LED 280 BSW /XK

MOVING HEAD

USER MANUAL

BEFORE YOU BEGIN

What is included
1 x Spot
1 x Mounting bracket and screws
1 x Power cable
1 x User Manual

Unpacking Instructions

Immediately upon receiving a fixture, carefully unpack the carton, check the contents to ensure that all parts are present, and have been received in good condition. Notify the shipper immediately and retain packing material for inspection if any parts appear damaged from shipping or the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a fixture must be returned to the factory, it is important that the fixture be returned in the original factory box and packing.

Manual Conventions

manuals use the following conventions to differentiate certain types of information from the regular text.

CONVENTION	MEANING
[10]	A LCD display to be configured
<Menu>	A key to be pressed on the fixture's control panel
1~512	A range of values
50/60	A set of values of which only one can be chosen
Settings	A menu option not to be modified (for example, showing the operating mode/current status)
MENU > Settings	A sequence of menu options to be followed

Icons

This manual uses the following icons to indicate information that requires special attention on the part of the user.

ICONS	MEANING
⚠	This paragraph contains critical installation, configuration or operation information. Failure to comply with this information may render the fixture partially or completely inoperative, cause damage to the fixture or cause harm to the user.
ⓘ	This paragraph contains important installation or configuration information. Failure to comply with this information may prevent the fixture from functioning correctly.
🗎	This paragraph reminds you of useful, although not critical, information

Safety Instructions

⚠ Please read these instructions carefully. It includes important information about the installation, usage and maintenance of this product.

● Please keep this User Manual for future consultation. If you sell the unit to another user, be sure that they also receive this instruction booklet.

● Always make sure that you are connecting to the proper voltage, and that the line voltage you are connecting to is not higher than that stated on the decal or rear panel of the fixture.

● This product is intended for indoor use only! To prevent risk of fire or shock, do not expose fixture to rain or moisture.

● Make sure there are no flammable materials close to the unit while operating.

● The unit must be installed in a location with adequate ventilation, at least 20 in (50 cm) from adjacent surfaces. Be sure that no ventilation slots are blocked.

● Always disconnect from power source before servicing or replacing fuse

and be sure to replace with same fuse source.

● Secure fixture to fastening device using a safety chain.

● Maximum ambient temperature (Ta) is 104° F (40° C). Do not operate fixture at temperatures higher than this.

● In the event of a 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.

● Never connect the device to a dimmer pack.

● Make sure the power cord is never crimped or damaged.

● Never disconnect the power cord by pulling or tugging on the cord.

● Never carry the fixture directly from the cord. Always use the hanging/mounting bracket.

● Avoid direct eye exposure to the light source while it is on.

● Never carry the fixture by holding the head. Always use the carrying handle.

Chapter 1 Installation and attention

1． Maintenance

ℓ   To reduce the risk of electrical shock or fire, do not expose this unit to rain or moisture.

ℓ   Intermittently using will extend this item's service life.

ℓ   Please clear the fan ,fan net , and optical lens in order to keep good work state.

ℓ   Do not use the alcohol or any other organic solvent to wipe the shell.

2. Statement

The product has perfect performance and integrity packing. All users should be strictly complying with the warning and operating instructions as stated. Or we aren't in charge of any result by misusing. Any damage resulting by misuse is not within the Company's warranty. Any fault or problem caused by neglecting the manual is also not in the charge of dealers.

   Note: All information is subject to change without prior notice.

3．afety Precaution

ℓ   In order to guarantee the product's life, please don't put it in the damp places or even the environment over 60degress.

ℓ   Always mount this unit in safe and stable matter.

ℓ   Install or dismantle should operate by professional engineer.

ℓ   Using lamp，the change rate of power voltage should be within±10%，If the voltage is too high，it will shorten the light's life; If it's not enough, will influence the effect.

ℓ   Please restart it 20 minutes later after turning off light , until full-cooling. Frequent switching will reduce the life span of lamps and bulbs; intermittent using will improve the life of bulbs and lamps.

ℓ   In order to make sure the product is used well, please read the Manual carefully.

4 . Product Instruction

MAG280 BSW/XK+3Rings .It uses 1pcs 280W white LED and 135pcs 0.3W RGB LEDs as the light source and has 6°-28°beam angle .Pan/Tilt rotation chooses three-phase motor which can respond speedily and smoothly . Besides ,it has one fixed gobo wheel , one rotating gobo wheel ,one color wheel , one 8 facet rotating prism ,one 6 fact linear rotating prism ,one frost filter and colorful filter which make excellent brightness output ,This product also owns 3 LED rings with 135pcs 0.3W RGB to bring 3D effect .DMX control ,its also has RDM function .

● Rate voltage： AC100V～240V，50-60HZ

● Rate power consumption: 380W

● LED source : 280w White LED and 3 rings with 135 x 0.3W LEDs

● LED color temperature: 8000K

● Zoom range： 6°-28°

● DMX channel mode： 26CH/35CH

● 3 kinds of control model:DMX512、、Sound、Master/Slave

● DMX , RDM Protocol Support .

● 2.4inch color display screen

  ● Display screen can be 180° Reversible to fit the installation in different place

● Indoor operation temperature：-20℃～40℃

● Dimmer:0-100% and 16bit dimming

● Pan/Tilt：

  16bit pan/tilt fine

  Smooth and accurate locating

  Pan：540°, Tilt:270° rotating

  ● Static gobo wheel：9Gobo+Open and gobo shake , gobo continue bi-directional rotating

  ● rotating gobo wheel : 7 gobo + open ,and gobo shake , gobo continue bi-directional rotating

● Color wheel：9 colors + Open，Split Color ,continue bi-directional rotating
  ● 0-20HZ strobe、pulse strobe、oblique ascension strobe、oblique fall strobe、random strobe、5-1s l strobe break effect
● Frost filter for wash effect
● Prism:8 facet and　6-faced linear facet rotatable prisms
● fan cooling(fan speed up as per temperature change)

1.1　Cable connection（DMX）

Use a cable conforming to specifications EIA RS-485: 2-pole twisted, shielded, 120Ohm characteristic impedance, 22-24 AWG, low capacity. Do not use microphone cable or other cable with characteristics differing from those specified. The end connections must be made using XLR type 3 or 5-pin male/female connectors. A terminating plug must be inserted into the last projector with a resistance of 120Ohm (minimum 1/4 W) between terminals 2 and 3.

IMPORTANT: The wires must not make contact with each other or with the metal casing of the connectors. The casing itself must be connected to the shield braid and to pin 1 of the connectors.
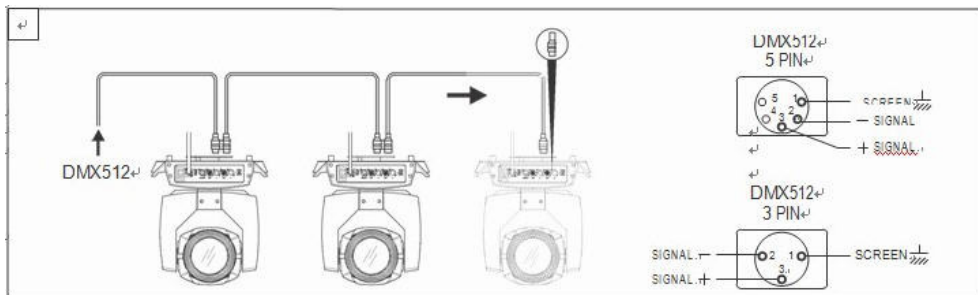

Figure 1　DMX Cable connection

1.2　Rigging (Optional)

This equipment can be positioned and fixed by clamp in every direction of the stage. Locking system makes it easy to fasten to the bracket.

Attention! Two clamps is needed to fix the equipment. Every clamp is locked by fastener of 1/4 kind. Fastener can only be locked clockwise.

Attention! Fasten a safety string to the additional hole of side aluminum piece. The secondary accessory can not hang on the delivery handle. Nip the equipment on bracket.

- ℓ Check if rigging clamp (not including the one inside) damaged or not? If stand ten times weight as the equipment. Make sure the architecture can stand ten times weight as all the equipments, clamps, wirings and other additional fixtures.
- ℓ Screws for clamping must be fixed firmly. Take one M12 screw (Grade 8.8 or higher) to clamp bracket, and then screw the nuts.
- ℓ Level the two hanging points at the bottom of clamp. Insert fastener to the bottom, lock the two levers by 1/4 rotating clockwise; then install another clamp.
- ℓ Install on safety string which stands at least ten times weight as equipment. Terminal of the accessory is designed for clamps.
- ℓ Make sure pan/tilt lock unlocked or not. Keep the distance more than 1M from equipment to flammable material or lighting source.
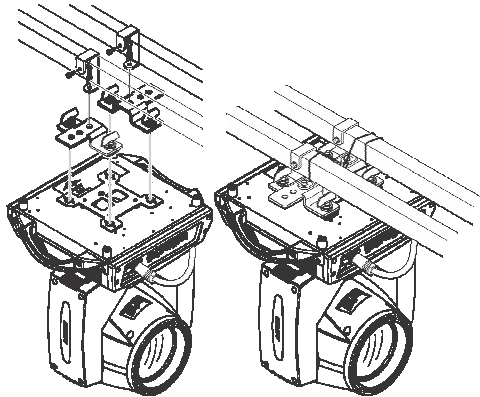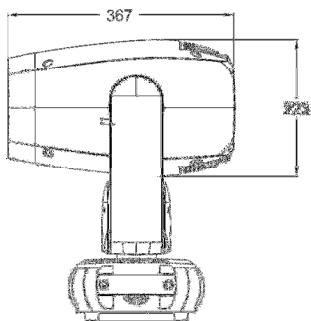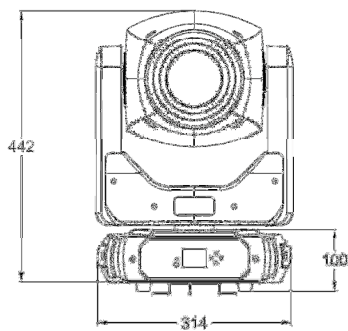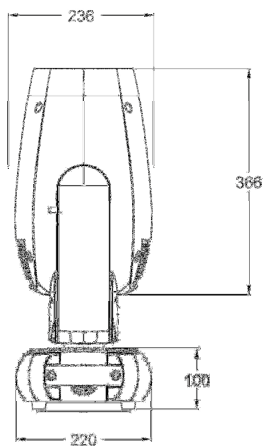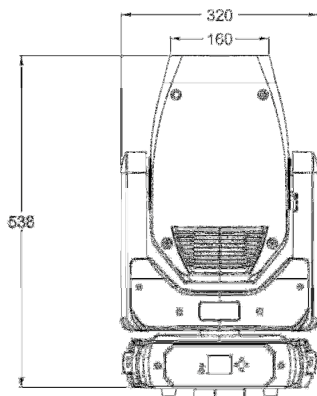

Figure 1 Installation

Product Dimensions

Chapter 2   Panel operation

Configuring the Starting Address

Each fixture requires a starting address from 1~512. A fixture requiring one or more channels for control begins to read the data on the channel indicated by the starting address. For example, a fixture that uses seven DMX channels and is addressed to start on DMX channel 100, will read data from channels: 100, 101, 102, 103, 104, 105 and 106. Choose the starting addresses for each fixture so that the channels used do not overlap. In addition, you should note the starting address selected for future reference.

Control Panel Functions

The Control Panel shows the current state of the unit. It is used to select the operating mode, as well as the sub-features. For a detailed layout of the control panel functions, please see the "menu map" section on the following page.
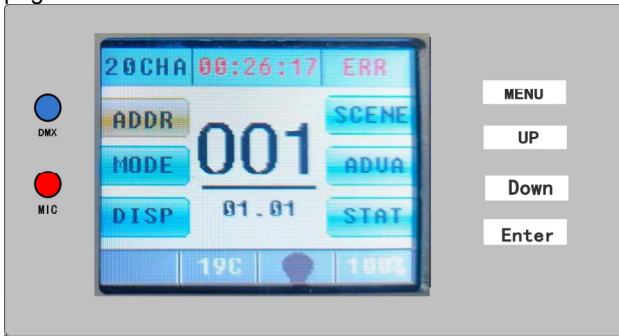

Figure2

[BACK] menu selection or return to previous menu.
[UP] press [UP] through the menu list to increase/change the value of the current function.

> [DOWN] press [DOWN] through the menu list to decrease/change the value of the current function.
> [RIGHT] press [RIGHT] through the menu list to increase/change the value of the current function.
> [OK] confirm & quit out current function setting.

1.1 Sub Menu（Parameter）

Chick item of main menu, enter corresponding sub menu, shown in

figure3, total 6 sub menu, includes class of parameter and status:

ℓ   ADDRESS：Set light DMX address.

ℓ   WORKMOD：Set light work mode, master or slave mode when in auto run mode.

ℓ   DISPLAY： Set display parameter, eg. select language.

ℓ   TEST：Used for test light, modify DMX channel data to test function， the corresponding function of reference channel function table.

ℓ   ADVANCE：Set light running parameter.
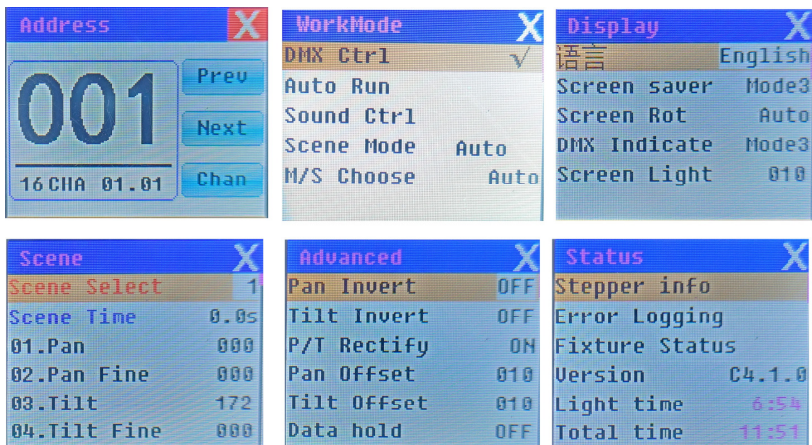
ℓ   STATUS：view light current status.

Figure 3   Parameter menu

2 Operation and parameter instruction

Via following operation, enter sub menu(parameter menu) shown in figure3

ℓ   In main menu, click [UP] [DOWN] [RIGHT] [OK] button into

corresponding parameter menu.

3 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   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 Figure4, click [UP] OR [DOWN] chose the address code area,click [OK] key confirm and then click [UP] and [DOWN] again to modify value, then click 'ENTER' to confirm and save DMX address code.
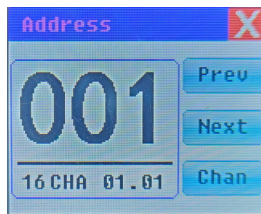
Figure 4   page of DMX Address

4 Set Light work mode

Enter the page of 'WORK MOD' as shown in figure5 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:

ℓ **DMX Mode :** Under this mode, the light receive data from the DMX controller and move.

ℓ **AUTO RUN :** Under this mode, light will run with inside

code(data), ignore data from DMX controller.

ℓ   **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.

ℓ   **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.
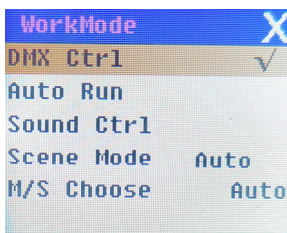
Figure 5   page of work mode

Set display：Light support 2 language, rotation display，Enter page as shown in   figure 6 to set parameter following:

ℓ   **Language：**Select display as simplified Chinese or English.

ℓ   **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。

ℓ   **Screen Rotation：**rotate displayer.

ℓ **Touch enable :** Disable or enable touch function, when disable, use encoder to operate light and set parameter.

ℓ **Touch adjust :** adjust touch function, normally, not enter this item.
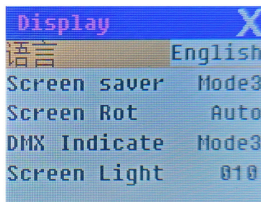
Figure 6　page of display

1.2　Test light

Enter the page as shown in figure 7, Light will into test mode, in this mode, the light does not receive the data for DMX controller.:

ℓ　PAN: range for 0 to 255;

ℓ　TILT: range for 0 to 255;

ℓ　FOCUS: range for 0 to 255;

ℓ　COLOR: range for 0 to 255;

ℓ　GOBO: range for 0 to 255;

ℓ　PRISM: range for 0 to 255;

ℓ　FROST: range for 0 to 255; ;

ℓ　STROBE: range for 0 to 255; 。
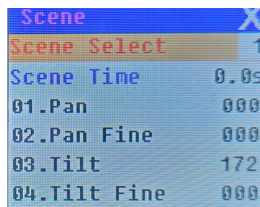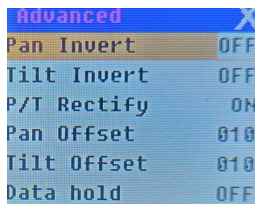
Figure 7 page of Test

1.3　Set light run parameter

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

- ℓ Pan Invert: Reverse PAN move.

- ℓ Tilt Invert: Reverse TILT mover.

- ℓ 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.

- ℓ Pan Offset: Set PAN original position.

- ℓ Tilt Offset: Set TILT original position.

- ℓ Lamp up when: Select lamp on mode, includes 3 mode: power on, after reset done and manual；

- ℓ Factory setting: restore all parameter to factory setting.

Figure 8 page of display

1.4   View status

Enter the page as shown in figure 3，

- ℓ View light current status, version；

- ℓ DMXClr: Click to clear all DMX data to '0'.

- ℓ SysRst：Click to reset light.

Chapter 3   Channel description

DMX CHANNEL VALUES

Mode 26-channel

35CH	26CH	Function	Value	Description
CH1	CH1	Pan	0-255	0-540 degree
CH2	CH2	Pan Fine	0-255	0-2 degree
CH3	CH3	Tilt	0-255	0-270 degree
CH4	CH4	Tilt Fine	0-255	0-1 degree
CH5	CH5	Pan/Tilt speed	0-255	From fast to slow
CH6	CH6	Dimmer	0-255	Dimmer 0-100%
CH7	CH7	Strobe	0-3	No function
			4-127	Strobe at linearly variable frequency from slow to fast
			128-191	Pulsation at linearly variable speed
			192-251	Random strobe
			252-255	No function
CH8	CH8	Color	0-127	Open/White
			128-134	white
			135-140	Color 1
			141-	Color 2

				145	
				146-150	Color 3
				151-155	Color 4
				156-160	Color 5
				161-165	Color 6
				166-170	Color 7
				171-175	Color 8
				176-180	Color 9
				181-216	Color auto changing from fast to slow
				217-220	stop
				221-	Forwards rainbow effect from fast to slow

			255	
			201-255	Backwards rainbow effect from slow to fast
CH9	**CH9**	**Color fine**	0-255	
CH10	**CH10**	Fix Gobo	0-9	Open
			10-19	Gobo 1
			20-29	Gobo 2
			30-39	Gobo 3
			40-49	Gobo 4
			50-59	Gobo 5
			60-69	Gobo 6
			70-79	Gobo 7
			80-89	Gobo8
			90-99	Gobo 9
			100-109	Gobo 1 shake from slow to fast
			110-119	Gobo 2 shake from slow to fast
			120-129	Gobo 3 shake from slow to fast

			130-139	Gobo 4 shake from slow to fast
			140-149	Gobo 5 shake from slow to fast
			150-159	Gobo 6 shake from slow to fast
			160-169	Gobo 7 shake from slow to fast
			170-179	Gobo 8 shake from slow to fast
			180-189	Gobo 9 shake from slow to fast
			190-221	forwards gobo rotation from slow to fast
			222-223	stop
			224-255	Backwards gobo rotation from slow to fast
CH11	CH11	Rot Gobo	0-9	Open
			10-19	Gobo 1

			20-29	Gobo 2
			30-39	Gobo 3
			40-49	Gobo 4
			50-59	Gobo 5
			60-69	Gobo 6
			70-79	Gobo 7
			80-89	Gobo 1 shake from slow to fast
			90-99	Gobo 2 shake from slow to fast
			100-109	Gobo 3 shake from slow to fast
			110-119	Gobo 4 shake from slow to fast
			120-129	Gobo 5 shake from slow to fast
			130-139	Gobo 6 shake from slow to fast
			140-149	Gobo 7 shake from slow to fast
			150-	Forwards gobo rotation from slow to fast

			200	
			201-204	STOP
			205-255	Backwards gobo rotation from slow to fast
CH12	CH12	Gobo Rot	0-127	Rotation from 0-400degree
			128-190	Forwards gobo rotation from fast to slow
			191-192	Stop
			193-255	Backwards gobo rotation from slow to fast
CH13	CH13	Gobo rot fine	0-255	
CH14	CH14	prism	0-127	No function
			128-187	Prism 1
			188-195	Prism 2
CH15	CH15	Prism rot	0-127	Rotation from 0-400 degree

			128-187	Forwards rotation from fast to slow
			188-195	Stop
			196-255	Backwards rotation from slow to fast
CH16	**CH16**	Frost	0-127	No function
			128-255	Frost
CH17	**CH17**	Zoom	0-255	
CH18	**CH18**	Focus	0-255	
CH19	**CH19**	Focus fine	0-255	
CH20	**CH20**		0-49	No function
		Auto	50-127	Auto
		Reset	128-255	Reset after 6 second
CH21	**CH21**	3 Rings strob	0-255	from slow to fast
CH22	**CH22**	3 Rings dimmer	0-255	Dimmer 0-100%
CH23	**CH23**	3 Rings macro speed	0-255	from slow to fast
CH24	**CH24**	3 Rings	0-255	10 colors

		basic color		
CH25	**CH25**	3 Rings dynamic color	0-255	10 colors
CH26	**CH26**	3 Rings macro	0-255	20 effects
CH27		big Rings basic color	0-255	10 colors
CH28		big Rings dynamic color	0-255	10 colors
CH29		big Rings macro	0-255	20 effects
CH30		middle Rings basic color	0-255	10 colors
CH31		middle Rings dynamic color	0-255	10 colors
CH32		middle Rings macro	0-255	20 effects
CH33		small Rings	0-255	10 colors

		basic color		
CH34		small Rings dynamic color	0-255	10 colors
CH35		small Rings macro	0-255	20 effects

General Maintenance

To maintain optimum performance and minimize wear, fixtures should be cleaned frequently. Usage and environment are contributing factors in determining frequency. As a general rule, fixtures should be cleaned at least twice a month. Dust build up reduces light output performance and can cause overheating. This can lead to reduced lamp life and increased mechanical wear. Be sure to power off fixture before conducting maintenance.

- Unplug fixture from power.
  - Use a vacuum or air compressor and a soft brush to remove dust collected on external vents.
  - Clean all glass when the fixture is cold with a mild solution of glass cleaner or Isopropyl Alcohol and a soft lint free cotton cloth or lens tissue.
  - Apply solution to the cloth or tissue and drag dirt and grime to the outside of the lens.
- Gently polish optical surfaces until they are free of haze and lint.

The cleaning of 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 surroundings can cause greater accumulation of dirt on the unit's optics. Clean with soft cloth using normal glass cleaning fluid. Clean the external optics at least every 20 days. Clean the fixture at least every 30/60 days.

 Always dry the parts carefully after cleaning them.

⚠️ ***Never spin a fan using compressed air.***

Fixture Linking

You will need a serial data link to run light shows of one or more fixtures using a DMX controller or to run synchronized shows on two or more fixtures set to a master/slave operating mode. The combined number of channels required by all the fixtures on a serial data link determines the number of fixtures the data link can support.

ⓘ ***Fixtures on a serial data link must be daisy chained in one single line. To comply with the EIA485 standard, no more than 32 fixtures should be connected on one data link. Connecting more than 32 fixtures on one serial data link without the use of a DMX optically-isolated splitter may result in deterioration of the digital DMX signal.***

Maximum recommended serial data link distance: 500 m (1640 ft)
Maximum recommended number of fixtures on a serial data link: 32

Data Cabling

To link fixtures together you must obtain data cables. You can purchase certified DMX cables directly from a dealer/distributor or construct your own cable. If you choose to create your own cable please use data-grade cables that can carry a high quality signal and are less prone to electromagnetic interference.

DMX Data Cable

Use a Belden© 9841 or equivalent cable which meets the specifications for EIA RS-485 applications. Standard microphone cables cannot transmit DMX data reliably over long distances. The cable must have the following characteristics:

Type:	*shielded, 2-conductor twisted pair*
Maximum capacitance between conductors:	*30 pF/ft*
Maximum capacitance between conductor and shield:	*55 pF/ft*
Maximum resistance:	*20 ohms/1000 ft*
Nominal impedance:	*100 ~ 140 ohms*

Cable Connectors

Cabling must have a male XLR connector on one end and a female XLR connector on the other end.

Do not allow contact between the common and the fixture's

chassis ground. Grounding the

common can cause a ground loop, and your fixture may perform

erratically. Test cables with

an ohm meter to verify correct polarity and to make sure the pins are

not grounded or shortedto the shield or each other.

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 5pin to 3-pin adapter. The chart below details a proper cable conversion:

3-PIN TO 5-PIN CONVERSION CHART

3-PIN TO 5-PIN CONVERSION CHART

Conductor	3-Pin Female (Output)	5-Pin Male (Input)
Ground/Shield	Pin 1	Pin 1
Data (-) signal	Pin 2	Pin 2
Data (+) signal	Pin 3	Pin 3
Not used		Pin 4
Not used		Pin 5

General Troubleshooting

SYMPTOM	POSSIBLE CAUSE(S)	POSSIBLE ACTION(S)
Breaker/Fuse keeps blowing	• Excessive circuit load • Short circuit along the power wires	• Check total load placed on the electrical circuit. • Check for a short in the electrical wiring (internal and/or external)
Device does not power up	• No power • Loose power cord	• Check for power on power outlet • Check power cord
Fixture is not responding to DMX	• Wrong DMX addressing • Damaged DMX cables • Wrong polarity settings on the controller • Loose DMX cables • Faulty DMX interface • Faulty Main PCB	• Check Control Panel and unit addressing • Check DMX cables • Check polarity switch settings on the controller • Check cable connections • Replace DMX input • Replace Main PCB
Loss of signal	• Non DMX cables • Bouncing signals • Long cable / Low level signal • Too many fixtures • Interference from AC wires	• Use only DMX compatible cables • Install terminator as suggested • Install amplifier right after fixture with strong signal • Install an optically coupled DMX splitter after unit #32 • Keep DMX cables separated from power cables or black lights