



CS-100G

USER MANUAL

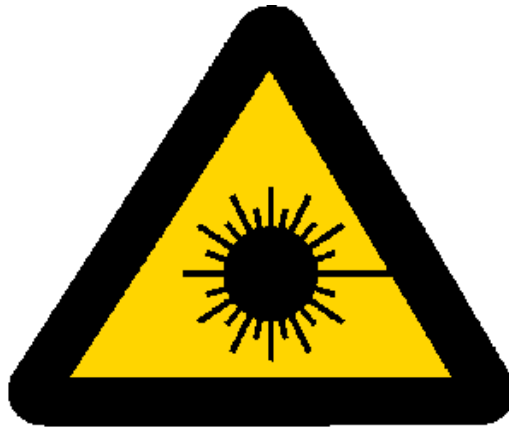


Please read this manual carefully before use!

Checking Parts

Please check if the following parts are included:

- 1 x CS-100G Laser
- 1 x Power cable
- 1 x DMX cable
- 1 x Interlock plug
- 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.
13. When the laser is not attached to an ILDA output device (even for a short period), switch ILDA mode off (see below), or turn the device off.

Thank you for purchasing our CS-100G laser projector. In order to use this product safely and thoughtfully. Please read over this manual carefully before any operation, the operation must according to manual strictly to avoid any personal hurt or products damage. Any problem exclude in this manual please contact us!.

Specification

Model Reference#	LP-209
Components	Laser projector×1 Power cable×1 DMX512 cable×1 Interlock 9pin plug×1 Laser key×2
Using voltage	AC 110V~230V , 50/60Hz
Voltage of input signal	-10V ~ +10V
Control Mode	Auto/AUDIO/DMX/ILDA(optional)
DMX channel	12
Scanning system	20KPPS
<i>Lasers&Power</i>	Green laser : 532nm/ 75~100mW
Operating temperature	10° ~ 40°
Dimension(mm)	280(L)×200(W)×150(H)
Weight(kg)	3
Safety fuse	250V / F2A Φ5×20mm

ATTENTION&MAINTENANCE

1. Do not disconnect the device without professional instruction
2. Keep surrounding dry and clean. this unit should be keep dry, do not use in the rain or dank and dusty environment. Projector should be covered with water-proof when operate at outside.
3. Keep surrounding temperature at 15~30℃, Remain 10 minutes for equipment cooling after 2 hours continuously work, or laser expected time will be reduced.
4. Distance between lasing aperture and projected item should not be less than 1 meter.
5. Do not turn device on/off frequently to avoid broken.
6. Do not look into the laser beam directly, or view laser beam directly with optical instruments.
7. Do not touch the device with wet hands.
8. Turn off the power before installation and maintenance.
9. When the laser diode became dim or broken, please contact the dealer timely.
10. To use the original package when transport again and to avoid shake.

11. 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 & SAFETY

Class II laser products

Power output from 5 milliwatts to 500 milliwatts. 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.



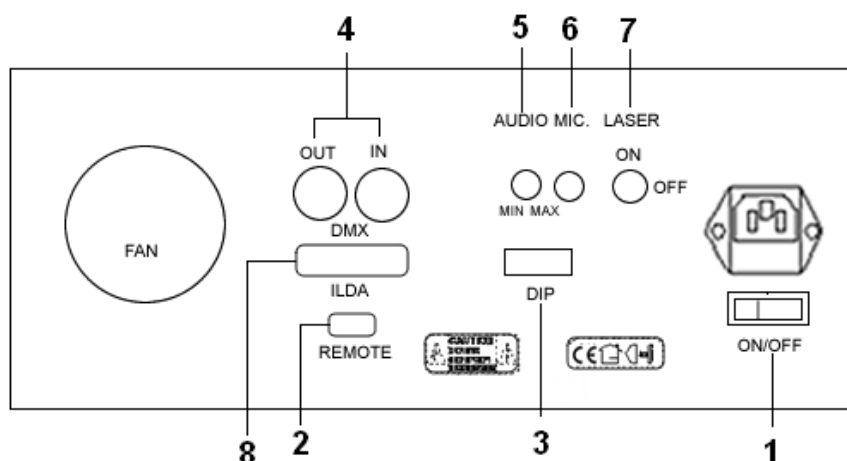
Installation safety

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 touch 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.

INSTALLATION

1, Back panel instruction

209-BACK PANEL INSTRUCTION



- 1: ON/OFF(Power input with inner fuse)
- 2: REMOTE-----Interlock (pin 1,2), connect to emergency switch, or use interlock plug
- 3: DIP switches, reference to DMX Control Mode as below.
- 4: DMX IN/OUT
- 5: AUDIO----- Tune the sensitivity of sound activation(H),MAX→high sensitivity; MIN→low sensitivity.
- 6: MIC(microphone).----- To receive sound activated signal
- 7: LASER-----Turn lasers ON or OFF.
- 8: ILDA-----DB-25 Female

Operation Mode Instruction:

A. Sound Active

Reference to DIP switch as below to choose this mode.

B. Auto

Includes Auto mode-Auto and Auto mode-Animal, reference to DIP switch as below.

C. DMX Control Mode

The first part is DIP address code reference, follow this to choose the mode you need.

DIP switch: Address 1-10 Pin,(1:ON,0:OFF,x:ON or OFF)

1	~	10	Mode
0	0	0,0,0,0,0,0,0,0,0,0	Auto mode-Sound
1	0	0,0,0,0,0,0,0,0,0,0	Auto mode-Auto
1	1	0,0,0,0,0,0,0,0,0,0	Auto mode-Animal
0	0	1,0,0,0,0,0,0,0,0,0	Slave
x	x	x,x,x,x,x,x,x,x,1	DMX control

Address code Calculate,When the mode is DMX control:

x	x	x	x	x	x	x	x	x	1
1	2	4	8	16	32	64	128	512	DMX control

when address is 1000 0000 01

this mean is $1 \times 1 = 1$, the same you must select DMXchannel 1 as the Start channel, DMXchannel 25 as the End channel

when address is 0100 1000 01

this mean is $1 \times 2 + 1 \times 16 = 18$, the same as above,select DMXchannel 18 as the Start channel, DMXchannel 42 as the End channel.

DMX Channel Instruction-----12CHS single/three color
Please refer to appendix1

D. ILDA Mode

This laser projector has designed with a ILDA automatic switching feature. ILDA mode will be active when the pin-25 female (on the rear panel) was be connected.

All outputs are located at an ILDA-standard connector (In and Out). This can be a 25-pin D-Sub connector (female) or a 25-pin IDC-connector (male).

The IDC-connector allows to connect a separate D-Sub connector by using a flat cable. All outputs are symmetrical and be used in 3 different configurations:

1. symmetrical signal. Outputs + and – are connected directly with the corresponding pins of the receiving unit. For signal inversion, the 2 lines just have to be crossed.
2. Single ended. Output – will be grounded to 0V (GND) and the outputs + and GND have to be connectd to the inputs of the receiving unit.
3. Single ended inverted. Output + is grounded to GND and the outputs – and GND are connected to the inputs of the receiving unit.

The maximum signal level between the scanner outputs X and Y is 10V and the signal level between, the color outputs is 5V.

All outputs can be grounded and are short circuit protected.

ILDA-standard connector 25/26-pin

- 1 X+ Scanneroutput +
 - 2 Y+ Scanneroutput +
 - 3 Intens+ Intensity/Blanking +
 - 4 Interlock A Internally connected to 17
 - 5 Red + Coloroutput Red +
 - 6 Green + Coloroutput Green +
 - 7 Blue + Coloroutput Blue +
 - 8 – 12 n.c. Not used
 - 13 Shutter +5V *
 - 14 X- Scanneroutput –
 - 15 Y- Scanneroutput –
 - 16 Intens- Intensity/Blanking –
 - 17 Interlock B Internally connected to 4
 - 18 Red - Coloroutput Red -
 - 19 Green - Coloroutput Green -
 - 20 Blue - Coloroutput Blue -
 - 21 – 24 n.c. Not used
 - 25 GND Signal ground
 - 26 n.c not used (IDC-connector only)
- * Note: maximum load 20mA for 5V!

Appendix1

12CHS DMX INSTRUCTION

CHANNEL#	DMX Value	Function
1) Control mode	0~49	Auto mode---Sound
	50~99	Auto mode---Auto
	100~149	Auto mode---Graphic
	150~199	Manual mode---Sound
	200~255	Manual mode---Auto
2) Blanking	0~15	Laser off
	16~25	No Blanking
	26~135	Wave Blanking,Speed from 0 to 27 (4)
	136~245	Flash blanking,Speed from 0 to 27 (4)
	246~255	Fixed Blanking
3) Pattern	0~255	249 Pattern select
4) Vertical moving	0~127	Manual Vertical Move
	128~191	Auto Down Move,Speed from 0 to 16 (4)
	192~255	Auto Up Move,Speed from 0 to 16 (4)
5) Horizontal Moving	0~127	Manual Horizontal Move
	128~191	Auto Right Move,Speed from 0 to 16 (4) (recommend adjust 4 channel and 13 channel)
	192~255	Auto Left Move,Speed from 0 to 16 (4) (recommend adjust 4 channel and 13 channel)
6) Vertical Rolling	0~127	Manual Vertical Roll
	128~255	Auto Vertical Roll,Speed from 0 to 16 (8)
7) Horizontal Rolling	0~127	Manual Horizontal
	128~255	Auto Horizontal Roll,Speed from 0 to 16 (8)
8) Rotation	0~127	Manual Rotation
	128~191	Auto clockwise rotation,Speed from 0 to 16 (4)
	192~255	Auto anti-clockwise rotation,Speed from 0 to 16 (4)
9) Zoom	0~85	Auto from small to large,speed from 0 to 18 (5)
	86~170	Auto from large to small,speed from 0 to 18 (5)
	171~255	Auto Zoom by turns,speed from 0 to 18 (5)
10) Pattern Size	0~255	The size from 0 to 255
11) Dot view	0~255	0 Normally, Dot view from 1 to 10 (24)
12) Slow draw	0~127	Auto Slow draw A, speed from 0 to 21 (6)
	128~255	Auto Slow draw B,speed from 0 to 21 (6)

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 CS-100G

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 CS-100G Laser manufacturer.

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