

Laser Show System User Guide



(Please read this product manual carefully before using)

WARNING

Thank you for purchasing this product. For better using it in a correct way, please read this user manual carefully, in case of any unsafe for human being or cause any damage for lighting fixture.

Please check product carefully when receiving it, and check if there's any problem caused during transportation.

You should find inside the laser carton the following items:

1. Laser
2. Power Cable
3. User Manual

CAUTION

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the equipment.

- Make sure that the best temperature range is: 20~35°C.
- Never use laser direct to people, especially for eyes in case of any harm.
- Make sure that the available voltage is between AC220V~240V, and make sure the ground cable is always reliable.
- Please don't turn on or off frequently, in case of reducing the normal lifespan of laser.
- As per solid state laser diode features, better avoid laser working for long time. After using 3 hours, please turn off the light for 15-min break, and re-start after cooling off completely.
- Don't touch the laser diode mirror, in case affecting the lighting effect.
- Don't disassemble lighting fixture, if there's any problem, please ask a qualified engineer inspect the equipment before operation again.

Dear user:

This product integrates many advanced technologies like optics, electronics and digital graphic processing. It's dedicated design for dancing halls and disco applications. As per music rhythms, built-in beam program can be activated; if using smoke, light curtain wall and time tunnel can be formed to create a colorful and fantastic laser world.

LASER CLASSIFICATIONS

A) Step motor Laser (With DMX function)

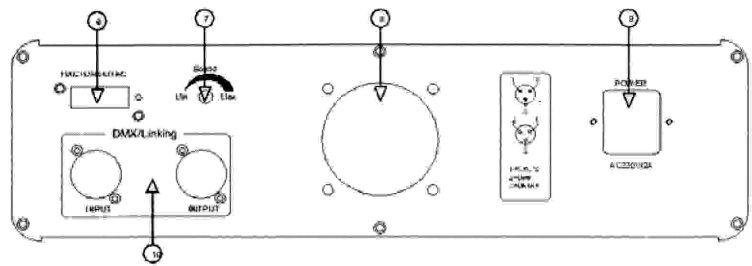
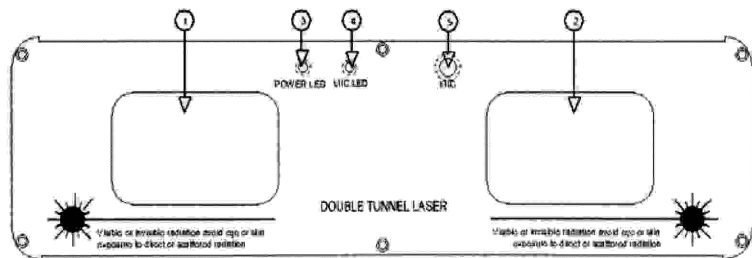
B) Animation Grating Laser

C) Animation Laser (Without ILDA interface)

D) Animation Laser (With ILDA interface)

A.) Step motor Laser (With DMX function)

1. Front and back panel diagram (as per different items there'll be some difference)



① ② Laser Aperture

③ Power Indicator

④ Sound Sensitivity Indicator

⑤ Sound activation MIC

⑥ Dip switches

⑦ Sound Sensitivity knob

⑧ Cooling Fan

⑨ Power Outlet

⑩ DMX XLR

2. Single Laser Mode

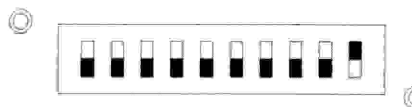
Use dip switch to set operating mode(See the table below) . Set the operating mode according to clients' requirement: **SOUND ACTIVE** or **AUTO MODE**.

Connect the power supply, and laser starts to work.

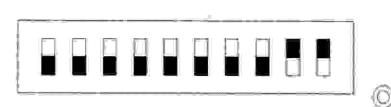
When in SOUND ACTIVE mode, adjust sound active sensitivity, and adjust the sound sensitivity knob according to the surrounding's sound strength. In the front panel when the blue indicator flashes to indicate the sound activation, the system is in sound active program; when in Auto mode, the system is in Auto-working program.

DIPSWITCH CHART										FUNCTION	
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10		
X	X	X	X	X	X	X	X	X	1	SOUND ACTIVE	
X	X	X	X	X	X	X	X	1	1	AUTO MODE	

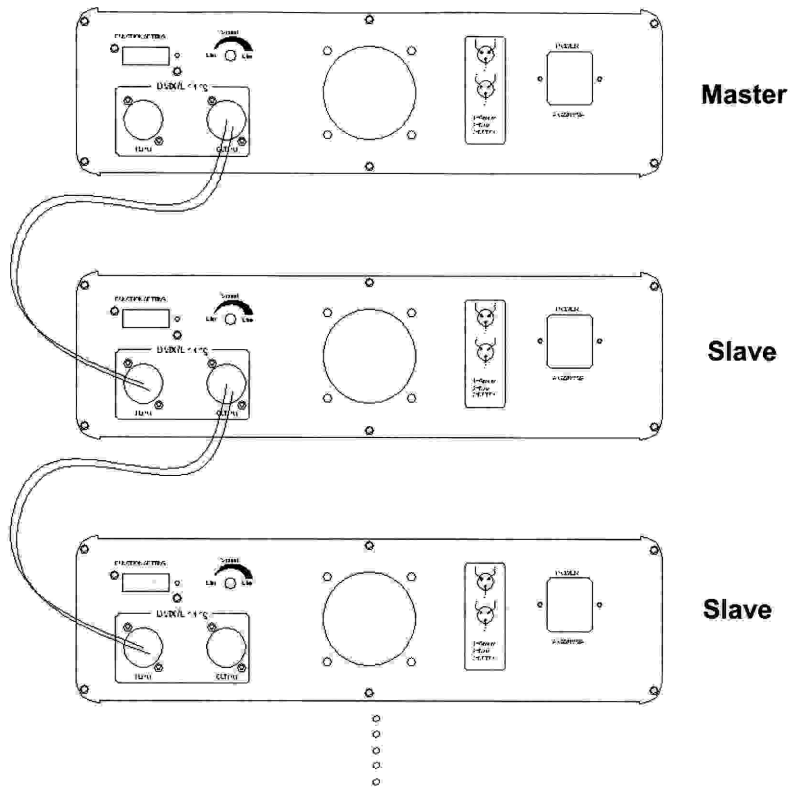
Sound Activation



Auto Mode



3. Step motor Lasers. Master & Slave synchronous mode



The switching way of Master& Slave synchronous mode

Master

Sound mode. Set dip switch 10 to the **ON** position and all others to **OFF**.

Auto mode. Set dip switch 9 + 10 to the **ON** position and all others to **OFF**.



Slave Mode. To set the unit/s in slave mode, set dip switch 2 + 10 to the **ON** position and all others to **OFF**. The laser will now run in sequence with the master unit.



1.1 Set working mode. Set a laser in Master & Slave mode (MASTER: SOUND/AUTO), and other lasers are all set in Slave mode.

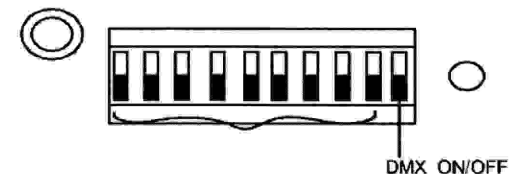
1.2 DMX Linking. Using XLR-XLR line to connect the XLR output of the master to the XLR input of the first slave, and then connect the XLR output of the first slave to the XLR input of the second slave. Do like this until all the slaves are connected.

1.3 Connect the power supply, and laser starts to work. And the beam of slave laser should be synchronous with master.

1.4 When in **SOUND ACTIVE** mode, adjust sound control sensitivity, and adjust the sound control sensitivity knob according to the surrounding's sound strength. In the front panel when the blue LED indicator flashes to indicate the sound activation, the system is in sound active program; when in Auto mode, the system is in Auto mode.

4. Setting the DMX address:

FUNCTION SETTING



The DMX mode enables the use of a universal DMX controller. Please refer DMX Dip Switch Quick Reference Chart.

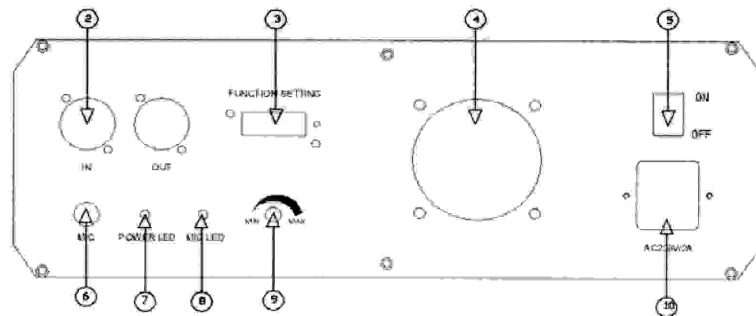
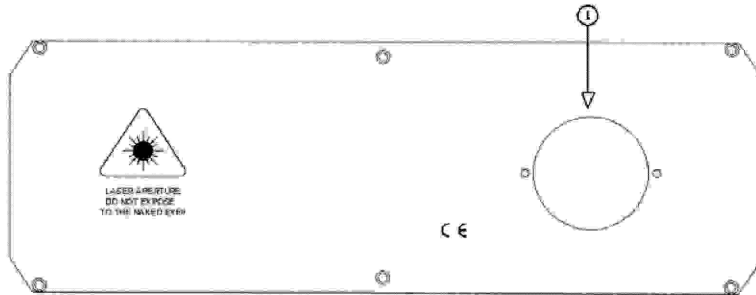
From 1 to 9: starting address

The 10th: sound activation/DMX functions interchange

OFF: sound activation **ON:** DMX signal control

B.) Animation Grating Laser

1. Front and back panel diagram (as per different items there'll be some difference)



- ① Laser Aperture
- ③ Dip Switches
- ⑤ Power Supply
- ⑦ Power Indicator
- ⑨ Sound Sensitivity Knob

- ② DMX XLR
- ④ Cooling Fan
- ⑥ Sound Active MIC
- ⑧ Sound Active Indicator
- ⑩ Power Outlet

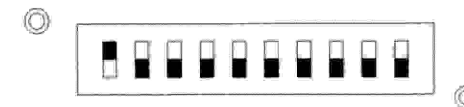
2. Operating Instructions

DIPSWITCH CHART										FUNCTION	
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10		
X	X	X	X	X	X	X	X	X	x	SOUND ACTIVE	
1	X	X	X	X	X	X	X	x	x	AUTO MODE	

Sound Activation



Auto Mode



1.1 Use dip switch to set operating mode (See the table above). Set the operating mode according to clients' requirement: **SOUND ACTIVE** or

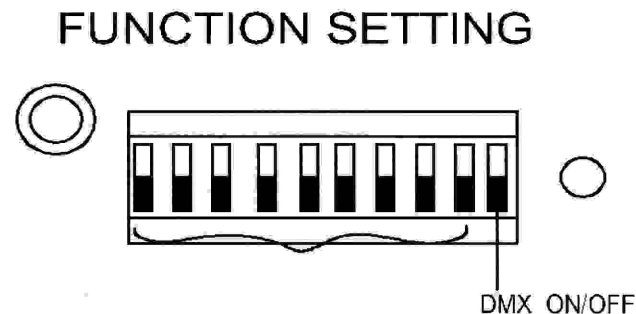
AUTO MODE.

1.2 Connect the power supply, and laser starts to work.

1.3 When in **SOUND ACTIVE** mode, adjust sound control sensitivity, and

adjust the sound control sensitivity knob according to the surrounding's sound strength. In the front panel when the blue LED indicator flashes to indicate the sound activation, the system is in sound active program; when in Auto mode, the system shows animation effect.

3. DMX mode switching method



When in DMX mode, the DMX controller controls the laser, and the corresponding function of every channel is shown in attachment. The DMX address code is in the attached address table.

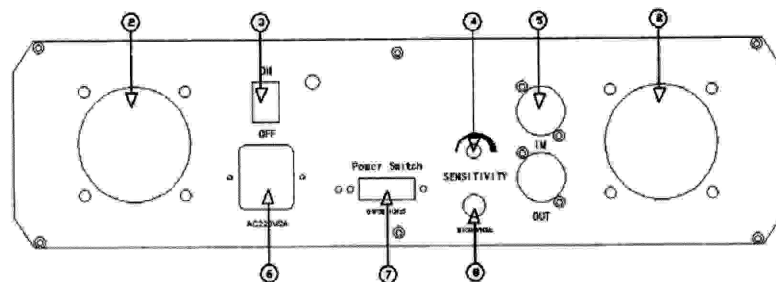
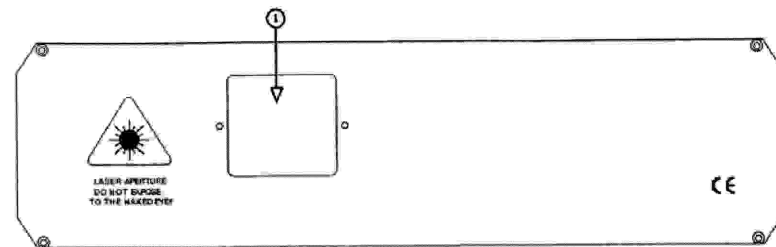
From 1 to 9: starting address

The 10th: sound activation/DMX functions interchange

OFF: sound activation **ON:** DMX signal control

C.) Animation Laser (Without ILDA interface)

1. Front and back panel diagram (as per different items there'll be some difference)



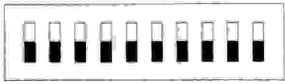
- ① Laser Aperture
- ② Cooling Fan
- ③ Power Supply
- ④ Sound Sensitivity Knob
- ⑤ DMX XLR
- ⑥ Power Outlet
- ⑦ Dip Switches
- ⑧ Sound Activation MIC

1. Operating Instructions

DIPSWITCH CHART										FUNCTION	
#1	#2	#3	#4	#5	#6	#7	#8	#9	#10		
X	X	X	X	X	X	X	X	X	x	SOUND ACTIVE	
1	X	X	X	X	X	X	X	x	x	AUTO MODE	
1	1	x	x	x	x	x	x	x	x	Animation	

Sound Activation

Auto Mode



Animation



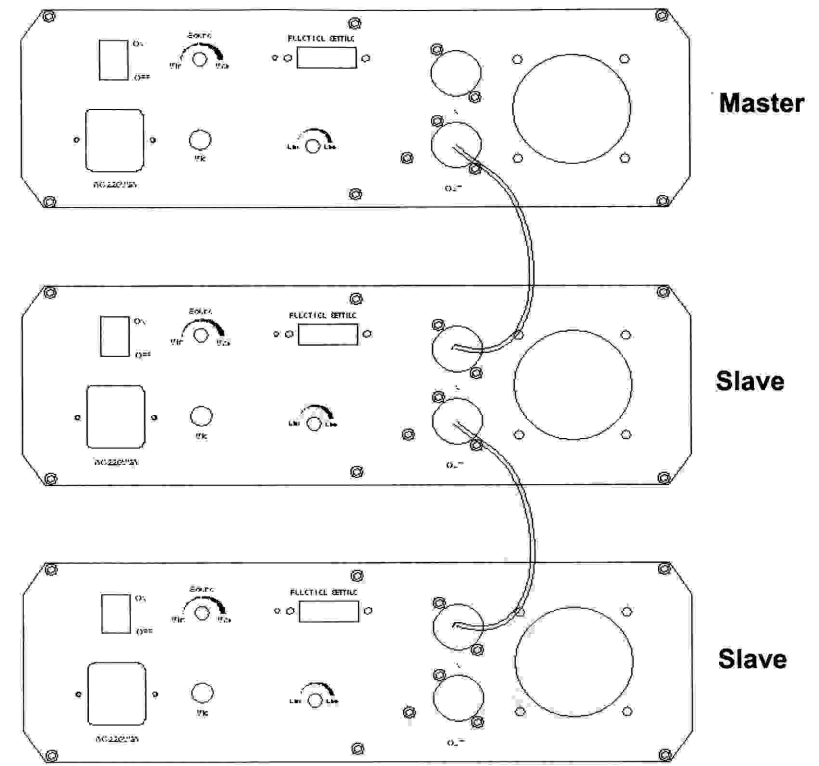
1.1 Single Laser Mode

1.1.1 Use dip switch to set operating mode (See the table below). Set the operating mode according to clients' requirement: **SOUND ACTIVE** or **AUTO MODE**.

1.1.2 Connect the power supply, and laser starts to work.

1.1.3 When in **SOUND ACTIVE** mode, adjust sound control sensitivity, and adjust the sound control sensitivity knob according to the surrounding's sound strength. In the front panel when the blue LED indicator flashes to indicate the sound activation, the system is in sound active program; when in Auto mode, the system is in Auto-working program.

1.2 High Speed Scanner Laser, Master & slave synchronous mode



Master

Sound active mode

To select sound active mode set all dip switches to **OFF**. You can now use the sensitivity control on the back panel to set the required sound level.

Auto pattern mode

To select auto beam mode, set dip switch **1** to the **ON** position and all others to **OFF**. The Laser will now cycle through all its internal patterns.

Auto Animation Mode

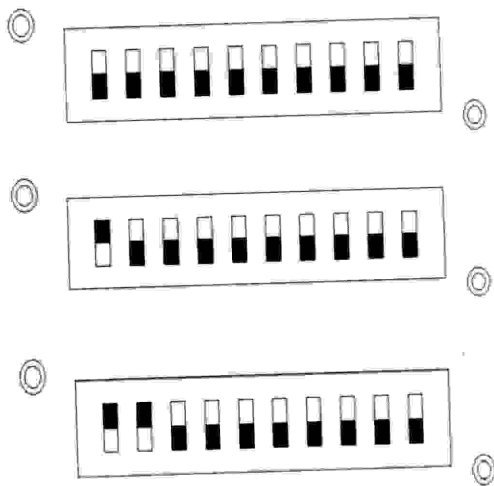
To select auto animation pattern mode, set dip switches **1 + 2** to the **ON**

position and all others to **OFF**. The laser will now cycle through all its internal animation programs such as numbers, running dinosaur and flying bird etc.

Slave mode

To select the unit/s in slave mode, set dip switch 2 or 3 to the **ON** position and all others to **OFF**. The laser will now run in sequence with the master unit.

Master (sound activation, auto beam, auto animation mode)



Slave

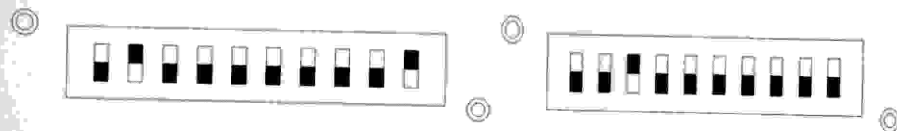


1.1 Set working mode. Set a laser in Master & Slave mode (MASTER: SOUND/AUTO), and other lasers are all set in Slave mode.

1.2 DMX Linking. Using XLR-XLR line to connect the XLR output of the master to the XLR input of the first slave, and then connect the XLR output of the first slave to the XLR input of the second slave. Do like this until all the slaves are connected.

1.3 Connect the power supply, and laser starts to work. And the slave beam is synchronous with master.

1.4 When in **SOUND ACTIVE** mode, adjust sound control sensitivity, and adjust the sound control sensitivity knob according to the surrounding's sound strength. In the front panel when the blue LED indicator flashes to indicate the sound activation, the system is in sound active program; when in Auto mode, the system is in Auto-working program.



DMX mode switching method

When in DMX mode, the DMX controller controls the laser, and the corresponding function of every channel is shown in attachment. The DMX address code is in the attached address table.

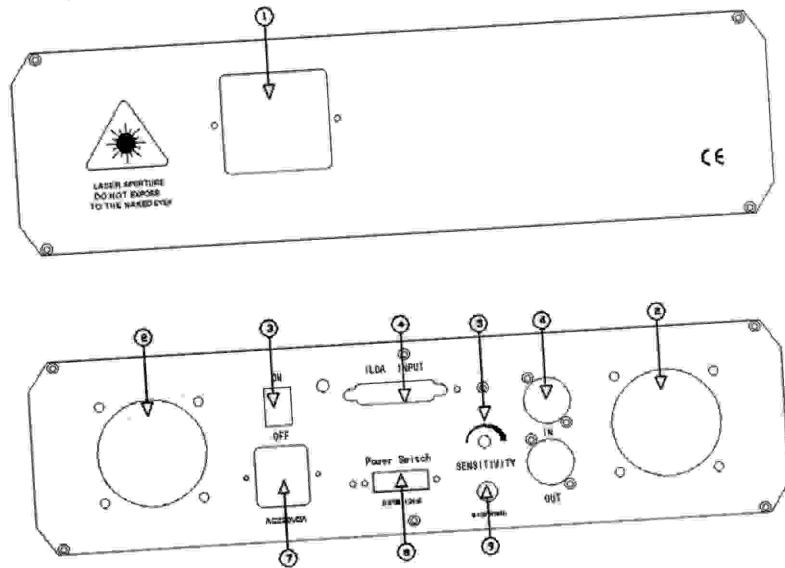
From 1 to 9: starting address

The 10th: sound activation/DMX functions interchange

OFF: sound activation **ON:** DMX signal control

D.) Animation Laser (With ILDA interface)

1. Front and back panel diagram (as per different items there'll be some difference)



① Laser Aperture

③ Power Supply

⑤ Sound Sensitivity Knob

⑦ Power Outlet

⑨ Sound Activation MIC

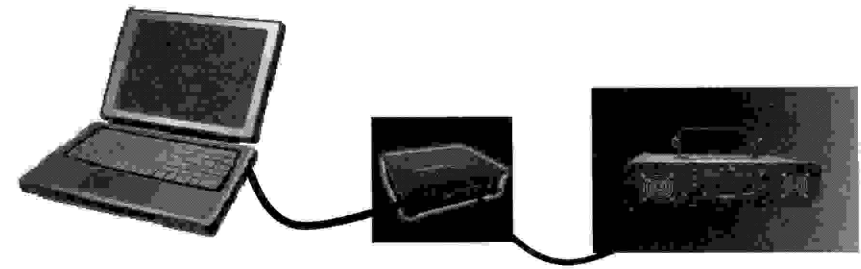
② Cooling Fan

④ ILDA interface (ILDA/DB-25)

⑥ DMX XLR

⑧ Dip Switches

The operation way is the same between lasers with or without ILDA interface. Here is the way of how to connect ILDA interface laser with computer output. Please view the diagram below.



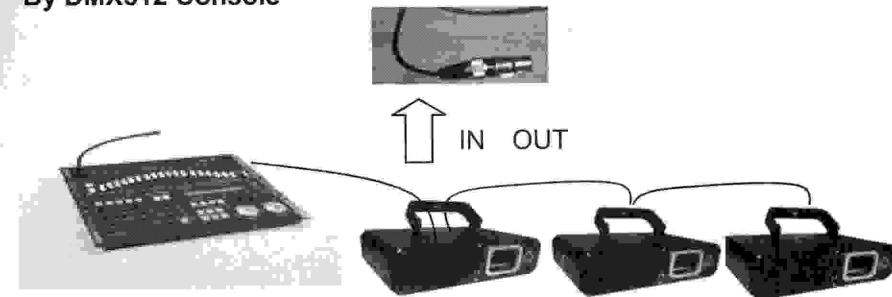
Lighting software like Phoenix, Pangolin and ISHOW can work with laser which has ILDA interface.

Attention After connecting, the laser will not be controlled by its own program.

After connecting software, users can edit patterns, animation, texts and etc. freely.

Users can edit patterns, animation, text, and etc. on Lasers via SD Card. Please refer to the user manual of lasers with SD card and CD.

By DMX512 Console



DMX Console
(Sending Terminal)

1st laser

(Receiving Terminal)

2nd laser

3rd laser

x N.....

For example, if the laser has 11 channels, the address sets as:

000000001, 000001100, 000010111 ...

1. Connection Way

DMX Console TO Laser

Each Laser is connected in series like serial installation. Many people think signal is serial, but DMX signal is collateral indeed. All receiving terminals are connected in parallel in DMX control output cable. If address code isn't differentiated, we can't differentiate sending ends. As long as the sending ends are differentiated, it can form different and regular effects. Therefore, the address switch in our laser can set address, and then DMX console can tell the difference. How to set the address can be shown at 3. (Attention: the terminal should connect with 120 Resistor to avoid signal disturbing.

2. Address allocation:

DMX 512 console supports 512 channels. If every laser has 16 channels, so is can connect 32 sets of lasers. Usually a RGB LED occupies 3 channels, so DMX 512 console can connect 170 pieces of LED lighting fixture in every line.

3. How to set address code switch:

Address code setting: In the binary system, the first has 0 and 1 numerical

value, and it corresponds with Switch "OFF" and "ON". When calculating meet 2 into, as shown below.

LOOP	ADDR	BINARY	USAGE OF DIP SWITCH
The 1st laser	1	000000001 =	
The 2nd laser	12	000001100 =	
The 3rd laser	23	000010111 =	
The 4th laser	34	000100010 =	

Common troubleshooting

1. In the sound activation mode, beam effects don't change with music.

Solution: Rotate right (Sensitivity control) knob until satisfaction.

2. When in DMX512 mode, push-and-pull controlling rob doesn't work.

Solution: First check whether DMX 512 console can work normally and whether the signal lines are connected correctly; and then check whether the first channel push rob of the laser is in the controlling (the numerical value is between 192-255).

3. The laser doesn't react.

Solution: First check whether the cooling fan can rotate, then check whether the power supply is connected and the fuse is brown.

4. The laser doesn't shine enough.

Solution: Each laser needs normal warm-up time, so please take 5-10 minutes to warm-up before using; please check whether the lens is dirty and use soft cotton swab with absolute alcohol to clean the lens.

Form I The international standard DMX 512 Signal suitable for laser with 7 channels. The detailed control function is shown below:

Form I

Channel	Function	DMX512 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	0~255	0 is speedy, 255 is slow, has ten
	play speed		grade speed
CH7	Static pattern size	0~255	0 is small, 255 is big

Adopting international standard DMX512 Signal suitable for lasers with 11 channels, the detailed control function is shown below:

Form 2

	DMX512 value	Control function
1) control mode	0~51	sound control (3-10 channels don't work)
	52~103	Auto mode (3-10 channels don't work)
	104~155	Animation mode
	156~206	Manual mode, sound control start
	207~255	Auto mode, auto start
2) blanking & light-free	0~15	Light free
	16~25	No blanking
	26~135	Water-flow effect, closer to 135, water flow quickly.
	136~245	Flashing effect, closer to 245, it flashes more quickly.
	246~255	Fixed blanking
3) picture changing	0~255	128 gobos (0~255)
4) speed	0~255	12 level speed (0-255) / 23 = (0-11)
5) reversing	0~63	No reversing
	64~127	Horizontal reversing
	128~191	Vertical reversing
	192~255	Horizontal & vertical reversing
6) rotating/ plotting	0~63	No rotating and no plotting
	64~127	Rotating
	128~191	Plotting
	192~255	Rotating and plotting
7) horizontal/vertical moving	0~63	No moving
	64~127	Horizontal moving
	128~191	Vertical moving
	192~255	Horizontal & vertical moving
8) Level stretching	0~63	No stretching
	64~255	Horizontal stretching
9) vertical stretching	0~63	No stretching
	64~255	Vertical stretching
10) zoom	0~85	No magnifying and no contract
	86~169	Magnify and contract from small to large
	170~255	Magnify and contract from large to small
11) Gradually draw	(0-255)/21	13 level speed (0-255) / 21 <0-12> the speed is quicker, the draw is quicker.

Form 3

DMX Address Chart

DMX-DIPSWITCH SET					#9	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
0=OFF					#8	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
1=ON					#7	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
X=OFF or DN					#6	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
#1	#2	#3	#4	#5																	
0	0	0	0	0			32	64	96	128	160	192	224	256	288	320	352	384	416	448	480
1	0	0	0	0		1	33	65	97	129	161	193	225	257	289	321	353	385	417	449	481
0	1	0	0	0		2	34	66	98	130	162	194	226	258	290	322	354	386	418	450	482
1	1	0	0	0		3	35	67	99	131	163	195	227	289	291	323	355	387	419	451	483
0	0	1	0	0		4	36	68	100	132	164	196	228	260	292	324	356	388	420	452	484
1	0	1	0	0		5	37	69	101	133	165	197	229	261	293	325	357	389	421	453	485
0	1	1	0	0		6	38	70	102	134	166	198	230	262	294	326	358	390	422	454	486
1	1	1	0	0		7	39	71	103	135	167	199	231	263	295	327	359	391	423	455	487
0	0	0	1	0		8	40	72	104	136	168	200	232	264	296	328	360	392	424	456	488
1	0	0	1	0		9	41	73	105	137	169	201	233	265	297	329	361	393	425	457	489
0	1	0	1	0		10	42	74	106	138	170	202	234	266	298	330	362	394	426	458	490
1	1	0	1	0		11	43	75	107	139	171	203	235	267	299	331	363	395	427	459	491
0	0	1	1	0		12	44	76	108	140	172	204	236	268	300	332	364	396	428	460	492
1	0	1	1	0		13	45	77	109	141	173	205	237	269	301	333	365	397	429	461	493
0	1	1	1	0		14	46	78	110	142	174	206	238	270	302	334	366	398	430	462	494
1	1	1	1	0		15	47	79	111	143	175	207	239	271	303	335	367	399	431	463	495
0	0	0	0	1		16	48	80	112	144	176	208	240	272	304	336	368	400	432	464	496
1	0	0	0	1		17	49	81	113	145	177	209	241	273	305	337	369	401	433	465	497
0	1	0	0	1		18	50	82	114	146	178	210	242	274	306	338	370	402	434	466	498
1	1	0	0	1		19	51	83	115	147	179	211	243	275	307	339	371	403	435	467	499
0	0	1	0	1		20	52	84	116	148	180	212	244	276	308	340	372	404	436	468	500
1	0	1	0	1		21	53	85	117	149	181	213	245	277	309	341	373	405	437	469	501
0	1	1	0	1		22	54	86	118	150	182	214	246	278	310	342	374	406	438	470	502
1	1	1	0	1		23	55	87	119	151	183	215	247	279	311	343	375	407	439	471	503
0	0	0	1	1		24	56	88	120	152	184	216	248	280	312	344	376	408	440	472	504
1	0	0	1	1		25	57	89	121	153	185	217	249	281	313	345	377	409	441	473	505
0	1	0	1	1		26	58	90	122	154	186	218	250	282	314	346	378	410	442	474	506
1	1	0	1	1		27	59	91	123	155	187	219	251	283	315	347	379	411	443	475	507
0	0	1	1	1		28	60	92	124	156	188	220	252	284	316	348	380	412	444	476	508
1	0	1	1	1		29	61	93	125	157	189	221	253	285	317	349	381	413	445	477	509
0	1	1	1	1		30	62	94	126	158	190	222	254	286	318	350	382	414	446	478	510
1	1	1	1	1		31	63	95	127	159	191	223	255	287	319	351	383	415	447	479	511