

SHINP

**LASER SHOW SYSTEM
DOUBLE LASER SERIES**

MODEL DL-22+

User Guide

SHINP OPTOELECTRONICS SCI-TECH CO.,LTD
SHENZHEN, CHINA

Notes:

1. DMX console can not be used in Master-Slave operation (Sound Active or AUTO mode).
2. There should be only one master unit in Master-Slave operation.

DL-22+

Troubleshooting

1. If the power supply indicator doesn't light up and the laser doesn't work, please check the power supply and the input voltage.
2. In Stand-Alone operation, if the power supply indicator is light up and sound active indicator isn't light up, but the laser is shut off doesn't work.
 - A. Because sound is too small make for laser shut off in sound active, please increase the music volume or increase audio sensitivity with sensitivity knob, please check as below.
 - B. Please check if unit has been set up in slave mode, then set up in master mode.
3. In Master-Slave operation, slave unit don't function, please check as below.
 - A. Make sure to there's only one master in the chain, and the others are set in slave mode.
 - B. Make sure to control the unit without DMX console controlling.
 - C. Make sure to take a good quality power cable and connection.
4. In DMX mode operation, the laser is OFF and the DMX signal indicator is unlighted, please check as below.
 - A. Make sure to set up the DMX mode.
 - B. Make sure to have a good connection.
5. In DMX operation, the unit can't be controlled by the DMX console, but the DMX signal indicator is flashing, please make sure the DMX console and unit have the same channel.
6. If the output beam direction above isn't the right way, please restart the unit.
7. If the unit is fail, please turn off the unit, then turn on again after 5 minutes.

After trying the above solution you still have a problem, please contact your dealer or our company for service.

The copy right of this product is belongs to SHINP Optoelectronics Sci-Tech Co., Ltd, including laser hardware and software. Do not mock, copy or extract without permission of SHINP.

DL-22+

General instructions

Unpacking:

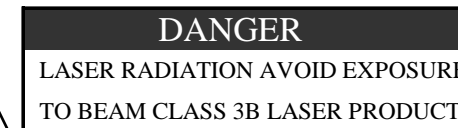
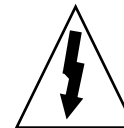
Thank you for purchasing this product. Please read user guide for safety and operations information before using the product. Keep this manual for future reference. This product can create perfect laser programs and effects since it has passed a series of strictly tests before delivery. Please check the attachments listed on the page after opening the carton. In the event of carton damage or attachment missing in transit, please contact your dealer or our after sales service department.

Attachments:

1. DL-22+Laser Light:	1PCS
2. Power Cable:	1PCS
3. User Guide:	1PCS

Notice:

1. Do not exposure the human eye direct to laser beam.
2. Do not turn on and off the unit frequently.
3. Before using this unit make sure the power supply is ground.
4. This unit is intended for indoor use only and should be prevented form water, moisture and shake. The working temperature of this unit is 18~30°C, do not use this continuously over 4 hours, otherwise it shortens the lifetime of the unit.
5. Use cleaning tissue to remove the dust absorbed on the external lenses periodically to optimize light output.
6. Do not remove or break the warranty label, otherwise it void the warranty.
7. Always replace with the exact same type fuse, replacement with anything other than the specified fuse can cause fire or electric shock and damage your unit, and will void your manufactures warranty.



1. Voltage: AC110V-130V/220V-240V/ 50HZ-60HZ/ Fuse: 2A/250V
2. Rated Power: DL-11/22/33:30W, DL-55:50W
3. Laser: DL-22+: 25+25mW@532nm, green DPSS laser,
80+80mW@650nm, red DPSS laser
4. Working Modes: DMX, Sound Active, AUTO, Master-Slave
5. DMX Control Channel: 7 channels
6. Graphics & Effects: more than 100 patterns, over 300 effects
7. Interface: 3 pins XLR jack for DMX or Maser-Slave linking

1. Various working modes

Includes four working modes as DMX, Sound Active, AUTO and Master-Slave Control for different applications.

2. Various programs

The double tunnel laser beam is compages, more than 50 laser patterns, over 200 laser effects. Different working modes has different program.

3. DMX control

The unit has 7 channels to control in DMX mode. The unit has BLACK OUT function. The unit will shut OFF if no DMX512 signal.

4. Master-Slave function

The system allow link many units (as slave unit) together to doing synchro job without console in sound active or AUTO mode.

5. LED indicating and shut-off function

In sound active mode, the unit's panel has LED indicating for sound active. The unit will shut off after 8 seconds when the music stops.

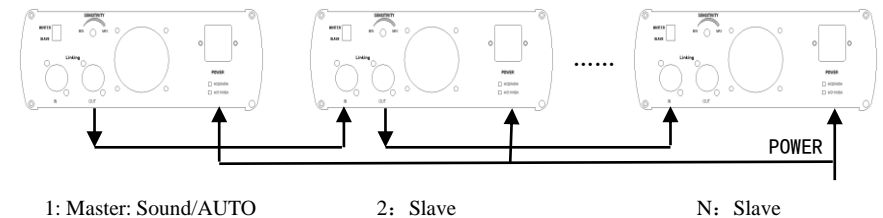
6. DPSS Laser

Use Diode-Pumped Solid State green laser, stable output and long working life.

Master-Slave Operation

This mode will allow you to link up to 32 units together without controller.

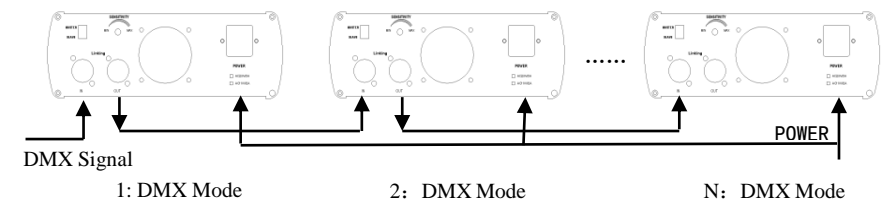
1. Install the units in a suitable position (laying or appending).
2. Choose a unit to function as Master mode, set dipswitch to select Sound Active or AUTO mode. The others must be set to Slave mode, set dipswitch to select Slave mode.
3. Use standard XLR microphone cable chain your units together via the XLR connector on the rear of the units. For longer cable runs we suggest a terminator at the last fixture.
4. Turn on the all units' power, the units begins reset, then the unit begins working. The slave units will react the same as the master unit.
5. The units will react to the low frequencies of music via the internal microphone. Adjust the audio sensitivity knob on the back of the master unit to make the unit more or less sensitive in sound active. The panel has LED indicating for sound active.



Universal DMX Operation (DMX mode)

This mode allows you to use universal DMX-512 console to operate.

1. Install the units in a suitable position (laying or appending).
2. Use standard XLR microphone cable chain your units together via the XLR connector on the rear of the units. For longer cable runs we suggest a terminator at the last fixture.
3. Assign a DMX address to each the unit using dipswitches, see the "DMX Address Quick Reference Char".
4. Turn on the all units' power, the units begins reset, then the unit begins working.
5. Use DMX console to control your units.



DMX address calculation

For DMX mode, DMX512 address from #1 to 9# dipswitches must be set, the address is set from 1 to 511. Each dipswitch represents a binary value.

Dipswitch	Value	Dipswitch	Value
# 1	1	# 6	32
# 2	2	# 7	64
# 3	4	# 8	128
# 4	8	# 9	256
# 5	16	# 10	Set to "0"

One unit has 7 channels, so each unit must be assigns 7 channels at least. We may assign 8 channels for one unit, then DMX address = 8*N + 1, N=0, 1, 2, 3

Example

One loop address=1, two loop address=9, three loop address=17, four loop address=25

Loop	Address	Binary	Dipswitches
1	1	10000000	# 1
2	9	10010000	# 1+#4
3	17	10001000	# 1+#5
4	25	10011000	# 1+#4+#5

The dipswitches setting for DMX address see the " DMX Address Quick Reference Chart ".

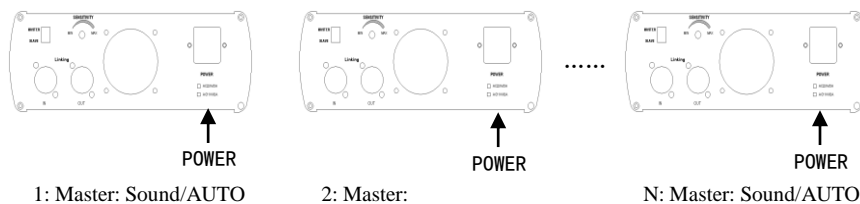
DL-22+

Operation

Stand-Alone Operation (Sound Active, AUTO mode)

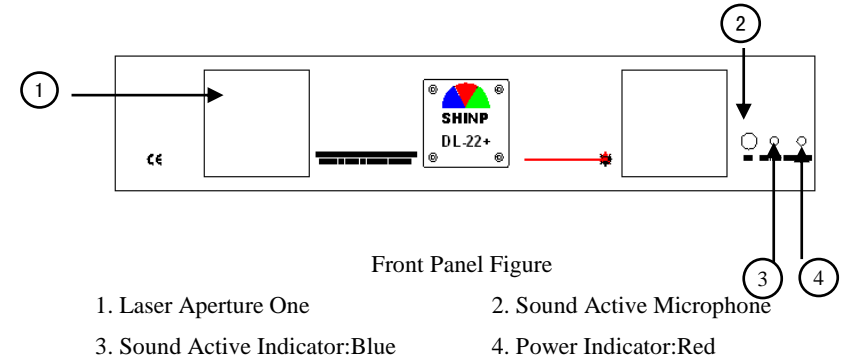
The mode allows a single unit to react to the beat of the music in the master mode.

1. Install the units in a suitable position (laying or appending).
2. Set dipswitch to select Sound Active or AUTO mode.
3. Turn on the unit power, the unit begins reset, then the unit begins working.
4. The unit will react to the low frequencies of music via the internal microphone. Adjust the audio sensitivity knob on the back of the unit to make the unit more or less sensitive in sound active. The panel has LED indicating for sound active.



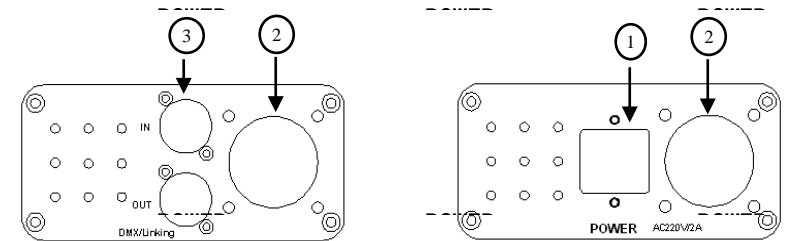
DL-22+

Front/Rear Panel



Front Panel Figure

1. Laser Aperture One
2. Sound Active Microphone
3. Sound Active Indicator:Blue
4. Power Indicator:Red



Rear Panel Figure

1. Power Jack
2. Cooling Fan
3. DMX or Linking Jack

DL-22+

Function & Setting

Sound Active

The change of the laser pattern is controlled by sound, that is, the rhythm of the sound control the effect of the changing laser pattern. Turning the sensitivity knob in the clockwise direction to increase the fixture's sensitivity to sound, the knob in the counter clockwise direction to decrease. The laser diode will automatically turn off after 8 seconds when the music stops.

AUTO

Auto cycles the built-in programs without being controlled externally. It has no laser OFF

DMX Control

The system only accepts the DMX512 signal of international standard to control the system mode, the laser pattern ON /OFF, the size, the position, the speed, etc.

DMX Control Parameter Chart

Channel	Function	Value	Description
CH1	Mode	0~49	Close, laser OFF
		50~99	Static patterns of DMX mode
		100~149	Dynamic patterns of DMX mode
		150~199	Sound active mode
		200~255	AUTO mode
CH2	Pattern selection	0~255	52 static/dynamic patterns
CH3	Position-X	0~255	Adjust position-X
CH4	Position-Y	0~255	Adjust position-Y
CH5	Scanning speed	0~255	0 is speedy, 255 is slow
CH6	Dynamic patterns play speed	0~255	0 is speedy, 255 is slow, has ten grade speed
CH7	Static pattern size	0~255	0 is small, 255 is big

CH2 Parameter Chart For Function

DMX value	Static patterns	Dynamic patterns	DMX value	Static patterns	Dynamic patterns
0~4	circle	circle to big	130~134	christcross	dot diagonal move
5~9	dot circle 1	dot circle to big	135~139	chiasma line	hori line flex
10~14	dot circle 1	scan circle to big	140~144	hor-extend line	hori dot line flex
15~19	scan circle	circle flash	145~149	hori-shrink line	hori line move
20~24	horizontal line	dot circle flash	150~154	hori-flex line	hori dot line move
25~29	hori-dot line	circle roll	155~159	ho-flex dot line	vertical line move
30~34	vertical line	dot circle roll	160~164	ver-extend line	vert-dot line move
35~39	vert-dot line	circle turn	165~169	vert-shrink line	rectangle extend
40~44	45° diagonal	dot circle turn	170~174	vert-flex line	dot rectangle extend
45~49	dot diagonal	dot circle to add	175~179	ve-flex dot line	square extend
50~54	135° diagonal	scan circle extend	180~184	ladder line 1	dot square extend
55~59	dot diagonal	circle jump	185~189	ladder line 2	rectangle turn
60~64	V line 1	dot circle jump	190~194	ladder line 3	dot rectangle turn

DMX value	Static patterns	Dynamic patterns	DMX value	Static patterns	Dynamic patterns
65~69	V dot line 1	hori-line jump	195~199	ladder line 4	square turn
70~74	V line 2	hori-dot line jump	200~204	tetragon 1	dot square turn
75~79	V dot line 2	vertical line jump	205~209	tetragon 2	pentagon turn
80~84	triangle 1	ver-dot line jump	210~214	pentagon 1	dot pentagon turn
85~89	dot triangle 1	diagonal jump	215~219	pentagon 2	tetragon turn
90~94	triangle 2	dot diagonal jump	220~224	pentagon 3	pentagon star turn
95~99	dot triangle 2	short sector round 1	225~229	pentagon 4	bird fly
100~104	square	short sector round 2	230~234	wave line	dot bird fly
105~109	dot square	long sector round 1	235~239	wave dot line	wave flowing
110~114	rectangle 1	long sector round 2	240~244	spirality line	dot wave flowing
115~119	dot rectangle 1	line scan	245~249	many dot 1	many dot jump 1
120~124	rectangle 2	dot line scan	250~254	many dot 2	square dot jump
125~129	dot rectangle 2	45° diagonal move	255	square dot	many dot jump 2

There are 52 static patterns, the sizes of the patterns that DMX value is 140 previous are adjustable, the following irregular patterns are non-adjustable. There are 52 dynamic patterns, whose sizes are non-adjustable.

Function setting

Uses dipswitches to assign a unit's function: DMX/slave, or sound active, or AUTO mode.

For the unit is DMX mode, set the DMX address. Each dipswitch represents a binary value.

See the "Function chart".

0=OFF 1=ON X=OFF or ON

DIPSWITCH CHART										FUNCTION	
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10		
X	X	X	X	X	X	X	X	0	1	SOUND	ACTIVE
X	X	X	X	X	X	X	X	1	1	AUTO	MODE
SET DMX ADDRESS FOR DMX MODE									0	DMX / SLAVE	

Function Chart

Dipswitch #10 is use to set master or slave mode. Master modes have sound active and AUTO mode. Slave modes have DMX and Slave mode. The units automatically identify DMX or SLAVE mode by data receives. Dipswitch #9 use to is set sound active or AUTO mode in master mode.

