



PRO-150G

USER MANUAL



Please read this manual carefully before use!

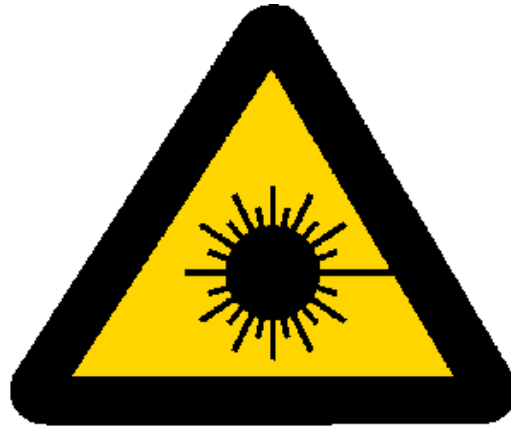
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Checking Parts

Please check if the following parts are included:

- 1 x PRO-150G Laser
- 1 x Power cable
- 1 x User manual



DANGER LASER RADIATION!

Avoid direct eye exposure!

Laser radiation can cause eye damage and/or skin damage

All protective measures for a safe operation of this laser must be applied.

1. SAFETY INSTRUCTIONS

- If the device has been exposed to drastic temperature fluctuation, do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.
- 1. The laser must only be used for shows. The operation is only allowed if it is controlled by a skilled and well-trained operator.
- Never leave this device running unattended and keep it away from children and unauthorized persons.
- 2. Keep away from heaters and other heating sources. In order to safeguard sufficient ventilation, leave 50 cm of free space around the device.
- 3. Never direct the laser beam to people or animals.
- 4. CAUTION LASER DIODE: Never unscrew the housing!
There are no serviceable parts inside the device. Maintenance and service operations shall only be carried out by authorized dealers.
- 5. Always disconnect from the mains when the device is not in use or before cleaning it.
- **HEALTH HAZARD! Never look directly into the light source, as sensitive persons may suffer an epileptic shock!**

2. OPERATING DETERMINATIONS

6. The operator has to make sure that laser radiation – also reflected laser radiation – higher than the highest allowed level is avoided by technical or organisational measures.
7. Make sure that the used voltage is : AC 220V~240V, 50/60Hz
8. If the device is used in a flying installation, the mounting brackets and an appropriate safety-rope must be fixed.
9. Laser effects are not designed for permanent operation. Consistent operation breaks will ensure that the device will serve you for a long time without defects.
10. In some countries, the operator must notify the accident insurance and the authority for industrial safety, before operating a laser. For more information, contact the relevant authorities.
11. Please consider that unauthorized modifications on the device are forbidden due to safety reasons!
12. If this device will be operated in any way differently than 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, etc.

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:

- | | |
|--------------------------|-----------------------|
| 1. 1 unit laser light | 1. 1 unit laser light |
| 3. 1pc Pin3 signal cable | 4. 1pc user manual |

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

- Please do not open the bottom cover yourself without permission. Operate it accord the user manual. Please call the technician in case the machine broken down.
- Do not use it under the damp and rain.
- Pay attention to prevent the light from strong bump.
- Prevent the dust into the product
- Keep the vent-pipe well while working.
- Keep the plug insert well before put into power.
- Don't look the light directly to prevent make some destroy with eyes.
- Don't light or extinguish frequently, otherwise the life span of the light tube will be shortened.
- In view of the special characters, after operated the light an hour the product shall be paused about 15 minutes before be used next time.
- Keep the space between light equipments and the lighted things more than one meter.
- Don't touch the product and draw the power line if you hand wet.
- Don't open the cover for there have no parts the user can repair.
- Don't operate the light without lamps.
- If the semiconductor laser doesn't as light as before or there have some destroy with lens or other parts, please contact the distributor in time.
- When you want to retransfer the products, you'd better use the original package to shockproof.

5. Scan motor Replacement

(1) Steps:

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

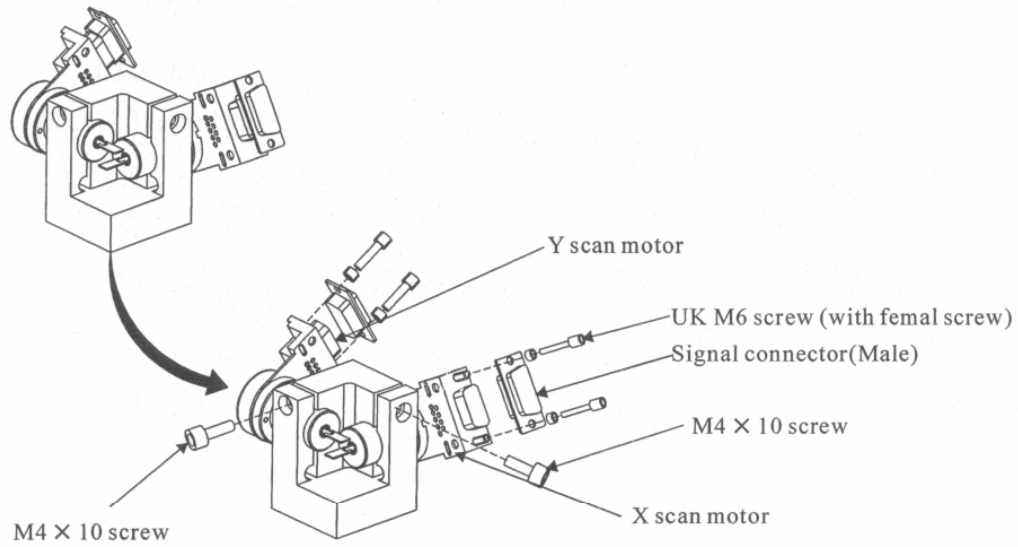


Fig6-1 Scan motor install diagram

(2) Optical system:

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

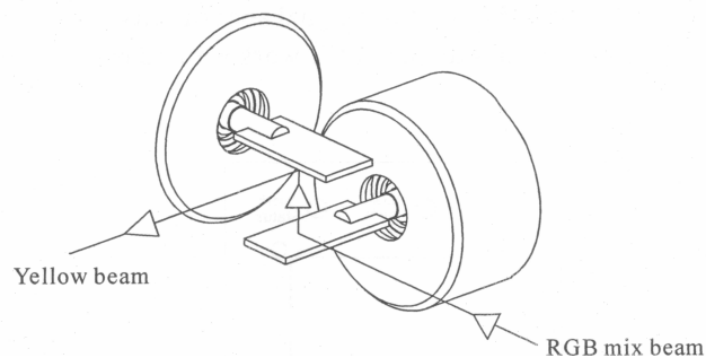
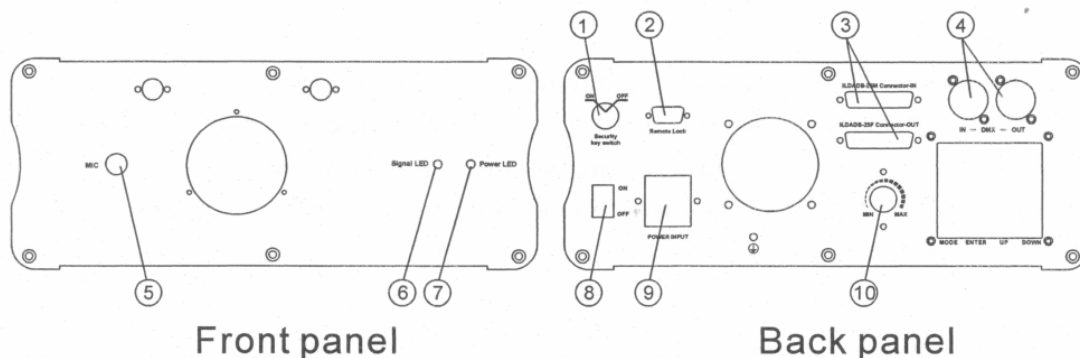


Fig6-2 Optical System diagram

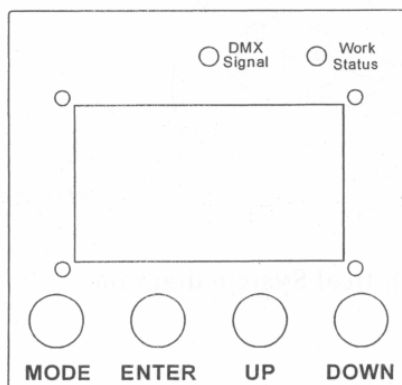
6. Control board instruction



①	Remote Lock: In the event of removal, laser will not emit any beam.(E.U. IEC regulation)
②	Security key switch: Power switch
③	ILDA DB 25 F Connector: signal input connection port of the laser perform software that in accordance with the ILDA standard.
④	DMX IN/OUT: International standard DMX512 signal input/output
⑤	MIC: Sound receiver
⑥	Signal LED: Signal LED
⑦	Power LED: Power LED
⑧	POWER SWITCH: Power switch
⑨	POWER IN: Power cord, fuse inside
⑩	MIN—MAX: Sound control

1. Control board operation way:

- ◆ MODE: Select working mode or back to upper menu.
- ◆ ENTER: Confirm setting or go to subordinate menu.
- ◆ UP: Increase DMX address value.
- ◆ DOWN: Decrease DMX address value.
- ◆ DMXSignal: DMX512 input situation.. LED on means have input DMX512 otherwise no input DMX512 or input signal abnormality.
- ◆ Work Status: LED on means display PCB work well otherwise it is not work in good Condition.



2. Preset program mode (include DMX mode)

Press MODE to select work mode on LCD display. Use ENTER to active or close setting. UP & DOWN to set DMX address code.

Working mode instruction:

ACCMusic Active: Accelerated music active

STDMusic Active: Standard music active

Automatic mode: Auto-mode

DMXAddr: DMX512 mode. Set address code under this mode. OPEN to active DMX address value setting function. Then use UP & DOWN to select address code value you need. Press SAVE to save setting and close DMX address Code setting function.

LCD display memory function: Save setting automatic when you turn off fixture.

3. Computer software control mode

Fixture, there has a switch to select control mode - by computer or inside program: The fixture has ILDA DB 25 connector so that it can be controlled by computer software. In the When ILDA DB25F IN connects with QM2000 interfacial card or USB interfacial card, the lamp will be control by software which installed in the computer. When ILDA DB25F IN connector's connection port are free, the laser will driver by the inside program, temporality it can control by music or DMX512 signal.

The control mode switch will check the 4th Pin (InterLock A) and the 17th Pin (InterLock B) to adjust whether there has computer (with interfacial card) be connected to fixture. If Pin 4 not be connected to Pin 17, it means there no interfacial card otherwise there has and the connection port can receive all the signal of laser perform software that accord with the ILDA standard, such as LD-2000 of Pangolin company.

In the theory, all the signal of laser perform software that accord with the ILDA Db25 standard can control the fixture. But Pin 4 and Pin 17 not be connected in some laser perform interfacial card. You will need to sold this two pins together at Pin25 signal output connector or connect Pin4 and Pin 17 of the standard Pin 25 signal cable before use.

Note: We have tested that Pangolin Ld2000 (Qm2000 PCI interfacial card) and our i.Top laser (USB2.0) interfacial card) can work with this fixture well. But you will need to make changes as above mentioned when you use Mamba Black software (Easylaser interfacial card) of MediaLaser company.

7. DMX512 Operate

The fixture have 14 DMX channels. The following is function list:

Channel	Value	Function
1	Control mode	0~63 Auto-Music mode(Channel 1&2 valid)
		64~127 Auto- mode(Channel 1&2 valid)
		128~191 Music-edit mode(All channel valid)
		192~255 Mannle-edit mode(All channel valid)
2	Colour	0~63 No beam
		64~127 Green
		128~192 Strobe
		193~255 Fluxion blanking
3	Gobo group	0~42 Gobo group 1: 32gobos
		43~85 Gobo group 2: 32gobos
		86~128 Gobo group 3: 32gobos
		129~171 Gobo group 4: 32gobos
		172~214 Gobo group 5: 32gobos
		215~255 Gobo group 6: Cartoons(4 sequency)
4	Gobo change	0~255 32 gobos (0~255)/8=(0~31)
		4 sequency (0~255)/8=(0~31)
5	Speed	0~255 12 class speed (0~255)/23=(0~11)(from slow to fast)
6	Rotate	0~63 No function
		64~127 Horizontal rotating
		128~191 Vertical rotating
		192~255 Horizontal & Vertical rotating
7	Dot Rotating	0~63 No function
		64~127 Rotating
		192~255 Rotating & Dotting
8	Move	0~63 No function
		64~127 Horizontal movement (Y line)
		128~191 Vertical movement (X line)
		192~255 Horizontal & Vertical movement
9	Extend	0~63 No function
		64~127 Extending in Horizontal
		128~191 Extending in Vertical
		192~255 Extending in Horizontal & Vertical
10	Zoon	0~85 No function
		86~169 Zoom from small to large
		170~255 Zoom from large to small
11	Drawing speed	0~255 255 class speed (from slow to fast)
12	Scan speed	0~255 255 class speed (from fast to slow)
13	Colour speed	0~255 255 class speed (from fast to slow)
14	Size	0 Original size
		1~255 42 class size (1~255)/6=(0~42) 1~19 smaller 20 original size 21~42 enlarge

10. MAINTENANCE

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.

Always disconnect from the mains when the device is not in use or before cleaning it.

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

Never look directly into the light source.

Always disconnect from the mains when the device is not in use or before cleaning it.

11. TECHNICAL SPECIFICATIONS

Power supply: AC 220V-240V, 50/60 Hz

DMX 512: 14 channels

Condition temperature: -10°C ~ +35°C

Input signal bandwidth: 0~1000Hz

X/Y axes beam scanning optical angle: 0 ~ ±20°

Signal input power: -5V~+5V

Power consumption: 25 W

Working mode: ILDA, DMX512

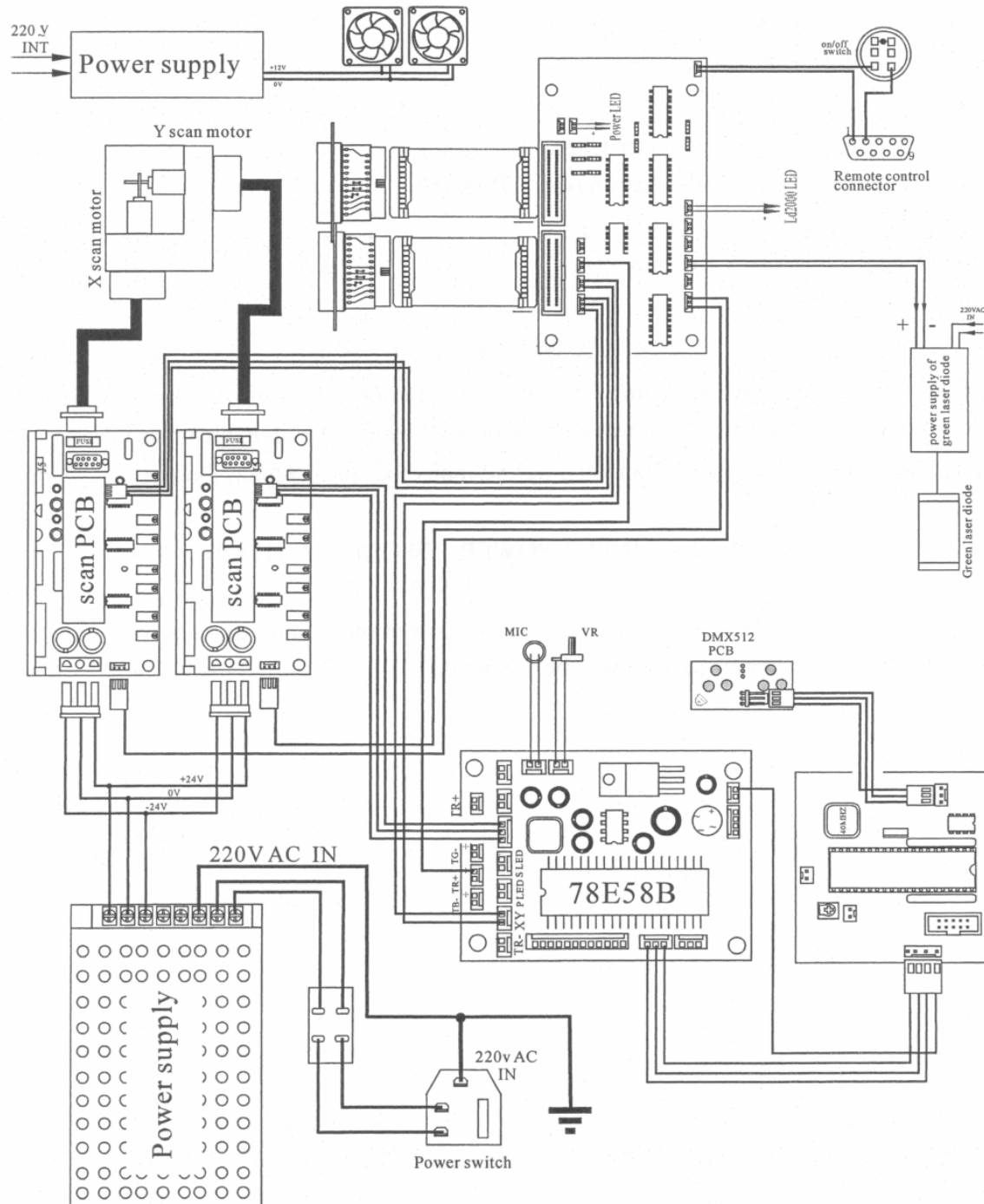
Optical power: Green: ca. 150mW / 532nm

Laser classification: 3b

Weight: 6 kg

Dimensions: 320 x 270 x 130 mm (L x W x H)

10. Electrical diagram



11. Trouble shooting

Problem	Causation	Solution way	Series number
No power to motor	Damaged Fuse	Fuse	09-00-2001-01
	Damaged power supply	$\pm 15V$	16-03-0001-00
No response to music or it is difficult be active by music	Damaged mic	MIC	16-03-0001-00
	Damaged control PCB	Control PCB	26-2A-LT12V2-00
	Damaged potentiometer	Potentionmeter	04-03-0104-01
	Damaged 89C516RD IC	89C516RD IC	00-89C516RD-00
X,Y scanner no strength or no pattern or scanner shaking	Damaged scanner	Super scan motor	15-01-2215-00
	Damaged 89C516RD IC	89C516RD IC	00-89C516RD-00
	Damaged control PCB	Control PCB	26-2A-LT12V2-00
	Damaged power supply	$\pm 15V$	16-03-0001-00
	Damaged scan board	Scan board	26-2A-FASTSCAN-00
No beam or beam dim or beam can't close, but other functions OK	Dirty lens	Clear it with alcohol	
	Damaged laser diode	Green laser diode	07-01-0030-08
	Damaged control PCB	Control PCB	26-2A-LT12V2-00
	Control mode setting incorrect	Please refer to the usermanual for further instruction	
Can not control other function OK Such as laser diode and fans	Control mode setting incorrect	Please refer to the usermanual for further instruction	
	Damaged control PCB	Control PCB	26-2A-LT12V2-00
	Damaged power supply	$\pm 15V$	16-03-0001-00
	Display PCB broke	Display PCB	26-2A-YX2009DI2-00
	Display PCB IC broke	I C	00-STC89C52RC-00

Appendix**ILDA DB 25F PINOUTS DB 25 definens**

1	X+	-5 to +5V
2	Y+	-5 to +5V
3	Intensity/Blanking+	0V to +2.5V
4	Interlock A	Connected to pin 17 inside the Qm2000
5	Red+	0V to +2.5V
6	Green+	0V to +2.5V
7	Blue+	0V to +2.5V
8	Deep blue+	0V to +2.5V
9	Yellow+	0V to +2.5V
10	Cyan+	0V to +2.5V
11	Z+	Depth Z(not intensity), -5 to +5V
12	Not connected	
13	Shutter	0V to +5V
14	X-	-5V to +5V
15	Y-	-5V to +5V
16	Intensity/Blanking-	-2.5V to 0V
17	Interlock B	Connected to pin 4 inside the Qm2000
18	Red-	-2.5V to 0V
19	Green-	-2.5V to 0V
20	Blue-	-2.5V to 0V
21	Deep blue-	-2.5V to 0V
22	Yellow-	-2.5V to 0V
23	Cyan-	-2.5V to 0V
24	Z-	-5V to +5V
25	Ground	Cable shield

PLEASE NOTE

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 necessary for the user to follow the safety instructions and warning notes written in this user manual.

Laserworld cannot be made liable for damages caused by incorrect installations and unskilled operation!

EU- Declaration of Conformity



We hereby confirm that the following device

Laserworld PROLINE PRO-150G 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 (89/446/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 PRO-150G Laser manufacturer

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