DELTA 8 B

DELTA 8 WHITE + AMBER B

DELTA 8 FULL COLOUR B

DELTA 8 RGB B

User's Manual Rel 1.0 **GB**

D.T.S. Illuminazione srl - ITALY
http://www.dts-lighting.it

DTS
The Lighting Company

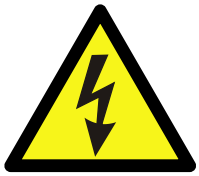
Made in Italy

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 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
The DELTA 8 B is a self-contained high-output LED projector suitable for lighting and colouring large surfaces.
The DELTA 8 B features a light body detachable from base (max distance 50m).
The DELTA 8 B provides a powerful colour synthesis engine: * 16 million colours (RGB, FULL COLOUR), * linear colour temperature (2800°K to 6500°K).
The unit is available with interchangeable lenses sets offering a range of beam angles.
DELTA 8 RGB B: 108 x 1W P4 type RGB LEDs
DELTA 8 FULL COLOUR B: 36 Full Colour LEDs
DELTA 8 WHITE + AMBER B: 108 x 1W P4 type WHITE + AMBER LEDs

Applications
DELTA 8 B is ideal in various applications, such as: lighting shopping malls, libraries, museums, exhibitions, clubs, restaurants, buildings, monuments, as well as special events, fashion displays, indoor and outdoor.

5- TECHNICAL SPECIFICATIONS

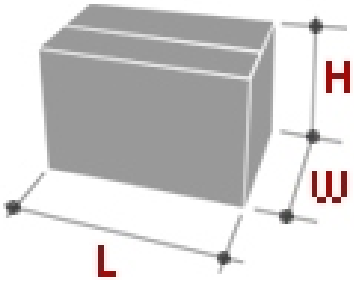
LED technology
Delta 8 RGB B:108 x 1W P4 type RGB LEDs (36 Red, 36 Green, 36 Blue)
Delta 8 White + Amber B:108 x 1W P4 type White + Amber LEDs. (72 White, 36 Amber).
Delta 8 FULL COLOUR B: 36 x 3W P5 II Full colour LEDs
LEDs average lifespan: 100.000 hours
Colour temperature variable on a linear range (2800°K ÷ 6500°K)
No infrared emission; no ultraviolet emission
Optical units
4 interchangeable lenses sets available (Spot, Medium flood, Wide flood, Very wide flood)
User interface
LED display
Independent operation
Fully programmable via built-in user interface
Master or Slave capability (chains of up to 32 interconnected units)
Remote control
Remotely controlled by cable or wireless (USITT DMX512)
USITT DMX 512 serial digital protocol (reception / transmission)
9 DMX channels
Protection
IP65 protection level
Hardware configuration
Light body detachable from base. (max distance 50m)
Power supply
Full range AC 90-260V, 50-60Hz power supply
Power consumption Delta 8 RGB B / Delta 8 White + Amber B:
* 90 V - 2,1 A - 190 W
* 120 V - 1,58 A - 190 W
* 230 V - 0,83 A - 190 W
* 260 V - 0,73 A - 190 W

Power consumption Delta 8 FULL COLOUR B:
* 90 V - 2,44 A - 220 W
* 120 V - 1,83 A - 220 W
* 230 V - 0,95 A - 220 W
* 260 V - 0,85 A - 220 W

Movements (horizontal/pan – vertical/tilt axes)
Mechanical movement 180° Pan / 180° Tilt
Thermal
Operating ambient temperature - 10° / + 40°
Finishes
Black or white finish
Certification and Safety
Certification CE;
LED Class
Class 2 LED product
Weight
18 Kg

Dimensions

Unit Dimensions (LxWxH)	Packaging Dimensions (LxWxH)
459x311x511mm	530 x 500 x 660 mm
Weight:	Weight:
18 Kg	24 Kg



6- ACCESSORIES

As standard

• 2 x "C" Clamp GQUICK with "Fast Lock" connection 1/4 turn (max. load. 80Kg) (cod. 0521A014)
• ABS cover protection for Main AC and DMX cables on the base (cod. 0511C083)
• User's manual

Optional (on request)

Lenses sets (black colour assembly)
Delta 8 RGB B / White + Amber B:
Lenses set Spot (cod. 03.LK021) ,Lenses set MEDIUM flood (cod. 03.LK.022), Lenses set WIDE flood (cod. 03.LK.023), Lenses set VERY WIDE flood (cod. 03.LK.020)
Delta 8 FULL COLOUR B:
Lenses set Spot (cod. 03.LK098) ,Lenses set MEDIUM flood (cod. 03.LK.099), Lenses set WIDE flood (cod. 03.LK.100), Lenses set VERY WIDE flood (cod. 03.LK.020)

Flight cases
Flight case for 1 DELTA with no wheels (cod. 0521C029), Flight case with wheels for 2 DELTA (cod. 0521C030)

Wireless DMX receivers retrofits
• Wireless DMX Receiver Card with OUTDOOR IP65 omnidirectional 2dBi antenna included (cod.03.LA.012)

Clamps / safety wires
• "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)

Cables / connectors
Extension Cable with M/F M16 9-pole connectors, 5 m (cod. 03.LA.121.05)
Extension Cable with M/F M16 9-pole connectors, 10 m (cod. 03.LA.121.10)
Extension Cable with M/F M16 9-pole connectors, 20 m (cod. 03.LA.121.20)
Extension Cable with M/F M16 9-pole connectors, 30 m (cod. 03.LA.121.30)
Extension Cable with M/F M16 9-pole connectors, 50 m (cod. 03.LA.121.50)
Cable for DELTA B, 9xAWG22 (cod. 0509C085)
9-pin M16 IP67 cable connector for Delta B, Male (cod. 0508B105)
9-pin M16 IP67 cable connector for Delta B, Female (cod. 0508B106)

ANTENNA Outdoor 2dBi Omni-directional, radiation (HxV) 360°x360° (cod. 0508A040)
IR remote control for Delta 8 (cod. 0514L008)

7- IMPORTANT SAFETY INFORMATION

7.1 Fire prevention:

-Never locate the fixture on any flammable surface.
-Minimum distance from flammable materials: 1 MT.
-Minimum distance from the closest illuminable surface: 0,5 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.

7.2 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.
-The level of technology inherent in the DELTA 8 B requires the assistance of specialised personnel for all servicing. Please refer to an authorised DTS 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.

7.3 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 projector was turned off.

-Never install the fixture in an enclosed area lacking sufficient air flow. The ambient temperature should not exceed 40°C.

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

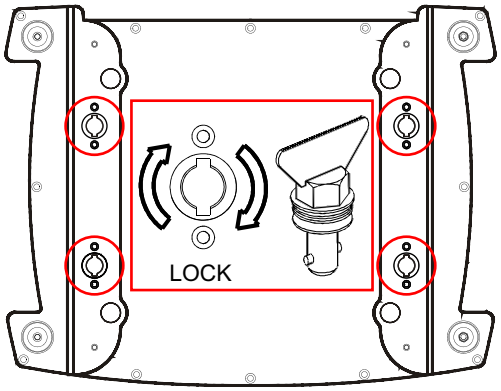
-The projector is classified as an ordinary appliance and its protection level against the penetration of solid and liquid objects is IP 65.

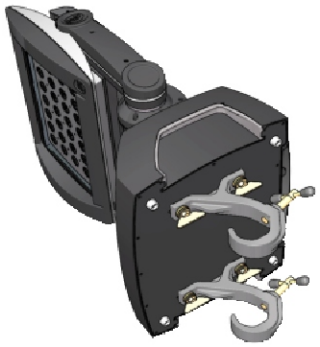
8- VOLTAGE AND FREQUENCY

The DELTA 8 B can operate at 90-260 VOLT 50 or 60 Hz.

9- INSTALLATION

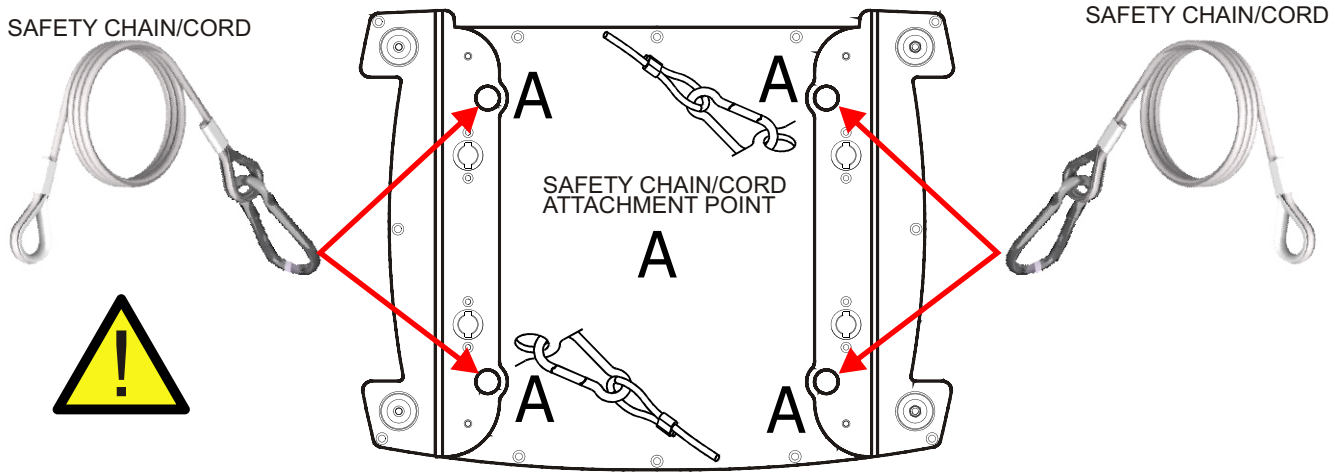
DELTA 8 B may be either floor or ceiling mounted.
For floor mounting installations, the DELTA 8 B is supplied with four rubber mounting feet on the base.
For ceiling mounted installations, we reccomend the use of appropriate clamps to fix the unit to the mounting surface.
The supporting structure from which the unit is hung should be capable of bearing the weight of the unit, as should any clamps used to hung it. The structure should also be sufficiently rigid so as not to move or shake if moving head units are attached to it.
Two 1/4 turn Fast Locks connections placed in the base of the units allow to hang the DELTA 8 B by using the Fast Lock 'C' clamps provided in the box.
.





9.1- Safety cable

We recommend the use of a safety chain/cord connected to the DELTA 8 B 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 points (A) located on the base of the fixture, as shown in the picture below.

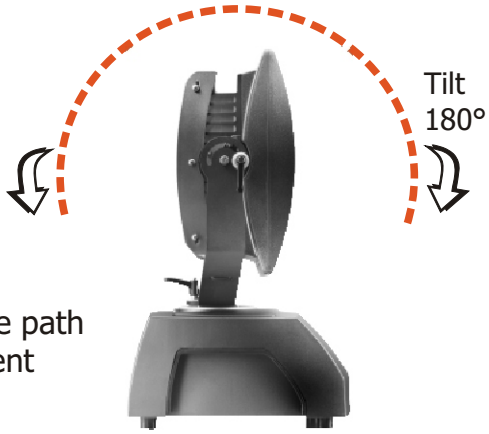


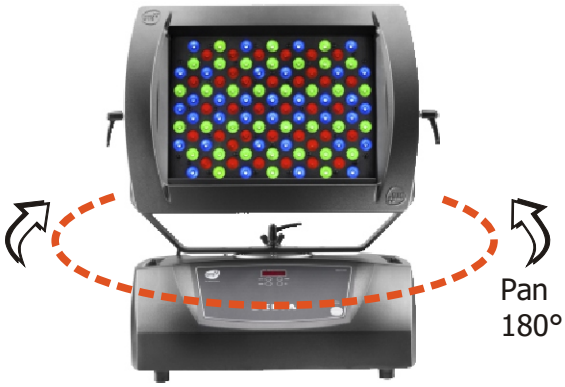
9.2- Protection against liquids

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

Pan 180° (mechanical movement), Tilt 180° (mechanical movement)





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

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 0,5 MT. 0,5M

9.5- Forced ventilation

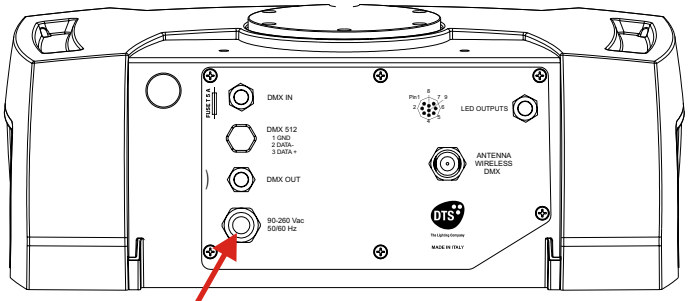
You will note, on inspection, that the unit feature a thermal dissipator on the head. This should, under no circumstances, be blocked or obstructed whilst the projector is in operation.
Doing so could cause the fixture to seriously overheat thereby compromising its proper operation.

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

DELTA 8 B 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 amps at 230V,
Or 2,5 amps at 90 V.
Strict adherence to regulatory norms is strongly recommended.



Mains
90-260V AC 50 / 60Hz

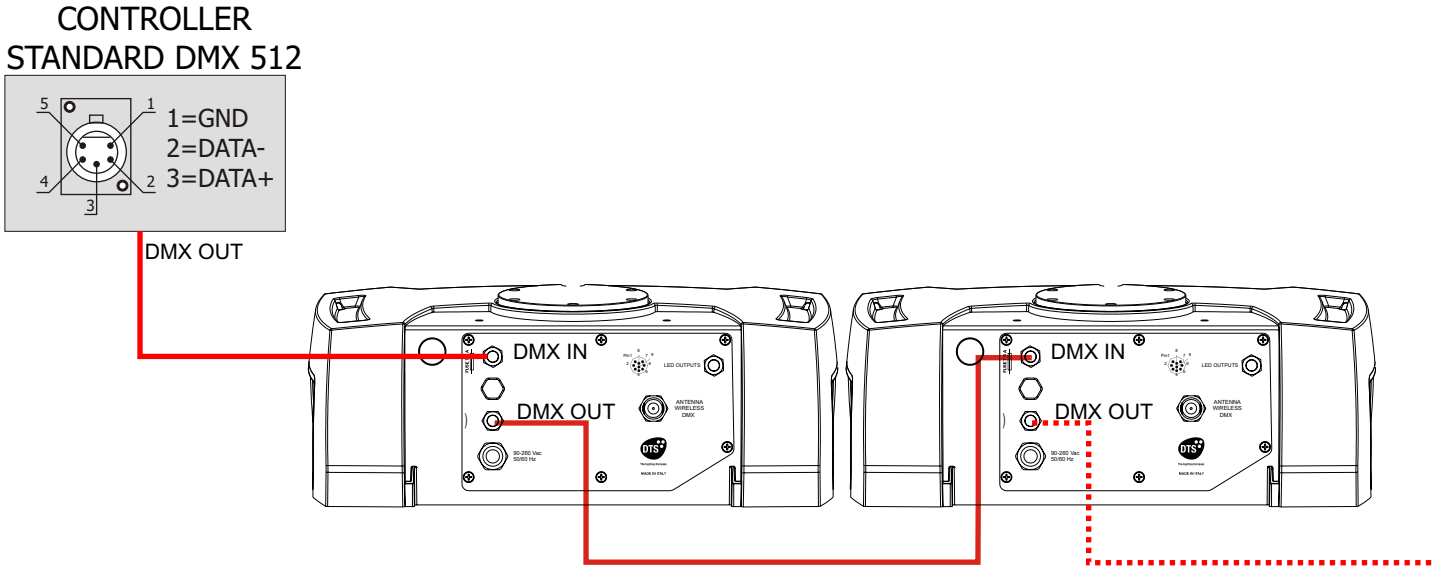
10.1- Protection

The use of a thermal magnetic circuit breaker is recommended for each DELTA 8 B.
A good earth connection is essential for the correct operation of the projector.

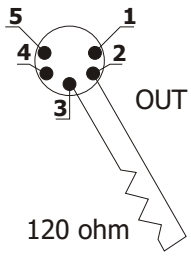
11- DMX SIGNAL CONNECTION

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 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. <u>If the display showing the DMX address flashes, then one of the following errors has occurred:</u>

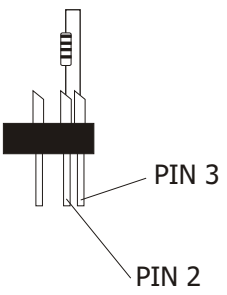
- DMX signal not present
- DMX address not valid
- DMX reception problem



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 cable 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

DELTA 8 B (all models) can be used in seven different modes: 9 DMX channels mode (default), 5 DMX channels mode (Shutter + Dimmer + RGB), WALL mode (6 DMX channels; for use with DTS Wall mounted DMX controller 0514L007), M3CH mode (4 DMX channels; Dimmer + RGB), RGB mode (3 channels), 1 DMX channel mode or CUSTOM DMX mode (not yet implemented).
If you want to use the DELTA 8 B in 9 channels mode, select the 9 CH mode from the MODE menu and set the following addresses on the mixer:

Projector 1	A001	
Projector 2	A010	If you want to select the next projector, just add "9"
Projector 3	A019	
…..	A….	
projector 6	A046	

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 knolewge of Windows based computer applications
. **Please refer to an authorised D.T.S. service centre.**

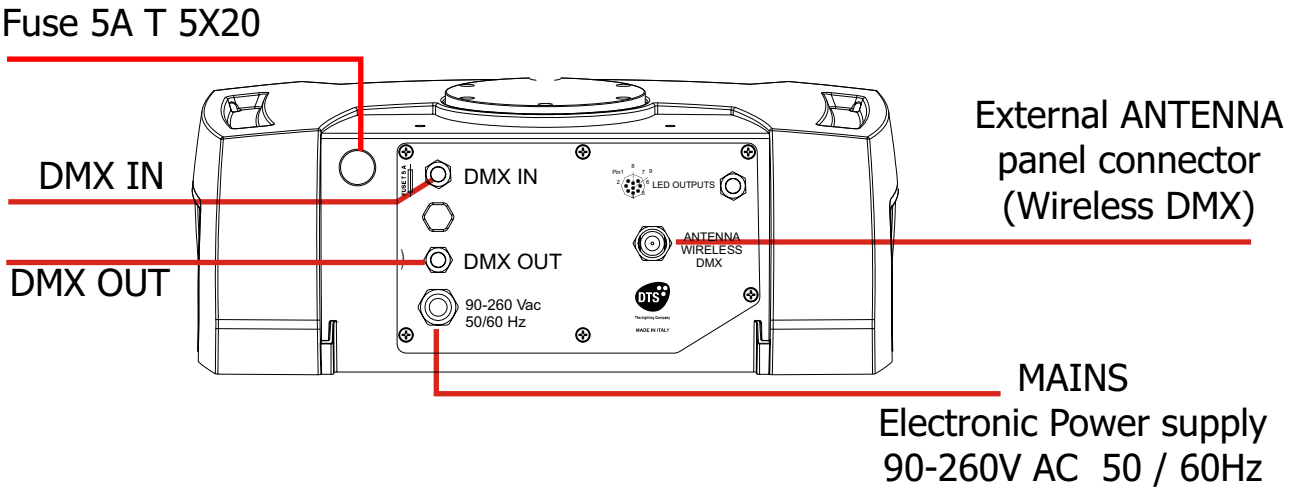
To update the software version of the DELTA 8 B you will need:
D.T.S. RED BOX interface (D.T.S. Code: 03.LA.008).
USB-DMX Driver for the D.T.S. RED BOX interface .
D.T.S. Firmware upgrade utility program.
(The driver and the installation procedure are available in our web site www.dts-lighting.it)

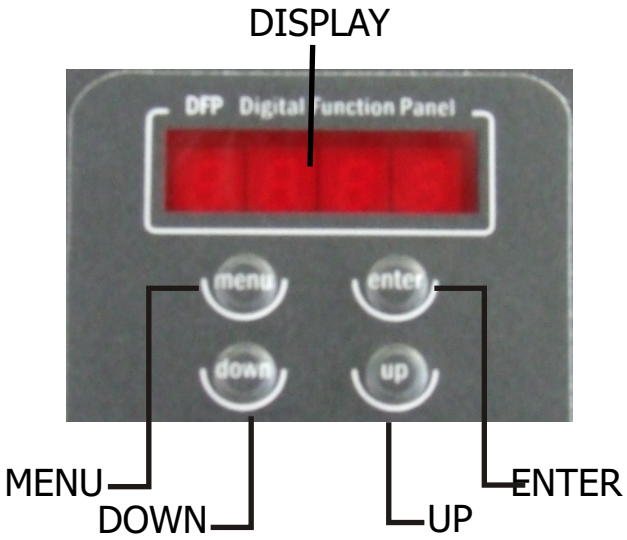
Updating the software version.
Please follow the procedure below to perform the update:

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 D.T.S. Firmware upgrade utility 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 DELTA 8 B 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 DTS 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 2.14

A001 — MENU ☞ Up-Down ☞ dISP — ENTER ☞ Up-Down ☞ POS1 — ENTER ☞ Up-Down ☞ AA Floor position — ENTER ☞ UU Suspension position — ENTER ☞

REVERSE DISPLAY
Reverses display's reading depending on the mounting position
(On the ground or suspended).

Up-Down ☞ StbY — ENTER ☞ Up-Down ☞ oFF Display OFF — ENTER ☞ on Display always ON — ENTER ☞

DISPLAY STAND BY
To turn off the display (after 5 seconds)
Or leave it always on.

13- DISPLAY FUNCTIONS

MENU Up-Down **MODE** ENTER Up-Down **9CH** 9 CHANNELS ENTER Default DMX Mode = 9 CH

DMX MODE
To select DMX mode : 9 DMX channels mode (default), 5 DMX channels mode (Shutter + Dimmer + RGB), WALL mode (6 DMX channels; for use with DTS Wall mounted DMX controller 0514L007), M3CH mode (4 DMX channels; Dimmer + RGB), RGB mode (3 channels), 1 DMX channel mode.

Up-Down **WALL** 6 CHANNELS ENTER

Up-Down **1CH** 1 CHANNEL ENTER

Up-Down **rGb** RGB (3 CHANNELS) ENTER

AUX mode let you activate an external ON -OFF control on IR connector.
(not implemented on DELTA 8 B)

Up-Down **5CH** 5 CHANNELS ENTER Shutter + Dimmer + RGB

Up-Down **M3cH** M3CH (4 CHANNELS) ENTER Dimmer + RGB

CUSTOM DMX mode let you set the parameters for Shutter, Dimmer, Red, Green, Blue, Ctc, Macro and Function to the desired DMX channels.
(not yet implemented)

Up-Down **CUSt** ENTER Up-Down

- **SEL** ENTER Custom mode enabled
- **ShoU** ENTER Show Custom settings
- **SEt** ENTER Parameters Setting on Custom Mode

MACRO
MACRO Function, enable channel mapping macro rainbow effects
STD (default)

Up-Down **AUX** AUX MODE ENTER External ON - OFF control on IR connector (not implemented on DELTA 8 B)

Up-Down **MACr** ENTER Up-Down

- **Std** ENTER Standard mode enabled: (Default).
- **EXt** ENTER Extended mode enabled: Rainbow effects on MACRO channel.

MENU Up-Down **LEd** ENTER Up-Down **rEd** ENTER Up-Down

- **MIn** Default = 0 ENTER
- **MAX** Default = 255 ENTER

LED
RGB Min/Max, Smooth, Compression, Sync and Boost level values settings

Up-Down **GrEE** ENTER Up-Down

- **MIn** Default = 0 ENTER
- **MAX** Default = 255 ENTER

RGB MINIMUM VALUES
This menu allow to select the minimum levels for Red,Green and Blue

RGB MAXIMUM VALUES
This menu allow to select the maximum levels for Red,Green and blue

Up-Down **bLUE** ENTER Up-Down

- **MIn** Default = 0 ENTER
- **MAX** Default = 255 ENTER

These settings have priority on Master Dimmer channel

Up-Down **SMtH** ENTER Up-Down **4** Range = Off-20 Default = 4 ENTER

SMOOTH VALUE
This menu allow to select the value of the delay (in millisecons) for RGB and Dimmer channels reaction to DMX or Program variation.
Off=25 ms delay (Fast response)
20=250 ms delay (Slow response)
Default=4

Off = 25 ms
Istant responce to DMX variation

20 = 250 ms
Smooth response to DMX variation

COMPRESSION
This menu allow to select between Linear courrent output or Quadratic courrent output for LEDs
Default = Quadratic

Up-Down **COMP** ENTER Up-Down

- **LInE** Linear = Linear courrent output ENTER
- **QUAd** Quadratic = Linear light output ENTER

13- DISPLAY FUNCTIONS

MENU Up-Down **LEd** ENTER Up-Down **SYnc** ENTER Up-Down **610** Range = 610 Hz -10 KHz Default = 610 Hz ENTER

SYNC
This menu allow to adjust the PWM frequency value (Hz) in order to reduce flickering in the process of your camera recordings

Up-Down **bSt** ENTER Up-Down **On** Boost mode activated ENTER

Up-Down **OFF** Boost mode deactivated ENTER

BOOST DRIVING
This menu allow to increase the LED's current from 350mA to 500 mA

Whit BOOST active,the LED's current is set to 500mA (30%more gain).
Default = Disable

MENU Up-Down **AUtO** ENTER **SUrE** ENTER Up-Down **ChPr** ENTER **SPEE** Up-Down **0010** ENTER

AUTOMATIC MODE
Automatic demo game without DMX controller

WAIt **0010**

ChPr
Chase with 16 steps previously created in REC MODE
Speed and Wait time selectable by user

CUPr ENTER **rEd** Up-Down **120** ENTER

GrEE **255**

CUPr
RGB values selectable by user

bLUE **104**

Rainbow (rAIn)
Rainbow colours effect.
Speed time selectable by user

rAIn ENTER **SPEE** Up-Down **0010** ENTER

CU01-CU16
Color Macros as on DMX channel 8 (Macro)

CU01 ENTER Up-Down ENTER

CU02

WHITE MACROS
16 macros for White color from 2800 to 6500 ° K

CU16

DIMMER
Dimmer level selectable by user as on DMX channel 2 (Dimmer)
Dimmer level is active for all the programs and macros

UH01 ENTER Up-Down ENTER

UH02

SHUTTER
Shutter level selectable by user as on DMX channel 1 (Shutter)
Shutter level is active only for CU01/CU16 and Wh01/Wh16 macros

UH03

UH04

ESC
Esc from Automatic Mode Menu

UH05

UH.....

UH16

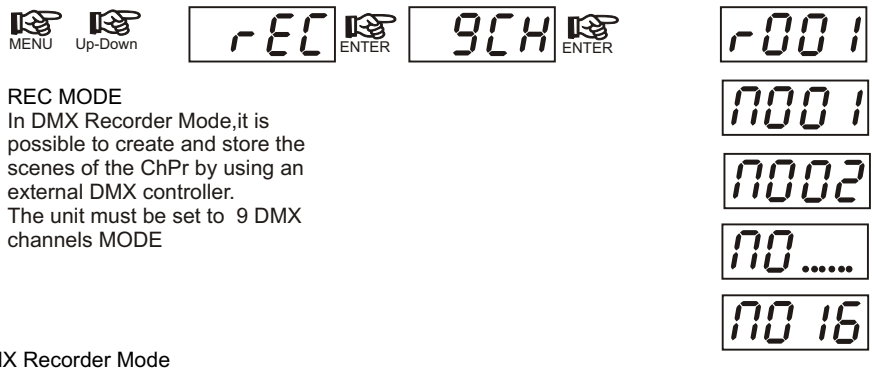
---

dIMM ENTER Up-Down **255** ENTER

SHUt ENTER Up-Down **255** ENTER

ESC

13- DISPLAY FUNCTIONS



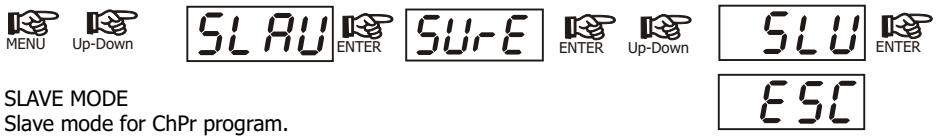
REC MODE
In DMX Recorder Mode,it is possible to create and store the scenes of the ChPr by using an external DMX controller.
The unit must be set to 9 DMX channels MODE

DMX Recorder Mode
For the programming of ChPr by using a DMX controller, besides the 9 channels necessary to control the unit a further 3 DMX channels are needed.
So that in RECORDER mode (via DMX) the unit will need 12 channels to be correctly programmed.
The three new DMX channels are:

DMX channel 10 = SCENES channel
From 0-10 = no function (r001)
From 11-255 are displayed the programmable scenes (max 16 scenes from M001 to M0016)

DMX channel 11 = EDIT channel:
-From 0-19 = no function
-From 20-234 the unit runs the configuration given by the received input DMX values.
With the channel SCENES it is possible to pass from one step to the next while with REC it is possible to record the selected scene.
-From 235-255 the unit runs the configuration given by the received input DMX values closing the sequence as last scene.
With the channel REC it is possible to record the selected scene as last scene.

DMX channel 12 = RECORDING channel
Records the set scene with a variation between 0 to 255 (the display flashes indicating that the scene has been recorded).It is advised that you keep the REC channel set to 0 and to run through the 255 only once you have decided to save the scene. If ChPr is not closed, by indicating the last scene (Edit channel between 235-255), in playback mode all 16 scenes will be played through even if not programmed



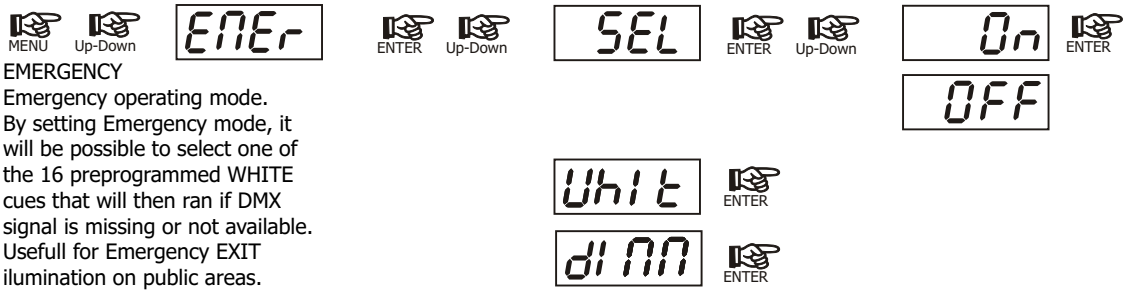
SLAVE MODE
Slave mode for ChPr program.
All slave units will be synchronised with master unit (Speed and wait time) but running their own Chpr program.

INFRARED MODE
Infrared remote control.
By activating Ir MODE, it will be possible to navigate trought the unit functions by using the D.T.S. infrared remote control.
D.T.S. Code :0514L008

NOTE:
D.T.S. infrared remote control needed.
D.T.S. Code :0514L008
(please check page 19 for details on remote control functions)

FAN SPEED CONTROL
Internal Fan Speed control selectable by user.
Range: OFF - 24 volt
Default : 12 volt

Fan Speed Control
Range: OFF - 24 volt
Default = 12 volt



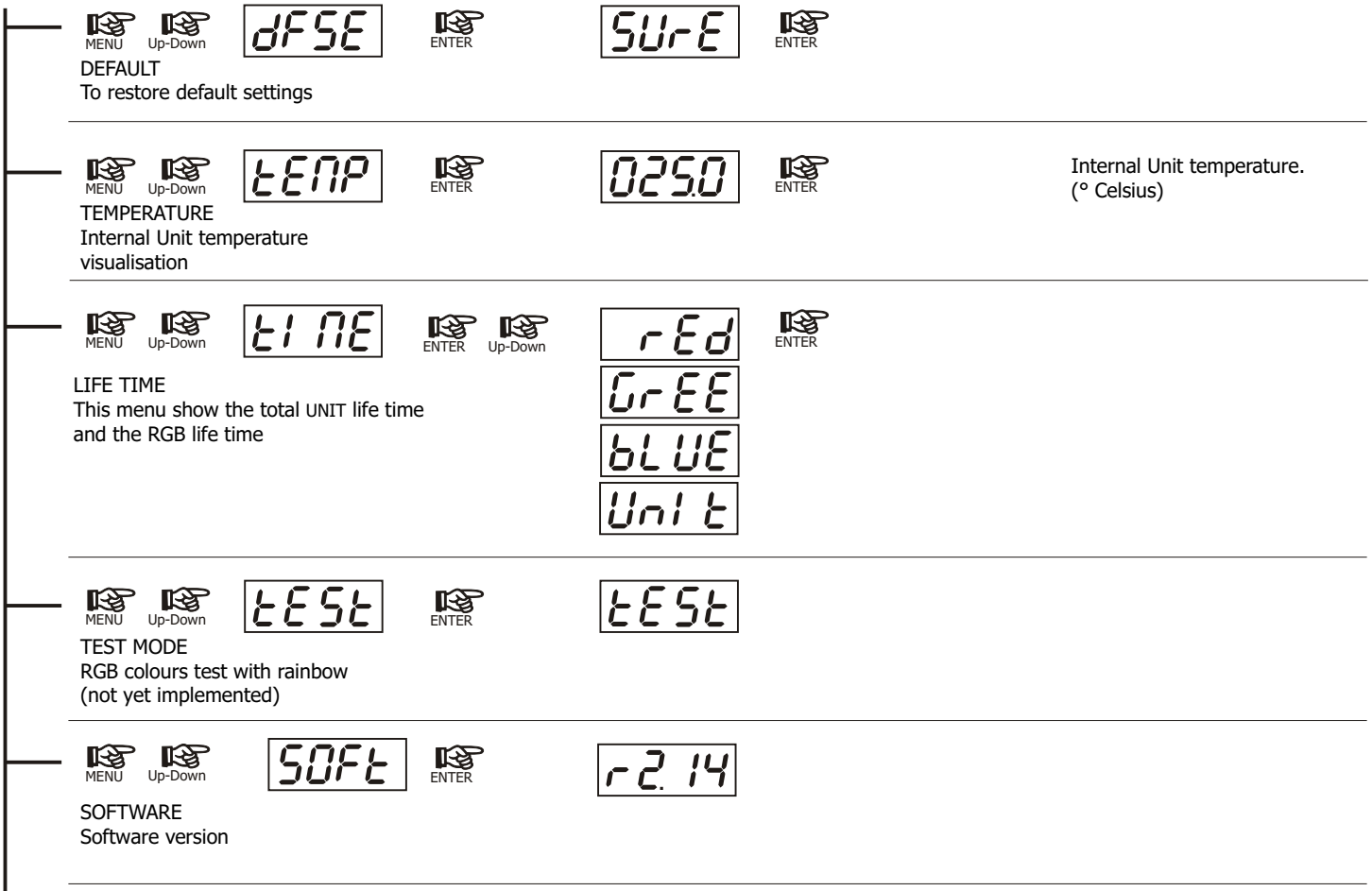
EMERGENCY
Emergency operating mode.
By setting Emergency mode, it will be possible to select one of the 16 preprogrammed WHITE cues that will then ran if DMX signal is missing or not available.
Usefull for Emergency EXIT ilumination on public areas.

Default = OFF

Default = White 1

Default = 255

13- DISPLAY FUNCTIONS



13- DISPLAY FUNCTIONS

WIRELESS DMX MENU is visible on unit display only if Wireless DMX receiver card is implemented into the unit

MENU Up-Down → UdMX → ENTER Up-Down → SEL → ENTER Up-Down → On → ENTER → WIRELESS DMX SYSTEM ENABLED

OFF → WIRELESS DMX SYSTEM DISABLED

WIRELESS DMX
Wieless DMX enabled / disabled.
By activating WDMX MODE, it will be possible to control DELTA 8 B via D.T.S. ANTENNA Wireless DMX Transmitter (cod. 03.E1271).
WIRELESS DMX system on DELTA 8 B is available on request.
WIRELESS DMX MENU is visible on unit display only if Wireless DMX receiver card is implemented into the unit

UnLH → ENTER → UNLINK = LOG OUT

NOTE:
Wireless DMX receiver card needed (cod. 03.LA.012).
External IP65 2dbi omnidirectional Antenna needed (cod. 0508A040)

Logging on DELTA 8 B (WIRELESS DMX must be enabled on DELTA 8 B unit) UdMX → ENTER → SEL → ENTER Up-Down → On → ENTER

To log on the DELTA 8 B in the WIRELESS system simply press and quickly release the function button on the transmitter .
The transmitter will start flashing rapidly red/green scanning for new free receivers / DELTA 8 B units. When a DELTA 8 B logs on to the transmitter the LINK green light on transmitter starts to flash rapidly.
After approximately 10 seconds the transmitter will jump back to normal mode and continue transmitting data. The Delta 10 F now try to synchronize to the transmitter.
When synchronized to the transmitter, 2 different modes are possible:
1. Antenna transmitter has detected and transmits a DMX signal, in this mode a solid green light is seen on the transmitter and solid display is seen on DELTA 8 B.
2. No DMX signal connected, the Antenna transmitter will flash red/green; display blinking on DELTA 8 B.

To log DELTA 8 B off from a transmitter simply select UNLINK function UnLH under WIRELESS DMX MENU UdMX and press ENTER.
When DELTA 8 B is logged off the display is blinking, meaning its available for log in on a new transmitter.

Logging out a DELTA 8 B
Select UNLINK function UnLH under WIRELESS DMX MENU UdMX and press ENTER.
When DELTA 8 B is logged off the display is blinking, meaning its available for log in on a new transmitter.

Logging out all DELTA 8 B linked to a transmitter
Press and hold the function button of the transmitter for about 3 seconds. When the display is blinking on DELTA 8 B, it mean that the units are logged out.

Transmitter, Status LED
Flashing red/green, no dmx connected.
Solid green, dmx signal detected and transmitted.
Fast flashing red/green, log in mode (every free DELTA 8 B unit, not logged in to any other transmitter, will be logged on)

DELTA 8 B Status
Display blinking, not logged on to a transmitter (free).
Solid display, logged on to a transmitter and receiving dmx data.

13- DISPLAY FUNCTIONS

INFRARED REMOTE CONTROL

By activating IR mode on Delta unit it will be possible to navigate trought the unit functions by using the D.T.S. infrared remote control (D.T.S. Code :0514L008).

Infrared remote control functions:

ON/OFF and MUTE buttons
In Master/Slave mode let you stop the games running.
Master and slave units will go in Stand-by mode

1-9 buttons
Let you select the Cue to run (cU01-09)

1-/.. Button
Let you select the Cue to run (cU10-16)

VOL +/-
No function

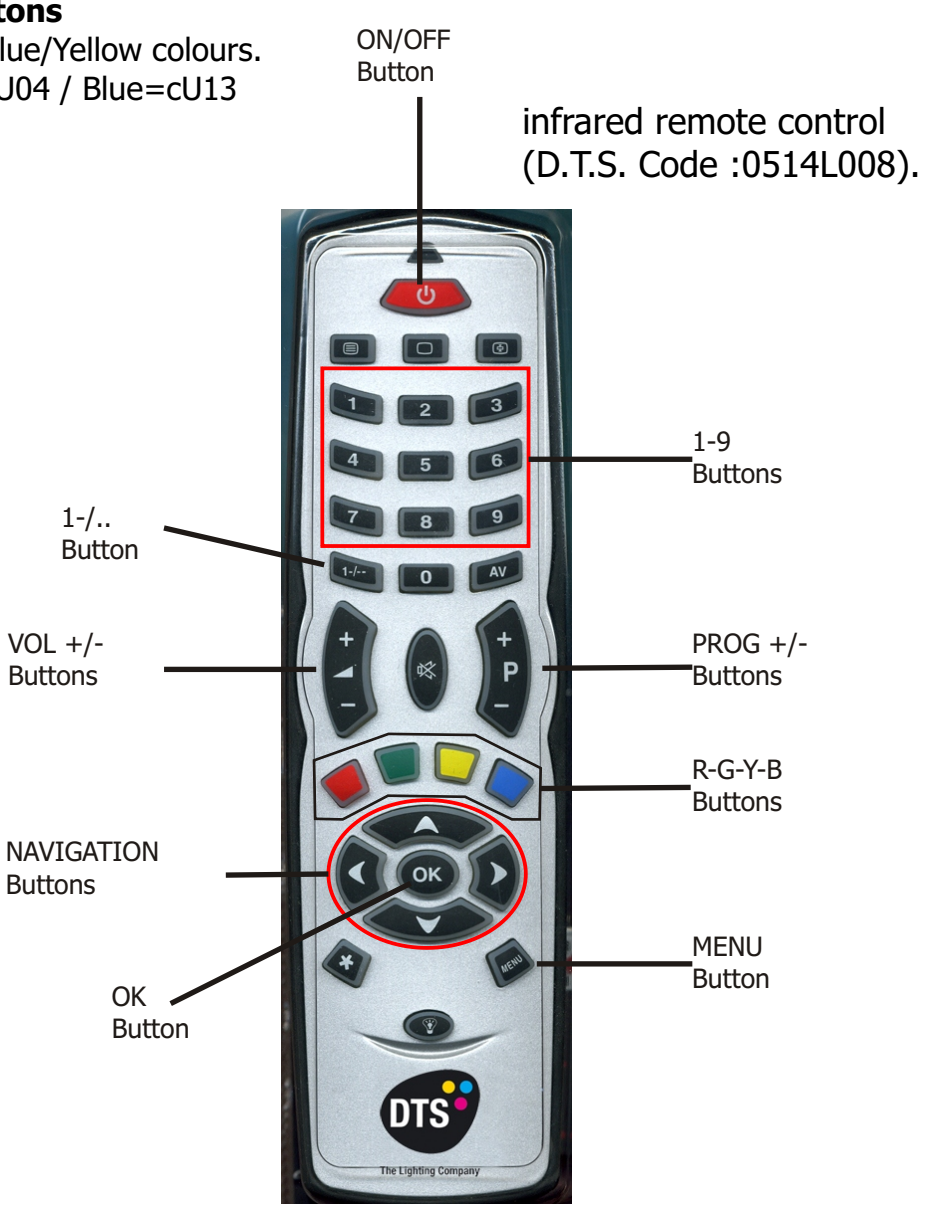
PROG +/-
Let you scroll between the selectable chases and cues

RED/GREEN/YELLOW/BLUE buttons
Direct acces to cues for Red/Green/Blue/Yellow colours.
Red=cU01 / Green=cU07 / Yellow=cU04 / Blue=cU13

Navigation buttons
Same as UP/DOWN on unit display

OK button
Same as ENTER on unit display

MENU button
Same as MENU on unit display



14- AUTOMATIC OPERATION (AUTO)

DELTA 8 B can work in automatic mode without a DMX controller. First of all connect the projectors with a DMX cable (picture below). A maximum quantity of 32 slave units can be connected to the same Master unit.

To activate Auto mode on the first unit, use the menu to run through the different modes until AUTO appears on the display, and press enter.
Now it is possible to choose between the different pre-programmed games (cUPr-rAIn-cU01/cU16-WH01/WH16) or cHPr which is user programmable through REC mode. To confirm game activation press ENTER on the selected GAME.

cUPr-rAIn-cU01/cU16-WH01/WH16

The first unit that will work as a Master should be placed in Automatic mode (AUTO), the other units have to be placed in 9 channels DMX mode (MODE 9CH) and the DMX address should be set at A001.
For rAIn (rainbow) game it is possible to select the speed for the colour changhing (SPEE).
DIMMER function (in AUTOMATIC MODE) is active for all the programs.
SHUTTER function (in AUTOMATIC MODE) is active only for cU01/cU16 and WH01/Wh16 macros.

cHPr MASTER/SLAVE

The first unit that will function as a Master must be set to Automatic mode (AUTO), the other units must be set to Slave mode (SLAV), selectable through the menu. In this way all the Slave units will be synchronised with the master and running their own cHPr game.
On the master unit it is possible to vary the Speed time (SPEE) for the colour changhing and the Wait time (UAIt) between the steps.
Speed time and Wait time on the Master, have priority on the slave units.
NB: It is possible to run cHPr on the Slave units even though these do not have cHPr programmed. You can do this by setting the units to 9 ch DMX MODE and selecting DMX address A001.

15- PERIODIC CLEANING

Front head Glass

The dust can reduce the luminous output substantially. Regularly clean the front head glass using a soft cotton cloth, dampened with a specialist glasses cleaning solution.

Air passages

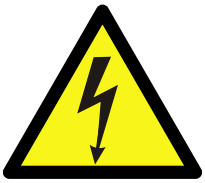
Air passages on head thermal dissipator must be cleaned approximately every 6 weeks. This periodic cleaning will depend of course, on the conditions in which the projector is operating. Suitable instruments for performing this type of maintenance are a brush and a common vacuum cleaner or an air compressor.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

16- PERIODIC CONTROLS

Mechanical parts

Periodically check all mechanical parts and the gaskets; damaged gaskets will null IP65 protection. Please refer to an authorized D.T.S. service centre in case mechanical parts should be replaced.

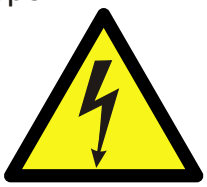
Electrical components



Periodically check the unit for correct earthing (grounding) on Main AC cable.
Attention: Disconnect mains power before any servicing or maintenance

Fuse replacement

Locate the fuse, which protect the electronics, in the base of the unit.
Using a multimeter, test the condition of the fuse, replacing it with one of equivalent type if necessary.
Attention: Disconnect mains power before any servicing or maintenance



17- DMX PROTOCOL

9 CHANNELS MODE (Default) 

1 SHUTTER
2 DIMMER
3 RED
4 GREEN
5 BLUE
6 WHITE (Pre-programmed whites at different color temperatures)
7 CTC
8 COLOURS MACRO
9 FUNCTIONS

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3700ms-20ms)**
120-149					**Pulse open at variable speed from slow to fast (42,6s-100ms)**
150-179					**Pulse close at variable speed from slow to fast (42,6s-100ms)**
180-204	**192**				**Random Strobe (Master and RGB active)**
205-229	**218**				**Random Strobe (Full)**
230-234					**Red, Yellow, Cyan and Blue colour effects at variable speed**
235-255	**245**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **WHITE (Pre-programmed White at diff. color temperature)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-55	**23**				**No Function**
56-105	**80**				**Full (Red-Green-Blue at Full)**
106-155	**130**				**White DTS**

IF CHANNEL 9 (FUNCTIONS) = CUSTOM WHITE RECALL (Dmx range value 0 - 79)

156-205	**180**	**Custom White Recall**
206-255	**225**	**White CTC (Channel 7 CTC enabled 256 color temp. Correction Macros: 2800°K-6500°K)**

IF CHANNEL 9 (FUNCTIONS) = CUSTOM WHITE CREATE (Dmx range value 80 - 160)

156-205	**180**	**Custom White Create (RGB levels selectable by DMX)**
206-255	**225**	**White CTC (Channel 7 CTC enabled 256 color temp. Correction Macros: 2800°K-6500°K)**

DMX CHANNEL	7	Parameter: **CTC (Color temperature correction)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function

IF CHANNEL 6 (White) = WHITE CTC (Dmx range value 206 - 255)

0-255	**256 color temp. Correction Macros: 0 = 2800°K / 128 = 4500°K / 255 = 6500°K**

IF CHANNEL 6 (White) = NO FUNCTION (Dmx range value 0 - 55)

0-255	**No Function**

DMX CHANNEL	8	Parameter: **COLOUR MACROS**

IF: MENU Up-Down MODE ENTER Up-Down MACr ENTER Up-Down Std ENTER

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-29					**Macro 1**
30-44					**Macro 2**
45-59					**Macro 3**
60-74					**Macro 4**
75-89					**Macro 5**
90-104					**Macro 6**
105-119					**Macro 7**
120-134					**Macro 8**
135-149					**Macro 9**
150-164					**Macro 10**
165-179					**Macro 11**
180-194					**Macro 12**
195-209					**Macro 13**
210-225					**Macro 14**
226-239					**Macro 15**
240-255					**Macro 16**

DMX CHANNEL	8	Parameter: **COLOUR MACROS**

IF: MENU Up-Down MODE ENTER Up-Down MACr ENTER Up-Down EHt ENTER

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-22					**Macro 1**
23-30					**Macro 2**
31-38					**Macro 3**
39-46					**Macro 4**
47-54					**Macro 5**
55-62					**Macro 6**
63-70					**Macro 7**
71-78					**Macro 8**
79-86					**Macro 9**
87-94					**Macro 10**
95-102					**Macro 11**
103-110					**Macro 12**
111-118					**Macro 13**
119-126					**Macro 14**
127-134					**Macro 15**
135-142					**Macro 16**

DMX CHANNEL	8	Parameter: **COLOUR MACROS**

IF: 

PLEASE CHECK PAGE 11

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
143-150					**Rainbow Speed 1 (1 Sec.)**
151-158					**Rainbow Speed 2 (5 Sec.)**
159-166					**Rainbow Speed 3 (10 Sec.)**
167-174					**Rainbow Speed 4 (20 Sec.)**
175-182					**Rainbow Speed 5 (30 Sec.)**
183-190					**Rainbow Speed 6 (60 Sec.)**
191-198					**Rainbow Speed 7 (120 Sec.)**
199-206					**Rainbow Speed 8 (180 Sec.)**
207-214					**Random Speed 1 (0.5 sec.)**
215-222					**Random Speed 2 (1 Sec.)**
223-230					**Random Speed 3 (2 Sec.)**
231-238					**Random Speed 4 (5 Sec.)**
239-246					**Random Speed 5 (10 Sec.)**
247-255					**Random Speed 6 (30 Sec.)**

DMX CHANNEL	9	Parameter: **FUNCTIONS (Recall,Create and Store the Custom white)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-79		**Custom White Recall (Enable CH 7 for Custom white Recall)**			
80-160		**Custom White Create (Enable CH 7 for Custom white Creation)**			
161-255		**Custom White Store (Store the Custom White created)**			

"WALL" 6 CHANNELS MODE (For use with DTS Wall mounted DMX controller 0514L007)

1 GREEN
2 RED
3 BLUE
4 DIMMER
5 NOT USED
6 SHUTTER

DMX CHANNEL	1	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	2	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	3	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	5	Parameter: **NOT USED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**No Function**

DMX CHANNEL	6	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3700ms-20ms)**
120-149					**Pulse open at variable speed from slow to fast (42,6s-100ms)**
150-179					**Pulse close at variable speed from slow to fast (42,6s-100ms)**
180-204	**192**				**Random Strobe (Master and RGB active)**
205-229	**218**				**Random Strobe (Full)**
230-234					**Red, Yellow, Cyan and Blue colour effects at variable speed**
235-255	**245**				**Open**

5 CHANNELS MODE (Shutter + Dimmer + RGB)

1 SHUTTER
2 DIMMER
3 RED
4 GREEN
5 BLUE

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3700ms-20ms)**
120-149					**Pulse open at variable speed from slow to fast (42,6s-100ms)**
150-179					**Pulse close at variable speed from slow to fast (42,6s-100ms)**
180-204	**192**				**Random Strobe (Master and RGB active)**
205-229	**218**				**Random Strobe (Full)**
230-234					**Red, Yellow, Cyan and Blue colour effects at variable speed**
235-255	**245**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

M3cH mode (4 DMX channels; Dimmer + RGBA)

1 DIMMER
2 RED
3 GREEN
4 BLUE

DMX CHANNEL	1	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	2	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	3	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

RGB mode (3 DMX channels)

1 RED
2 GREEN
3 BLUE

DMX CHANNEL	**1**	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	**2**	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	**3**	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

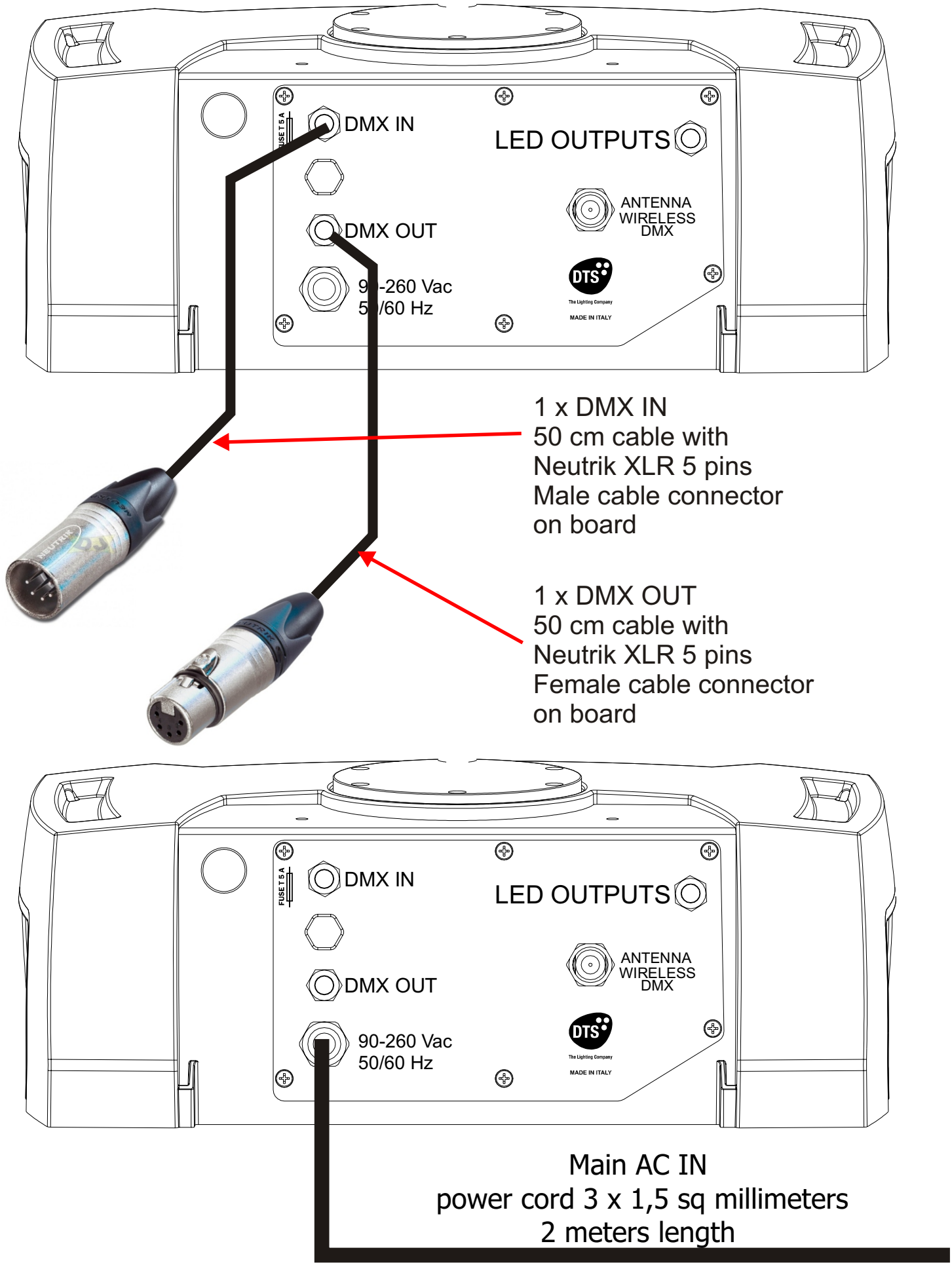
1CH mode (1 DMX channel)

1 RED / GREEN / BLUE

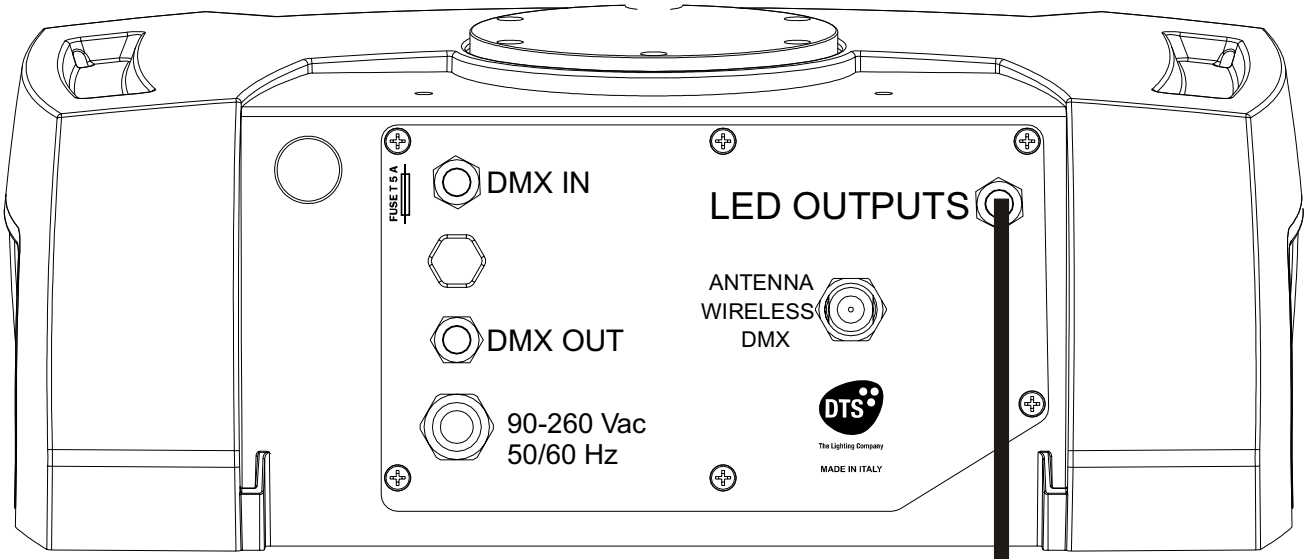
DMX CHANNEL	1	Parameter: **RED / GREEN / BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colours**

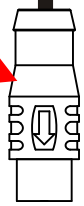
18- WIRING DIAGRAMS



DELTA 8 B BASE



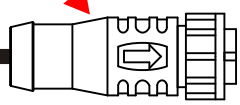
DELTA 8 B BASE:
1 X LEDs output with 30 cm cable and M16 female cable connector on board



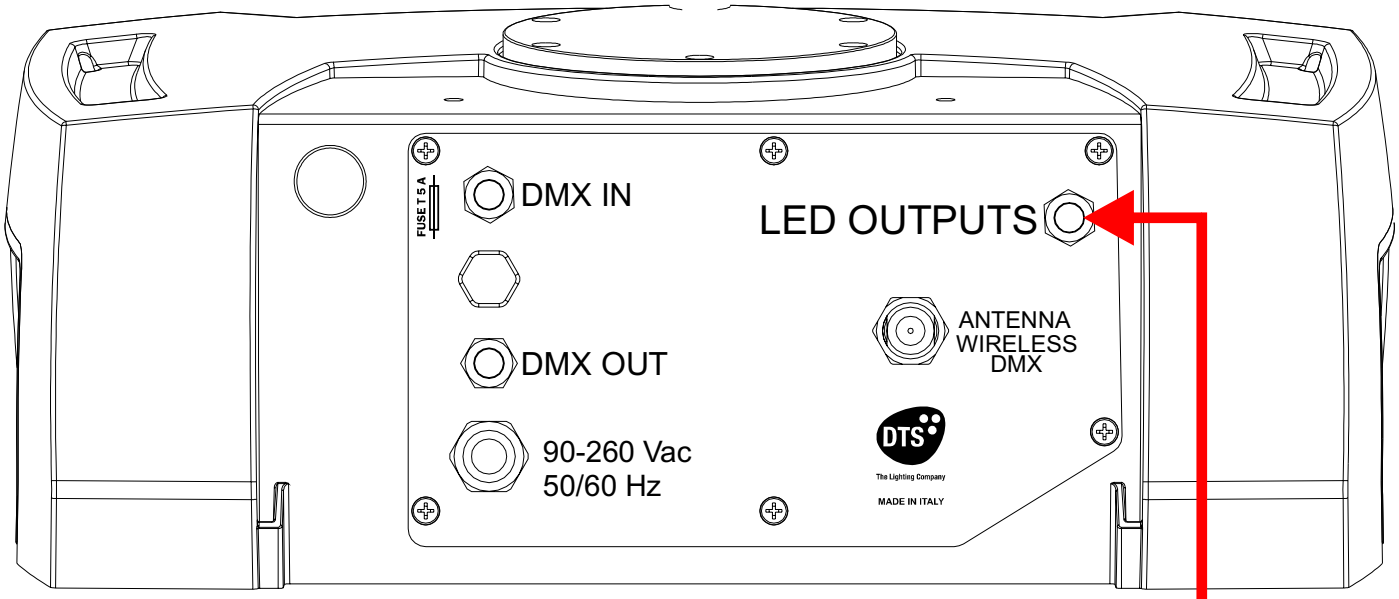
M16 female cable connector

DELTA 8 B HEAD

DELTA 8 B HEAD:
LEDs input with 30 cm cable and M16 male cable connector on board

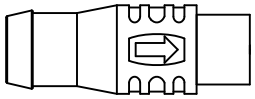


M16 male cable connector

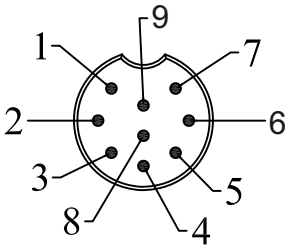


1 x LEDs outputs
30 cm cable with
M16 Female cable connector
on board

M16 female

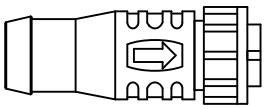


M16 Female
cable connector
on board DELTA 8 B
BASE

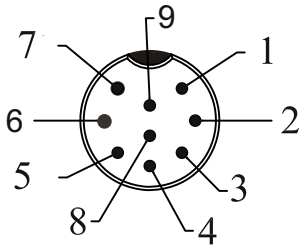


Front View

M16 male



M16 Male
cable connector
on board DELTA 8 B
HEAD



Front View

LED OUTPUTS

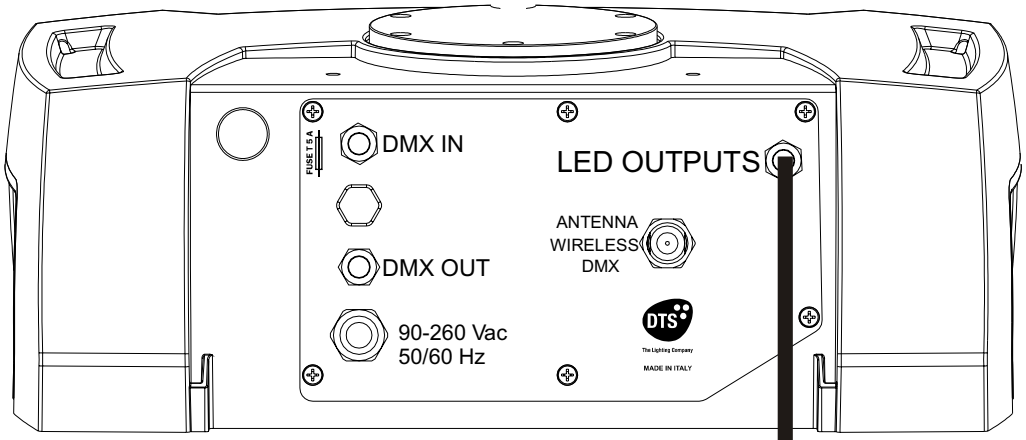
WIRES SEQUENCE COLOURS	PIN OUT
PIN 1 - BLUE PIN 2 - GREEN PIN 3 - YELLOW PIN 4 - ORANGE PIN 5 - RED PIN 6 - BROWN PIN 7 - BLACK PIN 8 - GREY PIN 9 - WHITE	PIN 1: RED + PIN 2: GREEN + PIN 3: BLUE + PIN 4: WHITE + PIN 5: COMMON PIN 6: (RED - / GREEN - / BLUE - / WHITE -) PIN 7: PIN 8: NTC (THERMAL) PIN 9: NTC (SENSOR)

<u>DELTA 8 B HEAD is detachable from DELTA 8 B BASE.</u>
<u>The Maximum distance between the DELTA 8 B BASE and DELTA 8 B HEAD (all models) should not exceed 50 meters.</u>

DELTA 8 B BASE: 1 X LEDs output with 30 cm cable and M16 female cable connector on board

DELTA 8 B HEAD: LEDs input with 30 cm cable and M16 male cable connector on board

DELTA 8 B BASE



DELTA 8 B HEAD

M16 female

DELTA 8 B BASE: 1 X LEDs output with 30 cm cable and M16 female cable connector on board

M16 male

DELTA 8 B HEAD: LEDs input with 30 cm cable and M16 male cable connector on board

Extension Cable with Male / Female M16 9-pole connectors on board (max lenght 50 meters)

M16 female

M16 male

IMPORTANT:

NEVER CONNECT NOR DISCONNECT A DELTA 8 B HEAD WHEN THE POWER SUPPLY IS TURNED ON.

The Maximum distance between the DELTA 8 B BASE and the DELTA 8 B HEAD unit all models should not exceed 50 meters.

Extension Cable with M/F M16 9-pole connectors, 5 m (cod. 03.LA.121.05)
Extension Cable with M/F M16 9-pole connectors, 10 m (cod. 03.LA.121.10)
Extension Cable with M/F M16 9-pole connectors, 20 m (cod. 03.LA.121.20)
Extension Cable with M/F M16 9-pole connectors, 30 m (cod. 03.LA.121.30)
Extension Cable with M/F M16 9-pole connectors, 50 m (cod. 03.LA.121.50)

NOTES

MADE IN ITALY CE

DTS

The Lighting Company

ISO 9001:2000

D.T.S. quality system
is certified to the
ISO 9001:2000 standard

PROUDLY MADE IN ITALY

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

0517I188

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