



Phantom 250 Spot v3

ORDERCODE 40167



SHOWELECTRONICS FOR PROFESSIONALS

Warning	2
Safety-instructions.....	2
Operating Determinations.....	4
Rigging.....	4
Return Procedure.....	5
Claims.....	5
Description	6
Features and Overview	6
Backside.....	7
Installation	8
Installing the Lamp	8
Lamp Adjustment.....	8
Set Up and Operation	9
One Phantom	9
Multiple Phantoms.....	9
DMX-Protocol	10
Control Panel.....	12
Control Mode.....	12
DMX addressing.....	12
Menu Overview.....	14
User Modes.....	15
Navigating through the menu.....	15
Calibration Options.....	15
Channel settings.....	16
Maintenance	16
Changing the Lamp.....	17
Replacing the Fuse.....	17
Replacing a Gobo.....	17
Troubleshooting	18
No Light, No Movement - All Products.....	18
No Response to DMX	18
Product Specifications	20

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:

- Phantom 250 Spot with 1 m IEC cable
- User manual

WARNING

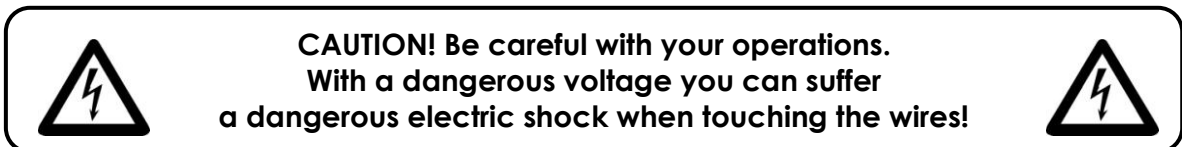


**FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY
BEFORE YOUR INITIAL START-UP!**

SAFETY INSTRUCTIONS

Every person involved with the installation, operation and maintenance of this device has to:

- be qualified
- follow the instructions of this manual



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

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

Please consider that damages caused by manual modifications to the device are not subject to warranty.

This device contains no user-serviceable parts. Refer servicing to qualified technicians only.

IMPORTANT:

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

- Never let the power-cord come into contact with other cables! Handle the power-cord and all connections with the mains with particular caution!
- Never remove warning or informative labels from the unit.
- Never use anything to cover the ground contact.
- Never run the device without lamp!
- Never ignite the lamp if the objective-lens or any housing-cover is open, as discharge lamps may expose and emit a high ultraviolet radiation, which may cause burns.
- Never lift the fixture by holding it at the projector-head, as the mechanics may be damaged. Always hold the fixture at the transport handles.
- Never look directly into the light source.
- Never leave any cables lying around.

- Never unscrew the screws of the rotating gobo, as the ball bearing will otherwise be opened.
- Do not insert objects into air vents.
- Do not connect this device to a dimmerpack.
- Do not switch the device on and off in short intervals, as this would reduce the lamp's life.
- Do not touch the device's housing bare-handed during its operation (housing becomes very hot).
- Do not shake the device. Avoid brute force when installing or operating the device.
- Only use device indoor, avoid contact with water or other liquids.
- Only operate the fixture after having checked that the housing is firmly closed and all screws are tightly fastened.
- Only operate the device after having familiarized with its functions.
- Avoid flames and do not put close to flammable liquids or gases.
- Always replace the lamp, when it is damaged or deformed due to the heat.
- Always keep case closed while operating.
- Always allow free air space of at least 50 cm around the unit for ventilation.
- Always disconnect power from the mains, when device is not used, before cleaning or when replacing lamp! Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.
- To ensure the longest and most efficient use of the lamp always wait 15 minutes before re-applying power after a shutdown. Failure to do so could result in premature aging of the lamp and failure to the electronics that drive it.
- Make sure that the device is not exposed to extreme heat, moisture or dust.
- Make sure that the available voltage is not higher than stated on the rear panel.
- Make sure that the power-cord is never crimped or damaged. Check the device and the power-cord from time to time.
- If the lens is obviously damaged, it has to be replaced. So that its functions are not impaired, due to cracks or deep scratches.
- If device is dropped or struck, disconnect mains power supply immediately. Have a qualified engineer inspect for safety before operating.
- If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.
- If your Showtec device fails to work properly, discontinue use immediately. Pack the unit securely (preferably in the original packing material), and return it to your Showtec dealer for service.
- For adult use only. Movinghead must be installed out of the reach of children. Never leave the unit running unattended.
- For replacement use lamps and fuses of same type and rating only.
- Allow time to cool down, before replacing lamp.
- This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.
- During the initial start-up some smoke or smell may arise. This is a normal process and does not necessarily mean that the device is defective.
- Repairs, servicing and electric connection must be carried out by a qualified technician.
- WARRANTY: Till one year after date of purchase.



OPERATING DETERMINATIONS

This device is not designed for permanent operation. Consistent operation breaks will ensure that the device will serve you for a long time without defects.

The minimum distance between light-output and the illuminated surface must be more than 1.3 meter.

The maximum ambient temperature t_a 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 !

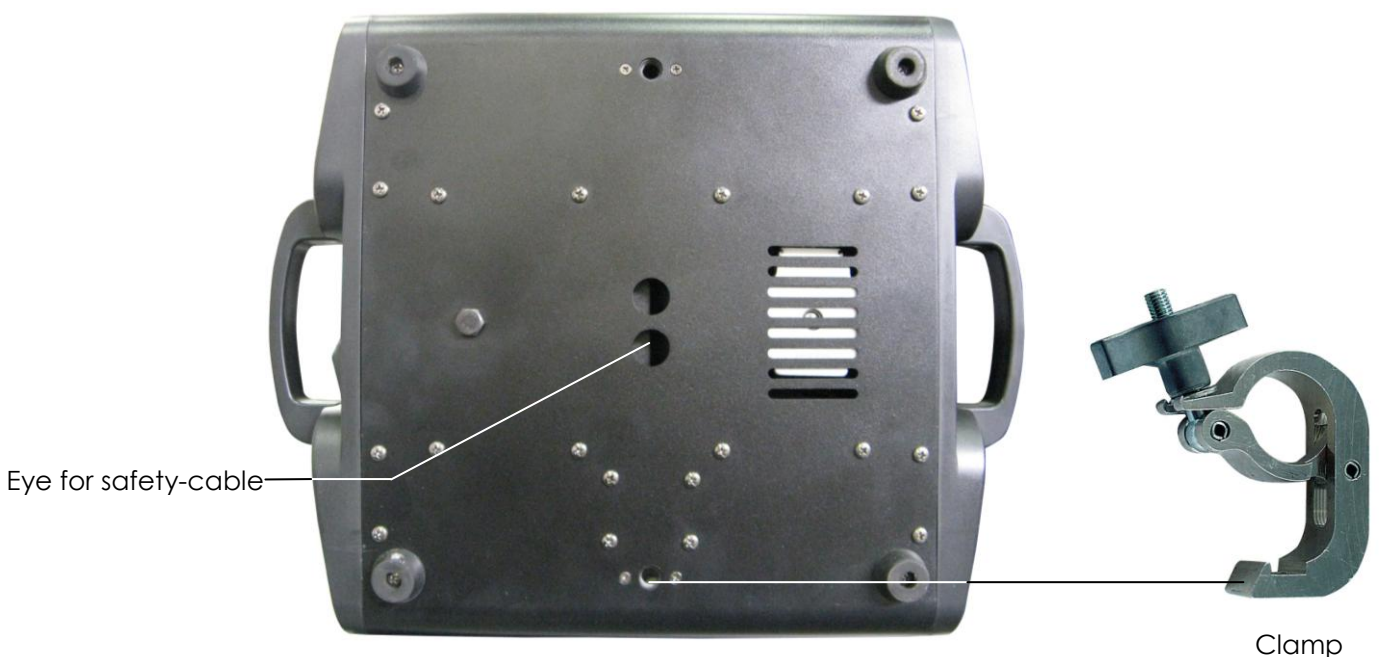
Always let the installation be carried out by an authorized dealer !

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



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!

Improper installation can cause serious damage to people and property !

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 offersales@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 is a moving-head with high output and great effects.

- 1 Color-wheel with 7 colored gobos, and open
- 1 Gobo-wheel with 5 metal and 2 glass interchangeable rotating gobos plus open
- DMX-control via standard DMX-controller
- 14 DMX-control channels required
- Mechanical Dimmer/Shutter/Strobe
- Strobe-effect with adjustable speed (1 - 10 flashes/sec.)
- Sound-controlled via built-in microphone
- Manual focus
- Pan 0° -- 540°
- Tilt 0° -- 270°
- Pan/Tilt speed & reset control channel
- Gobo Shake
- Automatic Pan/Tilt correction
- 16 bit movement
- LED display menu with invert
- Pan/Tilt Invert option
- Micro-stepping motors
- Thermal switch
- Lamp MSD 250
- Fuse T5A / 250V

Overview



Fig. 1

1) Lens

Backside



Fig. 2

- 2) IEC power connector + Fuse 5A 250V
- 3) Built-in Microphone
- 4) Blackout Footswitch
- 5) DMX signal connector (IN)
- 6) DMX signal connector (OUT)

Installation

Installing the Lamp

The Showtec Phantom uses the MSD 250 (ordercode 80920P / 80920O / 80933O / 82603 / 80935) reflectorbulb as manufactured by all popular manufacturers. Use only the appropriate lamp for your unit. Note that, product versions that use other lamps, may be offered in the future. Check your product specification label for information.

Always disconnect from electric mains power supply before changing lamps.

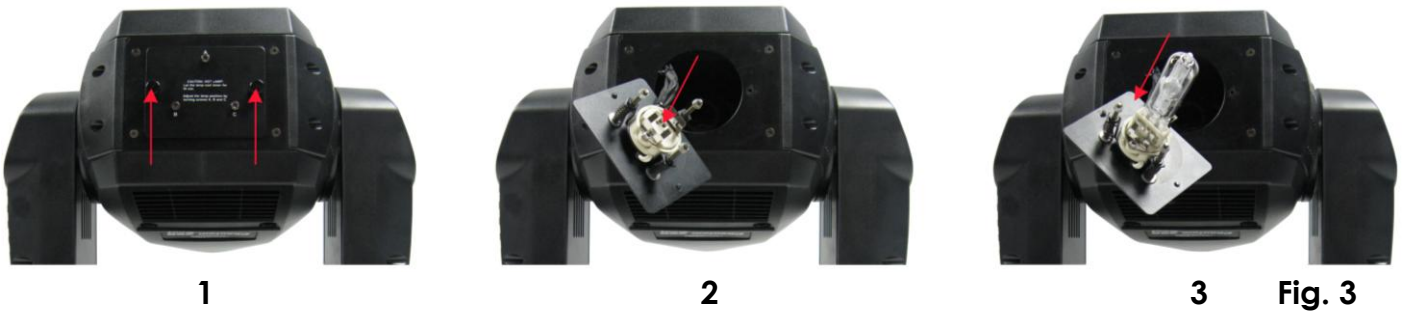
The lamp has to be replaced when it is damaged or deformed due to the heat.

Do not install lamps with a higher wattage! Lamps with a higher wattage generate temperatures the device was not designed for.

Damages caused by non-observance are not subject to warranty.

Procedure :

1. Loosen the 2 screws on the back of the housing.
2. Gently remove the small metal housing.
3. Read lamp instructions. Do not touch the lamp bulb glass. (See Figure 3.)
Oil on hands shortens the lamp life. (If you touch the bulb glass, wipe off the glass with a clean, lint-free towel and rubbing alcohol.)
4. Insert the lamp pins into the small holes in the lamp socket. You can adjust the distance between the lamp and the lens on the back of the cover.
5. Put the lamp cover back and fasten the screws snugly. Then put the plastic housing back and fasten the screws snugly.



Backside Lamp Board



Lamp Adjustment

You can adjust the lamp's position by turning the screws A, B, C.

The lamp position is set in the factory. As the lamps, which can be used, differ from manufacturer to manufacturer, it can be necessary to readjust the position. The lamp must be readjusted e.g., if the light does not seem to be evenly distributed within the ray of light.

Ignite the lamp and focus the ray of light on an even surface (wall). As the optimal distance between the lamp and the lens was already set during the installation with screw "A", only the "Hot Spot" (the brightest part of the ray of light) must be centered. Turn in addition screw "B". If the Hot Spot appears too bright, you can weaken its intensity, by moving the lamp closer to the reflector. Turn in addition screw "A", until the light is evenly distributed. If the light at the outside edge of the ray of light appears brighter as in the center, the lamp is too close to the reflector. In this case move the lamp away from the reflector, until the light is evenly distributed and the ray of light appears bright enough.

Set Up and Operation

Follow the directions below, as they pertain to your preferred operation mode.

Before plugging the unit in, always make sure that the power supply matches the product specification voltage. Do not attempt to operate a 120V specification product on 230V power, or vice versa.

One Phantom

1. Fasten the moving head onto firm trussing (Use a 30-kg rated or stronger C-clamp fastened onto the Phantom). Leave at least 1 meter on all sides for air circulation.
2. Plug one end of the electric mains power cord into the IEC socket on the unit. Then plug the other end of the cord into a proper electric power supply socket.
3. Turn on the music. If Audio is set, then the fixture will react to the beat of the music.

Multiple Phantoms

1. Fasten the effect light onto firm trussing (Use a 30-kg rated or stronger C-clamp fastened onto the Phantom). Leave at least 1 meter on all sides for air circulation.

2. Use a 3-p XLR cable to connect the Phantoms and other devices.

The pins:



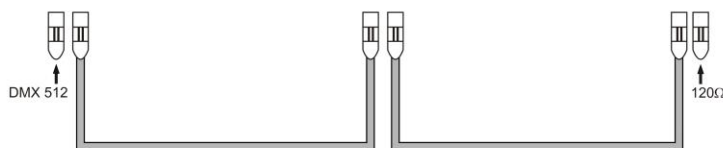
1. Earth
2. Signal -
3. Signal +

3. Link the units as shown in (figure 5), Connect a DMX signal cable from the first unit's DMX "out" socket to the second unit's "in" socket. Repeat this process to link the second, third, and fourth units.
4. Supply electric power: Plug electric mains power cords into each unit's IEC socket, then plug the other end of the mains power cord into proper electric power supply sockets, starting with the first unit. Do not supply power before the whole system is set up and connected properly.
- 5) Only one fixture can be the master.

Multiple Phantoms Set Up



DMX-Set up



Master/Slave Set up

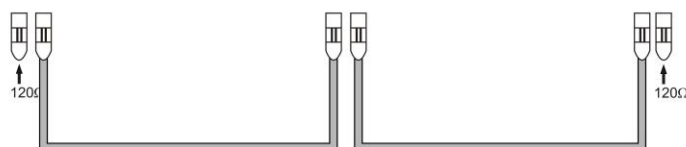


Fig. 5

Note : Link all cables before connecting electric power

DMX Protocol

Channel 1 - Movimiento Horizontal (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 - Movimiento Vertical (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) in vector mode
-------	---

Channel 6 – Colours

Linear color change following the movement of the slider. In this way you can stop the color-wheel in any position – also between two colors creating double-colored beams. Between 128 - 255, the color-wheel rotates continuously the so-called "Rainbow" effect.

0-15	Open / White
16-31	Blue
32-47	Red
48-63	Pink
64-79	Green
80-95	Yellow
96-111	Magenta
112-127	UV
128-255	Forwards rainbow effect slow from to fast

Channel 7 – Rotating Gobo's

0-9	Open / White
10-19	Gobo 1 (metal)
20-29	Gobo 2 (metal)
30-39	Gobo 3 (metal)
40-49	Gobo 4 (metal)
50-59	Gobo 5 (metal)
60-69	Gobo 6 (glass)
70-79	Gobo 7 (glass)
80-99	Shaking Gobo 1
100-119	Shaking Gobo 2
120-139	Shaking Gobo 3
140-159	Shaking Gobo 4
160-179	Shaking Gobo 5
180-199	Shaking Gobo 6
200-219	Shaking Gobo 7
220-255	Continuous Clockwise rotation from slow to fast

Channel 8 – Rotating gobo index, rotating gobo rotation

0-127	Gobo indexing
128-191	Forwards (CW) gobo rotation from fast to slow
192-255	Backwards (CCW) gobo rotation from slow to fast

Channel 9 – Shutter / Strobe

0-7	Shutter closed / Blackout
8-22	Shutter open
23-85	Strobe effect, from slow to fast (0-10 flashes/sec.)
86-100	Shutter open
101-165	Pulse-effect, in sequences from slow to fast
166-180	Shutter open
181-245	Random strobe effect, from slow to fast
246-255	Shutter open

Channel 10 – Dimmer intensity

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

Channel 11 – Built-in Programs & Sound-control

0-9	No function
10-19	Blackout during movement
20-99	No function
100-109	Reset
110-129	No function
130-145	Auto Program 1
146-161	Auto Program 2
162-177	Auto Program 3
178-193	Auto Program 4
194-209	Sound control 1
210-225	Sound control 2
226-241	Sound control 3
242-255	Sound control 4

Channel 12 – Effect

0-9	No Effect
10-19	Effect 1
20-29	Effect 2
30-39	Effect 3
40-49	Effect 4
50-59	Effect 5
60-69	Effect 6
70-79	Effect 7
80-89	Effect 8
90-99	Effect 9
100-109	Effect 10
110-119	Effect 11
120-129	Effect 12
130-139	Effect 13
140-149	Effect 14
150-159	Effect 15
160-169	Effect 16
170-179	Effect 17
180-189	Effect 18
190-199	Effect 19
200-209	Effect 20
210-219	Effect 21
220-229	Effect 22
230-239	Effect 23
240-249	Effect 24
250-255	Effect 25

Channel 13 – Prism

0-15	No rotation
16-239	Backwards rotation from fast to slow
240-255	Prism

Channel 14 – Focus

0-255	From close distance to far distance
-------	-------------------------------------

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

Panel de Control



Fig. 6

- A. LED
- B. Visualización
- C. 6c7c b [ENTR5 F
- D. 6c7c b [9@; #]
- E. 6c7c b [G V]f
- F. 6c7c b [6U U]f

A cXc 7 cb7c`

Se dirigen individualmente en una transmisión de datos 001-512 y están conectadas con el regulador. Responden a la señal de DMX del regulador. (Cuando usted selecciona el direccionamiento de DMX y lo guarda, el regulador visualizará el direccionamiento guardado de DMX la próxima vez.)

Dirección DMX

El panel de control sobre el lado frontal de la base permite que usted asigne el direccionamiento de la base de DMX, que es el primer canal de el cual el Phantom responderá al regulador.

Observe cuando usted utilize el regulador, que la unidad tiene 14 canales.

Al utilizar el Phantom asegúrese de que usted fija los direccionamientos de DMX correctos.

Por lo tanto, el direccionamiento DMX del primero debe ser 1 (A001); el direccionamiento DMX del segundo debe ser 1 14=15 (A015); el direccionamiento DMX del tercero debe ser 15 14=29 (A029), etc.

Por favor, esté seguro que usted no tiene ningún canal solapado para controlar el Phantom correctamente.

Si controla dos o más Phantom, trabajarán a la par.

Para las configuraciones del direccionamiento, introduzca las instrucciones en el menú (Address:)



Controlar:

Después de dirigir todas las bases al Phantom, puede comenzar a actuar sobre su regulador.

Note: Después de encender, el Phantom detectará automáticamente si los datos de DMX 512 están recibidos o no. Si no hay datos recibidos en la DMX-entrada de información, el "LED" el panel de control no parpadea.

El problema puede ser:

- El cable XLR no está conectado al Phantom.
- Se apaga el controlador (defectuoso) o los cables de señal están en posición errónea.
- .

Nota: Es necesario insertar un enchufe del fin de XLR (con 120 ohmios) en la base pasada para asegurar la transmisión apropiada en la transmisión de datos de DMX.

Funciones controlables remotamente**Rueda de Color**

El Phantom contiene una rueda con 7 colores y un blanco. Es también posible girar la rueda continuamente a diversas velocidades ("efecto del arco iris" en ambas direcciones).

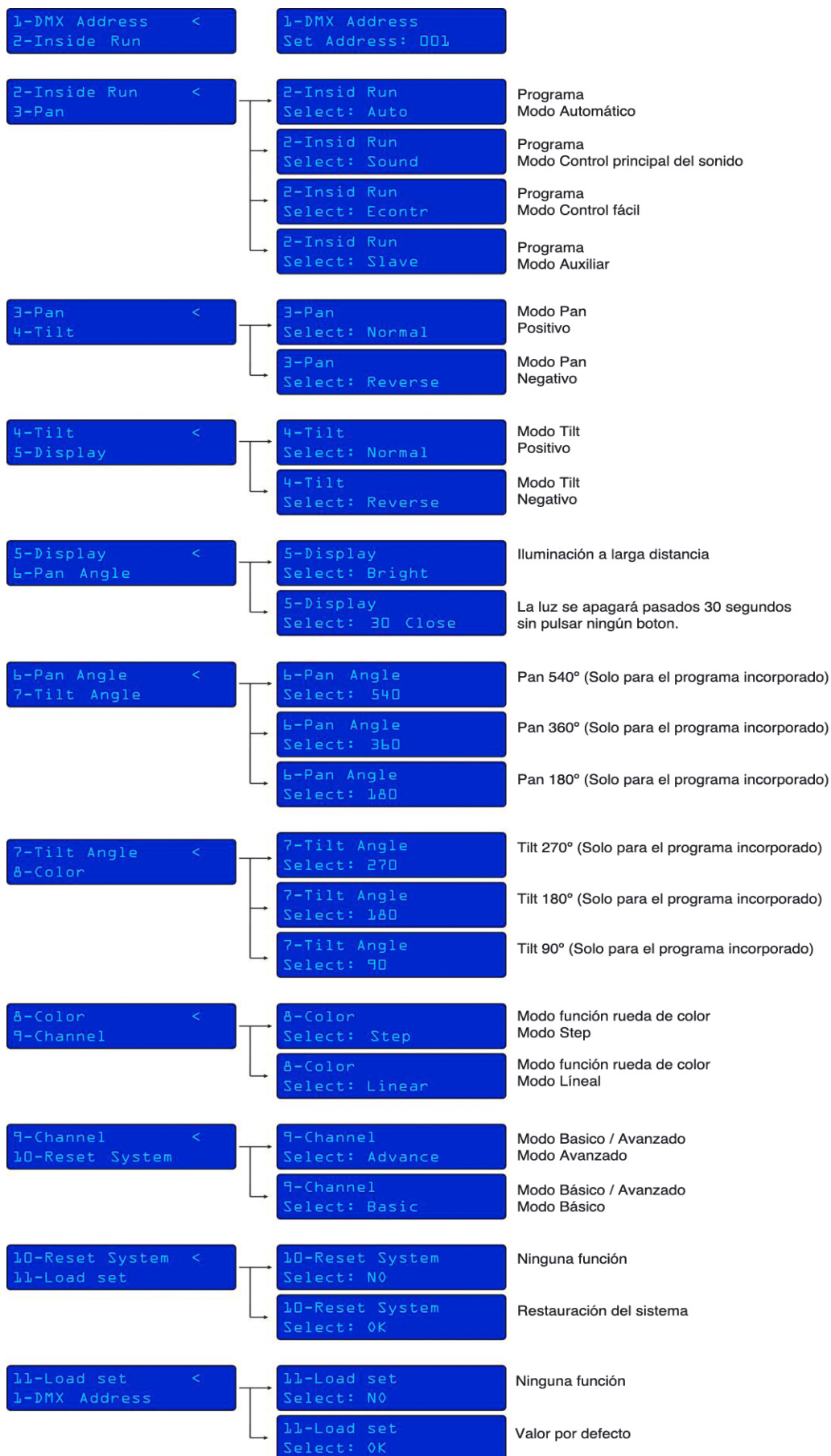
Rotación gobo-wheel

Contiene 5 gobos de metal, 2 gobos de cristal y se abre.

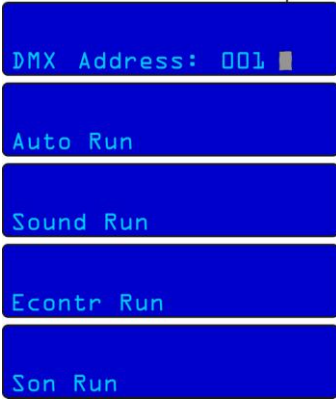
Shutter/Dimmer/Strobe

El oscurecimiento (0-100%) es proporcionado por una unidad mecánica del obturador. Esta unidad se puede también utilizar para el efecto del strobe (1-10 flashes por segundo).

Descripción
del Menú

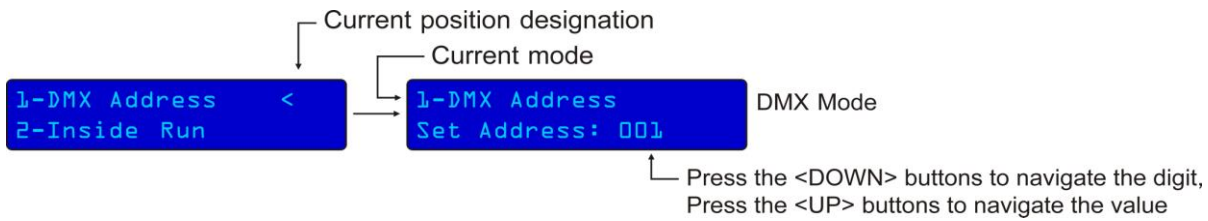


Modos de Uso DMX Signal



- Modo DMX : selección del direccionamiento DMX 001-512
- Modo automatico
- Modo Principal: modo principal del control de sonido
- Modo Principal: modo controlador facil
- Modo Auxiliar

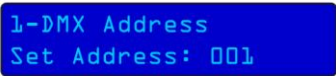
Navigating through the menu

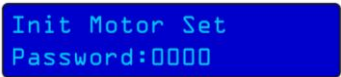


Use the Up-Down buttons to scroll through the menu; Press the ENTER button to select a desired menu function and press the MODE-ESC button to return to a previous menu.

Calibration Options

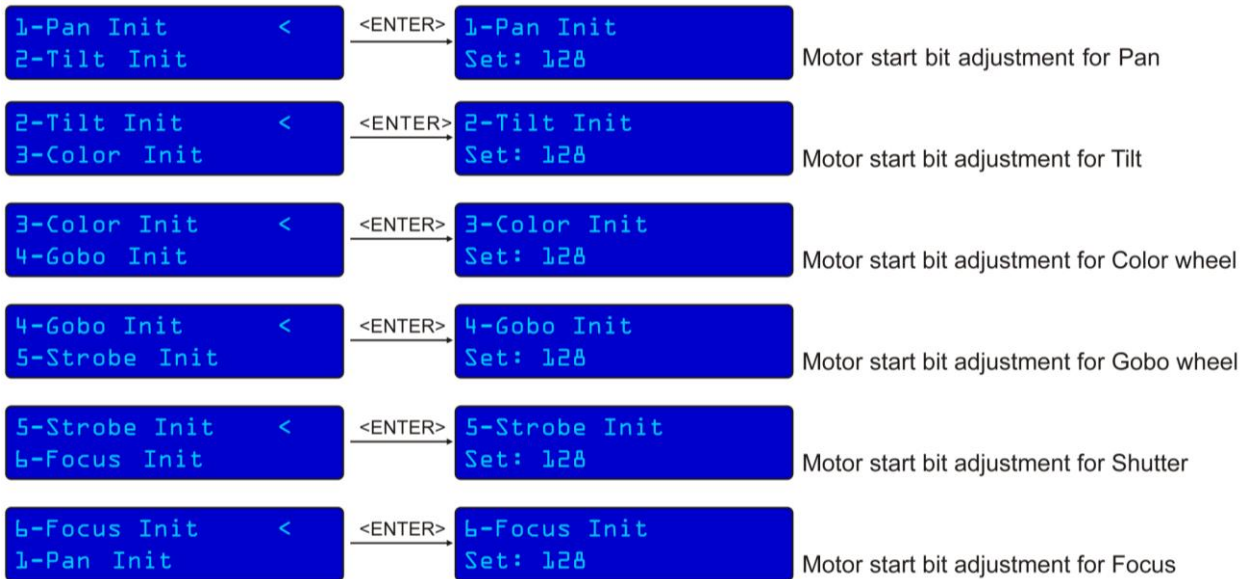
Press and hold down the MODE-ESC button for 10 seconds, when you are in DMX address menu.



The display will show: 

First enter the password : **2323**
Use the up button to increase the value, use the down button navigate through the digits.

You will now enter a calibrating menu and be able to calibrate 6 specific options.



When you have set a certain value, you can store it by pressing the ENTER button. To return to the previous menu press the MODE/ESC button. If no buttons are pressed for 5 seconds the device will return to the main menu

Channels settings

Phantom 250 Spot														
Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Function	PAN	TILT	PAN 16bit	TILT 16Bit	Speed	Color	Gobo 1	Gobo Rotation	Shutter	Dimmer	Function	Effect	Prism Rotation	Focus
255						192-255 Rainbow 128-191 Rainbow	220-255 Rainbow 200-219 180-179 140-159 120-139 100-119 80-99 70-79 60-69 50-59 40-49 30-39 20-29 10-19 0-15	192-255 Negative rotation 128-191 Positive rotation 0-127 Gobo rotate index	246-255 Open 181-245 Random open 166-180 Open 101-165 Pulse strobe 86-100 Open 23-85 Strobe speed 8-22 Open 0-7 Close	255 Close	242-255 Sound control 4 226-241 Sound control 3 210-225 Sound control 2 194-209 Sound control 1 178-193 Auto program 4 162-177 Auto program 3 146-161 Auto program 2 130-145 Auto program 1 110-129 No function 100-109 Test 20-99 No function 10-19 Moving blackout 0-9 No function	250-255 Effect 25 240-249 Effect 24 230-239 Effect 23 220-229 Effect 22 210-219 Effect 21 200-209 Effect 20 190-199 Effect 19 180-189 Effect 18 170-179 Effect 17 160-169 Effect 16 150-159 Effect 15 140-149 Effect 14 130-139 Effect 13 120-129 Effect 12 110-119 Effect 11 100-109 Effect 10 90-99 Effect 9 80-89 Effect 8 70-79 Effect 7 60-69 Effect 6 50-59 Effect 5 40-49 Effect 4 30-39 Effect 3 20-29 Effect 2 10-19 Effect 1 0-9 No function	240-255 Prism 16-239 Prism rotation 0-15 Stop	
128			16Bit	16Bit	PAN/TILT Speed	112-127 96-111 80-95 64-79 48-63 32-47 16-31 0-15								
1														

FYYa d`UrUfY` Gobo

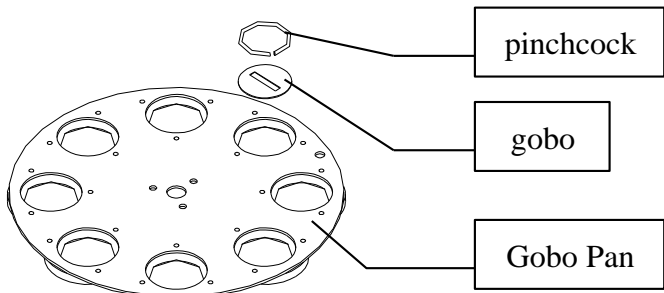


Fig. 7

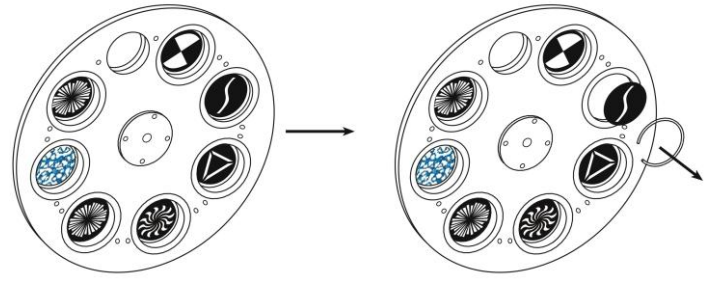


Fig. 8

Product Specification

Model: Showtec Phantom
Voltage: 240V-50Hz (CE)
Fuse: 5A / 250V
Dimensions: 410x420x420mm (LxWxH)
Weight: 20,4 kg

Operation and Programming

Signal pin OUT: pin 1 earth, pin 2 (-), pin 3 (+)
Set Up and Addressing: LED control panel
Pan / Tilt 16 bit
DMX Channels: 14
Signal input 3-pin XLR male
Signal output 3-pin XLR female

Lamp

Allowed lamp models*:
Showtec NSD 250/2 (2000 hr) (ordercode 82603)
Philips MSD 250 (3000 hr; 6700K) ordercode 80920P
Osram HSD 250 (2000 hr; 6000K) ordercode 80926O
Osram HSD 250/78 (1000 hr; 7800K) (ordercode 80933O)
Control: Automatic and DMX remote ON / OFF

Electro-mechanical effects

Colors: 7 colors plus white
Gobos rotating: 5 rotating metal gobos, 2 rotating glass gobos and open
Colour-wheel with variable rotation speed
Gobo rotation: adjustable speed, position direction, Gobo shake
All lenses are anti-reflection coated
High luminous-efficiency parabolic system
Strobe-effect with variable speed (1 flash -- 10 flashes/sec.)
DMX-control via standard DMX-controller
Sound-controlled via built-in microphone
Pan 0° -- 540°
Tilt 0° -- 270°
Automatic Pan / Tilt position correction
Wheel control: auto-electronic reset
Thermal switch

Gobos

Gobo diameter (metal or glass) 27 mm
Maximum image diameter 21.5 mm
Glass gobo: heat-resistant and intensify glass; dichroic glass coating
Max. ambient temperature t_a : 40°C; Max. housing temperature t_B : 80°C
Cooling: 2 axial fans - one fan in the projector and one in the base
Motor: 11 high quality stepping-motor controlled by microprocessors

Minimum distance:

Minimum distance from flammable surfaces: 0.5m
Minimum distance to lighted object: 1.3m

*: Versions for other lamps may be produced. Please check the specification label on your product.

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



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



© 2009 Showtec.