



LED Orbit I

ORDERCODE 41360



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Congratulations!

You have bought a great, innovative product from Showtec.

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

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

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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!



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WARNING



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



**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 have 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 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 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.
- Do not insert objects into air vents.
- Do not connect this device to a dimmerpack.
- Never look directly into the light source
- Do not switch the device on and off in short intervals, as this would reduce the lamp's life.
- Do not touch the device's housing bare-handed during its operation (housing becomes very hot).
- Only use device indoor, avoid contact with water or other liquids.
- Avoid flames and do not put close to flammable liquids or gases.
- Always keep case closed while operating.
- 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 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 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 replacement use lamps and fuses of same type and rating only.
- Allow time to cool down, before replacing lamp.
- This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.
- During the initial start-up some smoke or smell may arise. This is a normal process and does not necessarily mean that the device is defective.
- Repairs, servicing and electric connection must be carried out by a qualified technician.
- WARRANTY: Till one year after date of purchase.



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 0.5 meter.

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 projector is lowered from the ceiling or high joists, professional trussing systems have to be used.
- Use a clamp to mount the projector, with the mounting-bracket, to the trussing system.
- The projector 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 projector, always make sure, that the area below the installation place is blocked and staying in the area is forbidden.


The LED Orbit I can be placed on a flat stage floor or mounted to any kind of truss by a clamp.

Improper installation can cause serious damage to people and property !

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.

International	EU Cable	UK Cable	US Cable	Pin
L	BROWN	RED	YELLOW/COPPER	FASE
N	BLUE	BLACK	SILVER	NUL
	YELLOW/GREEN	GREEN	GREEN	EARTH

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

Description of the device

Features

The Showtec LED Orbit I is a one-arm moving-head with high output and great effects.

- 36x 1W LEDs (12x Red, 12x Green, 12x Blue)
- DMX-control via standard DMX-controller
- 12 DMX-control channels required
- Strobe-effect with adjustable speed (1 - 25 flashes/sec.)
- Beam Angle 50 °
- 16-bit resolution
- RGB color mixing
- Dimmer 0-100%
- Master/Slave function
- Stand alone function
- Pan 0° -- 540°
- Tilt 0° -- 270°
- Power select 110V/ 220V
- Fuse ø5 X20 6A / 250V

Overview



Fig. 1

- 1) 36X 1W LED
- 2) Display
- 3) Menu / Select buttons

Backside

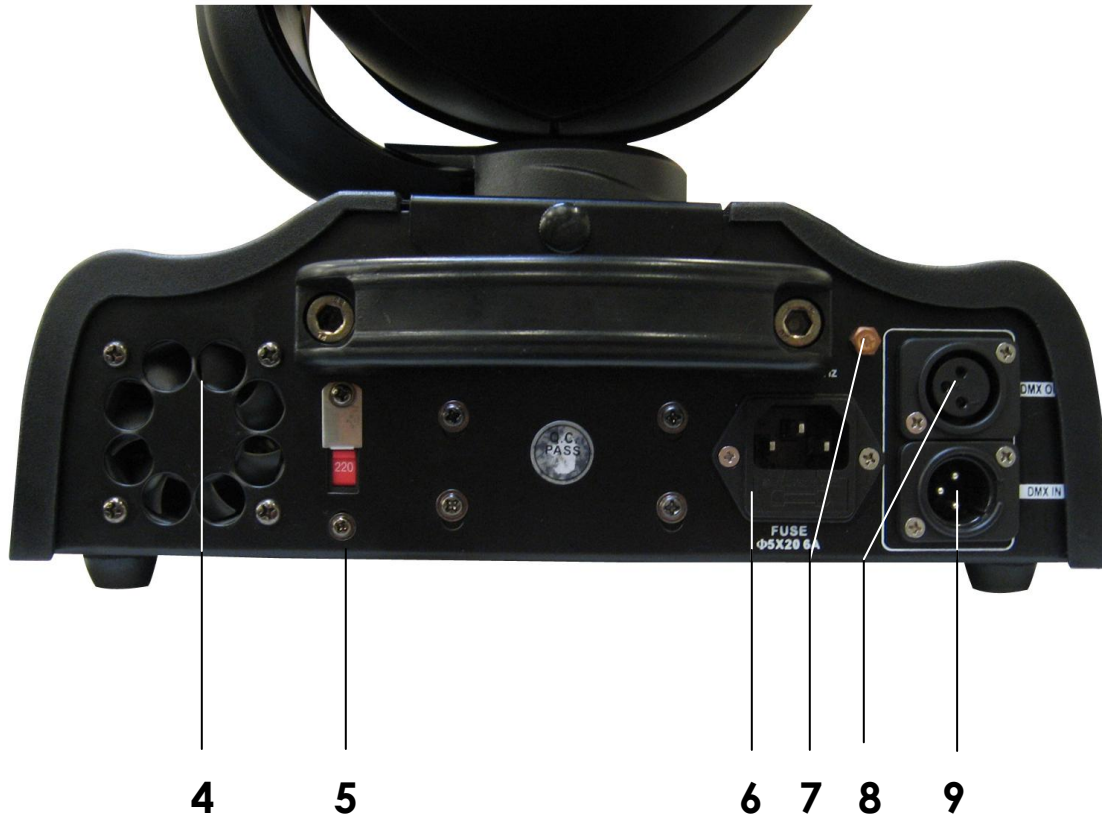


Fig. 2



- 4) Ventilation
- 5) Power Select 110V/220V
- 6) IEC power connector + Fuse $\varnothing 5 \times 20$ 6A / 250V
- 7) Ground connection
- 8) DMX signal connector (OUT)
- 9) DMX signal connector (IN)

Set Up 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 120V specification product on 230V power, or vice versa.

One LED Orbit I

1. Fasten the moving head onto firm trussing (Use a proper clamp fastened onto the LED Orbit I).
Leave at least 1 meter on all sides for air circulation.
 2. Plug one end of the electric mains power cord into the IEC socket on the unit.
Then plug the other end of the cord into a proper electric power supply socket.
 3. To set the program to be played, press: **A001** →  → **Main Menu** → 
 4. Always use a safety cable.
- When you plug in the device, the display shows A001. To enter the Main menu, press M/enter for 5 seconds

Multiple LED Orbits

1. Fasten the effect light onto firm trussing (Use a proper clamp fastened onto the LED Orbit I).
Leave at least 1 meter on all sides for air circulation.
2. Use a 3-p XLR cable to connect the LED Orbits 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. Supply electric power: Plug electric mains power cords into each unit's IEC socket, then plug the other end of 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 LED Orbits Set Up

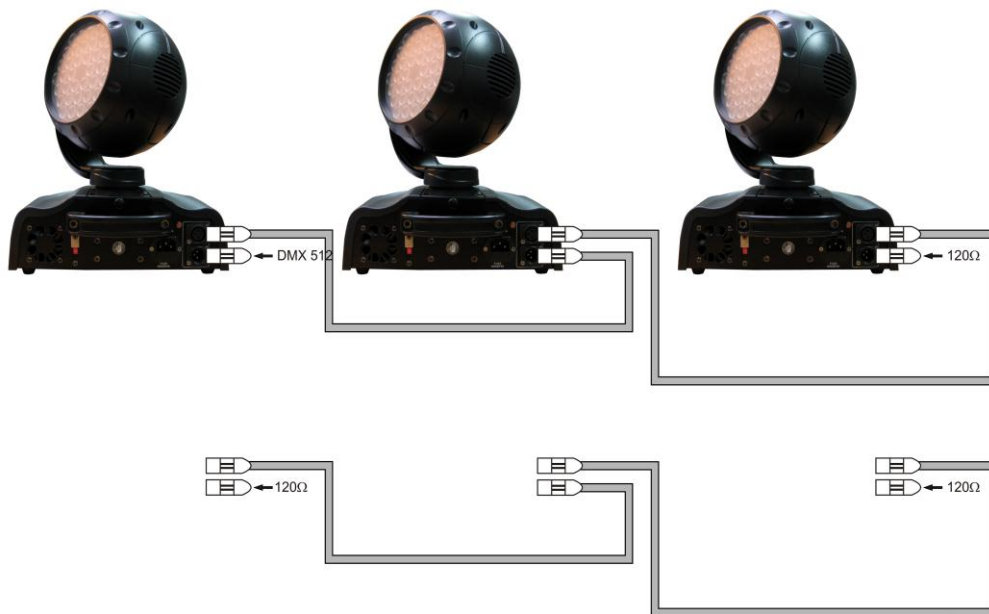
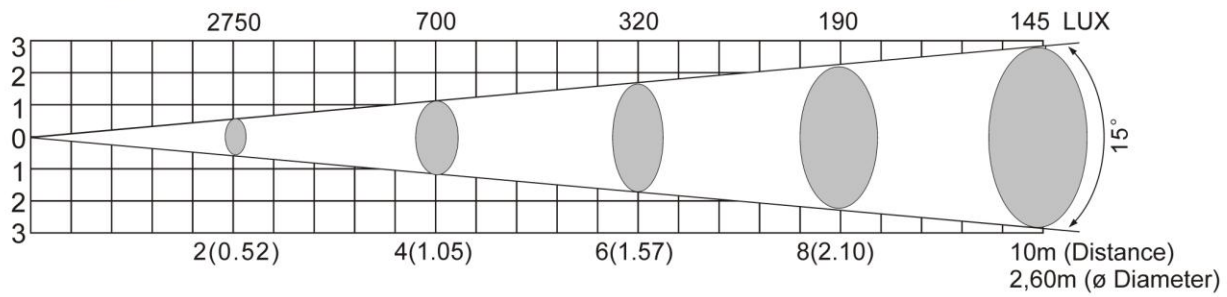


Fig. 3

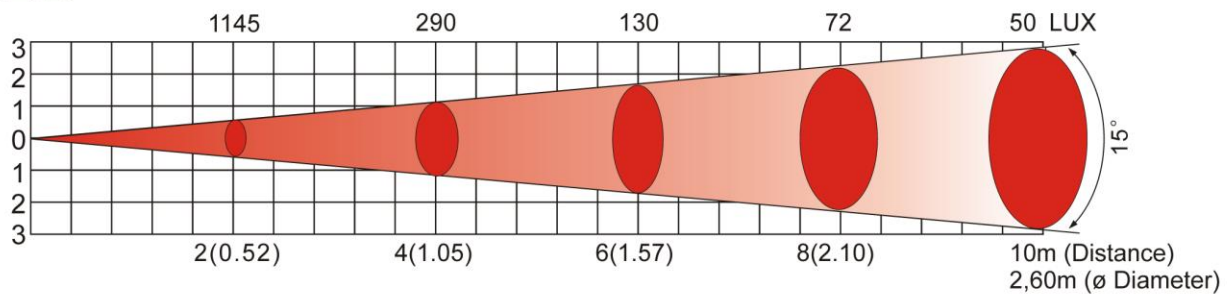
Note : Link all cables before connecting electric power

Beam Angles

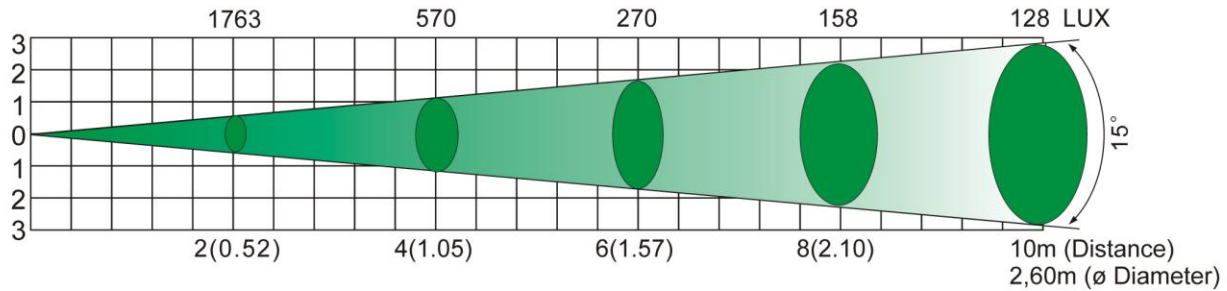
WHITE



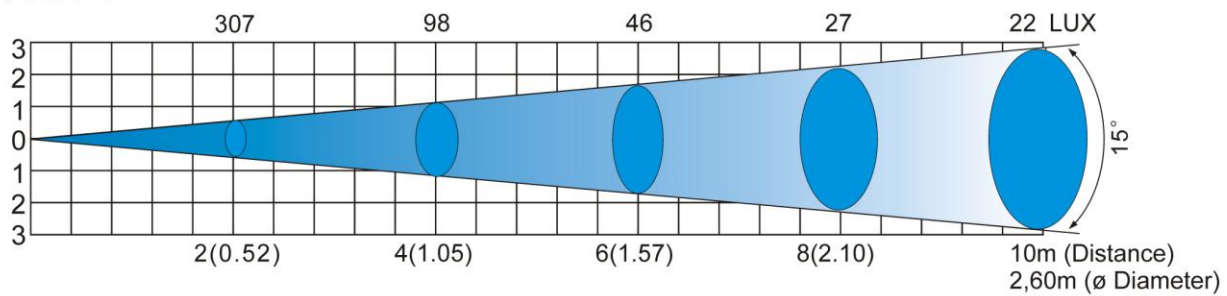
RED



GREEN



BLUE



DMX Protocol

Channel 1 – Strobe

0-7	Shutter open / Full beam
8-255	Strobe effect, from slow to fast (0-10 flashes/sec.)

Channel 2 – Red

0-255	Gradual adjustment Red from 0 – 100%
-------	--------------------------------------

Channel 3 – Green

0-255	Gradual adjustment Green from 0 – 100%
-------	--

Channel 4 – Blue

0-255	Gradual adjustment Blue from 0 – 100%
-------	---------------------------------------

Channel 5 – Built-in Programs

0-255	Play one of the built-in color settings
-------	---

Channel 6 – Speed

0-255	Gradual adjustment from color change speed
-------	--

Channel 7 - Horizontal movement (Pan)

Push the slider up, in order to move head horizontally (PAN).

Gradual head adjustment from one end of the slider to the other (0-255, 128-center).

The head can be turned by 540° and stopped at any position you wish.

Channel 8 - Vertical movement (Tilt)

Push the slider, up in order to move head vertically (TILT).

Gradual head adjustment from one end of the slider to the other (0-255, 128-center).

The head can be turned by 280° and stopped at any position you wish.

Channel 9 - Pan fine 16 bit

Channel 10 - Tilt fine 16 bit

The LED Orbit I can be operated with a controller in **control mode** or without the controller in **stand-alone mode**.

Control Panel

When the indicator light is on, means the LED Orbit I is working

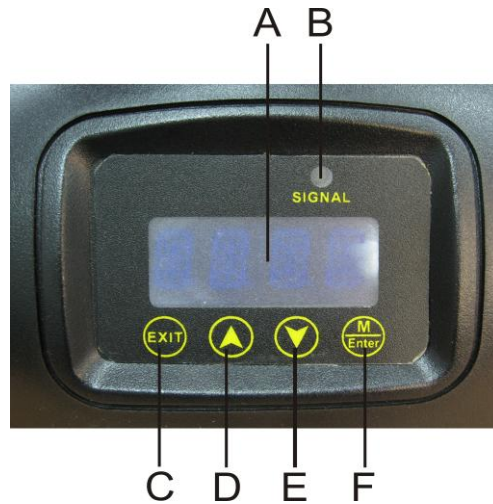


Fig. 6

- | | |
|------------------|---------------------|
| A. Display | D. Up Button |
| B. LED | E. Down Button |
| C. [EXIT] Button | F. [M/ENTER] Button |

Control Mode

The fixtures are individually addressed **ADD1 - RS11** on a data-link and connected to the controller. The fixtures respond to the DMX signal from the controller. (When you select the DMX address and save it, the controller will display the saved DMX address the next time.)

DMX Addressing

The control panel on the front side of the base allows you to assign the DMX fixture address, which is the first channel from which the LED Orbit will respond to the controller.

Please note when you use the controller, the unit has **10** channels.

When using multiple LED Orbits, make sure you set the DMX addresses right.

Therefore, the DMX address of the first LED Orbit should be **1(A001)**; the DMX address of the second LED Orbit should be **1+10=11 (A011)**; the DMX address of the third LED Orbit should be **11+10=21 (A021)**, etc.

Please, be sure that you don't have any overlapping channels in order to control each LED Orbit correctly.

If two or more LED Orbits are addressed similarly, they will work similarly.

For address settings, please refer to the instructions under "Addressing" (menu **ADD1**)

Controlling:

After having addressed all LED Orbit fixtures, you may now start operating these via your lighting controller.

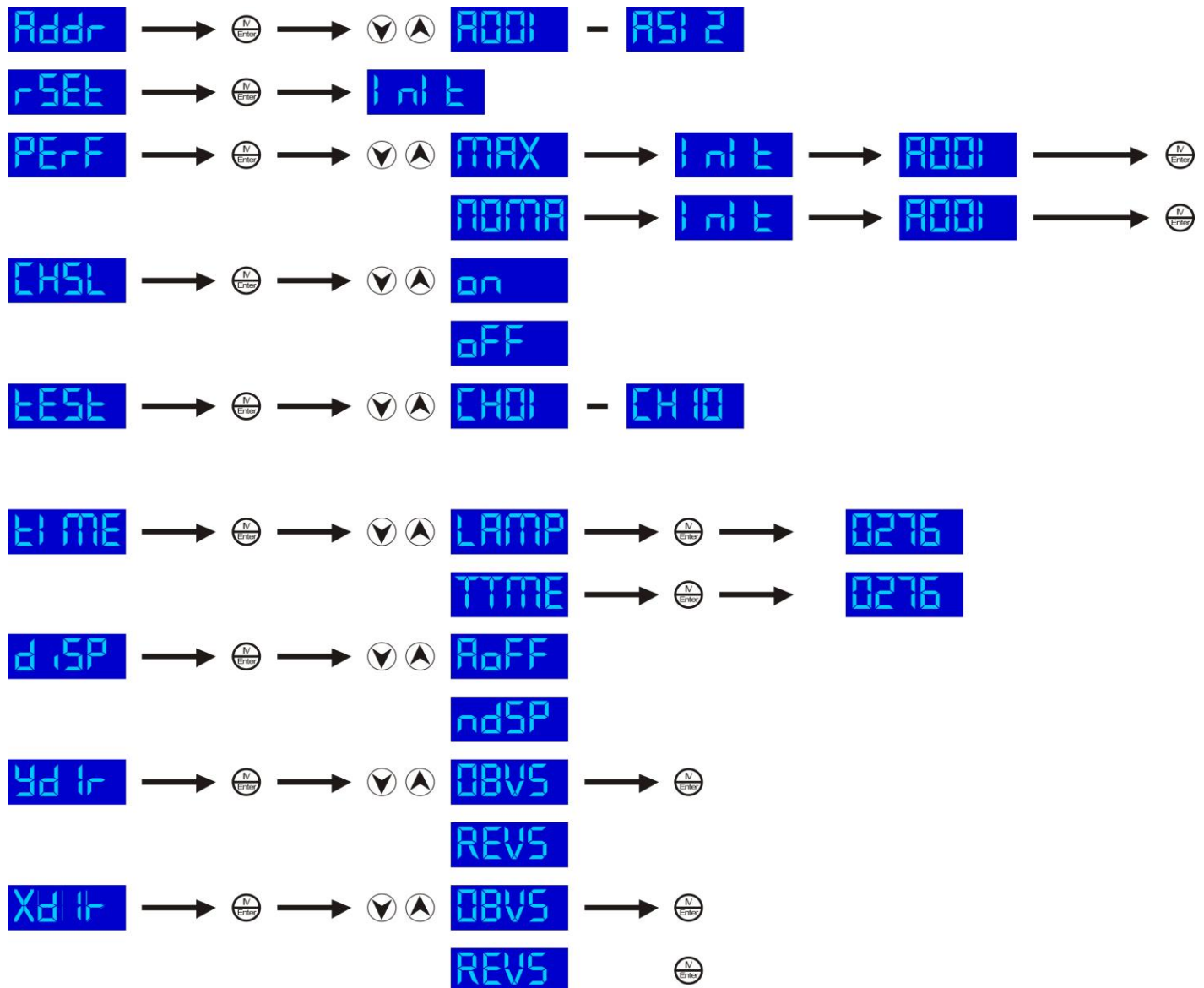
Note: After switching on, the LED Orbit will automatically detect whether DMX 512 data is received or not. If there is no data received at the DMX-input, the "**LED**" on the control panel will not flash.

The problem may be:

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

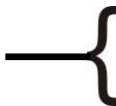
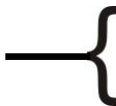
Note: It's necessary to insert a XLR termination plug (with 120 Ohm) in the last fixture in order to ensure proper transmission on the DMX data link.

Overview Control Panel Functions



Press Exit to return to the main menu

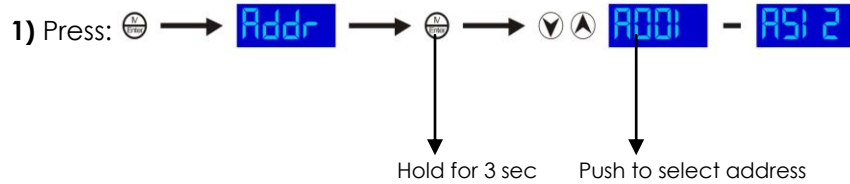
Menu Functions Explained

Addr	DMX Address selection		
rSEt	Reset unit, the display will	IntE	show for 30 seconds
PErF	Working Speed selection	MAX	80% of the working speed
		NOMA	Maximum working speed
CHSL	Channel selection	on	16-bit available for Pan (X) and Tilt (Y)
		oFF	16-bit not available for Pan (X) and Tilt (Y)
tEst	Channel Test selection. First select the channel, then press enter to test the desired channel		
tME	Time Menu	LAMP	LED lifetime, hold enter for 5 seconds to reset time to 0
		TTIME	Unit working hours
d.SP	Display main Menu	RoFF	 <div> <div>on</div> <div>oFF</div> </div> <div>Display open</div> <div>Display close after 10 seconds</div>
		ndSP	
			 <div> <div>on</div> <div>oFF</div> </div> <div>Display inverse</div> <div>Display normal</div>
YdIr	Tilt (Y) direction selection	OBVS	Tilt in positive direction
		REVS	Tilt in negative direction
XdIr	Pan (Y) direction selection	OBVS	Pan in positive direction
		REVS	Pan in negative direction

Addressing

With this menu you can set the DMX address.

A001 - DMX addressing



2) The first device should be set to ADDR A001.

DMX 512 Channel settings for LED Orbit I

Light No.	Start Channels
1	A001
2	A011
3	A021
4	A031
5	A041
6	A051
7	A061
8	A071
9	A081
10	A091
11	A101
12	A111
13	A121
14	A131
15	A141
16	A151
17	A161
18	A171
19	A181
20	A191
21	A201
22	A211
23	A221
24	A231
25	A241
26	A251
27	A261
28	A271
29	A281
30	A291
31	A301
32	A311
33	A321
34	A331
35	A341
36	A351
37	A361
38	A371
39	A381
40	A391

Light No.	Start Channels
41	A401
42	A411
43	A421
44	A431
45	A441
46	A451
47	A461
48	A471
49	A481
50	A491
51	A501
52	A511
53	A521
54	A531
55	A541
56	A551
57	A561
58	A571
59	A581
60	A591
61	A601
62	A611
63	A621
64	A631
65	A641
66	A651
67	A661
68	A671
69	A681
70	A691
71	A701
72	A711
73	A721
74	A731
75	A741
76	A751
77	A761
78	A771
79	A781
80	A791

Maintenance

The Showtec LED Orbit I 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. Do not use alcohol or solvents. The lens will require weekly cleaning, as smoke-fluid tends to build up residues, reducing the light-output very quickly.

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

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

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

The operator has to make sure that safety-relating 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:

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. Mechanically moving parts like axles, eyes and others may not show any traces of wearing.
4. The electric power supply cables must not show any damages or material fatigue.

Replacing a 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 flat-head screwdriver into a slot in the fuse cover. Gently pry up the fuse cover.
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. Products are packed with a replacement fuse. If your replacement fuse is missing, a new one can be purchased at an electric appliance store. Be sure to use a fuse of the same type and specification. See the product specification label for details.

Troubleshooting

No Light, No Movement - All Products

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 lamp, the fuse.

1. Power supply. Check that the unit is plugged into an appropriate power supply.
2. The LEDs. Return the LED Orbit 1 LED to your Showtec dealer.
3. The fuse. Replace the fuse. See page 14 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 light 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 LED Orbit I
Voltage: 230V-50Hz (CE)
Power Select 110V/220V
Fuse: Fuse ø5 X 20 6A / 250V
Dimensions: 359x300x365mm (LxWxH)
Weight: 7,68 kg

Operation and Programming

Signal pin OUT : pin 1 earth, pin 2 (-), pin 3 (+)
Set Up and Addressing : LED control panel
Pan / Tilt 8 or 16 bit
DMX channels: 10
Signal input 3-pin XLR male
Signal output 3-pin XLR female
Control: Automatic and DMX remote ON / OFF

Electro-mechanical effects

Dimmer : 0 – 100% linear dimmer
Strobe-effect with variable speed (1 flash -- 10 flashes/sec.)
DMX-control via standard DMX-controller
Pan 0° -- 540°
Tilt 0° -- 270°
Wheel control : auto-electronic reset
Cooling: Fan cooled

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



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