

# SOLO 1200

# PR-2902

This product manual contains important information about the safe installation and use of this projector. Please read and follow these instructions carefully and keep this manual in a safe place for future reference.

PR LIGHTING LTD.

No. 571, Yingbin Road, Dashi, Panyu, Guangzhou, 511430 China http://www.pr-lighting.com

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Please note that as part of our ongoing commitment to continuous product development, specifications are subject to change without notice. Whilst every care is taken in the preparation of this manual we reserve the right to change specifications in the course of product improvement. The publishers cannot be held responsible for the accuracy of the information herein, or any consequence arising from them.

Every unit is tested completely and packed properly by the manufacturer. Please make sure the packing and / or the unit are in good condition before installation and use. Should there be any damage caused by transportation, consult your dealer and do not use the unit. Any damage caused by improper use will not be assumed by the manufacturer and / or dealer.

# ACCESSORIES

THESE ITEMS ARE PACKED TOGETHER WITH THE PROJECTOR

G clamps (2 PCS) XLR cable with 3-pin plug and socket (1 PCS) Safety cords (2 PCS) Spare gobos (3 PCS) This manual (1 PCS) Ω clamps (Options) (2PCS)

### INTRODUCTION

Thank you for purchasing our product SOLO 1200, PR-2902.

This product manual contains important information about the safe installation and use of this projector. Please read and follow these instructions carefully and keep this manual in a safe place for future reference.

SOLO 1200 is an innovative projector with an elegant housing, which is of Pan's and Tilt's locks for maintenance and high quality fans free from noise. The projector has 2 types of clamps for mounting at any direction and position. Which complies to CE norms and standards and uses international protocol DMX 512.

The projector uses Philips MSR1200 SA/DE discharge lamp and high quality optical system, which produces bright and beautiful light beam and. The projector features effects of strobe, frost light, mixed colours and prism, so it is suitable for applications in TV station, discotheque, singing and dancing stage, nightclub, etc.

# SAFE USAGE OF THE PROJECTOR

When unpacking and before disposing of the carton check there is no transportation damage before using the projector. Should there be any damage caused by transportation, consult your dealer and do not use the apparatus.

The projector is for indoor use only, IP20. Use only in dry locations. Keep this device away from rain and moisture, excessive heat, humidity and dust. Do not allow contact with water or any other liquids.

The projector is not designed or intended to be mounted directly on to inflammable surfaces.

The projector is only intended for installation, operation and maintenance by qualified personnel.

The projector must be installed in a location with adequate ventilation, at least 50cm from adjacent wall surfaces. Be sure that no ventilation slots are blocked.

Do not project the beam onto inflammable surfaces, minimum distance is 5m. @ 5m E

Avoid direct exposure to the light from the lamp. The light is harmful to the eye.

Do not attempt to dismantle and/or modify the projector in any way.

Electrical connection must only be carried out by qualified personnel.

Before installation, ensure that the voltage and frequency of power supply match the power requirements of the projector.

It is essential that each projector is correctly earthed and that electrical installation conforms to all relevant standards.

Do not connect this device to any other types of dimmer apparatus.

Make sure that the power-cord is never crimped or damaged by sharp edges. Never let the powercord come into contact with other cables. Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.

Keep the lamp clean. Do not touch the lamp glass with bare hand.

The projector should always be installed with a secondary safety fixing. A safety cord is supplied for this; it should be attached as shown in "installing the projector" section.

The lamp used in this projector is a Philips MSR1200 SA/DE discharge lamp. After switching off don't attempt to restart the projector until lamp has cooled, this will require approx 15 minutes. Switching the lamp on and off at short intervals will reduce the life of both the lamp and the projector. But occasional breaks will prolong the life of the lamp and projector.

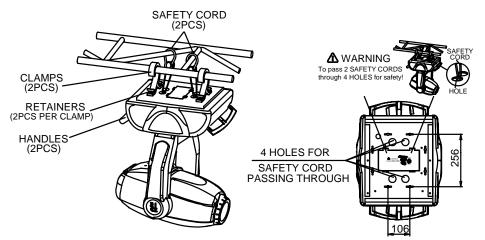
Never run the projector without a lamp.

There is no user serviceable parts inside the projector do not open the housing and never operate the projector with the covers removed.

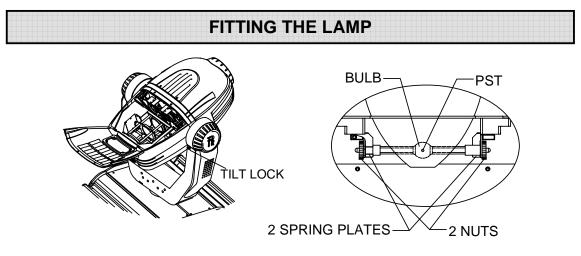
# Always disconnect from the mains, when the device is not in use or before cleaning it or before attempting any maintenance work.

If you have any questions, don't hesitate to consult your dealer or manufacturer.

# **INSTALLING THE PROJECTOR**



Take 2 clamps and 2 safety cords out from the package and mount 2 clamps on the underside of fixture with 2 retainers attached to each clamp. Hang the fixture on the structure and fasten the screws attached to each clamp. (Watch the <u>WARNING</u> on the underside of the base as shown above) <u>To</u> <u>pass 2 SAFETY CORDS through 4 HOLES for safety!</u> Always ensure that the projector is firmly anchored to avoid vibration and slipping whilst functioning. Always ensure that the structure that you are going to mount the projector is secure and is strong enough to support a weight of SOLO 1200. WARNING: 1. Unlock the PAN and TILT before the 1<sup>st</sup> application of projector for safety. 2. The projector MUST be lifted or carried by the HANDLES instead of clamps.



Lock tilt before fitting/replacing the lamp.

Loosen 2 M5 screws of the back cover and open it, (You can see as shown in the right figure) Loosen 2 lamp holder screws and take out the worn-out lamp.

Fit a new lamp then fasten 2 lampholder screws.

Notes: don't touch the bulb of the new lamp with bare hand so as not to influence the beam output.

WARNING: The MSR series are high-pressure lamps with external igniters (riangle). Care should always be taken when handling these lamps. Always read the manufacturers "Instructions for use" enclosed with the lamp.

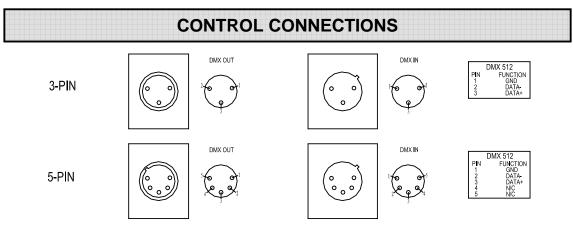
Connect the power cord as follows:

- L (live) =brown
- E (earth) =yellow/green
- N (neutral) =blue

Use the plug provided to connect the mains power to the projector paying attention to the voltage and frequency marked on the panel of the projector. It is recommended that each projector be supplied separately so that they may be individually switched on and off.

#### IMPORTANT

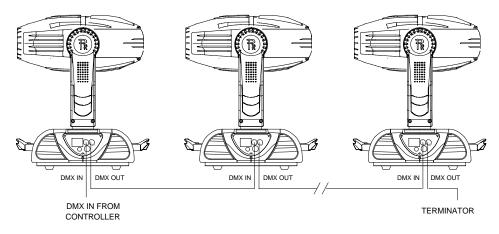
It is essential that each projector is correctly earthed and the electrical installation conforms to all relevant standards. Power consumption of the SOLO 1200 is 1350W.



Connection between controller and projector and between one projector and another must be made with 2 core-screened cables, with each core having at least a 0.5mm diameter. Connection to and from the projector is via cannon 3 pin (which are included with the projector) or 5 pin XLR plugs and sockets. The XLR's are connected as shown in the figure above.

Note: care should be taken to ensure that none of the pins touch the metallic body of the plug or each other. The body of the plug is not connected in any way. The SOLO 1200 accepts digital control signals in protocol DMX512 (1990).

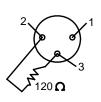
Connect the controller's output to the first fixture's input, and connect the first fixture's output to the second fixture's input and connect the rest fixtures in the same way. Eventually connect the last fixture's output to a DMX terminator as shown in the figure below.



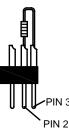
# DMX TERMINATOR

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

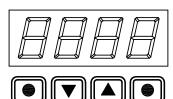
The DMX terminator is simply an XLR connector with a  $120\Omega$  (ohm) resistor connected across pins 2 and 3, which is then plugged into the output socket on the last projector in the chain. The connections are illustrated below.



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



# **SETUP OPTIONS - PROJECTOR CONFIGURATION**



FUNC DOWN UP ENTER

Projector configuration can be set conveniently via pressbutton switch and digital display.

Turn the projector on and the digital display will show DMX address you set and save last time and it can be reset and saved again as you please.

Press button UP or DOWN if you want to browse through the various Setup Options.

Press button ENTER to save your settings or enter the next menu.

Press button UP or DOWN to shift the display or change the display of address.

Press button FUNC, it will return to the upper menu one by one. The display will return automatically to the function of address display if you stay for about 60 seconds defaulted.

# TO SET THE DMX START ADDRESS

Each SOLO 1200 must be given a DMX start address so that the correct projector responds to the correct control signals. This DMX start address is the channel number from which the projector starts to "listen" to the digital control information being sent out from the controller. The SOLO 1200 has 18 channels, so set the No. 1 projector's address 001, No. 2 projector's address 019, No. 3 projector's address 037, No. 4 projector's address 055, and so on.

Launch the projector. Press button ENTER more than 5 seconds to unlock panel.

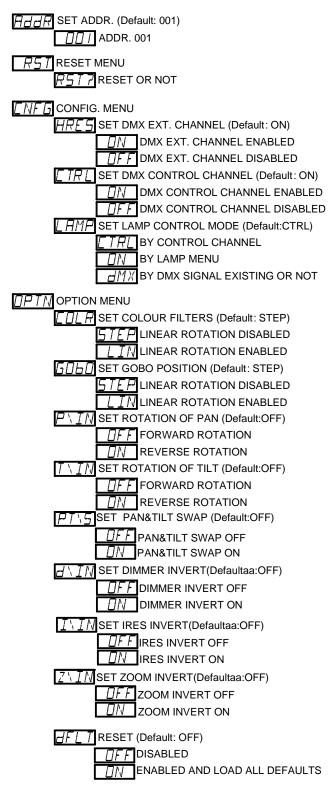
Press button FUNC to **Addr**;

Press button ENTER, it will display address;

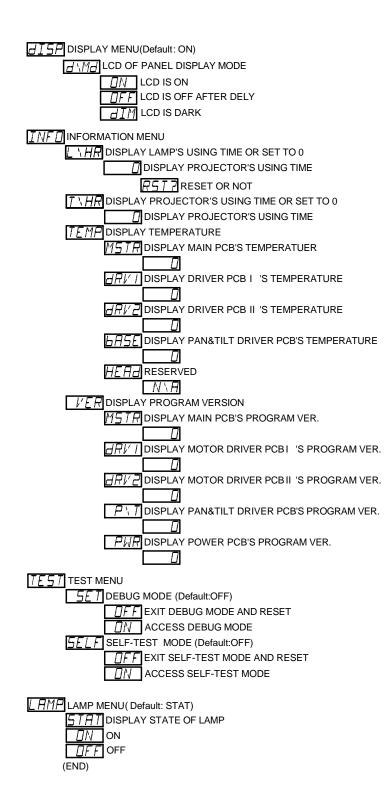
Press button UP and DOWN, you can set the address;

Press button ENTER to confirm.

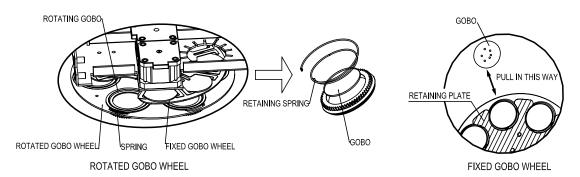
# FUNCTIONS DISPLAY



(CONTINUE)



## **REPLACING GOBOS**



#### Lock Tilt.

Loosen 4 screws of the front cover, you will see rotated gobo wheel and fixed gobo wheel. (As shown in the above figure.)

For gobos replacement on the rotated gobo wheel: take an appropriate tool to tug up spring and take out the rotating gobo with its holder; tug the head of retaining spring up and engage your another hand to take the retaining spring out; take the gobo out; fit a new gobo and fit the retaining spring; fit the holder. Notes: the gobo cannot be touched with bare hand; be careful of the gobo when the replacement is underway and don't drop it.

For gobos replacement on the fixed gobo wheel: turn the rotated gobo wheel to a proper position first; take out a gobo from the fixed gobo wheel carefully; fit a new gobo. Note: if the gobo is a glass one, it should be touched with glabrous, clean and soft tissue or cloth matted between hand and glass instead of with bare hand.

Close the front cover with 4 screws and fasten 2 latch catches.

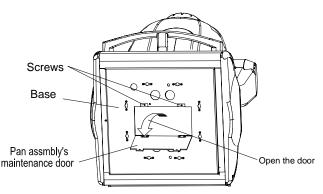


#### Pan's belts

Free 2 screws on Pan assembly's maintenance door and open the door; change the belts; close the door and fasten the screws.

#### Tilt's belts

The common users replacing the belts is not recommended.



White.Note: stay 5 seconds while DMX value is 5, 6or 7, the function reset perform

# DMX CONTROL CHANNEL FUNCTIONS

Channel	1200 uses 18 DMX channels Function	DMX Value	Description
		000-009	Blackout
		010-020	Open
		021-034	Strobe 1
		035-048	Strobe 2
		049-062	Strobe 3
		063-076	Strobe 4
		077-090	Strobe 5
		091-104	Strobe 6
		105-118	Strobe 7
1	Strobe	119-132	Strobe 8
		133-146	Strobe 9
		147-160	Strobe 10
		161-174	Strobe 11
		175-188	Strobe 12
		189-202	Strobe 13
		203-216	Strobe 14
		217-230	Strobe 15
		231-244	Strobe 16
		245-255	Open
2	Dimmer	000-255	0 to 100% dimming
3	Iris	000-255	Linear adjust iris from open to closed
		000-020	Clear
		021-040	Gobo 1
		041-060	Gobo 2
		061-080	Gobo 3
		081-100	Gobo 4
		101-120	Gobo 5
		121-140	Gobo 6
4	Fixed Gobos	141-160	Gobo 7
т		161-167	Rotation speed 1 (slowest)
		168-175	Rotation speed 2
		176-183	Rotation speed 3
		184-207	Rotation speed 4 (fastest)
		208-231	Reverse rotation speed 1 (slowest)
		232-239	Reverse rotation speed 2
		240-247	Reverse rotation speed 3
		248-255	Reverse rotation speed 4 (fastest)
5	Pan rotation	000-255	Pan rotation from 0 to 540°
6	Tilt rotation	000-255	Tilt rotation from 0 to 270°
7	Focus	000-255	Linear adjust iris from near to far
8	Zoom	000-255	Linear adjust angle from narrow to wide
9	Colour Wheel	000-016	White.Note: stay 5 seconds while DMX value is 5, 6or 7, the function reset perform
		017-024	White/colour filter 1
		025-032	Colour filter 1

The SOLO 1200 uses 18 DMX channels. They are listed in the following table.

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		192-199	Reverse rotation speed 8	
	-	200-207	Reverse rotation speed 7	
		208-215	Reverse rotation speed 6	
	-	216-223	Reverse rotation speed 5	
	-		•	
	-	224-231	Reverse rotation speed 4	
	-	232-239	Reverse rotation speed 3	
	-	240-247	Reverse rotation speed 2	
		248-255	Reverse rotation speed 1	
		000-051	Clear	
		052-102	Prism 1	
12	Prisms	103-153	Prism 2	
		154-204	СТВ	
		205-255	СТО	
		000-120	0~540º index	
		121-127	Rotation speed 1	
		128-135	Rotation speed 2	
		136-143	Rotation speed 3	
		144-151	Rotation speed 4	
	-	152-159	Rotation speed 5	
	Prism Rotation	160-167	Rotation speed 6	
		168-175	Rotation speed 7	
		176-183	Rotation speed 8	
13		184-191	stop rotating	
		192-199	Reverse rotation speed 8	
		200-207	Reverse rotation speed 7	
		200-207		
			Reverse rotation speed 6	
		216-223	Reverse rotation speed 5	
		224-231	Reverse rotation speed 4	
		232-239	Reverse rotation speed 3	
		240-247	Reverse rotation speed 2	
		248-255	Reverse rotation speed 1	
14	Pan & Tilt Speed (Extended function)	000-255	Adjust Pan&Tilt speed from fast to slow	
15	Pan Fine (16Bit) (Extended function)	000-255	Adjust Pan in 16Bit resolution	
	Tilt Fine (16Bit)			
16	(Extended function)	000-255	Adjust Tilt in 16Bit resolution	
	Gobo Rotation Fine			
17	(Extended function)	000-255	Adjust gobo rotation in 16Bit resolution	
18		000-048	Reserve	
	Control	049-080	Reset	
	( when extended functions	081-112	Reserve	
	are invalid, shift this	113-144	Turn lamp off(stay 10 seconds)	
	channel to 15 <sup>th</sup> channel.)	145-223	Reserve	
		224-255	Turn lamp on ( see remark below )	
		224-200		

#### **Remark:**

If you intend to turn on/off the lamp via the 18<sup>th</sup> channel of the controller, don't attempt to push the slide bar of 18<sup>th</sup> channel to value 224-255 immediately after turning it off, or push the slide bar to value 224-255 to wait it cooling. Under these 2 circumstances, the lamp can not be turned on. The SOLO 1200 \_ EN.doc

right operation is: turn it off---cool down---push the slide bar to turn it on.

# LED INDICATION

Green: ON—DMX signal OK or Slave;

OFF——No DMX signal;

Flash—DMX signal error;

Red: Flash medium—Setting menu mode ;

Flash fast——Software or CPU fault;

# MAINTENANCE

If the projector's lens becomes damaged or broken it should be replaced. If the lamp becomes damaged or deformed in any way it must be replaced. If the light from the lamp appears dim this would normally indicate that it is reaching the end of its life and it should be changed at once, aged lamps run to the extremity of their life might explode. If the projector does not function, check the fuses on the power socket of the projector, they should only be replaced by fuses of the same specification. Should these be damaged call a qualified technician before replacement. The projector has thermal protection device that will switch off the projector in case of overheating, should either of these operation, check that the fans are not blocked, and if they are dirty clean them before switching on the projector again. Check that the fans are operational, if not call a qualified technician.

Any maintenance work should only be carried out by qualified technicians.

# LUBRICATION

To ensure the continuous rotation of the rotating gobos and linear motion of the lens for focusing, it is recommended that the bearings for the rotating gobos and the 3 shafts for the focusing lens holder be lubricated periodically, preferably every two months. Use only high quality, high-temperature resistant grease instead of any type of oil. When lubricating the bearings, a syringe with a fine needle is the easiest way to introduce the grease to the bearings around each gobo.

# **KEEPING THE PROJECTOR CLEAN**

To ensure the reliability of the projector it should be kept clean. It is recommended that the fans should be cleaned every 15 days. The lens and dichroic colour filters should also be regularly cleaned to maintain an optimum light output. **Do NOT use any type of solvent on dichroic colour filters.** 

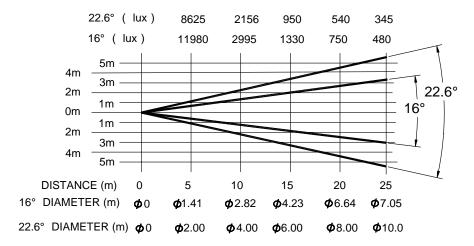
Cleaning frequency depends on the environment in which the fixture operates: damp, smoke or particularly dirty surroundings can cause greater accumulation of dirt on the unit's optics. A soft cloth and typical glass cleaning products should be used in cleaning. It is recommended to clean the external optics at least once every 20 days and clean the internal optics at least once every 30 / 60 days.

Do not use any organic solvent, e.g. alcohol, to clean the reflector mirror, dichroic colour filters or housing of the apparatus.

# TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	ACTION
The projector doesn't switch on	-The power supply is not present -The lamp doesn't work	Check the fuse on the power socket. Replace the lamp.
The lamp comes on but the projector doesn't respond to the controller	-Wrong DMX configuration and/or start address - Defective DMX cable	Make sure that the projector is correctly configured. Replace or repair the DMX cable.
The projector only functions intermittently	-The fan has failed	Make sure the fan is working and not dirty.
Defective projection	-The lens is broken -Dust or grease on lenses	Check the lenses are not broken. Remove dust or grease from the lenses.
The projected image appears to have a halo	-Installation of the lamp is not correct -Dust or grease contamination on the optics.	Make sure the lamp is installed correctly. Carefully clean the optical group lenses and the projector components.
The beam appears dim	-Dust or grease contamination on the optics. -The lamp is at the end of its life	Check the optics is clean. Replace with a new lamp of the specified type and rating.

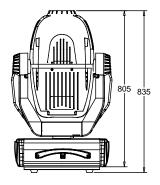
#### LIGHT OUTPUT

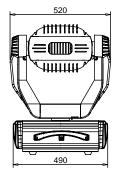


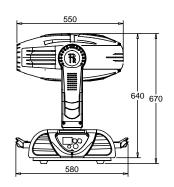
# **TECHNICAL DATA**

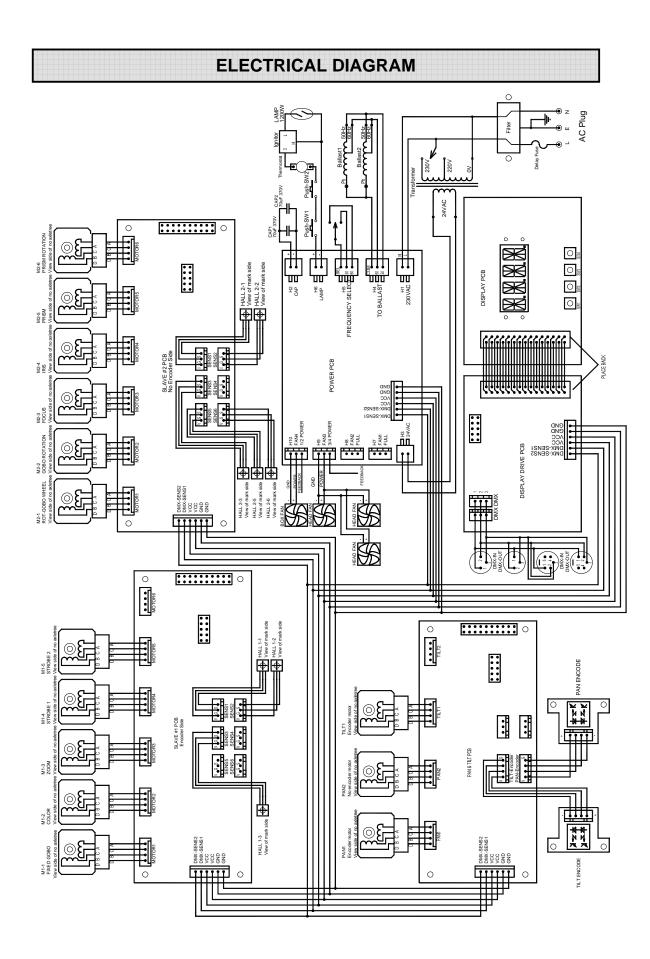
VOLTAGES: POWER CONSUMPT	
LAMP:	1400W Type: PHILIPS MSR 1200 SA/DE Or OSRAM HMI 1200W/S Colour Temperature: 6000°K Socket: GY22, single end Manufacturers Rated Lamp Life: 750 Hours
COLOURS:	
	1 colour wheels, 6 dichroic colours plus white each wheel Adjustable speed with rainbow effect
COLOUR TEMPERA	
GOBOS:	1 colour temperature corrective filters
66663.	Rotated gobo wheel
	5 interchangeable gobos+white, indexical, bidirectionally rotatable in adjustable speed respectively
	<b>Fixed gobo wheel</b> 7 interchangeable gobos+white, bidirectionally rotatable in adjustable speed wholly Gobo diameter: 36.3mm
	Gobo image diameter: 31.5mm
PRISM WHEEL:	1x white, 1x 2 facet prism, 1x 3 Facet prism, 1x CTO, 1x frost
FOCUS:	DMX controlled focus
SHUTTER:	Double shutter blades, 0-100% linearly adjustable
STROBE:	0.3~6 F.P.S.
HEAD MOVEMENT:	Pan 540º, Tilt 270º
BEAM ANGLE:	16°~ 22.6°
CONTROL:	
HOUSING:	DMX512, 18 Channels
	Composite plastic (IP20)
	40Kg

SIZES:









# **COMPONENT ORDER CODES**

NAME	PART NO.	QUANTITY	REMARK
TRANSFORMER	040030053	1	220/230V
THERMOSTAT	190010035	1	KSD020 120°C/15A/250V
CAPACITOR	140010043	1	70µF/370V
BALLAST	040070059	2	230V/50-60Hz, 575W
IGNITOR	040090036	1	575~1200W 3~5KV
LAMP	100050054	1	PHILIPS MSR 1200 SA/DE
PAN&TILT DRIVE BELT	290151221	3	HTD459-3M-6
FUSE	270041044	1	6.35x32 15A/250V
FAN	030060035	1	KD2409PTB1-6 24VDC
FAN	030060031	1	KD2406PTS1-6 24VDC\2.6w
FAN	030060039	2	DC24V 0.49A NMB
PAN MOTOR	030040089	2	23HS2039L 6.35*25
TILT MOTOR	030040089	1	23HS2039L 6.35*25
ZOOM MOTOR	030040094	1	17HD0013-35L 5*7
COLOUR WHEEL MOTOR	030040094	1	17HD0013-35L 5*7
FIXED GOBO WHEEL MOTOR	030040094	1	17HD0013-35L 5*7
PRISM MOTOR	030040094	1	17HD0013-35L 5*7
FOCUS MOTOR	030040093	1	17HD0013-33L 5*7
ROTATING GOBO WHEEL MOTOR	030040093	1	17HD0013-33L 5*7
STROBE MOTOR	030040112	2	17HD0013-38L 5*15
IRIS MOTOR	030040092	1	17HD0013-32L 5*7
PRISM ROTATION MOTOR	030040095	1	17HD0013-36L 5*7
GOBO ROTATION MOTOR	030040095	1	17HD0013-36L 5*7
PAN&TILT DRIVE PCB	230020159	1	
MOTOR DRIVER PCB I	230020160	1	
MOTOR DRIVER PCB II	230020161	1	
DISPLAY PCB	230020096	1	
DIGITAL DRIVER PCB	230020162	1	
POWER PCB	230020098	1	

**NOTE**: You may order all parts of the SOLO 1200 besides the table listed above. When ordering please state the exact name and part no. Repairs must be carried out by a qualified technician.

# PR LIGHTING LTD.

No. 571, Yingbin Road, Dashi, Panyu, Guangzhou, China Post-Code: 511430 TEL: +86-20-8478 1888 FAX: +86-20-8478 6023

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