



# Phantom 25 LED Spot

ORDERCODE 40185



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**SHOWELECTRONICS FOR PROFESSIONALS**

## **Congratulations!**

You have bought a great, innovative product from Showtec.

The Showtec Phantom 25 LED Spot 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!



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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 25 LED Spot with IEC powercable 0,9m
- 1 bracket 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. 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 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 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 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 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 or before cleaning! Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.
- Make sure that the device is not exposed to extreme heat, moisture or dust.
- Make sure that the available voltage is not higher than stated on the rear panel.
- Make sure that the power-cord is never crimped or damaged. Check the device and the power-cord from time to time.
- If the 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 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 light source.**  
**(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 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

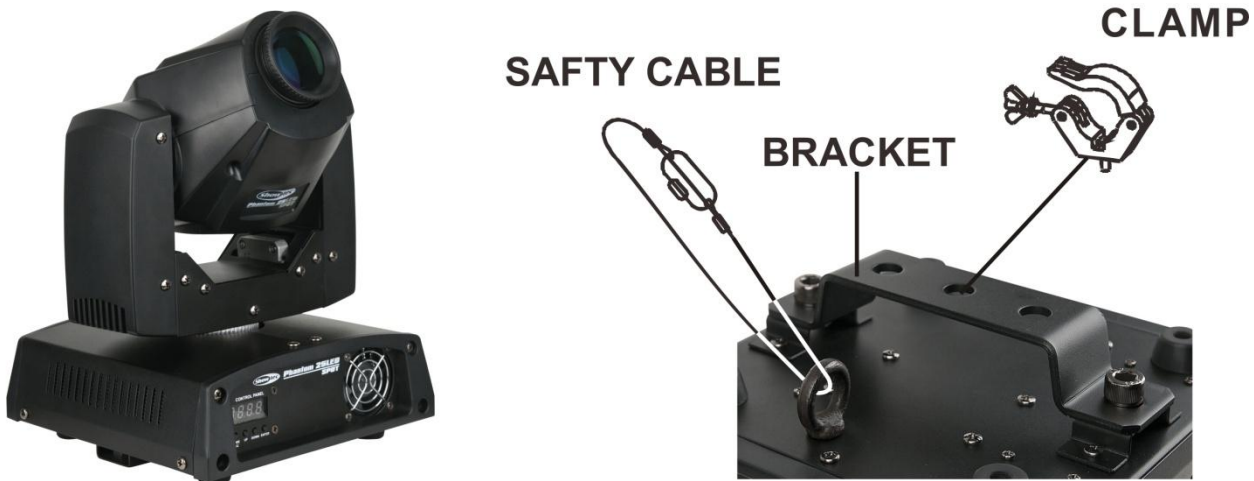
Please follow the European and national guidelines concerning rigging, trussing and all other safety issues.

*Do not attempt the installation yourself !*

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

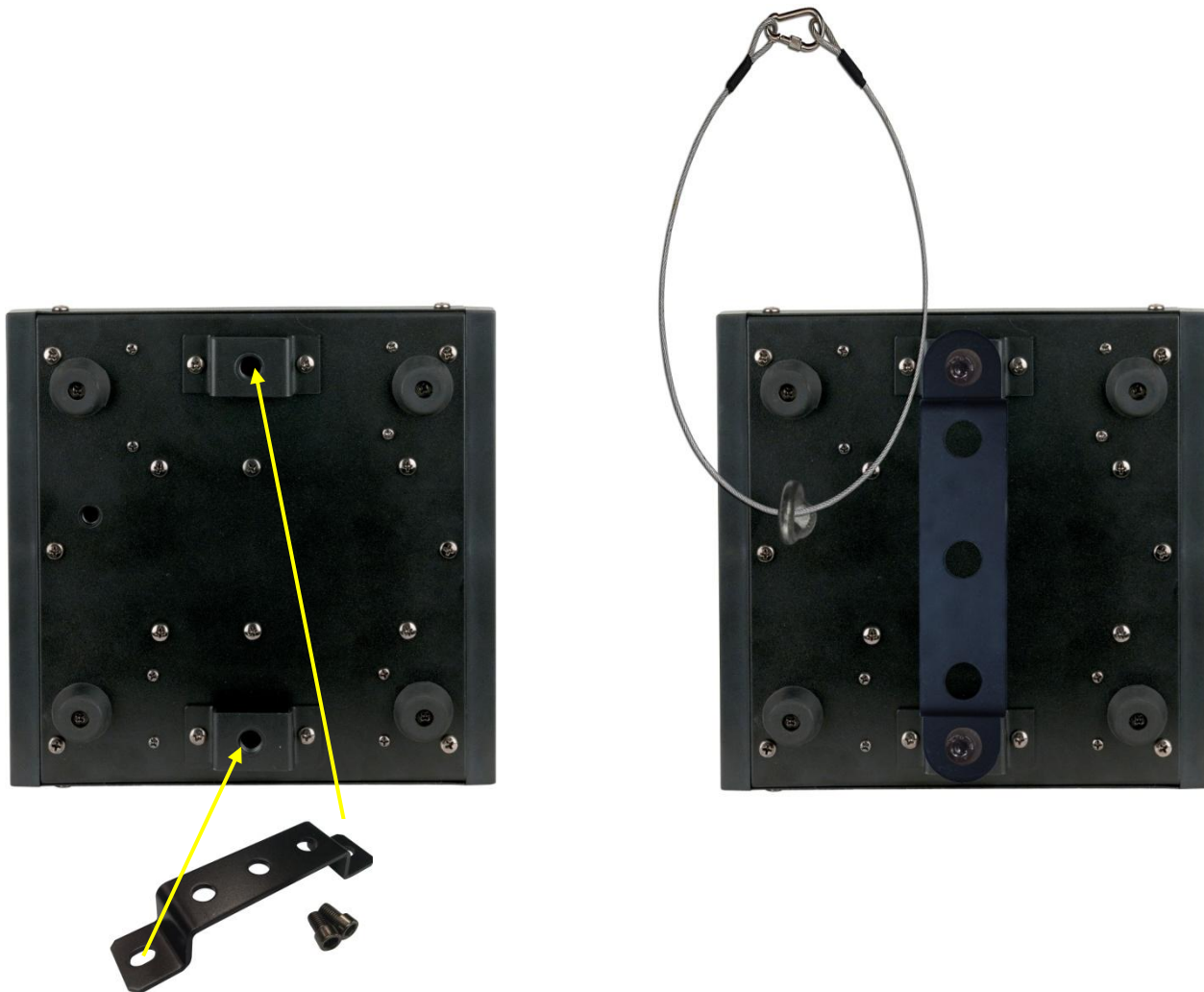
### Procedure:

- 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 Phantom 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 Phantom moving head




*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 Phantom 25 LED Spot is a moving-head with high output and great effects.

- DMX-control via standard DMX-controller
- Built-in Automatic Programs + Built-in Sound activated programs
- User-selectable Pan & Tilt ranges, 540° / 360° / 180°
- Reverse Pan / Tilt movement
- Special: Pan / Tilt movement blackout
- Pan 0° -- 540°
- Tilt 0° -- 270°
- Pan/Tilt resolution: 16 bit
- Control: DMX-512, Master/Slave, Sound-controlled
- 16 Built in programs selectable by DMX
- Light Source: 1 x 25W White LED
- Colourwheel with 9 dichroic-colours and white
- Color functions: Split colors, Rainbow-flow effect
- Static Gobowheel with 9 static gobos and open with Gobo Shake Function
- Gobo functions: Gobo-flow effect, Gobo shake
- 8 automatic and 8 sound-to-light programs with master / slave function
- Single clamp bracket, which makes it easy to handle and position in truss systems.
- Output: 13.300 Lux @ 1m.
- Beam Angle: 13°
- Input Voltage: 100-240 VAC
- Peak Power 220 Watt; Continuous Power 120 Watt
- Dimmer: 0-100%
- Strobe: 0-20Hz
- Focus: Manual focus
- Housing: Black Metal & Flame-retardant plastic
- Fixture Connection: XLR Data in/out (XLR 3-pin), IEC Power in
- Fuse F2A / 250V
- Weight: 4,24 kg
- User selectable Basic (6CH) or Advanced (11CH) operating modes

### Overview



Fig. 1

1) Lens

2) Menu Buttons + LCD Display

## Backside



Fig. 2

- 3) IEC power connector
- 4) Fuse F2A 250V
- 5) DMX signal connector (IN) 3-pin
- 6) DMX signal connector (OUT) 3-pin

## Installation

Remove all packing materials from the Phantom 25 LED Spot. 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.

## Control Modes

There are 4 modes:

- Stand-alone (built-in programs)
- Sound-controlled
- Master/Slave
- DMX512 (11 Channels ADVANCED or 6 channel BASIC)

### One Phantom (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 Phantom is not connected by a DMX-cable, it functions as a stand-alone device.  
Please see page 15 for more information about the built-in programs.

### One Phantom (Sound-control)

1. Plug the end of the electric mains power cord into a proper electric power supply socket.
2. Turn on the music. If the device is set to sound-control, then the Phantom will react to the beat of the music. Please see page 15 for more information about the sound-control options.

### Multiple Phantoms (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 Phantom.

The pins:



1. Earth
2. Signal -
3. Signal +

3. Link the units as shown in (Fig. 3), Connect a DMX signal cable from the first unit's DMX "out" socket to the second unit's "in" socket. Repeat this process to link the second, third, and fourth units. You can use the same functions on the master device as described on page 15 (Built-in Programs, or Music control). This means on the master device you can set your desired operation Mode and all slave devices will react the same as the master device.

### Multiple Phantoms (Master/Slave control)

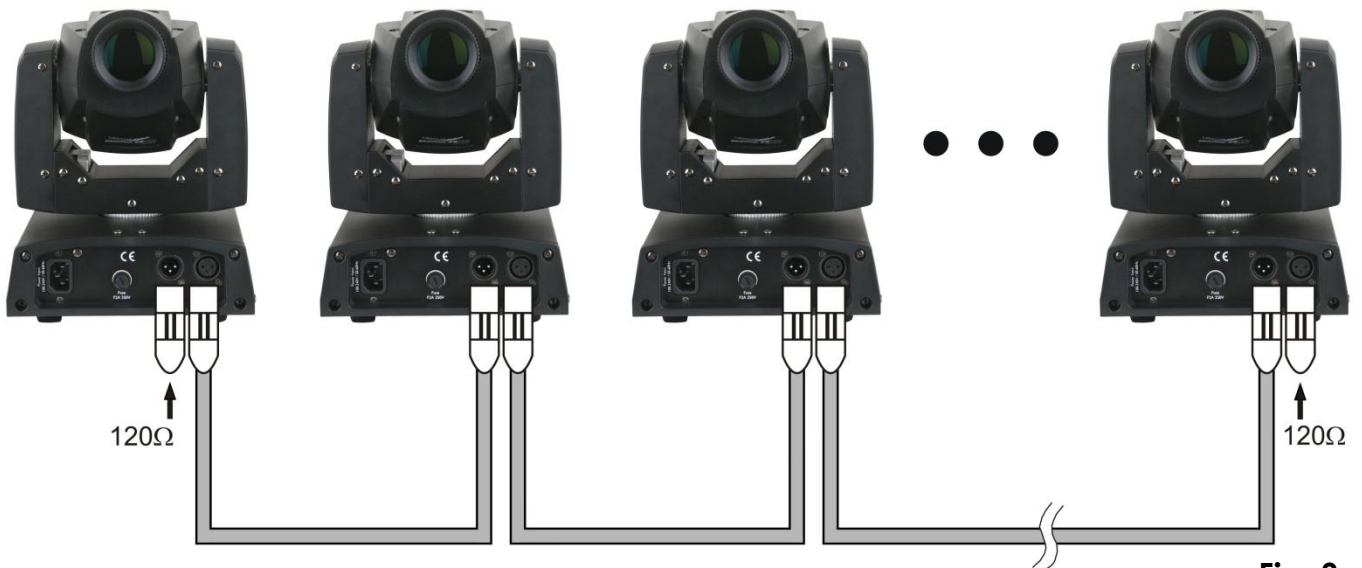


Fig. 3

## Multiple Phantoms (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.
3. Use a 3-p XLR cable to connect the Phantoms and other devices.

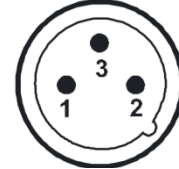
### Occupation of the XLR-connection:

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



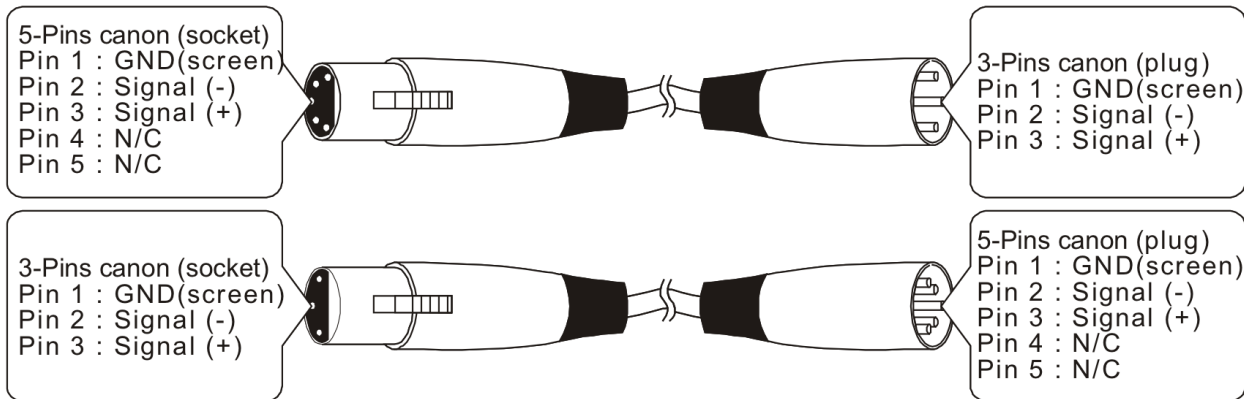
- 1 - Ground
- 2 - Signal (-)
- 3 - Signal (+)

#### 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 4), Connect a DMX signal cable from the first unit's DMX "out" socket to the second unit's "in" socket. Repeat this process to link the second, third, and fourth units.
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 Phantoms DMX Set Up

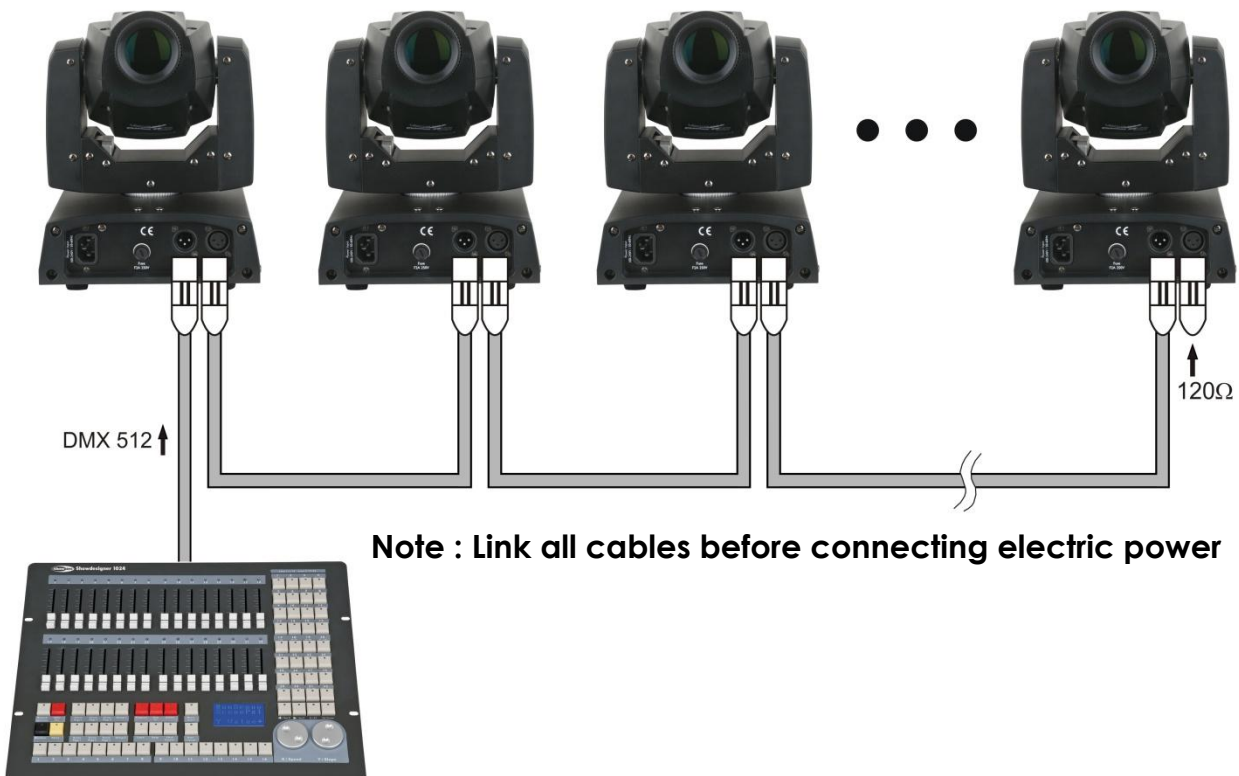


Fig. 4

## 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 Phantoms on a DMX data link: 30 fixtures

## Data Cabling

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

### DAP Audio Certified DMX Data Cables

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

The Phantom 25 LED Spot can be operated with a controller in **control mode** or without the controller in **stand-alone mode**.

## Control Panel

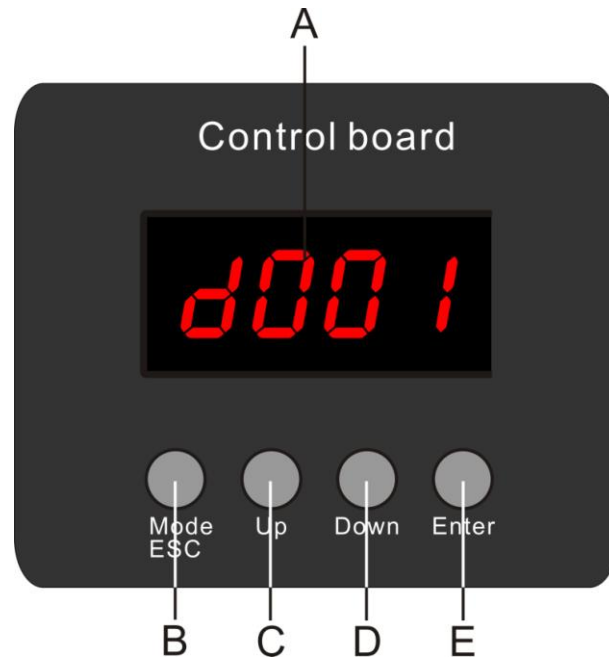


Fig. 5

A. LCD Display  
B. MODE/ESC button  
C. Up Button

D. Down Button  
E. ENTER 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 Phantom will respond to the controller.

Please note when you use the controller, the unit has **11** channels.

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

Therefore, the DMX address of the first Phantoms should be **1(001)**; the DMX address of the second Phantom

should be **1+11=12 (012)**; the DMX address of the third Phantom should be **12+11=33 (033)**, etc.

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

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

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

## 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.

The problem may be:

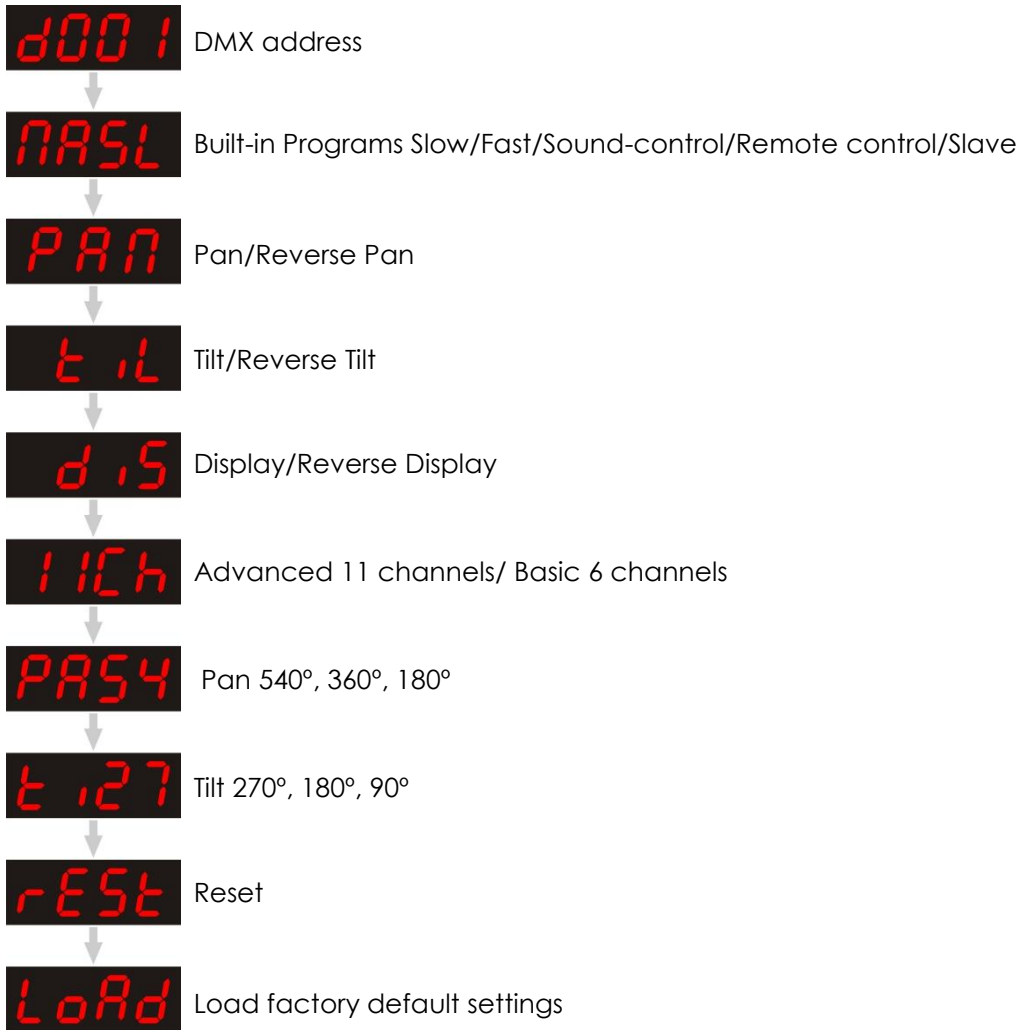
- The XLR cable from the controller is not connected with the input of the Phantom.
- The controller is switched off or defective, the cable or connector is defective, or the signal wires are swapped in the input connector.

**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.





## Main Menu Options



## DMX Addressing

With this menu you can set the DMX address.

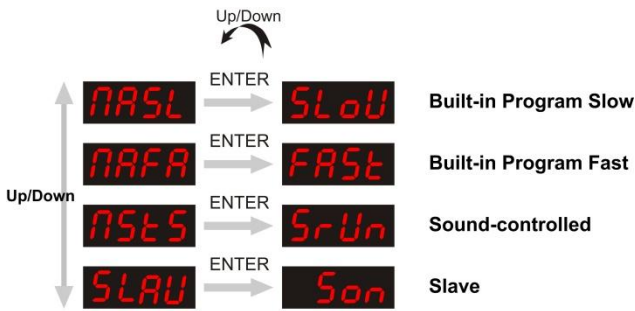
- 1) Press Mode/Esc, until the display shows **d001**.
- 2) Press Enter to confirm. You can choose 512 different DMX addresses.  
Use the Up / Down buttons to select the required address from **d001** <sup>Up/Down</sup> **d512**.
- 3) Once you have set the desired DMX address, press the enter button to store your DMX address.



## Built-in Programs Mode

You can select 5 different Programs when using the Giant LED.

Press MODE until the display shows **NASL**, then press the UP / DOWN buttons to select all 5 programs.



### Built-in Program Slow

When the display shows : **NASL**, then press ENTER. The display will show **SLoU**. The device is now in a fast built-in program mode.

### Built-in Program Fast

When the display shows : **NAFA**, then press ENTER. The display will show **FASL**. The device is now in a slow built-in program mode.

### Sound-controlled Mode

When the display shows : **NSLS**, then press ENTER. The display will show **SrUn**. The device is now sound-controlled and will react to the music.

### Slave Mode

When the display shows : **SLAU**, then press ENTER. The display will show **Son**. The device is now a slave device. It will now react the same as its master.

## Pan movement Mode

When the display shows : **PAN**, the device is in normal Pan Mode.

When you press Up/Down. The display will show **rPAN**. The Pan function is reversed.

## Tilt movement Mode

When the display shows : **tIL**, the device is in normal Tilt Mode.

When you press Up/Down. The display will show **rtIL**. The Tilt function is reversed.

## Display Mode

When the display shows : **d.5**, the device is in normal Display Mode.

When you press Up/Down. The display will show **rd.5**. The Display function is reversed.

## Advanced/Basic Mode

When the display shows : **11Ch**, the device has 11 Channels.

When you press Up/Down. The display will show **6Ch**. The device now has 6 channels.

## Pan Mode

When the display shows : **PA54**, the Pan is 540°.

When you press Up/Down and the display shows **PA36**, the Pan is 360°.

When you press Up/Down and the display shows **PA18**, the Pan is 180°.

## Tilt Mode

When the display shows : , the Tilt is 270°.


When you press Up/Down and the display shows , the Pan is 180°.

When you press Up/Down and the display shows , the Pan is 90°.

## Reset

When the display shows :  and you press ENTER the device will reset.

## Default Settings

When the display shows :  and you press ENTER the device will return to the factory default settings.

## Password Change

This is a Service Function.

Press and hold **MODE/ESC** for 2 seconds.

The display will show 0000.

Press the Up button to change the value. Press the Down button to go to the next digit.

Enter **password: 2323**.

A new menu will open, you can scroll through the menu with the **MODE/ESC** button.



Pan Adjustment



Tilt Adjustment



Gobowheel Adjustment



Colorwheel Adjustment



Adjustment of the starting Brightness of the Lamp

Press the ENTER button to store your setting. This option will auto-exit after 10 seconds.

# DMX Protocol 11 Channels ( 11Ch )

## 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 – 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) |
|-------|----------------------------------------|

## Channel 6 – Colourwheel

Linear color change following the movement of the slider. Between 128 - 255, the color-wheel rotates continuously the so-called "Rainbow" effect.

|         |                                                                   |
|---------|-------------------------------------------------------------------|
| 0-5     | Open / White                                                      |
| 6-11    | Yellow                                                            |
| 12-17   | Pink                                                              |
| 18-23   | Green                                                             |
| 24-29   | Red                                                               |
| 30-35   | Light Blue                                                        |
| 36-41   | Orange                                                            |
| 42-47   | Dark Blue                                                         |
| 48-53   | Light Green                                                       |
| 54-63   | Bright Red                                                        |
| 64-69   | Split Color White / Yellow                                        |
| 70-75   | Split Color Yellow / Pink                                         |
| 76-81   | Split Color Pink / Green                                          |
| 82-87   | Split Color Green / Red                                           |
| 88-93   | Split Color Red / Light Blue                                      |
| 94-99   | Split Color Light Blue / Orange                                   |
| 100-105 | Split Color Orange / Dark Blue                                    |
| 106-111 | Split Color Dark Blue / Light Green                               |
| 112-117 | Split Color Light Green / Bright Red                              |
| 118-127 | Split Color Bright Red / White                                    |
| 128-191 | Clockwise rotation (CW) rainbow effect from slow to fast          |
| 192-255 | Counter-clockwise rotation (CCW) rainbow effect from slow to fast |

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

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

## Channel 8 – Dimmer intensity

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

### Channel 9 – Static Gobo-wheel + Gobo Shake

|         |                                                                   |
|---------|-------------------------------------------------------------------|
| 0-5     | Open / White                                                      |
| 6-11    | Metal Gobo 1                                                      |
| 12-17   | Metal Gobo 2                                                      |
| 18-23   | Metal Gobo 3                                                      |
| 24-29   | Metal Gobo 4                                                      |
| 30-35   | Metal Gobo 5                                                      |
| 36-41   | Metal Gobo 6                                                      |
| 42-47   | Metal Gobo 7                                                      |
| 48-53   | Metal Gobo 8                                                      |
| 54-63   | Metal Gobo 9                                                      |
| 64-73   | Gobo Shake 9 from slow to fast                                    |
| 74-79   | Gobo Shake 8 from slow to fast                                    |
| 80-85   | Gobo Shake 7 from slow to fast                                    |
| 86-91   | Gobo Shake 6 from slow to fast                                    |
| 92-97   | Gobo Shake 5 from slow to fast                                    |
| 98-103  | Gobo Shake 4 from slow to fast                                    |
| 104-109 | Gobo Shake 3 from slow to fast                                    |
| 110-115 | Gobo Shake 2 from slow to fast                                    |
| 116-121 | Gobo Shake 1 from slow to fast                                    |
| 122-127 | Open / White                                                      |
| 128-191 | Clockwise rotation (CW) rainbow effect from slow to fast          |
| 192-255 | Counter-clockwise rotation (CCW) rainbow effect from slow to fast |

### Channel 10 – Channel Functions

|         |                                                                  |
|---------|------------------------------------------------------------------|
| 0-7     | No Function                                                      |
| 8-27    | Blackout during Pan/Tilt movement                                |
| 28-47   | Blackout during Gobowheel movement                               |
| 48-67   | Disabled blackout during Pan/Tilt/Gobowheel movement             |
| 68-87   | Blackout during Colorwheel movement                              |
| 88-107  | Disabled blackout during Pan/Tilt/Colorwheel movement            |
| 108-127 | Disabled blackout during Gobowheel /Colorwheel movement          |
| 128-147 | Disabled blackout during Pan/Tilt/Gobowheel /Colorwheel movement |
| 148-167 | Reset Pan                                                        |
| 168-187 | Reset Tilt                                                       |
| 188-207 | Reset Colorwheel                                                 |
| 208-227 | Reset Gobowheel                                                  |
| 228-247 | Reset All channels                                               |
| 248-255 | No Function                                                      |

### Channel 11 – Built-in Programs + Sound-controlled Programs

|         |                            |
|---------|----------------------------|
| 0-7     | No Function                |
| 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 |

## DMX Protocol 6 Channels ( **6CH** )

### 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 – Colourwheel

Linear color change following the movement of the slider. Between 128 - 255, the color-wheel rotates continuously the so-called "Rainbow" effect.

|         |                                                                   |
|---------|-------------------------------------------------------------------|
| 0-5     | Open / White                                                      |
| 6-11    | Yellow                                                            |
| 12-17   | Pink                                                              |
| 18-23   | Green                                                             |
| 24-29   | Red                                                               |
| 30-35   | Light Blue                                                        |
| 36-41   | Orange                                                            |
| 42-47   | Dark Blue                                                         |
| 48-53   | Light Green                                                       |
| 54-63   | Bright Red                                                        |
| 64-69   | Split Color White / Yellow                                        |
| 70-75   | Split Color Yellow / Pink                                         |
| 76-81   | Split Color Pink / Green                                          |
| 82-87   | Split Color Green / Red                                           |
| 88-93   | Split Color Red / Light Blue                                      |
| 94-99   | Split Color Light Blue / Orange                                   |
| 100-105 | Split Color Orange / Dark Blue                                    |
| 106-111 | Split Color Dark Blue / Light Green                               |
| 112-117 | Split Color Light Green / Bright Red                              |
| 118-127 | Split Color Bright Red / White                                    |
| 128-191 | Clockwise rotation (CW) rainbow effect from slow to fast          |
| 192-255 | Counter-clockwise rotation (CCW) rainbow effect from slow to fast |

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

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

### Channel 5 – Dimmer intensity

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

### Channel 6 – Static Gobo-wheel + Gobo Shake

|       |                                |
|-------|--------------------------------|
| 0-5   | Open / White                   |
| 6-11  | Metal Gobo 1                   |
| 12-17 | Metal Gobo 2                   |
| 18-23 | Metal Gobo 3                   |
| 24-29 | Metal Gobo 4                   |
| 30-35 | Metal Gobo 5                   |
| 36-41 | Metal Gobo 6                   |
| 42-47 | Metal Gobo 7                   |
| 48-53 | Metal Gobo 8                   |
| 54-63 | Metal Gobo 9                   |
| 64-73 | Gobo Shake 9 from slow to fast |
| 74-79 | Gobo Shake 8 from slow to fast |
| 80-85 | Gobo Shake 7 from slow to fast |

|         |                                                                   |
|---------|-------------------------------------------------------------------|
| 86-91   | Gobo Shake 6 from slow to fast                                    |
| 92-97   | Gobo Shake 5 from slow to fast                                    |
| 98-103  | Gobo Shake 4 from slow to fast                                    |
| 104-109 | Gobo Shake 3 from slow to fast                                    |
| 110-115 | Gobo Shake 2 from slow to fast                                    |
| 116-121 | Gobo Shake 1 from slow to fast                                    |
| 122-127 | Open / White                                                      |
| 128-191 | Clockwise rotation (CW) rainbow effect from slow to fast          |
| 192-255 | Counter-clockwise rotation (CCW) rainbow effect from slow to fast |

## Channel settings

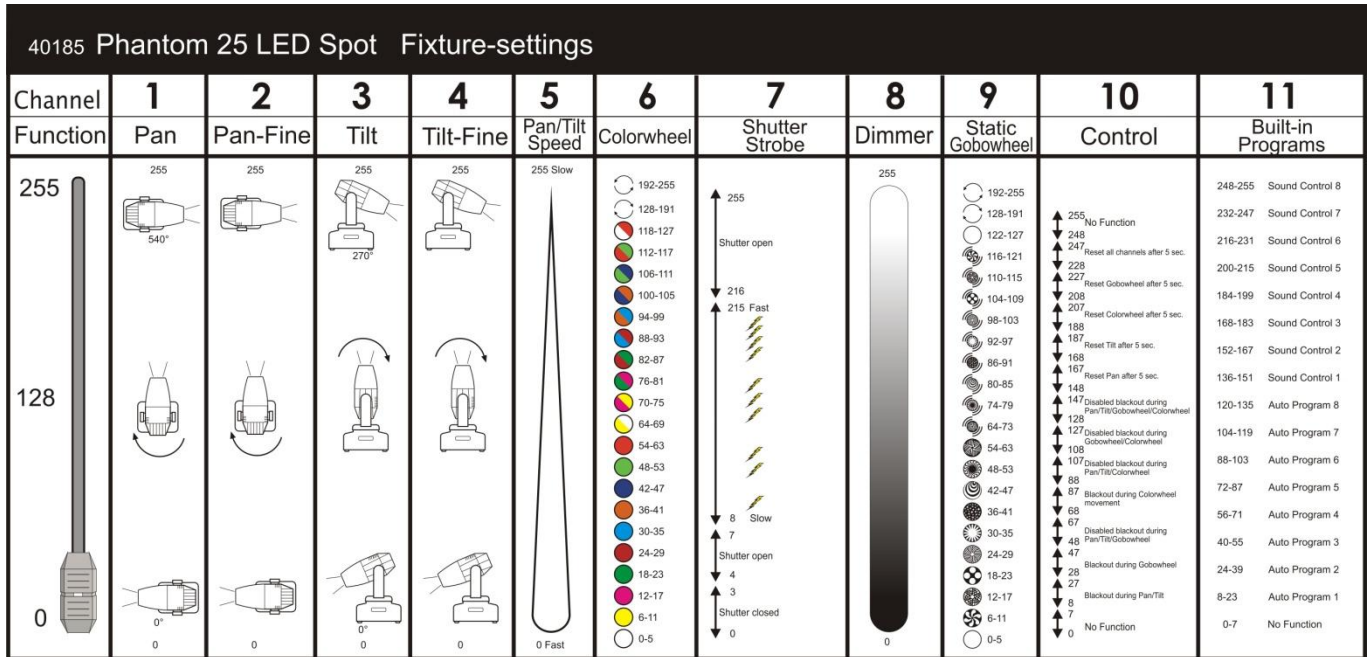


Fig. 6

## 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 Phantom 25 LED Spot 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, colour-wheel, the gobowheel, 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 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.



Fig. 7

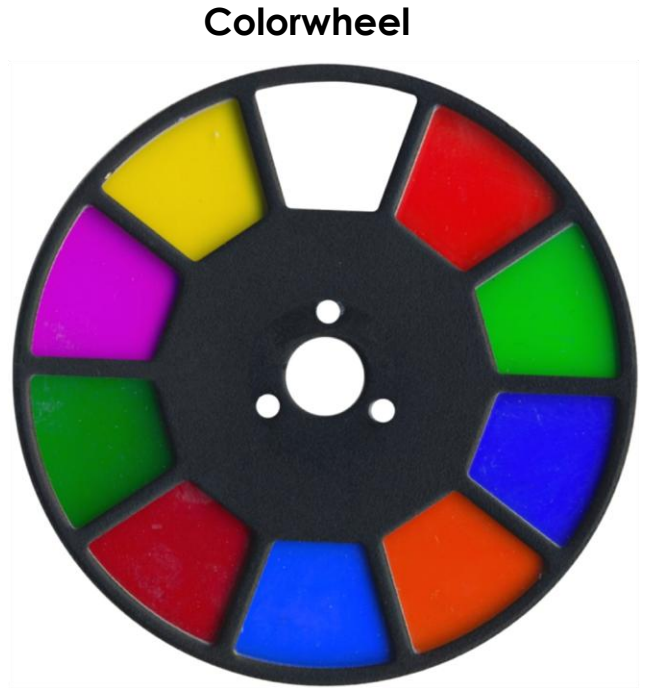


Fig. 8

## 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 Phantom 25 LED Spot to your Showtec dealer.
3. The fuse. Replace the fuse. See page 22 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.

| <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 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                                                                                | 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 Phantom 25 LED Spot  
 Input Voltage: 100-240 VAC  
 Peak Power 220 Watt; Continuous Power 120 Watt  
 Fuse: F2A / 250V  
 Dimensions: 210x205x320mm (LxWxH)  
 Weight: 4,24 kg

### Operation and Programming

Signal pin OUT: pin 1 earth, pin 2 (-), pin 3 (+)  
 Set Up and Addressing: LED control panel  
 Pan/Tilt resolution: 8-16 bit  
 DMX Channels: 11 or 6  
 Signal input 3-pin XLR male  
 Signal output 3 -pin XLR female

### Electro-mechanical effects

DMX-control via standard DMX-controller  
 Built-in Automatic Programs + Built-in Sound activated programs  
 User-selectable Pan & Tilt ranges, 540° / 360° / 180°  
 Reverse Pan / Tilt movement  
 Special: Pan / Tilt movement blackout  
 Pan 0° -- 540°  
 Tilt 0° -- 270°  
 Pan/Tilt resolution: 16 bit  
 16 Built in programs selectable by DMX  
 Light Source: 1 x 25W White LED  
 Colourwheel with 9 dichroic-colours and white  
 Gobo functions: Gobo-flow effect, Gobo shake  
 Color functions: Split colors, Rainbow-flow effect  
 Control: DMX-512, Master/Slave, Sound-controlled  
 Static Gobowheel with 9 static gobos and open with Gobo Shake Function  
 8 automatic and 8 sound-to-light programs with master / slave function  
 Single clamp bracket, which makes it easy to handle and position in truss systems.  
 Output: 13.300 Lux @ 1m.  
 Beam Angle: 13°  
 Dimmer: 0-100%  
 Strobe: 0-20Hz  
 Focus: Manual focus  
 Housing: Black Metal & Flame-retardant plastic  
 Fixture Connection: XLR Data in/out (XLR 3-pin), IEC Power in  
 User selectable Basic (6CH) or Advanced (11CH) operating modes

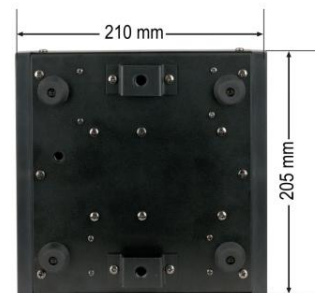
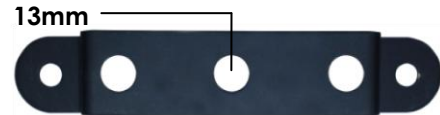
### Gobos

Colourwheel: heat-resistant and intensify glass; dichroic glas coating  
 Max. ambient temperature  $t_a$ : 40°C; Max. housing temperature  $t_b$ : 80°C  
 Cooling: 2 axial fans – 1 fan in the projector and 1 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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