®

NICOLS
Lighting Effect

STAR LASER

PROFESSIONAL LASER
SINGLE LASER

<u>USER MANUAL</u>

Thank you for using our products. For the sake of safety and better operation of this product, please read this manual carefully before

using and operating it.

1. **GENERAL INSTRUCTIONS**
   a. **UNPACKING**

Thank you for purchasing this product. Please read the user guide for safety and operations information before using the product. They contain important information about the security of the facility and on the use and maintenance of equipment.

Keep this manual for future reference. In case of sale of equipment to another user, it is important that this manual is attached to the equipment to the new user has the necessary information to use and can read the warnings on safety.

This product is suitable for creating perfect laser programs and high-quality laser effects.

Before any first use, unpack the set and make sure there was no damage during transport. Check for missing any part supplied with the laser:

- 1 x STAR LASER
- 1 x POWER CABLE
- 1 x USER MANUAL

NOTES :

Never look directly at the beam to avoid any visual problems.

Do not turn off and then turn on the unit back repeatedly so as not to reduce the lifetime of the device.

It is important to connect the laser to the ground to prevent electric shock.

Before any first use, make sure the power is compatible with the local voltage.

This device is designed for indoor use only. The working temperature is 18-30 ° C. Do not operate the device continuously for more than 4 hours to not reduce the lifetime of the device.

Use soft cloth to remove dust on the external lenses of the laser to optimize the light output.

Do not remove the labels on the device.

Always use parts of the same type.

LASER RADIATION
AVOID EXPOSURE TO BEAM
CLASS I LASER PRODUCT

   a. **SPECIFICATIONS**

Voltage : 230V/50Hz

Fuse : 2A/250V

Rated Power : 30W

Laser : Green 532 nm / 50 mW

DMX Control channels: 7 channels

Working modes : DMX, Sound activation, Auto, Master/Slave

Effects : more than 100 patterns, over 300 effects

Interface 3 pin XLR jack for DMX or Master/Slave linking

Dimensions : 240 x 220 x 140 mm

Weight : 3.5 kg

2. **FEATURES**

Various operating modes: 4 modes with DMX, Sound activation, Auto, Master/Slave

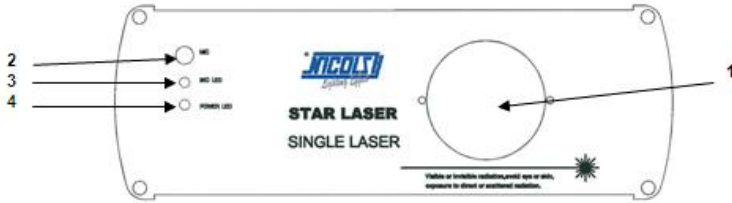Different programs: more than 50 patterns, over 200 laser effects.

DMX Control: The unit has 7 DMX channels + BLACK OUT. The unit will shut off if no DMX 512 signal.

Master/Slave function: several units can be interconnected in sound activation and auto mode.

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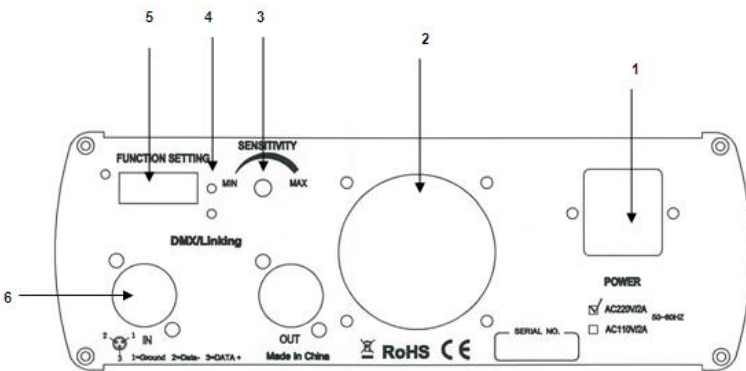
LASER : Green

→ FRONT PANEL

1. Laser aperture
2. Sound active microphone
3. Sound active Indicated : Blue LED
4. Power indicator : Red LED

→REAR PANEL

1. Power Jack
2. Cooling Fan
3. Audio sensitivity knob
4. DMX signal indicator : Green
5. Dipswitch : Setting functions
6. DMX or linking jack

3. FUNCTIONS AND SETTINGS

a. FUNCTIONS

i. MUSIC MODE

The change in the shape of the laser is controlled by the music. So, the rhythm of the music controls the effect of changing program of the laser. By turning the sensitivity knob in the direction of clockwise, you increase the sensitivity of the device. Instead, turning the same knob anticlockwise, you reduce the sensitivity. The laser turns off automatically after 8 seconds if the music fades.

ii. AUTO MODE

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

iii. DMX CONTROL

The system only accepts the DMX 512 signal to control the system mode: the laser pattern ON/OFF, the size, the position and the speed.

DMX Control Parameters Chart

CHANNELS	FUNCTION	VALUE	DESCRIPTION
CHANNEL 1	MODE	0～49	Closed, beam OFF
		50～99	DMX MODE: static patterns

		100～149	DMX MODE: dynamic patterns
		150～199	Sound active mode
		200～255	AUTO MODE
CHANNEL 2	Pattern selection	0～255	52 static/dynamic mode
CHANNEL 3	Position-X	0～255	Adjust position -X
CHANNEL 4	Position-Y	0～255	Adjust position-Y
CHANNEL 5	Scanning speed	0～255	0 : quick, 255 :slow
CHANNEL 6	Speed patterns	0～255	0 : quick, 255 : slow, 10 levels
CHANNEL 7	Static pattern size	0～255	0 : small ; 255 : big

Parameter Chart for Patterns selection

There are 52 static patterns. The sizes of the pattern that DMX value is 140 previous are adjustable, the following irregular patterns are not adjustable. There are 52 dynamic patterns programs whose size can not be changed.

DMX VALUE	STATIC PATTERNS	DYNAMC PATTERNS	DMX VALUE	STATIC PATTERNS	DYNAMC PATTERNS
0～4	circle	circle to big	130～134	christcross	dot diagonal move
5～9	dot circle 1	dot circle to big	135～139	chiasm line	horizontal 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 circe 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	DYNAMC PATTERNS	DMX VALUE	STATIC PATTERNS	DYNAMC PATTERNS
65～69	V dot line 1	horizontal 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

FUNCTION SETTINGS

Use DIP switches to assign a unit's function : DMX, Master / Slave, sound active or auto mode. For the unit is DMX mode, set the DMX address using dipswitch. Each dipswitch represents a binary value. Please refer to the chart below.

O=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	

Dipswitch #10 is used 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 received. Dipswitch #9 is used to set sound active or AUTO mode in master mode.

DMX ADDRESS CALCULATION

In DMX mode, the DIP switch from # 1 to # 9 should be set to record a DMX address. The address ranges from 1-511. Each dipswitch represents a binary value. Please refer to table below.

Dipswitch	VALUE	Dipswitch	VALUE
#1	1	#6	32
#2	2	#7	64
#3	4	#8	128
#4	8	#9	256
#5	16	#10	DMX, on "0"

Each unit has 7 channels. So each product may be receiving a 7-channel DMX address at least. If you assign an address on 8 channels, the DMX address is: 8*N +1, N=0, 1, 2, 3….

Example: Address 1 loop =1

Address 2 loop = 9

Address 3 loop = 17

Address 4 loop = 25

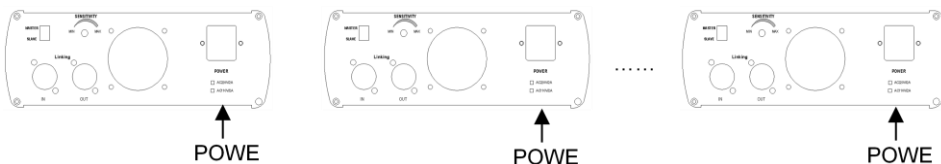| LOOP	ADDRESS	CODE	DIPSWITCH
1	1	100000000	#1
2	9	100100000	#1+#4
3	17	100010000	#1+#5
4	25	100110000	#1+#4+#5

Please refer to the chart on the last page to set the DIP switch according to the DMX address assignment.

4.   OPERATION

a.   STAND ALONE OPERATION : Sound activation and AUTO

This mode allows a single device to react to the sound of music.

1. Place the device in a suitable and stable position.
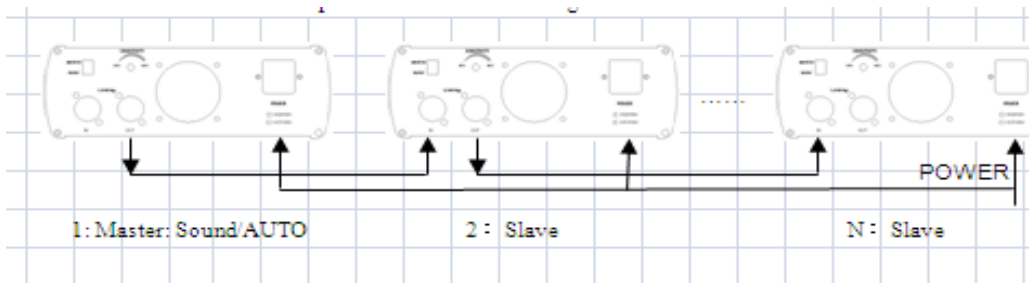2. Set the dipswitch to select AUTO or Sound active mode.
3. Turn on the unit. The unit resets then it begins to work.
4. The unit will react to low frequencies through the internal microphone. Adjust the sound sensitivity with the appropriate knob located at the rear of the unit. The LED indicates whether the music mode is activated.

POWE   POWE   POWE

b. MODE MASTER / SLAVE

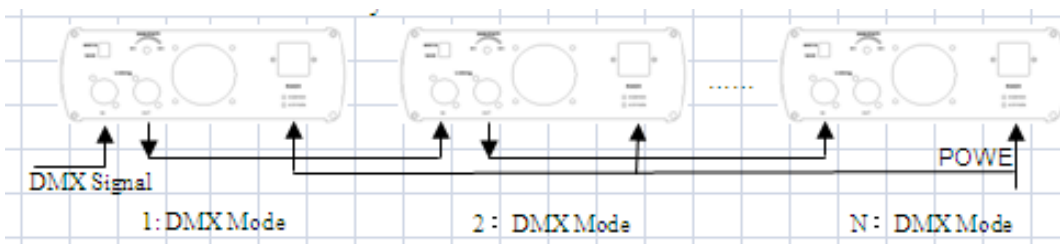This mode allows you to connect up to 32 units together without controller.

1. Install the unit in a suitable and stable position.

2. Choose a unit to function as master mode, set dipswitch to select AUTO or Sound active mode. The others must be set in slave mode. Set the DIP switch to slave mode.

3. Use an XLR cable to connect devices together. Taken at the rear of the unit.

4. Turn on all units. The devices reset and then begin to work. The slave units will react the same as the master unit.

5. The units respond to low frequencies through the internal microphone. Adjust the sound sensitivity with the appropriate knob located at the rear of the unit. The LED indicates whether the music mode is activated.

1: Master: Sound/AUTO   2: Slave   N: Slave

c. DMX MODE

This mode allows you to use the DMX 512 console to operate your devices.

1. Install the unit in a suitable and stable position.

2. Use an XLR cable to connect devices together. Taken at the rear of the unit

3. Assign a DMX address for each device using the DIP switch. Please refer to the chart on the last page.

4. Turn on all devices. The units reset, then begin to start working.

5. Use a DMX console to control your devices.

DMX Signal

1: DMX Mode   2: DMX Mode   N: DMX Mode

NOTE:

1. DMX console can not be operated in Master / Slave (AUTO / SOUND ACTIVE mode)

2. There must be only 1 single master unit in Master / Slave mode

5. *TROUBLESHOOTING*

1. If the power indicator does not lit up and the device does not work, please check the power cable is properly connected and if the input voltage is compatible with that of the device.

2. In Stand alone operation, if the power indicator lights up and sound active indicator does not lit up and the light beam does not work.

    a. The sound is too low. Increase the volume of music or sound sensitivity.

    b. Check if the device is in slave mode then set up in master mode.

3. In Master / Slave mode, the slave units does not work

    a. Make sure there is only 1 single unit in the master channel and the other units are set as a slave.

    b. Make sure you are not using a DMX console

    c. Make sure the cables are of good quality and the connections are properly made.

4. In DMX mode, the beam does not work and the DMX signal is off.

    a. Make sure the DMX mode is activated.

    b. Make sure the cables are of good quality and the connections are properly made.

5. In DMX mode, the laser is not controlled by the DMX console, DMX signal indicator flashes. Make sure the console and the units have the same channel.

6. If the direction of the beam is not correct, restart the machine.

7. If the unit does not work properly, turn the unit off then back on.

If the unit meets other operational problems, we recommend that you contact your dealer.

TABLE SET DMX ADDRESS

DipSwitch Position

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 ON	#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	259	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

DipSwitch Position   **DMX Address**

RoHS conform CE