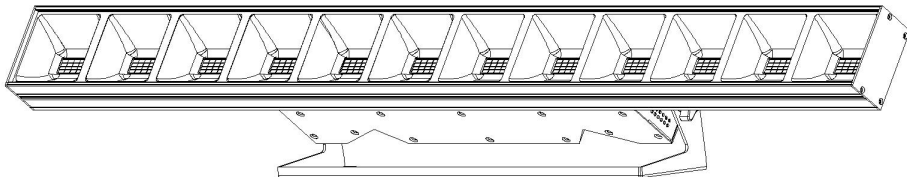


# EV LIGHT<sup>®</sup>

## EV-ST288



### **User Manual**

Please read the instructions carefully

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# 1. Safety Introductions



## WARNING

**Please read the instructions carefully which includes important information about the installation, operation 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.
- ⌘ Unpack and check carefully there is no transportation damage before using the fixture.
- ⌘ It's important to ground the yellow/green conductor to earth in order to avoid electric shock.
- ⌘ Disconnect main power before servicing and maintenance.
- ⌘ The unit must be installed in a location with adequate ventilation, at least 50cm from adjacent surfaces. Be sure that no ventilation slots are blocked.
- ⌘ Maximum ambient temperature is  $T_a : 40^{\circ}\text{C}$  . Don't operate it where the temperature is higher than this.
- ⌘ Unit surface temperature may reach up to  $85^{\circ}\text{C}$  . 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.
- ⌘ 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.
- ⌘ Do not connect the device to any dimmer pack.
- ⌘ 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 fixture to rain or moisture.
- ⌘ The housing must be replaced if they are visibly damaged.
- ⌘ Do not look directly at the LED light beam while the fixture is on.
- ⌘ 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.
- ⌘ Due to the magnifying type lens, please keep the lens out of contact with direct sunlight. Direct sunlight can cause heat to build up inside of the unit, which will seriously damage unit.

## 2. Technical Specifications

- DMX 1/2/4/12/14/16 channels switchable.
- Smooth 0~100% dimming and variable strobe speeds.
- Three operation modes: DMX, Master/Slave mode, Sound Active.
- Ideal for discotheques, clubs, bars, parties, Mobile DJs, ect.
- Power Supply: 120~230V 50/60Hz
- Power consumption:145W
- LED: 288PCS 5730LED
- Dimension: 1000\* 115\* 109mm
- Weight: 4.5 kgs

## 3. Installation

The unit should be mounted via its screw holes on the bracket. Always ensure that the unit is firmly fixed to avoid vibration and slipping while operating. Always ensure that the structure to which you are attaching the unit is secure and is able to support a weight of 10 times of the unit's weight. Also always use a safety cable that can hold 12 times of the weight of the unit when installing the fixture.

The equipment must be fixed by professionals. And it must be fixed at a place where is out of the touch of people and has no one pass by or under it, the range of mounting height is 0~30 M.

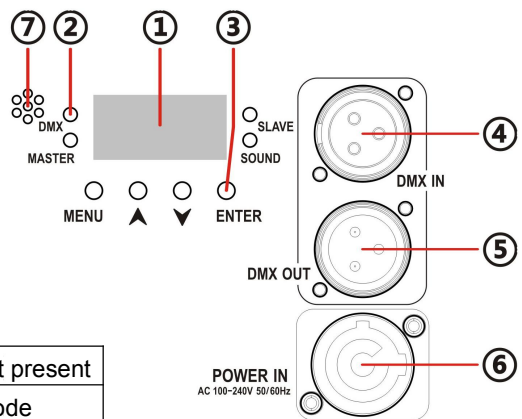
## 4. How to set the unit

### 4.1 Rear Panel

① **Display:** To show the various menus and the selected functions

② **LED:**

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



③ **Button:**

MENU	To select the programming functions with short press.
DOWN	To go backward in the selected functions
UP	To go forward in the selected functions
ENTER	To confirm the selected functions

- ④ **DMX input:** For DMX512 link, use 3/5-pin XLR plug cable to input DMX signal.
- ⑤ **DMX output:** For DMX512 link, use 3/5-pin XLR plug cable to link the next unit.
- ⑥ **POWER input:** Connect to supply mains power.
- ⑦ **Microphone:** Receive music for the sound active.

**4.2 Main Function**

To select any functions, press **MENU** button until the required one is shown on the display. Select the function by **ENTER** button and the display will blink. Use **DOWN** and **UP** button to change the mode. Once the required mode has been selected, press **ENTER** button to setup or it will automatically return to the main functions without any change after idling 30 seconds. Back to the functions without any change press **MENU** button. The main functions are shown below:

DMX Address	1-512
Channel Mode	1CH 2 CH 4 CH 12 CH 14 CH 16 CH
Slave Mode	Master Slave 1- Slave 15
Show Mode	Show0~Show12 Manual
Manual Mode	Dimmer 0 - 255 Strobe 0 - 255
Sound State	Sound mode On - Off
Sound Sense	Sound sense 0-100%

Blackout Mode	Yes No
Back Light	On - Off
Auto Test	
Fixture Time	Fixture hours 0 ~ 9999
Version	V 10

### ***DMX Address***

Press the **MENU** button up to when the **DMX Address** is shown on the display. Pressing the **ENTER** button and the display will blink. Use the **DOWN** and **UP** button to change the DMX 512 address. Once the address has been selected, press the **ENTER** button to setup or automatically exit menu mode without any change after 7 seconds. Back to the previous functions without any change press the **MENU** button.

### ***Channel Mode***

Press the **MENU** button up to when the **Channel Mode** is shown on the display. Pressing the **ENTER** button, Use the **DOWN** and **UP** button to select the (1 channel) or (2 channels) or (4 channels) or (12 channels) or (14 channels) or (16 Channels) mode. Once selected, press the **ENTER** button to setup or automatically exit menu mode without any change after 7 seconds. To go back to the functions without any change press the **MENU** button

### ***Slave Mode***

Press the **MENU** button up to when the **Slave Mode** is shown on the display. Pressing the **ENTER** button, Use the **DOWN** and **UP** button to select the (slave 1) or (Slave 2) ... or (Slave 15)mode. Once selected, press the **ENTER** button to setup or automatically exit menu mode without any change after 7 seconds. To go back to the functions without any change press the **MENU** button.

### ***Show Mode***

Press the **MENU** button up to when the **Show Mode** is shown on the display. Pressing the **ENTER** button, Use the **DOWN** and **UP** button to select the **Show0** (Random show) or

**Show1** (show 1) or **Show2** (Show 2) or ... or **Manual** (Manual). Once selected, press the **ENTER** button to store or automatically exit menu mode without any change after 7 seconds. To go back to the functions without any change press the **MENU** button

### ***Manual Mode***

Press the **MENU** button up to when the **Manual Mode** is shown on the display. Pressing the **ENTER** button, Use the **DOWN** and **UP** button to select the **strobe** (strobe) or **dimmer** (dimmer). Once selected **strobe**, Pressing the **ENTER** button, Use the **DOWN** and **UP** button to change the strobe 0 – 255. Once selected, press the **ENTER** button to store. If you select **dimmer**, Pressing the **ENTER** button, Use the **DOWN** and **UP** button to change the dimmer 0 – 255, Once selected, press the **ENTER** button to setup or automatically exit menu mode without any change after 60 seconds. To go back to the functions without any change press the **MENU** button

### ***Sound State***

Select **Sound State**, press the **ENTER** button to confirm, present mode will blink on the display. Use the **DOWN** and **UP** button to select the **On** (sound on) or **Off** (sound off) mode. Once the 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.

### ***Sound Sense***

Press the **MENU** button up to when the **Sound Sense** is shown on the display. Press the **ENTER** button and the display will blink. Use the **DOWN** and **UP** buttons to adjust the sound sensitively (0-100) of the unit. Once selected, press the **ENTER** button to setup or automatically exit menu mode without any change after 7 seconds. To go back to the functions without any change press the **MENU** button.

### ***Blackout Mode***

Press the **MENU** button up to when the **Blackout Mode** is shown on the display. Pressing the **ENTER** button, Use the **DOWN** and **UP** button to select the **yes** (blackout) or **no** (normal). Once selected, press the **ENTER** button to setup or automatically exit menu mode without any change after 7 seconds. To go back to the functions without any change press the **MENU** button.

### ***Back Light***

Select **Back Light**, press the **ENTER** button to confirm, present mode will blink on the display. Use the **DOWN** and **UP** button to select the **On** (Led on) or **Off** (Led off) mode. Once the 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

### ***Auto-Test***

Press the **MENU** button up to when the **Auto-Test** is blinking on the display. Pressing **ENTER** button and the unit will run self-test by built-in program. To go back to the functions press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode.

### ***Fixture Time***

Press the **MENU** button up to when the **Fixture Time** is blinking on the display. Pressing **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. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode.

### ***Firmware Version***

Press the **MENU** button up to when the **Firmware version** is blinking on the display. Pressing **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. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode.

## **5. How To Control The Unit**

You can operate the unit in three ways:

1. By master/slave built-in preprogram function
2. By easy controller



### 3. By DMX controller

No need to turn the unit off when you change the DMX address, as new DMX address setting will be affected at once. Each time you turn the unit on, it will show “M312” on the display. After that the unit will be ready to receive DMX signal or run the built in programs.

#### 5.1 Master/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, sound activated, synchronized light show. This function is good when you want an instant show. You have to set the first unit in master mode and select **Show0** (random show), **Show1** (show 1) or ...or **Show8** (show 8). 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.

#### 5.2 DMX Controller

Using universal DMX controller to control the units, you have to set DMX address from 1 to 512 channel 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 /2 units.

Channel Mode	Unit 1	Unit 2	Unit 3	Unit 4
1 Channel	1	2	3	4
2 Channel	1	3	5	7
4 Channel	1	5	9	13
12 Channel	1	13	25	37
14 Channel	1	15	19	43
16 Channel	1	17	33	49

## 6. DMX512 Configuration

1- CH mode:

1 CH Mode	
000-007	Led Black out
008-027	Led chase1
028-047	Led chase2
048-067	Led chase3
068-087	Led chase4
088-107	Led chase5
108-127	Led chase6
128-147	Led chase7
148-167	Led chase8
168-187	Led chase9
188-207	Led chase10
208-227	Led chase11
228-247	Led chase12
248-255	Sound random mode

2- CH mode:

2 CH Mode		
1CH	2CH	
000 - 255	0-8	open
Master dimmer	9-255	strobe slow to fast

4-CH mode:

4 CH Mode					
1CH	2CH		3CH		4CH
000 - 255 Master dimmer	0-7	open	000-007	Led Blackout	000 - 255 Led chase speed
			008-027	Led chase1	
			028-047	Led chase2	
			048-067	Led chase3	
			068-087	Led chase4	
			088-107	Led chase5	
			108-127	Led chase6	
	9-255	strobe slow to fast	128-147	Led chase7	
			148-167	Led chase8	
			168-187	Led chase9	
			188-207	Led chase10	
			208-227	Led chase11	
			228-247	Led chase12	
			248-255	Sound random mode	

12-CH mode:

12 CH Mode							
1CH	2CH	3CH	----	9CH	10CH	11CH	12CH
0 - 255 LED1 dimmer	0 - 255 LED2 dimmer	0 - 255 LED3 dimmer	----	0 - 255 LED9 dimmer	0 - 255 LED10 dimmer	0 - 255 LED11 dimmer	0 - 255 LED12 dimmer

14-CH mode:

14 CH Mode							
1CH	2CH	---	11CH	12CH	13CH	14CH	
0 - 255 LED1 dimmer	0 - 255 LED2 dimmer	----	0 - 255 LED11 dimmer	0 - 255 LED12 dimmer	0 - 255 Master dimmer	0-8	open
						9-131	strobe slow to fast
						132-139	open
						140-181	fast close slow open
						182-189	open
						190-231	fast open slow close
						232-239	open
						240-247	random strobe
247-255	open						

16-CH mode:

16CH Mode						
1CH	2CH	---	11CH	12CH	13CH	
0 - 255 LED1 dimmer	0 - 255 LED2 dimmer	---	0 - 255 LED11 dimmer	0 - 255 LED12 dimmer	0 - 255 Master dimmer	

<b>16 CH Mode</b>
-------------------

14CH		15CH		16CH
0-7	open	000-007	Led Blackout	000 - 255 Led chase speed
8-131	strobe slow to fast			
132-139	open	008-027	Led chase1	
140-181	fast close slow open	028-047	Led chase2	
182-189	open	048-067	Led chase3	
190-231	fast open slow close	068-087	Led chase4	
232-239	open	088-107	Led chase5	
240-247	random strobe	108-127	Led chase6	
247-255	open	128-147	Led chase7	
		148-167	Led chase8	
		168-187	Led chase9	
		188-207	Led chase10	
		208-227	Led chase11	
		228-247	Led chase12	
		248-255	Sound random mode	

## 7. DMX512 Connections

mode connection:



Termination reduces signal errors and to avoid signal transmission problems and interference. It is always advisable to connect a DXM terminal. (Resistance 120 ohm 1/4W) between pin2(DXM-) and pin3(DXM+) of the last fixture.



1. Connect the fixture together in a "daisy chain" by XLR plug cable from the output of the fixture to the input of the next fixture. The cable cannot be branched or split to a "Y"

cable. Inadequate or damaged cables, soldered joints or corroded connectors can easily distort the signal and shut down the system.

2. The DMX output and input connectors are pass-through to maintain the DMX circuit when one of the units' power is disconnected.
3. At last fixture, the DMX cable has to be terminated with a terminator to reduce signal errors. Solder a 120-ohm 1/4W 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 fixture.
4. Each lighting fixture needs to have an address set to receive the data sent by the controller. The address number is between 0-511 (usually 0 & 1 are equal to 1).
5. 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 (+), Pin4/5: not used

## 8. Troubleshooting

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

### A. The fixture does not work, no light

1. Check the connection of power and main fuse.
2. Measure the mains voltage on the main connector.

### 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 fixture 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. Some fixtures don't respond to the easy controller

1. You may have a break in the DMX cabling.

2. Check the LED for the response of the master/ slave mode signal.

#### **D. No response to the sound**

1. Make sure the fixture does not receive DMX signal.
2. Check microphone to see if it is good by tapping the microphone.

#### **E. 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.

### **9. Fixture Cleaning**

The cleaning of internal 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 fixture's optics.

- Clean with soft cloth using normal glass cleaning fluid.
- Always dry the parts carefully.
- Clean the external optics at least every 20 days. Clean the internal optics at least every 30/60 days.

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