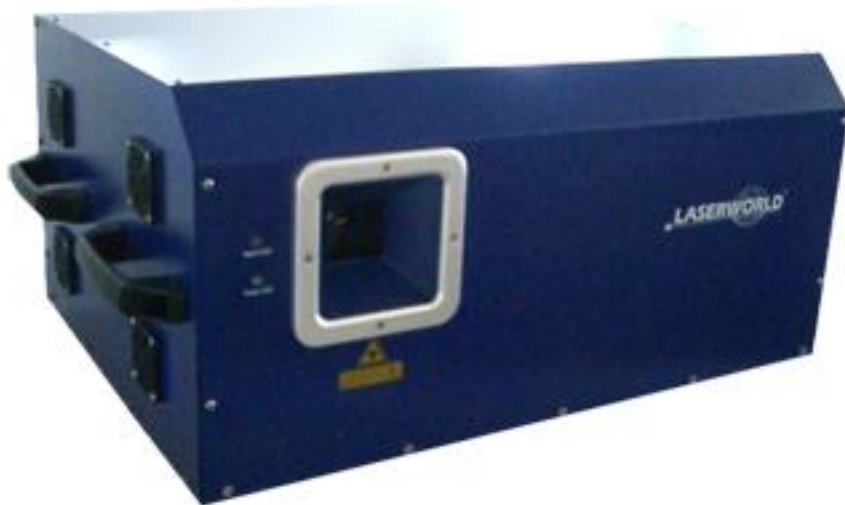




PL-18000RGB

USER MANUAL



Please read this manual carefully before use!

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1. Open the box for checking

In order to use this product safely and reasonably for the users, please read over this manual carefully before use and the operation must strictly according to this manual to avoid any damage to the product and personal safety.

Once after received this products please take and put carefully. And check carefully that whether the product was damaged or not during the transportation and please check the following things were enclosed:

Power cable 1PC

Pin 25 ILDA Signal cable 1PC

3 pin signal line 1PC

Switch key 1PC

User manual 1PC

2. Installation

1. Please check the voltage whether is the same with the one showed on the equipment or not.
2. It must ask for the technical person and set the light safety when installation. And let the light beam at the suitable angle.
3. When install this equipment please make sure there's no flammable surfaces (decorated things, etc) within at least 1.5M and maintain minimum distance of 0.5M from the equipment to the walls.
4. Please make sure that there's no other equipment or decorating materials obstructed the exhaust fan and the vent-pipe.
5. Products should be install immobility.
6. In case of safety, it's very important that to connect the earth with line.

3. Attention

1. Must operate according to the user manual. Don't separate the light personally. Call the technician when the machine breaks down.
2. Please do not see the laser beam directly to avoid any damage.
3. Before connect or disconnect the power, please adjust the luminance of the laser diode to the least to avoid any damage to the laser diode.
4. This unit should be keep dry, do not use in the rain or dank and dusty environment. It can be use in the outdoor with the water-proof cover protector.
5. Set the light immobility and try to avoid strong shake or hit.
6. Prevent dust into the equipment to avoid problems.
7. Please keep that there's no other equipment or decorating materials obstructed the exhaust fan and the vent-pipe when the equipment was working.
8. Before connect power, check the plug is immobility or not, power line should be connect well.
9. Please do not open or close the equipment frequently that's to avoid any affect to the life span of the laser diode, and try the best to avoid the long time working.
10. Due to the characteristic of the laser diode, after three hours working, it should be close at least 25 minutes until the laser diode cooling then work again.
11. Don't touch the light or draw the power line when your hand was wet. And do not pull the electronic power line.
12. Maintain the distance at least 10M above from the equipment to the object.
13. This equipment does not have any parts can repair for the users, please do not open the equipment.
14. When the laser diode became dim or damaged please contact the dealer timely.
15. To use the original package when transport again and to avoid shake.

4. Warning

1. Don't look the light directly to prevent make some destroy with eyes..
2. Keep the space between light equipments and the lighted things more than 10 M.

5. Scan motor Replacement

(1) Steps:

1. Unscrew UK M6 screw and plug out male signal connector.
2. Disassemble all M4 × 10 screw for X,Y scanner socket so that scan motors can be took out, put in or rotate to adjust the scan angle.
3. After adjust, fix M4 × 10 screws, plug in male signal connector and then screw UK M6 screw.

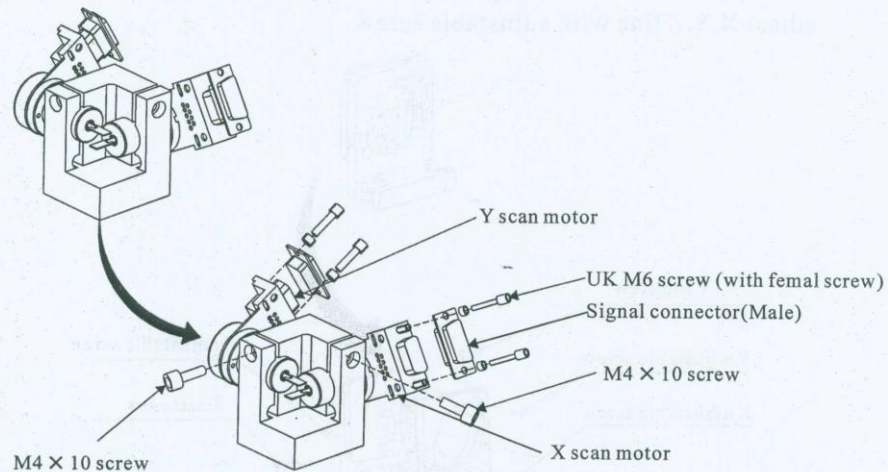


Fig5-1 Scan motor install diagram

(2) Optical system:

RGB mix beam be reflected out by X,Y scan mirrors.

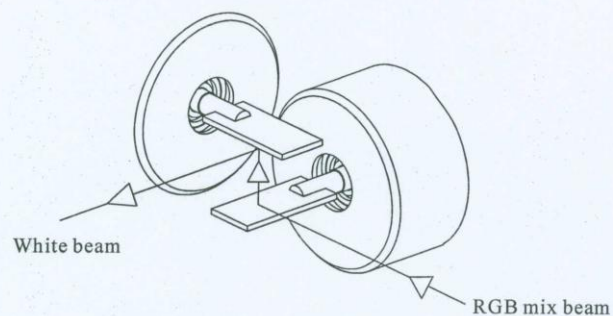


Fig5-2 Optical System diagram

6. Adjustable mirror socket

(1) Steps

1. Loose setscrew of X,Y and then adjust mirror socket to suitable position by X,Y adjustable screws.
2. Adjust Z adjustable screw at same time.
3. Fix X,Y setscrew.

NOTE: Made sure all beams through adjustable mirror socket be one point when you adjust X,Y,Z line with adjustable screw.

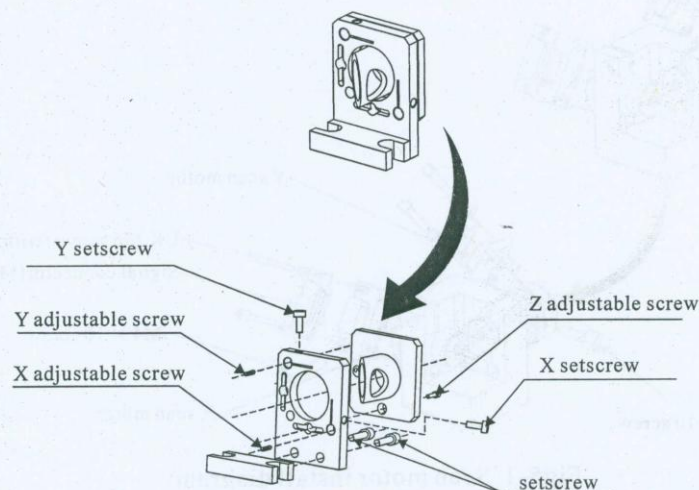
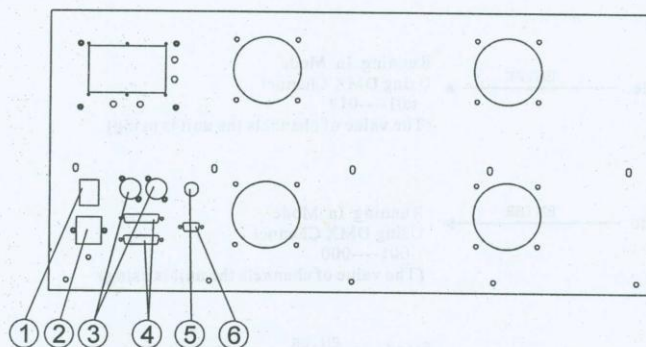


Fig6-1 Adjustable mirror socket structure

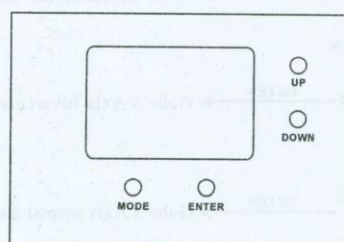
7. Control board instruction



①	ON — OFF	Power switch
②	POWER IN	Input power, with inner fuse.
③	DMX IN/OUT	DMX signal input/output
④	ILDADB-25F Connector-IN/OUT	Signal input connection port of the laser perform software that in accordance with the ILDA standard.
⑤	Securitykey switch	Laser diode ON/OFF
⑥	Remote Lock	In the event of removal, laser will not emit any beam.(E.U. IEC regulation)

8. Control board operation

(1) Control board operating way:



- ◆ **MODE:** Select working mode or back to upper menu.
- ◆ **ENTER:** Confirm setting or go to subordinate menu.
- ◆ **UP:** Increase DMX value or select working mode.
- ◆ **DOWN:** Decrease DMX value or select working mode.

(2) Control Board Operation Way:**1. DMX512Mode**

DMX512Mode → ENTER → Running In Mode
Using DMX Channel
001----017
(The value of channels the unit is using)

2. AutoMode

AutoMode → ENTER → Running In Mode
Using DMX Channel
001----000
(The value of channels the unit is using)

3. Upside Down

Upside Down → ENTER → Stand → ENTER → Normal display
UP/DOWN
Upend → ENTER → Invert the display

4. Address Code

Address Code → ENTER → Address Code
000
(Select the address code
you need by press UP
and DOWN)

5. Laser

Laser → ENTER → OFF → ENTER → The laser diode is off in
DMX512 mode and Auto mode
UP/DOWN
ON → ENTER → The laser diode is on in
DMX512 mode and Auto mode

6. X Axis

X Axis → ENTER → Just as → ENTER → Gobo X Axis normal display
UP/DOWN
Reverse → ENTER → Gobo X Axis invert display

7. Y Axis

Y Axis → ENTER → Just as → ENTER → Gobo Y Axis normal display
UP/DOWN
Reverse → ENTER → Gobo Y Axis invert display

8. Version

Version → ENTER → First Version
(showing the current software version)

9. DMX512 Operate

The product has 18 operate channels(international standard DMX512 signal),The details as follow:

CHANNEL	DMX512 Value	Function
1	Red	0~255
2	Green	0~255
3	Blue	0~255
4	Colour	0~25
		Original colour
		26~51
		white
		52~77
		Yellow
		78~103
		Red
		104~129
		Green
5	Pattern Group	130~155
		Cyan
		156~181
		Blue
		182~207
		Purple
6	pattern	208~233
		Colour change
		234~255
		Colour fluent from slow to fast
		0~51
		pattern group 1
7	Horizontal roll	52~103
		pattern group 2
		104~154
		pattern group 3
		155~205
8	Vertical roll	pattern group 4
		206~255
		pattern group 5
		160/5=32pcs
9	Z roll	0~255
10	Horizontal move	0~255
11	Vertical move	0~255
12	Horizontal stretch	0~255
13	Vertical stretch	0~255
14	Horizontal & Vertical stretch	0~255
15	Slow-draw speed	0~255
16	Point-Draw	0~255
17	Scan speed	0~255
18	Pattern size	0~1
		2~255

10. Specification

- Voltage: AC 100V~240V, 50/60Hz
- Total power: 450W
- Cooling mode: Air cooling
- X/Y axes beam scanning optical angle: $\pm 40^\circ$
- Input signal bandwidth: 0~1000Hz
- Condition temperature: $-10^\circ\text{C}\sim+35^\circ\text{C}$
- Laser light power: Red Laser Class 4 635nm
 Green Laser Class 4 532nm
 Blue Laser Class 4 457nm
- Working Mode: Laserword, Pangolin(ILDA connector), DMX512
- Dimension: 80 x 53 x 35 cm

11. Maintain

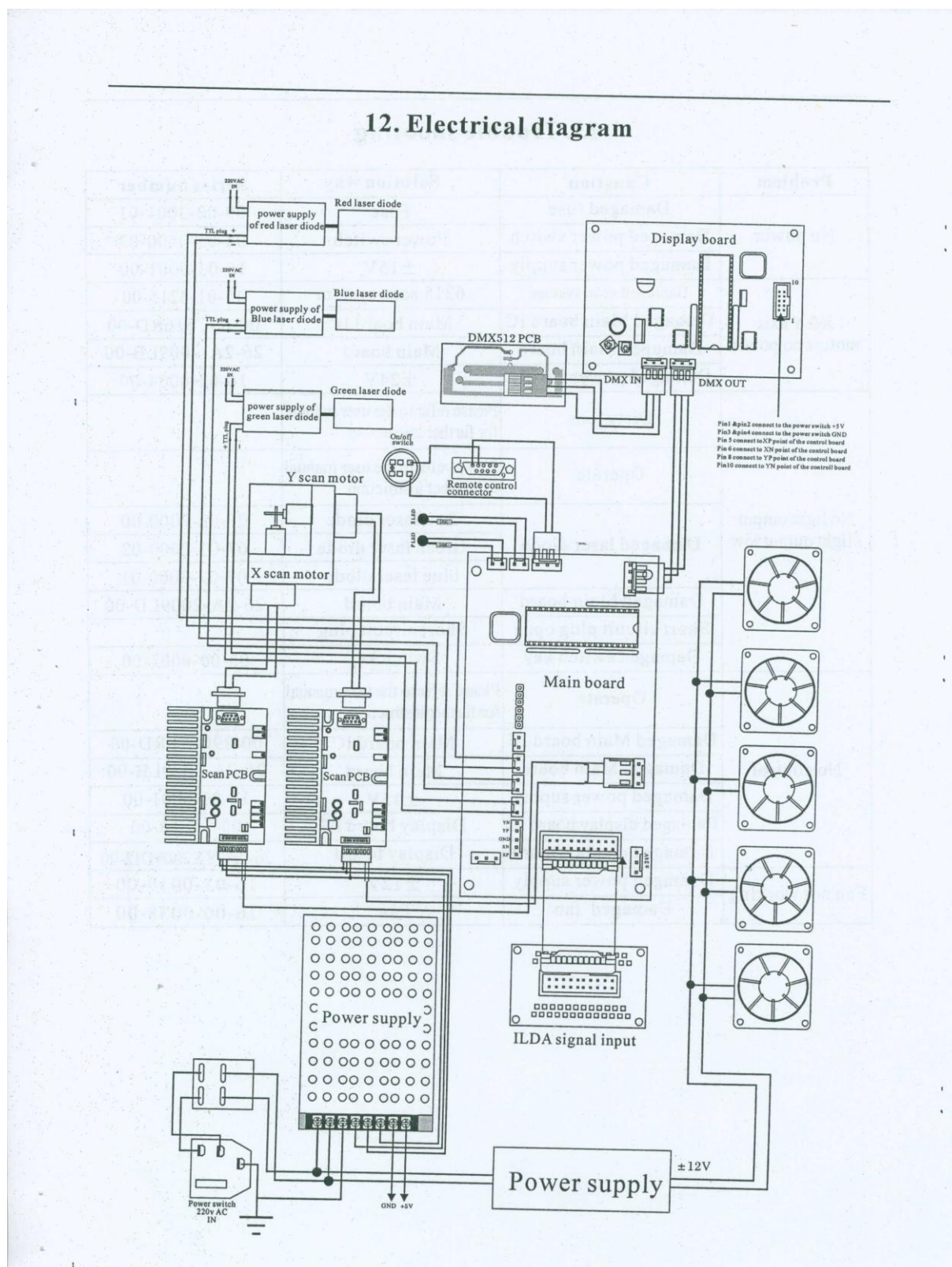
- Maintenance should be performed every 15-day period, by using a sponge which is dipped with alcohol, rather than wet cloth or other chemical liquid, to clean the mirror.
- Warning: Power must be disconnected before maintenance or repair. Do not look at the light source directly.

ATTENTION: DISCONNECT INPUT POWER BEFORE MAINTAIN.

DON'T LOOK STRAIGHTLY AT THE LIGHT SOURCES.

NOTE: Don't separate laser machine from laser power and repair them by yourself otherwise no good repair service will be supplied.

12. Electrical diagram



13. Trouble shooting

Problem	Caustion	Solution way	Series number
No power	Damaged fuse	Fuse	09-00-3001-01
	Damaged power switch	Power switch	08-05-0400-03
	Damaged power supply	$\pm 15V$	16-03-0001-00
X&Y axis motors no power	Damaged scan system	6215 scan system	15-01-6215-00
	Damaged Main board IC	Main board IC	00-89C516RD-00
	Damaged Main board	Main board	26-2A-2009LB-00
	Damaged power supply	$\pm 24V$	16-03-0004-00
No light output / light output low	Dirty lens	Please refer to the user manual for further instruction	
	Operate	Please refer to the user manual for further instruction	
	Damaged laser diode	Red laser diode	07-03-2000-00
		Green laser diode	07-01-2000-02
		blue laser diode	07-02-3000-01
	Damaged Main board	Main board	26-2A-2009LD-00
	Short circuit plug open	Short circuit plug	
	Damaged switch key	Switch key	08-00-0002-00
No control	Operate	Please refer to the user manual for further instruction	
	Damaged Main board IC	Main board IC	00-89C516RD-00
	Damaged Main board	Main board	26-2A-2009LB-00
	Damaged power supply	$\pm 15V$	16-03-0001-00
	Damaged display board IC	Display board IC	00-77E58-00
	Damaged display board	Display board	26-2A-YX2009DI2-00
Fan not working	Damaged power supply	$\pm 12V$	16-03-0019-00
	Damaged fan	Fan	16-00-0038-00

EU- Declaration of Conformity



We hereby confirm that the following device

Laserworld PL-18000RGB Laser Projector

complies with the essential safety requirements, laid down in the regulations of the committee to assimilate the provisions of law of all participating EU states on the electromagnetic compatibility (98/336/EWG).

The device has been classified considering the following EU-norms on electromagnetic compatibility:

DIN EN 55103-1: 1996

DIN EN 55103-2: 1996

DIN EN 61000-3-2:2000 + A2: 2005

DIN EN 61000-3-3:1995 + A1: 2001

Assessment of compliance of the product with the requirements relating to the Low Voltage Directive (LVD) was based on the following standards:

DIN EN 60065 : 2002

Furthermore, the device is verified in correspondence to the laser class regulations DIN EN 60825-1, if properly set up according to the upper mentioned laser safety regulation. After installing the device, an inspection and official approval is indispensable for the overall setup. The inspection must follow the european guidelines EN 60825-1 and corresponding regulations for the prevention of accidents BGV-B2.

This declaration is executed on behalf of the Laserworld PL-18000RGB Laser manufacturer.

Laserworld (Switzerland) AG

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