

NICK NRG 1401



User's Manual rel 1.5 GB



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INDEX:

1-SYMBOLS.....	4
2-GENERAL WARNING	5
3-GENERAL WARRANTY CONDITIONS.....	5
4-TECHNICAL FEATURES	5
5-ACCESSORIES	8
6-IMPORTANT SAFETY INFORMATION.....	8
6.1 Fire prevention.....	8
6.2 Prevention of electric shock.....	8
6.3 Safety	9
6.4 Level of protection against the penetration of solid and liquid objects	9
6.5 Waste Electrical and Electronic Equipment directive.....	9
7-VOLTAGE AND FREQUENCY	9
8-INSTALLATION	10
8.1 Safety cable.....	10
8.2 Protection against liquids.....	11
8.3 Movement.....	11
8.4 Risk of fire	11
8.5 Forced ventilation	11
8.6 Ambient temperature	11
9-MAINS CONNECTION.....	12
9.1 Protection	12
10-DMX SIGNAL CONNECTION.....	13
10.1 DMX addresses.....	14
10.2 Selecting the DMX address	14
11-FIRMWARE UPDATING	14
12-DISPLAY FUNCTIONS	15
13-PERIODIC CLEANING	24
14-PERIODIC CONTROLS	24
15-DMX PROTOCOL	25



SCAN WITH YOUR SMARTPHONE THE QR CODES PRINTED IN THE MANUAL, TO WATCH A SHORT VIDEO THAT EXPLAINS THE RELATED FUNCTION.

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"



Risk Group 2

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.



WARNING!
**NEVER EXPOSE THE FRONT LENS
 TO SUNLIGHT FROM ANY ANGLE
 TO AVOID DAMAGE OF
 HEAD INTERNAL PARTS.**

Front lens could become powerful magnifying glass if exposed towards the sun or any strong artificial light source; this can cause damage of head internal parts, even for few seconds and even when the unit is off.

The last command before switch off: point the front lens down towards the ground.

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, 31 DMX channels or 20 DMX channels

Pan & Tilt

- * ‘FPR’ system (DTS patent)
- Pan: limitless rotation, in both direction, 360° rotation in 1,6 sec.
Tilt 258°: 1,1 sec.
- * 16-bit movement resolution

Power supply

- * Electronic full-range 100-240Vac 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

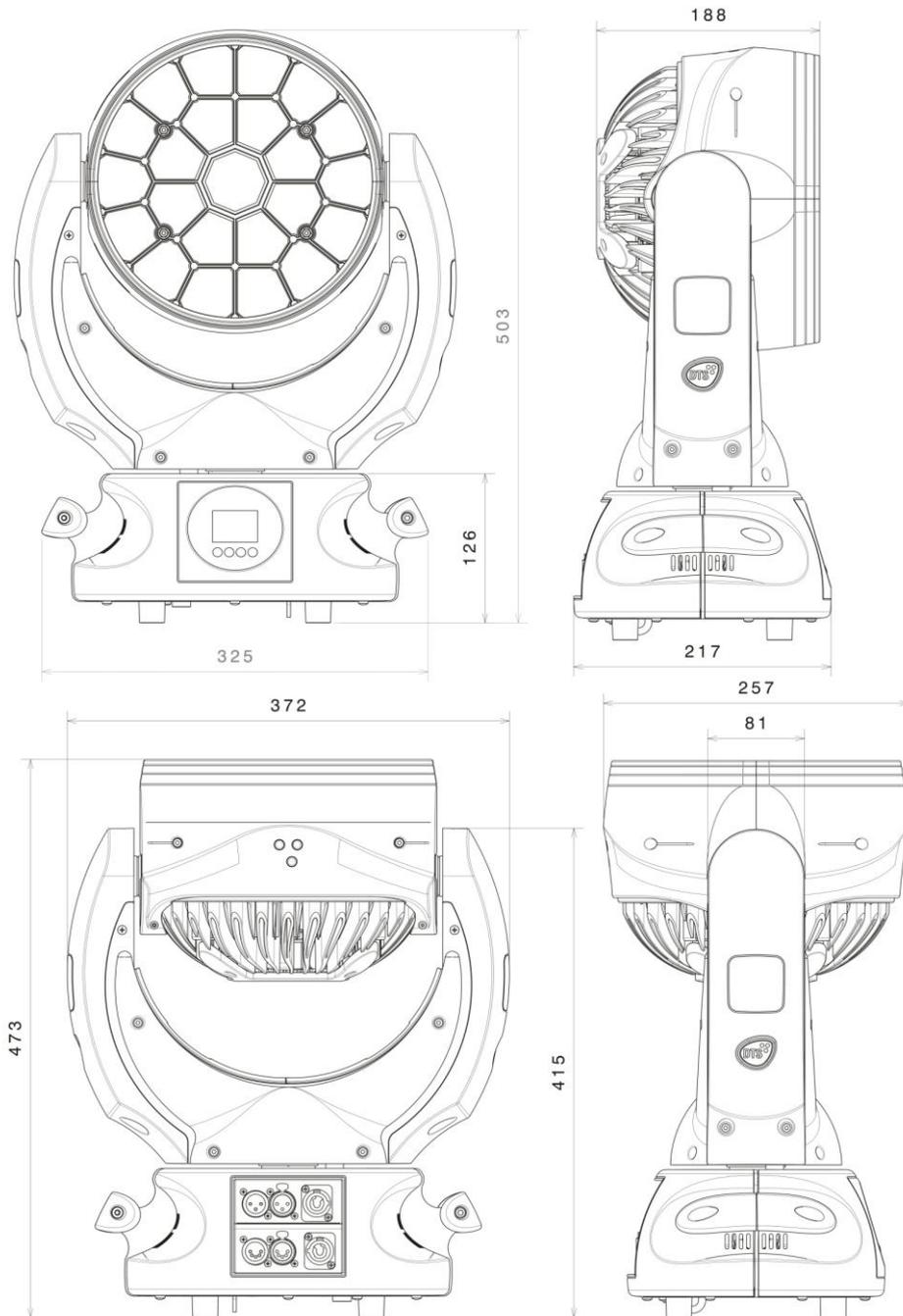
13 Kg

International certifications

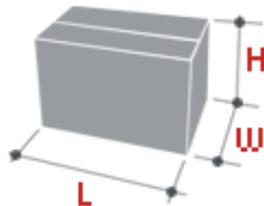
Certification CE

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. LED 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. Risk Group 2
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 environmental-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 hang 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

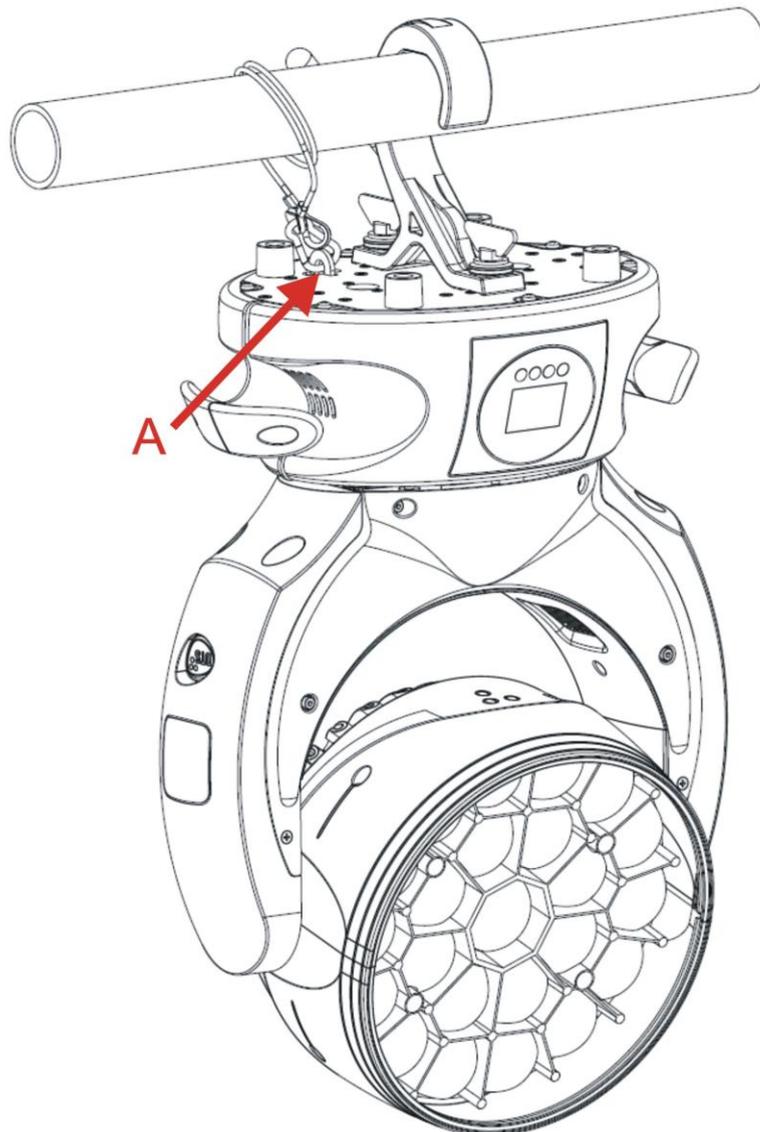


A safety cable must be securely fixed to the NICK NRG 1401 and to the suspension truss in order to avoid the fixture accidentally falling should the main fixing point fail.

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 258° (1,1 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. LED  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.

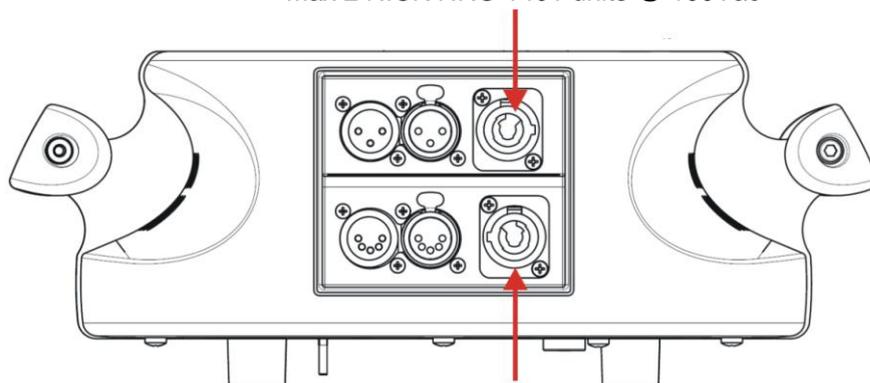
Strict adherence to regulatory norms is strongly recommended.

MAINS OUTPUT

100-240Vac 50-60 Hz (MAX 16A)

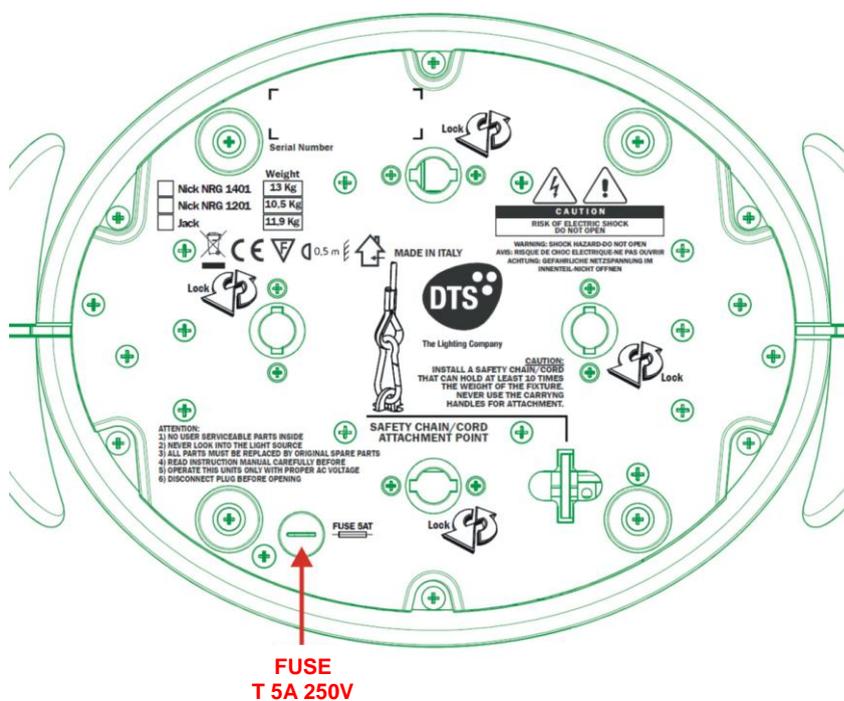
Max 4 NICK NRG 1401 units @ 230Vac

Max 2 NICK NRG 1401 units @ 100Vac



MAINS INPUT

100-240Vac 50-60 Hz



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 \varnothing 0.5 mm cable and a XLR 5 or 3 pins connector.

Ensure that the conductors do not touch each other.

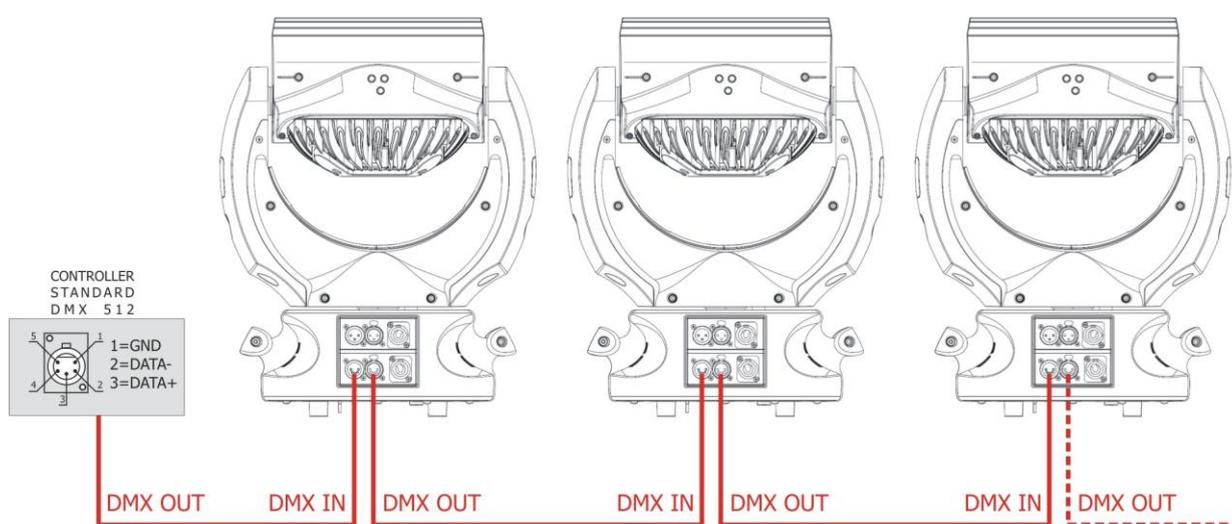
Do not connect the cable ground to the XLR chassy.

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:

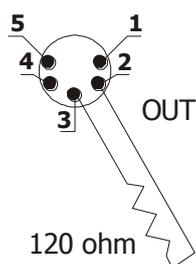
- DMX signal not present
- DMX address not valid
- DMX reception problem



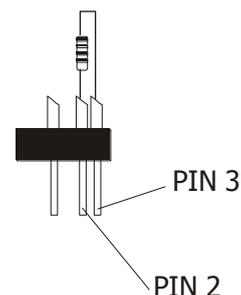
For Installations where long distance DMX cable connections are needed, we suggest to use a DMX terminator.

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 XLR 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, 31 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

To update the firmware release of the NICK NRG 1401 you need:

- DTS Dongle Firmware Uploader (code 03.LA.206).
- "DTS Firmware Upgrade Utility v.2.02" program installed on PC.
- Latest firmware release available for NICK NRG 1401 unit.

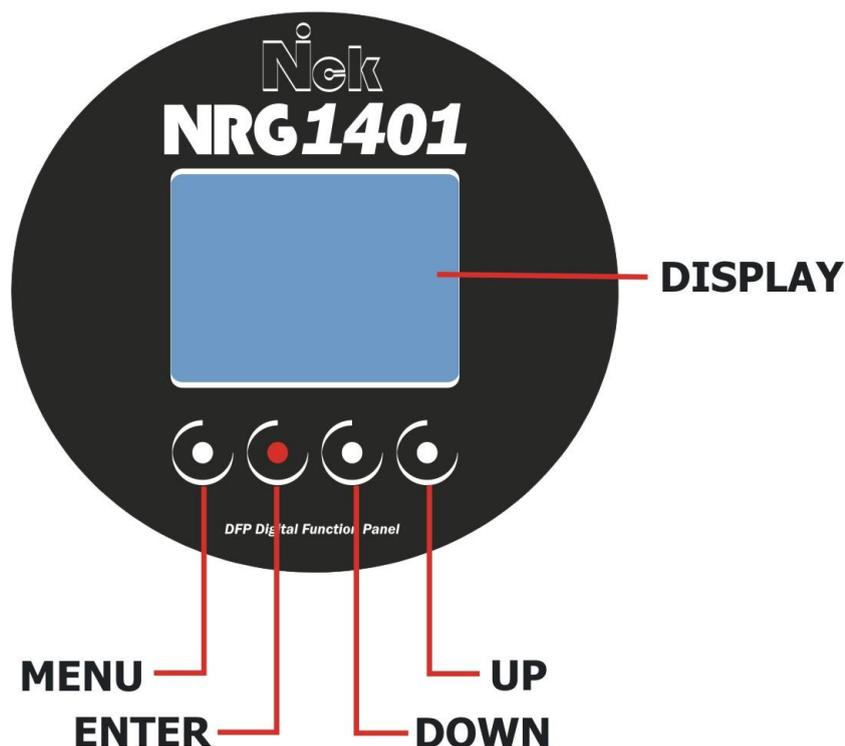
Updating the firmware release.

Please follow the procedure below to perform the update:

1. Connect the DTS Dongle Firmware Uploader to a spare USB port on the PC.
2. Connect the unit DMX input to the DTS Dongle Firmware Uploader DMX output with a standard DMX cable and turn ON the unit.
3. Send the new firmware release into the unit by using "DTS Firmware Upgrade Utility v.2.02" program. At the end of the procedure, the unit will reset.

For more information please refer to an authorised DTS service centre.

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.

FIRMWARE RELEASE	3.06
RDM Device Model ID	0x0D3B
DMX Personality IDs	0x01 "Extended" 0x02 "Compatibility" 0x03 "Shapes" 0x04 "Sectors"

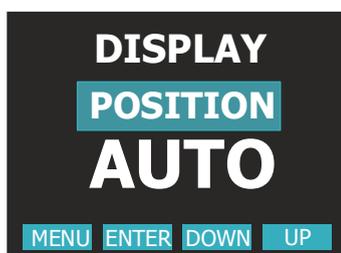


Display

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
AUTO (Default)
AA = On the ground
VV = Suspended



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



**DMX Set****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.

SECTORS: 31 DMX channels.

This menu allows to control pixels as 3 distinct sectors.

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 and NICK NRG 501).

MACRO Mode

STD = Standard (Default)

EXT = Extended; enable rainbow effects on Macro channel

DMX SET
DMX MODE
SHAPES

MENU ENTER DOWN UP

DMX SET**MACRO****STD**

MENU ENTER DOWN UP

DMX Mode

SHAPES: 33 DMX channels (default)



*WATCH
THE
VIDEO*

**MACRO**

STD = Standard mode enabled (Default)

EXT = Extended; enable rainbow effects on Macro channel

**LED****RGBW MIN / MAX VALUES**

This menu allows to select the Minimum / Maximum levels for Red, Green, Blue and 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 (Default)

1 = 50 ms Smooth response

20 = 1000 ms Smooth 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 70% to 100%

LED**RED MIN****0**

MENU ENTER DOWN UP

LED**SMOOTH****OFF**

MENU ENTER DOWN UP

LED**GAMMA CORR.****QUAD**

MENU ENTER DOWN UP

LED**OUTPUT FREQ.****610**

MENU ENTER DOWN UP

LED**BOOST****ON**

MENU ENTER DOWN UP

RGBW MIN

Range = 0-100

Default = 0

RGBW MAX

Range = 0-100

Default = 100

SMOOTH

Range = Off / 1-20

Default = OFF

*WATCH
THE
VIDEO*

**GAMMA CORRECTION**

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

OUTPUT FREQUENCY

Range = 610 Hz – 20 KHz

Default = 610 Hz

*WATCH
THE
VIDEO*

**BOOST**

Default = ON

**AUTO****AUTOMATIC MODE**

Automatic demo game without DMX controller.

In Auto mode the unit do generate DMX for slave units.

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 White macros from 2700K to 8000K.
Dimmer, Shutter, Pan, Tilt and Zoom values selectable by user.

**AUTO**

SURE?
Menu - NO
Enter - YES

MENU ENTER DOWN UP

AUTO-PROGRAM

STEP
01/16

MENU ENTER DOWN UP

AUTO-PERS.COL.

RED
120

MENU ENTER DOWN UP

AUTO-RAINBOW

SPEE
0010

MENU ENTER DOWN UP



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 values Pan&Tilt and Zoom position of the MASTER unit.



SLAVE



SLAVE MODE SETTING

This menu allows to set the NICK NRG 1401 as slave unit. The unit is forced to DMX address 1 and COMPATIBILITY mode (20 DMX channels) receiving signal from the unit set in Auto mode.

DMX signal must be present from MASTER unit (set in AUTO MODE) in order to ran the units in SLAVE mode.



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 DMX
Wireless 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)



WIRELESS DMX SYSTEM ENABLED



UNLINK = LOG OUT



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.



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 run 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



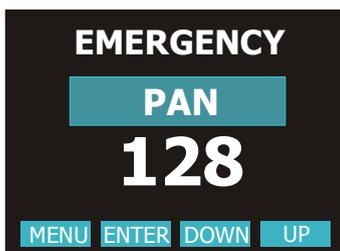
EMERGENCY
Enabled



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

DEFAULT SET

MENU ENTER DOWN UP

ENTER

DEFAULT SET

SURE?
Menu - NO
Enter - YES

MENU ENTER DOWN UP

Menu Up-Down **TEMPER. °C** ENTER

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

TEMPER. °C

DRV 023.7
LED 022.3
DSP 027.1

MENU ENTER DOWN UP

ENTER

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

SUPPLY VOLTAGE
Power supply output voltage
monitoring

SUPPLY VOLT.

28.0

MENU ENTER DOWN UP

ENTER

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

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

TIME

UNIT

13 Hr - 08 min

MENU ENTER DOWN UP

ENTER

TIME

RED

0 Hr - 08 min

MENU ENTER DOWN UP

**SYSTEM**

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 INVERSION

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.

SYSTEM**PAN INVERSION****NORM**

MENU ENTER DOWN UP

PAN INVERSION
Default = NORMAL

**SYSTEM****TILT INVERSION****NORM**

MENU ENTER DOWN UP

TILT INVERSION
Default = NORMAL

SYSTEM**PAN SPEED****5**

MENU ENTER DOWN UP

PAN SPEED CONTROL
Default = 5

SYSTEM**TILT SPEED****5**

MENU ENTER DOWN UP

TILT SPEED CONTROL
Default = 5

SYSTEM**STUDIO MODE****OFF**

MENU ENTER DOWN UP

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

SYSTEM**FAN MAX SPEED****100%**

MENU ENTER DOWN UP

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

SYSTEM**RESET BY DMX****ENAB**

MENU ENTER DOWN UP

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

  **SOFTWARE**  

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

SOFTWARE

MOTORS

0D3B0B12F
v3.06 2Aug2017

MENU ENTER DOWN UP

Motors board
(Pan&Tilt-Zoom)
Software version



SOFTWARE

LED

N1401LED v204

MENU ENTER DOWN UP

LED Driver board
Software version

SOFTWARE

DISPLAY

v. 3.00

MENU ENTER DOWN UP

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)**

1	RED DIMMER
2	GREEN DIMMER
3	BLUE DIMMER
4	WHITE DIMMER
5	SHUTTER
6	DIMMER
7	DIMMER FINE
8	LINEAR CTO
9	MACRO
10	PAN
11	PAN FINE
12	TILT
13	TILT FINE
14	PAN / TILT SPEED
15	FPR MODE
16	SERVICE
17	FUNCTIONS
18	ZOOM
19	RESET
20	SHAPE SELECTION
21	SHAPE SPEED
22	Reserved / No function
23	SHAPE RED
24	SHAPE GREEN
25	SHAPE BLUE
26	SHAPE WHITE
27	SHAPE DIMMER
28	BACKGROUND DIMMER
29	Reserved / No function
30	SHAPE OFFSET
31	Reserved / No function
32	Reserved / No function
33	BACKGROUND SELECTION

<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
1	RED DIMMER	0..255	RED Master dimmer from min to max
2	GREEN DIMMER	0..255	GREEN Master dimmer from min to max
3	BLUE DIMMER	0..255	BLUE Master dimmer from min to max
4	WHITE DIMMER	0..255	WHITE Master dimmer 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

<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
8	LINEAR CTO	0..10	No function
		11..255	Linear control temperature correction (whites from 2700K to 8000K)
9	MACRO if MACRO = STD	0..14	No function
		15..30	COL 1: RGBW={255,000,000,000} (WITH GAMMA=LINE) RGBW={255,000,000,000} (WITH GAMMA=QUAD)
		31..46	COL 2: RGBW={255,012,000,000} (WITH GAMMA=LINE) RGBW={255,055,000,000} (WITH GAMMA=QUAD)
		47..62	COL 3: RGBW={255,113,000,000} (WITH GAMMA=LINE) RGBW={255,170,000,000} (WITH GAMMA=QUAD)
		63..78	COL 4: RGBW={255,255,000,000} (WITH GAMMA=LINE) RGBW={255,255,000,000} (WITH GAMMA=QUAD)
		79..94	COL 5: RGBW={113,255,000,000} (WITH GAMMA=LINE) RGBW={170,255,000,000} (WITH GAMMA=QUAD)
		95..110	COL 6: RGBW={012,255,000,000} (WITH GAMMA=LINE) RGBW={055,255,000,000} (WITH GAMMA=QUAD)
		111..126	COL 7: RGBW={000,255,000,000} (WITH GAMMA=LINE) RGBW={000,255,000,000} (WITH GAMMA=QUAD)
		127..142	COL 8: RGBW={000,255,012,000} (WITH GAMMA=LINE) RGBW={000,255,055,000} (WITH GAMMA=QUAD)
		143..158	COL 9: RGBW={000,255,113,000} (WITH GAMMA=LINE) RGBW={000,255,170,000} (WITH GAMMA=QUAD)
		159..174	COL 10: RGBW={000,255,255,000} (WITH GAMMA=LINE) RGBW={000,255,255,000} (WITH GAMMA=QUAD)
		175..190	COL 11: RGBW={000,113,255,000} (WITH GAMMA=LINE) RGBW={000,170,255,000} (WITH GAMMA=QUAD)
		191..206	COL 12: RGBW={000,012,255,000} (WITH GAMMA=LINE) RGBW={000,055,255,000} (WITH GAMMA=QUAD)
		207..222	COL 13: RGBW={000,000,255,000} (WITH GAMMA=LINE) RGBW={000,000,255,000} (WITH GAMMA=QUAD)
		223..238	COL 14: RGBW={012,000,255,000} (WITH GAMMA=LINE) RGBW={055,000,255,000} (WITH GAMMA=QUAD)
		239..254	COL 15: RGBW={113,000,255,000} (WITH GAMMA=LINE) RGBW={170,000,255,000} (WITH GAMMA=QUAD)
		255	COL 16: RGBW={255,000,255,000} (WITH GAMMA=LINE) RGBW={255,000,255,000} (WITH GAMMA=QUAD)
9	MACRO if MACRO = EXT	0..14	No function
		15..24	COL 1: RGBW={255,000,000,000} (WITH GAMMA=LINE) RGBW={255,000,000,000} (WITH GAMMA=QUAD)
		25..34	COL 2: RGBW={255,012,000,000} (WITH GAMMA=LINE) RGBW={255,055,000,000} (WITH GAMMA=QUAD)
		35..44	COL 3: RGBW={255,113,000,000} (WITH GAMMA=LINE) RGBW={255,170,000,000} (WITH GAMMA=QUAD)
		45..54	COL 4: RGBW={255,255,000,000} (WITH GAMMA=LINE) RGBW={255,255,000,000} (WITH GAMMA=QUAD)
		55..64	COL 5: RGBW={113,255,000,000} (WITH GAMMA=LINE) RGBW={170,255,000,000} (WITH GAMMA=QUAD)
		65..74	COL 6: RGBW={012,255,000,000} (WITH GAMMA=LINE) RGBW={055,255,000,000} (WITH GAMMA=QUAD)
		75..84	COL 7: RGBW={000,255,000,000} (WITH GAMMA=LINE) RGBW={000,255,000,000} (WITH GAMMA=QUAD)
		85..94	COL 8: RGBW={000,255,012,000} (WITH GAMMA=LINE) RGBW={000,255,055,000} (WITH GAMMA=QUAD)
		95..104	COL 9: RGBW={000,255,113,000} (WITH GAMMA=LINE) RGBW={000,255,170,000} (WITH GAMMA=QUAD)
		105..114	COL 10: RGBW={000,255,255,000} (WITH GAMMA=LINE) RGBW={000,255,255,000} (WITH GAMMA=QUAD)
		115..124	COL 11: RGBW={000,113,255,000} (WITH GAMMA=LINE) RGBW={000,170,255,000} (WITH GAMMA=QUAD)
		125..134	COL 12: RGBW={000,012,255,000} (WITH GAMMA=LINE) RGBW={000,055,255,000} (WITH GAMMA=QUAD)
		135..144	COL 13: RGBW={000,000,255,000} (WITH GAMMA=LINE) RGBW={000,000,255,000} (WITH GAMMA=QUAD)
		145..154	COL 14: RGBW={012,000,255,000} (WITH GAMMA=LINE) RGBW={055,000,255,000} (WITH GAMMA=QUAD)
		155..164	COL 15: RGBW={113,000,255,000} (WITH GAMMA=LINE) RGBW={170,000,255,000} (WITH GAMMA=QUAD)
		165..174	COL 16: RGBW={255,000,255,000} (WITH GAMMA=LINE) RGBW={255,000,255,000} (WITH GAMMA=QUAD)
175..184	Rainbow: a new colour every 6 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		
185..194	Rainbow: a new colour every 15 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		
195..204	Rainbow: a new colour every 30 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		
205..214	Rainbow: a new colour every 45 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		
215..224	Rainbow: a new colour every 60 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		
225..234	Rainbow: a new colour every 120 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		
235..244	Rainbow: a new colour every 150 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		
245..255	Rainbow: a new colour every 180 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		

<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
10	PAN	0..255	PAN msb
11	PAN FINE	0..255	PAN lsb
12	TILT	0..255	TILT msb
13	TILT FINE	0..255	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 MODE	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	0..10	No function
		11..244	Reserved
		245..255	Activating "FUNCTIONS" channel
17	FUNCTIONS Activated by channel SERVICE at range 245..255 and staying on desired option for 5 seconds	0..14	No function
		15..24	SMOOTH OFF (DEFAULT)
		25..26	SMOOTH 1 (50 ms)
		27..28	SMOOTH 2 (100 ms)
		29..30	SMOOTH 3 (150 ms)
		31..32	SMOOTH 4 (200 ms)
		33..34	SMOOTH 5 (250 ms)
		35..36	SMOOTH 6 (300 ms)
		37..38	SMOOTH 7 (350 ms)
		39..40	SMOOTH 8 (400 ms)
		41..42	SMOOTH 9 (450 ms)
		43..44	SMOOTH 10 (500 ms)
		45..46	SMOOTH 11 (550 ms)
		47..48	SMOOTH 12 (600 ms)
		49..50	SMOOTH 13 (650 ms)
		51..52	SMOOTH 14 (700 ms)
		53..54	SMOOTH 15 (750 ms)
		55..56	SMOOTH 16 (800 ms)
		57..58	SMOOTH 17 (850 ms)
		59..60	SMOOTH 18 (900 ms)
61..62	SMOOTH 19 (950 ms)		
63..64	SMOOTH 20 (1000 ms)		

<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
17	FUNCTIONS Activated by channel SERVICE at range 245..255 and staying on desired option for 5 seconds	65..74	GAMMA CORRECTION QUADRATIC (DEFAULT)
		75..84	GAMMA CORRECTION LINEAR
		85..104	OUTPUT FREQUENCY 610 Hz (DEFAULT)
		105	OUTPUT FREQUENCY 800 Hz
		106	OUTPUT FREQUENCY 1000 Hz
		107	OUTPUT FREQUENCY 1500 Hz
		108	OUTPUT FREQUENCY 2000 Hz
		109	OUTPUT FREQUENCY 2500 Hz
		110	OUTPUT FREQUENCY 3000 Hz
		111	OUTPUT FREQUENCY 3500 Hz
		112	OUTPUT FREQUENCY 4000 Hz
		113	OUTPUT FREQUENCY 4500 Hz
		114	OUTPUT FREQUENCY 5000 Hz
		115	OUTPUT FREQUENCY 5500 Hz
		116	OUTPUT FREQUENCY 6000 Hz
		117	OUTPUT FREQUENCY 6500 Hz
		118	OUTPUT FREQUENCY 7000 Hz
		119	OUTPUT FREQUENCY 7500 Hz
		120	OUTPUT FREQUENCY 8000 Hz
		121	OUTPUT FREQUENCY 8500 Hz
		122	OUTPUT FREQUENCY 9000 Hz
		123	OUTPUT FREQUENCY 9500 Hz
		124	OUTPUT FREQUENCY 10000 Hz
		125	OUTPUT FREQUENCY 11000 Hz
		126	OUTPUT FREQUENCY 12000 Hz
		127	OUTPUT FREQUENCY 13000 Hz
		128	OUTPUT FREQUENCY 14000 Hz
		129	OUTPUT FREQUENCY 15000 Hz
		130	OUTPUT FREQUENCY 16000 Hz
		131	OUTPUT FREQUENCY 17000 Hz
		132	OUTPUT FREQUENCY 18000 Hz
		133	OUTPUT FREQUENCY 19000 Hz
		134	OUTPUT FREQUENCY 20000 Hz
		135..144	BOOST ON (DEFAULT)
		145..154	BOOST OFF
		155..164	RESERVED
		165..174	RESERVED
		175..184	RESERVED
		185..194	PAN NORMAL (DEFAULT)
		195..204	PAN REVERSE
		205..214	TILT NORMAL (DEFAULT)
215..224	TILT REVERSE		
225..234	RESERVED		
235..244	STUDIO MODE ON		
245..252	STUDIO MODE OFF (DEFAULT)		
253..255	SET DEFAULTS VALUES FOR FUNCTIONS: SMOOTH = OFF GAMMA CORRECTION = QUADRATIC OUTPUT FREQUENCY = 610 Hz BOOST = ON PAN = NORMAL TILT = NORMAL STUDIO MODE = OFF		

<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
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	SHAPE SELECTION	0..10	No function
		11..15	PIXEL 1 (Static)
		16..20	RING 1 (Static)
		21..25	RING 2 (Static)
		26..30	PIXEL 1 RING 1 (Static)
		31..35	PIXEL 1 RING 2 (Static)
		36..40	PIXEL 1 RING 1 RING 2 (Static)
		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 by CH 30 "SHAPE OFFSET")
		96..100	SEGMENT2 (variable size by CH 30 "SHAPE OFFSET")
		101..102	SHAPE 19
		103..104	SHAPE 20
		105..106	SHAPE 21
		107..108	SHAPE 22
		109..110	SHAPE 23
		111..112	SHAPE 24
		113..114	SHAPE 25
		115..116	SHAPE 26
		117..118	SHAPE 27
		119..120	SHAPE 28
		121..122	SHAPE 29
		123..124	SHAPE 30
		125..126	SHAPE 31
		127..128	SHAPE 32
		129..130	SHAPE 33
131..132	SHAPE 34		
133..134	SHAPE 35		
135..136	SHAPE 36		
137..138	SHAPE 37		
139..140	SHAPE 38		
141..142	SHAPE 39		
143..144	SHAPE 40		
145..146	SHAPE 41		
147..148	SHAPE 42		
149..150	SHAPE 43		
151..152	SHAPE 44		
153..154	SHAPE 45		
155..156	SHAPE 46		
157..158	SHAPE 47		
159..160	SHAPE 48		
161..162	SHAPE 49		

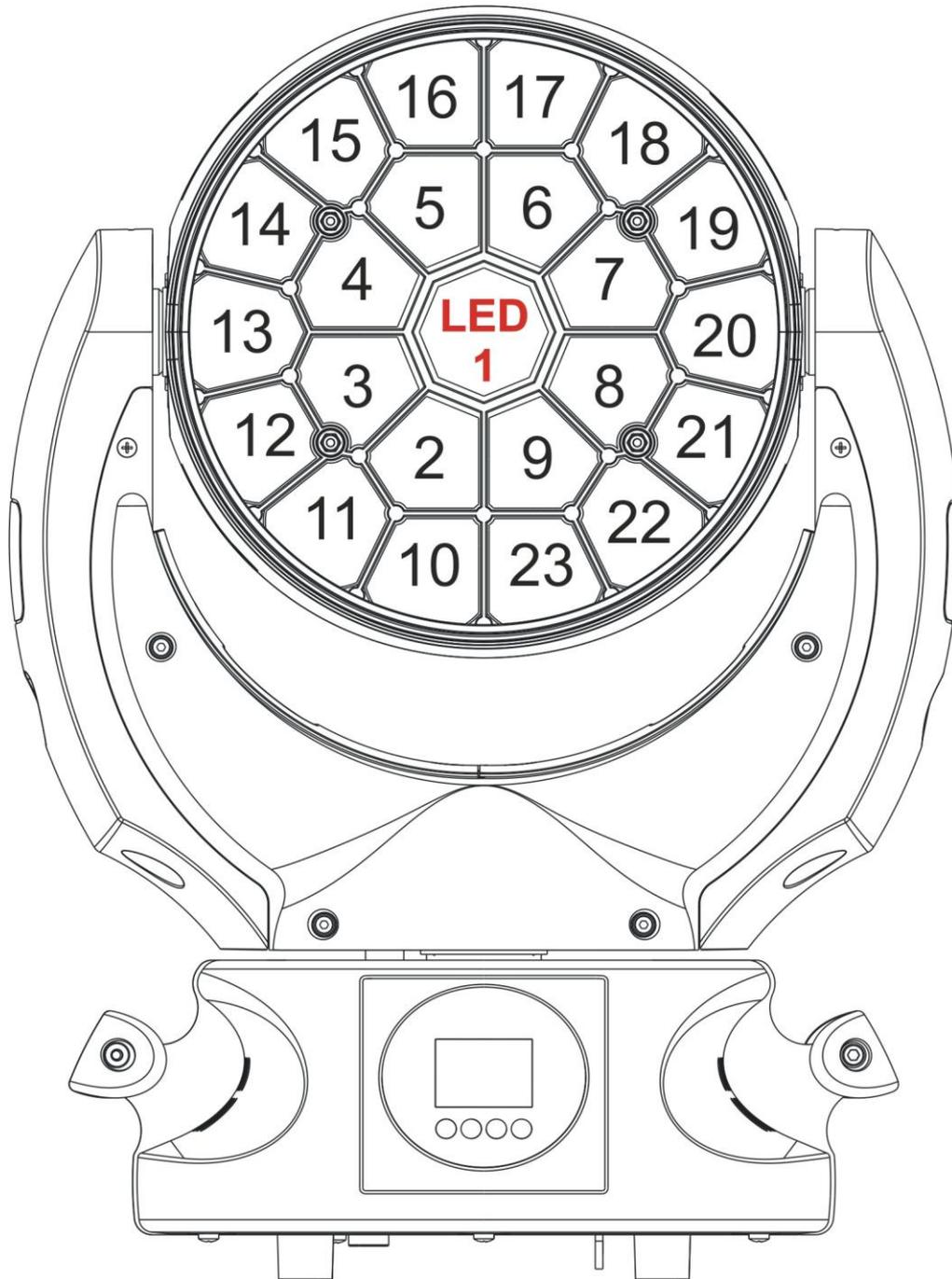
<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
20	SHAPE SELECTION	163..164	SHAPE 50
		165..166	SHAPE 51
		167..168	SHAPE 52
		169..170	SHAPE 53
		171..172	SHAPE 54
		173..174	SHAPE 55
		175..176	SHAPE 56
		177..178	SHAPE 57
		179..180	SHAPE 58
		181..182	SHAPE 59
		183..184	SHAPE 60
		185..186	SHAPE 61
		187..188	SHAPE 62
		189..190	SHAPE 63
		191..192	SHAPE 64
		193..194	SHAPE 65
		195..196	SHAPE 66
197..198	SHAPE 67		
199..200	SHAPE 68		
201..255	No function		
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	Reserved / No function	0..255	Reserved / No function
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	Reserved / No function	0..255	Reserved / No function
30	SHAPE OFFSET	0..255	Shape offset (0° to 360°) excluded "BAR2" and "SEGMENT2" (variable size)
31	Reserved / No function	0..255	Reserved / No function
32	Reserved / No function	0..255	Reserved / No function
33	BACKGROUND SELECTION	0..10	No function
		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
46..255	No function		

15- DMX PROTOCOL**“EXTENDED” mode: 111 DMX channels**

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

LEDs SEQUENCE FOR PIXEL TO PIXEL CONTROL

PAN @ 41 (range 0-255) or 16% DMX value
TILT @ 215 (range 0-255) or 84% DMX value



<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
1	RED DIMMER	0..255	RED Master dimmer from min to max
2	GREEN DIMMER	0..255	GREEN Master dimmer from min to max
3	BLUE DIMMER	0..255	BLUE Master dimmer from min to max
4	WHITE DIMMER	0..255	WHITE Master dimmer 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 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 if MACRO = STD	0..14	No function
		15..30	COL 1: RGBW={255,000,000,000} (WITH GAMMA=LINE) RGBW={255,000,000,000} (WITH GAMMA=QUAD)
		31..46	COL 2: RGBW={255,012,000,000} (WITH GAMMA=LINE) RGBW={255,055,000,000} (WITH GAMMA=QUAD)
		47..62	COL 3: RGBW={255,113,000,000} (WITH GAMMA=LINE) RGBW={255,170,000,000} (WITH GAMMA=QUAD)
		63..78	COL 4: RGBW={255,255,000,000} (WITH GAMMA=LINE) RGBW={255,255,000,000} (WITH GAMMA=QUAD)
		79..94	COL 5: RGBW={113,255,000,000} (WITH GAMMA=LINE) RGBW={170,255,000,000} (WITH GAMMA=QUAD)
		95..110	COL 6: RGBW={012,255,000,000} (WITH GAMMA=LINE) RGBW={055,255,000,000} (WITH GAMMA=QUAD)
		111..126	COL 7: RGBW={000,255,000,000} (WITH GAMMA=LINE) RGBW={000,255,000,000} (WITH GAMMA=QUAD)
		127..142	COL 8: RGBW={000,255,012,000} (WITH GAMMA=LINE) RGBW={000,255,055,000} (WITH GAMMA=QUAD)
		143..158	COL 9: RGBW={000,255,113,000} (WITH GAMMA=LINE) RGBW={000,255,170,000} (WITH GAMMA=QUAD)
		159..174	COL 10: RGBW={000,255,255,000} (WITH GAMMA=LINE) RGBW={000,255,255,000} (WITH GAMMA=QUAD)
		175..190	COL 11: RGBW={000,113,255,000} (WITH GAMMA=LINE) RGBW={000,170,255,000} (WITH GAMMA=QUAD)
		191..206	COL 12: RGBW={000,012,255,000} (WITH GAMMA=LINE) RGBW={000,055,255,000} (WITH GAMMA=QUAD)
		207..222	COL 13: RGBW={000,000,255,000} (WITH GAMMA=LINE) RGBW={000,000,255,000} (WITH GAMMA=QUAD)
		223..238	COL 14: RGBW={012,000,255,000} (WITH GAMMA=LINE) RGBW={055,000,255,000} (WITH GAMMA=QUAD)
		239..254	COL 15: RGBW={113,000,255,000} (WITH GAMMA=LINE) RGBW={170,000,255,000} (WITH GAMMA=QUAD)
255	COL 16: RGBW={255,000,255,000} (WITH GAMMA=LINE) RGBW={255,000,255,000} (WITH GAMMA=QUAD)		
9	MACRO if MACRO = EXT	0..14	No function
		15..24	COL 1: RGBW={255,000,000,000} (WITH GAMMA=LINE) RGBW={255,000,000,000} (WITH GAMMA=QUAD)
		25..34	COL 2: RGBW={255,012,000,000} (WITH GAMMA=LINE) RGBW={255,055,000,000} (WITH GAMMA=QUAD)
		35..44	COL 3: RGBW={255,113,000,000} (WITH GAMMA=LINE) RGBW={255,170,000,000} (WITH GAMMA=QUAD)
		45..54	COL 4: RGBW={255,255,000,000} (WITH GAMMA=LINE) RGBW={255,255,000,000} (WITH GAMMA=QUAD)
		55..64	COL 5: RGBW={113,255,000,000} (WITH GAMMA=LINE) RGBW={170,255,000,000} (WITH GAMMA=QUAD)
		65..74	COL 6: RGBW={012,255,000,000} (WITH GAMMA=LINE) RGBW={055,255,000,000} (WITH GAMMA=QUAD)
		75..84	COL 7: RGBW={000,255,000,000} (WITH GAMMA=LINE) RGBW={000,255,000,000} (WITH GAMMA=QUAD)
		85..94	COL 8: RGBW={000,255,012,000} (WITH GAMMA=LINE) RGBW={000,255,055,000} (WITH GAMMA=QUAD)
		95..104	COL 9: RGBW={000,255,113,000} (WITH GAMMA=LINE) RGBW={000,255,170,000} (WITH GAMMA=QUAD)
		105..114	COL 10: RGBW={000,255,255,000} (WITH GAMMA=LINE) RGBW={000,255,255,000} (WITH GAMMA=QUAD)
		115..124	COL 11: RGBW={000,113,255,000} (WITH GAMMA=LINE) RGBW={000,170,255,000} (WITH GAMMA=QUAD)
		125..134	COL 12: RGBW={000,012,255,000} (WITH GAMMA=LINE) RGBW={000,055,255,000} (WITH GAMMA=QUAD)
		135..144	COL 13: RGBW={000,000,255,000} (WITH GAMMA=LINE) RGBW={000,000,255,000} (WITH GAMMA=QUAD)
		145..154	COL 14: RGBW={012,000,255,000} (WITH GAMMA=LINE) RGBW={055,000,255,000} (WITH GAMMA=QUAD)
		155..164	COL 15: RGBW={113,000,255,000} (WITH GAMMA=LINE) RGBW={170,000,255,000} (WITH GAMMA=QUAD)
165..174	COL 16: RGBW={255,000,255,000} (WITH GAMMA=LINE) RGBW={255,000,255,000} (WITH GAMMA=QUAD)		

<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
9	MACRO if MACRO = EXT	175..184	Rainbow: a new colour every 6 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)
		185..194	Rainbow: a new colour every 15 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)
		195..204	Rainbow: a new colour every 30 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)
		205..214	Rainbow: a new colour every 45 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)
		215..224	Rainbow: a new colour every 60 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)
		225..234	Rainbow: a new colour every 120 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)
		235..244	Rainbow: a new colour every 150 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)
		245..255	Rainbow: a new colour every 180 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)
10	PAN	0..255	PAN msb
11	PAN FINE	0..255	PAN lsb
12	TILT	0..255	TILT msb
13	TILT FINE	0..255	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 MODE	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	0..10	No function
		11..244	Reserved
		245..255	Activating "FUNCTIONS" channel

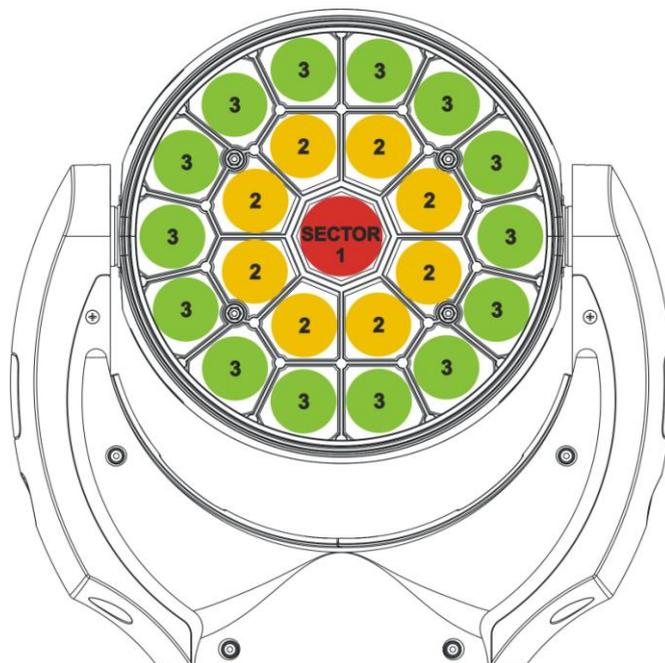
<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
17	FUNCTIONS	0..14	No function
	Activated by channel SERVICE at range 245..255 and staying on desired option for 5 seconds	15..24	SMOOTH OFF (DEFAULT)
		25..26	SMOOTH 1 (50 ms)
		27..28	SMOOTH 2 (100 ms)
		29..30	SMOOTH 3 (150 ms)
		31..32	SMOOTH 4 (200 ms)
		33..34	SMOOTH 5 (250 ms)
		35..36	SMOOTH 6 (300 ms)
		37..38	SMOOTH 7 (350 ms)
		39..40	SMOOTH 8 (400 ms)
		41..42	SMOOTH 9 (450 ms)
		43..44	SMOOTH 10 (500 ms)
		45..46	SMOOTH 11 (550 ms)
		47..48	SMOOTH 12 (600 ms)
		49..50	SMOOTH 13 (650 ms)
		51..52	SMOOTH 14 (700 ms)
		53..54	SMOOTH 15 (750 ms)
		55..56	SMOOTH 16 (800 ms)
		57..58	SMOOTH 17 (850 ms)
		59..60	SMOOTH 18 (900 ms)
		61..62	SMOOTH 19 (950 ms)
		63..64	SMOOTH 20 (1000 ms)
		65..74	GAMMA CORRECTION QUADRATIC (DEFAULT)
		75..84	GAMMA CORRECTION LINEAR
		85..104	OUTPUT FREQUENCY 610 Hz (DEFAULT)
		105	OUTPUT FREQUENCY 800 Hz
		106	OUTPUT FREQUENCY 1000 Hz
		107	OUTPUT FREQUENCY 1500 Hz
		108	OUTPUT FREQUENCY 2000 Hz
		109	OUTPUT FREQUENCY 2500 Hz
		110	OUTPUT FREQUENCY 3000 Hz
		111	OUTPUT FREQUENCY 3500 Hz
		112	OUTPUT FREQUENCY 4000 Hz
		113	OUTPUT FREQUENCY 4500 Hz
		114	OUTPUT FREQUENCY 5000 Hz
	115	OUTPUT FREQUENCY 5500 Hz	
	116	OUTPUT FREQUENCY 6000 Hz	
	117	OUTPUT FREQUENCY 6500 Hz	
	118	OUTPUT FREQUENCY 7000 Hz	
	119	OUTPUT FREQUENCY 7500 Hz	
	120	OUTPUT FREQUENCY 8000 Hz	
	121	OUTPUT FREQUENCY 8500 Hz	
	122	OUTPUT FREQUENCY 9000 Hz	
	123	OUTPUT FREQUENCY 9500 Hz	
	124	OUTPUT FREQUENCY 10000 Hz	
	125	OUTPUT FREQUENCY 11000 Hz	
	126	OUTPUT FREQUENCY 12000 Hz	
	127	OUTPUT FREQUENCY 13000 Hz	
	128	OUTPUT FREQUENCY 14000 Hz	
	129	OUTPUT FREQUENCY 15000 Hz	
	130	OUTPUT FREQUENCY 16000 Hz	
	131	OUTPUT FREQUENCY 17000 Hz	
	132	OUTPUT FREQUENCY 18000 Hz	
	133	OUTPUT FREQUENCY 19000 Hz	
	134	OUTPUT FREQUENCY 20000 Hz	

<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
17	FUNCTIONS Activated by channel SERVICE at range 245..255 and staying on desired option for 5 seconds	135..144	BOOST ON (DEFAULT)
		145..154	BOOST OFF
		155..164	RESERVED
		165..174	RESERVED
		175..184	RESERVED
		185..194	PAN NORMAL (DEFAULT)
		195..204	PAN REVERSE
		205..214	TILT NORMAL (DEFAULT)
		215..224	TILT REVERSE
		225..234	RESERVED
		235..244	STUDIO MODE ON
		245..252	STUDIO MODE OFF (DEFAULT)
		253..255	SET DEFAULTS VALUES FOR FUNCTIONS: SMOOTH = OFF GAMMA CORRECTION = QUADRATIC OUTPUT FREQUENCY = 610 Hz BOOST = ON PAN = NORMAL TILT = NORMAL STUDIO MODE = OFF
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 color from min to max
21	GREEN 1	0..255	Proportional color from min to max
22	BLUE 1	0..255	Proportional color from min to max
23	WHITE 1	0..255	Proportional color from min to max
24	RED 2	0..255	Proportional color from min to max
25	GREEN 2	0..255	Proportional color from min to max
26	BLUE 2	0..255	Proportional color from min to max
27	WHITE 2	0..255	Proportional color from min to max
28	RED 3	0..255	Proportional color from min to max
29	GREEN 3	0..255	Proportional color from min to max
30	BLUE 3	0..255	Proportional color from min to max
31	WHITE 3	0..255	Proportional color from min to max
32	RED 4	0..255	Proportional color from min to max
33	GREEN 4	0..255	Proportional color from min to max
34	BLUE 4	0..255	Proportional color from min to max
35	WHITE 4	0..255	Proportional color from min to max
36	RED 5	0..255	Proportional color from min to max
37	GREEN 5	0..255	Proportional color from min to max
38	BLUE 5	0..255	Proportional color from min to max
39	WHITE 5	0..255	Proportional color from min to max
40	RED 6	0..255	Proportional color from min to max
41	GREEN 6	0..255	Proportional color from min to max
42	BLUE 6	0..255	Proportional color from min to max
43	WHITE 6	0..255	Proportional color from min to max
44	RED 7	0..255	Proportional color from min to max
45	GREEN 7	0..255	Proportional color from min to max
46	BLUE 7	0..255	Proportional color from min to max
47	WHITE 7	0..255	Proportional color from min to max
48	RED 8	0..255	Proportional color from min to max
49	GREEN 8	0..255	Proportional color from min to max
50	BLUE 8	0..255	Proportional color from min to max
51	WHITE 8	0..255	Proportional color from min to max

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

15- DMX PROTOCOL**“SECTORS” mode: 31 DMX channels**

- 1 RED DIMMER
- 2 GREEN DIMMER
- 3 BLUE DIMMER
- 4 WHITE DIMMER
- 5 SHUTTER
- 6 DIMMER
- 7 DIMMER FINE
- 8 LINEAR CTO
- 9 MACRO
- 10 PAN
- 11 PAN FINE
- 12 TILT
- 13 TILT FINE
- 14 PAN / TILT SPEED
- 15 FPR MODE
- 16 SERVICE
- 17 FUNCTIONS
- 18 ZOOM
- 19 RESET
- 20 RED SECTOR 1
- 21 GREEN SECTOR 1
- 22 BLUE SECTOR 1
- 23 WHITE SECTOR 1
- 24 RED SECTOR 2
- 25 GREEN SECTOR 2
- 26 BLUE SECTOR 2
- 27 WHITE SECTOR 2
- 28 RED SECTOR 3
- 29 GREEN SECTOR 3
- 30 BLUE SECTOR 3
- 31 WHITE SECTOR 3

REFERENCE FOR LED SECTORS

<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
1	RED DIMMER	0..255	RED Master dimmer from min to max
2	GREEN DIMMER	0..255	GREEN Master dimmer from min to max
3	BLUE DIMMER	0..255	BLUE Master dimmer from min to max
4	WHITE DIMMER	0..255	WHITE Master dimmer 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

<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
8	LINEAR CTO	0..10	No function
		11..255	Linear control temperature correction (whites from 2700K to 8000K)
9	MACRO if MACRO = STD	0..14	No function
		15..30	COL 1: RGBW={255,000,000,000} (WITH GAMMA=LINE) RGBW={255,000,000,000} (WITH GAMMA=QUAD)
		31..46	COL 2: RGBW={255,012,000,000} (WITH GAMMA=LINE) RGBW={255,055,000,000} (WITH GAMMA=QUAD)
		47..62	COL 3: RGBW={255,113,000,000} (WITH GAMMA=LINE) RGBW={255,170,000,000} (WITH GAMMA=QUAD)
		63..78	COL 4: RGBW={255,255,000,000} (WITH GAMMA=LINE) RGBW={255,255,000,000} (WITH GAMMA=QUAD)
		79..94	COL 5: RGBW={113,255,000,000} (WITH GAMMA=LINE) RGBW={170,255,000,000} (WITH GAMMA=QUAD)
		95..110	COL 6: RGBW={012,255,000,000} (WITH GAMMA=LINE) RGBW={055,255,000,000} (WITH GAMMA=QUAD)
		111..126	COL 7: RGBW={000,255,000,000} (WITH GAMMA=LINE) RGBW={000,255,000,000} (WITH GAMMA=QUAD)
		127..142	COL 8: RGBW={000,255,012,000} (WITH GAMMA=LINE) RGBW={000,255,055,000} (WITH GAMMA=QUAD)
		143..158	COL 9: RGBW={000,255,113,000} (WITH GAMMA=LINE) RGBW={000,255,170,000} (WITH GAMMA=QUAD)
		159..174	COL 10: RGBW={000,255,255,000} (WITH GAMMA=LINE) RGBW={000,255,255,000} (WITH GAMMA=QUAD)
		175..190	COL 11: RGBW={000,113,255,000} (WITH GAMMA=LINE) RGBW={000,170,255,000} (WITH GAMMA=QUAD)
		191..206	COL 12: RGBW={000,012,255,000} (WITH GAMMA=LINE) RGBW={000,055,255,000} (WITH GAMMA=QUAD)
		207..222	COL 13: RGBW={000,000,255,000} (WITH GAMMA=LINE) RGBW={000,000,255,000} (WITH GAMMA=QUAD)
		223..238	COL 14: RGBW={012,000,255,000} (WITH GAMMA=LINE) RGBW={055,000,255,000} (WITH GAMMA=QUAD)
		239..254	COL 15: RGBW={113,000,255,000} (WITH GAMMA=LINE) RGBW={170,000,255,000} (WITH GAMMA=QUAD)
255	COL 16: RGBW={255,000,255,000} (WITH GAMMA=LINE) RGBW={255,000,255,000} (WITH GAMMA=QUAD)		
9	MACRO if MACRO = EXT	0..14	No function
		15..24	COL 1: RGBW={255,000,000,000} (WITH GAMMA=LINE) RGBW={255,000,000,000} (WITH GAMMA=QUAD)
		25..34	COL 2: RGBW={255,012,000,000} (WITH GAMMA=LINE) RGBW={255,055,000,000} (WITH GAMMA=QUAD)
		35..44	COL 3: RGBW={255,113,000,000} (WITH GAMMA=LINE) RGBW={255,170,000,000} (WITH GAMMA=QUAD)
		45..54	COL 4: RGBW={255,255,000,000} (WITH GAMMA=LINE) RGBW={255,255,000,000} (WITH GAMMA=QUAD)
		55..64	COL 5: RGBW={113,255,000,000} (WITH GAMMA=LINE) RGBW={170,255,000,000} (WITH GAMMA=QUAD)
		65..74	COL 6: RGBW={012,255,000,000} (WITH GAMMA=LINE) RGBW={055,255,000,000} (WITH GAMMA=QUAD)
		75..84	COL 7: RGBW={000,255,000,000} (WITH GAMMA=LINE) RGBW={000,255,000,000} (WITH GAMMA=QUAD)
		85..94	COL 8: RGBW={000,255,012,000} (WITH GAMMA=LINE) RGBW={000,255,055,000} (WITH GAMMA=QUAD)
		95..104	COL 9: RGBW={000,255,113,000} (WITH GAMMA=LINE) RGBW={000,255,170,000} (WITH GAMMA=QUAD)
		105..114	COL 10: RGBW={000,255,255,000} (WITH GAMMA=LINE) RGBW={000,255,255,000} (WITH GAMMA=QUAD)
		115..124	COL 11: RGBW={000,113,255,000} (WITH GAMMA=LINE) RGBW={000,170,255,000} (WITH GAMMA=QUAD)
		125..134	COL 12: RGBW={000,012,255,000} (WITH GAMMA=LINE) RGBW={000,055,255,000} (WITH GAMMA=QUAD)
		135..144	COL 13: RGBW={000,000,255,000} (WITH GAMMA=LINE) RGBW={000,000,255,000} (WITH GAMMA=QUAD)
		145..154	COL 14: RGBW={012,000,255,000} (WITH GAMMA=LINE) RGBW={055,000,255,000} (WITH GAMMA=QUAD)
		155..164	COL 15: RGBW={113,000,255,000} (WITH GAMMA=LINE) RGBW={170,000,255,000} (WITH GAMMA=QUAD)
		165..174	COL 16: RGBW={255,000,255,000} (WITH GAMMA=LINE) RGBW={255,000,255,000} (WITH GAMMA=QUAD)
		175..184	Rainbow: a new colour every 6 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)
		185..194	Rainbow: a new colour every 15 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)
		195..204	Rainbow: a new colour every 30 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)
205..214	Rainbow: a new colour every 45 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		
215..224	Rainbow: a new colour every 60 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		
225..234	Rainbow: a new colour every 120 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		
235..244	Rainbow: a new colour every 150 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		
245..255	Rainbow: a new colour every 180 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		

<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
10	PAN	0..255	PAN msb
11	PAN FINE	0..255	PAN lsb
12	TILT	0..255	TILT msb
13	TILT FINE	0..255	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 MODE	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	0..10	No function
		11..244	Reserved
		245..255	Activating "FUNCTIONS" channel
17	FUNCTIONS Activated by channel SERVICE at range 245..255 and staying on desired option for 5 seconds	0..14	No function
		15..24	SMOOTH OFF (DEFAULT)
		25..26	SMOOTH 1 (50 ms)
		27..28	SMOOTH 2 (100 ms)
		29..30	SMOOTH 3 (150 ms)
		31..32	SMOOTH 4 (200 ms)
		33..34	SMOOTH 5 (250 ms)
		35..36	SMOOTH 6 (300 ms)
		37..38	SMOOTH 7 (350 ms)
		39..40	SMOOTH 8 (400 ms)
		41..42	SMOOTH 9 (450 ms)
		43..44	SMOOTH 10 (500 ms)
		45..46	SMOOTH 11 (550 ms)
		47..48	SMOOTH 12 (600 ms)
		49..50	SMOOTH 13 (650 ms)
		51..52	SMOOTH 14 (700 ms)
		53..54	SMOOTH 15 (750 ms)
		55..56	SMOOTH 16 (800 ms)
		57..58	SMOOTH 17 (850 ms)
		59..60	SMOOTH 18 (900 ms)
61..62	SMOOTH 19 (950 ms)		
63..64	SMOOTH 20 (1000 ms)		

<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
17	FUNCTIONS Activated by channel SERVICE at range 245..255 and staying on desired option for 5 seconds	65..74	GAMMA CORRECTION QUADRATIC (DEFAULT)
		75..84	GAMMA CORRECTION LINEAR
		85..104	OUTPUT FREQUENCY 610 Hz (DEFAULT)
		105	OUTPUT FREQUENCY 800 Hz
		106	OUTPUT FREQUENCY 1000 Hz
		107	OUTPUT FREQUENCY 1500 Hz
		108	OUTPUT FREQUENCY 2000 Hz
		109	OUTPUT FREQUENCY 2500 Hz
		110	OUTPUT FREQUENCY 3000 Hz
		111	OUTPUT FREQUENCY 3500 Hz
		112	OUTPUT FREQUENCY 4000 Hz
		113	OUTPUT FREQUENCY 4500 Hz
		114	OUTPUT FREQUENCY 5000 Hz
		115	OUTPUT FREQUENCY 5500 Hz
		116	OUTPUT FREQUENCY 6000 Hz
		117	OUTPUT FREQUENCY 6500 Hz
		118	OUTPUT FREQUENCY 7000 Hz
		119	OUTPUT FREQUENCY 7500 Hz
		120	OUTPUT FREQUENCY 8000 Hz
		121	OUTPUT FREQUENCY 8500 Hz
		122	OUTPUT FREQUENCY 9000 Hz
		123	OUTPUT FREQUENCY 9500 Hz
		124	OUTPUT FREQUENCY 10000 Hz
		125	OUTPUT FREQUENCY 11000 Hz
		126	OUTPUT FREQUENCY 12000 Hz
		127	OUTPUT FREQUENCY 13000 Hz
		128	OUTPUT FREQUENCY 14000 Hz
		129	OUTPUT FREQUENCY 15000 Hz
		130	OUTPUT FREQUENCY 16000 Hz
		131	OUTPUT FREQUENCY 17000 Hz
		132	OUTPUT FREQUENCY 18000 Hz
		133	OUTPUT FREQUENCY 19000 Hz
		134	OUTPUT FREQUENCY 20000 Hz
		135..144	BOOST ON (DEFAULT)
145..154	BOOST OFF		
155..164	RESERVED		
165..174	RESERVED		
175..184	RESERVED		
185..194	PAN NORMAL (DEFAULT)		
195..204	PAN REVERSE		
205..214	TILT NORMAL (DEFAULT)		
215..224	TILT REVERSE		
225..234	RESERVED		
235..244	STUDIO MODE ON		
245..252	STUDIO MODE OFF (DEFAULT)		
253..255	SET DEFAULTS VALUES FOR FUNCTIONS: SMOOTH = OFF GAMMA CORRECTION = QUADRATIC OUTPUT FREQUENCY = 610 Hz BOOST = ON PAN = NORMAL TILT = NORMAL STUDIO MODE = OFF		

<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
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 SECTOR 1	0..255	Proportional color from min to max
21	GREEN SECTOR 1	0..255	Proportional color from min to max
22	BLUE SECTOR 1	0..255	Proportional color from min to max
23	WHITE SECTOR 1	0..255	Proportional color from min to max
24	RED SECTOR 2	0..255	Proportional color from min to max
25	GREEN SECTOR 2	0..255	Proportional color from min to max
26	BLUE SECTOR 2	0..255	Proportional color from min to max
27	WHITE SECTOR 2	0..255	Proportional color from min to max
28	RED SECTOR 3	0..255	Proportional color from min to max
29	GREEN SECTOR 3	0..255	Proportional color from min to max
30	BLUE SECTOR 3	0..255	Proportional color from min to max
31	WHITE SECTOR 3	0..255	Proportional color from min to max

15- DMX PROTOCOL**“COMPATIBILITY” mode: 20 DMX channels**

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	ZOOM SPEED
20	RESET

<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
1	PAN	0..255	PAN msb
2	PAN FINE	0..255	PAN lsb
3	TILT	0..255	TILT msb
4	TILT FINE	0..255	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		

<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
7	FREQUENCY	0..45	No function
		46..55	610 Hz (Default)
		56..65	800 Hz
		66..75	1000 Hz
		76..85	1500 Hz
		86..95	2000 Hz
		96..105	2500 Hz
		106..115	3000 Hz
		116..125	3500 Hz
		126..135	4000 Hz
		136..145	4500 Hz
		146..155	5000 Hz
		156..165	5500 Hz
		166..175	6000 Hz
		176..185	6500 Hz
		186..195	7000 Hz
		196..205	7500 Hz
206..215	8000 Hz		
216..225	8500 Hz		
226..235	9000 Hz		
236..245	9500 Hz		
246..255	10000 Hz		
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 and White at full)
		106..155	DTS White (R 216, G 255, B 216, W 255)
		156..205	Custom white create (RGBW levels selectable by DMX)
		206..255	White CTC (channel 15 CTC enabled)
15	CTC	0..255	Linear control temperature correction (256 whites from 2700K to 8000K)
16	MACRO if MACRO = STD	0..14	No function
		15..30	COL 1: RGBW={255,000,000,000} (WITH GAMMA=LINE) RGBW={255,000,000,000} (WITH GAMMA=QUAD)
		31..46	COL 2: RGBW={255,012,000,000} (WITH GAMMA=LINE) RGBW={255,055,000,000} (WITH GAMMA=QUAD)
		47..62	COL 3: RGBW={255,113,000,000} (WITH GAMMA=LINE) RGBW={255,170,000,000} (WITH GAMMA=QUAD)
		63..78	COL 4: RGBW={255,255,000,000} (WITH GAMMA=LINE) RGBW={255,255,000,000} (WITH GAMMA=QUAD)
		79..94	COL 5: RGBW={113,255,000,000} (WITH GAMMA=LINE) RGBW={170,255,000,000} (WITH GAMMA=QUAD)
		95..110	COL 6: RGBW={012,255,000,000} (WITH GAMMA=LINE) RGBW={055,255,000,000} (WITH GAMMA=QUAD)
		111..126	COL 7: RGBW={000,255,000,000} (WITH GAMMA=LINE) RGBW={000,255,000,000} (WITH GAMMA=QUAD)
		127..142	COL 8: RGBW={000,255,012,000} (WITH GAMMA=LINE) RGBW={000,255,055,000} (WITH GAMMA=QUAD)
		143..158	COL 9: RGBW={000,255,113,000} (WITH GAMMA=LINE) RGBW={000,255,170,000} (WITH GAMMA=QUAD)
159..174	COL 10: RGBW={000,255,255,000} (WITH GAMMA=LINE) RGBW={000,255,255,000} (WITH GAMMA=QUAD)		

<i>Ch</i>	<i>Name</i>	<i>DMX levels</i>	
16	MACRO if MACRO = STD	175..190	COL 11: RGBW={000,113,255,000} (WITH GAMMA=LINE) RGBW={000,170,255,000} (WITH GAMMA=QUAD)
		191..206	COL 12: RGBW={000,012,255,000} (WITH GAMMA=LINE) RGBW={000,055,255,000} (WITH GAMMA=QUAD)
		207..222	COL 13: RGBW={000,000,255,000} (WITH GAMMA=LINE) RGBW={000,000,255,000} (WITH GAMMA=QUAD)
		223..238	COL 14: RGBW={012,000,255,000} (WITH GAMMA=LINE) RGBW={055,000,255,000} (WITH GAMMA=QUAD)
		239..254	COL 15: RGBW={113,000,255,000} (WITH GAMMA=LINE) RGBW={170,000,255,000} (WITH GAMMA=QUAD)
		255	COL 16: RGBW={255,000,255,000} (WITH GAMMA=LINE) RGBW={255,000,255,000} (WITH GAMMA=QUAD)
16	MACRO if MACRO = EXT	0..14	No function
		15..24	COL 1: RGBW={255,000,000,000} (WITH GAMMA=LINE) RGBW={255,000,000,000} (WITH GAMMA=QUAD)
		25..34	COL 2: RGBW={255,012,000,000} (WITH GAMMA=LINE) RGBW={255,055,000,000} (WITH GAMMA=QUAD)
		35..44	COL 3: RGBW={255,113,000,000} (WITH GAMMA=LINE) RGBW={255,170,000,000} (WITH GAMMA=QUAD)
		45..54	COL 4: RGBW={255,255,000,000} (WITH GAMMA=LINE) RGBW={255,255,000,000} (WITH GAMMA=QUAD)
		55..64	COL 5: RGBW={113,255,000,000} (WITH GAMMA=LINE) RGBW={170,255,000,000} (WITH GAMMA=QUAD)
		65..74	COL 6: RGBW={012,255,000,000} (WITH GAMMA=LINE) RGBW={055,255,000,000} (WITH GAMMA=QUAD)
		75..84	COL 7: RGBW={000,255,000,000} (WITH GAMMA=LINE) RGBW={000,255,000,000} (WITH GAMMA=QUAD)
		85..94	COL 8: RGBW={000,255,012,000} (WITH GAMMA=LINE) RGBW={000,255,055,000} (WITH GAMMA=QUAD)
		95..104	COL 9: RGBW={000,255,113,000} (WITH GAMMA=LINE) RGBW={000,255,170,000} (WITH GAMMA=QUAD)
		105..114	COL 10: RGBW={000,255,255,000} (WITH GAMMA=LINE) RGBW={000,255,255,000} (WITH GAMMA=QUAD)
		115..124	COL 11: RGBW={000,113,255,000} (WITH GAMMA=LINE) RGBW={000,170,255,000} (WITH GAMMA=QUAD)
		125..134	COL 12: RGBW={000,012,255,000} (WITH GAMMA=LINE) RGBW={000,055,255,000} (WITH GAMMA=QUAD)
		135..144	COL 13: RGBW={000,000,255,000} (WITH GAMMA=LINE) RGBW={000,000,255,000} (WITH GAMMA=QUAD)
		145..154	COL 14: RGBW={012,000,255,000} (WITH GAMMA=LINE) RGBW={055,000,255,000} (WITH GAMMA=QUAD)
		155..164	COL 15: RGBW={113,000,255,000} (WITH GAMMA=LINE) RGBW={170,000,255,000} (WITH GAMMA=QUAD)
		165..174	COL 16: RGBW={255,000,255,000} (WITH GAMMA=LINE) RGBW={255,000,255,000} (WITH GAMMA=QUAD)
		175..184	Rainbow: a new colour every 6 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)
		185..194	Rainbow: a new colour every 15 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)
		195..204	Rainbow: a new colour every 30 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)
		205..214	Rainbow: a new colour every 45 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)
215..224	Rainbow: a new colour every 60 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		
225..234	Rainbow: a new colour every 120 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		
235..244	Rainbow: a new colour every 150 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		
245..255	Rainbow: a new colour every 180 s (RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA)		
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	0..255	Linear Zoom from narrow to wide
19	ZOOM SPEED	0..10	Standard
		11..25	Max 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
20	RESET	0..15	No function
		16..75	PAN TILT reset
		76..239	ZOOM reset
		240..255	TOTAL Unit reset

NOTES

NOTES

PROUDLY
MADE IN ITALY



DTS products are designed
and manufactured at the
DTS plants in Italy



ISO 9001:2008

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

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