

# ALCHEMY 5



USER'S MANUAL rel. 1.5 GB



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**1- SYMBOLS**

Graphic symbols used on this manual:



**THIS SYMBOL INDICATES A HOT SURFACE**



**THIS SYMBOL INDICATES ELECTRIC SHOCK RISK**



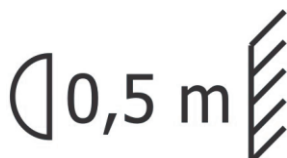
**THIS SYMBOL INDICATES GENERAL RISK**



**THIS SYMBOL MEANS “SUITABLE FOR INDOOR USE ONLY”**

$t_a$  45°C

**THIS SYMBOL INDICATES THE MAXIMUM OPERATING AMBIENT TEMPERATURE**



**THIS SYMBOL INDICATES THE MINIMUM DISTANCE FROM THE OBJECTS AND THE PEOPLE LIT BY THE LIGHT BEAM**



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



**THIS SYMBOL INDICATES PHOTOBIOLOGICAL SAFETY**

Risk Group 2



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



LiFePO4

**THIS SYMBOL MEANS “DISPOSE THE INTERNAL BATTERY AT THE END OF ITS LIFE ACCORDING TO THE REGULATION IN FORCE”**

## **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 unit is not for household use and must be installed by a qualified electrician or experienced person.

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.

The warranty covers defects in materials and workmanship. The warranty is not applicable where a defect is caused by misuse or unauthorised repair of the product.

**Any functional or/and physical modification of the product is not allowed.**

## **4- TECHNICAL FEATURES**

### **DTS Product Code:**

03.MW009    ALCHEMY 5

### **OUTPUT**

- Multi-chip LED source
- 10.800 Lumen output
- CRI: up to 98
- TLCI: up to 96
- LED lifespan: 20.000 hours (70% lumen output)

### **OPTICAL GROUP**

- 10° - 47° linear zoom
- Ø 250 mm Fresnel lens
- Beam shaper (2x1 ratio) with endless rotation; indexable
- 2 frost filters (light and heavy) insertable via DMX
- Retractable 'top hat'

### **COLOR GENERATION**

- 6-color LED engine
- Linear CCT (1800K – 10000K)
- Linear 'Green saturation'
- 100 gel filters emulation:
  - Linear balance from gel filters emulation to white
  - Linear balance between gel filters emulation
  - True color of gel filters emulation at any CCT values
- Extra deep colors
- Color mixing by 6-color 'Advanced' mode
- Deep blue and Deep red filters (DMX-selectable)

## DIMMER

- Hi-Q Dimming technology
- Tungsten emulation function (not yet implemented)

## CONTROL

- Art-Net 4, sACN, RDM/DMX 512 protocols



Art-Net™ Designed by and Copyright Artistic Licence Holdings Ltd

- LCD graphic display + 4 soft keys; Auto-flip; Key-lock function
- 'Standard' and 'Silent' operation modes
  - Noise level at Silent mode: 37 dBA @ 1 m (normal operation, full power)
- Internal operating system updatable via DTS dongle firmware uploader
- Li-Fe backup battery for controlling the display settings even when the unit is not powered

## DMX

- 5 DMX modes:
  - 1. CCT (default)
  - 2. Advanced
  - 3. Basic
  - 4. Expo
  - 5. CMY Emulation

## PAN & TILT

- Pan 540° (3.8 sec.)
- Tilt 220° (2.1 sec.)
- 16-bit resolution
- Pan / Tilt lock

## POWER SUPPLY

- Full-range 100-277Vac 50-60 Hz
- Power consumption: 450W max
- Power Factor: PF >0.90

## CONNECTIONS

- Power supply: powerCON TRUE1 In/Out panel connectors
- DMX: XLR 3-pole and 5-pole In/Out panel connectors
- Art-Net / sACN: etherCON RJ45 panel connector

## INTERNAL SAFETY DEVICES

Overvoltage and overtemperature circuits protection

## OPERATING TEMPERATURE

-10° / 45°C

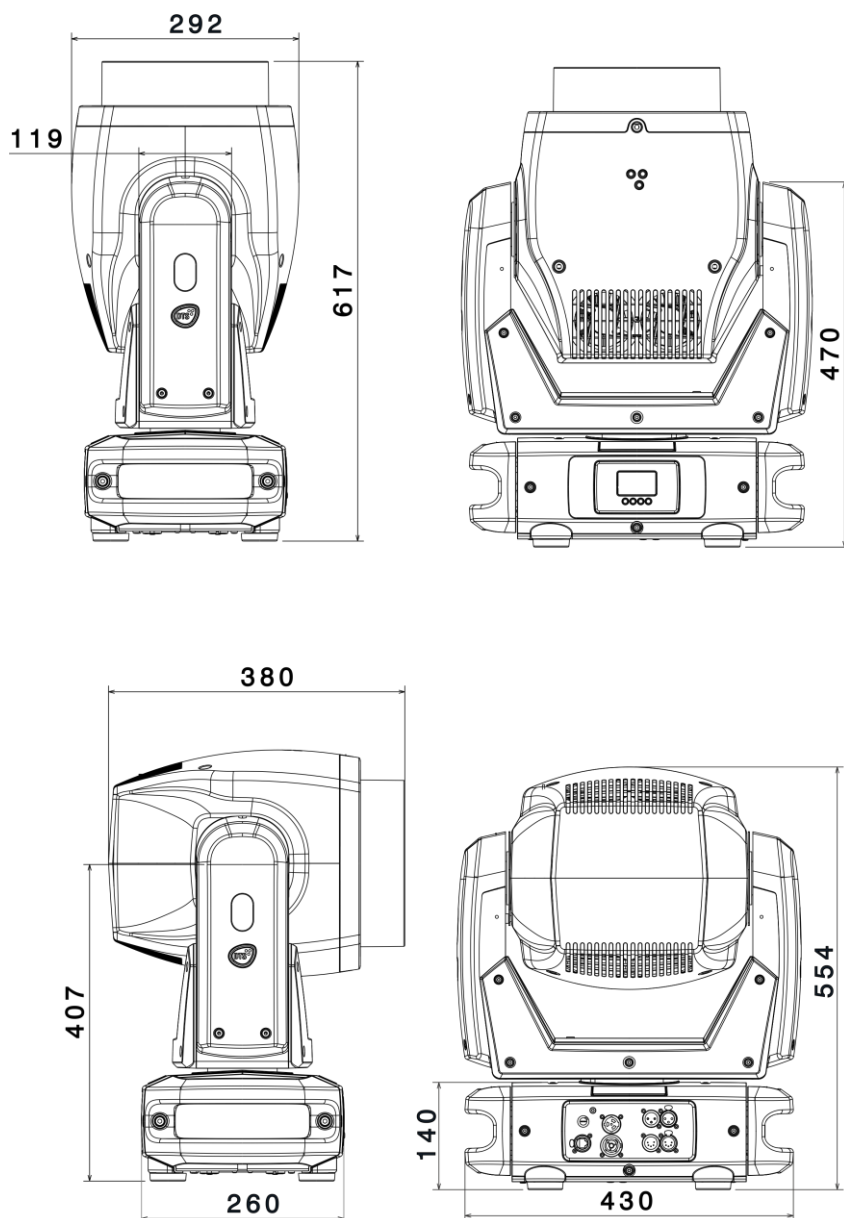
## PHYSICAL

- IP20
- Weight: 26.5 Kg
- Finishing: Black

## CERTIFICATIONS



## **DIMENSIONS**



## **5- ACCESSORIES**

### **As standard**

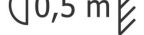
- 1 x Alchemy EZ-shell – 550x490x670 mm – 2 pcs needed in each flightcase (Code 0512K152.1)
- 1 x Cable with PowerCON TRUE1 female connector (Code 02K0012267.0015)
- 2 x Omega clamp with “Fast Lock” connection 1/4 turn (Code 02K00549)
- 1 x User’s manual

### **Optional (on request)**

- Flightcase for 2 units (Code 0521C073)
- Aliscap clamp for tube diameter 48-51 mm (Max load 200 Kg) (code 0521A033)  
(indicated for any kind of loads vertical / horizontal)
- Professional Quick trigger clamp (Max load 100 Kg) (code 0521A037) (not indicated for horizontal load)
- Safety cable 5 x 600 mm (Max load 60 Kg) (code 0521A038)
- DTS Dongle firmware uploader (code 03.LA.206)

## 6- IMPORTANT SAFETY INFORMATION

### 6.1 Fire prevention:

- Minimum distance from the objects and the people lit by the light beam: 0,5 m. 
- Replace any blown or damaged fuses only with those of identical value (T 8A 250V). Refer to the wiring diagrams 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 ALCHEMY 5 requires the assistance of specialised personnel for all servicing. Please refer to an authorised DTS service centre.
- A good earth connection is essential for proper functioning of the projector.
- Never connect the unit without proper earth connection.
- The fixture should be located in places with a good air ventilation.

### 6.3 Safety:



- Risk Group 2 product according to EN 62471.  Risk Group 2
- CAUTION. Do not look directly into the light output and do not view the light beam with optical instruments or any device that may concentrate the beam.
- May be harmful to the eyes and skin.

- Do not stare at the operating light source. 
- The luminaire should be positioned so that prolonged staring into the luminaire at a distance of 38,9 m is not expected.
- The light source contained in this luminaire shall only be replaced by the manufacturer or his service agent or a similar qualified person.
- The unit is not for household use and must be installed by a qualified electrician or experienced 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 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 5 minutes have elapsed since the unit was turned off.
- Never install the fixture in an enclosed area lacking sufficient air flow. 

The ambient temperature should not exceed 45°C.  $t_a$  45°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 IP20.

Suitable for indoor use only.



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



- The projector, accessories and packaging should be sorted for environmental-friendly recycling.

For EC countries: according to the European Directive 2012/19/EU 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.

### 6.6 Long-life auto-charging buffer battery:



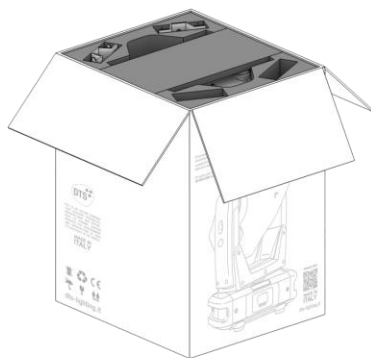
- The projector contains a rechargeable lead-acid or lithium iron tetraphosphate battery.
- To preserve the environment, please dispose the battery at the end of its life according to the regulation in force.



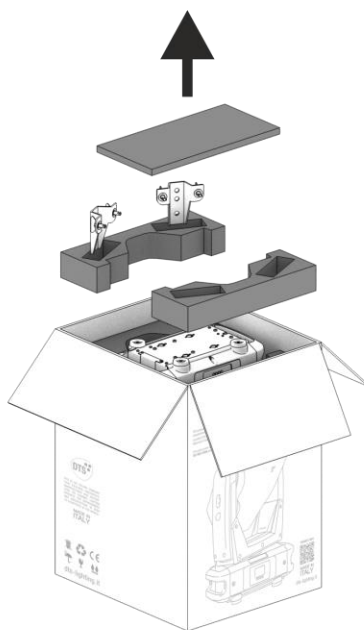
## **7- EZ-SHELL**

How to reuse foam EZ-shell:

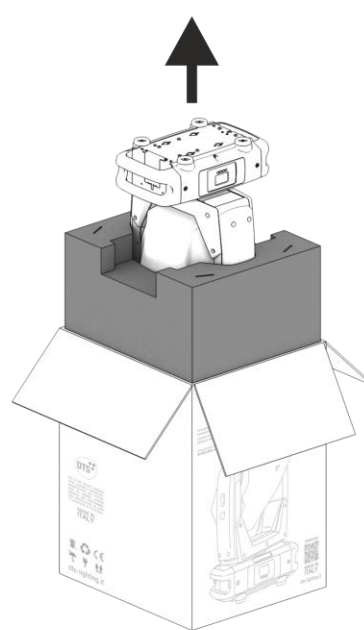
1) Open



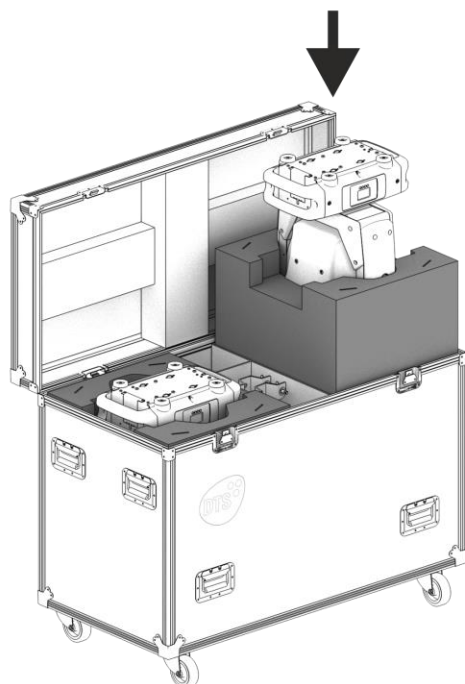
2) Extract cover and accessories



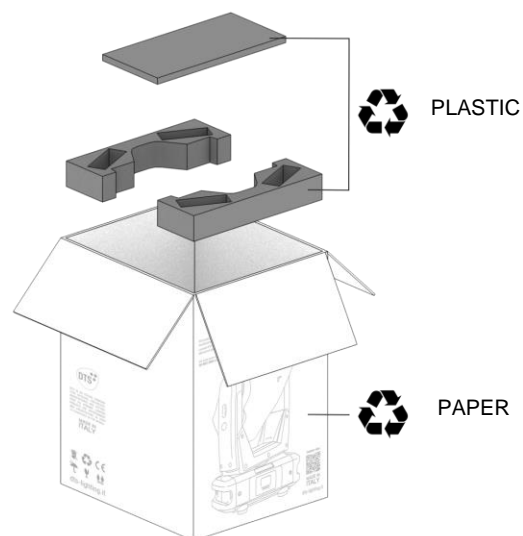
3) Extract unit and EZ-shell



4) Each flight case can contain 2 units and their EZ-shell



5) Don't forget to recycle



## **8- RETRACTABLE 'TOP HAT'**

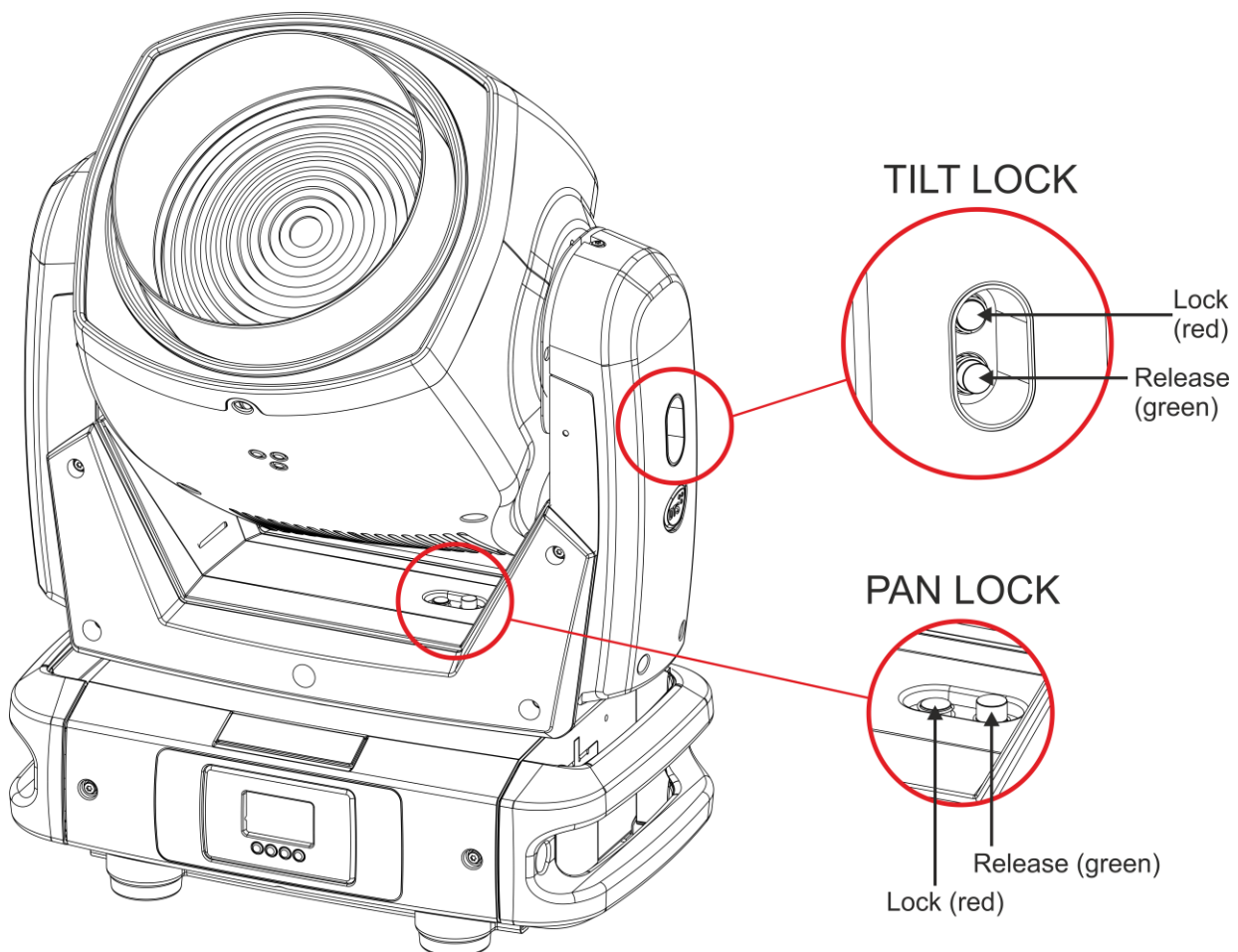
The Top hat retracts automatically when projector is switched off.



To prevent damage, DTS recommend to press for 2 seconds any display button to reset the Top hat position, before extracting the projector from the packaging.

## **9- PAN / TILT LOCK**

When moving or servicing the unit you can apply the Pan and Tilt lock.  
To lock or release the Pan and Tilt refer to the picture below.



## **10- VOLTAGE AND FREQUENCY**

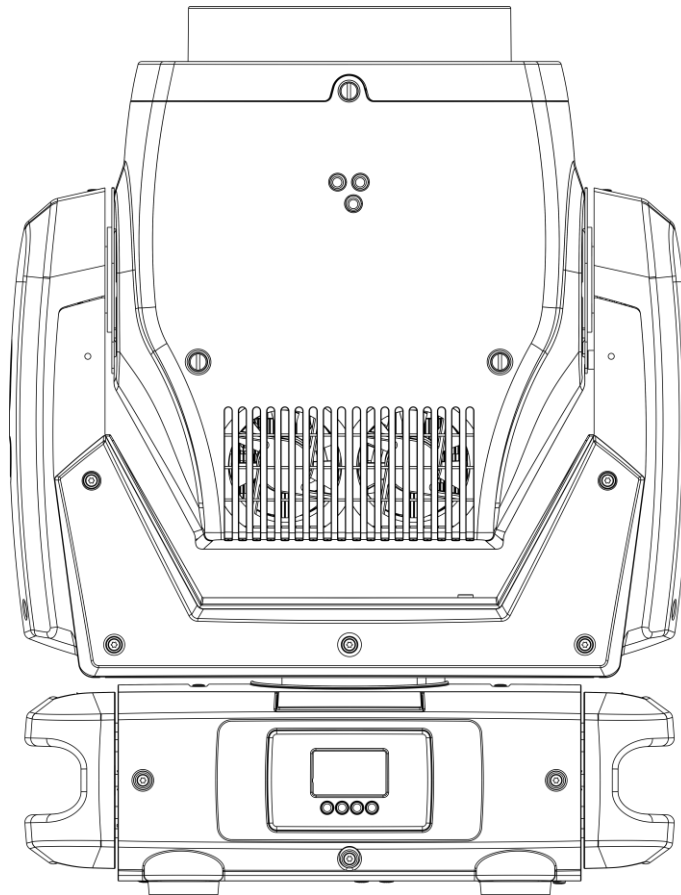
ALCHEMY 5 operates at 100-240Vac 50-60 Hz.

## **11- INSTALLATION**

The unit is suitable for dry locations only.

ALCHEMY 5 may be either floor or ceiling mounted.

For floor mounting installations, ALCHEMY 5 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 ALCHEMY 5 is moving.

Four 1/4 turn Fast Locks connections placed in the base of the unit allow to hang the ALCHEMY 5 by using two Omega brackets (provided in the box) in conjunction with Aliscaf clamp (available on demand).

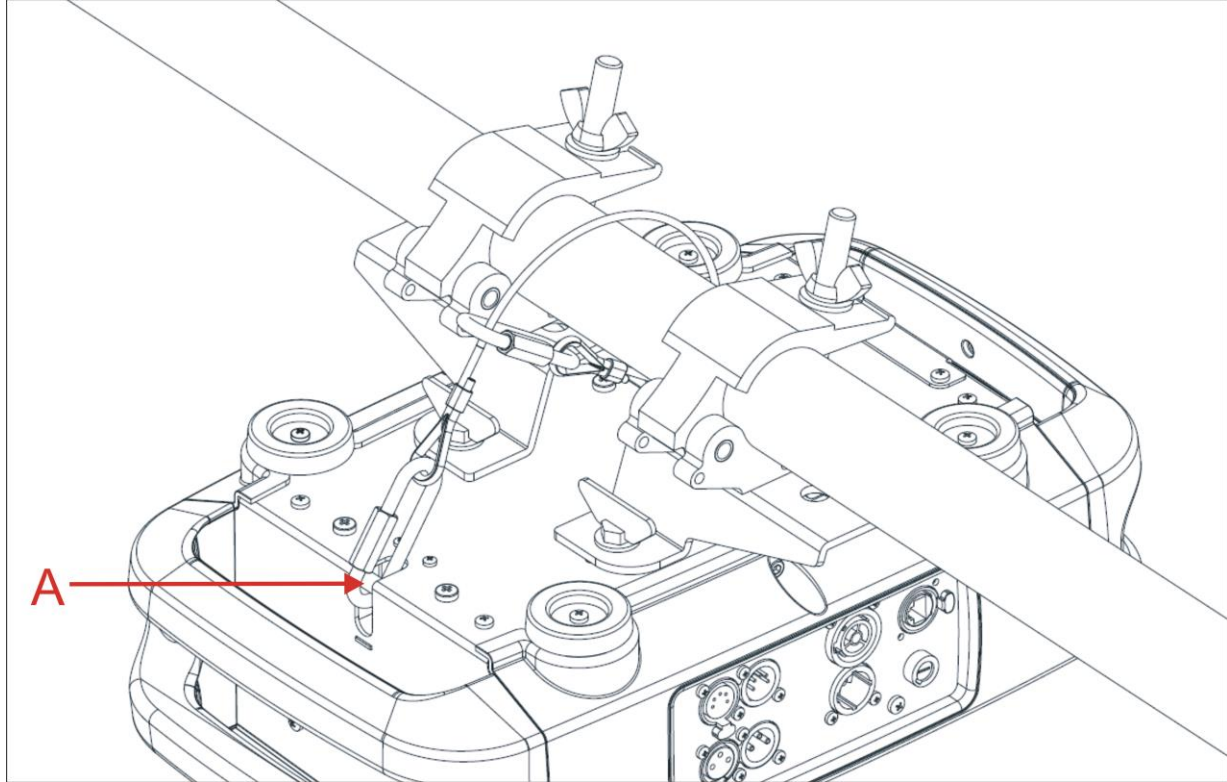
### **11.1- Safety cable**

A safety cable must be securely fixed to the ALCHEMY 5 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 or chain can bear the weight of the entire unit.

A suitable safety cable (code 0521A038) 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.



### **11.2 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.

### **11.3- Movement**

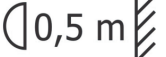
Pan: 540° rotation (3.8 sec.) ; Tilt: 220° rotation (2.1 sec.).

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



### **11.4- Risk of fire**

Each fixture produces heat and must be installed in a well-ventilated place.

Minimum distance from the objects and the people lit by the light beam: 0,5 m. 

### **11.5- Forced ventilation**

You will note, on inspection, that the unit features various air inlets and cooling fans located on both the base and head of the fixture.

These should, under no circumstances, be blocked or obstructed whilst the projector is in operation. Doing so could cause the fixture to seriously overheat thereby compromising its proper operation.

### **11.6- Ambient temperature**

The projector should never be installed in places that lack a constant air flow.

The ambient temperature should not exceed 45°C.  $t_a \leq 45^\circ\text{C}$

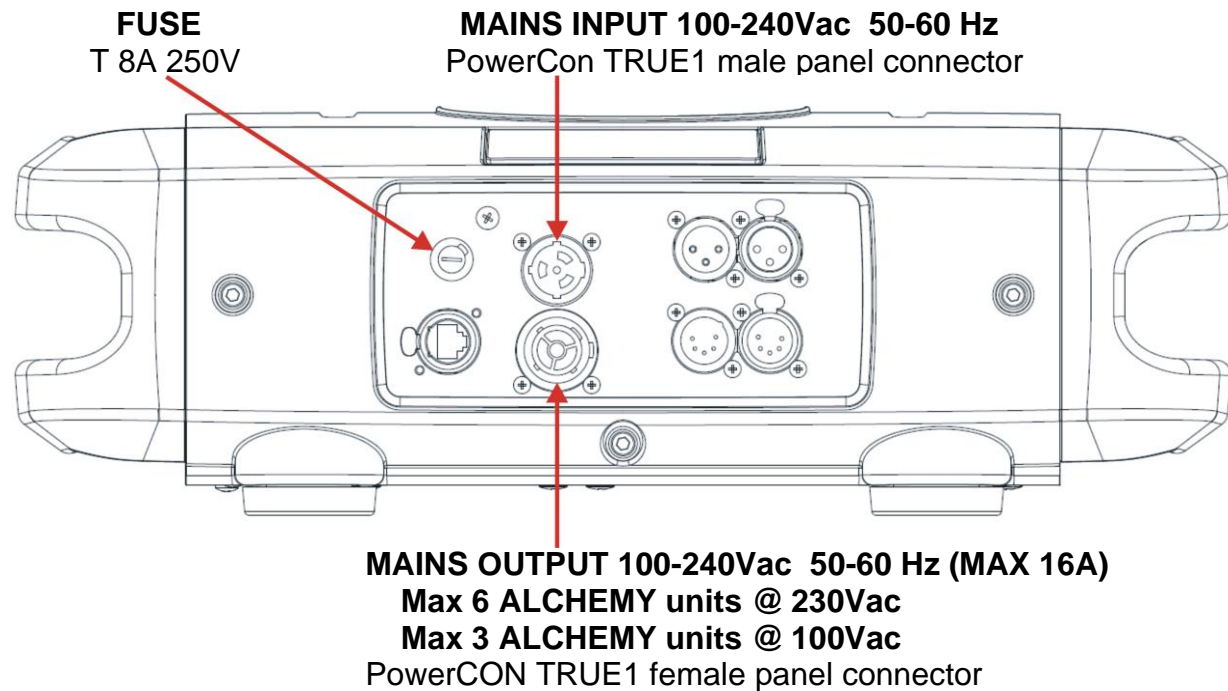
## **12- MAINS CONNECTION**

ALCHEMY 5 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 amps at 100Vac each unit connected.

Strict adherence to regulatory norms is strongly recommended.



### **11.1- Protection**



The use of a thermal magnetic circuit breaker is recommended for each ALCHEMY 5.

A good earth connection is essential for the correct operation of the projector.

### 13- DMX SIGNAL CONNECTION

The unit operates using the digital DMX 512 signal.

Connection between the mixer and the projector or between projectors must be carried out using a two pair screened  $\varnothing$  0.5 mm cable and a XLR 5 or 3 pins connector.

Ensure that the conductors do not touch each other.

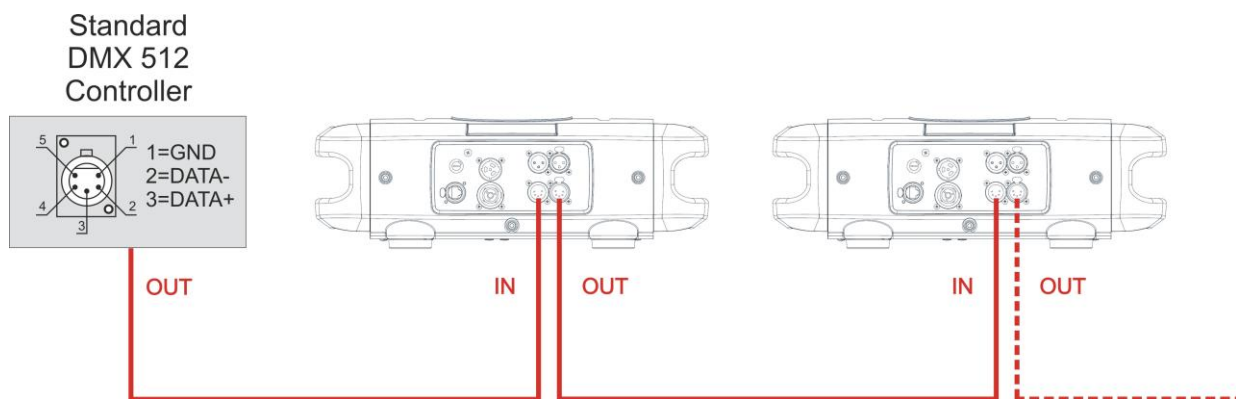
Do not connect the cable ground to the XLR chassy.

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:

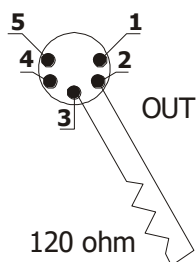
- DMX signal not present
- DMX address not valid
- DMX reception problem



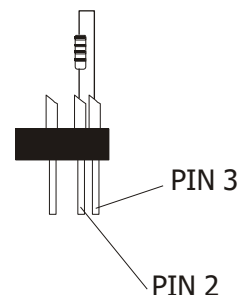
For Installations where long distance DMX cable connections are needed, we suggest to use a DMX terminator.

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 XRL CONNECTOR AND PLUG IT INTO THE DMX OUT PANEL CONNECTOR OF THE LAST UNIT CONNECTED TO THE DMX LINE





### **13.1-DMX Addresses**

ALCHEMY 5 can be used in 5 DMX modes:

1. CCT (Default)
2. Advanced
3. Basic
4. Expo
5. CMY Emulation

In order to use the unit in “CCT” mode (20 DMX channels) (Default), set the following addresses on the mixer:

Projector 1 A001

Projector 2 A021

Projector 3 A041

..... A....

projector 6 A101

If you want to select the next projector, just add “20”

### **13.2-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.

## **14- Art-Net / sACN SIGNAL CONNECTION**

The unit operates using the Art-Net / sACN signal.

Connection between the mixer and the projector must be carried out using a category 5 network cable and a standard RJ45 connector.

### **14.1-Direct Ethernet operation**

For direct Ethernet operation connect the mixer Art-Net / sACN signal via Ethernet switch to each unit etherCON RJ45 input connector.

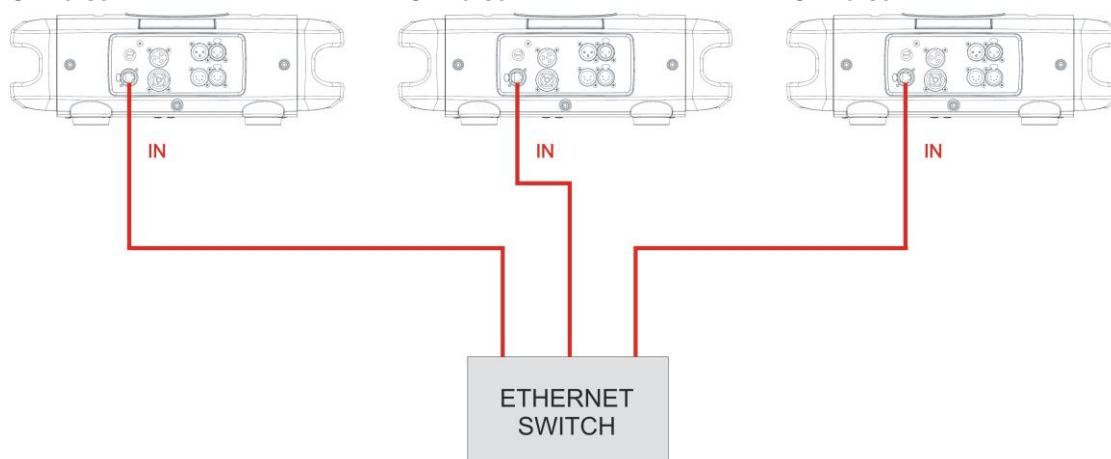
For each unit scroll till NETWORK menu (refer to DISPLAY FUNCTIONS for details):

- Select under INPUT menu “Art-Net” or “sACN” as input control signal.
- Select under IP ADDRESS MODE menu “Default” or “Static” mode.
- Select ETH TO DMX menu to OFF.
- Set the IP address and Net Mask. **IP address must be different for each unit on a network.**
- Set the Art-Net or sACN Universe.

DMX address: 1  
IP address: 002.214.192.007  
Universe: 1

DMX address: 45  
IP address: 002.214.192.008  
Universe: 1

DMX address: 89  
IP address: 002.214.192.009  
Universe: 1



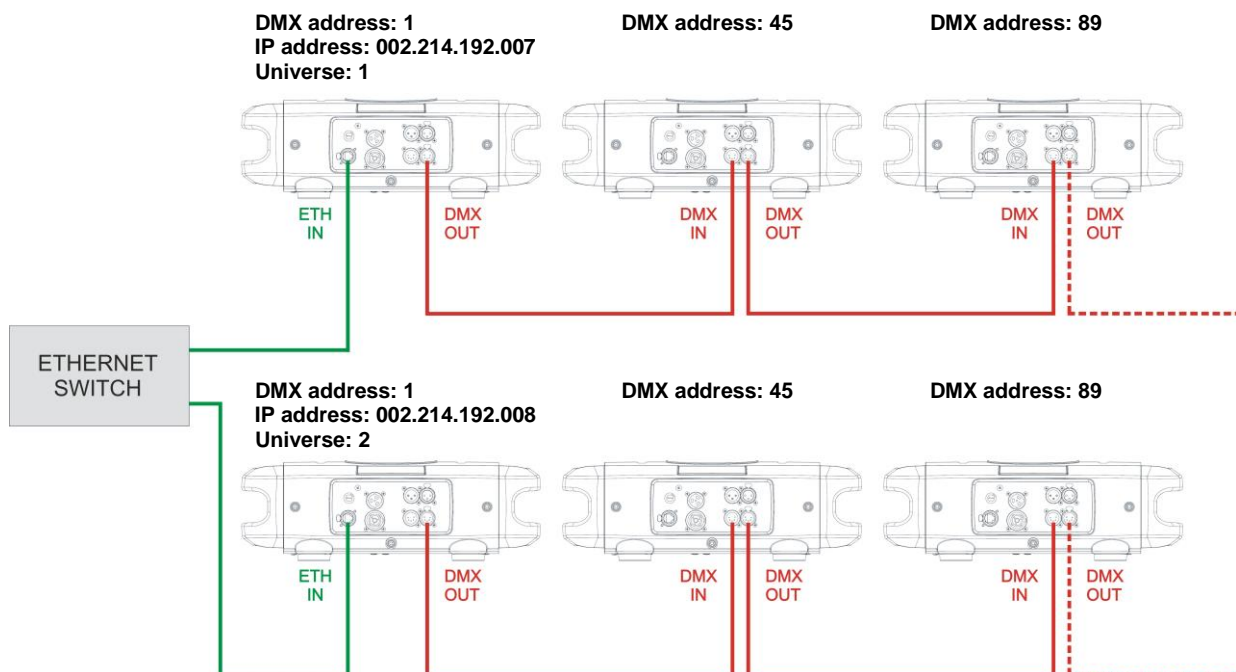
## 14.2-Ethernet to RDM/DMX operation

For Ethernet to RDM/DMX operation connect the mixer Art-Net / sACN signal via Ethernet switch to the etherCON RJ45 input connector of the first unit only. In this configuration the first unit works as an Ethernet to DMX converter and sends RDM/DMX signal to its DMX output connector.

All the other units must be connected as a DMX chain with standard DMX settings.

Only for the first unit scroll till NETWORK menu (refer to DISPLAY FUNCTIONS for details):

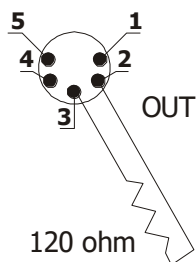
- Select under INPUT menu “Art-Net” or “sACN” as input control signal.
- Select under IP ADDRESS MODE menu “Default” or “Static” mode.
- Select ETH TO DMX menu to ON.
- Set the IP address and Net Mask. **IP address must be different for each unit on a network.**
- Set the Art-Net or sACN Universe.



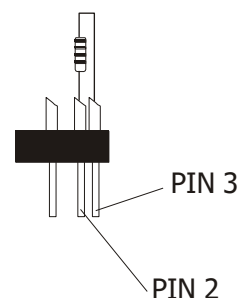
For Installations where long distance DMX cable connections are needed, we suggest to use a DMX terminator.

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





## 15- RDM FUNCTIONS

By using a RDM controller it is possible to read / set DMX address, DMX mode and other parameters. ALCHEMY 5 accepts the following RDM commands:

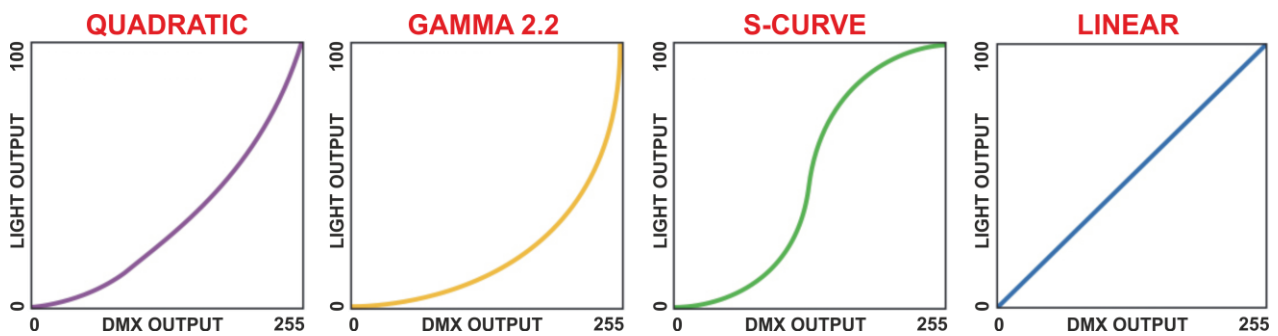
**RDM Device Model ID: 0x0016**

RDM PID DESCRIPTION	RDM PID VALUE	GET	SET
Category – Network Management			
DISC_UNIQUE_BRANCH	0x0001		
DISC_MUTE	0x0002		
DISC_UN_MUTE	0x0003		
Category – Status Collection			
STATUS_MESSAGES	0x0030	X	
STATUS_ID_DESCRIPTION	0x0031	X	
Category - RDM Information			
SUPPORTED_PARAMETERS	0x0050	X	
PARAMETERS_DESCRIPTION	0x0051	X	
Category – Product Information			
DEVICE_INFO	0x0060	X	
DEVICE_MODEL_DESCRIPTION	0x0080	X	
MANUFACTURER_LABEL	0x0081	X	
DEVICE_LABEL	0x0082	X	X
SOFTWARE_VERSION_LABEL	0x00C0	X	
Category - DMX512 Setup			
DMX_PERSONALITY	0x00E0	X	X
DMX_PERSONALITY_DESCRIPTION	0x00E1	X	
DMX_START_ADDRESS	0x00F0	X	X
Category – Sensors			
SENSOR_DEFINITION	0x0200	X	
SENSOR_VALUE	0x0201	X	X
Category – Power/Lamp Settings			
DEVICE_HOURS	0x0400	X	
LAMP_HOURS	0x0401	X	
Category – Display Settings			
DISPLAY_INVERT	0x0500	X	X
Category – Configuration			
PAN_INVERT	0x0600	X	X
TILT_INVERT	0x0601	X	X
Category – Control			
IDENTIFY_DEVICE	0x1000	X	X
Category – Dimmer Settings			
CURVE	0x0343	X	X
CURVE_DESCRIPTION	0x0344	X	
OUTPUT_RESPONSE_TIME	0x0345	X	X
OUTPUT_RESPONSE_TIME_DESCRIPTION	0x0346	X	
MODULATION_FREQUENCY	0x0347	X	X
MODULATION_FREQUENCY_DESCRIPTION	0x0348	X	
Category – Custom PID			
ETHERNET_TO_DMX	0x8000	X	X
INPUT_PRIORITY	0x8001	X	X
DISPLAY_STANDBY	0x8002	X	X

## 15- RDM FUNCTIONS

### RDM ADDITIONAL MESSAGEs:

CURVE	CURVE DESCRIPTION
1	LINEAR
2	QUADRATIC (default)
3	GAMMA 2.2
4	S-CURVE



OUTPUT RESPONSE TIME	OUTPUT_RESPONSE_TIME_DESCRIPTION
1	SMOOTH OFF
2	SMOOTH 1 ( 25 ms)
3	SMOOTH 2 ( 50 ms)
4	SMOOTH 3 ( 75 ms)
5	SMOOTH 4 (100 ms) (default)
6	SMOOTH 5 (125 ms)
7	SMOOTH 6 (150 ms)
8	SMOOTH 7 (175 ms)
9	SMOOTH 8 (200 ms)
10	SMOOTH 9 (225 ms)
11	SMOOTH 10 (250 ms)
12	SMOOTH 11 (275 ms)
13	SMOOTH 12 (300 ms)
14	SMOOTH 13 (325 ms)
15	SMOOTH 14 (350 ms)
16	SMOOTH 15 (375 ms)
17	SMOOTH 16 (400 ms)
18	SMOOTH 17 (425 ms)
19	SMOOTH 18 (450 ms)
20	SMOOTH 19 (475 ms)
21	SMOOTH 20 (500 ms)

**15- RDM FUNCTIONS****RDM ADDITIONAL MESSAGEs:**

<b>MODULATION FREQUENCY</b>	<b>MODULATION FREQUENCY DESCRIPTION</b>
1	610 Hz
2	800 Hz
3	1.000 Hz (default)
4	1.500 Hz
5	2.000 Hz
6	2.500 Hz
7	3.000 Hz
8	3.500 Hz
9	4.000 Hz
10	4.500 Hz
11	5.000 Hz

**RDM MANUFACTURER'S SPECIFIC PIDs:**

<b>RDM CUSTOM PID</b>	<b>DESCRIPTION</b>
0x8000_ETHERNET_TO_DMX	Set parameter NETWORK – ETH TO DMX 0 = OFF (default) 1 = ON
0x8001_INPUT_PRIORITY	Set parameter NETWORK – PRIORITY 0 = DMX PORT (default) 1 = ETHERNET PORT
0x8002_DISPLAY_STANDBY	Set parameter DISPLAY – STANDBY 0 = DISABLED (default) 1 = ENABLED 2 = FORCED ENABLED

## **15- RDM FUNCTIONS**

### **RDM STATUS MESSAGE IDs:**

<b>Status Message ID</b>	<b>Data Value 1</b>	<b>Data Value 2</b>	<b>Status ID Description</b>
0x8000			ERROR PAN MOTOR/ENCODER
0x8001			ERROR PAN LOCKED
0x8002			ERROR PAN ZERO SENSOR
0x8003			ERROR TILT MOTOR/ENCODER
0x8004			ERROR TILT LOCKED
0x8005			ERROR TILT ZERO SENSOR
0x8006			ERROR DMX ADDRESS
0x8007			ERROR PARAMETERS MEMORY
0x8008			ERROR SUPPLY VOLTS TOO LOW
0x8009			ERROR SUPPLY VOLTS TOO HIGH
0x800A			ERROR BUS ARTNET CARD
0x800B			ERROR BUS LED DRIVER CARD
0x800C	card number		ERROR BUS MOTORS CARD %d
0x8013			ERROR ZOOM
0x801B			ERROR EFFECTS
0x801C	prism number		ERROR PRISM %d
0x801D	prism number		ERROR PRISM %d INDEX
0x801F			ERROR TEMPERATURE LED MODULE
0x8020	sensor number		ERROR TEMPERATURE LED DRIVER %d
0x8021			ERROR TEMPERATURE MICRO
0x8022			ERROR RED
0x8023			ERROR GREEN
0x8024			ERROR BLUE
0x8025			ERROR AMBER
0x800E			ERROR CYAN
0x8026			ERROR LIME

## **16- FIRMWARE UPDATING**

To update the firmware release of the ALCHEMY 5 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 ALCHEMY 5 unit.

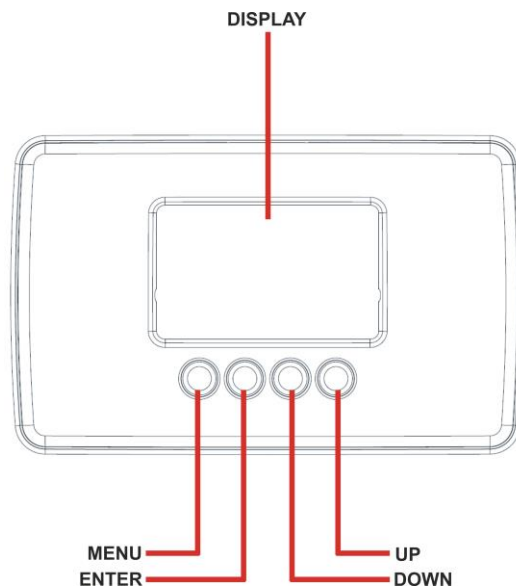
### **Updating the firmware release.**

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.

## **17- DISPLAY FUNCTIONS**



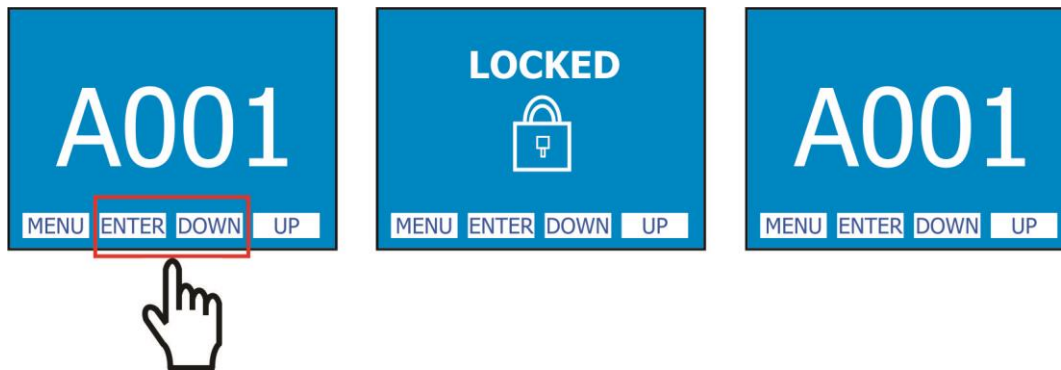
The ALCHEMY 5 display panel shows all the available control menus. Using these options, it is possible to change the fixture's setting. Changing the DTS settings can vary the functions of the unit so that it does not respond to the DMX 512 used to control it. Carefully follow the instructions below before carrying out any variations or selections.

<b>MENU</b>	<ul style="list-style-type: none"> <li>• To access the control menus in the display panel.</li> <li>• To return to the previous level in the menu structure without making a change.</li> <li>• To exit the menus.</li> </ul>
<b>ENTER</b>	<ul style="list-style-type: none"> <li>• To select any required menu.</li> <li>• To confirm any changes.</li> </ul>
<b>UP / DOWN</b>	<ul style="list-style-type: none"> <li>• To navigate the menus structure.</li> <li>• To change any value.</li> </ul>

<b>MOTORS FIRMWARE RELEASE</b>	<b>13</b>
<b>LED FIRMWARE RELEASE</b>	<b>1.01</b>
<b>RDM Device Model ID</b>	<b>0x0016</b>
<b>DMX Personality IDs</b>	<b>0x01 "CCT"</b> <b>0x02 "ADVANCED"</b> <b>0x03 "BASIC"</b> <b>0x04 "EXPO"</b> <b>0x05 "CMY EMULATION"</b>

## DISPLAY KEY-LOCK FUNCTION

Display key-lock function can be enabled/disabled by pressing ENTER + DOWN keys at the same time for 3 seconds.

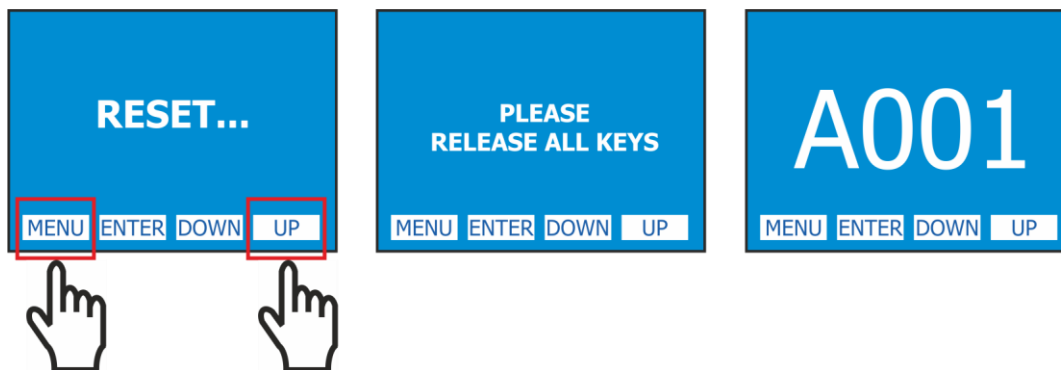


## “ZERO SKIP” FUNCTION

“ZERO SKIP” function can be activated by pressing MENU + UP keys at the same time during initial reset.

This function allows to have the display ON and all motors OFF.

Usefull when the unit is powered in the flight case and DMX address or other parameters need to be set.



MAIN MENU	LEVEL 1	LEVEL 2	LEVEL 3	FUNCTION
NETWORK	INPUT	DISABLED		Allows to disable Ethernet operation. (Default).
		ARTNET		Allows to select Art-Net as input control signal protocol.
		SACN		Allows to select sACN as input control signal protocol.
	IP ADDR MODE	DEFAULT		Allows to select the mode to set the IP address and the Net Mask. <b>Fixed IP address with manual setting of first byte only and fixed Net Mask (Default).</b>
		STATIC		Manual setting of IP address and Net Mask.
	DEFAULT IP IP 2.214.192. 7 MASK 255. 0. 0. 0			Fixed IP address and Net Mask. It is possible to set only first byte of the IP address. <b>IP address must be different for each unit on a network.</b>
	ARTNET UNIV.	00000 - 32767		Allows to set the Art-Net Universe (range 0 ÷ 32767).
	SACN UNIVERSE	00001 - 63999		Allows to set the sACN Universe (range 1 ÷ 63999).
	PRIORITY	DMX512		Allows to set the priority between input control signals when the unit is connected via DMX and via ETHERNET at the same time. <b>RDM/DMX signal has the priority on the Art-Net / sACN signal (Default).</b>
		ETHERNET		Art-Net / sACN signal has the priority on the DMX signal.
	ETH TO DMX	OFF		Allows to enable ETHERNET to RDM/DMX operation. <b>OFF = Default.</b>
		ON		In this configuration the first unit works as an Ethernet to DMX converter and sends RDM/DMX signal to its DMX output connector.
	NO SIGNAL	KEEP LAST		Allows to set the desired unit's behavior in case Art-Net or sACN signal is missing or not available. <b>Keep last valid Art-Net or sACN signal (Default).</b>
		BLACK OUT		Black-out.

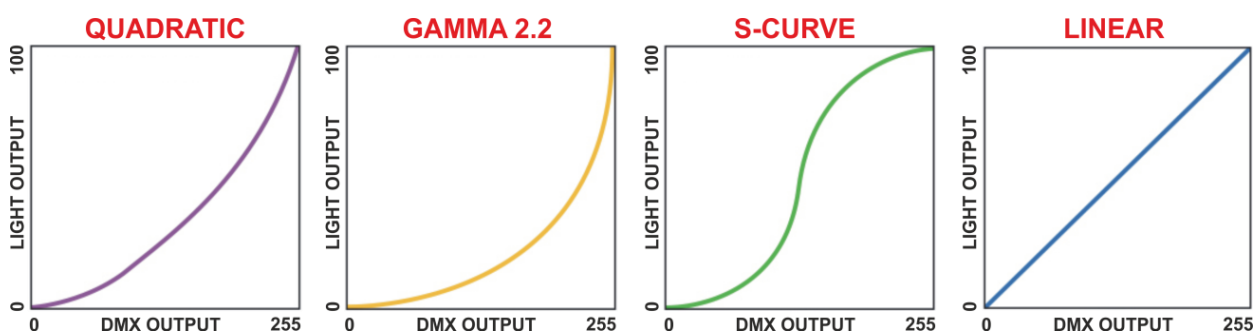
MAIN MENU	LEVEL 1	LEVEL 2	LEVEL 3	FUNCTION
PAN DIRECTION	NORMAL			Allows to set the Pan movement. Normal or Reverse. <b>Normal (Default).</b>
	REVERSE			
TILT DIRECTION	NORMAL			Allows to set the Tilt movement. Normal or Reverse. <b>Normal (Default).</b>
	REVERSE			
ZOOM DIRECTION	NORMAL			Allows to set the Zoom movement. Normal or Reverse. <b>Normal (Default).</b>
	REVERSE			
OPERATING MODE	SILENT			<b>Reduced Pan-Tilt-Zoom-Fans speed for low noise operation (Default).</b>
	STANDARD			Pan-Tilt-Zoom-Fans standard speed.
FAN MODE (FAN MODE will work relatively to OPERATING MODE)	CONSTANT			<b>Same fans speed in any working condition in SILENT or STANDARD operating mode (Default).</b>
	AUTOMATIC			Automatic fans speed.  <u>If LED temperature &lt;40°C:</u> fans OFF.  <u>If LED temperature &gt;40°C:</u> If OPERATING MODE = SILENT, fans speed is increased within the values range set in SILENT mode.  If OPERATING MODE = STANDARD, fans speed is increased within the values range set in STANDARD mode.
DISPLAY	FLIP	AUTO		Reverses display's reading depending on the mounting position. Automatic, on the ground or suspended. <b>Automatic (Default).</b>
		ON THE GROUND		
		SUSPENDED		
	STANDBY	DISABLED		<b>Display stand-by disabled (Default).</b>
		ENABLED		Display goes OFF after 5 seconds.
		FORCED EN.		Display forced OFF even if control signal is missing or error messages are shown.
	CONTRAST	20 - 35		Display contrast regulation. Range 20-35. <b>Default = 25.</b>
DMX MODE Personality	CCT 20 channels			<b>Allows to select CCT mode (20 DMX channels). Default.</b>
	ADVANCED 28 channels			Allows to select ADVANCED mode (28 DMX channels).
	BASIC 23 channels			Allows to select BASIC mode (23 DMX channels).
	EXPO 13 channels			Allows to select EXPO mode (13 DMX channels).
	CMY EMULATION 23 channels			Allows to select CMY EMULATION mode (23 DMX channels).



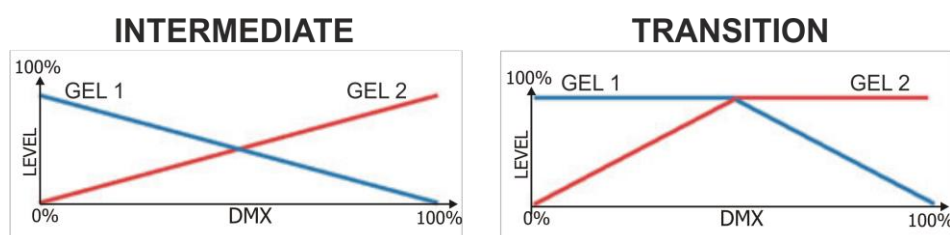
MAIN MENU	LEVEL 1	LEVEL 2	LEVEL 3	FUNCTION
NO DMX ACTION	KEEP LAST DMX			Allows to set the desired unit's behavior in case DMX signal is missing or not available. <b>Keep last valid DMX signal (Default).</b>
	PROGRAM 1-48	1 - 48		48 pre-programmed steps. Speed time values (range 0.5x – 3x) selectable by user (default 1x).
	SINGLE CUE	PAN MSB	0 - 255	Fixed cue with values selectable by user. <b>Default = 128</b>
		PAN LSB	0 - 255	<b>Default = 128</b>
		TILT MSB	0 - 255	<b>Default = 128</b>
		TILT LSB	0 - 255	<b>Default = 128</b>
		SPEED MOVEMENT	0 - 255	<b>Default = 0</b>
		SHUTTER	0 - 255	<b>Default = 15</b>
		DIMMER MSB	0 - 255	<b>Default = 255</b>
		DIMMER LSB	0 - 255	<b>Default = 255</b>
		CCT	0 - 255	<b>Default = 0</b>
		GEL LIBRARY	0 - 255	<b>Default = 0</b>
		RED	0 - 255	<b>Default = 255</b>
		GREEN	0 - 255	<b>Default = 255</b>
		BLUE	0 - 255	<b>Default = 255</b>
		AMBER	0 - 255	<b>Default = 255</b>
		CYAN	0 - 255	<b>Default = 255</b>
		LIME	0 - 255	<b>Default = 255</b>
		FROST/COL.	0 - 255	<b>Default = 0</b>
		BEAM SHAPER	0 - 255	<b>Default = 0</b>
		BEAM SHP R-I	0 - 255	<b>Default = 0</b>
		ZOOM	0 - 255	<b>Default = 128</b>
	BLACKOUT			Black-out.
RESET BY DMX	ENABLED			<b>Reset via DMX enabled (Default).</b>
	DISABLED			Reset via DMX disabled.
	NOW			Instant unit motors reset.
LED	SMOOTH	OFF - 20		Allows to select the value of delay (in ms) for DIMMER channel reaction to DMX dimming command. OFF = Instant response. <b>4 = 100 ms smooth response (Default).</b> 20 = 500 ms smooth response.

MAIN MENU	LEVEL 1	LEVEL 2	LEVEL 3	FUNCTION
LED	GAMMA CORR.	QUAD		Allows to set quadratic current output for LED (Default).
		2.2		Allows to set gamma curve 2.2 .
		S-CURVE		Allows to set S-curve to emulates light intensity characteristics of the tungsten halogen lamps.
		LINE		Allows to set linear light output.
	FREQUENCY	610 - 5000 HZ		Allows to adjust the PWM frequency value (Hz) in order to reduce flickering in the process of your camera recordings. Range = 610 Hz – 5 KHz <b>Default = 1000 Hz</b>
	TUNGSTEN EMU.	DISABLED		Allows to enable Tungsten Emulation. Variation in the dimmer intensity will affect CCT values. <b>Disabled (Default).</b> <b>Not yet implemented.</b>
		ENABLED		
	CROSSFADE	INTERMEDIATE		Allows to set Crossfade Intermediate for 'GELS X-FADE' channel 12 of "ADVANCED" DMX mode (Default).
		TRANSITION		Allows to set Crossfade Transition for 'GELS X-FADE' channel 12 of "ADVANCED" DMX mode.

### “GAMMA CORR.” GRAPHICS:



### “CROSSFADE” GRAPHICS:



MAIN MENU	LEVEL 1	LEVEL 2	LEVEL 3	FUNCTION
SYSTEM INFO	SOFTWARE	ALCHEMY 5 10 SEP 2019 MOTOR: V.13 LED:V.1.01		Unit model, motors firmware release date, Motors board and LED Driver board firmware release.
	TEMPERATURES	LED: 041°C DRV-1: 043°C DRV-2: 044°C MICRO: 040°C		LED: LED temperature monitoring. DRV-1: output 1 and output 2 of LED Driver board temperature monitoring. DRV-2: output 3 and output 4 of LED Driver board temperature monitoring. MICRO: Micro controller temperature monitoring.
	TIME COUNTERS	UNIT: 0082H DRIVER: 0080H RED: 0045H GREEN: 0068H BLUE: 0023H AMBER: 0037H CYAN: 0067H LIME: 0058H		Unit, LED Driver board and LED channels life time.
	ADDRESSES	RDM: 0710:000113F1 MAC: 70:B3:D5:D7:C3:A3		RDM and MAC IDs.
RESERVED	ENTER CODE 0 – 255 (code 100)	PAN LOCK	NO	Lock the Pan to the desired value. <b>NO = Default.</b>
			YES	
		TILT LOCK	NO	Lock the Tilt to the desired value. <b>NO = Default.</b>
			YES	
		PAN FREE	NO	Remove power to Pan motor. <b>NO = Default.</b>
			YES	
		TILT FREE	NO	Remove power to Tilt motor. <b>NO = Default.</b>
			YES	
		LOCK DETECTOR	ON	Allows to activate the Lock detector on Pan and Tilt. If for any reason there is something blocking the movement for Pan&Tilt motors during the initial reset (example unit into the flight case and power connected), it automatically will stop to reset Pan&Tilt motors after 5 seconds from the startup and a warning message (Pan locked-Tilt locked) will appear on unit display. <b>ON = Default.</b>
			OFF	
		REBOOT		Unit reboot without needing of turning OFF the unit.
		EXIT TO MAIN		Exit from Reserved menu.

MAIN MENU	LEVEL 1	LEVEL 2	LEVEL 3	FUNCTION
DEFAULT				To restore factory settings.
MANUAL CONTR.	RESET	HEAD MOTORS		To reset head motors only.
		PAN TILT		To reset Pan and Tilt only.
		ALL MOTORS		To reset all motors.
	RESTORE DEF.			To restore parameters default settings.
	PAN MSB	0 - 255		Manual mode with functions value selectable by user. <b>Default = 128</b>
	PAN LSB	0 - 255		<b>Default = 128</b>
	TILT MSB	0 - 255		<b>Default = 128</b>
	TILT LSB	0 - 255		<b>Default = 128</b>
	SPEED MOVEMENT	0 - 255		<b>Default = 0</b>
	SHUTTER	0 - 255		<b>Default = 15</b>
	DIMMER MSB	0 - 255		<b>Default = 255</b>
	DIMMER LSB	0 - 255		<b>Default = 255</b>
	CCT	0 - 255		<b>Default = 0</b>
	GEL LIBRARY	0 - 255		<b>Default = 0</b>
	RED	0 - 255		<b>Default = 255</b>
	GREEN	0 - 255		<b>Default = 255</b>
	BLUE	0 - 255		<b>Default = 255</b>
	AMBER	0 - 255		<b>Default = 255</b>
	CYAN	0 - 255		<b>Default = 255</b>
	LIME	0 - 255		<b>Default = 255</b>
	FROST/COL.	0 - 255		<b>Default = 0</b>
	BEAM SHAPER	0 - 255		<b>Default = 0</b>
	BEAM SHP R-I	0 - 255		<b>Default = 0</b>
	ZOOM	0 - 255		<b>Default = 128</b>

## 18- ERROR MESSAGES

ERROR SHOWN ON DISPLAY	APPEARS WHEN
PAN	<ul style="list-style-type: none"> <li>-Pan motor fault</li> <li>-Pan encoder fault</li> <li>-Pan motor driver on Pan&amp;Tilt PCB fault</li> <li>-Wiring connection between Pan encoder and Pan&amp;Tilt PCB fault</li> </ul>
PAN LOCKED	<ul style="list-style-type: none"> <li>-Pan locked</li> <li>-Pan motor fault</li> <li>-Pan encoder fault</li> <li>-Pan motor driver on Pan&amp;Tilt PCB fault</li> <li>-Wiring connection between Pan encoder and Pan&amp;Tilt PCB fault</li> </ul>
TILT	<ul style="list-style-type: none"> <li>-Tilt motor fault</li> <li>-Tilt encoder fault</li> <li>-Tilt motor driver on Pan&amp;Tilt PCB fault</li> <li>-Wiring connection between Tilt encoder and Pan&amp;Tilt PCB fault</li> </ul>
TILT LOCKED	<ul style="list-style-type: none"> <li>-Tilt locked</li> <li>-Tilt motor fault</li> <li>-Tilt encoder fault</li> <li>-Tilt motor driver on Pan&amp;Tilt PCB fault</li> <li>-Wiring connection between Tilt encoder and Pan&amp;Tilt PCB fault</li> </ul>
PAN ZERO SENSOR LINE	<ul style="list-style-type: none"> <li>-Pan magnet missing</li> <li>-Pan hall sensor PCB fault</li> <li>-Wiring connection between Pan hall sensor PCB and Pan&amp;Tilt PCB fault</li> </ul>
TILT ZERO SENSOR LINE	<ul style="list-style-type: none"> <li>-Tilt magnet missing</li> <li>-Tilt hall sensor PCB fault</li> <li>-Wiring connection between Tilt hall sensor PCB and Pan&amp;Tilt PCB fault</li> </ul>
TEMP. LED MOD.	LED module temperature detected under -10°C or over 80°C. Unit immediately goes in black-out.
TEMP. LED DRV 1	Output from 1 to 4 of LED Driver PCB temperature detected under -10°C or over 90°C. Unit immediately goes in black-out.
TEMP. LED DRV 2	Output from 5 to 8 of LED Driver PCB temperature detected under -10°C or over 90°C. Unit immediately goes in black-out.
TEMP. LED MICRO	Micro controller on LED Driver PCB temperature detected under -10°C or over 80°C. Unit immediately goes in black-out.
R/G/B/A/C/L OPEN (not yet implemented)	LED channel in open circuit. Unit immediately goes in black-out.
R/G/B/A/C/L SHORT (not yet implemented)	LED channel in short circuit. Unit immediately goes in black-out.
SUPPLY VOLTS TOO LOW	PCBs input voltage <46,5Vdc.
SUPPLY VOLTS TOO HIGH	PCBs input voltage >49,5Vdc.
BUS 5 MOTORS CARD	<ul style="list-style-type: none"> <li>-Pan&amp;Tilt PCB driver fault</li> <li>-5 Motors PCB driver fault</li> <li>-5 Motors PCB input voltage missing</li> <li>-Internal Bus wiring connection fault</li> </ul>
BUS LED DRIVER CARD	<ul style="list-style-type: none"> <li>-Pan&amp;Tilt PCB driver fault</li> <li>-LED Driver PCB driver fault</li> <li>-LED Driver PCB input voltage missing</li> <li>-Internal Bus wiring connection fault</li> </ul>
BUS ARTNET CARD	<ul style="list-style-type: none"> <li>-Pan&amp;Tilt PCB driver fault</li> <li>-Art-Net PCB driver fault</li> <li>-Art-Net PCB input voltage missing</li> <li>-Wiring connection between Art-Net PCB and Pan&amp;Tilt PCB fault</li> </ul>
ZOOM DX OR RESET LINE 4	<ul style="list-style-type: none"> <li>-Zoom DX motor fault</li> <li>-Zoom DX motor driver on 5 Motors PCB fault</li> <li>-Zoom DX magnet missing</li> <li>-Zoom DX hall sensor PCB fault</li> </ul>
ZOOM SX OR RESET LINE 3	<ul style="list-style-type: none"> <li>-Zoom SX motor fault</li> <li>-Zoom SX motor driver on 5 Motors PCB fault</li> <li>-Zoom SX magnet missing</li> <li>-Zoom SX hall sensor PCB fault</li> </ul>
EFFECTS OR RESET LINE 2	<ul style="list-style-type: none"> <li>-Effects wheel motor fault</li> <li>-Effects wheel motor driver on 5 Motors PCB fault</li> <li>-Effects wheel magnet missing</li> <li>-Effects wheel hall sensor PCB fault</li> </ul>
PRISM OR RESET LINE 1	<ul style="list-style-type: none"> <li>-Prism motor fault</li> <li>-Prism motor driver on 5 Motors PCB fault</li> <li>-Prism magnet missing</li> <li>-Prism hall sensor PCB fault</li> </ul>
PRISM INDEX OR RESET LINE 5	<ul style="list-style-type: none"> <li>-Prism Index motor fault</li> <li>-Prism Index motor driver on 5 Motors PCB fault</li> <li>-Prism Index magnet missing</li> <li>-Prism Index hall sensor PCB fault</li> </ul>

## **19- PERIODIC CLEANING**

### **19.1- Lenses and reflectors**

Even a fine layer of dust can reduce the luminous output substantially.

Regularly clean all lenses and the reflector using a soft cotton cloth, dampened with a specialist lens cleaning solution.

### **19.2- Fans and air passages**

The fans and air passages must be cleaned approximately every 6 weeks.

This periodic cleaning will depend of course, on the conditions in which the projector is operating.

Suitable instruments for performing this type of maintenance are a brush and a common vacuum cleaner or an air compressor.

If necessary, clean the fans and air passages more frequently.

## **20- PERIODIC CONTROLS**

### **Attention**



Disconnect mains power prior to opening the projector housing.

### **Mechanical parts**

Periodically check all mechanical parts, gears, guides, belts, etc. for wear and tear, replacing them if necessary.

Periodically check the lubrication of all components, particularly the parts subject to high temperatures.

If necessary, lubricate with suitable lubricant, available from your DTS distributor.

Check the tension of the belts and adjust it if necessary.

### **Electrical components**



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

### **Fuse replacement**

Locate the fuse, which protects the lamp and electronics, in the base of ALCHEMY 5.

Using a multimeter, test the condition of the fuse, replacing it with one of equivalent type (T 8A 250V) if necessary.

## 21- DMX PROTOCOL

### 1. “CCT” mode (20 DMX channels) (Default)

- 1 PAN msb
- 2 PAN lsb
- 3 TILT msb
- 4 TILT lsb
- 5 SPEED MOVEMENT
- 6 SHUTTER
- 7 DIMMER msb
- 8 DIMMER lsb
- 9 CCT (1.800K – 10.000K)
- 10 GREEN SATURATION
- 11 GEL LIBRARY 1
- 12 GELS X-FADE
- 13 GEL LIBRARY 2
- 14 GEL FILTER DESATURATION
- 15 FROST/COLOUR WHEEL
- 16 BEAM SHAPER
- 17 BEAM SHAPER INDEX/ROTATION
- 18 ZOOM
- 19 FIXTURE CONTROL
- 20 RESET

DMX CHANNEL	1	Parameter: <b>PAN msb</b>
DMX CHANNEL	2	Parameter: <b>PAN lsb</b>

DMX CHANNEL	3	Parameter: <b>TILT msb</b>
DMX CHANNEL	4	Parameter: <b>TILT lsb</b>

DMX CHANNEL	5	Parameter: <b>SPEED MOVEMENT</b>
DMX value	Function	
000-009	Fast movement	
010-025	Standard movement	
026-127	Vector mode from fast to slow	
128-247	Variable time reaction to dmx signal (fast to slow)	
248-250	Silent movement	
251-255	Snap movement	

DMX CHANNEL	6	Parameter: <b>SHUTTER</b>
<b>DMX value</b>	<b>Function</b>	
000-009	Black Out	
010-019	Open	
020-029	Black Out	
030-119	Strobe (from 3,27s to 30ms)	
120-149	Pulse up (from 42,6s to 120ms)	
150-179	Pulse down (from 42,6s to 120ms)	
180-189	Random strobe	
190-199	Open	
200-209	Effect wheel in Black Out while rotating	
210-219	Pan/Tilt in Black Out while moving	
220-222	Open	
223-224	Beam shaper in Black Out while inserting	
225-226	Zoom in Black Out while moving	
227-229	Effect wheel/Beam Shaper/Zoom in Black Out while moving	
230-255	Open	

DMX CHANNEL	7	Parameter: <b>DIMMER msb</b>
DMX CHANNEL	8	Parameter: <b>DIMMER lsb</b>

DMX CHANNEL	9	Parameter: <b>CCT</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Correlate colour temperature from 1800K to 10000K. Relevant CCT values (GREEN SATURATION channel 10 @ 128) 1800K = 000 2700K = 070 3000K = 083 3200K = 092 4000K = 119 5000K = 148 5600K = 163 6000K = 174 6500K = 184 7000K = 195 8000K = 215 9000K = 233 10000K = 255	

DMX CHANNEL	10	Parameter: <b>GREEN SATURATION</b>
<b>DMX value</b>	<b>Function</b>	
000-127	From full minus green to neutral	
128	Neutral (Default)	
129-255	From neutral to full plus green	



DMX CHANNEL	11	Parameter: GEL LIBRARY 1
DMX value	Function	
000-009	No function	
010-011	M001: L 002 Rose Pink	
012-013	M002: L 007 Pale Yellow	
014-015	M003: L 015 Deep Straw	
016-017	M004: L 019 fire	
018-019	M005: L 020 medium amber	
020-021	M006: L 021 Gold Amber	
022-023	M007: L 022 Dark Amber	
024-025	M008: L 025 sunset red	
026-027	M009: L 046 Dark Magenta	
028-029	M010: L 049 Medium Purple	
030-031	M011: L 058 Lavender	
032-033	M012: L 068 Sky Blue	
034-035	M013: L 079 Just Blue	
036-037	M014: L 085 Deeper Blue	
038-039	M015: L 088 Lime Green	
040-041	M016: L 089 moss green	
042-043	M017: L 100 Spring Yellow	
044-045	M018: L 101 yellow	
046-047	M019: L 102 light amber	
048-049	M020: L 103 Straw	
050-051	M021: L 104 DEEP AMBER	
052-053	M022: L 105 Orange	
054-055	M023: L 106 primary red	
056-057	M024: L 108 English rose	
058-059	M025: L 111 dark pink	
060-061	M026: L 113 magenta	
062-063	M027: L 115 peacock blue	
064-065	M028: L 117 Steel Blue	
066-067	M029: L 118 LIGHT BLU	
068-069	M030: L 119 dark blue	
070-071	M031: L 121 lee green	
072-073	M032: L 122 fern green	
074-075	M033: L 124 dark green	
076-077	M034: L 126 mauve	
078-079	M035: L 132 Medium Blue	
080-081	M036: L 136 Pale Lavender	
082-083	M037: L 137 Special lavender	
084-085	M038: L 138 Pale Green	
086-087	M039: L 139 primary green	
088-089	M040: L 142 Pale Violet	
090-091	M041: L 147 apricot	
092-093	M042: L 151 Gold Tint	
094-095	M043: L 152 pale gold	
096-097	M044: L 154 pale rose	
098-099	M045: L 156 Chocolate	
100-101	M046: L 164 flame red	
102-103	M047: L 170 deep lavender	
104-105	M048: L 174 dark steel blue	
106-107	M049: L 176 loving amber	
108-109	M050: L 179 chrome orange	
110-111	M051: L 180 dark lavender	
112-113	M052: L 181 congo blue	

DMX CHANNEL	11	Parameter: <b>GEL LIBRARY 1</b>
<b>DMX value</b>	<b>Function</b>	
114-115	M053: L 182 Light Red	
116-117	M054: L 194 Surprise Pink	
118-119	M055: L 195 zenith blue	
120-121	M056: L 200 Double C.T. Blue	
122-123	M057: L 201 Full C.T. Blue	
124-125	M058: L 202 Half C.T Blue	
126-127	M059: L 203 Quarter C.T. Blue	
128-129	M060: L 204 Full C.T. Orange	
130-131	M061: L 205 Half C.T. Orange	
132-133	M062: L 206 Quarter C.T. Orange	
134-135	M063: L 242 Fluorescent 4300 Kevin	
136-137	M064: L 249 1/4 minus green	
138-139	M065: L 323 jade	
140-141	M066: L 328 Follies Pink	
142-143	M067: L 343 special medium lavender	
144-145	M068: L 345 fuchsia pink	
146-147	M069: L 341 Plum	
148-149	M070: L 353 lighter blue	
150-151	M071: L 506 Marlene	
152-153	M072: L 601 Silver	
154-155	M073: L 725 Old Steel Blue	
156-157	M074: L 728 Steel Green	
158-159	M075: L 731 Dirty Ice	
160-161	M076: L 765 LEE Yellow	
162-163	M077: L 777 rust	
164-165	M078: L 795 Magical Magenta	
166-167	M079: L 797 Deep Purple	
168-169	M080: R 03 Dark Bastard Amber	
170-171	M081: R 05 Rose tint	
172-173	M082: R 11 Light Straw	
174-175	M083: R 23 Orange	
176-177	M084: R 25 Orange Red	
178-179	M085: R 31 Salmon Pink	
180-181	M086: R 35 Light pink	
182-183	M087: R 40 Light Salmon	
184-185	M088: R 54 special lavender	
186-187	M089: R 57 Lavender	
188-189	M090: R 61 Mist Blue	
190-191	M091: R 68 Parry Sky Blue	
192-193	M092: R 75 Twilight Blue	
194-195	M093: R 79 Bright Blue	
196-197	M094: R 82 Surprise Blue	
198-199	M095: R 89 Moss Green	
200-201	M096: R 303 Warm Peach	
202-203	M097: R 318 Mayan Sun	
204-205	M098: R 363 Aquamarine	
206-207	M099: R 385 Royal Blue	
208-209	M100: R 386 Leaf Green	
210-255	No function	

DMX CHANNEL	12	Parameter: <b>GEL X-FADE</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Crossfade between GEL LIBRARY 1 and GEL LIBRARY 2 0 = 100% GEL LIBRARY 1, 0% GEL LIBRARY 2 128 = 50% GEL LIBRARY 1, 50% GEL LIBRARY 2 255 = 0% GEL LIBRARY 1, 100% GEL LIBRARY 2	

DMX CHANNEL	13	Parameter: GEL LIBRARY 2
<b>DMX value</b>	<b>Function</b>	
000-009	No function	
010-011	M001: L 002 Rose Pink	
012-013	M002: L 007 Pale Yellow	
014-015	M003: L 015 Deep Straw	
016-017	M004: L 019 fire	
018-019	M005: L 020 medium amber	
020-021	M006: L 021 Gold Amber	
022-023	M007: L 022 Dark Amber	
024-025	M008: L 025 sunset red	
026-027	M009: L 046 Dark Magenta	
028-029	M010: L 049 Medium Purple	
030-031	M011: L 058 Lavender	
032-033	M012: L 068 Sky Blue	
034-035	M013: L 079 Just Blue	
036-037	M014: L 085 Deeper Blue	
038-039	M015: L 088 Lime Green	
040-041	M016: L 089 moss green	
042-043	M017: L 100 Spring Yellow	
044-045	M018: L 101 yellow	
046-047	M019: L 102 light amber	
048-049	M020: L 103 Straw	
050-051	M021: L 104 DEEP AMBER	
052-053	M022: L 105 Orange	
054-055	M023: L 106 primary red	
056-057	M024: L 108 English rose	
058-059	M025: L 111 dark pink	
060-061	M026: L 113 magenta	
062-063	M027: L 115 peacock blue	
064-065	M028: L 117 Steel Blue	
066-067	M029: L 118 LIGHT BLU	
068-069	M030: L 119 dark blue	
070-071	M031: L 121 lee green	
072-073	M032: L 122 fern green	
074-075	M033: L 124 dark green	
076-077	M034: L 126 mauve	
078-079	M035: L 132 Medium Blue	
080-081	M036: L 136 Pale Lavender	
082-083	M037: L 137 Special lavender	
084-085	M038: L 138 Pale Green	
086-087	M039: L 139 primary green	
088-089	M040: L 142 Pale Violet	
090-091	M041: L 147 apricot	
092-093	M042: L 151 Gold Tint	
094-095	M043: L 152 pale gold	
096-097	M044: L 154 pale rose	
098-099	M045: L 156 Chocolate	
100-101	M046: L 164 flame red	
102-103	M047: L 170 deep lavender	
104-105	M048: L 174 dark steel blue	
106-107	M049: L 176 loving amber	
108-109	M050: L 179 chrome orange	
110-111	M051: L 180 dark lavender	
112-113	M052: L 181 congo blue	

DMX CHANNEL	13	Parameter: <b>GEL LIBRARY 2</b>
<b>DMX value</b>	<b>Function</b>	
114-115	M053: L 182 Light Red	
116-117	M054: L 194 Surprise Pink	
118-119	M055: L 195 zenith blue	
120-121	M056: L 200 Double C.T. Blue	
122-123	M057: L 201 Full C.T. Blue	
124-125	M058: L 202 Half C.T Blue	
126-127	M059: L 203 Quarter C.T. Blue	
128-129	M060: L 204 Full C.T. Orange	
130-131	M061: L 205 Half C.T. Orange	
132-133	M062: L 206 Quarter C.T. Orange	
134-135	M063: L 242 Fluorescent 4300 Kevin	
136-137	M064: L 249 1/4 minus green	
138-139	M065: L 323 jade	
140-141	M066: L 328 Follies Pink	
142-143	M067: L 343 special medium lavender	
144-145	M068: L 345 fuchsia pink	
146-147	M069: L 341 Plum	
148-149	M070: L 353 lighter blue	
150-151	M071: L 506 Marlene	
152-153	M072: L 601 Silver	
154-155	M073: L 725 Old Steel Blue	
156-157	M074: L 728 Steel Green	
158-159	M075: L 731 Dirty Ice	
160-161	M076: L 765 LEE Yellow	
162-163	M077: L 777 rust	
164-165	M078: L 795 Magical Magenta	
166-167	M079: L 797 Deep Purple	
168-169	M080: R 03 Dark Bastard Amber	
170-171	M081: R 05 Rose tint	
172-173	M082: R 11 Light Straw	
174-175	M083: R 23 Orange	
176-177	M084: R 25 Orange Red	
178-179	M085: R 31 Salmon Pink	
180-181	M086: R 35 Light pink	
182-183	M087: R 40 Light Salmon	
184-185	M088: R 54 special lavender	
186-187	M089: R 57 Lavender	
188-189	M090: R 61 Mist Blue	
190-191	M091: R 68 Parry Sky Blue	
192-193	M092: R 75 Twilight Blue	
194-195	M093: R 79 Bright Blue	
196-197	M094: R 82 Surprise Blue	
198-199	M095: R 89 Moss Green	
200-201	M096: R 303 Warm Peach	
202-203	M097: R 318 Mayan Sun	
204-205	M098: R 363 Aquamarine	
206-207	M099: R 385 Royal Blue	
208-209	M100: R 386 Leaf Green	
210-255	No function	

DMX CHANNEL	14	Parameter: <b>GEL FILTER DESATURATION</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Gel filters desaturation 0 = 100% color 255 = 0% color	

DMX CHANNEL	15	Parameter: <b>FROST/COLOUR WHEEL</b>
<b>DMX value</b>	<b>Function</b>	
000-009	No Function	
010-050	Light frost	
051-090	Heavy frost	
091-130	Deep blue filter switch ON (BLUE channel forced at full)	
131-170	Deep red filter switch ON (RED channel forced at full)	
171-210	Deep blue filter manual control	
211-255	Deep red filter manual control	

DMX CHANNEL	16	Parameter: <b>BEAM SHAPER</b>
<b>DMX value</b>	<b>Function</b>	
000-009	No Function	
010-255	Beam shaper inserted	

DMX CHANNEL	17	Parameter: <b>BEAM SHAPER INDEX/ROTATION</b>
<b>DMX value</b>	<b>Function</b>	
000-009	No Function	
010-127	Proportional index 0°-360°	
128-180	CW rotation from fast to slow	
181-202	Stop	
203-255	CCW rotation from slow to fast	

DMX CHANNEL	18	Parameter: <b>ZOOM</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Linear zoom from min to max	

DMX CHANNEL	19	Parameter: <b>FIXTURE CONTROL</b>
		<b>Function</b>
000-009	0	- No effect
010-024	1	- SMOOTH DIMMING OFF
025-026	2	- SMOOTH DIMMING 1
027-028	3	- SMOOTH DIMMING 2
029-030	4	- SMOOTH DIMMING 3
031-032	5	- SMOOTH DIMMING 4 (Default)
033-034	6	- SMOOTH DIMMING 5
035-036	7	- SMOOTH DIMMING 6
037-038	8	- SMOOTH DIMMING 7
039-040	9	- SMOOTH DIMMING 8
041-042	10	- SMOOTH DIMMING 9
043-044	11	- SMOOTH DIMMING 10
045-046	12	- SMOOTH DIMMING 11
047-048	13	- SMOOTH DIMMING 12
049-050	14	- SMOOTH DIMMING 13
051-052	15	- SMOOTH DIMMING 14
053-054	16	- SMOOTH DIMMING 15
055-056	17	- SMOOTH DIMMING 16
057-058	18	- SMOOTH DIMMING 17
059-060	19	- SMOOTH DIMMING 18
061-062	20	- SMOOTH DIMMING 19
063-064	21	- SMOOTH DIMMING 20
065-066	22	- GAMMA CORRECTION QUADRATIC (Default)
067-068	23	- GAMMA CORRECTION LINEAR
069-070	24	- GAMMA CORRECTION S-CURVE
071-072	25	- GAMMA CORRECTION 2.2
073-074	26	- reserved
075-076	27	- TUNGSTEN EMULATION DISABLED (Default) (to be defined)
077-078	28	- TUNGSTEN EMULATION ENABLED (to be defined)
079-080	29	- CROSSFADE CURVE INTERMEDIATE (Default)
081-082	30	- CROSSFADE CURVE TRANSITION
083-084	31	- reserved
085-104	32	- OUTPUT FREQUENCY 610 Hz
105	33	- OUTPUT FREQUENCY 800 Hz
106	34	- OUTPUT FREQUENCY 1000 Hz (Default)
107	35	- OUTPUT FREQUENCY 1500 Hz
108	36	- OUTPUT FREQUENCY 2000 Hz
109	37	- OUTPUT FREQUENCY 2500 Hz
110	38	- OUTPUT FREQUENCY 3000 Hz
111	39	- OUTPUT FREQUENCY 3500 Hz
112	40	- OUTPUT FREQUENCY 4000 Hz
113	41	- OUTPUT FREQUENCY 4500 Hz
114	42	- OUTPUT FREQUENCY 5000 Hz
115	43	- reserved
116	44	- reserved
117	45	- reserved
118	46	- reserved
119	47	- reserved
120	48	- reserved
121	49	- reserved
122	50	- reserved
123	51	- reserved

DMX CHANNEL	19	Parameter: <b>FIXTURE CONTROL</b>
		<b>Function</b>
124	52 - reserved	
125	53 - reserved	
126	54 - reserved	
127	55 - reserved	
128	56 - reserved	
129	57 - reserved	
130	58 - reserved	
131	59 - reserved	
132	60 - reserved	
133	61 - reserved	
134	62 - reserved	
135-136	63 - reserved	
137-138	64 - reserved	
139-140	65 - reserved	
141-142	66 - reserved	
143-144	67 - reserved	
145-146	68 - reserved	
147-148	69 - reserved	
149-150	70 - reserved	
151-152	71 - reserved	
153-154	72 - reserved	
155-156	73 - DISPLAY STANDBY DISABLED (Default)	
157-158	74 - DISPLAY STANDBY ENABLED	
159-160	75 - DISPLAY STANDBY FORCED ENABLED	
161-174	76 - reserved	
175-176	77 - NO DMX ACTION - KEEP LAST DMX (Default)	
177-178	78 - NO DMX ACTION - BLACK OUT	
179-180	79 - reserved	
181-182	80 - NO DMX ACTION - DEMO PROGRAM (STEPS 01..48)	
183-184	81 - NO DMX ACTION - SINGLE CUE	
185-186	82 - PAN NORMAL (Default)	
187-188	83 - PAN REVERSE	
189-190	84 - reserved	
191-192	85 - reserved	
193-194	86 - reserved	
195-196	87 - reserved	
197-198	88 - TILT NORMAL (Default)	
199-200	89 - TILT REVERSE	
201-202	90 - reserved	
203-204	91 - reserved	
205-206	92 - reserved	
207-208	93 - reserved	
209-210	94 - ZOOM NORMAL (Default)	
211-212	95 - ZOOM REVERSE	
213-214	96 - reserved	
215-216	97 - reserved	
217-218	98 - reserved	
219-220	99 - reserved	
221-222	100 - reserved	
223-224	101 - reserved	
225-226	102 - reserved	
227-228	103 - reserved	
229-230	104 - reserved	
231-232	105 - reserved	
233-234	106 - reserved	

DMX CHANNEL	19	Parameter: <b>FIXTURE CONTROL</b>
		<b>Function</b>
235-236	107	- OPERATING MODE SILENT (Default)
237-238	108	- OPERATING MODE STANDARD
239-240	109	- reserved
241-242	110	- FAN MODE CONSTANT (Default)
243-244	111	- FAN MODE AUTO
245-246	112	- reserved
247-248	113	- reserved
249-250	114	- reserved
251-252	115	- reserved
253-255	116	SET FUNCTION TO DEFAULT: -SMOOTH DIMMING = 4 -GAMMA = QUADRATIC -FREQUENCY = 1000 Hz -DISPLAY STANDBY = DISABLE -NO DMX ACTION = KEEP LAST DMX -OPERATING MODE = SILENT -FAN MODE = CONSTANT -PAN DIRECTION = NORMAL -TILT DIRECTION = NORMAL -ZOOM DIRECTION = NORMAL -TUNGSTEN EMULATION = DISABLED -CROSSFADE CURVE = INTERMEDIATE

DMX CHANNEL	20	Parameter: <b>RESET</b>
<b>DMX value</b>		<b>Function</b>
000-009		No effect
010-075		PAN TILT reset
076-095		HEAD MOTORS reset
096-115		reserved
116-135		Effects wheel reset
136-155		reserved
156-175		reserved
176-195		BEAM SHAPER reset
196-215		reserved
216-239		ZOOM reset
240-255		Total unit reset (PAN TILT + HEAD MOTORS)



## 2. “ADVANCED” mode (28 DMX channels)

- 1 PAN msb
- 2 PAN lsb
- 3 TILT msb
- 4 TILT lsb
- 5 SPEED MOVEMENT
- 6 SHUTTER
- 7 DIMMER msb
- 8 DIMMER lsb
- 9 CCT (1.800K – 10.000K)
- 10 GREEN SATURATION
- 11 GEL LIBRARY 1
- 12 GELS X-FADE
- 13 GEL LIBRARY 2
- 14 GEL FILTER DESATURATION
- 15 CCT/GEL FADE TO RGBACL
- 16 RED
- 17 GREEN
- 18 BLUE
- 19 AMBER
- 20 CYAN
- 21 LIME
- 22 FROST/COLOUR WHEEL
- 23 BEAM SHAPER
- 24 BEAM SHAPER INDEX/ROTATION
- 25 reserved
- 26 ZOOM
- 27 FIXTURE CONTROL
- 28 RESET

DMX CHANNEL	1	Parameter: <b>PAN msb</b>
DMX CHANNEL	2	Parameter: <b>PAN lsb</b>

DMX CHANNEL	3	Parameter: <b>TILT msb</b>
DMX CHANNEL	4	Parameter: <b>TILT lsb</b>

DMX CHANNEL	5	Parameter: <b>SPEED MOVEMENT</b>
<b>DMX value</b>	<b>Function</b>	
000-009	Fast movement	
010-025	Standard movement	
026-127	Vector mode from fast to slow	
128-247	Variable time reaction to dmx signal (fast to slow)	
248-250	Silent movement	
251-255	Snap movement	

DMX CHANNEL	6	Parameter: <b>SHUTTER</b>
<b>DMX value</b>	<b>Function</b>	
000-009	Black Out	
010-019	Open	
020-029	Black Out	
030-119	Strobe (from 3,27s to 30ms)	
120-149	Pulse up (from 42,6s to 120ms)	
150-179	Pulse down (from 42,6s to 120ms)	
180-189	Random strobe	
190-199	Open	
200-209	Effect wheel in Black Out while rotating	
210-219	Pan/Tilt in Black Out while moving	
220-222	Open	
223-224	Beam shaper in Black Out while inserting	
225-226	Zoom in Black Out while moving	
227-229	Effect wheel/Beam Shaper/Zoom in Black Out while moving	
230-255	Open	

DMX CHANNEL	7	Parameter: <b>DIMMER msb</b>
DMX CHANNEL	8	Parameter: <b>DIMMER lsb</b>

DMX CHANNEL	9	Parameter: <b>CCT</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Correlate colour temperature from 1800K to 10000K.  Relevant CCT values (GREEN SATURATION channel 10 @ 128) 1800K = 000 2700K = 070 3000K = 083 3200K = 092 4000K = 119 5000K = 148 5600K = 163 6000K = 174 6500K = 184 7000K = 195 8000K = 215 9000K = 233 10000K = 255	

DMX CHANNEL	10	Parameter: <b>GREEN SATURATION</b>
<b>DMX value</b>	<b>Function</b>	
000-127	From full minus green to neutral	
128	Neutral (Default)	
129-255	From neutral to full plus green	

DMX CHANNEL	11	Parameter: GEL LIBRARY 1
<b>DMX value</b>	<b>Function</b>	
000-009	No function	
010-011	M001: L 002 Rose Pink	
012-013	M002: L 007 Pale Yellow	
014-015	M003: L 015 Deep Straw	
016-017	M004: L 019 fire	
018-019	M005: L 020 medium amber	
020-021	M006: L 021 Gold Amber	
022-023	M007: L 022 Dark Amber	
024-025	M008: L 025 sunset red	
026-027	M009: L 046 Dark Magenta	
028-029	M010: L 049 Medium Purple	
030-031	M011: L 058 Lavender	
032-033	M012: L 068 Sky Blue	
034-035	M013: L 079 Just Blue	
036-037	M014: L 085 Deeper Blue	
038-039	M015: L 088 Lime Green	
040-041	M016: L 089 moss green	
042-043	M017: L 100 Spring Yellow	
044-045	M018: L 101 yellow	
046-047	M019: L 102 light amber	
048-049	M020: L 103 Straw	
050-051	M021: L 104 DEEP AMBER	
052-053	M022: L 105 Orange	
054-055	M023: L 106 primary red	
056-057	M024: L 108 English rose	
058-059	M025: L 111 dark pink	
060-061	M026: L 113 magenta	
062-063	M027: L 115 peacock blue	
064-065	M028: L 117 Steel Blue	
066-067	M029: L 118 LIGHT BLU	
068-069	M030: L 119 dark blue	
070-071	M031: L 121 lee green	
072-073	M032: L 122 fern green	
074-075	M033: L 124 dark green	
076-077	M034: L 126 mauve	
078-079	M035: L 132 Medium Blue	
080-081	M036: L 136 Pale Lavender	
082-083	M037: L 137 Special lavender	
084-085	M038: L 138 Pale Green	
086-087	M039: L 139 primary green	
088-089	M040: L 142 Pale Violet	
090-091	M041: L 147 apricot	
092-093	M042: L 151 Gold Tint	
094-095	M043: L 152 pale gold	
096-097	M044: L 154 pale rose	
098-099	M045: L 156 Chocolate	
100-101	M046: L 164 flame red	
102-103	M047: L 170 deep lavender	
104-105	M048: L 174 dark steel blue	
106-107	M049: L 176 loving amber	
108-109	M050: L 179 chrome orange	
110-111	M051: L 180 dark lavender	
112-113	M052: L 181 congo blue	

DMX CHANNEL	11	Parameter: <b>GEL LIBRARY 1</b>
<b>DMX value</b>	<b>Function</b>	
114-115	M053: L 182 Light Red	
116-117	M054: L 194 Surprise Pink	
118-119	M055: L 195 zenith blue	
120-121	M056: L 200 Double C.T. Blue	
122-123	M057: L 201 Full C.T. Blue	
124-125	M058: L 202 Half C.T Blue	
126-127	M059: L 203 Quarter C.T. Blue	
128-129	M060: L 204 Full C.T. Orange	
130-131	M061: L 205 Half C.T. Orange	
132-133	M062: L 206 Quarter C.T. Orange	
134-135	M063: L 242 Fluorescent 4300 Kevin	
136-137	M064: L 249 1/4 minus green	
138-139	M065: L 323 jade	
140-141	M066: L 328 Follies Pink	
142-143	M067: L 343 special medium lavender	
144-145	M068: L 345 fuchsia pink	
146-147	M069: L 341 Plum	
148-149	M070: L 353 lighter blue	
150-151	M071: L 506 Marlene	
152-153	M072: L 601 Silver	
154-155	M073: L 725 Old Steel Blue	
156-157	M074: L 728 Steel Green	
158-159	M075: L 731 Dirty Ice	
160-161	M076: L 765 LEE Yellow	
162-163	M077: L 777 rust	
164-165	M078: L 795 Magical Magenta	
166-167	M079: L 797 Deep Purple	
168-169	M080: R 03 Dark Bastard Amber	
170-171	M081: R 05 Rose tint	
172-173	M082: R 11 Light Straw	
174-175	M083: R 23 Orange	
176-177	M084: R 25 Orange Red	
178-179	M085: R 31 Salmon Pink	
180-181	M086: R 35 Light pink	
182-183	M087: R 40 Light Salmon	
184-185	M088: R 54 special lavender	
186-187	M089: R 57 Lavender	
188-189	M090: R 61 Mist Blue	
190-191	M091: R 68 Parry Sky Blue	
192-193	M092: R 75 Twilight Blue	
194-195	M093: R 79 Bright Blue	
196-197	M094: R 82 Surprise Blue	
198-199	M095: R 89 Moss Green	
200-201	M096: R 303 Warm Peach	
202-203	M097: R 318 Mayan Sun	
204-205	M098: R 363 Aquamarine	
206-207	M099: R 385 Royal Blue	
208-209	M100: R 386 Leaf Green	
210-255	No function	

DMX CHANNEL	12	Parameter: <b>GEL X-FADE</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Crossfade between GEL LIBRARY 1 and GEL LIBRARY 2 0 = 100% GEL LIBRARY 1, 0% GEL LIBRARY 2 128 = 50% GEL LIBRARY 1, 50% GEL LIBRARY 2 255 = 0% GEL LIBRARY 1, 100% GEL LIBRARY 2	

DMX CHANNEL	13	Parameter: GEL LIBRARY 2
<b>DMX value</b>	<b>Function</b>	
000-009	No function	
010-011	M001: L 002 Rose Pink	
012-013	M002: L 007 Pale Yellow	
014-015	M003: L 015 Deep Straw	
016-017	M004: L 019 fire	
018-019	M005: L 020 medium amber	
020-021	M006: L 021 Gold Amber	
022-023	M007: L 022 Dark Amber	
024-025	M008: L 025 sunset red	
026-027	M009: L 046 Dark Magenta	
028-029	M010: L 049 Medium Purple	
030-031	M011: L 058 Lavender	
032-033	M012: L 068 Sky Blue	
034-035	M013: L 079 Just Blue	
036-037	M014: L 085 Deeper Blue	
038-039	M015: L 088 Lime Green	
040-041	M016: L 089 moss green	
042-043	M017: L 100 Spring Yellow	
044-045	M018: L 101 yellow	
046-047	M019: L 102 light amber	
048-049	M020: L 103 Straw	
050-051	M021: L 104 DEEP AMBER	
052-053	M022: L 105 Orange	
054-055	M023: L 106 primary red	
056-057	M024: L 108 English rose	
058-059	M025: L 111 dark pink	
060-061	M026: L 113 magenta	
062-063	M027: L 115 peacock blue	
064-065	M028: L 117 Steel Blue	
066-067	M029: L 118 LIGHT BLU	
068-069	M030: L 119 dark blue	
070-071	M031: L 121 lee green	
072-073	M032: L 122 fern green	
074-075	M033: L 124 dark green	
076-077	M034: L 126 mauve	
078-079	M035: L 132 Medium Blue	
080-081	M036: L 136 Pale Lavender	
082-083	M037: L 137 Special lavender	
084-085	M038: L 138 Pale Green	
086-087	M039: L 139 primary green	
088-089	M040: L 142 Pale Violet	
090-091	M041: L 147 apricot	
092-093	M042: L 151 Gold Tint	
094-095	M043: L 152 pale gold	
096-097	M044: L 154 pale rose	
098-099	M045: L 156 Chocolate	
100-101	M046: L 164 flame red	
102-103	M047: L 170 deep lavender	
104-105	M048: L 174 dark steel blue	
106-107	M049: L 176 loving amber	
108-109	M050: L 179 chrome orange	
110-111	M051: L 180 dark lavender	
112-113	M052: L 181 congo blue	

DMX CHANNEL	13	Parameter: <b>GEL LIBRARY 2</b>
<b>DMX value</b>	<b>Function</b>	
114-115	M053: L 182 Light Red	
116-117	M054: L 194 Surprise Pink	
118-119	M055: L 195 zenith blue	
120-121	M056: L 200 Double C.T. Blue	
122-123	M057: L 201 Full C.T. Blue	
124-125	M058: L 202 Half C.T Blue	
126-127	M059: L 203 Quarter C.T. Blue	
128-129	M060: L 204 Full C.T. Orange	
130-131	M061: L 205 Half C.T. Orange	
132-133	M062: L 206 Quarter C.T. Orange	
134-135	M063: L 242 Fluorescent 4300 Kevin	
136-137	M064: L 249 1/4 minus green	
138-139	M065: L 323 jade	
140-141	M066: L 328 Follies Pink	
142-143	M067: L 343 special medium lavender	
144-145	M068: L 345 fuchsia pink	
146-147	M069: L 341 Plum	
148-149	M070: L 353 lighter blue	
150-151	M071: L 506 Marlene	
152-153	M072: L 601 Silver	
154-155	M073: L 725 Old Steel Blue	
156-157	M074: L 728 Steel Green	
158-159	M075: L 731 Dirty Ice	
160-161	M076: L 765 LEE Yellow	
162-163	M077: L 777 rust	
164-165	M078: L 795 Magical Magenta	
166-167	M079: L 797 Deep Purple	
168-169	M080: R 03 Dark Bastard Amber	
170-171	M081: R 05 Rose tint	
172-173	M082: R 11 Light Straw	
174-175	M083: R 23 Orange	
176-177	M084: R 25 Orange Red	
178-179	M085: R 31 Salmon Pink	
180-181	M086: R 35 Light pink	
182-183	M087: R 40 Light Salmon	
184-185	M088: R 54 special lavender	
186-187	M089: R 57 Lavender	
188-189	M090: R 61 Mist Blue	
190-191	M091: R 68 Parry Sky Blue	
192-193	M092: R 75 Twilight Blue	
194-195	M093: R 79 Bright Blue	
196-197	M094: R 82 Surprise Blue	
198-199	M095: R 89 Moss Green	
200-201	M096: R 303 Warm Peach	
202-203	M097: R 318 Mayan Sun	
204-205	M098: R 363 Aquamarine	
206-207	M099: R 385 Royal Blue	
208-209	M100: R 386 Leaf Green	
210-255	No function	

DMX CHANNEL	14	Parameter: <b>GEL FILTER DESATURATION</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Gel filters desaturation 0 = 100% color 255 = 0% color	

DMX CHANNEL	15	Parameter: <b>CCT/GEL FADE TO RGBACL</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Crossfade from CCT/GEL to RGBACL 0 = 100% CCT/GEL, 0% RGBACL 255 = 0% CCT/GEL, 100% RGBACL	

DMX CHANNEL	16	Parameter: <b>RED</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Proportional color from min to max	

DMX CHANNEL	17	Parameter: <b>GREEN</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Proportional color from min to max	

DMX CHANNEL	18	Parameter: <b>BLUE</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Proportional color from min to max	

DMX CHANNEL	19	Parameter: <b>AMBER</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Proportional color from min to max	

DMX CHANNEL	20	Parameter: <b>CYAN</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Proportional color from min to max	

DMX CHANNEL	21	Parameter: <b>LIME</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Proportional color from min to max	

DMX CHANNEL	22	Parameter: <b>FROST/COLOUR WHEEL</b>
<b>DMX value</b>	<b>Function</b>	
000-009	No Function	
010-050	Light frost	
051-090	Heavy frost	
091-130	Deep blue filter switch ON (BLUE channel forced at full)	
131-170	Deep red filter switch ON (RED channel forced at full)	
171-210	Deep blue filter manual control	
211-255	Deep red filter manual control	

DMX CHANNEL	23	Parameter: <b>BEAM SHAPER</b>
<b>DMX value</b>	<b>Function</b>	
000-009	No Function	
010-255	Beam shaper inserted	

DMX CHANNEL	24	Parameter: <b>BEAM SHAPER INDEX/ROTATION</b>
<b>DMX value</b>	<b>Function</b>	
000-009	No Function	
010-127	Proportional index 0°-360°	
128-180	CW rotation from fast to slow	
181-202	Stop	
203-255	CCW rotation from slow to fast	

DMX CHANNEL	25	Parameter: <b>Reserved</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Reserved	

DMX CHANNEL	26	Parameter: <b>ZOOM</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Linear zoom from min to max	



DMX CHANNEL	27	Parameter: <b>FIXTURE CONTROL</b>
		<b>Function</b>
000-009	0	- No effect
010-024	1	- SMOOTH DIMMING OFF
025-026	2	- SMOOTH DIMMING 1
027-028	3	- SMOOTH DIMMING 2
029-030	4	- SMOOTH DIMMING 3
031-032	5	- SMOOTH DIMMING 4 (Default)
033-034	6	- SMOOTH DIMMING 5
035-036	7	- SMOOTH DIMMING 6
037-038	8	- SMOOTH DIMMING 7
039-040	9	- SMOOTH DIMMING 8
041-042	10	- SMOOTH DIMMING 9
043-044	11	- SMOOTH DIMMING 10
045-046	12	- SMOOTH DIMMING 11
047-048	13	- SMOOTH DIMMING 12
049-050	14	- SMOOTH DIMMING 13
051-052	15	- SMOOTH DIMMING 14
053-054	16	- SMOOTH DIMMING 15
055-056	17	- SMOOTH DIMMING 16
057-058	18	- SMOOTH DIMMING 17
059-060	19	- SMOOTH DIMMING 18
061-062	20	- SMOOTH DIMMING 19
063-064	21	- SMOOTH DIMMING 20
065-066	22	- GAMMA CORRECTION QUADRATIC (Default)
067-068	23	- GAMMA CORRECTION LINEAR
069-070	24	- GAMMA CORRECTION S-CURVE
071-072	25	- GAMMA CORRECTION 2.2
073-074	26	- reserved
075-076	27	- TUNGSTEN EMULATION DISABLED (Default) (to be defined)
077-078	28	- TUNGSTEN EMULATION ENABLED (to be defined)
079-080	29	- CROSSFADE CURVE INTERMEDIATE (Default)
081-082	30	- CROSSFADE CURVE TRANSITION
083-084	31	- reserved
085-104	32	- OUTPUT FREQUENCY 610 Hz
105	33	- OUTPUT FREQUENCY 800 Hz
106	34	- OUTPUT FREQUENCY 1000 Hz (Default)
107	35	- OUTPUT FREQUENCY 1500 Hz
108	36	- OUTPUT FREQUENCY 2000 Hz
109	37	- OUTPUT FREQUENCY 2500 Hz
110	38	- OUTPUT FREQUENCY 3000 Hz
111	39	- OUTPUT FREQUENCY 3500 Hz
112	40	- OUTPUT FREQUENCY 4000 Hz
113	41	- OUTPUT FREQUENCY 4500 Hz
114	42	- OUTPUT FREQUENCY 5000 Hz
115	43	- reserved
116	44	- reserved
117	45	- reserved
118	46	- reserved
119	47	- reserved
120	48	- reserved
121	49	- reserved
122	50	- reserved
123	51	- reserved

DMX CHANNEL	27	Parameter: <b>FIXTURE CONTROL</b>
		<b>Function</b>
124	52 - reserved	
125	53 - reserved	
126	54 - reserved	
127	55 - reserved	
128	56 - reserved	
129	57 - reserved	
130	58 - reserved	
131	59 - reserved	
132	60 - reserved	
133	61 - reserved	
134	62 - reserved	
135-136	63 - reserved	
137-138	64 - reserved	
139-140	65 - reserved	
141-142	66 - reserved	
143-144	67 - reserved	
145-146	68 - reserved	
147-148	69 - reserved	
149-150	70 - reserved	
151-152	71 - reserved	
153-154	72 - reserved	
155-156	73 - DISPLAY STANDBY DISABLED (Default)	
157-158	74 - DISPLAY STANDBY ENABLED	
159-160	75 - DISPLAY STANDBY FORCED ENABLED	
161-174	76 - reserved	
175-176	77 - NO DMX ACTION - KEEP LAST DMX (Default)	
177-178	78 - NO DMX ACTION - BLACK OUT	
179-180	79 - reserved	
181-182	80 - NO DMX ACTION - DEMO PROGRAM (STEPS 01..48)	
183-184	81 - NO DMX ACTION - SINGLE CUE	
185-186	82 - PAN NORMAL (Default)	
187-188	83 - PAN REVERSE	
189-190	84 - reserved	
191-192	85 - reserved	
193-194	86 - reserved	
195-196	87 - reserved	
197-198	88 - TILT NORMAL (Default)	
199-200	89 - TILT REVERSE	
201-202	90 - reserved	
203-204	91 - reserved	
205-206	92 - reserved	
207-208	93 - reserved	
209-210	94 - ZOOM NORMAL (Default)	
211-212	95 - ZOOM REVERSE	
213-214	96 - reserved	
215-216	97 - reserved	
217-218	98 - reserved	
219-220	99 - reserved	
221-222	100 - reserved	
223-224	101 - reserved	
225-226	102 - reserved	
227-228	103 - reserved	
229-230	104 - reserved	
231-232	105 - reserved	
233-234	106 - reserved	

DMX CHANNEL	27	Parameter: <b>FIXTURE CONTROL</b>
		<b>Function</b>
235-236	107	- OPERATING MODE SILENT (Default)
237-238	108	- OPERATING MODE STANDARD
239-240	109	- reserved
241-242	110	- FAN MODE CONSTANT (Default)
243-244	111	- FAN MODE AUTO
245-246	112	- reserved
247-248	113	- reserved
249-250	114	- reserved
251-252	115	- reserved
253-255	116	SET FUNCTION TO DEFAULT: -SMOOTH DIMMING = 4 -GAMMA = QUADRATIC -FREQUENCY = 1000 Hz -DISPLAY STANDBY = DISABLE -NO DMX ACTION = KEEP LAST DMX -OPERATING MODE = SILENT -FAN MODE = CONSTANT -PAN DIRECTION = NORMAL -TILT DIRECTION = NORMAL -ZOOM DIRECTION = NORMAL -TUNGSTEN EMULATION = DISABLED -CROSSFADE CURVE = INTERMEDIATE

DMX CHANNEL	28	Parameter: <b>RESET</b>
<b>DMX value</b>		<b>Function</b>
000-009		No effect
010-075		PAN TILT reset
076-095		HEAD MOTORS reset
096-115		reserved
116-135		Effects wheel reset
136-155		reserved
156-175		reserved
176-195		BEAM SHAPER reset
196-215		reserved
216-239		ZOOM reset
240-255		Total unit reset (PAN TILT + HEAD MOTORS)

### 3. “BASIC” mode (23 DMX channels)

- 1 PAN msb
- 2 PAN lsb
- 3 TILT msb
- 4 TILT lsb
- 5 SPEED MOVEMENT
- 6 SHUTTER
- 7 DIMMER msb
- 8 DIMMER lsb
- 9 CCT (1.800K – 10.000K) (*priority on GEL LIBRARY and RGBACL channels*)
- 10 GEL LIBRARY (*priority on RGBACL channels*)
- 11 RED
- 12 GREEN
- 13 BLUE
- 14 AMBER
- 15 CYAN
- 16 LIME
- 17 FROST/COLOUR WHEEL
- 18 BEAM SHAPER
- 19 BEAM SHAPER INDEX/ROTATION
- 20 reserved
- 21 ZOOM
- 22 FIXTURE CONTROL
- 23 RESET

DMX CHANNEL	1	Parameter: <b>PAN msb</b>
DMX CHANNEL	2	Parameter: <b>PAN lsb</b>

DMX CHANNEL	3	Parameter: <b>TILT msb</b>
DMX CHANNEL	4	Parameter: <b>TILT lsb</b>

DMX CHANNEL	5	Parameter: <b>SPEED MOVEMENT</b>
DMX value	Function	
000-009	Fast movement	
010-025	Standard movement	
026-127	Vector mode from fast to slow	
128-247	Variable time reaction to dmx signal (fast to slow)	
248-250	Silent movement	
251-255	Snap movement	

DMX CHANNEL	6	Parameter: <b>SHUTTER</b>
<b>DMX value</b>	<b>Function</b>	
000-009	Black Out	
010-019	Open	
020-029	Black Out	
030-119	Strobe (from 3,27s to 30ms)	
120-149	Pulse up (from 42,6s to 120ms)	
150-179	Pulse down (from 42,6s to 120ms)	
180-189	Random strobe	
190-199	Open	
200-209	Effect wheel in Black Out while rotating	
210-219	Pan/Tilt in Black Out while moving	
220-222	Open	
223-224	Beam shaper in Black Out while inserting	
225-226	Zoom in Black Out while moving	
227-229	Effect wheel/Beam Shaper/Zoom in Black Out while moving	
230-255	Open	

DMX CHANNEL	7	Parameter: <b>DIMMER msb</b>
DMX CHANNEL	8	Parameter: <b>DIMMER lsb</b>

DMX CHANNEL	9	Parameter: <b>CCT (priority on GEL LIBRARY and RGBACL channels)</b>
<b>DMX value</b>	<b>Function</b>	
000-009	No function	
010-255	Correlated colour temperature from 1800K to 10000K.  Relevant CCT values: 1800K = 010 2700K = 070 3000K = 083 3200K = 092 4000K = 119 5000K = 148 5600K = 163 6000K = 174 6500K = 184 7000K = 195 8000K = 215 9000K = 233 10000K = 255	

DMX CHANNEL	10	Parameter: <b>GEL LIBRARY</b> (priority on RGBACL channels)
<b>DMX value</b>	<b>Function</b>	
000-009	No function	
010-011	M001: L 002 Rose Pink	
012-013	M002: L 007 Pale Yellow	
014-015	M003: L 015 Deep Straw	
016-017	M004: L 019 fire	
018-019	M005: L 020 medium amber	
020-021	M006: L 021 Gold Amber	
022-023	M007: L 022 Dark Amber	
024-025	M008: L 025 sunset red	
026-027	M009: L 046 Dark Magenta	
028-029	M010: L 049 Medium Purple	
030-031	M011: L 058 Lavender	
032-033	M012: L 068 Sky Blue	
034-035	M013: L 079 Just Blue	
036-037	M014: L 085 Deeper Blue	
038-039	M015: L 088 Lime Green	
040-041	M016: L 089 moss green	
042-043	M017: L 100 Spring Yellow	
044-045	M018: L 101 yellow	
046-047	M019: L 102 light amber	
048-049	M020: L 103 Straw	
050-051	M021: L 104 DEEP AMBER	
052-053	M022: L 105 Orange	
054-055	M023: L 106 primary red	
056-057	M024: L 108 English rose	
058-059	M025: L 111 dark pink	
060-061	M026: L 113 magenta	
062-063	M027: L 115 peacock blue	
064-065	M028: L 117 Steel Blue	
066-067	M029: L 118 LIGHT BLU	
068-069	M030: L 119 dark blue	
070-071	M031: L 121 lee green	
072-073	M032: L 122 fern green	
074-075	M033: L 124 dark green	
076-077	M034: L 126 mauve	
078-079	M035: L 132 Medium Blue	
080-081	M036: L 136 Pale Lavender	
082-083	M037: L 137 Special lavender	
084-085	M038: L 138 Pale Green	
086-087	M039: L 139 primary green	
088-089	M040: L 142 Pale Violet	
090-091	M041: L 147 apricot	
092-093	M042: L 151 Gold Tint	
094-095	M043: L 152 pale gold	
096-097	M044: L 154 pale rose	
098-099	M045: L 156 Chocolate	
100-101	M046: L 164 flame red	
102-103	M047: L 170 deep lavender	
104-105	M048: L 174 dark steel blue	
106-107	M049: L 176 loving amber	
108-109	M050: L 179 chrome orange	
110-111	M051: L 180 dark lavender	
112-113	M052: L 181 congo blue	

DMX CHANNEL	10	Parameter: <b>GEL LIBRARY</b> (priority on RGBACL channels)
<b>DMX value</b>	<b>Function</b>	
114-115	M053: L 182 Light Red	
116-117	M054: L 194 Surprise Pink	
118-119	M055: L 195 zenith blue	
120-121	M056: L 200 Double C.T. Blue	
122-123	M057: L 201 Full C.T. Blue	
124-125	M058: L 202 Half C.T Blue	
126-127	M059: L 203 Quarter C.T. Blue	
128-129	M060: L 204 Full C.T. Orange	
130-131	M061: L 205 Half C.T. Orange	
132-133	M062: L 206 Quarter C.T. Orange	
134-135	M063: L 242 Fluorescent 4300 Kevin	
136-137	M064: L 249 1/4 minus green	
138-139	M065: L 323 jade	
140-141	M066: L 328 Follies Pink	
142-143	M067: L 343 special medium lavender	
144-145	M068: L 345 fuchsia pink	
146-147	M069: L 341 Plum	
148-149	M070: L 353 lighter blue	
150-151	M071: L 506 Marlene	
152-153	M072: L 601 Silver	
154-155	M073: L 725 Old Steel Blue	
156-157	M074: L 728 Steel Green	
158-159	M075: L 731 Dirty Ice	
160-161	M076: L 765 LEE Yellow	
162-163	M077: L 777 rust	
164-165	M078: L 795 Magical Magenta	
166-167	M079: L 797 Deep Purple	
168-169	M080: R 03 Dark Bastard Amber	
170-171	M081: R 05 Rose tint	
172-173	M082: R 11 Light Straw	
174-175	M083: R 23 Orange	
176-177	M084: R 25 Orange Red	
178-179	M085: R 31 Salmon Pink	
180-181	M086: R 35 Light pink	
182-183	M087: R 40 Light Salmon	
184-185	M088: R 54 special lavender	
186-187	M089: R 57 Lavender	
188-189	M090: R 61 Mist Blue	
190-191	M091: R 68 Parry Sky Blue	
192-193	M092: R 75 Twilight Blue	
194-195	M093: R 79 Bright Blue	
196-197	M094: R 82 Surprise Blue	
198-199	M095: R 89 Moss Green	
200-201	M096: R 303 Warm Peach	
202-203	M097: R 318 Mayan Sun	
204-205	M098: R 363 Aquamarine	
206-207	M099: R 385 Royal Blue	
208-209	M100: R 386 Leaf Green	
210-255	No function	

DMX CHANNEL	11	Parameter: <b>RED</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Proportional color from min to max	

DMX CHANNEL	12	Parameter: <b>GREEN</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Proportional color from min to max	

DMX CHANNEL	13	Parameter: <b>BLUE</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Proportional color from min to max	

DMX CHANNEL	14	Parameter: <b>AMBER</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Proportional color from min to max	

DMX CHANNEL	15	Parameter: <b>CYAN</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Proportional color from min to max	

DMX CHANNEL	16	Parameter: <b>LIME</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Proportional color from min to max	

DMX CHANNEL	17	Parameter: <b>FROST/COLOUR WHEEL</b>
<b>DMX value</b>	<b>Function</b>	
000-009	No Function	
010-050	Light frost	
051-090	Heavy frost	
091-130	Deep blue filter switch ON (BLUE channel forced at full)	
131-170	Deep red filter switch ON (RED channel forced at full)	
171-210	Deep blue filter manual control	
211-255	Deep red filter manual control	

DMX CHANNEL	18	Parameter: <b>BEAM SHAPER</b>
<b>DMX value</b>	<b>Function</b>	
000-009	No Function	
010-255	Beam shaper inserted	



DMX CHANNEL	19	Parameter: <b>BEAM SHAPER INDEX/ROTATION</b>
<b>DMX value</b>	<b>Function</b>	
000-009	No Function	
010-127	Proportional index 0°-360°	
128-180	CW rotation from fast to slow	
181-202	Stop	
203-255	CCW rotation from slow to fast	

DMX CHANNEL	20	Parameter: <b>Reserved</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Reserved	

DMX CHANNEL	21	Parameter: <b>ZOOM</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Linear zoom from min to max	

DMX CHANNEL	22	Parameter: <b>FIXTURE CONTROL</b>
		<b>Function</b>
000-009	0	- No effect
010-024	1	- SMOOTH DIMMING OFF
025-026	2	- SMOOTH DIMMING 1
027-028	3	- SMOOTH DIMMING 2
029-030	4	- SMOOTH DIMMING 3
031-032	5	- SMOOTH DIMMING 4 (Default)
033-034	6	- SMOOTH DIMMING 5
035-036	7	- SMOOTH DIMMING 6
037-038	8	- SMOOTH DIMMING 7
039-040	9	- SMOOTH DIMMING 8
041-042	10	- SMOOTH DIMMING 9
043-044	11	- SMOOTH DIMMING 10
045-046	12	- SMOOTH DIMMING 11
047-048	13	- SMOOTH DIMMING 12
049-050	14	- SMOOTH DIMMING 13
051-052	15	- SMOOTH DIMMING 14
053-054	16	- SMOOTH DIMMING 15
055-056	17	- SMOOTH DIMMING 16
057-058	18	- SMOOTH DIMMING 17
059-060	19	- SMOOTH DIMMING 18
061-062	20	- SMOOTH DIMMING 19
063-064	21	- SMOOTH DIMMING 20
065-066	22	- GAMMA CORRECTION QUADRATIC (Default)
067-068	23	- GAMMA CORRECTION LINEAR
069-070	24	- GAMMA CORRECTION S-CURVE
071-072	25	- GAMMA CORRECTION 2.2
073-074	26	- reserved
075-076	27	- TUNGSTEN EMULATION DISABLED (Default) (to be defined)
077-078	28	- TUNGSTEN EMULATION ENABLED (to be defined)
079-080	29	- CROSSFADE CURVE INTERMEDIATE (Default)
081-082	30	- CROSSFADE CURVE TRANSITION
083-084	31	- reserved
085-104	32	- OUTPUT FREQUENCY 610 Hz
105	33	- OUTPUT FREQUENCY 800 Hz
106	34	- OUTPUT FREQUENCY 1000 Hz (Default)
107	35	- OUTPUT FREQUENCY 1500 Hz
108	36	- OUTPUT FREQUENCY 2000 Hz
109	37	- OUTPUT FREQUENCY 2500 Hz
110	38	- OUTPUT FREQUENCY 3000 Hz
111	39	- OUTPUT FREQUENCY 3500 Hz
112	40	- OUTPUT FREQUENCY 4000 Hz
113	41	- OUTPUT FREQUENCY 4500 Hz
114	42	- OUTPUT FREQUENCY 5000 Hz
115	43	- reserved
116	44	- reserved
117	45	- reserved
118	46	- reserved
119	47	- reserved
120	48	- reserved
121	49	- reserved
122	50	- reserved
123	51	- reserved

DMX CHANNEL	22	Parameter: <b>FIXTURE CONTROL</b>
		<b>Function</b>
124	52 - reserved	
125	53 - reserved	
126	54 - reserved	
127	55 - reserved	
128	56 - reserved	
129	57 - reserved	
130	58 - reserved	
131	59 - reserved	
132	60 - reserved	
133	61 - reserved	
134	62 - reserved	
135-136	63 - reserved	
137-138	64 - reserved	
139-140	65 - reserved	
141-142	66 - reserved	
143-144	67 - reserved	
145-146	68 - reserved	
147-148	69 - reserved	
149-150	70 - reserved	
151-152	71 - reserved	
153-154	72 - reserved	
155-156	73 - DISPLAY STANDBY DISABLED (Default)	
157-158	74 - DISPLAY STANDBY ENABLED	
159-160	75 - DISPLAY STANDBY FORCED ENABLED	
161-174	76 - reserved	
175-176	77 - NO DMX ACTION - KEEP LAST DMX (Default)	
177-178	78 - NO DMX ACTION - BLACK OUT	
179-180	79 - reserved	
181-182	80 - NO DMX ACTION - DEMO PROGRAM (STEPS 01..48)	
183-184	81 - NO DMX ACTION - SINGLE CUE	
185-186	82 - PAN NORMAL (Default)	
187-188	83 - PAN REVERSE	
189-190	84 - reserved	
191-192	85 - reserved	
193-194	86 - reserved	
195-196	87 - reserved	
197-198	88 - TILT NORMAL (Default)	
199-200	89 - TILT REVERSE	
201-202	90 - reserved	
203-204	91 - reserved	
205-206	92 - reserved	
207-208	93 - reserved	
209-210	94 - ZOOM NORMAL (Default)	
211-212	95 - ZOOM REVERSE	
213-214	96 - reserved	
215-216	97 - reserved	
217-218	98 - reserved	
219-220	99 - reserved	
221-222	100 - reserved	
223-224	101 - reserved	
225-226	102 - reserved	
227-228	103 - reserved	
229-230	104 - reserved	
231-232	105 - reserved	
233-234	106 - reserved	

DMX CHANNEL	22	Parameter: <b>FIXTURE CONTROL</b>
		<b>Function</b>
235-236	107	- OPERATING MODE SILENT (Default)
237-238	108	- OPERATING MODE STANDARD
239-240	109	- reserved
241-242	110	- FAN MODE CONSTANT (Default)
243-244	111	- FAN MODE AUTO
245-246	112	- reserved
247-248	113	- reserved
249-250	114	- reserved
251-252	115	- reserved
253-255	116	SET FUNCTION TO DEFAULT: -SMOOTH DIMMING = 4 -GAMMA = QUADRATIC -FREQUENCY = 1000 Hz -DISPLAY STANDBY = DISABLE -NO DMX ACTION = KEEP LAST DMX -OPERATING MODE = SILENT -FAN MODE = CONSTANT -PAN DIRECTION = NORMAL -TILT DIRECTION = NORMAL -ZOOM DIRECTION = NORMAL -TUNGSTEN EMULATION = DISABLED -CROSSFADE CURVE = INTERMEDIATE

DMX CHANNEL	23	Parameter: <b>RESET</b>
<b>DMX value</b>		<b>Function</b>
000-009		No effect
010-075		PAN TILT reset
076-095		HEAD MOTORS reset
096-115		reserved
116-135		Effects wheel reset
136-155		reserved
156-175		reserved
176-195		BEAM SHAPER reset
196-215		reserved
216-239		ZOOM reset
240-255		Total unit reset (PAN TILT + HEAD MOTORS)

#### 4. “EXPO” mode (13 DMX channels)

- 1 PAN msb
- 2 PAN lsb
- 3 TILT msb
- 4 TILT lsb
- 5 SHUTTER
- 6 DIMMER
- 7 CCT (1.800K – 10.000K) (*priority on GEL LIBRARY*)
- 8 GEL LIBRARY
- 9 FROST/COLOUR WHEEL
- 10 BEAM SHAPER + BEAM SHP INDEX/ROTATION
- 11 ZOOM
- 12 FIXTURE CONTROL
- 13 RESET

DMX CHANNEL	1	Parameter: <b>PAN msb</b>
DMX CHANNEL	2	Parameter: <b>PAN lsb</b>

DMX CHANNEL	3	Parameter: <b>TILT msb</b>
DMX CHANNEL	4	Parameter: <b>TILT lsb</b>

DMX CHANNEL	5	Parameter: <b>SHUTTER</b>
DMX value	Function	
000-009	Black Out	
010-019	Open	
020-029	Black Out	
030-119	Strobe (from 3,27s to 30ms)	
120-149	Pulse up (from 42,6s to 120ms)	
150-179	Pulse down (from 42,6s to 120ms)	
180-189	Random strobe	
190-199	Open	
200-209	Effect wheel in Black Out while rotating	
210-219	Pan/Tilt in Black Out while moving	
220-222	Open	
223-224	Beam shaper in Black Out while inserting	
225-226	Zoom in Black Out while moving	
227-229	Effect wheel/Beam Shaper/Zoom in Black Out while moving	
230-255	Open	

DMX CHANNEL	6	Parameter: <b>DIMMER msb</b>
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DMX CHANNEL	7	Parameter: <b>CCT</b> ( <i>priority on GEL LIBRARY</i> )
<b>DMX value</b>	<b>Function</b>	
000-009	No function	
010-255	Correlated colour temperature from 1800K to 10000K.  Relevant CCT values: 1800K = 010 2700K = 070 3000K = 083 3200K = 092 4000K = 119 5000K = 148 5600K = 163 6000K = 174 6500K = 184 7000K = 195 8000K = 215 9000K = 233 10000K = 255	

DMX CHANNEL	8	Parameter: <b>GEL LIBRARY</b>
<b>DMX value</b>	<b>Function</b>	
000-009	No function	
010-011	M001: L 002 Rose Pink	
012-013	M002: L 007 Pale Yellow	
014-015	M003: L 015 Deep Straw	
016-017	M004: L 019 fire	
018-019	M005: L 020 medium amber	
020-021	M006: L 021 Gold Amber	
022-023	M007: L 022 Dark Amber	
024-025	M008: L 025 sunset red	
026-027	M009: L 046 Dark Magenta	
028-029	M010: L 049 Medium Purple	
030-031	M011: L 058 Lavender	
032-033	M012: L 068 Sky Blue	
034-035	M013: L 079 Just Blue	
036-037	M014: L 085 Deeper Blue	
038-039	M015: L 088 Lime Green	
040-041	M016: L 089 moss green	
042-043	M017: L 100 Spring Yellow	
044-045	M018: L 101 yellow	
046-047	M019: L 102 light amber	
048-049	M020: L 103 Straw	
050-051	M021: L 104 DEEP AMBER	
052-053	M022: L 105 Orange	
054-055	M023: L 106 primary red	
056-057	M024: L 108 English rose	
058-059	M025: L 111 dark pink	
060-061	M026: L 113 magenta	
062-063	M027: L 115 peacock blue	
064-065	M028: L 117 Steel Blue	
066-067	M029: L 118 LIGHT BLU	
068-069	M030: L 119 dark blue	
070-071	M031: L 121 lee green	
072-073	M032: L 122 fern green	
074-075	M033: L 124 dark green	
076-077	M034: L 126 mauve	
078-079	M035: L 132 Medium Blue	
080-081	M036: L 136 Pale Lavender	
082-083	M037: L 137 Special lavender	
084-085	M038: L 138 Pale Green	
086-087	M039: L 139 primary green	
088-089	M040: L 142 Pale Violet	
090-091	M041: L 147 apricot	
092-093	M042: L 151 Gold Tint	
094-095	M043: L 152 pale gold	
096-097	M044: L 154 pale rose	
098-099	M045: L 156 Chocolate	
100-101	M046: L 164 flame red	
102-103	M047: L 170 deep lavender	
104-105	M048: L 174 dark steel blue	
106-107	M049: L 176 loving amber	
108-109	M050: L 179 chrome orange	
110-111	M051: L 180 dark lavender	
112-113	M052: L 181 congo blue	

DMX CHANNEL	8	Parameter: <b>GEL LIBRARY</b>
<b>DMX value</b>	<b>Function</b>	
114-115	M053: L 182 Light Red	
116-117	M054: L 194 Surprise Pink	
118-119	M055: L 195 zenith blue	
120-121	M056: L 200 Double C.T. Blue	
122-123	M057: L 201 Full C.T. Blue	
124-125	M058: L 202 Half C.T Blue	
126-127	M059: L 203 Quarter C.T. Blue	
128-129	M060: L 204 Full C.T. Orange	
130-131	M061: L 205 Half C.T. Orange	
132-133	M062: L 206 Quarter C.T. Orange	
134-135	M063: L 242 Fluorescent 4300 Kevin	
136-137	M064: L 249 1/4 minus green	
138-139	M065: L 323 jade	
140-141	M066: L 328 Follies Pink	
142-143	M067: L 343 special medium lavender	
144-145	M068: L 345 fuchsia pink	
146-147	M069: L 341 Plum	
148-149	M070: L 353 lighter blue	
150-151	M071: L 506 Marlene	
152-153	M072: L 601 Silver	
154-155	M073: L 725 Old Steel Blue	
156-157	M074: L 728 Steel Green	
158-159	M075: L 731 Dirty Ice	
160-161	M076: L 765 LEE Yellow	
162-163	M077: L 777 rust	
164-165	M078: L 795 Magical Magenta	
166-167	M079: L 797 Deep Purple	
168-169	M080: R 03 Dark Bastard Amber	
170-171	M081: R 05 Rose tint	
172-173	M082: R 11 Light Straw	
174-175	M083: R 23 Orange	
176-177	M084: R 25 Orange Red	
178-179	M085: R 31 Salmon Pink	
180-181	M086: R 35 Light pink	
182-183	M087: R 40 Light Salmon	
184-185	M088: R 54 special lavender	
186-187	M089: R 57 Lavender	
188-189	M090: R 61 Mist Blue	
190-191	M091: R 68 Parry Sky Blue	
192-193	M092: R 75 Twilight Blue	
194-195	M093: R 79 Bright Blue	
196-197	M094: R 82 Surprise Blue	
198-199	M095: R 89 Moss Green	
200-201	M096: R 303 Warm Peach	
202-203	M097: R 318 Mayan Sun	
204-205	M098: R 363 Aquamarine	
206-207	M099: R 385 Royal Blue	
208-209	M100: R 386 Leaf Green	
210-255	No function	



DMX CHANNEL	9	Parameter: <b>FROST/COLOUR WHEEL</b>
<b>DMX value</b>	<b>Function</b>	
000-009	No Function	
010-050	Light frost	
051-090	Heavy frost	
091-130	Deep blue filter switch ON (BLUE channel forced at full)	
131-170	Deep red filter switch ON (RED channel forced at full)	
171-210	Deep blue filter manual control	
211-255	Deep red filter manual control	

DMX CHANNEL	10	Parameter: <b>BEAM SHAPER + BEAM SHP INDEX/ROTATION</b>
<b>DMX value</b>	<b>Function</b>	
000-009	No Function (Beam shaper not inserted)	
010-127	Proportional index 0°-360° (Beam shaper inserted)	
128-180	CW rotation from fast to slow (Beam shaper inserted)	
181-202	Stop (Beam shaper inserted)	
203-255	CCW rotation from slow to fast (Beam shaper inserted)	

DMX CHANNEL	11	Parameter: <b>ZOOM</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Linear zoom from min to max	

DMX CHANNEL	12	Parameter: <b>FIXTURE CONTROL</b>
		<b>Function</b>
000-009	0	- No effect
010-024	1	- SMOOTH DIMMING OFF
025-026	2	- SMOOTH DIMMING 1
027-028	3	- SMOOTH DIMMING 2
029-030	4	- SMOOTH DIMMING 3
031-032	5	- SMOOTH DIMMING 4 (Default)
033-034	6	- SMOOTH DIMMING 5
035-036	7	- SMOOTH DIMMING 6
037-038	8	- SMOOTH DIMMING 7
039-040	9	- SMOOTH DIMMING 8
041-042	10	- SMOOTH DIMMING 9
043-044	11	- SMOOTH DIMMING 10
045-046	12	- SMOOTH DIMMING 11
047-048	13	- SMOOTH DIMMING 12
049-050	14	- SMOOTH DIMMING 13
051-052	15	- SMOOTH DIMMING 14
053-054	16	- SMOOTH DIMMING 15
055-056	17	- SMOOTH DIMMING 16
057-058	18	- SMOOTH DIMMING 17
059-060	19	- SMOOTH DIMMING 18
061-062	20	- SMOOTH DIMMING 19
063-064	21	- SMOOTH DIMMING 20
065-066	22	- GAMMA CORRECTION QUADRATIC (Default)
067-068	23	- GAMMA CORRECTION LINEAR
069-070	24	- GAMMA CORRECTION S-CURVE
071-072	25	- GAMMA CORRECTION 2.2
073-074	26	- reserved
075-076	27	- TUNGSTEN EMULATION DISABLED (Default) (to be defined)
077-078	28	- TUNGSTEN EMULATION ENABLED (to be defined)
079-080	29	- CROSSFADE CURVE INTERMEDIATE (Default)
081-082	30	- CROSSFADE CURVE TRANSITION
083-084	31	- reserved
085-104	32	- OUTPUT FREQUENCY 610 Hz
105	33	- OUTPUT FREQUENCY 800 Hz
106	34	- OUTPUT FREQUENCY 1000 Hz (Default)
107	35	- OUTPUT FREQUENCY 1500 Hz
108	36	- OUTPUT FREQUENCY 2000 Hz
109	37	- OUTPUT FREQUENCY 2500 Hz
110	38	- OUTPUT FREQUENCY 3000 Hz
111	39	- OUTPUT FREQUENCY 3500 Hz
112	40	- OUTPUT FREQUENCY 4000 Hz
113	41	- OUTPUT FREQUENCY 4500 Hz
114	42	- OUTPUT FREQUENCY 5000 Hz
115	43	- reserved
116	44	- reserved
117	45	- reserved
118	46	- reserved
119	47	- reserved
120	48	- reserved
121	49	- reserved
122	50	- reserved
123	51	- reserved

DMX CHANNEL	12	Parameter: <b>FIXTURE CONTROL</b>
		<b>Function</b>
124	52 - reserved	
125	53 - reserved	
126	54 - reserved	
127	55 - reserved	
128	56 - reserved	
129	57 - reserved	
130	58 - reserved	
131	59 - reserved	
132	60 - reserved	
133	61 - reserved	
134	62 - reserved	
135-136	63 - reserved	
137-138	64 - reserved	
139-140	65 - reserved	
141-142	66 - reserved	
143-144	67 - reserved	
145-146	68 - reserved	
147-148	69 - reserved	
149-150	70 - reserved	
151-152	71 - reserved	
153-154	72 - reserved	
155-156	73 - DISPLAY STANDBY DISABLED (Default)	
157-158	74 - DISPLAY STANDBY ENABLED	
159-160	75 - DISPLAY STANDBY FORCED ENABLED	
161-174	76 - reserved	
175-176	77 - NO DMX ACTION - KEEP LAST DMX (Default)	
177-178	78 - NO DMX ACTION - BLACK OUT	
179-180	79 - reserved	
181-182	80 - NO DMX ACTION - DEMO PROGRAM (STEPS 01..48)	
183-184	81 - NO DMX ACTION - SINGLE CUE	
185-186	82 - PAN NORMAL (Default)	
187-188	83 - PAN REVERSE	
189-190	84 - reserved	
191-192	85 - reserved	
193-194	86 - reserved	
195-196	87 - reserved	
197-198	88 - TILT NORMAL (Default)	
199-200	89 - TILT REVERSE	
201-202	90 - reserved	
203-204	91 - reserved	
205-206	92 - reserved	
207-208	93 - reserved	
209-210	94 - ZOOM NORMAL (Default)	
211-212	95 - ZOOM REVERSE	
213-214	96 - reserved	
215-216	97 - reserved	
217-218	98 - reserved	
219-220	99 - reserved	
221-222	100 - reserved	
223-224	101 - reserved	
225-226	102 - reserved	
227-228	103 - reserved	
229-230	104 - reserved	
231-232	105 - reserved	
233-234	106 - reserved	

DMX CHANNEL	12	Parameter: <b>FIXTURE CONTROL</b>
		<b>Function</b>
235-236	107	- OPERATING MODE SILENT (Default)
237-238	108	- OPERATING MODE STANDARD
239-240	109	- reserved
241-242	110	- FAN MODE CONSTANT (Default)
243-244	111	- FAN MODE AUTO
245-246	112	- reserved
247-248	113	- reserved
249-250	114	- reserved
251-252	115	- reserved
253-255	116	SET FUNCTION TO DEFAULT: -SMOOTH DIMMING = 4 -GAMMA = QUADRATIC -FREQUENCY = 1000 Hz -DISPLAY STANDBY = DISABLE -NO DMX ACTION = KEEP LAST DMX -OPERATING MODE = SILENT -FAN MODE = CONSTANT -PAN DIRECTION = NORMAL -TILT DIRECTION = NORMAL -ZOOM DIRECTION = NORMAL -TUNGSTEN EMULATION = DISABLED -CROSSFADE CURVE = INTERMEDIATE

DMX CHANNEL	13	Parameter: <b>RESET</b>
<b>DMX value</b>		<b>Function</b>
000-009		No effect
010-075		PAN TILT reset
076-095		HEAD MOTORS reset
096-115		reserved
116-135		Effects wheel reset
136-155		reserved
156-175		reserved
176-195		BEAM SHAPER reset
196-215		reserved
216-239		ZOOM reset
240-255		Total unit reset (PAN TILT + HEAD MOTORS)

## 5. “CMY EMULATION” mode (23 DMX channels)

- **Source color temperature always 7000K.**
- **CMY / CTO channels variations will affect Gel Library 1 and 2 channels.**

- 1 PAN msb
- 2 PAN lsb
- 3 TILT msb
- 4 TILT lsb
- 5 SPEED MOVEMENT
- 6 SHUTTER
- 7 DIMMER msb
- 8 DIMMER lsb
- 9 GREEN SATURATION
- 10 GEL LIBRARY 1
- 11 GELS X-FADE
- 12 GEL LIBRARY 2
- 13 CYAN
- 14 MAGENTA
- 15 YELLOW
- 16 CTO
- 17 FROST/COLOUR WHEEL
- 18 BEAM SHAPER
- 19 BEAM SHAPER INDEX/ROTATION
- 20 Reserved
- 21 ZOOM
- 22 FIXTURE CONTROL
- 23 RESET

DMX CHANNEL	1	Parameter: <b>PAN msb</b>
DMX CHANNEL	2	Parameter: <b>PAN lsb</b>

DMX CHANNEL	3	Parameter: <b>TILT msb</b>
DMX CHANNEL	4	Parameter: <b>TILT lsb</b>

DMX CHANNEL	5	Parameter: <b>SPEED MOVEMENT</b>
DMX value	Function	
000-009	Fast movement	
010-025	Standard movement	
026-127	Vector mode from fast to slow	
128-247	Variable time reaction to dmx signal (fast to slow)	
248-250	Silent movement	
251-255	Snap movement	

DMX CHANNEL	6	Parameter: <b>SHUTTER</b>
<b>DMX value</b>	<b>Function</b>	
000-009	Black Out	
010-019	Open	
020-029	Black Out	
030-119	Strobe (from 3,27s to 30ms)	
120-149	Pulse up (from 42,6s to 120ms)	
150-179	Pulse down (from 42,6s to 120ms)	
180-189	Random strobe	
190-199	Open	
200-209	Effect wheel in Black Out while rotating	
210-219	Pan/Tilt in Black Out while moving	
220-222	Open	
223-224	Beam shaper in Black Out while inserting	
225-226	Zoom in Black Out while moving	
227-229	Effect wheel/Beam Shaper/Zoom in Black Out while moving	
230-255	Open	

DMX CHANNEL	7	Parameter: <b>DIMMER msb</b>
DMX CHANNEL	8	Parameter: <b>DIMMER lsb</b>

DMX CHANNEL	9	Parameter: <b>GREEN SATURATION</b>
<b>DMX value</b>	<b>Function</b>	
000-127	From full minus green to neutral	
128	Neutral (Default)	
129-255	From neutral to full plus green	

DMX CHANNEL	10	Parameter: GEL LIBRARY 1
<b>DMX value</b>	<b>Function</b>	
000-009	No function	
010-011	M001: L 002 Rose Pink	
012-013	M002: L 007 Pale Yellow	
014-015	M003: L 015 Deep Straw	
016-017	M004: L 019 fire	
018-019	M005: L 020 medium amber	
020-021	M006: L 021 Gold Amber	
022-023	M007: L 022 Dark Amber	
024-025	M008: L 025 sunset red	
026-027	M009: L 046 Dark Magenta	
028-029	M010: L 049 Medium Purple	
030-031	M011: L 058 Lavender	
032-033	M012: L 068 Sky Blue	
034-035	M013: L 079 Just Blue	
036-037	M014: L 085 Deeper Blue	
038-039	M015: L 088 Lime Green	
040-041	M016: L 089 moss green	
042-043	M017: L 100 Spring Yellow	
044-045	M018: L 101 yellow	
046-047	M019: L 102 light amber	
048-049	M020: L 103 Straw	
050-051	M021: L 104 DEEP AMBER	
052-053	M022: L 105 Orange	
054-055	M023: L 106 primary red	
056-057	M024: L 108 English rose	
058-059	M025: L 111 dark pink	
060-061	M026: L 113 magenta	
062-063	M027: L 115 peacock blue	
064-065	M028: L 117 Steel Blue	
066-067	M029: L 118 LIGHT BLU	
068-069	M030: L 119 dark blue	
070-071	M031: L 121 lee green	
072-073	M032: L 122 fern green	
074-075	M033: L 124 dark green	
076-077	M034: L 126 mauve	
078-079	M035: L 132 Medium Blue	
080-081	M036: L 136 Pale Lavender	
082-083	M037: L 137 Special lavender	
084-085	M038: L 138 Pale Green	
086-087	M039: L 139 primary green	
088-089	M040: L 142 Pale Violet	
090-091	M041: L 147 apricot	
092-093	M042: L 151 Gold Tint	
094-095	M043: L 152 pale gold	
096-097	M044: L 154 pale rose	
098-099	M045: L 156 Chocolate	
100-101	M046: L 164 flame red	
102-103	M047: L 170 deep lavender	
104-105	M048: L 174 dark steel blue	
106-107	M049: L 176 loving amber	
108-109	M050: L 179 chrome orange	
110-111	M051: L 180 dark lavender	
112-113	M052: L 181 congo blue	

DMX CHANNEL	10	Parameter: <b>GEL LIBRARY 1</b>
<b>DMX value</b>	<b>Function</b>	
114-115	M053: L 182 Light Red	
116-117	M054: L 194 Surprise Pink	
118-119	M055: L 195 zenith blue	
120-121	M056: L 200 Double C.T. Blue	
122-123	M057: L 201 Full C.T. Blue	
124-125	M058: L 202 Half C.T Blue	
126-127	M059: L 203 Quarter C.T. Blue	
128-129	M060: L 204 Full C.T. Orange	
130-131	M061: L 205 Half C.T. Orange	
132-133	M062: L 206 Quarter C.T. Orange	
134-135	M063: L 242 Fluorescent 4300 Kevin	
136-137	M064: L 249 1/4 minus green	
138-139	M065: L 323 jade	
140-141	M066: L 328 Follies Pink	
142-143	M067: L 343 special medium lavender	
144-145	M068: L 345 fuchsia pink	
146-147	M069: L 341 Plum	
148-149	M070: L 353 lighter blue	
150-151	M071: L 506 Marlene	
152-153	M072: L 601 Silver	
154-155	M073: L 725 Old Steel Blue	
156-157	M074: L 728 Steel Green	
158-159	M075: L 731 Dirty Ice	
160-161	M076: L 765 LEE Yellow	
162-163	M077: L 777 rust	
164-165	M078: L 795 Magical Magenta	
166-167	M079: L 797 Deep Purple	
168-169	M080: R 03 Dark Bastard Amber	
170-171	M081: R 05 Rose tint	
172-173	M082: R 11 Light Straw	
174-175	M083: R 23 Orange	
176-177	M084: R 25 Orange Red	
178-179	M085: R 31 Salmon Pink	
180-181	M086: R 35 Light pink	
182-183	M087: R 40 Light Salmon	
184-185	M088: R 54 special lavender	
186-187	M089: R 57 Lavender	
188-189	M090: R 61 Mist Blue	
190-191	M091: R 68 Parry Sky Blue	
192-193	M092: R 75 Twilight Blue	
194-195	M093: R 79 Bright Blue	
196-197	M094: R 82 Surprise Blue	
198-199	M095: R 89 Moss Green	
200-201	M096: R 303 Warm Peach	
202-203	M097: R 318 Mayan Sun	
204-205	M098: R 363 Aquamarine	
206-207	M099: R 385 Royal Blue	
208-209	M100: R 386 Leaf Green	
210-255	No function	

DMX CHANNEL	11	Parameter: <b>GEL X-FADE</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Crossfade between GEL LIBRARY 1 and GEL LIBRARY 2 0 = 100% GEL LIBRARY 1, 0% GEL LIBRARY 2 128 = 50% GEL LIBRARY 1, 50% GEL LIBRARY 2 255 = 0% GEL LIBRARY 1, 100% GEL LIBRARY 2	



DMX CHANNEL	12	Parameter: GEL LIBRARY 2
<b>DMX value</b>	<b>Function</b>	
000-009	No function	
010-011	M001: L 002 Rose Pink	
012-013	M002: L 007 Pale Yellow	
014-015	M003: L 015 Deep Straw	
016-017	M004: L 019 fire	
018-019	M005: L 020 medium amber	
020-021	M006: L 021 Gold Amber	
022-023	M007: L 022 Dark Amber	
024-025	M008: L 025 sunset red	
026-027	M009: L 046 Dark Magenta	
028-029	M010: L 049 Medium Purple	
030-031	M011: L 058 Lavender	
032-033	M012: L 068 Sky Blue	
034-035	M013: L 079 Just Blue	
036-037	M014: L 085 Deeper Blue	
038-039	M015: L 088 Lime Green	
040-041	M016: L 089 moss green	
042-043	M017: L 100 Spring Yellow	
044-045	M018: L 101 yellow	
046-047	M019: L 102 light amber	
048-049	M020: L 103 Straw	
050-051	M021: L 104 DEEP AMBER	
052-053	M022: L 105 Orange	
054-055	M023: L 106 primary red	
056-057	M024: L 108 English rose	
058-059	M025: L 111 dark pink	
060-061	M026: L 113 magenta	
062-063	M027: L 115 peacock blue	
064-065	M028: L 117 Steel Blue	
066-067	M029: L 118 LIGHT BLU	
068-069	M030: L 119 dark blue	
070-071	M031: L 121 lee green	
072-073	M032: L 122 fern green	
074-075	M033: L 124 dark green	
076-077	M034: L 126 mauve	
078-079	M035: L 132 Medium Blue	
080-081	M036: L 136 Pale Lavender	
082-083	M037: L 137 Special lavender	
084-085	M038: L 138 Pale Green	
086-087	M039: L 139 primary green	
088-089	M040: L 142 Pale Violet	
090-091	M041: L 147 apricot	
092-093	M042: L 151 Gold Tint	
094-095	M043: L 152 pale gold	
096-097	M044: L 154 pale rose	
098-099	M045: L 156 Chocolate	
100-101	M046: L 164 flame red	
102-103	M047: L 170 deep lavender	
104-105	M048: L 174 dark steel blue	
106-107	M049: L 176 loving amber	
108-109	M050: L 179 chrome orange	
110-111	M051: L 180 dark lavender	
112-113	M052: L 181 congo blue	

DMX CHANNEL	12	Parameter: <b>GEL LIBRARY 2</b>
<b>DMX value</b>	<b>Function</b>	
114-115	M053: L 182 Light Red	
116-117	M054: L 194 Surprise Pink	
118-119	M055: L 195 zenith blue	
120-121	M056: L 200 Double C.T. Blue	
122-123	M057: L 201 Full C.T. Blue	
124-125	M058: L 202 Half C.T Blue	
126-127	M059: L 203 Quarter C.T. Blue	
128-129	M060: L 204 Full C.T. Orange	
130-131	M061: L 205 Half C.T. Orange	
132-133	M062: L 206 Quarter C.T. Orange	
134-135	M063: L 242 Fluorescent 4300 Kevin	
136-137	M064: L 249 1/4 minus green	
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140-141	M066: L 328 Follies Pink	
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150-151	M071: L 506 Marlene	
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154-155	M073: L 725 Old Steel Blue	
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158-159	M075: L 731 Dirty Ice	
160-161	M076: L 765 LEE Yellow	
162-163	M077: L 777 rust	
164-165	M078: L 795 Magical Magenta	
166-167	M079: L 797 Deep Purple	
168-169	M080: R 03 Dark Bastard Amber	
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184-185	M088: R 54 special lavender	
186-187	M089: R 57 Lavender	
188-189	M090: R 61 Mist Blue	
190-191	M091: R 68 Parry Sky Blue	
192-193	M092: R 75 Twilight Blue	
194-195	M093: R 79 Bright Blue	
196-197	M094: R 82 Surprise Blue	
198-199	M095: R 89 Moss Green	
200-201	M096: R 303 Warm Peach	
202-203	M097: R 318 Mayan Sun	
204-205	M098: R 363 Aquamarine	
206-207	M099: R 385 Royal Blue	
208-209	M100: R 386 Leaf Green	
210-255	No function	

DMX CHANNEL	13	Parameter: <b>CYAN</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Proportional color from min to max	

DMX CHANNEL	14	Parameter: <b>MAGENTA</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Proportional color from min to max	

DMX CHANNEL	15	Parameter: <b>YELLOW</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Proportional color from min to max	

DMX CHANNEL	16	Parameter: <b>CTO</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Linear CTO from min to max 0 = 7000K 255 = 2700K	

DMX CHANNEL	17	Parameter: <b>FROST/COLOUR WHEEL</b>
<b>DMX value</b>	<b>Function</b>	
000-009	No Function	
010-050	Light frost	
051-090	Heavy frost	
091-130	Deep blue filter switch ON (BLUE channel forced at full)	
131-170	Deep red filter switch ON (RED channel forced at full)	
171-210	Deep blue filter manual control	
211-255	Deep red filter manual control	

DMX CHANNEL	18	Parameter: <b>BEAM SHAPER</b>
<b>DMX value</b>	<b>Function</b>	
000-009	No Function	
010-255	Beam shaper inserted	

DMX CHANNEL	19	Parameter: <b>BEAM SHAPER INDEX/ROTATION</b>
<b>DMX value</b>	<b>Function</b>	
000-009	No Function	
010-127	Proportional index 0°-360°	
128-180	CW rotation from fast to slow	
181-202	Stop	
203-255	CCW rotation from slow to fast	

DMX CHANNEL	20	Parameter: <b>Reserved</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Reserved	

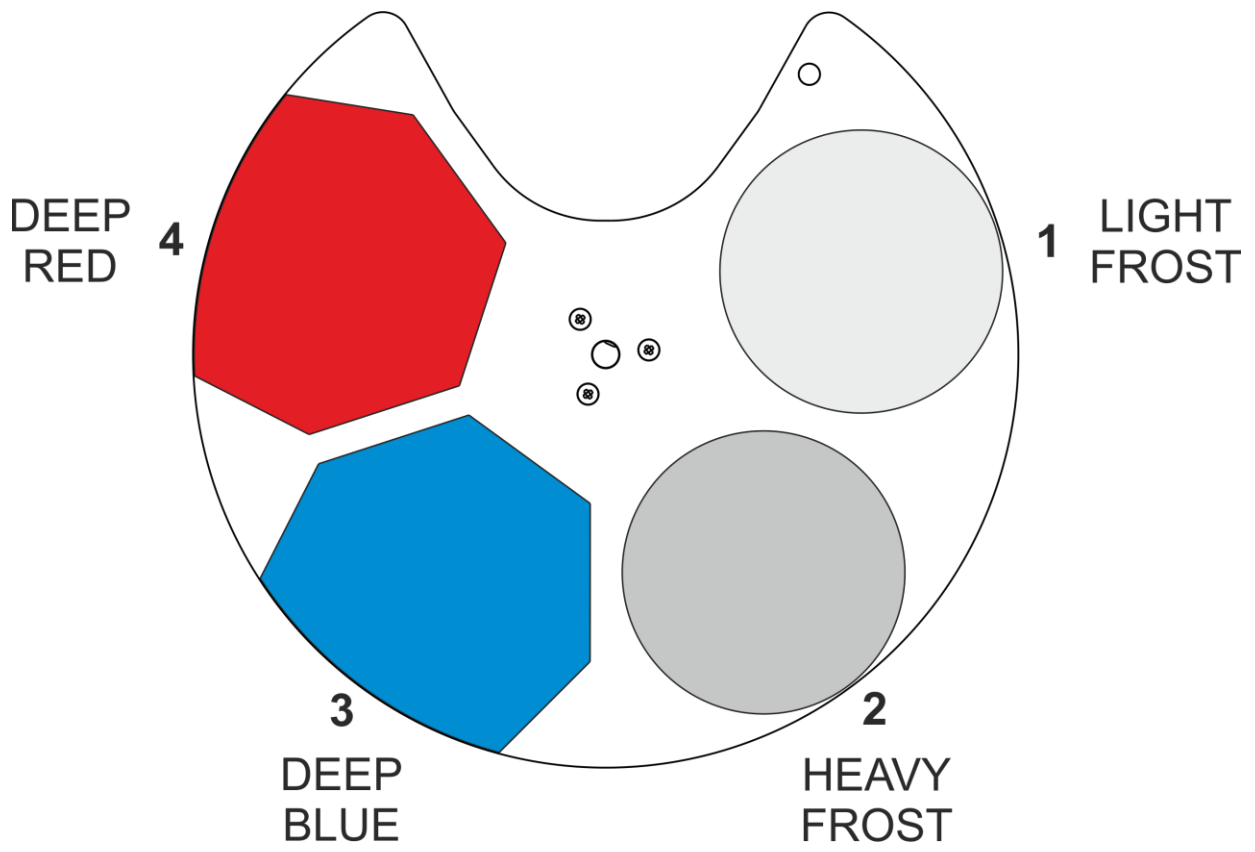
DMX CHANNEL	21	Parameter: <b>ZOOM</b>
<b>DMX value</b>	<b>Function</b>	
000-255	Linear zoom from min to max	

DMX CHANNEL	22	Parameter: <b>FIXTURE CONTROL</b>
		<b>Function</b>
000-009	0 - No effect	
010-024	1 - SMOOTH DIMMING OFF	
025-026	2 - SMOOTH DIMMING 1	
027-028	3 - SMOOTH DIMMING 2	
029-030	4 - SMOOTH DIMMING 3	
031-032	5 - SMOOTH DIMMING 4 (Default)	
033-034	6 - SMOOTH DIMMING 5	
035-036	7 - SMOOTH DIMMING 6	
037-038	8 - SMOOTH DIMMING 7	
039-040	9 - SMOOTH DIMMING 8	
041-042	10 - SMOOTH DIMMING 9	
043-044	11 - SMOOTH DIMMING 10	
045-046	12 - SMOOTH DIMMING 11	
047-048	13 - SMOOTH DIMMING 12	
049-050	14 - SMOOTH DIMMING 13	
051-052	15 - SMOOTH DIMMING 14	
053-054	16 - SMOOTH DIMMING 15	
055-056	17 - SMOOTH DIMMING 16	
057-058	18 - SMOOTH DIMMING 17	
059-060	19 - SMOOTH DIMMING 18	
061-062	20 - SMOOTH DIMMING 19	
063-064	21 - SMOOTH DIMMING 20	
065-066	22 - GAMMA CORRECTION QUADRATIC (Default)	
067-068	23 - GAMMA CORRECTION LINEAR	
069-070	24 - GAMMA CORRECTION S-CURVE	
071-072	25 - GAMMA CORRECTION 2.2	
073-074	26 - reserved	
075-076	27 - TUNGSTEN EMULATION DISABLED (Default) (to be defined)	
077-078	28 - TUNGSTEN EMULATION ENABLED (to be defined)	
079-080	29 - CROSSFADE CURVE INTERMEDIATE (Default)	
081-082	30 - CROSSFADE CURVE TRANSITION	
083-084	31 - reserved	
085-104	32 - OUTPUT FREQUENCY 610 Hz	
105	33 - OUTPUT FREQUENCY 800 Hz	
106	34 - OUTPUT FREQUENCY 1000 Hz (Default)	
107	35 - OUTPUT FREQUENCY 1500 Hz	
108	36 - OUTPUT FREQUENCY 2000 Hz	
109	37 - OUTPUT FREQUENCY 2500 Hz	
110	38 - OUTPUT FREQUENCY 3000 Hz	
111	39 - OUTPUT FREQUENCY 3500 Hz	
112	40 - OUTPUT FREQUENCY 4000 Hz	
113	41 - OUTPUT FREQUENCY 4500 Hz	
114	42 - OUTPUT FREQUENCY 5000 Hz	
115	43 - reserved	
116	44 - reserved	
117	45 - reserved	
118	46 - reserved	
119	47 - reserved	
120	48 - reserved	
121	49 - reserved	
122	50 - reserved	
123	51 - reserved	

DMX CHANNEL	22	Parameter: <b>FIXTURE CONTROL</b>
		<b>Function</b>
124	52 - reserved	
125	53 - reserved	
126	54 - reserved	
127	55 - reserved	
128	56 - reserved	
129	57 - reserved	
130	58 - reserved	
131	59 - reserved	
132	60 - reserved	
133	61 - reserved	
134	62 - reserved	
135-136	63 - reserved	
137-138	64 - reserved	
139-140	65 - reserved	
141-142	66 - reserved	
143-144	67 - reserved	
145-146	68 - reserved	
147-148	69 - reserved	
149-150	70 - reserved	
151-152	71 - reserved	
153-154	72 - reserved	
155-156	73 - DISPLAY STANDBY DISABLED (Default)	
157-158	74 - DISPLAY STANDBY ENABLED	
159-160	75 - DISPLAY STANDBY FORCED ENABLED	
161-174	76 - reserved	
175-176	77 - NO DMX ACTION - KEEP LAST DMX (Default)	
177-178	78 - NO DMX ACTION - BLACK OUT	
179-180	79 - reserved	
181-182	80 - NO DMX ACTION - DEMO PROGRAM (STEPS 01..48)	
183-184	81 - NO DMX ACTION - SINGLE CUE	
185-186	82 - PAN NORMAL (Default)	
187-188	83 - PAN REVERSE	
189-190	84 - reserved	
191-192	85 - reserved	
193-194	86 - reserved	
195-196	87 - reserved	
197-198	88 - TILT NORMAL (Default)	
199-200	89 - TILT REVERSE	
201-202	90 - reserved	
203-204	91 - reserved	
205-206	92 - reserved	
207-208	93 - reserved	
209-210	94 - ZOOM NORMAL (Default)	
211-212	95 - ZOOM REVERSE	
213-214	96 - reserved	
215-216	97 - reserved	
217-218	98 - reserved	
219-220	99 - reserved	
221-222	100 - reserved	
223-224	101 - reserved	
225-226	102 - reserved	
227-228	103 - reserved	
229-230	104 - reserved	
231-232	105 - reserved	
233-234	106 - reserved	

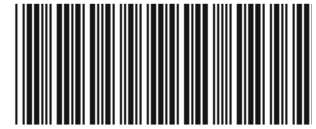
DMX CHANNEL	22	Parameter: <b>FIXTURE CONTROL</b>
		<b>Function</b>
235-236	107	- OPERATING MODE SILENT (Default)
237-238	108	- OPERATING MODE STANDARD
239-240	109	- reserved
241-242	110	- FAN MODE CONSTANT (Default)
243-244	111	- FAN MODE AUTO
245-246	112	- reserved
247-248	113	- reserved
249-250	114	- reserved
251-252	115	- reserved
253-255	116	SET FUNCTION TO DEFAULT: -SMOOTH DIMMING   = 4 -GAMMA           = QUADRATIC -FREQUENCY       = 1000 Hz -DISPLAY STANDBY = DISABLE -NO DMX ACTION   = KEEP LAST DMX -OPERATING MODE   = SILENT -FAN MODE         = CONSTANT -PAN DIRECTION   = NORMAL -TILT DIRECTION   = NORMAL -ZOOM DIRECTION   = NORMAL -TUNGSTEN EMULATION = DISABLED -CROSSFADE CURVE = INTERMEDIATE

DMX CHANNEL	23	Parameter: <b>RESET</b>
<b>DMX value</b>		<b>Function</b>
000-009		No effect
010-075		PAN TILT reset
076-095		HEAD MOTORS reset
096-115		reserved
116-135		Effects wheel reset
136-155		reserved
156-175		reserved
176-195		BEAM SHAPER reset
196-215		reserved
216-239		ZOOM reset
240-255		Total unit reset (PAN TILT + HEAD MOTORS)

22- FROST/COLOUR WHEEL

## **ISO 9001:2015**

DTS quality system is  
certified to the ISO  
9001:2015 standard



**05171348**



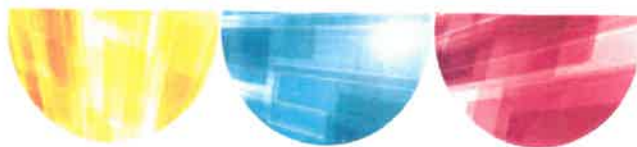
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## Alchemy 5

The new generation  
Fresnel LED wash light



### LIGHTING – PRODUCT SPECIFICATION

V1.0

PRODUCT SPECIFICATION ALCHEMY 5



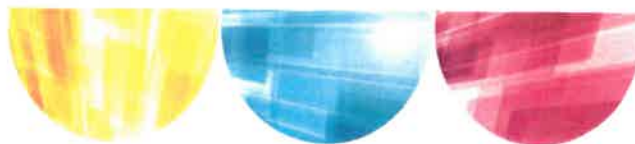
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## A. General

1. The luminaire shall be a 400W RGBACL LED Fresnel wash moving head with an electronically controlled LED source with the ability to spot and flood the beam as needed.
2. The luminaire shall be capable to provide fully tuneable white light from 1,800 K to 10,000 K and allow precise manipulation of intensity, green-magenta point (full minus-green and full plus-green) at any given color temperature, single-channel colors and two dedicated DMX channels with 100 digital emulations of the most used gel filters.
3. The precise continuous manipulation of intensity from 0% to 100% in 16 bits is guaranteed by 'Hi-Q Dimming' technology.
4. All functions shall be controllable through USITT DMX 512-A; the unit shall be fully RDM compatible.
5. An on-board management of the main functional parameters shall be available via manual control from the LCD graphic display with 4 soft keys; controllable parameters: pan (MSB and LSB), tilt (MSB and LSB), speed movement, shutter, dimmer (MSB and LSB), correlated colour temperature, green-magenta point, red, green, blue, amber, cyan, lime, frost, deep red and deep blue, beam shaper, beam shaper index / rotation, and zoom. The navigation screen shall feature crisp characters and Auto Flip function.
6. The luminaire shall be stand-mount or hanging in any position thanks to suitable clamps.
7. The luminaire shall have 10,800 Lumen output (after-lens).

## B. Physical

1. The luminaire shall be made of rugged bent sheet metal, covered with reinforced thermoplastic shells. Borosilicate glass 250 mm (9.8") Fresnel lens is mandatory. The unit shall have a top hat with a specific antireflection painting and shall automatically slide back inside the unit when it's disconnected from the electric power.
2. The body of the fixture shall be available in matt black finish. Pan (vertical axis) and tilt (horizontal axis) movements of the head can be locked via a dedicated button (red: lock; green: unlock).
3. Technical requirements for the Fresnel luminaire:
  - a. The Fresnel moving head shall have the dimensions not exceeding 451 mm (17.7") in length, 617.1 mm (24.3") in height with top hat fully ejected, 378.7 mm (14.9) in width.
  - b. Fresnel lens made in borosilicate glass shall have a 250 mm (9.8") diameter, featuring a top hat with a specific antireflection painting.
  - c. The unit can be hung via two fast-lock omega brackets. They can be installed in the base of the unit both ways via ¼ turn fast-lock connections.
  - d. Pan rotation shall be no less than 540° in maximum 4 seconds at maximum speed. Tilt rotation shall be no less than 220° in 2.5 second at maximum speed.
  - e. The beam angle shall range from 10° (spot) to 47° (flood). It can be increased to more than 52° by applying the internal frost filters.
  - f. Weight shall be 26.5 kg (58 lb.).
  - g. The photodiode shall be accompanied by a certification indicating that it is part of at least the third step of the MacAdam Lack (MacAdam Ellipses Step 3).
4. The luminaire shall be equipped with cooling fans with the possibility to set constant speed or automatic management of the fans' speed depending on the temperature of the LEDs. In automatic fans' speed mode, the fans can be off if the LED temperature is under 40° C (104° F)
5. The fan noise emission shall not exceed 38 dBA (1m) in 'silent' mode.
6. The LED emitters used in the fixture should be rated for nominal 20,000-hour LED life (70% intensity).
7. The luminaire shall provide monitoring of the total hours of use, as well as the single colours of the LED source; also, it shall monitor the current temperature of the LED, 2 LED drivers and the micro-controller.



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## C. Electrical

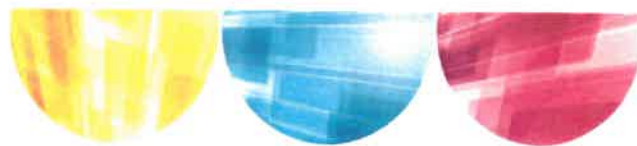
1. The luminaire shall be provided with a built-in power supply of 100 to 277 V AC 50/60Hz supply voltage.
2. The fixture shall include systems for over-voltage and over-temperature circuits protection.
3. The luminaire shall require power from a stable power line.
4. The nominal power consumption shall not exceed 460 W at full output. The device will be powered by PowerCon In-out plugs.
5. Available optional accessories shall include a power cable with a stripped end and a PowerCON TRUE1 female connector.
6. The fuse holder shall be easily accessible close to the connectors on the back of the fixture.
7. Only integrated light engines that will not emit light in the ultra-violet or the Infrared spectrum are acceptable.
8. A control and indicator panel for on-board control shall be available.
9. The fixture shall be equipped with an RDM/DMX interface.
10. XLR 5-pin DMX In and Out and 3-pin DMX In and Out shall be implemented.
11. The unit can be controlled via EtherCON RJ45 input using Art-Net/s-ACN signal with category 5 network cable.
12. It shall be possible to update the unit internal firmware, adjust operating parameters and service it via DMX connectors.

## D. Optical

1. The optical system shall offer a continuous focus range of 12° to 45° (+/- 10%), half peak angle with real Fresnel characteristics, an extremely smooth, uniform light field and clean shadow rendition with the following optical characteristics:
  - a. 250 mm (9.8") diameter Fresnel lens
  - b. 6-colour LED engine
  - c. CRI up to 98 and TLCI up to 96
  - d. Continuously variable correlated color temperature ranging from 1,800 K to 10,000 K. Continuously variable green-magenta adjustment
  - e. Full RGBACL colours with single channels programming or pre-programmed colours with minimum 100 gel filter emulations, and saturation control
  - f. True colour of gel filter emulations at any CCT values. Gel filters' color response fully adapts to linear CCT values
  - g. Two frost filters: light frost for soft edge projection, and heavy frost for hard edge projection.
  - h. Two dichroic filters for deep red and deep blue (Congo UV color)
2. The manufacturer ensures that there will be no differences in the quality of the light field between production batches of the lighting fixtures.

## E. Environmental

1. The fixture shall be rated IP 20 for use in a dry location
2. The fixture shall operate in environments with a temperature range of -10°C (-14°F) to 45°C (113°F)
3. The fixture shall be in compliance with CE standards.



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## F. Operation

1. It shall be possible to remote control the luminaire via DMX 512-A.
2. The fixture shall be fully RDM compatible and equipped with a feedback channel for reporting.
3. An onboard control featuring LCD graphic display with contrast regulation to access the menu shall be available.
4. The luminaire shall offer five DMX modes: CCT, Advanced, Basic, Expo and CMY emulation.
5. The different modes will include but not be limited to the following operating modes:
  - a. Basic mode shall require no more than 23 DMX channels and provide control over pan and tilt movement (msb and lsb), movement speed, shutter, dimmer intensity (msb and lsb), CCT from 1,800 K to 10,000 K (with the priority on gel library and RGBACL channels), gel library (with the priority on RGBACL), red, green, blue, amber, cyan, lime, frost / colour wheel, beam shaper, beam shaper index / rotation, zoom, fixture control and reset.
  - b. Expo mode shall require no more than 13 DMX channels and provide control over pan and tilt movement (msb and lsb), shutter, dimmer intensity, CCT from 1,800K to 10,000 K (with priority on gel library), gel library, frost / colour wheel, beam shaper + beam shaper index / rotation, zoom, fixture control and reset.
  - c. CMY Emulation mode shall use no more than 23 DMX channels and provide control over pan and tilt movement (msb and lsb), movement speed, shutter, dimmer intensity (msb and lsb), green saturation, two channels with gel library and a x-fade channel, cyan, magenta, yellow, CTO, frost / colour wheel, beam shaper, beam shaper index / rotation, zoom, fixture control and reset. In this mode, colour temperature is set on 7,000 K with addition of CMY and CTO (from 7,000 K to 2,700 K). CMY and CTO variation will affect Gel libraries.
  - d. Advanced mode shall use no more than 28 DMX channels and provide control over pan and tilt movement (msb and lsb), movement speed, shutter, dimmer intensity (msb and lsb), CCT from 1,800 K to 10,000 K, green saturation, two channels with gel library and a x-fade channel, gel filter desaturation, gel fade to single colors, red, green, blue, amber, cyan, lime, frost / colour wheel, beam shaper, beam shaper index / rotation, zoom, fixture control and reset.
  - e. CCT mode shall use no more than 20 DMX channels and provide control over pan and tilt movement (msb and lsb), movement speed, shutter, dimmer intensity (msb and lsb), CCT from 1,800 K to 10,000 K, green saturation, two channels with gel library and a x-fade channel, gel filter desaturation, frost / colour wheel, beam shaper, beam shaper index / rotation, zoom, fixture control and reset.

## G. Dimming

1. The fixture shall allow continuous linear and flicker free dimming from 0% to 100% in 16 bit mode.
2. Coarse and fine dimming shall be possible with 2 consecutive DMX channels in 8 bit mode. The first channel shall allow setting of the target value in 256 steps from 0 to 100% output value. The second channel shall allow an additional fine adjustment in 256 steps from 0 to 100% output value.
3. 'Hi-Q Dimming' technology guarantees perfect linear fade-in and fade-out at all dimming levels.
4. The fixture has 4 dimming curves selectable by the LCD graphic display, or via the dedicated DMX 'functions' channel. They can be: Linear, S-curve, Gamma 2.2, Quadratic.
5. PWM frequency can be set from 610 Hz to 5,000 Hz in 11 different steps by the LCD graphic display, or via a dedicated DMX 'functions' channel.



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## H. Accessories

Following accessories shall be available

1. General accessories:
  - a. Safety cable with Ring spring catch lift
  - b. Clamp or Aliscaf
  - c. Omega Bracket with 'fast Lock' connection ¼ turn
  - d. Dongle firmware uploader
2. Following accessories included mandatory:
  - a. PowerCON TRUE1 female connector
  - b. Foam shell to protect the units

PRODUCT SPECIFICATION ALCHEMY 5