MAX

User's Manual rel 1.2 GB

DTS

The Lighting Company

INDEX:

1- SYMBOLS

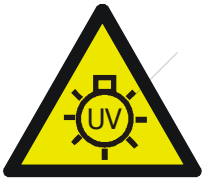
Graphic symbols used on this manual:

THIS SYMBOL INDICATES A HOT SURFACE

THIS SYMBOL INDICATES ELECTRIC SHOCK RISK

THIS SYMBOL INDICATES GENERAL RISK

THIS SYMBOL MEANS "DO NOT PLACE THE UNIT ON INFLAMMABLE SURFACES"



THIS SYMBOL MEANS "RADIATION FROM THIS LAMP CAN CAUSE DAMAGE TO EYES AND SKIN"

THIS SYMBOL INDICATES THE MINIMUM DISTANCE TO BE KEPT BETWEEN THE DEVICE AND THE LIT OBJECT

2- GENERAL WARNING

Read the instruction contained in this user manual carefully, as they give important information regarding safety during installation, use and maintenance.
The device is not for domestic use and must be installed by a qualified electrician or experienced person.
Always disconnect the device from the mains before replacing the lamp.
The lamp must be replaced if it has been damaged or deformed by prolonged use or overheating.
The device must always be equipped with an efficient ground connection.

3- GENERAL WARRANTY CONDITIONS

The unit is guaranteed for 36 months from the date of purchase against manufacturing material defects.

4- TECHNICAL FEATURES

Overview
MAX is the brand new top of the range of D.T.S. high-power compact moving heads line. MAX is the most complete moving head on the market, addressing any top level application: from concerts to special events; from television studios to theatres.
MAX features a special optical group with wide excursion motorized zoom that for the first time allows 4 different types of projection in a single moving head:
'Beam', 'Spot', 'Wash', and 'Studio'.
No need to stock a whole range of lights: MAX does it all.
MAX' wide excursion motorized zoom allows any application from long-throw projections to large wall washing.
Beam opening is: 1,5° - 2° 'Beam' projection; 2° - 37° 'Spot' projection;
10° - 60° 'Wash' projection.
But MAX introduces also the 'Studio' function (selectable via DMX); thanks to it, MAX projects a beam so uniform and evenly diffused as never before.
Add CMY synthesis, linear CTO, animation wheel, and light output comparable to the most powerful fixtures.
MAX comes equipped with the 'FPR' system (D.T.S. patent), which allows limitless pan rotation, in either direction, never having to reverse motion.
Also, MAX is very compact and light weight, the perfect moving head for rental companies – who want a quick and easy to install unit.

MAX
(D.T.S. Product Code: 03.MS014.EB.L)
• Electronic ballast 90-260V 50/60 Hz • Black finish

MAX FPR
(D.T.S. Product Code: 03.MS014.EBLFP)
• Electronic ballast 90-260V 50/60 Hz • FPR (Free Pan Rotation) • Black finish

Lamp
MSD PLATINUM 16R 330W (16.000 Lumens)
Colour temperature: 8.000°K typ.
Type of connection: PINS 2,8 x 0,8 mm
Remote lamp On-Off
Average lamp life: 1.500 hrs

Optical group
Improved optical group made with 11 coated lenses
100.000 Lux at 5 m
Motorized wide-excursion linear zoom
Beam opening:

1,5° - 2° (Beam projection)
2° - 37° (Spot projection)
10° - 60° (Wash projection)
4° - 40° (Studio projection)
16-bit motorized linear focus
Motorized Iris
Linear dimmer / shutter / strobe (0,85 flash/sec to 10 flash/sec)

4- TECHNICAL FEATURES

Colour generation
Linear CMY
Linear CTO
Colour wheel (17 colours + white) with linear selection for perfect 2-colour beams

Dynamic effects
Overlapping wheels for multiple effects:
Customizable rotating gobo wheel (9 gobos)
Customizable fixed gobo wheel (10 gobos)
Animation Wheel
4-facet rotating prism

Interface / Control / Programming
Li-Fe backup battery for controlling the main parameters even when MAX is not powered
LCD graphic display + 4 soft-keys (control / management / monitoring of the main parameters)
RDM
ARTNET available on request
Wireless ready
Updatable internal operating system

DMX
33 DMX channels

Pan & Tilt
MAX FPR (03.MS014.EBLFP)
'FPR': limitless pan rotation, in either directions, never having to reverse motion
Tilt 270° (1,5 sec.)

MAX (03.MS014.EB.L)
Pan 540° (2,5 sec.); Tilt 270° (1,5 sec.)

New Tri-phase stepper motor technology for ultra-fast and silent Pan & Tilt movements
16-bit resolution
Selectable speed ranges
Pan / Tilt lock

Power supply
Electronic ballast: 90-260V 50/60 Hz
Power consumption: 450W with PFC

Energy saving
Power saving mode (the lamp dims to 80% after shutter closure)

Connectors
DMX: 4x XLR connectors (3-pole In and Out; 5-pole In and Out) by Neutrik;
Power supply: POWERCON connectors (Power In / Power Out) by Neutrik

Operating ambient temperature
-10° / 40°

Weight
20 Kg

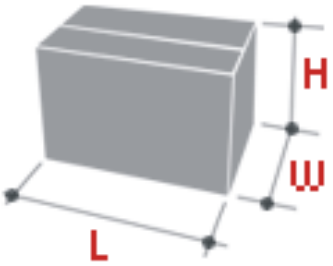
Internal safety devices
Overvoltage circuit protection and overtemperature circuit protection

International certifications
Safety: EN 60598-1: 2009
EN 60598-2-17: 1989

EMC: EN 55015.2006

Dimensions

Packaging Dimensions (LxWxH)	Unit Dimensions (LxWxH)
520 x 520 x 610 mm	395x410x600mm
Weight: 24,1 Kg	Weight: 20 Kg



5- ACCESSORIES

As standard

* 1 x MSD PLATINUM 16R 330W lamp (already installed in the projector) (Code 0505S036)
* 1 x POWERCON male cable connector (Code 0520P014)
* 1 x XLR 5 Pins male cable connector (Code 0508B066)
* 1 x XLR 5 Pins female cable connector (Code 0508B065)
* 2 x Omega clamp with “Fast Lock” connection 1/4 turn (Code 02K00549)
* User’s manual

Optional (on request)

• “C” Clamp G100 black / professional (max. load 200Kg) (Code 0521A015)
• Aliscaf Clamp (max. capacity load 100Kg) (Code 0521A008)
• Safety wire (3mm x 60 cm), ring spring catch, max. capacity load 60Kg (Code 0521A010)

6- IMPORTANT SAFETY INFORMATION

6.1 Fire prevention:

MAX uses a MSD PLATINUM 16R 330W lamp.
The use of any other alternative lamp is not recommended and will null and void the fixture's warranty.
-Never locate the fixture on any flammable surface.
-Minimum distance from flammable materials: 1 m .
-Minimum distance from the closest illuminable surface: 2 m.

-Replace any blown or damaged fuses only with those of identical value (6,3AT). Refer to the wiring diagram if there is any doubt.
-Connect the projector to mains power via a thermal magnetic circuit breaker.

6.2 Prevention of electric shock:

-High voltage is present inside the unit.
Unplug the unit prior to performing any function which involves touching the inside of the moving head, including lamp replacement.
-The level of technology inherent in the MAX requires the assistance of specialised personnel for all servicing.
Please refer to an authorised D.T.S. service centre.
-A good earth connection is essential for proper functioning of the projector.
-Never connect the unit without proper earth connection.
-The fixture should be located in places with a good air ventilation.

6.3 Protection against ultraviolet radiation:

-Never turn on the lamp if any of the lenses, filters or plastic covering are damaged. Their respective shielding functions will only operate efficiently if they are in perfect working order.
-Never look directly the lamp when it is on.

6.4 Safety:

-The projector should always be installed with bolts, clamps and other tools that are capable of supporting the weight of the unit.
-Always use a second safety cable to sustain the weight of the unit in case of the failure of the main fixing point.
-The external surface of the unit, at various points, may exceed 70°C. Never handle the unit until at least 20 minutes have elapsed since the lamp was turned off.
-Always replace the lamp if any physical damage is evident.
-Never install the fixture in an enclosed area lacking sufficient air flow.
The ambient temperature should not exceed 40°C.
-A hot lamp may explode, so always wait for at least 20 minutes prior to attempting to replace the lamp.
-Always wear suitable hand protection when handling the lamp.

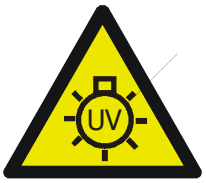
6.5 Level of protection against the penetration of solid and liquid objects:

-The projector is classified as an ordinary appliance and its protection level against the penetration of solid and liquid objects is IP20.
For outdoor use, D.T.S. reccomend the use of the dedicated raincovers.

7- MOUNTING / REPLACING THE LAMP

WARNING

Turn off the lamp before opening the unit head covers.
Never look directly at the lamp when it's lit.
Discharge lamps emits UV rays; radiation from this lamp can cause damage to eyes and skin.



Let the projector cool for at least 20 minutes.

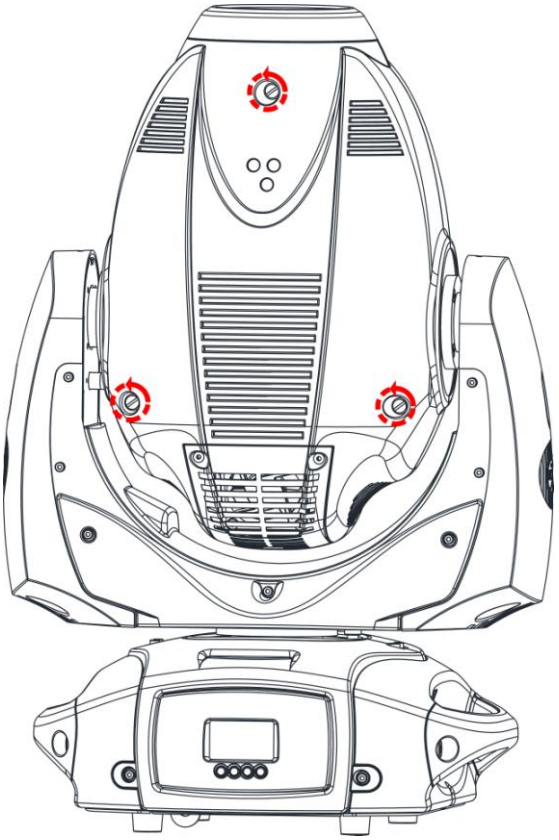
Switch off the unit and unplug the Mains AC cable connector before replacing the lamp.

REPLACEMENT LAMP (D.T.S. Code 0505S036) :

MSD PLATINUM 16R
Power 330W
Luminous flux 16.000 lm
Colour temperature 8.000°K typ.
Rated life 1500 hours

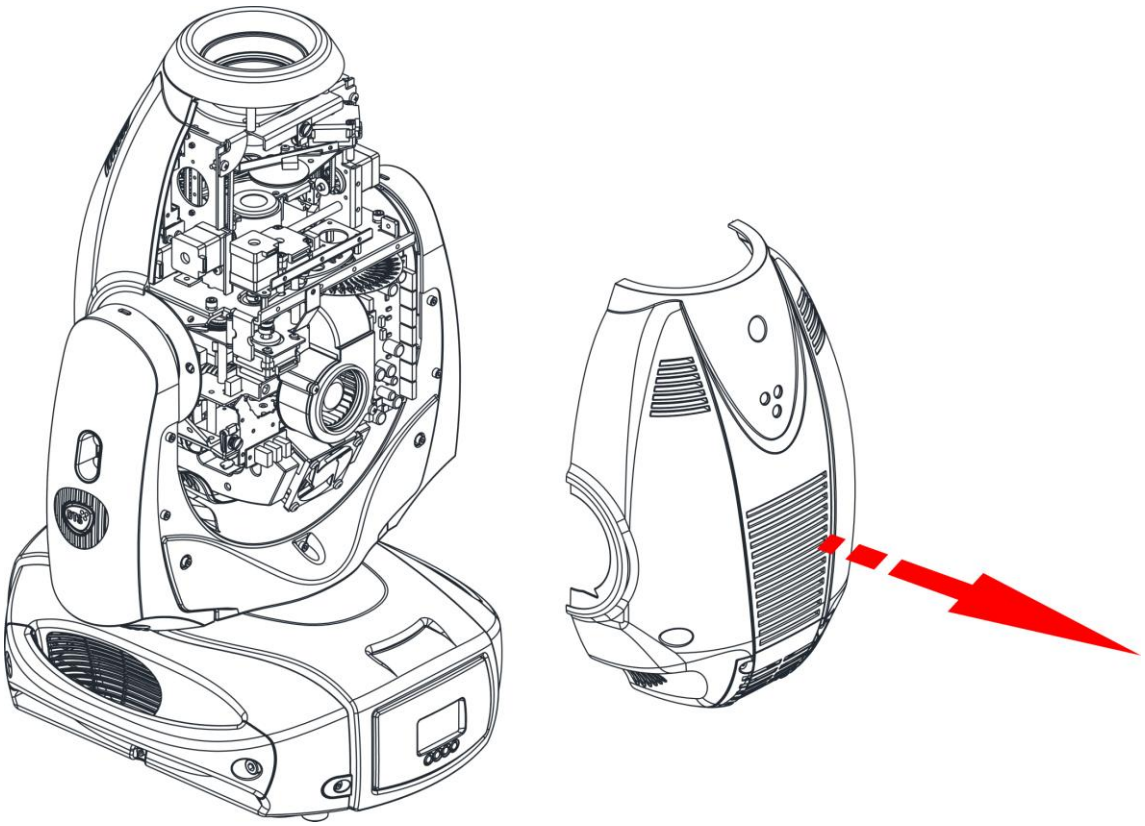
The use of any other alternative lamp is not recommended and will null and void the fixture's warranty.

1) Loosen the 3 “¼ turn” screws which fix the head covers on both sides (picture 1) .



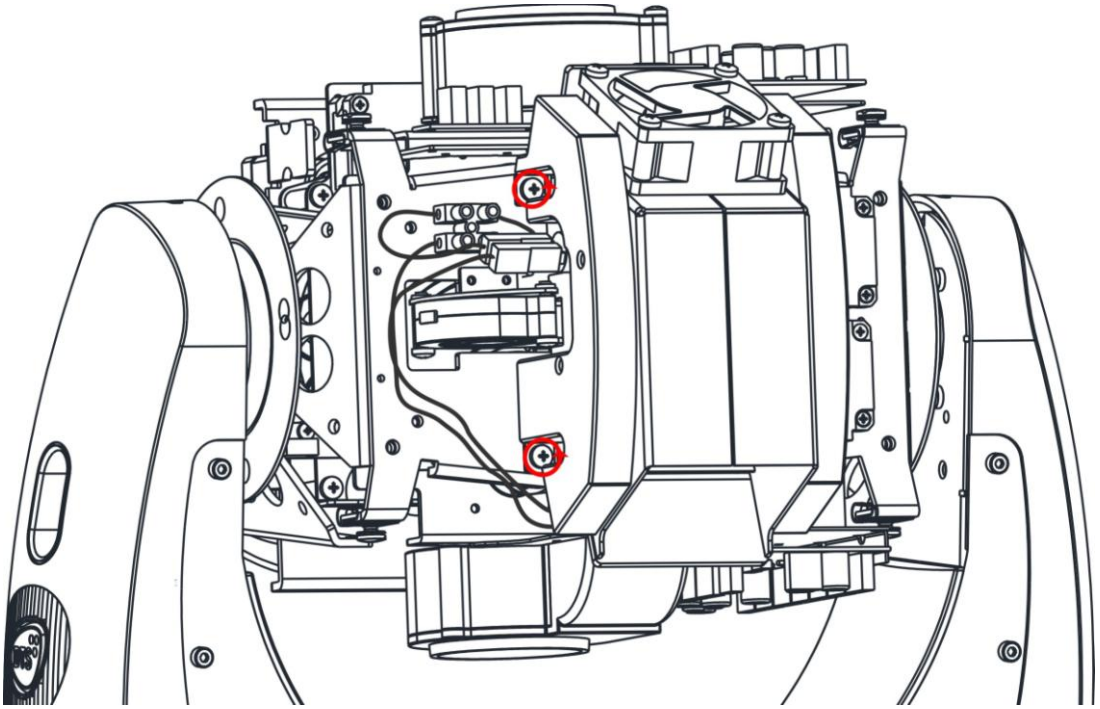
PICTURE 1

2) Once loosened the screws, simply lift the covers to access the internal components (picture 2).



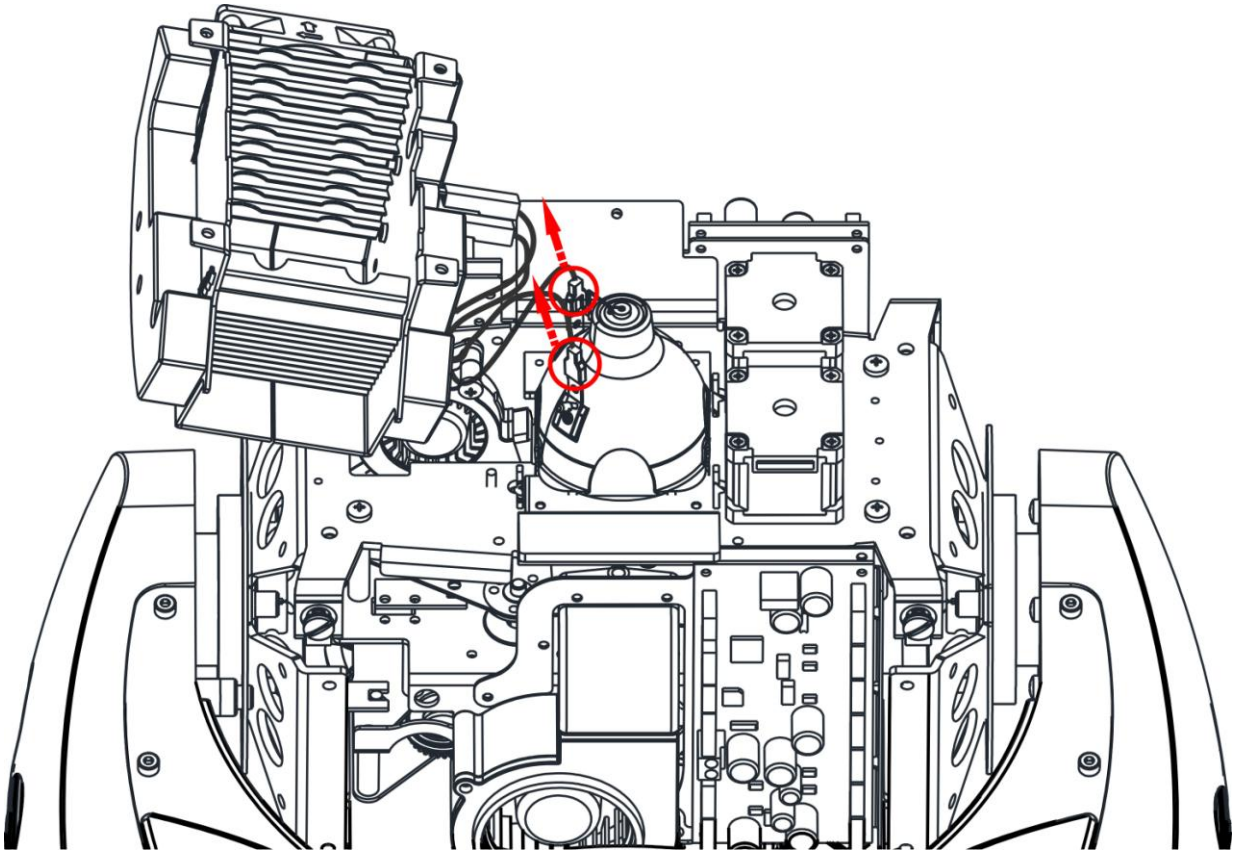
PICTURE 2

3) Using a phillips screwdriver, loose the indicated 2 screws which fix the lamp fan assembly on both sides and remove it (picture 3);

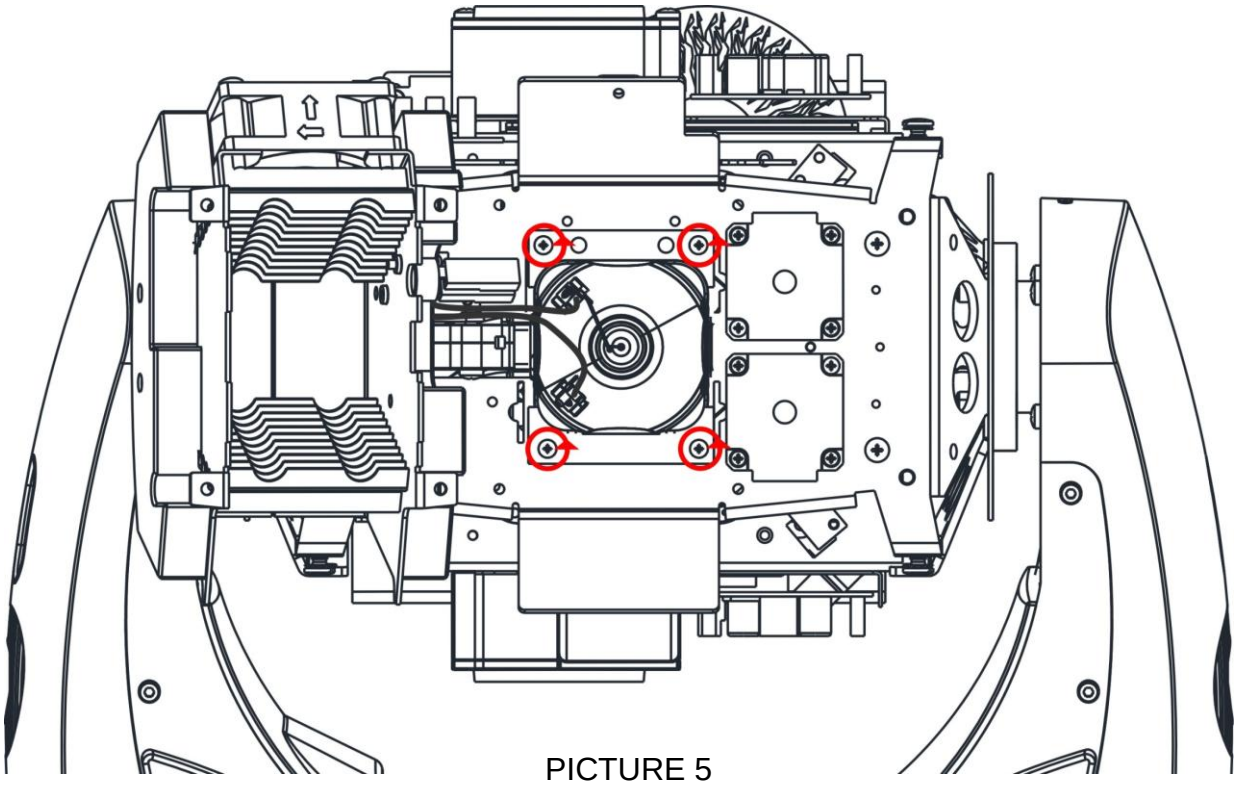


PICTURE 3

4) Unplug the two indicated fast-on cable connectors (picture 4), then loose the 4 screws from the metal plates that fix the old lamp (picture 5) and remove it.

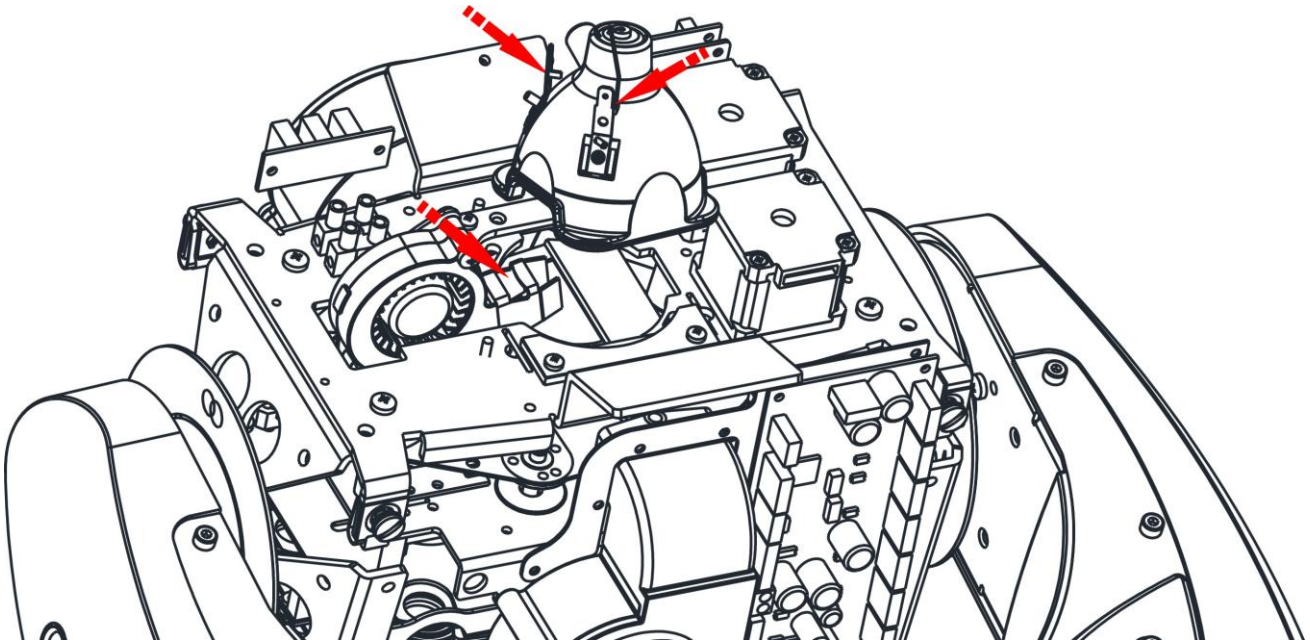


PICTURE 4



PICTURE 5

5) Put in place the new lamp in the lamp support.
Place the lamp terminals on the fan air conveyor side (Picture 6).



PICTURE 6

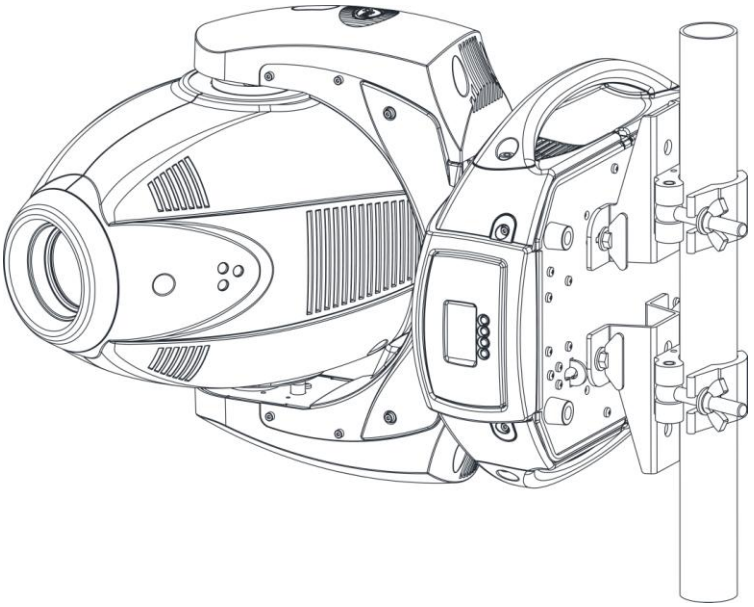
6) Lamp sub-assembly can now be re-installed, following backward all the above listed steps.

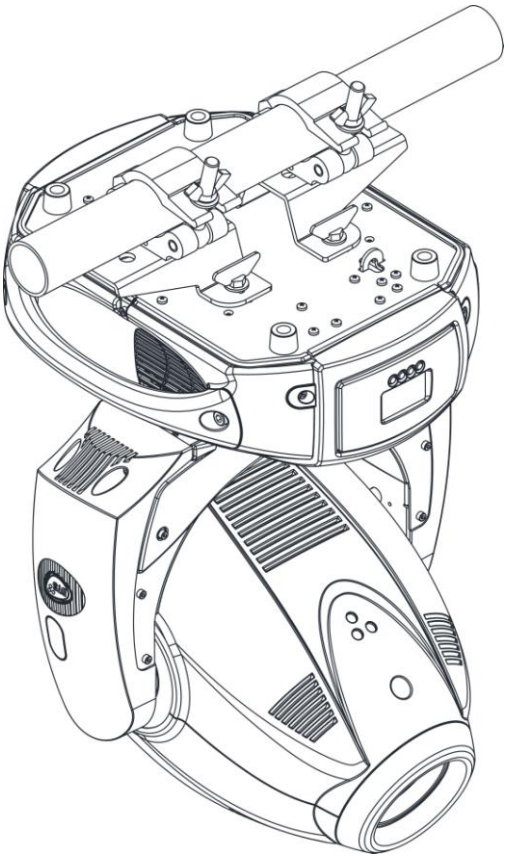
8- VOLTAGE AND FREQUENCY

The MAX with electronic ballast can operate at 90-260V 50 or 60 Hz.

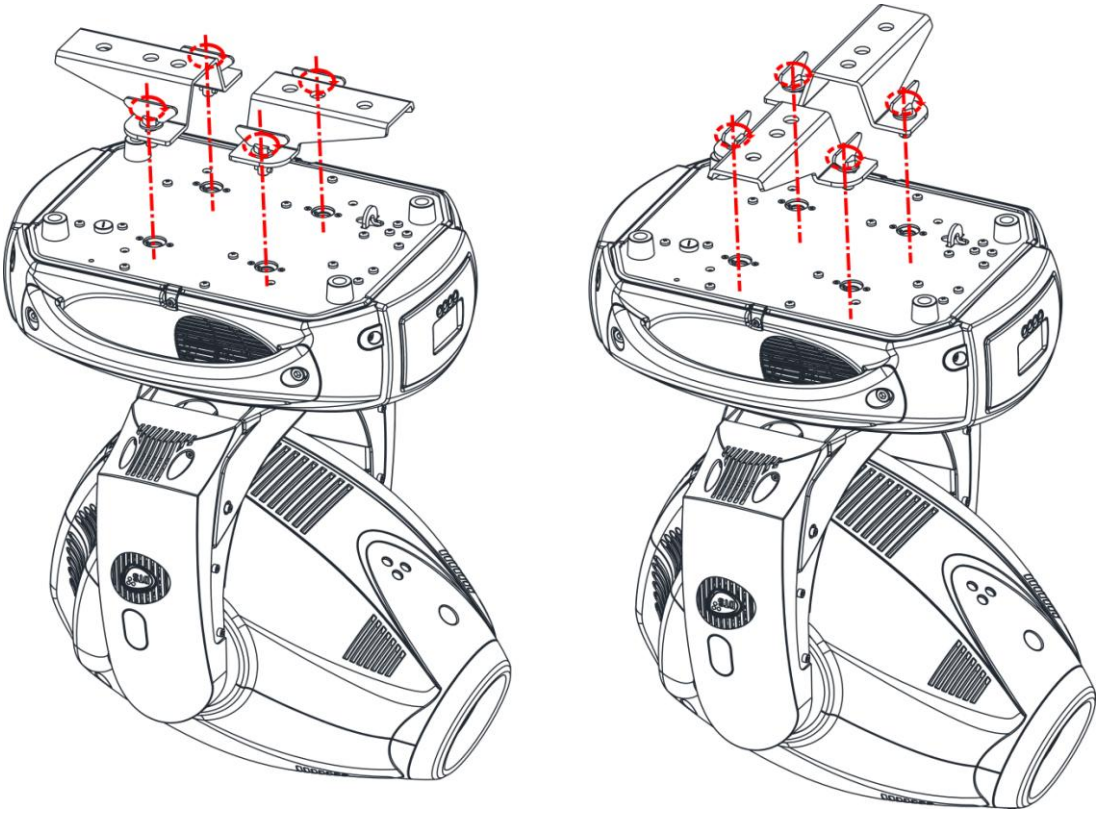
9- INSTALLATION

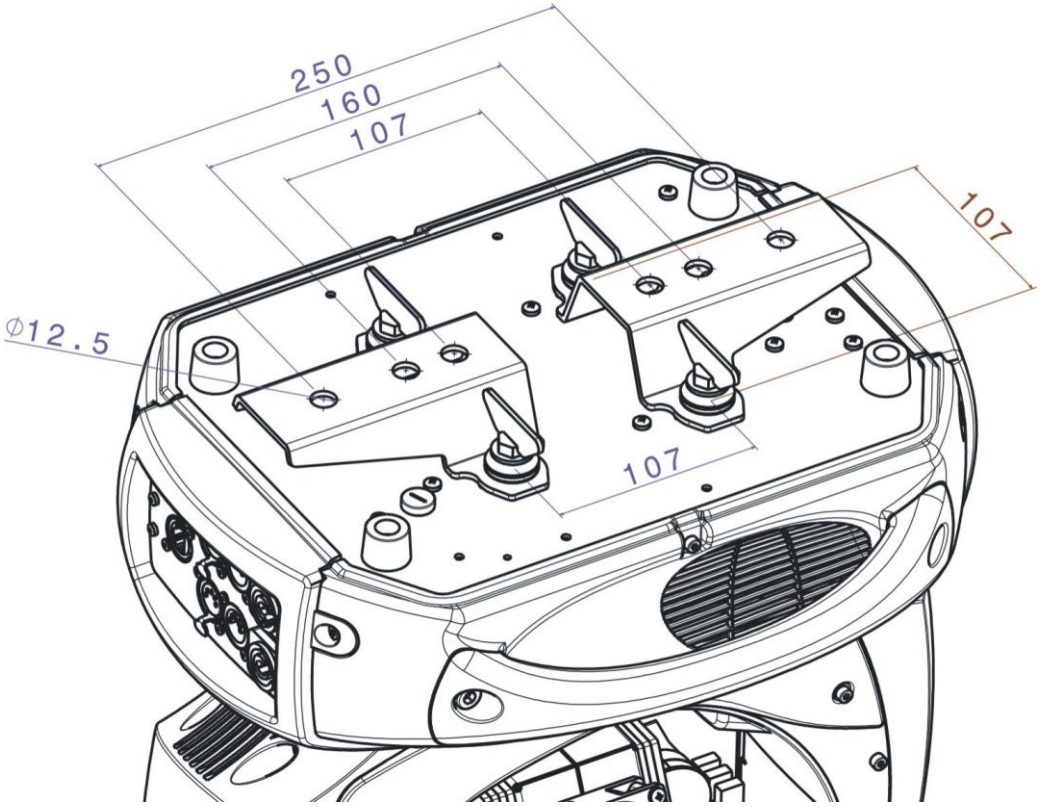
MAX may be either floor or ceiling mounted.
For floor mounting installations, the MAX is supplied with four rubber mounting feet on the base.
For ceiling mounted installations, we reccomend the use of appropriate clamps to fix the unit to the mounting surface.





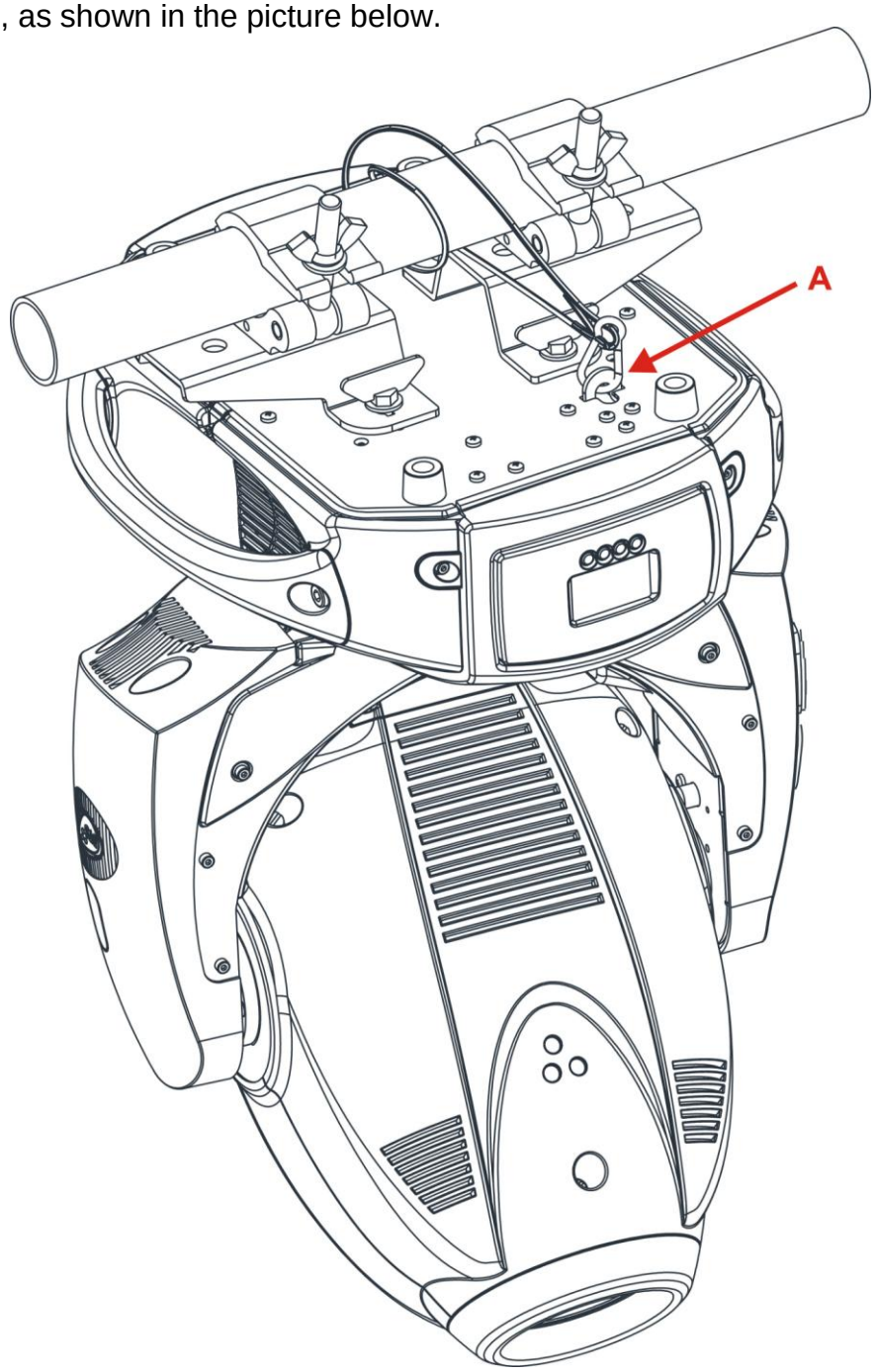
The supporting structure from which the unit is hung should be capable of bearing the weight of the unit, as should any clamps used to hang it.
The structure should also be sufficiently rigid so as not to move or shake whilst the MAX is moving.
Four 1/4 turn Fast Locks connections placed in the base of the unit allow to hang the MAX by using the two omega clamps (provided in the box) in conjunction with fixing clamps for truss (fixing clamps are not included into the unit box).





9.1- Safety cable

We recommend the use of a safety cable or chain connected to the MAX and to the suspension truss in order to avoid the fixture accidentally falling should the main fixing point fail.
Make sure that the iron cable or chain can bear the weight of the entire unit.
You may attach the safety chain/cord to the attachment point (A) located on the base of the fixture, as shown in the picture below.



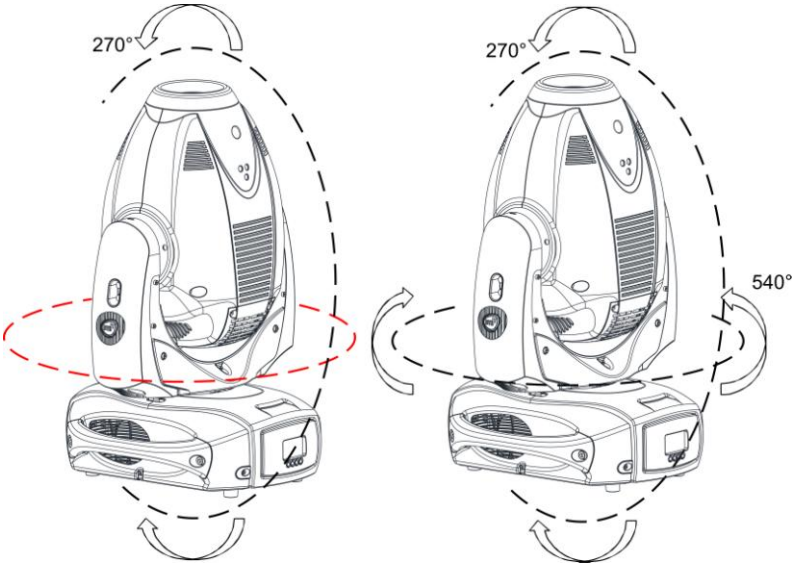
9.2 Protection against liquids

The projector contains electric and electronic components which should under no circumstances come into contact with oil, water or any other liquid.
The proper unit functioning would be compromised should this occur.

9.3- Movement

MAX FPR (03.MS014.EBLFP) Unlimited Pan rotation; Tilt 270° (1,5 sec.) .
MAX (03.MS014.EB.L) Pan 540° (2,5 sec.); Tilt 270° (1,5 sec.) .
Do not place any obstructions in the path of the projector's movement.

WARNING
Do not place any object in the path of the projector's movement



Free Pan Rotation ('FPR')
(03.MS014.EBLFP)

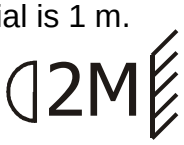
No 'FPR'
(03.MS014.EB.L)

Please Note: If two different MAX model (with and without FPR) are controlled at the same time via DMX controller, be sure that channel 6 (PAN FAR) is set to value 0. In this way, the MAX with FPR will react to DMX same as MAX with no FPR function.

9.4- Risk of fire

Each fixture produces heat and must be installed in a well-ventilated place.
The minimum recommended distance from flammable material is 1 m.

Minimum distance from the object being illuminated is 2 m.



9.5- Forced ventilation

You will note, on inspection, that the unit features various air inlets and cooling fans located on both the base and head of the fixture.
These should, under no circumstances, be blocked or obstructed whilst the projector is in operation. Doing so could cause the fixture to seriously overheat thereby compromising its proper operation.

9.6- Ambient temperature

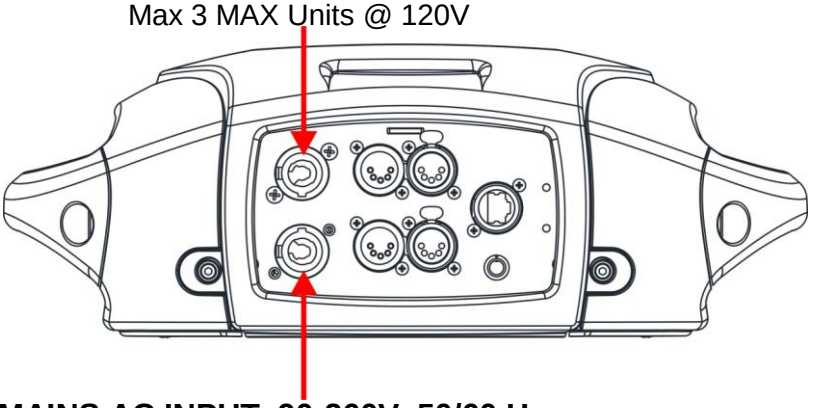
The projector should never be installed in places that lack a constant air flow.
The ambient temperature should NOT exceed 40°C.

10- MAINS CONNECTION

MAX with electronic ballast operate at 90-260V 50-60 Hz.
Prior to connecting the unit to your mains supply, ensure that the model in your possession correctly matches the mains supply available.
For connection purposes, ensure that your plug is capable of supporting 2,5 amps at 230 VOLT, or 6 amps at 90 VOLT each unit connected.
Strict adherence to regulatory norms is strongly recommended.

MAINS AC OUTPUT 90-260V 50/60 Hz (16A Max)

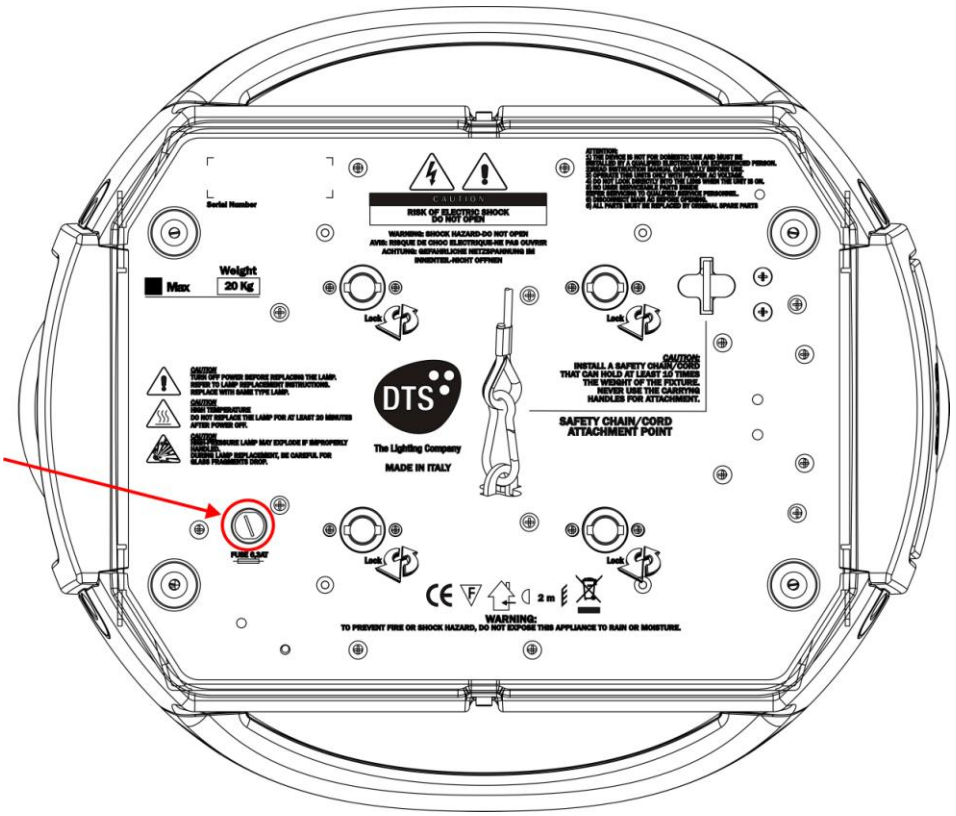
Max 6 MAX Units @ 230V
Max 3 MAX Units @ 120V



(03.MS014.EBLFP)
(03.MS014.EB.L)

MAINS AC INPUT 90-260V 50/60 Hz

FUSE 6,3A T



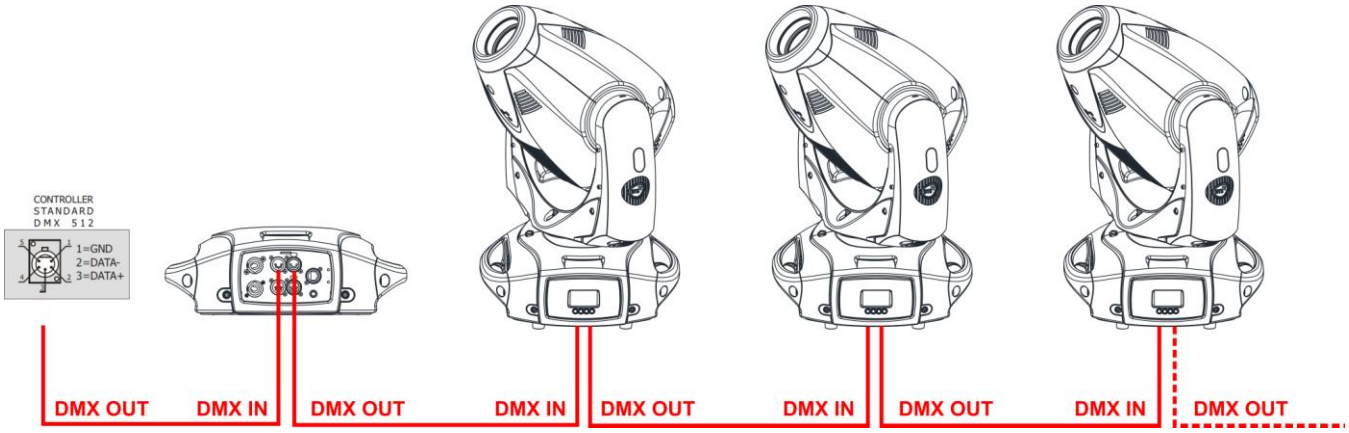
10.1- Protection

The use of a thermal magnetic circuit breaker is recommended for each MAX.
A good earth connection is essential for the correct operation of the projector.

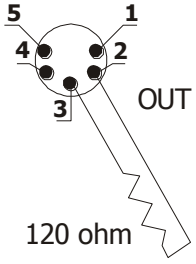
11- DMX SIGNAL CONNECTION

The unit operates using the digital DMX 512 signal.
Connection between the mixer and the projector or between projectors must be carried out using a two pair screened ø 0.5 mm cable and a XLR 5 or 3 pins connector.
Ensure that the conductors do not touch each other.
Do not connect the cable ground to the XLR chassy.
The plug housing must be isolated. Connect the mixer signal to the DMX IN projector plug and connect it to the next projector by connecting the DMX OUT plug on the first projector to the DMX IN plug of the second one.
This way, all the projectors are cascade connected.
NB. If the display showing the DMX address flashes, then one of the following errors has occurred:

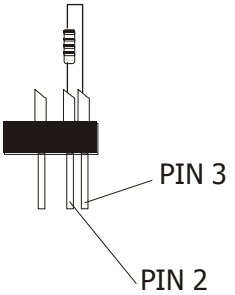
- DMX signal not present
- DMX address not valid
- DMX reception problem



For Installations where long distance DMX cable connections are needed, we suggest to use a DMX terminator.
The DMX terminator is a male XLR 3-5 pins connector with a 120 ohm resistor between pin 2 and 3.
The DMX terminator must be plugged into the last unit (DMX out panel connector) of the DMX line.



PLACE A 120 OHM RESISTOR BETWEEN PIN 2 AND 3 OF A MALE XRL CONNECTOR AND PLUG IT INTO THE DMX OUT PANEL CONNECTOR OF THE LAST UNIT CONNECTED TO THE DMX LINE



11.1-DMX Addresses

MAX can be used in 2 different DMX modes: 33 DMX control channels (Default) or 24 DMX control channels.
Here below is described the DMX channels addressing for the controller when MAX is set to 33 and 24 DMX control channels:

33 channels mode (Default)

Projector 1	A001	
Projector 2	A034	If you want to select the next projector, just add “33”
Projector 3	A067	
…..	A….	
projector 6	A166	

24 channels mode

Projector 1	A001	
Projector 2	A025	If you want to select the next projector, just add “24”
Projector 3	A049	
…..	A….	
projector 6	A121	

11.2-Selecting the DMX address

1) Press the UP-DOWN key until you reach the required DMX channel. The numbers on the display will start to flash (but the new DMX address hasn't yet been set).
2) Press ENTER to confirm your selection. The numbers on the display will stop flashing and the projector is now setted to the new DMX address.

TRICKS:
If you keep pushed the UP or DOWN keys, the channels are calculated more quickly and you get a faster selection.

12- FIRMWARE UPDATING

Warning:
This procedure require a base knowledge of computer applications and Windows Hyperterminal program. **Please refer to an authorised D.T.S. service centre.**

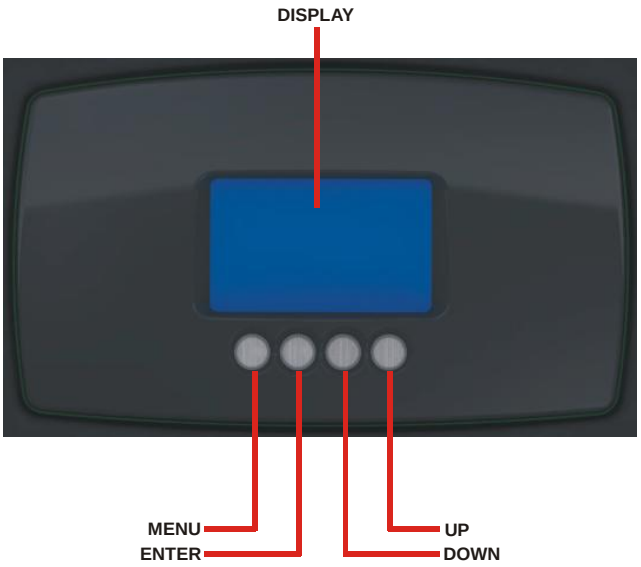
To update the software version of the MAX you need:
D.T.S. RED BOX interface (D.T.S. Code: 03.LA.008).
USB-DMX Driver for the D.T.S. RED BOX interface.
(The driver and the installation procedure are available in our web site www.dts-lighting.it)

Updating the software version.
Please follow the procedure below to perform the update:

1. Install the D.T.S. RED BOX USB-DMX driver on the PC you will use to update the unit software.
2. Connect the D.T.S. RED BOX interface to the PC by using a USB cable.
3. Connect the D.T.S. RED BOX interface to the fixture by using a DMX cable.
4. Download the new software version into the unit by using Windows Hyperterminal program.

It will be possible to download the software from the reserved area of D.T.S. web site: www.dts-lighting.it.

13- DISPLAY FUNCTIONS



DISPLAY FUNCTIONS

The MAX display panel shows all the available functions . Using these functions, it is possible to change some of the parameters and add some functions. Changing the D.T.S. setting can vary the functions of the unit so that it does not respond to the DMX 512 used to control it. Carefully follow the instructions below before carrying out any variations or selections.
NOTE: the symbol ☞ shows which key has to be pushed to obtain the desired function.

Software Version: 50-35.40

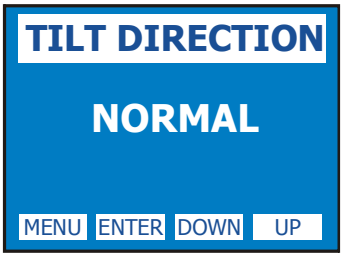
☞ Menu ☞ Up-Down Pan Direction ☞ ENTER ☞ Up-Down

PAN DIRECTION
This menu allows to set the Pan movement Normal or Reversed

Pan movement
Normal or Reversed
Default = Normal
☞ ENTER

☞ Menu ☞ Up-Down Tilt Direction ☞ ENTER ☞ Up-Down

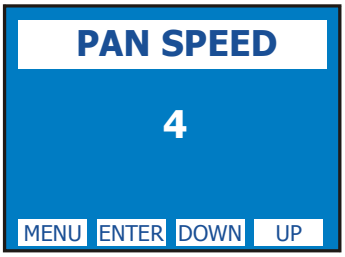
TILT DIRECTION
This menu allows to set the Tilt movement Normal or Reversed



Tilt movement
Normal or Reversed
Default = Normal
☞ ENTER

☞ Menu ☞ Up-Down Pan Speed ☞ ENTER ☞ Up-Down

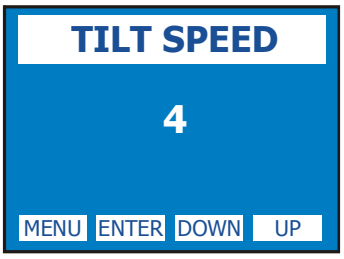
PAN SPEED
Pan Speed control (1-4)



Pan Speed control
(1-4)
Default = 4
☞ ENTER

☞ Menu ☞ Up-Down Tilt Speed ☞ ENTER ☞ Up-Down

TILT SPEED
Tilt Speed control (1-4)



Tilt Speed control
(1-4)
Default = 4
☞ ENTER

13- DISPLAY FUNCTIONS

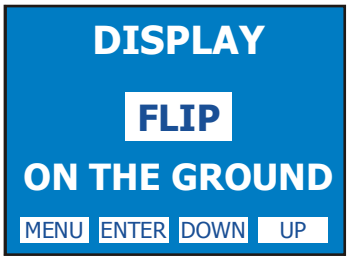
Menu Up-Down Display ENTER Up-Down

DISPLAY FLIP / STAND BY / CONTRAST

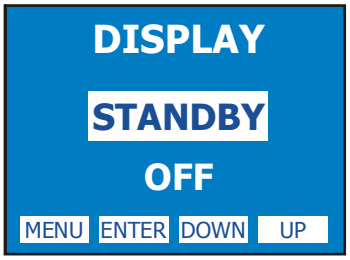
Display Flip:
Reverses display's reading depending on the mounting position
(on the ground or suspended).

Display Standby:
To turn off the display (after 5 seconds) or leave it always on.

Display Contrast:
Display contrast regulation (1-40)



Display Flip
ON THE GROUND (Default)
SUSPENDED
ENTER

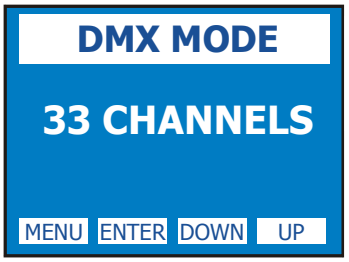


Display Standby
OFF = Display Standby disabled (Default)
ON = Display goes OFF after 5 seconds
ENTER

Display Contrast
1-40 (Default = 25)
ENTER

Menu Up-Down DMX Mode ENTER Up-Down

DMX MODE
To select DMX mode:
33 channels (Default) or 24 channels

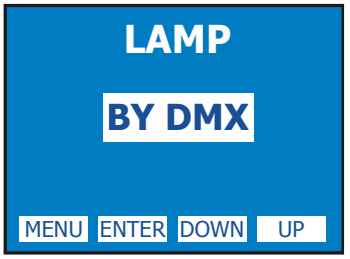


DMX Mode
33 channels (Default)
24 channels
ENTER

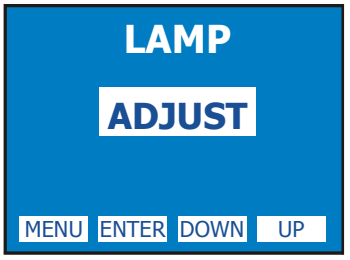
Menu Up-Down Lamp ENTER Up-Down

LAMP
Lamp always ON, Lamp always OFF, lamp ON-OFF selectable via DMX and lamp life time reset

ADJUST
To adjust the lamp with no mixer connected.
It's possible to set the parameters for PAN-TILT, FOCUS-FOCUS FINE and ZOOM.



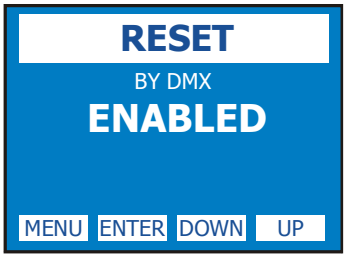
BY DMX = Lamp ON / OFF via DMX (Default)
ALWAYS ON = Forced ON
ALWAYS OFF = Forced OFF
RESET COUNTER = Lamp life time reset
ENTER



LAMP ADJUST = To adjust the lamp with no mixer connected.
It's possible to set the parameters for PAN-TILT, FOCUS-FOCUS FINE and ZOOM
ENTER

Menu Up-Down Reset ENTER Up-Down

RESET
Reset via DMX ENABLED / DISABLED and unit motors reset

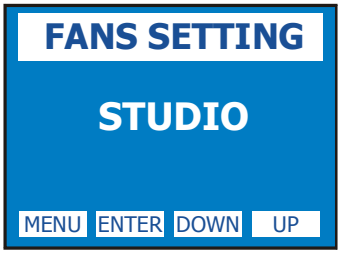


ENABLED = Reset via DMX enabled (Default)
DISABLED = Reset via DMX disabled
NOW = Unit motors reset
ENTER

13- DISPLAY FUNCTIONS

Menu Up-Down Fans Setting ENTER Up-Down

FANS SETTING
LIVE-TOUR mode (Default) or STUDIO mode



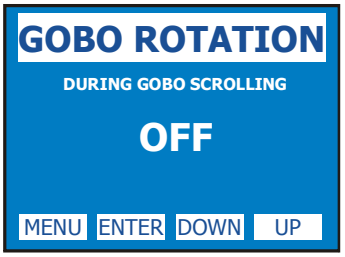
ENTER

LIVE-TOUR mode =
High fans speed: the lamp always works at maximum power (Default)

STUDIO mode =
Low fans speed for a very low noise operation: the lamp may be dimmed in particular circumstances

Menu Up-Down Gobo Rotation ENTER Up-Down

GOBO ROTATION
Gobo rotation during gobo scrolling for rotating gobo wheel

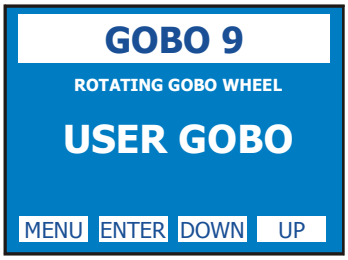


OFF = Default
ON

ENTER

Menu Up-Down Gobo 9 ENTER Up-Down

GOBO 9
To use the gobo 9 of the rotating gobo wheel with gobo Open-Studio or with the user gobo (provided in the box).
The parameter lets you have the correct focusing for each situation.



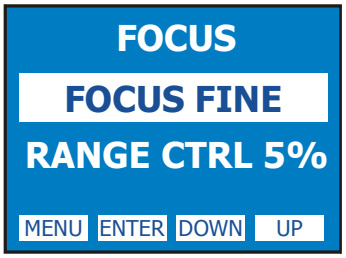
ENTER

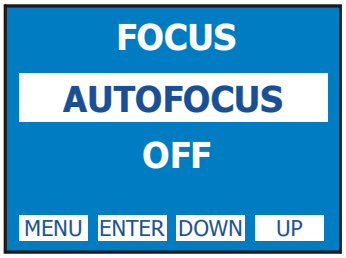
OPEN-STUDIO = To have the gobo Open-Studio focusing
USER GOBO = To have the user gobo focusing

Menu Up-Down Focus ENTER Up-Down

FOCUS FINE
Range Ctrl 5% or 16 Bit Ctrl (Default)
To select the Focus Fine change on the Focus channel.

AUTOFOCUS
Automatic focusing





ENTER

FOCUS FINE
RANGE CTRL 5% = To have a 5% Focus Fine change on the Focus channel.
16 BIT CTRL = To have a Focus Fine function same as the real 16 bit Focus Fine channel (Default).

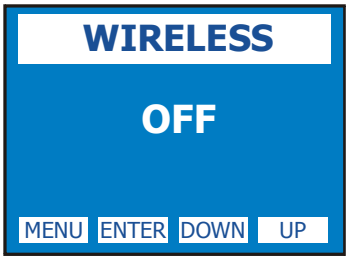
AUTOFOCUS
ON
OFF = Default

13- DISPLAY FUNCTIONS

Menu Up-Down Wireless ENTER Up-Down

WIRELESS
Wireless DMX enabled / disabled.

(Wireless module on request)



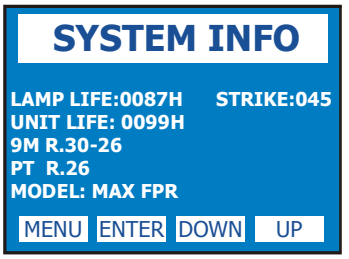
ENTER

ON = Enabled
OFF = Disabled (Default)
UNLINK = Log out

(Wireless module on request)

Menu Up-Down System Info ENTER Up-Down

SYSTEM INFO
Lamp life time, lamp strikes, unit life time, Master and Slave 9 motors cards software version, Pan&Tilt card software version and unit model

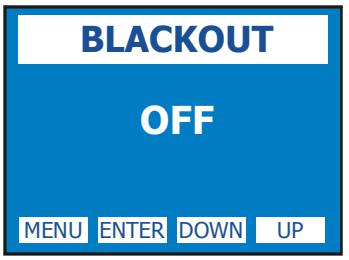


ENTER

SYSTEM INFO
Lamp life time, lamp strikes, unit life time, Master and Slave 9 motors cards software version, Pan&Tilt card software version and unit model

Menu Up-Down Black-out ENTER Up-Down

BLACK-OUT
CMY filters blades inserted at 100% and fixed gobo wheel inserted between gobo 1 and 2 when Dimmer is closed.
By activating this function, it will be possible to reduce substantially any visible light reflection coming out from the front lens.

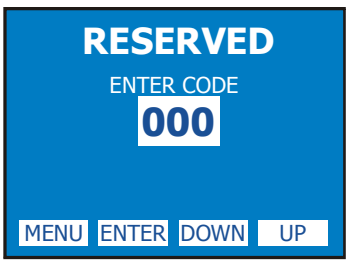


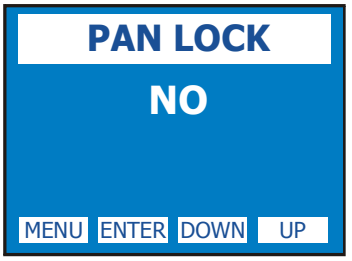
ENTER

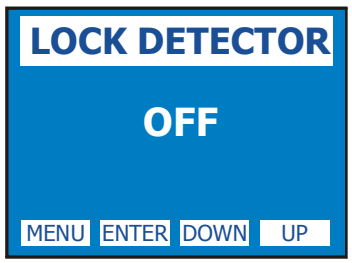
OFF = Black-out disabled (Default)
SNAP = Immediate Black-out
DELAY 1-5 SEC = Black-out enabled after 1, 2, 3, 4 or 5 seconds from Dimmer closed

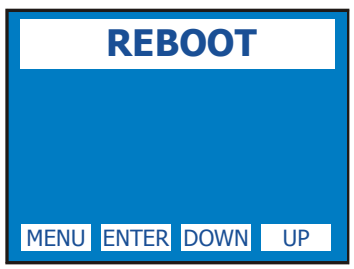
Menu Up-Down Reserved ENTER Up-Down

RESERVED
(Code = 100)
Pan lock-Tilt lock
Pan free-Tilt free
Lock Detector
Reboot
Exit To Main









ENTER

Pan Lock = Lock the Pan to the desired value
Tilt Lock = Lock the Tilt to the desired value
Pan Free = Remove power to Pan motor
Tilt Free = Remove power to Tilt motor

Lock Detector OFF = Default
Lock Detector ON: This function let the user to activate the Lock detector on Pan and Tilt. When Lock detector is set to ON, the unit start the Pan&Tilt motors reset normally, but if for any reason there is something blocking the movement for Pan&Tilt motors during the initial reset (example unit into the fly case and power connected), it automatically will stop to reset Pan&Tilt motors after 5 seconds from the startup and a warning message (Pan Locked-Tilt locked) will appear on unit display .

Reboot = Unit Reboot without needing of turning OFF the unit

Exit To Main = Exit from Reserved menu

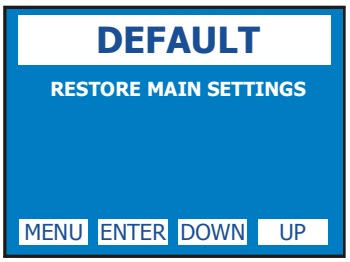
Menu Up-Down R. Gobo Speed ENTER Up-Down

ROTATING GOBO SPEED
To decrease the rotating gobo wheel speed from fastest (default) to fast

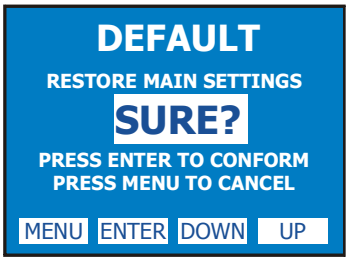
Fastest speed (Default) or Fast speed ENTER

Menu Up-Down Default ENTER Up-Down

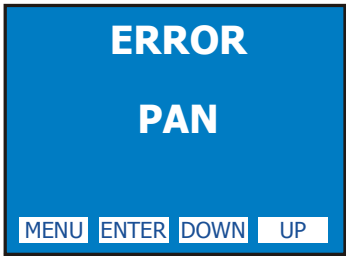
DEFAULT
To restore main settings



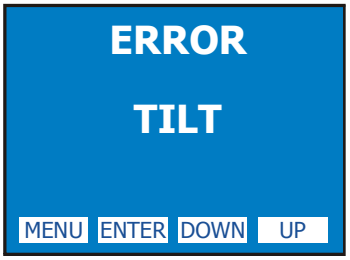
Default
To restore main settings ENTER



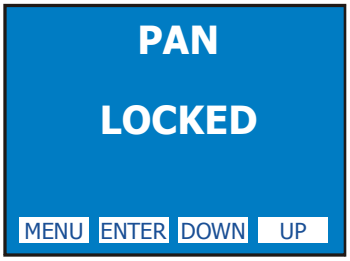
14- ERROR MESSAGES



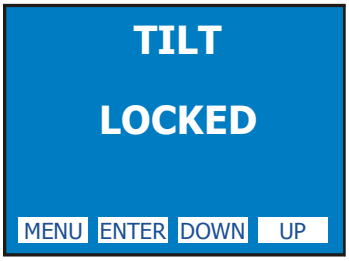
PAN REPOSITIONING ENCODER ERROR



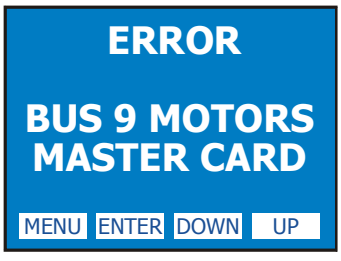
TILT REPOSITIONING ENCODER ERROR



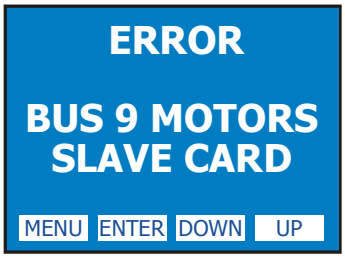
PAN LOCKED



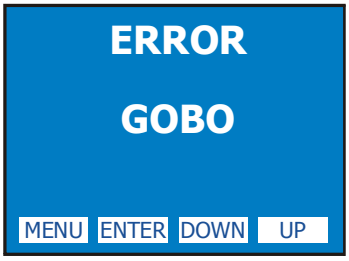
TILT LOCKED



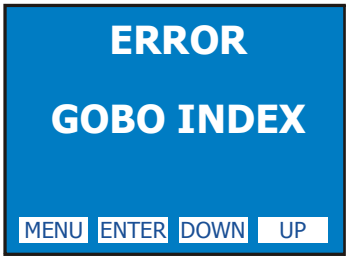
COMMUNICATION PROBLEM BETWEEN 9 MOTORS MASTER CARD AND PAN&TILT CARD



COMMUNICATION PROBLEM BETWEEN 9 MOTORS SLAVE CARD AND PAN&TILT CARD

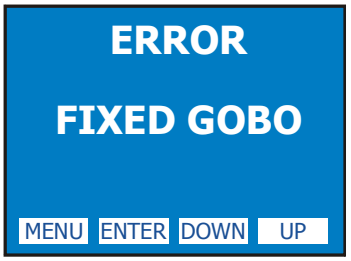


ROTATING GOBO WHEEL POSITION ERROR



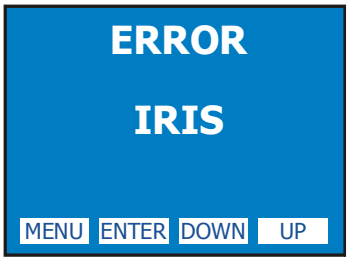
GOBOS POSITION ERROR

14- ERROR MESSAGES

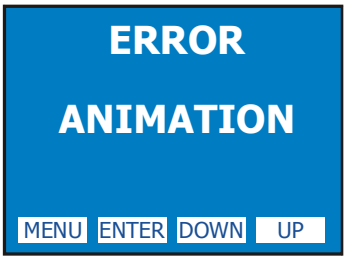


FIXED GOBO WHEEL POSITION ERROR

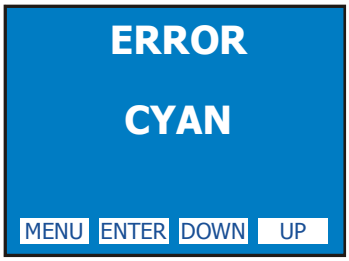
COLOUR WHEEL POSITION ERROR



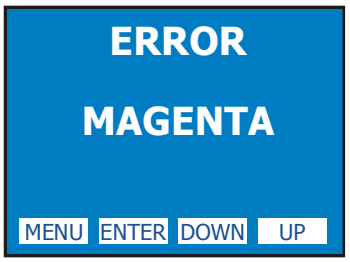
IRIS POSITION ERROR



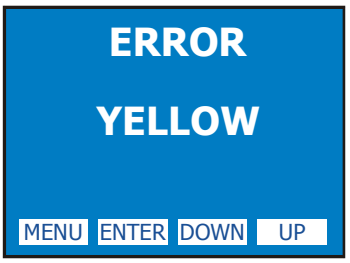
ANIMATION WHEEL POSITION ERROR



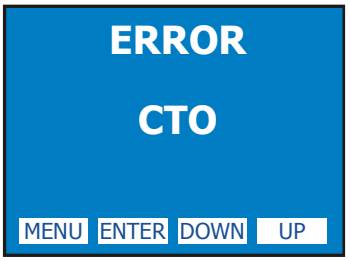
CYAN BLADE POSITION ERROR



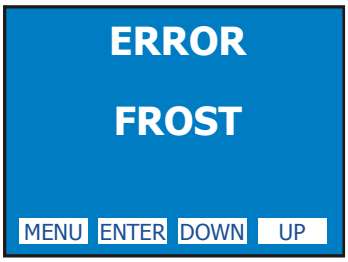
MAGENTA BLADE POSITION ERROR



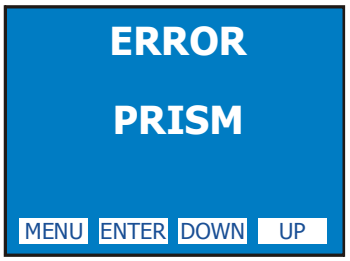
YELLOW BLADE POSITION ERROR



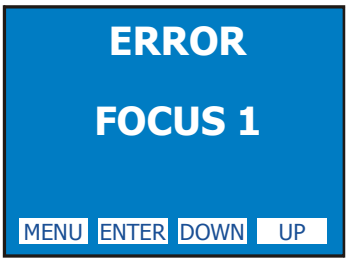
CTO BLADE POSITION ERROR



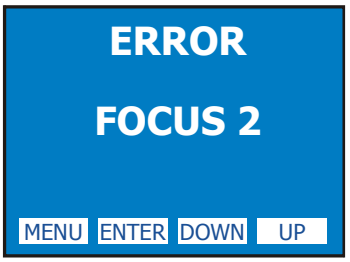
FROST BLADE POSITION ERROR



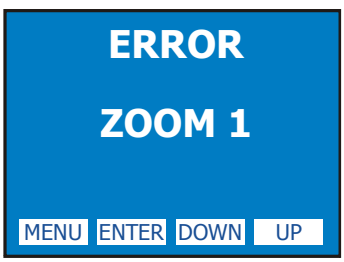
PRISM POSITION ERROR



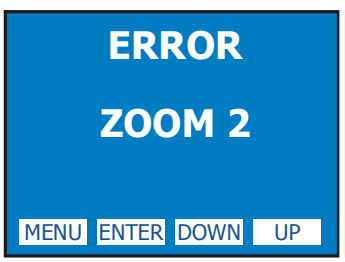
FOCUS MOTOR 1 POSITION ERROR



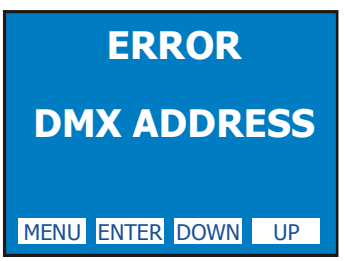
FOCUS MOTOR 2 POSITION ERROR



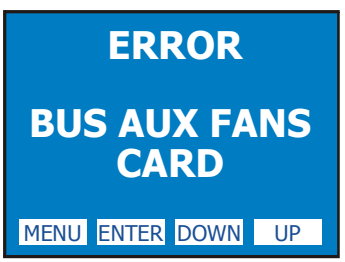
ZOOM MOTOR 1 POSITION ERROR



ZOOM MOTOR 2 POSITION ERROR



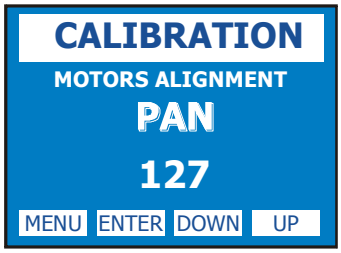
DMX ADDRESS ERROR



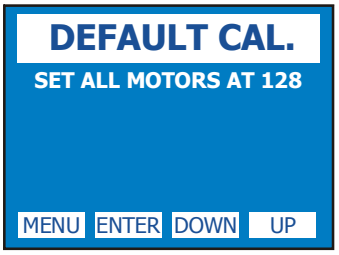
COMMUNICATION PROBLEM BETWEEN FANS CONTROL CARD AND PAN&TILT CARD

15- HIDDEN MENU (only for technical personnel)

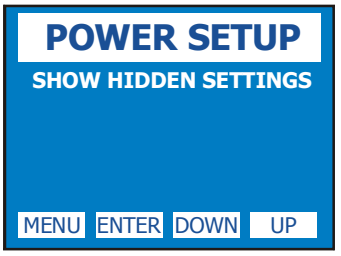
To operate this menu:
- Connect the projector to the DMX controller (DMX SIGNAL MUST BE CORRECTLY RECEIVED)
- Reset the RAPTOR (reset from the MENU, not from the DMX controller).
- While reset is running, press the MENU and ENTER keys at the same time.



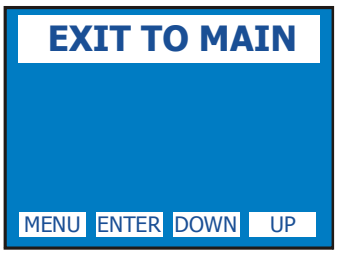
ELECTRONIC CALIBRATION OF THE MOTORS



RESET ALL SETTINGS TO VALUE 128

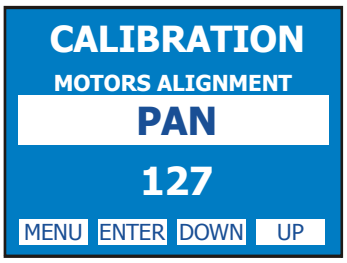


FANS / POWER SETTINGS MENU

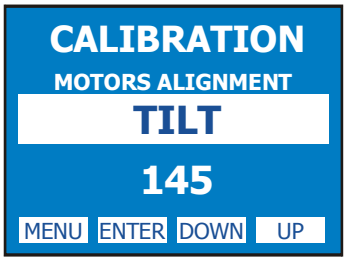


EXIT FROM HIDDEN MENU

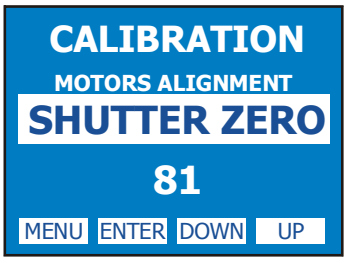
15.1 Calibration mode



PAN ALIGNMENT
To align Pan position



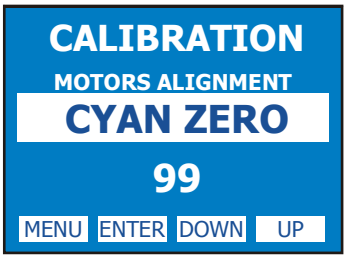
TILT ALIGNMENT
To align Tilt position



SHUTTER ZERO ALIGNMENT
Shutter zero position setting

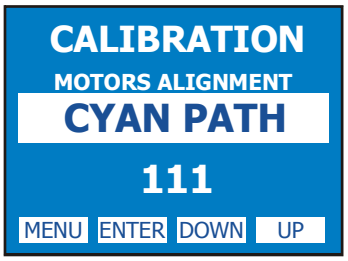
SHUTTER PATH ALIGNMENT
Shutter excursion setting

COLOUR WHEEL ALIGNMENT
To align Colour wheel

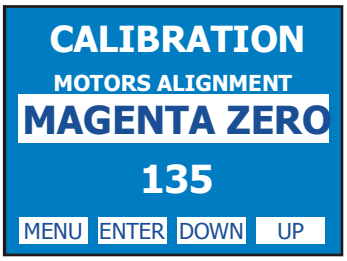


CYAN ZERO ALIGNMENT
Cyan Zero position setting

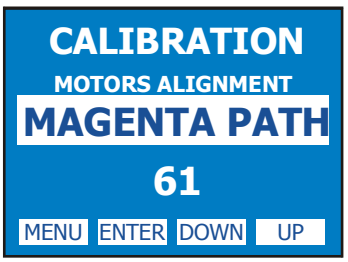
15.1 Calibration mode



CYAN PATH ALIGNMENT
Cyan excursion setting



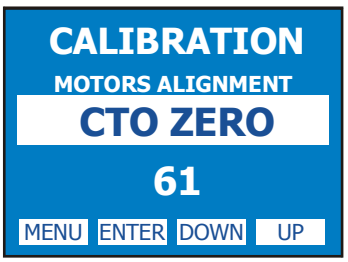
MAGENTA ZERO
ALIGNMENT
Magenta Zero position setting



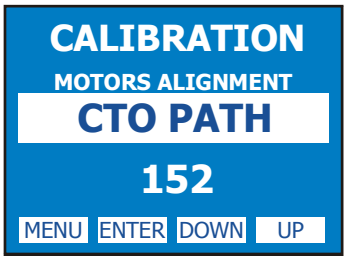
MAGENTA PATH
ALIGNMENT
Magenta excursion setting

YELLOW ZERO
ALIGNMENT
Yellow Zero position setting

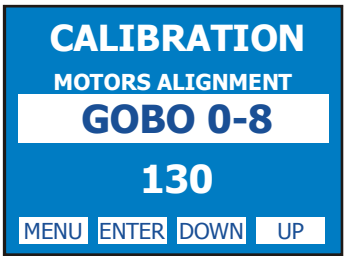
YELLOW PATH
ALIGNMENT
Yellow excursion setting



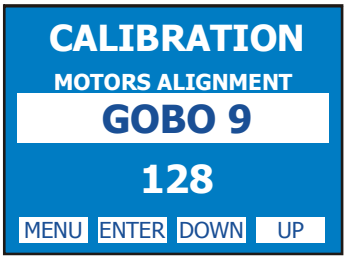
CTO ZERO ALIGNMENT
CTO Zero position setting



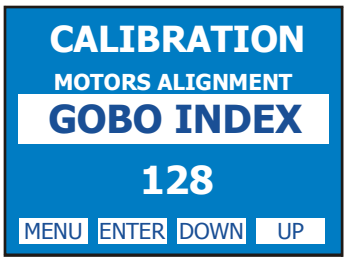
CTO PATH ALIGNMENT
CTO excursion setting



GOBO 0-8 ALIGNMENT
To align Rotating gobo wheel
from gobo 0 to gobo 8

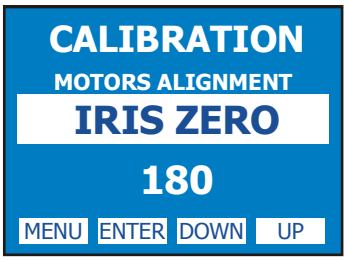


GOBO 9 ALIGNMENT
To align Gobo 9 of the
rotating gobo wheel



GOBO WHEEL INDEX
ALIGNMENT
To align Gobo wheel index

FIXED GOBO WHEEL
ALIGNMENT
To align Fixed gobo wheel



IRIS ZERO ALIGNMENT
Iris Zero position setting

15.1 Calibration mode

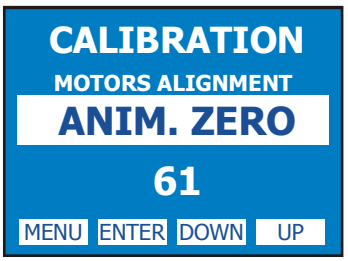
IRIS PATH ALIGNMENT
Iris excursion setting

PRISM ZERO ALIGNMENT
Prism Zero position setting

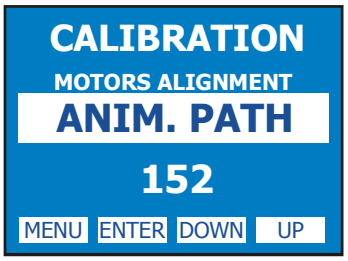
PRISM PATH ALIGNMENT
Prism excursion setting

FROST ZERO ALIGNMENT
Frost Zero position setting

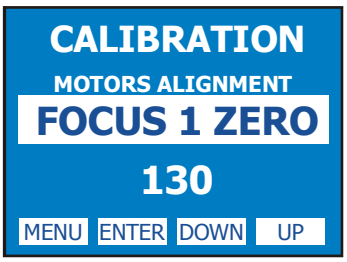
FROST PATH ALIGNMENT
Frost excursion setting



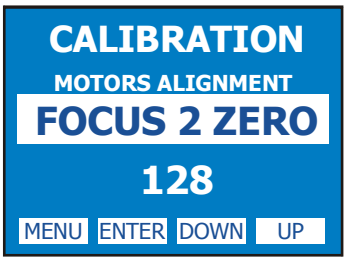
ANIMATION WHEEL ZERO ALIGNMENT
Animation Wheel Zero position setting



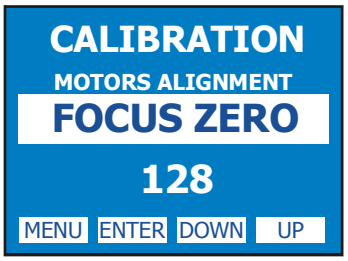
ANIMATION WHEEL PATH ALIGNMENT
Animation wheel excursion setting



FOCUS 1 ZERO ALIGNMENT
Focus motor 1 zero position setting

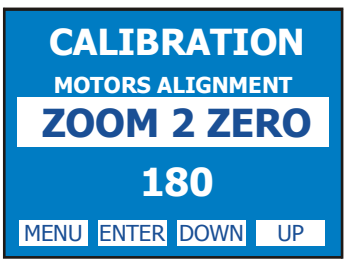


FOCUS 1 ZERO ALIGNMENT
Focus motor 2 zero position setting



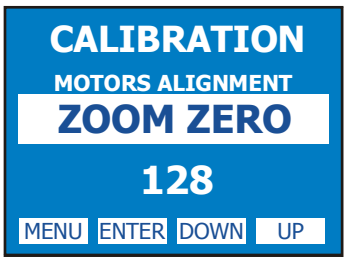
FOCUS ZERO ALIGNMENT
Focus Zero position setting

ZOOM 1 ZERO ALIGNMENT
Zoom motor 1 zero position setting



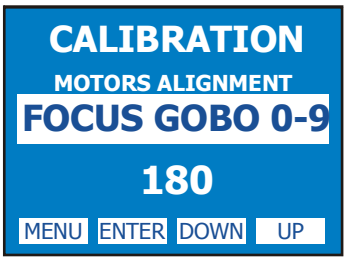
ZOOM 2 ZERO ALIGNMENT
Zoom motor 2 zero position setting

15.1 Calibration mode

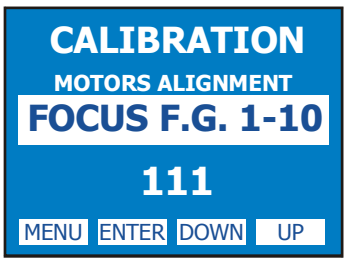


ZOOM ZERO ALIGNMENT
Zoom Zero position setting

ZOOM PATH ALIGNMENT
Zoom excursion setting

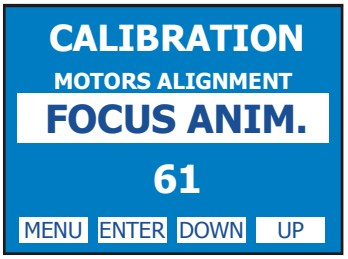


FOCUS ROT. GOBO 0-9
Rotating gobos focusing from gobo 0 to gobo 9



FOCUS FIX. GOBO 1-10
Fixed gobos focusing from gobo 1 to gobo 10

FOCUS IRIS
Iris focusing setting



FOCUS ANIMATION WHEEL
Animation wheel focusing setting

16- PAN SPEED & TILT SPEED

You can set the PAN and TILT motors at high speed on your MAX.
Press menu until you see PAN SPEED / TILT SPEED.
Press ENTER and select a speed with UP-DOWN (there are 4 speeds).
Confirm by pressing ENTER.

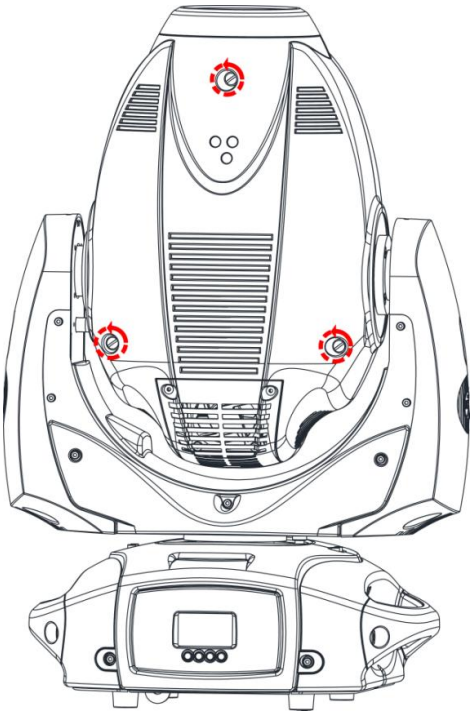
17- OPENING THE PROJECTOR HOUSING

It is possible to inspect the inside of the projector by removing the cover as indicated below.

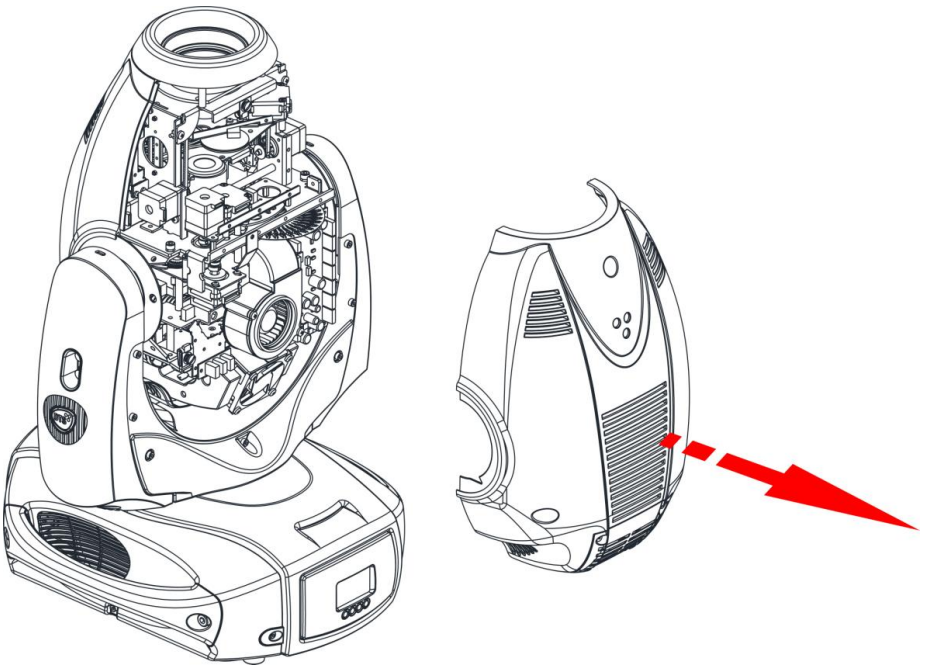
ATTENTION
REMOVE MAINS POWER PRIOR TO ACCESSING THE PROJECTOR'S INTERNAL COMPONENTS.

1) Loosen the 3 "¼ turn" screws which fix the head covers on both sides (picture 1) .

2) Once loosened the screws, simply lift the covers to access the internal components (picture 2).



PICTURE 1



PICTURE 2

18- PERIODIC CLEANING

18.1- Lenses and reflectors

Even a fine layer of dust can reduce the luminous output substantially.
Regularly clean all lenses and the reflector using a soft cotton cloth, dampened with a specialist lens cleaning solution.

18.2- Fans and air passages

The fans and air passages must be cleaned approximately every 6 weeks.
This periodic cleaning will depend of course, on the conditions in which the projector is operating.
Suitable instruments for performing this type of maintenance are a brush and a common vacuum cleaner or an air compressor.
If necessary, clean the fans and air passages more frequently.

19- PERIODIC CONTROLS

Attention 

Disconnect mains power prior to removing the projector housing.

Lamp 

The lamp should be replaced if there is any visible damage or deformation due to heat. This will help to avoid the danger of the lamp exploding.
MAX lamp lifespan is about 1500 hours, then it is necessary to replace it.

Mechanical parts

Periodically check all mechanical parts, gears, guides, belts, etc. for wear and tear, replacing them if necessary.
Periodically check the lubrification of all components, particularly the parts subject to high temperatures.
If necessary, lubrificate with suitable lubrificant, available from your D.T.S. distributor.
Check the tension of the belts and adjust it if necessary.

Electrical components 

Check all electrical components for correct earthing and proper connection of all connectors, refastening if necessary.

Fuse replacement

Locate the fuse, which protects the lamp and electronics, in the base of the MAX.
Using a multimeter, test the condition of the fuse, replacing it with one of equivalent type (6,3AT) if necessary.

20- DMX PROTOCOL

33 CHANNELS MODE

1 **PAN msb**
2 **PAN lsb**
3 **TILT msb**
4 **TILT lsb**
5 **SPEED MOVEMENT**
6 **PAN FAR** (Active only on MAX FPR)
7 **DIMMER**
8 **SHUTTER**
9 **COLOUR**
10 **COLOUR MODE**
11 **CYAN**
12 **MAGENTA**
13 **YELLOW**
14 **CTO**
15 **SPEED CMY**
16 **MACRO CMY**
17 **GOBO**
18 **GOBO MODE**
19 **GOBO ROTATION / INDEX**
20 **GOBO INDEX FINE**
21 **GOBO SHAKE**
22 **FIXED GOBO**
23 **FIXED GOBO SHAKE**
24 **IRIS**
25 **IRIS MACROS**
26 **ANIMATION**
27 **FROST**
28 **PRISM**
29 **PRISM / ANIMATION ROTATION**
30 **FOCUS**
31 **FOCUS FINE**
32 **ZOOM**
33 **RESET + LAMP**

DMX CHANNEL	1	Parameter: **PAN msb**
DMX CHANNEL	2	Parameter: **PAN lsb**

DMX CHANNEL	3	Parameter: **TILT msb**
DMX CHANNEL	4	Parameter: **TILT lsb**

DMX CHANNEL	5	Parameter: **SPEED MOVEMENT**

DMX value	**Function**
000-010	Standard
011-025	Fast movement
026-127	Vector mode from fast to slow
128-247	Variable time reaction to dmx signal (fast to slow)
248-255	Silent movement

DMX CHANNEL	6	Parameter: **PAN FAR (active only on MAX FPR)**
DMX value	**Function**	
000-010	Position mode 540° (standard path)	
011-020	Position mode 360° (1 turn)	
021-030	Position mode 720° (2 turns)	
031-040	Position mode 1080° (3 turns)	
041-050	Position mode 1440° (4 turns)	
051-060	Position mode 1800° (5 turns)	
061-070	Position mode 2160° (6 turns)	
071-080	Position mode 2520° (7 turns)	
081-090	Position mode 2880° (8 turns)	
091-100	Position mode 3240° (9 turns)	
101-110	Position mode 3600° (10 turns)	
111-120	Position mode 360° smart path	
121-182	Forward spin rotation speed from max to min	
183-193	Stop	
194-255	Reverse spin rotation speed from min to max	

DMX CHANNEL	7	Parameter: **DIMMER**
DMX value	**Function**	
000-007	Black-out	
008-255	Proportional dimmer	

DMX CHANNEL	8	Parameter: **SHUTTER**
DMX value	**Function**	
000-019	Black-out	
020-039	Open	
040-059	Black-out	
060-079	Strobe random speed	
080-089	Strobe speed 1 (0.86 flash/sec)	
090-099	Strobe speed 2 (1.40 flash/sec)	
100-109	Strobe speed 3 (3.78 flash/sec)	
110-119	Strobe speed 4 (5.00 flash/sec)	
120-129	Strobe speed 5 (6.75 flash/sec)	
130-139	Strobe speed 6 (10.00 flash/sec)	
140-149	Flash open speed 1	
150-159	Flash open speed 2	
160-169	Flash open speed 3	
170-179	Flash open speed 4	
180-189	Flash closed speed 1	
190-199	Flash closed speed 2	
200-209	Flash closed speed 3	
210-219	Flash closed speed 4	
220-227	Colours/Gobo in black-out	
228-233	Pan/Tilt in black-out	
234-255	Open	

DMX CHANNEL	9	Parameter: **COLOUR**

FULL COLOUR (CH9 = 0-63)

DMX value	Function
000-013	Colour 1
014-027	Colour 2
028-041	Colour 3
042-055	Colour 4
056-069	Colour 5
070-083	Colour 6
084-097	Colour 7
098-111	Colour 8
112-125	Colour 9
126-139	Colour 10
140-153	Colour 11
154-167	Colour 12
168-181	Colour 13
182-195	Colour 14
196-209	Colour 15
210-223	Colour 16
224-237	Colour 17
238-255	Colour 18

HALF COLOUR (CH9 = 64-127)

DMX value	Function
000-012	Colour 1
013-025	Colour 1-2
026-038	Colour 2-3
039-051	Colour 3-4
052-064	Colour 4-5
065-077	Colour 5-6
078-090	Colour 6-7
091-103	Colour 7-8
104-116	Colour 8-9
117-129	Colour 9-10
130-142	Colour 10-11
143-155	Colour 11-12
156-168	Colour 12-13
169-181	Colour 13-14
182-194	Colour 14-15
195-207	Colour 15-16
208-220	Colour 16-17
221-233	Colour 17-18
234-255	Colour 18-1

PROPORTIONAL COLOUR (CH9 = 128-191)

DMX value	Function
000-010	No colour
011-255	Proportional colour

RAINBOW (CH9 = 192-255)

DMX value	Function
000-009	No colour
010-127	Right rotation speed from max to min
128-137	Stop
138-255	Left rotation speed from min to max

DMX CHANNEL	10	Parameter: **COLOUR MODE**

DMX value	Function
000-063	Full colour
064-127	Half colour
128-191	Proportional colour
192-255	Rainbow

DMX CHANNEL	11	Parameter: **CYAN**
DMX value	**Function**	
000-255	Proportional colour	

DMX CHANNEL	12	Parameter: **MAGENTA**
DMX value	**Function**	
000-255	Proportional colour	

DMX CHANNEL	13	Parameter: **YELLOW**
DMX value	**Function**	
000-255	Proportional colour	

DMX CHANNEL	14	Parameter: **CTO**
DMX value	**Function**	
000-007	No function	
008-255	Linear CTO from min to max	

DMX CHANNEL	15	Parameter: **SPEED CMY**
DMX value	**Function**	
000-007	No function	
008-255	Variable speed from max to min	

DMX CHANNEL	16	Parameter: **MACRO CMY**
DMX value	**Function**	
000-009	No function	
010-014	Macro 1	
015-019	Macro 2	
020-024	Macro 3	
025-029	Macro 4	
030-034	Macro 5	
035-039	Macro 6	
040-044	Macro 7	
045-049	Macro 8	
050-054	Macro 9	
055-059	Macro 10	
060-064	Macro 11	
065-069	Macro 12	
070-074	Macro 13	
075-079	Macro 14	
080-084	Macro 15	
085-089	Macro 16	
090-094	Macro 17	
095-099	Macro 18	
100-104	Macro 19	
105-109	Macro 20	
110-114	Macro 21	
115-121	Macro rainbow wait = 0	
122-128	Macro rainbow wait = 2	
129-135	Macro rainbow wait = 3	
136-142	Macro rainbow wait = 4	
143-149	Macro rainbow wait = 5	
150-156	Macro rainbow wait = 6	
157-163	Macro rainbow wait = 7	
164-170	Macro rainbow wait = 8	
171-177	Macro rainbow wait = 9	
178-185	Macro rainbow wait = 10	
186-192	Full colours rainbow wait = 0	
193-199	Full colours rainbow wait = 2	
200-206	Full colours rainbow wait = 3	
207-213	Full colours rainbow wait = 4	
214-220	Full colours rainbow wait = 5	
221-227	Full colours rainbow wait = 6	
228-234	Full colours rainbow wait = 7	
235-241	Full colours rainbow wait = 8	
242-248	Full colours rainbow wait = 9	
249-255	Full colours rainbow wait = 10	

DMX CHANNEL	17	Parameter: **GOBO**
DMX value	**Function**	
000-020	Open	
021-041	Gobo 1	
042-062	Gobo 2	
063-083	Gobo 3	
084-104	Gobo 4	
105-125	Gobo 5	
126-146	Gobo 6	
147-167	Gobo 7	
168-188	Gobo 8	
189-207	Gobo 9	
208-213	Speed rotation 1 min	
214-219	Speed rotation 2	
220-225	Speed rotation 3	
226-231	Speed rotation 4	
232-237	Speed rotation 5	
238-243	Speed rotation 6	
244-249	Speed rotation 7	
250-255	Speed rotation 8 max	

DMX CHANNEL	18	Parameter: **GOBO MODE**
DMX value	**Function**	
000-127	Gobo rotation mode	
128-255	Gobo index mode	

DMX CHANNEL	19	Parameter: **GOBO ROTATION/INDEX**

GOBO MODE ROTATION

DMX value	**Function**
000-009	Stop
010-127	Left rotation (max to min)
128-137	Stop
138-255	Right rotation (min to max)

GOBO MODE INDEX

DMX value	**Function**
000-255	Gobo index coarse

DMX CHANNEL	20	Parameter: **GOBO INDEX FINE**
DMX value	**Function**	
000-255	Gobo index fine	

DMX CHANNEL	21	Parameter: **GOBO SHAKE**
DMX value	**Function**	
000-009	Stop	
010-022	Gobo shake R-L speed 1	
023-035	Gobo shake R-L speed 2	
036-048	Gobo shake R-L speed 3	
049-061	Gobo shake R-L speed 4	
062-074	Gobo shake R-L speed 5	
075-087	Gobo shake R-L speed 6	
088-100	Gobo shake R-L speed 7	
101-113	Gobo shake R-L speed 8	
114-126	Gobo shake R-L speed 9	
127-138	Stop	
139-151	Gobo shake L-R speed 1	
152-164	Gobo shake L-R speed 2	
165-177	Gobo shake L-R speed 3	
178-190	Gobo shake L-R speed 4	
191-203	Gobo shake L-R speed 5	
204-216	Gobo shake L-R speed 6	
217-229	Gobo shake L-R speed 7	
230-242	Gobo shake L-R speed 8	
234-255	Gobo shake L-R speed 9	

DMX CHANNEL	22	Parameter: **FIXED GOBO**
DMX value	**Function**	
000-018	Open	
019-037	Gobo 1	
038-056	Gobo 2	
057-075	Gobo 3	
076-094	Gobo 4	
095-113	Gobo 5	
114-132	Gobo 6	
133-151	Gobo 7	
152-170	Gobo 8	
171-189	Gobo 9	
190-207	Gobo 10	
208-213	Speed rotation 1 min	
214-219	Speed rotation 2	
220-225	Speed rotation 3	
226-231	Speed rotation 4	
232-237	Speed rotation 5	
238-243	Speed rotation 6	
244-255	Speed rotation 7 max	

DMX CHANNEL	23	Parameter: **FIXED GOBO SHAKE**
DMX value	**Function**	
000-009	Stop	
010-022	Gobo shake R-L speed 1	
023-035	Gobo shake R-L speed 2	
036-048	Gobo shake R-L speed 3	
049-061	Gobo shake R-L speed 4	
062-074	Gobo shake R-L speed 5	
075-087	Gobo shake R-L speed 6	
088-100	Gobo shake R-L speed 7	
101-113	Gobo shake R-L speed 8	
114-126	Gobo shake R-L speed 9	
127-138	Stop	
139-151	Gobo shake L-R speed 1	
152-164	Gobo shake L-R speed 2	
165-177	Gobo shake L-R speed 3	
178-190	Gobo shake L-R speed 4	
191-203	Gobo shake L-R speed 5	
204-216	Gobo shake L-R speed 6	
217-229	Gobo shake L-R speed 7	
230-242	Gobo shake L-R speed 8	
234-255	Gobo shake L-R speed 9	

DMX CHANNEL	24	Parameter: **IRIS**
DMX value	**Function**	
000-009	Open	
010-246	Linear iris from open to closed	
247-255	Closed	

DMX CHANNEL	25	Parameter: **IRIS MACROS**
DMX value	**Function**	
000-009	No effect	
010-063	Iris pulse at different speed from min to max	
064-117	Iris pulse with flash closing from min to max	
118-171	Iris pulse with flash opening from min to max	
172-213	Iris pulse with flash closing combined with zoom from min to max	
214-255	Iris pulse with flash opening combined with zoom from min to max	

DMX CHANNEL	26	Parameter: **ANIMATION**
DMX value	**Function**	
000-009	No function	
010-255	Linear animation position	

DMX CHANNEL	27	Parameter: **FROST**
DMX value	**Function**	
000-127	No function	
128-255	Frost inserted	

DMX CHANNEL	28	Parameter: **PRISM**
DMX value	**Function**	
000-127	No effect	
128-255	Prism inserted	

DMX CHANNEL	29	Parameter: **PRISM/ANIMATION ROTATION**
DMX value	**Function**	
000-009	Stop	
010-127	Left rotation from fast to slow	
128-137	Stop	
138-255	Right rotation from slow to fast	

DMX CHANNEL	30	Parameter: **FOCUS**
DMX value	**Function**	
000-255	Linear focus (0-95)%	

DMX CHANNEL	31	Parameter: **FOCUS FINE**
DMX value	**Function**	
000-255	Linear focus (95-100)%	

DMX CHANNEL	32	Parameter: **ZOOM**
DMX value	**Function**	
000-255	Linear zoom	

DMX CHANNEL	33	Parameter: **RESET + LAMP**
DMX value	**Function**	
000-009	No effect	
010-060	Lamp OFF (3 sec)	
061-129	No effect	
130-179	Lamp ON (3 sec)	
180-200	No effect	
201-239	Internal motor reset	
240-255	Total reset	

20- DMX PROTOCOL

24 CHANNELS MODE

1 **PAN msb**
2 **PAN lsb**
3 **TILT msb**
4 **TILT lsb**
5 **SPEED MOVEMENT**
6 **PAN FAR** (Active only on MAX FPR)
7 **DIMMER**
8 **SHUTTER**
9 **COLOUR**
10 **CYAN**
11 **MAGENTA**
12 **YELLOW**
13 **CTO**
14 **GOBO**
15 **GOBO ROTATION / INDEX**
16 **FIXED GOBO**
17 **IRIS**
18 **ANIMATION**
19 **FROST**
20 **PRISM**
21 **PRISM / ANIMATION ROTATION**
22 **FOCUS**
23 **ZOOM**
24 **RESET + LAMP**

DMX CHANNEL	1	Parameter: **PAN msb**
DMX CHANNEL	2	Parameter: **PAN lsb**

DMX CHANNEL	3	Parameter: **TILT msb**
DMX CHANNEL	4	Parameter: **TILT lsb**

DMX CHANNEL	5	Parameter: **SPEED MOVEMENT**

DMX value	**Function**
000-010	Standard
011-025	Fast movement
026-127	Vector mode from fast to slow
128-247	Variable time reaction to dmx signal (fast to slow)
248-255	Silent movement

DMX CHANNEL	6	Parameter: **PAN FAR (active only on MAX FPR)**
DMX value	**Function**	
000-010	Position mode 540° (standard path)	
011-020	Position mode 360° (1 turn)	
021-030	Position mode 720° (2 turns)	
031-040	Position mode 1080° (3 turns)	
041-050	Position mode 1440° (4 turns)	
051-060	Position mode 1800° (5 turns)	
061-070	Position mode 2160° (6 turns)	
071-080	Position mode 2520° (7 turns)	
081-090	Position mode 2880° (8 turns)	
091-100	Position mode 3240° (9 turns)	
101-110	Position mode 3600° (10 turns)	
111-120	Position mode 360° smart path	
121-182	Forward spin rotation speed from max to min	
183-193	Stop	
194-255	Reverse spin rotation speed from min to max	

DMX CHANNEL	7	Parameter: **DIMMER**
DMX value	**Function**	
000-007	Black-out	
008-255	Proportional dimmer	

DMX CHANNEL	8	Parameter: **SHUTTER**
DMX value	**Function**	
000-019	Black-out	
020-039	Open	
040-059	Black-out	
060-079	Strobe random speed	
080-089	Strobe speed 1 (0.86 flash/sec)	
090-099	Strobe speed 2 (1.40 flash/sec)	
100-109	Strobe speed 3 (3.78 flash/sec)	
110-119	Strobe speed 4 (5.00 flash/sec)	
120-129	Strobe speed 5 (6.75 flash/sec)	
130-139	Strobe speed 6 (10.00 flash/sec)	
140-149	Flash open speed 1	
150-159	Flash open speed 2	
160-169	Flash open speed 3	
170-179	Flash open speed 4	
180-189	Flash closed speed 1	
190-199	Flash closed speed 2	
200-209	Flash closed speed 3	
210-219	Flash closed speed 4	
220-227	Colours/Gobo in black-out	
228-233	Pan/Tilt in black-out	
234-255	Open	

DMX CHANNEL	9	Parameter: **COLOUR**
DMX value	**Function**	
000-004	Colour 1	
005-009	Colour 1-2	
010-014	Colour 2	
015-019	Colour 2-3	
020-024	Colour 3	
025-029	Colour 3-4	
030-034	Colour 4	
035-039	Colour 4-5	
040-044	Colour 5	
045-049	Colour 5-6	
050-054	Colour 6	
055-059	Colour 6-7	
060-064	Colour 7	
065-069	Colour 7-8	
070-074	Colour 8	
075-079	Colour 8-9	
080-084	Colour 9	
085-089	Colour 9-10	
090-094	Colour 10	
095-099	Colour 10-11	
100-104	Colour 11	
105-109	Colour 11-12	
110-114	Colour 12	
115-119	Colour 12-13	
120-124	Colour 13	
125-129	Colour 13-14	
130-134	Colour 14	
135-139	Colour 14-15	
140-144	Colour 15	
145-149	Colour 15-16	
150-154	Colour 16	
155-159	Colour 16-17	
160-164	Colour 17	
165-169	Colour 17-18	
170-174	Colour 18	
175-197	Colour 18-1	
198-200	Right rotation speed 9 max	
201-203	Right rotation speed 8	
204-206	Right rotation speed 7	
207-209	Right rotation speed 6	
210-212	Right rotation speed 5	
213-215	Right rotation speed 4	
216-218	Right rotation speed 3	
219-221	Right rotation speed 2	
222-224	Right rotation speed 1 min	
225-228	Stop	
229-231	Left rotation speed 1 min	
232-234	Left rotation speed 2	
235-237	Left rotation speed 3	
238-240	Left rotation speed 4	
241-243	Left rotation speed 5	
244-246	Left rotation speed 6	
247-249	Left rotation speed 7	
250-252	Left rotation speed 8	
253-255	Left rotation speed 9 max	

DMX CHANNEL	10	Parameter: **CYAN**
DMX value	**Function**	
000-255	Proportional colour	

DMX CHANNEL	11	Parameter: **MAGENTA**
DMX value	**Function**	
000-255	Proportional colour	

DMX CHANNEL	12	Parameter: **YELLOW**
DMX value	**Function**	
000-255	Proportional colour	

DMX CHANNEL	13	Parameter: **CTO**
DMX value	**Function**	
000-007	No function	
008-255	Linear CTO from min to max	

DMX CHANNEL	14	Parameter: **GOBO**
DMX value	**Function**	
000-020	Open	
021-041	Gobo 1	
042-062	Gobo 2	
063-083	Gobo 3	
084-104	Gobo 4	
105-125	Gobo 5	
126-146	Gobo 6	
147-167	Gobo 7	
168-188	Gobo 8	
189-207	Gobo 9	
208-213	Speed rotation 1 min	
214-219	Speed rotation 2	
220-225	Speed rotation 3	
226-231	Speed rotation 4	
232-237	Speed rotation 5	
238-243	Speed rotation 6	
244-249	Speed rotation 7	
250-255	Speed rotation 8 max	

DMX CHANNEL	15	Parameter: **GOBO ROTATION/INDEX**
DMX value	**Function**	
000-127	Proportional index 0°-360°	
128-180	Left rotation	
181-202	Stop	
203-255	Right rotation	

DMX CHANNEL	16	Parameter: **FIXED GOBO**
DMX value	**Function**	
000-018	Open	
019-037	Gobo 1	
038-056	Gobo 2	
057-075	Gobo 3	
076-094	Gobo 4	
095-113	Gobo 5	
114-132	Gobo 6	
133-151	Gobo 7	
152-170	Gobo 8	
171-189	Gobo 9	
190-207	Gobo 10	
208-213	Speed rotation 1 min	
214-219	Speed rotation 2	
220-225	Speed rotation 3	
226-231	Speed rotation 4	
232-237	Speed rotation 5	
238-243	Speed rotation 6	
244-255	Speed rotation 7 max	

DMX CHANNEL	17	Parameter: **IRIS**

DMX value	**Function**
000-009	Open
010-124	Linear Iris from open to closed
125-132	Closed
133-159	Iris pulse at different speed from min to max
160-186	Iris pulse with flash closing from min to max
187-213	Iris pulse with flash opening from min to max
214-234	Iris pulse with flash closing combined with zoom from min to max
235-255	Iris pulse with flash opening combined with zoom from min to max

DMX CHANNEL	18	Parameter: **ANIMATION**
DMX value	**Function**	
000-009	No function	
010-255	Linear animation position	

DMX CHANNEL	19	Parameter: **FROST**
DMX value	**Function**	
000-127	No function	
128-255	Frost inserted	

DMX CHANNEL	20	Parameter: **PRISM**
DMX value	**Function**	
000-127	No effect	
128-255	Prism inserted	

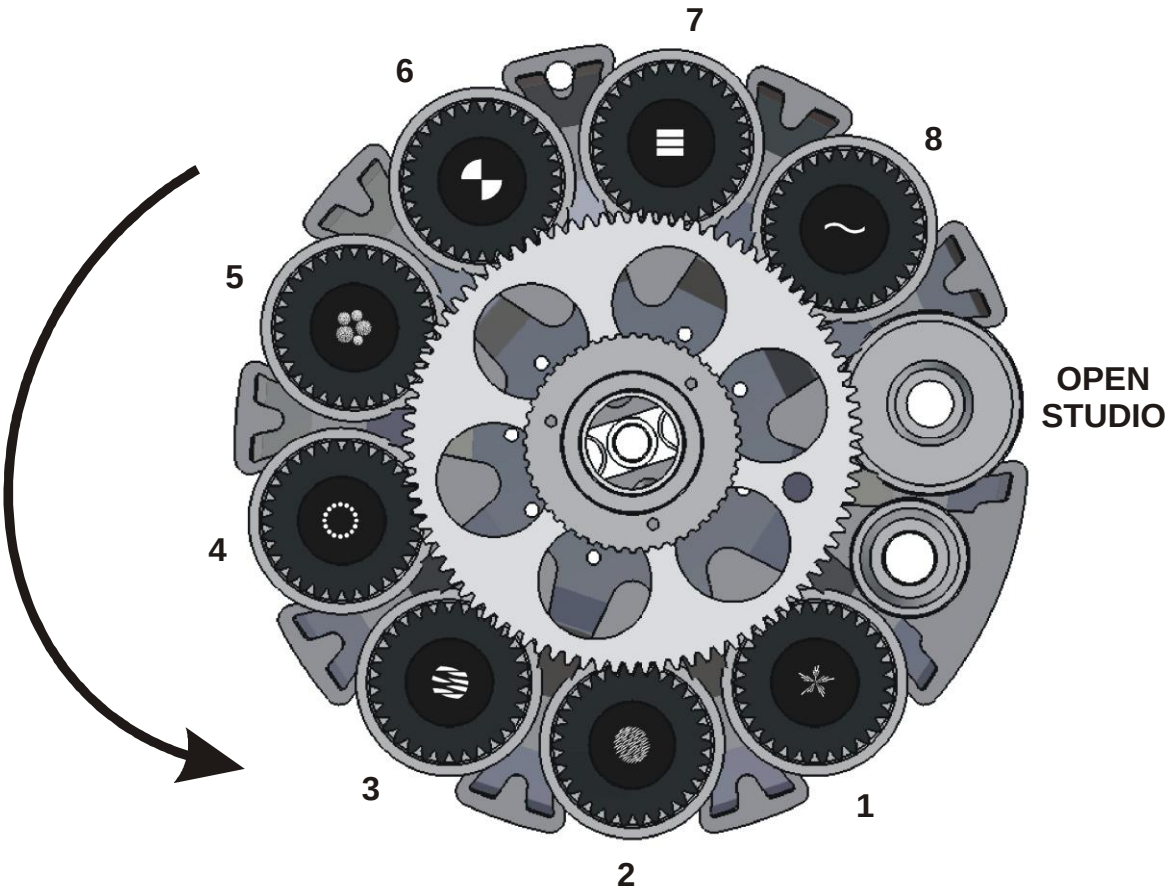
DMX CHANNEL	21	Parameter: **PRISM/ANIMATION ROTATION**
DMX value	**Function**	
000-009	Stop	
010-127	Left rotation from fast to slow	
128-137	Stop	
138-255	Right rotation from slow to fast	

DMX CHANNEL	22	Parameter: **FOCUS**
DMX value	**Function**	
000-255	Linear focus	

DMX CHANNEL	23	Parameter: **ZOOM**
DMX value	**Function**	
000-255	Linear zoom	

DMX CHANNEL	24	Parameter: **RESET + LAMP**
DMX value	**Function**	
000-009	No effect	
010-060	Lamp OFF (3 sec)	
061-129	No effect	
130-179	Lamp ON (3 sec)	
180-200	No effect	
201-239	Internal motor reset	
240-255	Total reset	

21- ROTATING GOBO WHEEL



GOBO 1 DICRO

D.T.S. Code:
0516G078

GOBO 2 DICRO

D.T.S. Code:
0516G079

GOBO 3 DICRO

D.T.S. Code:
0516G080

GOBO 4 DICRO

D.T.S. Code:
0516G081

GOBO 5 DICRO

D.T.S. Code:
0516G082

GOBO 6 DICRO

D.T.S. Code:
0516G083

GOBO 7 DICRO

D.T.S. Code:
0516G084

GOBO 8 DICRO

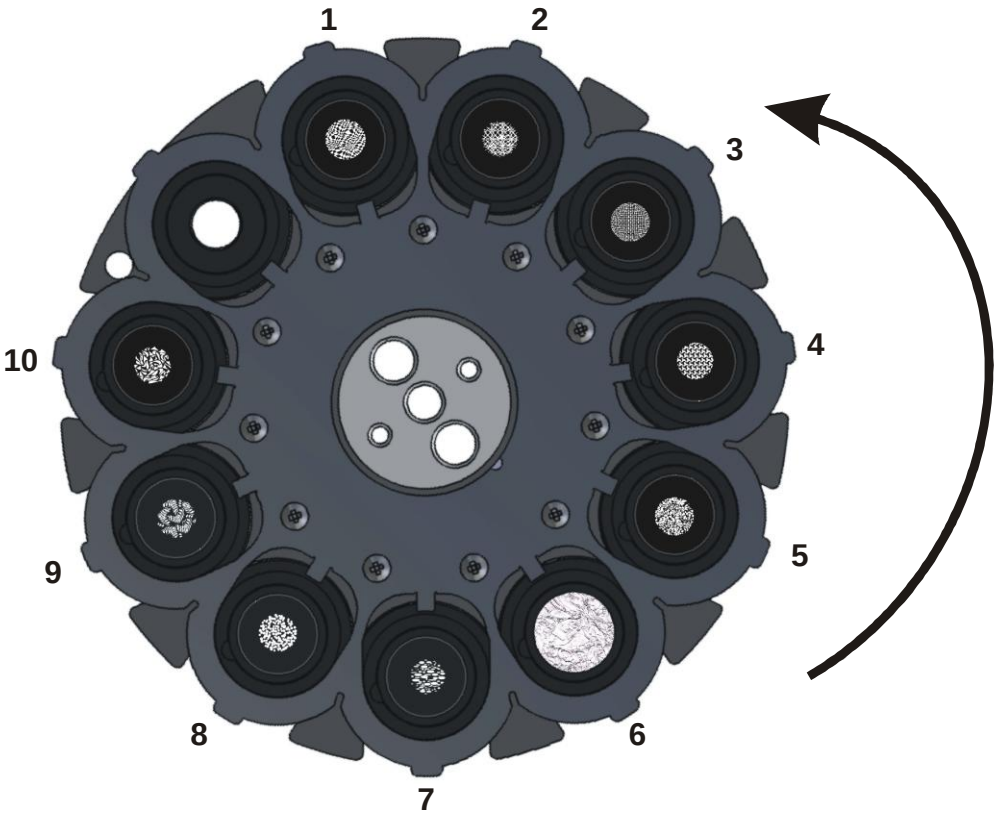
D.T.S. Code:
0516G085

GOBO 9 DICRO

ROTATING GOBO PROVIDED INTO THE UNIT BOX

D.T.S. Code:
0516G086

22- FIXED GOBO WHEEL



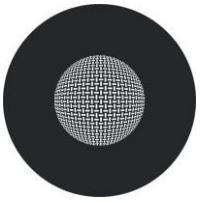
GOBO 1 DICRO

D.T.S. Code:
0516G064

GOBO 2 DICRO

D.T.S. Code:
0516G065

GOBO 3 DICRO



D.T.S. Code:
0516G066

GOBO 4 DICRO

D.T.S. Code:
0516G087

GOBO 5 DICRO

D.T.S. Code:
0516G068

GOBO 6 GLASS

D.T.S. Code:
0516G069

GOBO 7 DICRO

D.T.S. Code:
0516G088

GOBO 8 DICRO

D.T.S. Code:
0516G089

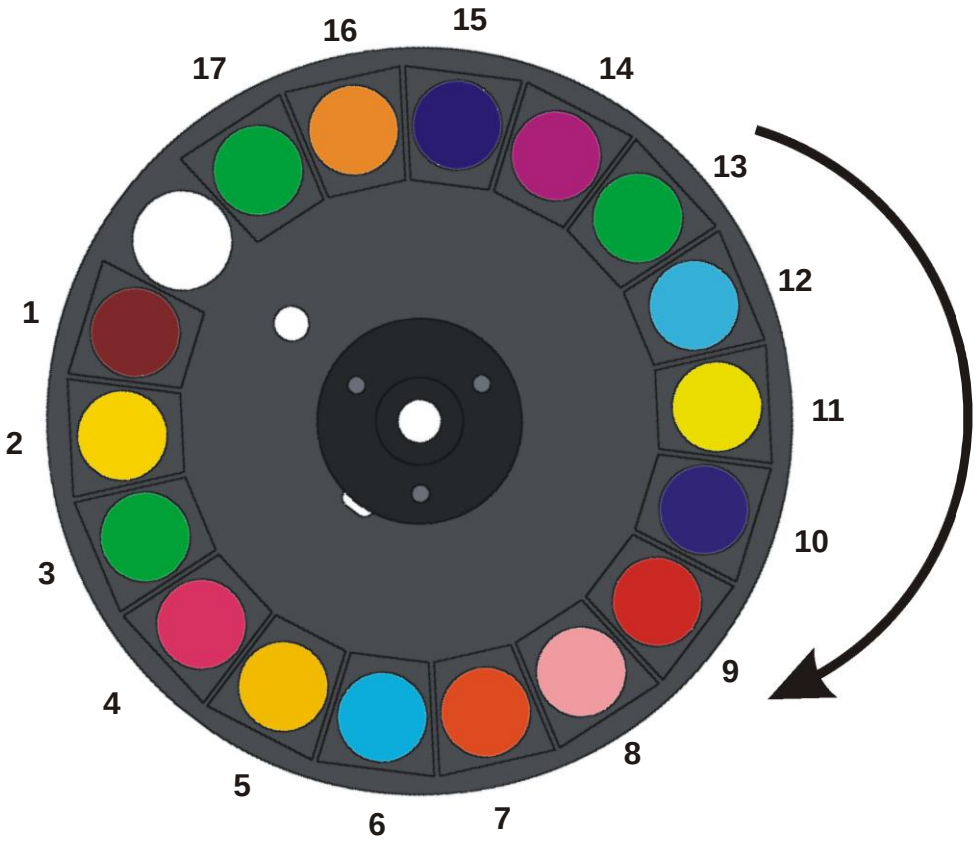
GOBO 9 DICRO

D.T.S. Code:
0516G090

GOBO 10 DICRO

D.T.S. Code:
0516G091

23- COLOUR WHEEL



COLOUR 1 RED	COLOUR 2 YELLOW 1	COLOUR 3 GREEN	COLOUR 4 PINK	COLOUR 5 FULL CTO	COLOUR 6 FULL CTB
D.T.S. Code: (0507C059.D14)	D.T.S. Code: (0507C065.D14)	D.T.S. Code: (0507C068.D14)	D.T.S. Code: (0507C071.D14)	D.T.S. Code: (0507C061.D14)	D.T.S. Code: (0507C060.D14)

COLOUR 7 ORANGE	COLOUR 8 LIGHT PINK	COLOUR 9 LIGHT RED	COLOUR 10 PURPLE	COLOUR 11 YELLOW 2	COLOUR 12 LIGHT BLUE
D.T.S. Code: (0507C063.D14)	D.T.S. Code: (0507C058.D14)	D.T.S. Code: (0507C062.D14)	D.T.S. Code: (0507C072.D14)	D.T.S. Code: (0507C066.D14)	D.T.S. Code: (0507C075.D14)

COLOUR 13 LIGHT GREEN	COLOUR 14 MAGENTA	COLOUR 15 BLUE	COLOUR 16 AMBER	COLOUR 17 DARK GREEN
D.T.S. Code: (0507C073.D14)	D.T.S. Code: (0507C074.D14)	D.T.S. Code: (0507C070.D14)	D.T.S. Code: (0507C064.D14)	D.T.S. Code: (0507C067.D14)

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DTS

The Lighting Company

ISO 9001:2008
D.T.S. quality system
is certified to the
ISO 9001:2008 standard

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D.T.S. products are designed
and manufactured at the D.T.S.
plants in italy

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D.T.S. Illuminazione s.r.l. – Via Fagnano Selve 10-12-14 47843
Misano Adriatico (RN) Italia
Tel.: +39 0541 611131. Fax + 39 0541 611111
info@dts-lighting.it www.dts-lighting.it