PRO-500G MH

USER MANUAL

Please read this manual carefully before use!

I

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Checking Parts

Please check if the following parts are included:

1 x Laser projector
1 x Power cable
1 x User manual

Safety instructions

If the device has been exposed to great temperature changes, do not switch it on immediately. Condensation water may damage your device. Leave the device switched off until it has reached room temperature.
The laser must only be used for shows. Any operation has to be attended and supervised by a skilled and well-trained operator.
Never leave this device running unattended and keep it away from children and unauthorized persons.
Keep away from heaters and other heat sources. In order to safeguard sufficient ventilation, leave 50 cm of free space around the device.
Never direct the laser beam to people or animals.
CAUTION LASER DIODE: If you open the device for cleaning, always disconnect from mains!

-**HEALTH HAZARD! Never look directly into the light source, as sensitive persons may suffer an epileptic shock!**

These lasers are considered a definite eye hazard, particularly at the higher power levels, which WILL cause eye damage. So these laser series models supplied with a key switch to prevent unauthorized use, warning labels and aperture labels affixed to the laser.

Installation safety

Prior to installation and operation of the laser, the paths of the beams and effects should be considered, particularly with respect to how they will reach the audience. If direct audience scanning is desired, then the laser energy in the effects needs to be considered to decide if the effects are safe for direct viewing. Always ensure, that the maximum permissible exposure (MPE) is not exceeded in the area accesible to the public. So install the laser in such a way, that minimum distances and heights ensure the MPE is never exceeded in the public area.

Warning labels on the device

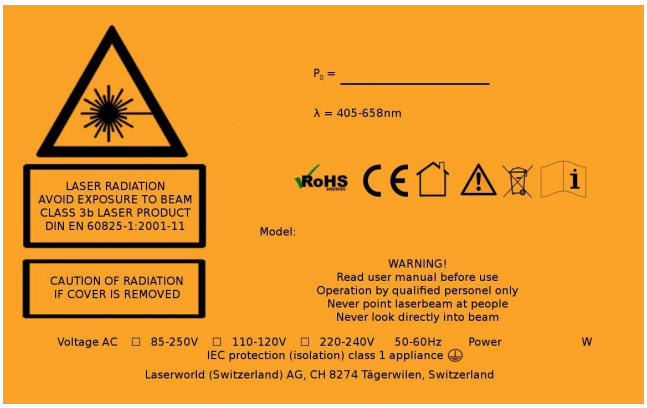
Laser radiation

Avoid exposure
To the beam

Laser class 3b

Caution of radiation
If cover is removed

Indoor use only



Read manual before use

Operation by qualified personal only

Never direct laser Beam at people

Never look directly into beam

At front opening: Avoid exposure – laser radiation is emmited.

OPERATING THE LASER

The operator has to make sure that laser radiation – also reflected laser radiation – higher than the maximum permissible level is avoided by technical or organisational measures. (Especially with respect to the MPE, see above.)
Make sure to use the correct voltage
If the device is used in a flying installation, the mounting brackets and an appropriate safety-rope must be fixed.
In some countries, the operator must notify the accidence insurance and the authority for industrial safety, before operating a laser. For more information, contact the relevant authorities.
Please consider that unauthorized modifications on the device are strictly forbidden due to safety reasons!
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.
Keep surrounding dry and clean. This unit should be keep dry, do not use in the rain or damp and dusty environment. Projector should be put in a water-proof housing when operated outside.
Regularly open the device (see "cleaning" further down) to check for dust inside, or if fog fluid condenses in the housing (if so rearrange hazer and/or laser position).
Operating temperature is 10~35℃ . In a new installation, check after some 15-30 minutes whether the outlet air gets too warm. Regularly check the inside for dust deposits, especially around the fans. Let laser cool off 10minutes after 2 hours of operation,to ensure maximum lifetime for the diode.
Distance between laser aperture and projection screen should be not less than 1 meter.
Do not turn device on and immediately off again frequently.
Do not look into the laser beam directly, especially not with optical instruments.
Do not touch the device with wet hands.
When the laser diode becomes dim or broken, please contact your dealer timely.
When returning laser to dealer/manufacturer always use original packaging.
Maintenance should be performed every 15-day period. See "cleaning" further down.

Using the laser

Caution – use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

OPEN THE BOX AND CHECKING

Congratulations on choosing our products! Please carefully read this instruction manual in its entirety and keep it well for using reference. This manual contained about the installation and the relative using information of this products. Please according to this manual's relative speaking when using this equipment.

This equipment was made of new style, high intensity plastic and cast aluminium. It fully shows the modem times light characteristic with beauty structure. And it was made according to CE standard. Fully up the international standard of DMX512 agreement. Master or slave in phase control. Can be use in large entertainment, theater, performing and playing hall, etc.

When receiving this product please carefully bring and put; and check that whether this equipment has been damaged or not during transportation. And please also check the following thing was enclosed:

Laser light 1PC	Pin 25 ILDA Signal cable 1PC
3 pin signal line 1PC	User manual 1PC
Power cable 1PC	Safety string 2PCS

SAFETY INSTRUCTIONS

Every person involved with installation and maintenance of this device have to:
- be qualilfied
- follow the instructions of this manual

CAUTION:

- **K**eep this device away from rain and moisture!
- **U**nplug mains lead before opening the housing!
- **F**OR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY
- **B**EFORE YOU INITIAL START - UP!
- **B**e careful with your operations.
- **W**ith a high voltage you can suffer a dangerous electric shock when touching the wires!
- **T**his 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 manual.

Important:

- The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the device.
- Please consider that damages caused by manual modifications to the device are not subject to warranty.
- 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.
- Always plug in the power plug least. Make sure that the power-switch is set to OFF-position before you connect the device to the mains. The power-plug has to be accessable after installing the device.
- Make sure that the power-cord is never crimped or damaged by sharp edges. Check the device and the powercord from time to time.

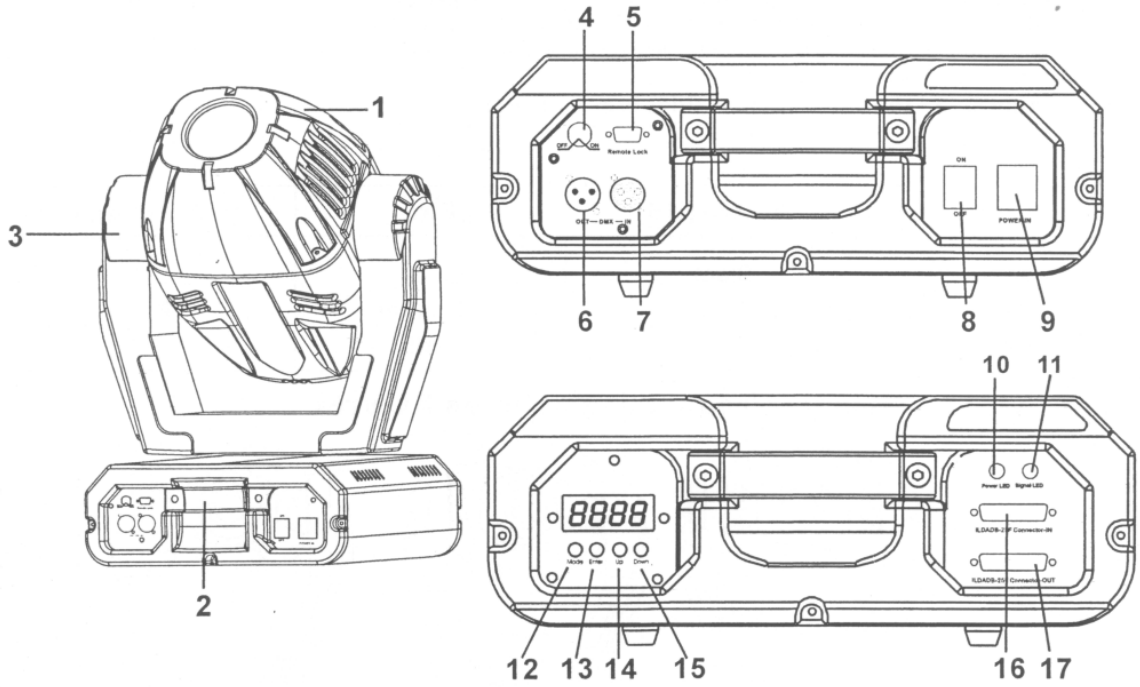
ATTENTION

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.

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 meter.

DESCRIPTION OF THE DEVICE



1 -moving head
2 -yoke
3 -carry handles
4 -Laser diode ON/OFF
5 -Remote Lock
6 -DMX OUT
7 -DMX IN
8 -POWER ON/OFF
9 -POWER IN
10 -Power LED
11 -Signal LED
12-Mode
13 -Enter
14 -UP
15-Down
16-ILDADB-25F Connector-IN
17-ILDADB-25F Connector-OUT

NOTE:

1. When **PC SIGNAL IN** and **ILDA DB 25F connector ' s** connection port are free, the lamp will drive by the inside program, temporality it can control by music or DMX 512 signal.
2. When **PC SIGNAL IN** connects with USB interfacial card, the lamp will be control by software i.top which was installed in the computer.
3. After connect the ILDA DB 25F, The lamp will change to ILDA connected port drive mode ,this connection port can receive all the signal of laser perform software that accord with the ILDA standard, such as LD-2000 of Pangolin Company.
4. When the **PC SIGNAL IN** and the **ILDA DB 25F Connector** were connected, then the system will at an abnormal statement, lamp still control by inside program , but not respond to the exterior input signal.

CONNECTION TO THE MAINS

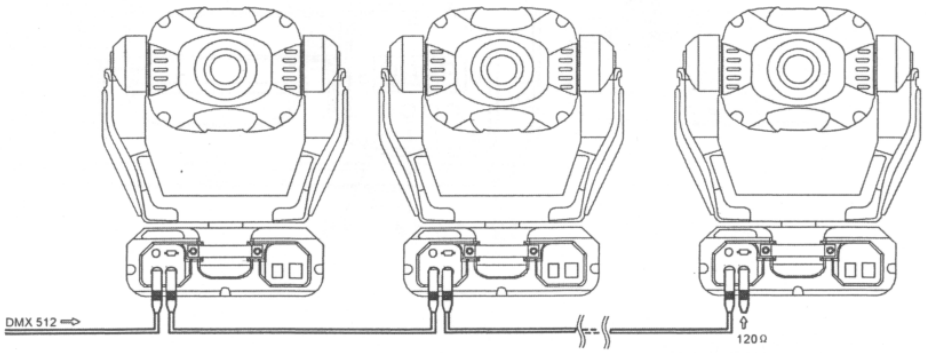
1.Verify the power supply settings before applying power!

If you wish to change the power supply settings,see the chapter Appendix.
Connect the fixture to the mains with the enclosed power cable and plug.
The earth has to be connected!

The occupation of the connection-cables is as follows:

Cable (EU)	Cable (US)	Pin	International
Brown	Black	Live	L
Light blue	White	Neutral	N
Yellow/Green	Green	Earth	⏚

2.DMX-512 connection/connection between fixtures



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

Occupation of the XLR-connection:

DMX-OUTPUT
XLR mounting-socket:

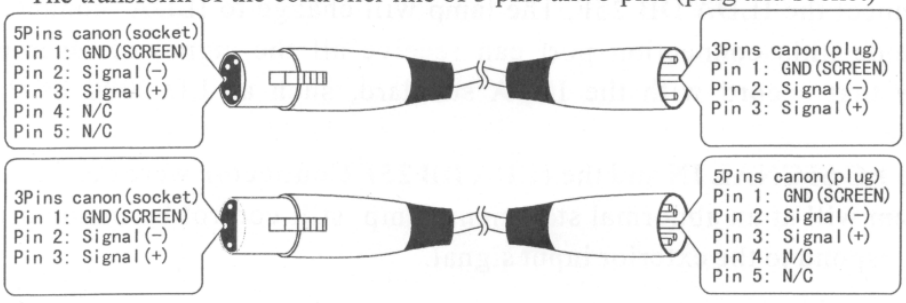
1- Ground
2 - Signal (-)
3 - Signal (+)

DMX-input
XLR mounting-plug:

11 - Ground
2 - Signal (-)
3 - Signal (+)

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

The transform of the controller line of 3 pins and 5 pins (plug and socket)

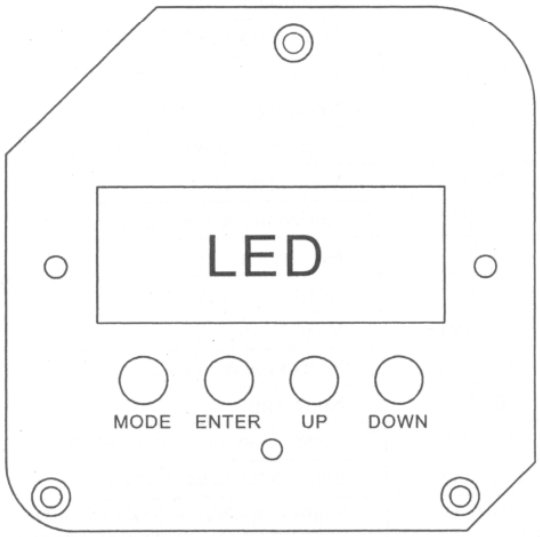


CONTROL BOARD OPERATION

Function Table:

Mode	Function	Condition
PAN	Pan movement in positive or negative direction	YES--negative direction
tiLt	Vertical movement in positive or negative direction	YES--negative direction
Addr	Address code set	UP add 10/s DOWN dec 10/s
rESt	Reset	YES--reset
run	Working mode	OFF DMX512 mode
		AUtO Automatic
		SOUd Null

Control board operation way:



1.Select working mode by pressing MODE.
2.Press UP and DOWN to select working condition.
3.Press ENTER to confirm the selection.

DMX512 operate

The product has 16 operate channels(international standard DMX512 signal),The details as follow:

	CHANNEL	VALUE	FUNCTION
1	PAN	0~255	PAN 0~530°
2	TILT	0~255	TILT 0~280 °
3	Speed 1	0~255	255 grade speed (fast to slow)
4	Control Mode	0-63	Null
		64~127	Self-motion
		128~255	Manual
5	Shutter	0~35	Shutter
		36~255	Beam out
6	Pattern	0~255	64 patterns(0~255)/6=(0~43)
7	Speed	0~255	12 grade speed(0~255)/23=(0~11)
8	horizontal & vertical roll	0-63	No rolling
		64~127	Horizontal roll
		128~191	Vertical roll
		192~255	Horizontal & vertical roll
9	Rotation & Point-Draw	0-63	No Rotation & No Point-Draw
		64~127	Rotation
		128~191	Point-Draw(Only Point)
		192~255	Rotation & Point-Draw
10	Horizontal & vertical move	0-63	No move
		64~127	Horizontal move
		128~191	Vertical move
		192~255	Horizontal & vertical move
11	Horizontal & vertical stretch	0~63	No stretch
		64~127	Horizontal stretch
		128~191	Vertical stretch
		192~255	Horizontal & vertical stretch
12	Small To Large & Large To Small	0~85	No Zoom
		86~169	Zoom from one point to large
		170~255	Zoom from large to one point
13	Slow-draw speed	0~255	43grade speed(0~255)/6=(0~42)
14	Scan Speed	0~255	255 grade speed (fast to slow)
15	Null	0~255	Null
16	Size	0~2	Original size
		3~255	Zoom from one point to large

6. 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.

7. TECHNICAL SPECIFICATIONS

Power supply: AC 100V-120V or 220V-240V, both at 50/60 Hz

DMX 512: 16 channels

Condition temperature: -10°C ~ +35°C

Input signal bandwidth: 0~1000Hz

X/Y axes beam scanning optical angle: 0 ~ ±30°

Signal input power: -5V~+5V

Power consumption: 105 W

Working mode: ILDA, DMX512, automatic mode (sound, stand-alone programmes)

Optical power: Green: >250mW, max 500mW

Laser classification: 3b

Weight: 30 kg

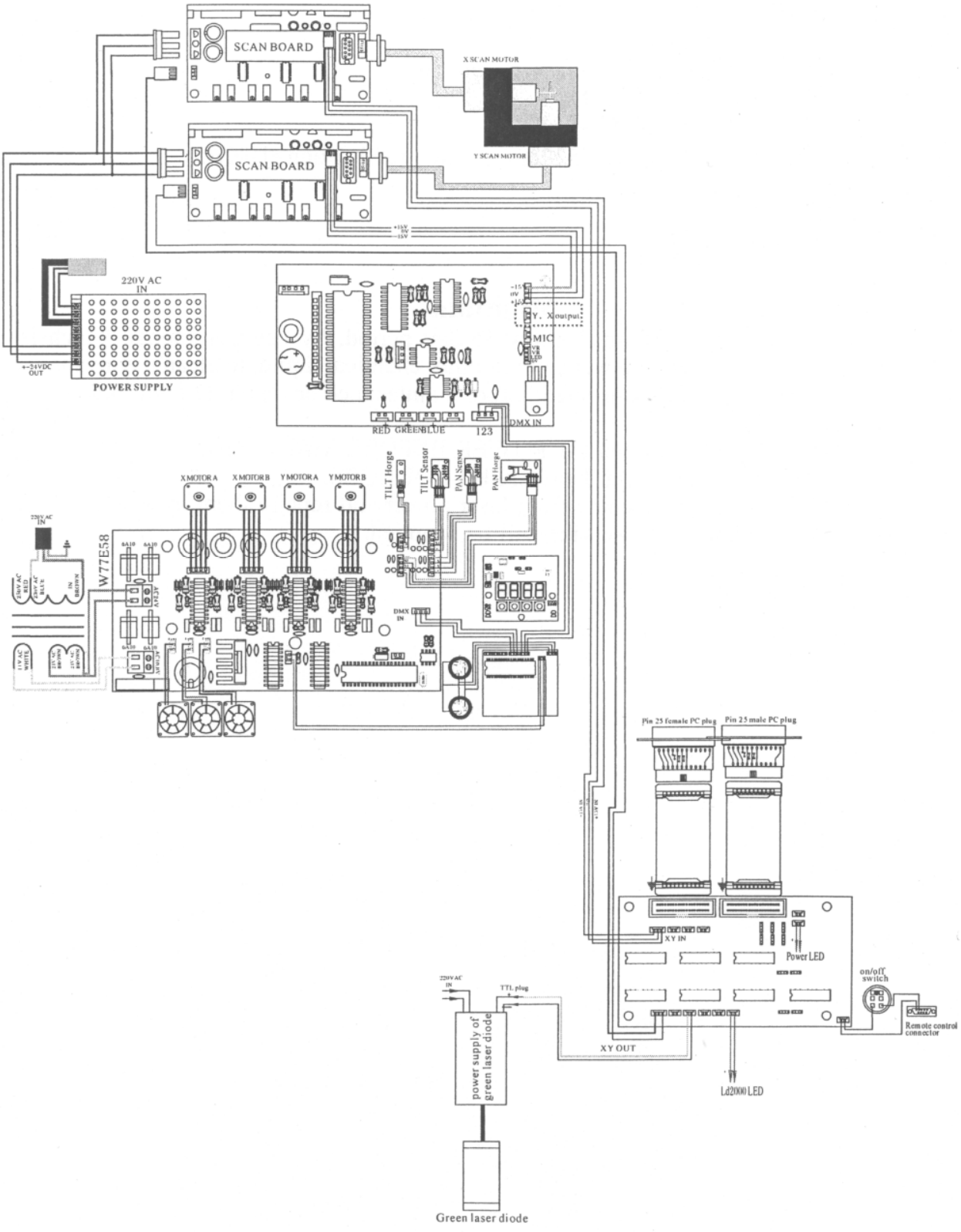
Dimensions: 459 x 479 x 639 mm (L x W x H)

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!
For service contact your dealer, or Laserworld.

ELECTRICAL DIAGRAM



EU- Declaration of Conformity

We hereby confirm that the following device

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 (89/336/EWG) and with the requirements relating to the Low Voltage Directive (LVD 2006/95/EG) was based on the following standards:

DIN EN 61000-3-2:2000 + A2: 2005
DIN EN 61000-3-3:1995 + A1: 2001

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/-3 and corresponding regulations for the prevention of accidents BGV-B2.

This declaration is executed on behalf of the manufacturer.

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