Show tec®

CONTROL PANEL

Show tec

MODE/ESC UP DOWN ENTER

ENGLISH

Phantom 50 MKII   V2

Ordercode: 40200

Table of contents

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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 Phantom 50 MKII
- IEC power cable (1 m)
- 1 bracket and 2 screws for truss mounting
- Safety eye
- User manual
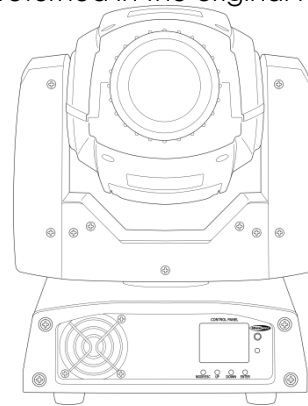
LED Expected Lifespan

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. If improving the lifespan is of 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 the initial start-up, please make sure that there is no damage caused by transportation.
Should there be any, consult your dealer and do not use the device.

To maintain perfect condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes contained in this manual.

Please consider that damages caused by manual modifications to the device are not subject to warranty.
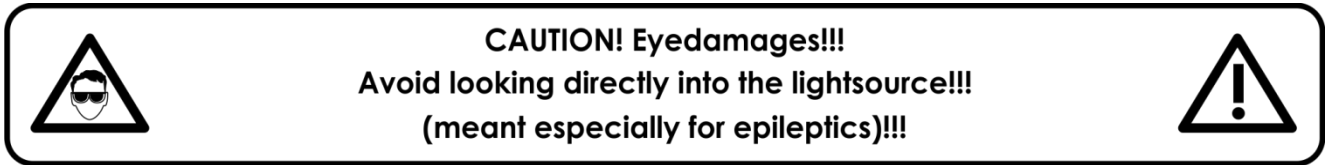
This device contains no user-serviceable parts. Refer servicing to qualified technicians only.

IMPORTANT:
The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the device.

- Never let the power cord come into contact with other cables! Handle the power cord and all connections with the mains with particular caution!
- Never remove warning or informative labels from the unit.
- Never use anything to cover the ground contact.
- Never lift the fixture holding it by the projector-head, as the mechanics may be damaged. Always hold the fixture by the transport handles.
- Never place any material over the lens.
- Never look directly into the light source.
- Never leave any cables lying around.
- Never loosen the screws of the rotating gobo otherwise you risk opening of the ball bearing.
- 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 will reduce the device'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 the device indoors, avoid contact with water or other liquids.
- Only operate the fixture after having checked if the housing is firmly closed and all screws are tightly fastened.
- Only operate the device after having familiarized with its functions.
- Avoid flames and do not put close to flammable liquids or gases.
- Always keep the case closed while operating.
- Always allow a 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 holding it 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 lens is obviously damaged, it has to be replaced.
- If device was 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 the 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. Moving head must be installed beyond the reach of children. Never leave the unit running unattended.
- Never attempt to bypass the thermostatic switch or fuses.
- For replacement use fuses of same type and rating only.

- The user is responsible for correct positioning and operating of the Phantom. 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.

CAUTION! Eyedamages!!!
Avoid looking directly into the lightsource!!!
(meant especially for epileptics)!!!

Operating Determinations
- This device is not designed for permanent operation. Consistent operation breaks will ensure that the device will serve you for a long time without defects.
- The minimum distance between light output and the illuminated surface must be bigger than 1 meter.
- The maximum ambient temperature t_a = 40°C must never be exceeded.
- The relative humidity must not exceed 50 % with an ambient temperature of 40° C.
- If this device is operated in any other way than the one described in this manual, the product may suffer damages and the warranty becomes void.
- Any other operation may lead to dangers like short-circuit, burns, electric shock, crash, etc.

You endanger your own safety and the safety of others!

Rigging
Please follow the European and national guidelines concerning rigging, trussing and all other safety issues.

Do not attempt the installation yourself !
Always let the installation be carried out by an authorized dealer !

Procedure:
- If the 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 site is secured and that there are not any unauthorized people around.

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Safety cable

Clamp

Safety eye

Mounting bracket
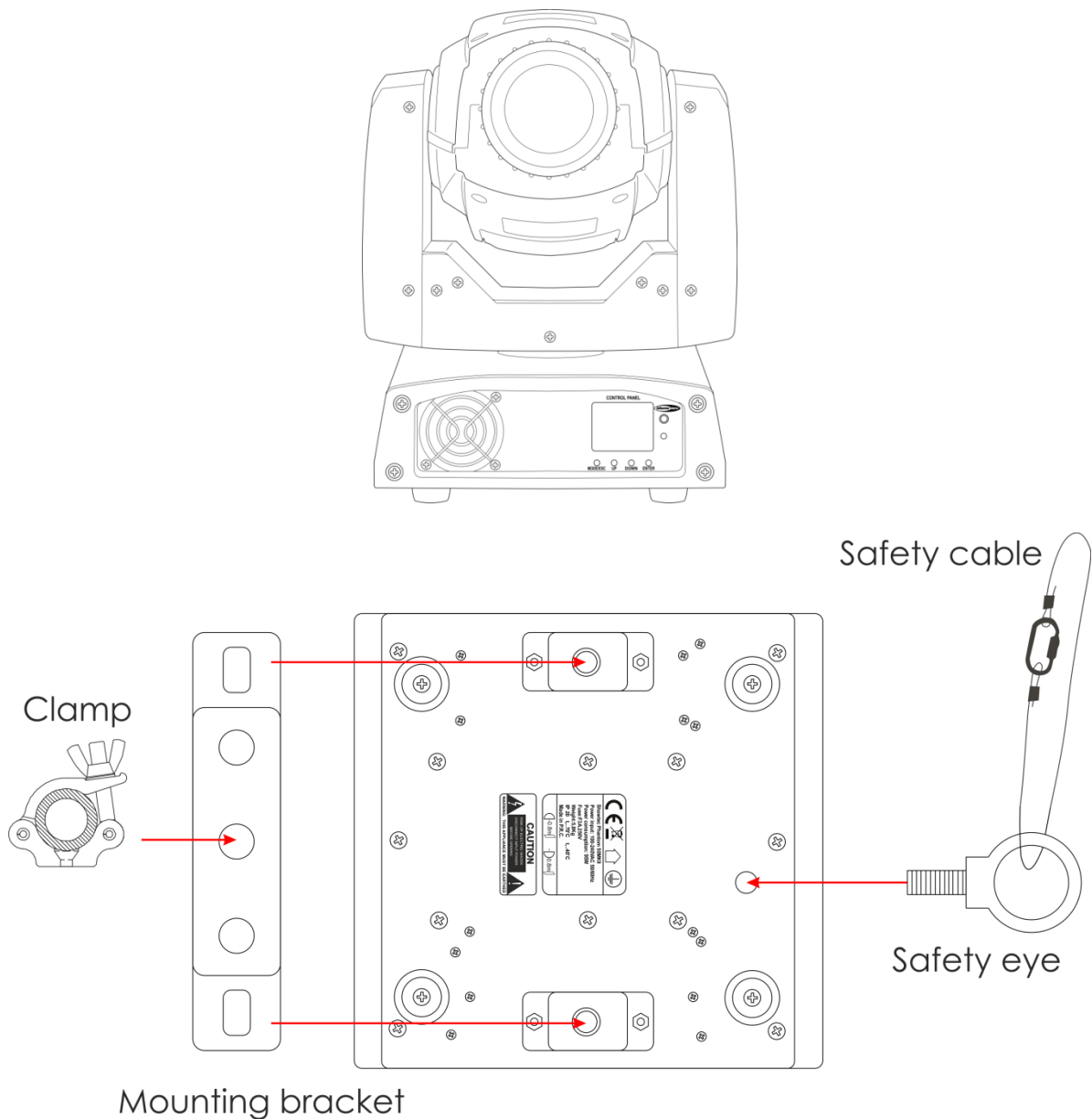
The Phantom can be placed on a flat stage floor or mounted to any kind of truss with a clamp.

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

Connection with the mains

Connect the device to the mains with the power-plug.
Always check if the right color cable is connected to the right place.

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

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

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

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

Claims

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

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

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

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

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

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Description of the device

Features

The Showtec Phantom 50 MKII is a moving head fixture with high output and great effects.
- DMX-control via standard DMX-controller
- 10 built-in programs
- Basic (8CH) or Advanced (13CH) operating modes
- Adjustable Pan range: 540° / 360° / 180°
- Adjustable Tilt range: 90° / 180° / 270°
- Reversible Pan/Tilt movement
- Special: Pan/Tilt movement blackout
- Pan/Tilt resolution: 16-bit
- Control Modes: Auto, DMX-512, Master/Slave, Sound-controlled, IR mode
- Color wheel with 8 dichroic-colors and white
- Color functions: Split colors, Rainbow-flow effect
- Rotating Gobo wheel with 1 glass gobo, 6 metal gobos and open with Gobo Shake Function
- Gobo functions: Gobo-flow effect, Gobo shake
- Input Voltage: 100-240VAC, 60/50 Hz
- Continuous Power: 114W
- Housing: Black Metal & Flame-retardant plastic
- Connections: XLR Data IN/OUT (XLR 3-pin), IEC Power IN/OUT
- Fuse: F3AL/250V
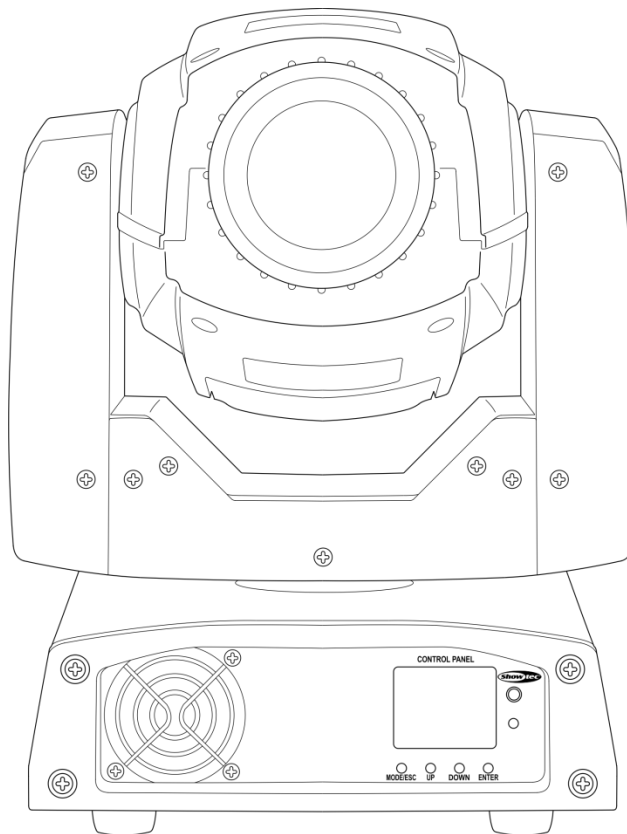- Dimensions: 205 mm x 210 mm x 330 mm (LxWxH)
- Weight: 6,1 Kg
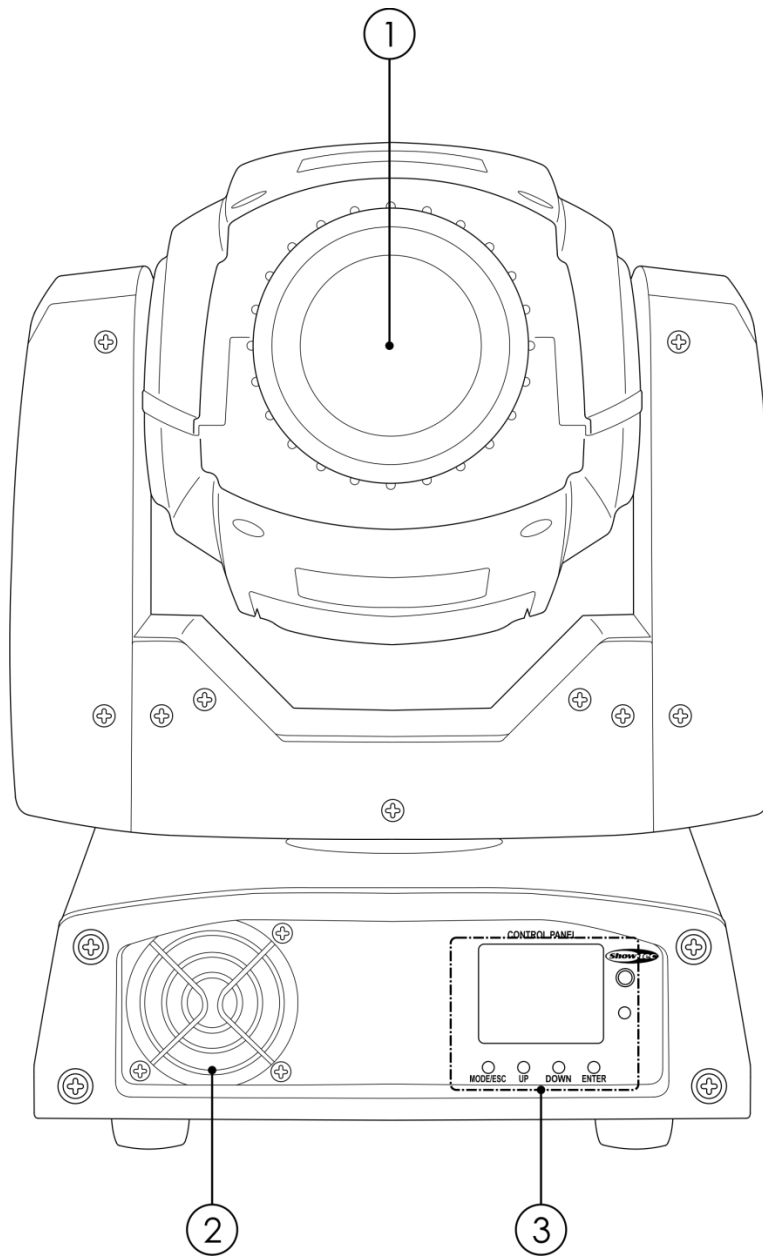
Overview

Fig. 01

Frontside

Fig. 02

01) LED Lens
02) Cooling fan
03) LCD Display + control buttons

Backside

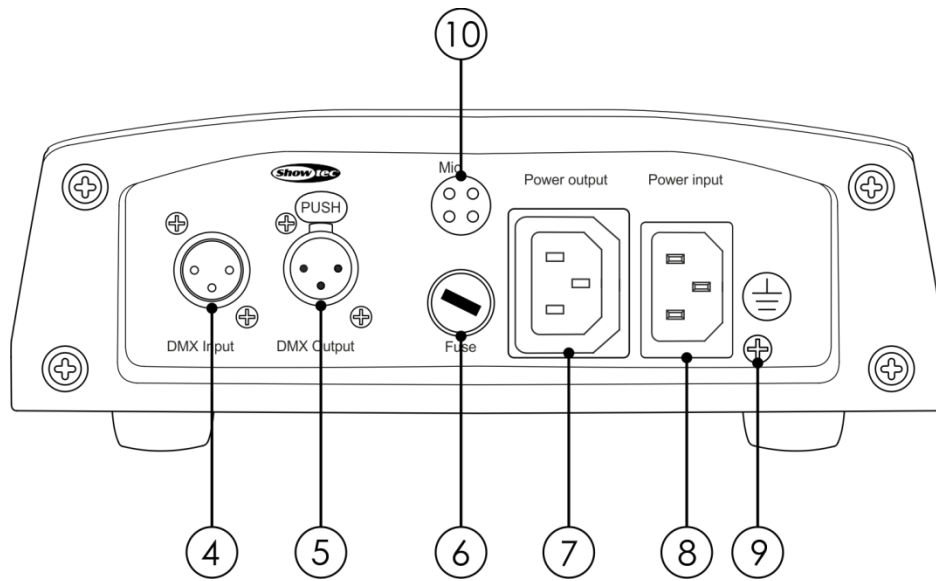**Fig. 03**

04) 3-pin DMX signal connector IN
05) 3-pin DMX signal connector OUT
06) Fuse F3AL/250V
07) IEC power connector 100-240V OUT
08) IEC power connector 100-240V IN
09) Ground/earth connection
10) Built-in microphone

Installation

Remove all packing materials from the Phantom 50 MKII. Check if all foam and plastic padding is removed. Connect all cables.
Do not supply power before the whole system is set up and connected properly.
Always disconnect from electric mains power supply before cleaning or servicing.
Damages caused by non-observance are not subject to warranty.

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 sound-controlled as it is equipped with a built-in microphone.

Control Modes

There are 5 modes:
- Stand-alone (Auto)
- Sound-controlled
- IR Mode
- Master/Slave
- DMX-512 (8CH, 13 CH)

One Phantom (Auto and IR)
01) Fasten the effect light to a firm trussing. Leave at least 0,5 meter on all sides for air circulation.
02) Plug the end of the electric mains power cord into a proper electric power supply socket.
03) When the Phantom is not connected with a DMX cable, it functions as a stand-alone device. Please see pages 17-18 for more information about the Auto Mode and IR Mode.

One Phantom (Sound-controlled)
01) Fasten the effect light to a firm trussing. Leave at least 0,5 meter on all sides for air circulation.
02) Plug the end of the electric mains power cord into a proper electric power supply socket.
03) Turn on the music. If the device is set to sound-control, then the Phantom will react to the beat of the music. Please see page 17 for more information about the sound-control options.

Multiple Phantoms (Master/Slave control)
01) Fasten the effect light onto firm trussing. Leave at least 0,5 meter on all sides for air circulation.
02) Use a 3-pin XLR cable to connect the Phantom.

The pins:

01) Earth
02) Signal -
03) Signal +

03) Link the units as shown in fig. 04. Connect the first unit's DMX "out" socket with the second unit's "in" socket, using a DMX-signal cable. 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 (Auto Mode or Sound-controlled Mode). This means that you can set your desired operation mode on the master device and all slave devices will react the same as the master device.
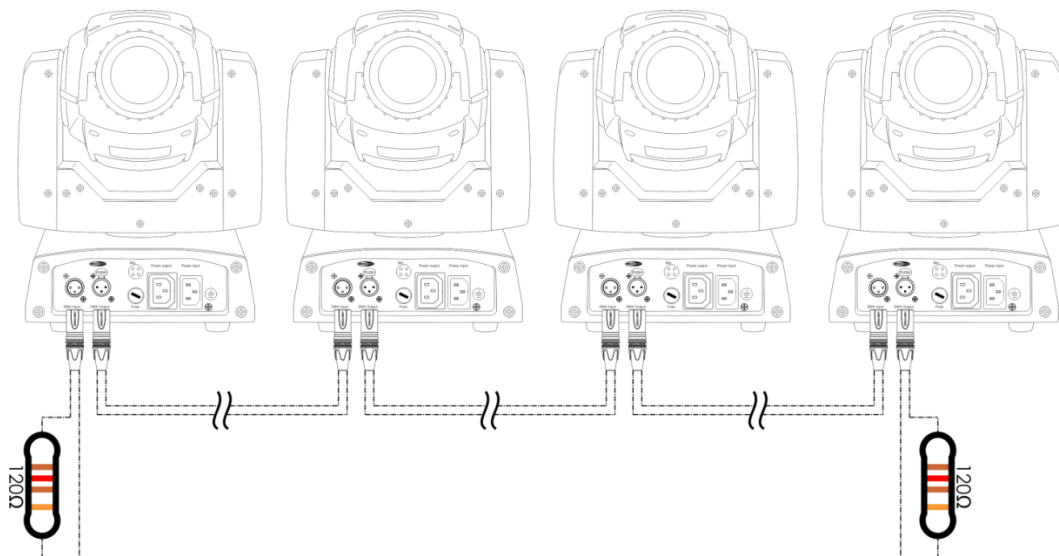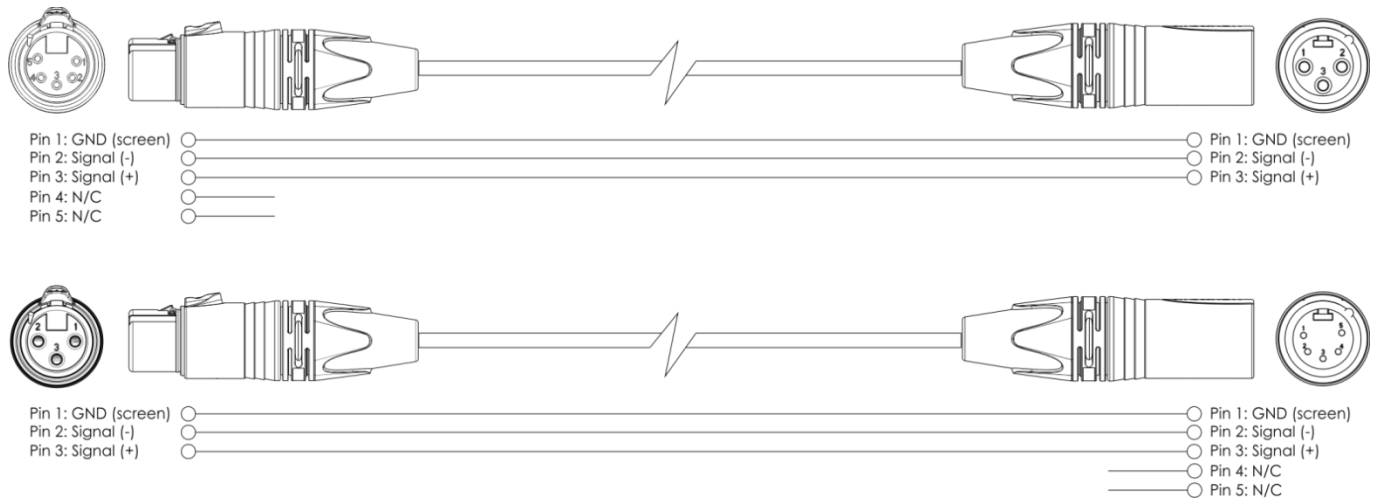
**Multiple Phantoms (Master/Slave control)**

Fig. 04

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

04) Link the units as shown in fig. 05. Connect the first unit's DMX "out" socket with the second unit's "in" socket, using a DMX-signal cable. Repeat this process to link the second, third, and fourth units.
05) 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 Phantoms DMX Set Up
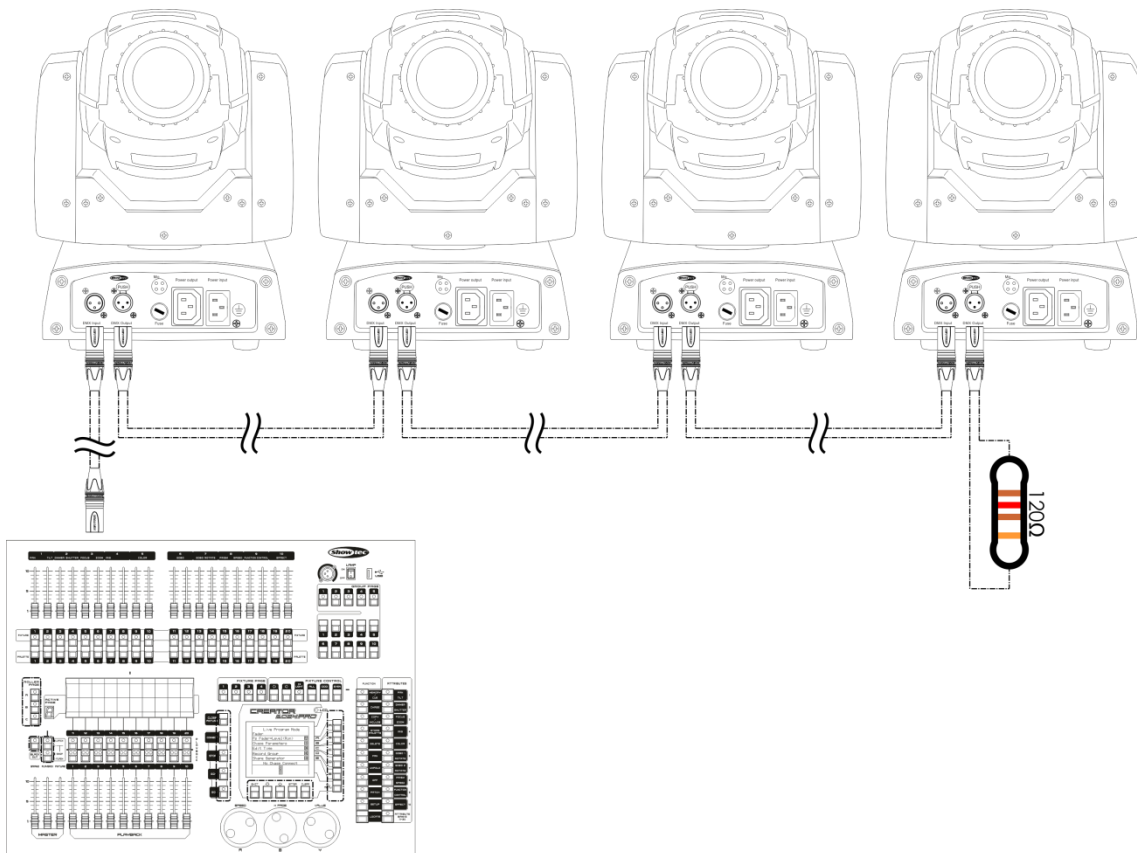
Fig. 05

Note : Link all cables before connecting electric power

Fixture Linking

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

Important: Fixtures on a serial data link must be daisy-chained in a single line. To comply with the EIA-485 standard, no more than 30 devices should be connected on one data link. Connecting more than 30 fixtures on one serial data link without the use of a DMX optically isolated splitter may result in deterioration of the digital DMX signal.

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

Data Cabling

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

DAP Audio Certified DMX Data Cables

- DAP Audio Basic microphone 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 Phantom 50 MKII can be operated with a controller in **control mode** or without the controller in **stand-alone mode.**

Control Panel
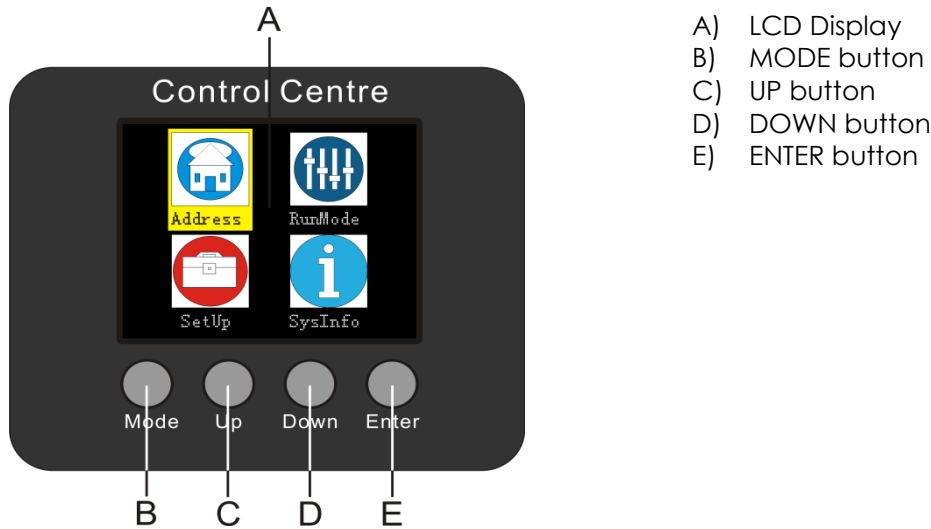

A) LCD Display
B) MODE button
C) UP button
D) DOWN button
E) ENTER button

Fig. 06

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, next time.)

DMX Addressing
The control panel on the front side of the base allows you to assign DMX fixture addresses, which is the first channel with which the Phantom will respond to the controller.
Please note, when you use the controller, the unit has **13** channels.
When using multiple Phantoms, make sure you set the DMX addresses right.
Therefore, the DMX address of the first Phantom should be **1(001)**; the DMX address of the second Phantom should be **1+13=14 (014)**; the DMX address of the third Phantom should be **14+13=27 (027)**, etc.
Please, be sure that you do not have any overlapping channels in order to control each Phantom correctly. If two or more Phantoms are addressed similarly, they will work similarly.

Controlling:
After having addressed all Phantom fixtures, you may now start operating these via your lighting controller.
Note: After switching on, the Phantom 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.
If not, the problem may be:
•   The XLR cable from the controller is not connected with the input of the Phantom 50 MKII.
•   The controller is switched off or defective, the cable or connector is detective, or the signal wires are swapped in the input connector.

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

⚠ Display Off after 30 seconds ⚠
When no button is pressed for 30 seconds, the display will turn off.
To light up the display, you have to press the MODE, UP, DOWN or ENTER button.
Once you have pressed the button, the display will light up.

Menu Overview

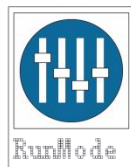**Up/Down**

ENTER →

Running Mode DMX
(13CH)
001

ENTER →

Running mode
Dmx   ● 13CH
Slave   Slave1
Auto
Sound
IR
Manual
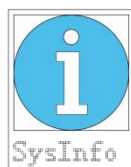
ENTER →

Advanced setting
PanReverse   OFF
TiltReverse   OFF
Screen Rev   OFF
Pan Angle   540
Tilt Angle   270
Totem Mode   OFF
Sensitivity   085
Reset
Factory Set

ENTER →

System information
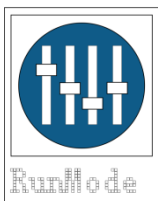Ver   V2
Running Mode   DMX
Dmx Address   001
Temperature   021

Main Menu Options

DMX Address

DMX Mode / Built-in Programs / Sound-controlled / Master-Slave Mode / IR
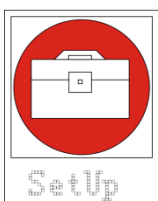
Pan and Tilt Reverse / Screen Reverse / Pan and Tilt Angle / Sound Sensitivity / Reset / Factory Settings
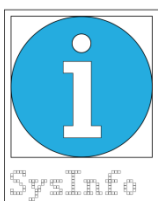
System Information

DMX Addressing

With this menu you can set the DMX address.

01) Press the **MODE** button, until the display shows .
02) Press the **ENTER** button to confirm. You can choose 512 different DMX addresses.
03) Press the **UP/DOWN** buttons to select the required address from .
04) Press the **ENTER** button to confirm the address.

Built-in Programs Mode
You can select 6 different programs when using the Phantom.

01) While in the main menu, press the **MODE** button until the display shows .
02) Press the **ENTER** button to open the menu.
03) Press the **UP/DOWN** buttons to select one of the 6 modes:

1. DMX Mode
01) When the display shows `Dmx`, press the **ENTER** button to open the menu.
02) Press the **UP/DOWN** buttons to toggle between the 2 channel modes:
   * 8 channels
   * 13 channels

03) Press the **ENTER** button to confirm your choice.

2. Slave Mode
01) Press the **UP/DOWN** buttons until the display shows `Slave`.
02) Press the **ENTER** button to open the menu.
03) Press the **UP/DOWN** buttons to choose between Slave1-Slave4.
04) Press the **ENTER** button to confirm your choice.
05) The device is now operating in the slave mode. It means that it will react the same as the master device.

3. Auto Mode
01) Press the **UP/DOWN** buttons until the display shows `Auto`.
02) Press the **ENTER** button to activate the Built-in program mode.
03) The device will now run the built-in auto show.

4. Sound-controlled Mode
01) Press the **UP/DOWN** buttons until the display shows `Sound`.
02) Press the **ENTER** button to activate the sound-controlled mode.
03) The device will now react to the beat of the background music by means of the built-in microphone.

5. IR Mode

01) Press the **UP/DOWN** buttons until the display shows IR .
02) Press the **ENTER** button to activate the IR Mode
03) Press the **MODE** button until the display shows:

Running Mode IR

AUTO

AUTO 01

04) Press the **ENTER** button to open the menu.
05) Press the **UP/DOWN** buttons to toggle between the following adjustable options:

    5.1   **Auto**
    5.2   **CG.Auto**
    5.3   **GOBO.R.SP.**
    5.4   **COLOR.R.SP.**
    5.5   **GOBO.SW**
    5.6   **COLOR.SW**
    5.7   **PRISM**
    5.8   **P/T TILT**
    5.9   **P/T PAN**
    5.10 **DIMMER**
    5.11 **SENS**
    5.12 **XY Speed**
    5.13 **Strobe**
    5.14 **Sound**
    5.15 **LED**

5.1 Auto

In this menu you can choose the desired built-in program.

Running Mode IR

AUTO

AUTO 01
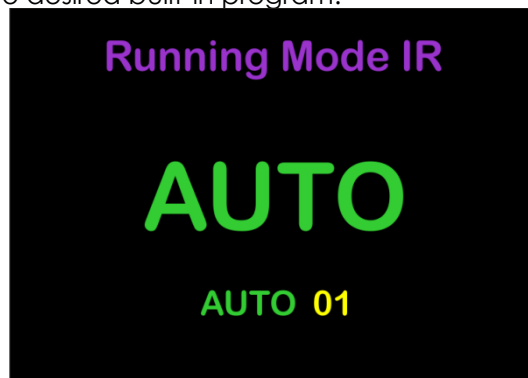
01) Press the **ENTER** button to open the menu.
02) Press the **UP/DOWN** button to toggle between the 10 built-in programs.
03) Press the **ENTER** button again to confirm your choice.
04) The device will now run the desired built-in show.

5.2. CG.Auto

In this menu you can set the automatic color and gobo flow.

Running Mode IR

AUTO

CG. Auto
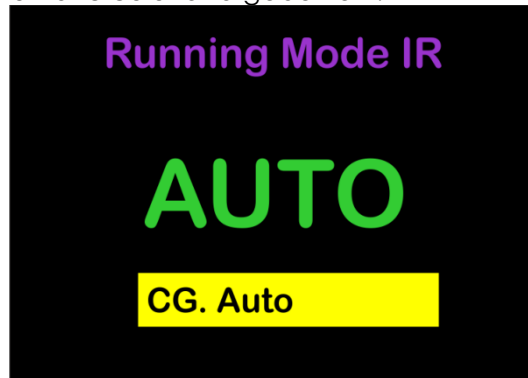
01) Press the **ENTER** button to activate the automatic gobo and color flow.
02) The device will now perform the automatic random gobo and color flow.

5.3 GOBO.R.SP.

In this menu you can set the gobo rotation speed.

Running Mode IR

AUTO

GOBO.R.SP 000
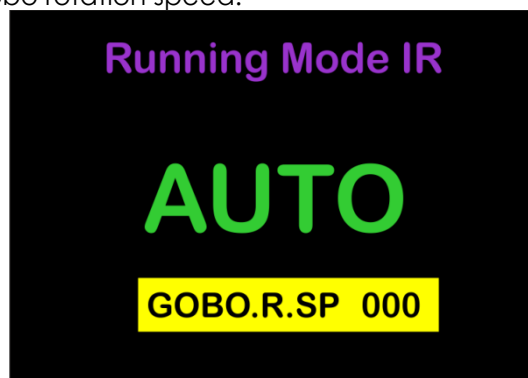
01) Press the **ENTER** button to open the menu.
02) Press the **UP/DOWN** buttons to set the gobo rotation speed. The adjustment range is between 0-100, from slow to fast.
03) Press the **ENTER** button to store changes.

5.4 COLOR.R.SP

In this menu you can set the color wheel rotation speed.

Running Mode IR

AUTO

COLOR.R.SP 000

01) Press the **ENTER** button to open the menu.
02) Press the **UP/DOWN** buttons to set the color wheel rotation speed. The adjustment range is between 0-100, from slow to fast.
03) Press the **ENTER** button to store changes.

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5.5 GOBO.SW
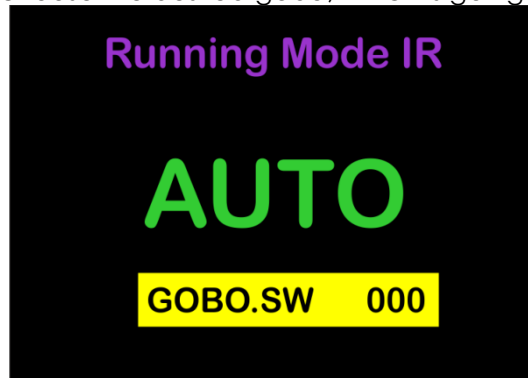In this menu you can manually choose the desired gobo, which is going to be displayed.

Running Mode IR

AUTO

GOBO.SW   000

01) Press the **ENTER** button to open the menu.
02) Press the **UP/DOWN** buttons to choose one of the available gobos. The adjustment range is between 0-7.
03) Press the **ENTER** button to confirm your choice.

5.6 COLOR.SW
In this menu you can manually choose the desired color, which is going to be displayed.

Running Mode IR

AUTO

COLOR.SW   000

01) Press the **ENTER** button to open the menu.
02) Press the **UP/DOWN** buttons to choose one of the available colors. The adjustment range is between 0-8.
03) Press the **ENTER** button to confirm your choice.

5.7 PRISM
In this menu you can manually set the prism ON or OFF.

Running Mode IR

AUTO

PRISM   255
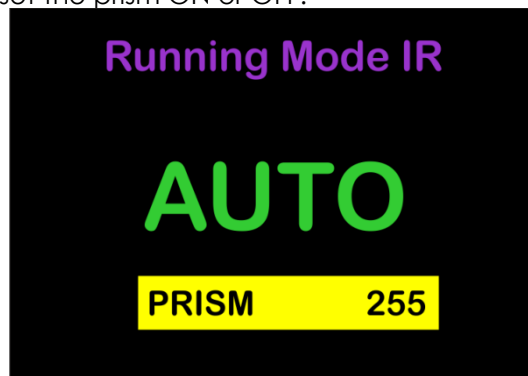
01) Press the **ENTER** button to open the menu.
02) Press the **UP/DOWN** buttons to choose a value.
    Prism 0-15 is OFF, Prism 16-255 is ON
03) Press the **ENTER** button to confirm your choice.

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5.8 P/T PAN
In this menu you can manually choose the Pan position.
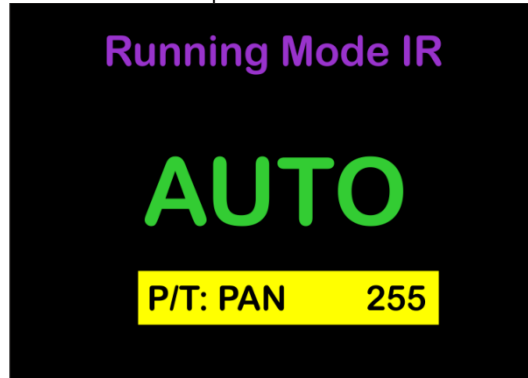
Running Mode IR

AUTO

P/T: PAN   255

01) Press the **ENTER** button to open the menu.
02) Press the **UP/DOWN** buttons to manually choose the PAN position. The adjustment range is between 0-255.
03) Press the **ENTER** button to confirm your choice, the display will now change to P/T: TILT.

5.9 P/T TILT
In this menu you can manually choose the TILT position.

Running Mode IR

AUTO

P/T: TILT   255

01) Press the **ENTER** button to open the menu.
02) Press the **UP/DOWN** buttons to manually choose the TILT position. The adjustment range is between 0-255.
03) Press the **ENTER** button to confirm your choice, the display will now change to P/T: PAN.

5.10 DIMMER
In this menu you can set the dimmer intensity.

Running Mode IR

AUTO

DIMMER   255
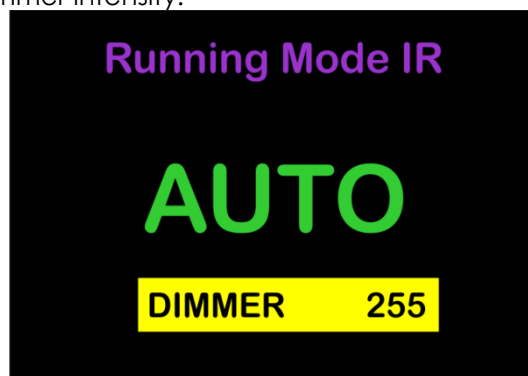
01) Press the **ENTER** button to open the menu.
02) Press the **UP/DOWN** buttons to set the dimmer brightness. The adjustment range is between 0-255, from dark to brightest.
03) Press the **ENTER** button to store changes.

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5.11 SENS
In this menu you can set the sound sensitivity of the device.

Running Mode IR

AUTO

SENS   099

01) Press the **ENTER** buton to open the menu.
02) Press the **UP/DOWN** buttons to set the sound sensitivity. The adjustment range is between 0-99, from low to high sensitivity.
03) Press the **ENTER** button to store changes.

5.12 XY Speed
In this menu you can set the Pan/Tilt speed.

Running Mode IR

AUTO
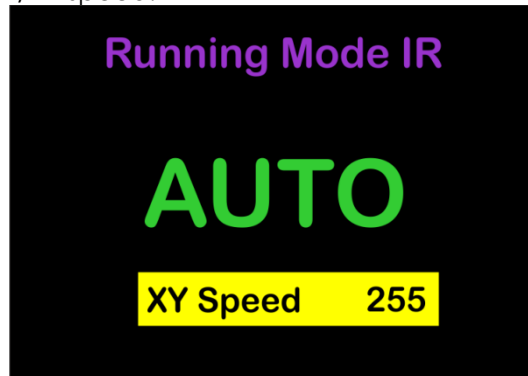
XY Speed   255

01) Press the **ENTER** buton to open the menu.
02) Press the **UP/DOWN** buttons to set the Pan/Tilt speed. The adjustment range is between 0-255, from fast to slow.
03) Press the **ENTER** button to store changes.

5.13 Strobe
In this menu you can set the strobe intensity.

Running Mode IR

AUTO

Strobe   20

01) Press the **ENTER** buton to open the menu.
02) Press the **UP/DOWN** buttons to set the strobe intensity. The adjustment range is between 0-20, from low to high intensity.
03) Press the **ENTER** button to store changes.

5.14 Sound
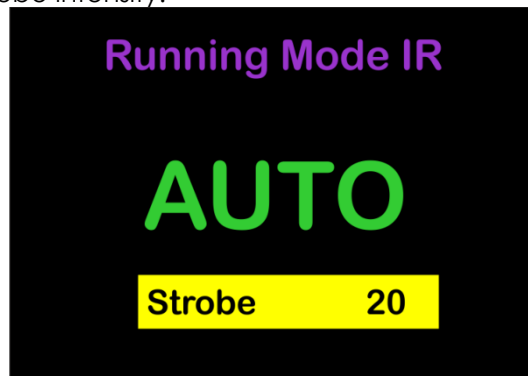In this menu you can activate the Sound-controlled mode.

01) When the display shows (see picture below), press the **ENTER** button to activate the Sound-controlled mode:
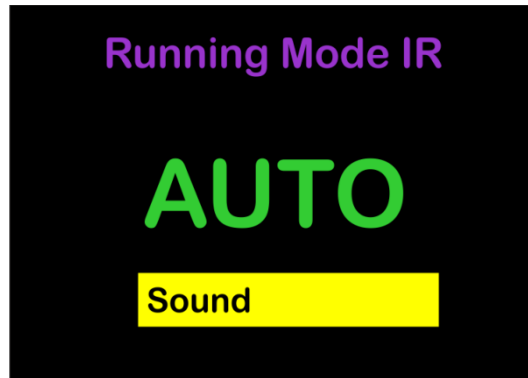
02) Once the **ENTER** button has been pressed, the display will show the following screen:
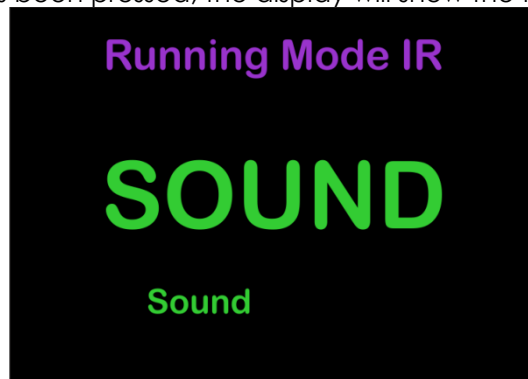
03) The Sound-controlled mode is now active and the device will react to the beat of the background music, with regard to the sound sensitivity setting (5.11, page 22).

5.15 LED

In this menu you can turn the LED blackout ON or OFF.

01) When the display shows (see picture below), press the **ENTER** button to open the menu:

Running Mode IR

AUTO

LED ON

02) Press the **UP/DOWN** buttons to choose OFF.
03) The device will now perform a LED blackout and the display will show:

Running Mode IR

AUTO

LED OFF
Blackout

Advanced Settings

SetUp

01) While in the main menu, press the **MODE** button until the display shows SetUp .
02) Press the **ENTER** button to open the menu.
03) Press the **UP/DOWN** buttons to toggle between the following settings:

Advanced setting	
PanReverse	OFF
TiltReverse	OFF
Screen Rev	OFF
Pan Angle	540
Tilt Angle	270
Totem Mode	OFF
Sensitivity	085
Reset	
Factory Set	

04) When the display shows PanReverse , press the **ENTER** button to open the menu.
05) Press the **UP** and **DOWN** buttons to choose between ON and OFF.
06) If set to ON, the moving head will perform a horizontal (pan) flip.

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07) When the display shows `TiltReverse`, press the **ENTER** button to open the menu.
08) Press the **UP/DOWN** buttons to choose between ON and OFF.
09) If set to ON, the moving head will perform a vertical (tilt) flip.
10) When the display shows `Screen Rev`, press the **ENTER** button.
11) The LCD display will perform a vertical flip.
12) When the display shows `Pan Angle`, press the **ENTER** button to open the menu.
13) Press the **UP/DOWN** buttons to toggle between the 3 pan range choices:
    - 180°
    - 360°
    - 540°
14) Press the **ENTER** button to confirm your choice.
15) When the display shows `Tilt Angle`, press the **ENTER** button to open the menu.
16) Press the **UP/DOWN** buttons to toggle between the 3 tilt range choices:
    - 90°
    - 180°
    - 270°
17) Press the **ENTER** button to confirm your choice.
18) When the display shows `Totem Mode`, press the **ENTER** button to open the menu.
19) Press the **UP/DOWN** buttons to choose between OFF, UP or DOWN.
20) When the display shows `Sensitivity`, press the **ENTER** button to open the menu.
21) Press the **UP/DOWN** buttons to increase/decrease the sound sensitivity of the device.
    The adjustment range is between 001-100, from low to high sound sensitivity.
22) Press the **ENTER** button to store changes.
23) When the display shows `Reset`, press the **ENTER** button.
24) The device will now perform a pan/tilt engine reset.
25) When the display shows `Factory Set`, press the **ENTER** button.
26) The device will now perform a full reset and will restore the factory settings.

System Information

In this menu you can see the current active mode, the active DMX address, the current software version and the temperature of the device.

01) While in the main menu, press the **MODE** until the display shows `SysInfo`.
02) Press the **ENTER** button to open the menu and view the settings.

System information	
Ver	V2
Running Mode	DMX
Dmx Address	001
Temperature	021

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DMX Channels

8 Channels

Channel 1 – Horizontal movement (Pan)
Move 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)
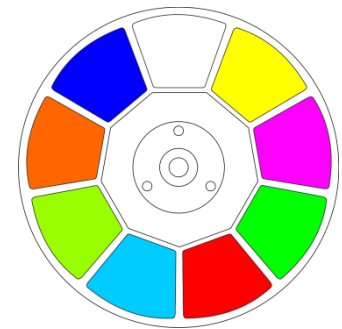Move the slider, up in order to move head vertically (TILT).
Gradual head adjustment from one end of the slider to the other (0-255, 128-center).
The head can be turned by 270° and stopped at any position you wish.

Channel 3 – Color wheel
Linear color change following the movement of the slider. Between 128 - 255, the color wheel rotates continuously. It is known as "Rainbow" effect.

0-6	Open / White
7-13	Yellow
14-20	Purple
21-27	Green
28-34	Red
35-41	Cyan
42-48	Light Green
49-55	Orange
56-64	Dark Blue
65-71	White/Yellow
72-78	Yellow/Purple
79-85	Purple/Green
86-92	Green/Red
93-99	Red/Light Blue
100-106	Light Blue/Light Green
107-113	Light Green/Orange
114-120	Orange/Dark Blue
121-127	Dark Blue/White
128-191	Clockwise rotation rainbow effect, from slow to fast
192-255	Counterclockwise rotation rainbow effect, from slow to fast

Channel 4 – Shutter/Strobe (Dimmer must be open ⚠)

0-3	Shutter closed
4-7	Shutter open
8-215	Strobe effect, from slow to fast (0-10 flashes/sec.)
216-255	Shutter open

Channel 5 – Dimmer

0-255	0-100% dimmer

Channel 6 – Rotating Gobo-wheel + Gobo Shake

0-7	Open/White
8-15	Gobo 1 (Glass)
16-23	Gobo 2 (Glass)
24-31	Gobo 3 (Metal)
32-39	Gobo 4 (Metal)
40-47	Gobo 5 (Metal)
48-55	Gobo 6 (Metal)
56-63	Gobo 7 (Metal)
64-71	Gobo Shake 7, from slow to fast
74-79	Gobo Shake 6, from slow to fast
80-87	Gobo Shake 5, from slow to fast
88-95	Gobo Shake 4, from slow to fast
96-103	Gobo Shake 3, from slow to fast
104-111	Gobo Shake 2, from slow to fast
112-119	Gobo Shake 1, from slow to fast
120-127	Open/White
128-191	Clockwise rotation rainbow effect, from slow to fast
192-255	Counterclockwise rotation rainbow effect, from slow to fast

Channel 7 – Gobo rotation

0-7	Not functional
8-119	Clockwise rotation, from slow to fast
120-231	Counterclockwise rotation, from slow to fast
232-255	Gobo bouncing

Channel 8 – Prism

0-15	Open
16-255	3-facet Prism Effect

13 Channels

Channel 1 – Horizontal movement (Pan)
Move the slider up, in order to move the 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)
Move the slider up, in order to move the 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 – Pan fine 16-bit

Channel 4 – Tilt fine 16-bit

Channel 5 – PAN/TILT Speed

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

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Channel 6 – Color wheel
Linear color change following the movement of the slider. Between 128 - 255, the color wheel rotates continuously. It is known as "Rainbow" effect.

0-6	Open / White
7-13	Yellow
14-20	Purple
21-27	Green
28-34	Red
35-41	Cyan
42-48	Light Green
49-55	Orange
56-64	Dark Blue
65-71	White/Yellow
72-78	Yellow/Purple
79-85	Purple/Green
86-92	Green/Red
93-99	Red/Light Blue
100-106	Light Blue/Light Green
107-113	Light Green/Orange
114-120	Orange/Dark Blue
121-127	Dark Blue/White
128-191	Clockwise rotation rainbow effect, from slow to fast
192-255	Counterclockwise rotation rainbow effect, from slow to fast

Channel 7 – Shutter/Strobe (Dimmer must be open ⚠)

0-3	Shutter closed
4-7	Shutter open
8-215	Strobe effect, from slow to fast (0-10 flashes/sec.)
216-255	Shutter open

Channel 8 – Dimmer

0-255	0-100% dimmer

Channel 9 – Rotating Gobo-wheel + Gobo Shake

0-7	Open/White
8-15	Gobo 1 (Glass)
16-23	Gobo 2 (Metal)
24-31	Gobo 3 (Metal)
32-39	Gobo 4 (Metal)
40-47	Gobo 5 (Metal)
48-55	Gobo 6 (Metal)
56-63	Gobo 7 (Metal)
64-71	Gobo Shake 7, from slow to fast
74-79	Gobo Shake 6, from slow to fast
80-87	Gobo Shake 5, from slow to fast
88-95	Gobo Shake 4, from slow to fast
96-103	Gobo Shake 3, from slow to fast
104-111	Gobo Shake 2, from slow to fast
112-119	Gobo Shake 1, from slow to fast
120-127	Open/White
128-191	Clockwise rotation rainbow effect, from slow to fast
192-255	Counterclockwise rotation rainbow effect, from slow to fast

Channel 10 – Gobo rotation

0-7	Not functional
8-119	Clockwise rotation, from slow to fast
120-231	Counterclockwise rotation, from slow to fast
232-255	Gobo bouncing

Channel 11 – Prism

0-15	Open
16-255	3-facet Prism Effect

Channel 12 – Channel Functions

0-7	Not functional
8-27	Blackout during Pan/Tilt movement
28-67	Blackout during Gobo wheel movement
68-147	Disabled blackout during Pan/Tilt/Gobo wheel movement/Blackout during Color wheel movement
148-157	Reset Pan
158-167	Reset Tilt
168-177	Color wheel Reset
178-187	Gobo wheel Reset
188-197	Reset Prism
198-207	Reset All channels
208-255	Not functional

Channel 13 – Built-in Programs + Sound-controlled Programs

0-7	Not functional
8-23	Built-in Program 1
24-39	Built-in Program 2
40-55	Built-in Program 3
56-71	Built-in Program 4
72-87	Built-in Program 5
88-103	Built-in Program 6
104-119	Built-in Program 7
120-135	Built-in Program 8
136-151	Sound-controlled Program 1
152-167	Sound-controlled Program 2
168-183	Sound-controlled Program 3
184-199	Sound-controlled Program 4
200-215	Sound-controlled Program 5
216-231	Sound-controlled Program 6
232-247	Sound-controlled Program 7
248-255	Sound-controlled Program 8

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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-related and machine-technical installations are to be inspected by a skilled person once a year.

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

The Phantom 50 MKII 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, color-wheel, the gobo wheel, the gobos 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 the 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:
01) Unplug the unit from electric power source.
02) 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.
03) Remove the used fuse. If brown or unclear, it is burned out.
04) 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.

Replacing a gobo from the rotating gobo wheel

01) Disconnect mains power supply and set the switch to OFF.
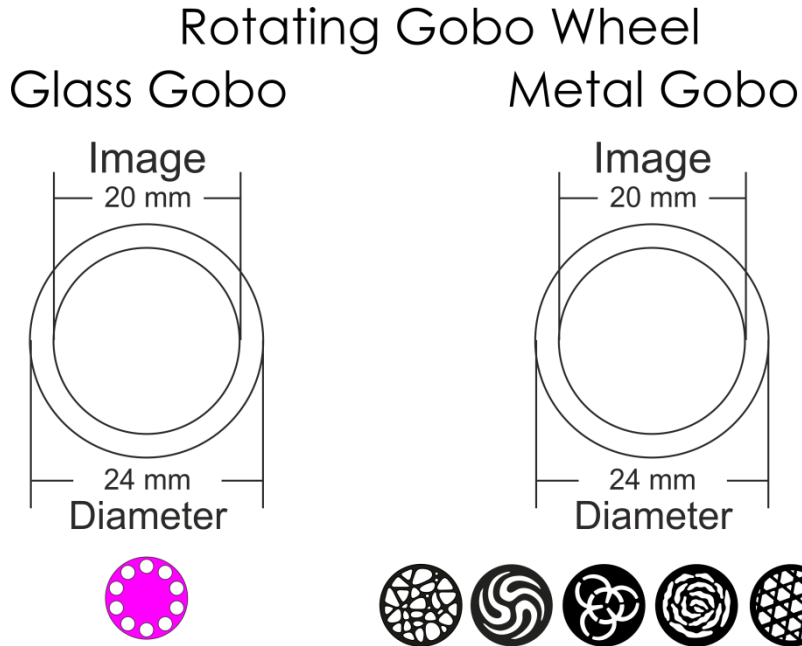02) Make sure that the gobo which you want to insert has the same size. For the right size, see below.
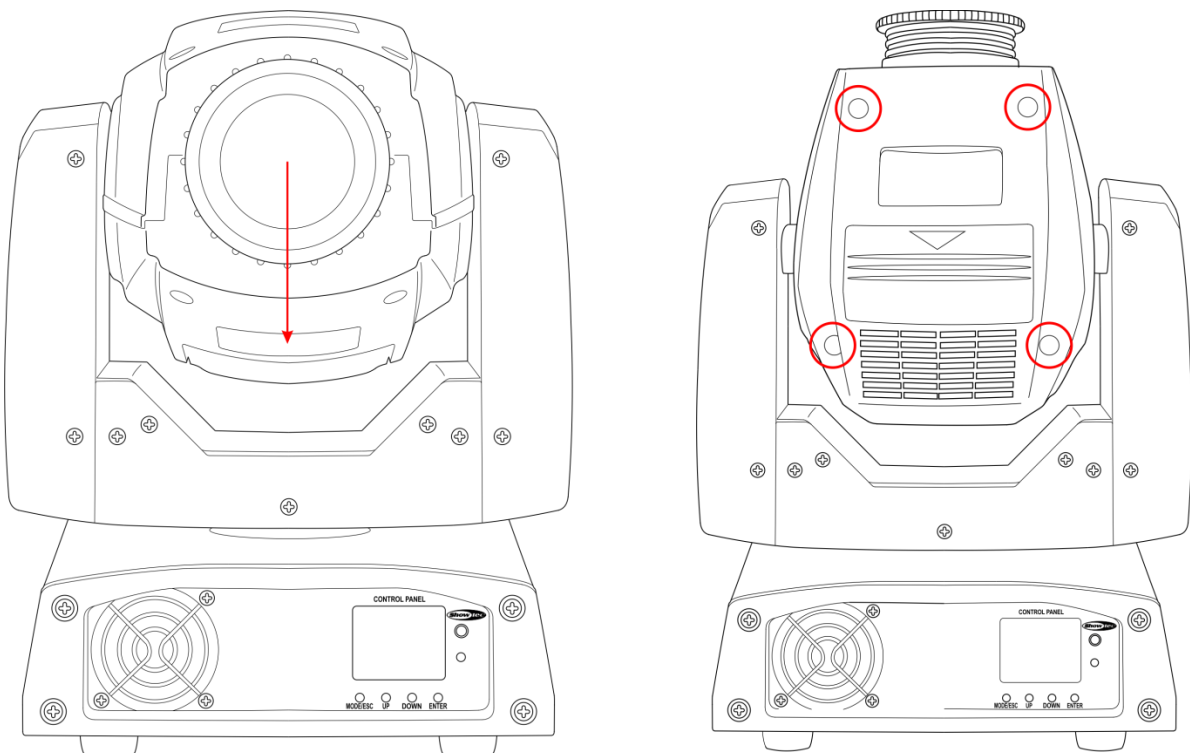

Fig. 07

Gobo Size

Fig. 08

03) Before removing the top part of the housing, make sure the lens is in the position as shown on the left. The lens position should be on the bottom, symmetrically speaking.
04) Loosen all the four screws on the back of the housing.
05) Gently tilt the head so that the small metal housing slides out easily.
06) Turn the gobo wheel until you reach the gobo which you want to remove.

07) Gently lift up the gobo holder by 10° and then gently pull out the gobo from its position.
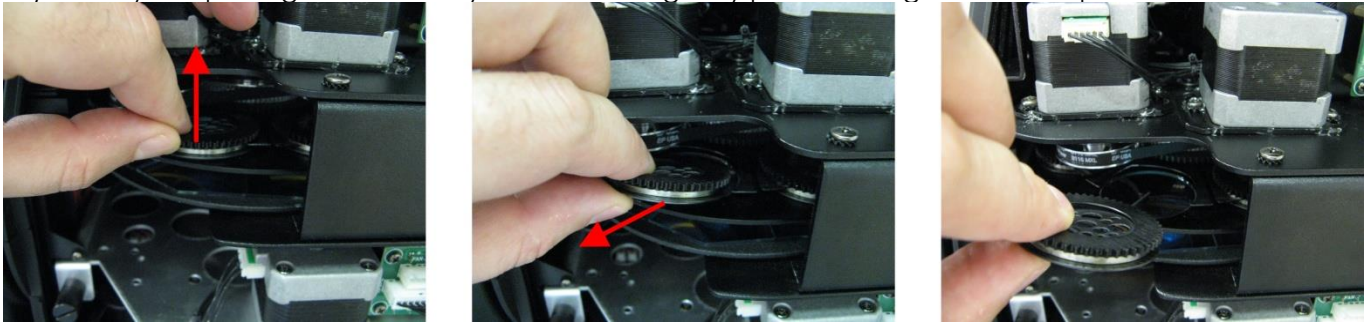
Fig. 09

08) Very carefully take the gobo out of the gobo holder with a pair of pliers.
09) Place the new gobo in the gobo holder. Carefully put the pinchcock back, gently press the pinchcock a little bit together. To do it, you can use a pair of pliers.
10) Put the gobo holder back. At first, you will notice some resistance which is caused by the way in which the holder was built.
11) Replace the maintenance caps and fasten all the screws.

Glass Gobo Orientation
Coated glass gobos are inserted with the coating against the rim of the holder (away from the spring). Textured gobos are inserted with the smooth side against the spring. This provides the best results when combining rotating gobos.

Coated side
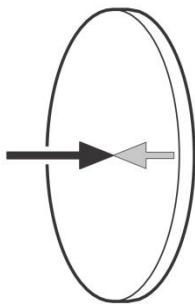
Uncoated side

When an object is held up to the coated side, there is no space between the object and its reflection. The back edge of the gobo cannot be seen when looking through the coated side.
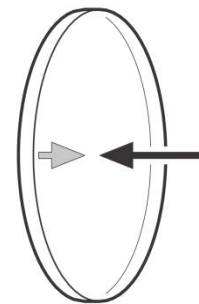
When an object is held up to the uncoated side, there is a space between the object and its reflection. The back edge of the gobo can be seen when looking through the uncoated side.

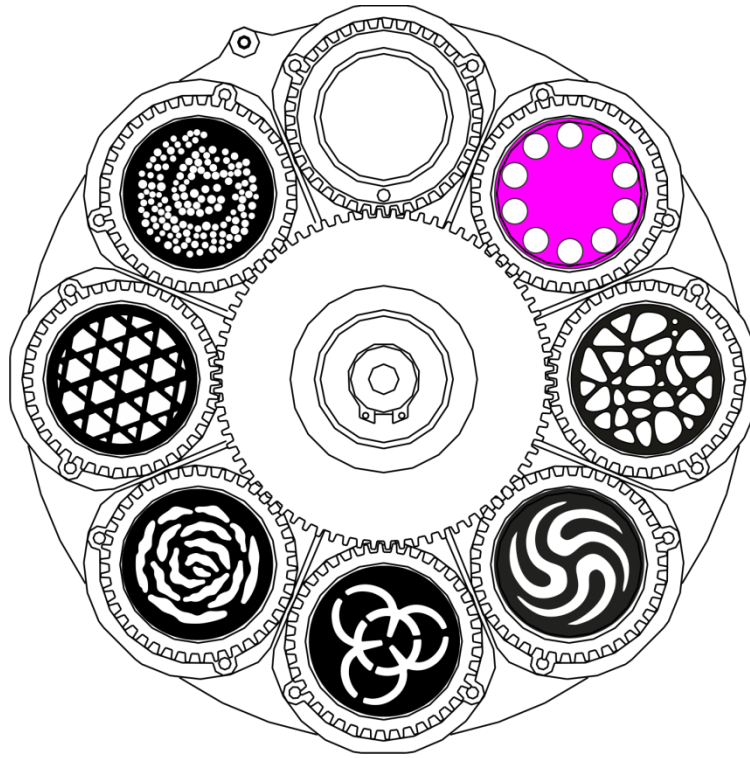## Rotating Gobo wheel and Color wheel

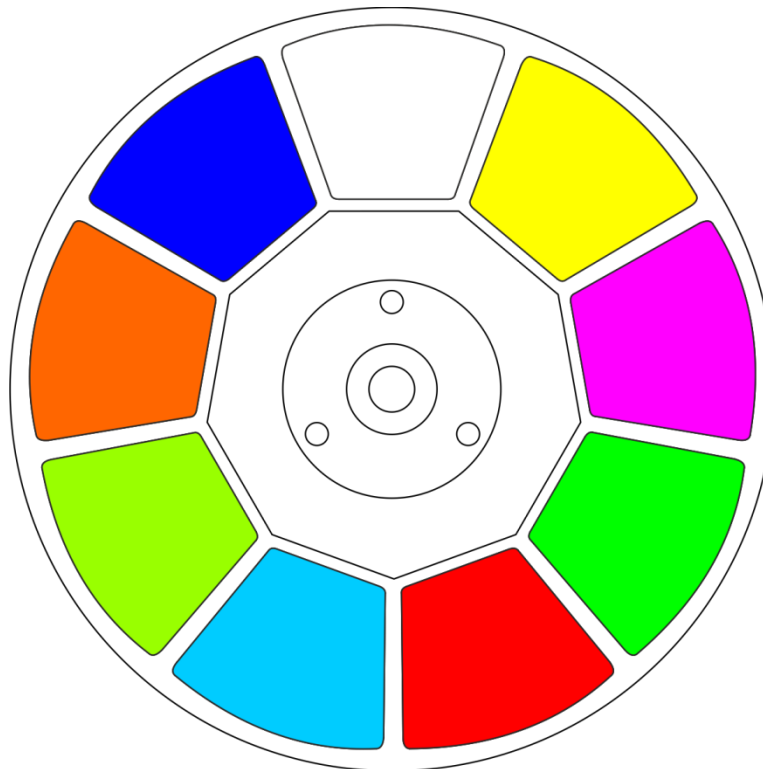**Rotating Gobo Wheel**

Fig. 10

Color wheel

Fig. 11

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.

No Light

If the light effect does not operate properly, refer servicing to a technician.
Response: Suspect three potential problem areas as: the power supply, the lamp, the fuse.
01) Power supply. Check that the unit is plugged into an appropriate power supply.
02) The LED. Return the Phantom to your Showtec dealer.
03) The fuse. Replace the fuse. See page 29 for replacing the fuse.
04) If all of the above appears to be O.K., plug the unit in again.
05) If you are unable to determine the cause of the problem, do not open the Phantom, as this may damage the unit and the warranty will become void.
06) Return the device to your Showtec dealer.

No Response to DMX

Response: Suspect the DMX cable or connectors, a controller malfunction, a light effect DMX card malfunction.
01) Check the DMX setting. Make sure that DMX addresses are correct.
02) Check the DMX cable: Unplug the unit; change the DMX cable; then reconnect to electrical power. Try your DMX control again.
03) 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.

Problem	Probable cause(s)	Solution
One or more fixtures do not function at all	No power to the fixture	• Check if 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 restored: unplug both connectors and connect them directly together. • 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 color wheel, gobo wheel or a gobo has lost its index position and the fixture is resetting the effect	• Contact a technician for servicing if the problem persists
No light or lamp cuts out intermittently	Fixture is too hot	• Allow the fixture to cool down • Clean the fan • Turn up the air conditioning
	LEDs damaged	• Disconnect the fixture and return it to your dealer
	The power supply settings do not match local AC voltage and frequency	• Disconnect fixture. Check settings and correct if necessary

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Product Specifications

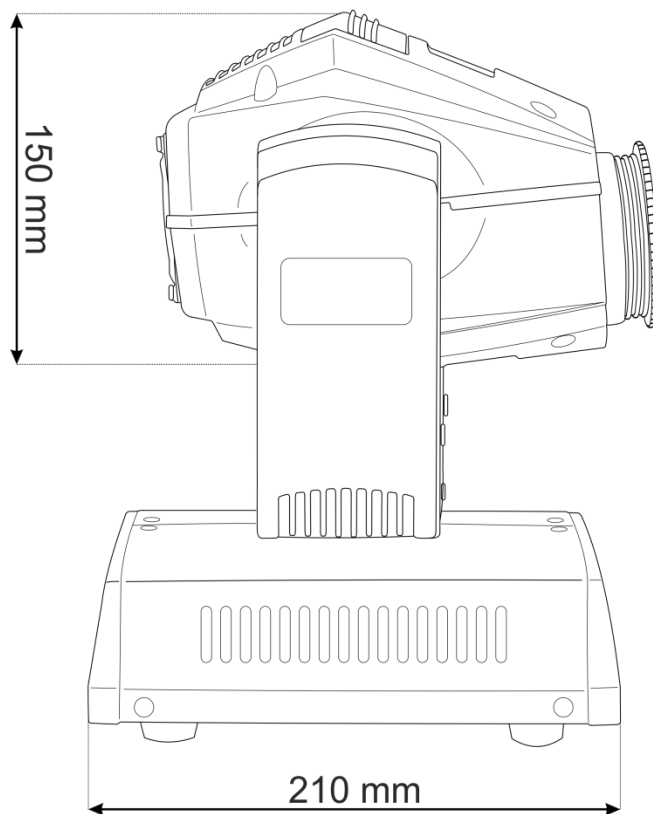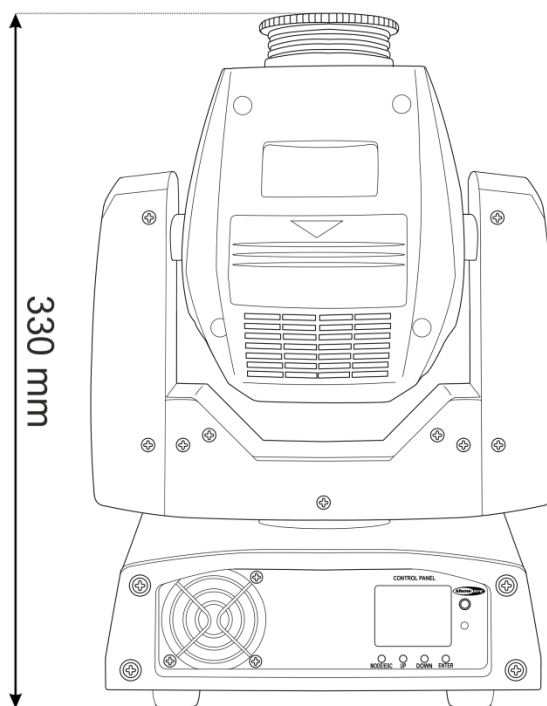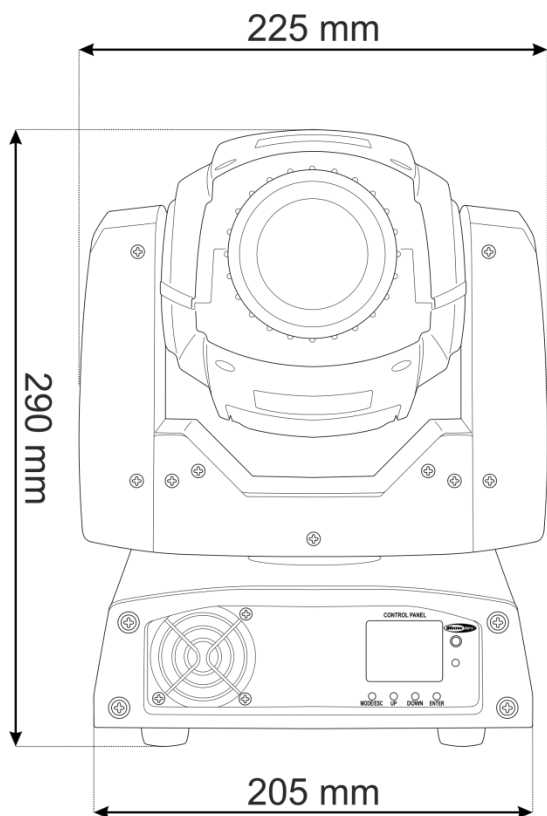|	
Model:	Showtec Phantom 50 MKII
Input Voltage:	100-240 VAC, 60/50Hz
Power consumption:	114W (full output)
DMX linking:	30pcs
Fuse:	F3AL/250V
Dimensions:	205 x 210 x 330 mm (LxWxH)
Weight:	6,1 kg
Operating and Programming:	
Signal pin OUT:	Pin 1 (earth), pin 2 (-), pin 3 (+)
DMX Mode:	8, 13 Channels
Signal input:	3-pin XLR male
Signal output:	3-pin XLR female
Electro-mechanical effects:	
Focus:	Manual
Pan range:	180°/360°/540°
Tilt range:	90°/180°/270°
Dimmer:	0-100%
Strobe:	0-20Hz
Housing:	Metal & Flame retardant plastic
DMX-control:	via standard DMX-controller
On Board:	LCD display for easy setup
Control:	DMX, Auto, Sound, Slave, IR
Connections:	Dedicated Schuko to IEC & Data connector
Cooling:	Internal fan
Max. ambient temperature t_a:	40°C
Max. housing temperature t_B:	80°C
Minimum distance:	
Minimum distance from flammable surfaces:	0,5 m
Minimum distance to lighted object:	1 m

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

$C\!\in$

Website: www.Showtec.info
Email: service@highlite.nl

Dimensions

225 mm

290 mm

205 mm

330 mm

150 mm

210 mm

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Notes