280W MOVING HEAD

User Manual

Please read this user manual before using this product.

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STATEMENT

The product has well capability and intact packing when leave factory. All of the user should comply with warning item and manual, any misuse cause of the damages are not included in our guarantee, and also cannot be responsible for any malfunction & problem owing to ignore the manual.

ACCESSORIES

These items are packed together with the product:

Name	Quantity	Unit	Remark
USER MANUAL	**1**	**PCS**	
DMX CABLE	**1**	**PCS**	
OMEGA	**2**	**PCS**	
CLAMP	**2**	**PCS**	
SAFTY CABLE	**1**	**PCS**	

SAFETY INSTRUCTION

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.

This fixture is an extremely sophisticated piece of electronic equipment. To guarantee a smooth operation, it is important to follow the guidelines in this manual. The manufacturer of this device will not accept responsibility for damages resulting from the misuse of this fixture due to the disregard of the information printed in this manual.

This device falls under **PROTECTION CLASS 1**. It's essential this device be grounded properly. Only qualified personnel should perform all electrical connections.

I N D O O R S U S E O N L Y !

DO NOT EXPOSE FIXTURE RAIN AND MOISTURE!

UNPLUG POWER BEFORE SERVICING FIXTURE!

DO NOT PLUG FIXTURE INTO A DIMMER PACK!

NEVER TOUCH FIXTURE DURING OPERATION, AS IT MAY BE HOT!

NEVER LOOK DIRECTLY INTO THE LIGHT SOURCE!

SENSITIVE PERSONS MAY SUFFER AN EPILEPTIC SHOCK!

GENERAL GUIDELINES

♦ NEVER OPEN THIS FIXTURE WHILE IN USE!

- During the initial operation of this fixture, a light smoke or smell may emit from the interior of the fixture. This is a normal process and is caused by excess paint in the interior of the casing burning off from the heat associated with the lamp and will decrease gradually over time.
- This fixture is a professional lighting effect designed for **INDOOR / DRY**

LOCATIONS ONLY on stage, in nightclubs, theatres, etc.

- Please make sure there are **NO FLAMMABLE MATERIALS** close to the fixture while operating, to prevent any fire hazard.
- The fixture must be installed in a location with adequate ventilation, at least 1.5 feet (.5m) from adjacent surfaces. Be sure no air ventilation slots are blocked.
- **DO NOT** attempt installation and/or operation without knowledge how to do so.
- **DO NOT** permit operation by persons who are not qualified to operate this type of fixture. Most damages are the result of operations by nonprofessionals. Consistent operational breaks may ensure the fixture will function properly for many years to come.
- **DO NOT** shake fixture, avoid brute force when installing and/or operating fixture.
- Always install the fixture with an appropriate safety cable. When installing the fixture in a suspended environment, always use mounting hardware that is no less than M10 x 25 mm, also be sure the hardware is insert in the pre-arranged screw holes in the bracket of the fixture.
- Use the original packaging and materials to transport the fixture in for service.
- **DO NOT TOUCH** the housing bare-hand during its operation. Turn OFF the power and allow approximately 15 minutes for the fixture to cool down before replacing or serving.

INSTALLATION

FLAMMABLE MATERIAL WARNING

Keep fixture at least 5.0 ft (1.5m) away from any flammable materials, decorations, pyrotechnics, etc.

ELECTRICAL CONNECTIONS

A qualified electrician should be used for all electrical connections and/or installations.

CAUTIONS

- For added protection, mount the fixture in areas outside walking paths, seating areas, or in areas were unauthorized personnel might reach the fixture.
- Ambient operating temperature range for this fixture is **5° to 113°F. (-15° to 45°C)** Do not use the fixture under or above this temperature.
- Before mounting the fixture to any surface, make sure the installation area can hold a minimum point load of 10 times the weight of the fixture.
- Fixture installation must always be secured with a secondary safety attachment, such as an appropriate safety cable.
- Never stand directly below the device when mounting, removing or servicing.

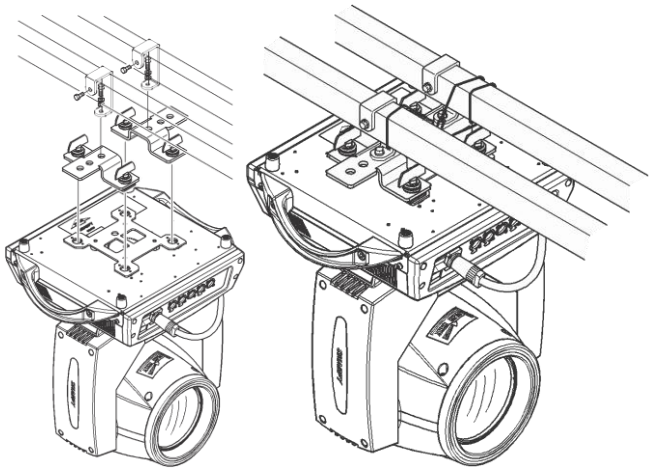
The unit should be mounted via its screw holes on the bracket. Always ensure that the unit is firmly fixed to avoid vibration and slipping while operating. And make sure that the structure to which you are attaching the unit is secure and is able to support a weight of 10 times of the unit's weight. 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.

Clamp mounting

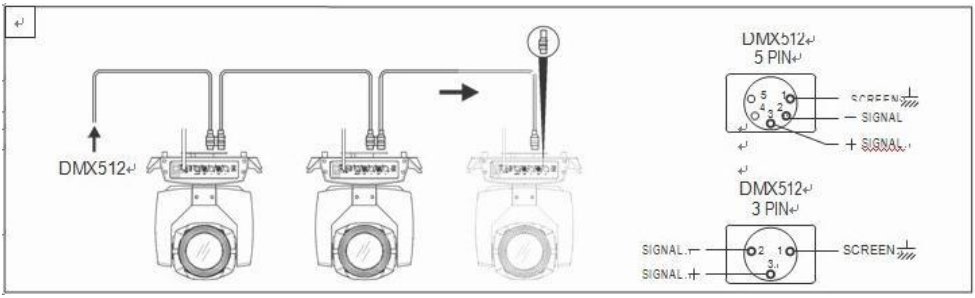
The moving head provides a unique mounting bracket assembly that integrates the bottom of the base, the included '**Omega Bracket**' and the **Safety Cable** rigging point in one unit (see the illustration below).When mounting this fixture to truss be sure to sere to secure an appropriately rated clamp to the included **Omega Bracket** using a M10 screw fitted through the center hole of the 'omega bracket'. As an added safety measure be sure to attached at least one properly rated **Safety Cable** to the fixture using one of the safety cable rigging point integrated in the base assembly.



DMX-512 control connection:

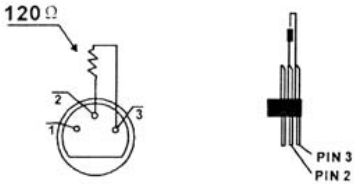
Connect the provided XLR cable to the female 3-pin XLR output of your controller and the other side to the male 3-pin XLR input of the moving head. You can chain multiple Moving head together through serial linking. The cable needed should be two core, screened cable

with XLR input and output connectors. Please refer to the diagram below.



DMX-512 connection with DMX terminator:

For installations where the DMX cable has to run a long distance or is in an electrically noisy environment, such as in a discotheque, it is recommended to use a DMX terminator. This helps in preventing corruption of the digital control signal by electrical noise. The DMX terminator is simply an XLR plug with a 120 resistor connected between pins 2 and 3,which is then plugged into the output XLR socket of the last fixture in the chain. Please see illustrations below.



TECHNICAL SPECIFICATION

Light Sources: 280W(10R)
Live Fsue:T5 A/250
Neutral Fuse: T5 A/250
Power Voltage: AC 100-240V, 50/60Hz
Max Power Consumption：470W at 230V(I=2.05A,Power factor 0.96)
Typical Power Consumption : 230W at 230V(I=1.8A, Power factor 0.95)
Allow for a deviation of +/-10%

Lamp:
Lamp : Osram 280W
Base Fap2.5
Lamp life : 2000hrs (Stand mode)
3000hrs (Eco mode)

Optical System：
High luminous-efficiency glass reflector
Beam angel : 5° - 20° (spot application)
2.5° - 10° (beam application)

Color Wheel:
one color wheel, 14 kinds of color chips in one color wheel

Static Gob Wheel:
10 metal gobos & 4 beam reducers

Rotation Gob Wheel:
9 Glass gobos can be indexed and rotated in both directions at different

speeds
Gobo wheels continuous rotation
Glass gobos: outside diameter=15.9mm, image diameter=12.5mm, thickness=1.1mm

Prisms:
Rotation 6-facet linear prism with continuous rotation in both directions
Rotation 16-facet circular prism with continuous rotation in both directions

Frost filter :
Separate, variable frost filter

Zoom:
Linear motorized zoom

Strobe:
Strobe effect with variable speed (max.15 flashes/sec)

Control
Graphic touch screen for fixture setting and addressing
Gravitation sensor for auto screen positioning
Battery backup of the touch screen
Readout fixture and lamp usage, receiving DMX values, temperatures. Etc
Built-in analyzer for easy fault finding, error messages
Remotely switching on/off the lamp
Built-in demo sequences
Black-out while head moving, color or gobo changing.
Self-resettable thermos-fuse
DMX Channel: 16/24 Channel
Control Modes: DMX

Pan/Tilt
Pan/Tilt: 540°/ 270°
Pan/Tilt Resolution: 16 bit, Electric correction
Movement control: tracking and vector
Pan/Tilt-lock mechanism

Temperatures:
Maximum ambient temperature : 45°
Maximum surface temperature : 90°

Minimum Distances:
Min distance from flammable surface :1m
Min distance to lit objects (Stand Mode-280W):10m
Min distance to lit objects (Eco Mode-230W):7.5m

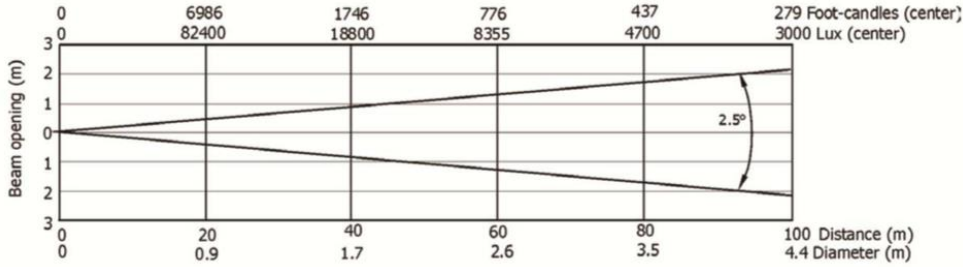
Total Heat Dissipation:
1600 BTU/h (calculated)
469 Wh (calculated)

Please Note: Specifications and improvements in the design of this unit and this manual are subject to change without any prior written notice.

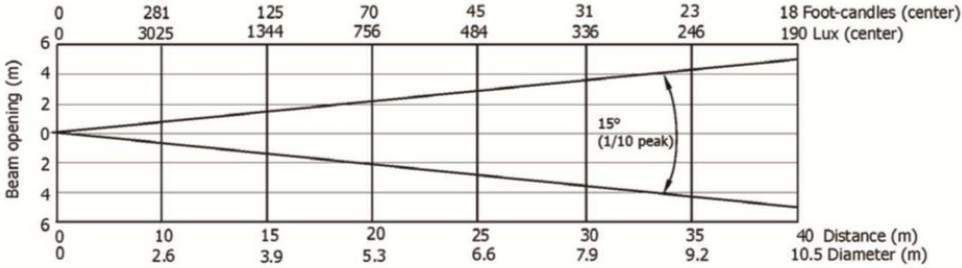
PHOTOMETRIC DIAGRAMS

All diagrams are for full power of the lamp (Standard Mode)

Min. Zoom (Beam application)

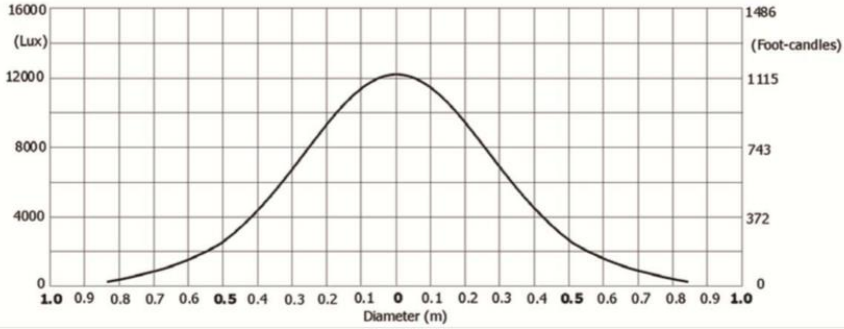


Min. Zoom with frost

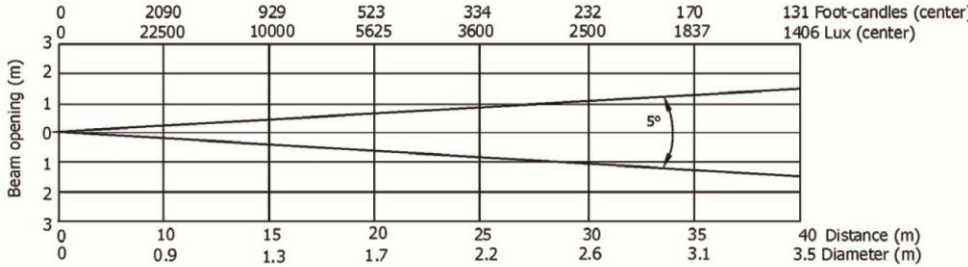


Illuminance distribution

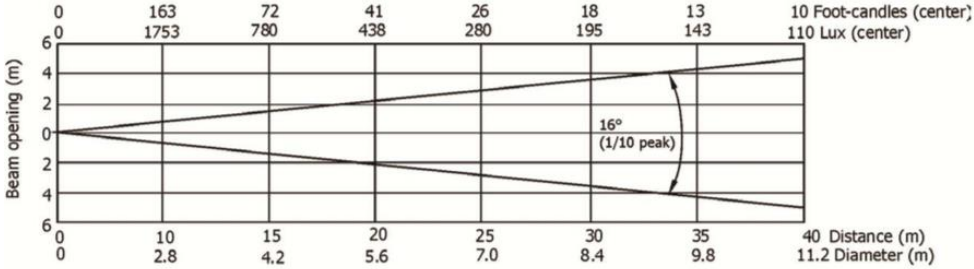
Distance=5m



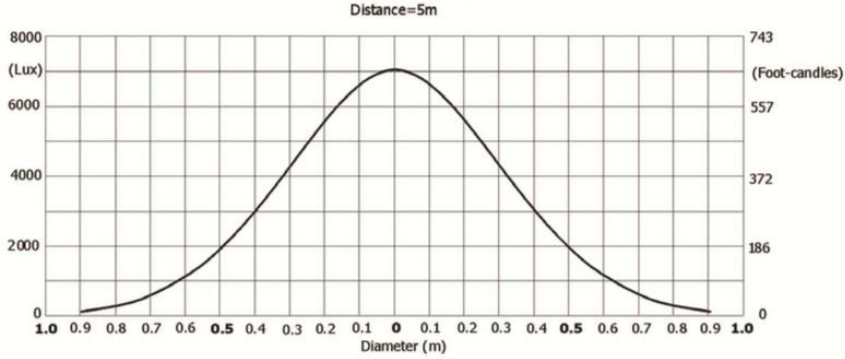
Min. Zoom (Spot application)



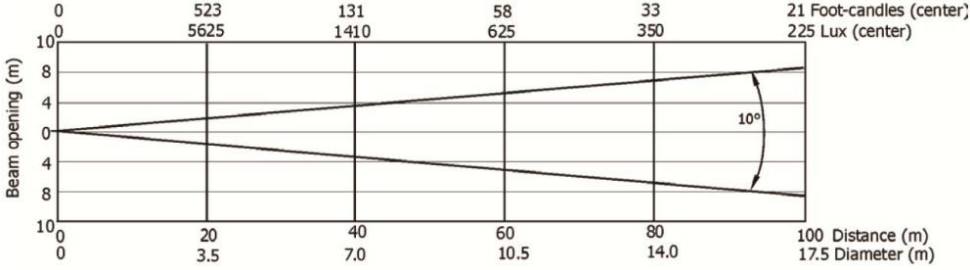
Min. Zoom with frost



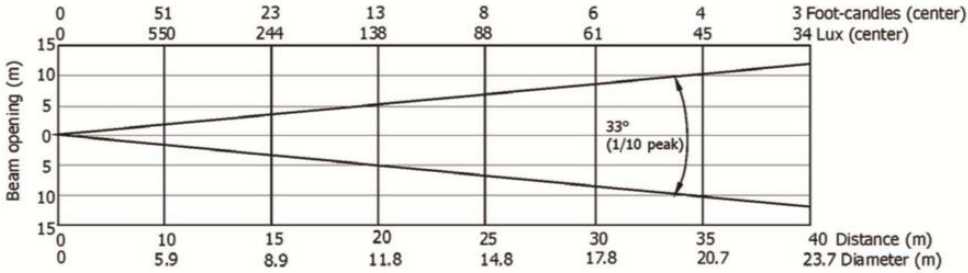
Illuminance distribution



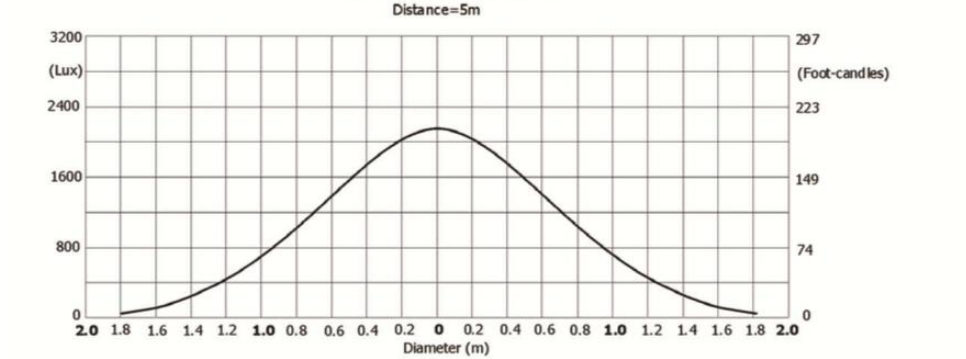
Max. Zoom (Beam application)



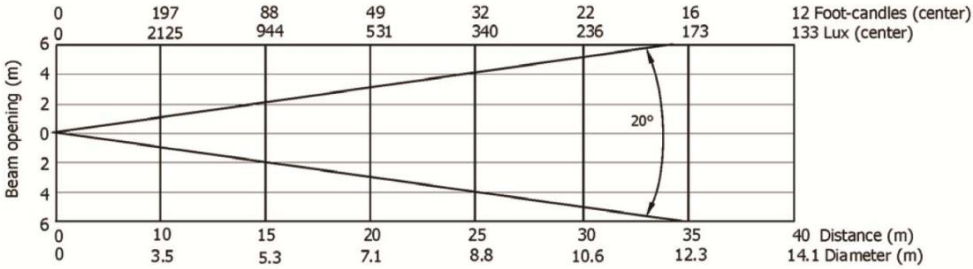
Max. Zoom with frost



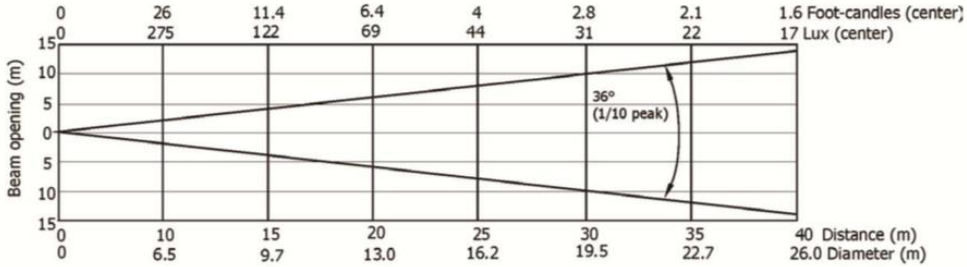
Illuminance distribution



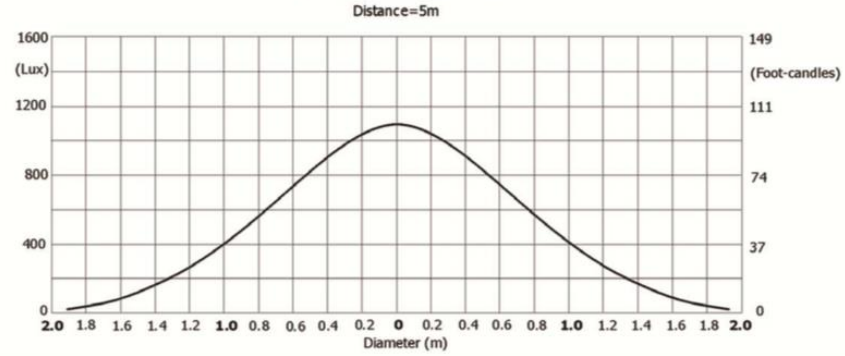
Max. Zoom (Spot application)



Max. Zoom with frost

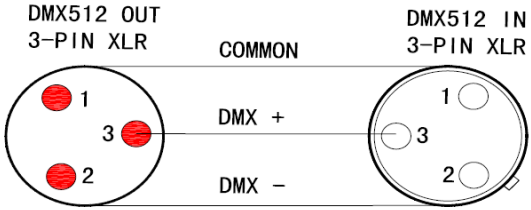


Illuminance distribution



CONTROL SYSTEM

The DMX512 is widely used in intelligent lighting control, with a DMX 512 controller. Connect several lights together dmx in and dmx out,
3 pin XLR connectors: Pin 1: GND, Pin 2: Negative signal (-), Pin 3: Positive signal (+)



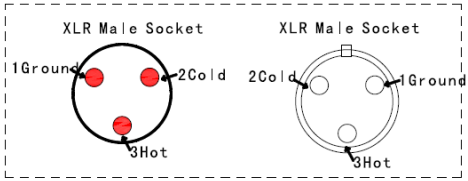


Figure2

XLR Pin Configuration
pin1=Ground
pin2=Data Compliment(negative)
pin3=Data true(positive)

Panel operation

1. Brief

The light panel diagram show as Figure 1, Left area is TFT Displayer, support touch, and right area is encoder button, both of touch and coder button can operate light and setting.
Display & operation just like ‘Android operation system’, touch the item will set or modify setting.

Note: Prevent damage the touch or TFT displayer, Can not use sharp objects chick displayer.

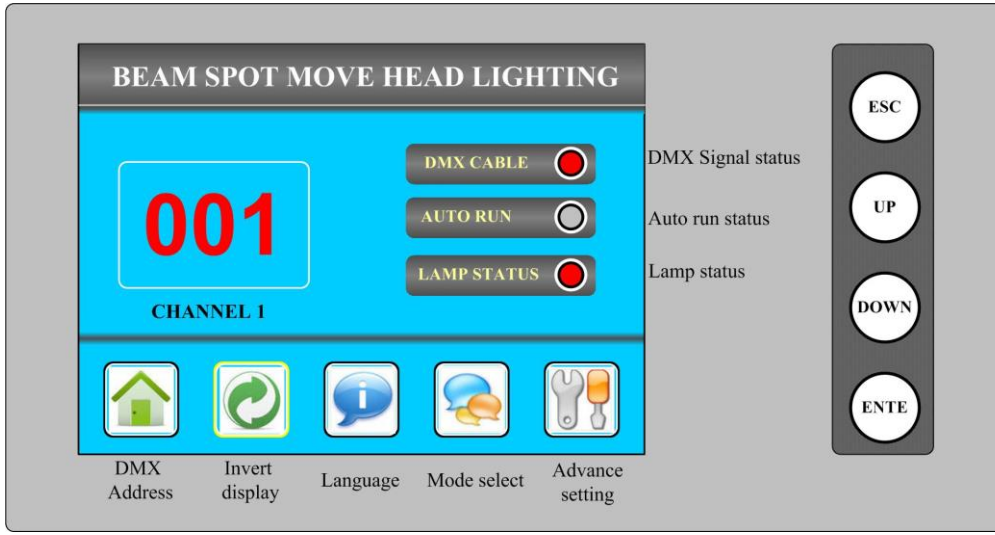


Figure 1 Panel diagram

2. Operation

1. Operate light with touch or encoder button

- The left area is TFT Displayer and touch, chick item or value with finger will to complete operation of set light setting(parameters) or view light state.
- The area on the right hand side is rotary encoder with button, As auxiliary input interface, if disable touch function,, the encoder can been choose to set or view the item, and then press the encoder button to confirm the selection, rotary encoder again set the parameter value, finally, Press encoder button one again to save value or setting.

2. Parameter value setting

When the selected item is value need to been modified, the dialog shown in

Figure 2 will popup.

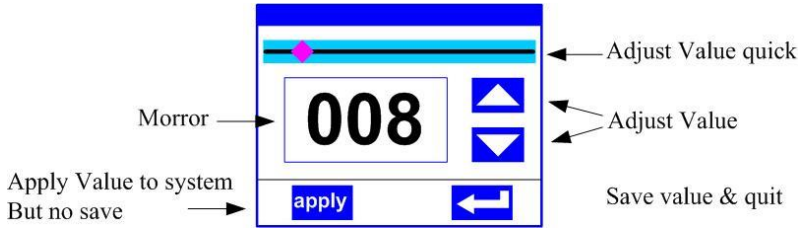


Figure 2 Dialog of value setting

- **Modify value**：Can quickly modify value via pull the slider to the desired position, or click the button of ‘up’ or ‘down’ whit finger on the right side to set the exact desired value, another way is roll encoder on the right hand side of panel.
- **Apply value**：When Value had been modified, Then press the bottom of ‘apply’ in the left corner to apply to the light, but hav’t saved；
- **Save Value**：Any time, click on the lower right corner of the "OK" button, the setting will been saved into internal memory.

3. Boolean parameter setting

- when the selected parameters is a Boolean value (such as ON or OFF), can directly modify setting by chick corresponding item, the setting will been saved right now.
- When the parameter is a key item, chick corresponding item, a dialog shown in Figure 3 will been popup ask for the confirm. Chick ‘sure’ to confirm.

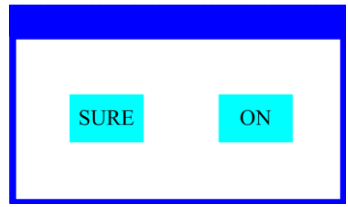


Figure 3 Dialog of confirm

4. Sub Menu（Parameter）

Chick item of main menu, enter corresponding sub menu, shown in Figure 4, total 6 sub menu, includes class of parameter and status:

- ADDRESS：Set light DMX address.
- WORKMOD：Set light work mode, master or slave mode when in auto run mode.
- DISPLAY： Set display parameter, eg. select language.
- TEST：Used for test light, modify DMX channel data to test function， the corresponding function of reference channel function table.
- ADVANCE：Set light running parameter.
- STATUS：view light current status.

Figure 4 Parameter menu

3. Operation and parameter instruction

Via following operation, enter sub menu(parameter menu) shown in Figure 4

- In main menu, chick 1/6 function button into corresponding parameter menu.
- In sub menu(page), chick main item on the left side of displayer, can shift

to corresponding sub menu(page) quickly.

1. Set DMX Address

Click and select the "ADDR", can enter the page of DMX address setting, range from 1 to 512, the address code shouldn't is not greater than (512-channels quantity), otherwise the light will not been controlled. Following is the operation:

Enter the page of DMX address, as shown in Figure 5, click the blank area in right side of display will pop-up diglog as in Fig. 4, modify value, then click 'ENTER' to confirm and save DMX address code.

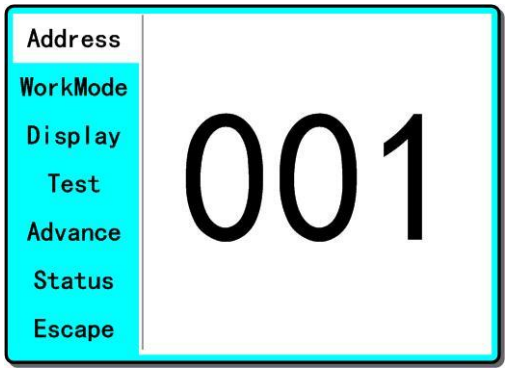


Figure 5 page of DMX Address

2. Set Light work mode

Enter the page of 'WORK MOD' as shown in Figure 6 and modify setting. Can set light work mode, control lamp and DMX channel mode..

Light includes 3 work mode: DMX MODE, AUTO RUN and SOUND MODE, Parameter definition as following:

- **DMX Mode：** Under this mode, the light receive data from the DMX controller and move.
- **AUTO RUN：** Under this mode, light will run with inside code(data), ignore data from DMX controller.

- **SOUND Ctrl**：Under this mode, light ignore data from DMX controller., When there is a strong sound in stage, the light will run a scene, otherwise it will keep the last scene.
- **M/S Choose**：'M/S Choose' is available when light just in 'AUTO RUN' or 'SOUND Ctrl' mode. If this item is set as 'OFF', the light don't send data to other light via DMX Cable. When 'ON', the data will send to other slave light immediately.
- **Lamp control**：Turn on lamp when this item is set 'ON', otherwise, turn off lamp. The gap between operation is limited to 30 second.
- **Channel mode**：Light support 2 DMX Channel mode: sample or extend。

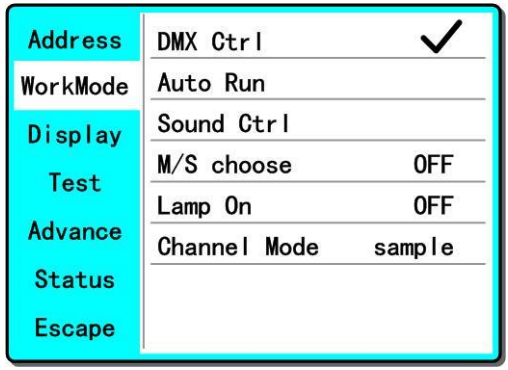


Figure 6　page of work mode

3. Set display

Light support 2 language, rotation display，Enter page as shown in Figure7 to set parameter following:

- **Language**：Select display as simplified Chinese or English.
- **Screen Saver**：when panel is idle(these is no operation in 10 second), displayer will enter saver status. When set as　'mode 1'，saver status is close display, as 'mode 2' saver status will display DMX address code(DMX MODE) or display LOGO(AUTO RUN or SOUND CTRL). As 'OFF', keep light up displayer and show main menu。
- **Screen Rotation**：rotate displayer.

- **Touch enable**：Disable or enable touch function, when disable, use encoder to operate light and set parameter.
- **Touch adjust**：adjust touch function, normally, not enter this item.

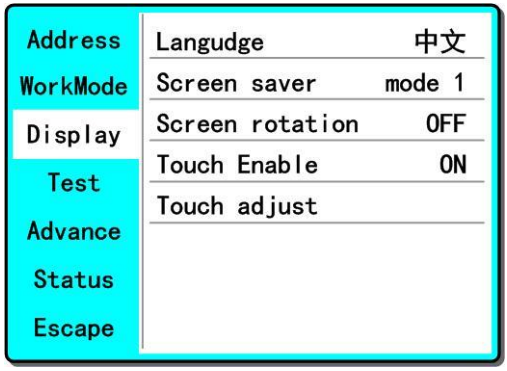


Figure7 page of display

4. Test light

Enter the page as shown in Figure 8, Light will into test mode, in this mode, the light does not receive the data for DMX controller.:

- PAN: range for 0 to 255;
- TILT: range for 0 to 255;
- FOCUS: range for 0 to 255;
- COLOR: range for 0 to 255;
- GOBO: range for 0 to 255;
- PRISM: range for 0 to 255;
- FROST: range for 0 to 255;；
- STROBE: range for 0 to 255;。

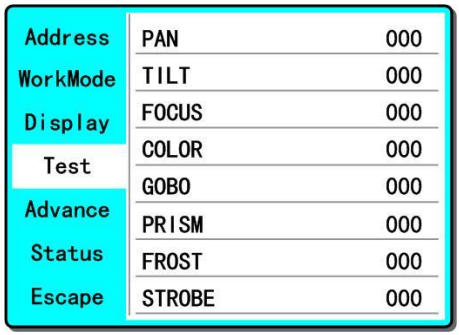


Figure 8 page of Test

5. Set light run parameter

Enter the page as shown in Figure 8, set the parameter of light:

- Pan Invert: Reverse PAN move.
- Tilt Invert: Reverse TILT mover.
- Rectify enable：set as ‘OFF’, PAN or TILT will disable position rectify function. As ‘ON’, when PAN or TILT lose steps, light will rectify auto.
- Pan Offset: Set PAN original position.
- Tilt Offset: Set TILT original position.
- Lamp up when: Select lamp on mode, includes 3 mode: power on, after reset done and manual；
- Factory setting: restore all parameter to factory setting.

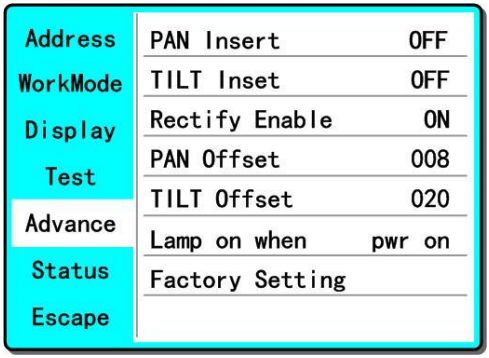


Figure 9 page of run parameter

6. View status

Enter the page as shown in Figure 10:

- View light current status, version；
- DMXClr: Click to clear all DMX data to ‘0’.
- SysRst：Click to reset light.

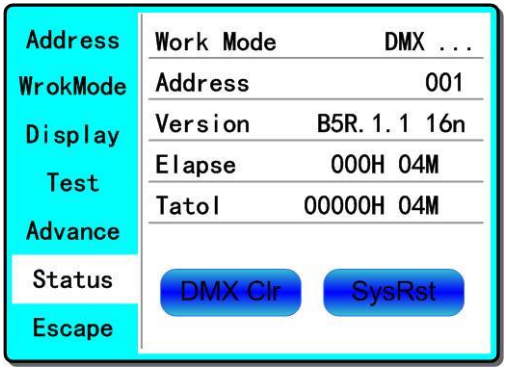


Figure 10 page of status

Channel description:

Light support 2 DMX mode: 24ch (Standard) and16ch (sample), as shown in Table 1:

Table 1 Channel brief

MODE/CHS		FUNCTION	VALUE	DESCRIPTION
STAND	BASIC			
1	1	**Pan**	0~255	Pan movement by 540
2		**Pan Fine**	0~255	Fine control of pan movement
3	2	**Tilt**	0~255	Tilt movement by 270
4		**Tilt Fine**	0~255	Fine control of tilt movement
5	3	**P/T Speed**	0~255	Fast to slow

6	4	**Function Reset Lamp**	0~89	none
			90~99	Blackout when color wheel moving
			100~109	Blackout when gobos wheel moving
			110~119	Blackout when prisms moving
			120~129	Blackout when color, gobos, prisms moving
			130~139	Lamp on（Over 3 seconds）
			140~149	Reset Pan/Tilt （ Over 3 seconds）
			150~189	Reset Effect motor (Over 3 seconds)
			200~209	Reset All (Over 3 seconds)
			210~229	none
			230~239	Lamp Off (Over 3 seconds)
			240~255	none
7	5	**Color**	Linear color select	
			0~1	White（100%~10%）
			2~9	Color 1（100%~10%）
			10~19	Color 2（100%~10%）
			20~28	Color 3（100%~10%）
			29~37	Color 4 （100%~10%）
			38~47	Color 5（100%~10%）
			48~55	Color 6（100%~10%）
			56~65	Color 7（100%~10%）
			66~74	Color 8（100%~10%）
			75~83	Color 9（100%~10%）

			84~92	Color 10（100%~10%）
			93~101	Color 11（100%~10%）
			101~110	Color 12（100%~10%）
			110~119	Color 13（110%~10%）
			119~129	White
			130~134	Color 1
			135~138	Color 2
			139~143	Color 3
			144~147	Color 4
			148~152	Color 5
			153~157	Color 6
			158~161	Color 7
			162~166	Color 8
			167~171	Color 9
			172~176	Color 10
			177~180	Color 11
			181~185	Color 12
			186~189	Color 13
			190~215	Forwards rainbow effect from fast to slow
			216~217	Stop, white
			218~243	Backwards rainbow effect from slow to fast
			244~255	Auto color selection from fast to slow
8		**Color Fine**	0~255	Fine positioning
9	6	**Effect Speed**	0~255	Speed of Rotating gobo, fast to slow
10	7	**Static**	0~3	Beam(Hole)

		Gobo Wheel	4~9	Gobo 1
			10~15	Gobo 2
			16~21	Gobo 3
			22~27	Gobo 4
			28~33	Gobo 5
			34~39	Gobo 6
			40~45	Gobo 7
			46~51	Gobo 8
			52~57	Gobo 9
			58~63	Gobo 10
			64~69	Gobo 11
			70~75	Gobo 12
			76~81	Gobo 13
			82~87	Gobo 14
			88~95	Gobo 1 Shake（Slow to fast）
			96~103	Gobo 2 Shake（Slow to fast
			104~111	Gobo 3 Shake（Slow to fast
			112~119	Gobo 4 Shake（Slow to fast
			120~127	Gobo 5 Shake（Slow to fast
			128~135	Gobo 6 Shake（Slow to fast
			136~143	Gobo 7 Shake（Slow to fast
			144~151	Gobo 8 Shake（Slow to fast
			152~159	Gobo 9 Shake（Slow to fast
			160~167	Gobo 10 Shake（Slow to fast
			168~175	Gobo 11 Shake（Slow to fast
			176~183	Gobo 12 Shake（Slow to fast
			184~191	Gobo 13 Shake（Slow to fast
			192~199	Gobo 14 Shake（Slow to fast
			200~201	Beam/hole

			202~221	Forwards gobo rainbow from slow to fast
			222~223	stop
			224~243	Backwards gobo rainbow from fast to slow
			244~255	Auto gobo selection from fast to slow
11	8	**Rotating Gobo Wheel**	Rot.gobo Index	
			0~4	White
			5~7	Gobo 1
			8~10	Gobo 2
			11~13	Gobo 3
			14~16	Gobo 4
			17~19	Gobo 5
			20~22	Gobo 6
			23~25	Gobo 7
			26~28	Gobo 8
			29~31	Gobo 9
			Rot. Gobo rotation	
			32~34	Gobo 1
			35~37	Gobo 2
			38~40	Gobo 3
			41~43	Gobo 4
			44~46	Gobo 5
			47~49	Gobo 6
			50~52	Gobo 7
			53~55	Gobo 8
			56~59	Gobo 9
			Rot.gobo Index	

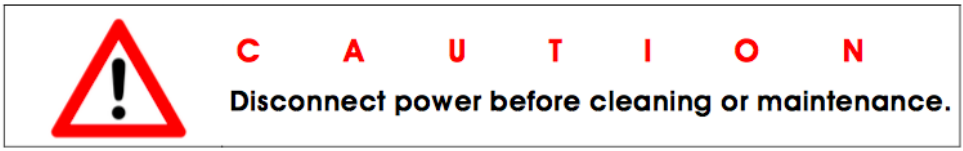
			60~67	Gobo 1 Shake (slow to fast)
			68~75	Gobo 2 Shake (slow to fast)
			76~83	Gobo 3 Shake (slow to fast)
			84~91	Gobo 4 Shake (slow to fast)
			92~99	Gobo 5 Shake (slow to fast)
			100~107	Gobo 6 Shake (slow to fast)
			108~115	Gobo 7 Shake (slow to fast)
			116~123	Gobo 8 Shake (slow to fast)
			124~129	Gobo 9 Shake (slow to fast)
			Rot. Gobo rotation	
			130~137	Gobo 1 Shake (slow to fast)
			138~145	Gobo 2 Shake (slow to fast)
			146~153	Gobo 3 Shake (slow to fast)
			154~161	Gobo 4 Shake (slow to fast)
			162~169	Gobo 5 Shake (slow to fast)
			170~177	Gobo 6 Shake (slow to fast)
			178~185	Gobo 7 Shake (slow to fast)
			186~193	Gobo 8 Shake (slow to fast)
			194~199	Gobo 9 Shake (slow to fast)
			200~201	White
			202~221	Forwards gobo rainbow from slow to fast
			222~223	stop
			224~243	Backwards gobo rainbow from fast to slow
			244~255	Auto goo selection from fast to slow
12	9	**Rot. Gobo**	Gobo index	
			0~255	0~200

			Gobo rotation	
			0	No rotation
			1~127	Forwards gobo rotation from fast to slow
			128~129	No rotation
			130~255	Backwards gobo rotation from slow to fast
13		**----**		Rot.gobo indexing androtation-fine
			0~255	Fine indexing (rotation)
14	10	**Prism**	0~19	Open position (hole)
			20~49	6-facet linear rotating prism -indexing
			50~75	6-facet linear rotating prism-rotation
			76~105	8-facet circular rotating prism-Indexing
			106~127	8-facet circular rotating prism-rotation
			Prism/Gobo macro	
			128~135	Macro 1
			136~143	Macro 2
			144~151	Macro 3
			152~159	Macro 4
			160~167	Macro 5
			168~175	Macro 6
			176~183	Macro 7
			184~191	Macro 8
			192~199	Macro 9
			200~207	Macro 10

			208~215	Macro 11
			216~223	Macro 12
			224~231	Macro 13
			232~239	Macro 14
			240~247	Macro 15
			248~255	Macro 16
15	11	**Rot.Prism**	Rot.Prism Index	
			0~255	0~200 degree
			Rot.Prism rotation	
			0	No rotation
			1~127	Forwards prism rotation from fast to slow
			128~129	No rotation
			130~255	Backwards prism rotation from slow to fast
16	12	**Frost**	0	Open
			1~179	Frost from 0% to 100%
			189~189	100% frost
			190~211	Pulse closing from slow to fast
			212~233	Pulse opening from slow to fast
			234~255	Rambing from fast to slow
17	13	**Zoom**	0~255	Zoom from max. to min.beam angle
18		**Zoom Fine**	0~255	Fine Zoom
19	14	**Focus**	0~255	Continuous adjustment from far to near
20		**Focus Fine**	0~255	Fine Focus
21		**---**	0~255	Resered
22	15	**Strobe**	0~31	Shutter closed (Lamp power

				reduced to 230W)
			32~63	Shutter open, Full lamp power
			64~95	Strobe-effect from slow to fast
			96~127	Shutter open
			128~159	Opening pulse in sequences from slow to fast
			160~191	Shutter open
			192~223	Random strobe-effect from slow to fast
			224~255	Shutter open, full lamp power
23	16	**Dimmer**	0~255	Dimmer intensity from 0% to 100%
24		--		Reserved

CLEANING AND MAINTENANCE



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

CLEANING

Frequent cleaning is recommended to insure proper function, optimized light output, and an extended life. The frequency of cleaning depends on the

environment in which the fixture operates: damp, smoky or particularly dirty environments can cause greater accumulation of dirt on the fixture's optics.

- Clean the external lens surface at least every 20 days with a soft cloth to avoid dirt/debris accumulation.
- Never use alcohol, solvents, or ammonia based cleaners.

MAINTENANCE

Regular inspections are recommended to insure proper function and extended life. There are no user serviceable parts inside this fixture, please refer all other service issues to an authorized service technician. Should you need any spare parts, please order genuine parts from your local dealer.

Please refer to the following points during routine inspections:

- A detailed electric check by an approved electrical engineer every three months, to make sure the circuit contacts are in good condition and prevent overheating.
- Be sure all screws and fasteners are securely tightened at all times. Lose screws may fall out during normal operation resulting in damage or injury as larger parts could fall.
- Check for any deformations on the housing, color lenses, rigging hardware and rigging points (ceiling, suspension, trussing). Deformations in the housing could allow for dust to enter into the fixture. Damaged rigging points or unsecured rigging could cause the fixture to fall and seriously injure a person(s).
- Electric power supply cables must not show any damage, material fatigue or sediments. Never remove the ground prong from the power cable.