Fixture dimensions	337x228x220mm
Net weight	10kg

NOTE : Due to improvement , the product specifications and this manual are subject to change without prior notice

LED MOVING HEAD

LM-3109

USER MANUAL

Please read the manual before installing and using this lighting
Keep it for future reference

CATALOG


```
│  ├Scan BlackOut          ; Blackout during pan/tilt movement
│  │  ├ScanBlackOut:ON
│  │  └ScanBlackOut:OFF
│  └Feed Back              ; Return the head to the correct starting position
│     ├Feed Back:ON          after changing the position
│     └Feed Back:OFF
└Information               ; Information consultation
   ├Time:tt/mm/ss
   └Date:mm/dd/yy
```

SPECIFICATIONS

Electrical

Power supply	90~260V AC , 50/60Hz
Power consumption	400W
Fuse	5A ∅ 5*20

Photometric data

Light source	108 pcs 3W LEDs , 28R , 28G , 28B, 24W
LED rated life	100,000 hours
Beam angle	□15°, □25°, □30°, □35°, □40°, □45°, □60°

Dynamic effects

Color changing effects	Can create excellent color mixing with high even and uniform distribution of brightness and light output
Strobe	Variable electronic strobe 0~25F.P.S
Dimmer	Variable electronic dimmer 0~100%
Pan	540° or 630°(8/16 bit movement resolution) , automatic self-correction
Tilt	270°(8/16 bit movement resolution),automatic self-correction
Other featrues	Electronic strobe with pulse effects

Control and programming

DMX channels	11 or 13 channels (depend on 8/16 bit movement resolution)
Protocols	DMX-512
Operation modes	DMX mode,Master/Slave mode,Sound Activated mode

Construction

Color	Black
Housing	ABS
Protection rating	IP20

Thermal

Working temperature	-20℃~ +35℃
Thermalstat	Built-in thermalstat for overheating protection

Physical

```
| .....
└Program Step 62
```

SET menu

```
SET Menu:
├Reset Machine
|   ├Reset:ON
|   └Reset:OFF
├Load Parameter
|   ├Load ON
|   └Load OFF
├Master / Alone
|   ├Master Mode
|   └Alone Mode
├Auto / Sound
|   ├ Auto Mode
|   └Sound Mode
├MIC Sense:00~99%          ; MIC sensitivity adjusting
├TC Switch                 ; Reduce output if over temperature
|   ├TC Switch Mask
|   |   ├Switch Mask ON    ;
|   |   └Switch Mask OFF
|   └TC Switch Temp         ; (Pass-word protected,common user taboo)
|       ├TC Temp Cap        ; TC Temperature Capture
|       |   ├TC Temp Cap:Yes
|       |   └TC Temp Cap:No
|       └TC Temp Set        ; TC Temperature set
├Scan Setting
|   ├Reverse Pan
|   |   ├Reverse Pan :ON
|   |   └Reverse Pan :OFF
|   ├Reverse Tilt
|   |   ├Reverse Tilt:ON
|   |   └Reverse Tilt:OFF
|   ├Scan 16 Bit            ; 16 bit resolution
|   |   ├Scan 16 Bit:ON
|   |   └Scan 16 Bit:OFF
|   ├Pan Degree
|   |   ├Pan Degree:630     ; 630°
|   |   └Pan Degree:540     ; 540°
```


DESCRIPTION

Thanks for using our Products , this device is a great and reliable unit that can meet most of your requirements for professional markets . This product can be operated as a single unit or in multiple units for large applications. This moving head has got the nice sculpt, efficient, save electricity and durable. It is suitable for saloon, disco, hotel, showplace, studio, stage,etc.

This product complies with the following standards:

GB7000.1-2007/IEC60598-1:2003

GB7000.217-2008/IEC60598-2-17:1984+A2:1990

Upon receiving products, please check carefully that there has been no damage caused in transportation and that the following parts are enclosed:

User manual---------- 1 Pcs

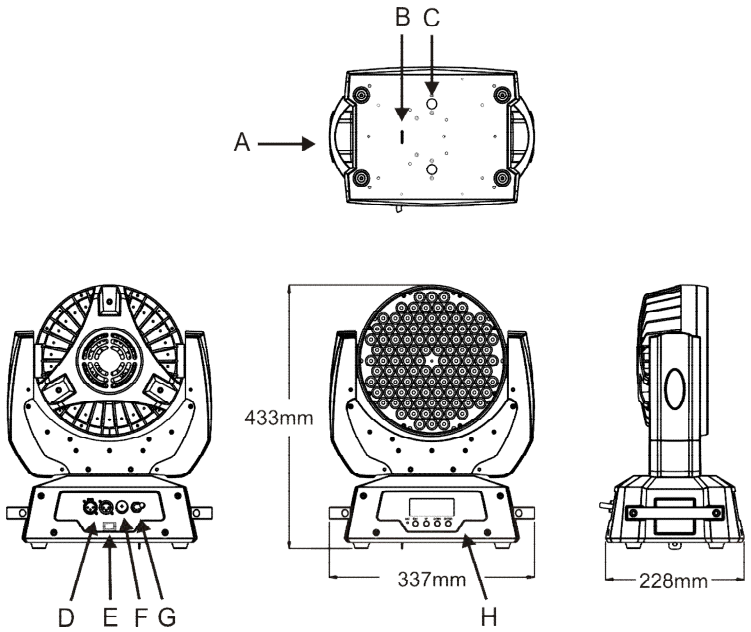
Omega clamp---------- 1 Pcs

Main features

- ✓ Super bright 3 Watt LED, long lifespan 100,000 hours
- ✓ Electronic strobe with pulse effects
- ✓ 11 or 13 standard DMX channels
- ✓ 3 control modes：DMX 512, master/slave mode,sound activated mode
- ✓ Maximum Pan-movement: 540° or 630°,self-correcting
- ✓ Maximum Tilt-movement: 270°, self-correcting
- ✓ Electronic strobe with pulse effects

- ✓ Smooth electronic dimming make the light more colorful
- ✓ Onboard control panel and LCD graphic display

OVERVIEW



A. Carrying handle

B. Safety cable hole

C. Installation holes

D. DMX IN socket/ DMX OUT socket

E. Power switch

F. Fuseholder

G. Power supply

H. Control pannel

├Cal Green:-15~+16
├Cal Blue:-15~+16
├Cal White:-15~+16
├Cal Pan:-128~+127
└Cal Tilt:-128~+127

Red __ Static red

Green __ Static green

Blue __ Static blue

Yellow __ Static yellow

Cyan __ Static cyan

PureWhite __ Static Pure White

White __ Static white

White __ Static white

3200K __ 3200K color temperature

5600K __ 5600K color temperature

6500K __ 6500K color temperature

8500K __ 8500K color temperature

10000K __ 10000K color temperature

ChangeColor __ Changecolor program

Twinkling __ Twinkling program

Fade __ Fade program

Macro __ Auto program , enter can edit it

Macro Menu:
├Step Quantity:62
├Program Step 01
| ├ChangeColor
| ├Twinkling
| └Fade

SET menu←ESC— **Fade** —ENTER→null
UP↑↓DOWN
SET menu←ESC— **Macro** —ENTER→Macro menu
UP↑↓DOWN

The Menu functions provided are described in the following sections .

Function menu

A001(with actually stored address) __ DMX mode
Press ENTER enter to the submenu

DMX Menu:
├DMX Address: 001 ; Set the DMX address
└No DMX Signal ; Run if there is no DMX signal
├Stop Run
├Hold Run
├Auto Run
└Sound Run

ManualDimmer

ManualDimmer:
├Light Switch
│ ├Light ON
│ └Light OFF
├Light Red:000 ; Red dimmer
├Light Green:000 ; Green dimmer
├Light Blue:000 ; Blue dimmer
├PureWhite:000 ; PureWhite dimmer
├Light White:000 ; White dimmer
├Light Strobe:000 ; Strobe adjustment
├Scan Pan:128 ; Pan -movement with 8 Bit-resolution
├Scan Tilt:128 ; Tilt -movement with 8 Bit-resolution
├Scan PanFine:000 ; Pan -movement with 16 Bit-resolution
├ScanTiltFine:000 ; Tilt -movement with 16 Bit-resolution
└Light Calibrate
├Cal Red:-15~+16

⚠ SAFETY INFORMATION

☞ ***Important***

Every person involved with the installation , operation and maintenance of this device has to be qualified and follow the instructions of this manual . Manufacturer will not with responsibility for those operation not according to this Instruction

- Verify that the voltage matches the rated voltage.
- Always disconnect the power before attempting to open the equipment housing or carrying out any maintenance.
- Always ground (earth) the fixture electrically .
- Do not expose the fixture to rain or moisture.
- Verify that the feed cables are undamaged and rated for the current requirements of all connected devices before use .
- Never attempt to bypass the thermostatic switch or fuses. Always replace defective fuses with ones of the specified type and rating.
- Ensure that the air flow through fans and vents is free and unobstructed.
- Avoid looking directly into the light source (especially those who suffer from epileptic fits)
- When suspending the fixture above ground level, verify that the structure can hold at least 10 times the weight of all installed devices.
- Verify that all external covers and rigging hardware are securely

fastened and use an approved means of secondary attachment such as a safety cable.

- Block access below the work area whenever installing or removing the fixture.
- Avoiding hit the Light when you are move or install the light .
- Maximum ambient temperature (Ta) is 35°C. Do not operate fixture at temperatures higher than this .
- The surface temperature of the light can reach to 50°C, cool down at least 15 minutes before you operate the light.
- The minimum distance between light-output and the illuminated surface must be more than 0.5 meters. Keep all combustible materials (for example fabric, wood, paper) at least 0.3 meters away from the fixture .
- If the exterior cord of the fixture is damaged, it must be replaced by manufactory, agent or a qualified technician .

POWER CONNECTION

Please ensure that the voltage matches the rated voltage and the device is always connected to the earth properly .

Depending on the application, the lighting fixture may require a different connector. Please refer to the below wire color code if installing a new connector

Wire	***Connection***
Brown	AC Live
Blue	Neutral

Menu navigation

SET menu←ESC— **A001**(with actually stored address) —ENTER→ DMX menu
UP↑↓DOWN
SET menu←ESC— **ManualDimmer** —ENTER→ManualDimmer menu
UP↑↓DOWN
SET menu←ESC— **Red** —ENTER→null
UP↑↓DOWN
SET menu←ESC— **Green** —ENTER→null
UP↑↓DOWN
SET menu←ESC— **Blue** —ENTER→null
UP↑↓DOWN
SET menu←ESC— **Yellow** —ENTER→null
UP↑↓DOWN
SET menu←ESC— **Cyan** —ENTER→null
UP↑↓DOWN
SET menu←ESC— **Purple** —ENTER→null
UP↑↓DOWN
SET menu←ESC— **PureWhite** —ENTER→null
UP↑↓DOWN
SET menu←ESC— **White** —ENTER→null
UP↑↓DOWN
SET menu←ESC— **3200K** —ENTER→null
UP↑↓DOWN
SET menu←ESC— **5600K** —ENTER→null
UP↑↓DOWN
SET menu←ESC— **6500K** —ENTER→null
UP↑↓DOWN
SET menu←ESC— **8500K** —ENTER→null
UP↑↓DOWN
SET menu←ESC— **10000K** —ENTER→null
UP↑↓DOWN
SET menu←ESC— **ChangeColor** —ENTER→null
UP↑↓DOWN
SET menu←ESC— **Twinkling** —ENTER→null
UP↑↓DOWN

Channel 13 – Tilt fine (16 bit mode)

Value	Function
000~255	Tilt fine

CONTROL PANEL

Button

ESC Call the main menu, or escape the current menu(i.e. return to the upper menu and give up the selected item or parameter)

UP Browse the menu item forward or increase the parameter

DOWN Browse the menu item backward or decrease the parameter

ENTER Confirm the selected item or parameter(i.e. enter the next menu, or escape the current menu and save the selected item or parameter)

MENU INSTRUCTION

Power on the fixture , use UP or DOWN button could scroll all function menu step by step as follow：

A001,ManualDimmer,Red,Green,Blue,Yellow,Cyan,Purple,PureWhite, White,3200K,5600K,6500K,8500K,10000K,ChangeColor,Twinkling,Fade, Macro

Press Enter-button if you wish to select one of them .

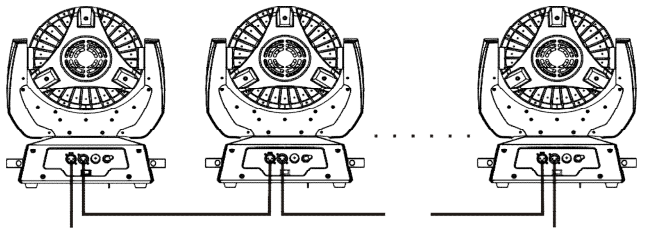
Press ECS-button enter SET menu , press again return .

Green/Yellow	AC Ground

DATA CONNECTION

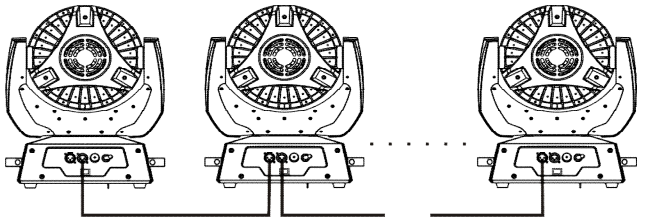
The fixtures may be conected via 3-Pin signal cables.

In DMX mode , at the last fixture in the chain , the DMX output has to connected with a DMX terminator . This prevents electrical noise from disturbing and corrupting the DMX control signals .



Controller termination plug

Master/slave connection



Master Slave Slave

Occupation of the XLR-connection:

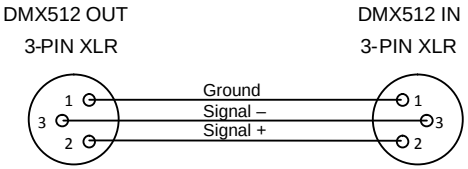
DMX-output XLR mounting-socket:	DMX-input XLR mounting-plug:

	1: Ground 2: Signal - 3: Signal +		1: Ground 2: Signal - 3: Signal +

Termination plug

The termination plug is a male XLR plug with a 120 ohm, 0.25 watt resistor soldered between pins 2 and 3 .

If you are making your own cables, be sure to use standard two conductor shielded cable (This cable may be purchased at almost all professional sound and lighting stores). Your cables should be made with a male and female XLR connector on either end of the cable. Also remember that DMX cable must be daisy chained and cannot be split.



3-PIN TO 5-PIN CONVERSION CHART

If you use a controller with a 5 pin DMX output connector, you will need to use a 5 pin to 3 pin adapter. The chart below details a proper cable conversion:

Conductor	3 Pin Female (output)	5 Pin Male (Input)
Ground	Pin 1	Pin 1
signal -	Pin 2	Pin 2
signal +	Pin 3	Pin 3

060 - 069	Green
070 - 079	Blue
080 - 089	Yellow
090 - 099	Cyan
100 - 109	Purple
110 - 119	White
120 - 129	Color temperature 3200K
130 - 139	Color temperature 5600K
140 - 149	Color temperature 6500K
150 - 159	Color temperature 8500K
160 - 169	Color temperature 10000K
170 - 174	ChangeColor (The motors rotate automatically)
175 - 179	ChangeColor (The motors controlled by controller)
180 - 184	Twinkling (The motors rotate automatically)
185 - 189	Twinkling (The motors controlled by controller)
190 - 194	Fade (The motors rotate automatically)
195 - 199	Fade (The motors controlled by controller)
200 - 219	No function
220 - 229	Reset
230 - 234	Auto macro (The motors rotate automatically)
235 - 239	Auto macro (The motors controlled by controller)
240 - 244	Sound macro (The motors rotate automatically)
245 - 249	Sound macro (The motors controlled by controller)
250 - 255	No function

Channel 12 – Pan fine (16 bit mode)

Value	Function
000~255	Pan fine

`

236~255	Natural speed(fast)

Channel 8 - Strobe

Value	Function
000~009	No strobe function
010~149	Strobe
150~199	Fast in slow out
200~249	Slow in fast out
250~255	No strobe function

Channel 9 - General dimmer

Value	Function
000~255	General dimmer 0~100%

Channel 10 – Rainbow effects

Value	Function
005 - 031	R(↑)G(0)B(0)
032 - 063	R(↓)G(↑)B(0)
064 - 095	R(↑)G(255)B(0)
096 - 127	R(↓)G(↓)B(↑)
128 - 159	R(↑)G(0)B(255)
160 - 191	R(↓)G(↑)B(255)
192 - 223	R(↑)G(255)B(255)
224 - 255	R(↓)G(↓)B(↓)

Channel 11 – Auto program,reset

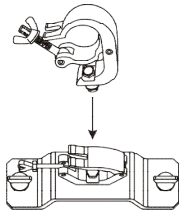
Value	Function
000 - 049	RGB dimmer in operation
050 - 059	Red

Do not use		Pin 4
Do not use		Pin 5

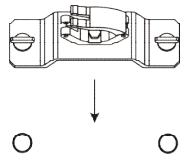
INSTALLATION

When suspending the fixture above ground level, verify that the structure can hold at least 10 times the weight of all installed devices.

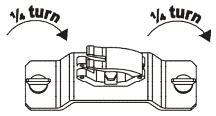
Verify that all external covers and rigging hardware are securely fastened and use an approved means of secondary attachment such as a safety cable.



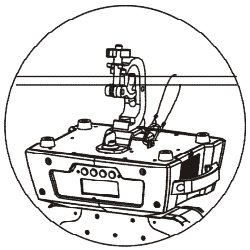
Screw clamp onto the Omega-holder



Insert quick lock fasteners into the installation holes



Tighten quick-lock fasteners fully clockwise .



Use safety-cable for second protection

OPERATION

Stand-alone operation

Stand-alone opreration allows the fixture works without controller and be controlled by the control panel directly . Please refer to the menu instruction .

Master / slave operation

Setting the first fixture to master-device and the following devices to slave-devices (work in DMX mode), then all devices will run synchronously . Please refer to the menu instruction .

DMX operation

You can control the devices individually or synchronously by the DMX-controller . You should set the device's start address in the DMX menu by control panel .After setting the address , the device enter DMX mode .

Setting the start address

Each fixture requires a "start address" from 1 to 512. A fixture requiring one or more channels for control begins to read the data on the channel indicated by the start address. For example, a fixture that uses 4 DMX channels and was addressed to start on DMX channel 1, would read data from channels: 1, 2, 3, 4. Choose start addresses so that the channels used do not overlap, and note the start address selected for future reference. Note that Assign the same address to the different lightings,they will receive the same signal .

CHANNEL FUNCTIONS

Channel 1 - Red dimmer

Value	Function
000~255	Red dimmer 0~100%

Channel 2 - Green dimmer

Value	Function
000~255	Green dimmer 0~100%

Channel 3 - Blue dimmer

Value	Function
000~255	Blue dimmer 0~100%

Channel 4 - White dimmer

Value	Function
000~255	White dimmer 0~100%

Channel 5- Pan

Value	Function
000~255	Pan 0 - 630°

Channel 6 - Tilt

Value	Function
000~255	Tilt 0 - 270°

Channel 7 - Scan speed

Value	Function
000~225	Fast to slow
226~235	blackout during pan/tilt movement