



Dynamic LED v3

ORDERCODE 43056



SHOWELECTRONICS FOR PROFESSIONALS

Congratulations!

You have bought a great, innovative product from Showtec.
The Showtec Dynamic LED brings excitement to any venue.

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!



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**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:

- Dynamic LED
- 1m. IEC Power cable
- User manual



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.

- Never leave any cables lying around.
- Do not insert objects into air vents.
- Do not connect this device to a dimmerpack.
- Do not open the device and do not modify the device.
- Never use the device during thunderstorms, unplug the device immediately.
- Never look directly into the light source.
- Do not switch the device on and off in short intervals, as this would reduce the system'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 fixture after having checked that the housing is firmly closed and all screws are tightly fastened.
- Avoid flames and do not put close to flammable liquids or gases.
- 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 or 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 the external cable is damaged, it has to be replaced by a qualified technician.
- If the lens is obviously damaged, it has to be replaced. So that its functions are not impaired, due to cracks or deep scratches.
- 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. Light effect 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 Dynamic LED. The manufacturer will not accept liability for damages caused by the misuse or incorrect installation of this device.
- 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.

The maximum ambient temperature $t_a = 45^\circ\text{C}$ must never be exceeded.

The relative humidity must not exceed 50 % with an ambient temperature of 45°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 Dynamic LED is lowered from the ceiling or high joists, professional trussing systems have to be used.
- Use a clamp to mount the Dynamic LED, with the mounting-bracket, to the trussing system.
- The Dynamic LED 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 place is blocked and staying in the area is forbidden.

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!

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.nl 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 for the return. Be sure to properly pack fixture, 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:

- 1) Your name
- 2) Your address
- 3) Your phone number
- 4) A brief description of the symptoms

Claims

The client has the obligation to check the delivered goods immediately upon delivery for any shortcomings 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 notify 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 otherwise agreed in writing.

Complaints against us must be made known in writing or 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 of which the obligation is resulting.

Description of the device

Features

The Showtec Dynamic LED is a light effect with high output and great effects.

- 2 / 3 DMX Channels
- Bright light output
- Light compact housing
- LED system: 64 x Red, 64 x Green, 64 x Blue, 32 Yellow and 32 White 5mm LEDs (Hi brightness)
- Flashrate 1-20 Hz
- Mode: Auto and Music controlled
- Music-controlled via built-in microphone
- Fuse 1 A / 250V

Overview



1) Mountingbracket

Fig. 1

Backside

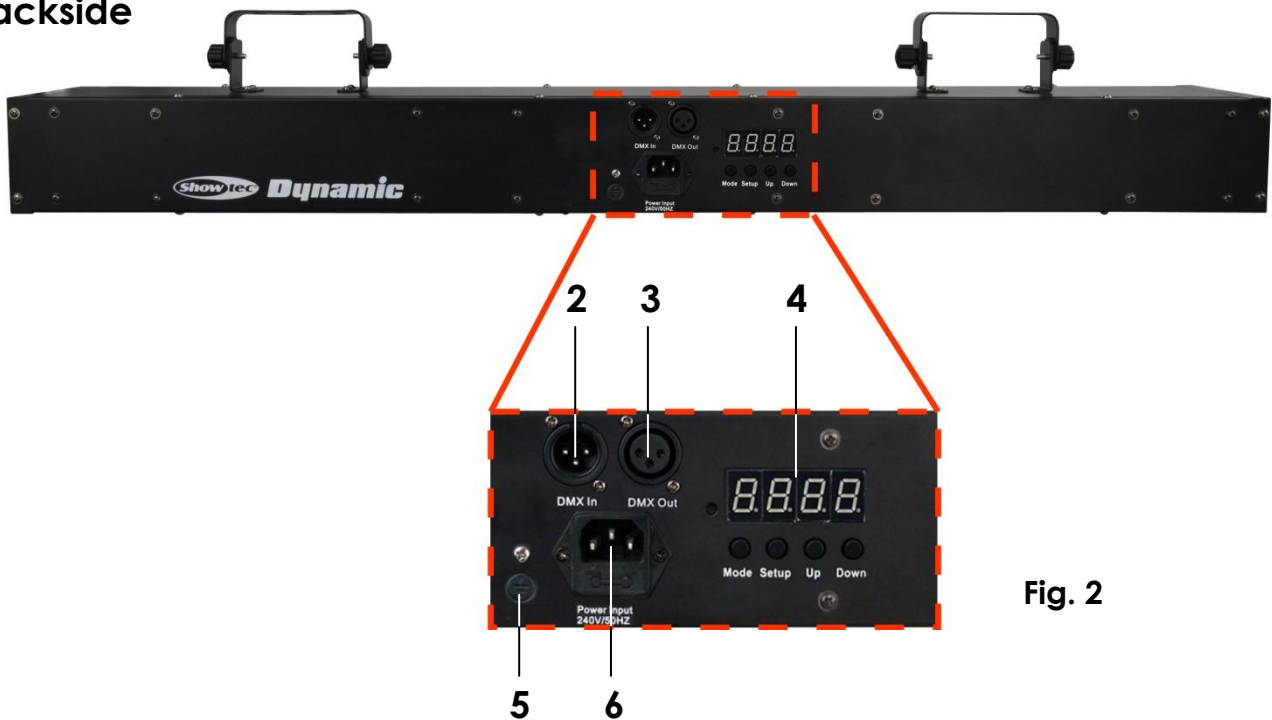


Fig. 2

- 2) DMX signal connector (IN)
- 3) DMX signal connector (OUT)
- 4) LCD Display + Menu Buttons

- 5) Earth
- 6) IEC Power + Fuse 1 A/250V

Installation

Remove all packing materials from the Dynamic LED Medium. Check that all foam and plastic padding is removed. Connect all cables.

Always disconnect from electric mains power supply before cleaning or servicing.
Damages caused by non-observance are not subject to warranty.

Set Up and Operation

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.

Control Modes

There are 6 modes:

- Built-in programs
- Auto run
- Static Color
- Sound-controlled
- Master/Slave
- DMX512

One Dynamic LED (Built-in Programs + Auto Run + Static colors)

1. Fasten the effect light onto firm trussing. Leave at least 0,5 meter on all sides for air circulation.
2. When the Dynamic LED is not connected by a DMX-cable, it functions as a stand-alone device.
Please see page 12+13 for more information about the Built-in programs, Auto Run or Static colors.

One Dynamic LED (Sound-control)

1. Plug the end of the electric mains power cord into a proper electric power supply socket.
2. Turn on the music. If device is set to **SOUND** (Audio) and you have pressed enter, then the fixture will react to the beat of the music. Please see page 13 for more information about the sound-control options.

Multiple Dynamic LEDs (Master/Slave control)

1. Fasten the effect light onto firm trussing. Leave at least 0,5 meter on all sides for air circulation.
2. Use a 3-p XLR cable to connect the Dynamic LED.

The pins:



1. Earth
2. Signal -
3. Signal +

3. Link the units as shown in (Fig. 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. You can use the same functions on the master device as described on page 12+13 (Built-in Programs, Auto Run or Music control). This means on the master device you can set your desired operation Mode and all slave devices will react the same as the master device.

Multiple Dynamic LEDs (Master/Slave control)

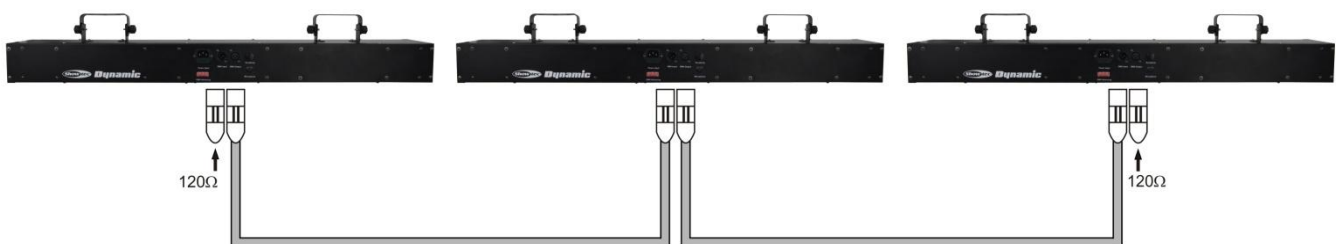


Fig. 3

Multiple Dynamic LEDs (DMX Control)

1. Fasten the effect light onto firm trussing. Leave at least 0,5 meter on all sides for air circulation.
2. Use a 3-p XLR cable to connect the Dynamic LEDs and other devices.

Occupation of the XLR-connection:

DMX-OUTPUT XLR mounting-socket:



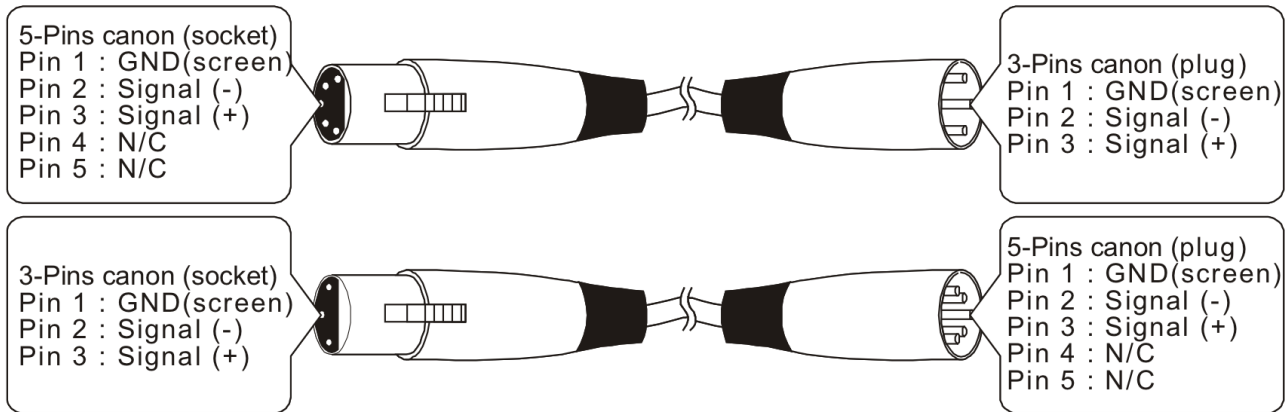
- 1 - Ground
- 2 - Signal (-)
- 3 - Signal (+)

DMX-input XLR mounting-plug:



- 1 - Ground
- 2 - Signal (-)
- 3 - Signal (+)

The transformation of the controller line of 3 pins and 5 pins (plug and socket)



3. Link the units as shown in (figure 4), 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 the end of the mains power cord into proper electric power supply sockets. Do so for all units and the controller.

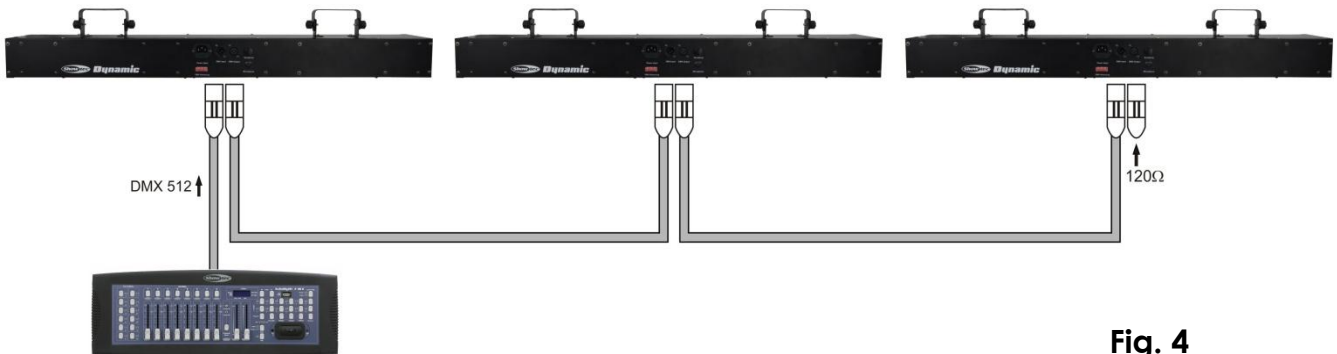


Fig. 4

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

5. Do not supply power before the whole system is set up and connected properly. Design your show according to your DMX controller functions.

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 on 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 one 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 Dynamic LEDs 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 Certified DMX Data Cables

- DAP Audio cable for allround use. bal. XLR/M 3 p. > XLR/F 3 p.
Ordercode FL01150 (1,5m.), FL013 (3m.), FL016 (6m.), FL0110 (10m.), FL0115 (15m.), FL0120 (20m.).
- DAP Audio cable for the demanding user with exceptional audio-qualities and connector made by Neutrik®. **Ordercode** FL71150 (1,5m.), FL713 (3m.), FL716 (6m.), FL7110 (10m.).

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

Control Panel



Fig. 5

- A. LCD Display
- B. MODE button
- C. SETUP Button
- D. Up Button
- E. Down Button

DMX Control Mode

The fixtures are individually addressed    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 Dynamic LED allows you to assign the DMX fixture address, which is the first channel from which the Dynamic LED will respond to the controller.

Please note when you use the controller, the unit has **3** channels.

When using multiple Dynamic LEDs, make sure you set the DMX addresses right.

Therefore, the DMX address of the first Dynamic LED should be **1(A001)**; the DMX address of the second Dynamic LED should be **1+3=4 (A004)**; the DMX address of the third Dynamic LED should be **4+3=7 (A007)**, etc. Please, be sure that you don't have any overlapping channels in order to control each Dynamic LED correctly.

If two or more Dynamic LEDs are addressed similarly, they will work similarly.

For address settings, please refer to the instructions under 'Addressing'.

Controlling:

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

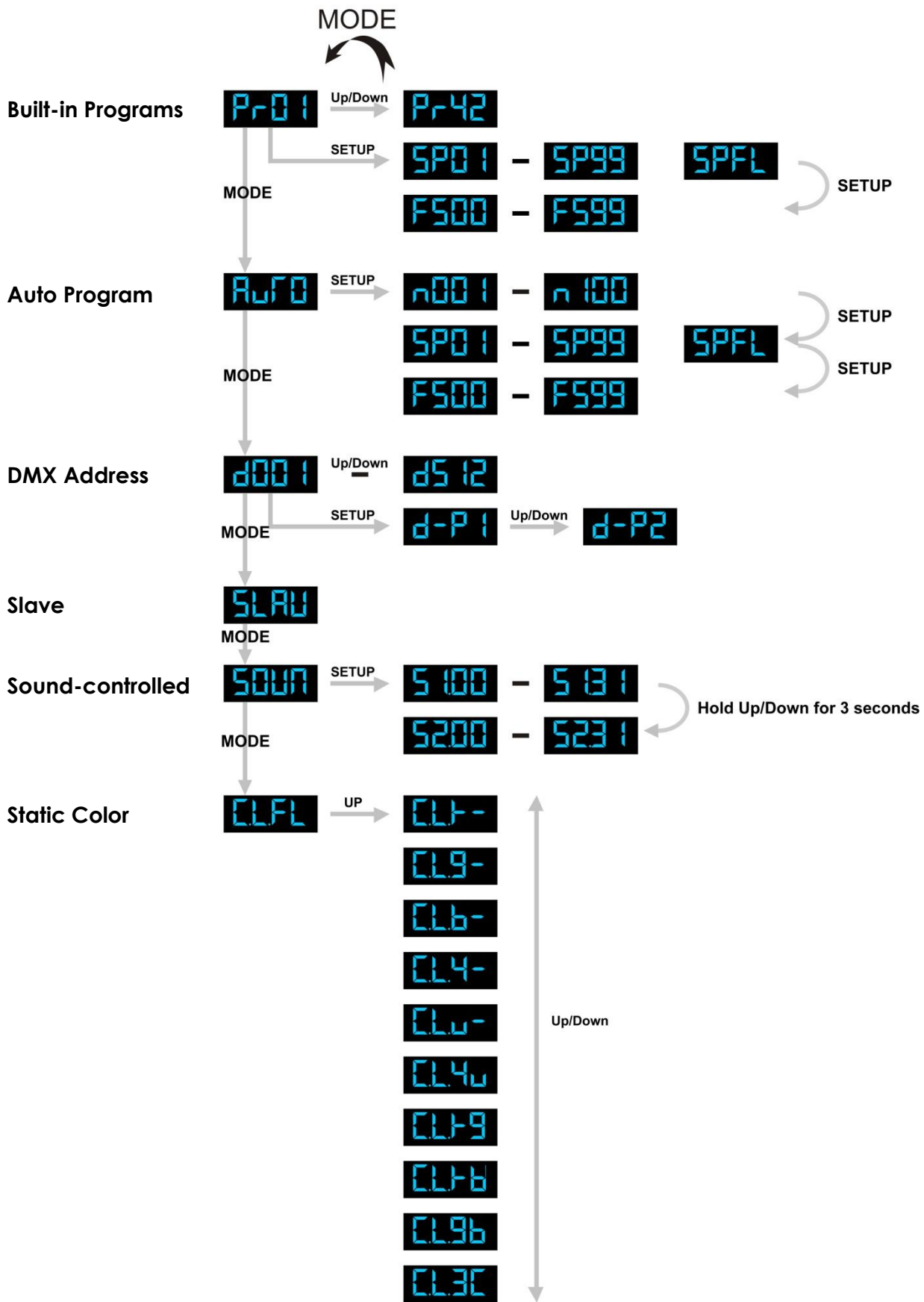
Note: After switching on, the Dynamic LED will automatically detect whether DMX 512 data is received or not. If there is no data received at the DMX-input, the "LED" on the control panel will not flash.

The problem may be:

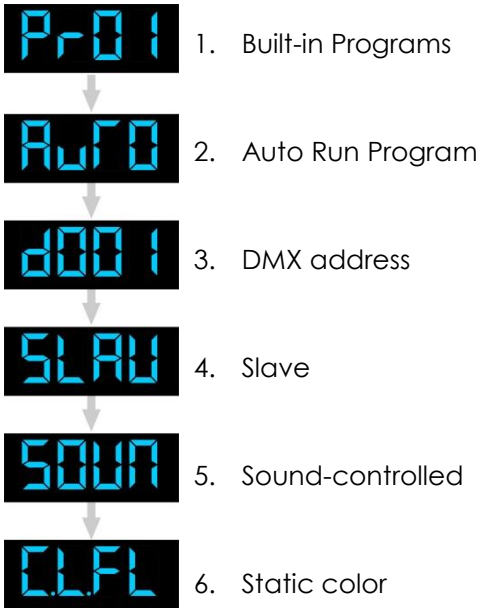
- The XLR cable from the controller is not connected with the input of the Dynamic LED.
- The controller is switched off or defective, the cable or connector is defective, or the signal wires are swapped in the input connector.

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.

Menu Overview



Main Menu Options



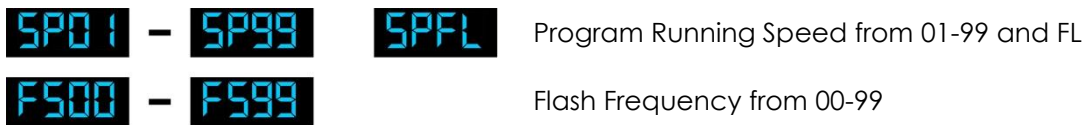
1. Built-in Programs

1) Press the **MODE** button on the device, until the display shows **Pr01**.

2) With this menu you can set the Built-in Program Mode of the Dynamic LED.

You can choose 42 built-in programs **Pr01** ^{Up/Down} **Pr42**, by using the Up / Down buttons.

3) Press **Setup** to enter the built-in programs Menu. You can choose 2 different sub menus.



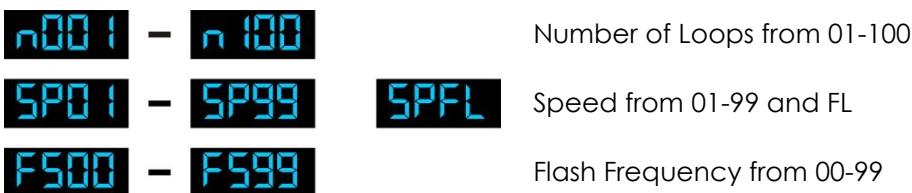
Use the **Setup** button to scroll through the menu.

2. Auto Run Program

1) Press the **MODE** button on the device, until the display shows **Auto**.

2) With this menu you can set the Auto Mode of the Dynamic LED.

3) Press **Setup** to enter the AUTO Menu. You can choose 3 different sub menus.



Use the **Setup** button to scroll through the menu.

3. DMX Mode

With this menu you can set the DMX address.

1) Press the **MODE** button, until the display shows **d001**.

2) You can choose 512 different DMX addresses.

Use the Up / Down buttons to select the required address from **d001** ^{Up/Down} **d512**.

3) You can also press the **SETUP** button to set a different DMX Mode **d-P1** - **d-P2**.

d-P1 3 Channels

d-P2 2 Channels

4. Slave Mode

When the display shows : **SLAV**, the device is a slave device. It will now react the same as its master.

5. Sound control Mode

1) Press the **MODE** button on the device, until the display shows **SOUN**. Turn on the music and the Dynamic LED will react to the beat of the music.



The difference between **S1.00 - S1.31** and **S2.00 - S2.31**.

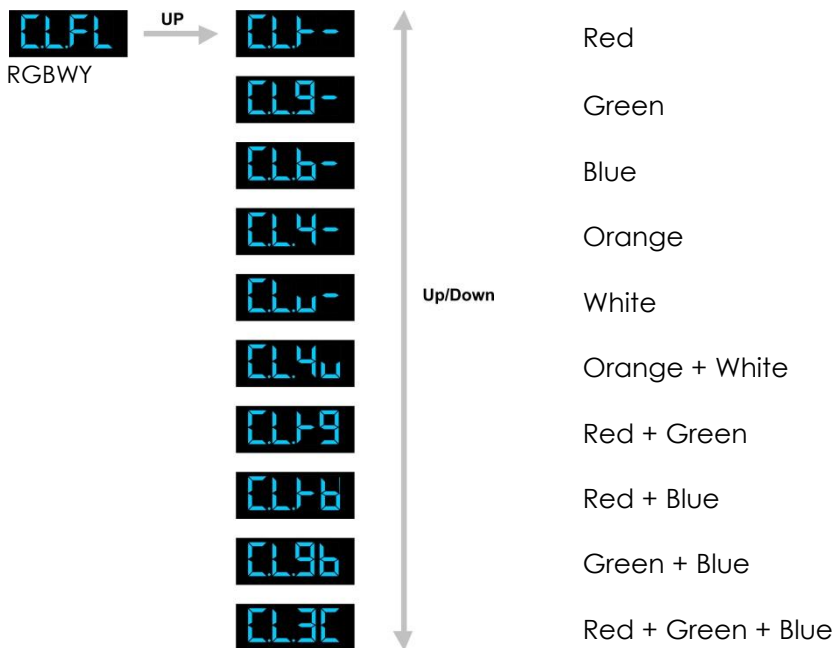
Menu **S1**: The LEDs will keep running for 5 seconds after the sound has stopped.

Menu **S2**: The LEDs immediately stop running when the sound stops.

6. Static Color Mode

1) Press the **MODE** button, until the LED displays show **CLXX**.

2) Select static color you want, you can choose 11 different static color effects.



DMX Protocol

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

DMX Channels (3CH)

Channel 1 - Programs

0	No Function
1-5	Program 1
6-11	Program 2
12-17	Program 3
18-23	Program 4
24-29	Program 5
30-35	Program 6
36-41	Program 7
42-47	Program 8
48-53	Program 9
54-59	Program 10
60-65	Program 11
66-71	Program 12
72-77	Program 13
78-83	Program 14
84-89	Program 15
90-95	Program 16
96-101	Program 17
102-107	Program 18
108-113	Program 19
114-119	Program 20
120-125	Program 21
126-131	Program 22
132-137	Program 23
138-143	Program 24
144-149	Program 25
150-155	Program 26
156-161	Program 27
162-167	Program 28
168-173	Program 29
174-179	Program 30
180-185	Program 31
186-191	Program 32
192-197	Program 33
198-203	Program 34
204-209	Program 35
210-215	Program 36
216-221	Program 37
222-227	Program 38
228-233	Program 39
234-239	Program 40
240-245	Program 41
246-251	Program 42
252-255	Sound-controlled


Channel 2 – No function (when CH1 is set to 0 )

Channel 2 – Speed (when CH1 is set between 1-251 )

0-255	Speed from slow to fast
-------	-------------------------

Channel 2 – Audio Sensitivity (when CH1 is set between 252-255 )

0-255	Audio sensitivity from less sensitive to highly sensitive
-------	---

Channel 3 – No function (when CH1 is set to 0 )

Channel 3 – Flash (when CH1 is set between 1-251 )

0-255	Speed from slow to fast
-------	-------------------------

Channel 3 – No function (when CH1 is set between 252-255 )

DMX Channels ( 2CH)

Channel 1 - Programs

0	No Function
1-22	Red
23-45	Green
46-68	Blue
69-91	Orange
92-114	White
115-137	Orange + White
138-160	Red + Green
161-183	Red + Blue
184-206	Green + Blue
207-229	Red + Green + Blue
230-252	Red + Green + Blue + White + Orange
253-255	Sound-controlled

Channel 2 – No function (when CH1 is set to 0 )

Channel 2 – Flash (when CH1 is set between 1-252 )

0-255	Speed from slow to fast
-------	-------------------------

Channel 2 – Audio Sensitivity (when CH1 is set between 253-255 )

0-255	Audio sensitivity from less sensitive to highly sensitive
-------	---

Maintenance

The Showtec Dynamic LED 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. Wipe lens clean with glass cleaner and a soft cloth. Do not use alcohol or solvents. 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. 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

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.

1. If the device does not operate properly, unplug the device.
2. Check the power from the wall, the fuse, all cables etc.
3. If all of the above appears to be O.K., plug the unit in again.
4. If you are unable to determine the cause of the problem, do not open the Dynamic LED, as this may damage the unit and the warranty will become void.
5. Return the device to your Showtec dealer.

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 or the LEDs.

1. Power supply. Check that the unit is plugged into an appropriate power supply.
2. The LEDs. Return the Dynamic LED to your Showtec dealer.
3. The fuse. Replace the fuse. See page 15 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 Dynamic LED

Voltage: 240V-50Hz (CE)

Fuse: 1 A / 250V

Dimensions: 935 x 150 x 150 mm (LxWxH)

Weight: 4,7 kg

Operation and Programming

Signal pin OUT: pin 1 earth, pin 2 (-), pin 3 (+)

Set Up and Addressing: Dipswitches

DMX Channels: 5

Signal input 3-pin XLR male

Signal output 3-pin XLR female

Flashrate 1-20 Hz

Bright light output

Light compact housing

LED system: 24 x red, 24 x green, 16 x blue

Mode: Auto and Music controlled

Sound-controlled via built-in microphone



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.



Website: www.Showtec.info

Email: service@highlite.nl



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