

Robocolor Pro 400

users guide

CONTENTS

INTRODUCTION	3
HOW TO INSTALL THE ROBOCOLOR PRO 400	4
OPERATING WITHOUT A CONTROLLER (STAND ALONE)	5
OPERATING VIA A LIGHTING CONTROLLER	5
ABOUT FAN CONTROL	6
ADDRESS SETTING	7
DMX 512 PROTOCOL	8
SET-UP AND SERVICE INFORMATION	9
ADJUSTING THE LAMP FOR MAXIMUM LIGHT OUTPUT	9
DMX MODE SETUP	10
TECHNICAL SPECIFICATIONS	10

INTRODUCTION

Congratulations on your choice of the Robocolor Pro 400 which is a professional high performance, intelligent lighting projector that features:

- 200 Watt MSD lamp.
- 32 different colors + white (including 'cold' and 'hot' filter).
- 0 to 100% smooth dimming.
- High speed shutter for 'instant' blackout and very fast strobe.
- 3 field angle gobos plus wash-effect.
- Lamp can be remotely switched on and off in order to prolong lamp life.
- Multi-coated precision optics with adjustable focus.
- Can be controlled via DMX 512 Desk or Martin Controller.
- Stand alone chase with or without music trig.
- Power Factor Correction to allow low current consumption.
- Efficient fan cooling and over-heat protection.
- Fan speed can be reduced from controller when absolute low noise performance is required.

Note: This user's guide applies for units fitted with software version 6.5.

HOW TO INSTALL THE ROBOCOLOR PRO 400

The Robocolor Pro 400 is delivered fully adjusted from the factory so only a few basic procedures are necessary, and you will be ready to operate your new professional lighting equipment.

Your Robocolor Pro 400 package comes complete with the following items:

- 1 Robocolor Pro 400.
- 1 Mounting bracket including fittings.
- 5 metres XLR/XLR cable for control.
- 1 Mains cable.
- 1 Users guide.

CAUTION!

Before attempting any of the following please ensure that the unit is disconnected from any mains power.

Fitting the mains plug and checking the voltage and frequency setting:

- 1 The Robocolor Pro 400 may be delivered from the factory without a plug on the mains cable. You will have to fit a suitable plug (one that fits your local mains outlet) before you can connect the unit to the mains. The double insulated mains cable contains three wires: The brown wire should be connected to the LIVE pin, the blue wire to the NEUTRAL pin and the yellow/green wire to the EARTH pin (ground).
- 2 Make sure that the factory settings for voltage and frequency are matching your local power supply.

Installing the lamp:

- 1 Remove the 3 finger screws which secure the access plate of the lamp socket assembly at the rear of the Robocolor and withdraw the lamp socket assembly.
- 2 Hold the lamp in a clean cloth, avoiding touching the glass part with your fingers, and carefully insert it into the lamp socket. **If you do touch the glass part with your fingers you must clean it thoroughly with the cleaning cloth that came with the lamp.**
- 3 Replace the lamp socket assembly and tighten the finger screws.

Note that it may be necessary to adjust the position of the lamp. This procedure is described in the section named 'SETUP AND SERVICE INFORMATION'.

Fitting the mounting bracket and locating the Robocolor Pro 400:

On each side of the Robocolor you will see a short length of studding coming out.

- 1 Fit a white plastic washer, a star washer, and then the mounting bracket onto both of these studs.
- 2 Finally secure the mounting bracket using the two black lever handles.

The bracket will now allow you to turn or tilt the Robocolor into the desired position. You may now connect the unit to the mains but do not switch on before you have addressed the unit by setting the DIP-switch as described in the following sections.

OPERATING WITHOUT A CONTROLLER (STAND ALONE)

You are now able to operate your Robocolor Pro 400 in what is called **Stand Alone** mode, meaning that your Robocolor Pro 400 will perform a sequence on its own. Please follow this procedure:

- 1 Use the DIP-switch located on the rear end of the unit to select a stand alone sequence (program). The following table shows the various DIP-switch settings for Stand Alone Sequences. The sequence described as "music trig" will use the beat of the music picked up by the in-built microphone to trigger the sequence. The sequence described as "auto" will run at a pre-set speed using an internal trig source.
- 2 Switch on the unit and it will now perform the chosen sequence.

Note: Some sequence settings shown in the table are for service use only and should not be chosen for light performances.

Sequence/stand-alone settings for Robocolor Pro 400	
Description	Pin(s) switched ON
Protocol auto-detect (DMX 512 / Martin RS-485)	All pins switched ON
Stand Alone Auto-trig	2,10
Stand Alone Music-trig	1,2,10
Lamp ON (for lamp adjustment)	8,10
Mechanical stop (for service use only)	5,10
Adjustment (for service use only)	1,5,10
L.E.D. Chase Auto-trig (for service use only)	4,10
L.E.D. Chase Music-Trig (for service use only)	1,4,10

OPERATING VIA A LIGHTING CONTROLLER

The way to get the most out of your Robocolor Pro 400 is by operating it via a lighting controller. The Robocolor Pro 400 'accepts' two different protocols (languages) - **Martin RS-485** and **DMX 512**. All data (instructions) go from the controller, via a standard balanced microphone cable, to the data **input** (3 pin male XLR) on the Robocolor. The data **output** (3 pin female XLR) on the Robocolor allows you to continue the serial data link to further lighting units.

The following instructions describe how to make a proper serial data link:

- 1 Connect the data output on your lighting controller to the data input on the Robocolor Pro 400. If you are using a Martin lighting controller then use the XLR-XLR / DSUB-XLR cable that came with the controller. Otherwise, use a cable that fits your DMX 512 lighting controller and the Robocolor Pro 400. This would normally be a cable that adapts from 5 pin XLR to 3 pin XLR. The following table shows the proper connections in such a cable. Please note that the (+) and (-) wires swap from the DMX output to the input on the Robocolor Pro 400.
- 2 If you are using one Robocolor Pro 400 only, then insert a XLR terminating plug into the unused data output socket on the Robocolor Pro 400. If a Martin lighting controller is being used then insert the termination plug that came with the controller (120 Ohm XLR-male). Otherwise, use a termination plug as specified by the DMX controllers manual.

- 3 If you are using more than one lighting unit with the controller then connect the data output on each unit to the data input on the following unit using XLR-XLR cables. The order, in which you connect the units, is not important and has no influence on the channels as far as the controller is concerned - use an order which gives the easiest and shortest cable routing. To ensure proper transmission on the data link it is **very** important to insert the XLR terminating plug in the last unit on the link.
- 4 Use the DIP-switch to select the desired controller channel(s) on each of the Robocolors. If you are not familiar with this, read the section named 'ADDRESS SETTING'. **Ensure that none of the Robocolors are set to Stand Alone mode.**
- 5 Switch on and configure the controller (please refer to the controller's manual).
- 6 Apply power to the Robocolors. A short start-up and test routine will now be performed and the Robocolors will await data to be transmitted from the controller.
- 7 You can now start operating the Robocolors. As soon as the Robocolors receive data from the controller they will be able to determine whether it's the DMX 512 or the Martin protocol that is being send. It is possible to re-activate the protocol auto detect function by switching on all ten DIP-switches and then re-selecting the address.

5 pin XLR to 3 pin XLR cable		
Description	5 Pin male XLR	3 Pin female XLR
Ground (screen)	1	1
(-) signal	2	3
(+) signal	3	2
Not used	4	
Not used	5	

This table shows the proper connections for the 5 to 3 pin XLR adapter. The adapter cable is available on Martin stock# 309 162.

ABOUT FAN CONTROL

The Pro 400 cooling fan can be controlled via your Martin or DMX controller, thus allowing you to achieve low-noise operation. As reduced fan speed affects cooling of the Pro 400, it should only be used when ambient temperature is 25 degrees Celsius or below. Please also note the following:

- Fan speed is automatically reduced to 50% right after protocol auto-detect.
- Fan is automatically stopped 1 minute after protocol auto-detect, unless the lamp is being switched on.
- When the lamp is ON the fan runs at the programmed speed.
- When switching OFF the lamp, fan speed is automatically reduced to 50% and after 1 minute it is switched completely OFF.

ADDRESS SETTING

Setting a Martin Channel:

- 1 The DIP-switch located on the rear end of the unit allows you to set the channel, between 1 and 32, on which you want the Robocolor Pro 400 to respond from the controller. Please note that the Robocolor Pro 400 requires 1 channel only, when operated via a Martin lighting controller.
- 2 The channel number is selected by switching ON one or more of the first six DIP-switch pins. Each pin that you switch ON will be assigned the value written on the DIP-switch figure at the top left-hand corner of the rear end-plate. These values are also listed in the following table. Pins that you switch OFF assign the value 0. The channel number is then determined by adding the values from pin 1 to 6. Note that pin 7 to 10 should all be switched OFF.

Example: Pin 1, 2 and 5 ON selects channel = $1 + 2 + 0 + 0 + 16 + 0 = 19$.

Setting a DMX 512 Channel:

- 1 The DIP-switch located on the rear end of the unit allows you to set the first DMX channel, between 1 and 511, from which you want the Robocolor Pro 400 to respond from the controller. Please note that the Robocolor Pro 400 requires 7 DMX channels when using the extended DMX protocol and 5 DMX channels when omitting the speed control on dimmer and color. Please refer to the protocol in the following section. Setting the DIP-switch to channel 1 means that the Robocolor Pro 400 will use DMX channels number 1 to 7 for operation with the extended DMX protocol - the DMX channel offsets listed in the protocol are added to the DIP-switch channel.
- 2 The channel number is selected by switching ON one or more of the first nine DIP-switch pins. Each pin that you switch ON will be assigned the value written on the DIP-switch figure at the top left-hand corner of the rear end-plate. These values are also listed in the following table. Pins that you switch OFF assign the value 0. The channel number is then determined by adding the values from pin 1 to 9. Note that pin 10 should be switched OFF.

Example: Pin 2, 3, 7 and 8 ON selects DMX channel = $0 + 2 + 4 + 0 + 0 + 0 + 64 + 128 + 0 = 198$.

DIP-Switch values			
Pin No	Value	Pin No	Value
1	1	6	32
2	2	7	64
3	4	8	128
4	8	9	256
5	16	10	Always OFF for address setting

DMX 512 PROTOCOL

DMX Mode	PL11 Jumper Location	Channels
Mode 1: Tracking (DEFAULT MODE)	No jumper	5
Mode 2: Vector	Pin 4 and 5	7
Mode 3: Tracking + Lamp Off via DMX	Pin 5 and 6	5

DMX Channel	DMX Values	Percent	Effect
1	0-3 4-7 8-199 200-218 219-238 239-248 249-252 253-255	0-1 2-3 3-78 78-85 86-93 94-97 98-99 99-100	Strobe /Stand-Alone/Reset fixture/Lamp On Strobe Off Strobe Off / Fan Low* Strobe on (Fast -> Slow) Remote music trig Remote auto trig Reset fixture Lamp ON Lamp OFF (only in DMX mode 3)
2	0 - 10 11 - 237 238 - 255	0 - 4 4 - 93 93 - 100	Intensity Light Off 0 -> 100 % Light On
3 and 4	0 26 52 78 104 130 156 157-171 172-185 186-199 200-214 215-227 228-241 242-255	0 10 20 31 41 51 61 62 - 67 67 - 73 73 - 78 78 - 84 84 - 89 89 - 95 95 - 100	<div> Color 1 Scrolling Colors White Yellow Fern Green Flame Red Cyan Blue Turquoise Purple Fixed Colors Purple Turquoise Cyan Blue Flame Red Fern Green Yellow White </div> <div> Color 2 White Pink Light Green Magenta Dark Lavender CC 5500-3400 CC 3500-5600 CC 3500-5600 CC 5500-3400 Dark Lavender Magenta Light Green Pink White </div>
5	0-50 51-101 102-152 153-203 204-255	0 - 20 20 - 40 40 - 60 60 - 80 80 - 100	Gobo Wash Wide beam Medium beam Narrow beam Black Out
6 (vector mode)	0-255	0 - 100	Color Speed Fast -> Slow
7 (vector mode)	0-255	0 - 100	Dimmer Speed Fast -> Slow

*Automatic fan control instead of control via DMX implemented from version 6.5.

SET-UP AND SERVICE INFORMATION

The Robocolor Pro 400 comes fully adjusted from the factory, however, lamp adjustment and some pre-settings may be necessary before you can operate the unit properly. The procedures for doing this are carefully described in this section.

IMPORTANT

We recommend that you read the following descriptions carefully before attempting to make any corrections. If you do not feel completely safe to do the corrections you should consult you Martin dealer for assistance.

ADJUSTING THE LAMP FOR MAXIMUM LIGHT OUTPUT

The Robocolor Pro 400 comes fully adjusted from the factory, however, readjustment of the lamp assembly may be necessary because of lamp tolerances. Please follow this procedure carefully:

- 1 At the rear of the Robocolor the access plate of the lamp housing is held in place by 3 finger screws. On the access plate there are 3 Phillips screws which are used to adjust the lamp-holder in the lamp housing. Turning these clockwise will pull the lamp towards the rear of the lamp housing and vice versa.
- 2 Start making a rough adjustment by positioning the lamp-holder so that there is a distance of 35 mm measured between the back-plate of the lamp-socket to the access plate of the lamp housing.
- 3 Select the service setting named 'Lamp ON' from the sequence setting table in the section named 'OPERATING WITHOUT A CONTROLLER (STAND-ALONE)', and turn on the Robocolor Pro 400. This will produce a white light with open gobo for adjustment purposes. Wait approximately 5 minutes until the lamp has reached full brightness.
- 4 If the hot-spot of the light is not centred, make adjustments by turning one or more of the screws.
- 5 If you are not satisfied with the light-output you can try to adjust the lamp-holder further by turning all of the screws a 1/4 turn clockwise, making sure that the hot-spot is centred. If the result is an improvement then repeat the procedure until there is no more improvement. If the light-output decreases then turn the screws a 1/4 turn counter-clockwise a few times and observe the result.
- 6 Note: It is important that the lamp is firmly in place in the lamp-holder at all times. Make sure that this is the case, especially after you have made an adjustment because the inner-rim of the parabolic reflector can dislodge the lamp, especially if you use an excessive numbers of turns of the adjusting screws.

NOTE The lamp is not a hot-restrike type, so you must wait approximately 10 minutes after having turned off the lamp before you can turn it back on again.

DMX MODE SETUP

Inside the Robocolor Pro 400 is a jumper which allows you enable/disable the extended DMX mode (speed channels) and lamp off function (via DMX) as listed in the section named 'DMX 512 PROTOCOL'.

C A U T I O N !

Before attempting any of the following, you must ensure that the unit is disconnected from any mains power.

- 1 Release the 4 self-tapping bolts that secure the top cover to the fixture and then carefully remove the cover.
- 2 Locate the PCB at the left hand side of the fixture. On this PCB you will see a 6 pin connector named PL11 - please see the label located on the inside of the top cover. Now, place the jumper according to the table on page 8 in order to enable the desired mode.
- 3 Reassemble the unit before connecting to the mains.

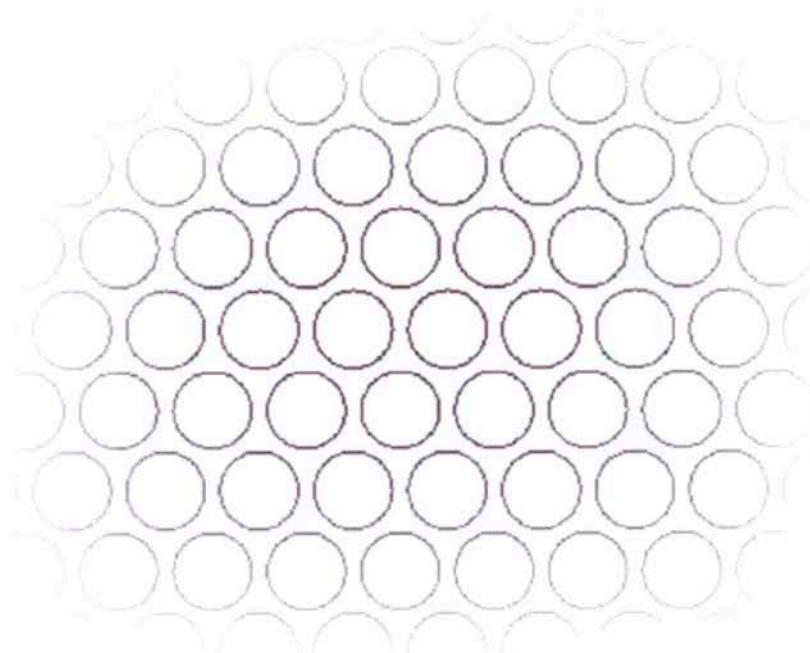
TECHNICAL SPECIFICATIONS

Robocolor Pro 400	
Length incl./excl. bracket	306 mm (12.0") / 306 mm (12.0")
Width incl./excl. bracket	337 mm (13.3") / 225 mm (8.9")
Height incl./excl. bracket	282 mm (11.1") / 198 mm (7.8")
Weight incl. bracket	11.0 Kg (24 lb)
Power and current consumption	250 W , 290 VA, 1.3 A at 230 V
AC voltage and frequency (EU model)	230V/50Hz , 240V/50Hz , 250V/50Hz
AC voltage and frequency (US model)	210V/60Hz , 225V/60Hz , 225V/50Hz
Mains fuse	T 3.15 A
Lamp type	Philips MSD 200
Beam angle - Standard Focus Objective	21° (part# 375185)
Beam angle - Optional Focus Objectives	33° (part# 375186)
	15° (part# 375183)

PS-970213

PRODUCT MANUAL Indoor LED PAR

M-P64L2



3W LED PAR: *M-P64L2*

INSTRUCTION

Thank you for purchasing our products. M-P64L2 is designed for professional stage and architectural lighting applications. It is typically used as a down light for stages or illumination of specific points of interest such as a performer, status, buildings, and disco, etc., owing to its quality in the color production and its versatility in use.

INDEX

I.	Function and Features.....	01
II.	Technical Data.....	01
III.	Operation Guide.....	02
IV.	Connection of Fixtures.....	04
V.	Notice.....	05
VI.	Packing Contents.....	05

I. Function and Features

1. With light source of LED, this fixture has following advantages:
 - long service life, good at resistance to shock; service life is 50,000 hours under nominal working conditions, and only 5% decrease in the first 1,000 working hours;
 - bright-colored, color saturation can be reached at more than 90% to produce more brilliant light effect;
 - high efficiency, and low power consumption. There is no color filter loss, being efficient at electro-optic transfer;
 - RGB color mixing with or without DMX control;
 - Environmental protected, since there is no ultraviolet radiation and infrared ray in the spectrum, it is low at heat emission and radiation. It is a typical environmental protected lighting fixture with cool light source.
2. Three-digit LED display, one BUTTON for Function Set, another one for DMX code addressing and Master/Slave mode setting. It combines these three buttons together to set five operating modes for fixtures, including DMX Control Mode, Auto Mode, Sound Active Mode, Auto Master Mode and Sound Master Mode.
3. With DMX512 signal, this fixture is compatible with various kind of digital dimmer;
4. Current protection and over-heat protection;
5. With aluminum extruded sections and waterproof material of good quality and durability, this fixture is widely used at entertainment places, such as dancing hall, building decoration, discos, pubs, theaters, shows, and clubs, etc.

II. Technical Data:

Model: M-P64L2

Power Supply: AC220V± 10%

Power Consumption: 60Wmax

Light Source: 31 high power LED's (Red: 12×1W, Green: 12×3W, Blue: 7×3W)

Beam Angle: 25° (15°and 45°available)

Illumination Intensity: 16080Lx@1m

Control Signal: DMX512, Master/Slave Mode, Auto Mode, Sound Active Mode

Control Channels: 11

Input Signal: XLR 3-Pin (In & Out)

Sound Sensitivity: 65dB~130dB

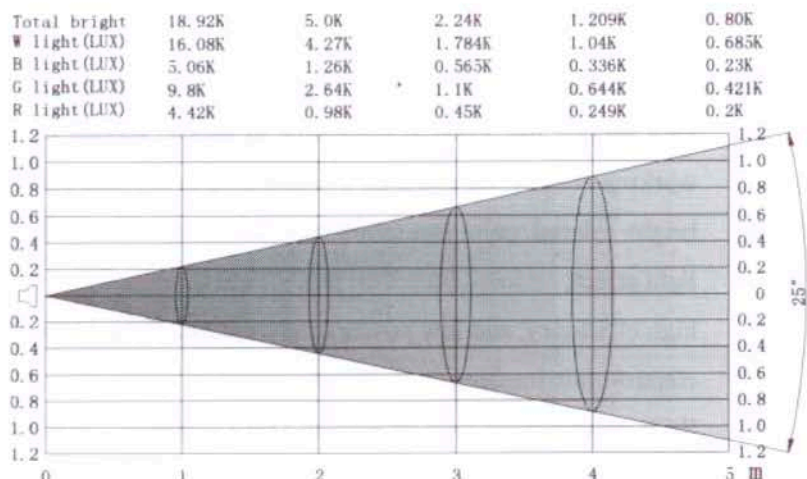
Working Temperature: -5℃~45℃

Operating Humidity: < 90%RH

Dimension: 315mm×290mm×230mm

Net Weight: 5.1kg

PHOTOMETRIC DATA



III. Operation Guide

1. DMX Code Addressing

In DMX mode, a preliminary ID address must be set in every fixture (default value: 001). It is used to receive signal from the controller and make the right response. When the preliminary value of the first fixture is 001, the second one should be $001+11=012$; the third one should be $012+11=023$ ($N \times 11 - 10$), and so on and so forth.

2. DMX Channel Assignment

This fixture occupies 11 channels. For the corresponding value, please refer to **TABLE 1** as follows.

CHANNEL	FUNCTION	DMX VALUE		PRIORITY
		0	1~255	
1	Master Dimmer		Dimmer 0~100%	2
2	Red		Dimmer 0~100%	5
3	Green		Dimmer 0~100%	5
4	Blue		Dimmer 0~100%	5
5	Rainbow Effects	Off	Mixed color control on preset turn.	4
6	Rotating Rainbow Effects	Off	Mixed color in cycle with speed adjustable from slow to fast	3
7	Strobe	Off	Strobe speed adjustable from slow to fast	2
8	Pulse Strobe	50%	Strobe VS Dark, duty cycle 90%~10%	2
9	Build-in Programs	Off	Refer to Table 2: Build-in Programs Instruction	1
10	ID Addressing	Off	ID Address: 0(0-3),1(4-7)...62 (248-251), 63(252-255)	1
11	White Balance	Off	White balance	2

Table 1

3. ID Addressing

- Under the same ID Address, there are 64 sub-ID; fixtures make the right response according to DMX address and corresponding Sub-ID of its tenth channel.
- When DMX value of the tenth channel ≤ 3 , fixtures will not be influenced by Sub-ID address, and all fixtures will be controlled by DMX address only;
- When DMX value of the tenth channel > 3 , fixtures will be controlled by both DMX address and Sub-ID address.
- The corresponding Sub-ID value of the tenth channel is DMX Value of the tenth channel $\div 4$.
For instance, if DMX value=13, $13 \div 4 = 3 \dots 1$, the corresponding sub-ID value =3.
Fixture 1: DMX Address=36, ID Address=5;
Fixture 2: DMX Address=36, ID Address=8;
- To use a controller to control these two fixtures with same DMX address, but different ID address:
If corresponding controlled ID=0, both fixtures will not work;
If ID Address =5, only fixture 1 works;
If ID Address =8, only fixture 2 works;
If ID Address =20, both fixtures will not work.

4. Display Menu Instruction

Mode	Definition	LED Display		
		Hundred's Place	Tenth Place	Single's Place
1	DMX Address Setting	001~512		
2	ID Address Setting	d	00~63	
3	Build-in Programs	A	01~13	
4	Speed of Build-in Programs Adjustable	E	01~04	
5	Master Mode Setting	H	00~01	

Button **[A]** =Function, Button **[B]** =Address+

- In Mode 1, press Button **[A]** to switch hundred's place/tenth place/single's place. The small dot of corresponding place will be flashing. When small dot of single's place is flashing, press Button **[A]** to enter Mode 2. Press Button **[B]** to adjust value "0~9" in the flashing place. When small dot of the place is not in flashing, its value can not be adjusted. Press the Button again to trigger the flashing dot to adjust the value.
- In Mode 2, press Button **[A]** to enter Mode 3. Press Button **[B]** to adjust ID Value "00~63".
- In Mode 3, press Button **[A]** to enter Mode 4. Press Button **[B]** to adjust build-in programs "01~13".
- In Mode 4, press Button **[A]** to enter Mode 5. Press Button **[B]** to adjust speed of build-in programs "01~04".
- In Mode 5, press Button **[A]** to display DMX Address. Press Button **[B]** to adjust Master/Slave Mode (00: Non-Master , 01: Master).

5. Build-in Programs Setting

- In build-in programs 1-5, Mode 4 is to adjust the cycle speed. The cycle is about 2s~10s.
- In build-in programs 5-13, Mode 4 is to set the strobe. 1 refers to non-strobe; Strobe speed of 2, 3, 4 is 0.3s/strobe, 1s/strobe, 5s/strobe respectively.
- In order to adjust and check the present status, press button for 5s, it will return to Mode 1 or Mode 3; if former value before pressing button is Mode 1, or Mode 2, it will return to Mode 1. If former value is Mode 3, 4 or 5, it will return to Mode 3 (its default value is Mode 3).

6. Build-in Programs Instruction

Programs (1-5) Speed Adjustable		Program 1		Program 2		Program 3		Program 4		Program 5	
		Dimmer: lower→higher→lower, Mixed color in cycle		Dimmer: lower→higher (in a slow speed), higher→lower (in a fast speed)		Dimmer: lower→higher (in a fast speed), higher→lower (in a slow speed)		A blackout in each color change.		Dimmer controlled by sound beat, mixed clor in cycle	
		DMX Value		DMX Value		DMX Value		DMX Value		DMX Value	
1		1-7		32-50		64-95		96-140		128-135	
2		8-15		40-55		72-100		104-145		136-143	
3		16-23		48-60		80-105		112-119		144-151	
4		24-20		56-65		88-110		120-127		152-160	
Program (6-13) Strobe		Program 6		Progra m 7	Program 8		Progr am 9	Progr am 10	Progra m 11	Progra m 12	Progra m 13
		Red		Green	Blue		Red& Green	Green & Blue	Red&B lue	Whole Bright	White
		DMX Value		DMX Value	DMX Value		DMX Value	DMX Value	DMX Value	DMX Value	DMX Value
1	Off	161-163		173- 175	185-187		197- 199	209- 211	221- 223	233-235	245- 247
2	Slow	164-166		176- 178	188-190		200- 202	212- 214	224- 226	236- 238	248- 250
3	Mediu m	167-169		179- 181	191-193		203- 205	215- 217	227- 229	239- 241	251- 253
4	Fast	170-172		182- 184	194-196		206- 208	218- 220	230- 232	242- 244	254- 255

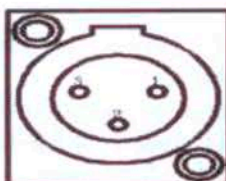
Table 2

7. Operating Status Indicator

- Receiving signal from controller, the small dot of single's place will be flashing;
- Receiving signal from Master, the small dot of tenth place will be flashing;
- Master sends signal to its Slave, the small dot of hundred's place will be flashing.

IV. Connection of Fixture

1. 3-Pin XLR Socket connection line: 1 pin: signal GND, 2 pin Signal —, 3 pin signal +, as listed in the graph below.



- 1 PIN GND
- 2 PIN SIGNAL —
- 3 PIN SIGNAL +

2. DMX line should use STP (Shielded Twisted Pair). The transfer distance should be within the range

of 300m. If out of this range, it should be equipped with a DMX distributor. Each distributor can connect up to 12 fixtures.

3. The DMX line should be connected in series one by one. That is each output of former fixture connects to the input of its follower, and each output DMX line can not be divided into more than one outputs;
4. There should be a terminator on the last unit of DMX line. A terminator is a 120 ohm 1 watt resistor which is a connection between Pin 2 and Pin 3 of a Male XLR connector. Using a cable terminator will decrease the possibility of erratic behavior.

V. Notice

1. before install or use of this fixture, please read and follow these instructions carefully and keep this manual in a safe place for future reference;
2. before install or use of this fixture, please check the address code and operating modes are set right;
3. before install or maintain this fixture, make sure the power is off;
4. When the fixture is running, don't unplug live DMX connection line;
5. before use this fixture safely, make sure the fixture is appropriately earthed;
6. in DMX control mode, any fixture in DMX chain set as Master Mode will lead fixture work inappropriately;
7. in Master/Slave mode, there can only be one Master, and signal input of controller prohibited.

VI. Packing Contents

Items included in the packing:

1. An unit of M-P64L2 LED PAR
2. A 3-Pin DMX control line
3. 1 protection line
4. An operating manual

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

MHG USER MANUAL

Indoor LED PAR Light M-P64L2-RGB/M-P64L2-RGB(3IN1)



INSTRUCTION

Thank you for purchasing a MHG product. M-P64L Series is designed for professional stage and nightclub lighting applications. With its unlimited colors and the fast movement, it is perfect for disco, bars, stage, shopping center, and TV shows, etc, owing to its quality in the color production and its versatility in use.

INDEX

I. Function and Features	02
II. Technical Data.....	02
III. Operation Guide.....	02
IV. Connection of Fixtures.....	05
V. Notice	06
VI. Packing Contents	06
VII. Item Pictures and Case	06

I. Function and Features

1. With light source of LED, this fixture has following advantages:
 - long service life, good at resistance to shock; service life is 50,000 hours under nominal working conditions, and only 5% decrease in the first 1,000 working hours;
 - bright-colored, color saturation can be reached at more than 90% to produce more brilliant light effect;
 - high efficiency, and low power consumption. There is no color filter loss, being efficient at electro-optic transfer;
 - RGB color mixing with or without DMX control;
 - Environmental protected, since there is no ultraviolet radiation and infrared ray in the spectrum, it is low at heat emission and radiation. It is a typical environmental protected lighting fixture with cool light source.
2. Four-digit LED display is used to display the operating mode and DMX address.
3. With DMX512 signal, this fixture is compatible with various kind of digital dimmer;
4. Current protection to PCB panel and over-heat protection;
5. Function of 64 Sub-ID codes is available with same DMX address;
6. With aluminum extruded sections and waterproof material of good quality and durability, this fixture is widely used at entertainment places, such as dancing hall, building decoration, discos, pubs, theaters, shows, and clubs, etc.

II. Technical Data:

Technical Data\Model	M-P64L2-RGB	M-P64L2-RGB(3 in 1)
Power Supply	AC220±10%, 50Hz(AC110±10%, 60Hz available)	AC220±10%, 50Hz(AC110±10%, 60Hz available)
Power Consumption	108W max	108W max
Light Source	36 high power LEDs(Red: 12×3W,Green: 12×3W,Blue: 12×3W)	36×3W high power 3 in 1 LEDs
Beam Angle	25° (45°available)	30°
Illumination intensity	14360Lx@Lm	14360Lx@Lm
Control Channels	5/7/11	5/7/11
Control Signal	DMX512,Auto Mode,Master/Slave Mode	DMX512,Auto Mode,Master/Slave Mode,Sound active Mode
Input signal	XLR 3-pin(In & OUT)	XLR 3-pin(In & OUT)
Sound control sensitivity	65dB-130dB	65dB-130dB
working temperature	-20℃ ~ 40℃	-20℃ ~ 40℃
Protection Grade	IP22	IP22
Operating Humidity	<90% RH	<90% RH
Dimension	315mm×290mm×230mm	315mm×290mm×230mm
Net Weight	5.1kg	5.1kg
Light Source work time	50,000hrs	50,000hrs
Strobe	0.3~ 0.5 flash/sec	0.3~ 0.5 flash/sec

III. Operation Guide

1. DMX Code Addressing

- ◇ In DMX mode, a preliminary ID address must be set in every fixture (default value: 001). It is used to receive signal from the controller and make the right response.

- ◇ In the mode of 5 control channels, when the preliminary value of the first fixture is 001, the second one should be $001+5=006$; the third one should be $006+5=011$ ($N*5-4$), and so on and so forth.
- ◇ In the mode of 7 control channels, when the preliminary value of the first fixture is 001, the second one should be $001+7=008$; the third one should be $008+7=015$ ($N*7-6$), and so on and so forth.
- ◇ In the mode of 11 control channels, when the preliminary value of the first fixture is 001, the second one should be $001+11=012$; the third one should be $012+11=023$ ($N*11-10$), and so on and so forth.

2. DMX Channel Assignment

This fixture occupies 5/7/11 channels. For the corresponding value, please refer to **TABLE 1** as follows.

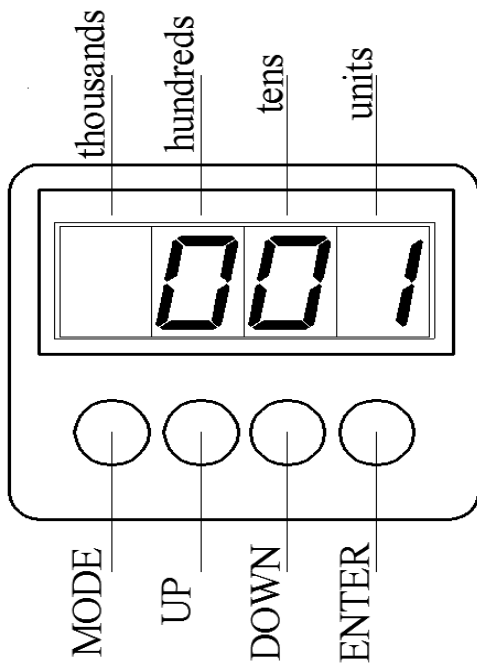
CHANNEL			FUNCTION	DMX value		PRIORITY
5	7	11		0	1~255	
1	1	1	Master Dimme	Dimmer 0~100%		2
2	2	2	Red	Dimmer 0~100%		5
3	3	3	green	Dimmer 0~100%		5
4	4	4	Blue	Dimmer 0~100%		5
	5	5	Rainbow Effects	off	Mixed color control on preset turn.	4
	6	6	Rotating Rainbow Effects	off	Mixed color in cycle with speed adjustable from slow to fast	3
5	7	7	Strobe	off	Strobe speed adjustable from slow to fast	2
		8	Pulse Strobe	50%	Strobe VS Dark, duty cycle 90%~10%	2
		9	Build-in Programs	off	Refer to Table 2: Build-in Programs Instruction	1
		10	ID Addressing	off	ID Address: 0(0-3), 1(4-7)...62 (248-251), 63(252-255)	1
		11	White Balance	off	White balance	2

Table 1

3. ID Addressing

- Under the same ID Address, there are 64 sub-ID; fixtures make the right response according to DMX address and corresponding Sub-ID of its tenth channel.
- When DMX value of the tenth channel ≤ 3 , fixtures will not be influenced by Sub-ID address, and all fixtures will be controlled by DMX address only;
- When DMX value of the tenth channel > 3 , fixtures will be controlled by both DMX address and Sub-ID address.
- The corresponding Sub-ID value of the tenth channel is DMX Value of the tenth channel $\div 4$.
- For instance, if DMX value=13, $13 \div 4 = 3 \dots 1$, the corresponding sub-ID value = 3.
- Fixture 1: DMX Address=36, ID Address=5;
- Fixture 2: DMX Address=36, ID Address=8;
- To use a controller to control these two fixtures with same DMX address, but different ID address:
- If corresponding controlled ID=0, both fixtures will be controlled;
- If ID Address =5, only fixture 1 works;
- If ID Address=8, only fixture 2 works;
- If ID Address $\neq 0, 5, 8$, both fixtures will not work.

4. Display Menu Instruction



	display	mode	definition	adjustment range
DMX		1	DMX address setting	001~512
		2	ID address setting	00~63
		3	channel mode	06/08/12
		4	white balance point	
		5	warm white	
		6	cool white	
auto		7	build-in programs	01~21
		8	build-in programs parameters	01~04
		9	master mode setting	00~01

- press button[MODE] to change the mode in cycle (1~9);
- press button [UP] or [DOWN] to adjust parameter data;
- press button [ENTER] to show present PCB temperature, is 64°C, range((39~99°C))
- Mode 1, press [MODE] to set white balance
- DMX 512 signal receiving mode: Mode 1,2,3,4,5,6
- Auto-run mode: mode 7,8,9
- Mode 9, H-01 represents Master,H-00 means SLAVE fixture;

5. Menu Set up& build-in program

- in build-in program(1-5), The cycle of build-in program 1-4 is about 10s~2s.
- In build-in programs 6-13, The cycle of build-in program 1-4, 1, no strobe, 2,3,4 strobing speed is 0.3,1,5 times per second
- In order to adjust and check the present status, press button continually for 5s, it will return to Mode1 or Mode 7; finally mode is 1,2,3,4,5,6 after stopping key-press, return to mode 1 automatically , finally mode is 7,8,9 after stopping key-press, return to mode 7 automatically

6. Custom-defined White Balance

- Mode 1: set the first channel to 255
- Mode 4: adjust 2,3,4 channel, press button [B]to set white balance(2,3,4channel=0, set to return default white balance
- Mode 5: 3,4 channel unchanged, adjust 2 channel, press button[B] to set up warm white
- Mode 6: 3,4channel unchanged , adjust 3 channel, press button[B] to set up cool white
- After above, 11 channel (white balance channel), according to white balance and cool white,warm white value to define 11 channel

7. Status Indicator

- : indicate DMX Control mode
- ; indicate Auto-run mode

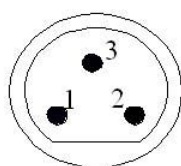
8. Build-in Programs Instruction

Programs (1-5) Speed Adjustable		Program 1		Program 2		Program 3		Program 4		Program 5	
		Dimmer: lower→ higher→lower, Mixed color in cycle		Dimmer: lower→higher (in a slow speed), higher→lower (in a fast speed)		Dimmer: lower→ higher (in a fast speed), higher→ lower (in a slow speed)		A blackout in each color change.		Auto rainbow effects in cycle	
		DMX Value		DMX Value		DMX Value		DMX Value		DMX Value	
1	Slow ↓ Fast	1-8		33-40		65-72		97-104		129-136	
2		9-16		41-48		73-80		105-112		137-144	
3		17-24		49-56		81-88		113-120		145-152	
4		25-32		57-64		89-96		121-128		153-160	
Program (6-13) Strobe		Program 6	Program 7	Program 8	Program 9	Program 10	Program 11	Program 12	Program 13		
		Red	Green	Blue	Red & Green	Green & Blue	Red & Blue	Whole Bright	White		
		DMX Value	DMX Value	DMX Value	DMX Value	DMX Value	DMX Value	DMX Value	DMX Value		
1	Off	161-163	173-175	185-187	197-199	209-211	221-223	233-235	245-247		
2	Slow	164-166	176-178	188-190	200-202	212-214	224-226	236-238	248-250		
3	Medium	167-169	179-181	191-193	203-205	215-217	227-229	239-241	251-253		
4	Fast	170-172	182-184	194-196	206-208	218-220	230-232	242-244	254-255		

Table 2

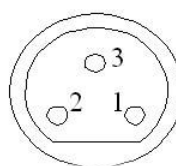
IV. Connection of Fixture

- 3-Pin XLR Socket connection line: 1 pin: signal shielding, 2 pin Signal—, 3 pin signal+, as listed in the graph below.



Male

1. Signal shielding
2. Signal -
3. Signal +



Female

- DMX line should use STP (Shielded Twisted Pair). The transfer distance should be within the range of 300m. If out of this range, it should be equipped with a DMX distributor. Each distributor can connect up to 32 fixtures.
- The DMX line should be connected in series one by one. That is each output of former fixture connects to the input of its follower, and each output DMX line cannot be divided into more than one outputs;
- There should be a terminator on the last unit of DMX line. A terminator is a 120 ohm 1 watt resistor which is a connection between Pin 2 and Pin 3 of a Male XLR connector. Using a cable terminator will decrease the possibility of erratic behavior.

V. Notice

1. before install or use of this fixture, please read and follow these instructions carefully and keep this manual in a safe place for future reference;
2. before install or use of this fixture, please check the address code and operating modes are set right;
3. before install or maintain this fixture, make sure the power is off;
4. **When the fixture is running, don't unplug live DMX connection line;**
5. before use this fixture safely, make sure the fixture is appropriately earthed;
6. in DMX control mode, any fixture in DMX chain set as Master Mode will lead fixture work inappropriately;
7. in Master/Slave mode, there can only be one Master, and signal input of controller prohibited;
8. A 2m DMX control line is included in the packing, if you need it to be longer, please order in advance.

VI. Packing Contents

Items included in the packing:

1. An unit of M-P64L Series LED PAR
2. A 2m 3-pin DMX control line
3. 1 protection line
4. An user manual

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

VII. Item Pictures and Case



Indoor LED PAR Light M-P64L2-RGB



Indoor LED PAR Light M-P64L2-RGB



Indoor LED PAR Light M-P64L2-RGB



Indoor LED PAR Light M-P64L2-RGB(3in1)



Indoor LED PAR Light M-P64L2-RGB(3in1)



Certifications

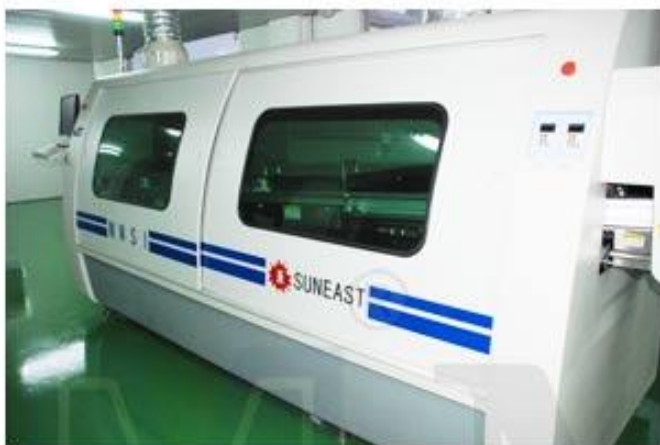


Company Info

Hunan Minghe Opto Tech Co., Ltd., located at Changsha National Economic Development Zone, is a professional manufacturer of LED display, pro-lighting and theatrical & TV Studios equipments; and of the designing and installing of professional lighting & audio projects. Our products mainly include LED display, LED Lighting, color changers, moving heads, scanners, profiles, control systems, and TV Studios & Stage lighting equipments, etc. We have passed ISO 9001:2000, International Quality Management System Compliance, and our products have got the CE & RoHS Certificate to enter European market. The goal of Minghe business service is "to survive with excellent quality, to sustain with good faith". We'll keep on innovating to meet the ever-changing market; we'll keep on cooperating with our customers with faith and dedication.



Main Facilities



Crest Welder



SMT Line



Lead-free reflow soldering machine



Solder paste printer



WWW.MHGLED.COM

Workshop



Hunan Minghe Opto Tech Co., Ltd

Add: No.2 Xiang Yang RD, Changsha National Economic Development Zone, Changsha, Hunan, China

Email: Sales@MHGLED.COM

MSN: MHGLED@hotmail.com

Tel: 86-731-85252378

Fax: 86-731-84029869

Website: www.MHGLED.com

USER MANUAL

CAUTION!

**Keep this device away from rain and moisture!
Unplug mains lead before opening the housing**

For your own safety, please read this user manual carefully before you initial start-up.

Every person involved with installation, operation and maintenance of this device have to:

- Be qualified
- Follow the instructions of this manual

INTRODUCTION

Thank you for having chose this MOVING HEAD LIGHT. You will see you have acquired a powerful and versatile device.

Unpack your moving-head light.

Before you initial start-up. Please make sure that there no damage caused by transportation. Should there be any, consult your dealer and do not use the device.

SAFETY INSTRUCTIONS

CAUTION!

Be careful with your operations. With a dangerous voltage you can suffer a dangerous electric shock touching the wires!

This device has left our premises in absolutely perfect condition. In order to maintain this condition and to ensure a safe operation, it is absolutely for the user to follow the safety instructions and warning notes written in this user manual.



Important:

Damages caused by the disregard of this user manual are not subject to warranty. The dealer will not accept liability for any resulting defects or problems.

If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched of until it has reached room temperature.

This device falls under protection-class 1. The power plug must only be plugged into a protection class 1 outlet.

Never let the power-cord come into contact with other cables! Handle the power-cord and all connections with the mains with particular caution!

Make sure that the available voltage is not higher than stated on the rear panel.

Make sure that the power-cord is never crimped or damaged by sharp edges. Check the device and the power-cord from time to time.

Always disconnect from the mains, when the device is not in use or before cleaning it. Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.

During the initial start-up some or smell may arise. This is a normal process and does not necessarily mean that the device is defective.

Caution: During the operation, the housing becomes very hot.

Danger of burning! Never install the device on a highly flammable surfaces (e.g. fair carpet)!

HEALTH HAZARD!

Never look directly into the light source. As sensitive persons may suffer an epileptic shock (especially meant for epileptics)!

Keep away children and amateurs!

OPERATING DETERMINATIONS


This device is moving-head spot for creating decorative effects. This product is only allowed to be operated with an alternating current of 230V, 50Hz and was designed for indoor use only.

This device is designed for professional use, e.g. on stages, in discotheques, theatres etc.

Lighting effects are not designed for permanent operation. Consistent operation breaks will ensure that the device will serve you for a long time without defects.

Do not shake the device. Avoid brute force when installing or operating the device.

Never list the fixture by holding it at the projector-head, as the mechanics may be damage heat, moisture or dust. There should not be any cables lying around. You endanger your own and the safety of others!

The symbol  determines the minimum distance from lighted objects. The minimum distance between light-output and the illuminated surface must be more than this value.

Make sure that the area below the installation place is blocked when rigging servicing the fixture.

Always fix the fixture with an appropriate safety-rope. Fix the safety-rope at the correct fixation points only. The safety-rope must never be fixed at the transport handles!

Only operate the fixture after having checked that the housing is firmly closed and all screws are tightly fastened.

The lamp must never be ignited if the objective-lens or any housing-cover is open, as discharge lamps may explode and emit a high ultraviolet radiation, which may cause burns.

The maximum ambient temperature $t_a=45^{\circ}\text{C}$ must never be exceeded.

Operate the device only after having familiarized with its functions. Do not permit operation by persons not qualified for operating the device. Most damages are the result of unprofessional operation!

Please use the original packaging if the device is to be transported.

Please consider that unauthorized modifications on the device are forbidden due to safety reasons!

Never remove the serial barcode in any way different to the one described in this manual, the product may suffer damages and the guarantee becomes void. Furthermore, any other operation may lead to dangers like short-circuit, burns, electric shock, lamp explosion. Crash etc.

DESCRIPTION OF THE DEVICE

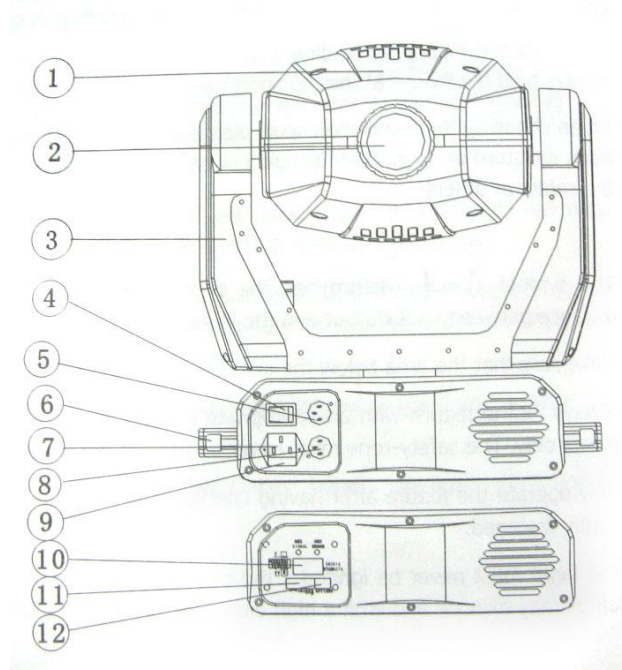
Features

Powerful Moving-Head

Versatile Moving-Head with a wide range of illumination and decoration possibilities. 9 brilliant, dichroic colors plus white. 7 static metal gobos plus open. Auto focus. Strobe-effect with 1-7 flashes per second. Exact positioning within 450° Pan and 270° Tilt. 8 DMX-channels –16 bit Pan/Tilt movement resolution. 8 DMX-channels –8 bit Pan/Tilt movement resolution. 3-digit LED display for starting address. For bright 250W discharge lamp. Suitable controllers: DMX Operator.

Overview

- 1、 Projector head
- 2、 Objective lens
- 3、 Yoke
- 4、 Power switch
- 5、 DMX-IN socket
- 6、 Carrying handle
- 7、 Power supply
- 8、 DMX-OUT socket
- 9、 Fuse
- 10、 Display
- 11、 DIP-switches
- 12、 Function-DIP-switches



INSTALLATION

Installing/replacing the lamp

DANGER TO LIFE!

Only install the lamp with the device switched off!
Unplug from mains before!

For the installation, you need one HSD250/MSD250 lamp.

Protection gloves, helmet with sight, leather apron

CAUTION!

The lamp has to be replaced when it is damaged or deformed due to the heat!

The lamp life given by the manufacturer must never be exceeded, This is why you need to take notes on the operational time of the lamp and replace the lamp in time.

Keep exchanged lamp in a protective container and remove accordingly.

During the operation, the lamp reaches temperatures of up to 600°C.

Before replacing the lamp, unplug mains lead and let the lamp cool down (approx.10minutes).

During the installation do not touch the glass-bulbs bare-handed! Please follow the lamp manufacturer's notes!

Do not install lamps with a higher wattage! Lamps with a higher wattage generate temperatures the device was not designed for. Damages caused by non-observance are not subject to warranty.

Procedure:

Step 1:Unscrew the fixation screws of the lamp cover and remove it.

Step 2:Unscrew the knurled-head screws of the lamp holder and remove it.

Step 3:If replacing the lamp, remove the old lamp from the lamp holder.

Step 4:Insert the lamp into the lamp holder.

Step 5:Replace the lamp holder and tighten the knurled-head screws. Step

Step 6:Adjust the lamp as described under lamp adjustment.

Step 7:Replace the lamp cove and tighten the fixation screws.

Do not operate this device with opened cover!

Lamp adjustment

The lamp holder is aligned at the factory. Due to differences between lamps, fine adjustment may improve light performance.

Strike the lamp, open the shutter and the iris, set the dimmer intensity onto 100% and focus the light on flat surface (wall), Center the hot-spot (the brightest part of the beam) using the 3 adjustment screws "A,B,C". Turn one screw at a time to drag the hot –spot, adjust the lamp until the light is even. To reduce a hot-spot, pull the lamp in by turning all three screws "A,B,C". clockwise 1/4-turn at a time until the light is evenly distributed.

If the light is brighter around the edge than it is in the center, or if light output is low, the lamp is too far back in the reflector. Push the lamp out by turning the screws "A,B,C" counterclockwise 1/4-turn at a time the light is bright and evenly distributed.

Rigging

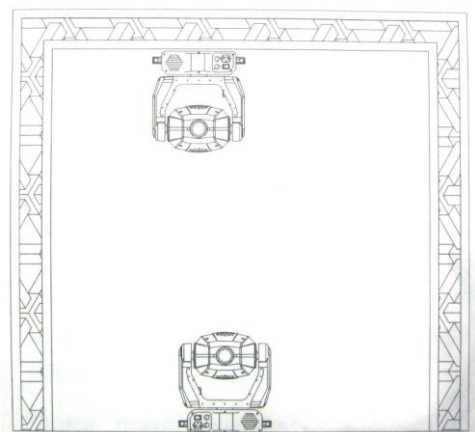
DANGER TO LIFE!

Please consider the respective national norms during the installation!

The installation must only be carried out by an authorized dealer!

The installation of the projector has to be built and constructed in a way that it can hold 10 times the weight for 1 hour without any harming deformation.

The installation must always be secured with a secondary safety attachment. This secondary safety attachment must be constructed in a way that no part of the installation can fall down if the main attachment fails.



When rigging servicing the fixture staying in the area below the area below the installation place, on bridges, under high working places and other endangered areas is forbidden.

The operator has to make sure that safety-relating and machine-technical installations are approved by an expert before taking into operation for the first time and after changes before taking into operation another time.

The operator has to make sure that safety-relating and machine-technical installations are approved by an expert after four year in the course of an acceptance test.

The operator has make sure that satety-relating and machine-technical installations are approved by a skilled person once a year.

Procedure:

The projector should be installed outside areas where persons may walk by or be seated.

IMPORTANT! OVERHEAD RIGGING REQUIRES EXTENSIVE EXPERIENCE, including (but not limited to) calculating working load limits, installation material being used, and periodic safety inspection of all installation material and the projector. If you lack these qualifications, do not attempt the installation yourself, but instead use a professional structural rigger. Improper installation can result in bodily injury and or damage to property.

The projector has to be installed out if the reach of people.

If the projector shall be lowered from the ceiling or high joists, professional trussing systems have to be used. The projector must never be fixed swinging freely in the room.

Caution: Projectors may cause severe injuries when crashing down! If you have doubts concerning the safety of a possible installation, do NOT install the projector!

Before rigging make sure that the installation area can hold a minimum point load of 10 times the projector's weight.

DANGER OF FIRE!

When installing the device, make sure there is no highly-inflammable material (decoration articles, etc.) within a distance of min.0.5m.

CAUTION!

Use 2 appropriate clamps to rig the fixture on the truss.

Follow the instructions mentioned at the bottom of the base.

Make sure that the device is fixed properly! Ensure that the structure (truss) to which you are attaching the fixture is secure.

The moving head can be placed directly on the stage floor or rigged in any orientation on a truss without altering its operation characteristics (see the drawing).

For overhead use, always install a safety rope that can hold at least 12 times the weight of the fixture, You must only use safety ropes with screw on cardinal. Pull the safety rope through the hole on the bottom of the base and

over the trussing system etc. insert the end in the cardinal and tighten the fixation screws.

Use the safety rope exclusively as a closed ring. Never use by only securing at each end. The maximum drop distance must never exceed 20cm.

A safety rope which already hold the strain of a crash or which is defective must not be used again.

- 1、 Omega-holders
- 2、 Clamp
- 3、 Safety-rope
- 4、 Quick-lock fastener

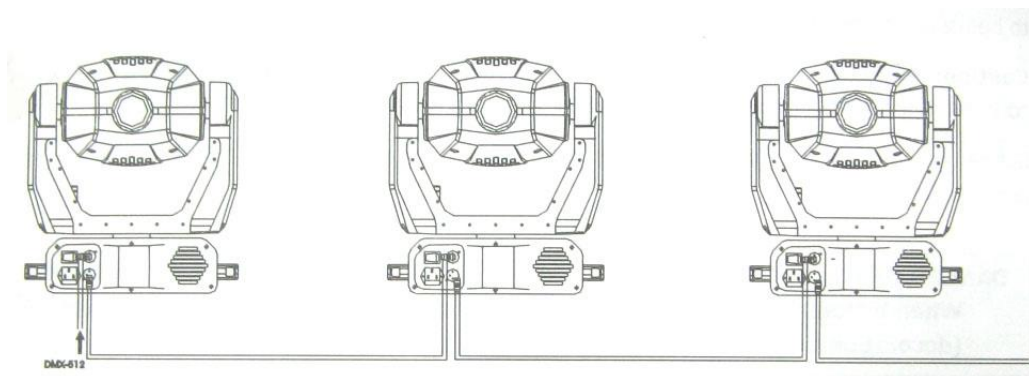
Screw one clamp each via a M12 screw and nut onto the Omega-holders.

Insert the quick-lock fasteners of the first Omega-holder into the respective holes on the bottom of the device. Tighten the quick-lock fasteners fully clockwise. Install the second Omega-holder.

DANGER TO ALFE!

Before taking into operation for the first time, the installation has to be approved by an expert!

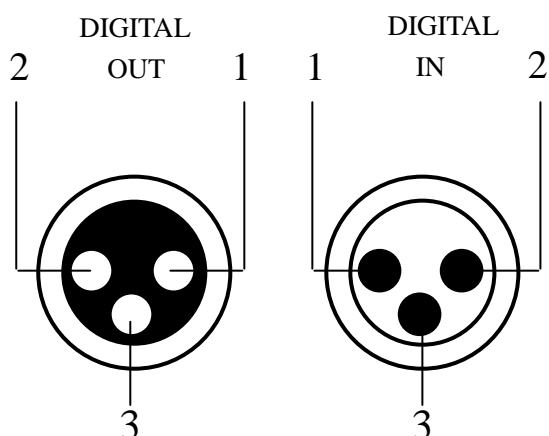
DMX-512 connection/connection between fixtures



The wires must not come into contact with each other, otherwise the fixtures will not work at all, or will not work properly.

Only use a stereo shielded cable and 3-pin XLR-plugs and connectors in order to connector the controller with the fixture or one fixture with another.

Occupation of XLR-connection:



DMX512 PIN FUNCTION	
1	GND
2	DATA-
3	DATA+

If you are using controllers with occupation, you can connect the DMX-output of the controller directly with the DMX-input of the first fixture in the DMX-chain. If you wish to connect DMX-controllers with other XLR-outputs, you need to use adapter-cables.

Building a serial DMX-chain:


Connect the DMX-output of the first fixture in the DMX-chain with the DMX-input of the next fixture. Always connect one output with the input of the next fixture until all fixtures are connected.

Caution: At the last fixture, the DMX-cable has to be terminated with a terminator. Solder a 120 resistor between signal ("C") and signal (+) into a 3-pin XLR-plug it in the DMX-output of the last fixture.

Connection with mains

Connect the device to the mains with the enclosed power supply cable.

The occupation of the connection-cables is as follows:

Cable	Pin	International
Brown	Live	L
Blue	Neutral	N
Yellow/Green	Earth	

The earth has to be connected!

Lighting effects must not be connected to dimming-packs.

OPERATION

After you connected the effect to the mains, this moving-head light starts running. During the reset, the motors are trimmed and the device is ready for use afterwards.

You can control the projectors individually via your DMX-controller. Every DMX-channel has a different occupation with different features. In order to all up the different features, you first have to open the shutter.

Turn the focus-screw next to the objective-lens for adjusting the focus in order to obtain a sharp projection.

Connection

After finished all mentioned process, confirm fixed the right lamp, turn on the switch and check if everything is correct, connect the light with power supply, after some seconds will start reposition, at the same time, if everything is ok, LCD Screen will display DMX start ADD No. (SANYOU LIGHTING nightsun.com.cn; run node:DMX512; DMX address:001;)

Dimmer:

Turn on the lamp by controller, and use cross screw-driver adjust the three screw which located at the back of light, adjust the three screw, and turn to best brightness.(Note: the 3 screw can not rotate for big range)

Display Add Setting

Every Moving Head Light should give one digital ADD No., so the moving head light can response for right control signal. Digital start ADD is a channel No., through this No., moving head light can obey the signal which transmit from the controller. This Moving Head Light use 14 Channels digital control Channels, it is set through the LCD screen which located in the panel, and let it as the start digital ADD No..

Moving head light Digital Address calculating:

Current moving head light address No=(Frontal moving head start address No)+(main controller channel No).

- Note: 1. The ADD NO. of the first computer light should be 1;
2. Total channel of control should not less than total computer digital channels.

Panel Operation:

- 1 Press MODE key and display DMX512 ADD NO., then press UP and DOWN key choose ADD NO..
- 2 Press FUNC key and set function, then press UP or DOWN amend parameters.

Panel Display Description:

1. TURN ON DISPLAY:SANYOU LIGHTING! nightsun.com.cn.
run node:DMX512; DMX address:001.
- 2、 Press FUNC key can display: PAN reverse or TILT reverse.
- 3、 PAN reverse: NO/YES.
- 4、 TILT reverse: NO/YES.

Choose one of it, then press UP or DOWN key, corresponding is YES or NO; YES means rotate clockwise, No means reversed rotating.

Channel Description

DMX Channel	DMX ADD NO.	Function
1、Flash	0~7 8~231 232~255	OFF Flash/ Slow to fast ON
2、Dimmer	0~255	Dimmer/ Bright to dark
3、Pan	0~255	Pan Max: 0°~450°
4、Tilt	0~255	Tilt Max: 0°~270°
5、Color Wheel	0~7 8~15 16~23 24~31 32~39 40~47 48~55 56~63 64~71 72~79 80~87 88~95 96~103 104~111 112~119 120~127 128~255	Open Open/ Color 1 Color 1 Color 1/Color 2 Color 2 Color 2/Color 3 Color 3 Color 3/Color 4 Color 4 Color 4/Color 5 Color 5 Color 5/Color 6 Color 6 Color 6/Color 7 Color 7 Color 7/ Open Rotate/ Slow to fast
6、Gobo Wheel	0~15 16~31 32~47 48~63 64~79 80~95 96~111 112~127 128~255	Open Gobo 1 Gobo 2 Gobo 3 Gobo 4 Gobo 5 Gobo 6 Gobo 7 Rotate/ Slow to fast
7、Gobo Auto-rotate	0~7 8~119 120~231 232~239 240~247 248~255	Gobo wheel non-stop Gobo wheel rotate/ Slow to fast clockwise Gobo Wheel rotate/ Slow to fast anti-clockwise Gobo wheel rotate 180° Gobo wheel rotate 360° Gobo wheel rotate 720°
8、Focus	0~255	Focus
9、Prism	0~127 128~255	No Prism With Prism
10、Prism Auto-rotate	0~7 8~119 120~231 232~239 240~247 248~255	Prism no rotate Prism rotate/ Slow to fast clockwise Prism rotate/ Slow to fast anti-clockwise Prism Rotate 180° Prism Rotate 360° Prism Rotate 720°
11、Pan 16bit		
12、Tilt 16bit		
13、PAN/TILT Speed-Adjust	0~8 9~255	Speed control with controller Speed control slow to fast
14、reset	0~249 250~255	No reset Reset last for 5 second

CLEANING AND MAINTENANCE

The operator has to make sure that safety-relating and machine-technical

installations are inspected by an expert after every four years in the course of an acceptance test. The operator has to make sure that safety-relating and machine-technical installations are inspected by a skilled person once a year.

- (1) All screws used for installing the devices or parts of the device have to be tightly connected and must not be corroded.
- (2) There must not be any deformations on housing, fixations and installation spots (ceiling, suspension, trussing).
- (3) Mechanically moved parts like axles, eyes and others must not show any traces of wearing (e.g. material abrading or damages) and must not rotate with unbalances.
- (4) The electric power supply cables must not show any damages, material fatigue (e.g. porous cables) or sediments. Further instructions depending on the installation spot and usage have to be adhered by a skilled installer and safety problems have to be removed.

DANGER TO LIFE!

Disconnect from mains before starting maintenance operation!

We recommend a frequent cleaning of the device. Please use a moist, lint-free cloth. Never use alcohol or solvents!

CAUTION!

The lens has to be replaced when it is obviously damaged

So that its function is impaired, e.g. due to cracks or deep scratches!

The objective lens will require weekly cleaning as smoke-fluid tends to building up residues, reducing the light-output very quickly. The cooling-fans should be cleaned monthly. The gobos may be cleaned with a soft brush. The interior of the fixture should be cleaned at least annually using a vacuum-cleaner or an air-jet.

The dichroic color-filters, the gobo-wheel and the internal lenses should be cleaned monthly.

There are no serviceable parts inside the device except for the lamp and the fuse. Maintenance and service operations are only to be carried out by authorized dealers.

Please refer to the instructions under “Installing/ Replacing the lamp”.

Replacing the fuse

If the lamp burns out, the fine-wire fuse of the device might fuse, too. Only replace the fuse by a fuse of same type and rating.

Before replacing the fuse, unplug mains lead.

Procedure:

Step 1: Unscrew the fuse holder on the rear panel with a fitting screwdriver from the housing (anticlockwise).

Step 2: Remove the old fuse from the fuse holder.

Step 3: Install the new fuse in the fuse holder.

Step 4: Replace the fuse holder in the housing and fix it.

Should you need any spare parts, please use genuine parts.

If the power supply cable of this device becomes damaged, it has to be replaced by a special power supply cable available at your dealer. Should you have further questions, please contact your dealer.

TECHNICAL SPECIFICATIONS

- Lamp:MSD 250W
- 7 Colors + open and Rainbow Effect;
- 7 Rotating Gobos, and rotating speed is adjustable;
- Strobe Frequency is adjustable;
- PAN 450⁰ ,TILT 270⁰ ,both can be mini-step accuracy;
- Standard DMX512 control signal;
- Digital display;
- Fans cooling system and high-temperature protection;
- Power Supplier:AC110-220V,AC220-240V 50/60Hz;
- Power Consumption: 400W
- Color temperature: 4000K
- Motor: It is consist of 8 piece of advanced step motor which controlled by build in inching controller;
- BODY: Plastic cover, streamline design, lovely and in good taste;
- Working Environment: Indoor use;
-
- Measurement: 418mmX390mmX526mm;
-
- Weight: 23kg.

Quarkpro
Light

MANUAL DEL USUARIO

QP-202

DIMMER PACK 4 CANALES DMX



1. INTRODUCCIÓN

Gracias por haber elegido un Quarkpro® QP-202. Antes de la puesta en marcha inicial, por favor asegúrese de que no hay daños causados durante el transporte. Si los hubiese, consulte a su proveedor y no use el aparato.

2. DESCRIPCIÓN DEL APARATO

23.1 Características

Dimmerpack DMX 4 canales

4 canales controlables • 5 A carga resistiva por canal • Corriente total máximo 16 A • Pantalla de LED de los cuatro canales • Entrada y salida DMX-512 • Dirección DMX ajustable mediante interruptores Dip • Para la montaje en el trussing o directamente en el aparato

2.2 Entrada análoga

Vd. puede conectar su controlador de luz mediante el casquillo de entrada análoga.


La ocupación del casquillo DIN 8 polos es::

1. Canal 1 4. Canal 4 7. No conectado
2. Tierra 5. Canal 3 8. 15 V DC salida
3. Canal 4 6. No conectado

2.3 Alimentación

Conectar el aparato a la red mediante la clavija de alimentación.

La ocupación de los cables de conexión es:

Cable	Pin	Internacional
Marron	Fase	L
Azul	Neutro	N
Amarillo / Verde	Tierra	

Cable Pin Internacional

Marrón Fase L

Azul Neutro N

Amarillo/Verde Tierra

La tierra debe ser conectada.

Cuando Vd. quiere instalar el aparato directamente a la red local, Vd. debe instalar un interruptor de la red con una apertura de 3 mm por mínimo en cada polo.

Sólo conectar el aparato a una instalación eléctrica conforme a las regulaciones IEC. Esta instalación debe ser equipada con un disyuntor de corriente residual (RCD) con un máximo corriente residual de 30 mA.

2.4 Salidas

Las salidas se efectuen mediante 4 enchufes de seguridad en el dos del aparato.

Conecte su consumidores mediante los casquillos de salida. La carga máxima por canal es 1150 W (carga resistiva). ¡Por favor, asegúrese de que la corriente máxima es de 16 A nunca debe ser sobrepasada!

2.5 Control por DMX

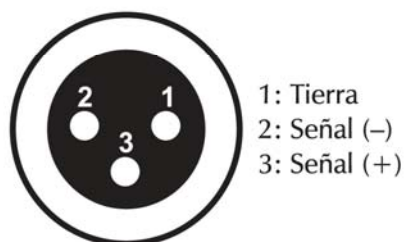
Asegúrese de que los conductores del cable de datos no hagan contacto entre si. Los aparatos no van a funcionar o no van a funcionar correctamente.

La conexión entre controlador y aparato y entre aparato y aparato se tiene que efectuar con un cable de dos polos con blindaje. La conexión se efectua mediante clavijas y conectores XLR tripolares.

La ocupación de la conexión XLR es:

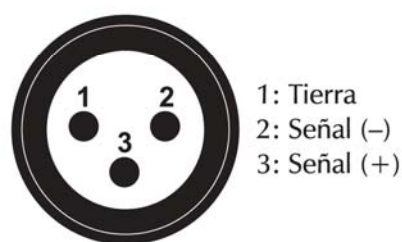
Salida DMX

Casquillo XLR incorporado:



Entrada DMX

Clavija XLR incorporada:



Cuando Vd. utilice los controladores con la ocupación descrita, puede conectar la salida DMX del controlador directamente con la entrada DMX del primer aparato de la cadena DMX.

Cuando Vd. Quiere conectar controladores DMX con otras salidas DMX, se tiene que utilizar cables de adaptación.

Instalación de una cadena DMX:

Conecte la salida DMX del primer aparato de la cadena a la entrada DMX del siguiente.

Siempre conecte una salida con una entrada del próximo aparato hasta que todos los aparatos estén conectados.

Atención: En el ultimo aparato, la conexión DMX tiene que terminar con una resistencia.

Solde una resistencia de 120 ohmios en una clavija XLR entre la señal (-) y la señal (+) y enchufe-a en la salida DMX del ultimo aparato.

2.6 Direccionamiento del aparato

Cada aparato ocupa 1 o 4 canales DMX. Para direccionar las señales de control correctamente a cada aparato, es necesario de codificar los aparatos. Cada aparato tiene que ser codificado individualmente en ajustando los interruptores como se describe en la tabla.

La dirección de comienzo es el primer canal en lo cual el aparato reaccionará a señales del controlador.

Por favor, asegúrese de que los canales de control no se entrelazan, para que el aparato funcione correctamente e independientemente de otros aparatos de la cadena DMX. Los aparatos con la misma dirección de comienzo funcionarán sincronizadamente.

Ocupación de los interruptores DIP:

Ajustar la dirección de comienzo DMX: Número del aparato & canales	Interruptor DIP no.	Dirección de comienzo DMX								
		1	2	3	4	5	6	7	8	9
		On	Off	On	Off	On	Off	On	Off	On
Aparato 1 - canal 1	On	▲	▽	▽	▽	▽	▽	▽	▽	▽
	Off									
Aparato 2 - canal 2	On		▲							
	Off	▽	▽	▽	▽	▽	▽	▽	▽	▽
Aparato 3 - canal 3	On	▲	▲							
	Off			▽	▽	▽	▽	▽	▽	▽
Aparato 4 - canal 4	On			▲						
	Off	▽	▽	▽	▽	▽	▽	▽	▽	▽
Aparato 5 - canal 5	On	▲		▲						
	Off		▽		▽	▽	▽	▽	▽	▽

Ajustar la dirección de comienzo DMX: Número del aparato & canales	Interruptor DIP no.	Dirección de comienzo DMX								
		1	2	3	4	5	6	7	8	9
		On	Off	On	Off	On	Off	On	Off	On
Aparato 1 - canales 1-4	On	▲	▽	▽	▽	▽	▽	▽	▽	▽
	Off									
Aparato 2 - canales 5-8	On	▲		▲						
	Off		▽		▽	▽	▽	▽	▽	▽
Aparato 3 - canales 9-12	On	▲			▲					
	Off		▽	▽		▽	▽	▽	▽	▽
Aparato 4 - canales 13-16	On	▲		▲	▲					
	Off		▽			▽	▽	▽	▽	▽
Aparato 5 - canales 17-20	On	▲			▲					
	Off		▽	▽		▽	▽	▽	▽	▽

Interruptor DIP 1: una dirección
Interruptor DIP 0: 4 canales

4. FUNCIONAMIENTO

Tras la conexión del aparato a la red y la activación del fusible automatico, el QP-202 comienza a funcionar.

Puede controlar el canal deseado mediante su controlador de iluminacion. Cuando ha conectado un controlador DMX y análogo, el aparato reacciona al señal más fuerte.

5. FUSIBLE

Reemplazar el fusible por un fusible del mismo tipo.

Antes de reemplazar el fusible desenchufar el cable de la red.

Procedimiento:

Paso 1: Abrir el portafusibles del panel superior con un destornillador adecuado.

Paso 2: Sacar el fusible viejo del portafusibles.

Paso 3: Instalar el fusible nuevo en el portafusibles.

Paso 4: Volver a colocar el portafusibles en la caja y atornillarlo.

En caso de que necesite piezas de repuesto, utilice piezas originales.

Cuando el cable de alimentación sea estropeado, debe ser reemplazado por un cable de alimentación especial disponible de su distribuidor.

Si tiene alguna pregunta más, póngase en contacto con su distribuidor.

6. ESPECIFICACIONES TÉCNICAS

Alimentación: 230 V AC, 50 Hz ~

Potencia máxima total: 3680 W

Corriente máximo total: 16 A

Número de canales: 4

Carga resistiva/canal: 1150 W

Corriente máximo/canal: 5 A

Conecotes de Salida: 4 enchufes de seguridad

Salida DMX: Casquillo XLR incorporado 3 polos

Entrada DMX: Clavija XLR incorporada 3 polos

Conexión análogo: Casquillo DIN 8 polos

Dimensiones: 320 x 165 x 110 mm

Peso: 3 kg

Nota: Todas las especificaciones dadas en este manual están sujetas a modificación sin previo



www.quarkpro.com