



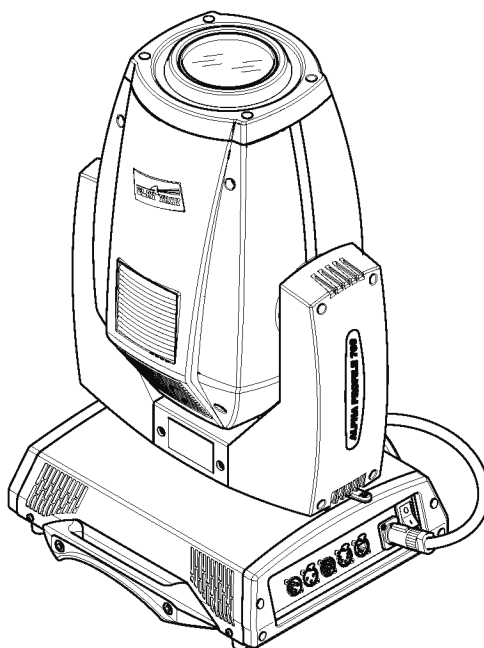
# ALPHA PROFILE 700

## ALPHA PROFILE 700 "ST"

C61365

C61366

### INSTRUCTION MANUAL



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*Congratulations on choosing a Clay Paky product!*

*We thank you for your custom.*

*Please note that this product, as all the others in the rich Clay Paky range, has been designed and made with total quality to ensure excellent performance and best meet your expectations and requirements.*

Carefully read this instruction manual in its entirety and keep it safe for future reference. It is essential to know the information and comply with the instructions given in this manual to ensure the fitting is installed, used and serviced correctly and safely.

CLAY PAKY S.p.A. disclaims all liability for damage to the fitting or to other property or persons deriving from installation, use and maintenance that have not been carried out in conformity with this instruction manual, which must always accompany the fitting.

CLAY PAKY S.p.A. reserves the right to modify the characteristics stated in this instruction manual at any time and without prior notice.

## SAFETY INFORMATION

### • Installation

Make sure all parts for fixing the projector are in a good state of repair.

Make sure the point of anchorage is stable before positioning the projector.

The safety chain must be properly hooked onto the fitting and secured to the framework, so that, if the primary support system fails, the fitting falls as little as possible.

If the safety chain gets used, it needs to be replaced with a genuine spare.

### • Minimum distance of illuminated objects

The projector needs to be positioned so that the objects hit by the beam of light are at least 3 metres (9'10") from the lens of the projector.

### • Minimum distance from flammable materials

The projector must be positioned so that any flammable materials are at least 0.20 metres (8") from every point on the surface of the fitting.

### • Mounting surfaces

It is permissible to mount the fitting on normally flammable surfaces.

### • Maximum ambient temperature

Do not operate the fixture if the ambient temperature ( $T_a$ ) exceeds 40° C (104° F).

### • IP20 protection rating

The fitting is protected against penetration by solid bodies of over 12mm (0.47") in diameter (first digit 2), but not against dripping water, rain, splashes or jets of water (second digit 0).

### • Protection against electrical shock

Connection must be made to a power supply system fitted with efficient earthing (**Class I** appliance according to standard EN 60598-1).

It is, moreover, recommended to protect the supply lines of the projectors from indirect contact and/or shorting to earth by using appropriately sized residual current devices.

### • Connection to mains supply

Connection to the electricity mains must be carried out by a qualified electrical installer.

Check that the mains frequency and voltage correspond to those for which the projector is designed as given on the electrical data label.

This label also gives the input power to which you need to refer to evaluate the maximum number of fittings to connect to the electricity line, in order to avoid overloading.

### • Temperature of the external surface

The maximum temperature that can be reached on the external surface of the fitting, in a thermally steady state, is 150°C (302°F).

### • Maintenance

Before starting any maintenance work or cleaning the projector, cut off power from the mains supply. After switching off, do not remove any parts of the fitting for at least 10 minutes. After this time the likelihood of the lamp exploding is virtually nill. If it is necessary to replace the lamp, wait for another 20 minutes to avoid getting burnt.

The fitting is designed to hold in any splinters produced by a lamp exploding. The lenses must be mounted and, if visibly damaged, they have to be replaced with genuine spares.

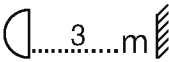
### • Lamp

The fitting mounts a high-pressure lamp that needs an external igniter. This igniter is fitted onto the apparatus.

- Carefully read the "operating instructions" provided by the lamp manufacturer.
- Immediately replace the lamp if damaged or deformed by heat.

### • Battery

This product contains a rechargeable lead-acid or lithium iron tetraphosphate battery. To preserve the environment, please dispose the battery at the end of its life according to the regulation in force.

700W 

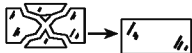


$t_a$  40°C

IP20



$t_c$  150°C



The products to which this manual refers comply with the European Directives pursuant to:

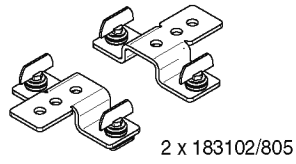
- 2006/95/EC - Safety of electrical equipment supplied at low voltage (LVD)
- 2004/108/EC - Electromagnetic Compatibility (EMC)
- 2011/65/EU - Restriction of the use of certain hazardous substances (RoHS)

## UNPACKING AND PREPARATION

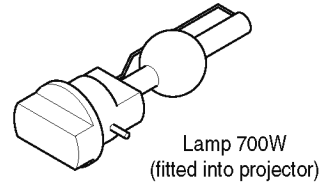
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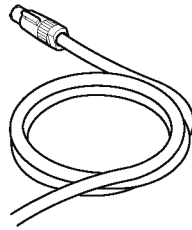
IST00G/001



2 x 183102/805

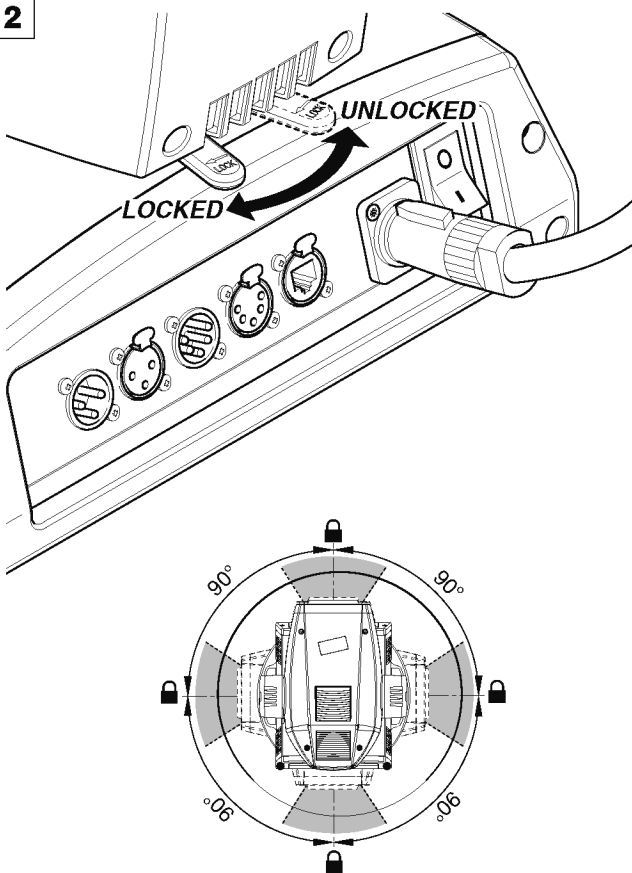


Lamp 700W  
(fitted into projector)



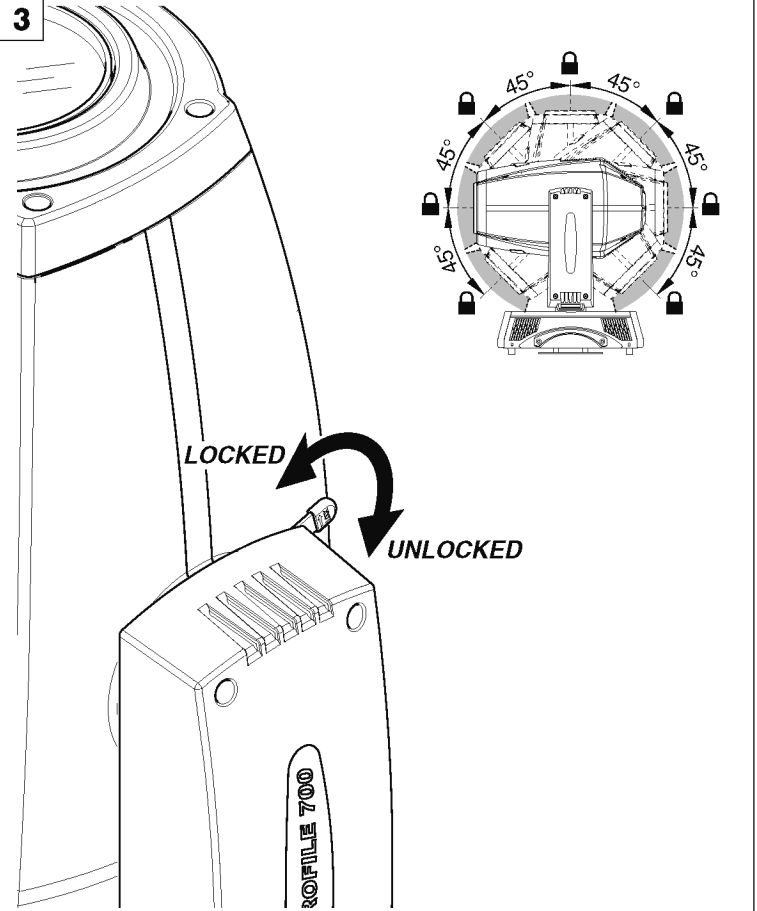
Packing contents - Fig. 1

2



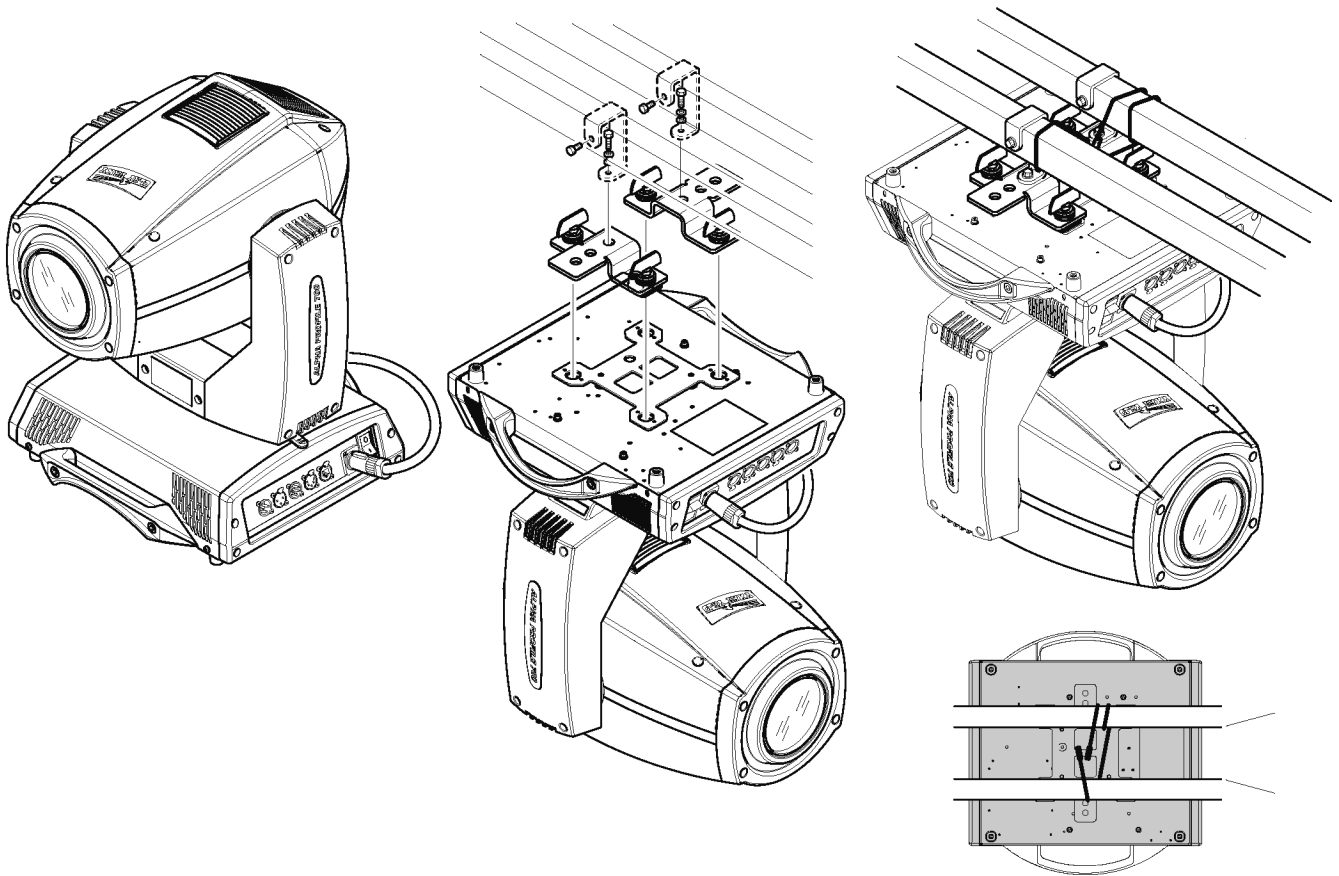
PAN Mechanism Lock and Release (every 90°) - Fig. 2

3



TILT Mechanism Lock and Release (every 45°) - Fig. 3

4

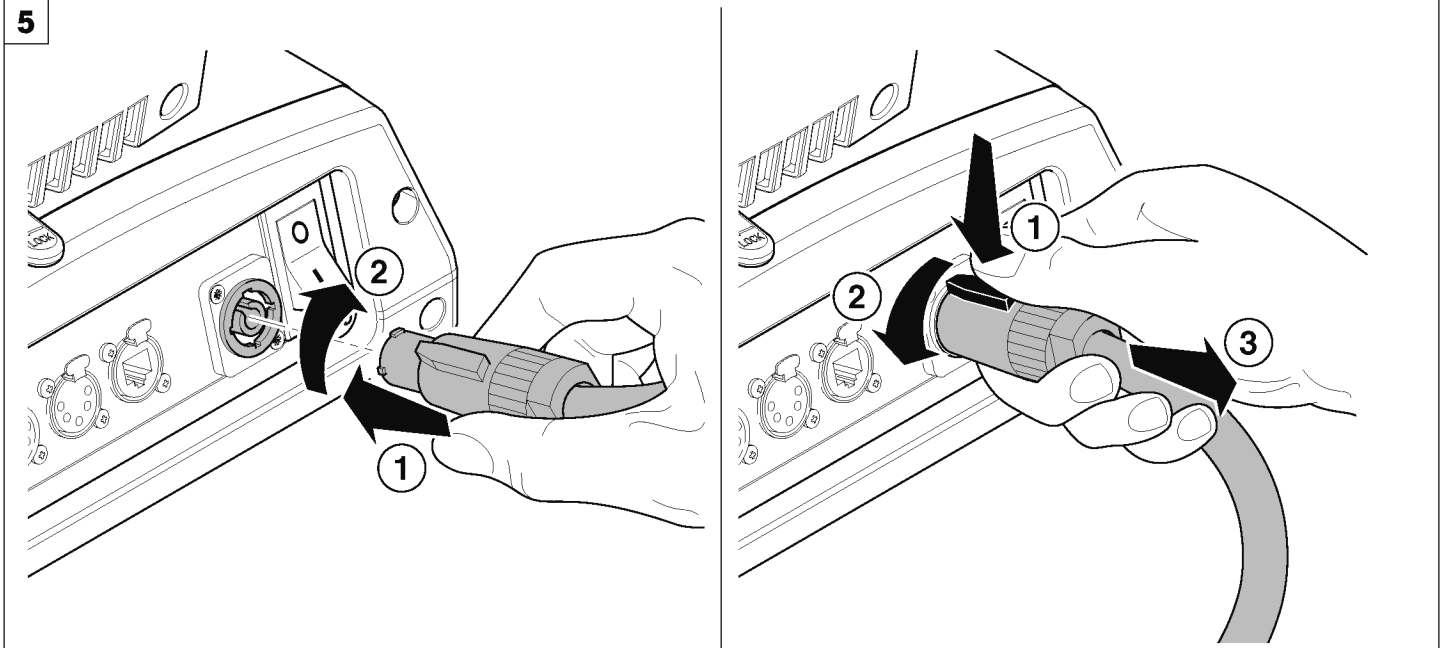


**Installing the projector - Fig. 4**

The projector can be installed on the floor resting on special rubber feet, on a truss or on the ceiling or wall.

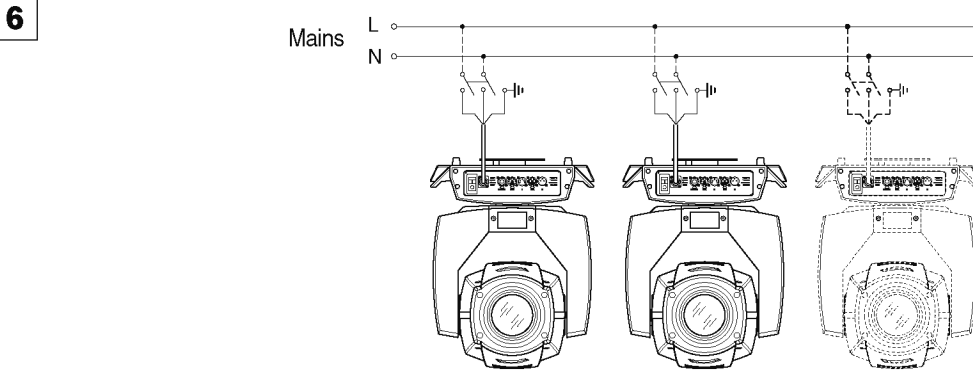
**WARNING:** with the exception of when the projector is positioned on the floor, the safety cable must be fitted. (Cod. 105041/003 available on request). This must be securely fixed to the support structure of the projector and then connected to the fixing point at the centre of the base.

5

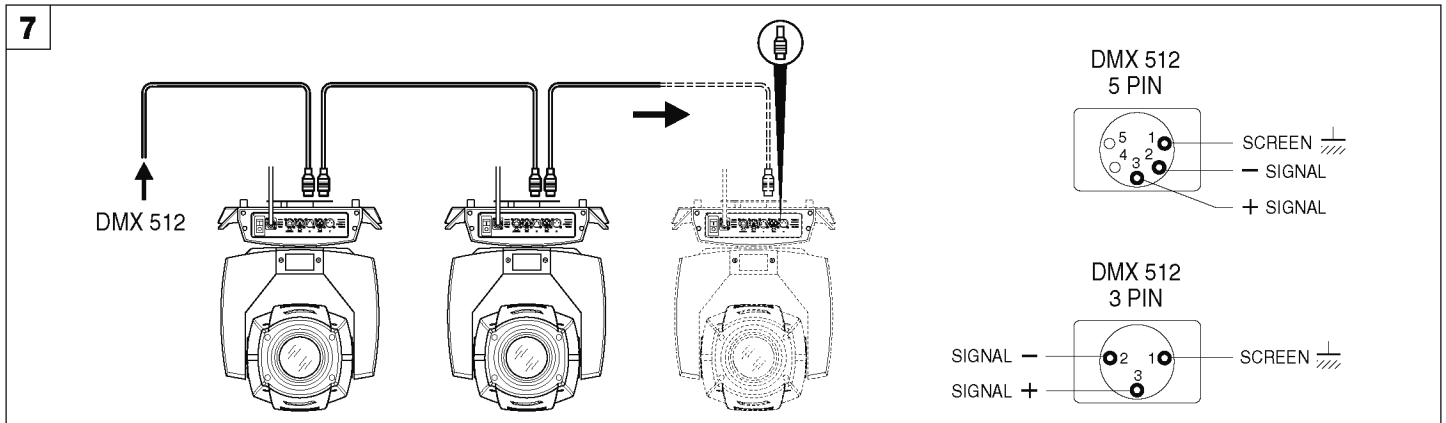


**Connecting and disconnecting power cable - Fig. 5**

## CONTROL PANEL



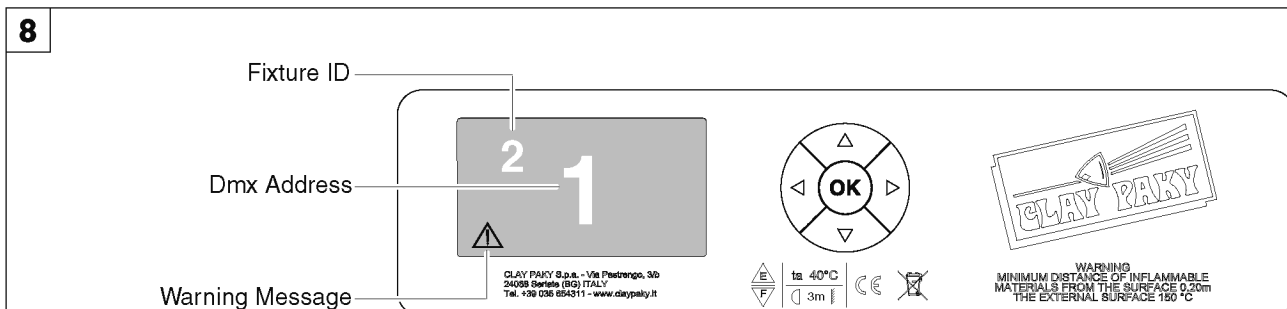
Connecting to the mains supply - Fig. 6



Connecting to the control signal line (DMX) - Fig. 7

Use a cable conforming to specifications EIA RS-485: 2-pole twisted, shielded, 120Ohm characteristic impedance, 22-24 AWG, low capacity. Do not use microphone cable or other cable with characteristics differing from those specified. The end connections must be made using XLR type 3 or 5-pin male/female connectors. A terminating plug must be inserted into the last projector with a resistance of 120Ohm (minimum 1/4 W) between terminals 2 and 3.

**IMPORTANT:** The wires must not make contact with each other or with the metal casing of the connectors. The casing itself must be connected to the shield braid and to pin 1 of the connectors.



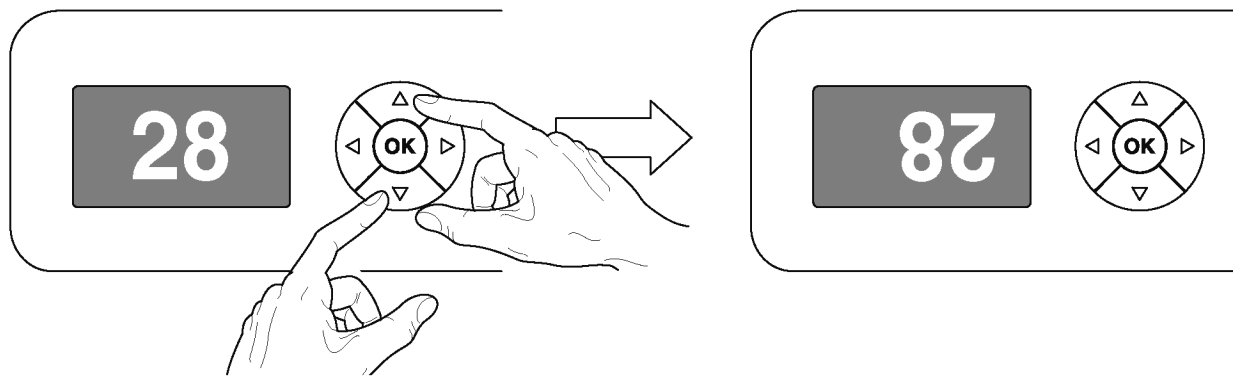
Switching on the projector - Fig. 8

Press the switch. The projector starts resetting the effects. At the same time, the following information scrolls on the display:

	Model Alpha PROFILE 700	Firmware Version X.X.X Date - Hour	xxx (Fixture ID) Dmx Address xxx	System errors E: ..... W: .....
--	-------------------------------	--	-------------------------------------	---------------------------------------

On conclusion of resetting in case of absence of dmx signal, Pan and Tilt move to the "Home" position (Pan 50% - Tilt 50%). The control panel (Fig. 8) has a display and buttons for the complete programming and management of the projector menu. The display can be in one of two conditions: rest status and setting status. When it is in the rest status, the display shows the projector's DMX address and the Fixture ID address (if set).

During menu setting status, after a wait time (about 30 seconds) without any key having been pressed, the display automatically returns to rest status. It should be noted that when this condition occurs, any possible value that has been modified but not yet confirmed with the key will be cancelled.



#### Reversal of the display - Fig. 9

To activate this function, press UP ▲ and DOWN ▼ keys simultaneously while the display is in the rest mode. This status will be memorised and maintained even for the next time it will be switched on. To return to the initial state, repeat the operation all over again.

#### Setting the projector starting address

On each projector, the starting address must be set for the control signal (addresses from 1 to 512).

The address can also be set with the projector switched off.

Setting the address: see pag. 8.

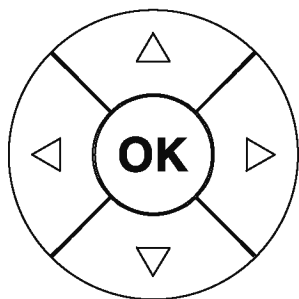
#### Setting the projector Fixture ID

On each projector, the Fixture ID address must be set for an easy identification of the fixtures in an installation (ID from 1 to 255).

The Fixture ID address can be set with the projector switched off.

Setting the Fixture ID: see pag. 8.

### Functions of the buttons - Using the menu



Confirms the displayed value, or activates the displayed function, or enters the successive menu.



DOWN

Decreases the value displayed (with auto-repetitions) or passes to the next item in the menu.



UP

Increases the value displayed (with auto-repetitions) or passes to the previous item in a menu.



LEFT

Return to the top level



RIGHT

Commute from units, tens, hundreds, in the "Address", "Fixture ID" and "Calibration" menu.

#### USING THE MENU:

- 1) Press **OK** once – "Main Menu" appears on the display.
- 2) Use the UP ▲ and DOWN ▼ keys to select the menu to be used:
  - Setup (Setup Menu): To set the setting options.
  - Option (Option Menu): To set the operating options
  - Informations (Informations Menu): To read the counters, software version and other information.
  - Manual Control (Manual control Menu): To trigger the test and manual control functions.
  - Test (Test Menu): To check the proper functioning of effects
  - Advanced (Advanced Menu): Access to the "Advanced menu" is recommended for a trained technical personnel.

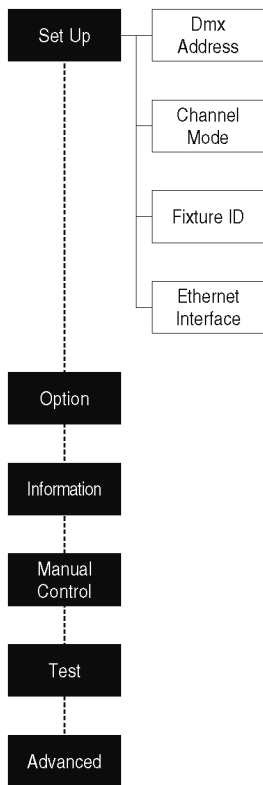
To enable the "Advanced" see pag.13
- 3) Press **OK** to display the first item in the selected menu.
- 4) Use the UP ▲ and DOWN ▼ keys to select the MENU items.

#### Setting addresses and options with the projector disconnected

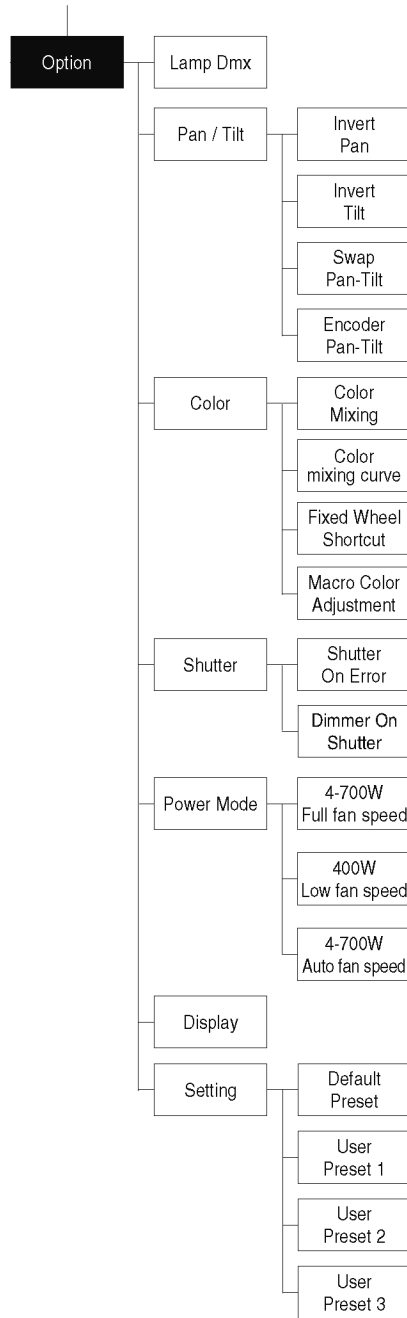
The projector's DMX address, as well as other possible operating options, can also be set when the appliance is disconnected from the electricity supply. All that is needed is to press **OK** to momentarily activate the display and thus access the settings. Once the required operations have been carried out, the display will switch off again after a wait time of 30 seconds.

# MENU SETTING

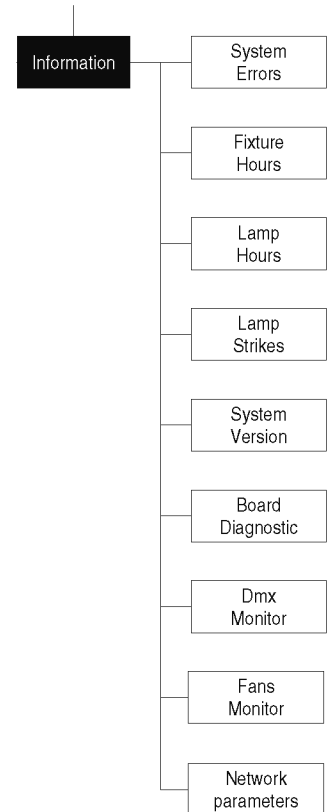
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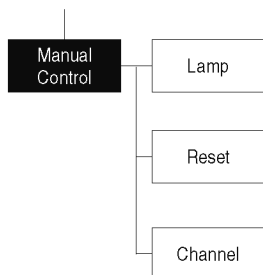
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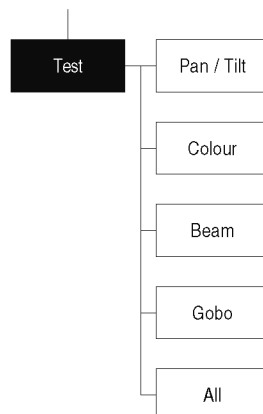
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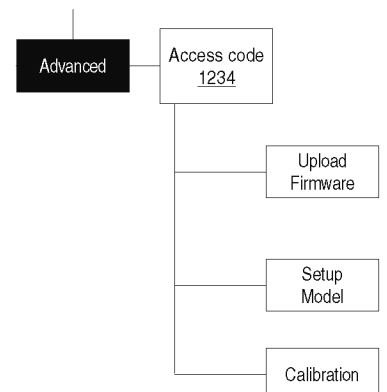
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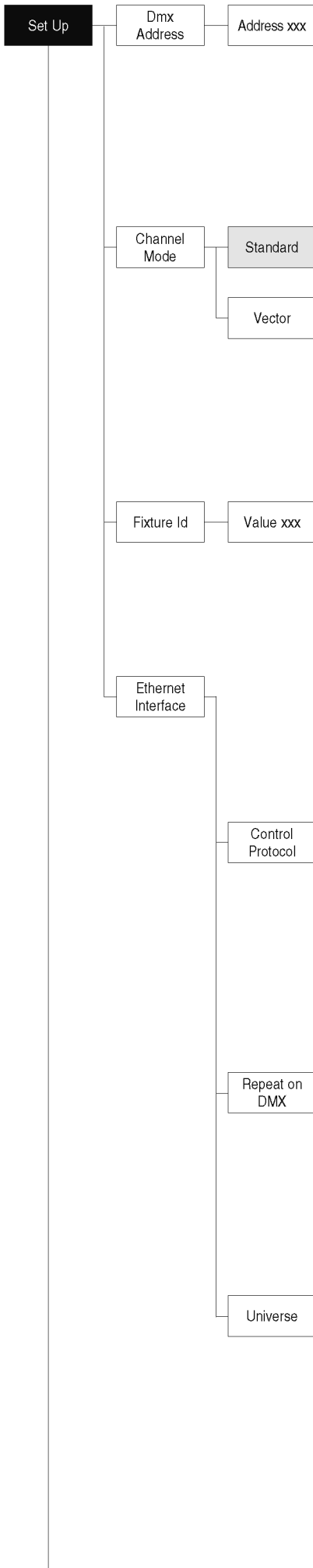
5



6



NOTE: On grey the default options



## SET UP MENU

### DMX ADDRESS

**NOTE: without the DMX signal the Address (XXX) flashing**

Allows you to select the DMX ADDRESS

- 1) Press **OK** - the current DMX Address appear on the display.
- 2) Use the UP **▲**, DOWN **▼**, RIGHT **▶** keys to plan the DMX Address.
- 3) Press **OK** to confirm the selection or LEFT **◀** to keep current settings.

### CHANNEL MODE

Allows you to select a channel arrangement from the two available.

- 1) Press **OK** - the current settings appear on the display (Standard or Vector).
- 2) Use the UP **▲** and DOWN **▼** keys to select one of the following settings:
  - **Standard**
  - **Vector**
- 3) Press **OK** to confirm the selection or LEFT **◀** to keep current settings.

### FIXTURE ID

Allows you to select the FIXTURE ID

- 1) Press **OK** - the current Fixture ID appear on the display.
- 2) Use the UP **▲**, DOWN **▼**, RIGHT **▶** keys to plan the Fixture ID.
- 3) Press **OK** to confirm the selection or LEFT **◀** to keep current settings.

### ETHERNET INTERFACE

It lets you set the Ethernet settings to be attributed to the projector.

- 1) Press **OK**.
- 2) Use the UP **▲** and DOWN **▼** keys to select the "Ethernet Interface" options to set:

#### Control Protocol

It lets you select the "Control Protocol" Art-net to assign according to the control unit used:

- 1) Press **OK** the current setting appears on the display.
- 2) Use the UP **▲** and DOWN **▼** keys to select one of the following settings:
  - **Disabled**
  - **Art-net on IP 2**
  - **Art-net on IP 10**
- 3) Press **OK** to confirm the selection or LEFT **◀** to keep the current setting.

#### Repeat on DMX

It lets you enable the transmission of the Ethernet protocol by DMX signal to all the connected projectors.

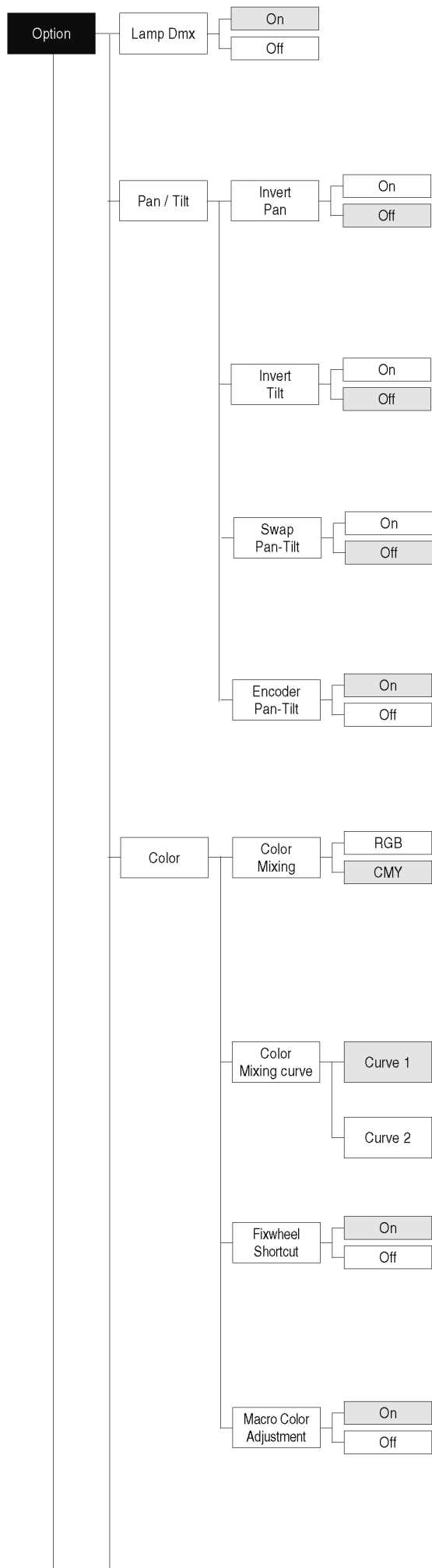
- 1) Press **OK** the current setting appears on the display.
- 2) Use the UP **▲** and DOWN **▼** keys to select one of the following settings:
  - **Disabled:** DMX transmission disabled.
  - **Enabled on primary:** DMX transmission enabled.
- 3) Press **OK** to confirm the selection or LEFT **◀** to keep the current setting.

#### Universe

It lets you assign the "Universe" number to be assigned to a series of projectors.

- 1) Press **OK** – the current Universe address appears on the display.
- 2) Use the UP **▲**, DOWN **▼**, RIGHT **▶** keys to set the Universe address.
- 3) Press **OK** to confirm the selection or LEFT **◀** to keep the current setting.





## OPTIONS MENU

### LAMP DMX

Used for enabling lamp remote control channel.

- 1) Press **OK** - the current settings appear on the display (On or Off).
- 2) Use the UP **▲** and DOWN **▼** keys to enable (On) or disable (Off) the lamp remote control channel.
- 3) Press **OK** to confirm the selection or LEFT **◀** to keep current settings.

### PAN / TILT

#### Invert pan

Used for reversing Pan movement.

- 1) Press **OK** - the current settings appear on the display (On or Off).
- 2) Use the UP **▲** and DOWN **▼** keys to enable (On) or disable (Off) PAN inversion.
- 3) Press **OK** to confirm the selection or LEFT **◀** to keep current settings.

#### Invert tilt

Used for reversing tilt movement.

- 1) Press **OK** - the current settings appear on the display (On or Off).
- 2) Use the UP **▲** and DOWN **▼** keys to enable (On) or disable (Off) Tilt inversion.
- 3) Press **OK** to confirm the selection or LEFT **◀** to keep current settings.

#### Swap Pan-Tilt

Used for swapping Pan and Tilt channels (as well as Pan fine and Tilt fine).

- 1) Press **OK** - the current settings appear on the display (On or Off).
- 2) Use the UP **▲** and DOWN **▼** keys to enable (On) or disable (Off) Pan and Tilt channel swap.
- 3) Press **OK** to confirm the selection or LEFT **◀** to keep current settings.

#### Encoder Pan-Tilt

Used for enabling the Pan / Tilt encoders.

- 1) Press **OK** - the current settings appear on the display (On or Off).
- 2) Use the UP **▲** and DOWN **▼** keys to enable (On) or disable (Off) Pan / Tilt encoders.
- 3) Press **OK** to confirm the selection or LEFT **◀** to keep current settings.

### COLOR

#### Color mixing

Used for reversing the CMY color mixing system.

- 1) Press **OK** - the current settings appear on the display (On or Off).
- 2) Use the UP **▲** and DOWN **▼** keys select one of the following settings:  
RGB color mixing mode  
CMY color mixing mode
- 3) Press **OK** to confirm the selection or LEFT **◀** to keep current settings.

#### Color mixing curve

It lets you select the "Color mixing curve" from the two available.

- 1) Press **OK** the current setting appears on the display.
- 2) Use the UP **▲** and DOWN **▼** keys to select one of the following settings:  
**Curve 1**  
**Curve 2**
- 3) Press **OK** to confirm the selection or LEFT **◀** to keep the current setting.

#### Fixed wheel short-cut

Used for optimizing color change time so that the disc turns in the direction that requires shorter movement.

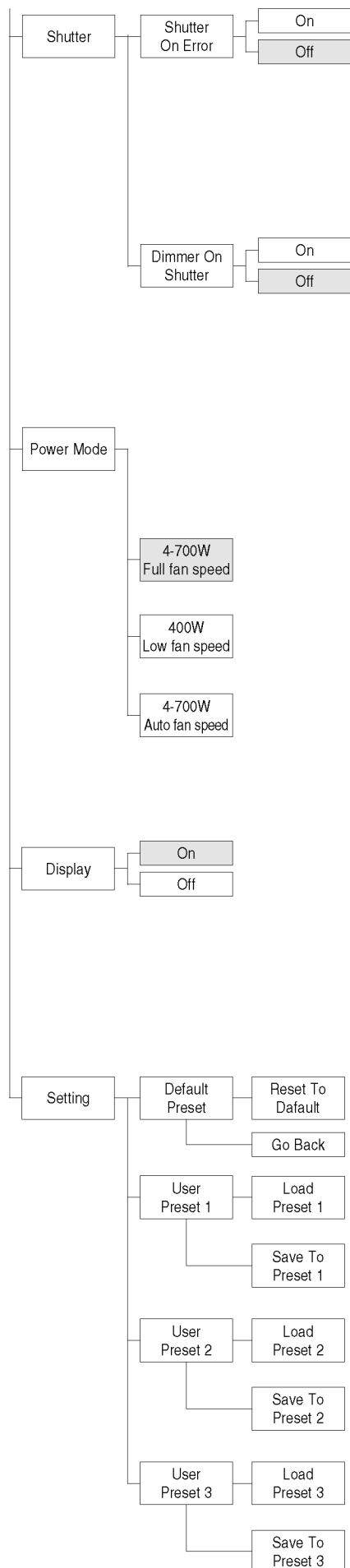
- 1) Press **OK** - the current settings appear on the display (On or Off).
- 2) Use the UP **▲** and DOWN **▼** keys to enable (On) or disable (Off) color change optimization.
- 3) Press **OK** to confirm the selection, or LEFT **◀** to keep current settings.

#### Macro color adjustment

It lets you enable the overwriting of a "Macro Colour" with the Cyan, Magenta, Yellow, CTO and Colour wheel channels.

Press **OK** the current setting appears on the display.

- 1) Use the UP **▲** and DOWN **▼** keys to enable (On) or disable (Off) the overwriting.
- 2) Press **OK** to confirm the selection or LEFT **◀** to keep the current setting.



## SHUTTER

### Shutter on error

Used for automatically closing the stop/strobe in the event of Pan/Tilt position error.

- 1) Press **OK** - the current settings appear on the display (On or Off).
- 2) Use the UP **▲** and DOWN **▼** keys to enable (On) or disable (Off) automatic stop/strobe closing in the event of Pan/Tilt position error.
- 3) Press **OK** to confirm the selection, or LEFT **◀** to keep current settings.

### Dimmer on Shutter

Enables automatic closing of the dimmer when the strobe is completely closed.

- 1) Press **OK** - the current settings appear on the display (On or Off).
- 2) Use the UP **▲** and DOWN **▼** keys to enable (On) or disable (Off) the automatic closing of the dimmer.
- 3) Press **OK** to confirm the selection or LEFT **◀** to keep current

## POWER MODE

Allows you to select a Power Mode from the three available.

- 1) Press **OK** - the current settings appear on the display.
- 2) Use the UP **▲** and DOWN **▼** keys to select one of the following settings:
  - **4-700W Full fan speed**: Lamp can change from full-power (700W) to half-power (400W) using the LAMP CONTROL channel. Fans always work at Full speed.
  - **400W Low fan speed**: Lamp constantly works in half-power mode (400W) while the Fan always works at Low speed. With LAMP CONTROL channel you can only switch the lamp ON and OFF.
  - **4-700W Auto fan speed**: Lamp can change from full-power (700W) to half-power (400W) using the LAMP CONTROL channel. Automatically the fans switch from Full speed to Low speed respectively.
- 3) Press **OK** to confirm the selection or LEFT **◀** to keep current setting.

## DISPLAY

Used for automatically reduce brightness on the display after about 30 seconds in idle.

- 1) Press **OK** - the current settings appear on the display (On or Off).
- 2) Use the UP **▲** and DOWN **▼** keys to enable (On) or disable (Off) the decreasing of display brightness.
- 3) Press **OK** to confirm the selection or LEFT **◀** to keep current settings.

## SETTING

Used to save 3 different settings of the items in the options menu and relative submenus.

- 1) Press **OK** - "Default preset" appears on the display.
- 2) Use the UP **▲** and DOWN **▼** keys to select one of the following configurations:
  - Default preset (\*)
  - User preset 1
  - User preset 2
  - User Preset 3
- 3) Press **OK** - "Load preset X" appears on the display.
- 4) Use the UP **▲** and DOWN **▼** keys to select:
  - Load preset X to recall a previously stored configuration.
  - Save to preset X to store the current configuration.
 a confirmation message (Are you sure?) appears on the display.
- 5) Select YES to confirm the selection or NO to keep the current setting and return to the next higher level.

(\*) DEFAULT PRESET

**By pressing the RIGHT **▶** key and the LEFT **◀** key simultaneously once entered in the "main menu" it is possible to quickly (short cut) reset the default settings (DEFAULT PRESET).**

Used for restoring default values on all options menu items and relevant submenus.

- 1) Press **OK**, a confirmation message (Are you sure?) appears on the display.

## Information

### System Errors

### Fixture Hours

Total XXX  
Partial XXX  
Reset...

### Lamp Hours

Total XXX  
Partial XXX  
Reset...

### Lamp Strikes

Total XXX  
Partial XXX  
Reset...


2) Select YES to confirm the selection or NO to keep current setting.

OPTION	DEFAULT
Lamp DMX	On
Invert Pan	Off
Invert Tilt	Off
Swap Pan-Tilt	Off
Encoder Pan-Tilt	On
Colour mixing	CMY
Color mixing curve	Curve 2
Fixed Wheel Shortcut	On
Maco color adjustment	On
Shutter on Error	Off
Dimmer on Shutter	Off
Power Mode	4-700W Full fan speed
Display	On

## INFORMATION MENU



### SYSTEM ERRORS

Shows a list of warnings and messages relevant to errors occurred since the fixtures switching-on.

- 1) Pressing  you are allowed to reset the SYSTEM ERRORS list.  
A confirmation message (Are you sure you want to clear error list ?) appears on the display.
- 2) Select YES to reset the list or NO to go back.



### FIXTURE HOURS

Used for displaying projector operating hours (total and partial).

- 1) Press  - Hours total and partial appears on the display.  
**Total counter**  
Counts the number of projector working life hours (from manufacture to date).  
**Partial counter**  
Counts the number of partial projector working life hours since the last reset to date.
- 2) Press  to reset partial projector working hours a confirmation message (Are you sure?) appears on the display.
- 3) Select YES to reset partial projectors counter or NO to keep the current setting and return to the top menu level.



### LAMP HOURS

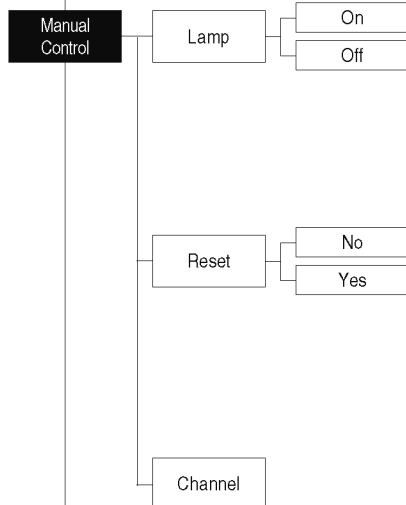
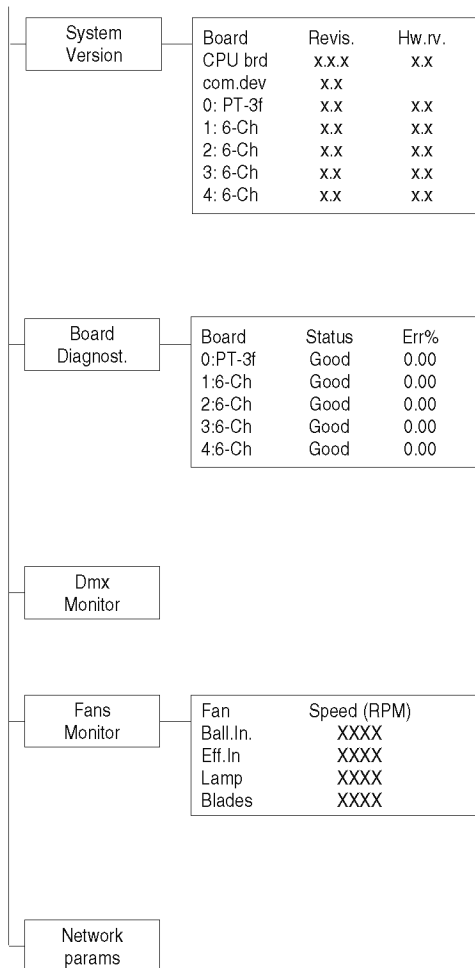
Used for displaying the lamp working hours (total and partial).

- 1) Press  - Hours total and partial appears on the display.  
**Total counter**  
Counts the number of projector working hours with the lamp on (from manufacture to date).  
**Partial counter**  
Counts the number of lamp working hours since the last reset to date.
- 2) Press  to reset partial lamp working hours, a confirmation message (Are you sure ?) appears on the display.
- 3) Select YES to reset partial counter or NO to keep the current setting and return to the top menu level

### LAMP STRIKES

Used for displaying the number of times the lamp was turned on (total and partial).

- 1) Press  - the number of times the lamp was turned on (total and partial) appears on the display.  
**Total counter**  
Counts the number of times the lamp was turned on (from manufacture to date).  
**Partial counter**  
Counts the number of times the lamp was turned on since the last reset to date.
- 2) Press  to reset partial lamp strikes hours, a confirmation message (Are you sure ?) appears on the display.
- 3) Select YES to reset partial counter or NO to keep the current setting and return to the top menu level



## SISTEM VERSION

Used for displaying the software and hardware version of each board installed in the projector.

CPU brd (CPU board)  
0: PT-3f (Pan / Tilt board)  
1: 6-Ch (6 channel board)  
2: 6-Ch (6 channel board)  
3: 6-Ch (6 channel board)  
4: 6-Ch (6 channel board)

## BOARD DIAGNOSTIC

Used for displaying the status error of each board installed in the projector:

0: PT-3f (Pan / Tilt board)  
1: 6-Ch (6 channel board)  
2: 6-Ch (6 channel board)  
3: 6-Ch (6 channel board)  
4: 6-Ch (6 channel board)

## DMX MONITOR

Used for displaying the projector DMX channel level in bit (Val) and in percentage (Perc).

## FANS MONITOR

Used for displaying the speed of each fan installed in the projector:

Ball. IN (Ballast IN Fan)  
Eff.IN (Effects IN Fan)  
Lamp (Lamp Fan)  
Blades (Blades fan)

## NETWORK PARAMS

Allows the "Network" parameters of the projector to be displayed or:

- IP address:** Internet Protocol address (two projectors must not have the same IP address)
- IP mask:** 255.0.0.0
- Mac address:** Media Access Control: the projector's Ethernet Address.

## MANUAL CONTROL

### LAMP

Used for turning lamp on and off from the projector control panel.

- Press **OK** - the current settings appear on the display (On or Off).
- Use the UP **▲** and DOWN **▼** keys to turn the lamp on (On) or off (Off)
- Press **OK** to confirm the selection or LEFT **◀** to keep current settings and return to the top level.

### RESET

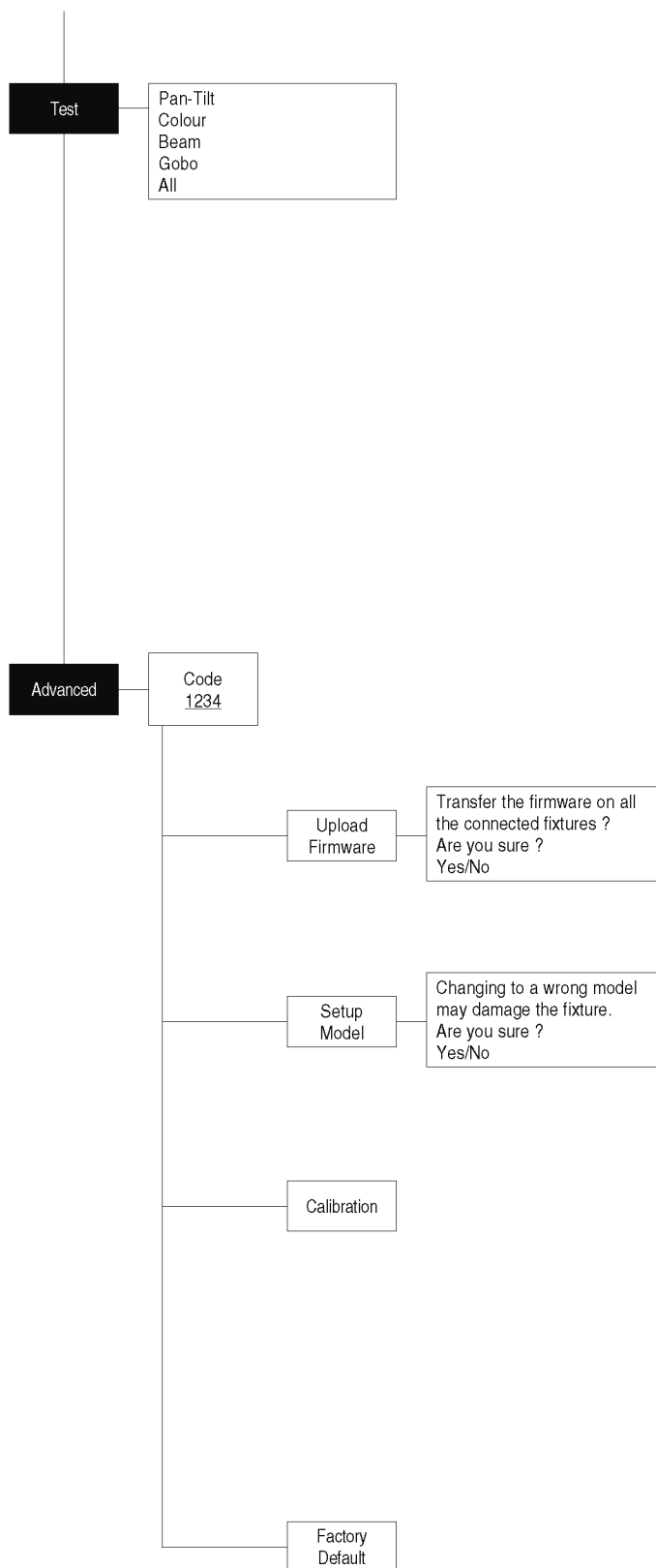
Used for resetting the projector.

- Press **OK** to reset the projectors, a confirmation message (Are you sure ?) appears on the display.
- Select YES to starting reset the fixture or NO to keep the current setting and return to the top menu level.

### CHANNEL

Used for setting channel levels from the projector control panel.

- Press **OK** - the first channel appears on the display.
- Use the UP **▲** and DOWN **▼** keys to select the required channel:
- Press **OK** and use the UP **▲** and DOWN **▼** keys to select the required DMX level (value between 0 and 255).
- Press LEFT **◀** to return to the top menu level.



## TEST MENU

### AUTOTEST

Allows you to check the proper functioning of effects.

- 1) Press **OK**.
- 2) Use the UP **▲** and DOWN **▼** keys to select the required test.
- 3) Press **OK** to confirm the selection or LEFT **◀** to return to the top menu level.

Test sequence:

- Pan-Tilt effects (Pan & Tilt)
- Colour effects (CMY / CTO / Color wheel)
- Beam effects (Stopper-Strobe / Dimmer / Iris / Prism / Frost / Focus / Zoom / Blades / Framing rotation)
- Gobo effects (Rotating gobo)
- All effects

## ADVANCED MENU

To enable the "Advanced Menu" set up the "Access code" (1234) using the UP **▲**, DOWN **▼**, RIGHT **▶** keys.

Press **OK** - "Menu advanced" appears on the display

### UPLOAD FIRMWARE

Allows you to transfer the firmware from 1 fixture to all the connected fixtures.

- 1) Press **OK**, a confirmation message appears on the display.
- 2) Select YES to start the firmware loading or NO to keep the current setting and return to the top menu level

### SETUP MODEL

Allows you to change the default model of projector.

- 1) Press **OK** a confirmation message appears on the display.
- 2) Select YES to define the model of projector or NO to keep the current setting and return to the top menu level.

### CALIBRATION

Allows you to adjust effects from the control panel to obtain perfect uniformity between the projectors.

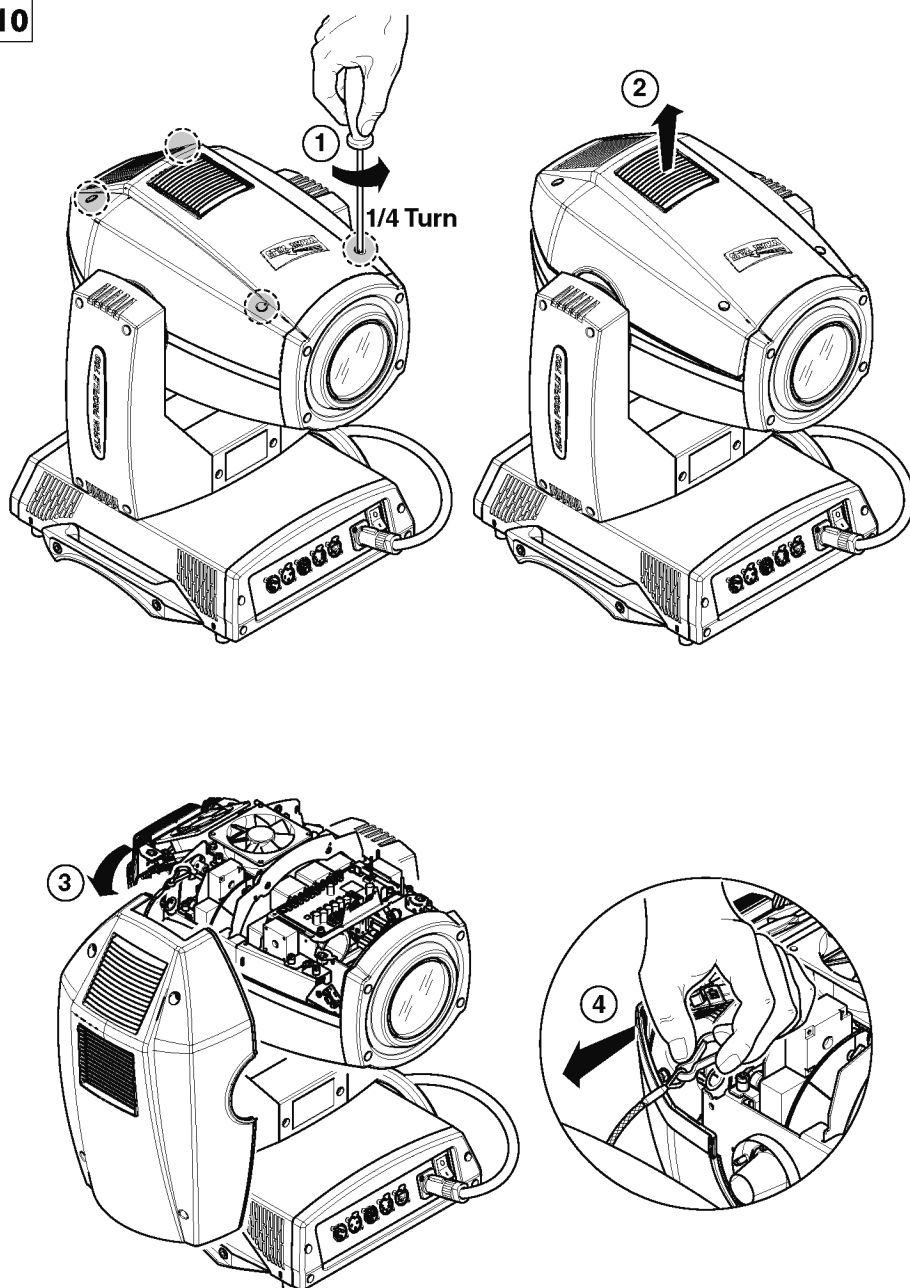
- 1) Press **OK** - "channels" appears on the display.
- 2) Using the UP **▲** and DOWN **▼** keys, select the effect you wish to regulate.
- 3) Press **OK** and use the RIGHT **▶**, UP **▲** and DOWN **▼** buttons to make the adjustment by setting a value between 0 and 255.
- 4) Press **OK** to confirm the selection or LEFT **◀** to keep current settings and return to the top level.

### FACTORY DEFAULT

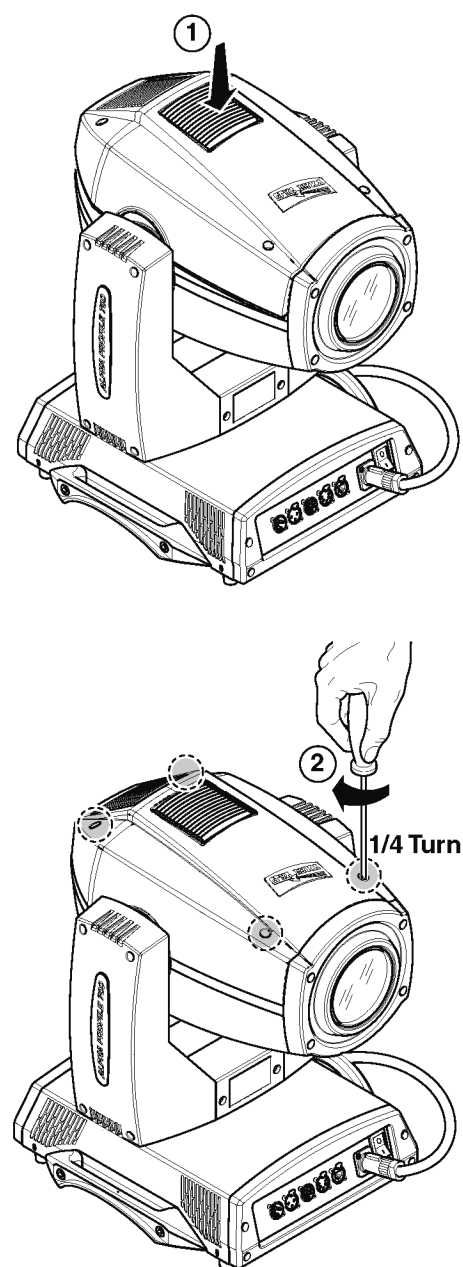
Allows you to restore default values of all channels (128).

- 1) Press **OK** - a confirmation message appears on the display (Reset calibration to factory default ?).
- 2) Select YES to reset calibration to factory default or NO to keep the current setting and return to the top menu level.

10



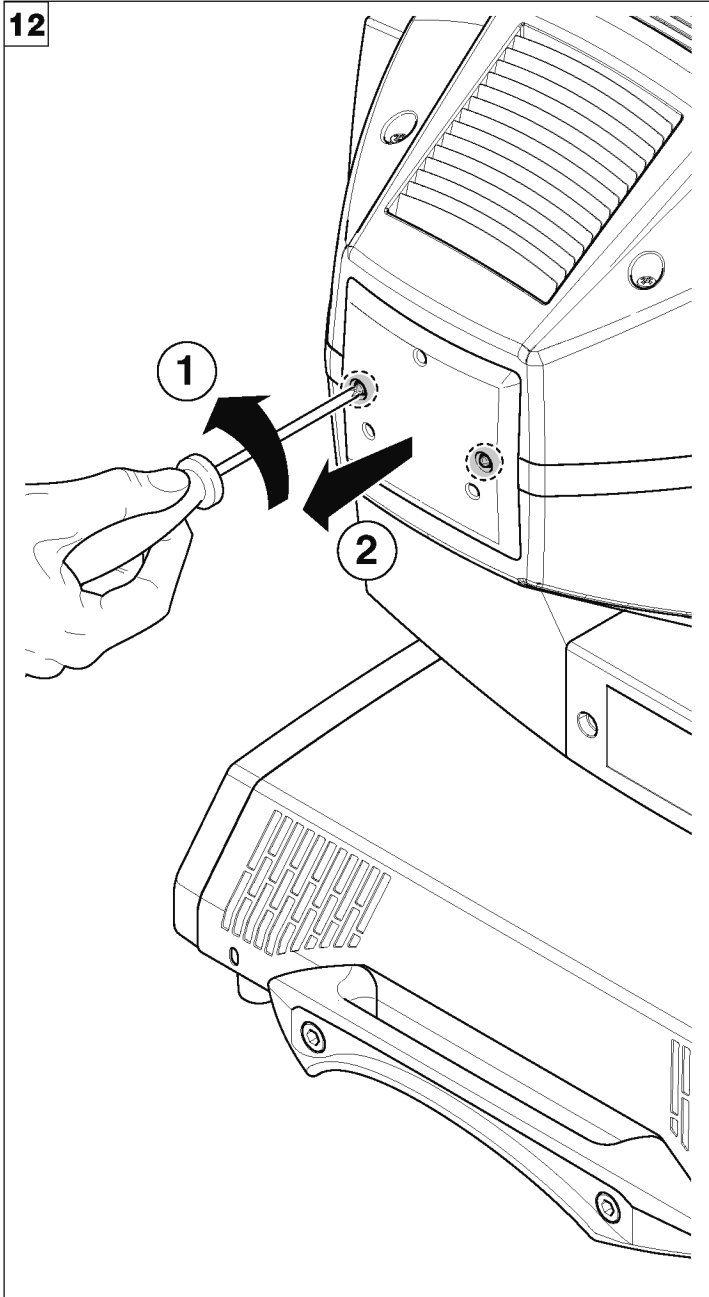
11



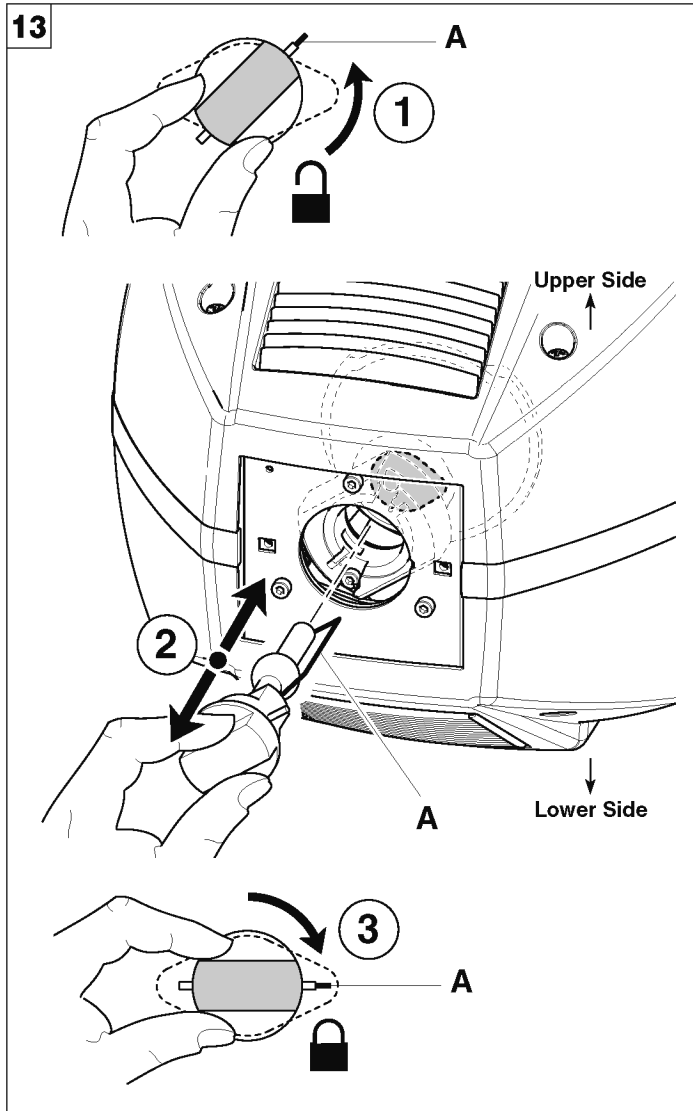
**Locking and releasing Pan and Tilt movements** - Refer to the instructions in the UNPACKING AND PREPARATION section.

**Opening the head covers** - Fig. 10

**Closing the head covers** - Fig. 11



Opening and closing lamp compartment - Fig. 12

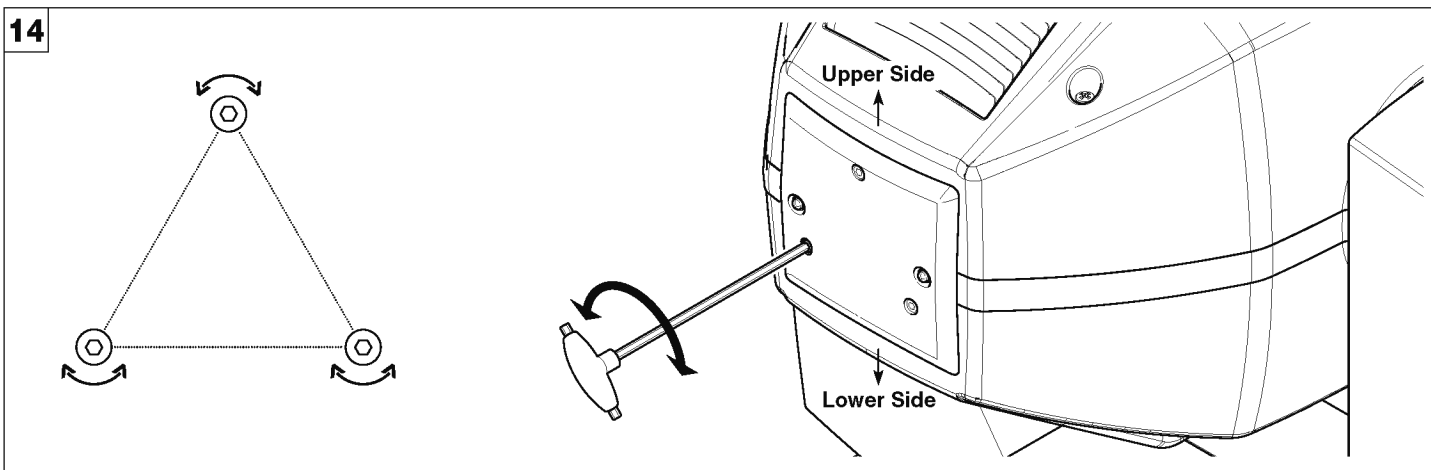


Lamp change - Fig 13

Take the new lamp out of its package and insert in the fitting.

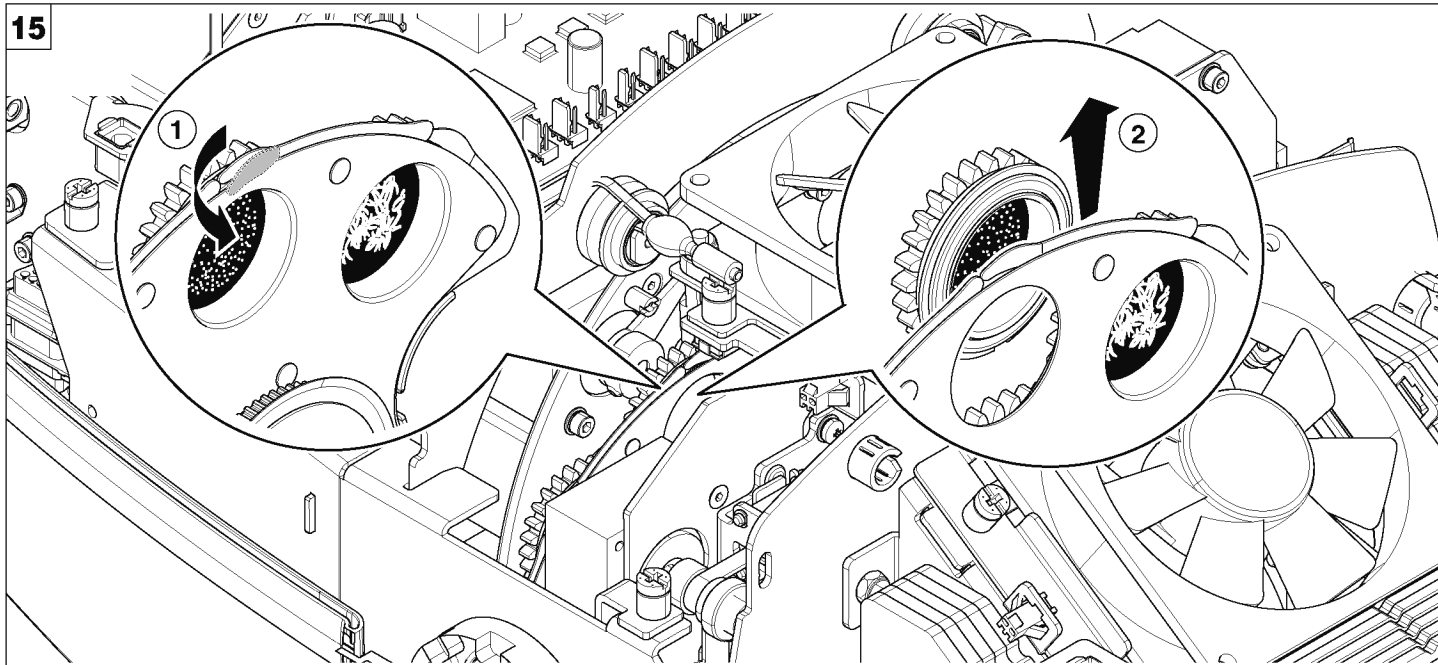
**WARNING:** do not touch the lamp's envelope with bare hands. Should this happen, clean the bulb with a cloth soaked in alcohol and dry it with a clean, dry cloth.

**IMPORTANT:** Make sure the lamp is inserted with the external contact (A) facing the elliptical reflector's slot.

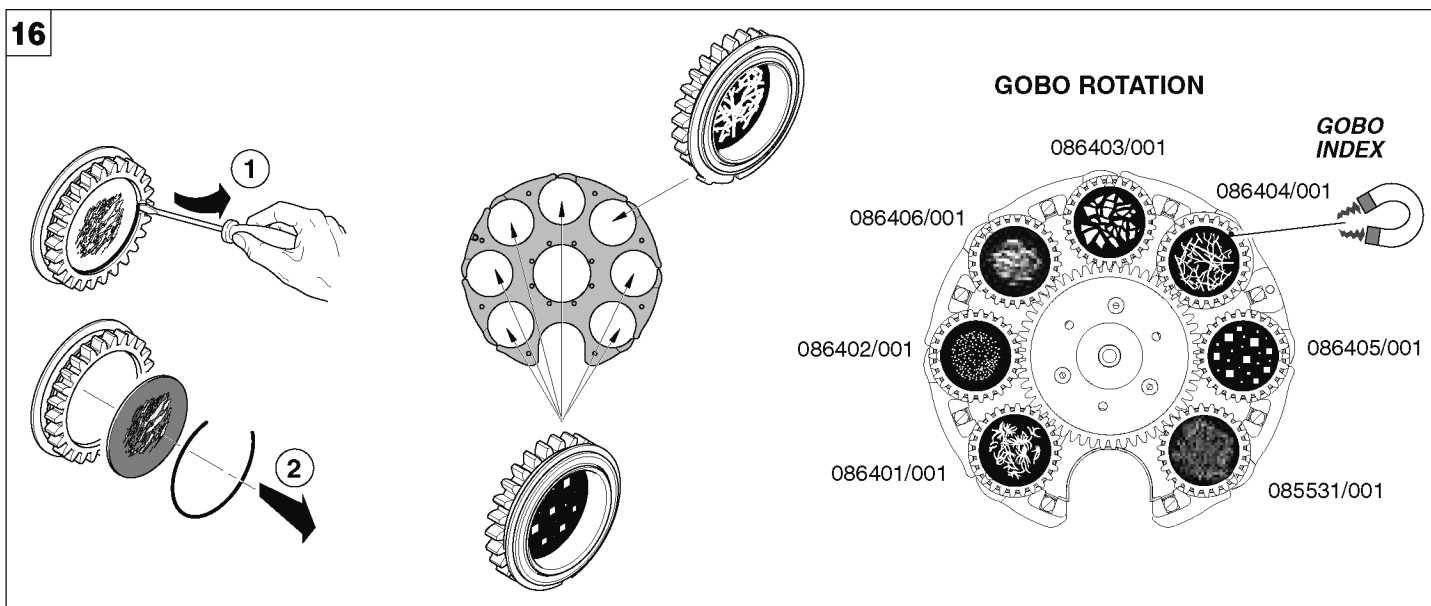


Lamp regulation - Fig. 14

To centre the lamp, turn the three adjusting screws as shown in the figure.

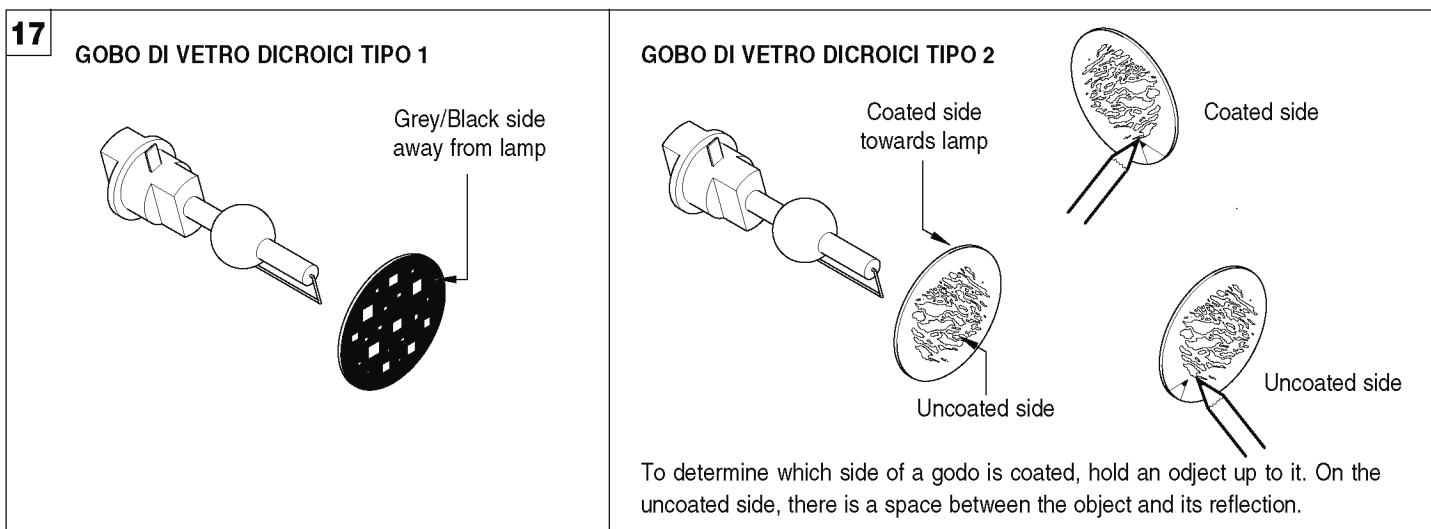


Bearing group replacement - Fig. 15



Replacing rotating gobos (ø 25.7 mm - max 19 mm image – thickness 1.1 mm) - Fig. 16

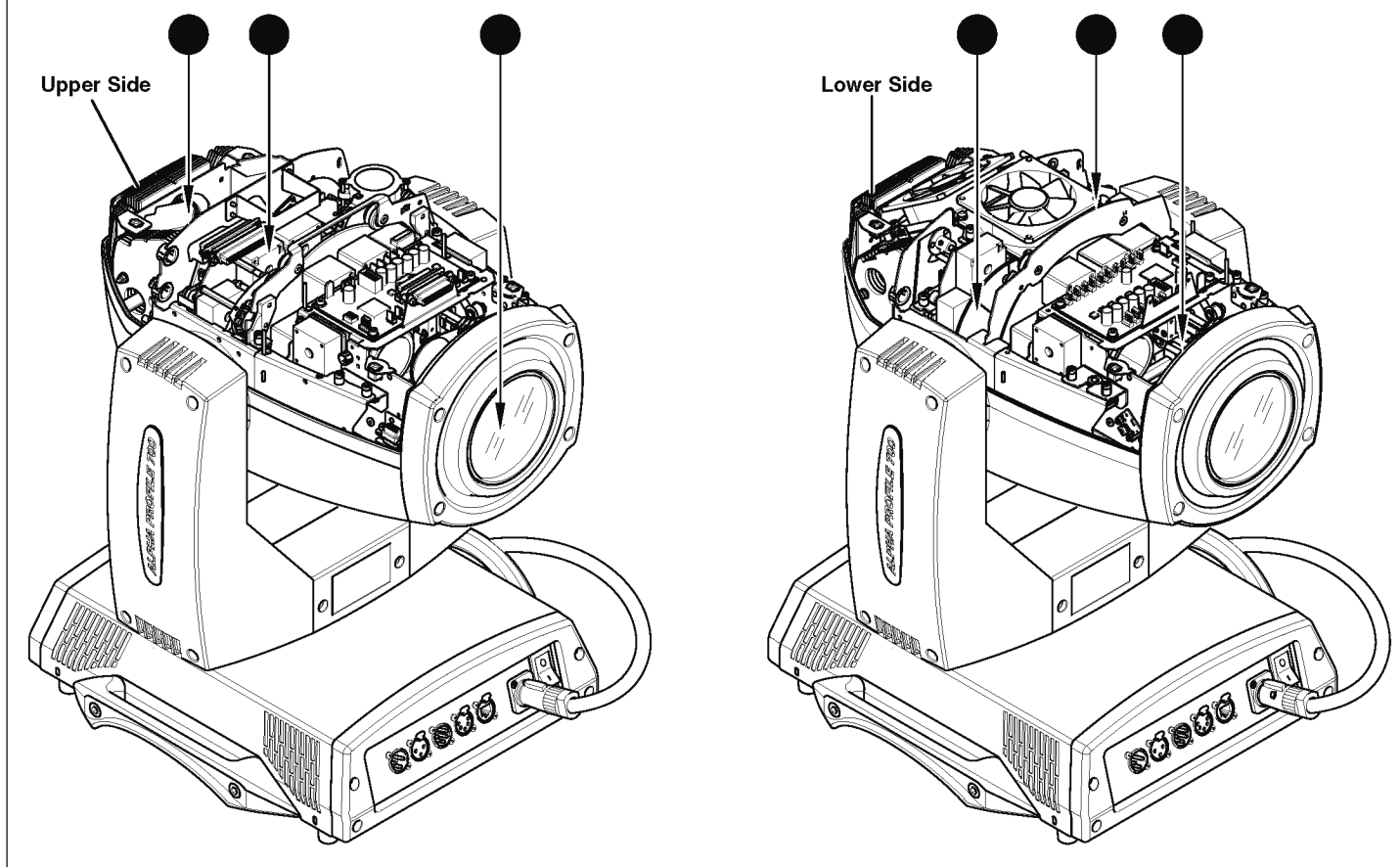
**IMPORTANT:** Please contact CLAY PAKY before using customized gobos.



Gobo orientation - Fig. 17

The pictures shown the correct gobos orientation.



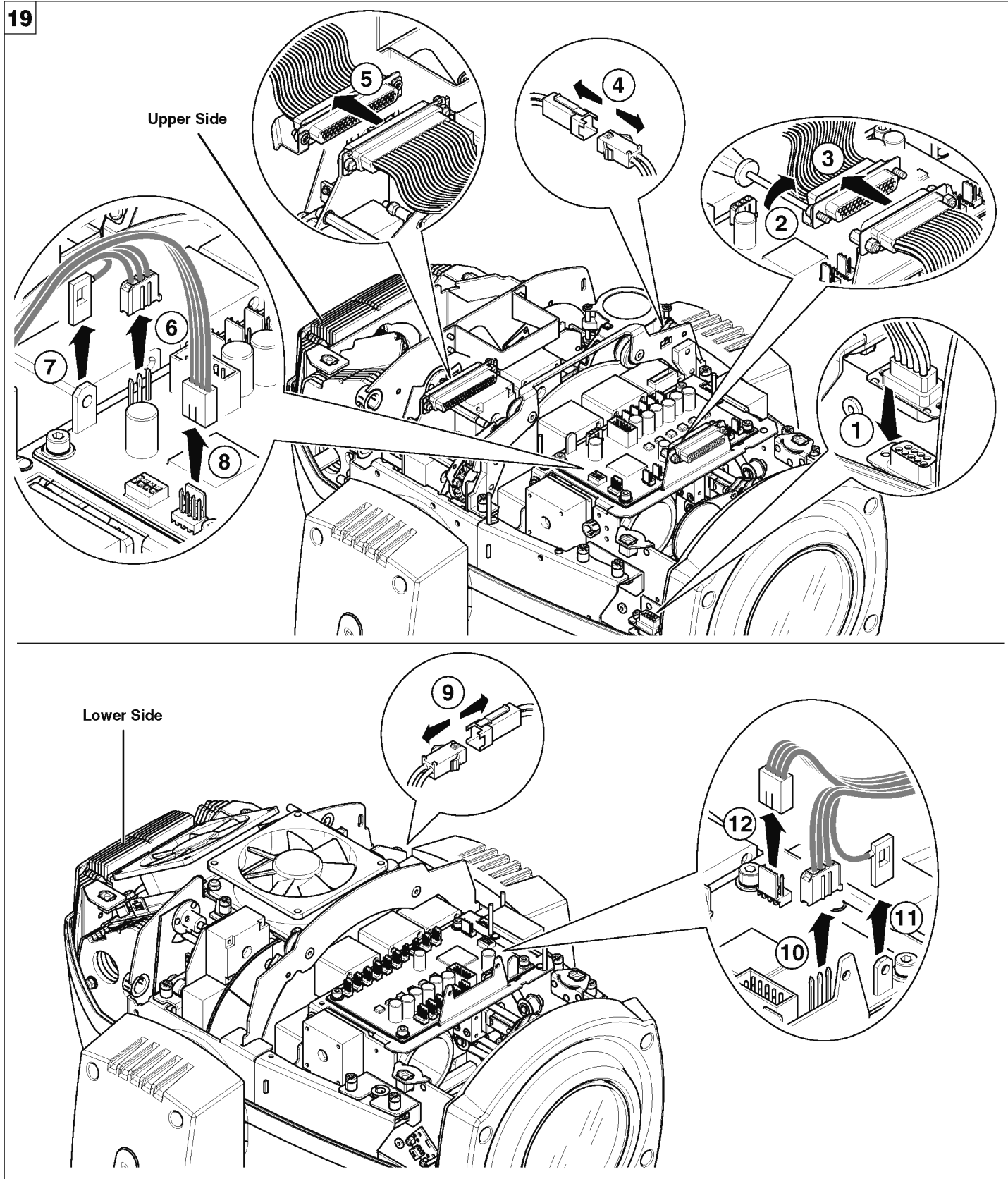


**Periodical cleaning** - Fig. 18

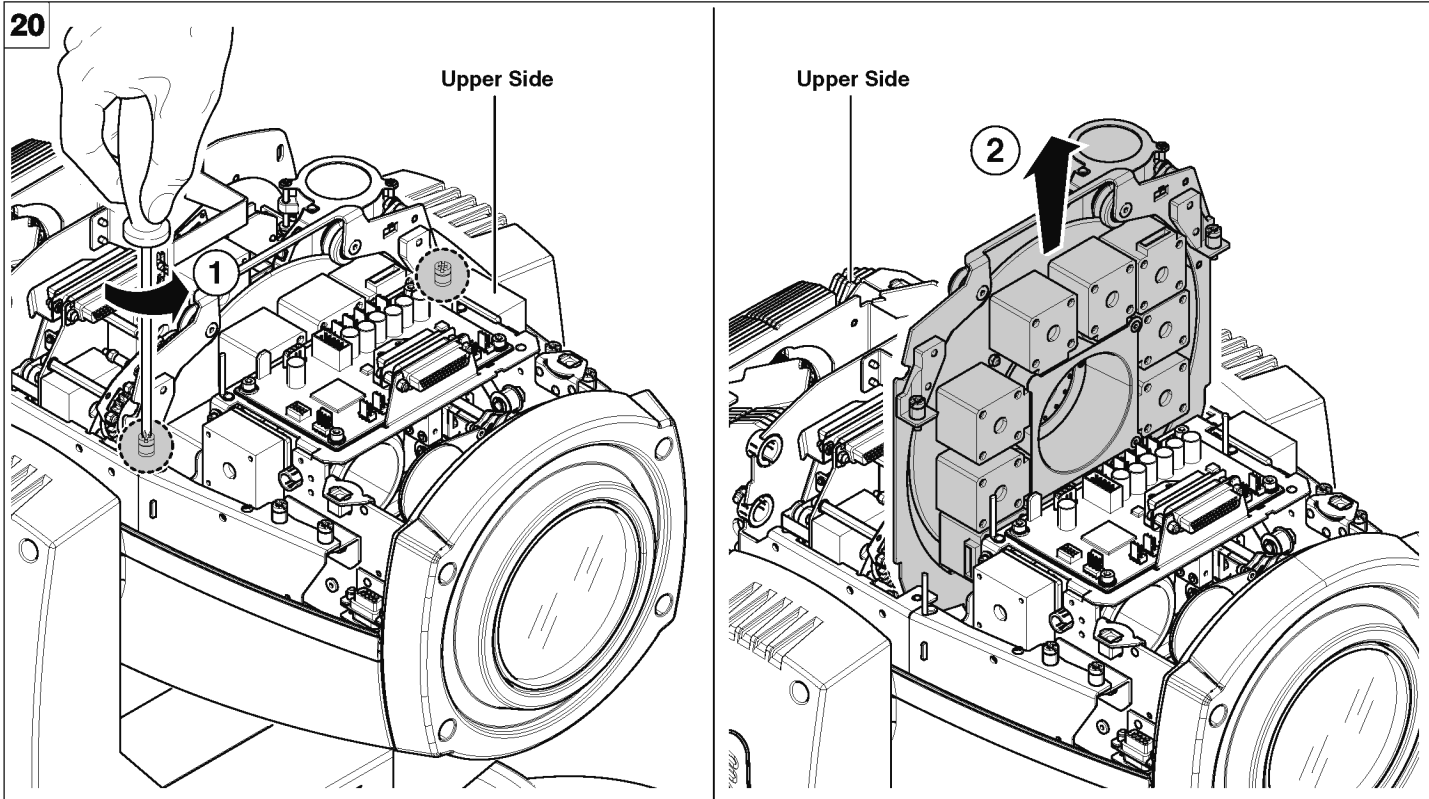
To ensure optimal operation and performance for a long time it is essential to periodically clean the parts subject to dust and grease deposits. The frequency with which the following operations are to be carried out depends on various factors, such as the amount of the effects and the quality of the working environment (air humidity, presence of dust, salinity, etc.).

Use a soft cloth dampened with any detergent liquid for cleaning glass to remove the dirt from the reflectors, from the lenses and filters. It is recommended that the projector undergoes an annual service by a qualified technician for special maintenance involving at least the following operations:

- General cleaning of internal parts.
- Restoring lubrication of all parts subject to friction, using lubricants specifically supplied by Clay Paky.
- General visual check of the internal components, cabling, mechanical parts, etc.
- Electrical, photometric and functional checks; eventual repairs.



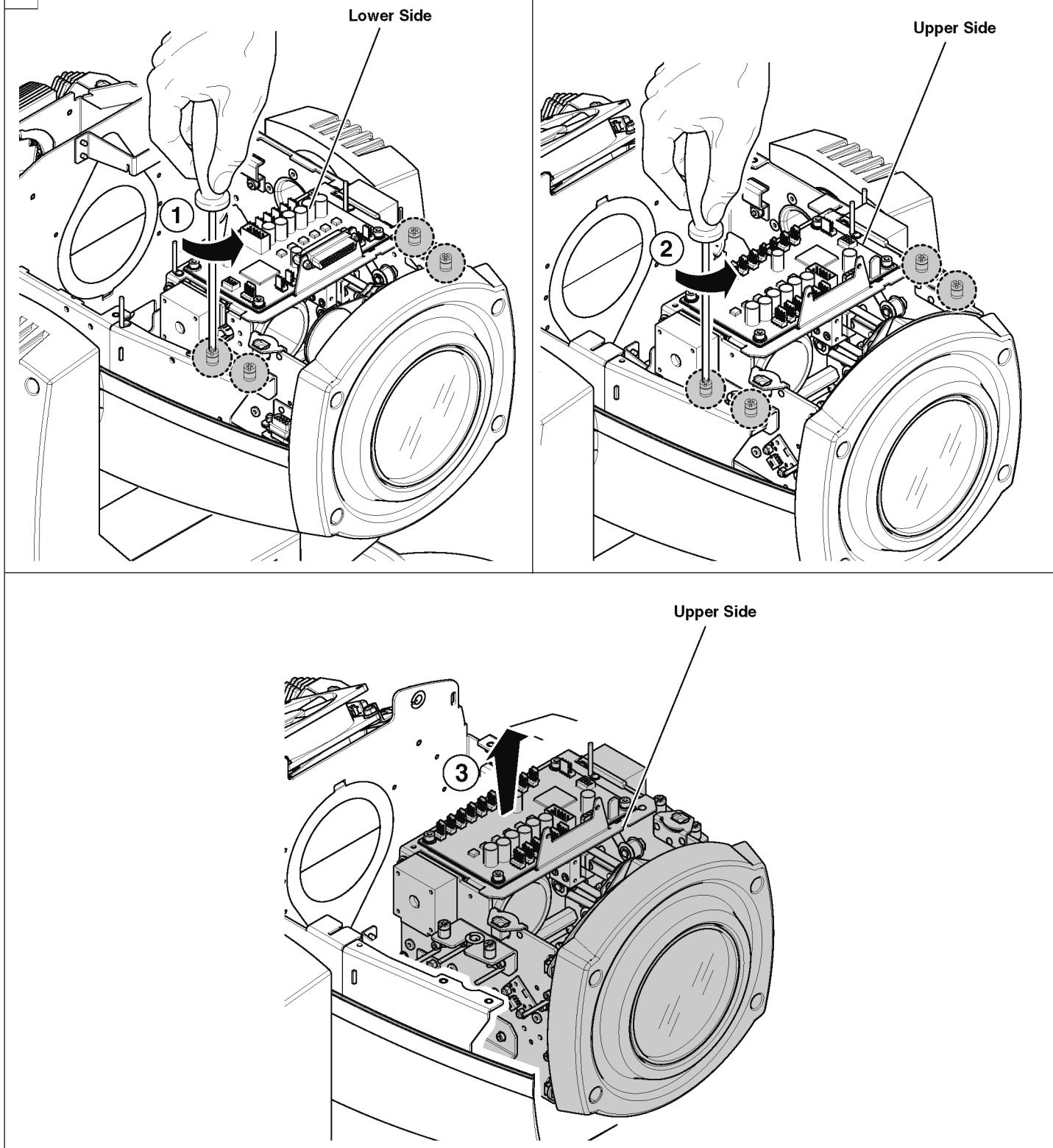
Extraction of the effect modules: Preliminary operations - Fig. 19



Extraction of the effect modules - Fig. 20

**IMPORTANT:** Grasp the modules using the support structure and not the details which could get damaged.

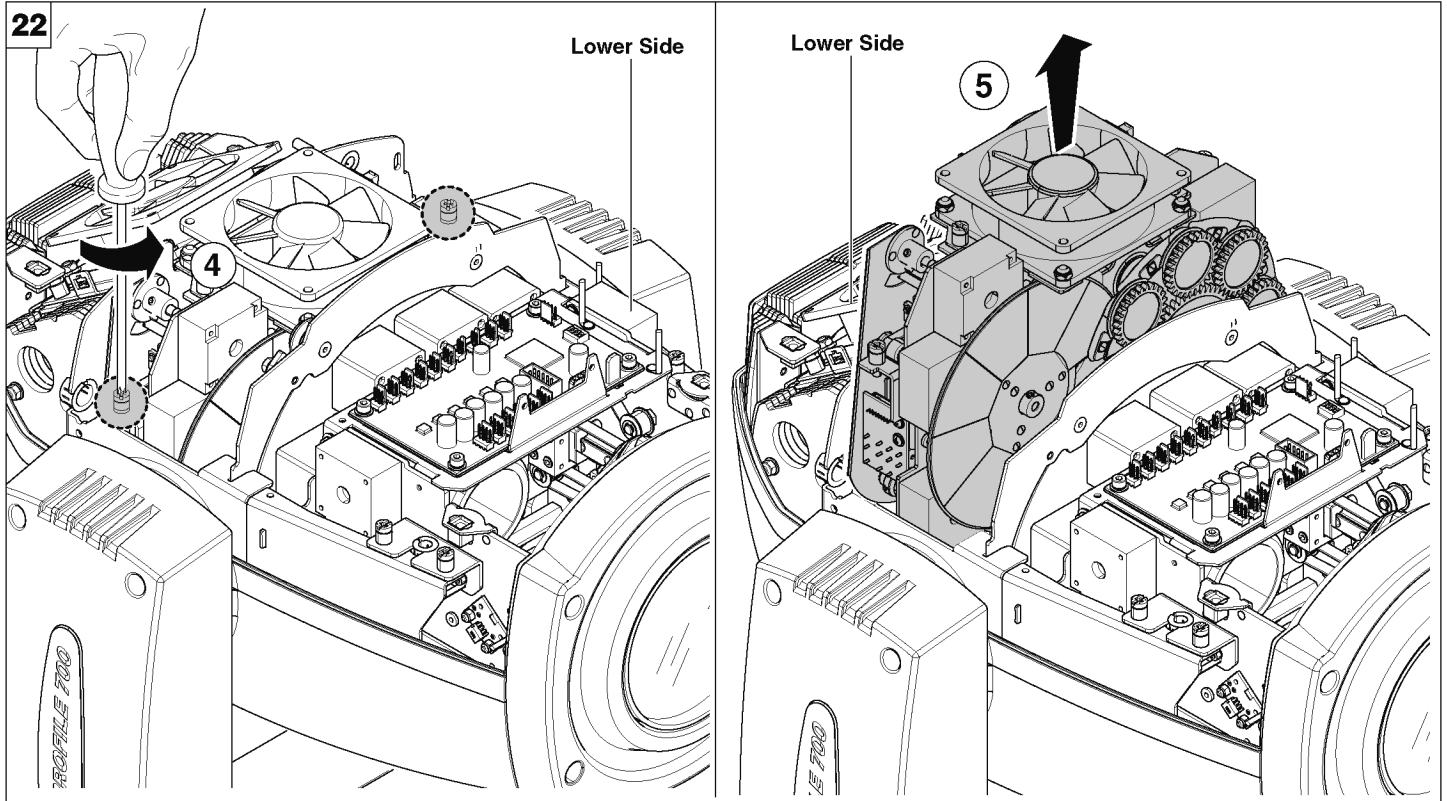
**Insertion of the effect modules:** Repeat the operations indicated in Fig. 20, 21 and 22 in reverse order.



Extraction of the effect modules - Fig. 21

**IMPORTANT:** Grasp the modules using the support structure and not the details which could get damaged.

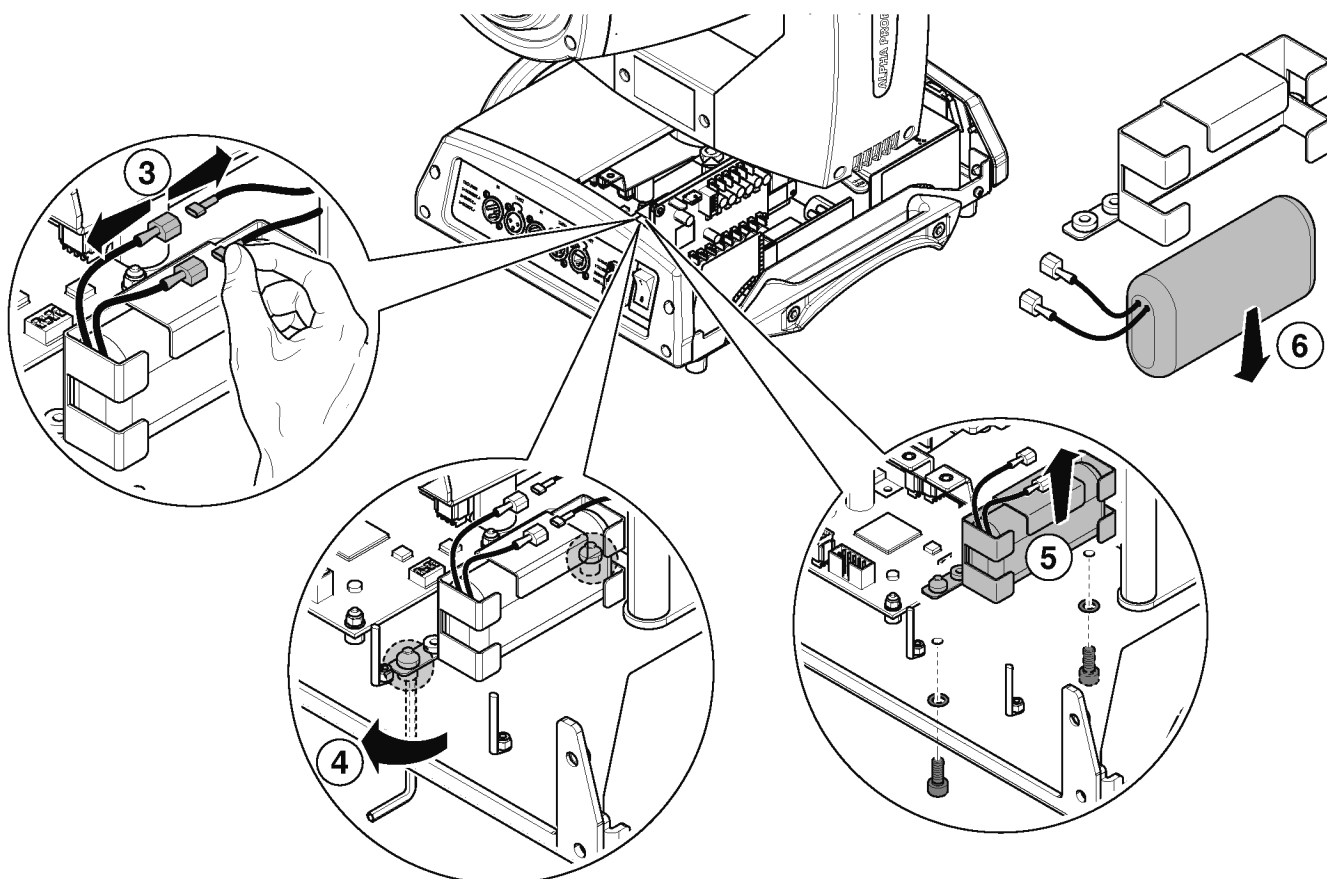
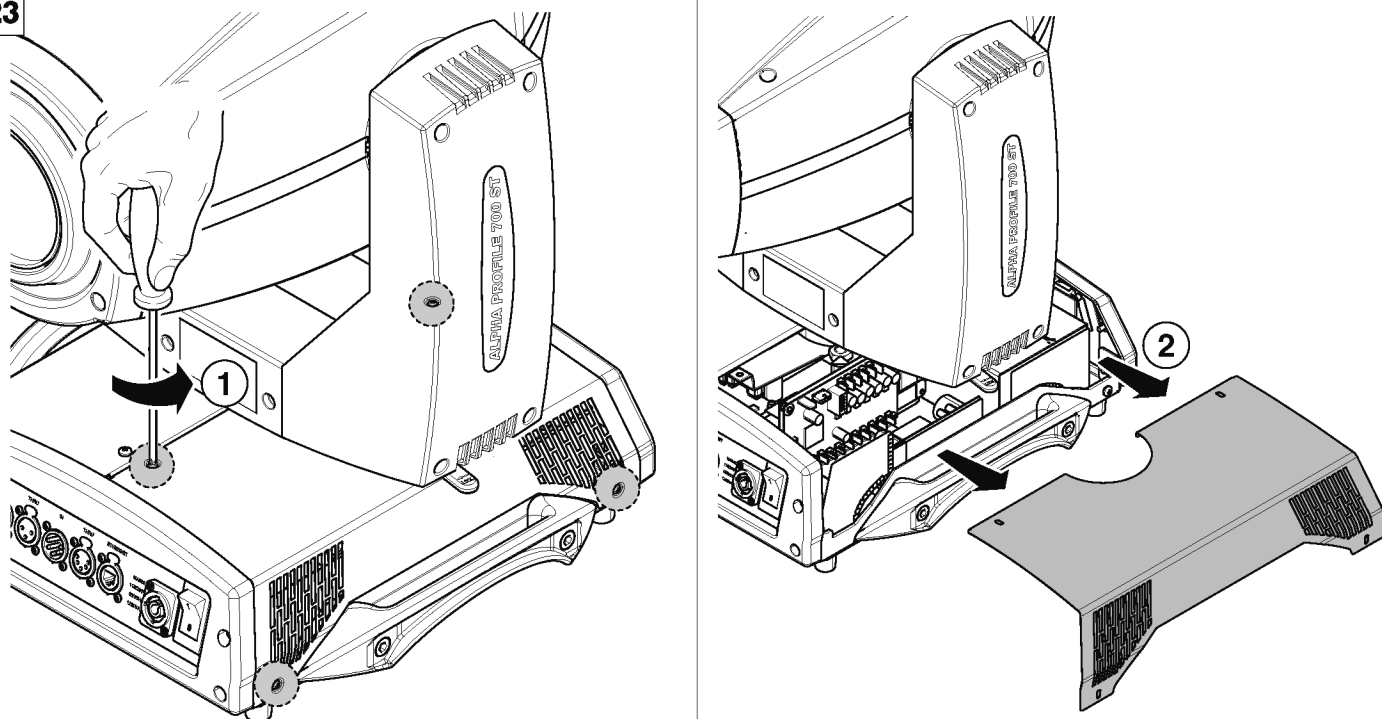
**Insertion of the effect modules:** Repeat the operations indicated in Fig. 20, 21 and 22 in reverse order.



Extraction of the effect modules - Fig. 22

**IMPORTANT:** Grasp the modules using the support structure and not the details which could get damaged.

**Insertion of the effect modules:** Repeat the operations indicated in Fig. 20, 21 and 22 in reverse order.

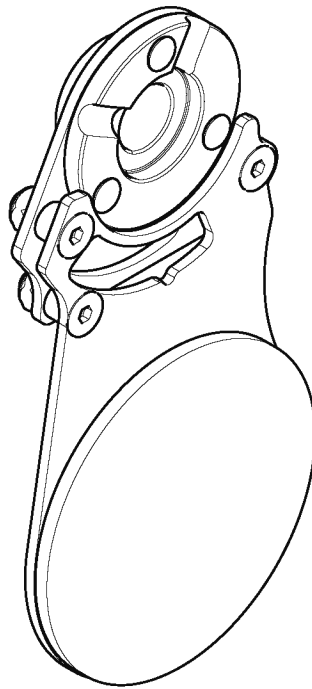


#### Battery removal - Fig. 23



This product contains a rechargeable lead-acid or lithium iron tetraphosphate battery. To preserve the environment, please dispose the battery at the end of its life according to the regulation in force.

C61188 - HEAVY FROST FILTER KIT



## TECHNICAL INFORMATION

### Power supplies available:

100-120V 50/60Hz

200-240V 50/60Hz

### Input power:

1050VA a 230V 50Hz.

### Lamp:

Discharge lamp.

- Type MSR Gold 700/2 Mini Fast Fit (L10098)

- Cap PGJX28
- Colour temperature 7200 K
- Luminous flux 50000 lm
- Average life 750 h
- Any working position

- Type MSR Gold 700/1 Mini Fast Fit (LAM003) "ST"

- Cap PGJX28
- Colour temperature 5600 K
- Luminous flux 54000 lm
- Average life 750 h
- Any working position

### Motors:

28 stepper motors, operating with microsteps, totally microprocessor controlled.

### Optical unit:

Elliptic reflector with high luminous efficiency

### Channels:

Max 41 control channels.

### Inputs:

DMX 512

### Movable body:

- Movement by means of two stepper motors, controlled by microprocessor.
- Automatic repositioning of PAN and TILT after accidental movement not controlled by control unit.
- Travel:
  - PAN = 540°
  - TILT = 240°
- Maximum speeds:
  - PAN = 4.78 sec
  - TILT = 2.33 sec
- Resolution:
  - PAN = 2.11°
  - PAN FINE = 0.008°
  - TILT = 0.98°
  - TILT FINE = 0.004°

### IP20 protection rating:

- Protected against the entry of solid bodies larger than 12mm (0.47").
- No protection against the entry of liquids.

### CE Marking

Complies with the following European Directives

- 2006/95/EC (LVD)
- 2004/108/EC (EMC)
- 2011/65/EU (RoHS).

### Safety Devices:

- Bipolar circuit breaker with thermal protection.
- Automatic break in power supply in case of overheating or failed operation of cooling system.

### Cooling:

Forced ventilation with axial fans.

### Body:

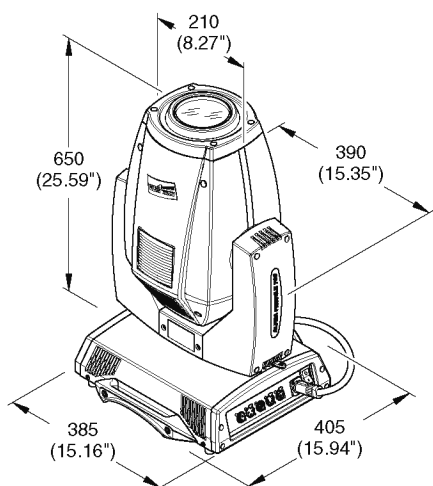
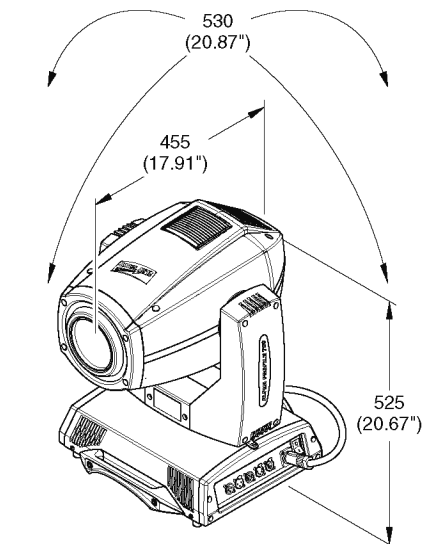
- Aluminium structure with die-cast plastic cover.
- Two side handles for transportation.
- Device locking PAN and TILT mechanisms for transportation and maintenance.

### Working position

Functioning in any position.

### Weights:

31,50 Kg.



## CAUSE AND SOLUTION OF PROBLEMS

THE PROJECTOR WILL NOT SWITCH ON				PROBLEMS
ELECTRONICS NON-OPERATIONAL				
DEFECTIVE PROJECTION				
REDUCED LUMINOSITY				
POSSIBLE CAUSES				CHECKS AND REMEDIES
●			No mains supply.	Check the power supply voltage.
●		●	Lamp exhausted or defective.	Replace the lamp. (See instructions).
	●		Signal transmission cable faulty or disconnected.	Replace the cables.
	●		Incorrect addressing.	Check addresses (see instructions).
	●		Fault in the electronic circuits.	Call an authorised technician.
		●	Lenses or reflector broken	Call an authorised technician.
		● ●	Dust or grease deposited.	Clean (see instructions).



## CHANNEL FUNCTION

### ALPHA PROFILE 700 & "ST"

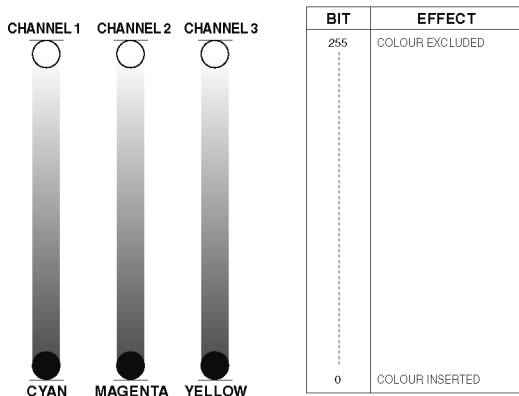
NB: To prevent accidental breakage of the effects, which could collide with each other during transport, before switching the projector OFF check that all the projector Channels have been excluded (DMX level = 0%).

CHANNEL	CHANNEL MODE	
	STANDARD	VECTOR
1	CYAN	CYAN
2	MAGENTA	MAGENTA
3	YELLOW	YELLOW
4	C.T.O	C.T.O
5	COLOUR WHEEL	COLOUR WHEEL
6	MACRO COLOURS	MACRO COLOURS
7	STOP/STROBE	STOP/STROBE
8	DIMMER	DIMMER
9	DIMMER FINE	DIMMER FINE
10	IRIS	IRIS
11	ROTATING GOBO CHANGE	ROTATING GOBO CHANGE
12	GOBO ROTATION	GOBO ROTATION
13	GOBO FINE	GOBO FINE
14	PRISM	PRISM
15	FROST	FROST
16	BLADE UP1	BLADE UP1
17	BLADE UP2	BLADE UP2
18	BLADE DW1	BLADE DW1
19	BLADE DW2	BLADE DW2
20	BLADE RG1	BLADE RG1
21	BLADE RG2	BLADE RG2
22	BLADE LF1	BLADE LF1
23	BLADE LF2	BLADE LF2
24	FRAMING ROTATION	FRAMING ROTATION
25	FOCUS	FOCUS
26	FOCUS FINE	FOCUS FINE
27	ZOOM	ZOOM
28	AUTOFOCUS DISTANCE	AUTOFOCUS DISTANCE
29	AUTOFOCUS ADJUSTMENT	AUTOFOCUS ADJUSTMENT
30	MACRO EFFECTS	MACRO EFFECTS
31	PAN	PAN
32	PAN FINE	PAN FINE
33	TILT	TILT
34	TILT FINE	TILT FINE
35	FUNCTION	FUNCTION
36	RESET	RESET
37	LAMP CONTROL (with Option "Lamp DMX" ON)	LAMP CONTROL (with Option "Lamp DMX" ON)
38		PAN-TILT TIME
39		COLOUR TIME
40		BEAM TIME
41		GOBO TIME

NOTE: On conclusion of resetting in case of absence of DMX signal, Pan & Tilt move to the "Home" position (Pan 50% - Tilt 50%) all the others channels stay at 0%.

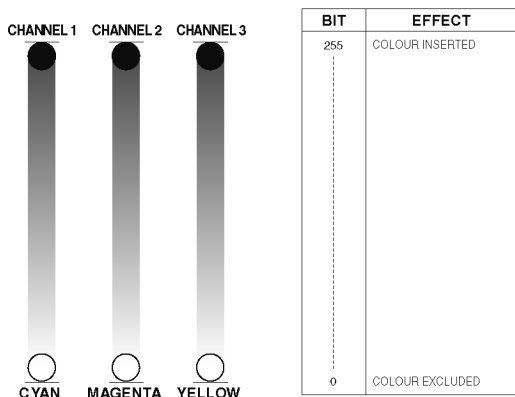
#### • COLOUR MIXING - channel 1 - 2 - 3

Operation with option color mixing: RGB



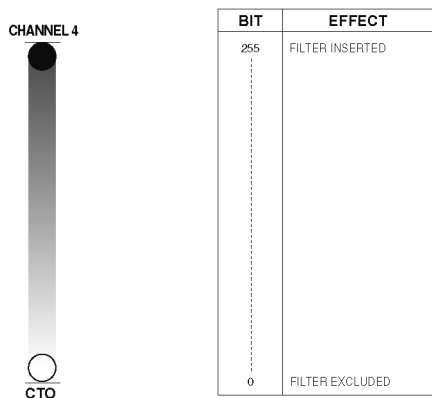
**IMPORTANT:** The lamp dim to half power 1 second after all the 3 channels stay at 0% level. The lamp goes back to full power when the channels level is put higher than 0%.

Operation with option color mixing: CMY

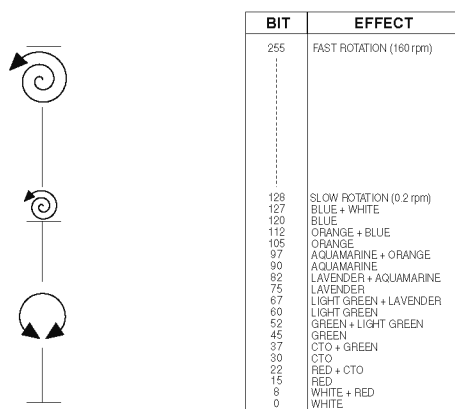


**IMPORTANT:** The lamp dim to half power 1 second after all the 3 channels stay at 100% level. The lamp goes back to full power when the channels level is put lower than 100%.

#### • C.T.O. - channel 4



#### • COLOUR WHEEL - channel 5



#### • MACRO COLOURS - channel 6

COLOR NAME	BIT	ROSCO CODE	LEE CODE	CYAN BIT	MAGENTA BIT	YELLOW BIT	CTO BIT	WHEEL BIT
Unused Range	148-255	-	-	-	-	-	-	-
Half CT straw	146-147	442	442	0	0	34	190	0
Lighter blue	144-145	353	353	226	0	149	138	0
Glacier blue	142-143	352	352	220	0	129	138	0
Fuschia pink	140-141	345	345	109	186	77	120	0
Mallard green	138-139	325	325	255	0	0	236	58
Jade	136-137	323	323	127	0	162	0	77
3/4 CT Orange	134-135	285	285	0	36	61	217	0
3/4 CTB	132-133	281	281	85	79	87	54	0
Half minus green	130-131	248	248	60	19	86	75	39
Minus green	128-129	247	247	60	71	86	75	39
1/4 CTO	126-127	206	206	62	71	123	122	0
1/2 CTO	124-125	205	205	25	26	45	131	0
Full CT Orange	122-123	204	204	0	44	58	234	0
1/4 CTB	120-121	203	203	75	54	91	109	0
1/2 CTB	118-119	202	202	85	71	84	89	0
Full CTB	116-117	201	201	94	79	80	0	0
Alice Blue	114-115	197	197	236	51	0	205	0
Congo Blue	112-113	181	181	251	241	0	255	0
Dark Lavender	110-111	180	180	195	170	0	160	0
Chrome Orange	108-109	179	179	0	98	255	255	0
Lagoon blue	106-107	172	172	224	0	121	40	79
Deep Lavender	104-105	170	170	100	129	77	120	0
Lilac tint	102-103	169	169	41	59	39	120	0
Daylight Blue	100-101	165	165	210	73	105	88	0
Flame red	98-99	164	164	0	255	227	255	97
Bastard amber	96-97	162	162	0	26	0	199	0
Deep Orange	94-95	158	158	0	148	255	255	0
Pink	92-93	157	157	0	159	0	255	0
Pale rose	90-91	154	154	0	48	0	189	0
Pale Gold	88-89	152	152	0	60	98	138	0
Bright rose	86-87	148	148	0	255	0	255	0
Apricot	84-85	147	147	0	81	55	255	0
Bright Blue	82-83	141	141	182	0	99	92	77
Primary green	80-81	139	139	0	0	0	231	58
Light green	78-79	121	121	0	0	255	0	77
Pale green	76-77	138	138	105	0	179	100	0
Special Lavender	74-75	137	137	97	105	72	90	0
Pale Lavender	72-73	136	136	73	102	44	120	0
Deep golden amber	70-71	135	135	0	255	255	255	0
Golden amber	68-69	134	134	0	142	234	110	0
Medium blue	66-67	132	132	255	152	127	0	77
Marine blue	64-65	131	131	60	0	106	73	77
Bright pink	62-63	128	128	0	255	0	197	0
Mauve	60-61	126	126	0	255	0	255	74
Fern Green	58-59	122	122	173	0	235	89	0
Leaf green	56-57	121	121	136	0	241	64	0
Deep Blue	54-55	120	120	255	229	58	128	77
Dark blue	52-53	119	119	255	161	0	0	77
Light blue	50-51	118	118	245	0	145	138	0
Steel blue	48-49	117	117	167	0	141	165	0
Medium blue green	46-47	116	116	189	0	157	91	77
Peacock blue	44-45	115	115	136	0	128	91	77
Dark pink	42-43	111	111	0	139	0	220	0
Light Salmon	40-41	109	109	50	121	58	230	0
English rose	38-39	108	108	0	62	0	247	0
Light rose	36-37	107	107	0	95	0	220	0
Primary red	34-35	106	182	0	0	0	0	20
Orange	32-33	105	105	0	182	255	76	0
Deep amber	30-31	104	104	0	26	199	223	0
Straw	28-29	103	103	58	17	104	176	0
Light amber	26-27	102	102	0	0	171	193	0
Yellow	24-25	101	101	0	0	255	149	0
Spring yellow	22-23	100	100	80	0	227	157	0
Dark Yellow Green	20-21	90	90	255	0	255	204	0
Lime green	18-19	88	88	118	0	241	124	0
Just Blue	16-17	79	79	255	77	0	204	0
Tokyo Blue	14-15	71	71	255	255	0	180	77
Sky blue	12-13	068	068	245	77	64	173	0
Pale blue	10-11	063	063	122	0	112	127	0
Lavender	8-9	058	058	165	186	77	0	0
Bright Red	6-7	026	026	0	255	0	255	21
Med Yellow	4-5	010	010	48	0	239	115	0
Med bastard amber	2-3	004	004	0	62	78	159	0
Random Macro Color (only for Macro effects)	1	-	-	-	-	-	-	-
Unused Range	0	-	-	-	-	-	-	-

• STOP / STROBE - channel 7



BIT	EFFECT
252 - 255	OPEN
239 - 251	RANDOM FAST STROBE
226 - 238	RANDOM MEDIUM STROBE
213 - 225	RANDOM SLOW STROBE
208 - 212	OPEN
207	FAST PULSATION
108	SLOW PULSATION
104 - 107	OPEN
103	FAST STROBE (12 flash/sec)
4	SLOW STROBE (1 flash/sec)
0 - 3	CLOSED

**IMPORTANT:** The lamp dim to half power 1 second after the channel stay at 0% level. The lamp goes back to full power when the channel level is put higher than 0%.

• DIMMER - channel 8



BIT	EFFECT
255	DIMMER OPEN
0	DIMMER CLOSED

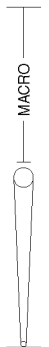
The lamp is linearly dimmed from full power to half power electronically and mechanically from half power to off.

• DIMMER FINE - channel 9



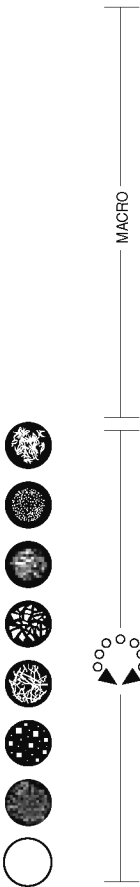
BIT	EFFECT
255	
0	

• IRIS - channel 10



BIT	EFFECT
252 - 255	MAXIMUM APERTURE
251	FAST PULSATION, FAST CLOSING
212	SLOW PULSATION, FAST CLOSING
211	FAST PULSATION, FAST OPENING
172	SLOW PULSATION, FAST OPENING
171	FAST PULSATION
132	SLOW PULSATION
128 - 131	MAXIMUM APERTURE
0	MINIMUM APERTURE

• ROTATING GOBO CHANGE - channel 11



BIT	EFFECT
255	GOBO 7 SHAKE, FAST SPEED
238	GOBO 7 SHAKE, SLOW SPEED
237	GOBO 6 SHAKE, FAST SPEED
220	GOBO 6 SHAKE, SLOW SPEED
219	GOBO 5 SHAKE, FAST SPEED
202	GOBO 5 SHAKE, SLOW SPEED
201	GOBO 4 SHAKE, FAST SPEED
184	GOBO 4 SHAKE, SLOW SPEED
183	GOBO 3 SHAKE, FAST SPEED
166	GOBO 3 SHAKE, SLOW SPEED
165	GOBO 2 SHAKE, FAST SPEED
148	GOBO 2 SHAKE, SLOW SPEED
147	GOBO 1 SHAKE, FAST SPEED
130	GOBO 1 SHAKE, SLOW SPEED
114-129	GOBO 7
98-113	GOBO 6
82-97	GOBO 5
65-81	GOBO 4
49-64	GOBO 3
33-48	GOBO 2
17-32	GOBO 1
0-16	WHITE

• GOBO ROTATION - channel 12



BIT	EFFECT
255	FAST ROTATION (180 rpm)
193	SLOW ROTATION (2,2 rph)
191 - 192	STOP
190	SLOW ROTATION (2,2 rph)
128	FAST ROTATION (180 rpm)
127	540° POSITION
105	450° POSITION
84	360° POSITION
63	270° POSITION
42	180° POSITION
21	90° POSITION
0	0° POSITION

• GOBO FINE - channel 13



BIT
255
127
0

• PRISM - channel 14

BIT	EFFECT
255	PRISM INSERTED
128	
127	
0	PRISM EXCLUDED

• FROST - channel 15



BIT	EFFECT
255	FROST INSERTED
128	
127	
0	FROST EXCLUDED

• BLADE UP 1 - channel: 16



BIT	EFFECT
255	BLADE IN
128	
127	
0	BLADE OUT

• BLADE UP 2 - channel: 17



BIT	EFFECT
255	BLADE IN
128	
127	
0	BLADE OUT

• BLADE DW 1 - channel: 18



BIT	EFFECT
255	BLADE IN
128	
127	
0	BLADE OUT

• BLADE DW 2 - channel: 19



BIT	EFFECT
255	BLADE IN
128	
127	
0	BLADE OUT

• BLADE RG 1 - channel: 20



BIT	EFFECT
255	BLADE IN
128	
127	
0	BLADE OUT

• BLADE RG 2 - channel: 21



BIT	EFFECT
255	BLADE IN
128	
127	
0	BLADE OUT

• BLADE LF 1 - channel: 22



BITS	EFFECT
255	BLADE IN
127	
0	BLADE OUT

• BLADE LF 2 - channel: 23



BITS	EFFECT
255	BLADE IN
127	
0	BLADE OUT

**Important:**  
The lamp automatically dim to half power in any condition in which the blades completely shut the light beam.

• FRAMING ROTATION - channel: 24



BITS
255
127
0

• FOCUS - channel 25



BITS	EFFECT
255	NEAR
0	DISTANT

• FOCUS FINE - channel 26



BITS	EFFECT
255	NEAR
0	DISTANT

• ZOOM - channel: 27



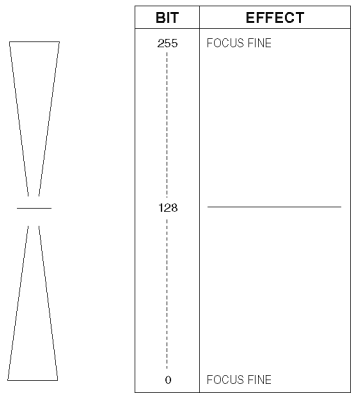
BITS	EFFECT
255	NARROW BEAM
0	WIDE BEAM

• AUTOFOCUS DISTANCE - channel 28

**AUTOFOCUS priority:**  
1 - Blades  
2 - Rotating Gobo  
3 - Iris

BITS	EFFECT
255	100 METRES
26	10 METRES
23	9 METRES
20	8 METRES
18	7 METRES
15	6 METRES
13	5 METRES
10	4 METRES
7	3 METRES
0-6	AUTOFOCUS OFF

• AUTOFOCUS ADJUSTMENT - channel 29

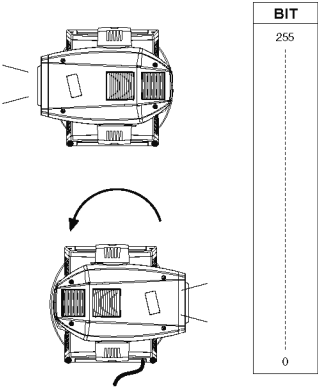


• MACRO EFFECTS - channel 30

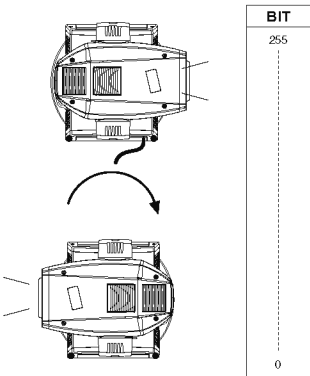
BIT	EFFECT
232-255	STAND BY BLACK
220-231	RANDOM MACRO 8
208-219	RANDOM MACRO 7
196-207	RANDOM MACRO 6
184-195	RANDOM MACRO 5
172-183	RANDOM MACRO 4
160-171	RANDOM MACRO 3
148-159	RANDOM MACRO 2
136-147	RANDOM MACRO 1
112-135	STAND BY BLACK
100-111	MACRO 8
88-99	MACRO 7
76-87	MACRO 6
64-75	MACRO 5
52-63	MACRO 4
40-51	MACRO 3
28-39	MACRO 2
16-27	MACRO 1
12-15	STAND BY BLACK
8-11	STAND BY
0-7	MACRO OFF

• PAN - channel 31

Operation with option InvertPan  $\diamond$  Off  
(Tilt conventionally represented at 14% and option Invert Tilt  $\diamond$  Off)

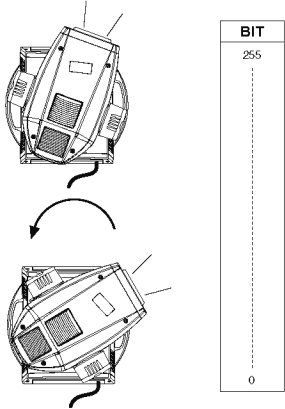


Operation with option InvertPan  $\diamond$  On  
(Tilt conventionally represented at 14% and option Invert Tilt  $\diamond$  Off)

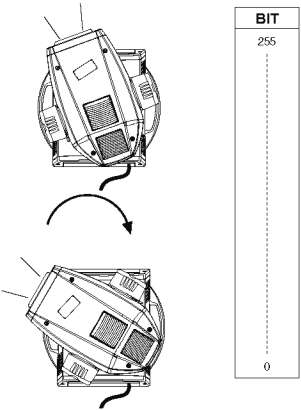


• PAN FINE - channel 32

Operation with option InvertPan  $\diamond$  Off  
(Tilt conventionally represented at 14% and option Invert Tilt  $\diamond$  Off)

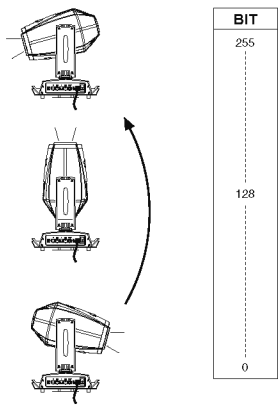


Operation with option InvertPan  $\diamond$  On  
(Tilt conventionally represented at 14% and option Invert Tilt  $\diamond$  Off)

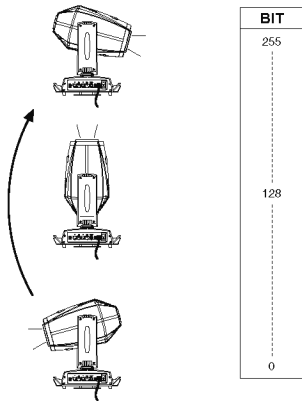


• TILT - channel 33

Operation with option Invert Tilt ◊ Off  
(Pan conventionally represented at 0% and option Invert Pan ◊ Off)

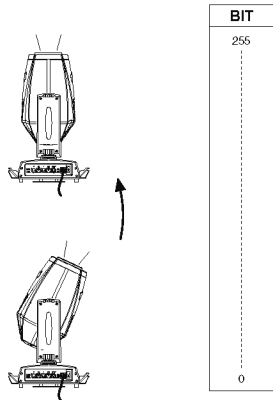


Operation with option Invert Tilt ◊ On  
(Pan conventionally represented at 0% and option Invert Pan ◊ Off)

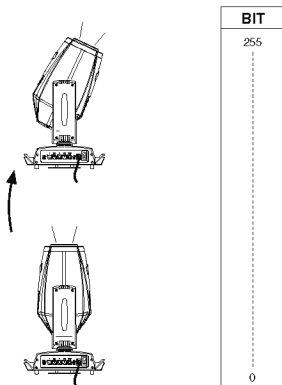


• TILT FINE - channel 34

Operation with option Invert Tilt ◊ Off  
(Pan conventionally represented at 0% and option Invert Pan ◊ Off)



Operation with option Invert Tilt ◊ On  
(Pan conventionally represented at 0% and option Invert Pan ◊ Off)



• FUNCTION - channel: 35

BIT	EFFECT
255	UNUSED RANGE
63	
51-62	
38-50	LINEAR (Default) DIMMER CURVE FUNCTION
0-37	CONVENTIONAL
0-37	UNUSED RANGE

The functions are activated passing through unused range and staying 5 seconds in necessary level.

• RESET - channel: 36

BIT	EFFECT
255	COMPLETE RESET
128	Complete reset is activated passing through the unused range and staying 5 seconds in complete reset levels.
127	COMPLETE RESET PAN / TILT RESET
77	Pan / Tilt reset is activated passing through the unused range and staying 5 seconds in Pan / Tilt reset levels.
76	PAN / TILT RESET EFFECTS RESET
26	Effects reset is activated passing through the unused range and staying 5 seconds in Effects reset levels.
25	EFFECTS RESET
0	UNUSED RANGE

The functions are activated passing through unused range and staying 5 seconds in necessary level.

• LAMP CONTROL (only with option LAMP DMX On) - channel: 37

IMPORTANT: Alpha Profile 700 is not provided with hot restrike igniter

BIT	EFFECT
255	LAMP ON (FULL POWER)
180	Lamp ignition after 5 s in full power levels.
179	Immediate transition from half to full power.
101	LAMP ON (FULL POWER) LAMP ON (HALF POWER)
100	Immediate transition from full to half power.
26	Lamp ignition not allowed in half power.
25	LAMP ON (HALF POWER) LAMP OFF
0	Lamp switch off passing through the unused range and staying 5 s in Lamp OFF levels.
26	LAMP OFF
25	UNUSED RANGE
0	UNUSED RANGE

The functions are activated passing through unused range and staying 5 seconds in necessary level.

## TIMING CHANNELS

	Timing Channel	Channel function
38	Pan - Tilt time	Pan – Tilt – Pan Fine – Tilt Fine
39	Colour time	Cyan - Magenta - Yellow – C.T.O. – Color wheel
40	Beam time	Dimmer – Zoom – Focus – Frost - Prism – Iris
41	Gobo time	Rotating Gobo change - Framing - Framing rotation

## TIME TABLE

BIT	Seconds	BIT	Seconds	BIT	Seconds	BIT	Seconds	BIT	Seconds	BIT	Seconds
0	Full	43	8.6	86	24	129	41	172	58	216	170
1	0.2	44	8.8	87		130		173		217	
2	0.4	45	9	88	25	131		174		218	
3	0.6	46	9.2	89		132	42	175	59	219	180
4	0.8	47	9.4	90		133		176		220	
5	1	48	9.6	91	26	134	43	177	60	221	190
6	1.2	49	9.8	92		135		178		222	
7	1.4	50	10	93	27	136	44	179	65	223	200
8	1.6	51	10.2	94		137		180		224	
9	1.8	52	10.4	95	28	138	45	181	70	225	210
10	2	53	10.6	96		139		182		226	
11	2.2	54	11	97	29	140	46	183	75	227	220
12	2.4	55		98		141		184		228	
13	2.6	56	12	99	30	142	47	185	80	229	230
14	2.8	57		100		143		186		230	
15	3	58	13	101	31	144	48	187	85	231	230
16	3.2	59		102		145		188		232	
17	3.4	60	14	103	32	146	49	189	90	233	240
18	3.6	61		104		147		190		234	
19	3.8	62	15	105	33	148	50	191	95	235	250
20	4	63		106		149		192		236	
21	4.2	64	16	107	34	150	51	193	100	237	260
22	4.4	65		108		151		194		238	
23	4.6	66	17	109	35	152	52	195	110	239	270
24	4.8	67		110		153		196		240	
25	5	68	18	111	36	154	53	197	120	241	280
26	5.2	69		112		155		198		242	
27	5.4	70	19	113	37	156	54	199	130	243	290
28	5.6	71		114		157		200		244	
29	5.8	72	20	115	38	158	55	201	140	245	300
30	6	73		116		159		202		246	
31	6.2	74	21	117	39	160	56	203	150	247	310
32	6.4	75		118		161		204		248	
33	6.6	76	22	119	40	162	57	205	160	249	Follow cue
34	6.8	77		120		163		206		250	Data
35	7	78	23	121		164		207		251	
36	7.2	79		122		165		208		252	
37	7.4	80		123		166		209		253	
38	7.6	81		124		167		210		254	
39	7.8	82		125		168		211			
40	8	83		126		169		212			
41	8.2	84		127		170		213			
42	8.4	85		128		171		214			
								215			