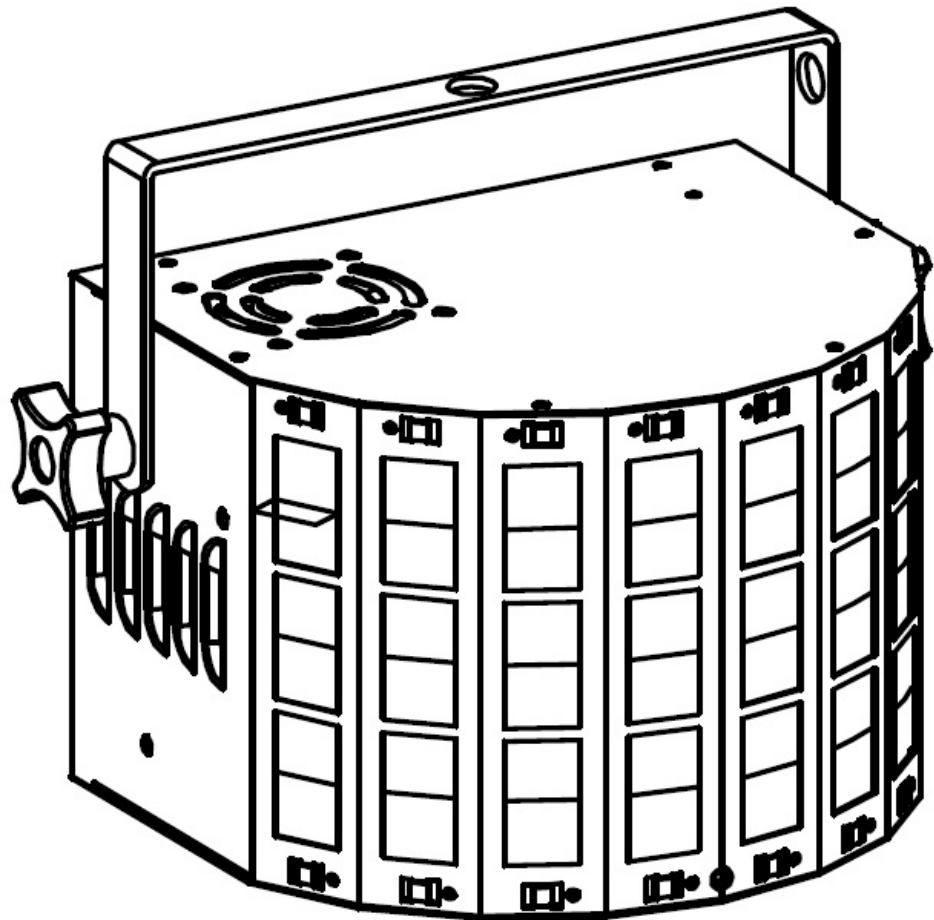




Manual



**LED Derby ST**

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## 1. Safety instructions



- This device is suitable for indoor use (not outdoors) only.
- All modifications to the device will void the warranty.
- Repairs are to carry out by skilled personnel only.
- Use only fuses of the same type and original parts as spare parts.
- Protect the unit from rain and humidity to avoid fire and electric shocks.
- Make sure to unplug the power supply before opening the housing.

### 1.1. FOR SAFE AND EFFICIENT OPERATION

#### **Be careful with heat and extreme temperature**

Avoid exposing it to direct rays of the sun or near a heating appliance.  
Not put it in a temperature bellow 32°F /0°C, or exceeding 104°F /40°C.

#### **Keep away from humidity, water and dust**

Do not place the set in a location with high humidity or lots of dust.  
Containers with water should not be placed on the set.

#### **Keep away from sources of hum and noise**

Such as transformer motor, tuner, TV set and amplifier.

#### **To avoid placing on un-stable location**

Select a level and stable location to avoid vibration.

#### **Do not use chemicals or volatile liquids for cleaning**

Use a clean dry cloth to wipe off the dust, or a wet soft cloth for stubborn dirt.

#### **If out of work, contact sales agency immediately**

Any troubles arose, remove the power plug soon, and contact with an engineer for repairing, do not open the cabinet by yourself, it might result a danger of electric shock.

#### **Take care with the power cable**

Never pull the power cable to remove the plug from the receptacle, be sure to hold the plug. When not using the device for an extended period of time, be sure to disconnect the plug from the receptacle.

#### **Important:**

**Damages caused by the disregard of this user manual are not subject to warranty. The dealer will not accept liability for any resulting defects or problems. Make sure the electrical connection is carried out by qualified personnel. All electrical and mechanical connections have to be carried out according to the European safety standards.**

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## 2. Designated use

This device was developed for professional use on stages, in discos, theatres etc. The device is only approved for a connection up to 230V 50/60 Hz AC voltage and only for indoor use.

Regular breaks during operation increase the lifetime of your device.

Avoid convulsions or any form of forceful impact during the installation or the start-up of the device.

Make sure that the device is not exposed excessive heat, humidity or dust at the place of installation. Take care that no cables are lying around. You would endanger your own safety and also the safety of a third party.

It is not allowed to operate or store the device in an environment in which spray water, rain, humidity or fog is expected. Humidity or very high atmospheric humidity could reduce the isolation of the device and could cause deathly electric shocks. If you use fog devices the device has not be exposed to a direct smoke jet. There has to be a safety distance of at least 0,5m between this device and the fog machine. Make sure that the saturation of the fog has to enable a visibility of at least 10m.

The ambient temperature has to be between 0°C and +40°C. Avoid direct sunlight and close proximity to heaters. You have also to attend it during the transport in closed motor vehicles.

Operate the device not during thunderstorms. Surge voltages could destroy the device. Unplug the power supply during thunderstorms.

During the installation the use of the mounting bracket is obligatory.

Surrounding objects or surfaces should not be in contact with the device.

Make sure that during the installation and removal of the device the area below the place of installation is basically cordoned off. This also applies to implementation of service.

The device has basically been protected by a suitable safety.

Make familiar yourself with the functions of the device before start-up. People without the experience should not handle with the device. The most cause of functional disorder is inappropriate handling.

Do not use chemicals or volatile liquids for cleaning. Use a clean dry cloth to wipe off the dust, or a wet soft cloth for stubborn dirt.

For transport use the original packing or designated accessory to avoid damages during the transport.

**For reasons of safety unauthorized changes are forbidden.**

A usage of the device which differs from usages which are described in this manual can cause damages of the device. In that case the warranty expires. Additional you should notice that every differed usage is related with dangers and can cause e.g. an electrical short, fire, electric shock or crash.

## 2.1. Overhead installation



### Danger of life!

You have to observe the regulations of BGV C1 (formerly VBG 70) and EN60598-2-17 Installations are to carry out by skilled personnel only.

The suspension devices have to be built and measured so they can withstand for an hour the tenfold of the payload without suffering a permanent detrimental deformation.

Basically installation has to be made by using a second separate suspension. This can be e.g. a suitable net. The second suspension must be designed and attached so no part of the installation can fall down in case of failure.

During construction, reconstruction and deconstruction unnecessary stay in the range of moving areas, on lightning bridges, under elevated work stations or any other danger zones is forbidden.

The operator is obliged to follow safety-related and mechanical facilities:

- Before the first start-up or after critical changes before restarting it has to be checked by an expert.
- Review in the frame of the inspection test at least all four years by an expert. .
- Review by a qualified person at least once a year.

### How to carry out the overhead installation:

In tidal fall you should install the device out of the lounge area of people

**IMPORTANT!** Overhead installation requires a high level of experience. This includes knowledge of calculating the payload, used installation material and safety inspections of the used material and the projector whereas the required experience is not limited to this. Do not try to carry out installation yourself under any circumstances if you are not qualified. Contact a professional installer. An inappropriate installation can lead to injuries and/or damaged properties.

It is not allowed to install the device in the grip area of people.

If the device may hang from the ceiling or from high beams, the use of truss systems is mandatory. The device may not be installed so it can swing freely in the room.

Please note: Crashing down items can cause serious injuries! Do not install the projector, if you doubt the safety of a possible installation form!

Before installation make sure that the mounting surface has the ability to carry the tenfold point load of the own weight of the device.

Mount the device with the mounting-bracket to your trussing system using an appropriate clamp.

During overhead installation the device must be always secured by a safety rope which is designed to hold the twelvefold weight of device. Only safety ropes with quick-release safety fastener elements may be used. Hang up the safety rope in the hole of the mounting bracket. Direct the rope over the truss or an appropriate fastening point. Hang up the end in the fastening element and tie up the locking nut. A safety rope once exposed to failing load or damaged may not be used furthermore.

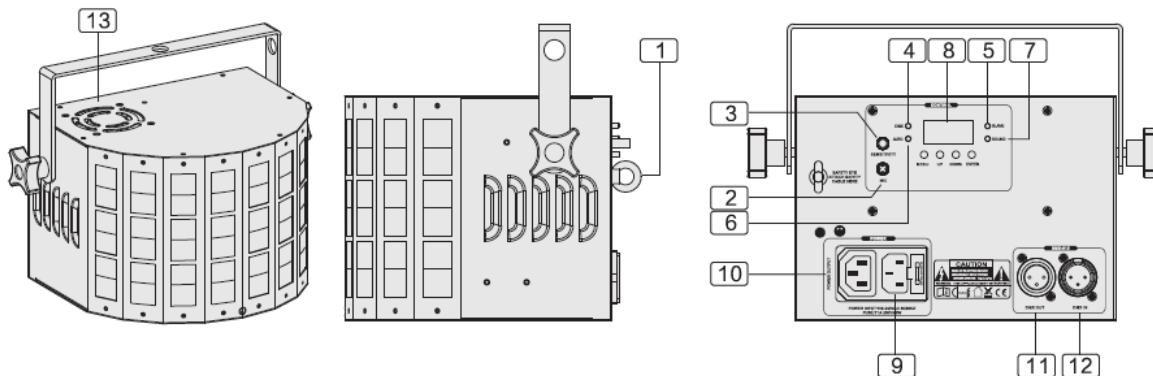
**The maximum drop exceed must not exceed 20cm.**

A safety rope once exposed to failing load or damaged may not be used furthermore. Adjust the desired inclination angle via the mounting bracket and tighten the screw.

### 3. Introduction

Thank you for buying the **LED Derby ST**. It is a powerful device.  
For a successful installation and operation, please read this manual carefully.

#### 3.1. Product overview



- 1. Safety eye**
- 2. Microphone**
- 3. Sensitivity knob for microphone**
- 4. DMX LED**

This LED lights red, when the device gets a DMX signal.

- 5. Slave LED**

This Led lights yellow, when the device is in slave mode.

- 6. AUTO LED**

This LED lights blue, when the device is in automatic mode.

- 7. MUSIC LED**

This Led lights green, when the LED is in Sound-to-Light mode.

- 8. Display**

- 9. Strom in IEC**

- 10. Strom out IEC**

- 11. DMX Out**

DMX Output XLR 3pol female

- 12. DMX In**

DMX Input XLR 3pol male

- 13. Fan**

Never cover the fan.

## 4. Connections

### 4.1. Electrical connections

If you wish to change the power supply settings, see the chapter Appendix. Connect the fixture to the mains with the enclosed power cable and plug. The earth has to be connected.

Cable (EU)	Cable (US)	Pin	International
Brown	Black	Live	L
Light blue	White	Neutral	N
Yellow/Green	Green	Earth	⊕

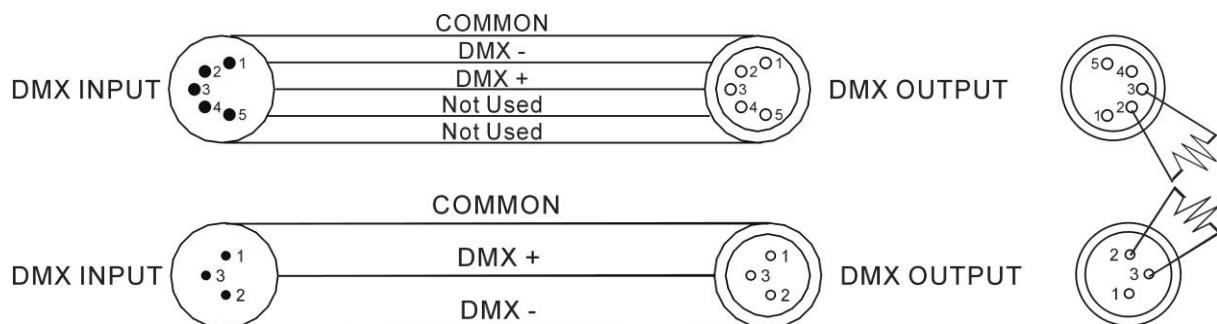
### 4.2. DMX connections

To make a DMX512 connection go ahead like it is described in the picture. Make sure that you use shielded cable. 3pole or 5pole XLR cables are suitable.

Important! After the last device the line has to be terminated. In order to do this you have to solder a  $120\Omega$  resistor between the pins Data + and Data -. You can solder this end resistor on a 3pin or 5pin XLR: Plug this adapter into the DMX output of the device.

### 4.3. DMX connection with terminator

Where the DMX cable has to run a long distance or the equipment is operated in an electrically noisy environment like a disco for installations, we recommend using a DMX terminator. This prevents corruption of the digital control signal by electrical noise. The DMX terminator is simply an XLR connector with a  $120\Omega$  resistor between pins 2 and 3, which is then plugged into the XLR output socket of the last device in the series. Please look to the bottom drawings.



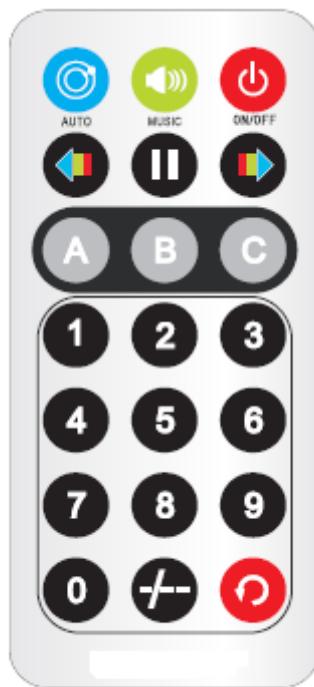
## 5. Control

Press MENU to reach the first menu and use UP/DOWN to get to submenu. To open submenu you have to press ENTER, here you can also reach other menu items with UP/DOWN buttons, confirm with ENTER. Press MENU to store your settings.

### 5.1. Structure of the menu

Menu	Submenu 1	Submenu 2	Function
AUT	AutM		Activates the show and setting the speed. slow - fast
	AutP	S01 – S99	Activates the automatic program and setting the speed. slow – fast
	AutF		Activates the strobe program and setting the speed. slow – fast
SOU	SouM		Activates the show in Sound – to – Light mode.
	SouP		Activates the automatic program in Sound – to – Light mode.
	SouF		Activates the strobe program in Sound-to-Light mode.
CoL	CoLo	r000 – r255	Dimmer red 0-100%
		G000 – G255	Dimmer green 0-100%
		b000 – b255	Dimmer blue 0-100%
		U000 – U255	Dimmer white 0-100%
		S00 – S99	Strobe slow – fast
Str	Stro	St01 – St18	Choose one of 18 strobe effects and setting the speed slow – fast
dMH	01Ch		Choose a DMX mode
	04Ch		
	d001 – d512		Setting the DMX address.
SLA	SLAv		Activates the slave mode.
SYS	LEDS	On / Off	
	vers		Shows the current software version.
	test		Test program
	rEST		Reset

## 5.2. Remote



	On / Off
	Pressing this button activates a random automatic show.
	Pressing this button activates a random Sound-to-Light show.
	Pressing this button activates an automatic program.
	Pressing this button activates a strobe program.
	Pressing this button activates a strobe.
	Pause
	Color change
	Setting the speed 0 = slow, 9 = fast

## 6. DMX chart

### 6.1. DMX mode 1 (1 channel)

Channel	Value from	Value to	Function
1	0	9	No function
	10	50	Show
	51	90	Automatic program
	91	130	Strobe program
	131	170	Show in Sound-to-Light mode
	171	210	Automatic program in Sound-to-Light mode
	211	255	Strobe program in Sound-to-Light mode

### 6.2. DMX mode 2 (4 channel)

Channel	Value from	Value to	Function
1	0	5	No function
	6	20	Red
	21	35	Green
	36	50	Blue
	51	65	White
	66	80	Red / Green
	81	95	Red / Blue
	96	110	Red / White
	111	125	Green / Blue
	126	140	Green / White
	141	155	Blue / White
	156	170	Red / Green / Blue
	171	185	Red / Green / White
	186	200	Green / Blue / White
	201	215	Red / Green / Blue / White
2	216	230	Color change 1
	231	255	Color change 2
3	0	5	No function
	6	255	Strobe slow – fast
	0		No function
	1	127	Motor indexing
	128	255	Speed
	0	9	No function
	10	19	Strobe Pattern 1 slow– fast
	20	29	Strobe Pattern 2 slow– fast
	30	39	Strobe Pattern 3 slow– fast
	40	49	Strobe Pattern 4 slow– fast
	50	59	Strobe Pattern 5 slow– fast
	60	69	Strobe Pattern 6 slow– fast
	70	79	Strobe Pattern 7 slow– fast

	80	89	Strobe Pattern 8 slow– fast
	90	99	Strobe Pattern 9 slow– fast
	100	109	Strobe Pattern 10 slow– fast
	110	119	Strobe Pattern 11 slow– fast
	120	129	Strobe Pattern 12 slow– fast
	130	139	Strobe Pattern 13 slow– fast
	140	149	Strobe Pattern 14 slow– fast
	150	159	Strobe Pattern 15 slow– fast
	160	169	Strobe Pattern 16 slow– fast
	170	179	Strobe Pattern 17 slow– fast
	180	255	Strobe Pattern 18 slow– fast

## 7. Technical data

<b>Power supply</b>	
Voltage	AC 100-240 V; 50/60 Hz
Power consumption max.	28 W
<b>Light source</b>	
LM type	LED single color
Color spectrum	RGBW
Wattage	20 W
Number / Wattage	4 x 3W (1x red, green, blue, white) 16 x 0,5 W Strobe LED white
<b>Connections</b>	
Strom in	IEC
Strom out	IEC
XLR in/out	3pol
<b>Controlling</b>	
Sound-to-light	Yes
Automatic	Yes
Master-Slave	Yes
DMX512	Yes
Number of channels	1 / 4 channel
<b>Hardware</b>	
Protection class	IP20
Suitability	Indoor
Dimensions (L/B/H)	190 x 258 x 182 mm
Weight	2,0 kg

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