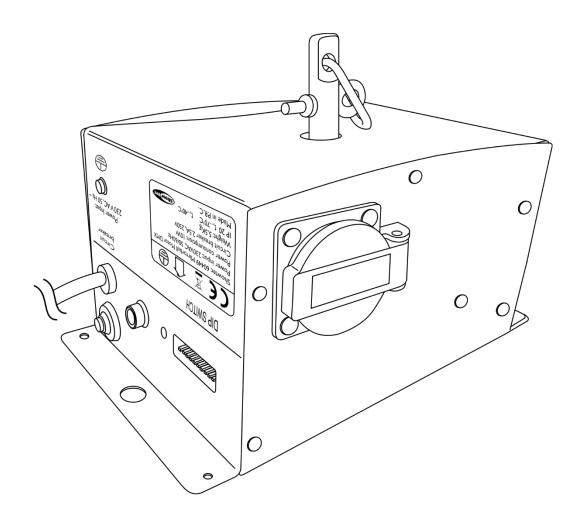


MANUAL



ENGLISH

Mirrorball Motor DMX 2 channel V2

Ordercode: 60449

Mirrorball Motor DMX 2 channel

Table of contents

Warning	
Safety Instructions	
Operating Determinations	
Rigging	
Connection with the mains	
Return Procedure	
Claims	
CIGITIS	
Description of the device	·······
Features	
Front	
Back	
DOCK	/
Installation	7
Installation.	/
Setup and Operation	7
Control Modes	
One Mirrorball Motor (Stand-alone)	
Multiple Mirrorball Motors (Master / Slave Control)	
Multiple Mirrorball Motors (DMX control)	
DIP switch setting for DMX Mode	
DMX Address Quick Reference Chart	
Fixture Linking	
Data Cabling	
DMX Channels	
2 Channels	13
A4 of other and a a	1
Maintenance	
Replacing the Fuse	14
Troubleshooting	1 /
———————————————————————————————————————	
No Light	I4
Product Specifications	1.6
rioduci specilicalions	I3
Notes	1.4



Warning



For your own safety, please read this user manual carefully before your initial start-up!

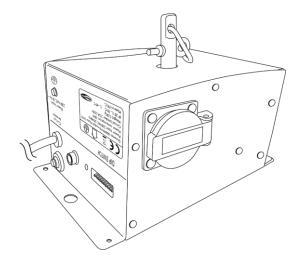


Unpacking Instructions

Immediately upon receiving this product, carefully unpack the carton and check the contents to ensure that all parts are present, and have been received in good condition. Notify the dealer immediately and retain packing material for inspection if any parts appear damaged from shipping or the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a fixture must be returned to the factory, it is important that the fixture be returned in the original factory box and packing.

Your shipment includes:

- Showtec Mirrorball Motor DMX 2 channel
- User manual





CAUTION!

Keep this device away from rain and moisture! Unplug mains lead before opening the housing!



Safety Instructions

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

- be qualified
- follow the instructions of this manual



CAUTION! Be careful with your operations.

With a dangerous voltage you can suffer a dangerous electric shock when touching the wires!



Before the 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 contained 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 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. Do not open the device and do not modify the device.
- Never use anything to cover the ground contact.
- Never look directly into the light source. Never leave any cables lying around.
- Never use the device during thunderstorms, unplug the device immediately. Never look directly into the light source.
- Do not connect this device to a dimmer pack.
- Do not switch the device on and off in short intervals, as this would reduce the device's life.
- Do not shake the device. Avoid brute force when installing or operating the device.
- Only use device indoors, avoid contact with water or other liquids.
- Only operate the fixture after having checked if the housing is firmly closed and all screws are tightly fastened.
- Only operate the device after having familiarized with its functions. Avoid flames and do not put close to flammable liquids or gases.
- Always disconnect power from the mains, when device is not used, before cleaning or when
 replacing lamp! 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 the external cable is damaged, it has to be replaced by a qualified technician.
- 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. The Mirrorball Motor must be installed out of the reach of children. Never leave the unit running unattended.
- The user is responsible for correct positioning and operating of the Mirrorball Motor.

 The manufacturer will not accept liability for damages caused by the misuse or incorrect installation of this mirror ball control system.
- This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.
- Repairs, servicing and electric connection must be carried out by a qualified technician.
- WARRANTY: Till one year after date of purchase.



CAUTION! Eyedamages!!!

Avoid looking directly into the lightsource!!!

(meant especially for epileptics)!!!





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.
- In order to eliminate wear and improve the device's lifespan, during periods of non-use, completely disconnect from power source via breaker or by unplugging.
- The maximum ambient temperature t_{α} = 40 °C must never be exceeded.
- The relative humidity must not exceed 50 % with an ambient temperature of 40 °C.
- 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, 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.

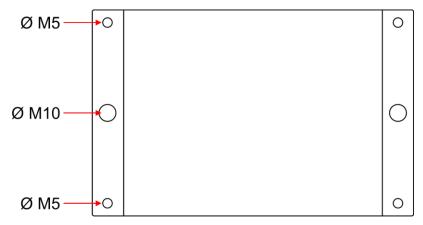
Do not attempt the installation yourself!

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

Procedure:

- If the device is lowered from the ceiling or high joists, professional trussing systems have to be used.
- The device 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 device, always make sure, that the area below the installation site is secured and that there are not any unauthorized people around.

Improper installation can cause serious injuries and/or damage of property!



The Mirrorball Motor can be mounted with M5 and M10 bolts.

Connection with the mains

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

Always check if the right color cable is connected to the right place.

<u>International</u>	EU Cable	UK Cable	US Cable	Pin
L	BROWN	RED	YELLOW/COPPER	PHASE
N	BLUE	BLACK	SILVER	NEUTRAL
(YELLOW/GREEN	GREEN	GREEN	PROTECTIVE GROUND

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

Improper installation can cause serious injuries and/or damage of property!



Mirrorball Motor DMX 2 channel





Return Procedure



Returned merchandise must be sent prepaid and in the original packing, call tags will not be issued. Package must be clearly labeled with a Return Authorization Number (RMA number). Products returned without an RMA number will be refused. Highlite will not accept the returned goods or any responsibility. Call Highlite 0031-455667723 or mail aftersales@highlite.com and request an RMA prior to shipping the fixture. Be prepared to provide the model number, serial number and a brief description of the cause of the return. Be sure to properly pack fixture as any shipping damage resulting from inadequate packaging is the customer's responsibility. Highlite reserves the right to use its own discretion to repair or replace product(s). As a suggestion, proper UPS packing or double-boxing is always a safe method to use.

Note: If you are given an RMA number, please include the following information on a piece of paper inside the box:

- 01) Your name
- 02) Your address
- 03) Your phone number
- 04) A brief description of the symptoms

Claims

The client has the obligation to check the delivered goods immediately upon delivery for any short-comings and/or visible defects, or perform this check after our announcement that the goods are at their disposal. Damage incurred in shipping is the responsibility of the shipper; therefore the damage must be reported to the carrier upon receipt of merchandise.

It is the customer's responsibility to report and submit claims with the shipper in the event that a fixture is damaged due to shipping. Transportation damage has to be reported to us within one day after receipt of the delivery.

Any return shipment has to be made post-paid at all times. Return shipments must be accompanied with a letter defining the reason for return shipment. Non-prepaid return shipments will be refused, unless agreed otherwise in writing.

Complaints against us must be prepared in writing or sent by fax within 10 working days after receipt of the invoice. After this period complaints will not be handled anymore.

Complaints will only then be considered if the client has so far complied with all parts of the agreement, regardless of the agreement from which the obligation is resulting.



Description of the device

Features

The Showtec Mirrorball Motor DMX 2 channel is a mirror ball control system.

- Input voltage: 230 V AC, 50/60 Hz
- Power consumption: 10 W
- Max. rotation speed: 5 RPM
- Mirror ball max. size: 50 cm
- Mirror ball max. load: 10 kg
- Control modes: Stand-alone, Master/Slave, DMX-512
- DMX channels: 2 channels
- Lamp connector: 1 x Schuko
- Housing: Metal & flame-retardant plastic
- Cooling: Convection
- IP rating: IP20
- Dimensions: 230 x 135 x 150 mm (LxWxH)
- Weight: 2,3 kg

Front

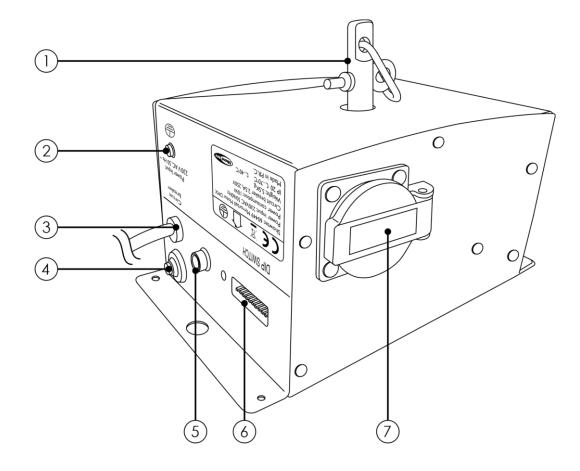


Fig. 01

- 01) Mirror ball attachment point
- 02) Ground/earth connection
- 03) Schuko power cable 230 V (0,8 m)
- 04) Circuit breaker
- 05) External switch 6,3 mm jack connector Connect an external (foot)switch and operate the device without DMX.
- 06) DIP switches
- 07) Schuko light fixture 60W OUT



Back

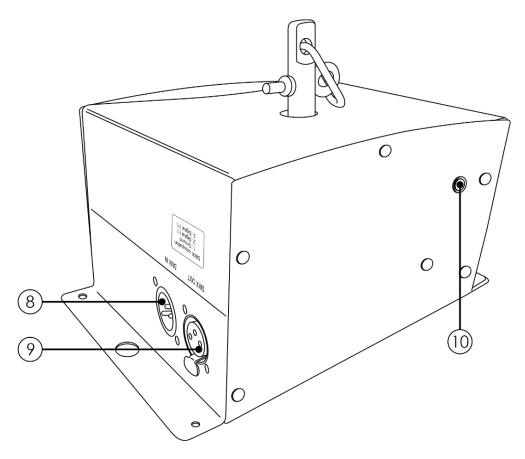


Fig. 02

- 08) 3-pin DMX signal connector IN
- 09) 3-pin DMX signal connector OUT
- 10) Ground/earth connection

Installation

Remove all packing materials from the Mirrorball Motor DMX 2 channel. Check if all foam and plastic padding is removed. Connect all cables.

Do not supply power before the whole system is set up and connected properly.

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

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

Setup and Operation

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

Before plugging the unit in, always make sure that the power supply matches the product specification voltage. Do not attempt to operate a 110 V specification product on 240 V power, or vice versa. Connect the device to the main power supply.



Control Modes

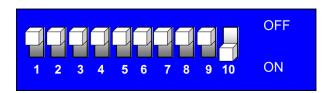
There are 3 modes: • Stand-alone

Master/Slave

DMX-512 (2CH)

One Mirrorball Motor (Stand-alone)

- 01) Fasten the motor onto firm trussing. Leave at least 0,5 meter on all sides for air circulation.
- 02) Always use a safety cable (ordercode 70140 / 70141).
- 03) Plug the end of the electric mains power cord into a proper electric power supply socket.
- 04) When the Mirrorball Motor is not connected with a DMX cable, it functions as a stand-alone device. DIP switch # 10 must always be set to ON for Stand-alone control.



Stand-alone: Dip switch # 10 to ON position.

- 05) Set DIP switches # 1–8 to ON position in order to set the rotation speed. The adjustment range is from slow to fast.
- 06) Set DIP switch # 9 to ON position for counterclockwise rotation. If DIP switch # 9 is in OFF position, the motor will rotate clockwise.

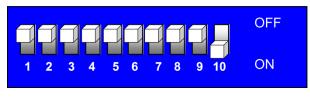
Multiple Mirrorball Motors (Master / Slave Control)

- 01) Fasten the motor onto firm trussing. Leave at least 0,5 meter on all sides for air circulation.
- 02) Always use a safety cable (ordercode 70140 / 70141).
- 03) Plug the end of the electric mains power cord into a proper electric power supply socket.
- 04) Use a 3-pin XLR cable to connect the Mirrorball Motors.

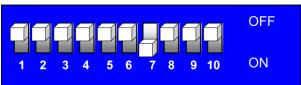
The pins:



- 01) Earth
- 02) Signal (-)
- 03) Signal (+)
- 05) Link the units as shown in Fig. 03. 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. This means that you can set your desired operation mode on the master device and all slave devices will react the same as the master device.
- 06) Set the DIP switches on the master and slave devices as follows:



Master device: DIP switch # 10 to ON position. The LED indicator next to the DIP switches will light red.

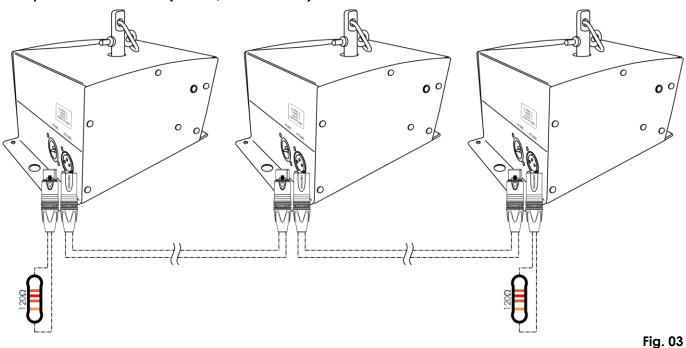


Slave devices: DIP switch # 10 to OFF position. One of the DIP switches # 1–9 to ON position. The LED indicator next to the DIP switches will blink.

- 07) On the master device, set DIP switches # 1–8 to ON position in order to set the rotation speed. The adjustment range is from slow to fast.
- 08) On the master device, set DIP switch # 9 to ON position for counterclockwise rotation. If DIP switch # 9 is in OFF position, the motor will rotate clockwise.
- 09) The slave devices will now react the same as the master device.

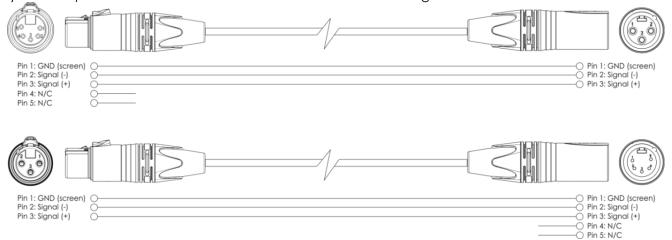


Multiple Mirrorball Motors (Master/Slave control)

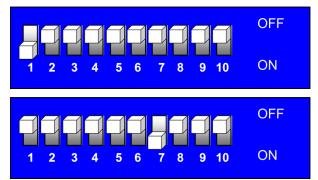


Multiple Mirrorball Motors (DMX control)

- 01) Fasten the effect light onto firm trussing. Leave at least 0,5 meter on all sides for air circulation.
- 02) Always use a safety cable (ordercode 70140 / 70141).
- 03) Use a 3-pin XLR cable to connect the Mirrorball Motor and a light controller.



- 04) Link the units as shown in Fig. 04. 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.
- 05) Set the DIP switches on the master and slave devices as follows:



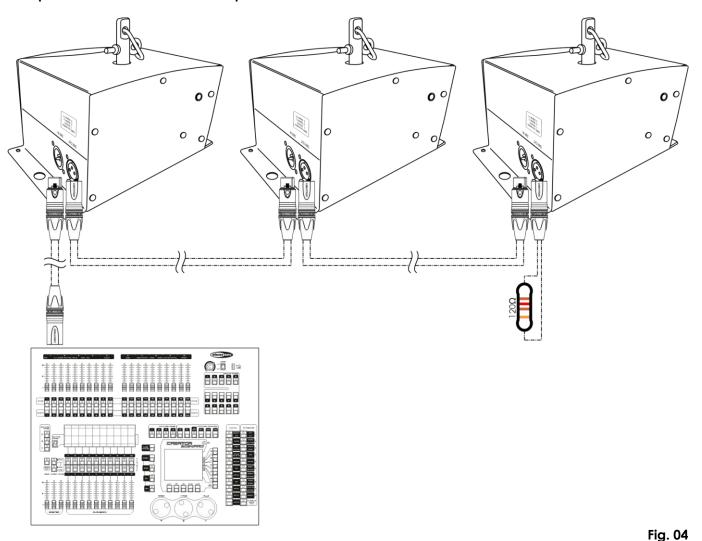
Master device: DIP switch # 10 to OFF position. DIP switch # 1 to ON position.

Slave device: All the slave devices should be set to the same DMX address as the master device (for more information, see page 11).

06) Supply electric power: Plug the mains power cord into proper electric power supply sockets, starting with the first unit. Do not supply power before the whole system is set up and connected properly.



Multiple Mirrorball Motors DMX Setup



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

After switching on, the Mirrorball will automatically detect whether DMX512 data is received or not. If there is no data received, the problem may be:

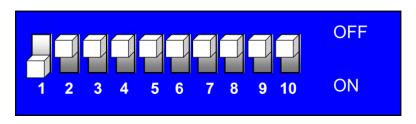
- The XLR cable from the controller is not connected to the input of the Mirrorball.
- The controller is switched off or defective, the cable connector is defective, or the signal wires are swapped in the output connector.

Note: It is necessary to insert an XLR termination plug (120 Ω) on the last fixture, in order to ensure proper transmission on the DMX data link.



DIP switch setting for DMX Mode

DMX products must have their own unique address to receive DMX signals. Addresses on the controller are set by flipping the appropriate DMX DIP switches.



You need to know that DMX address settings are the sum of the DIP switch values. A standard DMX address for the Mirrorball Motor DMX 2, which has 2 DMX channels, is as follows:

Example 1

Mirrorball Unit 4	Address Value 7	DMX DIP Switches "ON" #1, #2, #3	
Switch #1 #2 #3	Value 1 2 <u>4 +</u>		OFF
Total sum	7	1 2 3 4 5 6 7 8 9 10	ON

Explanation: Since each unit has 2 channels, each address advances by 2 DMX values (See Address Value above).

Once address values are determined, add DMX DIP switch values to obtain the appropriate address (DMX DIP Switches "ON") for each unit. Flip appropriate DMX DIP switches on each unit.

Example 2

- 01) If you want to give the Mirrorball a DMX address 133, you first have to find the number 133 in the DMX Address Quick Reference Chart (see page 12).
- 02) Then look at the left side (DIP Switches #1-#5) horizontally from 133. In the table you will see that #1=ON, #2=OFF, #3=ON, #4=OFF, #5=OFF.
- 03) Finally, look at the upper side of the table (DIP Switches #6–#9) vertically from 133. In the table below you will see that #6=OFF, #7=OFF, #8=ON, #9=OFF.
- 04) Therefore, in order to set the address to 133, you need to switch the DIP switches 1, 3 and 8 to ON position. The remaining DIP switches should be switched to OFF position.

DMX Address Quick Reference

D	DMX DIP SWITCH SET			#9	0	0	0	0	0	0	
		0=OFF	=		#8	0	0	0	0	1	1
		1=ON			#7	0	0	1	1	0	0
					#6	0	1	0	1	0	1
#1	#2	#3	#4	#5							
0	0	0	0	0			32	64	96	128	160
1	0	0	0	0		1	33	65	97	129	161
0	1	0	0	0		2	34	66	98	130	162
1	1	0	0	0		3	35	67	99	131	163
0	0	1	0	0		4	36	68	100	132	164
1	0	1	0	0		5	37	69	101	133	165
0	1	1	0	0		6	38	70	102	134	166



DMX Address Quick Reference Chart Dip Switch Position DMX DIP SWITCH SET 0=OFF #8 1=ON #7 #6 #2 #3 #5

Dip Switch Position

DMX Address



Fixture Linking

You will need a serial data link to run light shows of one or more fixtures using a DMX-512 controller or to run synchronized shows of two or more fixtures set to a master/slave operating mode. The combined number of channels required by all the fixtures on a serial data link determines the number of fixtures the data link can support.

Important: Fixtures on a serial data link must be daisy-chained in a single line. To comply with the

EIA-485 standard, no more than 30 devices should be connected on one data link. Connecting more than 30 fixtures on one serial data link without the use of a DMX optically

isolated splitter may result in deterioration of the digital DMX signal.



Maximum recommended DMX data link distance: 100 meters
Maximum recommended number of fixtures on a DMX data link: 30 fixtures

Data Cabling

To link fixtures together, you must obtain data cables. You can purchase DAP Audio certified DMX cables directly from a dealer/distributor or construct your own cable. If you choose to create your own cable, please use data-grade cables that can carry a high quality signal and are less prone to electromagnetic interference.

DAP Audio DMX Data Cables

- DAP Audio Basic microphone cable for allround use. bal. XLR/M 3-pin > XLR/F 3-pin. **Ordercode** FL01150 (1,5 m), FL013 (3 m), FL016 (6 m), FL0110 (10 m), FL0115 (15 m), FL0120 (20 m).
- DAP Audio X-type data cable XLR/M 3-pin > XLR/F 3-pin. Ordercode FLX0175 (0,75 m), FLX01150 (1,5 m), FLX013 (3 m), FLX016 (6 m), FLX0110 (10 m).
- DAP Audio cable for the demanding user with exceptional audio-qualities and connector made by Neutrik®. **Ordercode** FL71150 (1,5 m), FL713 (3 m), FL716 (6 m), FL7110 (10 m).
- DAP Audio cable for the demanding user with exceptional audio-qualities and connector made by Neutrik®. **Ordercode** FL7275 (0,75 m), FL72150 (1,5 m), FL723 (3 m), FL726 (6 m), FL7210 (10 m).
- DAP Audio 110 Ohm cable with digital signal transmission. **Ordercode** FL0975 (0,75 m), FL09150 (1,5 m), FL093 (3 m), FL096 (6 m), FL0910 (10 m), FL0915 (15 m), FL0920 (20 m).
- DAP Audio data cable FL08 DMX/AES-EBU, XLR/M 5-pin > XLR/F 5-pin. **Ordercode** FL08150 (1,5 m), FL083 (3 m), FL086 (6 m), FL0810 (10 m), FL0820 (20 m).
- DAP Audio DMX adapter: 5-pin/3-pin. Ordercode FLA29.
- DAP Audio DMX adapter: 3-pin/5-pin. **Ordercode** FLA30.
- DAP Audio DMX Terminator 3-pin. Ordercode FLA42.
- DAP Audio DMX Terminator 5-pin. Ordercode FLA43.

DMX Channels

2 Channels

Channel	1 – 1	Lamp	ON	/OFF
---------	-------	------	----	------

0–127	Lamp OFF
128–255	Lamp ON

Channel 2 – Motor rotation

0	Not functional
1–127	Counterclockwise rotation, from fast to slow
128	Stop
129–255	Clockwise rotation, from slow to fast



Maintenance

The operator has to make sure that safety-related and machine-technical installations are to be inspected by an expert after every year in the course of an acceptance test.

The operator has to make sure that safety-related and machine-technical installations are to be inspected by a skilled person once a year.

The following points have to be considered during the inspection:

- 01) All screws used for installing the device or parts of the device have to be tightly connected and must not be corroded.
- 02) There may not be any deformations on housings, fixations and installation spots.
- 03) Mechanically moving parts like axles, eyes and others may not show any traces of wearing.
- 04) The electric power supply cables must not show any damages or material fatigue.

The Mirrorball Motor DMX 2 channel requires almost no maintenance. However, you should keep the unit clean.

Please clean internal components once a year with a light brush and vacuum cleaner.

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

Replacing the Fuse

You do not have to replace the fuse on this device as the fuse is automatic.

- 01) In case of a power surge, short-circuit or inappropriate power supply, press the reset button located on the rear of the device, and the device will function normally.
- 02) Try to determine the cause of the problem, so that the situation does not happen in the future.

Troubleshooting

Ordercode: 60449

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.

No Light

If the mirror ball control system does not operate properly, refer servicing to a technician.

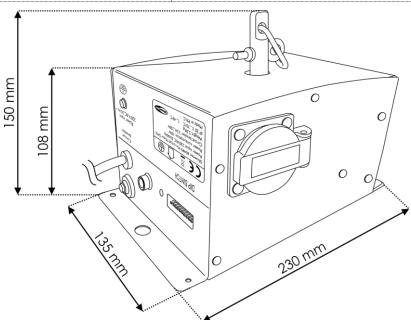
Suspect two potential problem areas as: the power supply and the motor.

- 01) Power supply. Check if the unit is plugged into an appropriate power supply.
- 02) The motor. Return the device to your Showtec dealer.
- 03) If both of the above appear to be O.K., plug the unit in again.
- 04) If you are unable to determine the cause of the problem, do not open the Mirrorball Motor, as this may damage the unit and the warranty will become void.
- 05) Return the device to your Showtec dealer.



Product Specifications

Model:	Showtec Mirrorball Motor DMX 2 channel
Input voltage:	230 V AC, 50/60 Hz
Power consumption:	10 W
DMX linking:	30 pcs
Dimensions:	230 x 135 x 150 mm (LxWxH)
Weight:	2,3 kg
Operating and Programming:	
Signal pin OUT:	Pin 1 (earth), pin 2 (-), pin 3 (+)
DMX Mode:	2 channels
Signal input:	3-pin XLR IN
Signal output:	3-pin XLR OUT
Electro-mechanical effects:	
Max. rotation speed:	5 RPM
Mirror ball max. size:	50 cm
Mirror ball max. load:	10 kg
DMX control:	via standard DMX controller
Control:	Stand-alone, Master/Slave, DMX512
Housing:	Metal & flame-retardant plastic
Connections:	Schuko power cable & data connector
Lamp connector:	1 x Schuko
IP rating:	IP20
Cooling:	Convection
Max. ambient temperature t_a :	40 °C
Max. housing temperature t_B :	70 °C
Minimum distance:	
Minimum distance from flammable surfaces:	0,5 m



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



Website: <u>www.Showtec.info</u> Email: <u>service@highlite.com</u>



Notes



Mirrorball Motor DMX 2 channel

Ordercode: 60449



Ordercode: 60449



