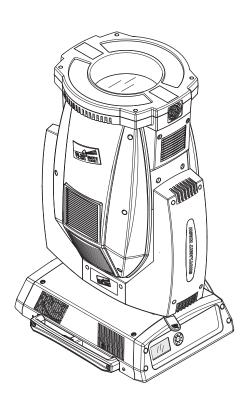
**INSTRUCTION MANUAL** 



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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 5 metres (16'5") 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 (Ta) exceeds  $40^{\circ}$  C ( $104^{\circ}$  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.

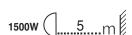
## Battery

This product contains a rechargeable lead-acid battery. To preserve the environment, please dispose the battery at the end of its life according to the regulation in force. Instructions on how to remove the battery from the product are available on **www.claypaky.it** 



The products referred to in this manual conform to the European Community Directives to which they are subject:

- Low Voltage 2006/95/CE
- Electromagnetic Compatibility 2004/108/CE





t<sub>a</sub> 40°C

IP20





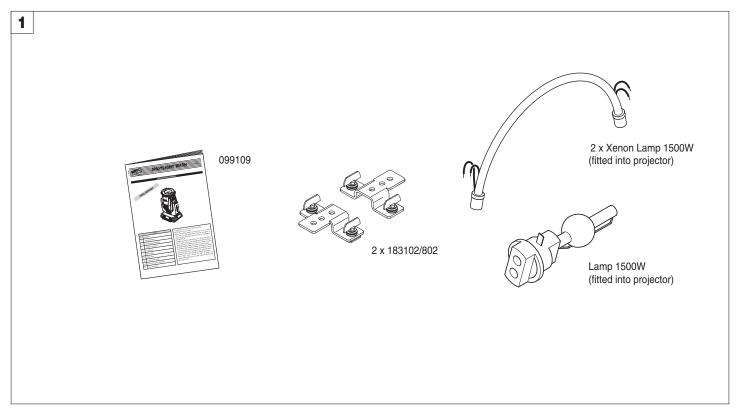




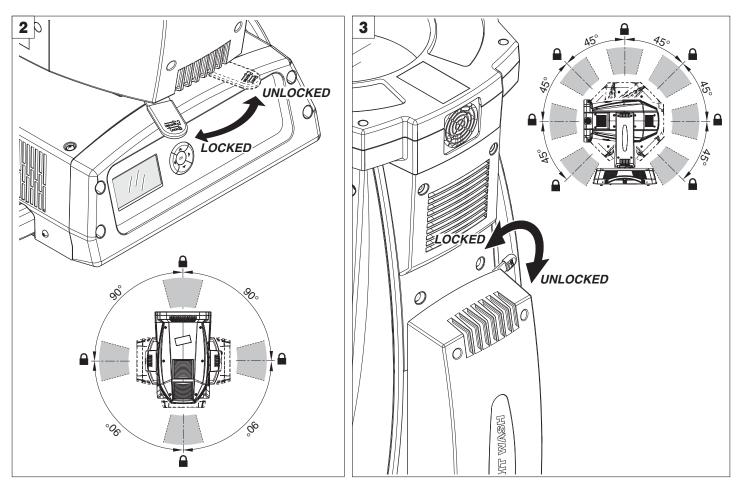




# **UNPACKING AND PREPARATION**



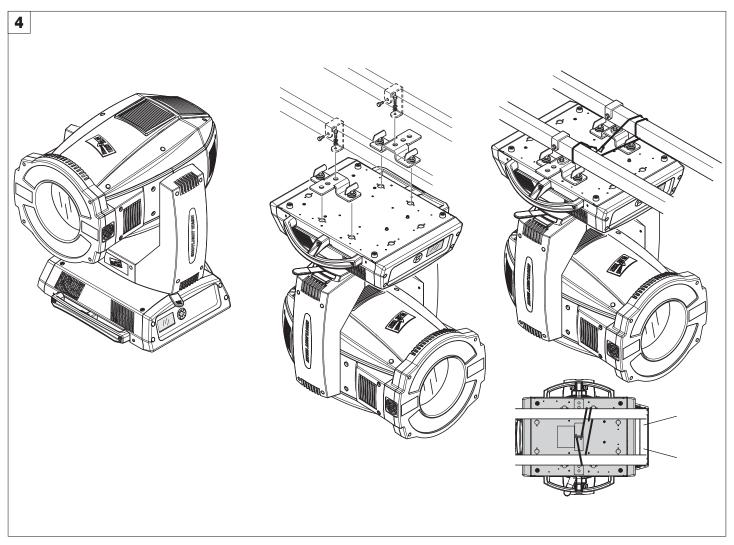
Packing contents - Fig. 1



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

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

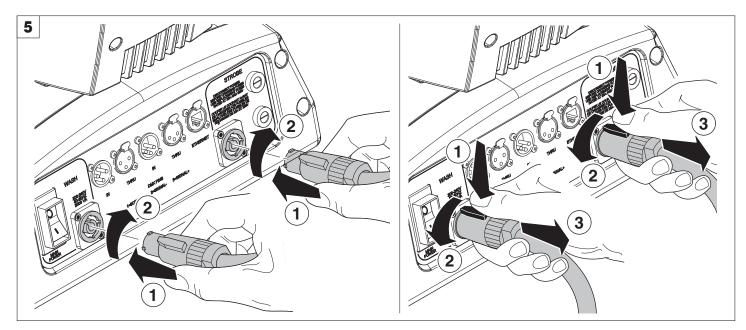
# **INSTALLATION AND START-UP**



Installing the projector - Fig. 4

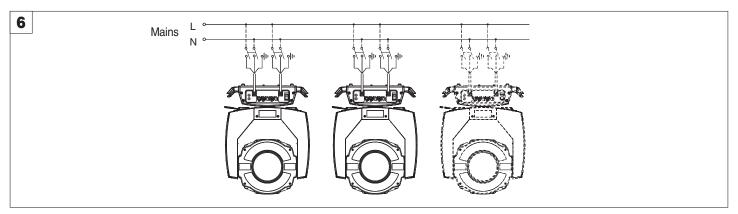
The projector can be installed on the floor resting on special rubber feet, on a truss or on the ceiling or wall.

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.

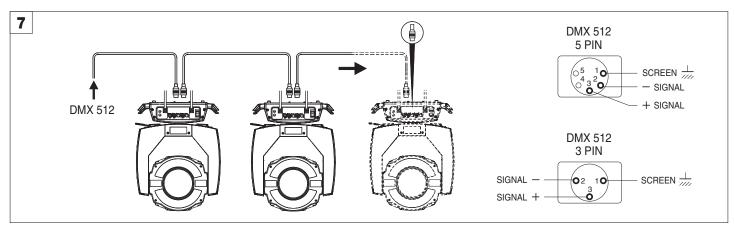


Connecting and disconnecting power cable - Fig. 5

## **CONTROL PANEL**



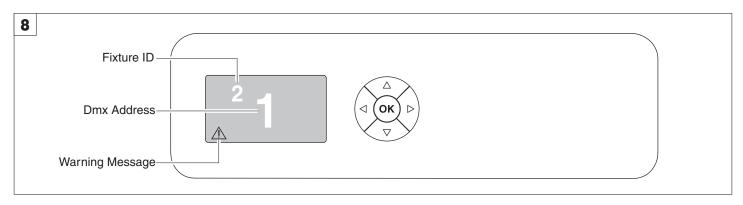
Connecting to the mains supply - Fig. 6



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

Use a cable conforming to specifications EIA RS-485: 2-pole twisted, shielded, 1200hm 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 1200hm (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:

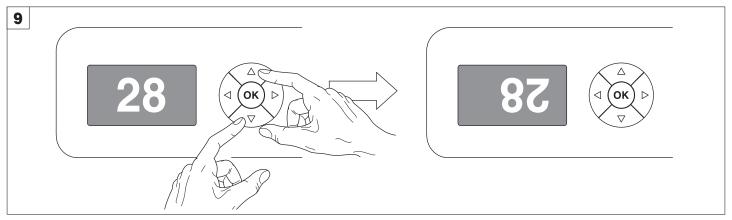


Model Shotlight Wash Firmware Version X.X.X Date - Hour xxx (Fixture ID) Dmx Address xxx

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 than when this condition occurs, any possible value that has been modified but not yet confirmed with the (about 30 seconds) without any key having been pressed, the display automatically returns to rest status.



## 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.

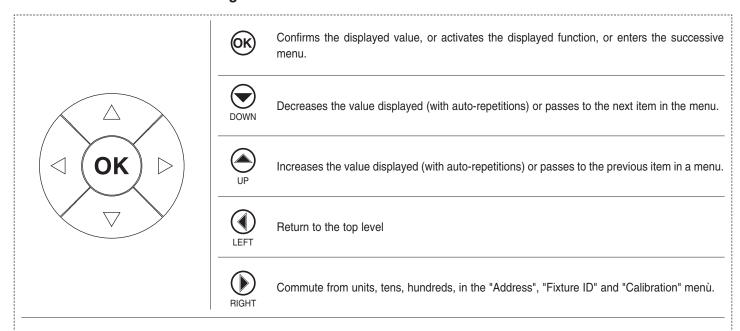
## Setting the projector Fixture ID

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



## **USING THE MENU:**

- 1) Press (ox) 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 functionning of effects
  - · Advanced (Advanced Menu): Access to the "Advanced menu" is recommended for a trained technical personnel.

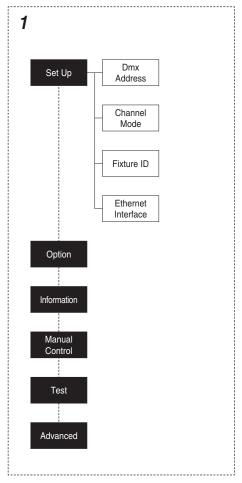
To enable the "Advanced" see pag.13

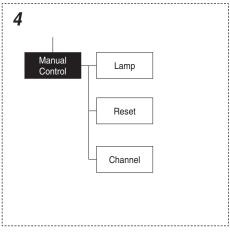
- 3) Press (x) to display the first item in the selected menu.
- 4) Use the UP 
  and DOWN 
  keys to select the MENU items.

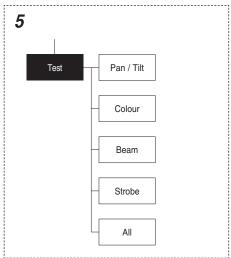
## Setting addresses and options with the projector disconnected

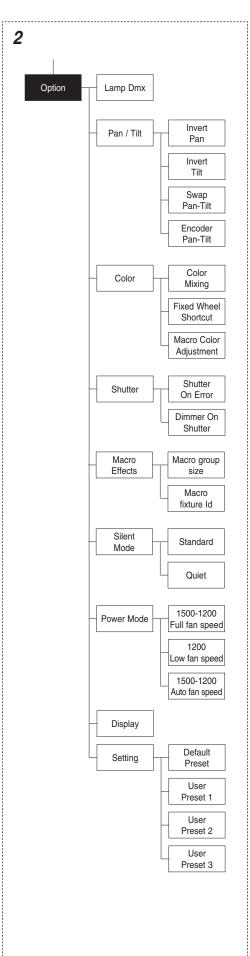
The projector's DMX address, as well as other possible operating options, can also be set when the appliance is disconnected from the electricity supply. All that is needed is to press (as to momentarily activate the display and thus access the settings. Once the required operations have been carried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

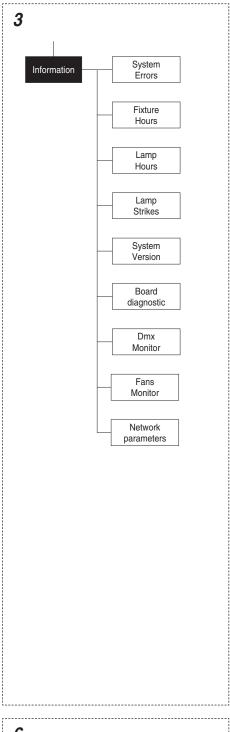
# **MENU SETTING**

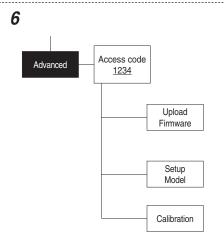




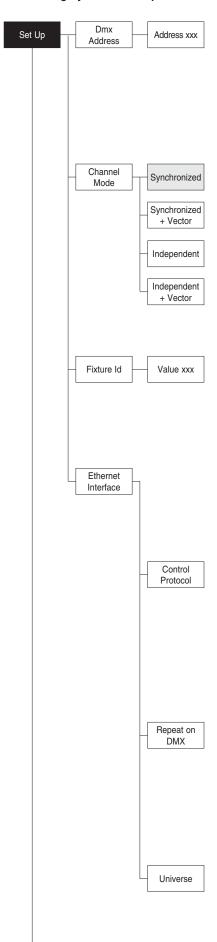








## NOTE: On grey the default options



## **SET UP MENU**

## **DMX ADDRESS**

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

Allows you to select the DMX ADDRESS

- 1) Press (P) the current DMX Adress appear on the display.
- 2) Use the UP , DOWN , RIGHT keys to plan the DMX Address.
- 3) Press (x) to confirm the selection or LEFT (1) to keep current settings.

## **CHANNEL MODE**

Allows you to select a channel arrangement from the 4 available.

- 1) Press 🔊 the current settings appear on the display.
- 2) Use the UP 
  and DOWN 
  keys to select one of the following settings:
  - Synchronized
  - Synchronized + Vector
  - Independent
  - Independent + Vector
- 3) Press (x) to confirm the selection or LEFT (1) to keep current settings.

## **FIXTURE ID**

Allows you to select the FIXTURE ID

- 1) Press ( the current Fixture ID appear on the display.
- 2) Use the UP (A), DOWN (B), RIGHT (D) keys to plan the Fixture ID.
- 3) Press (ix) to confirm the selection or LEFT (1) to keep current settings.

## **ETHERNET INTERFACE**

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

- 1) Premere (%).
- 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 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 ( to confirm the selection or LEFT ( to keep the current setting.

## Repeat on DMX

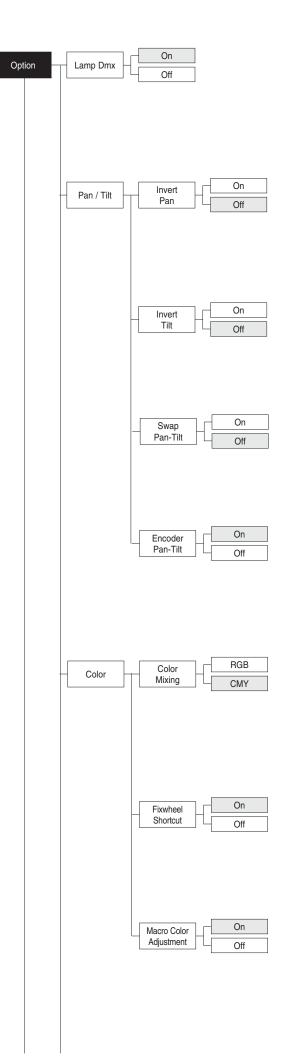
It lets you enable the transmission of the Ethernet protocol by DMX signal to all the connected projectors.

- 1) Press 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 ( 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 🕟 the current Universe address appears on the display.
- 2) Use the UP (A), DOWN (RIGHT (IV) keys to set the Universe address.
- 3) Press ( to confirm the selection or LEFT ( to keep the current setting.



## **OPTIONS MENU**

## LAMP DMX

Used for enabling lamp remote control channel.

- 1) Press (%) 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 ( to confirm the selection or LEFT ( to keep current settings.

## **PAN / TILT**

## Invert pan

Used for reversing Pan movement.

- 1) Press 🕟 the current settings appear on the display (On or Off).
- Use the UP and DOWN keys to enable (On) or disable (Off) PAN inversion.
- 3) Press (x) to confirm the selection or LEFT (1) to keep current settings.

## Invert tilt

Used for reversing tilt movement.

- 1) Press 🕟 the current settings appear on the display (On or Off).
- Use the UP and DOWN keys to enable (On) or disable (Off)
   Tilt inversion.
- 3) Press ( 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 on the current settings appear on the display (On or Off).
- Use the UP and DOWN keys to enable (On) or disable (Off)
   Pan and Tilt channel swap.
- 3) Press ( to confirm the selection or LEFT ( tto keep current settings.

## **Encoder Pan-Tilt**

Used for enabling the Pan / Tilt encoders.

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

## **COLOR**

## Color mixing

Used for reversing the CMY color mixing system.

- 1) Press ( 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 ( to confirm the selection or LEFT ( to keep current settings.

## Fixed wheel short-cut

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

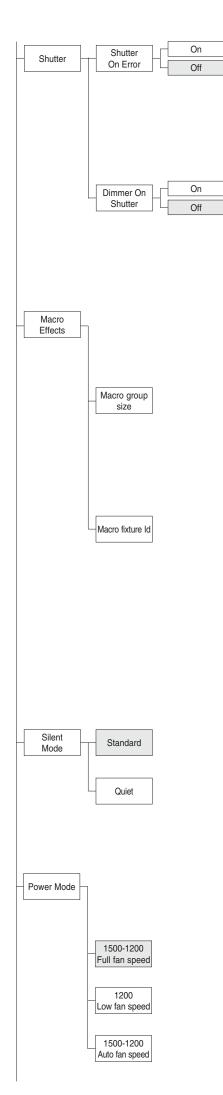
- 1) Press (N) the current settings appear on the display (On or Off).
- 2) Use the UP 
  and DOWN 
  keys to enable (On) or disable (Off) color change optimization.
- Press ( to confirm the selection, or LEFT ( to keep current settings.

## Macro color adjustment

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

Press  $\ensuremath{\mathfrak{O}}\xspace$  the current setting appears on the display.

- 1) Use the UP 
  and DOWN 
  keys to enable (On) or disable (Off) the overwriting.
- 2) Press (x) to confirm the selection or LEFT (1) 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 ( 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 (x) to confirm the selection, or LEFT (1) 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 ( to confirm the selection or LEFT ( to keep current settings.

## **MACRO EFFECTS**

It lets you select the "Macro Effects" set up from the two available.

- 1) Press ( the current setting appears on the display.
- 2) Use the UP 
  and DOWN 
  keys to select one of the following settings:

## Macro group size

It lets you set the number of projectors to be included in the macro mode operation.

- 1) Press (K)
- 2) Use the UP , DOWN , RIGHT keys to set the number of projectors to be included in the "Macro Effect" operation.
- 3) Press ( to confirm the selection or LEFT ( to keep the current setting.

## Macro fixture Id

It lets you attribute an ID address to the projector for the phase displacement for the scene's starting time in Macro mode.

- 1) Press (K)
- 2) Use the UP ♠ and DOWN ♠ keys to select one of the following settings: Fixed to X. (to assign to all the projectors to be included in the Macro operation).

**Auto by DMX Address:** According to the DMX address, it automatically detects the starting sequence of the scene in the Macro mode (to assign to all the projectors to be included in the Macro operation).

3) Press ( to confirm the selection or LEFT ( to keep the current setting.

## SILENT MODE

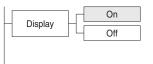
It lets you select the "Silent Mode" from the two available.

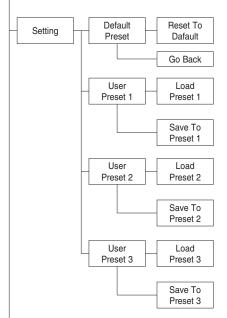
- 1) Press ( the current setting appears on the display.
- 2) Use the UP and DOWN keys to select one of the following settings: Standard: Maximum speed and consequently maximum effects noise level. Quiet: reduces the speed of some effects, thereby reducing their noise level.
- Press to confirm the selection or LEFT to keep the current setting.

## **POWER MODE**

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

- 1) Press ( the current settings appear on the display.
- 2) Use the UP (a) and DOWN (b) keys to select one of the following settings:
  - 1500-1200W Full fan speed: Lamp can change from full-power (1500W) to half-power (1200W) using the LAMP CONTROL channel.
     Fans always work at Full speed
  - 1200W Low fan speed: Lamp constantly works in half-power mode (1200W) while the Fan always works at Low speed. With LAMP CONTROL channel you can only switch the lamp ON and OFF.
  - **1500-1200W Auto fan speed**: Lamp can change from full-power (1500W) to half-power (1200W) using the LAMP CONTROL channel. Automatically the fans switch from Full speed to Low speed respectively.
- 3) Press (x) to confirm the selection or LEFT (1) to keep current setting.





## **DISPLAY**

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

- 1) Press 🕟 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 ( 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 (%) "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 🕟 "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

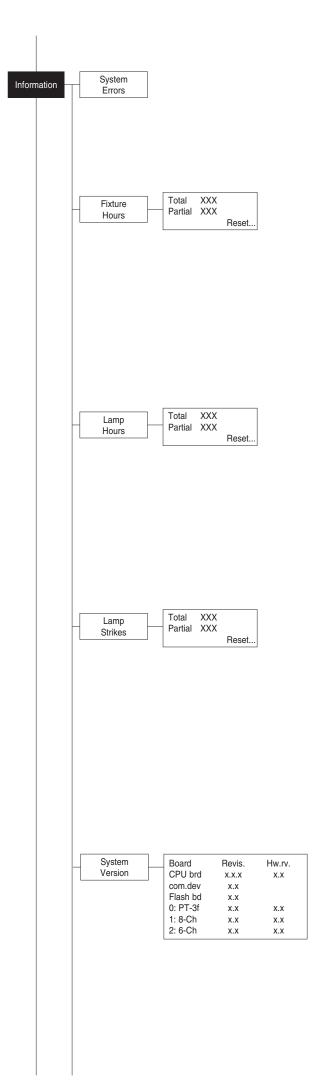
Used for restoring default values on all options menu items and relevant submenus.

- 1) Press ( , a confirmation message (Are you sure?) appears on the display .
- 2) Select YES to confirm the selction or NO to keep current setting.

**OPTION DEFAULT** Lamp DMX On Invert Pan Off Off Invert Tilt Off Swap Pan-Tilt **Encoder Pan-Tilt** On CMY Colour mixing Fixed Wheel Shortcut On On Macro Color Adjustment Off Shutter on error Off Dimmer on Shutter Silent Mode Standard

Power Mode 1500-1200W 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.

- 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 (ok) - 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.

- 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 (R) - 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 (x) to reset partial lamp working hours, a confirmation message (Are you sure?) appears on the display.
- 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 (x) to reset partial lamp strikes hours, a confirmation message (Are you sure?) appears on the display.
- Select YES to reset partial counter or NO to keep the current setting and return to the top menu level

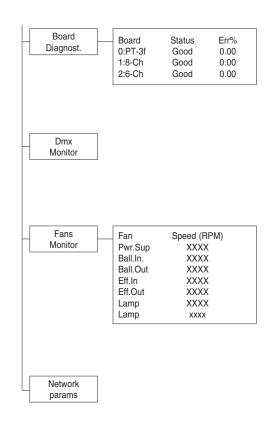
## SISTEM VERSION

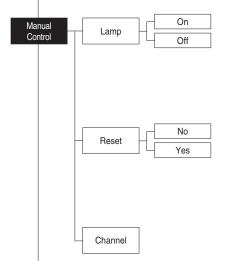
Used for displaying the software and hardware version of each board installed in the projector.

CPU brd (CPU board)

Flash bd (Flash/Strobe CPU board)

- 0: PT-3f (Pan / Tilt board)
- 1: 8-Ch (8 channel board)
- 2: 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: 8-Ch (8 channel board)

2: 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:

Pwr.Sup (Power supply Fan)

Ball. IN (Ballast IN Fan)

Ball. Out (Ballast OUT Fan)

Eff.IN (Effects IN Fan)

Eff.OUT (Effects OUT Fan)

Lamp (Lamp Fan)

Lamp (Lamp 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**

## ΔМР

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

- 1) Press 🕟 the current settings appear on the display (On or Off).
- 2) Use the UP 
  and DOWN 
  keys to turn the lamp on (On) or off (Off)
- Press to confirm the selection or LEFT to keep current settings and return to the top level.

## **RESET**

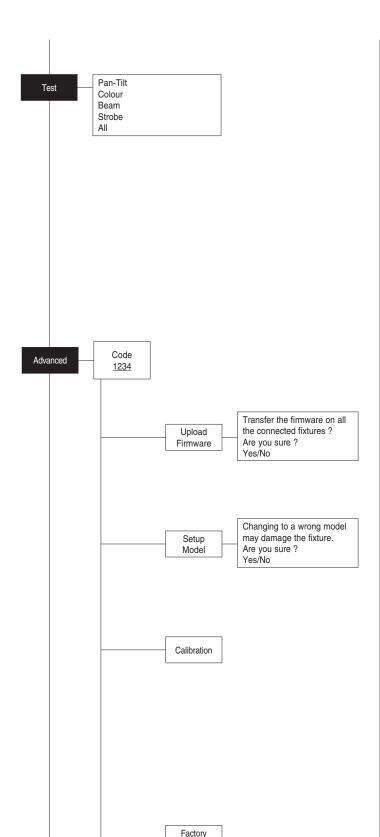
Used for resetting the projector.

- 1) Press (K) 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.

- 1) Press 🕟 the first channel appears on the display.
- 2) Use the UP 
  and DOWN 
  keys to select the required channel:
- 3) Press ♠ and use the UP ♠ and DOWN ♠ keys to select the required DMX level (value between 0 and 255).
- 4) Press LEFT (1) to return to the top menu level.



## **TEST MENU**

## **AUTOTEST**

Allows you to check the proper functioning of effects.

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

Test sequence:

Pan - Tilt effects (Pan & Tilt)

Colour effects (CMY / colour wheels)

Beam effects (Stopper-Strobe / Dimmer / Beam shaper / Zoom)

Strobe (Strobe section)

All effects

## **ADVANCED MENU**

To enable the "Advanced Menu" set up the "Access code" (1234) using the UP  $\bigcirc$  , DOWN  $\bigcirc$  , RIGHT  $\bigcirc$  keys.

Press 🕟 - "Menu advanced" appears on the display

## **UPLOAD FIRMWARE**

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

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

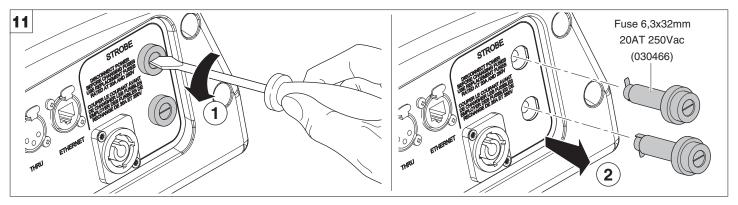
## **FACTORY DEFAULT**

14

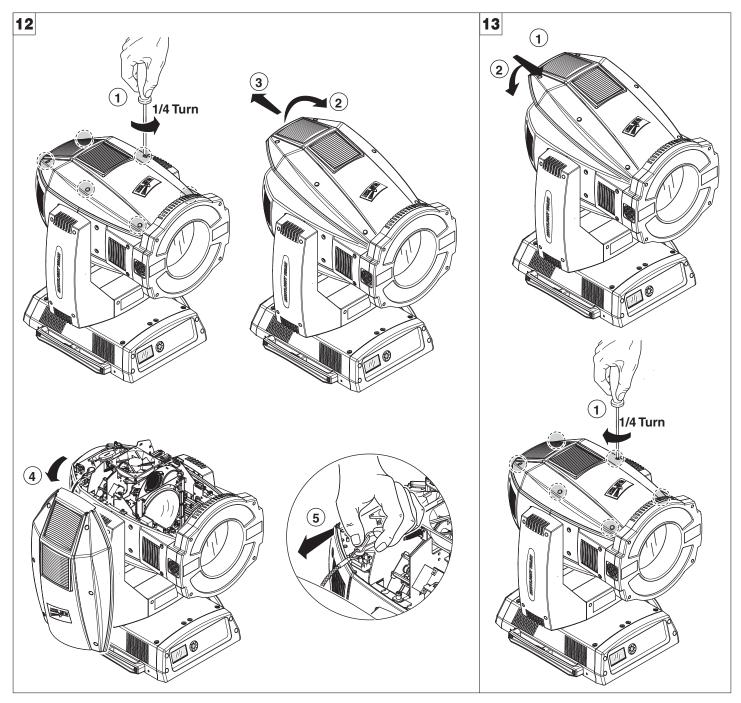
Allows you to restore default values of all channels (128).

- 1) Press 🕟 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.

# **MAINTENANCE**

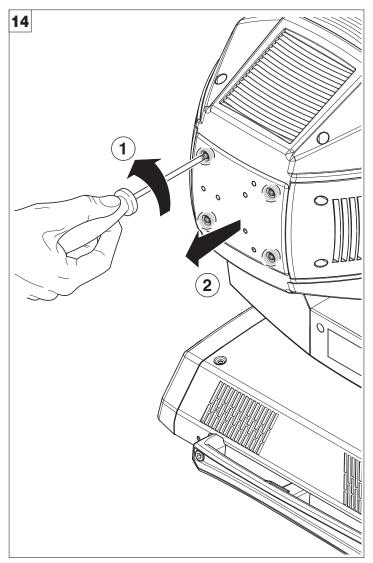


Replacing fuse - Fig. 11

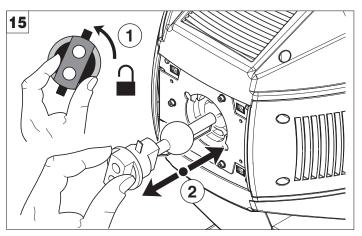


**Locking and releasing Pan and Tilt movements** - Refer to the instructions in the UNPACKING AND PREPARATION section. **Opening the head covers** - Fig. 12

Closing the head covers - Fig. 13



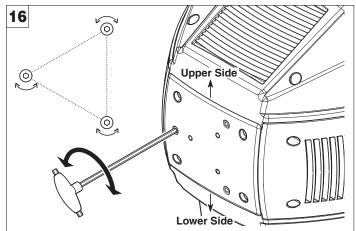
Opening and closing lamp compartment - Fig. 14



Lamp change - Fig 15

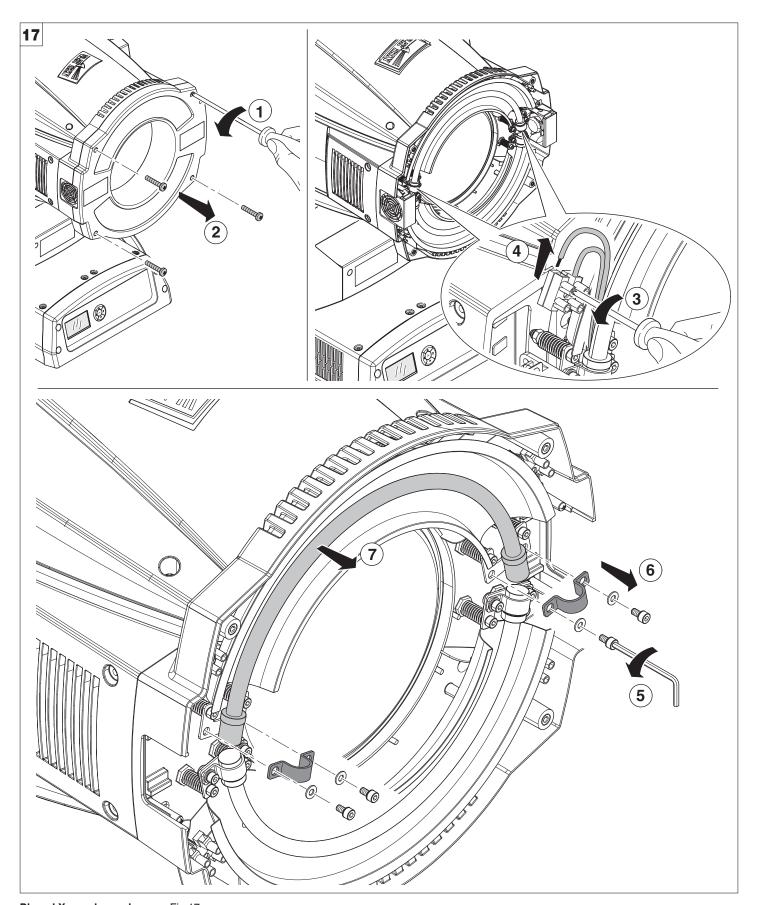
Take the new lamp out of its package and insert in the fitting.

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.



Lamp regulation - Fig. 16

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

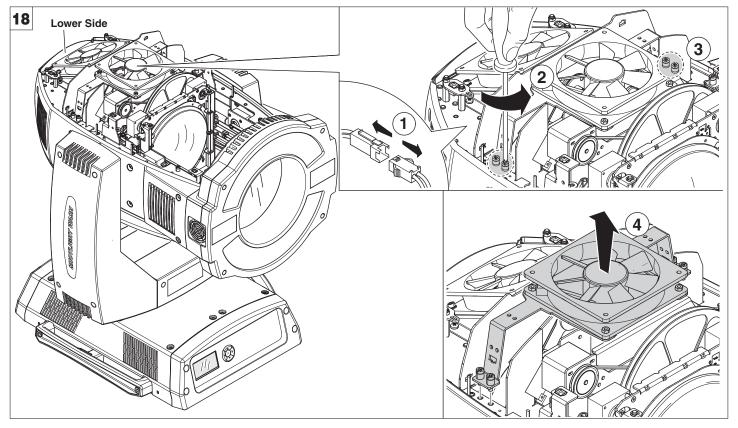


Plused Xenon lamp change - Fig 17

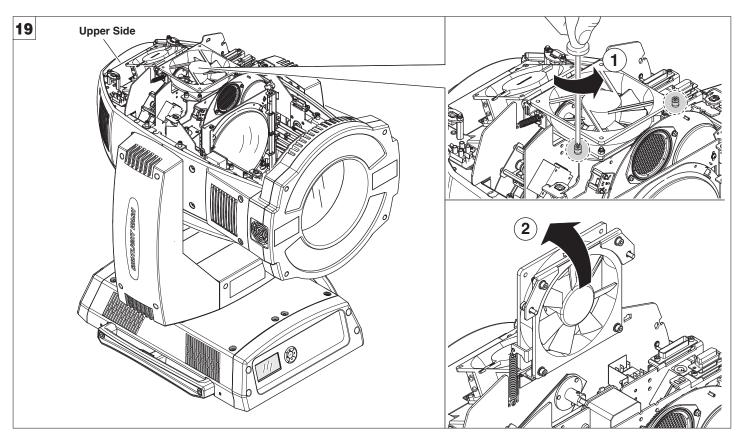
Take the new lamp out of its package and insert in the fitting.

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.

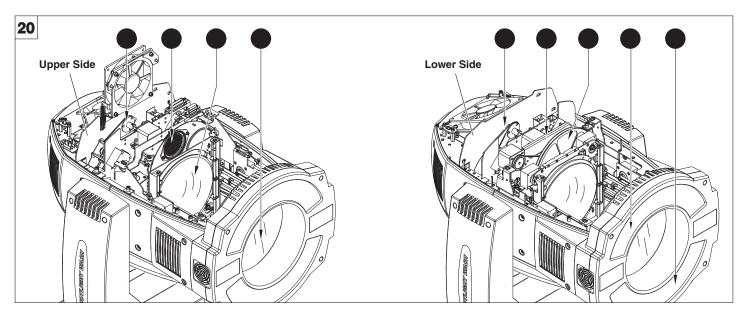
Continue →



Fan support plate opening and closing (Lower side) - Fig.~18



Fan support plate opening and closing (Upper side) - Fig. 19

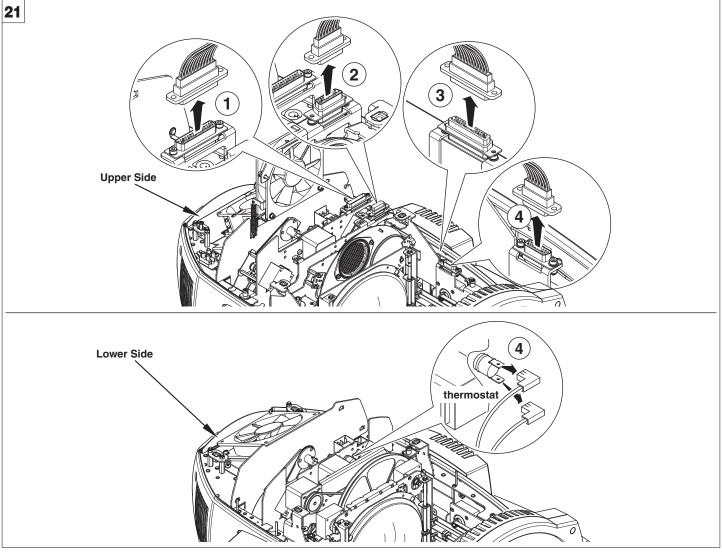


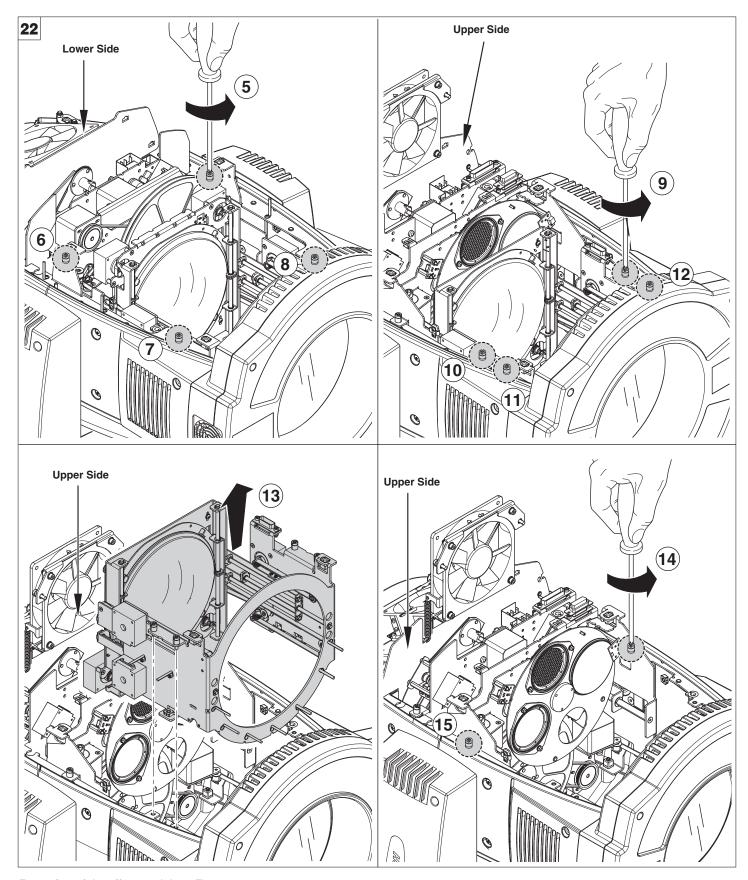
## Periodical cleaning - Fig. 20

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.).

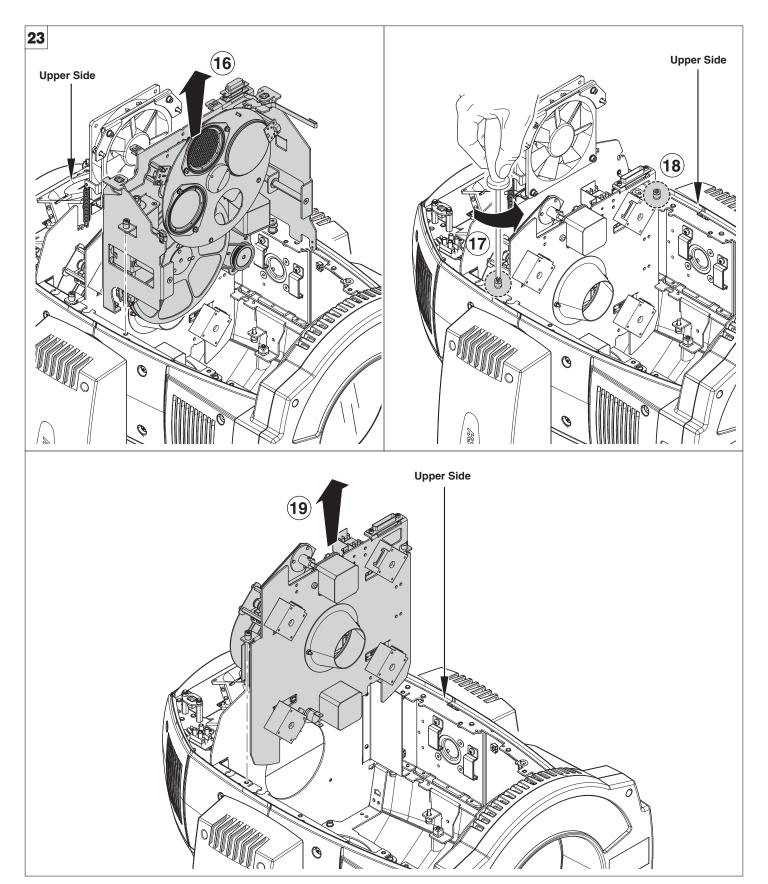
Use a soft cloth dampened with any detergent liquid for cleaning glass to remove the dirt from the reflectors, from the lenses and filters. It is recommended that the projector undergoes an annual service by a qualified technician for special maintenance involving at least the following operations:

- · 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.

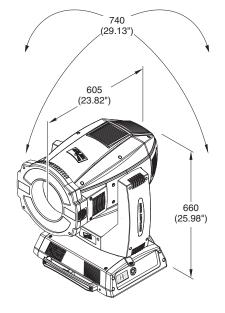


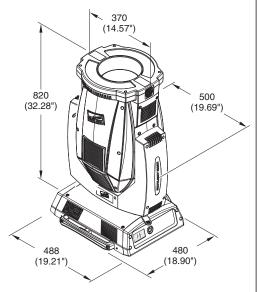


Extraction of the effect modules - Fig. 22 IMPORTANT: Grasp the modules using the support structure and not the details which could get damaged. Insertion of the effect modules: Repeat the operations indicated in Fig. 20 and 21 in reverse order



Extraction of the effect modules - Fig 23
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 and 21 in reverse order





# **TECHNICAL INFORMATION**

## Power supplies available

200-240V 50/60Hz

## Input power:

Wash: 2000VA

## Strobe:

- Typical current 12A
- Peak current 31.5A

# Lamp Wash:

Discharge lamp.

- Type HTI 1500W/60/P50-L Lok-it Osram (L10102)
- Cap PGJ50
- Colour temperature 6000 K
- Luminous flux 135000 lm
- Average life 750 h
- Any working position

## Lamp Strobe:

Lamp pulsed Xenon 1500W

- Type ER 9902 CPY [H] (L10201)
- Average life 500 h
- Any working position

#### Motors:

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

#### Optical unit:

Wash: Elliptic reflector with high luminous effi-

ciency

Strobe: Special shape mirror reflector

## Channels:

Max 31 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 = 252°
- · Maximum speeds:
- PAN= 6.8 (normal) / 5.3 (fast) 540°
- TILT= 4.8 (normal) / 3.3 (fast) 252°
- Resolution:
- PAN = 2.11°
- PAN FINE = 0.008°
- TILT =  $0.98^{\circ}$
- 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:**

In conformity with the European Union Low Voltage Directive 2006/95/CE and Electromagnetic compatibility

Directive 2004/108/CE.

# 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:

about 46,50 Kg.

# **CAUSE AND SOLUTION OF PROBLEMS**

	THE PROJECTOR WILL NOT SWITCH ON					
	ELECTRONICS NON-OPERATIONAL PROPERTIES					
		DEFECTIVE PROJECTION				PROBLEMS
		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**

# SHOTLIGHT WASH

CHANNEL	CHANNEL MODE			
CHANNEL	SYNCHRONIZED	INDEPENDENT		
1	FLASH INTENSITY	FLASH INTENSITY LAMP 1		
2	FLASH DURATION	FLASH DURATION LAMP 1		
3	FLASH RATE	FLASH RATE LAMP 1		
4	LAMP POWER	FLASH INTENSITY LAMP 2		
5	MACRO FLASH	FLASH DURATION LAMP 2		
6	CYAN	FLASH RATE LAMP 2		
7	MAGENTA	LAMP POWER		
8	YELLOW	MACRO FLASH		
9	С.Т.О	CYAN		
10	COLOUR WHEEL 1	MAGENTA		
11	COLOUR WHEEL 2	YELLOW		
12	MACRO COLOURS	C.T.O		
13	STOP / STROBE	COLOUR WHEEL 1		
14	DIMMER	COLOUR WHEEL 2		
15	DIMMER FINE	MACRO COLOURS		
16	BEAM SHAPER CHANGE	STOP / STROBE		
17	BEAM SHAPER ROTATION	DIMMER		
18	ZOOM	DIMMER FINE		
19	PAN	BEAM SHAPER CHANGE		
20	PAN FINE	BEAM SHAPER ROTATION		
21	TILT	ZOOM		
22	TILT FINE	PAN		
23	FUNCTION	PAN FINE		
24	RESET	TILT		
25	LAMP CONTROL (with Option "Lamp DMX" ON)	TILT FINE		
26		FUNCTION		
27		RESET		
28		LAMP CONTROL (with Option "Lamp DMX" ON)		
29		PAN - TILT TIME		
30		COLOUR TIME		
31		BEAM TIME		

- FLASH INTENSITY
- channel 1 (synchronized mode)
- FLASH INENSITY LAMP 1 • FLASH INTENSITY LAMP 2 - channel 4 (independent mode)
- channel 1 (independent mode)



BIT	%	EFFECT
255	100	MAXIMUM INTENSITY
0	0.0	MINIMUM INTENSITY

- FLASH DURATION
- channel 2 (synchronized mode)
- FLASH DURATION LAMP 1 channel 2 (independent mode)
   FLASH DURATION LAMP 2 channel 5 (independent mode)

BIT	%	EFFECT
255	100	MAXIMUM DURATION
0	0.0	MINIMUM DURATION

- LAMP POWER
- channel 4 (synchronized mode)
- channel 7 (independent mode)



BIT	%	EFFECT
255	100	LAMP 1 1500W POWER
128	50	LAMP 1 & 2 750W POWER
0	0.0	LAMP 2 1500W POWER

• FLASH RATE channel 3 (synchronized mode) • FLASH RATE LAMP 1 channel 3 (independent mode) • FLASH RATE LAMP 2 channel 6 (independent mode)

225-255         88,2-100         12,500         15,000         750,0         90           208-244         81,7-88,0         8,333         10,000         500,0         60           199-207         77,5-81,2         6,250         7,500         375,0         45           190-197         74,2-77,0         5,000         6,000         300,0         36           176-182         69,0-71,2         3,571         4,286         214,3         25           166-170         65,0-66,7         2,778         3,333         166,7         20           161-165         63,2-64,7         2,500         3,000         150,0         186,4           157-160         61,7-63,0         2,273         2,727         136,4         16           157-160         61,7-63,0         2,273         2,272         136,4         16           157-160         61,7-68,0         1,786         2,143         107,1         12           146-148         57,0-58,0         1,786         2,143         107,1         12           142-145         55,5-56,7         1,667         2,000         100,0         1         139,141         54,2-55,0         1,563         1,875         93,8 <t< th=""><th></th></t<>	
225-255         88,2-100         12,500         15,000         750,0         90           208-244         81,7-88,0         8,333         10,000         500,0         60           199-207         77,5-81,2         6,250         7,500         375,0         45           190-197         74,2-77,0         5,000         6,000         300,0         36           176-182         69,0-71,2         3,571         4,286         214,3         25           166-170         65,0-66,7         2,778         3,333         166,7         20           161-165         63,2-64,7         2,500         3,000         150,0         186,4           157-160         61,7-63,0         2,273         2,727         136,4         16           157-160         61,7-63,0         2,273         2,272         136,4         16           157-160         61,7-68,0         1,786         2,143         107,1         12           146-148         57,0-58,0         1,786         2,143         107,1         12           142-145         55,5-56,7         1,667         2,000         100,0         1         139,141         54,2-55,0         1,563         1,875         93,8 <t< th=""><th></th></t<>	
208-224	) <b>Hz</b>
198-207   77.5-81.2   6.250   7.500   375.0   45     190-197   74.2-77.0   5.000   6.000   300.0   36     183-189   71.7-74.0   4.167   5.000   250.0   300     176-182   69.0-71.2   3.571   4.286   214.3   25     176-187   67.0-68.7   3.125   3.750   187.5   22     166-170   65.0-66.7   2.778   3.333   166.7   20     161-165   63.2-64.7   2.500   3.000   150.0   18     157-160   61.7-63.0   2.273   2.727   136.4   16     153-156   60.0-61.2   2.083   2.500   125.0   15     153-156   60.0-61.2   2.083   2.500   125.0   15     149-152   58.2-59.5   1.923   2.308   115.4   13     146-148   57.0-58.0   1.786   2.143   107.1   12     142-145   55.5-56.7   1.667   2.000   100.0   12     139-141   54.2-55.0   1.563   1.875   93.8   11     136-138   53.2-54.0   1.471   1.765   88.2   10     133-135   52.0-53.0   1.389   1.667   83.3   10     137-124   49.7-50.5   1.150   1.590   75.0   9.9     127-129   49.7-50.5   1.150   1.364   68.2   8     121-121   46.7-47.5   1.087   1.304   68.2   8     119-121   46.7-47.5   1.087   1.304   68.2   8     119-121   44.0-44.2   0.962   1.154   57.7   68     107-109   42.0-43.0   0.893   1.071   53.6   68     107-109   42.0-43.0   0.893   1.071   53.6   69     107-109   42.0-43.0   0.893   1.071   53.6   69     107-109   39.5-40.0   0.808   0.968   48.4   59     99-90   39.5-30.0   0.660   0.968   48.4   59     99-90   39.5-30.0   0.660   0.968   48.4   59     99-90   39.5-30.0   0.660   0.968   48.4   59     99-90   39.5-30.0   0.660   0.968   48.4   59     99-90   39.5-30.0   0.660   0.968   34.9   44.1   55.6     66-66   25.5-26.0   0.440   0.568   0.789   39.5   44     75-76   29.5-29.7   0.556   0.667   33.3   34.1   55.0     67   26.2   0.500   0.600   30.0   30.0     67   26.2   0.500   0.600   30.0   30.0     67   26.2   0.500   0.600   30.0   30.0     67   26.2   0.500   0.600   30.0   30.6     68-69   26.7-27.0   0.510   0.612   30.6     69-60   25.5-26.0   0.440   0.536   26.8     39.5   20.5-21.0   0.441   0.492   24.6     22.5   20.5-21.0   0.441   0.577   25.8     25	0,0
183-189         71,7-74,0         4,167         5,000         250,0         30           176-182         29,0-71,2         3,571         4,286         214,3         25           171-175         67,0-68,7         3,125         3,750         187,5         22           161-165         63,0-64,7         2,500         3,000         150,0         18           157-160         61,7-63,0         2,273         2,727         136,4         16           153-156         60,0-61,2         2,083         2,500         125,0         15           149-152         58,2-59,5         1,923         2,308         115,4         13           146-148         57,0-56,0         1,786         2,143         107,1         12           139-141         54,2-55,0         1,563         1,875         93,8         11           139-141         54,2-55,0         1,563         1,875         93,8         11           133-135         52,0-53,0         1,389         1,667         83,3         10           133-132         51,0-51,7         1,316         1,579         78,9         9           127-129         49,7-50,5         1,250         1,500         75,0	0,0
176-182	0,0
171-175	
166-170	25,0
157-160         61,7-63,0         2,273         2,727         136,4         16           153-156         60,0-61,2         2,083         2,500         125,0         15           149-152         58,2-59,5         1,923         2,308         115,4         13           146-148         55,5-56,7         1,667         2,000         100,0         12           139-141         54,2-55,0         1,563         1,875         93,8         11           136-138         53,2-54,0         1,471         1,765         88,2         10           133-135         52,0-53,0         1,389         1,667         83,3         10           130-132         51,0-51,7         1,316         1,579         78,9         9           127-129         49,7-50,5         1,250         1,500         75,0         9           122-123         48,0-48,2         1,136         1,364         68,2         8           119-121         46,7-47,5         1,087         1,250         62,5         77           117-118         46,0-46,2         1,042         1,250         62,5         77           112-113         44,0-44,2         9,962         1,111         55,6	0,0
153-156	0,0
149-152	3,6
146-148   57,0-58,0   1,786   2,143   107,1   12     142-145   55,5-56,7   1,667   2,000   100,0   12     139-141   54,2-55,0   1,563   1,875   93,8   11     136-138   53,2-54,0   1,471   1,765   88,2   10     133-135   52,0-53,0   1,389   1,667   83,3   10     130-132   51,0-51,7   1,316   1,579   78,9   99     127-129   49,7-50,5   1,250   1,500   75,0   99     124-126   48,7-49,5   1,190   1,429   71,4   88     122-123   48,0-48,2   1,136   1,364   68,2   8     119-121   46,7-47,5   1,087   1,304   65,2   77     117-118   46,0-46,2   1,042   1,250   62,5   77     114-116   44,7-45,5   1,000   1,200   60,0   77     110-111   43,2-43,7   0,962   1,154   57,7   66     107-109   42,0-43,0   0,893   1,071   53,6   66     107-109   42,0-43,0   0,893   1,071   53,6   66     107-109   42,0-43,0   0,833   1,071   53,6   66     103-104   40,5-41,0   0,833   1,000   50,0   66     101-102   39,5-40,0   0,806   0,968   48,4   56     99-100   38,7-39,0   0,781   0,938   46,9   56     97-98   38,0-38,2   0,758   0,909   45,5   59,96   37,0-37,5   0,735   0,882   44,1   56     97-98   38,0-38,2   0,758   0,909   45,5   59,96   37,0-37,5   0,735   0,882   44,1   56     97-98   38,0-38,2   0,758   0,909   45,5   59,96   37,0-37,5   0,735   0,882   44,1   56     97-98   38,0-38,2   0,758   0,909   45,5   59,96   37,0-37,5   0,735   0,882   44,1   56     97-98   38,0-38,2   0,758   0,909   45,5   5,5     97-98   33,2-33,7   0,641   0,769   38,5   44     87-88   34,0-34,2   0,658   0,789   39,5   44     87-87   30,5-31,0   0,664   0,698   34,9   47     77   30,0   0,568   0,667   33,3   44     75-76   29,5-29,7   0,556   0,667   33,3   44     75-76   29,5-29,7   0,556   0,667   33,3   44     77-74   27,5-28,0   0,541   0,698   34,9   47     78-79   30,5-31,0   0,695   0,750   37,5   48     80-81   31,2-31,7   0,595   0,714   35,7   42     75-76   29,5-29,7   0,556   0,667   33,3   44     75-76   29,5-29,7   0,556   0,667   33,3   34     70-71   27,5-28,0   0,521   0,625   31,3     37-74   28,7-29,0   0,543   0,652   32,6     3	8,5
139-141	8,6
136-138	0,0
133-135   52,0-53,0	2,5
130-132   51,0-51,7   1,316   1,579   78,9   9.     127-129   49,7-50,5   1,250   1,500   75,0   99.     124-126   48,7-49,5   1,190   1,429   71,4   88.     122-123   48,0-48,2   1,136   1,364   68,2   88.     119-121   46,7-47,5   1,087   1,304   65,2   77.     117-118   46,0-46,2   1,042   1,250   62,5   77.     117-118   44,0-44,2   0,962   1,154   57,7   69.     114-116   44,7-45,5   1,000   1,200   60,0   77.     110-111   43,2-43,7   0,962   1,154   57,7   69.     110-1109   42,0-43,0   0,893   1,071   53,6   66.     107-109   42,0-43,0   0,893   1,071   53,6   66.     107-109   42,0-43,0   0,893   1,071   53,6   69.     105-106   41,2-41,7   0,862   1,034   51,7   69.     103-104   40,5-41,0   0,833   1,000   50,0   69.     101-102   39,5-40,0   0,806   0,968   48,4   59.     99-100   38,7-39,0   0,781   0,938   46,9   59.     97-98   38,0-38,2   0,758   0,982   44,1   56.     93-94   36,2-36,7   0,714   0,857   42,9   5.     91-92   35,5-36,0   0,694   0,833   41,7   5.     89-90   34,7-35,0   0,676   0,811   40,5   44.     87-88   34,0-34,2   0,658   0,789   39,5   4.     88-86   33,2-33,7   0,641   0,769   38,5   4.     88-86   33,2-33,7   0,625   0,750   37,5   43.     88-84   32,5-33,0   0,625   0,750   37,5   43.     88-84   32,5-33,0   0,625   0,750   37,5   43.     88-84   31,2-31,7   0,595   0,714   35,7   44.     78-79   30,5-31,0   0,581   0,698   34,9   44.     77   30,0   0,568   0,667   33,3   41,     75-76   29,5-29,7   0,556   0,667   33,3   31,9   33.     70-71   27,5-28,0   0,543   0,652   32,6   33.     70-71   27,5-28,0   0,543   0,652   32,6   33.     70-71   27,5-28,0   0,543   0,652   32,6   33.     70-71   27,5-28,0   0,543   0,556   27,8   33.     58-60   23,2-23,7   0,455   0,545   27,3   33.     59-60   23,2-23,7   0,455   0,545   27,3   33.     59-60   23,2-23,7   0,455   0,545   27,3   33.     59-60   23,2-23,7   0,455   0,545   27,3   33.     59-60   23,2-23,7   0,455   0,545   27,3   33.     59-60   23,2-23,7   0,455   0,546   26,3   33.     59-60   23,2-23,7   0,455   0	
127-129         49,7-50,5         1,250         1,500         75,0         9           124-126         48,7-49,5         1,190         1,429         71,4         88           112-12123         48,0-48,2         1,136         1,364         68,2         8           119-121         46,7-47,5         1,087         1,304         65,2         77           117-118         46,0-46,2         1,042         1,250         62,5         77           114-116         44,7-45,5         1,000         1,200         60,0         7           112-113         44,0-44,2         0,962         1,154         57,7         66           1107-109         42,0-43,0         0,893         1,071         53,6         66           105-106         41,2-41,7         0,862         1,034         51,7         66           105-106         41,2-41,7         0,862         1,034         51,7         66           105-106         41,2-41,7         0,862         1,034         51,7         66           105-106         41,2-41,7         0,862         1,034         51,7         66           105-106         3,5,540,0         0,806         0,968         48,4	4,7
122-123         48,0-48,2         1,136         1,364         68,2         8           119-121         46,7-47,5         1,087         1,304         65,2         7           117-118         46,0-46,2         1,042         1,250         62,5         7           114-116         44,7-45,5         1,000         1,200         60,0         7           112-113         44,0-44,2         0,962         1,154         57,7         66           107-109         42,0-43,0         0,893         1,071         53,6         66           105-106         41,2-41,7         0,862         1,034         51,7         66           103-104         40,5-41,0         0,833         1,000         50,0         66           101-102         39,5-40,0         0,806         0,968         48,4         56           97-98         38,0-38,2         0,758         0,999         45,5         5           95-96         37,0-37,5         0,735         0,882         44,1         56           93-94         36,2-36,7         0,714         0,857         42,9         5           91-92         35,5-36,0         0,694         0,833         41,7         56	0,0
119-121         46,7-47,5         1,087         1,304         65,2         7/1           117-118         46,0-46,2         1,042         1,250         62,5         7/1           114-116         44,7-45,5         1,000         1,200         60,0         7/2           112-113         44,0-44,2         0,962         1,154         57,7         66           1107-109         42,0-43,0         0,893         1,071         53,6         66           105-106         41,2-41,7         0,862         1,034         51,7         66           105-106         40,5-41,0         0,833         1,000         50,0         66           101-102         39,5-40,0         0,806         0,968         48,4         56           99-100         38,7-39,0         0,781         0,938         46,9         59           95-96         37,0-37,5         0,735         0,882         44,1         56           93-94         36,2-36,7         0,714         0,857         42,9         5           91-92         35,5-36,0         0,694         0,833         41,7         56           87-88         34,0-34,2         0,658         0,789         39,5         4	5,7
117-118         46,0-46,2         1,042         1,250         62,5         73           114-116         44,7-45,5         1,000         1,200         60,0         77           112-113         44,0-44,2         0,962         1,154         57,7         66           110-111         43,2-43,7         0,926         1,111         55,6         66           107-109         42,0-43,0         0,893         1,071         53,6         66           105-106         41,2-41,7         0,862         1,034         51,7         66           103-104         40,5-41,0         0,833         1,000         50,0         60           101-102         39,5-40,0         0,806         0,968         48,4         55           99-100         38,7-39,0         0,781         0,338         46,9         56           97-98         38,0-38,2         0,758         0,909         45,5         56           95-96         37,0-37,5         0,735         0,882         44,1         55           95-96         37,0-37,5         0,735         0,882         44,1         55           91-92         35,5-36,0         0,694         0,833         41,7         56 </td <td>1,8 8,3</td>	1,8 8,3
114-116         44,7-45,5         1,000         1,200         60,0         7:           112-113         44,0-44,2         0,962         1,154         57,7         66           110-111         43,2-43,7         0,926         1,111         55,6         66           107-109         42,0-43,0         0,893         1,071         53,6         66           105-106         41,2-41,7         0,862         1,034         51,7         66           103-104         40,5-41,0         0,833         1,000         50,0         66           101-102         39,5-40,0         0,806         0,968         48,4         56           99-100         38,7-39,0         0,781         0,938         46,9         56           97-98         38,0-38,2         0,758         0,999         45,5         5-           95-96         37,0-37,5         0,735         0,882         44,1         56           93-94         36,2-36,7         0,714         0,857         42,9         5           91-92         35,5-36,0         0,694         0,833         41,7         56           89-90         34,7-35,0         0,676         0,811         40,5         44	5,0
110-111         43,2-43,7         0,926         1,111         55,6         66           107-109         42,0-43,0         0,893         1,071         53,6         66           105-106         41,2-41,7         0,862         1,034         51,7         66           103-104         40,5-41,0         0,833         1,000         50,0         66           101-102         39,5-40,0         0,806         0,968         48,4         55           99-100         38,7-39,0         0,781         0,938         46,9         55           97-98         38,0-38,2         0,758         0,909         45,5         5-           95-96         37,0-37,5         0,735         0,882         44,1         55           93-94         36,2-36,7         0,714         0,857         42,9         5           91-92         35,5-36,0         0,694         0,833         41,7         56           87-88         34,0-34,2         0,658         0,799         39,5         44           87-88         34,0-34,2         0,658         0,799         39,5         44           88-84         32,5-33,0         0,625         0,750         37,5         44	2,0
107-109         42,0-43,0         0,893         1,071         53,6         6           105-106         41,2-41,7         0,862         1,034         51,7         6           103-104         40,5-41,0         0,833         1,000         50,0         6           101-102         39,5-40,0         0,806         0,968         48,4         56           99-100         38,7-39,0         0,781         0,938         46,9         56           97-98         38,0-38,2         0,758         0,909         45,5         5-           95-96         37,0-37,5         0,735         0,882         44,1         56           93-94         36,2-36,7         0,714         0,857         42,9         5           91-92         35,5-36,0         0,694         0,833         41,7         56           89-90         34,7-35,0         0,676         0,811         40,5         44           87-88         34,0-34,2         0,658         0,789         39,5         4           87-88         32,0         0,610         0,732         36,6         4           80-81         31,2-31,7         0,595         0,714         35,7         4 <t< td=""><td>9,2</td></t<>	9,2
105-106         41,2-41,7         0,862         1,034         51,7         66           103-104         40,5-41,0         0,833         1,000         50,0         61           101-102         39,5-40,0         0,806         0,968         48,4         55           99-100         38,7-39,0         0,781         0,938         46,9         56           97-98         38,0-38,2         0,758         0,909         45,5         5-           95-96         37,0-37,5         0,735         0,882         44,1         56           93-94         36,2-36,7         0,714         0,857         42,9         5           91-92         35,5-36,0         0,694         0,833         41,7         55           89-90         34,7-35,0         0,676         0,811         40,5         44           87-88         34,0-34,2         0,658         0,789         39,5         4           83-84         32,5-33,7         0,641         0,769         38,5         44           82         32,0         0,610         0,732         36,6         4           80-81         31,2-31,7         0,595         0,714         35,7         4	6,7
103-104         40,5-41,0         0,833         1,000         50,0         66           101-102         39,5-40,0         0,806         0,968         48,4         56           99-100         38,7-39,0         0,781         0,938         46,9         56           97-98         38,0-38,2         0,758         0,909         45,5         5-           95-96         37,0-37,5         0,735         0,882         44,1         55           93-94         36,2-36,7         0,714         0,857         42,9         5           91-92         35,5-36,0         0,694         0,833         41,7         56           89-90         34,7-35,0         0,676         0,811         40,5         44           87-88         34,0-34,2         0,658         0,789         39,5         4           85-86         33,2-33,7         0,641         0,769         38,5         44           82         32,0         0,610         0,732         36,6         44           80-81         31,2-31,7         0,595         0,714         35,7         44           77         30,0         0,568         0,682         34,1         44	4,3 2,1
101-102   39,5-40,0   0,806   0,968   48,4   59   99-100   38,7-39,0   0,781   0,938   46,9   56   97-98   38,0-38,2   0,758   0,909   45,5   55   95-96   37,0-37,5   0,735   0,882   44,1   56, 93-94   36,2-36,7   0,714   0,857   42,9   5   37,0-37,5   0,694   0,833   41,7   56, 93-94   34,7-35,0   0,694   0,833   41,7   56, 93-90   34,7-35,0   0,676   0,811   40,5   44, 85-86   33,2-33,7   0,641   0,769   38,5   44, 83-84   32,5-33,0   0,625   0,750   37,5   44, 83-84   32,5-33,0   0,625   0,750   37,5   44, 80-81   31,2-31,7   0,595   0,714   35,7   44, 78-79   30,5-31,0   0,581   0,698   34,9   4, 77   30,0   0,568   0,682   34,1   44, 75-76   29,5-29,7   0,556   0,667   33,3   44, 73-74   28,7-29,0   0,543   0,652   32,6   33, 70-71   27,5-28,0   0,521   0,625   31,3   3, 3, 3, 3, 4, 70-71   27,5-28,0   0,521   0,625   31,3   3, 3, 3, 70-71   27,5-28,0   0,521   0,625   31,3   3, 3, 3, 70-71   27,5-28,0   0,521   0,625   31,3   3, 3, 3, 70-71   27,5-28,0   0,521   0,625   31,3   3, 3, 3, 70-71   27,5-28,0   0,521   0,625   31,3   3, 3, 3, 70-71   27,5-28,0   0,521   0,625   31,3   3, 3, 3, 70-71   27,5-28,0   0,521   0,625   31,3   3, 3, 3, 70-71   27,5-28,0   0,521   0,625   31,3   3, 3, 3, 70-71   27,5-28,0   0,521   0,625   31,3   3, 3, 3, 70-71   27,5-28,0   0,521   0,625   31,3   3, 3, 3, 70-71   27,5-28,0   0,491   0,566   28,3   3, 9, 34   44, 24,0   25,0   0,446   0,536   26,8   3, 3, 9, 56-57   22,0-22,5   0,439   0,556   27,8   3, 3, 56-57   22,0-22,5   0,439   0,556   27,8   3, 3, 55-50   27,7   0,431   0,517   25,9   3, 55-50   20,0-22,5   0,439   0,556   26,8   3, 3, 55-50   20,0-22,5   0,439   0,526   26,3   3, 55-50   20,0-22,5   0,439   0,556   27,8   3, 55-50   20,0-22,5   0,439   0,556   27,8   3, 55-50   20,0-22,5   0,439   0,556   26,8   3, 3, 55-50   20,0-22,5   0,439   0,556   26,8   3, 3, 55-50   20,0-22,5   0,439   0,556   26,8   3, 3, 55-50   20,0-22,5   0,439   0,556   26,8   3, 3, 55-50   20,0-22,5   0,439   0,556   26,8   3, 3, 55-50   20,0-22,5   0,439   0,556   26,8   3, 3, 5	0,0
97-98         38,0-38,2         0,758         0,909         45,5         5-           95-96         37,0-37,5         0,735         0,882         44,1         55           93-94         36,2-36,7         0,714         0,857         42,9         5           91-92         35,5-36,0         0,694         0,833         41,7         56           89-90         34,7-35,0         0,676         0,811         40,5         44           87-88         34,0-34,2         0,658         0,789         39,5         4           85-86         33,2-33,7         0,641         0,769         38,5         44           83-84         32,5-33,0         0,625         0,750         37,5         44           80-81         31,2-31,7         0,595         0,714         35,7         42           78-79         30,5-31,0         0,581         0,688         34,9         4           77         30,0         0,568         0,682         34,1         44           75-76         29,5-29,7         0,556         0,667         33,3         34           72         28,2         0,532         0,682         31,9         3           70	8,1
95-96 37,0-37,5 0,735 0,882 44,1 56,93-94 36,2-36,7 0,714 0,857 42,9 5 91-92 35,5-36,0 0,694 0,833 41,7 55,89-90 34,7-35,0 0,676 0,811 40,5 44,85-86 33,2-33,7 0,641 0,769 38,5 44,83-84 32,5-33,0 0,625 0,750 37,5 44,83-84 32,5-33,0 0,625 0,750 37,5 44,80-81 31,2-31,7 0,595 0,714 35,7 42,7 30,0 0,568 0,682 34,1 44,7 77 30,0 0,568 0,682 34,1 44,7 35,7 42,82-82,92 0,532 0,633 31,9 33,1 43,1 44,1 43,1 43,1 44,1 43,1 44,1 43,1 44,1 44	6,3 4,5
93-94 36,2-36,7 0,714 0,857 42,9 55 91-92 35,5-36,0 0,694 0,833 41,7 55 89-90 34,7-35,0 0,676 0,811 40,5 87-88 34,0-34,2 0,658 0,789 39,5 44 85-86 33,2-33,7 0,641 0,769 38,5 44 83-84 32,5-33,0 0,625 0,750 37,5 44 82 32,0 0,610 0,732 36,6 44 80-81 31,2-31,7 0,595 0,714 35,7 44 78-79 30,5-31,0 0,581 0,682 34,1 44 77 30,0 0,568 0,682 34,1 44 75-76 29,5-29,7 0,556 0,667 33,3 44 75-76 29,5-29,7 0,556 0,667 33,3 34 73-74 28,7-29,0 0,543 0,652 32,6 33 70-71 27,5-28,0 0,521 0,625 31,3 33 86-69 26,7-27,0 0,510 0,612 30,6 33 68-69 26,7-27,0 0,510 0,612 30,6 33 68-69 26,7-27,0 0,510 0,612 30,6 33 68-69 26,7-27,0 0,510 0,612 30,6 33 68-69 25,5-26,0 0,490 0,588 29,4 33 64 25,0 0,481 0,577 28,8 33 66-68 24,2-24,7 0,472 0,566 28,3 3-6 61 24,0 0,463 0,556 27,8 33 59-60 23,2-23,7 0,455 0,545 27,3 33 58-57 22,0-22,5 0,439 0,526 26,3 35 55 21,7 0,431 0,517 25,9 3 54 21,2 0,424 0,508 25,4 33 55-53 20,5-21,0 0,410 0,492 24,6 22 49-50 19,0-19,5 0,403 0,469 23,4 24 47 18,2 0,391 0,469 23,4 22	4,5 2,9
91-92         35,5-36,0         0,694         0,833         41,7         56           89-90         34,7-35,0         0,676         0,811         40,5         44           87-88         34,0-34,2         0,658         0,789         39,5         4           85-86         33,2-33,7         0,641         0,769         38,5         44           83-84         32,5-33,0         0,625         0,750         37,5         44           80-81         31,2-31,7         0,595         0,714         35,7         44           78-79         30,5-31,0         0,581         0,689         34,9         4           77         30,0         0,568         0,682         34,1         44           75-76         29,5-29,7         0,556         0,667         33,3         34           73-74         28,7-29,0         0,543         0,662         32,6         33           70-71         27,5-28,0         0,521         0,625         31,3         3           70-71         27,5-28,0         0,521         0,625         31,3         3           68-69         26,7-27,0         0,510         0,612         30,6         3	1,4
87-88         34,0-34,2         0,658         0,789         39,5         4           85-86         33,2-33,7         0,641         0,769         38,5         44           83-84         32,5-33,0         0,625         0,750         37,5         44           82         32,0         0,610         0,732         36,6         44           80-81         31,2-31,7         0,595         0,714         35,7         44           78-79         30,5-31,0         0,581         0,698         34,9         44           75-76         29,5-29,7         0,556         0,667         33,3         44           75-76         29,5-29,7         0,556         0,667         33,3         34           72         28,2         0,532         0,638         31,9         33           70-71         27,5-28,0         0,521         0,625         31,3         33           68-69         26,7-27,0         0,510         0,612         30,6         33           67         26,2         0,500         0,600         30,0         30           65-66         25,5-26,0         0,490         0,588         29,4         33           64	0,0
85-86         33,2-33,7         0,641         0,769         38,5         44           83-84         32,5-33,0         0,625         0,750         37,5         44           82         32,0         0,610         0,732         36,6         45           80-81         31,2-31,7         0,595         0,714         35,7         42           78-79         30,5-31,0         0,581         0,682         34,1         44           75-76         29,5-29,7         0,556         0,667         33,3         44           75-76         29,5-29,7         0,556         0,667         33,3         44           73-74         28,7-29,0         0,543         0,652         32,6         33           72         28,2         0,532         0,638         31,9         33           70-71         27,5-28,0         0,521         0,625         31,3         3           68-69         26,7-27,0         0,510         0,612         30,6         3           67         26,2         0,500         0,600         30,0         30           65-66         25,5-26,0         0,490         0,588         29,4         3           62-63 <td>8,6 7.4</td>	8,6 7.4
83-84         32,5-33,0         0,625         0,750         37,5         44           82         32,0         0,610         0,732         36,6         44           80-81         31,2-31,7         0,595         0,714         35,7         44           78-79         30,5-31,0         0,581         0,698         34,9         4           77         30,0         0,568         0,682         34,1         44           75-76         29,5-29,7         0,556         0,667         33,3         44           73-74         28,7-29,0         0,543         0,652         32,6         33           70-71         27,5-28,0         0,521         0,625         31,3         3           70-71         27,5-28,0         0,521         0,625         31,3         3           68-69         26,7-27,0         0,510         0,612         30,6         36           67         26,2         0,500         0,600         30,0         3           64         25,0         0,490         0,588         29,4         3           62-63         24,2-24,7         0,472         0,566         28,3         3           59-60         <	7, <del>4</del> 6,2
80-81         31,2-31,7         0,595         0,714         35,7         44           78-79         30,5-31,0         0,581         0,698         34,9         4           77         30,0         0,568         0,682         34,1         44           75-76         29,5-29,7         0,556         0,667         33,3         44           73-74         28,7-29,0         0,543         0,652         32,6         33         31,9         33           70-71         27,5-28,0         0,521         0,625         31,3         33         36         68-69         26,7-27,0         0,510         0,612         30,6         33         39         36         66         67         26,2         0,500         0,600         30,0         36         66         67         26,2         0,500         0,600         30,0         36         64         25,0         0,490         0,588         29,4         33         39         34         62-63         24,2-24,7         0,472         0,566         28,3         33         36         61         24,0         0,463         0,556         27,8         33         36         59-60         23,2-23,7         0,455         0,545	5,0
78-79         30,5-31,0         0,581         0,698         34,9         4           77         30,0         0,568         0,682         34,1         44           75-76         29,5-29,7         0,556         0,667         33,3         44           73-74         28,7-29,0         0,543         0,652         32,6         33           72         28,2         0,532         0,638         31,9         33           70-71         27,5-28,0         0,521         0,625         31,3         3           68-69         26,7-27,0         0,510         0,612         30,6         36           67         26,2         0,500         0,600         30,0         3           67         26,2         0,500         0,600         30,0         3           64         25,0         0,490         0,588         29,4         3           62-63         24,2-24,7         0,472         0,566         28,3         3           59-60         23,2-23,7         0,455         0,545         27,3         3           58         23,0         0,446         0,536         26,8         3           55-57         22,0-22,5	3,9
77         30,0         0,568         0,682         34,1         44           75-76         29,5-29,7         0,556         0,667         33,3         44           73-74         28,7-29,0         0,543         0,662         32,6         33           72         28,2         0,532         0,638         31,9         39           70-71         27,5-28,0         0,521         0,625         31,3         3           68-69         26,7-27,0         0,510         0,612         30,6         30           67         26,2         0,500         0,600         30,0         30           65-66         25,5-26,0         0,490         0,588         29,4         33           64         25,0         0,481         0,577         28,8         3-           61         24,0         0,463         0,556         28,3         3-           59-60         23,2-23,7         0,455         0,545         27,3         3           58         23,0         0,446         0,536         26,8         3           55-57         22,0-22,5         0,439         0,526         26,3         3           55         21,7	2,9
75-76         29,5-29,7         0,556         0,667         33,3         44           73-74         28,7-29,0         0,543         0,652         32,6         33           72         28,2         0,532         0,638         31,9         33           70-71         27,5-28,0         0,521         0,625         31,3         3           68-69         26,7-27,0         0,510         0,612         30,6         30           67         26,2         0,500         0,600         30,0         30           65-66         25,5-26,0         0,490         0,588         29,4         33           64         25,0         0,481         0,577         28,8         3           62-63         24,2-24,7         0,472         0,566         28,3         3           61         24,0         0,463         0,556         27,8         3           59-60         23,2-23,7         0,455         0,545         27,3         3           58         23,0         0,446         0,536         26,8         3           55-57         22,0-22,5         0,439         0,526         26,3         3           55         21,7	0,9
72         28,2         0,532         0,638         31,9         38           70-71         27,5-28,0         0,521         0,625         31,3         3.           68-69         26,7-27,0         0,510         0,612         30,6         30,6           67         26,2         0,500         0,600         30,0         30           65-66         25,5-26,0         0,490         0,588         29,4         33           64         25,0         0,481         0,577         28,8         3-           61         24,0         0,463         0,556         28,3         3-           61         24,0         0,463         0,556         27,8         3           59-60         23,2-23,7         0,455         0,545         27,3         3           58         23,0         0,446         0,536         26,8         3           56-57         22,0-22,5         0,439         0,526         26,3         3           55         21,7         0,431         0,517         25,9         3           54         21,2         0,424         0,508         25,4         3           52-53         20,5-21,0	0,0
70-71         27,5-28,0         0,521         0,625         31,3         3:68-69         26,7-27,0         0,510         0,612         30,6         39           67         26,2         0,500         0,600         30,0         36           65-66         25,5-26,0         0,490         0,588         29,4         33           64         25,0         0,481         0,577         28,8         3           62-63         24,2-24,7         0,472         0,566         28,3         3           61         24,0         0,463         0,556         27,8         3           59-60         23,2-23,7         0,455         0,545         27,3         3           58         23,0         0,446         0,536         26,8         3           56-57         22,0-22,5         0,439         0,526         26,3         3           55         21,7         0,431         0,517         25,9         3           54         21,2         0,424         0,508         25,4         3           52-53         20,5-21,0         0,417         0,500         25,0         3           51         20,0         0,403         0,484	9,1
68-69         26,7-27,0         0,510         0,612         30,6         34           67         26,2         0,500         0,600         30,0         36           65-66         25,5-26,0         0,490         0,588         29,4         33           64         25,0         0,481         0,577         28,8         3-           62-63         24,2-24,7         0,472         0,566         28,3         3-           59-60         23,2-23,7         0,455         0,545         27,3         33           58         23,0         0,446         0,536         26,8         33           55-57         22,0-22,5         0,439         0,526         26,3         3           55         21,7         0,431         0,517         25,9         3           54         21,2         0,424         0,508         25,4         33           52-53         20,5-21,0         0,417         0,500         25,0         3           51         20,0         0,410         0,492         24,6         24           49-50         19,0-19,5         0,403         0,484         24,2         24           47         18,2	B,3
67         26,2         0,500         0,600         30,0         36           65-66         25,5-26,0         0,490         0,588         29,4         33           64         25,0         0,481         0,577         28,8         3-           62-63         24,2-24,7         0,472         0,566         28,3         3-           61         24,0         0,463         0,556         27,8         3           59-60         23,2-23,7         0,455         0,545         27,3         33           58         23,0         0,446         0,536         26,8         3           56-57         22,0-22,5         0,439         0,526         26,3         3           55         21,7         0,431         0,517         25,9         3           54         21,2         0,424         0,508         25,4         30           52-53         20,5-21,0         0,417         0,500         25,0         3           51         20,0         0,410         0,492         24,6         25           49-50         19,0-19,5         0,403         0,484         24,2         22           48         18,7         0	7,5 6,7
64         25,0         0,481         0,577         28,8         3-           62-63         24,2-24,7         0,472         0,566         28,3         3-           61         24,0         0,463         0,556         27,8         3-           59-60         23,2-23,7         0,455         0,545         27,3         3-           58         23,0         0,446         0,536         26,8         3-           56-57         22,0-22,5         0,439         0,526         26,3         3-           55         21,7         0,431         0,517         25,9         3-           54         21,2         0,424         0,508         25,4         3-           52-53         20,5-21,0         0,417         0,500         25,0         3-           51         20,0         0,410         0,492         24,6         29           49-50         19,0-19,5         0,403         0,484         24,2         29           48         18,7         0,397         0,476         23,8         24           47         18,2         0,391         0,469         23,4         29	6,0
62-63         24,2-24,7         0,472         0,566         28,3         3-           61         24,0         0,463         0,556         27,8         3:           59-60         23,2-23,7         0,455         0,545         27,3         3:           58         23,0         0,446         0,536         26,8         3:           56-57         22,0-22,5         0,439         0,526         26,3         3:           55         21,7         0,431         0,517         25,9         3           54         21,2         0,424         0,508         25,4         3           52-53         20,5-21,0         0,417         0,500         25,0         3           51         20,0         0,410         0,492         24,6         25           49-50         19,0-19,5         0,403         0,484         24,2         29           48         18,7         0,397         0,476         23,8         20           47         18,2         0,391         0,469         23,4         20	5,3
61         24,0         0,463         0,556         27,8         33           59-60         23,2-23,7         0,455         0,545         27,3         33           58         23,0         0,446         0,536         26,8         33           56-57         22,0-22,5         0,439         0,526         26,3         3           55         21,7         0,431         0,517         25,9         3           54         21,2         0,424         0,508         25,4         30           52-53         20,5-21,0         0,417         0,500         25,0         3           51         20,0         0,410         0,492         24,6         29           49-50         19,0-19,5         0,403         0,484         24,2         29           48         18,7         0,397         0,476         23,8         24           47         18,2         0,391         0,469         23,4         28	4,6 4.0
59-60         23,2-23,7         0,455         0,545         27,3         3;           58         23,0         0,446         0,536         26,8         3;           56-57         22,0-22,5         0,439         0,526         26,3         3;           55         21,7         0,431         0,517         25,9         3;           54         21,2         0,424         0,508         25,4         3;           52-53         20,5-21,0         0,417         0,500         25,0         3;           51         20,0         0,410         0,492         24,6         28           49-50         19,0-19,5         0,403         0,484         24,2         29           48         18,7         0,397         0,476         23,8         24           47         18,2         0,391         0,469         23,4         29	3,3
56-57         22,0-22,5         0,439         0,526         26,3         3           55         21,7         0,431         0,517         25,9         3           54         21,2         0,424         0,508         25,4         3           52-53         20,5-21,0         0,417         0,500         25,0         3           51         20,0         0,410         0,492         24,6         24           49-50         19,0-19,5         0,403         0,484         24,2         22           48         18,7         0,397         0,476         23,8         24           47         18,2         0,391         0,469         23,4         28	2,7
55         21,7         0,431         0,517         25,9         3           54         21,2         0,424         0,508         25,4         3           52-53         20,5-21,0         0,417         0,500         25,0         3           51         20,0         0,410         0,492         24,6         25           49-50         19,0-19,5         0,403         0,484         24,2         22           48         18,7         0,397         0,476         23,8         24           47         18,2         0,391         0,469         23,4         26	2,1
54         21,2         0,424         0,508         25,4         36           52-53         20,5-21,0         0,417         0,500         25,0         3           51         20,0         0,410         0,492         24,6         28           49-50         19,0-19,5         0,403         0,484         24,2         24           48         18,7         0,397         0,476         23,8         24           47         18,2         0,391         0,469         23,4         24	1,6 1,0
51         20,0         0,410         0,492         24,6         25           49-50         19,0-19,5         0,403         0,484         24,2         25           48         18,7         0,397         0,476         23,8         26           47         18,2         0,391         0,469         23,4         26	0,5
49-50         19,0-19,5         0,403         0,484         24,2         29           48         18,7         0,397         0,476         23,8         20           47         18,2         0,391         0,469         23,4         20	0,0
48 18,7 0,397 0,476 23,8 20 47 18,2 0,391 0,469 23,4 20	9,5
47 18,2 0,391 0,469 23,4 20	9,0 8,6
45-46   17 5-18 0   0.985   0.460   0.94   0.75	8,1
	7,7
	7,3 6,9
	6,5
40 15,5 0,362 0,435 21,7 26	6,1
39 15,0 0,357 0,429 21,4 25	5,7
	5,4 5,0
	4,7
34 13,2 0,338 0,405 20,3 24	4,3
	4,0
	3,7 3,4
	3,4 3,1
28 11,0 0,316 0,380 19,0 22	2,8
	2,5
	2,2 2,0
	∠,∪ 1,7
22 8,7 0,298 0,357 17,9 2	1,4
	1,2
	0,9 0,7
	0,7 0,5
17 6,7 0,281 0,337 16,9 20	0,2
	0,0
	9,8 9,6
	9,4
11 4,2 0,266 0,319 16,0 19	9,1
	8,9
	8,8 8,6
	в,о В,4
6 2,5 0,253 0,303 15,2 18	8,2
	8,0 FF
0-4   0,0-1,7   OFF   OFF   O	rr.

- MACRO FLASH
- channel 5 (synchronized mode)
- channel 8 (independent mode)

BIT	%	EFFECT
DII	/0	EFFECT
253 - 255	99,0 - 100	SINGLE SHOT
240 - 252	94,0 - 98,7	MACRO OFF
226 - 239	88,7 - 93,7	RANDOM StrobeWShutter
212 - 225	83,2 - 88,2	RANDOM Strobe
198 - 211	77,5 - 83,0	RANDOM SawWave
184 - 197	72,0 - 77,0	RANDOM FadeInOut
170 - 183	66,7 - 71,7	RANDOM StrobeFlash
156 - 169	61,2 - 66,2	RANDOM BurstOnBlack
142 - 155	55,5 - 61,0	RANDOM FlashAndBlack
128 - 141	50,0 - 55,0	RANDOM UpDown
114 - 127	44,7 - 49,7	MACRO OFF
100 - 113	39,0 - 44,2	SawWaveUpDown
86 - 99	33,7 - 38,7	SawWave
72 - 85	28,2 - 33,2	FadeInOut
58 - 71	23,0 - 28,0	StrobeFlash
44 - 57	17,0 - 22,5	BurstOnBlack
30 - 43	11,7 - 16,7	FlashAndBlack
16 - 29	6,2 - 11,2	UpDown
12 - 15	4,7 - 6,0	ShutterSync Inverted
8 - 11	3,2 - 4,2	ShutterSync Normal
0 - 7	0,0 - 3,0	MACRO OFF

# COLOUR MIXING - channel 6 - 7 - 8 (synchronized mode) channel 9 - 10 - 11 (independent mode)

Operation with option color mixing: RGB



BIT	%	EFFECT
255	100	COLOUR EXCLUDED  0% - 100% = 0.4 sec
0	0.0	COLOUR INSERTED

Operation with option color mixing: CMY



BIT	%	EFFECT
255	100	COLOUR INSERTED
		0% - 100% = 0.4 sec
0	0.0	COLOUR EXCLUDED

**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 9 (synchronized mode) - 12 (independent mode)



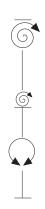
BIT	%	EFFECT
255	100	FILTER INSERTED  0% - 100% = 0.4 sec
0	0.0	FILTER EXCLUDED

## • COLOUR WHEEL 1 - channel 10 (synchronized mode) - 13 (independent mode)



BIT	%	EFFECT
255	100	FAST ROTATION 160 rpm
128	50.0	SLOW ROTATION 0.2rpm
117	46.0	RED
97	38.0	UV FILTER
77	30.0	FULL GREEN
58	23.0	AQUAMARINE
39	15.0	ORANGE
20	8.0	BLUE
0	0.0	WHITE

## • COLOUR WHEEL 2 - channel 11 (synchronized mode) - 14 (independent mode)



BIT	%	EFFECT
255	100	FAST ROTATION 160 rpm
128	50.0	SLOW ROTATION 0.2rpm
117	46.0	GREEN
97	38.0	PINK
77	30.0	CTB 8000
58	23.0	LIGHT GREEN
39	15.0	LAVENDER
20	8.0	CTO 3200
0	0.0	WHITE

FEFECT

## • STOP / STROBE - channel 13 (synchronized mode) - 16 (independent mode)

BIT %



252 - 255	98.7 - 100	OPEN
239 - 251	93.7 - 98.2	RANDOM FAST STROBE
226 - 238	88.7 - 93.2	RANDOM MEDIUM STROBE
213 - 225	83.7 - 88.2	RANDOM SLOW STROBE
208 - 212	81.7 - 83.2	OPEN
207	81.2	FAST PULSATION (12 pulse/sec
108	42.5	SLOW PULSATION (1 pulse/sec
		OPEN FAST STROBE (12 flash/sec)
100	40.5	TAGE GENOBE (12 likisii/sec)
4	1.7	SLOW STROBE (1 flash/sec)
0 - 3	0.0 - 1.2	CLOSED
	239 - 251 226 - 238 213 - 225 208 - 212 207 108 104 - 107 103	239 - 251 93.7 - 98.2 226 - 238 88.7 - 93.2 213 - 225 88.7 - 88.2 206 - 212 81.7 - 83.2 207 81.0 40.5 41.0 - 42.0 40.5 41.0 - 42.0 40.5

**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 14 (synchronized mode) - 17 (independent mode)



BIT	%	EFFECT
255	100	DIMMER OPEN
		0%-100%=0.33sec
0	0.0	DIMMER CLOSE

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

# • MACRO COLOURS - channel 12 (synchronized mode) - 15 (independent mode)

COLOR NAME	BIT	%	ROSCO CODE	LEE CODE	CYAN BIT	MAGENTA BIT	YELLOW BIT	CTO BIT	WHEEL 1 BIT	WHEEL 2 BIT
Unused Range	186-255	73,0-100	-		-	-	-	-	-	-
CP Marine CP Brown 2	184-185 182-183	72,0-72,5 71,2-71,7	N/A N/A	N/A N/A	255 0	83 121	0	0 255	0 39	117 117
CP Brown 1	180-181	70,5-71,0	N/A N/A	N/A	0	103	0	0	39	117
CP Light green 2	178-179	69,7-70,0	N/A	N/A	0	0	0	0	0	117
CP Light green 1	176-177	69,0-69,5	N/A	N/A	0	0	0	0	0	58
CP Red 3	174-175	68,2-68,7	N/A	N/A	0	255	255	255	117	39
CP Red 2 CP Red 1	172-173 170-171	67,5-68,0 66,7-67,0	N/A N/A	N/A N/A	0	255 255	0 255	0 255	117	0 39
CP Deep magenta	168-169	66,0-66,2	N/A	N/A	0	255	0	255	0	39
CP Pink	166-167	65,0-65,5	N/A	N/A	0	0	0	255	0	39
CP Ice	164-165	64,2-64,7	N/A	N/A	0	0	0	0	58	20
CP Electric blue	162-163	63,7-64,0	N/A	N/A	255	0	0	0	58	39
CP Lavender CP Green	160-161	63,0-63,2	N/A N/A	N/A N/A	0 255	0	0	0	58	39 117
CP Green CP Gold 2	158-159 156-157	62,0-62,5 61,2-61,7	N/A N/A	N/A N/A	255	71	255	255	0	20
CP Gold 1	154-155	60,5-61,0	N/A	N/A	0	0	0	255	0	20
CP Gold	152-153	59,5-60,0	N/A	N/A	0	0	0	255	0	0
Magenta	150-151	58,7-59,0	113	113	0	255	125	255	0	41
Light Lavender	148-149	58,0-58,2	52	52	60	84	0	87	0	0
Half CT straw Lighter blue	146-147 144-145	57,0-57,5 56,2-56,7	442 353	442 353	0 136	0	132 134	110 80	0	0
Glacier blue	142-143	55,5-56,0	352	352	144	0	121	80	0	0
Fuschia pink	140-141	54,7-55,0	345	345	80	122	0	118	0	0
Mallard green	138-139	54,0-54,2	325	325	255	0	0	0	81	0
Jade	136-137	53,2-53,7	323	323	87	0	134	0	61	0
3/4 CT Orange	134-135	52,5-53,0	285	285	0	0	128	126	0	0
3/4 CTB Half minus green	132-133 130-131	51,7-52,0 51.0-51.2	281 248	281 248	81 0	0 55	87 0	83 133	0	0
Minus green	130-131	50,0-50,5	248	248	0	55 77	0	133	0	0
1/4 CTO	126-127	49,5-49,7	206	206	0	48	116	98	0	0
1/2 CTO	124-125	48,7-49,0	205	205	0	0	99	103	0	0
Full CT Orange	122-123	48,0-48,2	204	204	0	58	131	158	0	0
1/4 CTB	120-121	47,0-47,5	203	203	22	42	104	84	0	0
1/2 CTB Full CTB	118-119	46,2-46,7	202 201	202 201	81 89	29 22	95 61	89 72	0	0
Alice Blue	116-117 114-115	45,5-46,0 44,7-45,0	197	197	128	79	0	74	0	0
Congo Blue	112-113	44,0-44,2	181	181	255	255	0	163	0	0
Dark Lavender	110-111	43,2-43,7	180	180	125	128	0	88	0	0
Chrome Orange	108-109	42,5-43,0	179	179	0	69	255	255	0	0
Lagoon blue	106-107	41,7-42,0	172	172	132	0	112	0	58	0
Deep Lavender Liliac tint	104-105 102-103	41,0-41,2 40,0-40,5	170 169	170 169	85 49	101 51	0 74	118 107	0	0
Daylight Blue	100-101	39,0-39,5	165	165	139	0	101	102	0	0
Flame red	98-99	38,2-38,7	164	164	0	255	255	255	0	0
Bastard amber	96-97	37,5-38,0	162	162	0	22	102	137	0	0
Deep Orange	94-95	36,7-37,0	158	158	0	104	255	255	0	0
Pink	92-93	36,0-36,2	157	157	0	113	1	224	0	0
Pale rose Pale Gold	90-91 88-89	35,0-35,5 34,2-34,7	154 152	154 152	0	32 0	54 102	129 128	0	0
Bright rose	86-87	33,7-34,0	148	148	0	255	1	255	0	0
Apricot	84-85	33,0-33,2	147	147	0	71	67	255	0	0
Bright Blue	82-83	32,0-32,5	141	141	199	0	130	76	0	0
Primary green	80-81	31,2-31,7	139	139	0	0	255	71	77	0
Light green	78-79	30,5-31,0	121	121	0	0	255	0	58	0
Pale green Special Lavender	76-77 74-75	29,7-30,0 29,0-29,5	138 137	138 137	77 95	0 83	154 33	52 110	0	0
Pale lavender	72-73	28,2-28,7	136	136	73	80	0	117	0	0
Deep golden amber	70-71	27,5-28,0	135	135	0	159	255	255	0	0
Golden amber	68-69	26,7-27,0	134	134	0	92	136	255	0	0
Medium blue	66-67	26,0-26,2	132	132	255	100	0	87	0	57
Marine blue	64-65	25,0-25,5	131	131	0	0	112	0	58	0
Bright pink Mauve	62-63 60-61	24,2-24,7 23,7-24,0	128 126	128 126	0 119	255 255	1	169 255	0	0
Fern Green	58-59	23,0-23,2	122	122	0	0	0	87	0	116
Leaf green	56-57	22,0-22,5	121	121	111	0	205	0	0	0
Deep Blue	54-55	21,2-21,7	120	120	255	0	0	114	0	40
Dark blue	52-53	20,5-21,0	119	119	255	113	0	113	0	0
Light blue	50-51 48-49	19,5-20,0	118	118	168	0	129 128	80 110	0	0
Steel blue Medium blue green	48-49 46-47	18,7-19,0 18,0-18,2	117 116	117 116	117 132	0	128	0	58	0
Peacock blue	44-45	17,0-17,5	115	115	77	0	110	0	77	0
Dark pink	42-43	16,2-16,7	111	111	0	108	1	164	0	0
Light Salmon	40-41	15,5-16,0	109	109	0	95	83	152	0	0
English rose	38-39	14,7-15,0	108	108	0	59	54	170	0	0
Light rose Primary red	36-37 34-35	14,0-14,2 13,2-13,7	107 106	107 182	0	85 0	29 0	170 0	117	0
Orange	32-33	12,5-13,0	105	105	0	104	210	255	0	0
Deep amber	30-31	11,7-12,0	104	104	0	0	179	155	0	0
Straw	28-29	11,0-11,2	103	103	0	0	121	107	0	0
Light amber	26-27	10,0-10,5	102	102	0	0	170	132	0	0
Yellow Caring valleys	24-25	9,5-9,7	101	101	0	0	255	106	0	0
Spring yellow Dark Yellow Green	22-23 20-21	8,7-9,0	100 90	100 90	0 182	0	188 255	83 67	0	0
Lime green	18-19	8,0-8,2 7,0-7,5	88	88	90	0	196	74	0	0
Just Blue	16-17	6,2-6,7	79	79	255	86	0	100	0	0
Tokyo Blue	14-15	5,5-6,0	71	71	255	170	0	109	57	0
Sky blue	12-13	4,7-5,0	068	068	237	55	92	105	0	0
Pale blue	10-11	4,0-4,2	063	063	97	0	115	102	0	0
Lavender	8-9	3,2-3,7	058	058	132	130	0	123	0	0
Bright Red Med Yellow	6-7 4-5	2,5-3,0	026 010	026 010	0	255 0	0 212	255 80	37 0	0
Med Yellow Med bastard amber	4-5 2-3	1,7-2,0 1,0-1,2	010	010	0	0	115	89	0	0
								~~		
Random Macro Color						-				
(only for Macro effects)	1	0,5		-		-	-	_	-	-

• DIMMER FINE - channel 15 (synchronized mode) - 18 (independent mode)



BIT	%	EFFECT
255	100	
:		
0	0.0	

BEAM SHAPER CHANGE - channel 16 (synchronized mode) - 19 (independent mode)



BIT	%	EFFECT
192-255	75.0-100	BEAM SHAPER 3
128-191	50.0-74.7	BEAM SHAPER 2
64-127	25.0-49.7	BEAM SHAPER 1
0 - 63	0.0 - 24.7	WHITE

• BEAM SHAPER ROTATION - channel 17 (synchronized mode) - 20 (independent mode)



BIT	%	EFFECT
255	100	FAST ROTATION (120 rpm)
193 191 - 192 190	75.5 74.7 - 75.0 74.2	SLOW ROTATION (3 rph) STOP SLOW ROTATION (3 rph)
128 127	50.0 49.7	FAST ROTATION (120 rpm) POSITION 540°
105	41.7	POSITION 450°
84	33.0	POSITION 360°
63	24.7	POSITION 270°
42	16.2	POSITION 180°
21	8.2	POSITION 90°
0	0.0	POSITION 0°

• ZOOM - channel 18 (synchronized mode) - 21 (independent mode)

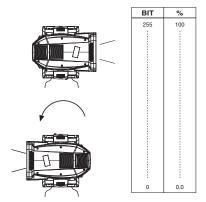


BIT	%	EFFECT
255	100	WIDE BEAM
,	0.0	NARROW BEAM
	0.0	NATITOW BEAW

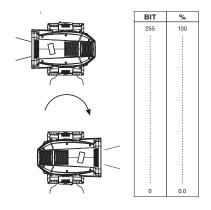
• PAN - channel 19 (synchronized mode) - 22 (independent mode)

Operation with option InvertPan \( \hat{0} \) Off

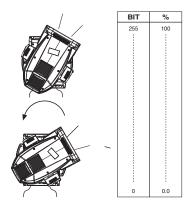
(Tilt conventionally represented at 14% and option Invert Tilt \ \ \ Off)



Operation with option InvertPan  $\,\,\hat{\circ}\,$  On (Tilt conventionally represented at 14% and option Invert Tilt  $\,\,\hat{\circ}\,$  Off)



PAN FINE - channel 20 (synchronized mode) - 23 (independent mode)
 Operation with option InvertPan ^ Off
 (Tilt conventionally represented at 14% and option Invert Tilt ^ Off)



Operation with option InvertPan  $\,\hat{\circ}\,$  On (Tilt conventionally represented at 14% and option Invert Tilt  $\,\hat{\circ}\,$  Off)



BIT	%
255	100
	100
0	0.0

• TILT - channel 21 (synchronized mode) - 24 (independent mode)

Operation with option Invert Tilt \hat{\circ} Off

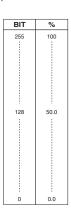
(Pan conventionally represented at 0% and option Invert Pan  $\,\,\hat{\lor}\,\,$  Off)



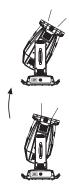


Operation with option Invert Tilt  $\, \hat{\circ} \,$  On (Pan conventionally represented at 0% and option Invert Pan  $\, \hat{\circ} \,$  Off)





• TILT FINE - channel 22 (synchronized mode) - 25 (independent mode) Operation with option Invert Tilt \hitharpoonup Off





Operation with option Invert Tilt  $\,\hat{\circ}\,$  On (Pan conventionally represented at 0% and option Invert Pan  $\,\hat{\circ}\,$  Off)



BIT	%
255	100
	1
0	0.0

## • FUNCTION - channel 23 (synchronized mode) - 26 (independent mode)

BIT	%	EFFECT
255	100	UNUSED RANGE
63	24.7	
51-62	20.0-24.2	LINEAR (Default)DIMMER CURVE
38-50	14.7-19.5	CONVENTIONALFUNCTION
25-37	9.7-14.2	NORMALPAN-TILT
12-24	4.7-9.5	FAST (Default) FUNCTION
0-11	0.0-4.2	UNUSED RANGE

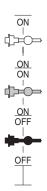
The functions are actived passing through unused range and staying 5 seconds in necessary level.

## • RESET - channel 24 (synchronized mode) - 27 (independent mode)

BIT	%	EFFECT		
255	100	COMPLETE RESET		
		Complete reset is activated passing throug the unused range and staying 5 seconds in complete reset levels.		
128	50.0 49.7	COMPLETE RESET PAN/TILT RESET		
		Pan / Tilt reset is activated passing throug the unused range and staying 5 seconds in Pan / Tilt reset levels.		
77 76	30.0 29.7	PAN / TILT RESET EFFECTS RESET		
		Effects reset is activated passing throug the unused range and staying 5 seconds in Effects reset levels.		
26 25	10.0 9.7	EFFECTS RESET		
0	0.0	UNUSED RANGE		

 LAMP CONTROL (only with option LAMP DMX On) channel 25 (synchronized mode) - 28 (independent mode)

IMPORTANT: Shotlight Wash is not provided with hot restrike igniter



BIT	%	EFFECT	
255	100	LAMP ON (FULL POWER)	
		Lamp ignition after 5 s in full power levels.	
		Immediate transition from half to full power.	
180 179	70.5 70.0	LAMP ON (FULL POWER) LAMP ON (HALF POWER)	
		Immediate transition from full to half power. Lamp ignition not allowed in half power.	
101 100	39.5 39.0	LAMP ON (HALF POWER) LAMP OFF	
		Lamp switch off passing throug the unused range and staying 5 s in Lamp OFF levels.	
26	10.0	LAMP OFF	
25	9.7	UNUSED BANGE	
0	0.0	ONOCE THINGE	

# **TIMING CHANNELS**

	Timing Channel	Channel function	
29	Pan - Tilt time	Pan – Tilt – (Pan Fine – Tilt Fine)	
30	Colour time	CMY – C.T.O. – Color wheel	
31	Beam time	Dimmer – Zoom	

# **TIME TABLE**

BIT	Seconds		
0	Full		
1	0.2		
2	0.4		
3	0.6		
4	0.8		
5	1		
6	1 1.2 1.4 1.6		
7	1.4		
8	1.6		
9	1.8		
10	2 2.2		
11 12	2.2		
12	2.4		
13	2.6		
14	2.8		
15	3		
16	3.2		
17	3.4		
17	3.6		
19	3.8		
20	4		
21	4.2		
22	4.4		
23	4.6		
24	4.8		
25	5		
26	5.2		
27	5.4		
28	5.6		
29	5.8		
30	6		
31	6.2		
32	6.4		
33	6.6		
34	6.8		
35	7		
36	7.2		
37	7.4		
_38	7.6		
39	7.8		
40	8		
41	8.2		
42	8.4		

BIT	Seconds	
43	8.6	
44	8.8	
45	9	
46	9.2	
47	9.4	
48	9.6	
49	9.8	
50	10	
51	10.2	
52	10.4	
53	10.6	
54	11	
55	11	
56	12	
57	12	
_58	13	
59	10	
_60		
61	14	
62		
_63_	15	
64	10	
65		
_66_	16	
67		
68	17	
69		
70		
71	18	
72		
73	19	
74		
75	00	
76	20	
77		
<u>78</u> 79	21	
	21	
80		
81 82	22	
83		
84	23	
04	23	

BIT	Seconds	
_86_	24	
_87		
_88_		
_89_	25	
90		
91	26	
92		
_93_		
94_	27	
95		
96	28	
97		
98		
99	29	
100		
101		
102	30	
103		
104	31	
105	- 01	
106		
107	32	
108		
109	33	
110		
111		
112	34	
113		
114	35	
115		
116		
117	36	
118		
119	37	
120	31	
121		
122	38	
123		
124		
125	39	
126		
127	40	
128	40	

BIT	Seconds	
129		
130	41	
131		
132		
133	42	
134		
135	43	
136		
137		
138	44	
139		
140	45	
141		
142	4.5	
143	46	
144		
145	47	
146		
147	40	
148	48	
149		
150	49	
151		
152		
153	50	
154		
155	F.4	
156	51	
157		
158	52	
159		
160	EO	
161	53	
162		
163	54	
164		
165		
166	55	
167		
168	56	
169		
170	57	
171		

BIT	Seconds	
172		
173	58	
174		
175		
176	59	
177		
178	60	
179	00	
180		
181	65	
182		
183	70	
184	70	
185		
186	75	
187		
188	80	
189		
190	0.5	
191	85	
192		
193	90	
194 195		
196	05	
197	95	
198		
199	100	
200		
201	110	
202	110	
203		
204	120	
205	_	
206		
207	130	
208	140	
209		
210		
211	150	
212	150	
213	160	
214		
215		

BIT	Seconds	
216	170	
217	170	
218		
219	180	
220		
221	100	
222	190	
223		
224	200	
225		
226		
227	210	
228	210	
229	220	
230	220	
231		
232	230	
233		
234	240	
235	240	
236		
237	250	
238		
239	260	
240		
241		
242	270	
243		
244	280	
245		
246	000	
247	290	
248		
249	300	
250		
251		
252	310	
253		
254	Fallar: -: -	
255	Follow cue Data	
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