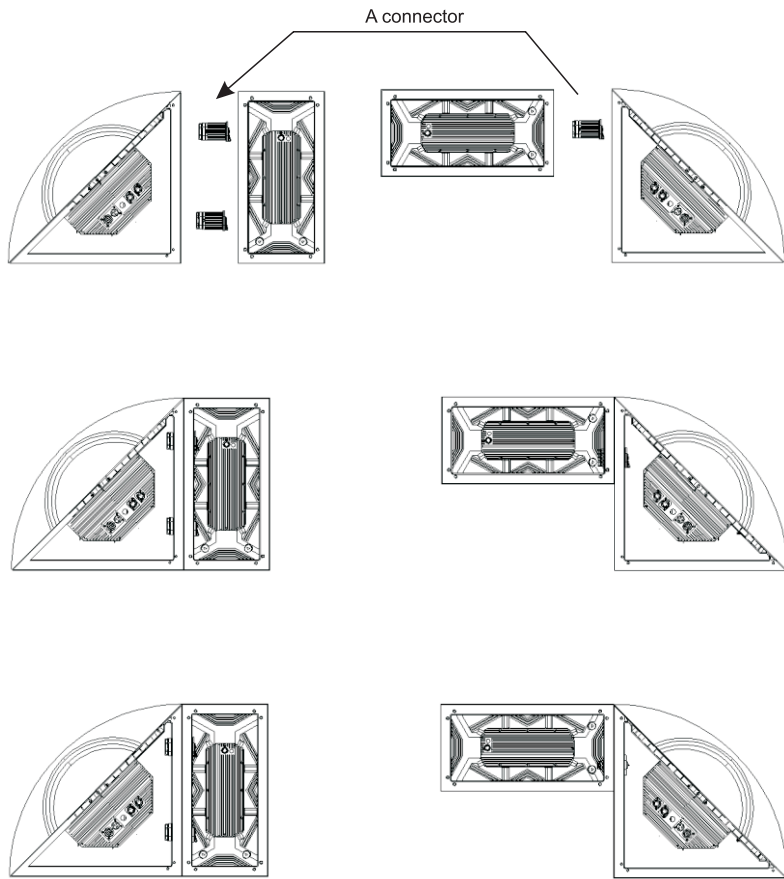
A connector

A connector

Figure 3.1. 5 Connection between MG15 and MG13 cabinet
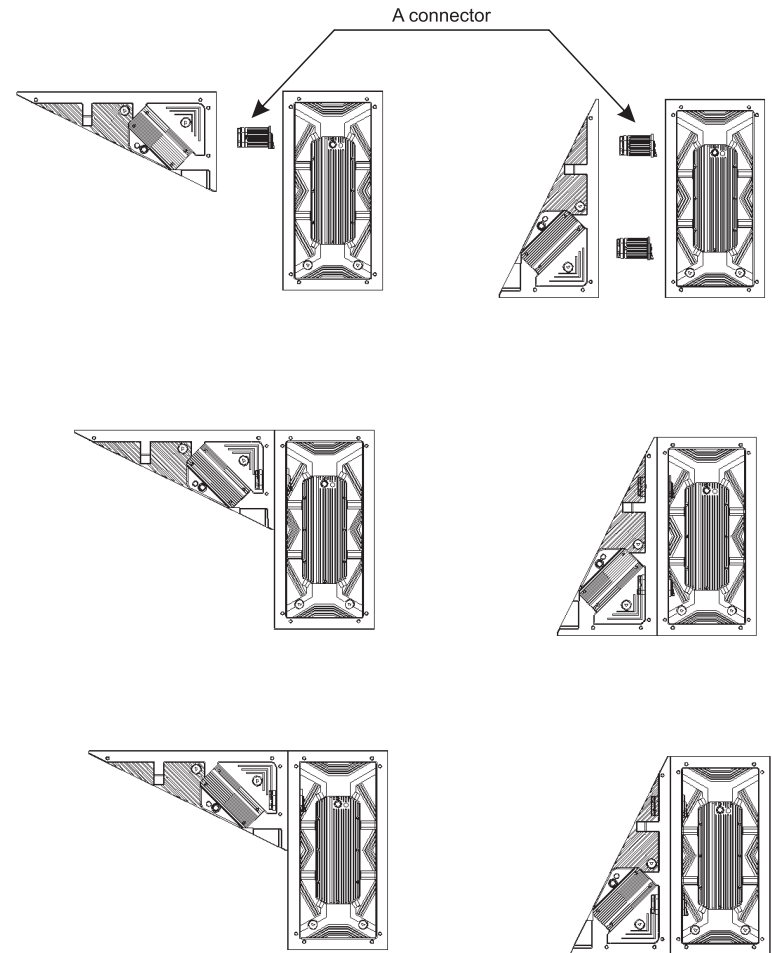
Figure 3.1. 6 Connection between MG15 and MG14 cabinet

 MG15, applied with regular MG7 or MG6 cabinets and MG12, MG14, can create a more circular screen. (Figure 3.1.7-3.1.8)
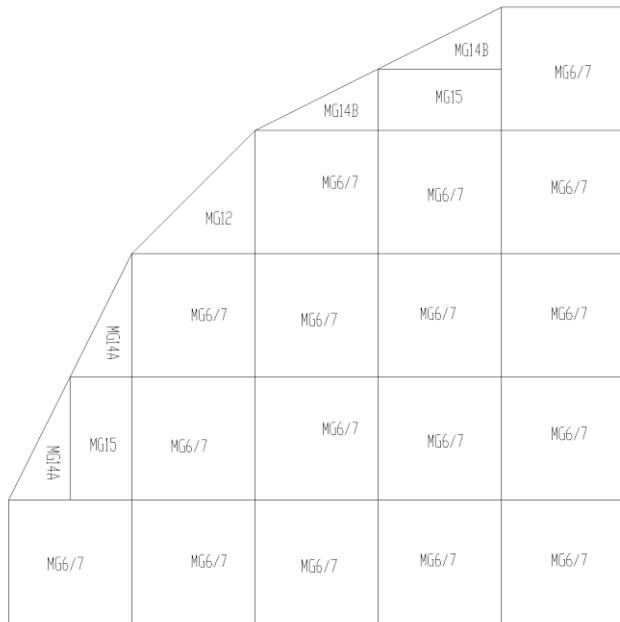
Figure 3.1.7 Circle display (d≥2) by MG15
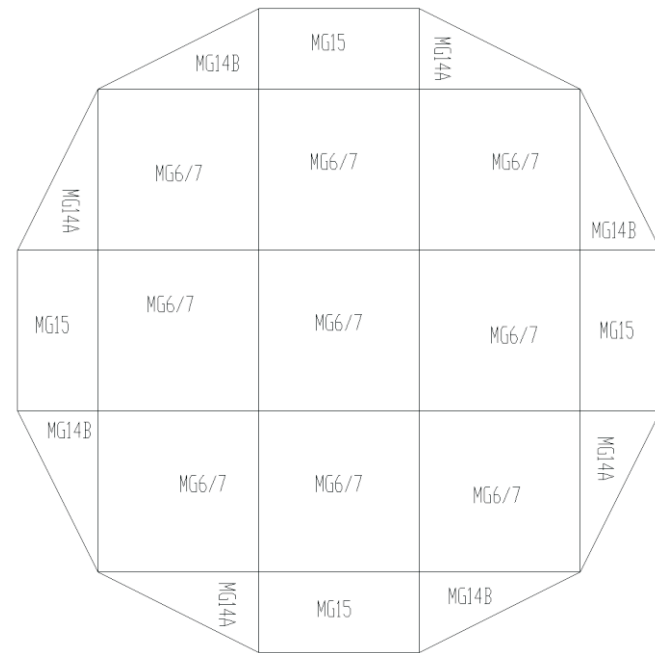
Figure 3.1.8 Min. Circle by MG15(d=2m)

Compared with traditional LED screen, MG15 product provide more creative display for customers by more mounting holes for dislocation. Different installation method makes different display. (Figure 3.1.9)
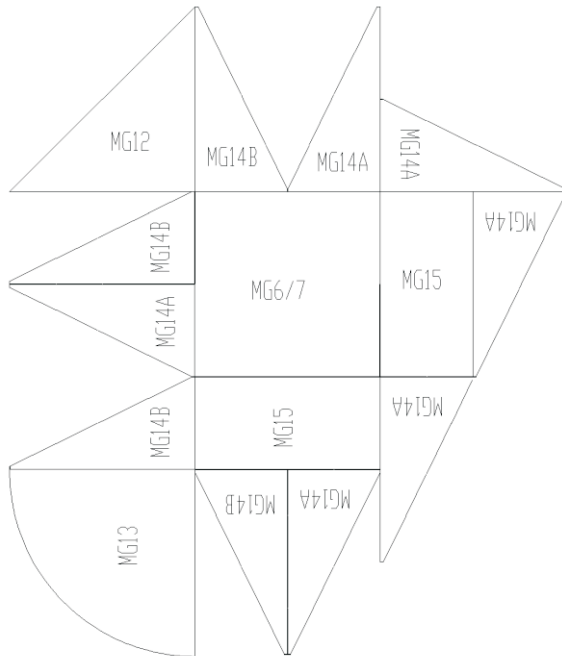
Figure 3.1.9 Installation diagram for MG15 and other MG products

3.2 MG15 Cabinet Packaging

There are two packaging solutions for MG15 cabinet: one is flight case(stacked layers ≤ 10PCS cabinets)， another one is carton box packed in wooden box. (Figure 3.2.1-3.2.2)

Attention： For indoor LED screen, PE bag and desiccant packets should be added for moisture-proof before screen be put into flight case or carton box; Outdoor products can be packed into flight case or carton box directly; Should carton box be used, PE bag and desiccant packets for both indoor and outdoor products are necessary.

Flight case package

Figure 3.2.1 MG15-flight case

Paper box package

Wooden box

Wooden pallet

Figure 3.2.2 MG15-carton package

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.

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:

①Relevant 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.
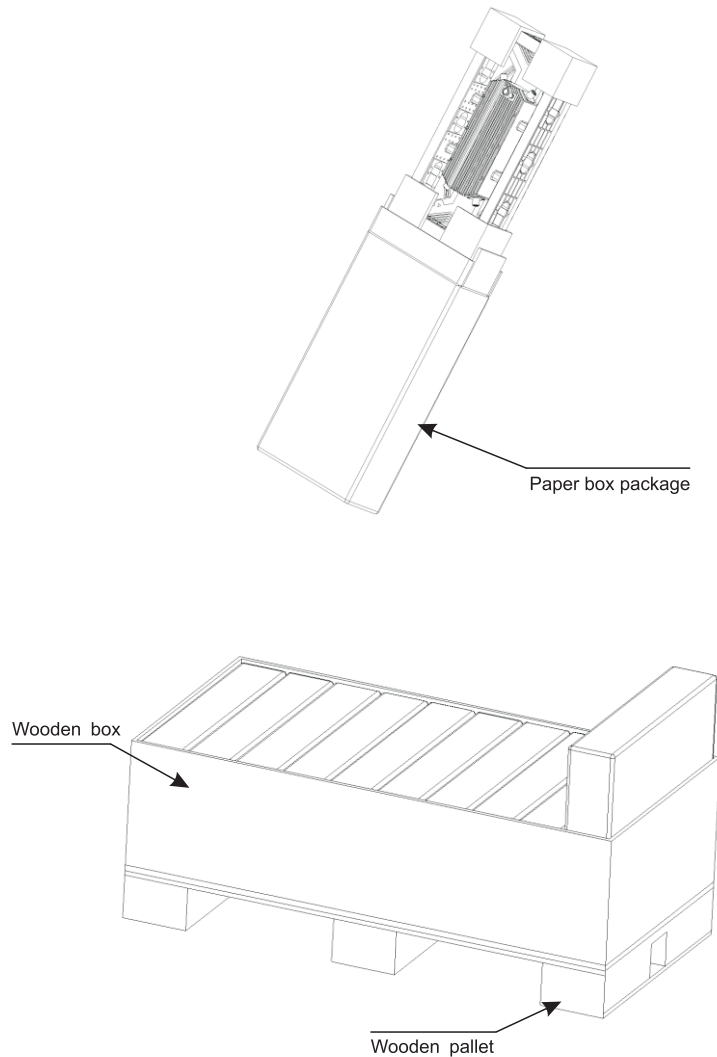
4.2 Hardware Questions

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

LED Screen 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 MG15 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 highlig hts, 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. 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;

19. 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.

20. 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.

Chapter 6
Product Parameter & Specification

	Items	YMG15-M04NFD
Module	LED encapsulation	2020 black
	pixel pitch (mm)	4.8
	module resolution (W×H)	/
	module size (mm)	/
Cabinet	module per cabinet (W×H)	1×1
	resolution (W×H)	/
	size (mm)	250×500×73
	area (m^2)	0.125
	weight (kg/cabinet)	3.7
	pixel density (dot/m^2)	43264
	IP grade	IP50
	flatness (mm)	≤0.5
Optical Parameters	brightness correction	ok
	color correction	ok
	brightness before correcting (nit)	-
	white balance brightness (nit)	800~1200
	color temperature (K)	7000±300K
	horizontal viewing angle (°)	160
	vertical viewing angle (°)	120
	pixel center distance	<3%
	brightness uniformity	≥97%
	color uniformity	within ±0.003Cx,Cy
	contrast ratio	3000:1
Electrical Parameters	power consumption (W/cabinet)	Max: 70 Average: 25
	working voltage	AC100~240V(50/60Hz)
Processing Performance	driving method	constant drive
	scan	1/13
	frame frequency (Hz)	50&60
	refresh rate (Hz)	≥1920
	control system	Nova
Usage parameters	life span (h)	80,000
	environmental temperature (℃)	working temperature: -20~50
		storage temperature: -40~60
	environmental humidity (RH)	working : 10 - 90%(no condensation)
		storage : 10 - 95% (no condensation)
	communication mode	CAT5
	min circle diameter (m)	2
Certificate	Product certification	-

	Items	YMG15-M04UFQ
Module	LED encapsulation	1921
	pixel pitch (mm)	4.8
	module resolution (W×H)	/
	module size (mm)	/
Cabinet	module per cabinet (W×H)	1×1
	resolution (W×H)	/
	size (mm)	250×500×73
	area (m^2)	0.125
	weight (kg/cabinet)	4
	pixel density (dot/m^2)	43264
	IP grade	Front IP65 Rear IP54
	flatness (mm)	≤0.5
Optical Parameters	brightness correction	ok
	color correction	ok
	brightness before correcting (nit)	-
	white balance brightness (nit)	4000~4500 4500~5000
	color temperature (K)	8000±300K
	horizontal viewing angle (°)	160
	vertical viewing angle (°)	120
	pixel center distance	<3%
	brightness uniformity	≥97%
	color uniformity	within ±0.003Cx,Cy
	contrast ratio	5000:1
Electrical Parameters	power consumption (W/cabinet)	Max: 80 Average: 27
	working voltage	AC100~240V(50/60Hz)
Processing Performance	driving method	constant drive
	scan	1/13
	frame frequency (Hz)	50&60
	refresh rate (Hz)	≥1920
	control system	Nova
Usage parameters	life span (h)	80,000
	environmental temperature (℃)	working temperature: -20~50
		storage temperature: -40~60
	environmental humidity (RH)	working : 10 - 90%(no condensation)
		storage : 10 - 95% (no condensation)
	communication mode	CAT5
	min circle diameter (m)	2
Certificate	Product certification	-