

**EC 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.

EN55103-1:199601-2; EN55103-2:1996;  
EN61000-3-2:2000+A2:2005;  
EN61000-3-3:1995+A1:2001+A2:2005.

&

**Harmonized Standard**

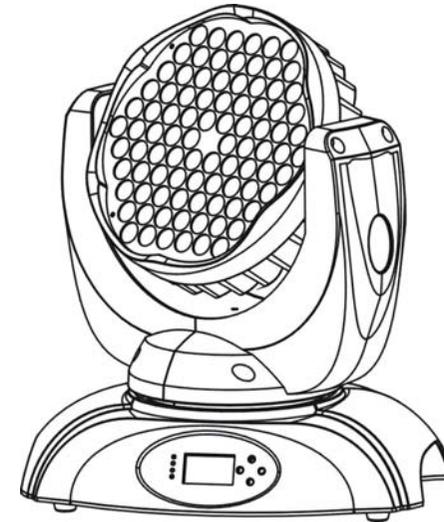
EN 60598-1: 2004  
IEC 60598-1:2003+ corrigendum 2004  
Part 1:General requirements and test

Following the provisions of the low voltage directive 73/23/EEC and 93/68/EEC

**Innovation, Quality, Performance**

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# Splendor 90



## CM-90

**User Guide**

Professional Entertainment Technology

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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. Some units 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 unit does not receive DMX signal.
2. Check if the sound sensitively is too low.

### **E. One of the channels is not working well**

1. The cable connected to the PCB may broken.

## **7. 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 20 days. Clean the internal optics at least every 30/60 days.

1. If you using a controller with 5 pins DMX output, you need to use a 5 to 3 pin adapter-cable.
2. At last unit, the DMX cable has to be terminated with a terminator. 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 unit.
3. Connect the unit together in a `daisy chain` by XLR plug from the output of the unit to the input of the next unit. The cable can not 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.
4. The DMX output and input connectors are pass-through to maintain the DMX circuit, when power is disconnected to the unit.
5. Each lighting unit 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).
6. The end of the DMX 512 system should be terminated to reduce signal errors.
7. 3 pin XLR connectors are more popular than 5 pin 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 (+)  
 Pin 4/5: Not used.

## 6. 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

## 1. Safety Instruction



### WARNING

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

- Please keep this User Guide for future consultation. If you sell the unit to another user, be sure that they also receive this instruction booklet.
- Unpack and check carefully there is no transportation damage before using the unit.
- Before operating, ensure that the voltage and frequency of power supply match the power requirements of the unit.
- It's important to ground the yellow/green conductor to earth in order to avoid electric shock.
- The unit is for indoor use only. Use only in a dry location.
- 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.
- Disconnect main power before replacement or servicing.
- Make sure there is no flammable materials close to the unit while operating as it is fire hazard.
- Use safety cable when fixes this unit.
- Maximum ambient temperature is TA: 40°C. Don't operate it where the temperature is higher than this.
- In the event of serious operating problem, stop using the unit immediately. Never try to repair the unit 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 touch any wire during operation as high voltage might be causing electric shock.

### Warning

- 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 must be replaced if they are visibly damaged.

## Caution

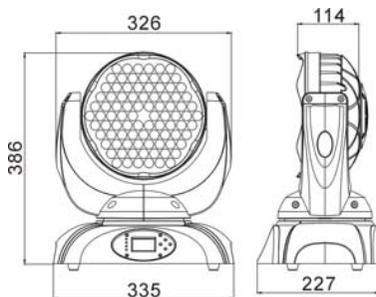
There are no user serviceable parts inside the unit. Do not open the housing or attempt any repairs yourself. In the unlikely event your unit may require service, please contact your nearest dealer.

## Installation

The unit should be mounted via its metal hole 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 10 times weight of the unit.

## 2. Technical Specification

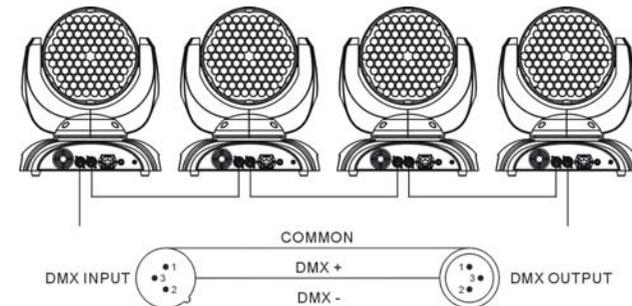
- DMX Channels: 16/9 channels
- Great built-in lighting shows under Master/Slave mode triggered by music
- Through its flexible installation options the unit can be installed in various orientations
- The sound sensitivity can be adjust in the menu of LCD display
- It is perfect for professional stage, theatre, TV, exhibition and architectural application
- **Voltage:** AC 100-240V~50/60Hz
- **Power consumption:** 390W
- **Light Source:** total: 3W LED x 90pcs  
Red: 18pcs, Green: 24pcs, Blue: 24pcs, Amber/White: 24pcs
- **Fuse:** T 6.3A
- **Beam Angle:** 15° /25°
- **Dimension:** 335 x 227 x 386 mm
- **Weight:** 10 kgs



3A

16 Channel DMX512 Configuration							
Ch1	Ch2	Ch3	Ch4	Ch5	Ch6	Ch7	Ch8
Pan	Pan Fine	Tilt	Tilt Fine	Pan/Tilt Speed	Pan/Tilt Macro	Macro Speed	Special Function
255 540° 0 0°	255 0	255 270° 0 0°	255 0	255 Slow Fast	236-255 Macro12 216-235 Macro11 196-215 Macro10 176-195 Macro 9 156-175 Macro 8 136-155 Macro 7 116-135 Macro 6 096-115 Macro 5 076-095 Macro 4 056-075 Macro 3 036-055 Macro 2 016-035 Macro 1 000-015 Stop	255 Slow Fast	240-255 Stand alone 200-209 Reset 80-89 Disable blackout while pan or tilt move 70-79 Enable blackout while pan or tilt move
Ch9	Ch10	Ch11	Ch12	Ch13	Ch14	Ch15	Ch16
Dimmer	Strobe	Red	Green	Blue	White/Amber	Color	Fade Speed
255 100% 0 0%	248-255 Open 240-247 Random Strobe 232-239 Open 190-231 Slow close Fast open 182-189 Open 140-181 Slow open fast close 132-139 Open 16-131 8-15 0-7 Blackout	255 100% 0 0%	255 100% 0 0%	255 100% 0 0%	255 100% 0 0%	192-255 Color Fade 1-16 128-191 Color Macro 1-16 8-127 Color 1-32 0-7 Normal	255 Fast Slow

## 5.5 DMX512 Connection



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

12A

### 5.3 DMX Controller

Use 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. Press **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 to store when. To go back to the functions without any change press the **MENU** button or wait for 8 seconds.

Please refer to the following diagram to address your DMX512 channel for the first 4 units:

Channel Mode	Unit 1	Unit 2	Unit 3	Unit 4
9 channels	1	10	19	28
16 channels	1	17	33	49

### 5.4 DMX 512 Configuration

9 Channel DMX512 Configuration								
Ch1	Ch2	Ch3	Ch4	Ch5	Ch6	Ch7	Ch8	Ch9
Pan	Tilt	Strobe	Red	Green	Blue	Amber/White	Dimmer	Special Function
255 — 540° 0 — 0°	255 — 270° 0 — 0°	248-255 Open 240-247 Random Strobe 232-239 Open 190-231 Slow close Fast open 182-189 Open 140-181 Slow open fast close 132-139 Open 16-131 ⚡ 8-15 Open 0-7 Blackout	255 — 100% 0 — 0%	240-255 Stand alone 200-209 Reset 80-89 Disable blackout while pan or tilt move 70-79 Enable blackout while pan or tilt move				

### 3. Change Beam Angle

If you want to change the beam angle of the fixture, you can change lens of the fixture refer to the photo below:

Turn off the mains power first, or high voltage may cause electric shock!



### 4. How To Set The Unit

#### 4.1 Control Panel



#### Display

To show the various menus and the selected functions

#### LED

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

## 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

## Fuse

For over current protection.

### Only for remote control

By connect to the 1/4" microphone jack to control the unit for Stand by, Function and Mode function.

### Mains input

Connect to supply mains power.

### DMX input/output

For DMX512 link, use 3/5-pin XLR plug cable to link the unit together.

## 4.2 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 **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 store. Back to the main functions without any change press the **MENU** button or wait for 8 seconds.

Hold **MENU** button to quit menu mode, the unit will run the built-in program you selected.

The main functions are shown below:

## 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 universal DMX controller

### 5.1 Master/Slave Built-in Preprogram 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.

### 2-light show

In slave mode, slave 1 means the unit run as the master unit and slave 2 means 2-light show. In order to create a great light show, you can set slave 2 on the second unit to get contrast movement to each other, even if you have two units only.

### 5.2 Easy Controller

The easy remote control is used only in master/slave mode. By connecting to the 1/4" microphone jack of the first unit, you will find that the remote controller on the first unit will control all the other units for Stand by, Function and Mode selection.



Stand By	Blackout the unit			
Function	1. Sync. Strobe 2. Async strobe 3. Sound Strobe	Select Show 1-4	Fade Speed 1. Fast 2. Middle 3. Slow	Hold to adjust 1. Pan position 2. Tilt position 3. Dimmer
Mode	Sound (LED OFF)	LED On	LED Slow blinking	LED Fast blinking

main functions without any change please press the **MENU** button.

### White Balance

Press the **MENU** button up to when the White Balance is showing on the display. Press **ENTER** button and the Red will blink, press **UP** and **Down** button to adjust the value, press **ENTER** button to store and Green will blink on the display, press **UP** and **Down** button to adjust the value, press **ENTER** button to store and Blue will blink on the display, press **UP** and **Down** button to adjust the value, and press **ENTER** button to store. Back to the main functions without any change please press the **MENU** button.

### Temperature Unit

Press the **MENU** button up to when the Temperature Unit is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select °C or °F. Once selected, press the **ENTER** button to store. Back to the main functions without any change press the **MENU** button or wait for 8 seconds.

### 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.

### Language

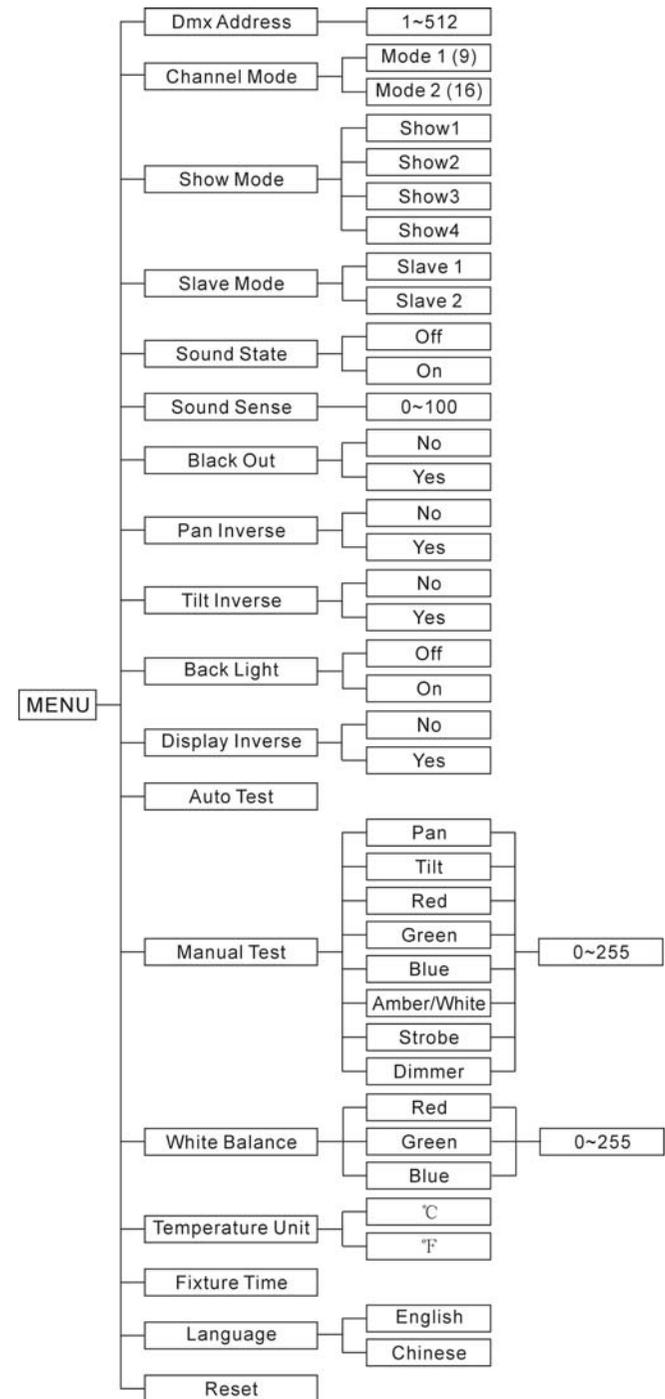
Press the **MENU** button up to when the Temperature Unit is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select English or Chinese. Once selected, press the **ENTER** button to store. Back to the main functions without any change press the **MENU** button or wait for 8 seconds.

### Fixture Temp

Press the **MENU** button up to when the Fixture Temp is blinking on the display. Pressing **ENTER** button and the display will show the temperature of the unit. To go back to the functions press the **MENU** button.

### Reset

Press the **MENU** button up to when the Reset is blinking on the display. Pressing **ENTER** button and all motors will back to their home position. To go back to the functions press the **MENU** button.



### **DMX Address**

Press the **MENU** button up to when the **DMX Address** is showing on the display. Press **ENTER** button and the display will blink. Use **DOWN** and **UP** button to change the DMX512 address. Once the address has been selected, press the **ENTER** button to store. Back to the main functions without any change press the **MENU** button or wait for 8 seconds.

### **Channel Mode**

Press the **MENU** button up to when the **Channel Mode** is showing on the display. Press **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the **Mode 1 (9)** or **Mode 2 (16)**. Once selected, press the **ENTER** button to store. Back to the main functions without any change press the **MENU** button or wait for 8 seconds.

### **Show Mode**

Press the **MENU** button up to when the **Show Mode** is showing on the display. Press **ENTER** button, the display will blink. Press **DOWN** and **UP** button to select **Show 1** or **Show 2** or **Show 3** or **Show 4**, once selected, press **MENU** button to store. Back to the main functions without any change press the **MENU** button or wait for 8 seconds.

### **Slave Mode**

Press the **MENU** button up to when the **Slave Mode** is showing on the display. Press **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the **slave 1** or **slave 2** mode. Once selected, press the **ENTER** button to store. Back to the main functions without any change press the **MENU** button or wait for 8 seconds.

### **Sound State**

Press the **MENU** button up to when the **Sound State** is showing on the display. Press **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the **on** (sound control on) or **off** (sound control off) mode. Once selected, press the **ENTER** button to store. Back to the main functions without any change press the **MENU** button or wait for 8 seconds.

### **Sound Sense**

Press the **MENU** button up to when the **Sound Sense** is showing on the display. Press **ENTER** button and the display will blink. Use **DOWN** and **UP** button to adjust the sound sensitively (1-100) of the unit. Once the value has been selected, press the **ENTER** button to store. Back to the main functions without any change press the **MENU** button or wait for 8 seconds.

### **Black Out**

Press the **MENU** button up to when the **Black Out** is showing on the display. Pressing

**ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the **yes** (yes blackout) or **no** (no blackout) mode. Once selected, press the **ENTER** button to store. Back to the main functions without any change press the **MENU** button or wait for 8 seconds.

### **Pan Inverse**

Press the **MENU** button up to when the **Pan Inverse** is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the **No** (Normal) or **Yes** (pan inverse) mode. Once selected, press the **ENTER** button to store. Back to the main functions without any change press the **MENU** button or wait for 8 seconds.

### **Tilt Inverse**

Press the **MENU** button up to when the **Tilt Inverse** is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the **No** (Normal) or **Yes** (pan inverse) mode. Once selected, press the **ENTER** button to store. Back to the main functions without any change press the **MENU** button or wait for 8 seconds.

### **Back Light**

Press the **MENU** button up to when the **Back Light** is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the **on** (back light on) or **off** (back light off 1 minute after auto show) mode. Once selected, press the **ENTER** button to store. Back to the main functions without any change press the **MENU** button or wait for 8 seconds.

### **Display Inverse**

Press the **MENU** button up to when the **Display Inverse** is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP** button to select the **No** (Normal) or **Yes** (display inverse) mode. Once selected, press the **ENTER** button to store. Back to the main functions without any change press the **MENU** button or wait for 8 seconds.

### **Auto Test**

Press the **MENU** button up to when the **Auto Test** is showing on the display. Pressing **ENTER** button and the display will show **Test...** and the unit will run self-test by built-in program. To go back to the functions press the **MENU** button.

### **Manual Test**

Press the **MENU** button up to when the **Manual Test** is showing on the display. Press **ENTER** button and **Pan** will blink, use **UP** and **DOWN** button to choose **Tilt** or **Red** or **Green** or **Amber/White** or **Strobe** or **Dimmer**, press **ENTER** button to enter, then press **UP** and **Down** button to adjust the value and press **ENTER** button to set next optional. Back to the