



Shogun Club RGB-120

ORDERCODE 32021



SHOWELECTRONICS FOR PROFESSIONALS

Congratulations!

You have bought a great, innovative product from Showtec.

The Showtec Shogun Club RGB-120 brings excitement to any venue. Whether you want simple plug-&-play action or a sophisticated DMX show, this product provides the effect you need.

You can rely on Showtec, for more excellent lighting products.

We design and manufacture professional light equipment for the entertainment industry.

New products are being launched regularly. We work hard to keep you, our customer, satisfied.

For more information: iwant@showtec.info

You can get some of the best quality, best priced products on the market from Showtec.

So next time, turn to Showtec for more great lighting equipment.

Always get the best -- with Showtec !

Thank you!



Showtec Shogun Club RGB-120™ Product Guide

Warning	2
Safety-instructions.....	2
Operating Determinations.....	4
Rigging.....	5
Description	6
Features and Overview	6
Backside.....	7
Set Up and Operation	7
One Shogun RGB-120 Stand-alone mode.....	8
One Shogun RGB-120 Sound-Active.....	8
One Shogun RGB-120 Auto Mode.....	8
Multiple Shoguns RGB-120 Master-Slave.....	8
Multiple Shoguns RGB-120 DMX Control.....	9
DMX Dipswitch setting.....	11
DMX Quick Reference Chart.....	12
DMX Channels.....	13
Maintenance	15
Cleaning the Laser Optics.....	15
Replacing the Fuse.....	15
Troubleshooting	16
No Light.....	16
No Response to DMX	16
Product Specifications	17

WARNING



FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE YOUR INITIAL START-UP!

SAFETY INSTRUCTIONS

Every person involved with the installation, operation and maintenance of this device has to:

- be qualified
- follow the instructions of this manual



Before your initial start-up, please make sure that there is no damage caused by transportation. Should there be any, consult your dealer and do not use the device.

To maintain perfect 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.

Please consider that damages caused by manual modifications to the device are not subject to warranty.

This device contains no user-serviceable parts. Refer servicing to qualified technicians only.

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.

- Never unscrew the housing!
- Never aim the laser beam at people or animals!
- Never let the power-cord come into contact with other cables! Handle the power-cord and all connections with the mains with particular caution!
- Never remove warning or informative labels from the unit.
- Never use anything to cover the ground contact.
- Never look directly into the light source.

- Never leave any cables lying around.
- Do not insert objects into air vents.
- Do not connect this device to a dimmerpack.
- Do not switch the device on and off in short intervals, as this would reduce the lamp's life.
- Do not shake the device. Avoid brute force when installing or operating the device.
- Only use device indoor, avoid contact with water or other liquids.
- Only operate the device after having familiarized with its functions.
- Avoid flames and do not put close to flammable liquids or gases.
- Always check the regulations when using a laser product.
- Always check and position the laser before anybody enters the room, when the laser is facing an area with people.
- Always allow free air space of at least 50 cm around the unit for ventilation.
- Always disconnect power from the mains, when device is not used, before cleaning! Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.
- Make sure that the device is not exposed to extreme heat, moisture or dust.
- Make sure that the available voltage is not higher than stated on the rear panel.
- Make sure that the power-cord is never crimped or damaged. Check the device and the power-cord from time to time.
- If device is dropped or struck, disconnect mains power supply immediately. Have a qualified engineer inspect for safety before operating.
- If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), 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.
- If your Showtec device fails to work properly, discontinue use immediately. Pack the unit securely (preferably in the original packing material), and return it to your Showtec dealer for service.
- For adult use only. Lighteffect must be installed out of the reach of children. Never leave the unit running unattended.
- For replacement use fuses of same type and rating only.
- The user is responsible for correct positioning and operating of the laser. The manufacturer will not accept liability for damages caused by the misuse or incorrect installation of this laser.
- This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.
- The laser will only work between 15-35°C.
- After 3 hours working, you must shut off the laser and let the laser diode cool off for 30 minutes, otherwise the laser could be damaged and the warranty becomes void.
- Repairs, servicing and electric connection must be carried out by a qualified technician.
- WARRANTY: Till one year after date of purchase.



CAUTION: AVOID EXPOSURE TO BEAM: Avoid direct eye contact with laser light. Never intentionally expose your eyes or others to direct laser radiation.

Compliance Statement

Your Shogun Laser has been designed to comply with FDA and IEC Standards for its classification.

Laser Safety and Compliance Information

The Shogun is manufactured to comply with the IEC 60825-1 and in accordance with U.S. Food and Drug Administrations (FDA) Standards Listed under FDA Document 21 CFR 1040 and subsequent laser notices.

Product Classification and Manufacturing Label Identification

Laser medium: wavelength 532 nm / Green (DPSS)
wavelength 650 nm / Red (Laser Diode)
wavelength 473 nm / Blue (DPSS)
Output: 120mW (80mW Red/ 50mW Green/ 20mW Blue)
Cooling: TE Cooling

CAUTION: *The use of corrective eye wear or optics for viewing at distances such as telescopes or binoculars within a distance of 100mm may pose an eye hazard.*



There are no user serviceable parts inside. Tampering or removing warranty seals will void your products limited warranty.



Combo label with the Product Model Number, Serial Number, Date of Manufacturing, Laser Light Warning Label, Warranty Void Label and Interlocked Housing Label

OPERATING DETERMINATIONS

This device is not designed for permanent operation. Consistent operation breaks will ensure that the device will serve you for a long time without defects.

The minimum distance between light-output and the illuminated surface must be more than 0.8 meter.

The maximum ambient temperature t_a must never be exceeded.

If this device is operated in any other way, than the one described in this manual, the product may suffer damages and the warranty becomes void.

Any other operation may lead to dangers like short-circuit, burns, electric shock, lamp explosion, crash etc. You endanger your own safety and the safety of others!

Rigging

Please follow the European and national guidelines concerning rigging, trussing and all other safety issues.

Do not attempt the installation yourself !

Always let the installation be carried out by an authorized dealer !

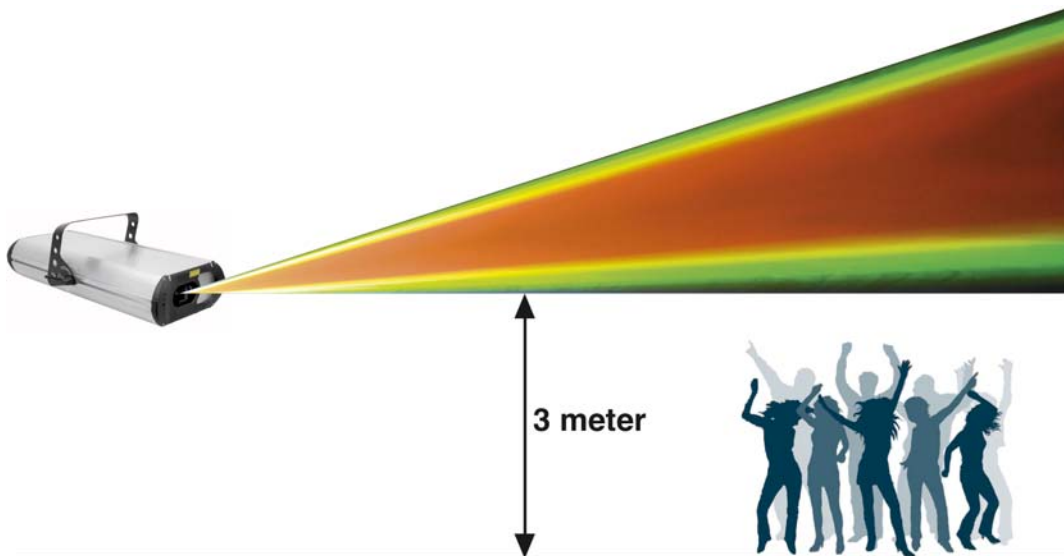
Procedure:

- If the laser is lowered from the ceiling or high joists, professional trussing systems have to be used.
- Use a clamp to mount the laser, with the mounting-bracket, to the trussing system.
- The laser must never be fixed swinging freely in the room.
- The installation must always be secured with a safety attachment, e.g. an appropriate safety net or safety-cable.
- When rigging, derigging or servicing the laser, always make sure, that the area below the installation place is blocked and staying in the area is forbidden.

Improper installation can cause serious damage to people and property !

Proper Usage Safety and Compliance Information

According to FDA Regulations you should operate this product as stated below.



Connection with the mains

Connect the device to the mains with the power-plug.

Always pay attention, that the right color cable is connected to the right place.

Cable	Pin	International
BROWN	FASE	L
BLUE	NUL	N
YELLOW/GREEN	EARTH	⏚

Make sure that the device is always connected properly to the earth!

Description of the device

Features

The Showtec Shogun Club RGB-120 is a laser effect with a high output and great effects.

- 80 mW Red laser Diode (650nm)
- 50 mW Green laser DPSS (532nm)
- 20 mW Blue laser DPSS (473nm)
- DMX-control via standard DMX-controller
- 64 Patterns
- 10K closed loop scanning pair
- 13 DMX-control channels required
- RGB TTL modulation
- Sound-controlled via built-in microphone
- Fuse T2A / 250V

Overview



Fig. 1

- 1) Power LED
- 2) Laser indicator LED
- 3) Microphone
- 4) Sound Active LED
- 5) DMX indicator LED

Backside



Fig. 2

- | | |
|-------------------------------|--|
| 6) Dip Switches | 10) Power ON/OFF |
| 7) Remote Interlock Connector | 11) DMX signal connector (OUT) |
| 8) Sound Sensitivity control | 12) IEC Power Connector / Fuse 2A / 250V |
| 9) Key System | 13) DMX signal connector (IN) |

Remote Interlock Connector: Use a DB9 connector to connect to the Remote Interlock, which stops the beam being emitted once the connection loop has been opened.

Key System: When the key is locked, the unit stops emitting the laserbeam but keeps the power on, and the steppers keep working. Only when the key is turned, after 15 seconds, the projector starts emitting the laserbeam. 5 seconds before emitting, there is a rattling sound.

Set Up and Operation

Follow the directions below, as they pertain to your preferred operation mode.

Remove the protection cover from the front of the laser. When the laser is not in use, please replace the cover to protect the laser.

Before plugging the unit in, always make sure that the power supply matches the product specification voltage. Do not attempt to operate a 120V specification product on 230V power, or vice versa.

Working Temperature: 15-35°C.

Higher or lower ambient temperatures will quickly reduce the laser output and laser life !

After 3 hours working, you must shut off the laser and let the laser diode cool off for 30 minutes.

Always disconnect from electric mains power supply before cleaning or servicing.

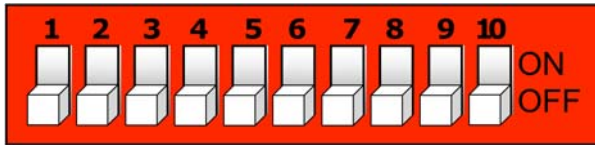
Damages caused by non-observance are not subject to warranty.

One Shogun RGB-120 (Stand-alone)

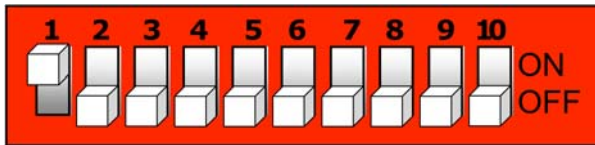
There are 4 possibilities:

- Stand Alone
- Sound-active mode (Master)
- Auto Mode (Master)
- DMX

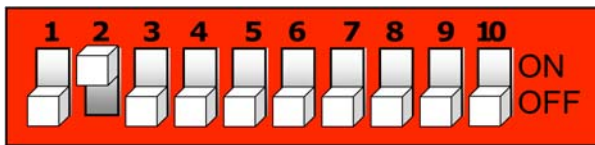
1. Fasten the Shogun onto firm trussing (Use a 50-kg (70359, 70359B, 70351) rated or stronger C-clamp bolted onto the Showtec Shogun bracket). Leave at least 0,5 meter on all sides for air circulation.
2. Plug the cord into a proper electric power supply socket.



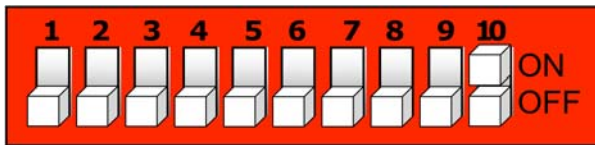
Sound Active



Auto Mode



Slave




DMX Mode

Use Dipswitches #1 - #9 to set a DMX Address.

Sound-Active

Turn on the music. If Dip switches are all set to 0, then the fixture will react to the beat of the music. See page 10 for Dipswitch settings. After every new dipswitch setting you have to disconnect the power, and then turn the power on to activate the new dipswitch setting. You can use the Audio sensitivity knob on the back of the Shogun, to adjust the sensitivity reaction to the music.

Auto Mode

If Dip switches are set to  , then the fixture will play all pre-programmed patterns.

Multiple Shoguns RGB-120 (Master-Slave)

1. Fasten the effect light onto firm trussing (Use a 30-kg rated or stronger C-clamp fastened onto the Shogun). Leave at least 1 meter on all sides for air circulation.
2. Use a 3-p XLR cable to connect the Shoguns and other devices.

The pins:



1. Earth
2. Signal -
3. Signal +

3. Link the units as shown in (figure 3), Connect a DMX signal cable from the first unit's DMX "out" socket to the second unit's "in" socket. Repeat this process to link the second, third, and fourth units.

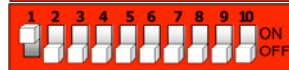
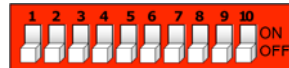
4. Set DMX dip switches as follows (See Dip Switch setting [page 10](#)).

Shogun RGB-120

DMX Dip Switches "ON"

Unit 1 (Master)

Either Sound Active
or Auto Mode



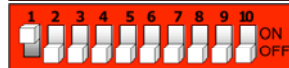
Unit 2 (Slave)

Dipswitch #2 ON



Unit 3 (Slave)

Dipswitch #2 ON



Unit 4 (Slave)

Dipswitch #2 ON



5. Supply electric power: Plug the end of the mains power cord into proper electric power supply sockets.

Multiple Shoguns RGB-120 (DMX Control)

1. Fasten the effect light onto firm trussing (Use a 50-kg (70359, 70359B, 70351) rated or stronger C-clamp bolted onto the Showtec Shogun bracket). Leave at least 0,5 meter on all sides for air circulation.
2. Use a 3-p XLR cable to connect the Shoguns and other devices.

The pins:



1. Earth
2. Signal -
3. Signal +

3. Link the units as shown in (figure 3), Connect a DMX signal cable from the first unit's DMX "out" socket to the second unit's "in" socket. Repeat this process to link the second, third, and fourth units.
4. Set DMX dip switches as follows (See Dip Switch setting [page 10](#)).

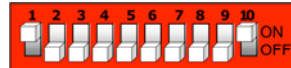
Shogun RGB-120

Address Value

DMX Dip Switches "ON"

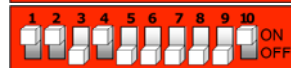
Unit 1

1



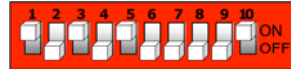
Unit 2

11



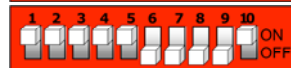
Unit 3

21



Unit 4

31



5. Supply electric power: Plug the end of the mains power cord into proper electric power supply sockets. Do so for all units and the controller. You can control up to 32 Shogun devices in Master-Slave Mode.

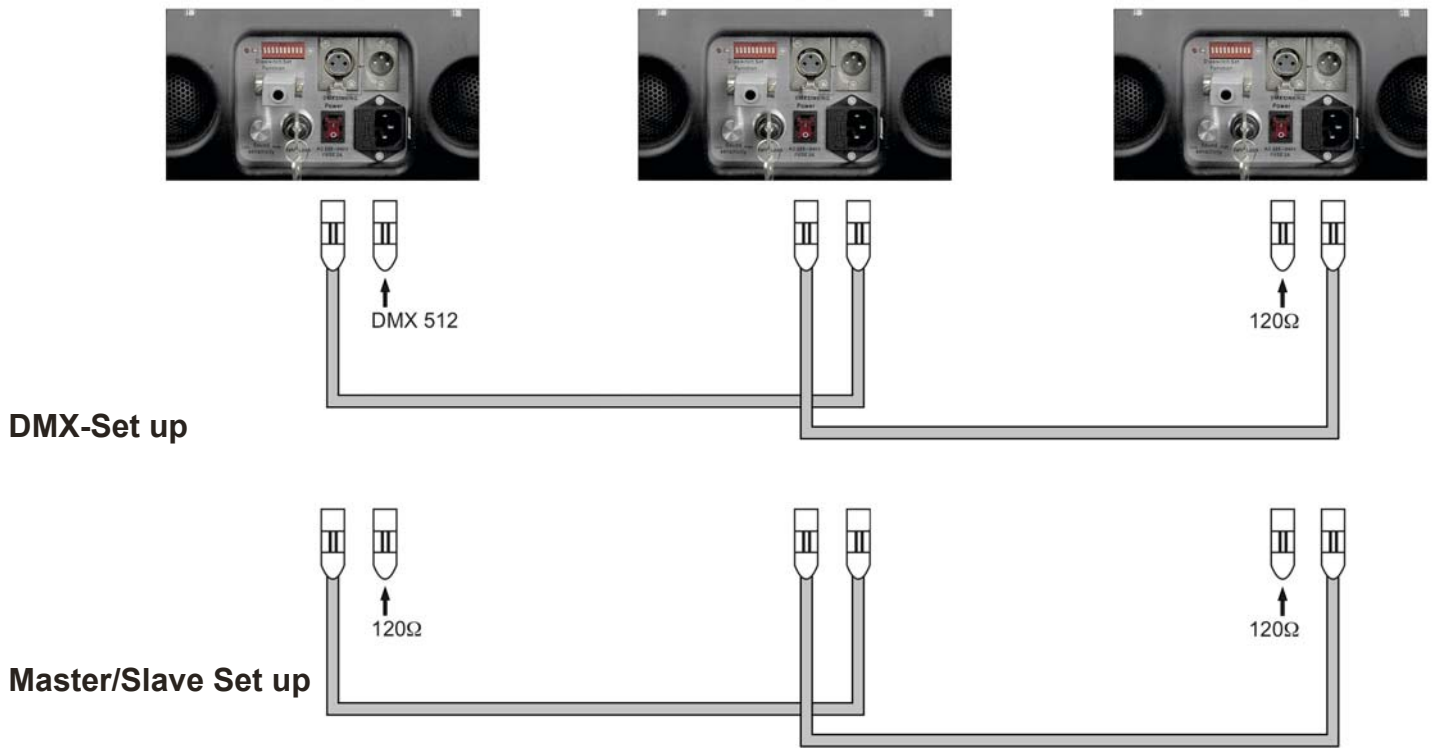


Fig. 3


Note : Link all DMX cables and set dip switches before connecting electric power

6. Do not supply power before the whole system is set up and connected properly. Design your show according to your DMX controller functions. After every new dipswitch setting you have to disconnect the power, and then turn the power on to activate the new dipswitch setting.

DMX Dip Switch Setting

DMX products must have their own "address" to receive DMX signals. Addresses on the Showtec Shogun Club RGB-120 are set by flipping the appropriate DMX dip switches.

A standard DMX address for a Showtec Shogun RGB-120, which has 13 channels is as follow:

Shogun RGB-120	Address Value	DMX Dip Switches "ON"
Unit 1	1	
Unit 2	11	
Unit 3	21	
Unit 4	31	

Explanation: Since each unit has 13 channels, each address advances 13 values (See Address Value above).

Once address values are determined, set the appropriate DMX dip switches on each unit.

Example:

1. If you want to give a Shogun DMX address 133, you first have to find the number 133 in the DMX Chart.
2. Then look at the left side (Dip Switches #1-#5) horizontally from 133.
In the Table you'll see #1=ON, #2=OFF, #3=ON, #4=OFF, #5=OFF.
3. Finally look at the upper side of the table (Dip Switches #6-#9) vertically from 133.
In the Table you'll see #6=OFF, #7=OFF, #8=ON, #9=OFF.

DMX Address Quick Reference Chart

DMX DIP SWITCH SET					#9	#8	#7	#6
0=OFF					0	0	0	0
1=ON					0	1	0	0
					0	0	1	1
					0	1	0	1

#1	#2	#3	#4	#5		32	64	96	128	160
0	0	0	0	0						
1	0	0	0	0		1	33	65	97	129
0	1	0	0	0		2	34	66	98	130
1	1	0	0	0		3	35	67	99	131
0	0	1	0	0		4	36	68	100	132
1	0	1	0	0		5	37	69	101	133
0	1	1	0	0		6	38	70	102	134

DMX Address Quick Reference Chart

Dip Switch Position

DMX DIP SWITCH SET 0=OFF 1=ON					#9	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	
#1	#2	#3	#4	#5	#8	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
#1	#2	#3	#4	#5	#7	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
#1	#2	#3	#4	#5	#6	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
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	

Dip Switch Position

DMX Address

DMX Channels

Channel 1 – Mode

0-63	DMX Control Sound Active
64-127	DMX Control Auto Run
128-191	Manual Select Sound Active
192-255	Manual Select Auto Run

Channel 2 – Colour Select

0-17	Closed Beam
18-35	Fast Cut beam
36-53	White
54-72	Red
73-89	Yellow
90-107	Green
108-125	Cyan
126-143	Blue
144-161	Magenta
162-179	Multi Colour
180-215	Rainbow
216-233	Multi Colour Run
234-251	Flash Effect
252-255	Multi Colour

Channel 3 – Pattern Select

0-255	64 Patterns
-------	-------------

Channel 4 – Turn (CH4 + CH5 work together)

0-22	No Turn
23-255	Turn (slow to fast)

Channel 5 – X, Y Turn

0-63	No Turn
64-127	X-Turn
128-191	Y-Turn
192-255	X- and Y-Turn

Channel 6 – Dots

0-63	No Dots
64-127	Dots in Line
128-255	Dots, run from in to out

Channel 7 – Movement

0-63	No Movement
64-127	X-Movement
128-191	Y-Movement
192-255	Diagonal Movement

Channel 8 – Stretch X, Y

0-63	No Stretch
64-128	Horizontal Stretch

129-191	Vertical Stretch
192-255	Horizontal and Vertical Stretch

Channel 9 – Zoom

0-85	No Zoom
86-169	Zoom In (slow to fast)
170-255	Zoom Out

Channel 10 – Draw Speed

0-255	255/23= 0-11 Different speeds 0 = original size, 1-11 = Zoom In, 12-23 = Zoom Out-
-------	---

Channel 11 – Scanning Rate

0-255	Adjust Scanning rate
-------	----------------------

Channel 12 – No Function

Channel 13 – Size

0-255	From Big to Small
-------	-------------------

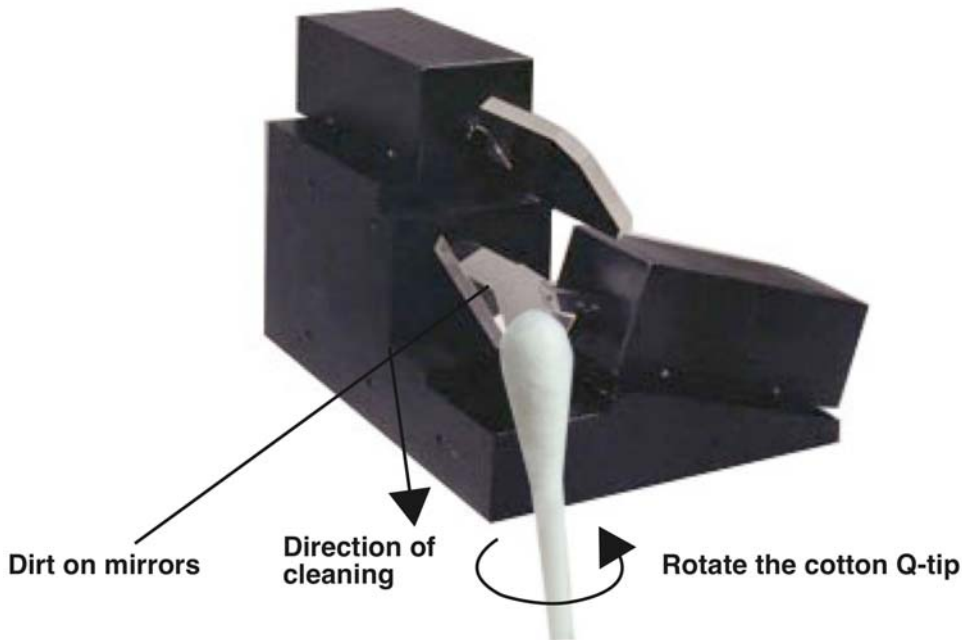
Cleaning the Laser Optics

Always use a new Q-tip or cotton swab for each pass.

Use only Reagent-grade acetone or 90% isopropyl alcohol.

Do not use too much force, otherwise the mirror may break.

**Always turn the power off before cleaning.
Let mirror dry before using the laser again.**



Maintenance

The Showtec Shogun Club RGB-120 requires almost no maintenance. However, you should keep the unit clean. Otherwise, the fixture's light-output will be significantly reduced. Disconnect the mains power supply, and then wipe the cover with a damp cloth. Do not immerse in liquid. Carefully wipe both mirrors clean with glass cleaner and a soft cloth. Do not use alcohol or solvents.

The mirrors will require regular cleaning, as smoke-fluid tends to build up residues, reducing the light-output quickly.

Keep connections clean. Disconnect electric power, and then wipe the DMX and audio connections with a damp cloth. Make sure connections are thoroughly dry before linking equipment or supplying electric power.

The following points have to be considered during the inspection:

1. All screws used for installing the device or parts of the device have to be tightly connected and must not be corroded.
2. There may not be any deformations on housings, fixations and installation spots.
3. The electric power supply cables must not show any damages or material fatigue.

Replacing the Fuse

Power surges, short-circuit or inappropriate electrical power supply may cause a fuse to burn out. If the fuse burns out, the product will not function whatsoever. If this happens, follow the directions below to do so.

1. Unplug the unit from electric power source.
2. Insert a screwdriver into the slot in the fuse cover. Turn the screwdriver to the left, at the same time gently push a bit (Turn and Push). The fuse will come out.
3. Remove the used fuse. If brown or unclear, it is burned out.
4. Insert the replacement fuse into the holder where the old fuse was. Reinsert the fuse cover. Be sure to use a fuse of the same type and specification. See the product specification label for details.

Troubleshooting

No Light

This troubleshooting guide is meant to help solve simple problems. If a problem occurs, carry out the steps below in sequence until a solution is found. Once the unit operates properly, do not carry out following steps.

If the light effect does not operate properly, refer servicing to a technician.

Response: Suspect three potential problem areas: the power supply, the laser, the fuse.

1. Power supply. Check that the unit is plugged into an appropriate power supply.
2. The laser. Return the device to your Showtec dealer.
3. The fuse. See page 13 for replacing the fuse.

No Response to DMX

Response: Suspect the DMX cable or connectors, a controller malfunction, a light effect DMX card malfunction.

1. Check the DMX cable: Unplug the unit; change the DMX cable; then reconnect to electrical power. Try your DMX control again.
2. Determine whether the controller or laser effect is at fault. Does the controller operate properly with other DMX products ? If not, take the controller in for repair. If so, take the DMX cable and the light effect to a qualified technician.

Product Specification

Model: Showtec Shogun Club RGB-120
Voltage: 240V-50Hz (CE)
Fuse: T2A / 250V
Dimensions: 390x285x135mm (LxWxH)
Weight: 11,75 kg

Operation and Programming

DMX Channels: 13
Signal input 3-pin XLR male
Signal output 3-pin XLR female
DMX-control via standard DMX-controller

Laser

80 mW Red laser Diode (650nm)
50 mW Green laser DPSS (532nm)
20 mW Blue laser DPSS (473nm)

Minimum distance:

Minimum distance from flammable surfaces: 0.5m
Minimum distance to lighted object: 0.8m



Design and product specifications are subject to change without prior notice.





© 2006 Showtec.