



# Expression Compact

ORDERCODE 41366



**SHOWELECTRONICS FOR PROFESSIONALS**

## **Congratulations!**

You have bought a great, innovative product from Showtec.

The Showtec Expression Compact 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](mailto: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 Expression Compact™ Product Guide

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# 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 Expression Compact
- Quick-lock brackets and safety cable
- User manual



## LED Expected Lifespan


LEDs gradually decline in brightness over time. HEAT is the dominant factor that leads to the acceleration of this decline. Packaged in clusters, LEDs exhibit higher operating temperatures than in ideal or singular optimum conditions. For this reason when all color LEDs are used at their fullest intensity, life of the LEDs is significantly reduced. It is estimated that a viable lifespan of 40,000 to 50,000 hours will be achieved under normal operational conditions. If improving on this lifespan expectancy is of a higher priority, place care in providing for lower operational temperatures. This may include climatic-environmental and the reduction of overall projection intensity.

 **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 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 run the device without lamp!
- Never ignite the lamp if the objective-lens or any housing-cover is open, as discharge lamps may expose and emit a high ultraviolet radiation, which may cause burns.
- Never lift the fixture by holding it at the projector-head, as the mechanics may be damaged. Always hold the fixture at the transport handles.
- Never place any material over the lens.
- Never look directly into the light source.
- Never leave any cables lying around.
- Never unscrew the screws of the rotating gobo, as the ball bearing will otherwise be opened.
- 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 touch the device's housing bare-handed during its operation (housing becomes very hot). Allow the fixture to cool for at least 5 minutes before handling.
- 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.
- Only operate the device after having familiarized with its functions.
- Avoid flames and do not put close to flammable liquids or gases.
- Always replace the lamp, when it is damaged or deformed due to the heat.
- 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.
- To ensure the longest and most efficient use of the lamp always wait 15 minutes before re-applying power after a shutdown. Failure to do so could result in premature aging of the lamp and failure to the electronics that drive it.
- 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 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. Movinghead must be installed out of the reach of children. Never leave the unit running unattended.
- Never attempt to bypass the thermostatic switch or fuses.
- For replacement use lamps and fuses of same type and rating only.
- Replace the lamp if it becomes defective or worn out, or before usage exceeds the maximum service life.
- Allow the fixture to cool down for 15 minutes, before opening the fixture and replacing lamp. Protect your hands and eyes with gloves and safety glasses.
- 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 1 meter.
- The maximum ambient temperature  $t_a = 45^\circ\text{C}$  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 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 Expression Compact can be placed on a flat stage floor or mounted to any kind of truss by a clamp.

## Mounting a clamp to the underside of the Expression moving head




*Improper installation can cause serious damage to people and property !*

*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](mailto: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 Expression Compact is a moving-head with high output and great effects.

- Low power consumption
- Less heat
- Auto Correction system for pan and tilt movement
- 54 LED's total
- 14 pieces Red LED 2W
- 14 pieces Green LED 3W
- 14 pieces Blue LED 3W
- 12 pieces White LED 3W
- Beam angle 15 ° degrees
- White balance
- RGB Calibration
- Fan Speed Control
- Built-in Macros via DMX
- 3 and 5 pin XLR connectors
- Neutrik Powercon power connector
- Bright LCD display
- User selectable pan/tilt ranges
- User selectable basic or advanced operating modes
- Power Consumption: 280W
- Movement resolution: selectable 8/16 bit
- Mounting System: Quicklock brackets
- Cooling system: Low Noise Fan)
- Shutter: 0-10Hz
- Dimmer: 0-100% electronic dimmer
- Pan 0° -- 540°
- Tilt 0° -- 250°
- Control: DMX-512, Master/Slave
- Basic(10CH) or Advanced (14CH) operating modes
- Lux: 20200 at 2 m (RGB+White)
- No Powercon powercable included
- Fuse T4A / 250V

### Overview

1



Fig. 1

2

1) Lens

2) Menu Buttons + LCD Display

## Backside

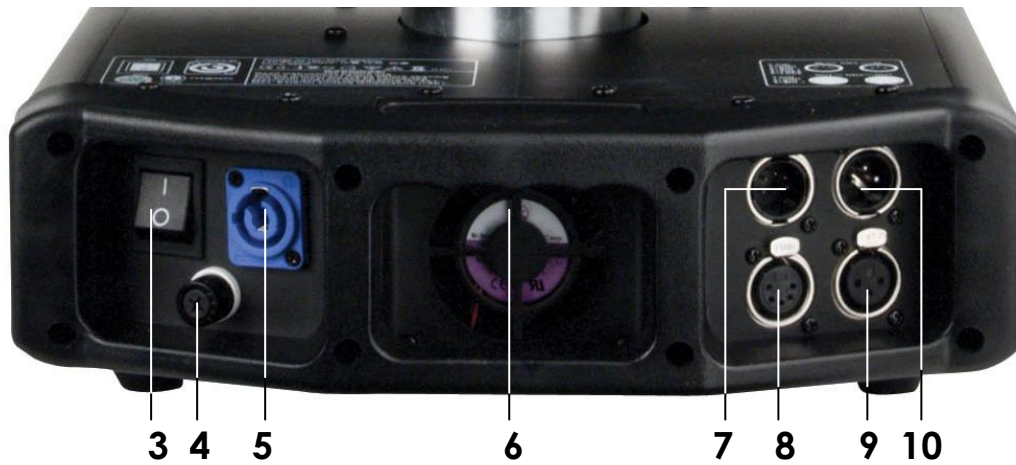


Fig. 2

- 3) ON/OFF
- 4) Fuse T4A 250V
- 5) Power Input
- 6) Cooling Fan
- 7) DMX signal connector (IN) 5-pin
- 8) DMX signal connector (OUT) 5-pin
- 9) DMX signal connector (IN) 3-pin
- 10) DMX signal connector (OUT) 3-pin

## Installation

Remove all packing materials from the Expression Compact. Check that 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.**

## 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.

Connect the device to the main power supply. The device can be music-controlled by its built-in microphone.

## 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 Expression Compacts 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.).



Fig. 3

### Showtec Certified

- Schuko to Powercon cable 230V **Ordercode** 90506 (2m.), 90505 (4m.).



Fig. 4

## Control Modes

There are 3 modes:

- Select built-in programs
- Master/Slave
- DMX512 (14 Channels Advanced or 10 channel Basic)

### One Expression Compact (Built-in Programs)

1. Fasten the effect light onto firm trussing. Leave at least 0,5 meter on all sides for air circulation.
2. When the Expression Compact is not connected by a DMX-cable, it functions as a stand-alone device.  
Please see page 17 for more information about the built-in programs.

### Multiple Expression Compacts (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 Expression Compact.

The pins:



1. Earth
2. Signal -
3. Signal +

3. Link the units as shown in (Fig. 5), 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 17 (Built-in Programs). 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 Expression Compacts (Master/Slave control)



## Multiple Expression Compacts (DMX Control)

1. Fasten the effect light onto firm trussing Leave at least 1 meter on all sides for air circulation.
2. Always use a safety cable (ordercode 70140 / 70141).
3. Use a 3-p XLR cable to connect the Expression Compacts and other devices.

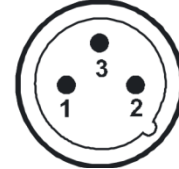
### Occupation of the XLR-connection:

#### DMX-OUTPUT XLR mounting-socket:



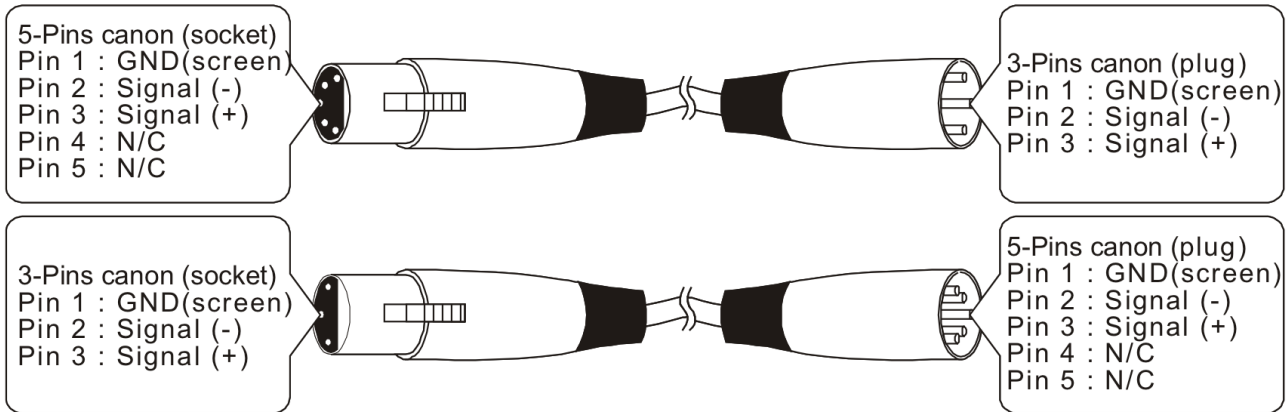
- 1 - Ground
- 2 - Signal (-)
- 3 - Signal (+)

#### 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)



4. Link the units as shown in (figure 6), 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.
5. 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 Expression Compacts DMX Set Up

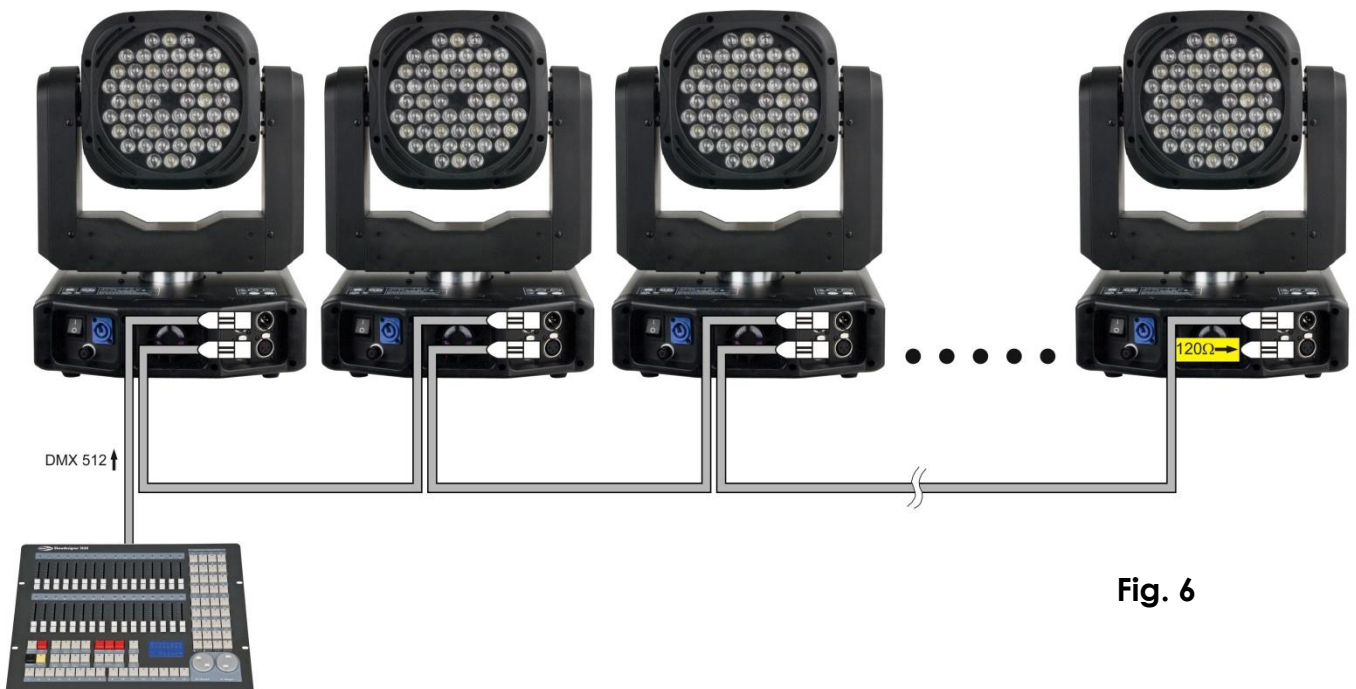


Fig. 6

**Note : Link all cables before connecting electric power**

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

## Control Panel

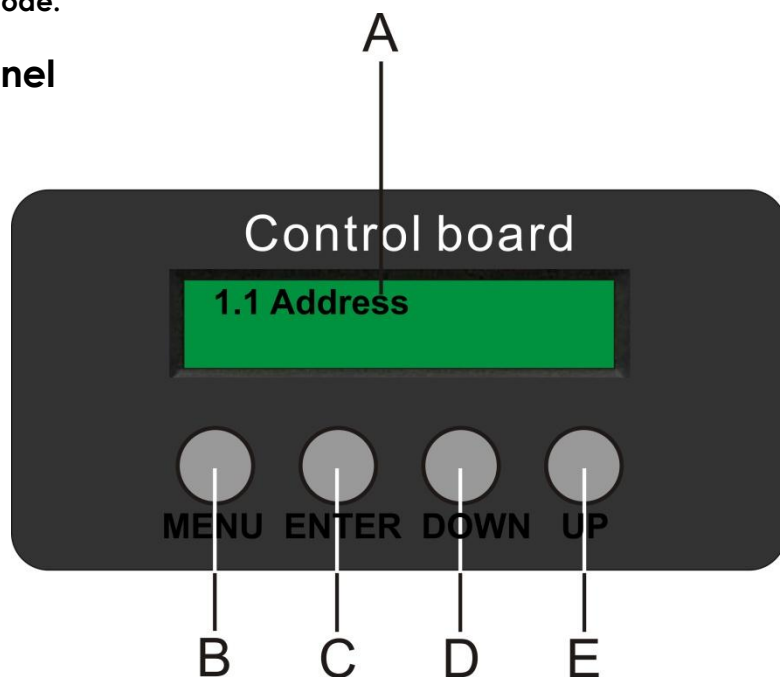


Fig. 7

- A. LCD Display
- B. MENU button
- C. ENTER Button
- D. Down Button
- E. Up Button

## 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 base allows you to assign the DMX fixture address, which is the first channel from which the Expression Compact will respond to the controller.

Please note when you use the controller, the unit has **14** channels.

When using multiple Expression Compacts, make sure you set the DMX addresses right.

Therefore, the DMX address of the first Expression Compact should be **1(001)**; the DMX address of the second Expression Compact should be **1+14=15 (015)**; the DMX address of the third Expression Compact should be **15+14=29 (029)**, etc.

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

If two or more Expression Compacts are addressed similarly, they will work similarly.

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

### Controlling:

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

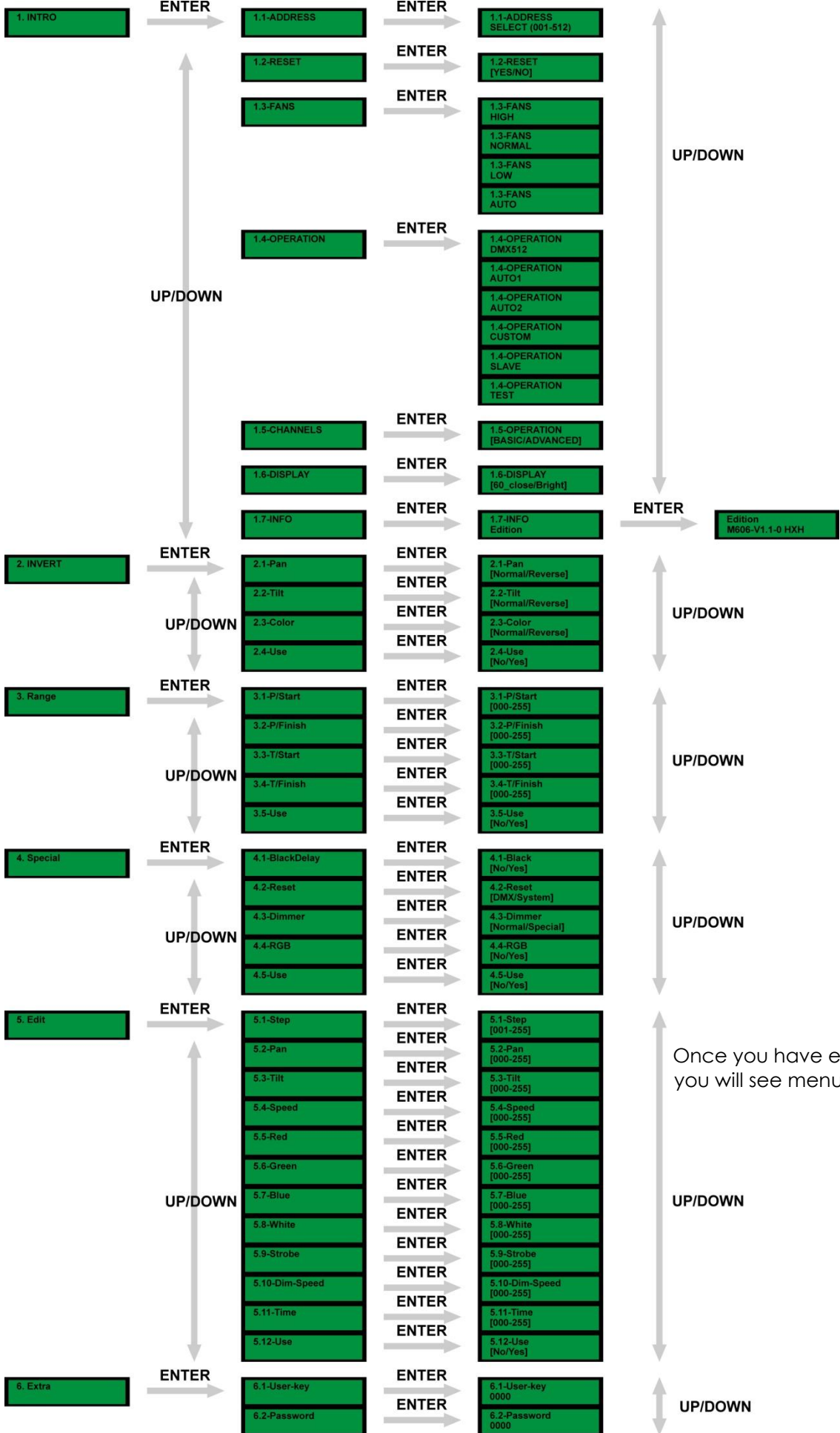
**Note:** After switching on, the Expression Compact will automatically detect whether DMX 512 data is received or not. If there is no data received at the DMX-input, the "LED" on the control panel will not flash.


The problem may be:

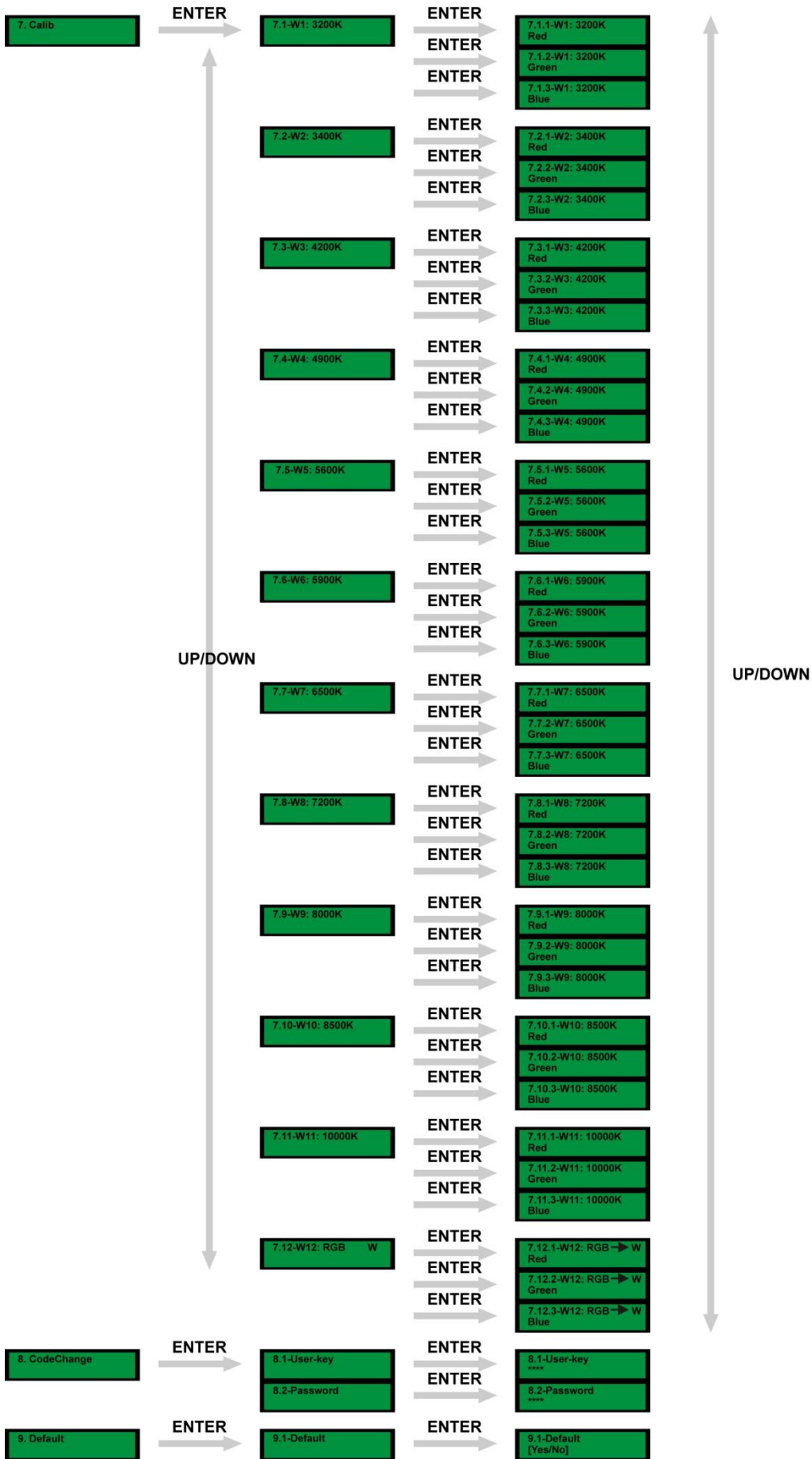
- The XLR cable from the controller is not connected with the input of the Expression Compact.
- The controller is switched off or defective, the cable or connector is defective, or the signal wires are swapped in the input connector.

**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



Once you have entered a step, you will see menu 5.2-5.12. 





# MAIN MENU

Press the MODE button to scroll through 9 options of the menu:

1. INTRO

2. INVERT

3. Range

4. Special

5. Edit

6. Extra

7. Calib

8. CodeChange

9. Default



To see menu 7, 8 and 9 You have to enter **password 0000** in **menu 6.1**



When you use the menu button, the 3 hidden menus will now appear. To make them disappear go to **menu 6.2** and enter **password 1111**. Menu 7, 8 and 9 will not be visible.

## 1. Intro Menu

1.1-ADDRESS

1.2-RESET

1.3-FANS

1.4-OPERATION

1.5-CHANNELS

1.6-DISPLAY

1.7-INFO

### DMX Addressing

With this menu you can set the DMX address.



- 1) Press Menu, until the display shows: **Intro**
- 2) Press Enter and use the Up/Down buttons to go to the **Address** menu.
- 3) Press enter to open this menu. You can choose 512 different DMX addresses. Use the Up / Down buttons to select the required address from 000 - 512.
- 4) Once you have set the desired DMX address, press the enter button to store your DMX address.

### Reset

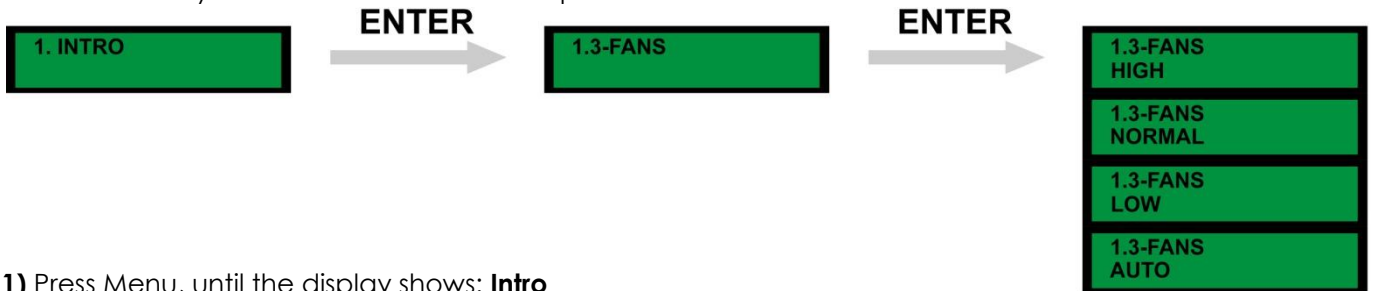
With this menu you can reset the device.



- 1) Press Menu, until the display shows: **Intro**
- 2) Press Enter and use the Up/Down buttons to go to the **Reset** menu.
- 3) Press enter to open this menu. You can choose **Yes** or **No** mode. Use the Up / Down buttons to select one.
- 4) Once you have set Yes, the device will reset and it will take 15 seconds to reset.

### Fans

With this menu you able to control the fan speed of the device.



- 1) Press Menu, until the display shows: **Intro**
- 2) Press Enter and use the Up/Down buttons to go to the **Fans** menu.
- 3) Press enter to open this menu. Scroll through the menu to set the desired fan speed.

### DMX Active

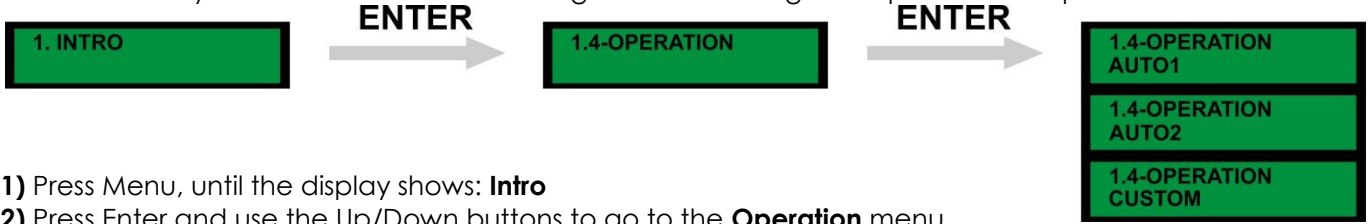
With this menu you able to control the device by DMX.



- 1) Press Menu, until the display shows: **Intro**
- 2) Press Enter and use the Up/Down buttons to go to the **Run** menu.
- 3) Press enter to open this menu. Scroll through the menu until the display shows **DMX512**.
- 4) Once you have set DMX control, press the enter button to store your setting. The device will be DMX Controlled.

## Built-in Programs Mode

With this menu you can select 3 different Programs when using the Expression Compact.



- 1) Press Menu, until the display shows: **Intro**
- 2) Press Enter and use the Up/Down buttons to go to the **Operation** menu.
- 3) Press enter to open this menu. Scroll through the menu until the display shows **Auto1, Auto2, Custom**. You have 3 options to control the device as a stand-alone device.
- 4) Once you have chosen your desired mode, press the enter button to store your setting. The device will start the built-in program.

## Built-in Programs (Auto\_1 + Auto\_2)

The device will play its built-in stand-alone programs.

## Custom Mode



For a custom program to run, you have to enter some values first.  
For more information, please see **Edit** menu.

## Slave Mode

With this menu you are able to set the device as a slave device.



- 1) Press Menu, until the display shows: **Intro**
- 2) Press Enter and use the Up/Down buttons to go to the **Run** menu.
- 3) Press enter to open this menu. Scroll through the menu until the display shows **Slave**.
- 4) When you press ENTER, the display will blink once and the device will be in slave mode.

## Run Test

With this menu you are able to test the device.



- 1) Press Menu, until the display shows: **Intro**
- 2) Press Enter and use the Up/Down buttons to go to the **Run** menu.
- 3) Press enter to open this menu. Scroll through the menu until the display shows **TEST**.
- 4) When you press ENTER, the display will blink once and the device will start an internal test.

## Channels Advanced/Basic Mode



- 1) Press Menu, until the display shows: **Intro**
- 2) Press Enter and use the Up/Down buttons to go to the **Channels** menu.
- 3) Press enter to open this menu. You can choose **Basic** (9CH) or **Advanced** (12CH) mode. Use the Up / Down buttons to select one.
- 4) Once you have set the desired mode, press the enter button to store your setting.

## Display Mode

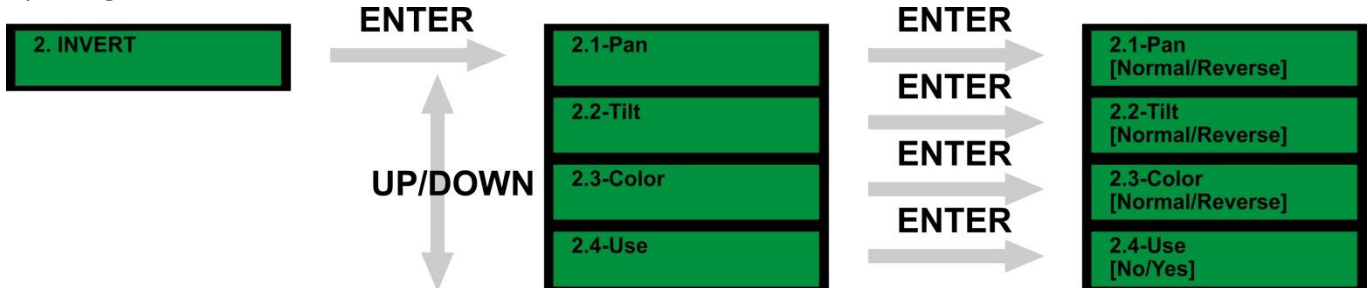


- 1) Press Menu, until the display shows: **Intro**
- 2) Press Enter and use the Up/Down buttons to go to the **Display** menu.
- 3) Press enter to open this menu. You can choose **60\_close** or **Bright** mode. Use the Up / Down buttons to select one.
- 4) Once you have set the desired mode, press the enter button to store your setting.



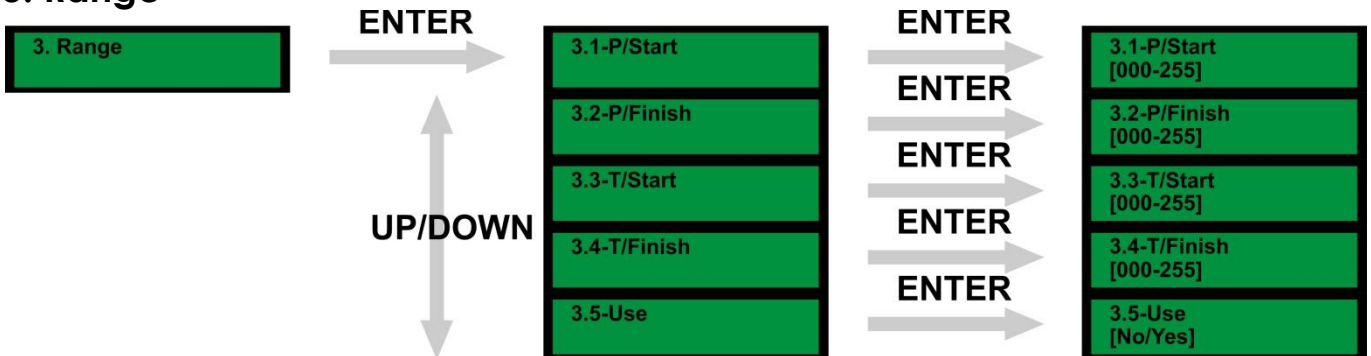
- 1) Press Menu, until the display shows: **Intro**
- 2) Press Enter and use the Up/Down buttons to go to the **Info** menu.
- 3) Press enter to see your expression Compact version number.

## 2. Invert



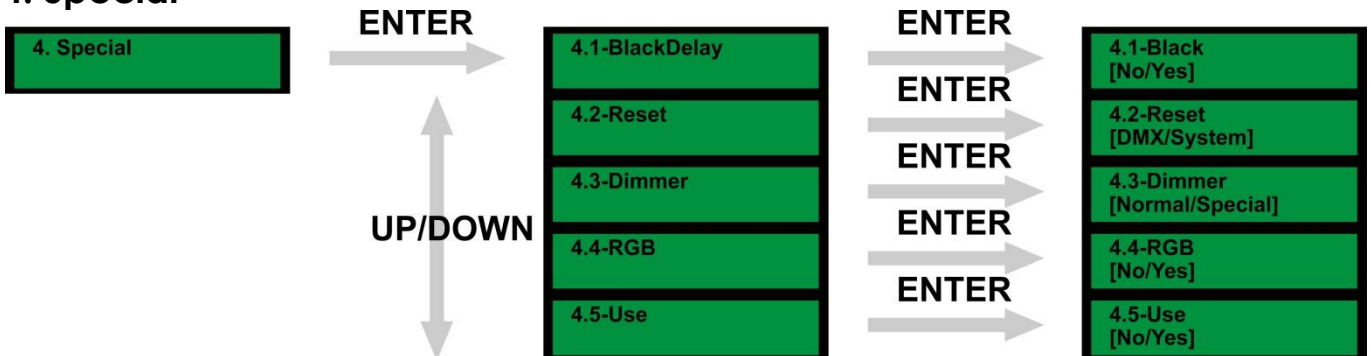
- 1) Press Menu, until the display shows: **Invert**
- 2) Press Enter and use the Up/Down buttons to scroll through the options: **Pan, Tilt, Color, Use**.
- 3) Press enter to open this menu. Use the Up / Down buttons to select one of the options.
- 4) Once you have set the desired mode, press the enter button to store your setting.

## 3. Range



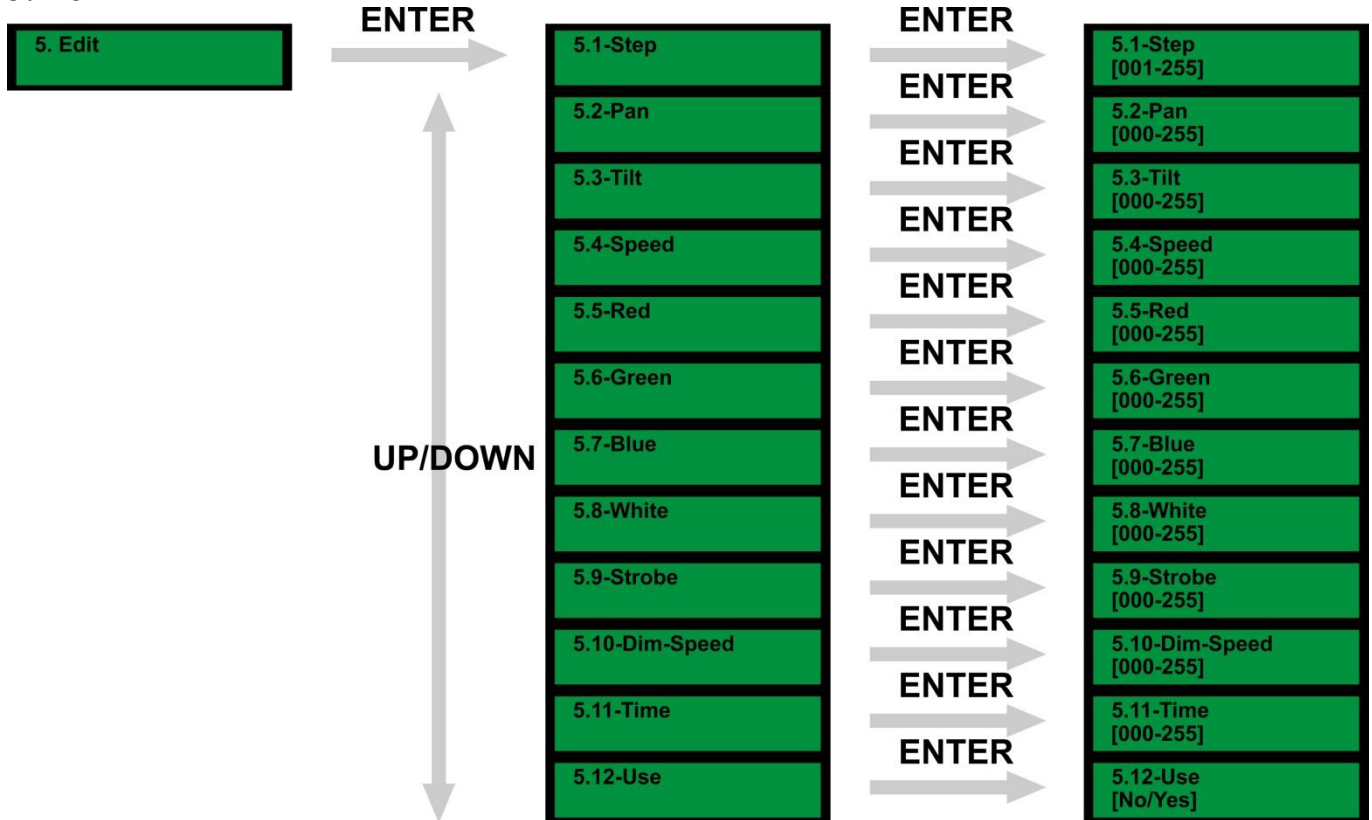
- 1) Press Menu, until the display shows: **Range**
- 2) Press Enter and use the Up/Down buttons to scroll through: **P/Start, P/Finish, T/Start, T/Finish, Use**.
- 3) Press enter to open this menu. Use the Up / Down buttons to set the desired value.
- 4) Once you have set the desired mode, press the enter button to store your setting.

## 4. Special



- 1) Press Menu, until the display shows: **Special**
- 2) Press Enter and use the Up/Down buttons to choose: **BlackDelay, Reset, Dimmer, RGB, Use**.
- 3) Press enter to open this menu. Use the Up / Down buttons to set the desired setting.
- 4) Once you have set the desired mode, press the enter button to store your setting.

## 5. Edit



- 1) Press Menu, until the display shows: **Edit**
- 2) Press Enter and use the Up/Down buttons to scroll through the options: **Step, Pan, Tilt, Speed, Red, Green, Blue, White, Strobe, Dim-Speed, Time, Use.**
- 3) Press enter to open this menu. Use the Up / Down buttons to set the desired setting.
- 4) Once you have set the desired mode, press the enter button to store your setting.

**Note:** If you want to circulate the created steps, please set the last step as 0.

For example, when you have 3 steps, the setting should be:

|        |                 |                  |
|--------|-----------------|------------------|
| Step 1 | <b>Time</b> = 4 | <b>Use</b> = Yes |
| Step 2 | <b>Time</b> = 5 | <b>Use</b> = Yes |
| Step 3 | <b>Time</b> = 0 | <b>Use</b> = Yes |

## 6. Extra

### 6.1 User-key



- 1) Press Menu, until the display shows: **Extra**
- 2) To see menu 7, 8 and 9 You have to enter **password 0000** in **menu 6.1**  
When you use the menu button, the 3 hidden menus will now appear. To make them disappear go to **menu 6.2** and enter **password 1111**. Menu 7, 8 and 9 will not be visible.

The User-key can be changed in menu **8.1 CodeChange**. The default access code is **0000**.

### 6.2 Password



- 1) Press Menu, until the display shows: **Extra**
- 2) When the user enters **6.2 password**, he is able to reset the **DEFAULT** values and get the administrator rights. The password can be changed in menu **8.2 CodeChange**. The default access code is **1111**.

# 7. Calib

7. Calib

ENTER

7.1-W1: 3200K

ENTER

7.1.1-W1: 3200K

Red

ENTER

7.1.2-W1: 3200K

Green

ENTER

7.1.3-W1: 3200K

Blue

7.2-W2: 3400K

ENTER

7.2.1-W2: 3400K

Red

ENTER

7.2.2-W2: 3400K

Green

ENTER

7.2.3-W2: 3400K

Blue

7.3-W3: 4200K

ENTER

7.3.1-W3: 4200K

Red

ENTER

7.3.2-W3: 4200K

Green

ENTER

7.3.3-W3: 4200K

Blue

7.4-W4: 4900K

ENTER

7.4.1-W4: 4900K

Red

ENTER

7.4.2-W4: 4900K

Green

ENTER

7.4.3-W4: 4900K

Blue

7.5-W5: 5600K

ENTER

7.5.1-W5: 5600K

Red

ENTER

7.5.2-W5: 5600K

Green

ENTER

7.5.3-W5: 5600K

Blue

7.6-W6: 5900K

ENTER

7.6.1-W6: 5900K

Red

ENTER

7.6.2-W6: 5900K

Green

ENTER

7.6.3-W6: 5900K

Blue

UP/DOWN

7.7-W7: 6500K

ENTER

7.7.1-W7: 6500K

Red

ENTER

7.7.2-W7: 6500K

Green

ENTER

7.7.3-W7: 6500K

Blue

7.8-W8: 7200K

ENTER

7.8.1-W8: 7200K

Red

ENTER

7.8.2-W8: 7200K

Green

ENTER

7.8.3-W8: 7200K

Blue

7.9-W9: 8000K

ENTER

7.9.1-W9: 8000K

Red

ENTER

7.9.2-W9: 8000K

Green

ENTER

7.9.3-W9: 8000K

Blue

7.10-W10: 8500K

ENTER

7.10.1-W10: 8500K

Red

ENTER

7.10.2-W10: 8500K

Green

ENTER

7.10.3-W10: 8500K

Blue

7.11-W11: 10000K

ENTER

7.11.1-W11: 10000K

Red

ENTER

7.11.2-W11: 10000K

Green

ENTER

7.11.3-W11: 10000K

Blue

7.12-W12: RGB W

ENTER

7.12.1-W12: RGB → W

Red

ENTER

7.12.2-W12: RGB → W

Green

ENTER

7.12.3-W12: RGB → W

Blue

## 7. Calib

- 1) Press Menu, until the display shows: **Calib**
- 2) Press Enter and use the Up/Down buttons to choose the different color temperatures.
- 3) There are **11 pre-programmed White colors** and **RGB TO WHITE**. They can be edited by mixing Red, Green and Blue.

## 8. CodeChange

### 8.1 User-key



- 1) Press Menu, until the display shows: **CodeChange**
- 2) Press Enter and use the Up/Down buttons to choose: **8.1 User-key**.
- 3) Press enter to set a user-defined password.

### 8.2 Password



- 1) Press Menu, until the display shows: **CodeChange**
- 2) Press Enter and use the Up/Down buttons to choose: **8.2 Password**.
- 3) Press enter to set a user-defined password.



Note: Menu 8.2 will not appear, only when 6.2 password is activated.



## 9. Default



- 1) Press Menu, until the display shows: **Default**
- 2) Press Enter and use the Up/Down buttons to choose: **Yes** or **No**.
- 3) If you use Yes, the device will return to the factory default setting.

## DMX Protocol 14 Channels (Advanced)

### Channel 1 - 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 2 - Pan fine 16 bit

### Channel 3 - 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 270° and stopped at any position you wish.

### Channel 4 - Tilt fine 16 bit

### Channel 5 –PAN/TILT Speed

|       |  |
|-------|--|
| 0-255 | From Max Speed (0) to Min. Speed (255) |
|-------|--|

### Channel 6 –Red (Dimmer must be open )

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

### Channel 7 –Green (Dimmer must be open )

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

### Channel 8 –Blue (Dimmer must be open )

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

### Channel 9 –White (Dimmer must be open )

|       |  |
|-------|--|
| 0-255 | Gradual adjustment White from 0 – 100% |
|-------|--|

### Channel 10 – Macro Colors

|         |                                 |
|---------|---------------------------------|
| 0-5     | No Function                     |
| 6-25    | Red Up / Green 0% / Blue 100%   |
| 26-45   | Red 100% / Green Up / Blue Down |
| 46-65   | Red Down / Green 100% / Blue 0% |
| 66-85   | Red 0% / Green Down / Blue Up   |
| 86-105  | Red Up / Green 0% / Blue Down   |
| 106-125 | Red Down / Green Up / Blue 0%   |
| 126-145 | Red Up / Green 100% / Blue 0%   |
| 146-165 | Red Down / Green Down / Blue Up |
| 166-180 | No Function                     |
| 181-190 | No Function                     |
| 191-200 | No Function                     |
| 201-205 | White: 3200K                    |
| 206-210 | White: 3400K                    |
| 211-215 | White: 4200K                    |
| 216-220 | White: 4900K                    |
| 221-225 | White: 5600K                    |
| 226-230 | White: 5900K                    |
| 231-235 | White: 6500K                    |
| 236-240 | White: 7200K                    |
| 241-245 | White: 8000K                    |
| 246-250 | White: 8500K                    |
| 251-255 | White: 10000K                   |



### Channel 11 – Dimmer intensity

|       |                         |
|-------|-------------------------|
| 0-255 | From black to brightest |
|-------|-------------------------|

### Channel 12 – Shutter / Strobe (Dimmer must be open )

|       |  |
|-------|--|
| 0-255 | Strobe effect, from slow to fast (0-10 flashes/sec.) |
|-------|--|

### Channel 13 – Dimmer Speed

|       |                   |
|-------|-------------------|
| 0-5   | No Function       |
| 6-255 | From fast to slow |

### Channel 14 – Control

|         |  |
|---------|--|
| 0-19    | No Function                                |
| 20-39   | Blackout during Pan/Tilt movement          |
| 40-59   | Disabled blackout during Pan/Tilt movement |
| 60-79   | Fan Auto                                   |
| 80-99   | Fan Slow                                   |
| 100-119 | Fan Normal                                 |
| 120-139 | Fan Fast                                   |
| 140-149 | No Function                                |
| 150-159 | Auto 1 activated after 5 seconds           |
| 160-169 | Auto 2 activated after 5 seconds           |
| 170-179 | Test activated after 5 seconds             |
| 180-189 | Custom activated after 5 seconds           |
| 190-199 | No Function                                |
| 200-219 | Reset activated after 5 seconds            |
| 220-255 | No Function                                |

# DMX Protocol 10 Channels (Basic)

## Channel 1 - 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 2 - 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 270° and stopped at any position you wish.

## Channel 3 –Red (Dimmer must be open )

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

## Channel 4 –Green (Dimmer must be open )

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

## Channel 5 –Blue (Dimmer must be open )

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

## Channel 6 –White (Dimmer must be open )


|       |  |
|-------|--|
| 0-255 | Gradual adjustment White from 0 – 100% |
|-------|--|

## Channel 7 – Macro Colors

|         |                                 |
|---------|---------------------------------|
| 0-5     | No Function                     |
| 6-25    | Red Up / Green 0% / Blue 100%   |
| 26-45   | Red 100% / Green Up / Blue Down |
| 46-65   | Red Down / Green 100% / Blue 0% |
| 66-85   | Red 0% / Green Down / Blue Up   |
| 86-105  | Red Up / Green 0% / Blue Down   |
| 106-125 | Red Down / Green Up / Blue 0%   |
| 126-145 | Red Up / Green 100% / Blue 0%   |
| 146-165 | Red Down / Green Down / Blue Up |
| 166-180 | No Function                     |
| 181-190 | No Function                     |
| 191-200 | No Function                     |
| 201-205 | White: 3200K                    |
| 206-210 | White: 3400K                    |
| 211-215 | White: 4200K                    |
| 216-220 | White: 4900K                    |
| 221-225 | White: 5600K                    |
| 226-230 | White: 5900K                    |
| 231-235 | White: 6500K                    |
| 236-240 | White: 7200K                    |
| 241-245 | White: 8000K                    |
| 246-250 | White: 8500K                    |
| 251-255 | White: 10000K                   |

## Channel 8 – Dimmer intensity

|       |                         |
|-------|-------------------------|
| 0-255 | From black to brightest |
|-------|-------------------------|

**Channel 9 – Shutter / Strobe (Dimmer must be open )**





































|       |  |
|-------|--|
| 0-255 | Strobe effect, from slow to fast (0-10 flashes/sec.) |
|-------|--|

**Channel 10 – Control**

|         |  |
|---------|--|
| 0-19    | No Function                                |
| 20-39   | Blackout during Pan/Tilt movement          |
| 40-59   | Disabled blackout during Pan/Tilt movement |
| 60-79   | Fan Auto                                   |
| 80-99   | Fan Slow                                   |
| 100-119 | Fan Normal                                 |
| 120-139 | Fan Fast                                   |
| 140-149 | No Function                                |
| 150-159 | Auto 1 activated after 5 seconds           |
| 160-169 | Auto 2 activated after 5 seconds           |
| 170-179 | Test activated after 5 seconds             |
| 180-189 | Custom activated after 5 seconds           |
| 190-199 | No Function                                |
| 200-219 | Reset activated after 5 seconds            |
| 220-255 | No Function                                |

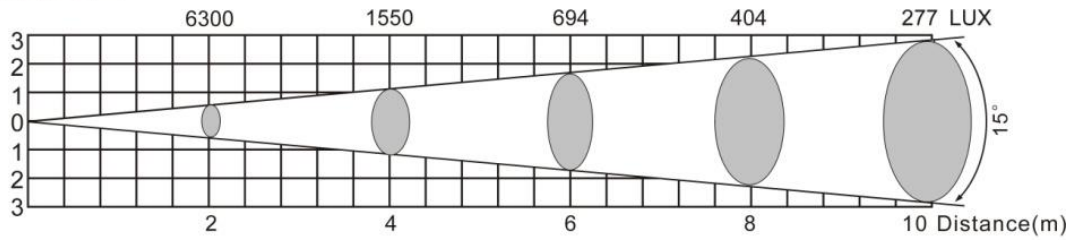
**Channel settings**

41366 Expression Compact Fixture-settings

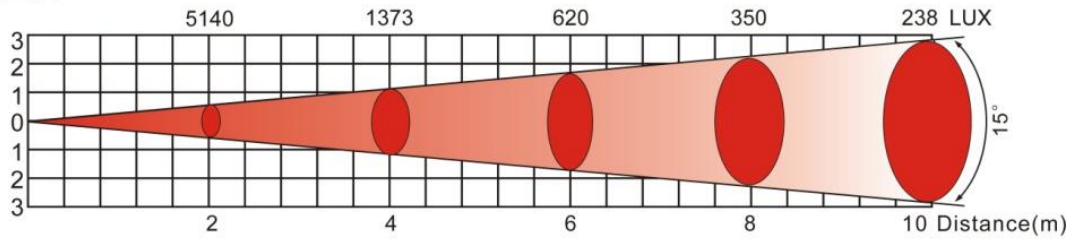
| Channel  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14   |
|----------|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Function | Pan   | Pan-Fine  | Tilt  | Tilt-Fine   | Pan/Tilt Speed  | Red   | Green   | Blue  | White   | Color/White Macro   | Dimmer  | Shutter Strobe  | Dimmer Speed  | Color/White Macro  |
| 255      |  |  |  |  |  |  |  |  |  | 251-255 White 11:1000K<br>246-250 White 10:8500K<br>241-245 White 9:8000K<br>236-240 White 8:7200K<br>231-235 White 7:6500K<br>226-230 White 6:5900K<br>221-225 White 5:5600K<br>216-220 White 4:4900K<br>211-215 White 3:4200K<br>206-210 White 2:3400K<br>201-205 White 1:3200K<br>191-200 No Function<br>181-190 No Function<br>166-180 No Function<br>146-165 Red Down/Green Down/Blue Up<br>126-145 Red Up/Green 100%/Blue 0%<br>106-125 Red Down/Green Up/Blue 0%<br>86-105 Red Up/Green 0%/Blue Down<br>66-85 Red 0%/Green Down/Blue Up<br>46-65 Red Down/Green 100%/Blue 0%<br>26-45 Red 100%/Green Up/Blue Down<br>6-25 Red Up/Green 0%/Blue 100%<br>0-5 No Function |  |  |  | 220-255 No Function<br>200-219 Reset activated after 5 sec.<br>190-199 No Function<br>180-189 Custom activated after 5 sec.<br>170-179 Test activated after 5 sec.<br>160-169 Auto2 activated after 5 sec.<br>150-159 Auto1 activated after 5 sec.<br>140-149 No Function<br>120-139 Fan Fast<br>100-119 Fan Normal<br>80-99 Fan Slow<br>60-79 Fan Auto<br>40-59 No Blackout during Pan/Tilt<br>20-39 Blackout during Pan/Tilt<br>0-19 No Function |
| 128      |  |  |  |  |  |  |  |  |  |   |  |  |  |  |
| 0        |  |  |  |  |  |  |  |  |  |   |  |  |  |  |

## Beam angles

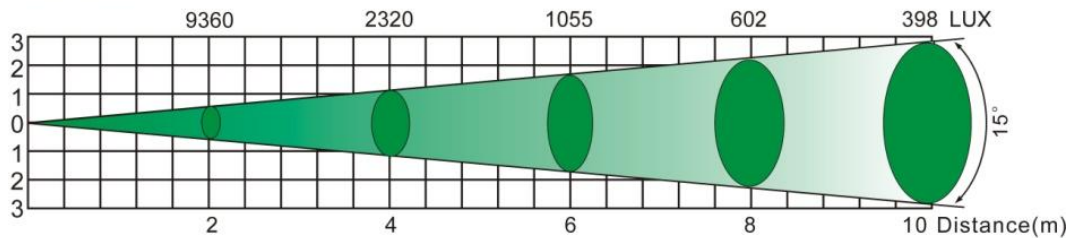
### WHITE



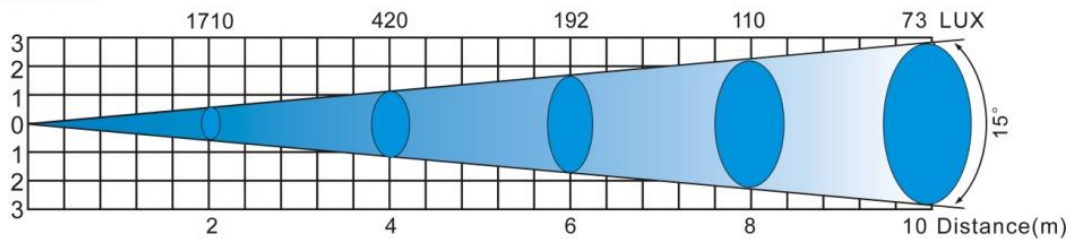
### RED



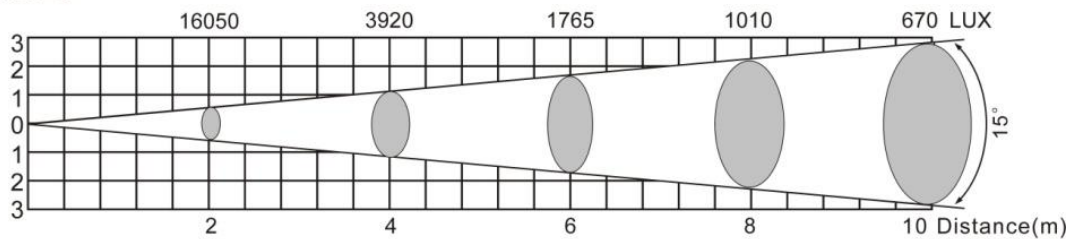
### GREEN



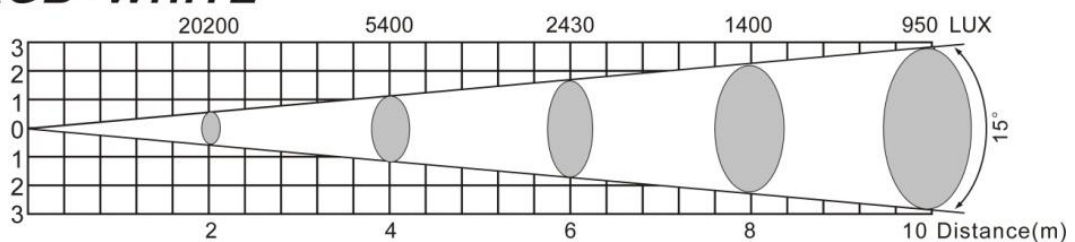
### BLUE



### RGB



### RGB+WHITE



## Maintenance

The operator has to make sure that safety-relating 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-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.

The Showtec Expression Compact 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.

The front lens will require weekly cleaning, as smoke-fluid tends to build up residues, reducing the light-output very quickly.

The cooling-fans and the internal lenses should be cleaned monthly with a soft brush.

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 audio connections with a damp cloth. Make sure connections are thoroughly dry before linking equipment or supplying electric power.

## 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. 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, 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 Expression Compact to your Showtec dealer.
3. The fuse. Replace the fuse. See page 27 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.

See next page for more problem solving.

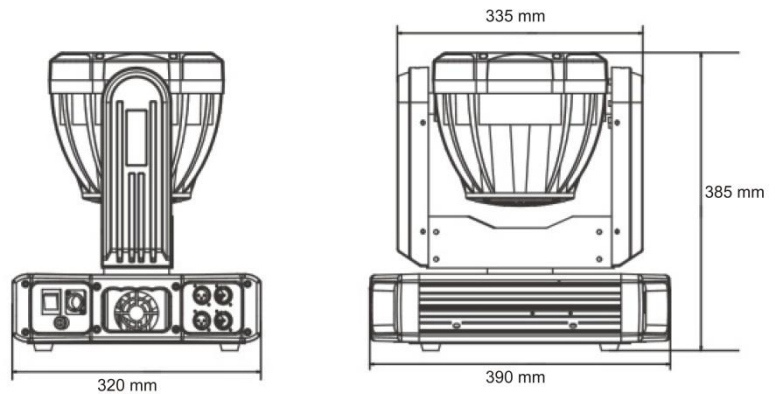
| <b>Problem</b>  | <b>Probable cause(s)</b>   | <b>Remedy</b>   |
|---|--|---|
| One or more fixtures are completely dead.   | No power to the fixture  | · Check that power is switched on and cables are plugged in.  |
|   | Primary fuse blown.  | · Replace fuse.   |
| Fixtures reset correctly, but all respond erratically or not at all to the controller.  | The controller is not connected.   | · Connect controller.   |
|   | 3-pin XLR Out of the controller does not match XLR Out of the first fixture on the link (i.e. signal is reversed). | · Install a phase reversing cable between the controller and the first fixture on the link.   |
| Fixtures reset correctly, but some respond erratically or not at all to the controller. | Poor data quality  | · Check data quality. If much lower than 100 percent, the problem may be a bad data link connection, poor quality or broken cables, missing termination plug, or a defective fixture disturbing the link. |
|   | Bad data link connection   | · Inspect connections and cables. Correct poor connections. Repair or replace damaged cables.   |
|   | Data link not terminated with 120 Ohm termination plug.  | · Insert termination plug in output jack of the last fixture on the link.   |
|   | Incorrect addressing of the fixtures.  | · Check address setting.  |
|   | One of the fixtures is defective and disturbs data transmission on the link.                                       | · Bypass one fixture at a time until normal operation is regained: unplug both connectors and connect them directly together.<br>· Have the defective fixture serviced by a qualified technician.         |
|   | 3-pin XLR Out on the fixtures does not match (pins 2 and 3 reversed).  | · Install a phase-reversing cable between the fixtures or swap pin 2 and 3 in the fixture, that behaves erratically.  |
| Shutter closes suddenly   | The shutter has lost its index position and the fixture is resetting the effect.                                   | · Contact a technician for servicing if the problem persists.   |
| No light  | The power supply settings do not match local AC voltage and frequency.   | · Disconnect fixture. Check settings and correct if necessary.  |
|   | LEDs damaged   | · Disconnect fixture and return to your dealer.   |
| Lamp cuts out intermittently.   | Fixture is too hot.  | · Allow fixture to cool.<br>· Clean fan.<br>· Make sure air vents at control panel and front lens are not blocked.<br>· Turn up the air conditioning.   |
|   | The power supply settings do not match local AC voltage and frequency.   | · Disconnect fixture. Check settings and correct if necessary.  |

## Product Specification

Model: Showtec Expression Compact  
Voltage: 240V-50Hz (CE)  
Power Consumption: 280W  
Fuse: 4A / 250V  
Dimensions: 390x320x385mm (LxWxH)  
Weight: 16,2 kg

### Operation and Programming

Signal pin OUT: pin 1 earth, pin 2 (-), pin 3 (+)  
Set Up and Addressing: LED control panel  
DMX Channels: 10 or 14  
Signal input 3+5-pin XLR male  
Signal output 3+5-pin XLR female



### Electro-mechanical effects

Auto Correction system for pan and tilt movement

54 LED's total:

- 14 pieces Red LED 2W
- 14 pieces Green LED 3W
- 14 pieces Blue LED 3W
- 12 pieces White LED 3W

Beam angle 15° degrees

White balance

RGB Calibration

Fan Speed Control

Built-in Macros via DMX

Neutrik Powercon power connector

No Powercon powercable included

Bright LCD display

User selectable pan/tilt ranges

User selectable basic or advanced operating modes

Movement resolution: selectable 8/16 bit

Mounting System: Quicklock brackets

Cooling system: Low Noise Fan)

Shutter: 0-10Hz

Dimmer: 0-100% electronic dimmer

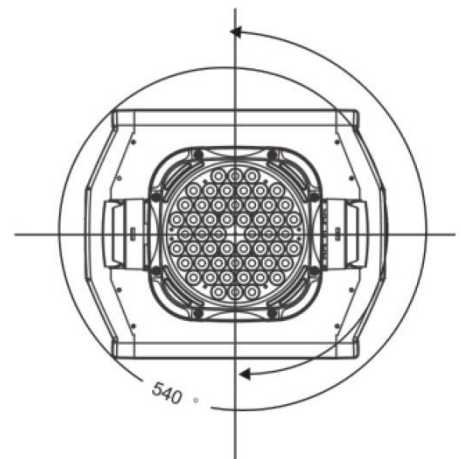
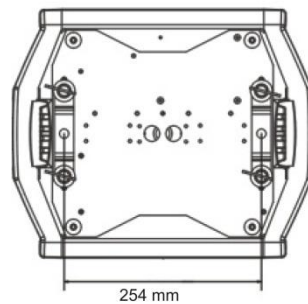
Pan 0° -- 540°

Tilt 0° -- 250°

Control: DMX-512, Master/Slave

Basic(10CH) or Advanced (14CH) operating modes

Lux: 20200 at 2 m (RGB+White)



Max. ambient temperature  $t_a$ : 40°C; Max. housing temperature  $t_B$ : 80°C

Cooling: 3 axial fans - 1 fan in the projector and 2 in the base

Motor: high quality stepping-motor controlled by microprocessors

### Minimum distance:

Minimum distance from flammable surfaces: 0.5m

Minimum distance to lighted object: 1.3m

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



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