# Jack

User's Manual Rel 1.2 **GB**

DTS

The Lighting Company

Made in Italy

D.T.S. Illuminazione srl
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## INDEX:

## 1- SYMBOLS

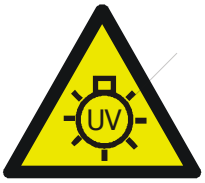
Graphic symbols used on this manual

**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

The JACK is a high-power, compact, lightweight moving head.
JACK features a wide excursion motorized zoom allowing any application from long-throw projections to large wall washing.
Beam opening is:
1° - 2,5° 'Beam' projection;
2,5° - 37° 'Spot' projection;
38° - 46° 'Wash' projection.
JACK generates a huge luminosity and extremely uniform projection using only a 189 W lamp; power consumption is just 230W.
Also, JACK comes equipped with the 'FPR' ( 'Free Pan Rotation' - patent pending ) system, which allows limitless pan rotation, in either direction, never having to reverse motion (Cod. 03.MS012.EBLFP).
JACK is the perfect moving head for rental companies – who want a quick and easy to install unit – thanks to its compactness and light weight (only 11,9 Kg).
JACK is suitable for any professional applications.

JACK
**(Cod. 03.MS012.EB.L)**
• Electronic ballast 90-260V 50/60 Hz • Black finish
Also available with white finish (RAL 9003) on demand (03.MS012.EB.03.L)
**(Cod. 03.MS012.EBLFP)**
• Electronic ballast 90-260V 50/60 Hz • FPR (Free Pan Rotation) Black finish
Also available with white finish (RAL 9003) on demand (03.MS012.EB03LFP)

**Lamp**
MSD Platinum 5R 189W (7.950 Lumens)
Colour temperature: 8.000°K
Type of connection: PINS 2,8x 0,8mm

**Optical group**
* 50,000 Lux at 5 m (2,5°)
* Improved optical group made with 11 coated lenses combined with a dichroic glass reflector
* 16-bit motorized linear zoom (2,5°- 46°)
* Beam opening: 1°- 46°
* 16-bit motorized focus
* Motorized iris
* Linear dimmer / shutter / strobe (0,85 flash/sec to 10 flash/sec)

**Colour generation**
* 18-colour wheel 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)
* 4-facet rotating prism

## 4- TECHNICAL FEATURES

**Interface / Control / Programming**
* LCD graphic display (control / management / monitoring of the main parameters)
* 4 soft-keys (control / management / monitoring of the main parameters)
* Controlled via DMX 512 standard digital communication protocol
* RDM
* ARTNET (available on request)
* Wireless ready
* Internal operating system updatable via D.T.S. RED BOX interface and hyperterminal program on windows based PC

**DMX**
25 DMX channels (default) or 17 DMX channels

**Pan & Tilt**
Jack FPR (Cod. 03.MS012.EBLFP)
* 'FPR': limitless pan rotation, in either direction, never having to reverse motion
Tilt 270° (1,5 sec.)

Jack (Cod. 03.MS012.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 movement resolution
* Selectable speed ranges

**Power supply**
* Electronic ballast; 90-260 V  50/60 Hz
* Power consumption: 230 W with PFC

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

**Connectors**
* DMX: 4 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**
11,9 Kg

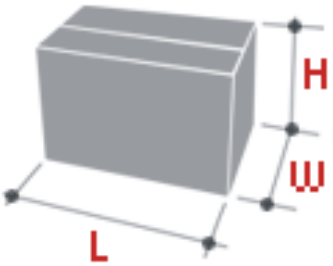
**Internal safety devices**
* Overvoltage circuit protection and overtemperature circuit protection

**International certifications**
**Safety:** EN 60598-1: 1993
EN 60598-2-17: 1989
A1-A3: 1993
**EMC:** EN 55015

## 4- TECHNICAL FEATURES

### Dimensions

| Packaging Dimensions (LxWxH) | Unit Dimensions (LxWxH) |
|---|---|
| 532 x 430 x 414 mm | 350x370x560mm |
| Weight: 14,4 Kg | Weight: 11,9 Kg |





## 5- ACCESSORIES

### As standard

* 1 x  MSD Platinum 5R 189W (cod. 0505S034)
* 1 x powerCON male cable connector (cod. 0520P014)
* 1 x XLR 5 Pins male cable connector (cod. 0508B028)
* 1 x XLR 5 Pins female cable connector (cod. 0508B027)
* “C” Clamp G QUICK with “Fast Lock” connection 1/4 turn (one piece) (cod. 0521A014)
* Rotating Gobo Dicro (D.T.S. Code: 0516G063)
* User’s manual

### Optional (on request)

• Professional Flight case for 4 units; compartment for accessories, swivel wheels, cover with hinges with-stay, dishes on cover for piling, butterfly closures, 8 handles (2 each side) (cod. 0521C052.1)
• Wireless DMX Receiver Kit (cod. 03.LA.126) with INDOOR IP20 omnidirectional 2dBi antenna included. **Available only for units with FPR on board**
• “C” Clamp G60 black (max. load 50Kg) (cod. 0521A004)
• “C” Clamp G60 chrome (max. load. 50Kg) (cod. 0521A004.20)
• “C” Clamp GQUICK with “Fast Lock” connection 1/4 turn (max. load. 80Kg) (cod. 0521A014)
• “C” Clamp G100 black / professional (max. load. 200Kg) (cod. 0521A015)
• Omega clamp with “Fast Lock” connection 1⁄4 turn 1 couple (2 pieces) (cod. 02K00467)
• Safety wire (3mm x 60 cm), ring spring catch, max. capacity load 60Kg (cod. 0521A010)

## 6- IMPORTANT SAFETY INFORMATION

### 6.1 Fire prevention:

JACK uses a MSD Platinum 5R 189W 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 MT.
-Minimum distance from the closest illuminable surface: 2 MT. 

-Replace any blown or damaged fuses only with those of identical value.
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 JACK 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 ABS 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 10 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 10 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 IP 20.
For outdoor use, D.T.S. reccomend the use of the dedicated raincovers.

## 7- MOUNTING / REPLACING THE LAMP AND LAMP ALIGNMENT

**Warning: Switch off the unit before replacing the lamp.**

MSD Platinum 5R
Power 189W
Luminous flux 7950 lm
Colour temperature 8.000°K
Type of connection: PINS 2,8 x 0,8 mm
Rated life 2000 hours

1) Loosen the 2 “¼ turn” screws which fix the head covers (photo 1) .
2) Once loosen the screws, simply lift the covers to access the internal components (photo 2 and 3).


Photo 1

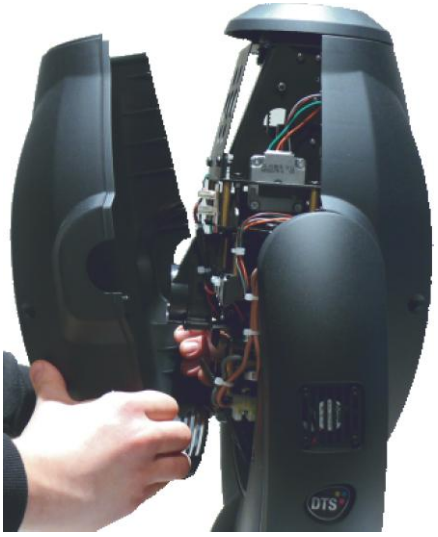


Photo 2

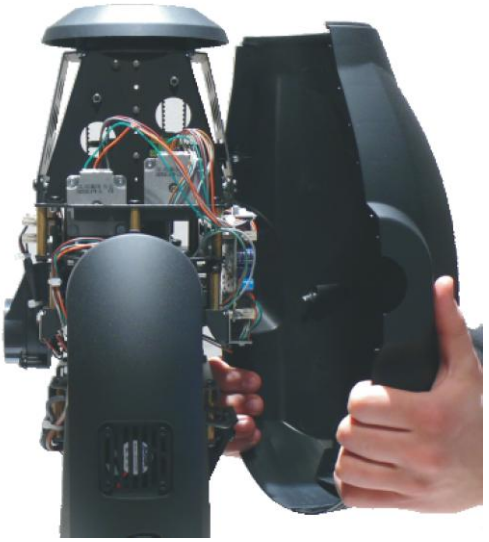


Photo 3

3) Using a Philips screwdriver, loose the 2 screws A, B, (photo 4), unplug the fan connector (photo 5) and remove the lamp fan assembly (photo 6).

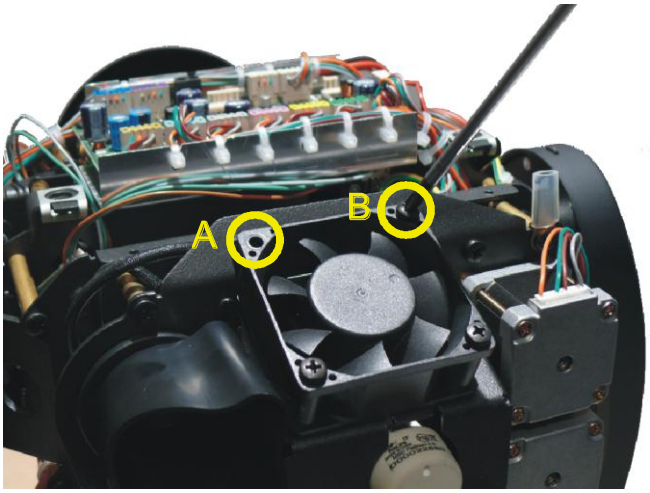



Photo 4

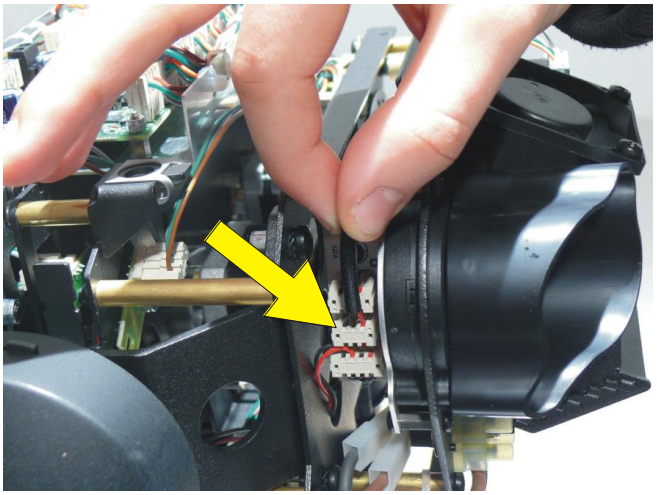


Photo 5

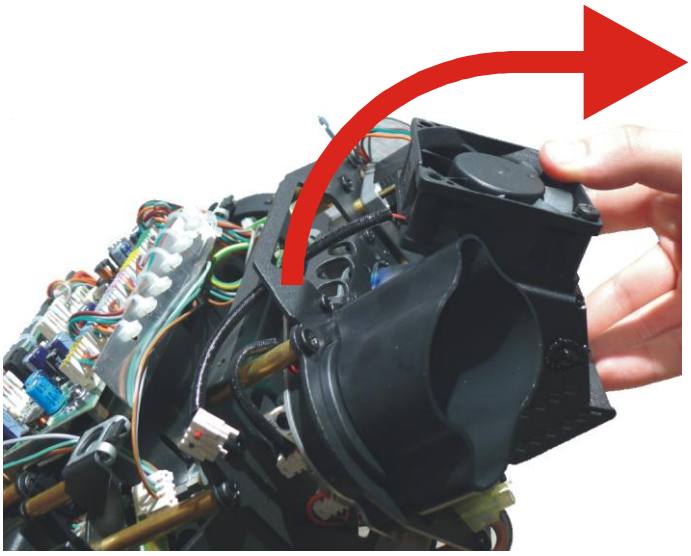


Photo 6

4) Loose the four screws which fix the lamp (photo 7), unplug the two fast-on cable connectors (photo 8) and remove the old lamp.
5) Put in place the new lamp and push it toward the three mechanical ends D, E, F (photo 9) on the lamp support; this let you have the lamp properly aligned on the optical system.

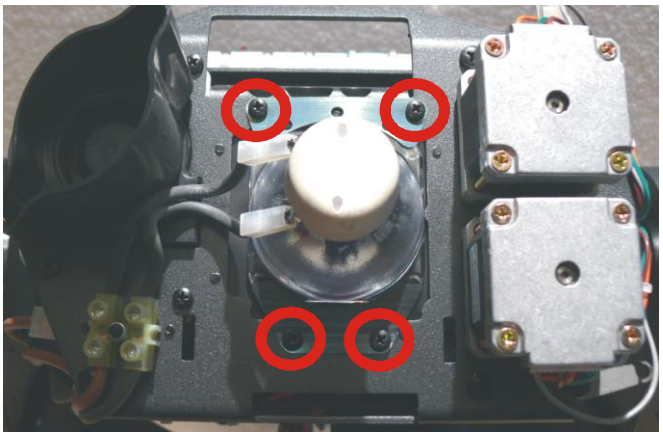


Photo 7

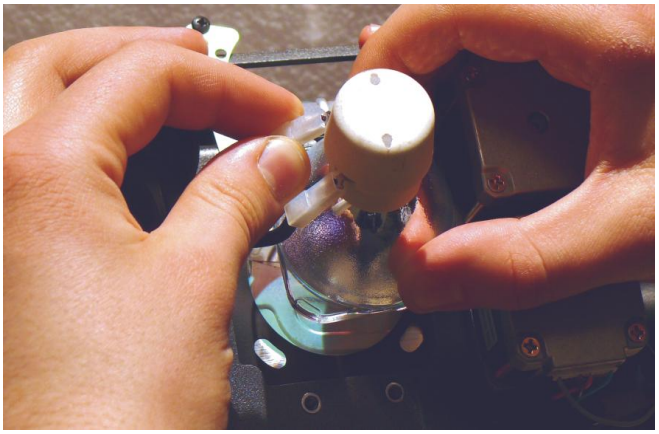


Photo 8


**WARNING:**

**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.**

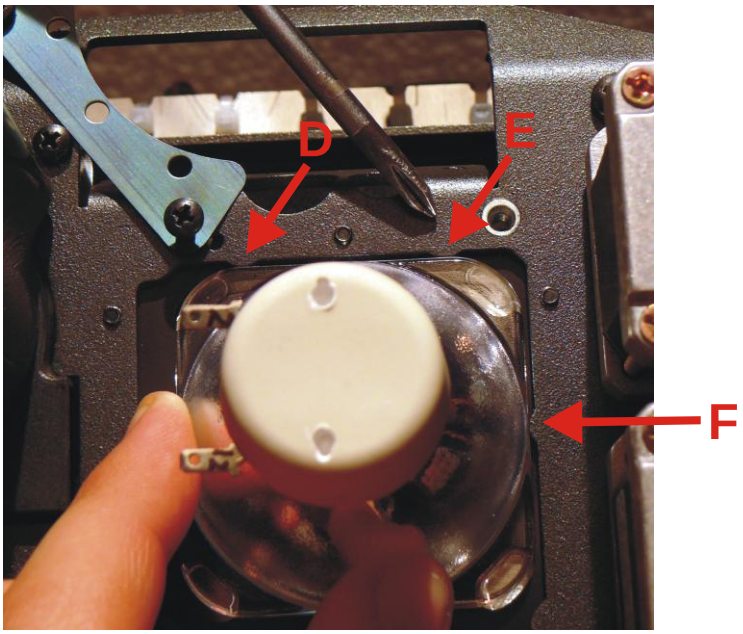



Photo 9

## 8- VOLTAGE AND FREQUENCY

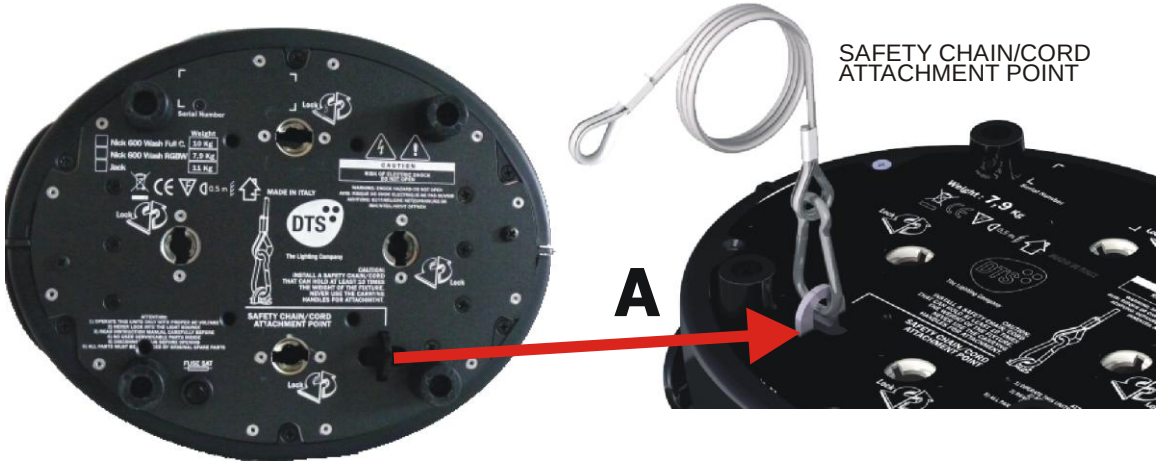
The JACK with electronic ballast can operate at 90-260 VOLT  50 or 60 Hz.

## 9- INSTALLATION

JACK may be either floor or ceiling mounted.
For floor mounting installations, the JACK 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 JACK is moving.
Four 1/4 turn Fast Locks connections placed in the base of the unit allow to hang the JACK by using the Fast Lock “C” clamps provided in the box.

### 9.1- Safety cable

We recommend the use of a safety cable or chain connected to the JACK 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

JACK FPR (Cod. 03.MS012.EBLFP) Unlimited Pan rotation; Tilt 270° (1,5 sec.)
JACK (Cod. 03.MS012.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')**
**(Cod. 03.MS012.EBLFP)**

**No 'FPR'**
**(Cod. 03.MS012.EB.L)**

Please Note: If two different JACK model (with and without FPR) are controlled at the same time via DMX controller, be shure that channel 6 (PAN FAR) is set to value 0.
In this way, the JACK with FPR will react to DMX same as JACK 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 MT.

Minimum distance from the object being illuminated is 2 MT. 


## 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

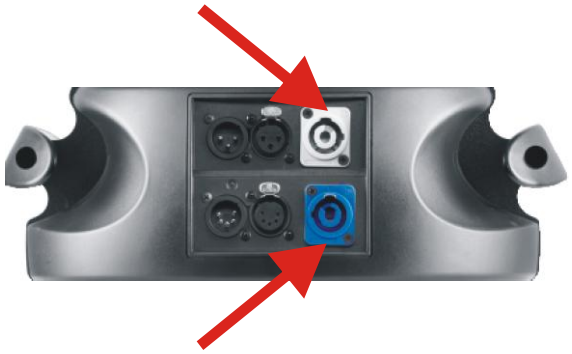
The projector should never be installed in places that lack a constant air flow.
The ambient temperature should NOT exceed 40°C.

## 10- MAINS CONNECTION

JACK with electronic ballast operate at 90-260 VOLT 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 1,5 amps at 230 VOLT, or 3 amps at 90 VOLT.
Strict adherence to regulatory norms is strongly recommended.

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

MAX 12 JACK UNITS @ 230V
MAX 6 JACK UNITS @ 120V



**(Cod. 03.MS012.EBLFP)**
**(Cod. 03.MS012.EB.L)**

**MAINS AC INPUT 90-260V 50/60 Hz**

**Wireless DMX Receiver Retrofit (Cod. 03.LA.126)**

**Available only for units with FPR on board**


**FUSE 5A T 5X20**

### 10.1- Protection

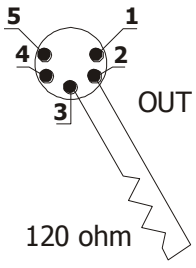
The use of a thermal magnetic circuit breaker is recommended for each JACK.
A good earth connection is essential for the correct operation of the projector.

## 11- DMX SIGNAL CONNECTION

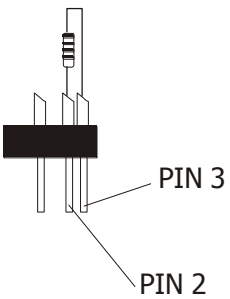
The unit operates using the digital DMX 512 (1990) signal.
Connection between the mixer and the projector or between projectors must be carried out using a two pair screened ø 0.5 mm cable and a XLR 5 or 3 pins connector.
Ensure that the conductors do not touch each other.
Do not connect the cable ground 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

JACK can be used in 2 different DMX modes: 25 DMX control channels (Default) or 17 DMX control channels.
Here below is described the DMX channels addressing for the controller when JACK is set to 25 and 17 DMX control channels:

25 channels mode (Default)

| | | |
|---|---|---|
| Projector 1 | A001 | |
| Projector 2 | A026 | If you want to select the next projector, just add “25” |
| Projector 3 | A051 | |
| ….. | A…. | |
| projector 6 | A126 | |

17 channels mode

| | | |
|---|---|---|
| Projector 1 | A001 | |
| Projector 2 | A018 | If you want to select the next projector, just add “17” |
| Projector 3 | A035 | |
| ….. | A…. | |
| projector 6 | A086 | |

## 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.**

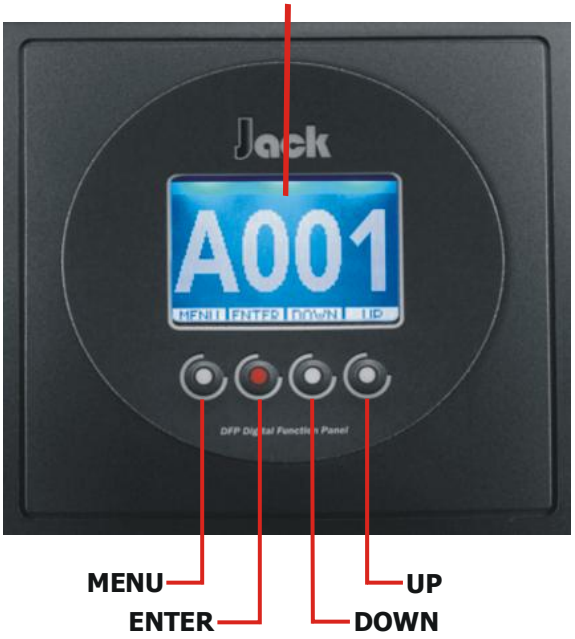
To update the software version of the JACK you need:
D.T.S. RED BOX interface (D.T.S. Code: 03.LA.008).
USB-DMX Driver for the D.T.S. RED BOX interface.
(The driver and the installation procedure are available in our web site www.dts-lighting.it)

**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.

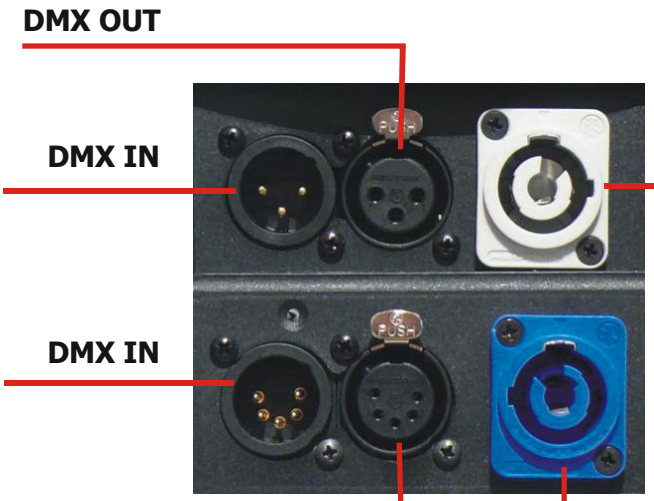
## 13- DISPLAY FUNCTIONS





WIRELESS DMX
RECEIVER
RETROFIT
**03.LA.126**

**Available only for units with FPR on board**




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

**03.MS012.EBLFP**
**03.MS012.EB.L**

**MAINS AC INPUT**
**90-260V 50 / 60Hz**

## DISPLAY FUNCTIONS

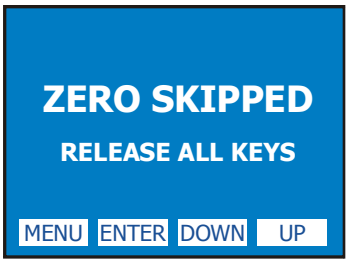
The JACK display panel shows all the available functions . Using these functions, it is possible to change some of the parameters and add some functions. Changing the D.T.S. setting can vary the functions of the unit so that it does not respond to the DMX 512 used to control it. Carefully follow the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

## 13- DISPLAY FUNCTIONS

### Software Version: 47.35

PS: on software version 47.35, has been added a new function called “ZERO SKIP”. “ZERO SKIP” function can be activated by pressing at the same time the “MENU” + “UP” buttons on unit display during initial reset.
This function let you have the unit display ON and internal motors (Pan&Tilt + head motors) OFF.
Usefull when the unit is still in the flight case and DMX address or internal unit parameters need to be set**.**

**“ZERO SKIP” FUNCTION:**



Menu Up-Down Pan Direction

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

ENTER Up-Down

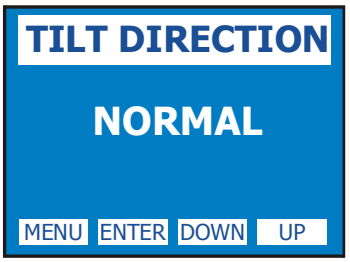

Pan movement Normal or Reversed Default = Normal

ENTER

Menu Up-Down Tilt Direction

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

ENTER Up-Down



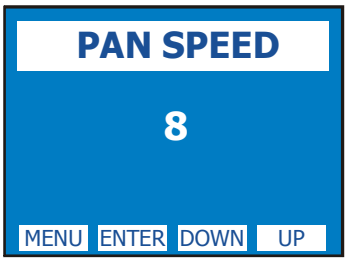

Tilt movement Normal or Reversed Default = Normal

ENTER

Menu Up-Down Pan Speed

PAN SPEED
Pan Speed control (1-8)

ENTER Up-Down



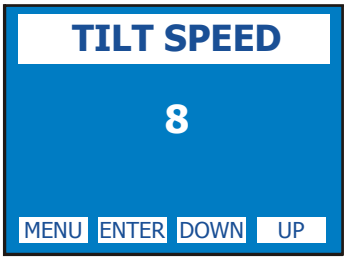

Pan Speed control (1-8)

ENTER

Menu Up-Down Tilt Speed

TILT SPEED
Tilt Speed control (1-8)

ENTER Up-Down




Tilt Speed control (1-8)

ENTER

## 13- DISPLAY FUNCTIONS

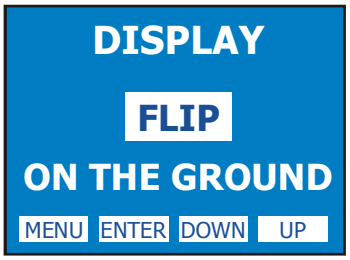
Menu Up-Down Display ENTER Up-Down

DISPLAY FLIP / STAND BY / CONTRAST

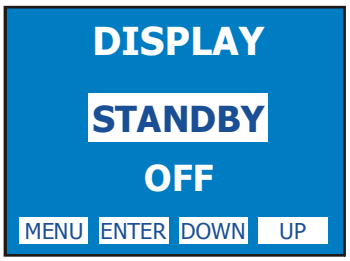
Display Flip:
Reverses display's reading depending on the mounting position
(On the ground or suspended).

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

Display Contrast:
Display contrast regulation (1-32)




Display Flip
ON THE GROUND (Default)
SUSPENDED
ENTER

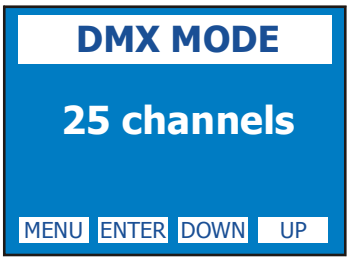



Display Standby
OFF = Display Standby disabled (Default)
ON = Display goes OFF after 5 seconds
ENTER


Display Contrast
1-32 (Default = 25)
ENTER

Menu Up-Down DMX Mode ENTER Up-Down

DMX MODE
To select DMX mode :
17 channels or 25 channels (default)

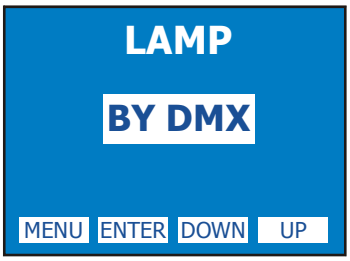



DMX Mode
17 channels
25 channels (Default)
ENTER

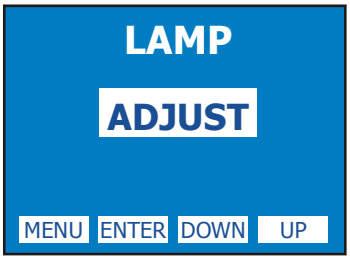
Menu Up-Down Lamp ENTER Up-Down

LAMP
Lamp always ON, 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 and ZOOM



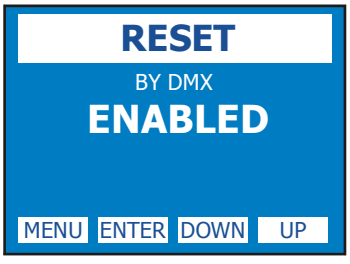

BY DMX = Lamp ON / OFF via DMX (Default)
ALWAYS ON = Forced ON
ALWAYS OFF = Forced OFF
RESET COUNTER = Lamp life time reset
ENTER




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

Menu Up-Down Reset ENTER Up-Down

RESET
Reset via DMX ENABLED / DISABLED
And unit reset

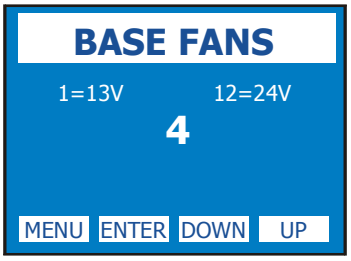



ENABLED = Reset via DMX enabled (Default)
DISABLED = Reset via DMX disabled
NOW = Unit motors reset
ENTER

## 13- DISPLAY FUNCTIONS

Menu Up-Down Base Fans ENTER Up-Down

BASE FANS
Base Fans speed control

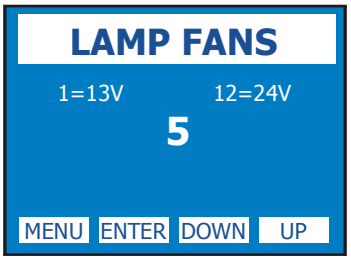



Base Fans speed control
1-12 (Default = 4)

ENTER

Menu Up-Down Lamp Fans ENTER Up-Down

LAMP FANS
Lamp Fans speed control

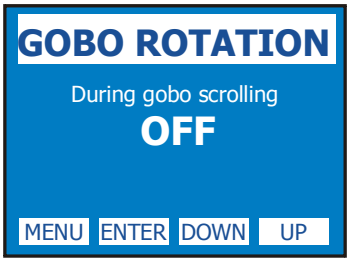



Lamp Fans speed control
1-12 (Default = 5)

ENTER

Menu Up-Down Gobo Rotation ENTER Up-Down

GOBO ROTATION
Gobo rotation during gobo scrolling
for rotating gobo wheel

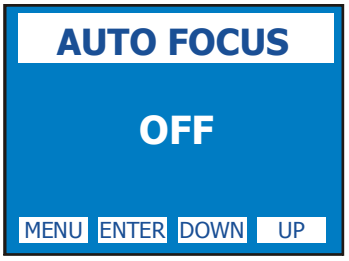



ON
OFF = (Default)

ENTER

Menu Up-Down Auto Focus ENTER Up-Down

AUTO FOCUS
Automatic focusing

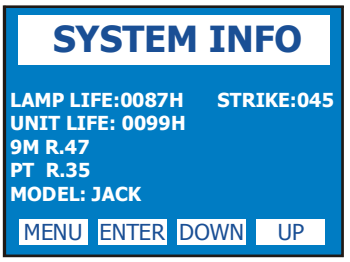



ON
OFF = (Default)
(Auto focus function
not yet implemented)

ENTER

Menu Up-Down System info ENTER Up-Down

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

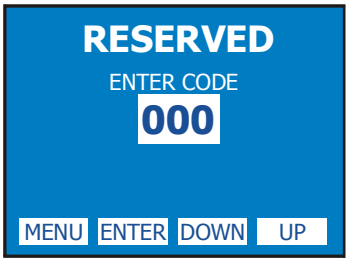



SYSTEM INFO
Lamp life time, lamp strikes,
unit life time, 9 motors card
software version, Pan&Tilt
card software version and
unit model

ENTER

Menu Up-Down Reserved ENTER Up-Down

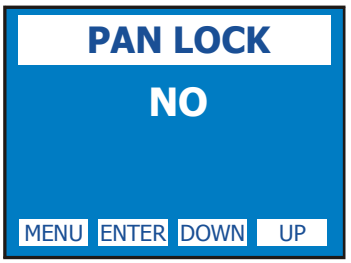
RESERVED
(Code = 100)
Pan lock-Tilt lock
Pan free-Tilt free
Lock Detector
System Reboot
Exit To Main




ENTER

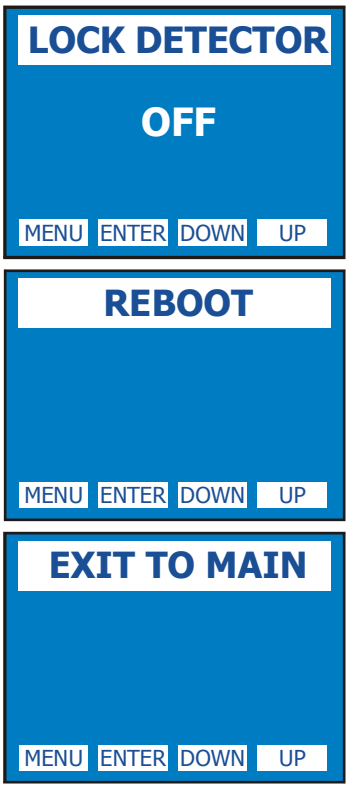
Pan Lock = Lock the Pan
to the desired value

Tilt Lock = Lock the Tilt
to the desired value




Pan Free = Remove power
to Pan motor

Tilt Free = Remove power
to Tilt motor



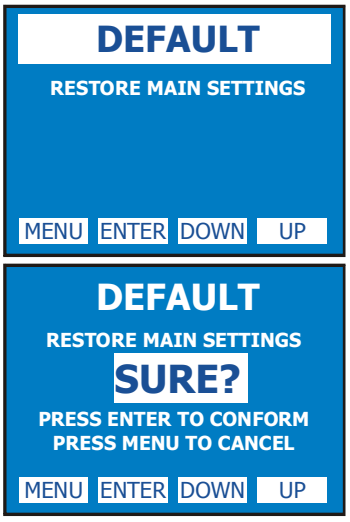

Lock Detector OFF = Default
Lock Detector ON : This function let the user to activate the Lock detector on Pan and Tilt.
When Lock detector is set to ON, the unit start the Pan&Tilt motors reset normally, but if for any reason there is something blocking the movement for Pan&Tilt motors during the initial 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 .

System Reboot = Unit Reboot without needing of turning OFF the unit

Exit To Main = Exit from Reserved menù

Menu Up-Down Default ENTER Up-Down

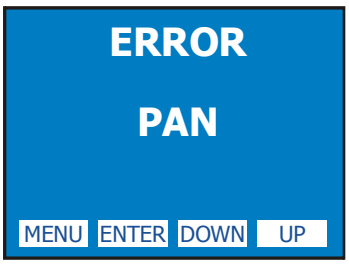
DEFAULT
To restore main settings



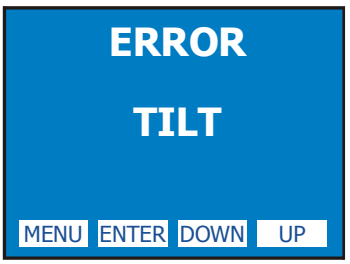

Default
To restore main settings ENTER

## 14- ERROR MESSAGES


COLOUR WHEEL POSITION ERROR

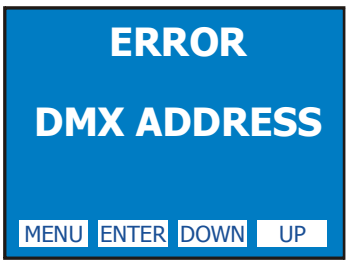



PAN REPOSITIONING ENCODER ERROR

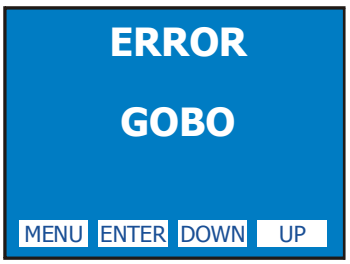



TILT REPOSITIONING ENCODER ERROR

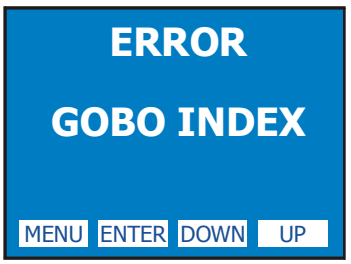

COMMUNICATION PROBLEM BETWEEN 9 MOTORS CARD AND PAN&TILT CARD



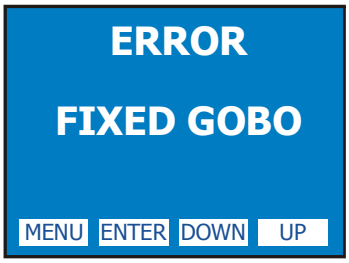

DMX ADDRESS ERROR



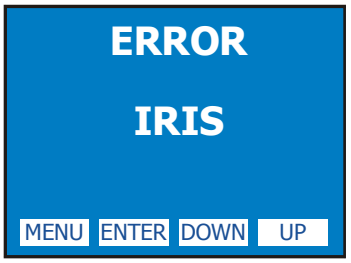

GOBO WHEEL ERROR



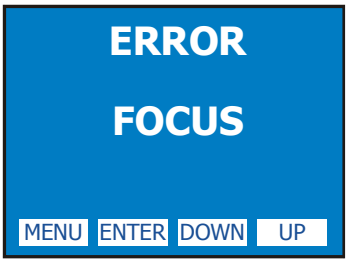

GOBO POSITION ERROR



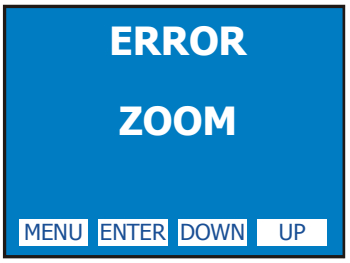

FIXED GOBO WHEEL ERROR




IRIS ERROR



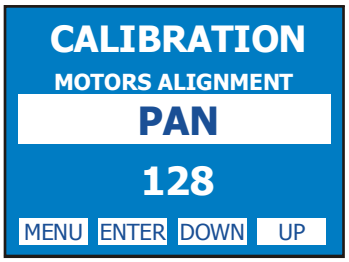

FOCUS ERROR



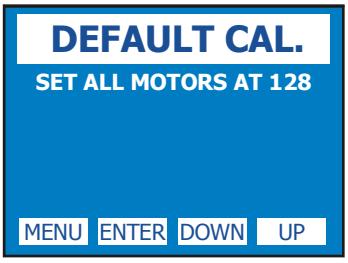

ZOOM ERROR

## 15- HIDDEN MENU

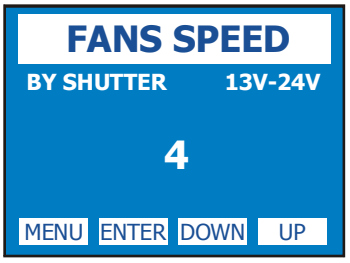
For technical personnel only.
To operate this menu:
-Connect the projector to the DMX controller (DMX SIGNAL MUST BE CORRECTLY RECEIVED)
-Reset the JACK (reset from the MENU, not from the DMX controller!).
-While reset is running, press the MENU and ENTER keys at the same time.



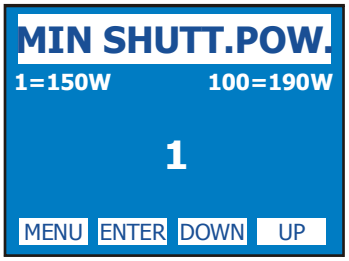

ELECTRONIC CALIBRATION OF THE MOTORS



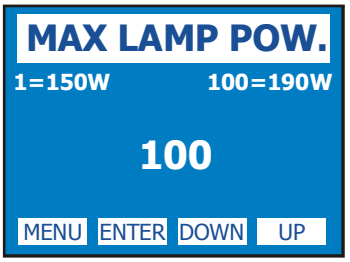

RESET EEPROM RESET ALL SETTINGS TO 128 VALUE




FAN SPEED WHEN DIMMER CLOSED



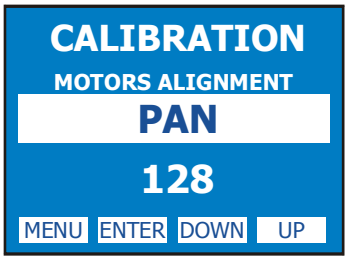

SHUTTER POWER WHEN DIMMER CLOSED



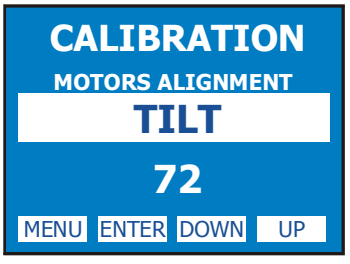

LAMP POWER WHEN DIMMER CLOSED


EXIT FROM HIDDEN MENU

### 15.1 Calibration mode




PAN ALIGNMENT
To align Pan position

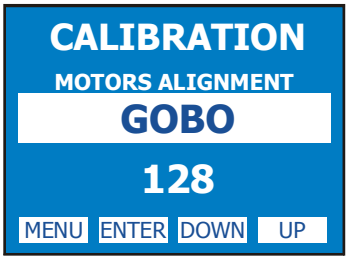



TILT ALIGNMENT
To align Tilt position


SHUTTER ZERO ALIGNMENT
Shutter zero position setting

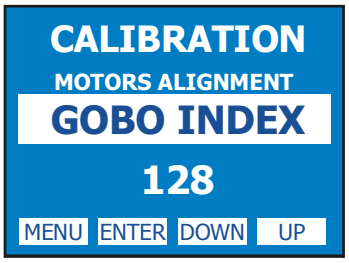

SHUTTER PATH ALIGNMENT
Shutter excursion setting


COLOUR WHEEL ALIGNMENT
To align Colour wheel



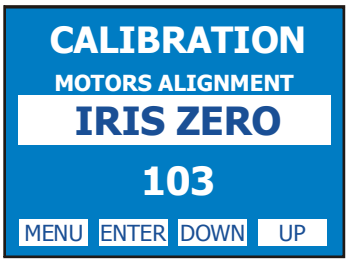

GOBO WHEEL ALIGNMENT
To align Gobo wheel

## 15.1 Calibration mode




GOBO WHEEL INDEX ALIGNMENT
To align Gobo wheel index


GOBO FIXED WHEEL ALIGNMENT
To align Gobo fixed wheel

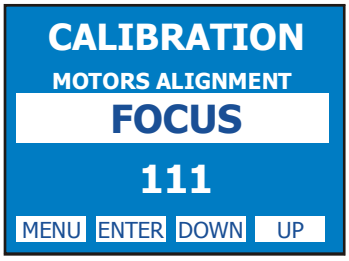



IRIS ZERO ALIGNMENT
Iris zero position setting

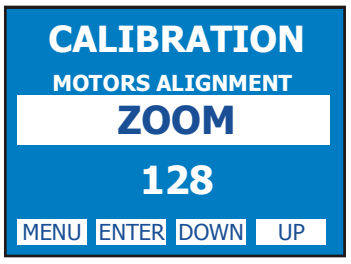

IRIS PATH ALIGNMENT
Iris excursion setting


PRISM ZERO ALIGNMENT
Prism zero position setting


PRISM PATH ALIGNMENT
Prism excursion setting




FOCUS ALIGNMENT
To align FOCUS




ZOOM ALIGNMENT
To align ZOOM

## 16- PAN SPEED & TILT SPEED

You can set the PAN and TILT motors at high speed on your JACK.
Press menu until you see PAN SPEED/TILT SPEED.
Press ENTER and select a speed with UP-DOWN (there are 8 speeds).
Confirm by pressing ENTER.

## 17- BASE FANS SPEED AND LAMP FANS SPEED

Base Fans speed and Lamp Fans speed regulation makes it possible to reduce fan noise.
However, the ambient temperature must be less than 35° C.

## 18- 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 2 screws which fix the head covers (photo 1) .
2) Once unscrewed, simply lift the covers to access the internal components (photo 2 and 3).


Photo 1

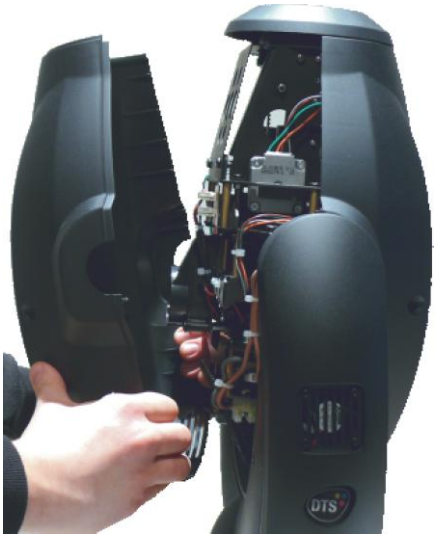


Photo 2

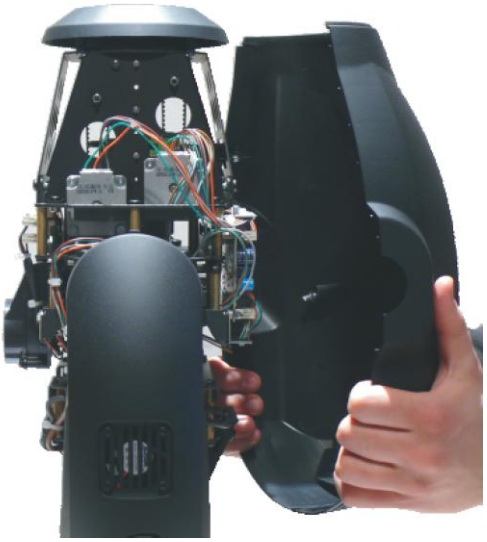
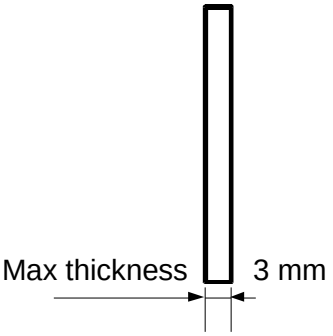


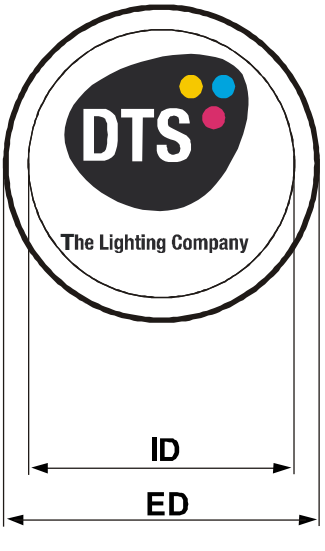
Photo 3

## 19- REPLACING GOBOS

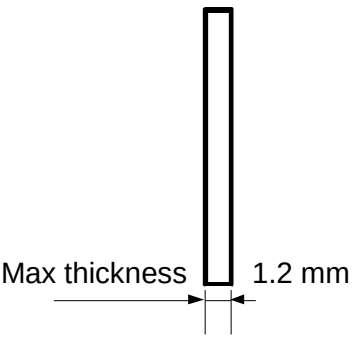
JACK uses a mechanical system which allows the fixture's gobos to be removed without the use of special tools.
Replacement gobos should be made of either heat resistant glass or metal.
An ever-increasing range of gobos is available from your D.T.S. sales network.
Gobo dimensions are as follows:

**Rotating gobo wheel**
ø external (ED) = 14.0 mm + 0 / - 0,1 mm
ø of image with defined edge (ID) = 6.0 mm
thickness = from 0.2 to 3 mm (see catalogue)




**Fixed gobo wheel**
ø external (ED) = 14.0 mm + 0 / - 0,1 mm
ø of image with defined edge (ID) = 6.5 mm
thickness = from 0.2 to 1.2 mm (see catalogue)



**Coated side**
When an object is held up the coated side of the glass gobo there is no space between the object and its reflection.

**Coated side**

**Uncoated side**
When an object is held up the uncoated side of the glass gobo there is a space between the object and its reflection.

**Uncoated side**

**Load with coated surface toward the light source.**

## Replacing gobos on the rotating gobo wheel

When replacing gobos, ensure that the projector is switched off.
1) Open the projector housing as described on page 23.
2) Remove the gobo holder to allow easier access to the gobo (photo 1).
3) Release the gobo retaining spring and carefully remove the gobo (photo 2).
4) Reverse the procedure to install a replacement gobo.

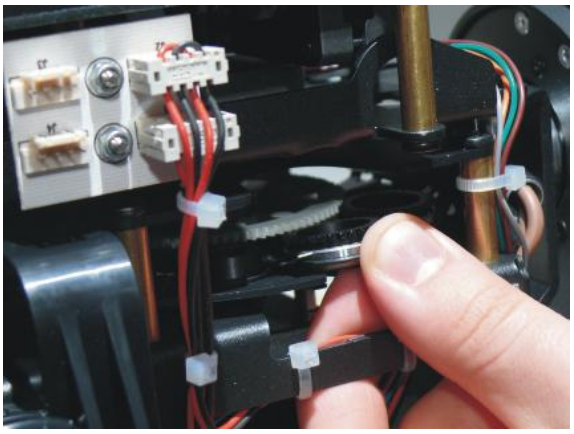


Photo 1

Photo 2

## 20- PERIODIC CLEANING

### 20.1- 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.

### 20.2- 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.

## 21- 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.
JACK lamp lifespan is about 2000 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 JACK.
Using a multimeter, test the condition of the fuse, replacing it with one of equivalent type if necessary.

## 22- DMX PROTOCOL

### 25 CHANNELS MODE (DEFAULT)

1 PAN msb
2 PAN lsb
3 TILT msb
4 TILT lsb
5 SPEED MOVEMENT
6 PAN FAR (Active only on Jack FPR Cod. 03.MS012.EBLFP)
7 DIMMER
8 SHUTTER
9 COLOUR
10 COLOUR MODE
11 GOBO
12 GOBO MODE
13 GOBO ROTATION / INDEX – PRISM ROTATION
14 GOBO INDEX FINE
15 GOBO SHAKE
16 FIXED GOBO
17 FIXED GOBO SHAKE
18 IRIS
19 MACROS
20 MACROS MODE
21 PRISM
22 FOCUS
23 FOCUS FINE
24 ZOOM
25 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 Jack FPR Cod. 03.MS012.EBLFP) |
|---|---|---|

| 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 |
| 090-099 | Strobe speed 2 |
| 100-109 | Strobe speed 3 |
| 110-119 | Strobe speed 4 |
| 120-129 | Strobe speed 5 |
| 130-139 | Strobe speed 6 |
| 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 |
|---|---|---|

IF CHANNEL 10 = FULL COLOUR (DMX range value 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 |

IF CHANNEL 10 = HALF COLOUR (DMX range value 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 |

IF CHANNEL 10 = PROPORTIONAL COLOUR (DMX range value 128-191)

| DMX value | Function |
|---|---|
| 000-010 | No Colour |
| 011-255 | Proportional Colour |

IF CHANNEL 10 = RAINBOW (DMX range value 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: 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 | 12 | Parameter: GOBO MODE |
|---|---|---|

| DMX value | Function |
|---|---|
| 000-127 | Gobo Rotation Mode |
| 128-255 | Gobo Index Mode |

| DMX CHANNEL | 13 | Parameter: GOBO ROTATION / INDEX – PRISM ROTATION |
|---|---|---|

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 | 14 | Parameter: GOBO INDEX FINE |
|---|---|---|

| DMX value | Function |
|---|---|
| 000-255 | Gobo Index Fine |

| DMX CHANNEL | 15 | 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 |
| 243-255 | Gobo shake L-R speed 9 |

| 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: 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 |
| 243-255 | Gobo shake L-R speed 9 |

| DMX CHANNEL | 18 | Parameter: IRIS |
|---|---|---|

| DMX value | Function |
|---|---|
| 000-009 | Open |
| 010-246 | Linear iris from open to closed |
| 247-255 | Closed |

| DMX CHANNEL | 19 | Parameter: MACROS |
|---|---|---|

**IF CHANNEL 20 = IRIS MACROS (DMX range value 0-63)**

| 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 |

**IF CHANNEL 20 = BEAM MACROS (DMX range value 64-127) BEAM Macros not yet implemented**

| DMX value | Function |
|---|---|
| 000-009 | No effect |
| 010-063 | BEAM macros 1 |
| 064-117 | BEAM macros 2 |
| 118-171 | BEAM macros 3 |
| 172-213 | BEAM macros 4 |
| 214-255 | BEAM macros 5 |

**IF CHANNEL 20 = WASH MACROS (DMX range value 128-191) WASH Macros not yet implemented**

| DMX value | Function |
|---|---|
| 000-009 | No effect |
| 010-063 | WASH macros 1 |
| 064-117 | WASH macros 2 |
| 118-171 | WASH macros 3 |
| 172-213 | WASH macros 4 |
| 214-255 | WASH macros 5 |

IF CHANNEL 20 = SPOT MACROS (DMX range value 192-255) SPOT Macros not yet implemented

| DMX value | Function |
|---|---|
| 000-009 | No effect |
| 010-063 | SPOT macros 1 |
| 064-117 | SPOT macros 2 |
| 118-171 | SPOT macros 3 |
| 172-213 | SPOT macros 4 |
| 214-255 | SPOT macros 5 |

| DMX CHANNEL | 20 | Parameter: MACROS MODE |
|---|---|---|

| DMX value | Function |
|---|---|
| 000-063 | IRIS macros |
| 064-127 | BEAM macros (BEAM Macros not yet implemented) |
| 128-191 | WASH macros (WASH Macros not yet implemented) |
| 192-255 | SPOT macros (SPOT Macros not yet implemented) |

| DMX CHANNEL | 21 | Parameter: PRISM |
|---|---|---|

| DMX value | Function |
|---|---|
| 000-127 | No Effect |
| 128-255 | Prism Inserted |

| DMX CHANNEL | 22 | Parameter: FOCUS |
|---|---|---|

| DMX value | Function |
|---|---|
| 000-255 | Linear focus (0-95)% |

| DMX CHANNEL | 23 | Parameter: FOCUS FINE |
|---|---|---|

| DMX value | Function |
|---|---|
| 000-255 | Linear focus (95-100)% |

| DMX CHANNEL | 24 | Parameter: ZOOM |
|---|---|---|

| DMX value | Function |
|---|---|
| 000-255 | Linear zoom |

| DMX CHANNEL | 25 | 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 |

## 22- DMX PROTOCOL

### 17 CHANNELS MODE

1 PAN msb
2 PAN lsb
3 TILT msb
4 TILT lsb
5 SPEED MOVEMENT
6 PAN FAR (Active only on Jack FPR Cod. 03.MS012.EBLFP)
7 DIMMER
8 SHUTTER
9 COLOUR
10 GOBO
11 GOBO ROTATION / INDEX – PRISM ROTATION
12 FIXED GOBO
13 IRIS
14 PRISM
15 FOCUS
16 ZOOM
17 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 Jack FPR Cod. 03.MS012.EBLFP) |
|---|---|---|

| 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 |
| 090-099 | Strobe speed 2 |
| 100-109 | Strobe speed 3 |
| 110-119 | Strobe speed 4 |
| 120-129 | Strobe speed 5 |
| 130-139 | Strobe speed 6 |
| 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: 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 | 11 | Parameter: GOBO ROTATION / INDEX – PRISM ROTATION |
|---|---|---|

| DMX value | Function |
|---|---|
| 000-127 | Proportional index 0°-360° |
| 128-180 | Left rotation (max to min) |
| 181-202 | Stop |
| 203-255 | Right rotation (min to max) |

| DMX CHANNEL | 12 | 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 | 13 | 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 | 14 | Parameter: PRISM |
|---|---|---|

| DMX value | Function |
|---|---|
| 000-127 | No effect |
| 128-255 | Prism inserted |

| DMX CHANNEL | 15 | Parameter: FOCUS |
|---|---|---|

| DMX value | Function |
|---|---|
| 000-255 | Linear focus |

| DMX CHANNEL | 16 | Parameter: ZOOM |
|---|---|---|

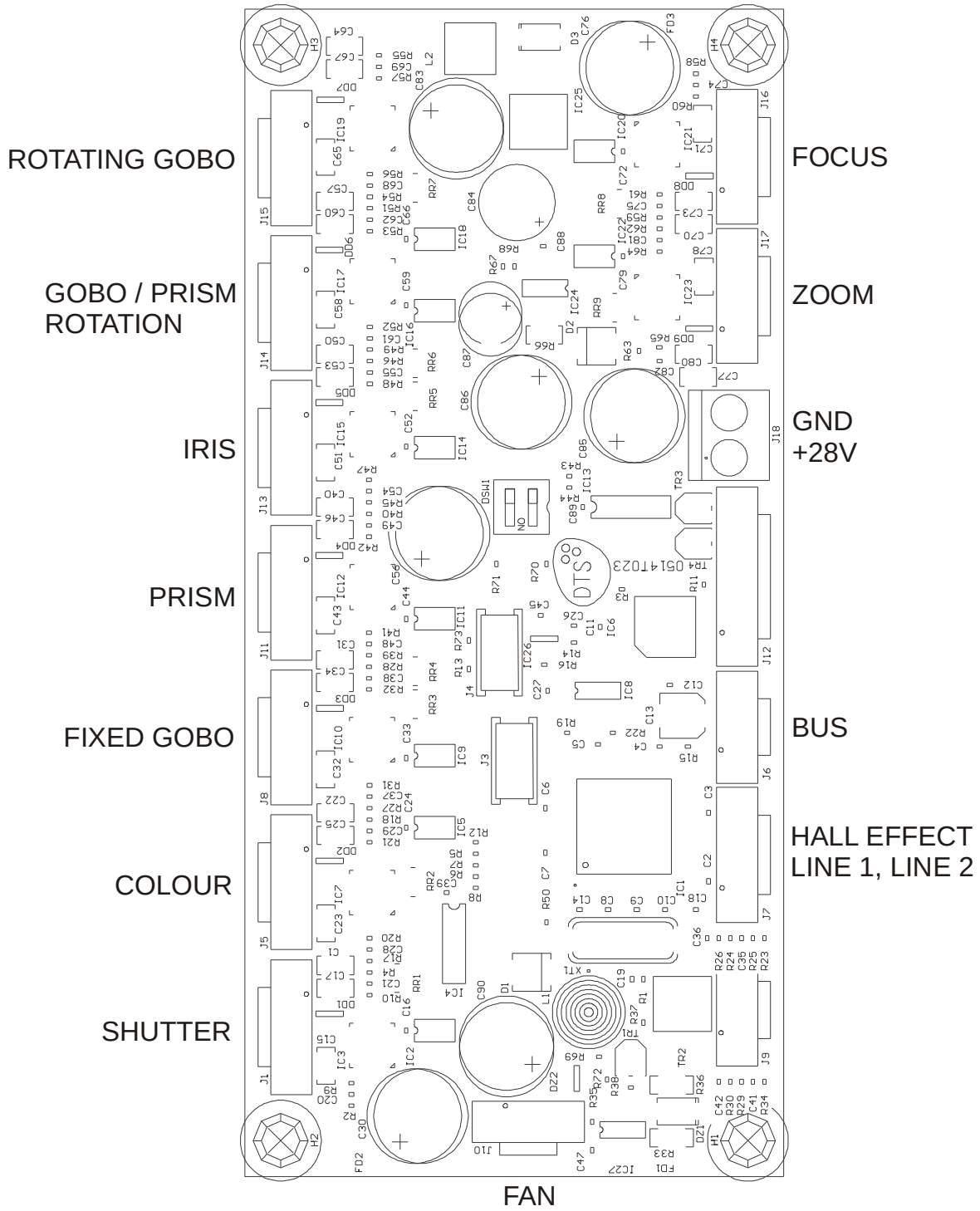
| DMX value | Function |
|---|---|
| 000-255 | Linear zoom |

| DMX CHANNEL | 17 | Parameter: RESET + LAMP |
|---|---|---|

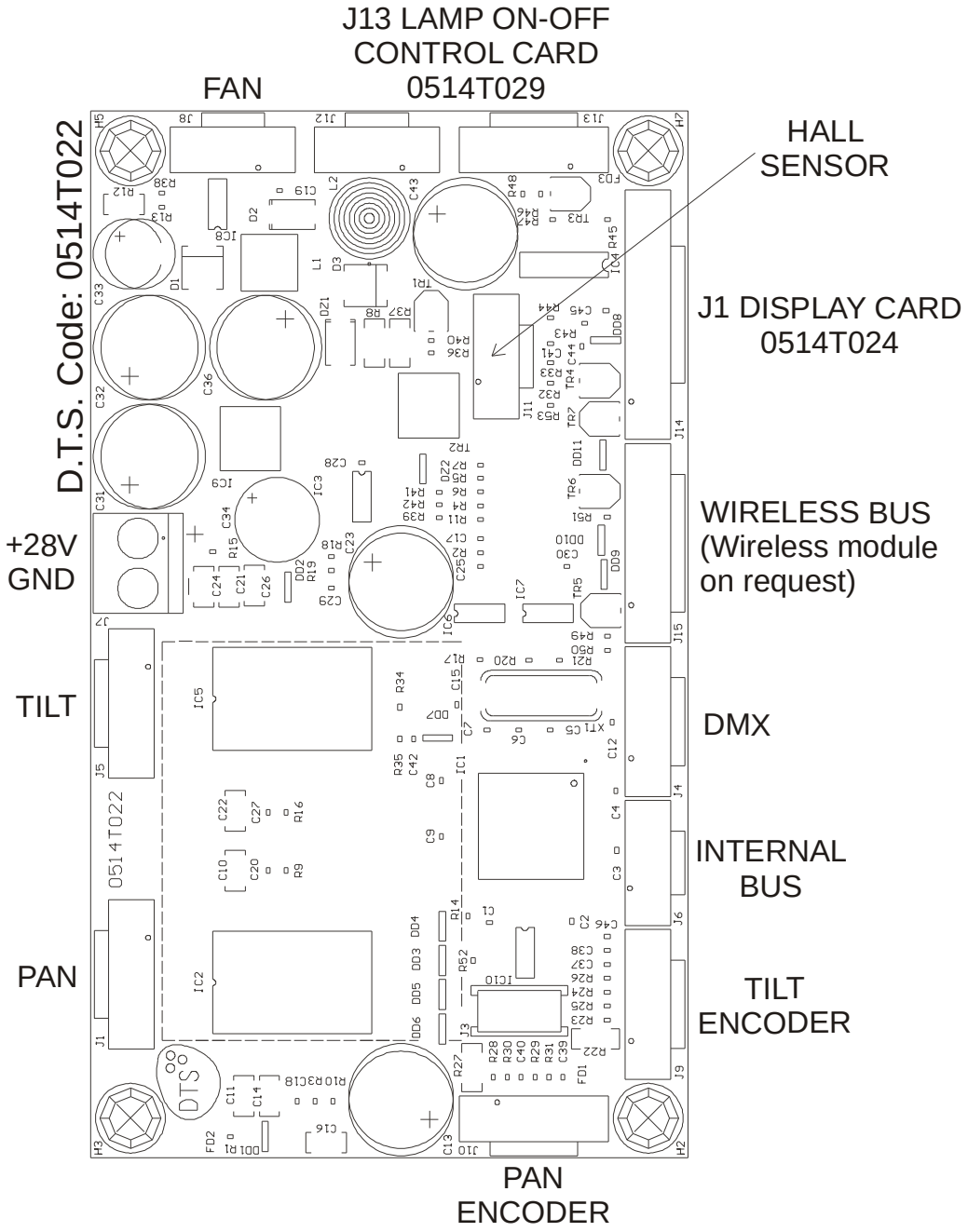
| DMX value | Function |
|---|---|
| 000-009 | No effect |
| 010-060 | Lamp OFF (3 sec) |
| 061-129 | No effect |
| 130-179 | Lamp ON (3 sec) |
| 180-200 | No effect |
| 201-239 | Internal motor reset |
| 240-255 | Total reset |

## 23- 9 MOTORS CONTROL CARD

D.T.S. Code: 0514T023

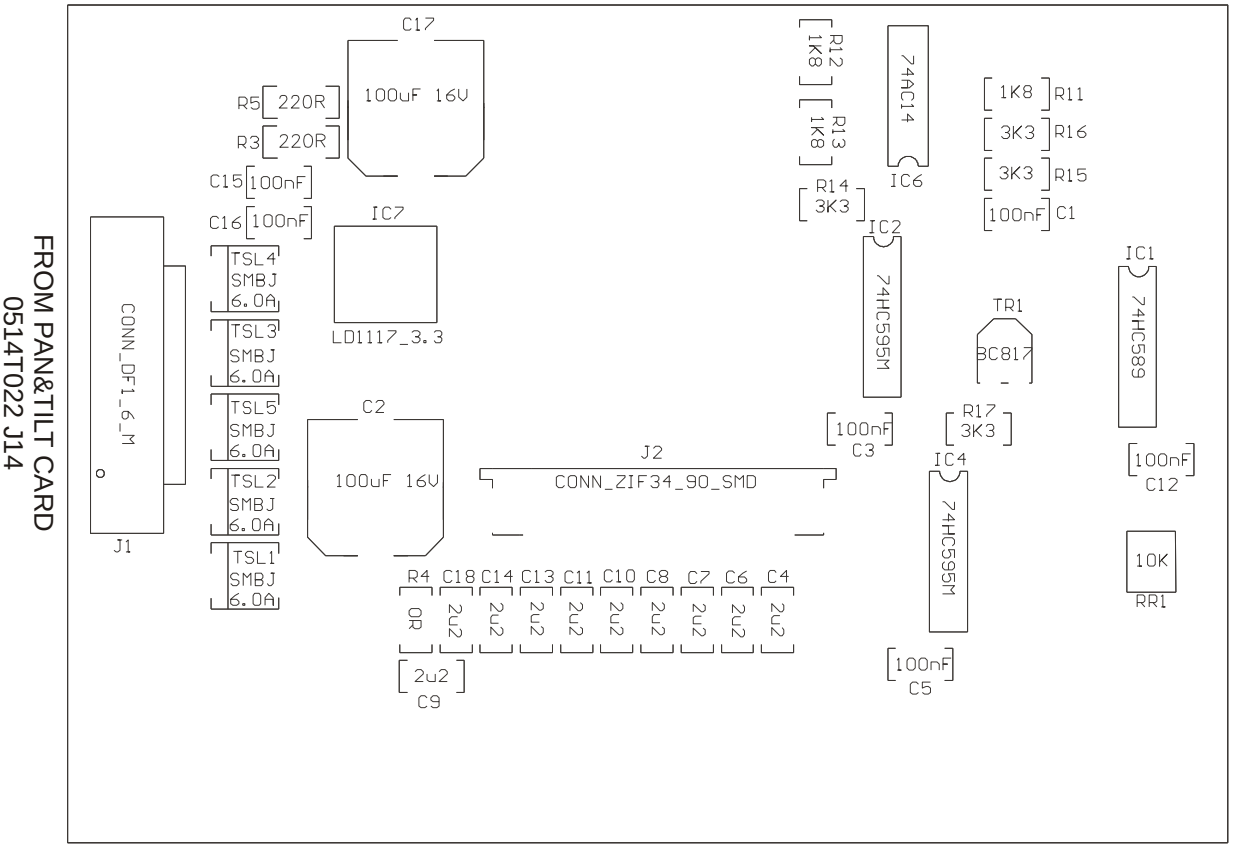


## 24- PAN & TILT CARD

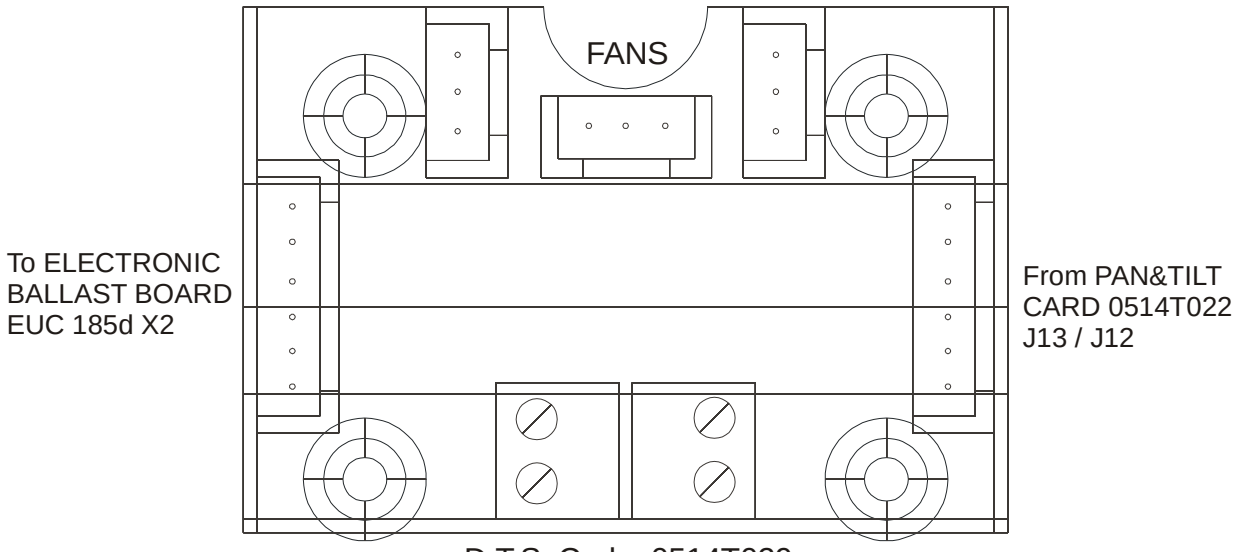


## 25- DISPLAY CARD

D.T.S. Code: 0514T024

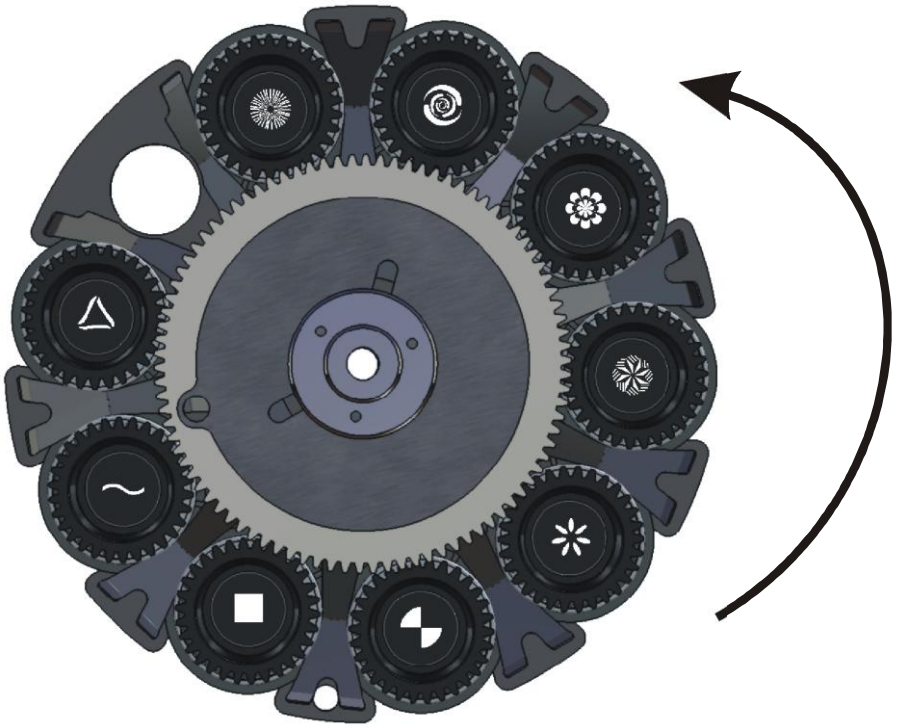



## 26- LAMP ON-OFF CONTROL CARD




D.T.S. Code: 0514T029

## 27- ROTATING GOBO WHEEL



**GOBO 1 DICRO**
**RAYS**

**D.T.S. Code:**
**0516G054**

**GOBO 2 DICRO**
**VERTIGO**

**D.T.S. Code:**
**0516G055**

**GOBO 3 DICRO**
**VERBENA**

**D.T.S. Code:**
**0516G056**

**GOBO 4 DICRO**
**PINWHEEL**

**D.T.S. Code:**
**0516G057**

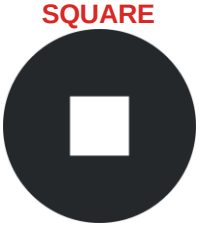
**GOBO 5 DICRO**
**DAISY**

**D.T.S. Code:**
**0516G058**

**GOBO 6 DICRO**
**PIE SLICES**

**D.T.S. Code:**
**0516G059**

**GOBO 7 DICRO**
**SQUARE**



**D.T.S. Code:**
**0516G060**

**GOBO 8 DICRO**
**WAVE**

**D.T.S. Code:**
**0516G061**

**GOBO 9 DICRO**
**TRIANGLE**

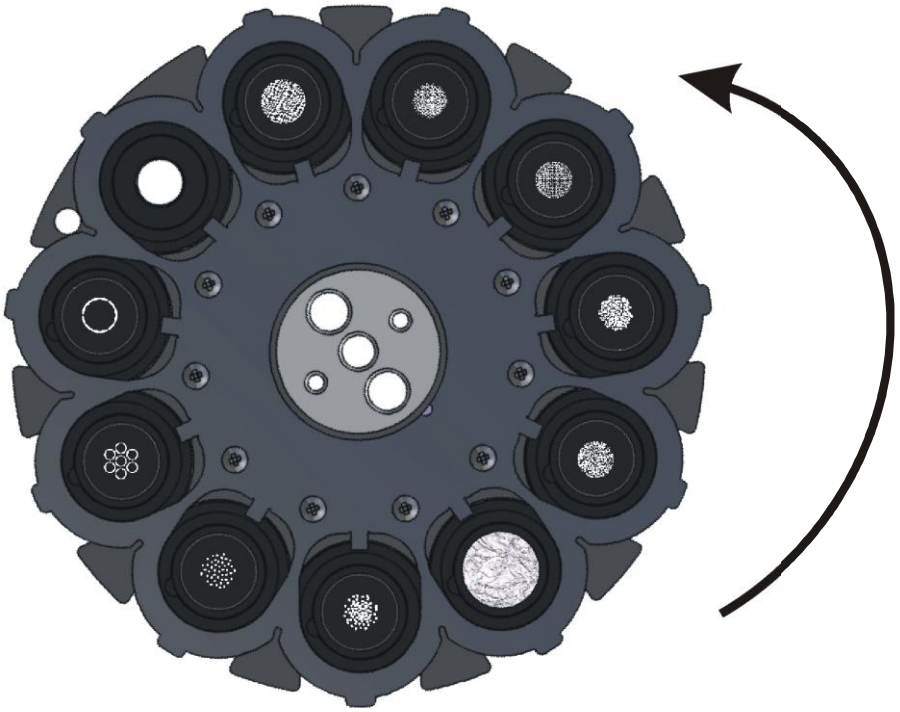
**D.T.S. Code:**
**0516G062**

## 28- ROTATING GOBO PROVIDED INTO THE UNIT BOX

**GOBO 10 DICRO**

**D.T.S. Code:**
**0516G063**

## 29- FIXED GOBO WHEEL



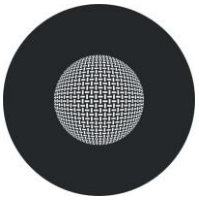
**GOBO 1 DICRO**
**DISTORTION**

**D.T.S. Code:**
**0516G064**

**GOBO 2 DICRO**
**SCRATCHES**

**D.T.S. Code:**
**0516G065**

**GOBO 3 DICRO**
**SPHERE**



**D.T.S. Code:**
**0516G066**

**GOBO 4 DICRO**
**STONES**

**D.T.S. Code:**
**0516G067**

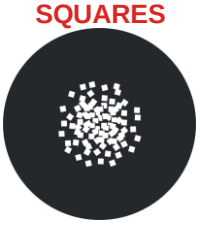
**GOBO 5 DICRO**
**LEAVES**

**D.T.S. Code:**
**0516G068**

**GOBO 6 GLASS**
**ICE**

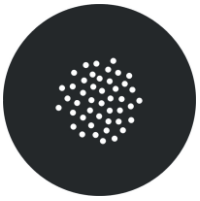
**D.T.S. Code:**
**0516G069**

**GOBO 7 DICRO**
**SQUARES**



**D.T.S. Code:**
**0516G070**

**GOBO 8 DICRO**
**DOTS**



**D.T.S. Code:**
**0516G071**

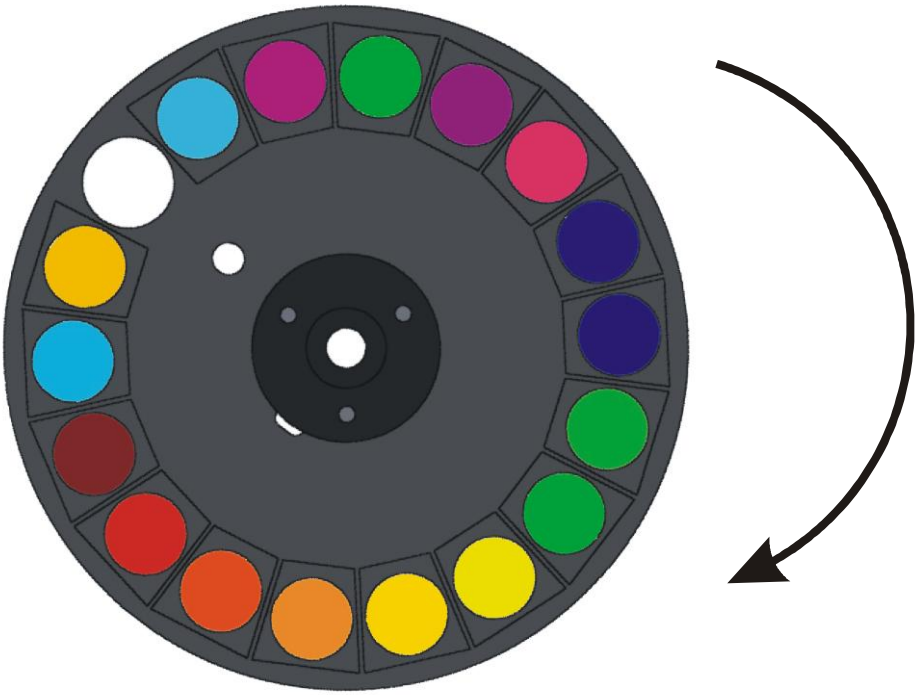
**GOBO 9 DICRO**
**CIRCLES**

**D.T.S. Code:**
**0516G072**

**GOBO 10 DICRO**
**TUNNEL**

**D.T.S. Code:**
**0516G073**

## 30- COLOUR WHEEL



COLOUR 1
FULL CTO FILTER

D.T.S. Code:
(0507C061.D14)

COLOUR 2
FULL CTB FILTER

D.T.S. Code:
(0507C060.D14)

COLOUR 3
RED

D.T.S. Code:
(0507C059.D14)

COLOUR 4
LIGHT RED

D.T.S. Code:
(0507C062.D14)

COLOUR 5
ORANGE

D.T.S. Code:
(0507C063.D14)

COLOUR 6
AMBER

D.T.S. Code:
(0507C064.D14)

COLOUR 7
YELLOW 1

D.T.S. Code:
(0507C065.D14)

COLOUR 8
YELLOW 2

D.T.S. Code:
(0507C066.D14)

COLOUR 9
DARK GREEN

D.T.S. Code:
(0507C067.D14)

COLOUR 10
GREEN

D.T.S. Code:
(0507C068.D14)

COLOUR 11
DARK BLUE

D.T.S. Code:
(0507C069.D14)

COLOUR 12
BLUE

D.T.S. Code:
(0507C070.D14)

COLOUR 13
PINK

D.T.S. Code:
(0507C071.D14)

COLOUR 14
PURPLE

D.T.S. Code:
(0507C072.D14)

COLOUR 15
LIGHT GREEN

D.T.S. Code:
(0507C073.D14)

COLOUR 16
MAGENTA

D.T.S. Code:
(0507C074.D14)

COLOUR 17
LIGHT BLUE

D.T.S. Code:
(0507C075.D14)

**NOTES**

**NOTES**

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**MADE IN ITALY** CE

DTS

The Lighting Company

**ISO 9001:2008**

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

PROUDLY MADE IN ITALY

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

**0517I194**

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