INFINITY MATRIX HEX

LED-MTX36 HEX

CONTENTS

1. Safety Instructions

⚠️ **WARNING**

> Please read carefully the instruction, which includes important information about the installation, usage and maintenance.

- Please keep this User Manual for future consultation. If you sell the fixture to another user, be sure that they also receive this instruction booklet.

- Please unpack and check carefully there is no transportation damage before using the fixture.

- Please disconnect main power before servicing and maintenance.

- The maximum ambient temperature is Ta: 40℃. DO NOT operate it where the temperature is higher than this.

- DO NOT connect the device to any dimmer pack.

- The housing must be replaced if they are visibly damaged.

- Unit surface temperature may reach up to 85℃. Don't touch the housing bare-hand during its operation. Turn off the power and allow about 15 minutes for the unit to cool down before replacing or serving.

- There are no user serviceable parts inside the fixture. Do not open the housing or attempt any repairs by yourself. In the unlikely event your fixture may require service, please contact your nearest dealer.

- In the event of serious operating problem, stop using the fixture immediately. Never try to repair the fixture by yourself. Repairs carried out by unskilled people can lead to damage or malfunction. Please contact the nearest authorized technical assistance center. Always use the same type spare parts.

Warning:

- It's important to ground the yellow/green conductor to earth in order to avoid electric shock.

- DO NOT touch any wire during operation and there might be a hazard of electric shock.

- To prevent or reduce the risk of electrical shock or fire, do not expose the unit to rain or moisture.

• DO NOT open the unit within five minutes after switching off.

• The housing, the lenses, or the ultraviolet filter must be replaced if they are visibly damaged.

• Do not look directly at the LED light beam while the fixture is on.

Caution:

There are no user serviceable parts inside the unit. DO NOT open the housing or attempt any repairs yourself. In the unlikely event your unit may require service, please contact your nearest dealer.

2. Technical Specifications

● DMX Channels: 3 / 4 / 144 / 216 channels mode

● Control modes: DMX, ArtNet, Master/Slave, Sound Active

● Data In/Out: 3-pin & 5-pin XLR sockets, ArtNet connectors

● Dimmer: 0~100% smooth dimming

● Infinite Matrix features professional LCD screen case for easy and quick installation; pixel control and powerful output, perfect for events, rentals and all kinds of shows.

● **Voltage:**   AC 100~240V, 50/60Hz

● **Power consumption:**   173W

● **LED:**   36 x 3W RGBPYW LEDs

● **Fuse:**   T6.3Amp

● **Beam Angle:**   45 Degree

● **Dimension:**   510 x 500 x122 mm

● **Weight:**   12.4 Kgs
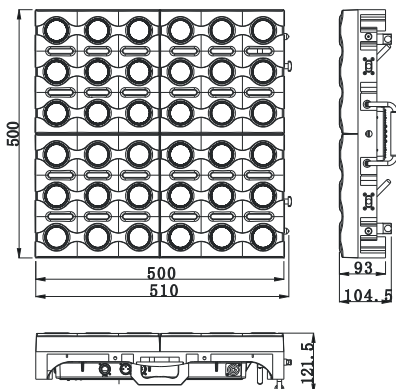
3. Accessories

Standard Accessories:

1. 1.5m POWERCON cable x 1pc

2. 1.5m CAT5e LAN cable x 1pc

3. Fastener x 1pc

4. M10 x 20 Hexagon socket screw x 4pcs

Optional Accessories:

1. 0.5m Hanging Bar x 1pc, Lifting belts x 1pc, Fixed plate for Hanging Bar x 2pcs, M10 x 25

   Hexagon socket screw x 2pcs

2. Clamp C-200 (Different models of clamp can be chosen)

3. 8mm Allen Key

4. 1m POWERCON Connecting cable

4. Installation

4.1 Fixture Jointing

Before joint the fixtures, pull the handle downward as Figure 1 and Figure 2 showed below to hide
the handle.
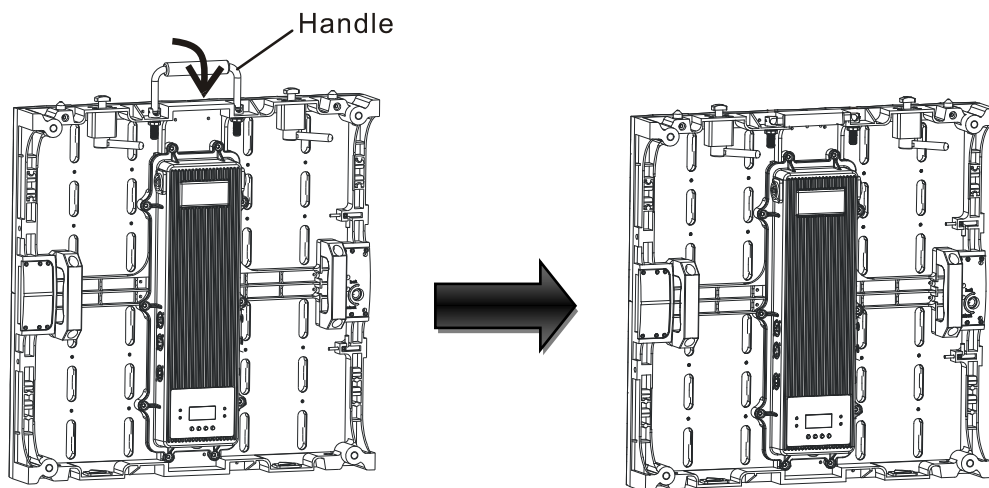
Figure 1   **Figure 2**

Horizontal Jointing:

Release the spring of the locating pin (A & B) so that two fixtures located (Step 1), and use L type Hexagon wrench to clockwise rotate the Lock Catch to the end to fasten two fixtures (Step 2).
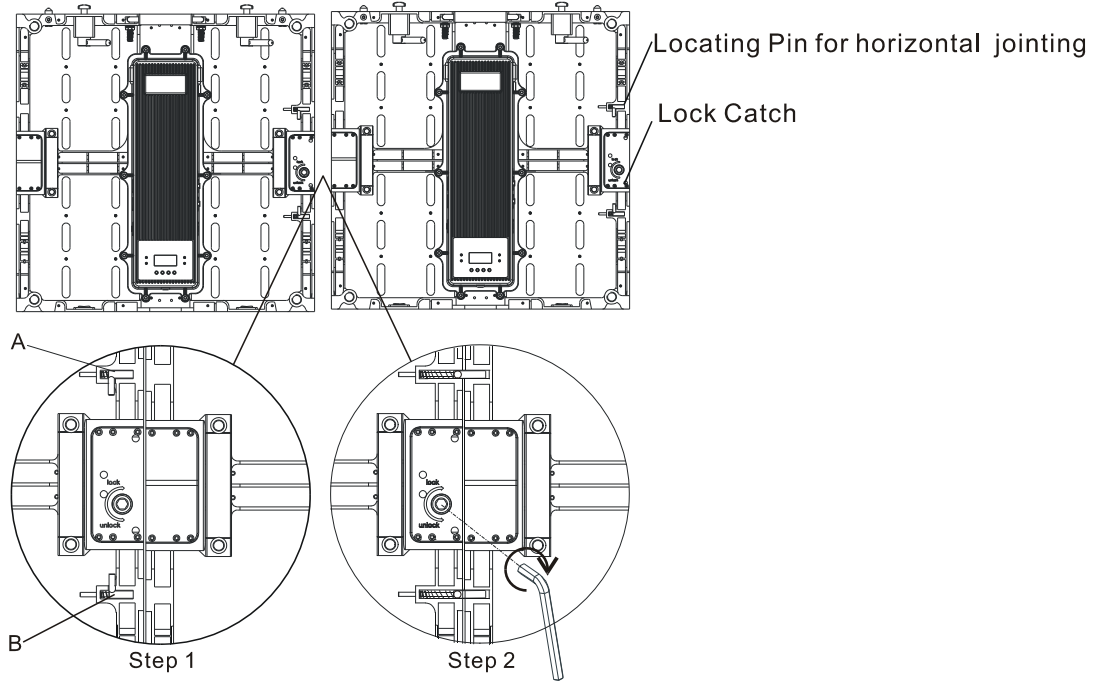
Figure 3

Vertical Jointing:

Plug the Locating Pin and the Quick lock into the corresponding holes to locate two fixtures (Step 1), and counter-clockwise rotate the stick of the lock to fasten two fixtures (Step 2 & Step 3).

Figure 4

5A
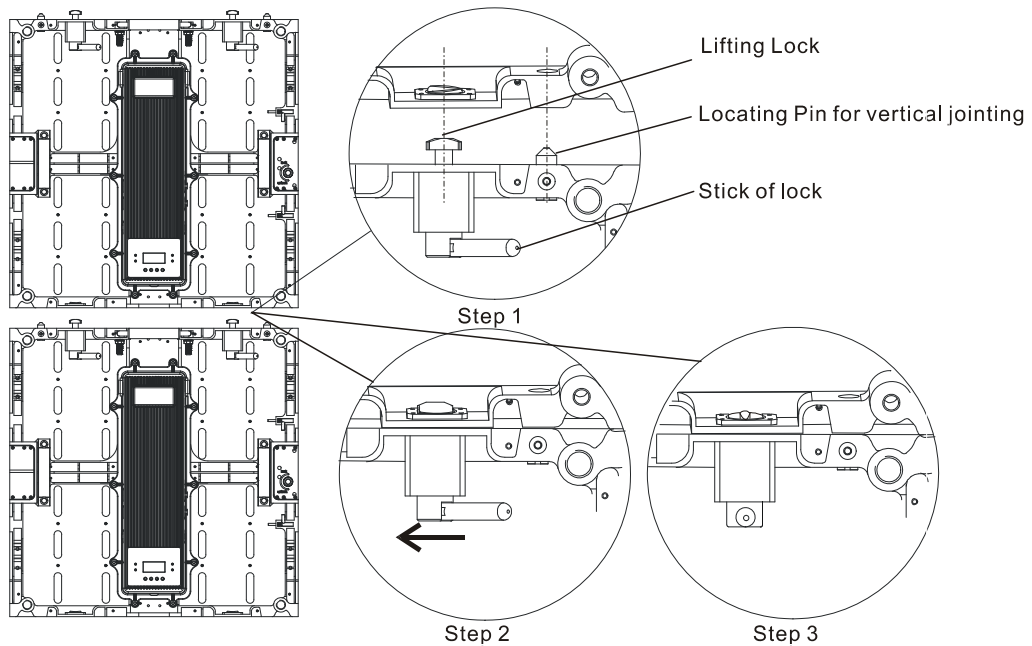
Jointing with Fastener

We provide one fastener for one fixture so you can also use fastener to combine and fix the fixtures to make them more firm. Please fix the fastener in different places as needed.
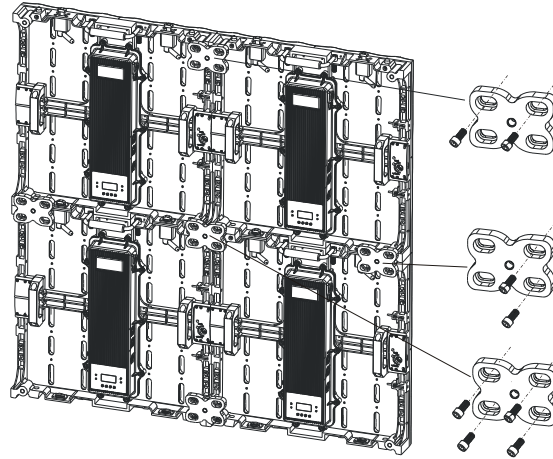
Figure 5

4.2 Fixture Hanging

The fixture also can be hanged by the Clamp or Hanging Bar.

Clamp (Only one fixture can be hanged)

Different models of clamp can be choose, C-200 for reference as below.

Bolt the clamp to the fixture with screw and nut through the hole in the head of the fixture. Hang it in the truss through the clamp.
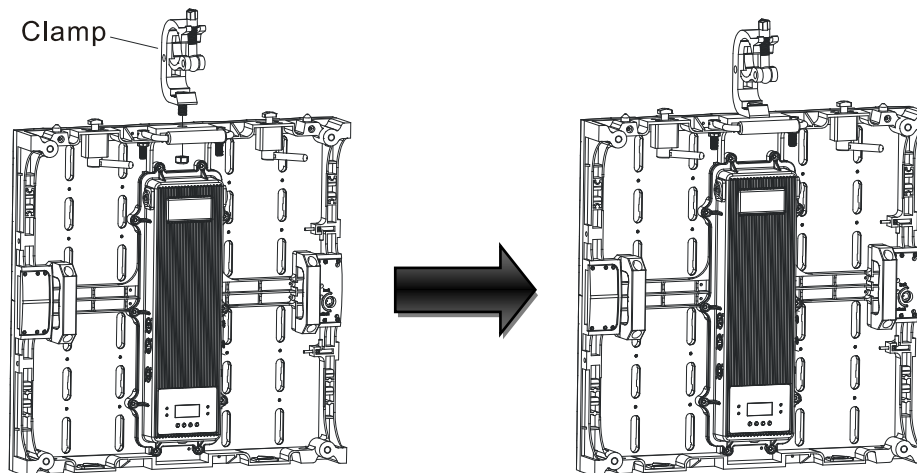
| **Figure 6** | **Figure 7** |

Hanging Bar (More than one fixture can be hanged. For one bar, max load ≤ 150kg.)

Hang the fixture with Hanging Bar just as **Vertical Jointing** between two fixtures, plug the Locating Pin and the Quick lock into the corresponding holes of the Hanging Bar to locate the fixtures and the bar, and counter-clockwise rotate the stick of the Quick Lock to fasten them (Fixture 8). Then screw the Hexagon socket screws by the Allen key to fix the bar with the fixture (Fixture 9).
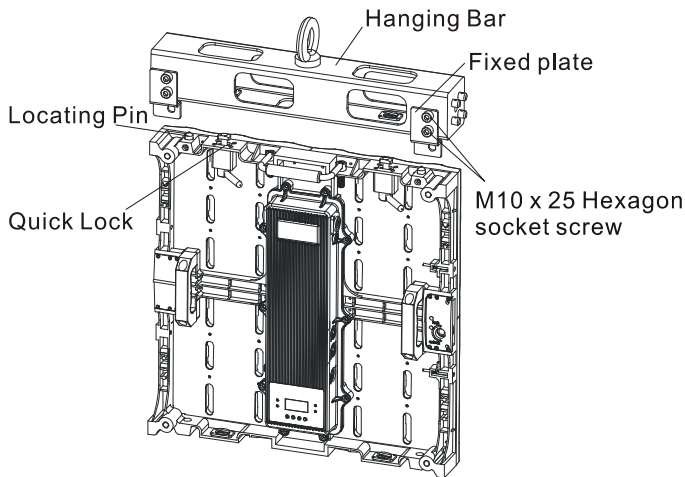
Figure 8
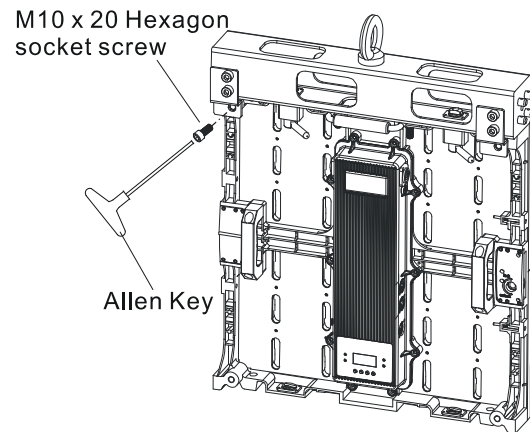
Figure 9

Plug the Locating Pin into the corresponding holes of another Hanging Bar to locate and combine the bars.
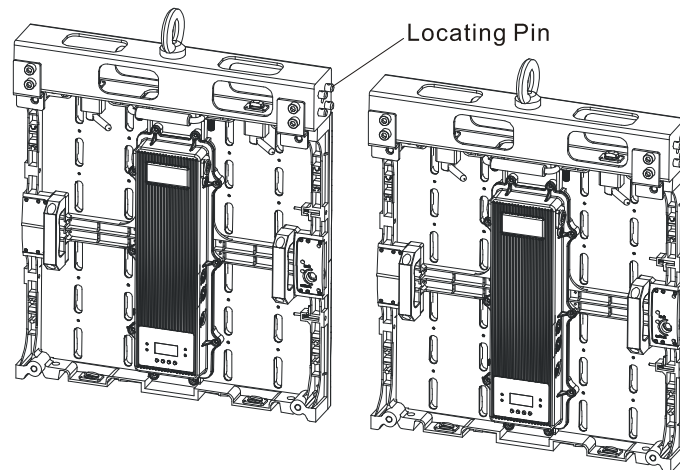
Figure 10

Note: We suggest that join the fixtures horizontal first, then combine them layer by layer.

Use Lifting belts to hang the bar in different ways according to the installation conditions.

You can find below figures for reference:
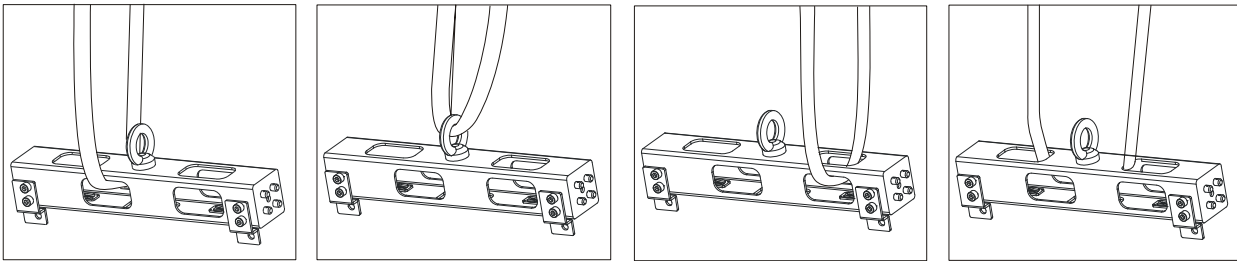
5. How To Set The Unit

5.1 Control Panel
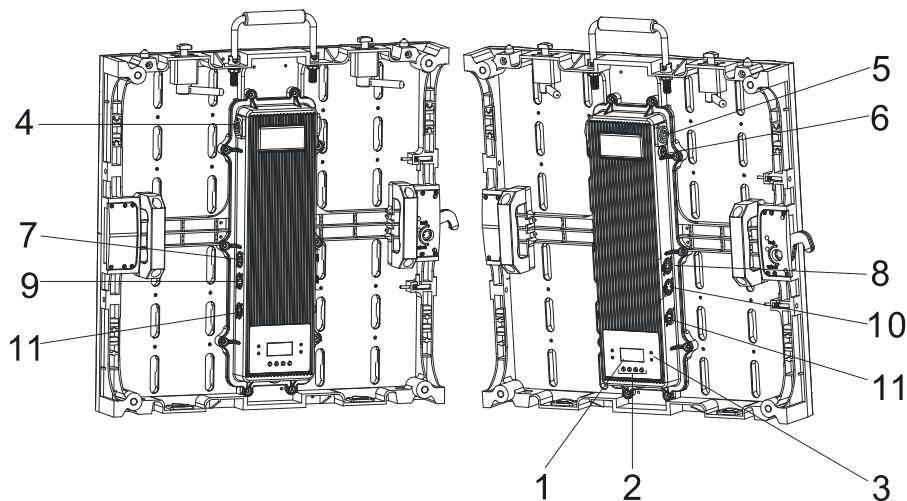
1. **Display**

   To show the various menus and the selected functions;

2. **Button**

MENU	To select the programming functions
DOWN	To go backward in the selected functions
UP	To go forward in the selected functions
ENTER	To confirm the selected functions

3. **LED**

DMX	On	DMX input present
MASTER	On	Master Mode
SLAVE	On	Slave Mode
SOUND	Flash	Sound activation

4. **Power In:** Connect to supply mains power;

5. **Power Out:** Connect to supply mains power for the next unit;

6. **Fuse(T6.3Amp):** Used to protect the unit from the damage of over current;

7. **3-pin DMX In:** For DMX512 link, use 3-pin XLR cable to link the unit and the DMX controller;

8. **3-pin DMX Out:** For DMX512 link, use 3-pin XLR cable to link the next unit and output DMX signal;

9. **5-pin DMX In:** For DMX 512 link, use 5-pin XLR cable to link the unit and the DMX controller;

10. **5-pin DMX Out:** For DMX 512 link, use 5-pin XLR cable to link the next unit and output DMX signal;

11. **NUTR RJ45 in/out:** Connect with the multimedia and use software to control the units via ArtNet.

5.2 Main Function

To select any of the given functions, press the **MENU** button up to when the required one is showing on the display. Select the function by the **ENTER** button and the display will blink. Use the **DOWN** and **UP** button to change the mode. Once the required mode has been selected, press the **ENTER** button to setup, to go back to the functions without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode.

Note: Under the master mode, hold the ENTER button and use the DOWN and UP button to adjust the dimmer for the show.

The main functions are showing below:

```
                                                     ┌─ Port A ──────────┐
                                  DMX Address ────────┤                   ├─ Values
                                                     └─ Port B

                                                     ┌─ IP Addr
                                  Eth-Net Address ────┤  IP Mask
                                                     │  Gateway
                                                     └─ MAC Addr

                                                     ┌─ Net ──────────────┬─ 0
                                                     │                    ⋮
                                  ArtNet Universe ────┤  Sub-Net           └─ 127
                                                     │  Universe Port A ──┬─ 0
                                                     │                    ⋮
                                                     └─ Universe Port B ──┴─ 15

                                                     ┌─ 3ChMode
                                                     │  4ChMode
                                                     │  36RGB
                                  Channel Mode ───────┤  36RGBW
                                                     │  36RGBWPY
                                                     └─ Pair Show

                                                     ┌─ Master
                                  M/S Mode ───────────┤  Slave1
                                                     │  ⋮
                                                     └─ Slave4

                                                     ┌─ Md:1 - 1
         MENU ─────────────────── Splice set ────────┤  Md:1 - 2
                                                     └─ Md:2 - 2

                                                     ┌─ Show 1
                                  Show Mode ──────────┤  ⋮
                                                     └─ Show 5

                                                     ┌─ Jump
                                  Fade Mode ──────────┤  Fade 1
                                                     │  ⋮
                                                     └─ Fade 4

                                                     ┌─ On
                                  Sound Mode ─────────┤
                                                     └─ Off

                                                     ┌─ 0
                                  Sound Sense ────────┤
                                                     └─ 100

                                                     ┌─ Yes
                                  Blackout ───────────┤
                                                     └─ No

                                                     ┌─ On
                                  LCD Light ──────────┤
                                                     └─ Off

                                                     ┌─ Number ─── 0 ~ 9
                                  Manual Test ────────┤
                                                     └─ Letter ─── A ~ Z, a ~ z

                                  Auto Test

                                  Fixture Time

                                  Software Version
```

DMX Address

Select the **DMX Address**, press the **ENTER** button to confirm, the display will show the present address. Use the **UP** and **DOWN** button to select **Port A** or **Port B** (Port B only appears under **PairShow channel mode**) and adjust the address (The address value range will be different when select different channel mode), press the **ENTER** button to store. Press the **MENU** button back to the last menu or idling 30 seconds to exit menu mode.

Eth-Net Address

Select the **Eth-Net Address**, press the **ENTER** button to confirm. Use the **UP** and **DOWN** button to select **IP Addr, IP Mask, Gateway** and **MAC Addr,** press the **ENTER** button to set the value for these items. Press the **MENU** button back to the last menu or idling 30 seconds to exit menu mode.

ArtNet Universe

Select the **ArtNet Universe**, press the **ENTER** button to confirm. Use the **ENTER** button to select **Net, Sub-Net** or **Universe Port A** or **Universe Port B,** use the **UP** and **DOWN** button to set the value for these items. Press the **MENU** button back to the last menu or idling 30 seconds to exit menu mode.

Channel Mode

Select the **Channel Mode**, press the **ENTER** button to confirm, the display will show the present channel mode. Use the **UP** and **DOWN** button to adjust **3ChMode, 4ChMode, 36RGB, 36RGBW**, **36RGBWPY** or **Pair Show,** press the **ENTER** button to store. Press the **MENU** button back to the last menu or idling 30 seconds to exit menu mode.

M/S Mode

Select the **M/S Mode**, press the **ENTER** button to confirm, the display will show the present channel mode. Use the **UP** and **DOWN** button to adjust **Master, Slave 1 … Slave 4,** press the **ENTER** button to store. Press the **MENU** button back to the last menu or idling 30 seconds to exit menu mode.

Splice Set

Select the **Splice Set,** press the **ENTER** button to confirm, use the **UP** and **DOWN** button to select the **1-1 (1 unit), 1-2 (2 units connected)** or **2-2 (4 units connected)** mode, press the **ENTER** button to store. Press the **MENU** button back to the last menu or idling 30 seconds to exit menu mode.

Show Mode

Select the **Show Mode**, press the **ENTER** button to confirm, the present mode will blink on the display, use the **UP** and **DOWN** button to select the **Show 1** to **Show 5,** press the **ENTER** button to store. Press the **MENU** button back to the last menu or idling 30 seconds to exit menu mode.

Fade Mode

Select the **Fade Mode**, press the **ENTER** button to confirm, the present mode will blink on the display, use the **UP** and **DOWN** button to select the **Jump, Fade 1** to **Fade 4,** press the **ENTER** button to store. Press the **MENU** button back to the last menu or idling 30 seconds to exit menu mode.

Sound Mode

Select **Sound Mode**, press the **ENTER** button to confirm, the present mode will blink on the display, use the **UP** and **DOWN** button to select **On** or **Off,** press the **ENTER** button to store. Press the **MENU** button back to the last menu or idling 30 seconds to exit menu mode.

Sound Sense

Select **Sound Sense**, press the **ENTER** button to confirm, the present mode will blink on the display, use the **UP** and **DOWN** button to adjust the value from **1** or **100,** press the **ENTER** button to store. Press the **MENU** button back to the last menu or idling 30 seconds to exit menu mode.

Blackout

Select **Blackout**, press the **ENTER** button to confirm, the present mode will blink on the display, use the **UP** and **DOWN** button to select **Yes** or **No,** press the **ENTER** button to store. Press the **MENU** button back to the last menu or idling 30 seconds to exit menu mode.

LCD Light

Select **LCD Light**, press the **ENTER** button to confirm, the present mode will blink on the display,

use the **UP** and **DOWN** button to select **On** or **Off,** press the **ENTER** button to store. Press the

MENU button back to the last menu or idling 30 seconds to exit menu mode.

Manual Test

Select **Manual Mode**, press the **ENTER** button to confirm, the present mode will blink on the

display, use the **UP** and **DOWN** button to select the **Number** or **Letter,** press the **ENTER** button and

use the **UP** and **DOWN** button to adjust the value from **0 ~ 9** and **A ~ Z, a ~ z**, press the **ENTER**

button to store. Press the **MENU** button back to the last menu or idling 30 seconds to exit menu

mode.

Auto Test

Select **test**, press the **ENTER** button to confirm, then the unit will test by itself. Press the **MENU**

button back to the last menu.

Fixture Time

Press the **MENU** button up to when the **Fixture Time** is blinking on the display. Press the **ENTER**

button and the display will show the number of working hours of the unit. To go back to the

functions press the **MENU** button again.

Software Version

Press the **MENU** button up to when the **Software Version** is blinking on the display. Press the

ENTER button and the display will show the version of software of the unit. To go back to the

functions press the **MENU** button again.

6. How To Control The Unit

You can operate the unit in two ways:

1. By master/slave built-in preprogram function

2. By universal DMX controller

3. By multimedia software via ArtNet

No need to turn the unit off when you change the DMX address, as new DMX address setting will

be affected at once.

6.1 Mater/Slave Built In Preprogrammed Function

By linking the units in master/slave connection, the first unit will control the other units to give an automatic light show. You have to set the first unit in master mode and select Show 1 to Show 10. Its DMX input jack will have nothing plugged into it, and Its master LED will be constantly on and sound LED will flash to the music.

6.2 DMX Controller

By using a universal DMX controller to control the units, you have to set DMX address from 1 to 512 so that the units can receive DMX signal.

Press the **MENU** button up to when the **DMX Address** is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to change the DMX512 address. Once the address has been selected, press and keep **ENTER** button pressed up to when the display stops blinking or storing automatically 8 seconds later. To go back to the functions without any change press the **MENU** button again. If you use please refer to the following diagram to address your DMX512 channel for the first 4 units：

Channel mode	Unit 1 Address	Unit 2 Address	Unit 3 Address	Unit 4 Address
3 Channel	1	4	7	10
4 Channels	1	5	9	13
36RGB (108) Channels	1	109	217	325
36RGBW (144) Channels	1	145	289	433
36RGBWPY (216) Channels	1	217	433	/

6.3 ArtNet

By using multimedia software via ArtNet to control the units, you have to select channel mode 36 in the menu. Also set the Eth-Net address to make sure they are same with the multimedia service. If MAC address has conflict please use the random address.

6.4 DMX Configuration

3 Channels Mode:

Channel	Value	Function
1		Dimmer
	000-255	0 - 100%
2		Fade Mode
	000-050	Jump
	051-101	Fade 1
	102-152	Fade 2
	153-203	Fade 3
	204-255	Fade 4
3		Show
	000-007	Blackout
	008-055	Show 1
	056-103	Show 2
	104-151	Show 3
	152-199	Show 4
	200-247	Show 5
	248-255	Stand alone (Trigger by sound)

4 Channels Mode:

Channel	Value	Function
1	000-255	Dimmer 0 - 100%
2		Strobe
	000-019	Close
	020-049	Open
	050-064	Strobe, slow to fast
	065-069	Open
	070-084	Fast close slow open
	085-089	Open
	090-104	Fast open slow close
	105-109	Open
	110-124	Random Strobe
	125-129	Open
	130-144	Random fast close slow open
	145-149	Open
	150-164	Random fast open slow close
	165-169	Open
	170-184	Burst pulse slow to fast
	185-189	Open
	190-204	Random Burst pulse
	205-209	Open
	210-224	sine wave
	225-229	Open
	230-244	Burst
	245-255	Open

3		Mode
	000-014	Blackout
	015-047	Full On
	048-095	Line effect (See Channel 4-1)
	096-135	Number 1 to 9 (See Channel 4-2)
	136-175	Letter A to Z (See Channel 4-3)
	176-215	Letter a to z (See Channel 4-4)
	216-255	Blackout
4-1		Line Effect (When CH3 between 048-095)
	000-007	No Function
	008-015	Effect 1
	016-023	Effect 2
	024-031	Effect 3
	032-039	Effect 4
	040-047	Effect 5
	048-055	Effect 6
	056-063	Effect 7
	064-071	Effect 8
	072-079	Effect 9
	080-087	Effect 10
	088-095	Effect 11
	096-103	Effect 12
	104-111	Effect 13
	112-119	Effect 14
	120-127	Effect 15
	128-135	Effect 16
	136-143	Effect 17
	144-151	Effect 18
	152-159	Effect 19
	160-167	Effect 20
	168-175	Effect 21
	176-183	Effect 22
	184-191	Effect 23
	192-199	Effect 24
	200-207	Effect 25
	208-215	Effect 26
	216-223	Effect 27
	224-231	Effect 28
	232-239	Effect 29
	240-247	Effect 30
	248-255	Effect 31
4-2		Number (When CH3 between 096-135)
	000-025	No function
	026-048	Number – 0

	049-071	Number – 1
	072-094	Number – 2
	095-117	Number – 3
	118-140	Number – 4
	141-163	Number – 5
	164-186	Number – 6
	187-209	Number – 7
	210-232	Number – 8
	233-255	Number – 9
4-3		Capital Letter (When CH3 between 136-175)
	000-021	No function
	022-030	Letter – A
	031-039	Letter – B
	040-048	Letter – C
	049-057	Letter – D
	058-066	Letter – E
	067-075	Letter – F
	076-084	Letter – G
	085-093	Letter – H
	094-102	Letter – I
	103-111	Letter – J
	112-120	Letter – K
	121-129	Letter – L
	130-138	Letter – M
	139-147	Letter – N
	148-156	Letter – O
	157-165	Letter – P
	166-174	Letter – Q
	175-183	Letter – R
	184-192	Letter – S
	193-201	Letter – T
	202-210	Letter – U
	211-219	Letter – V
	220-228	Letter – W
	229-237	Letter – X
	238-246	Letter – Y
	247-255	Letter – Z
4-4		Small Letter (When CH3 between 176-215)
	000-021	No function
	022-030	Letter – a
	031-039	Letter – b
	040-048	Letter – c
	049-057	Letter – d
	058-066	Letter – e

	067-075	Letter – f
	076-084	Letter – g
	085-093	Letter – h
	094-102	Letter – i
	103-111	Letter – j
	112-120	Letter – k
	121-129	Letter – l
	130-138	Letter –m
	139-147	Letter – n
	148-156	Letter – o
	157-165	Letter – p
	166-174	Letter – q
	175-183	Letter – r
	184-192	Letter – s
	193-201	Letter – t
	202-210	Letter – u
	211-219	Letter – v
	220-228	Letter – w
	229-237	Letter – x
	238-246	Letter – y
	247-255	Letter – z

36RGB Channels Mode:

Channel	Value	Function
1 - 108		Pixel 01 – Pixel 36 RGB Dimmer
	000-255	0 - 100%

36RGBW Channels Mode:

Channel	Value	Function
1 - 144		Pixel 01 – Pixel 36 RGBW Dimmer
	000-255	0 - 100%

36RGBWPY Channels Mode:

Channel	Value	Function
1 - 216		Pixel 01 – Pixel 36 RGBWPY Dimmer
	000-255	0 - 100%

Pair Show Mode:

DMX Input 1 (Control by ArtNet)

Channel	Value	Function
1 – 108		Pixel 01 – Pixel 36 RGB Dimmer *(Valid when Input 2 CH1 on 036-095 or 166-235)*
	000-255	0 - 100%

DMX Input 2 (Control by DMX console)

| Channel	Value	Function
1		Function Control
	000-025	Blackout
	036-095	DMX Input 1 (Channel 1 - 108) is invalid, DMX Input 2 (Channel 2 - 109) is valid
	096-165	DMX Input 1 (Channel 1 - 108) is valid, DMX Input 2 (Channel 2 - 109) is invalid
	166-235	DMX Input 1 (Channel 1 - 108) is valid, DMX Input 2 (Channel 2 - 109) is valid
	236-255	Blackout
2 – 109		Pixel 01 – Pixel 36 WPY Dimmer *(Valid when Input 2 CH1 on 096-165 or 166-235)*
	000-255	0 - 100%

7. DMX Connections

Please connect the fixtures as below:

Mode connection 1-1: (One unit in a group)

DMX Out   DMX IN
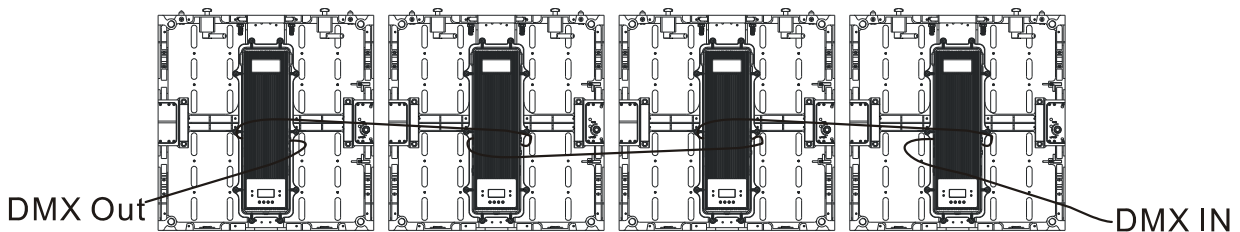
Mode connection 1-2: (Two units in a group)

DMX Out   DMX IN
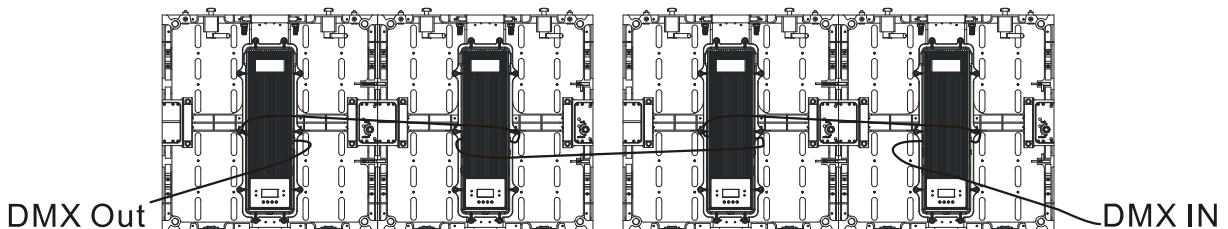
Mode connection 2-2: (Four units in a group)
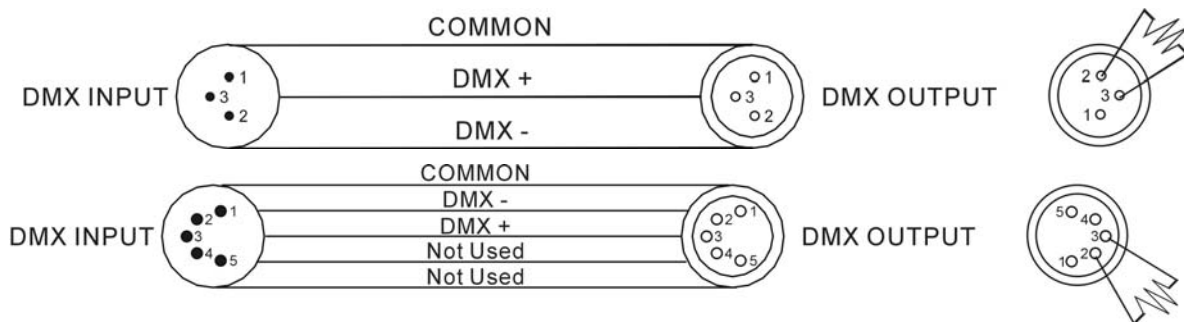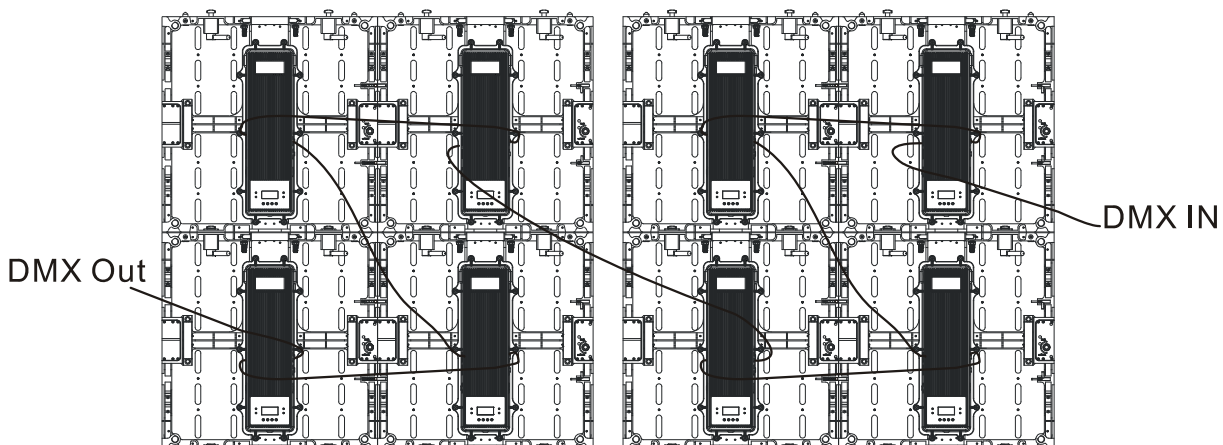
Termination reduces signal errors and to avoid signal transmission problems and interference. It is always advisable to connect a DMX terminal.

Put a resistance (120 ohm ¼W) between pin-2 (DMX-) and pin-3 (DMX+) of the last fixture.

1. At last unit, the DMX cable has to be terminated with a terminator. Solder a 120-ohm ¼W resistor between pin 2(DMX-) and pin 3(DMX+) into a 3-pin XLR-plug and plug it in the DMX-output of the last unit.

2. Connect the unit together in a "daisy chain" by XLR plug cable from the output of the unit to the input of the next unit. The cable cannot be branched or split to a "Y" cable. DMX 512 is a very high-speed signal. Inadequate or damaged cables, soldered joints or corroded connectors can easily distort the signal and shut down the system.

3. The DMX output and input connectors are pass-through to maintain the DMX circuit, when one of the units' power is disconnected.

4. Each lighting unit needs to have a DMX address to receive the data by the controller. The address number is between 0-511 (usually 0 & 1 are equal to 1).

5. The end of the DMX 512 system should be terminated to reduce signal errors.

6. 3 pin XLR connectors are more popular than 5 pins XLR.

   3 pin XLR: Pin 1: GND, Pin 2: Negative signal (-), Pin 3: Positive signal (+)

   5 pin XLR: Pin 1: GND, Pin 2: Negative signal (-), Pin 3: Positive signal (+), Pin4, Pin5 not used.

7. Troubleshooting

Following are a few common problems that may occur during operation. Here are some suggestions for easy troubleshooting:

A. The unit does not work, no light and the fan does not work

1. Check the connection of power and main fuse.

2. Measure the mains voltage on the main connector.

3. Check the power on LED.

B. Not responding to DMX controller

1. DMX LED should be on. If not, check DMX connectors, cables to see if link properly.

2. If the DMX LED is on and no response to the channel, check the address settings and DMX polarity.

3. If you have intermittent DMX signal problems, check the pins on connectors or on PCB of the unit or the previous one.

4. Try to use another DMX controller.

5. Check if the DMX cables run near or run alongside to high voltage cables that may cause damage or interference to DMX interface circuit.

C. One of the channels is not working well

1. The stepper motor might be damaged or the cable connected to the PCB is broken.

2. The motor's drive IC on the PCB might be out of condition.

8. Fixture Cleaning

The cleaning of internal and external optical lenses and/or mirrors must be carried out periodically to optimize light output. Cleaning frequency depends on the environment in which the fixture operates: damp, smoky or particularly dirty surrounding can cause greater accumulation of dirt on the unit's optics.

• Clean with soft cloth using normal glass cleaning fluid.

• Always dry the parts carefully.

• Clean the external optics at least every 30 days.

Declaration of Conformity

We declare that our products (lighting equipments) comply with the following specification and bears CE mark in accordance with the provision of the Electromagnetic Compatibility (EMC) Directive 89/336/EEC.

EN55103-1: 2009 ; EN55103-2: 2009; EN62471: 2008;
EN61000-3-2: 2006 + A1:2009 + A2:2009; EN61000-3-3: 2008.

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Harmonized Standard

EN60598-2-17:1989 + A2:1991; EN60598-1:2008+ A11: 2009
EN 62471:2008; EN 62493: 2010
Safety of household and similar electrical appliances
Part 1: General requirements

Innovation, Quality, Performance