

NEO 300 BEAM

SMART 300 BEAM MOVING HEAD



USER MANUAL | MANUAL DE USUARIO

PLEASE READ THE INSTRUCTIONS CAREFULLY BEFORE USE
POR FAVOR LEA LAS INSTRUCCIONES ANTES DE USAR



1. OVERVIEW

NEO 300 BEAM

SMART 300 BEAM MOVING HEAD
SILVER 300LL LAMP

NEO 300 BEAM is an outdoor beam moving head powered by a Silver 300LL lamp. The unit offers a 2° beam angle and features a color wheel with 14 gobos + open. The unit adds to its functions 12 fixed gobos with variable speed and a 8 faces and 16 faces prisms with bi-directional rotation from slow to fast, both can be overlapped. **NEO 300 BEAM** is designed to withstand the most extreme weather conditions, without losing performance or versatility offering a grade IP20 protection rate.

- 8-facet linear prism.
- Gobo Shake.
- DMX linear focus.

Control

- DMX channel: 1 / 2 / 3 .
- Software update via DMX.

Physical

- DMX connectors: 3 XLR connectors.
- Power factor: PF Power 0.90.
- Dimensions: 517x346x242 mm.
- Weight: 17 Kg.

Specifications

Source & Optics

- Light Source: Silver 300LL Lamp
- Color temperature: 7800K
- Beam angle: 0° - 2°

Photometric Data

- Luminous Lux: 50.000 lm.

Movement

- Pan: 540°
- Tilt: 270°

Temperature Range

- Functions: -25°C - +45°C
- Storage: 40°C - +80°C

Effects & Functions

- Color wheel: 14 colors
- Static gobo wheel: 17 gobos + open, variable speed.
- 8-facet prism and 16 facet prism with bi-directional rotation from slow to fast, both can be overlapped.
- Dimmer: 0-100% linear dimmer.
- Strobe effect: Variable speeds(15 F.P.S at maximum).

2. SAFETY INSTRUCTIONS

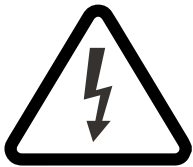


For your own personal safety, please read and understand this manual completely before you attempt to install or operate this unit!



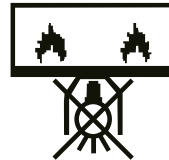
WARNING!

Burn hazard. Hot surface.
Do not touch.



DANGER!

Hazardous voltage.
Risk of lethal or severe electric shock.



Only to direct mounting on non-combustible surfaces.



WARNING!

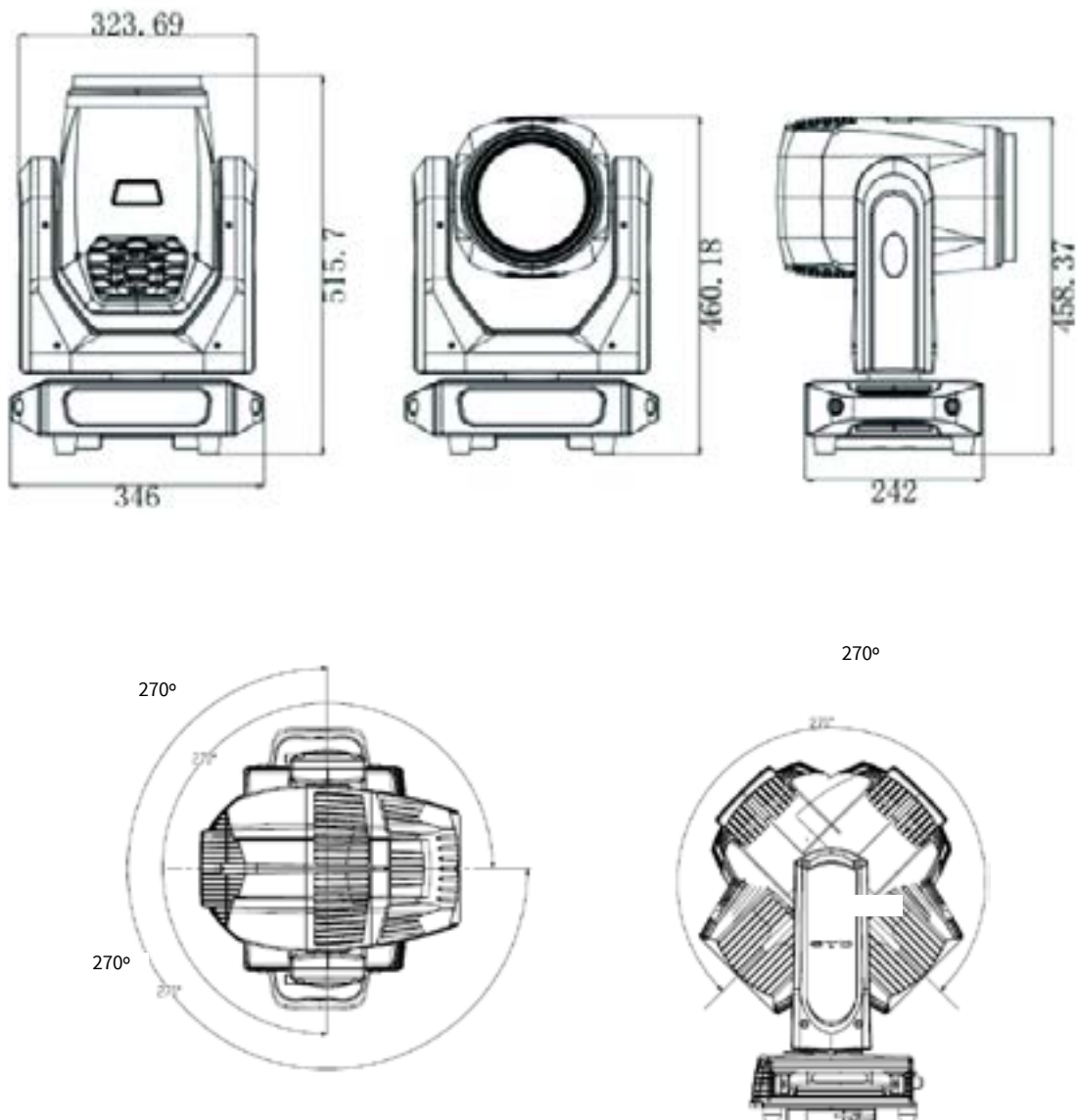
Wear protective eyewear. Never look directly into the light source.

- When unpacking, check if there is transportation damage before using the projector. Should there be any damage caused by transportation, consult your dealer and do not use it.
- The manufacture is not responsible for loss caused by the user not following the manual or changing the projector as he/she likes.
- Please be noted that the damage caused by changing the projector at will is not warranted.
- Do not hesitate to contact the dealer or the manufacturer if any questions or advice.
- If a lamp is damaged or deforms because of heat, it should be replaced.
- The projector is for indoor use only, IP20.
- Use only in dry locations. Keep this unit away from rain and moisture, excessive heat, humidity and dust. Do not allow contact with water or any other liquids.
- The projector should be kept away from high temperature, fire, electrical surge, vibration and strong light while being operated.
- The projector is only intended for installation, operation and maintenance by qualified personnel. And the operation must strictly follow the procedures in the manual.
- No repairable parts in the projector and do not open covers for maintenance by yourself.
- Don't look straightly into the light sources especially for epileptics, otherwise eyes will be burned.
- Do not connect a projector to any type of dimmer pack.
- If the lamp, lens and screen protective cover of the projector have obvious damage, i.e., to the extent that it hurts the performance like cracking or deformation. Please stop using it and replace them with the original parts, otherwise its performance will be compromised.
- For the installation location of a projector, it shouldn't be seen in the distance of less than 4 meters for a long time.
- Before operation, please confirm that all covers(housing) are on and screws tightened. It's forbidden to use a projector while covers(housing) are off.
- Keep the lamp clean and do not touch it with bare hands.
- While operating it, wear protective items.
- Any electrical connection must be carried out by a qualified person.
- Before installation, please confirm the voltage supplied matches what is required for the projector.
- Each projector must be properly earthed and installed as per related electrical standards.
- Do not use power cord with its insulator damaged and connect the power cord with other cables.
- If the projector is not used or under cleaning,, please hold the plug and unplug it. Do not unplug it forcefully or by pulling the power cable.
- All power cords must conform to related safety and regulations.
- While being operated, the projector should not be under rains or in humidity.
- Do not switch on and off the projector constantly in very short intervals, otherwise the light source's and other electrical parts' life will be shortened.

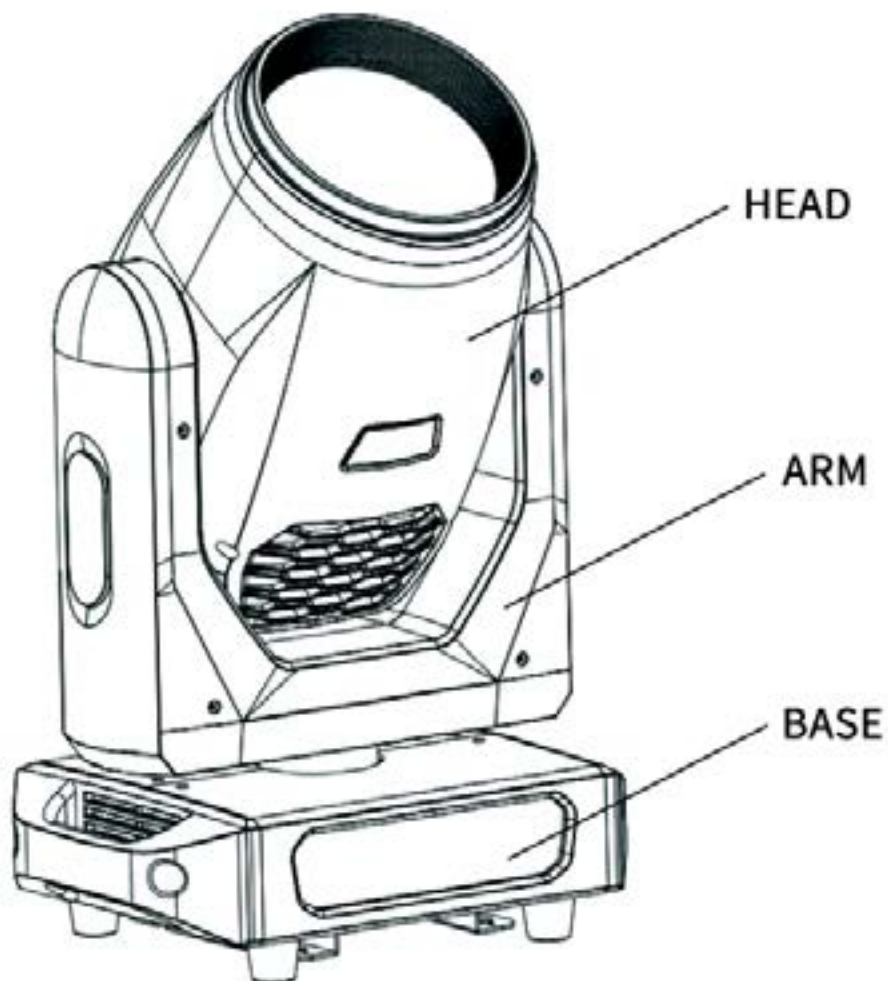
- There are safety cord holes at the bottom of the base of a projector. In view of safety, please run the safety cord supplied through the safety cord holes for safety support.
- Before any installation, maintenance and cleaning work, please ensure the projector is disconnected from power mains.
- After stable operation under normal situation , its temperature is 80°C.
- While the lamp is stricken for the first time, there will be smoke and strange smell. It's normal and does not mean the projector has some defects.
- While it running, don't touch the metal housing to avoid being burned!
- Do not mount the projector directly on inflammable surface.
- Do not project the beam straightly on combustibile items and the minimum distance between the projector and illuminated items is 8m.
- A projector should be installed with good ventilation and the minimum distance between the projector and walls is 50cm. At the same time, please ensure the fans and air inlets and outlets are workable.
- Do not let the front lens under sunlight or other strong light sources at any angle, otherwise the danger of fire can be caused by the focused beam by the lens inside a projector.
- The product meets The General Technical Requirements and Standards for Recycle and Use Of Expired Appliance and Electronic Products.
- When the product meets disposal standards and needs to be disposed, a client needs to dispose and recycle it.

3. FIXTURE OVERVIEW

1 DIMENSION



2 FIXTURE OVERVIEW



3 ACCESORIES

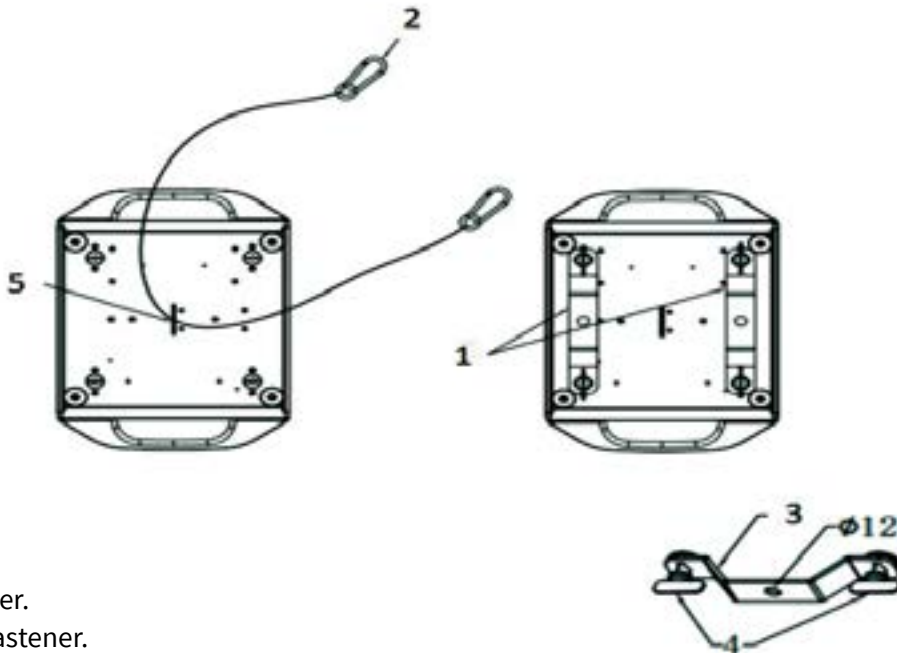
ITEM	QTY	UNIT	REMARKS
USER MANUAL	1	PC	-
POWER LINE	1	PC	-
CERTIFICATE	1	PC	-
FOLDABLE CLAMP	2	PC	-

4. INSTALLATION

A projector can be placed on the stage floor directly or mounted on a truss at any direction without impacting its performance. Please use a safety cord, which can support 10 times the weight of the projector, while mounting it on the truss. The safety cord should be used with magazine with a lock. Just as the figures below, please run the safety cord through the holes at the bottom of the base and around the truss. Use a safety cord, which can support 10 times the weight of the projector, while mounting it on the truss. The safety cord should be used with magazine with a lock. Just as the figures below, please run the safety cord through the holes at the bottom of the base and around the truss.

RIGGING

1. Use M12 bolt to fix the clamp (1) into the omega holder (3), run the bolt through the holder's holes.
2. Push 2 quick-lock fasteners (4) into holes at the bottom of the base, fix them and tighten them clockwise.
3. Run safety cord (2) through holes at the bottom of the base.



1. Clamps.
2. Safety Wire.
3. Omega Holder.
4. Quick-lock fastener.
5. Attachment point.

Use the spanner supplied with a projector to help installation.

WARNING!

THE PROJECTOR MUST BE LIFTED OR CARRIED BY THE HANDLES INSTEAD OF CLAMPS.
FOR SAFETY THE SAFETY CORD SHOULD AFFORD 10 TIMES THE PROJECTOR'S WEIGHT.

It must use secondary safety accessory like appropriate net. The structures of the secondary accessory must ensure that while malfunction happens, the installed parts won't fall to the ground.

While rigging, mounting or maintaining, the projector mustn't be placed in the areas listed hereinafter: the bridge, high work areas or other dangerous areas.

The operator of the projector or its related safety items must be accepted by safety experts before first launching or rerunning after any replacements or repairing.

The operator must ensure a test before acceptance every 4 years and the related safety measures and installation accepted by experts.

The operator must ensure the related safety measures and its installation must be approved by the technicians every year.

The projector may be installed in places under which people may walk by or sit. Important! Installations in high places requires wide experience, including but not limited to load limit calculation, the installing materials needed and regular inspection of installing materials and the projectors. If lacking the qualifications, please don't try installation by yourself, but seek help from professionals using designated lifting gears. Abnormal installation may cause body harm or property damages.

The projectors must be installed in places where people can't reach. If they are removed from ceiling or high places, professional truss must be used. It is forbidden to let any projector move freely in a room after installation.

Note: Device falling down can cause heavy body harm! If you have any questions about its safety, don't install any projector!

Before installation, please ensure mounting areas can endure 10 times the weight of a project at least.

5. POWER/CONTROL CONNECTION

1 POWER CONNECTION

Connection method:

- **L** (Live) Brown wire
- **E** (Earth) Yellow / Green bi-color wire
- **N** (Neutral) Blue wire

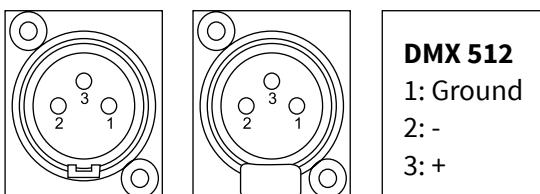
The voltage and frequency of the power source must be in compliance with the ones marked on the fixture. It is strongly recommended that each fixture are to be connected to the power source separately so that they can be switched on / off individually.

2 CONNECTION METHOD

The fixture has 3-pin XLR connectors for DMX data input and output as shown below.

Connection between the console and fixture, and between fixtures must be made with 2 core screened

DMX signal cable. Maximum connecting distance of signal cable is 150 meters. Additional DMX512 signal-amplifier is recommended for longer distance.



3 DMX CONTROL CONNECTION

Connection between controller and projector and between one projector and another must be made with a twin-screened cable, with each wire having at least a 0.5mm in diameter.

Connection to and from the projector is via cannon 5 pin (which are included with the projector) or 5 pin XLR plugs and sockets. The XLR's are connected as shown in the figure above.

Note: care should be taken to ensure that none of the pins touch the metallic body of the plug or each other. XLR plugs and sockets mustn't be connected in any way other than mentioned in the above figure.

The XR330BWS accepts digital control signals in protocol DMX512 (1990).

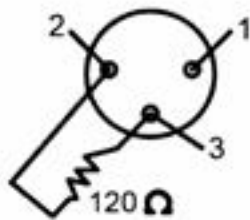
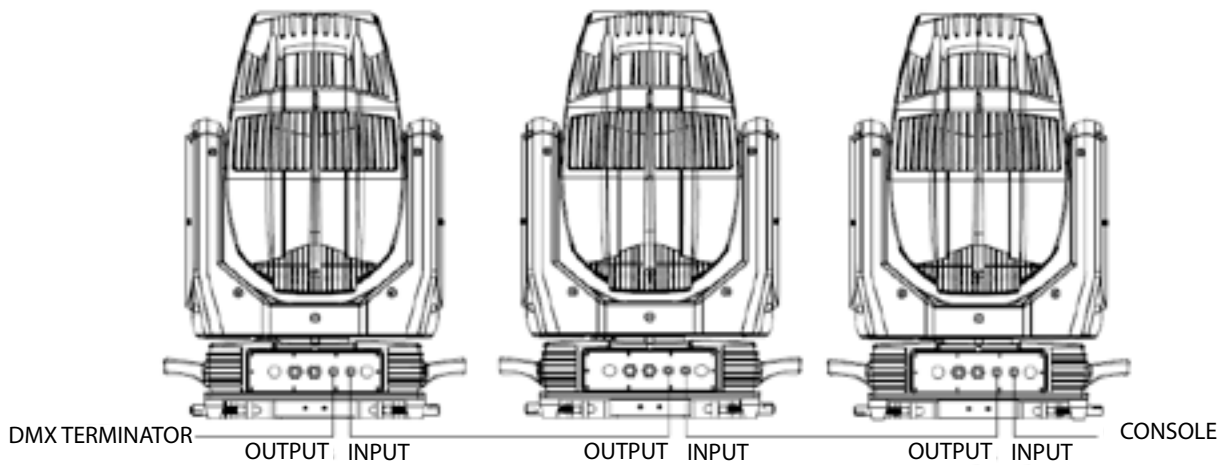
Connect the controller's DMX output to the first fixture's DMX input, and connect the first fixture's DMX output to the second fixture's DMX input and connect the rest fixtures in the same way.

Eventually connect the last fixture's DMX output to a DMX terminator as shown in the figure below.

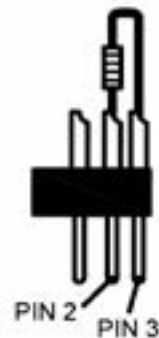
4 DMX TERMINATOR

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

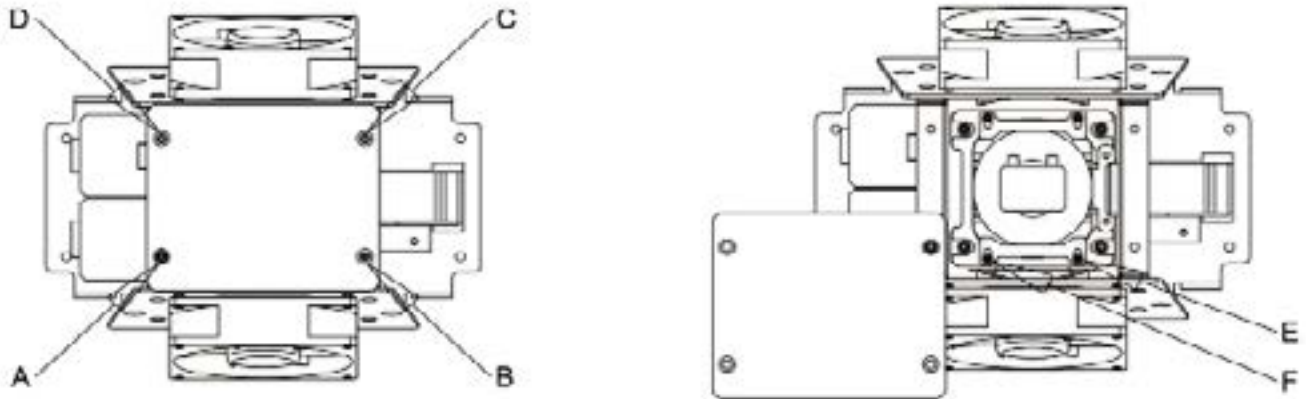
The DMX terminator is simply an XLR connector with a 120 (ohm) resistor connected across pins 2 and 3, which is then plugged into the output socket on the last projector in the chain. The connections are illustrated below.



DMX TERMINATOR CONNECTION
Connect a 120Ω(OHM) resistor across pins 2 and 3 in an XLR plug and insert into the DMX out socket on the last unit in the chain.



5 ALIGNMENT, INSTALLATION OR REPLACEMENT OF A LAMP



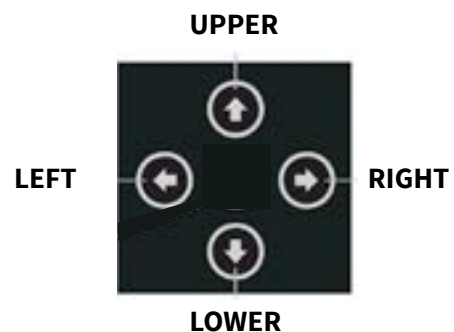
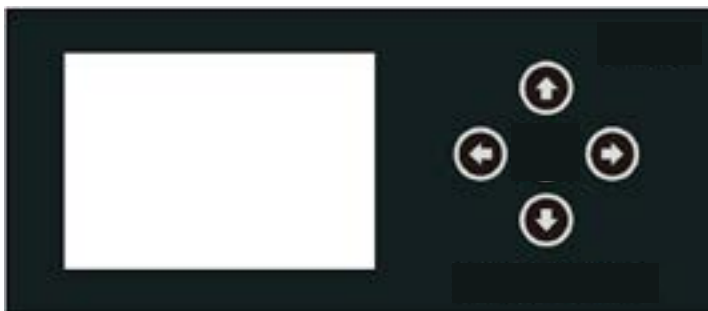
- Loosen and remove screws B,C and D .Loosen screw A which can only be loosened but can't be removed, for details please see the figure on the right. Then the lamp and its supporting frames can be seen.

- Loosen screws E and F and push the lamp supporting frames downward to expose the lamp's side, and remove the lamp after pushing it downward. After unplugging the lamp, remove it. Plug a new lamp with lamp wires after it is in place, push the supporting frames upward and tighten the screws to fix the new lamp. Tighten the screws after the lamp chamber cover is on.

At last restore the projector's original appearance based on the opposite sequences of dismantling.

6. SET UP AND CONFIGURATION

1 USING THE FRONT PANEL

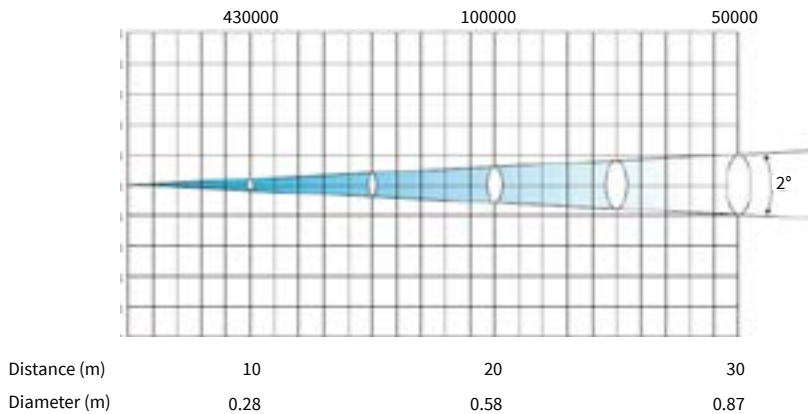


- **Unlock way:** Press the left and right keys simultaneously for 5 seconds simultaneously.
- **DMX Address:** Set up the DMX address.
- **Channel mode:** Set the channel mode, and the numbers of the menu options represent the channel 8.
- **Rest:** Reset the motor.
- **Motor power failure:** Select On, all motors power off; select off, all motors power on and reset. With this menu, you can plug and reset the motor without closing the main switch.
XY: Rest Pan andTilt motor
- **Run:** Set up the operation mode. The menu options are described as follows. (Note: Self Walk mode options may vary according to product model).
DMX Run by the DMX512 console control.
Self-walk (factory testing): Run a program set by the manufacturer which is mainly used for factory testing.
Self-programming program. You can set the editing scene in the [Run Settings] - [Self programming] menu.

- **Lamp:** Switch on the light bulb. After changing the value, wait about 3 seconds to work. You can switch the value back within 3 seconds and cancel the operation. After turning off the bulb, you must wait for 1~2 minutes before turning it on again. If the operation menu is turned on within two minutes, the bulb will not be lit. When the waiting time reaches, it will light on itself. If the menu item is on, the system tries to light the bulb and waits for the lighting board to return.
- **Manual operation:** Set the value of the channel manually.
 - Channel 1: Set up the DMX channel 1
 - Channel 2: Set up the DMX channel 2
 - Channel 3: Set up the DMX channel 3
- **Run Settings:** Run the parameter settings.
 - Master/Slave Mode :Set the master from mode
- **Pan & Tilt General settings:**
 - Pan Invert: Select Yes, reverse the rotation direction of the Pan motor, select No, and press the rotation direction at the factory.
 - Tilt Invert: Select Yes,reverse the rotation direction of the Tilt motor,selectNo,and press the rotation direction at the factory.
- **Pan setting:**
 - Starting range: 0-254
 - End range: 0-255
- **Tilt setting:**
 - Starting range: 0-254
 - End range: 0-255
- **Color linearity:**
 - Select Yes, the color disk linear step.
 - The dimming curve: Select a dimmer curve (LED-only).
- **No signal:** Select how if the DMX512 signal is not detected.
- **Starting up:** The above operating mode is performed only, if the DMX signal is not detected, while on startup, otherwise, the last DMX action will be maintained.
 - Mediacy: Except for Pan and Tilt, all other channels are cleared.
 - Self-walk (factory test / pattern / color).
 - Run the programs set up by the manufacturer
 - User program:Run the user self-programming program.
- **Run time:** At any moment, whenever the DMX signal of the action is lost.
 - Hold the last-frame DMX value.
 - Closed light Turn off the light switch.
- **Display settings:** Settings for the LCD LCD screen.
 - Boot bright bubble: Select “No”, do not light the light after the boot reset completes, select “Yes”, and automatically light the bulb after the boot reset completes.
- **Advanced Settings:**
 - Adj:Factory debugging function, requires password verification to enter.
 - Language: Set the system language.
- **Stand-in dormancy:** Set the action of the functional motor when turning off the bulb.”Hibernate” means cutting power off all functional motors (Pan and Tilt motors do not cut off and can still operate normally).
- **No signal waiting:**Set how long the no-DMX signal will enter hibernation mode.
 - Shut up and wait:Sets how long the light closes and into Hibernate mode.
 - Closed light threshold:Set the closed light judgment threshold, that is, the closed light is considered only when the dimming channel is less than this value.

8. TECHNICAL SPECIFICATION

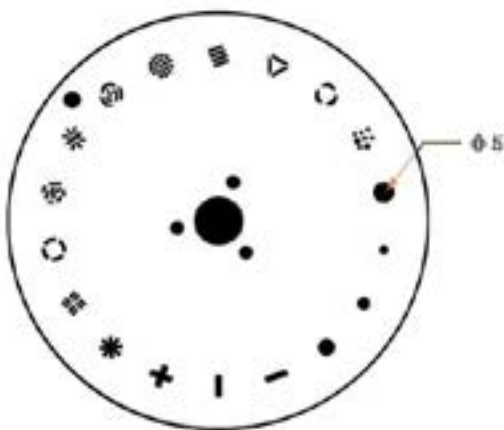
1 PHOTOMETRIC



9. GOBOS AND COLORS

GOBOS

- One fixed gobo wheel: 17 gobos + open, CW/CCW rotation, variable speed.
- Color wheel: 14 colors + open, split color, CW/CCW rotation.



FIXED GOBO WHEEL



ROTATING COLORWHEEL

- 1:** Red
- 2:** Crimsan
- 3:** Golden
- 4:** Yellow
- 5:** Navy Blue
- 6:** Sky Blue
- 7:** Green
- 8:** Light Green
- 9:** Orange
- 10:** Rose Red
- 11:** Blue Green
- 12:** Fluorecense
- 13:** LCT
- 14:** HCT

10. MENU STRUCTURE

1 LEVEL MENU	2 LEVEL MENU	3 LEVEL MENU	4 LEVEL MENU	DESCRIPTION
DMX Address				1 - 512
Channel mode				Display the number of different channels according to the lamp type
Rest	Motor power			On/ Off
	Pan /Tilt			
Run				DMX/User / Auto/ sound control
Lamp				On/Off (Current-On/ Off)
Manual	channel 1			
	channel 2			
Run Setting	Master and slave mode			From the machine / host
		Manual Pan/Tilt		On/ Off
		X Reverse		On/ Off
		Y Reverse		On/ Off
		Speed Chn RT		On/ Off
		Time mode		On/ Off
	Pan Settings	Start range		0-254
		End of the range		0-255
	Tilt Settings	Start range		0-254
		End of the range		0-255
	Color disk linearity			On/ Off
		DimCurve (used only for LED illuminant)		
Self - programming		step		
			channel	0-255
If No DMX		Power On		Middle/No Effect/ User/Auto
	Run Time		Shutter off/Keep	

Advanced Settings	Adj				
	LCD Display	Sleep		Unenabled	
		Flip		Reverse screen display	
	Language			Chinese/English	
	Ignore Err	Raster Waveform		On/ Off	
	Stand-in dormancy	No signal waiting		Select time	
		Shut up and wait		Select time	
Closed light threshold			0-255		
Info	DMX Value	Channel		0 - 255	
	Error	Packet			
		RAM			
		Bus communication			
		Lamp communication			
		Light board			
		Pan coded disc			
		Tilt coded disc			
		Tilt coded disc			
		Pan rest			
		Tilt rest			
		Fan stop			
		Lamp time	Use time (H) Time zero		
		Product code	Time zero		Product internal code, only for product protection, maintenance reference.

11• DMX PROTOCOL

DMX channel		Value	Function
Short Mode	Standard Mode		
1	1		Pan
		0 -255	0-100%
	2		Pan Fine
		0 -255	0-100%
2	3		Tilt
		0 -255	0-100%
	4		Tilt Fine
		0 -255	0-100%
3	5		Pan and Tilt speed
		0 -255	Fast ->Slow
4	6		Strobe
		0-3	Close
		4-103	Strobe: Slow->Fast
		104-107	Open
		108-207	Pulse strobe: Slow->Fast
		208-212	Open
		213-225	Strobe at random: slow speed
		226-238	Strobe at random: medium speed
		239-251	Strobe at random: fast speed
		252-255	Open
1	1		Pan
		0-255	0-100%
5	7		Dimmer
		0-255	0-100%
6	8		Colors
		0-127	Color Position
		128-190	Rotation(CW): Fast -> Slow
		191-192	Rotation(CW):Stop
		193-255	Rotation(CW): Slow -> Fast
7	9		Gobo
			Open
			Gobo Position
			Rotation gobo shake
			Open
			Clockwise rotation: Fast->Slow
		228-229	Stop

8	10		Prism 1
		0-63	Stop
		64-255	Prism 1 in
9	11		Prism 2
		0-63	Stop
		64-255	Prism 2 in
10	12		Prism positioning and rotation
		0-127	Prism positioning
		128-190	Anti-clockwise rotation:Fast->Slow
		193-255	Clockwise rotation:slow->fast
11	13		Frost
		0-63	Stop
		64-255	0-100%
12	14		Focus
		0-255	Focus Far to near
	15		Focus fine
		0-255	0-100%
13	16		Lamp control
			To achieve the following effect, push the DMX value to the appropriate position and rest for at least 4 seconds
		0-129	No
		130-139	Lamp on
		230-239	Lamp off
			Rest
		0-25	No
			To achieve the following effect, push the DMX value to the appropriate position and rest for at least 4 seconds
		200-209	Effect reset
		210-219	Pan/Tilt rest
		220-229	All rest

12. ERROR MESSAGE

Name	Type	Correction
Pan	Optical sensor error: Pan	Check if wiring, optical sensor and motors are normal
Tilt	Optical sensor error: Tilt	Check if wiring, optical sensor and motors are normal
Pan & Tilt driver board	Communication error: module 1	Check if wiring, hall sensor and motors are normal
Motor driver board	Communication error: module 2	Check if wiring, hall sensor and motors are normal
Focus	Hall error: Focus	Check if wiring, hall sensor and motors are normal
Color wheel	Hall error: Color wheel	Check if wiring, hall sensor and motors are normal
Fixed gobo wheel	Hall error: Fixed gobo wheel	Check if wiring, hall sensor and motors are normal
Lamp striking	Lamp striking error	Check if wiring and igniter are normal and if the voltage of the igniter is normal

13. COMPONENT ORDER CODES

Name	Code No.	Qty	Remarks
Pan Motor	50300-00136	1	
Tilt Motor	50300-00136	1	
Color wheel	50502-00157	1	
	50502-00158	1	
	50502-00159	1	
	50502-00160	1	
	50502-00161	1	
	50502-00162	1	
	50502-00163	1	14 colors, each code no. stands for one color, colors start from red and so on
	50502-00164	1	
	50502-00165	1	
	50502-00166	1	
	50502-00167	1	
	50502-00168	1	
	50502-00169	1	
	50502-00170	1	
Fixed gobo wheel	70502-00015 70502-00011	1	
Switching power supply	50400-00030	1	
Lamp	50203-00026	1	Silver 300LL
Ballast	50406-00025	1	Silver 300LL

14. PPENDIX

SOME ITEMS REQUIRING ATTENTION AS FOR THE USE

For the effective extension of the lifespan of discharge lamp, some factors impacting its lifespan are specially listed below, based on manufacturing technology and working mechanism of discharge lamps., physical attributions of the lamps including lamp striking theory(ignited by focused high voltage---highly pressurized air broken down and burning---lamp on at high temperature with thermal protection--- stable running) and lamp off theory(lamp off power ---lamp off at high temperature and thermal protection-highly pressurized air vaporizing evenly----completion of lamp off.

SOME ITEMS REQUIRING ATTENTION AS FOR THE USE OF DISCHARGE LAMP

For the effective extension of the lifespan of discharge lamp, some factors impacting its lifespan are specially listed below, based on manufacturing technology and working mechanism of discharge lamps., physical attributions of the lamps including lamp striking theory(ignited by focused high voltage---highly pressurized air broken down and burning---lamp on at high temperature with thermal protection--- stable running) and lamp off theory(lamp off power ---lamp off at high temperature and thermal protection-highly pressurized air vaporizing evenly----completion of lamp off.

- 1.** The sequence of lamp striking: Power on→lamp striking by controller(advised not to strike lamp via power on), the sequence of lamp off: lamp off by controller→mains power shut off (advised not to turn off lamp by shutting off mains power).
- 2.** Within 1 min after lamp striking, it shouldn't re-strike it frequently. ONLY more than 10 min after the projector is cooled after lamp off, can the lamp be re-stricken again.
- 3.** Within 5 min after lamp striking, it can't be turned off. During the lamp striking process, it's forbidden to turn off lamp via shutting off mains power, but via controller. More than 5 min after the projector is cooled after lamp off, can the mains power be shut off.
- 4.** The projector is advised not to point to the same point for long time, i.e., it shouldn't be used for long time at a fixed angle.
- 5.** The projector is advised not to use double colors for long time, i.e., it shouldn't use 2 or more colors for long time.
- 6.** The projector is advised not to keep shutters closed while lamp on for long time, i.e., it should be less than 1 hr after shutters closed after lamp on. It is advised not to use lamp half power function for long time.



NEO



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