# NICK NRG 1401

DESIGNED TO SHINE


User's Manual rel 1.1 GB

D.T.S. illuminazione srl · Via Fagnano Selve 12/14 · 47843 Misano Adriatico RN · Italy
Tel. +39 0541 611131 · Fax +39 0541 611111 · info@dts-lighting.it · dts-lighting.it

**ISO 9001:2008**
DTS quality system is certified to the ISO 9001:2008 standard

PROUDLY **MADE IN ITALY** DTS products are designed and manufactured at the DTS plants 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 "SUITABLE FOR INDOOR USE ONLY"**


**THIS SYMBOL MEANS "SUITABLE FOR MOUNTING ON NORMALLY FLAMMABLE SURFACES"**


**THIS SYMBOL INDICATES THE MINIMUM DISTANCE FROM THE ILLUMINATED OBJECTS**

**THIS SYMBOL MEANS "DO NOT STARE AT THE OPERATING LIGHT SOURCE"**


**THIS SYMBOL INDICATES PHOTOBIOLOGICAL SAFETY**

**THIS SYMBOL INDICATES THE EUROPEAN COMMUNITY DIRECTIVE 2012/19/EC ON WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)**

## 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 maintenance.
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**
NICK NRG 1401 is a high performance LED wash moving head.
Extreme brightness, single pixel control, and 4° - 52° zoom range make this fixture perfect in a range of applications, either as a beam light with multi-color rays, or as a wash light with a very wide projection.
NICK NRG 1401 is suitable for medium/big venues, and it's the perfect for TV studios, delivering top-of-the-line visual effects of perfectly uniform wash lighting.

**DTS Product code:**
03.LDR015.FFP NICK NRG 1401 FC FPR Black finish

**LED Technology**
***** 23 x 20W OSTAR STAGE "N" FULL RGBW LEDs
***** Pixel to pixel control
***** 11.500 Lumen

**Optical group**
* 4°- 52° linear motorized zoom with high-efficiency optical system
* PC Beam to very wide Wash projections

**Colour generation**
* 16 million colours
* Wide palette of pure uniform whites
* Variable linear colour temperature (2700K – 8000K)

**Interface / Control / Programming**
***** Multi-function OLED graphic colour display + 4 soft keys:
control / management / monitoring of the main parameters
* Controlled via DMX 512 and RDM standard digital communication protocols
* Internal operating system updatable via DTS RED BOX interface via "DTS firmware upgrade utility" program on windows based PC

**DMX**
33 DMX channels (default), 111 DMX channels or 20 DMX channels

**Pan & Tilt**
* ‘FPR’ system (DTS patent)
Pan: limitless rotation, in both direction, 360° rotation in 0.89 sec.
Tilt 270°: 1,2 sec.
* 16-bit movement resolution

**Power supply**
***** Electronic full-range 100-264Vac  50-60 Hz
* Power consumption: 500VA

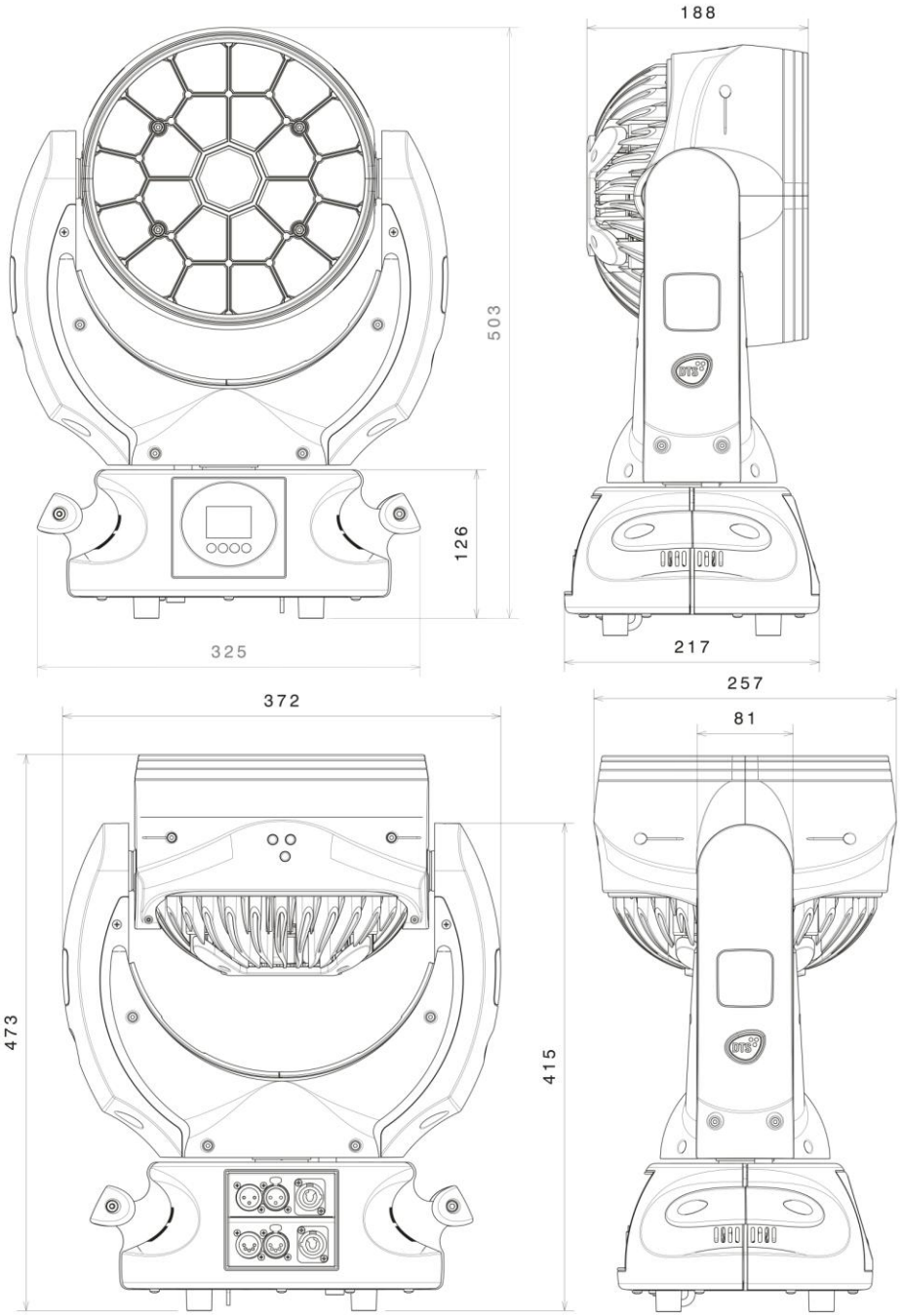
**Connectors**
* DMX: 4 XLR (3 pins In / Out and 5 pins In / Out) panel connectors
* Power supply: PowerCON In / Out panel connectors

**Operating ambient temperature**
-10° / 40°

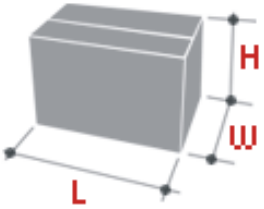
**Weight**
13 Kg

**International certifications**
Certification CE
LED Class: Class 2 LED product

## Dimensions




Packaging Dimensions (LxWxH)
530 x 430 x 414 mm
Weight: 16 Kg



## 5- ACCESSORIES

### As standard

• 1 x PowerCON female cable connector (cod. 0520P014)
• 1 x XLR 5 Pins female cable connector (cod. 0508B147)
• 1 x XLR 5 Pins male cable connector (cod. 0508B148)
• “C” Clamp GQUICK with “Fast Lock” connection 1/4 turn (cod. 0521A014)
• User’s manual

### Optional (on request)

**Flight case**
• Professional Flight case for 4 units; compartment for accessories, swivel wheels, cover with hinges with-stay, dishes on cover for piling, 8 handles (2 eachside) (cod. 0521C059.1)
**Clamps / safety wires**
• “C” Clamp G60 black (max. load 50Kg) (cod. 0521A004)
• Aliscaf clamp for tube diameter 50 mm (max. load. 100Kg) (cod. 0521A008)
• Omega bracket with “Fast Lock” connection 1/4 turn (Cod. 02K00467)
• Safety wire (3mm x 60 cm), max. capacity load 60Kg (cod. 0521A010)

## 6- IMPORTANT SAFETY INFORMATION

### 6.1 Fire prevention:


-It is permissible to place the unit on normally flammable surfaces. Suitable for mounting on normally flammable materials surfaces greater than 200°C with some combustion time lag.
-Minimum distance from the closest illuminable surface: 0,5 m.


-Replace any blown or damaged fuses only with those of identical value (T 5A 250V). 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.
-The level of technology inherent in the NICK NRG 1401 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 Safety:


-Risk Group 2 product according to EN 62471.
CAUTION. Do not look directly into the light output. May be harmful to the eyes and skin.

-Do not stare at the operating light source.
-The light source contained in this luminaire shall only be replaced by the Manufacturer or his service agent or a similar qualified person.
-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 50°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.

## 6.4 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 20.

Suitable for indoor use only.

## 6.5 Waste Electrical and Electronic equipment (WEEE) directive:

-The machine, accessories and packaging should be sorted for environmetal-friendly Recycling.
For EC countries: according to the European Directive 2012/19/EC for Waste Electrical and Electronic Equipment and its implementation into national right, luminaires that are no longer usable must be collected separately and disposed of in an environmentally correct manner.

## 7- VOLTAGE AND FREQUENCY

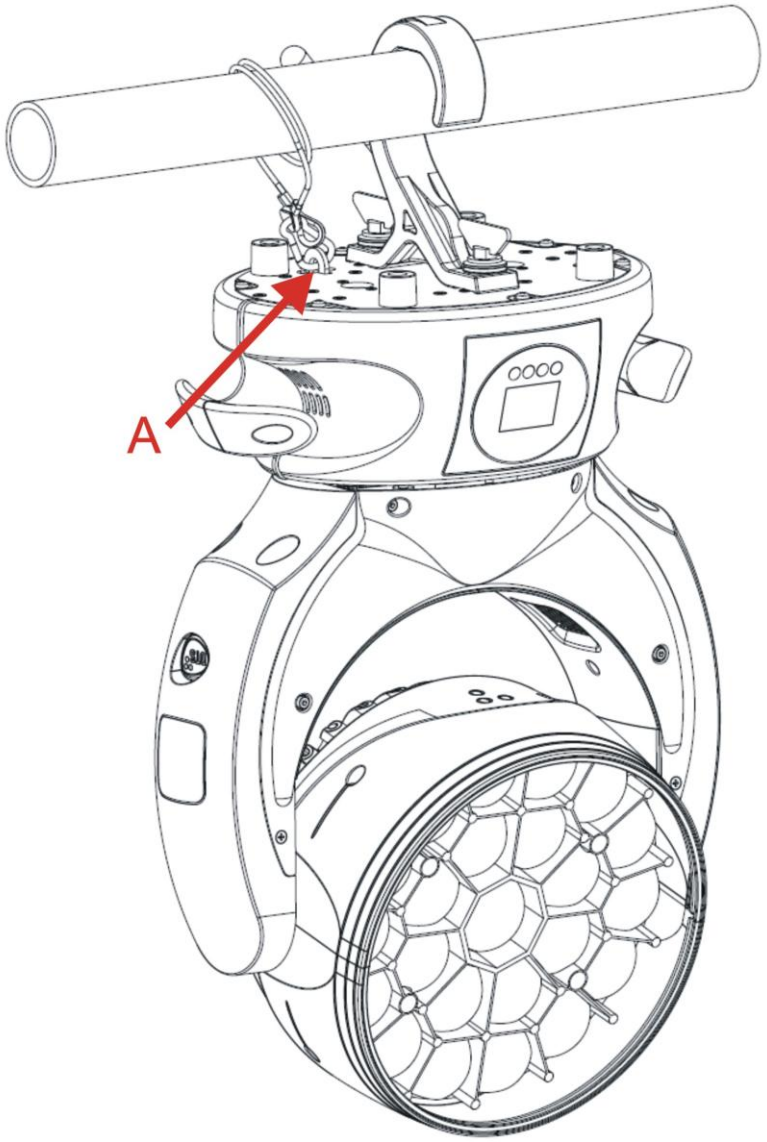
NICK NRG 1401 operates at 100-240Vac  50-60 Hz.

## 8- INSTALLATION

The unit is suitable for dry locations only.
NICK NRG 1401 may be either floor or ceiling mounted.
For floor mounting installations, the NICK NRG 1401 is supplied with four rubber mounting feet on the base.
For ceiling mounted installations, we recommend 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 whilst the NICK NRG 1401 is moving.
Four 1/4 turn Fast Locks connections placed in the base of the unit allow to hang the NICK NRG 1401 by using the G-QUICK clamp provided in the box.

### 8.1- Safety cable

A safety cable must be securely fixed to the NICK NRG 1401 and to the suspension truss in order to avoid the fixture accidentally falling should the main fixing point fail.
Make sure that the safety cable can bear the weight of the entire unit.
A suitable safety cable (code 0521A010) is available on demand.
You may attach the safety cable to the attachment point (A) located on the base of the fixture, as shown in the picture below.



## 8.2 Protection against liquids

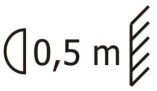
The projector contains electric and electronic components which should under no circumstances come into contact with oil, water or any other liquid.
The proper unit functioning would be compromised should this occur.

## 8.3- Movement

Unlimited Pan rotation; Tilt 270° (1,2 sec.)
**Do not place any obstructions in the path of the projector's movement.**

## 8.4- Risk of fire


Each fixture produces heat and must be installed in a well-ventilated place.
It is permissible to place the unit on normally flammable materials surfaces.
Suitable for mounting on normally flammable materials surfaces greater than 200°C with some combustion time lag.
Minimum distance from the object being illuminated is 0,5 m.




## 8.5- Forced ventilation

You will note, on inspection, that the unit features various air inlets and cooling fans. 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.

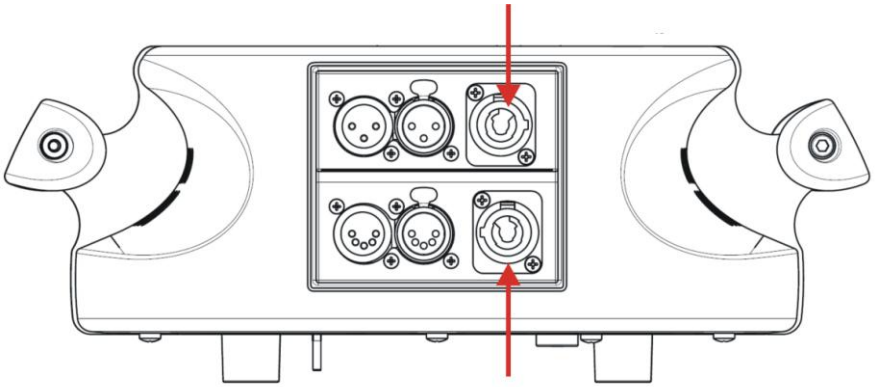
## 8.6- Ambient temperature

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

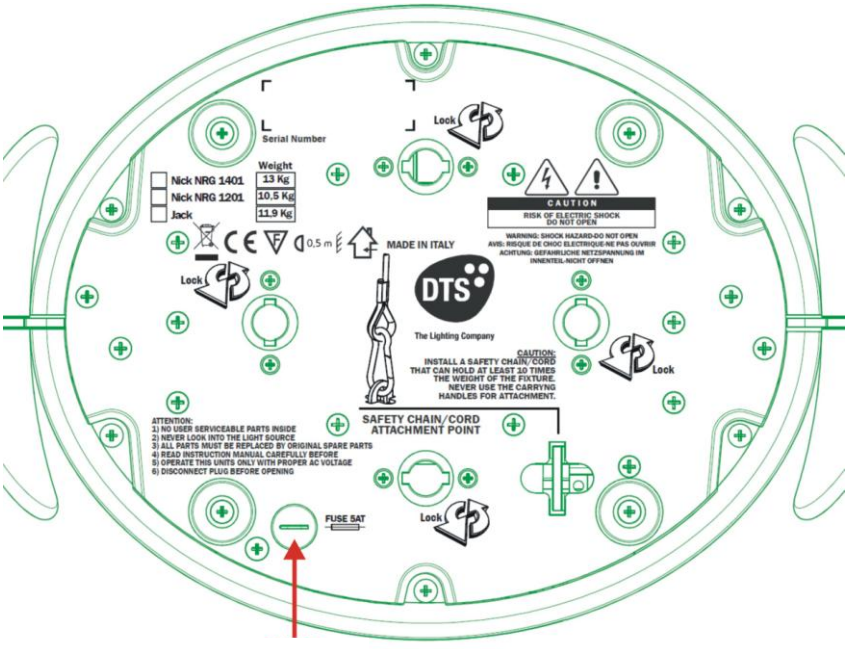
## 9- MAINS CONNECTION

NICK NRG 1401 operates at 100-240Vac  50-60 Hz.
Prior to connecting the unit to your mains supply, ensure that the model in your possession correctly matches the mains supply available.
For connection purposes, ensure that your plug is capable of supporting 2,5 amps at 230Vac, or 5,5 amps at 100Vac.
Strict adherence to regulatory norms is strongly recommended.

**MAINS OUTPUT**
**100-240Vac  50-60 Hz (MAX 16A)**
Max 4 NICK NRG 1401 units @ 230Vac
Max 2 NICK NRG 1401 units @ 100Vac



**MAINS INPUT**
**100-240Vac  50-60 Hz**




**FUSE**
**T 5A 250V**

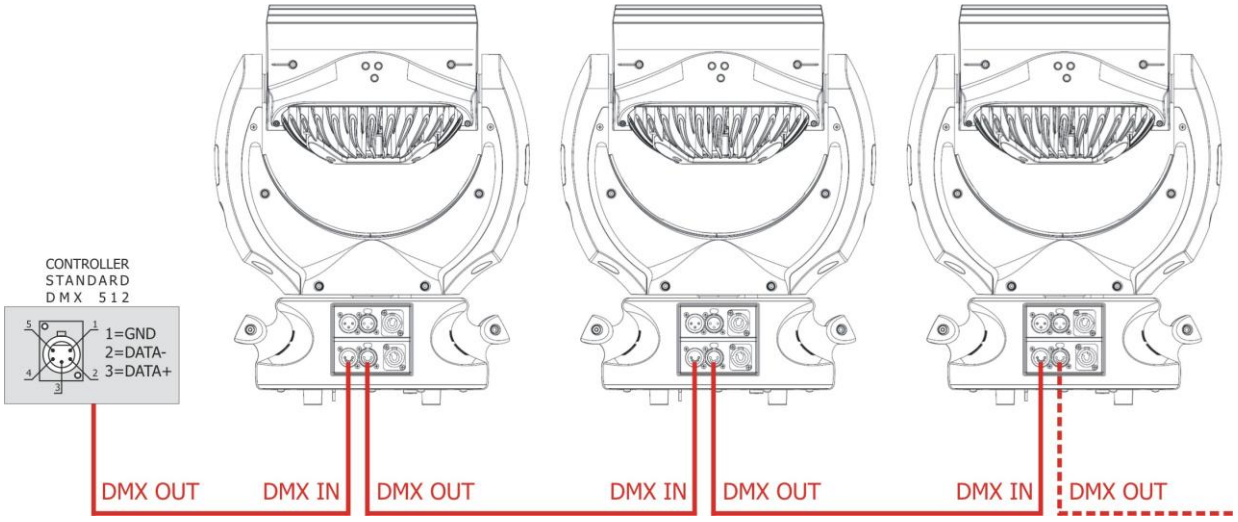
## 9.1- Protection

The use of a thermal magnetic circuit breaker is recommended for each NICK NRG 1401.

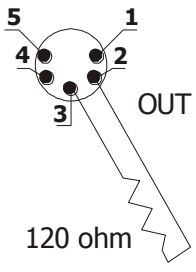
## 10- DMX SIGNAL CONNECTION

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:

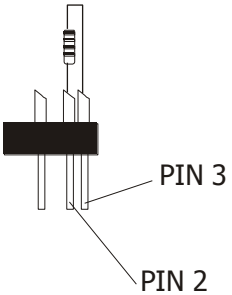
- DMX signal not present
- DMX address not valid
- DMX reception problem




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



## 10.1-DMX Addresses

NICK NRG 1401 can be controlled with 33 DMX channels, 111 DMX channels or 20 DMX channels.
In order to use the unit in 33 DMX channels (default), set the following addresses on the mixer:

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

## 10.2-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.

## 11- FIRMWARE UPDATING

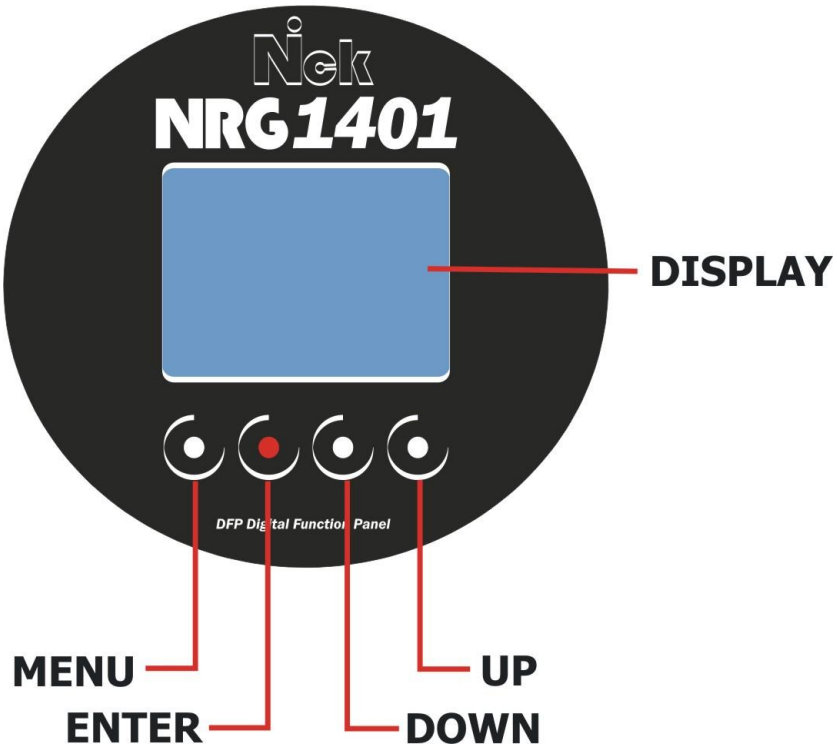
**Attention:**
This procedure require a base knowledge of computer applications.
**Please refer to an authorised DTS service centre.**

To update the software version of the NICK NRG 1401 you need:
- DTS RED BOX interface (DTS Code: 03.LA.008);
- USB-DMX Driver for the DTS RED BOX interface;
- “DTS Firmware upgrade utility” program installed on your PC;
- Latest firmware available for NICK NRG 1401 unit.

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

1. Install the DTS RED BOX USB-DMX driver on the PC you will use to update the unit software.
2. Connect the DTS RED BOX interface to the PC by using a USB cable.
3. Connect the DTS RED BOX interface to the fixture by using a DMX cable.
4. Load the new firmware into the unit by using “DTS Firmware upgrade utility” program.

## 12- DISPLAY FUNCTIONS




The NICK NRG 1401 display panel shows all the available functions . Using these functions, it is possible to change some of the parameters and add some functions. Changing the D.T.S. setting can vary the functions of the unit so that it does not respond to the DMX 512 used to control it. Carefully follow the instructions below before carrying out any variations or selections.
NOTE: the symbol ☞ shows which key has to be pushed to obtain the desired function.

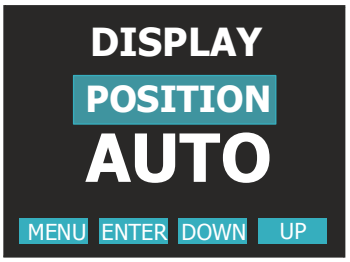
| | |
|---|---|
| SOFTWARE VERSION | 3.05 |

☞ Menu ☞ Up-Down **Display** ☞ ENTER ☞ Up-Down

DISPLAY POSITION / STAND-BY

Display Position:
Reverses display reading depending on the mounting position (Automatic, on the ground or suspended).

Display Stand-by:
To turn off the display (after 30 seconds) or leave it always on.




Display Position ☞ ENTER
AUTO (Default)
AA = On the ground
VV = Suspended

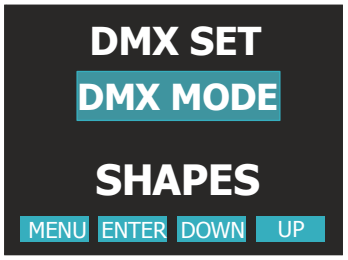

Display Stand-by ☞ ENTER
OFF = Display always ON (Default)
ON = Display goes OFF after 30 seconds

Menu Up-Down **DMX Set** ENTER Up-Down

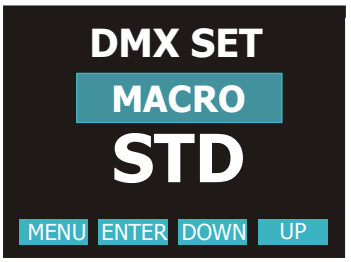
DMX MODE
SHAPES: 33 DMX channels (default).
This mode allows to combine pixel shapes on a foreground level with pixels on a background level.
EXTENDED: 111 DMX channels.
This menu allows to control pixel to pixel.
COMPATIBILITY: 20 DMX channels.
This mode allows to have compatibility in programming when using NICK NRG 1401 with other DTS range LED units (NICK NRG 1201, NICK NRG 801, NICK NRG 501 and WONDER).

MACRO Mode
STD = Standard (Default)
EXT = Extended; enable rainbow effects on Macro channel

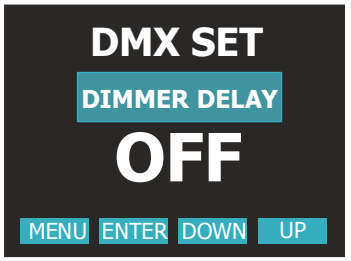
DIMMER DELAY
This menu allows to select the value of the delay (in seconds) for the Dimmer channel reaction to DMX or program variation




DMX Mode ENTER
SHAPES:
33 DMX channels
(default)




MACRO
STD = Standard mode enabled (Default)
EXT = Extended; enable rainbow effects on Macro channel




DIMMER DELAY
Range: OFF / 0.1 - 2.0 sec.
Default = OFF

Menu Up-Down **LED** ENTER Up-Down

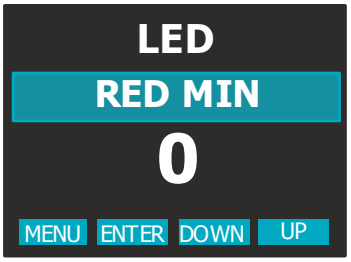
RGBW MIN / MAX VALUES
This menu allows to select the Minimum / Maximum levels for Red, Green, Blue and Amber/White

SMOOTH VALUE
This menu allows to select the value of the delay (in milliseconds) for RGBW and Dimmer channels reaction to DMX or Program variation.
OFF = Instant response
1 = Fast response
20 = Slow response

GAMMA CORRECTION
This menu allows to select between Linear current output or Quadratic current output for LEDs
Default = Quadratic

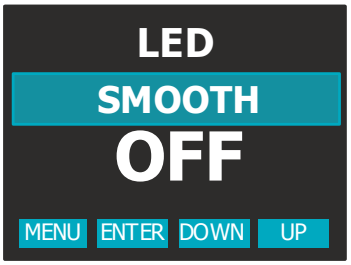
OUTPUT FREQUENCY
This menu allows to adjust the PWM frequency value (Hz) in order to reduce flickering in the process of your camera recordings

BOOST
This menu allows to increase the LED's current from 670 mA to 1000 mA (default).

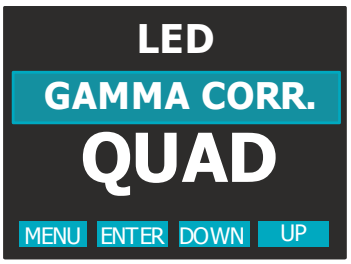



RGBW MIN ENTER
Range = 0-100
Default = 0

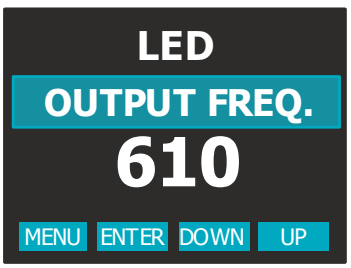
RGBW MAX
Range = 0-100
Default = 100



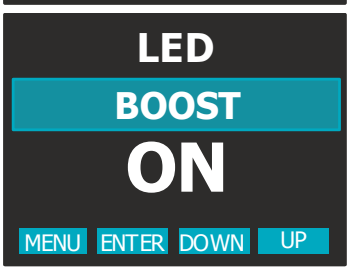

SMOOTH
Range = Off / 1-20
Default = OFF




GAMMA CORRECTION
Linear = Linear current output
Quadratic = Linear light output (default)




OUTPUT FREQUENCY
Range = 610 Hz – 20 KHz
Default = 610 Hz




BOOST
With BOOST active, the LED's current is set to 1000 mA (30% more gain)
Default = Enabled

Menu Up-Down **AUTO** ENTER Up-Down

AUTOMATIC MODE
Automatic demo game
without DMX controller

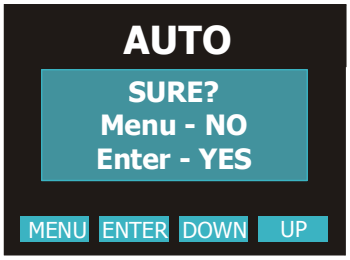
STEP 01/16
Chase with 16 steps previously
created in REC MODE
Speed time, Wait time, Dimmer, Pan,
Tilt and Zoom values selectable by user.

PERSONAL COLOURS
Sixteen customizable Colour Macros.
RGBW, Dimmer, Shutter, Pan, Tilt
and Zoom values selectable by user.

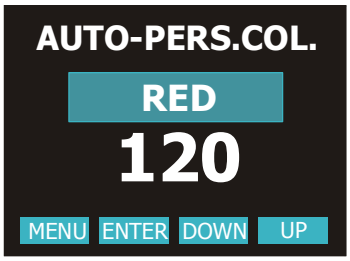
RAINBOW
Rainbow colours effect.
Speed time, Dimmer, Shutter, Pan,
Tilt and Zoom values selectable by user.

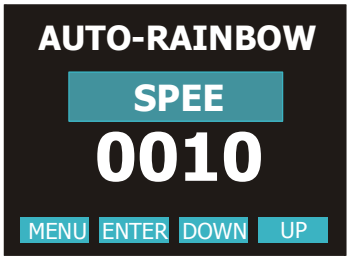
FIXED COLOURS
Sixteen Colour Macros as
on “MACRO” channel.
Dimmer, Shutter, Pan, Tilt and Zoom
values selectable by user.

WHITE MACROS
Sixteen macros for White
color from 2700K to 8000K.
Dimmer, Shutter, Pan, Tilt and
Zoom values selectable by user.







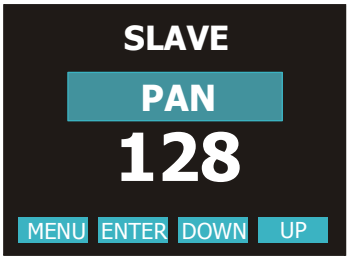

ENTER

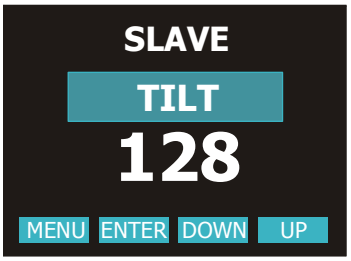
By setting all the units
connected to the
MASTER to DMX
address 1, them will be
synchronized with the
Master unit following the
chase selected on it,
including TIME, WAIT,
Pan&Tilt and Zoom
position of the MASTER
unit.

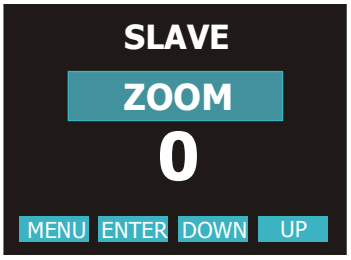
**SLAVE**

Menu Up-Down ENTER Up-Down

SLAVE MODE SETTING
This menu allows to set the NICK NRG 1401 as slave unit.
DMX signal must be present from MASTER unit (set in AUTO MODE) in order to ran the units in SLAVE mode.
By setting all the SLAVE units connected to the MASTER, to DMX addess 1, them will be synchronized with the Master unit following the chase selected on it, but running their own Pan&Tilt and Zoom position.


The SLAVE unit receives DMX signal from the MASTER unit.
By setting all the SLAVE units connected to the MASTER, to DMX address 1, them will be synchronized with the Master unit following the chase selected on it, but running their own Pan&Tilt and Zoom position.

**WIRELESS**

Menu Up-Down ENTER Up-Down

WIRELESS DMX
Wieless DMX enabled / disabled.
By activating W-DMX MODE, it will be possible to control NICK NRG 1401 via D.T.S. ANTENNA Wireless DMX Transmitter (cod. 03.E1271).

**Wireless DMX Receiver Kit (Code 03.LA.126) on NICK NRG 1401 is available on request.**


WIRELESS DMX SYSTEM DISABLED (Default) ENTER


WIRELESS DMX SYSTEM ENABLED ENTER


UNLINK = LOG OUT ENTER

Logging on NICK NRG 1401 (WIRELESS DMX must be enabled on the unit).

To log on the NICK NRG 1401 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 / NICK NRG 1401 units. When a NICK NRG 1401 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 NICK NRG 1401 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 NICK NRG 1401.
2. No DMX signal connected, the Antenna transmitter will flash red/green; display blinking on NICK NRG 1401.

To log off NICK NRG 1401 from a transmitter simply select UNLINK function under WIRELESS DMX MENU and press ENTER.
When NICK NRG 1401 is logged off the display is blinking, meaning its available for log in on a new transmitter.

Logging out a NICK NRG 1401.
Select UNLINK function under WIRELESS DMX MENU and press ENTER.
When NICK NRG 1401 is logged off the display is blinking, meaning its available for log in on a new transmitter.

Logging out all NICK NRG 1401 linked to a transmitter.
Press and hold the function button of the transmitter for about 3 seconds. When the display is blinking on NICK NRG 1401, 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 NICK NRG 1401 unit, not logged in to any other transmitter, will be logged on)

NICK NRG 1401 Status.
Display blinking, not logged on to a transmitter (free).
Solid display, logged on to a transmitter and receiving dmx data.

Menu Up-Down **EMERGENCY** ENTER Up-Down

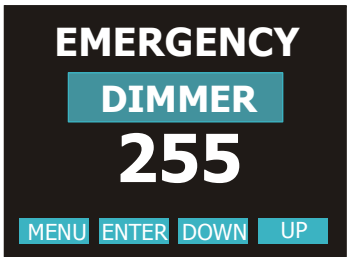
EMERGENCY
Emergency operating mode.
By setting Emergency mode, it will be possible to select one of the 16 pre-programmed WHITE cues that will then ran if DMX signal is missing or not available.
Useful for Emergency EXIT illumination on public areas.
Dimmer level, Pan&Tilt and Zoom values selectable by user.


EMERGENCY
Disabled = Default

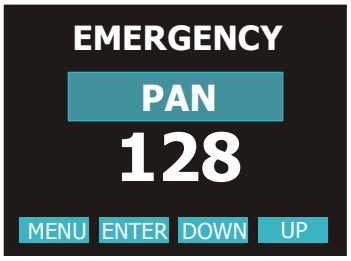
ENTER


EMERGENCY
Enabled

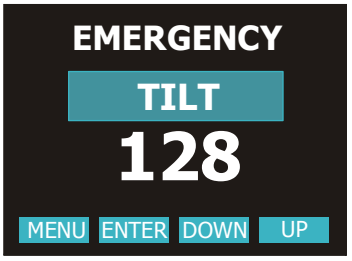

WHITE (1-16)
Default = WHITE 1



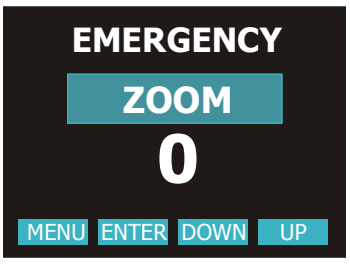

DIMMER
Default = 255




PAN
Default = 128



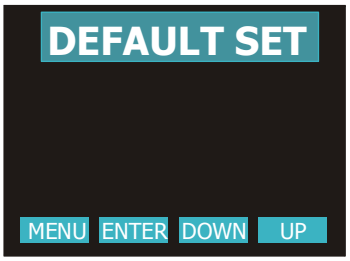

TILT
Default = 128



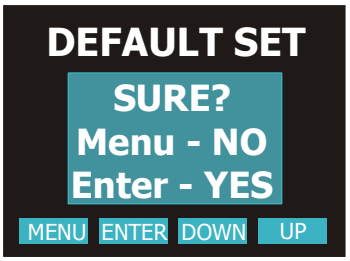

ZOOM
Default = 0

Menu Up-Down **DEFAULT SET** ENTER Up-Down

DEFAULT SETTINGS
To restore default settings

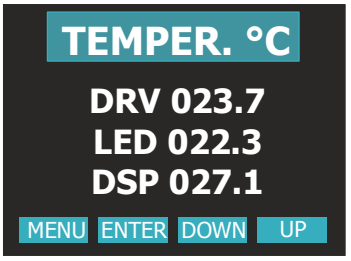



ENTER



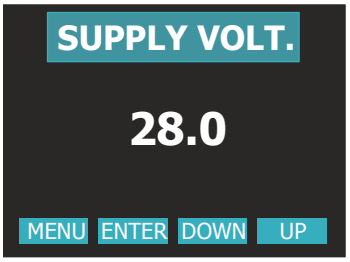

Menu Up-Down **TEMPER. °C** ENTER

TEMPERATURE
LED Driver board, display board and LED panel temperature monitoring




Menu Up-Down **Supply volt.** ENTER Up-Down

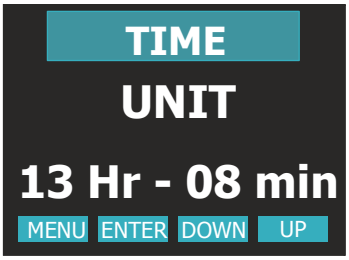
SUPPLY VOLTAGE
Power supply output voltage monitoring



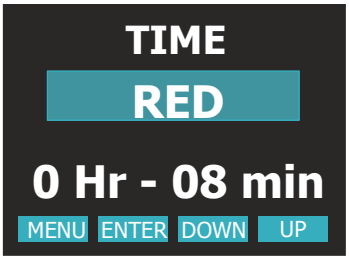

ENTER

Menu Up-Down **TIME** ENTER Up-Down

LIFE TIME
This menu shows the total unit life time and the RGBW LEDs life time




ENTER



Menu Up-Down **SYSTEM** ENTER Up-Down

PAN INVERSION / TILT INVERSION / PAN SPEED / TILT SPEED / STUDIO MODE / FAN MAX SPEED / RESET BY DMX

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

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

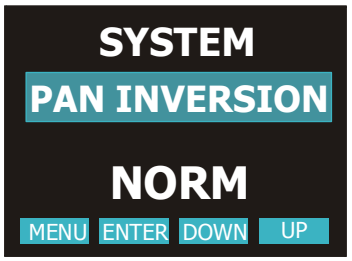
PAN SPEED
Pan Speed control (1-5)

TILT SPEED
Tilt Speed control (1-5)

STUDIO MODE
This menu allows to decrease the speed of the zoom motors to have a unit low noise operation.

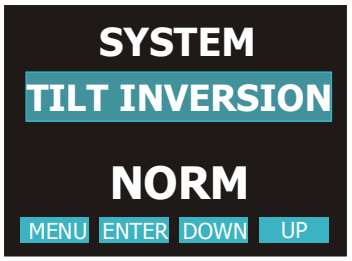
FAN MAX SPEED
This menu' allows to select the internal fans speed.

RESET BY DMX
This menu allows to enable / disable the Motors reset control (Pan&Tilt and Zoom) via DMX.

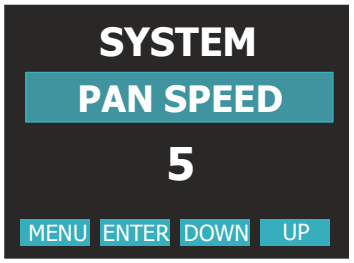



PAN INVERSION
Default = NORMAL

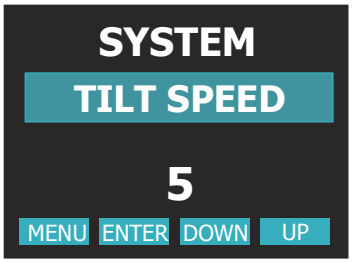
ENTER



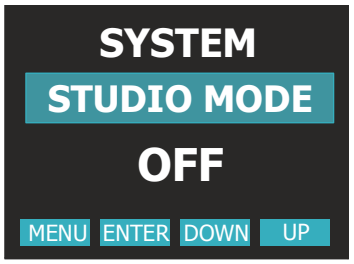

TILT INVERSION
Default = NORMAL



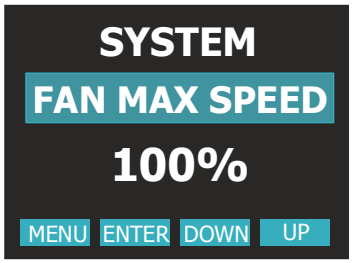

PAN SPEED CONTROL
Default = 5



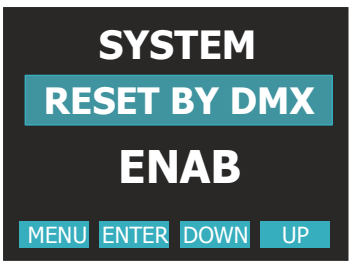

TILT SPEED CONTROL
Default = 5




STUDIO MODE
ON = Silent operation
OFF = Zoom motor maximum speed (Default)



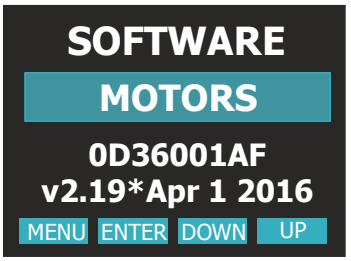

FAN MAX SPEED
50% (12V) - 100% (24V)
Default = 100%




RESET BY DMX
Enable: Motors reset enabled via DMX (Default)
Disabled: Motors reset disabled via DMX
Now: Instant motors reset.

Menu Up-Down **SOFTWARE** ENTER Up-Down

SOFTWARE
LED Driver board, motors board (Pan&Tilt-Zoom) and display board software version




Motors board (Pan&Tilt-Zoom) Software version

ENTER


LED Driver board Software version


Display board Software version

## 13- PERIODIC CLEANING

### Front lenses Glass

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

### 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.

## 14- PERIODIC CONTROLS

### Mechanical parts

Periodically check all mechanical parts and the gaskets, replacing them if necessary.

### Electrical components

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

**Attention: Disconnect mains power prior to removing the projector housing.**

### Fuse replacement

Locate the fuse, which protect the electronics, in the base of the NICK NRG 1401. Using a multimeter, test the condition of the fuse, replacing it with one of equivalent type (T 5A 250V) if necessary.

**Attention: Disconnect mains power prior to removing the projector housing.**

## 15- DMX PROTOCOL

### "SHAPES" mode: 33 DMX channels (default)

(Channels and channel functions highlighted in red color are not yet implemented)

1 RED
2 GREEN
3 BLUE
4 WHITE
5 SHUTTER
6 DIMMER
7 DIMMER FINE
8 LINEAR CTO
9 MACRO FIXED COLOR
10 PAN
11 PAN FINE
12 TILT
13 TILT FINE
14 PAN / TILT SPEED
15 FPR
16 SERVICE
17 FUNCTIONS
18 ZOOM
19 RESET
20 SHAPE SELECTION
21 SHAPE SPEED
22 SHAPE FADE
23 SHAPE RED
24 SHAPE GREEN
25 SHAPE BLUE
26 SHAPE WHITE
27 SHAPE DIMMER
28 BACKGROUND DIMMER
29 SHAPE TRANSITION
30 SHAPE OFFSET
31 SHAPE STROBE
32 BACKGROUND STROBE
33 BACKGROUND SELECTION

| *Ch* | *Name* | *DMX levels* | |
|---|---|---|---|
| 1 | RED | 0..255 | Proportional colour from min to max |
| 2 | GREEN | 0..255 | Proportional colour from min to max |
| 3 | BLUE | 0..255 | Proportional colour from min to max |
| 4 | WHITE | 0..255 | Proportional colour from min to max |
| 5 | SHUTTER | 0..9 | Black-out |
| | | 10..19 | Open |
| | | 20..29 | Black-out |
| | | 30..119 | Strobe (from 3,27 s to 30 ms) |
| | | 120..149 | Pulse up (from 42,6 s to 120 ms) |
| | | 150..179 | Pulse down (from 42,6 s to 120 ms) |
| | | 180..204 | Random strobe |
| | | 205..229 | Full independent random strobe |
| | | 230..255 | Open |
| 6 | DIMMER | 0..255 | Proportional dimmer MSB from min to max |
| 7 | DIMMER FINE | 0..255 | Proportional dimmer LSB from min to max |

| *Ch* | *Name* | *DMX levels* | |
|---|---|---|---|
| 8 | LINEAR CTO | 0..10 | No function |
| | | 11..255 | Linear control temperature correction (whites from 2700K to 8000K) |
| 9 | MACRO FIXED COLOR | 0..14 | No function |
| | | 15..255 | 16 Fixed Macros same as NICK NRG 1201 |
| 10 | PAN | | PAN msb |
| 11 | PAN FINE | | PAN lsb |
| 12 | TILT | | TILT msb |
| 13 | TILT FINE | | TILT lsb |
| 14 | PAN / TILT SPEED | 0..10 | Standard |
| | | 11..25 | Maximum speed |
| | | 26..127 | From maximum to minimum speed |
| | | 128..247 | Variable reaction to DMX signal (fast to slow) |
| | | 248..255 | Slow reaction time to DMX signal |
| 15 | FPR | 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 |
| 16 | SERVICE (not yet implemented) | 0..10 | No function |
| | | 11..244 | Reserved |
| | | 245..255 | Activating "FUNCTIONS" channel |
| 17 | FUNCTIONS (not yet implemented) | 0..14 | No function |
| | Activated by channel SERVICE at range 245..255 and staying on desired option for 5 seconds | 15..64 | SMOOTH OFF-1-2-4...20 same as display menu |
| | | 65..74 | GAMMA CORRECTION 2.0 |
| | | 75..84 | GAMMA CORRECTION LINEAR |
| | | 85..134 | OUTPUT FREQ FROM 610Hz TO 20KHz same as display menu |
| | | 135..144 | BOOST ON |
| | | 145..154 | BOOST OFF |
| | | 155..164 | WIRELESS ON |
| | | 165..174 | WIRELESS UNLINK |
| | | 175..184 | WIRELESS OFF |
| | | 185..194 | PAN NORMAL |
| | | 195..204 | PAN REVERSE |
| | | 205..214 | TILT NORMAL |
| | | 215..224 | TILT REVERSE |
| | | 225..234 | RESERVED (not yet implemented) |
| | | 235..244 | FAN SPEED STUDIO MODE (not yet implemented) |
| | | 245..255 | FAN SPEED LIVE MODE (not yet implemented) |
| 18 | ZOOM | 0..255 | Linear zoom from narrow to wide |

| Ch | Name | DMX levels | |
|---|---|---|---|
| 19 | RESET | 0..15 | No function |
| | | 16..75 | PAN TILT reset |
| | | 76..239 | ZOOM reset |
| | | 240..255 | TOTAL Unit reset |
| 20 | SHAPE SELECTION | 0..10 | No effect |
| | | 11..15 | PIXEL 1 |
| | | 16..20 | RING 1 |
| | | 21..25 | RING 2 |
| | | 26..30 | PIXEL 1 RING 1 |
| | | 31..35 | PIXEL 1 RING 2 |
| | | 36..40 | PIXEL 1 RING 1 RING 2 |
| | | 41..45 | SINGLE RING UP DOWN |
| | | 46..50 | FILLED RING UP DOWN |
| | | 51..55 | SPIRAL |
| | | 56..60 | FAN |
| | | 61..65 | BAR1 |
| | | 66..70 | HALF MOON |
| | | 71..75 | TRIANGLE |
| | | 76..80 | SEGMENT1 |
| | | 81..85 | ARC1 |
| | | 86..90 | ARC2 |
| | | 91..95 | BAR2 (variable size) |
| | | 96..100 | SEGMENT2 (variable size) |
| | | 101..255 | Reserved |
| 21 | SHAPE SPEED | 0..127 | Indexed 0..360° |
| | | 128..180 | Left rotation fast to slow |
| | | 181..202 | stop |
| | | 203..255 | Right rotation slow to fast |
| 22 | SHAPE FADE (not yet implemented) | 0..255 | |
| 23 | SHAPE RED | 0..255 | Colour effect - RED |
| 24 | SHAPE GREEN | 0..255 | Colour effect - GREEN |
| 25 | SHAPE BLUE | 0..255 | Colour effect - BLUE |
| 26 | SHAPE WHITE | 0..255 | Colour effect - WHITE |
| 27 | SHAPE DIMMER | 0..255 | Dimmer effect |
| 28 | BACKGROUND DIMMER | 0..255 | Dimmer background |
| 29 | SHAPE TRANSITION (not yet implemented) | 0..255 | |
| 30 | SHAPE OFFSET | 0..255 | Shape offset (0° to 360°) |
| 31 | SHAPE STROBE (not yet implemented) | 0..255 | |
| 32 | BACGROUND STROBE (not yet implemented) | 0..255 | |
| 33 | BACKGROUND SELECTION | 0..10 | No effect |
| | | 11..15 | PIXEL 1 |
| | | 16..20 | RING 1 |
| | | 21..25 | PIXEL 1 + RING 1 |
| | | 26..30 | RING 2 |
| | | 31..35 | PIXEL 1 + RING 2 |
| | | 36..40 | RING 1 + RING 2 |
| | | 41..45 | PIXEL 1 + RING 1 +RING 2 |

## 15- DMX PROTOCOL

"**EXTENDED" mode: 111 DMX channels**
(Channels and channel functions highlighted in red color are not yet implemented)

| | |
|---|---|
| 1 | RED DIMMER |
| 2 | GREEN DIMMER |
| 3 | BLUE DIMMER |
| 4 | WHITE DIMMER |
| 5 | SHUTTER |
| 6 | DIMMER |
| 7 | DIMMER FINE |
| 8 | LINEAR CTO |
| 9 | MACRO FIXED COLOR |
| 10 | PAN |
| 11 | PAN FINE |
| 12 | TILT |
| 13 | TILT FINE |
| 14 | PAN / TILT SPEED |
| 15 | FPR |
| 16 | SERVICE |
| 17 | FUNCTIONS |
| 18 | ZOOM |
| 19 | RESET |
| 20 | RED 1 |
| 21 | GREEN 1 |
| 22 | BLUE 1 |
| 23 | WHITE 1 |
| 24 | RED 2 |
| 25 | GREEN 2 |
| 26 | BLUE 2 |
| 27 | WHITE 2 |
| 28 | RED 3 |
| 29 | GREEN 3 |
| 30 | BLUE 3 |
| 31 | WHITE 3 |
| 32 | RED 4 |
| 33 | GREEN 4 |
| 34 | BLUE 4 |
| 35 | WHITE 4 |
| 36 | RED 5 |
| 37 | GREEN 5 |
| 38 | BLUE 5 |
| 39 | WHITE 5 |
| 40 | RED 6 |
| 41 | GREEN 6 |
| 42 | BLUE 6 |
| 43 | WHITE 6 |
| 44 | RED 7 |
| 45 | GREEN 7 |
| 46 | BLUE 7 |
| 47 | WHITE 7 |
| 48 | RED 8 |
| 49 | GREEN 8 |
| 50 | BLUE 8 |
| 51 | WHITE 8 |
| 52 | RED 9 |
| 53 | GREEN 9 |
| 54 | BLUE 9 |
| 55 | WHITE 9 |
| 56 | RED 10 |
| 57 | GREEN 10 |
| 58 | BLUE 10 |
| 59 | WHITE 10 |
| 60 | RED 11 |
| 61 | GREEN 11 |
| 62 | BLUE 11 |
| 63 | WHITE 11 |
| 64 | RED 12 |
| 65 | GREEN 12 |
| 66 | BLUE 12 |
| 67 | WHITE 12 |
| 68 | RED 13 |
| 69 | GREEN 13 |
| 70 | BLUE 13 |
| 71 | WHITE 13 |
| 72 | RED 14 |
| 73 | GREEN 14 |
| 74 | BLUE 14 |
| 75 | WHITE 14 |
| 76 | RED 15 |
| 77 | GREEN 15 |
| 78 | BLUE 15 |
| 79 | WHITE 15 |
| 80 | RED 16 |
| 81 | GREEN 16 |
| 82 | BLUE 16 |
| 83 | WHITE 16 |
| 84 | RED 17 |
| 85 | GREEN 17 |
| 86 | BLUE 17 |
| 87 | WHITE 17 |
| 88 | RED 18 |
| 89 | GREEN 18 |
| 90 | BLUE 18 |
| 91 | WHITE 18 |
| 92 | RED 19 |
| 93 | GREEN 19 |
| 94 | BLUE 19 |
| 95 | WHITE 19 |
| 96 | RED 20 |
| 97 | GREEN 20 |
| 98 | BLUE 20 |
| 99 | WHITE 20 |
| 100 | RED 21 |
| 101 | GREEN 21 |
| 102 | BLUE 21 |
| 103 | WHITE 21 |
| 104 | RED 22 |
| 105 | GREEN 22 |
| 106 | BLUE 22 |
| 107 | WHITE 22 |
| 108 | RED 23 |
| 109 | GREEN 23 |
| 110 | BLUE 23 |
| 111 | WHITE 23 |

| *Ch* | *Name* | *DMX levels* | |
|---|---|---|---|
| 1 | RED DIMMER | 0..255 | Master dimmer for all 23 red channels |
| 2 | GREEN DIMMER | 0..255 | Master dimmer for all 23 green channels |
| 3 | BLUE DIMMER | 0..255 | Master dimmer for all 23 blue channels |
| 4 | WHITE DIMMER | 0..255 | Master dimmer for all 23 white channels |
| 5 | SHUTTER | 0..9 | Black-out |
| | | 10..19 | Open |
| | | 20..29 | Black-out |
| | | 30..119 | Strobe (from 3,27 s to 30 ms) |
| | | 120..149 | Pulse up (from 42,6 s to 120 ms) |
| | | 150..179 | Pulse down (from 42,6 s to 120 ms) |
| | | 180..204 | Random strobe |
| | | 205..229 | Full independent random strobe |
| | | 230..255 | Open |
| 6 | DIMMER | 0..255 | Proportional master dimmer MSB |
| 7 | DIMMER FINE | 0..255 | Proportional master dimmer LSB |
| 8 | LINEAR CTO | 0..10 | No function |
| | | 11..255 | Linear control temperature correction (whites from 2700K to 8000K) |
| 9 | MACRO FIXED COLOR | 0..14 | No function |
| | | 15..255 | 16 Fixed Macros same as NICK NRG 1201 |
| 10 | PAN | | PAN msb |
| 11 | PAN FINE | | PAN lsb |
| 12 | TILT | | TILT msb |
| 13 | TILT FINE | | TILT lsb |
| 14 | PAN / TILT SPEED | 0..10 | Standard |
| | | 11..25 | Maximum speed |
| | | 26..127 | From maximum to minimum speed |
| | | 128..247 | Variable reaction to DMX signal (fast to slow) |
| | | 248..255 | Slow reaction time to DMX signal |
| 15 | FPR | 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 |

| *Ch* | *Name* | *DMX levels* | |
|---|---|---|---|
| 16 | SERVICE<br>(not yet implemented) | 0..10 | No function |
| | | 11..244 | Reserved |
| | | 245..255 | Activating "FUNCTIONS" channel |
| 17 | FUNCTIONS<br>(not yet implemented) | 0..14 | No function |
| | Activated by channel SERVICE at range 245..255 and staying on desired option for 5 seconds | 15..64 | SMOOTH OFF-1-2-4...20 same as display menu |
| | | 65..74 | GAMMA CORRECTION 2.0 |
| | | 75..84 | GAMMA CORRECTION LINEAR |
| | | 85..134 | OUTPUT FREQ FROM 610Hz TO 20KHz same as display menu |
| | | 135..144 | BOOST ON |
| | | 145..154 | BOOST OFF |
| | | 155..164 | WIRELESS ON |
| | | 165..174 | WIRELESS UNLINK |
| | | 175..184 | WIRELESS OFF |
| | | 185..194 | PAN NORMAL |
| | | 195..204 | PAN REVERSE |
| | | 205..214 | TILT NORMAL |
| | | 215..224 | TILT REVERSE |
| | | 225..234 | RESERVED |
| | | 235..244 | FAN SPEED STUDIO MODE |
| | | 245..255 | FAN SPEED LIVE MODE |
| 18 | ZOOM | 0..255 | Linear zoom from narrow to wide |
| 19 | RESET | 0..15 | No function |
| | | 16..75 | PAN TILT reset |
| | | 76..239 | ZOOM reset |
| | | 240..255 | TOTAL Unit reset |
| 20 | RED 1 | 0..255 | Proportional colour |
| 21 | GREEN 1 | 0..255 | Proportional colour |
| 22 | BLUE 1 | 0..255 | Proportional colour |
| 23 | WHITE 1 | 0..255 | Proportional colour |
| 24 | RED 2 | 0..255 | Proportional colour |
| 25 | GREEN 2 | 0..255 | Proportional colour |
| 26 | BLUE 2 | 0..255 | Proportional colour |
| 27 | WHITE 2 | 0..255 | Proportional colour |
| 28 | RED 3 | 0..255 | Proportional colour |
| 29 | GREEN 3 | 0..255 | Proportional colour |
| 30 | BLUE 3 | 0..255 | Proportional colour |
| 31 | WHITE 3 | 0..255 | Proportional colour |
| 32 | RED 4 | 0..255 | Proportional colour |
| 33 | GREEN 4 | 0..255 | Proportional colour |
| 34 | BLUE 4 | 0..255 | Proportional colour |
| 35 | WHITE 4 | 0..255 | Proportional colour |
| 36 | RED 5 | 0..255 | Proportional colour |
| 37 | GREEN 5 | 0..255 | Proportional colour |
| 38 | BLUE 5 | 0..255 | Proportional colour |
| 39 | WHITE 5 | 0..255 | Proportional colour |
| 40 | RED 6 | 0..255 | Proportional colour |
| 41 | GREEN 6 | 0..255 | Proportional colour |
| 42 | BLUE 6 | 0..255 | Proportional colour |
| 43 | WHITE 6 | 0..255 | Proportional colour |
| 44 | RED 7 | 0..255 | Proportional colour |
| 45 | GREEN 7 | 0..255 | Proportional colour |
| 46 | BLUE 7 | 0..255 | Proportional colour |
| 47 | WHITE 7 | 0..255 | Proportional colour |
| 48 | RED 8 | 0..255 | Proportional colour |
| 49 | GREEN 8 | 0..255 | Proportional colour |
| 50 | BLUE 8 | 0..255 | Proportional colour |
| 51 | WHITE 8 | 0..255 | Proportional colour |

| *Ch* | *Name* | *DMX levels* | |
|---|---|---|---|
| 52 | RED 9 | 0..255 | Proportional colour |
| 53 | GREEN 9 | 0..255 | Proportional colour |
| 54 | BLUE 9 | 0..255 | Proportional colour |
| 55 | WHITE 9 | 0..255 | Proportional colour |
| 56 | RED 10 | 0..255 | Proportional colour |
| 57 | GREEN 10 | 0..255 | Proportional colour |
| 58 | BLUE 10 | 0..255 | Proportional colour |
| 59 | WHITE 10 | 0..255 | Proportional colour |
| 60 | RED 11 | 0..255 | Proportional colour |
| 61 | GREEN 11 | 0..255 | Proportional colour |
| 62 | BLUE 11 | 0..255 | Proportional colour |
| 63 | WHITE 11 | 0..255 | Proportional colour |
| 64 | RED 12 | 0..255 | Proportional colour |
| 65 | GREEN 12 | 0..255 | Proportional colour |
| 66 | BLUE 12 | 0..255 | Proportional colour |
| 67 | WHITE 12 | 0..255 | Proportional colour |
| 68 | RED 13 | 0..255 | Proportional colour |
| 69 | GREEN 13 | 0..255 | Proportional colour |
| 70 | BLUE 13 | 0..255 | Proportional colour |
| 71 | WHITE 13 | 0..255 | Proportional colour |
| 72 | RED 14 | 0..255 | Proportional colour |
| 73 | GREEN 14 | 0..255 | Proportional colour |
| 74 | BLUE 14 | 0..255 | Proportional colour |
| 75 | WHITE 14 | 0..255 | Proportional colour |
| 76 | RED 15 | 0..255 | Proportional colour |
| 77 | GREEN 15 | 0..255 | Proportional colour |
| 78 | BLUE 15 | 0..255 | Proportional colour |
| 79 | WHITE 15 | 0..255 | Proportional colour |
| 80 | RED 16 | 0..255 | Proportional colour |
| 81 | GREEN 16 | 0..255 | Proportional colour |
| 82 | BLUE 16 | 0..255 | Proportional colour |
| 83 | WHITE 16 | 0..255 | Proportional colour |
| 84 | RED 17 | 0..255 | Proportional colour |
| 85 | GREEN 17 | 0..255 | Proportional colour |
| 86 | BLUE 17 | 0..255 | Proportional colour |
| 87 | WHITE 17 | 0..255 | Proportional colour |
| 88 | RED 18 | 0..255 | Proportional colour |
| 89 | GREEN 18 | 0..255 | Proportional colour |
| 90 | BLUE 18 | 0..255 | Proportional colour |
| 91 | WHITE 18 | 0..255 | Proportional colour |
| 92 | RED 19 | 0..255 | Proportional colour |
| 93 | GREEN 19 | 0..255 | Proportional colour |
| 94 | BLUE 19 | 0..255 | Proportional colour |
| 95 | WHITE 19 | 0..255 | Proportional colour |
| 96 | RED 20 | 0..255 | Proportional colour |
| 97 | GREEN 20 | 0..255 | Proportional colour |
| 98 | BLUE 20 | 0..255 | Proportional colour |
| 99 | WHITE 20 | 0..255 | Proportional colour |
| 100 | RED 21 | 0..255 | Proportional colour |
| 101 | GREEN 21 | 0..255 | Proportional colour |
| 102 | BLUE 21 | 0..255 | Proportional colour |
| 103 | WHITE 21 | 0..255 | Proportional colour |
| 104 | RED 22 | 0..255 | Proportional colour |
| 105 | GREEN 22 | 0..255 | Proportional colour |
| 106 | BLUE 22 | 0..255 | Proportional colour |
| 107 | WHITE 22 | 0..255 | Proportional colour |
| 108 | RED 23 | 0..255 | Proportional colour |
| 109 | GREEN 23 | 0..255 | Proportional colour |
| 110 | BLUE 23 | 0..255 | Proportional colour |
| 111 | WHITE 23 | 0..255 | Proportional colour |

## 15- DMX PROTOCOL

### "COMPATIBILITY" mode: 20 DMX channels

(Channels and channel functions highlighted in red color are not yet implemented)

1 PAN
2 PAN FINE
3 TILT
4 TILT FINE
5 PAN / TILT SPEED
6 FPR
7 FREQUENCY
8 SHUTTER
9 DIMMER
10 RED
11 GREEN
12 BLUE
13 WHITE
14 WHITE PRE-PROGRAMMED
15 CTC
16 MACRO
17 FUNCTION
18 ZOOM
19 MACRO SPEED / INDEX
20 RESET

| *Ch* | *Name* | *DMX levels* | |
|---|---|---|---|
| 1 | PAN | | PAN msb |
| 2 | PAN FINE | | PAN lsb |
| 3 | TILT | | TILT msb |
| 4 | TILT FINE | | TILT lsb |
| 5 | PAN / TILT SPEED | 0..10 | Standard |
| | | 11..25 | Maximum speed |
| | | 26..127 | From maximum to minimum speed |
| | | 128..247 | Variable reaction to DMX signal (fast to slow) |
| | | 248..255 | Slow reaction time to DMX signal |
| 6 | FPR | 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 |

| *Ch* | *Name* | *DMX levels* | |
|---|---|---|---|
| 7 | FREQUENCY (not yet implemented) | 0..45 | No function |
| | | 46..55 | 610Hz |
| | | 56..65 | 800Hz |
| | | 66..75 | 1000Hz |
| | | 76..85 | 1500Hz |
| | | 86..95 | 2000Hz |
| | | 96..105 | 2500Hz |
| | | 106..115 | 3000Hz |
| | | 116..125 | 3500Hz |
| | | 126..135 | 4000Hz |
| | | 136..145 | 4500Hz |
| | | 146..155 | 5000Hz |
| | | 156..165 | 5500Hz |
| | | 166..175 | 6000Hz |
| | | 176..185 | 6500Hz |
| | | 186..195 | 7000Hz |
| | | 196..205 | 7500Hz |
| | | 206..215 | 8000Hz |
| | | 216..225 | 8500Hz |
| | | 226..235 | 9000Hz |
| | | 236..245 | 9500Hz |
| | | 246..255 | 10000Hz |
| 8 | SHUTTER | 0..9 | Black-out |
| | | 10..19 | Open |
| | | 20..29 | Black-out |
| | | 30..119 | Strobe (from 3,27 s to 30 ms) |
| | | 120..149 | Pulse up (from 42,6 s to 120 ms) |
| | | 150..179 | Pulse down (from 42,6 s to 120 ms) |
| | | 180..204 | Random strobe |
| | | 205..229 | Full independent random strobe |
| | | 230..255 | Open |
| 9 | DIMMER | 0..255 | Proportional dimmer from min to max |
| 10 | RED | 0..255 | Proportional colour from min to max |
| 11 | GREEN | 0..255 | Proportional colour from min to max |
| 12 | BLUE | 0..255 | Proportional colour from min to max |
| 13 | WHITE | 0..255 | Proportional colour from min to max |
| 14 | WHITE PRE-PROGRAMMED | 0..55 | No function |
| | | 56..105 | Full (Red, Green, Blue at full) |
| | | 106..155 | White DTS |
| | | 156..205 | Custom white create (RGB levels selectable by DMX) |
| | | 206..255 | White CTC (channel 15 CTC enabled) |
| 15 | CTC | 0..255 | Linear control temperature correction (256 whites from 2700 to 8000 K) |
| 16 | MACRO con MACR = STD | 0..14 | No function |
| | | 15..255 | 16 fixed macros |
| 16 | MACRO con MACR = EXT | 0..14 | No function |
| | | 15..174 | 16 fixed macros |
| | | 175..184 | Rainbow speed 1 (6 sec.) |
| | | 185..194 | Rainbow speed 2 (15 sec.) |
| | | 195..204 | Rainbow speed 3 (30 sec.) |
| | | 205..214 | Rainbow speed 4 (45 sec.) |
| | | 215..224 | Rainbow speed 5 (60 sec.) |
| | | 225..234 | Rainbow speed 6 (120 sec.) |
| | | 235..244 | Rainbow speed 7 (150 sec.) |
| | | 245..255 | Rainbow speed 8 (180 sec.) |

| *Ch* | *Name* | *DMX levels* | |
|---|---|---|---|
| 16 | MACRO con MACR = DYNA (not yet implemented) | 0..14 | No function |
| | | 15..255 | Dynamic macros up to be defined |
| 17 | FUNCTION | 0..79 | If channel 14 White Pre-Programmed = DMX range value 156 – 20: Custom White Recall |
| | | 80..160 | Custom White create (enable custom white creation) |
| | | 161..255 | Custom White store (store the custom white created) |
| 18 | ZOOM | | Linear Zoom from narrow to wide |
| 19 | MACRO SPEED / INDEX (not yet implemented) | 0..127 | Proportional index 0 - 360° |
| | | 128..180 | Left rotation from fast to slow |
| | | 181..202 | Stop |
| | | 203..255 | Right rotation from slow to fast |
| 20 | RESET | 0..15 | No function |
| | | 16..75 | PAN TILT reset |
| | | 76..239 | ZOOM reset |
| | | 240..255 | TOTAL Unit reset |

**NOTES**

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DTS quality system
is certified to the
ISO 9001:2008 standard

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