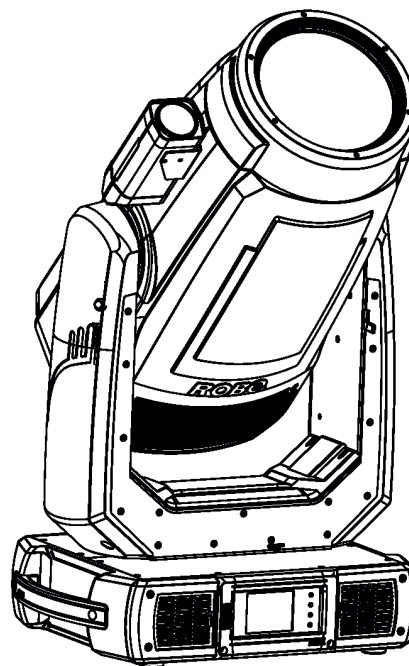
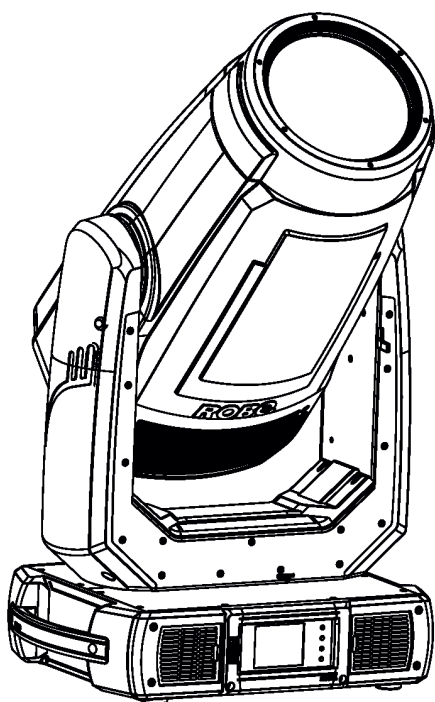




## **ROBIN<sup>®</sup> Forte**

## **ROBIN<sup>®</sup> Forte FS**



## **USER MANUAL**

Version 2.4

# Robin Forte

# Robin Forte FS

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**CAUTION!**  
***Keep this device away from rain and moisture!***  
***Unplug mains lead before opening the housing!***

**FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY  
BEFORE YOU INITIAL START - UP!**

## **1. Safety instructions**

***Please use only an original ROBE packaging (paper box, loader case or foam shell) for transporting the device, otherwise potential damage of the device during its transport will not subject to warranty.***

**CAUTION!**  
***Be careful with your operations.***  
***With a high voltage you can suffer***  
***a dangerous electric shock when touching the wires!***

This device has left our premises in absolutely perfect condition. In order to maintain this condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this manual.

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the device.

Please consider that damages caused by manual modifications to the device are not subject to warranty.

Never let the power-cord come into contact with other cables! Handle the power cord and all connections with the mains with particular caution!

Make sure that the available voltage is not higher than stated on the rear panel.

WARNING! This unit does not contain an ON/OFF switch. Always disconnect power input cable to completely remove power from unit when not in use or before cleaning or servicing the unit.

Make sure that the power cord is never crimped or damaged by sharp edges. Check the device and the power-cord from time to time.

Always disconnect from the mains, when the device is not in use or before cleaning it. Only handle the power-cord by the plug. Never pull out the plug by tugging the power cord.

This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth. The electric connection, repairs and servicing must be carried out by a qualified employee.

Do not connect this device to a dimmer pack.

During the initial start-up some smoke or smell may arise. This is a normal process and does not necessarily mean that the device is defective.

Do not touch the device's housing bare hands during its operation (housing becomes hot)!

For replacement use fuses of same type and rating only.

***LED light emission. Risk of eye injury.***  
***Do not look straight at the fixture's LED source during operation. The intense light beam may damage your eyes.***

***Do not view the light output with optical instruments or any device that may concentrate the beam.***

***CAUTION! Risk group 2, RG-2***



Immunity of the equipment is designed for electromagnetic environments E1, E2, E3 according to the standard EN55103-2 ed.2 Electromagnetic compatibility. Product family standard for audio, video, audiovisual and entertainment lighting control apparatus for professional use. Part 2: Immunity.

The product (covers and cables) must not be exposed to a high frequency electromagnetic field higher than 3V/m. The installation company should check levels of possible interferences above the tested levels E1,E2,E3 given by this standard (e.g. transmitters in surrounding area) before installing the equipment.

Emission of the equipment complies with the standard EN55032 Electromagnetic compatibility of multimedia equipment – Emission Requirements according to class B.

## **2. Operating determination**

This device is a moving head for creating decorative effects and was designed for indoor use only. This device is for professional use only. It is not for household use.

If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.

Do not shake the device. Avoid brute force when installing or operating the device.

Never lift the fixture by holding it at the projector-head, as the mechanics may be damaged. Always hold the fixture at the transport handles.

When choosing the installation spot, please make sure that the device is not exposed to extreme heat, moisture or dust. There should not be any cables lying around. You endanger your own and the safety of others!

Make sure that the area below the installation place is blocked when rigging, de-rigging or servicing the fixture. Always fix the fixture with an appropriate safety wire. Fix the safety wire at the correct holes only.

Only operate the fixture after having checked that the housing is firmly closed and all screws are tightly fastened.

The maximum ambient temperature 45°C must never be exceeded.

### ***CAUTION!***

***The front lens has to be replaced when it is obviously damaged, so that its function is impaired, e. g. due to cracks or deep scratches!***

Operate the device only after having familiarized with its functions. Do not permit operation by persons not qualified for operating the device. Most damages are the result of unprofessional operation!

Do not block the front objective lens with any object when the fixture is under operation. The fixture housing never must be covered with cloth or other materials.

Please use the original packaging if the device is to be transported.

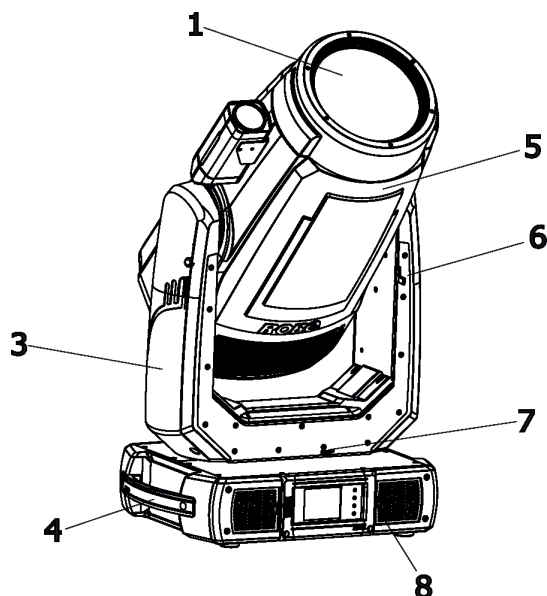
Please consider that unauthorized modifications on the device are forbidden due to safety reasons!

If this device will be operated in any way different to the one described in this manual, the product may suffer damages and the guarantee becomes void. Furthermore, any other operation may lead to dangers like short-circuit, burns, electric shock, burns etc.

### ***CAUTION!***

***To avoid damage of the internal parts of the fixture head, never let the sunlight lights directly to the front lens , even when the fixture is not working !***

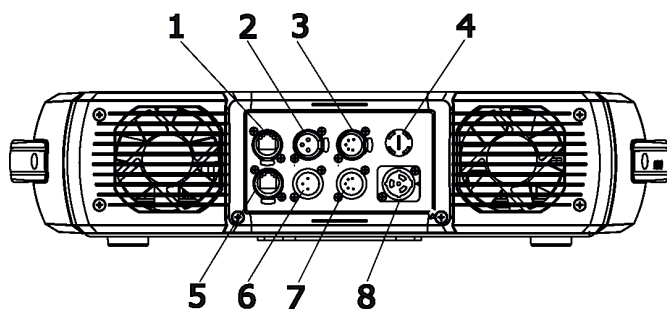
### 3. Fixture exterior view



- 1 - Front lens
- 2 - Camera\*
- 3 - Arm
- 4 - Handle
- 5 - Head
- 6 - Tilt lock
- 7 - Pan lock
- 8 - Base

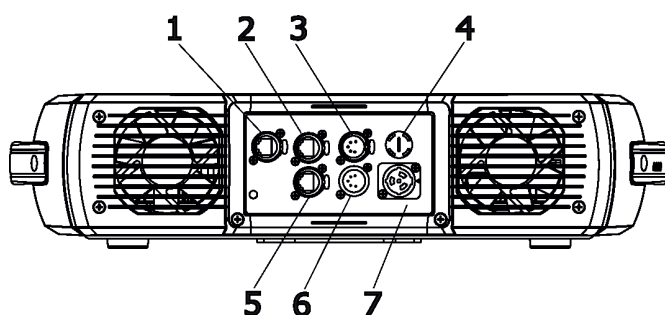
\*Forte FS only

The head has to be locked for transportation- the tilt lock latch (6) and the pan lock latch (7) have to be in the locked positions. To unlock the head, move these latches to unlock position before operating the fixture.



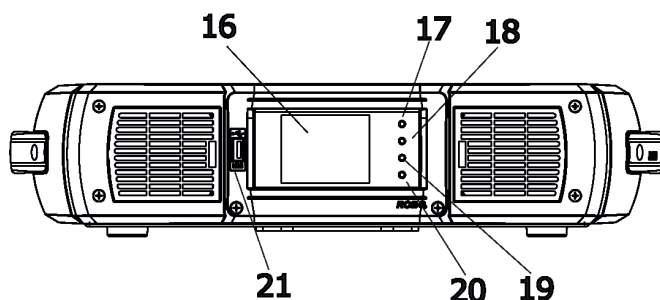
#### Rear panel of the base (Forte)

- 1 - Ethernet In (RJ45)
- 2 - 3-pin DMX Out
- 3 - 5-pin DMX Out
- 4 - Fuse holder
- 5 - Ethernet Out (RJ45)
- 6 - 3-pin DMX In
- 7 - 5-pin DMX In
- 8 - Power (PowerCon True 1)



#### Rear panel of the base (Forte FS)

- 1 - Camera output (RJ45)
- 2 - Ethernet In (RJ45)
- 3 - 5-pin DMX Out
- 4 - Fuse holder
- 5 - Ethernet Out (RJ45)
- 6 - 5-pin DMX In
- 7 - Power (PowerCon True 1)



#### Front panel of the base:

- 16 - QVGA touch screen
- 17 - ESCAPE button
- 18 - NEXT button
- 19 - PREV button
- 20 - ENTER/DISPLAY ON button
- 21 - USB port

The ENTER/DISPLAY ON button also serves for switching the display on when the fixture is disconnected from the mains.

## 4. Installation



**Fixtures must be installed by a qualified electrician in accordance with all national and local electrical and construction codes and regulations.**

### 4.1 Connection to the mains

**For protection from electric shock, the fixture must be earthed!**

The Robin Forte is equipped with auto-switching power supply that automatically adjusts to any 50-60Hz AC power source from 100-240 Volts.

Power cable is enclosed to the fixture. If you need to install a power plug on the power cable to allow connection to power outlets, install a grounding-type (earthed) plug, following the plug manufacturer's instructions. If you have any doubts about proper installation, consult a qualified electrician.

| Core (EU)    | Core (US) | Connection | Plug Terminal Marking |
|--------------|-----------|------------|-----------------------|
| Brown        | Black     | Live       | L                     |
| Light blue   | White     | Neutral    | N                     |
| Yellow/Green | Green     | Earth      | PE/GND                |

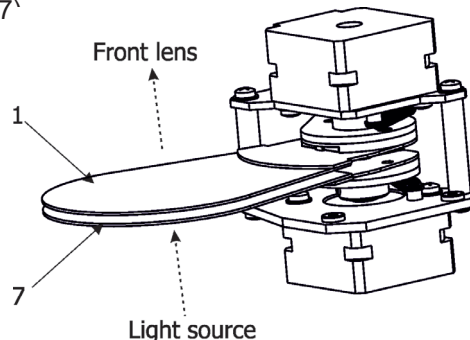
This device falls under class one and must be earthed (grounded).  
To apply power, first check that the pan and tilt locks are released.

### 4.2 Replacing the frosts

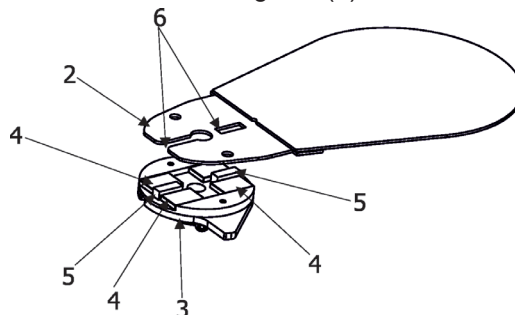
**Unplug the fixture from mains before replacing the frosts!**

To replace the frost.

1. Disconnect the fixture from mains and allow it to cool for 10 minutes.
2. Remove plastic cover of the head by loosening the 2 quarter-turn fasteners on the cover to get access to the 1° frost (1) and 5° frost (7)



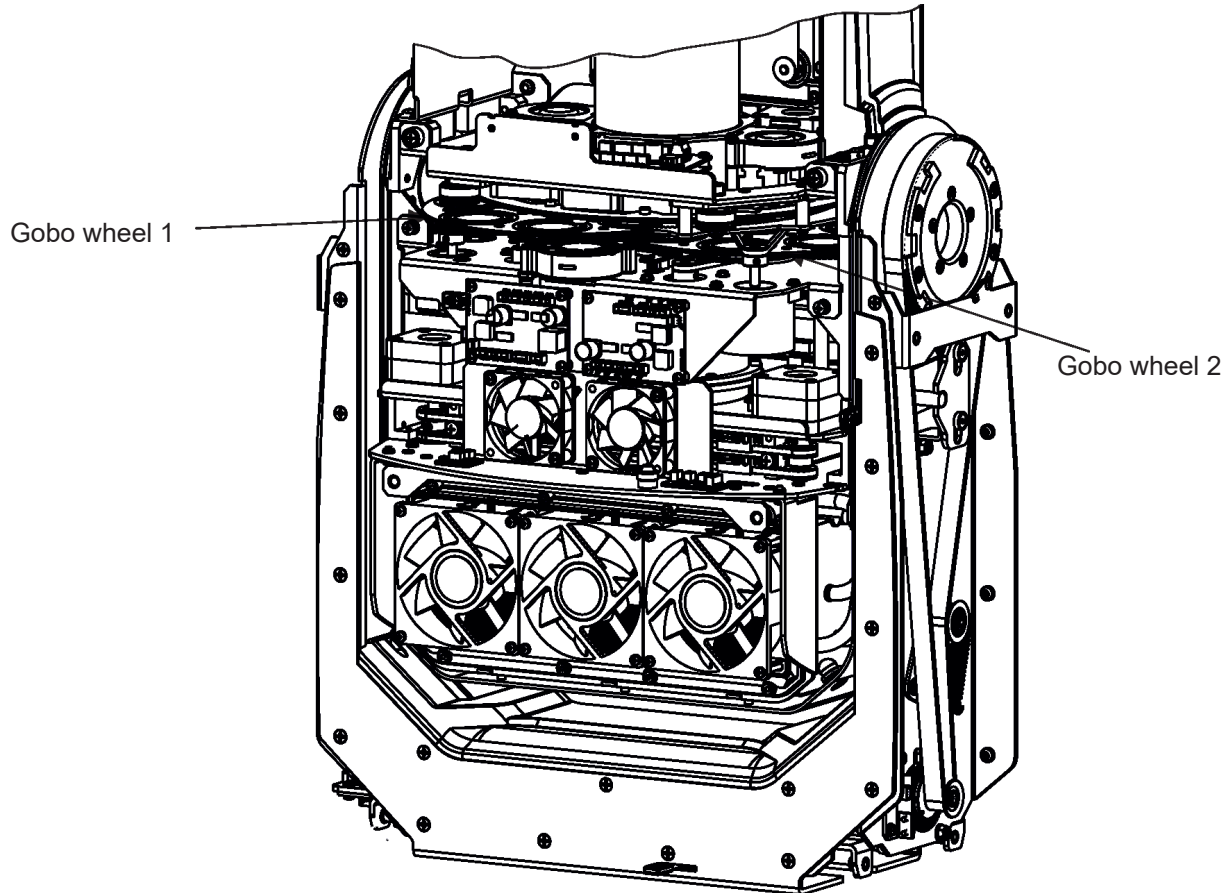
3. The holder (2) of the frost foil is fastened to the frost holder (3) by means of the four magnets (4). Grip the holder (2) and carefully tilt it out to break a force of magnets (4) on the frost holder (3).



4. Place a new frost module into the frost holder (3). Check, that both slots (6) snapped correctly into two protrusions (5) in the holder (3).
5. Place the plastic cover back on the fixture before applying power.

## 4.3 Replacing rotating gobos

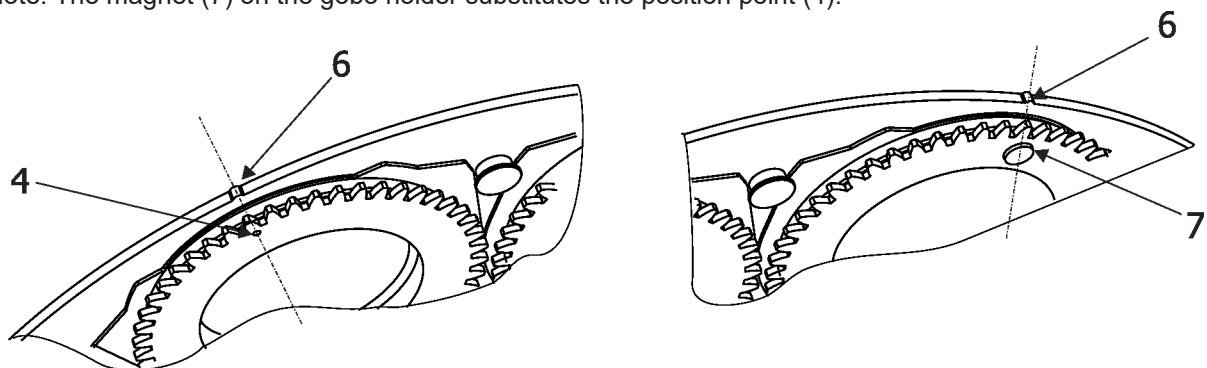
1. Close a light output of the fixture and allow the fixture to cool about 15 minutes.
2. Put the fixture on the table and remove top plastic covers of the head by loosening the 2 quarter-turn fasteners on each cover.
3. Connect the fixture to mains. Go to the tab "Service", select the menu "Adjust DMX values " and move the fixture head to the position which is suitable for changing rot. gobos as shown on the picture below.
4. Remove the top plastic cover of the head by loosening the 2 quarter-turn fasteners on the cover.



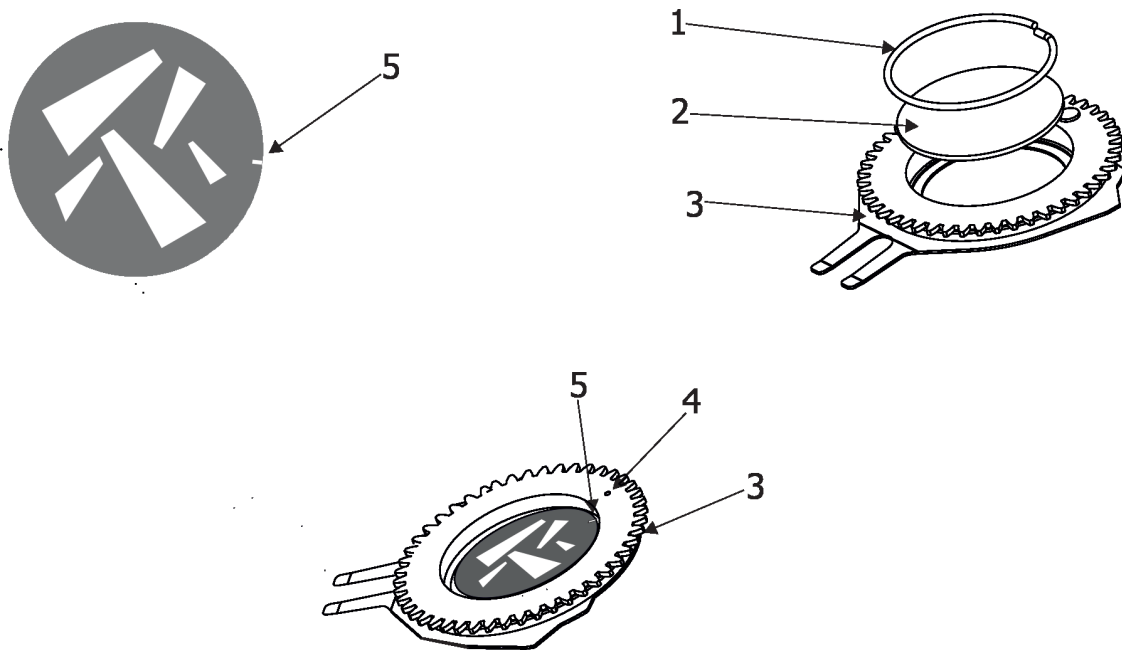
5. Escape from the menu "Adjust DMX values " and go to the menu " Rotating Gobos Change" in the same tab, select menu Gobo Carousel 1 (or Gobo Carousel 2) and enter the menu.
6. Select a gobo (G1-Mg, G2, G3, G4, G5, G6, G7) which you wish to replace. The selected gobo will move to the accessible position for its changing.  
Note: "G1-Mg" means the gobo holder with a magnet.

7. Check that the position point (4) on the gobo holder aims exactly to the toothlike projection (6) on the edge of the rotating gobo wheel. If not, go to the option "Gobo Offset" and adjust the position point (4) exactly opposite of the toothlike projection(6). Adjusted value in the "Gobo Offset" is valid for all gobos on the gobo carousel.

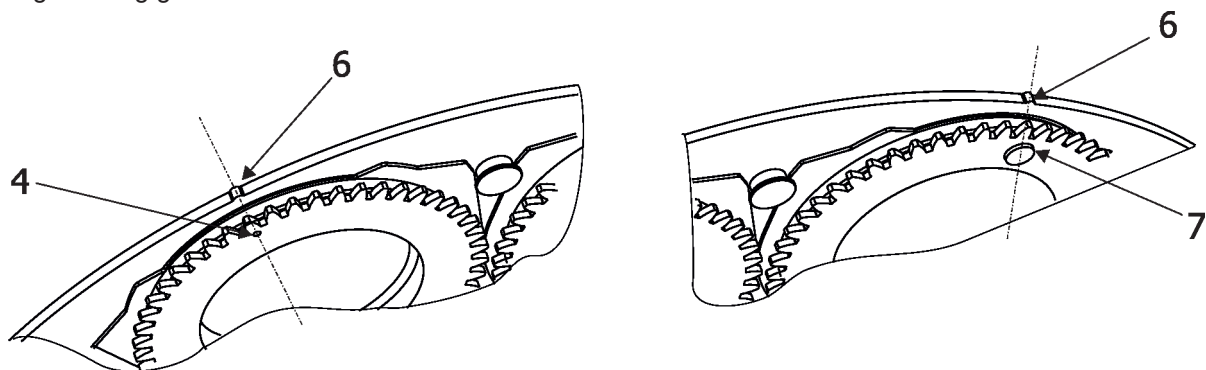
Note: The magnet (7) on the gobo holder substitutes the position point (4).



8. Gently pull up the gobo holder (3) from the rotation gobo carousel.
9. Remove the spring lock (1) with an appropriate tool (e.g. small-bladed screwdriver).  
Do not touch the surface of the pattern of the glass gobo with bare fingers.
10. Remove the original gobo (2) and insert the new one (grey side towards the light source, black side towards the front lens).  
The Robe gobo has a small position point (5) at its edge which has to aim at the position point (4) on the gobo holder (3). Insert the spring lock (1) to secure correct gobo position in the gobo holder (3).



11. Insert the gobo holder back into gobo carousel in this way, that its position point (4) (or magnet (7)) has to exactly aim at a small toothlike projection (6) on the edge of the rotating gobo wheel. Do not move with neighbouring gobo holders.



12. Escape the gobo item and enter another gobo item which you want to replace. You do not need to set the gobo offset again. Repeat steps 6, 8-12 for all gobos which you need to replace on the gobo carousel.

## 4.4 Rigging the fixture

A structure intended for installation of the fixture(s) must safely hold weight of the fixture(s) placed on it. The structure has to be certificated to the purpose.

The fixture (fixtures) must be installed in accordance with national and local electrical and construction codes and regulations.

***For overhead installation, the fixture must be always secured with a safety wire that can bear at least 10 times the weight of the fixture***

When rigging, derigging or servicing the fixture staying in the area below the installation place, on bridges, under high working places and other endangered areas is forbidden.

The operator has to make sure that safety relating and machine technical installations are approved by an expert before taking into operation for the first time and after changes before taking into operation another time.

The operator has to make sure that safety relating and machine technical installations are approved by a skilled person once a year.

Allow the fixture to cool for ten minutes before handling.

The projector should be installed outside areas where persons may walk by or be seated.

IMPORTANT! OVERHEAD RIGGING REQUIRES EXTENSIVE EXPERIENCE, including calculating working load limits, installation material being used, and periodic safety inspection of all installation material and the projector. If you lack these qualifications, do not attempt the installation yourself, but use a help of professional companies.

CAUTION: Fixtures may cause severe injuries when crashing down! If you have doubts concerning the safety of a possible installation, do not install the fixture!

The fixture has to be installed out of the reach of public.

The fixture must never be fixed swinging freely in the room.

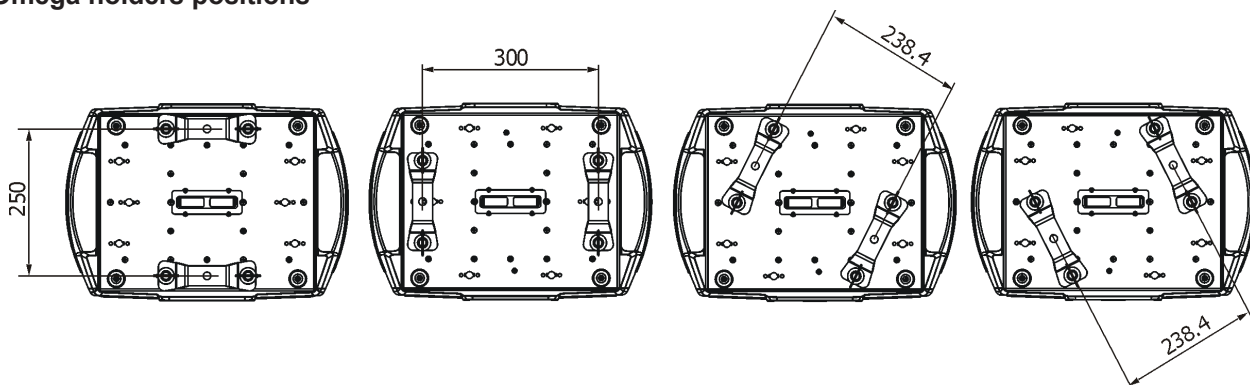
***Danger of fire !  
When installing the device, make sure there is no highly inflammable material (decoration articles, etc.) in a distance of min. 1 m.***

***CAUTION!  
Use 2 appropriate clamps to rig the fixture on the truss.  
Follow the instructions mentioned at the bottom of the base.  
Make sure that the device is fixed properly! Ensure that the structure (truss) to which you are attaching the fixtures is secure.***

The fixture can be placed directly on the stage floor or rigged in any orientation on a truss without altering its operation characteristics .

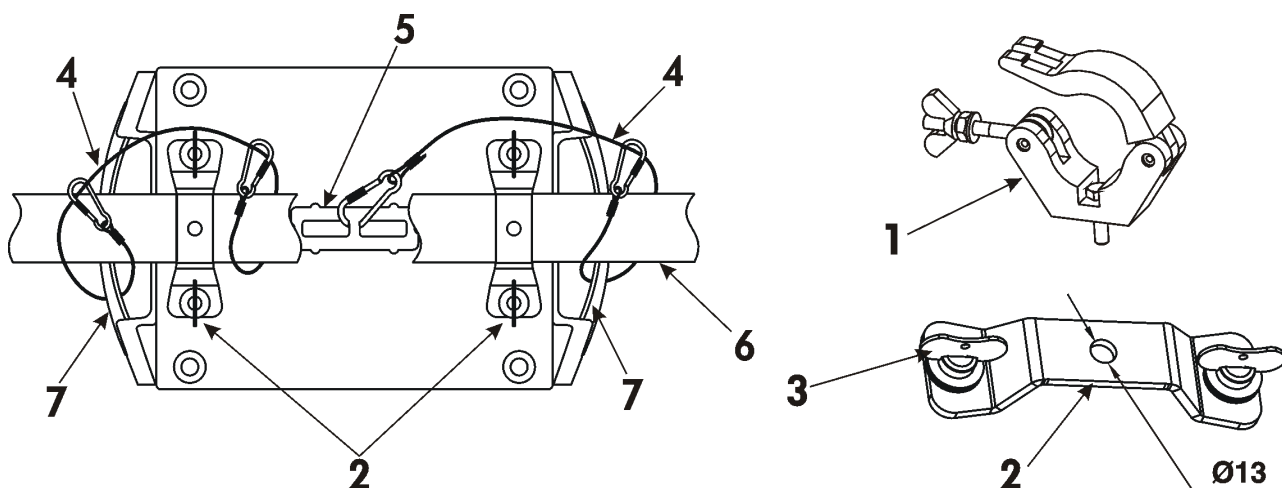
For securing the fixture to the truss, install a safety wire which can hold at least 10 times the weight of the fixture. Use only the safety wire with a snap hook with screw lock gate.

## Omega holders positions



## Truss installation

1. Bolt each clamp (1) to the omega holder (2) with M12 bolt and lock nut through the hole in the holder.
2. Fasten the omega holders to the bottom of the base by inserting both quick-lock fasteners (3) into the holes of the base and tighten fully clockwise.
3. Clamp the fixture on a truss (6) and tighten the rigging clamps.
4. Pull one safety wire (4) around the truss (6) and through the handle (7) and another safety wire (4) pull around the truss (6) and through the handle (7) and lock the snap hook of the safety wire in the attachment point (5) as shown on the picture below. Use the safety wire of a suitable length that maximum fall of the fixture will be 20 cm.



- 1-Clamp
- 2-Omega holder
- 3-Quick-lock fastener
- 4-Safety wire
- 5-Attachment point
- 6-Truss
- 7-Handle

***When installing fixtures side-by-side,  
avoid illuminating one fixture with another!***

## ***DANGER TO LIFE!***

***Before taking into operation for the first time, the installation has to be approved by  
an expert!***

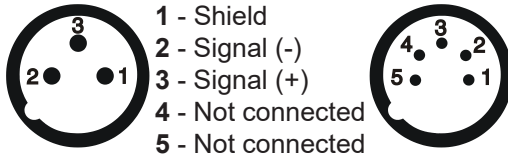
## 4.5 DMX-512 connection

The fixture is equipped with both 3-pin and 5-pin XLR sockets for DMX input and output. The sockets are wired in parallel.

Only use a shielded twisted-pair cable designed for RS-485 and 3-pin or 5-pin XLR-plugs and connectors in order to connect the controller with the fixture or one fixture with another.

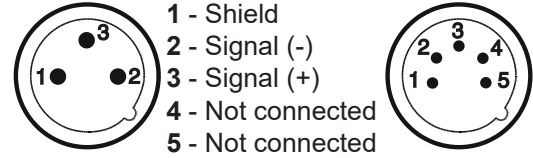
### DMX output

#### XLR mounting sockets (rear view):



### DMX input

#### XLR mounting plugs (rear view):

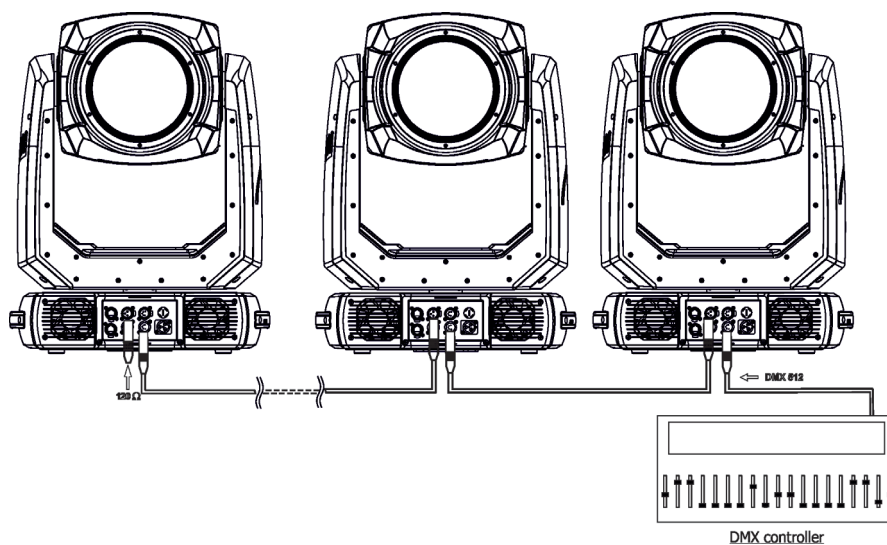


If you are using the standard DMX controllers, you can connect the DMX output of the controller directly with the DMX input of the first fixture in the DMX chain. If you wish to connect DMX controllers with other XLR outputs, you need to use adapter cables.

### Building a serial DMX chain:

Connect the DMX output of the first fixture in the DMX chain with the DMX input of the next fixture. Always connect one output with the input of the next fixture until all fixtures are connected. Up to 32 fixtures can be connected.

**Caution:** At the last fixture, the DMX cable has to be terminated with a terminator. Solder a 120  $\Omega$  resistor between Signal (-) and Signal (+) into a 3-pin XLR plug and plug it in the DMX output of the last fixture.



## 4.6 Ethernet connection

The fixtures on a data link are connected to the Ethernet with ArtNet communication protocol. The control software running on your PC (or light console) has to support Art-Net protocol.

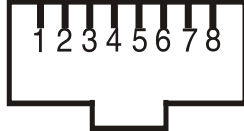
Art-Net communication protocol is a 10 Base T Ethernet protocol based on the TCP/IP. Its purpose is to allow transfer of large amounts of DMX 512 data over a wide area using standard network technology.

**IP address** is the Internet protocol address. The IP uniquely identifies any node (fixture) on a network.

**The Universe** is a single DMX 512 frame of 512 channels.

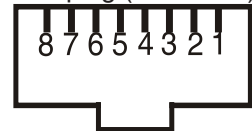
The Robin Forte is equipped with 8-pin RJ-45 socket for Ethernet input. Use a network cable category 5 (with four "twisted" wire pairs) and standard RJ-45 plugs in order to connect the fixture to the network.

RJ-45 socket (front view):



- |                  |                  |
|------------------|------------------|
| 1- TD+           | 5- Not connected |
| 2- TD-           | 6- RX-           |
| 3- RX+           | 7- Not connected |
| 4- Not connected | 8- Not connected |

RJ-45 plug (front view):



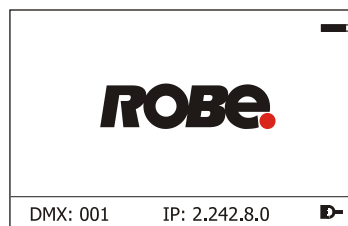
Patch cables that connect fixtures to the hubs or LAN sockets are wired 1:1, that is, pins with the same numbers are connected together:

|     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 1-1 | 2-2 | 3-3 | 4-4 | 5-5 | 6-6 | 7-7 | 8-8 |
|-----|-----|-----|-----|-----|-----|-----|-----|

If only the fixture and the computer are to be interconnected, no hubs or other active components are needed. A cross-cable has to be used:

|     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 1-3 | 2-6 | 3-1 | 4-8 | 5-7 | 6-2 | 7-5 | 8-4 |
|-----|-----|-----|-----|-----|-----|-----|-----|

If the fixture is connected with active Ethernet socket (e.g. switch) the network icon  will appear at the bottom right corner of the screen:



### Direct Ethernet operation

Connect the Ethernet inputs of all fixtures with the Ethernet network.

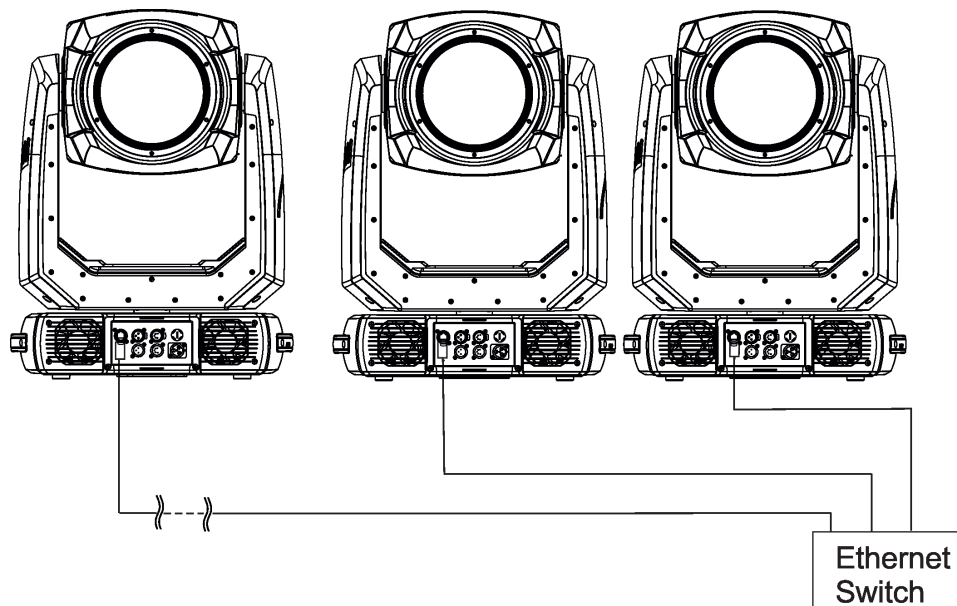
Option "Artnet" (gMA1 or gMA2 or sACN) has to be selected from "Ethernet Mode" menu at each fixture.

Set IP address (002.xxx.xxx.xxx / 010.xxx.xxx.xxx) and the Universe at each fixture.

(DMX address=177)  
IP address=002.168.002.004  
Universe=1

(DMX address=44)  
IP address=002.168.002.003  
Universe=1

(DMX address=1)  
IP address=002.168.002.002  
Universe=1



An advised PC setting: IP address: 002.xxx.xxx.xxx (Different from fixture IP addresses)  
NET mask: 255.0.0.0

## Ethernet / DMX operation

Option "Artnet" (gMal or gMA2 or sACN) has to be selected from "Ethernet Mode" menu at first fixture.

Option "Ethernet To DMX" has to be selected from the "Ethernet Mode" menu at the first fixture (connected to the Ethernet) in the fixture chain, next fixtures have standard DMX setting.

Connect the Ethernet input of the first fixture in the data chain with the network. Connect the DMX output of this fixture with the input of the next fixture until all fixtures are connected to the DMX chain.

**Caution:** At the last fixture, the DMX chain has to be terminated with a terminator. Solder a 120  $\Omega$  resistor between Signal (-) and Signal (+) into a XLR-plug and connect it in the DMX-output of the last fixture.

Example:

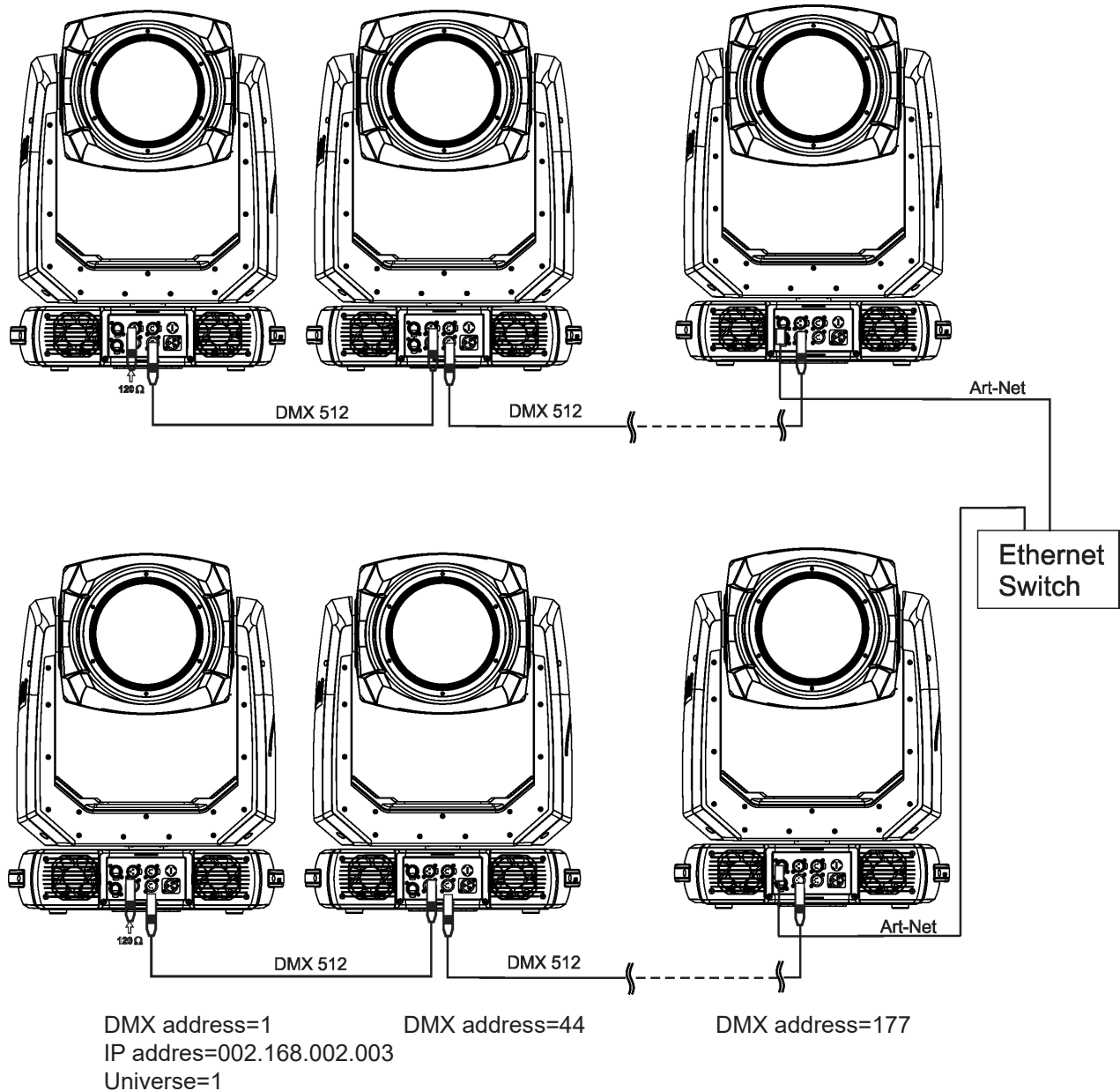
DMX address=177

IP address=002.168.002.002

Universe=0

DMX address=44

DMX address=177



## 4.7 Wireless DMX operation

The wireless version of the Robin Forte is equipped with the Lumen Radio CRMX module and antenna for receiving DMX signal. CRMX module operates on the 2.4 GHz band.

The item " Wireless " from the menu "DMX Input" allows you to activate receiving of wireless DMX (Personality--> DMX Input -->Wireless.). First two options from the "DMX Input" menu are stated in DMX chart as well (channel Power/Special functions , range of 10-19 DMX). If DMX input option is changed by DMX command, the change is permanently written into fixture's memory.

**DMX range of 10-19 switching fixture to the wired/wireless operation is active only during first 10 seconds after switching the fixture on.**

After switching the fixture on, the fixture checks both modes of receiving DMX in the following order:

1. For the first five seconds, the fixture receives DMX signal from the wired input. If the Power/Special functions channel is set at some DMX input option, the fixture will receive DMX value according to this option. If DMX input option is set to the wired input , this option is saved and checking procedure is finished. If DMX input option is not set, the fixture continues next 5 seconds in scanning wireless DMX signal-see point 2.
2. For the next 5 seconds the fixture receives wireless DMX signal and again detects if the Power/Special functions channel is set at some DMX input option, if not, the fixture will take option which is set in the fixture menu "DMX Input".

To link the fixture with DMX transmitter.

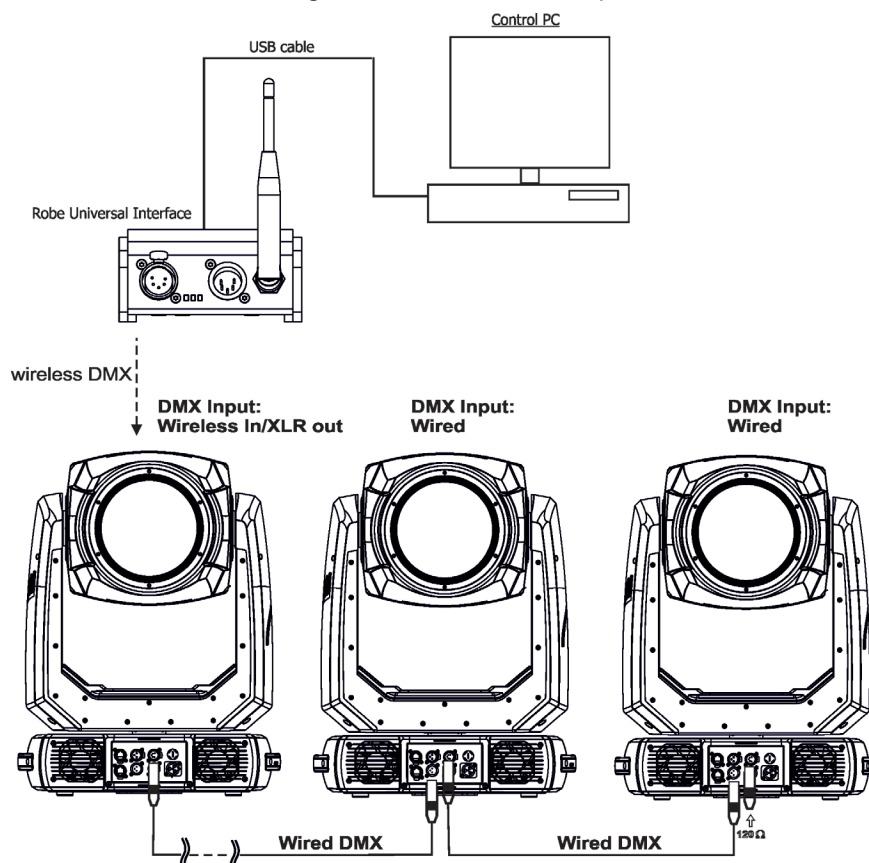
The fixture can be only linked with the transmitter by running the link procedure at DMX transmitter . After linking , the level of DMX signal ( 0-100 %) is displayed in the menu item "Wireless State" (Information -->Wireless State).

To unlink the fixture from DMX transmitter.

The fixture can be unlinked from transmitter via the menu item " Unlink Wireless Adapter" (Information--> Wireless State --> Unlink Wireless Adaptor).

**Note:** If the option "Wireless In/XLR Out" is selected (Personality--> DMX Input -->Wireless In/XLR Out), the fixture receives wireless DMX and sends the signal to its wired DMX output. The fixture behaves as " Wireless/ Wired" adaptor.

Example  
of connection:



## 5. Remotely controllable functions

### Effect wheel

The wheel rotates in both directions with variable speed which creates wide spectrum of graphic effects.

### Gobo wheels

The fixture includes two rotating gobo wheels with 6 glass gobos each, rotating in both directions, indexable, replaceable "SLOT&LOCK" system.

### Prisms

The fixture includes two rotating prisms: 6-facet linear prism and 6-facet circular prism. Each prism rotates in both directions at different speeds. The 6-facet linear prism is indexable.

### Frost

Two frost filters (light 1° and medium 5°) provide variable frost for fine frosting. Both frosts are replaceable.

### Iris

Motorized adjustable iris, wide range of variable pulse effects.

### Zoom

Motorized zoom unit enables zoom between 5 ° - 55°.

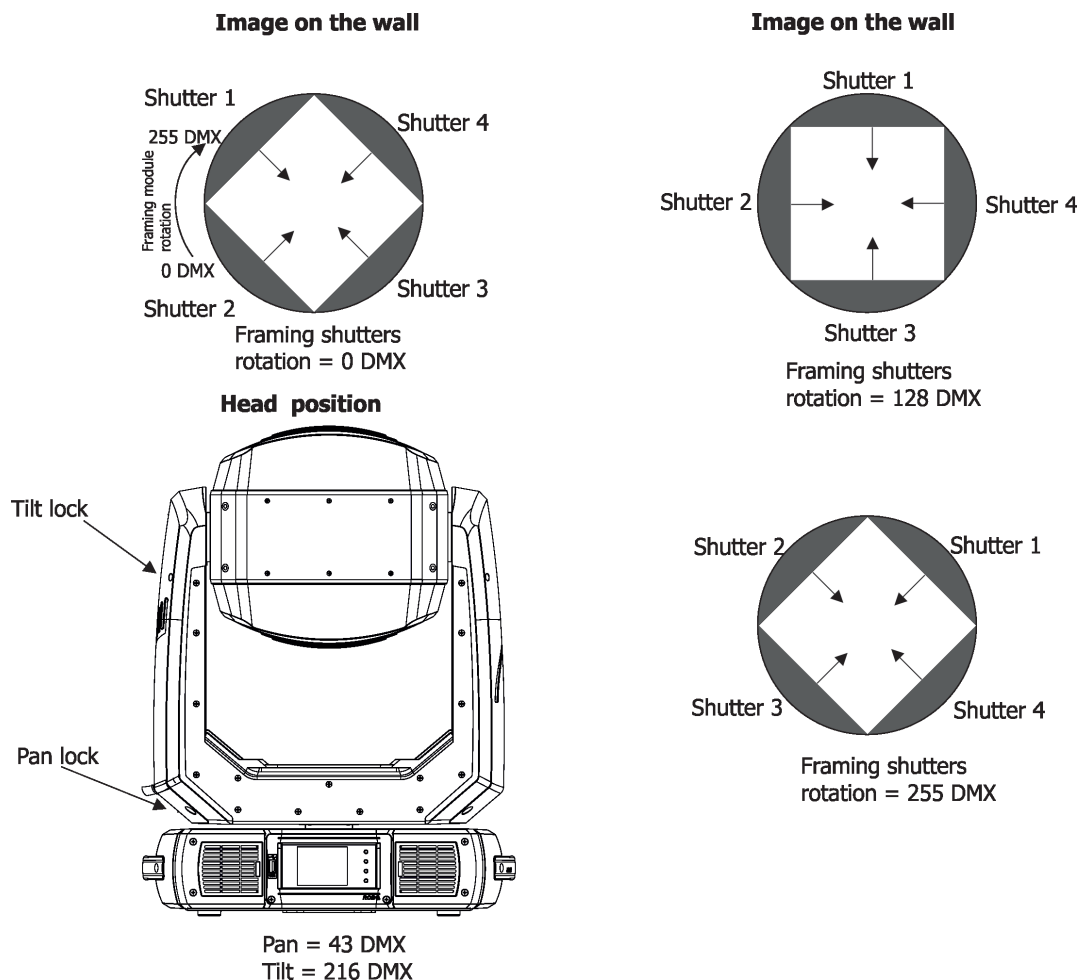
### Focus

Motorized focus allows to focus beam from approx. 2 meters to infinity.

### Framing system

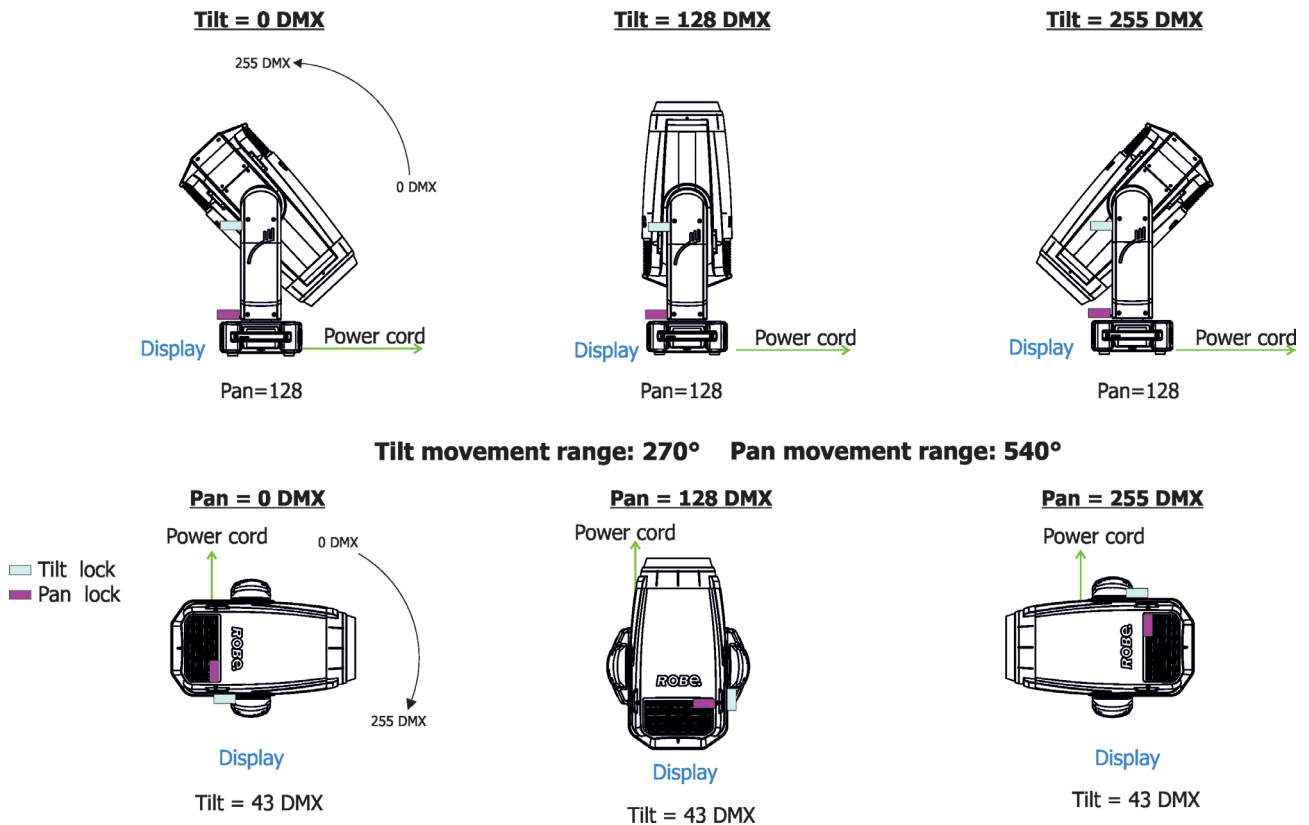
Framing system consists of four framing shutters. There is individual control of each shutter blade position and angle, together with rotation of the complete framing module. As well as providing a sharp precise or soft frame for the projected image.

Framing system orientation:



## Pan/Tilt

Fast pan/tilt movement due to built-in electronic motion stabilizer (EMS). The electronic motion stabilizer ensures precise position of the fixture's head during its movement and reduces its swinging when the truss shakes. Pan /Tilt movement range: 0-540°/0-270°.



## Colour wheel 1

This wheel contains five dichroic filters + open. The colour wheel can be positioned between two adjacent colours in any position. It is also possible to rotate the colour wheel continuously at different speeds ("Rainbow effect" in both directions).

## Colour wheel 2

This wheel contains one multicolour filter, two dichroic filters and two CRI filters (80, 90) + open. The colour wheel can be positioned between two adjacent colours in any position. It is also possible to rotate the colour wheel continuously at different speeds ("Rainbow effect" in both directions).

## CMY+CTO colour mixing system

The CMY color mixing system is based on graduated cyan, magenta, and yellow colour filters. A continuous range of colors may be achieved by varying the amount of each filter from 0 to 100%.

## 6. Control menu map

Default settings=**Bold print**

| Tab                                                                                 | Level 1              | Level 2                 | Level 3            | Level 4     | Level 5 | Level 6 |
|-------------------------------------------------------------------------------------|----------------------|-------------------------|--------------------|-------------|---------|---------|
| Addressing                                                                          | Settings             | DMX Address             | 001-512            |             |         |         |
|    | DMX Preset channels  | Pan                     |                    |             |         |         |
|                                                                                     |                      | :                       |                    |             |         |         |
|                                                                                     |                      | Dimmer Fine             |                    |             |         |         |
|                                                                                     | Ethernet Settings    | Ethernet Mode           | Disable            |             |         |         |
|                                                                                     |                      |                         | ArtNet             |             |         |         |
|                                                                                     |                      |                         | gMAI               |             |         |         |
|                                                                                     |                      |                         | gMA2               |             |         |         |
|                                                                                     |                      |                         | sACN               |             |         |         |
|                                                                                     |                      |                         |                    |             |         |         |
|                                                                                     |                      | Ethernet To DMX         | <b>Off</b> , On    |             |         |         |
|                                                                                     |                      | IP Address/Net Mask     | Default IP Address |             |         |         |
|                                                                                     |                      |                         | Custom IP Address  |             |         |         |
|                                                                                     |                      |                         | Net Mask           |             |         |         |
|                                                                                     |                      | ArtNet Universe         | 0-255              |             |         |         |
|                                                                                     |                      | MANet settings          | MANet/II Universe  | 01-256      |         |         |
|                                                                                     |                      |                         | MANet Session ID   | 01-32       |         |         |
|                                                                                     |                      | sACN Settings           | sACN Universe      | 00001-32000 |         |         |
|                                                                                     |                      |                         |                    |             |         |         |
| Information                                                                         | Fixture Times        | Power On Time           | Total Hours        |             |         |         |
|  |                      |                         | Resetable Hours    |             |         |         |
|                                                                                     |                      | LEDs On Time            | Total Hours        |             |         |         |
|                                                                                     |                      |                         | Resetable Hours    |             |         |         |
|                                                                                     |                      | Air Filters             | Elapsed Time       |             |         |         |
|                                                                                     |                      |                         | Alert Period       | 10-300      |         |         |
|                                                                                     | Fixture Temperatures | LEDs Temperatures       | Cur.rent           |             |         |         |
|                                                                                     |                      |                         | Maximum NonRes..   |             |         |         |
|                                                                                     |                      |                         | Maximum Res..      |             |         |         |
|                                                                                     |                      | Driver Temperature      | Cur.rent           |             |         |         |
|                                                                                     |                      |                         | Maximum NonRes..   |             |         |         |
|                                                                                     |                      |                         | Maximum Res..      |             |         |         |
|                                                                                     |                      | Base Temperature        | Current            |             |         |         |
|                                                                                     |                      |                         | Maximum NonRes.    |             |         |         |
|                                                                                     |                      |                         | Maximum Res.       |             |         |         |
|                                                                                     | DMX Values           | Pan                     |                    |             |         |         |
|                                                                                     |                      | :                       |                    |             |         |         |
|                                                                                     |                      | Dimmer Fine             |                    |             |         |         |
|                                                                                     | Wireless State       | Signal Quality          |                    |             |         |         |
|                                                                                     |                      | Unlink Wireless Adapter |                    |             |         |         |
|                                                                                     | Power Channel state  |                         |                    |             |         |         |
|                                                                                     | Software Versions    | Display System          |                    |             |         |         |
|                                                                                     |                      | Module M                |                    |             |         |         |
|                                                                                     |                      | Module L1               |                    |             |         |         |
|                                                                                     |                      | Module L2               |                    |             |         |         |
|                                                                                     |                      | Module O                |                    |             |         |         |
|                                                                                     |                      | Module F-A              |                    |             |         |         |
|                                                                                     |                      | Module F-B              |                    |             |         |         |
|                                                                                     |                      | Module G1               |                    |             |         |         |
|                                                                                     |                      | Module G2               |                    |             |         |         |
|                                                                                     |                      | Module P                |                    |             |         |         |
|                                                                                     |                      | Module C1               |                    |             |         |         |
|                                                                                     |                      | Module C2               |                    |             |         |         |

| Tab                                                                               | Level 1                | Level 2                 | Level 3                | Level 4         | Level 5 | Level 6 |
|-----------------------------------------------------------------------------------|------------------------|-------------------------|------------------------|-----------------|---------|---------|
|                                                                                   |                        | Module FR               |                        |                 |         |         |
|                                                                                   | Product IDs            | Mac Address             |                        |                 |         |         |
|                                                                                   |                        | RDM UID                 |                        |                 |         |         |
|                                                                                   |                        | RDM Label               |                        |                 |         |         |
|                                                                                   | LED Module info        | First Module Assembly   |                        |                 |         |         |
|                                                                                   |                        | Actual Module Info      |                        |                 |         |         |
|                                                                                   |                        | Assembly History        |                        |                 |         |         |
|                                                                                   |                        | Intensity History       |                        |                 |         |         |
|                                                                                   | LED Modules History    |                         |                        |                 |         |         |
|                                                                                   | View Logs              | Fixture Errors          |                        |                 |         |         |
|                                                                                   |                        | Fixture States          | Power On               |                 |         |         |
|                                                                                   |                        |                         | Power Off              |                 |         |         |
|                                                                                   |                        | Fixture Position        |                        |                 |         |         |
|                                                                                   |                        | Fixture Temperatures    | LEDs Temperature       |                 |         |         |
|                                                                                   |                        |                         | Driver Temperatures    |                 |         |         |
|                                                                                   |                        |                         | Base Temperatures      |                 |         |         |
|                                                                                   |                        |                         |                        |                 |         |         |
| Personality                                                                       | User Mode              | User A Settings         |                        |                 |         |         |
|  |                        | User B Settings         |                        |                 |         |         |
|                                                                                   | DMX Preset channels    | Pan                     |                        |                 |         |         |
|                                                                                   |                        | :                       |                        |                 |         |         |
|                                                                                   |                        | Dimmer Fine             |                        |                 |         |         |
|                                                                                   | DMX Input              | <b>Wired</b>            |                        |                 |         |         |
|                                                                                   |                        | Wireless                |                        |                 |         |         |
|                                                                                   |                        | Wireless In/XLR Out     |                        |                 |         |         |
|                                                                                   | Pan/Tilt Settings      | Pan Reverse             | <b>Off</b> , On        |                 |         |         |
|                                                                                   |                        | Tilt Reverse            | <b>Off</b> , On        |                 |         |         |
|                                                                                   |                        | Pan/Tilt Feedback       | <b>Off</b> , <b>On</b> |                 |         |         |
|                                                                                   |                        | Pan/Tilt mode           | Time                   |                 |         |         |
|                                                                                   |                        |                         | <b>Speed</b>           |                 |         |         |
|                                                                                   | Pan/Tilt EMS           | <b>Off</b> , <b>On</b>  |                        |                 |         |         |
|                                                                                   | Follow Spot Mode       | <b>Off</b>              |                        |                 |         |         |
|                                                                                   |                        | Soft                    |                        |                 |         |         |
|                                                                                   |                        | Medium                  |                        |                 |         |         |
|                                                                                   |                        | Hard                    |                        |                 |         |         |
|                                                                                   | Microphone Sensitivity | 1-10-20                 |                        |                 |         |         |
|                                                                                   | Blackout Settings      | Blackout During M.C.    | <b>Off</b> , On        |                 |         |         |
|                                                                                   |                        | Blackout while:         | Pan/Tilt moving        | <b>Off</b> , On |         |         |
|                                                                                   |                        |                         | Colour Wheel Moving    | <b>Off</b> , On |         |         |
|                                                                                   | Frequency Setup        | 300 Hz                  |                        |                 |         |         |
|                                                                                   |                        | <b>600Hz</b>            |                        |                 |         |         |
|                                                                                   |                        | 1200Hz                  |                        |                 |         |         |
|                                                                                   |                        | 2400Hz                  |                        |                 |         |         |
|                                                                                   |                        | Frequency Adjust        |                        |                 |         |         |
|                                                                                   | Init Effect Positions  | Pan                     | 0-255                  |                 |         |         |
|                                                                                   |                        | :                       |                        |                 |         |         |
|                                                                                   |                        | Dimmer Fine             | 0-255                  |                 |         |         |
|                                                                                   | Screen Settings        | Display Intensity       | 1-10                   |                 |         |         |
|                                                                                   |                        | Screen Saver Delay      | <b>Off</b> -10min.     |                 |         |         |
|                                                                                   |                        | Touchscreen Lock        | <b>Off</b> -10min.     |                 |         |         |
|                                                                                   |                        | Recalibrate Touchscreen |                        |                 |         |         |
|                                                                                   |                        | Display Orientation     | Normal                 |                 |         |         |
|                                                                                   |                        |                         | Inverted               |                 |         |         |
|                                                                                   |                        |                         | <b>Auto</b>            |                 |         |         |
|                                                                                   | Temperature Unit       | °C, °F                  |                        |                 |         |         |

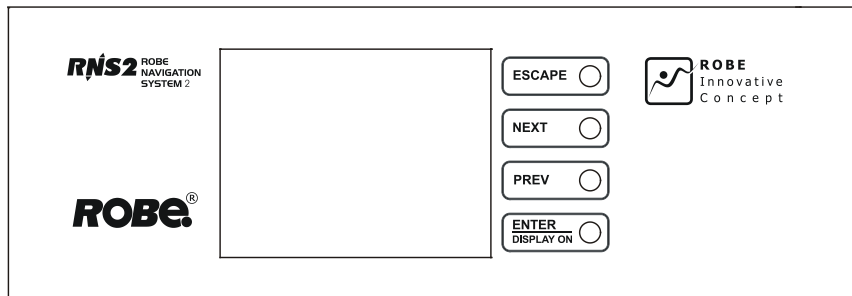
| Tab                                                                                 | Level 1               | Level 2                         | Level 3            | Level 4 | Level 5     | Level 6     |
|-------------------------------------------------------------------------------------|-----------------------|---------------------------------|--------------------|---------|-------------|-------------|
|                                                                                     | Fan Settings          | Fan mode                        | <b>Auto</b>        |         |             |             |
|                                                                                     |                       |                                 | High               |         |             |             |
|                                                                                     |                       |                                 | Quiet              |         |             |             |
|                                                                                     |                       | Quiet - Blackout Fan Off        | On, <b>Off</b>     |         |             |             |
|                                                                                     | Dimmer Curve          | Linear                          |                    |         |             |             |
|                                                                                     |                       | <b>Square law</b>               |                    |         |             |             |
|                                                                                     | Gobo Indexing         | <b>Max. Speed &amp;ShortCut</b> |                    |         |             |             |
|                                                                                     |                       | Follow Speed & Direction        |                    |         |             |             |
|                                                                                     |                       | Max. Speed &ShortCut            |                    |         |             |             |
|                                                                                     | Date & Time Settings  |                                 |                    |         |             |             |
|                                                                                     | Default Settings      |                                 |                    |         |             |             |
|                                                                                     | Password Protection   | <b>Off, On</b>                  |                    |         |             |             |
|                                                                                     | Reset Web Password    |                                 |                    |         |             |             |
|                                                                                     |                       |                                 |                    |         |             |             |
| Manual Control                                                                      | Reset Functions       | Total System Reset              |                    |         |             |             |
|    |                       | Pan/Tilt reset                  |                    |         |             |             |
|                                                                                     |                       | Color System Reset              |                    |         |             |             |
|                                                                                     |                       | Gobo/Eff. Wh. Reset             |                    |         |             |             |
|                                                                                     |                       | Optics/Prism/Frost Res.         |                    |         |             |             |
|                                                                                     |                       | Iris/framing Sh. Reset          |                    |         |             |             |
|                                                                                     | Manual Effect Control | Pan                             | 0-255              |         |             |             |
|                                                                                     |                       | :                               |                    |         |             |             |
|                                                                                     |                       | Dimmer Fine                     | 0-255              |         |             |             |
|                                                                                     |                       |                                 |                    |         |             |             |
| Stand -Alone                                                                        | Test Sequences        | Dynamic Mode                    |                    |         |             |             |
|  |                       | Static Mode                     | Pan                | 0-255   |             |             |
|                                                                                     |                       |                                 | Tilt               | 0-255   |             |             |
|                                                                                     |                       |                                 | Zoom               | 0-255   |             |             |
|                                                                                     |                       |                                 | Focus              | 0-255   |             |             |
|                                                                                     | MusicTrigger          | <b>Off, On</b>                  |                    |         |             |             |
|                                                                                     | Preset Playback       | <b>None</b>                     |                    |         |             |             |
|                                                                                     |                       | Test                            |                    |         |             |             |
|                                                                                     |                       | Prog. 1                         |                    |         |             |             |
|                                                                                     |                       | Prog. 2                         |                    |         |             |             |
|                                                                                     | Play Program          | Play Program 1                  |                    |         |             |             |
|                                                                                     |                       | Play Program 2                  |                    |         |             |             |
|                                                                                     | Edit Program          | Edit Program 1                  | Start Step         | 1-80    |             |             |
|                                                                                     |                       | Edit Program 2                  | End Step           | 1-80    |             |             |
|                                                                                     |                       |                                 | Edit Program Steps | Step 1  | Pan         | 0-255       |
|                                                                                     |                       |                                 |                    | :       | :           |             |
|                                                                                     |                       |                                 |                    | :       | Dimmer Fine | 0-255       |
|                                                                                     |                       |                                 |                    | :       | Step Time   | 0-25,5 sec. |
|                                                                                     |                       |                                 |                    | Step 80 | Pan         | 0-255       |
|                                                                                     |                       |                                 |                    |         | :           |             |
|                                                                                     |                       |                                 |                    |         | Dimmer Fine | 0-255       |
|                                                                                     |                       |                                 |                    |         | Step Time   | 0-25,5 sec. |
|                                                                                     |                       |                                 |                    |         |             |             |
| Service                                                                             | Adjust DMX Values     | Pan                             | 0-255              |         |             |             |
|  |                       | :                               |                    |         |             |             |
|                                                                                     |                       | Dimmer Fine                     | 0-255              |         |             |             |
|                                                                                     | Calibrations          | Calibrate Effects               | Pan                | 0-255   |             |             |
|                                                                                     |                       |                                 | Tilt               | 0-255   |             |             |
|                                                                                     |                       |                                 | Effect Wheel       | 0-255   |             |             |
|                                                                                     |                       |                                 | Rot. Gobo Wheel 1  | 0-255   |             |             |
|                                                                                     |                       |                                 | R. Gobo Index 1/1  | 0-255   |             |             |
|                                                                                     |                       |                                 | :                  | :       |             |             |

| Tab | Level 1               | Level 2                   | Level 3             | Level 4 | Level 5 | Level 6 |
|-----|-----------------------|---------------------------|---------------------|---------|---------|---------|
|     |                       |                           | R. Gobo 1 Index 1/6 | 0-255   |         |         |
|     |                       |                           |                     |         |         |         |
|     |                       |                           | Rot. Gobo Wheel 2   | 0-255   |         |         |
|     |                       |                           | R. Gobo 2 Index 2/1 | 0-255   |         |         |
|     |                       |                           | :                   | :       |         |         |
|     |                       |                           | R. Gobo 2 Index 2/6 | 0-255   |         |         |
|     |                       |                           | Colour Wheel 1      | 0-255   |         |         |
|     |                       |                           | Colour Wheel 2      | 0-255   |         |         |
|     |                       |                           | Prism 1             | 0-255   |         |         |
|     |                       |                           | Prism 2             | 0-255   |         |         |
|     |                       |                           | Zoom                | 0-255   |         |         |
|     |                       |                           | Focus               | 0-255   |         |         |
|     |                       |                           | Iris                | 0-255   |         |         |
|     |                       |                           | Frost 1/1           | 0-255   |         |         |
|     |                       |                           | Frost 1/2           | 0-255   |         |         |
|     |                       |                           | Frost 2/1           | 0-255   |         |         |
|     |                       |                           | Frost 2/2           | 0-255   |         |         |
|     |                       |                           | Fr. Shutters rot.   | 0-255   |         |         |
|     |                       |                           | Fr. Shutter 1 Move  | 0-255   |         |         |
|     |                       |                           | Fr. Shutter 1 Swiv  | 0-255   |         |         |
|     |                       |                           | Fr. Shutter 2 Move  | 0-255   |         |         |
|     |                       |                           | Fr. Shutter 2 Swiv  | 0-255   |         |         |
|     |                       |                           | Fr. Shutter 3 Move  | 0-255   |         |         |
|     |                       |                           | Fr. Shutter 3 Swiv  | 0-255   |         |         |
|     |                       |                           | Fr. Shutter 4 Move  | 0-255   |         |         |
|     |                       |                           | Fr. Shutter 4 Swiv  | 0-255   |         |         |
|     |                       | Calibrate Fr. Hysteresis  | Framing Lamella 1   | 0-8     |         |         |
|     |                       |                           | Framing Lamella 2   | 0-8     |         |         |
|     |                       |                           | Framing Lamella 3   | 0-8     |         |         |
|     |                       |                           | Framing Lamella 4   | 0-8     |         |         |
|     |                       | Calibrate Pan/Tilt EMS    |                     |         |         |         |
|     |                       | Load Default Calibrations |                     |         |         |         |
|     | Rotating Gobos Change | Gobo Carousel 1           | G1-Mg               |         |         |         |
|     |                       |                           | G2                  |         |         |         |
|     |                       |                           | :                   |         |         |         |
|     |                       |                           | G7                  |         |         |         |
|     |                       |                           | Gobo Offset         | 0-255   |         |         |
|     | LEDs Measure          |                           |                     |         |         |         |
|     | Update Software       |                           |                     |         |         |         |

## 7. Control menu

The Robin Forte is equipped with the QVGA Robe touch screen with battery backup which allows you to set the fixture's behaviour according to your needs, obtain information on its operation, control all range of effects and program it in stand-alone mode.

The fixture's menu can be controlled either by the control buttons or directly by touching the icon.



### Control buttons on the front panel:

[ESCAPE] button used to leave the menu without saving changes.

[NEXT] , [PREV] buttons for moving between menu items and symbols, adjusting values.

[ENTER/Display On] button used to enter the selected menu (menu item) and to confirm adjusted value.

If the fixture is disconnected from mains, the button switches the touch screen on.

### Icons used in the touch screen menu:



- [back arrow] used to move back to the previous screen (menu).



- [up arrow] used to move up on the previous page.



- [down arrow] used to move down on the next page.



- [confirm] used to save adjusted values, to leave menu or to perform desired action.



- [cancel] used to leave menu item without saving changes.



- [confirm+copy] used to save adjusted values and copy them to the next prog. step.



- [warning icon] used to indicate some error which has occurred in the fixture.



- [Ethernet] used to indicate Ethernet connected.



- [menu rotation] used to rotate menu 180 degrees from current orientation.



- [slider control] used to recall slider system for setting desired value.



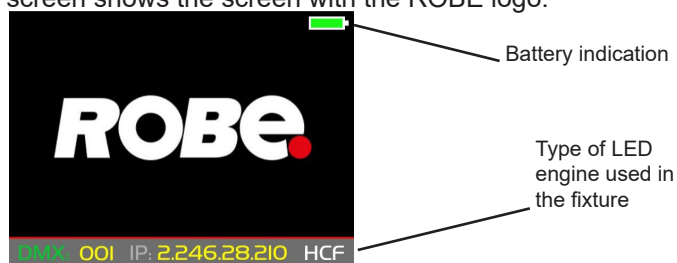
- [keyboard control] used to recall keyboard system for setting desired value.



- [air filters cleaning] used to signal that cleaning period of the air filters elapsed.

The menu page displays icons for each function that you can perform from the touch screen.

After switching the fixture on, the touch screen shows the screen with the ROBE logo:



Battery indication

Type of LED engine used in the fixture

Type of used LED engine in the fixture is displayed on the bottom line of the screen:

**HP** - High Performance Engine for maximum light output and optimal colour characteristics.

**HCF** - High Colour Fidelity Engine for the best light quality and colour reproduction.

The type of used LED engine is displayed if the fixture is disconnected from power as well.

Touch any part of the screen or press the [ENTER/Display On] button to display the initial screen with the current stored DMX address:



Note: The green icon at the top right corner of the screen indicates the level of the display battery charging. If the whole icon is green, the battery is fully charged while the red icon indicates exhausted battery. The battery charges during fixture operation, its charging lasts cca 6 hours.

We recommend that the fixture should be in operation at least 7 hours per week to keep the battery fully charged. If you switch the fixture on and this screen will not appear till 1 minute, switch the fixture off and on again. If the screen lights, the battery is exhausted. In case the screen still does not light, the battery is faulty.

This is also indicated by an error message "Faulty battery" and if such an error message appears the battery should be replaced immediately. The lifetime of the battery is highly dependent on ambient temperature (and consequently on base temperature). If the maximum ambient temperatures (as recorded and displayed in menu: Information -> Fixture Temperatures -> Ambient Temperature -> Maximum NonRes.) are kept within the specified limits, the battery should last for at least two years. Should the ambient temperatures exceed the specified maximum temperature, the lifetime of the batteries could be considerably shortened even up to just one year or less and also result in physical damage (battery leakage) or unreliable fixture functions.

Damage caused by batteries failed due to exceeded maximum ambient temperature cannot be claimed under warranty terms.

Touch the green arrow at the bottom right corner of the screen or press the [ENTER/Display On] button to enter the "Address" menu.

Each item (such as a Tab, menu item, text box, icon) may be selected from a screen by simply touching the item in the list or by pressing the [NEXT] or [PREV] buttons to scroll through list items. With each press, the next item is highlighted. Press [ENTER/Display On] to select the highlighted item.

**Before first fixture operation, set current date and time in the menu "Date &Time Setings" (menu path: Personality--> Date &Time Setings).**

## 7.1 Tab "Address"



**DMX Address** - Select the menu to set the DMX start address.

**DMX Preset channels** - The menu item offers you an overview of 53 control channels.

**Ethernet Settings** - The menu allows all needed settings for the Ethernet operation

### **Ethernet Mode**

**Disable** - The option disables Ethernet operation.

**Artnet** - Fixture receives Artnet protocol

**gMAI** - Fixture receives MANet I protocol

**gMA2** - Fixture receives MANet 2 protocol

**sACN** - Fixture receives sACN protocol

**Ethernet To DMX** - Fixture receives protocol from the Ethernet input and sends DMX data to its DMX output (fixture works as an "Ethernet/DMX converter", next fixture can be connected to its DMX output and you can build a standard DMX chain by connecting another fixtures. Only one fixture has to be connected to the Ethernet.

**IP Address/Net Mask** - Select this menu to set IP address. IP address is the Internet protocol address. The IP uniquely identifies any node (fixture) on a network.

There cannot be 2 fixtures with the same IP address on the network!

**Default IP Address** -Preset IP address, you can set up only first byte of IP address (2 or 10) e.g. **002.019.052.086**.

**Custom IP Address** - The option enables to set up all bytes of IP address.

**Net Mask** - The option enables to set up all bytes of Net Mask.

**ArtNet Universe** - Use this item to set a Universe (0-255). The Universe is a single DMX 512 frame of 512 channels.

**MANet Settings** - Use this menu to set parameters for MANet operation.

**MANet Universe I/II** - The value of this item can be set in range 1-256.

**MANet Session ID** - The value of this item can be set in range 1-32.

**sACN Settings** - Use this menu to set parameters for sACN operation.

**sACN Universe** - The value of this item can be set in range 1-32000.

## 7.2 Tab "Information"



**Fixture Times** - The menu provides readouts of fixture and LED module operation hours.

**Power On Time Hours** - Select this menu to read the number of fixture operation hours.

**Total Hours** - The item shows the total number of the operation hours since the Robin Forte has been fabricated.

**Resetable Hours** - The item shows the number of the operation hours that the Robin Forte has been powered on since the counter was last reset.

In order to reset this counter to 0, touch the text box next to the item "Resetable Hours:"

**LED On Time** - Select this menu to read the number of LEDs operation hours.

**Total Hours** - a total time of the LEDs module operation during which a dimmer intensity was > 0%.

**Adaptive Hours** - a relative time of the LEDs module operation during which a dimmer intensity was > 0%. (e.g. if dimmer = 20% for one hour, the adaptive time is 0.2 hour, if dimmer = 100% for one hour, the adaptive time is 1 hour).

**Air Filters** - Regular cleaning of the air filters is very important for the fixture's life and performance.

Bild-up of dust, dirt and fog fluid residues reduces the fixture's light output and cooling ability.

The two items of this menu help you to keep cleaning period of the air filters.

**Alert period** - Cleaning schedule for the fixture depends on the operating environment.

It is therefore impossible to specify accurate cleaning interval. This item allows you to change the cleaning interval of the air filters. This "alert" value is 300 hours and it is set as default. Inspect the fixture within its 300 hours of operation to see whether cleaning is necessary. If cleaning is required, clean all air filters and change the value in this menu on acceptable level. Min. level of alert period is 10 hours, max. is 300 hours.

**Elapsed Time** - The item allows you to read the time which remains to cleaning air filters.

The time period is set in the menu mentioned above.

Expired time period is signalled by a negative mark (-) at the time value and a warning icon on the display.

Clean the filters and reset this menu item (by touching the text box next to the item "Elapsed Time").

**Fixture Temperatures** - The menu is used to view temperatures of the fixture's inside.

**LEDs temperature** - The menu shows temperature on the LED PCB in the light source

**Current** - A current temperature of the LED PCB.

**Maximum NonRes.** - A maximum temperature of the LED PCB since the fixture has been fabricated.

**Maximum Res.** - A maximum temperature of the LED PCBs since the counter was last reset.

In order to reset some counter to 0, touch desired text box under item "Max.Res."

**Driver Temperature** - The menu shows temperature on the LEDs control PCB in the fixture head.

**Current** - A current temperature on the LEDs control PCB.

**Maximum NonRes.** - A maximum temperature on the LEDs control PCB since the fixture has been fabricated.

**Maximum Res.** - A maximum temperature on the LEDs control PCB since the counter was last reset.

In order to reset this counter to 0, touch the text box next to the item "Maximum Res."

**Ambient Temperature** - The menu shows temperature in the fixture base .

**Current** - A current temperature in the fixture base.

**Maximum NonRes.** - A maximum temperature in the fixture base since the fixture has been fabricated.

**Maximum Res.** - A maximum temperature in the fixture base since the counter was last reset.

In order to reset this counter to 0, touch the text box next to the item "Maximum Res."

**Base Temperature** - The menu shows temperature on the display PCB in the fixture base.

**Current** - A current temperature on the display PCB.

**Maximum NonRes.** - A maximum temperature on the display PCB since the fixture has been fabricated.

**Maximum Res.** - A maximum temperature on the display PCB since the counter was last reset.

In order to reset this counter to 0, touch the text box next to the item "Maximum Res."

**DMX Values** - The menu items allows you to read DMX values of each channel received by the fixture.

**Wireless State** - The menu serves for reading of the wireless operation status.

**Unlink Wireless Adaptor** - The item serves for unlinking the fixture from a DMX transmitter.

If the wireless module is not installed in the fixture, message "Wireless Module Not Installed" will appear.

**Power Channel State** - Select this item to see current setting of the functions, which can be set by menu items in "Personality" as well as by DMX command at channel "Power/Special functions".

**Colour Functions State** - Select this item to see current setting of the colour functions, which can be set by menu items in "Personality" as well as by DMX command at channel "Colour functions".

**Software Version** - Select this item to read the software version of the fixture processors:

**Display System** - A display processor on the display board in the fixture base

**Module M** - a Pan/Tilt processor

**Module L 1** - a LEDs control processor 1

**Module L 2** - a LEDs control processor 2

**Module O** - a Focus/Zoom/Light frost control processor

**Module F-A** - a Framing shutters control processor

**Module F-B** - a Framing shutters/Iris control processor

**Module G 1** - a Rot. gobo wheel control processor

**Module G 2** - a Rot. gobo wheel control processor

**Module P** - a Prisms/Medium frost control processor

**Module C1** - a Colour wheel 1 control processor

**Module C2** - a Colour wheel 2 control processor

**Product IDs** - The menu is used to read the MAC Address ,RDM UID and RDM Label.

**LED Module Info** - Use this menu to read LEDs module information.

**First Module Assembly** - Use the item to read initial information about the LEDs module installed in the fixture. The fixture has to be connected to mains to read the values in the menu items.

**Serial Number/ Device UID** - a serial number of the LEDs module/RDM UID of the fixture.

**Installation Date/Time** - a date/time of the first installation of the LEDs module to a some Forte device.

**Intensity** - an original intensity of the LEDs module in percentages (100%).

**LEDs On Time Total/Adaptive** - Total: a total time of the LEDs module operation during which the dimmer intensity was > 0%.

Adaptive: a relative time of the LEDs module operation during which the dimmer intensity was > 0% (e.g. if dimmer = 50% for one hour, the adaptive time is 0.5 hour, if dimmer = 100% for one hour, the adaptive time is 1 hour).

**Actual Module Info** - Use the item to read current information about the LEDs module installed in the fixture.

**Serial Number/ Device UID** - a serial number of the LEDs module/RDM UID of the fixture.

**Measurement Date/Time** - a date/time of running the procedure "LEDs Measure" in the tab Service.

**Intensity** - the item shows a light intensity of the LEDs module measured after running the procedure "LEDs Measure" in the tab Service. The light intensity is displayed in percentages in relation to the initial intensity of the new LEDs module (initial intensity=100%).

**LEDs On Time Total/Adaptive** - Total: a total time of the LEDs module operation during which the dimmer intensity was > 0%.

Adaptive: a relative time of the LEDs module operation during which the dimmer intensity was > 0% (e.g. if dimmer = 50% for one hour, the adaptive time is 0.5 hour, if dimmer = 100% for one hour, the adaptive time is 1 hour).

**Assembly History** - Use the item to read a history of the LEDs module installed in the fixture (its serial number, RDM UID of fixture at which was installed and date/time of installation).  
Up to 31 records can be saved in the menu item.

**Intensity History** - Use the item to read a history of light intensity of the LEDs module installed in the fixture.

**Serial Number/ Device UID** - a serial number of the LEDs module/RDM UID of the fixture.

**Measurement Date/Time** - a date/time of running the procedure "LEDs Measure" in the tab Service.

**Intensity** - the item shows a light intensity of the LEDs module measured after running the procedure "LEDs Measure" in the tab Service. The light intensity is displayed in percentages in relation to the initial intensity of the new LEDs module (initial intensity=100%) .

Up to 31 records can be saved in the menu item.

**LED Modules History** - Use the item to read a history of the LEDs modules installed in the fixture (their serial numbers and date/time of installation).

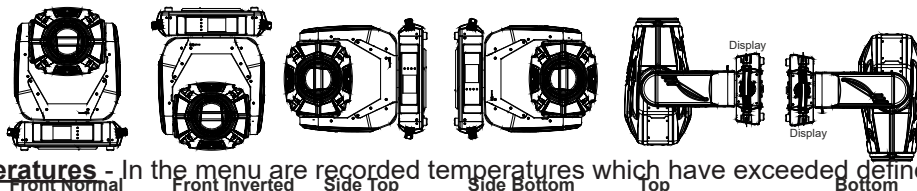
Up to 31 records can be saved in the menu item.

**View Logs** - Use this menu to read fixture's data which have been recorded during fixture operation. This collected data allows easier troubleshooting.

**Fixture Errors** - Use this menu to read fixture errors which have occurred during fixture operation.

**Fixture States** - In the menu are recorded fixture states as power on and power off.

**Fixture Positions** - In the menu are recorded installation positions of the fixture:



**Fixture Temperatures** - In the menu are recorded temperatures which have exceeded defined levels.

Note: The log buffer can contain max. 8000 records. If the buffer is full, old data will be overwritten.

## 7.3 Tab "Personality"



**User mode** - The Robin Forte allows you to recall two user settings. After switching the fixture on for the first time, the User A settings is active. Now all changes made in the "Personality" menu, "Addressing" menu and the "Music Trigger" and "Preset Playback" items from the "Stand-alone" menu are saved to the User A settings. If you now select the User B settings, from this moment the changes made in these menus will be saved to the User B settings. After switching the fixture off and on, the User B setting is active. In this way you may use the two fixture operating behaviours.

**User A Settings** - the function recalls the user A settings.

**User B Settings** - the function recalls the user B settings.

**DMX Preset** - Use the menu to select desired channel mode.

**Mode 1** - 53 control channels

**View Selected Preset** - Use the menu to display channels included in the selected mode.

**DMX Input** - Use the menu to select mode of DMX signal receiving.

**Wired** - DMX signal is received by means of the standard DMX cable.

**Wireless** - DMX signal is received by means of the inbuilt wireless module.

**Wireless In/XLR Out** - the fixture receives wireless DMX and sends the signal to its wired DMX output.

The fixture behaves as "Wireless/Wired" adapter.

The options "Wired" and "Wireless" are also stated in DMX chart (channel Power/Special functions).

Note. If the wireless module is not installed in the fixture, the following message will appear:

DMX Input Set to Wired

Wireless Module Missing

If the fixture is not connected to mains, the message "Not Available In Offline Mode" will appear after entering the menu DMX Input. To enter this menu, the fixture has to be connected to mains.

**Pan/Tilt Settings** - Use the menu set behaviour of both pan and tilt movements.

**Pan Reverse** - The item allows to invert pan movement.

**Tilt Reverse** - The item allows to invert tilt movement.

**Pan/Tilt Feedback** - The item allows to return the moving head to the required pan/tilt position after changing the position by an external force if this option is set on.

Note. Be careful, the Pan/Tilt Feedback should be permanent On, the option Off is not suitable for standard operation and the head of the fixture can be damaged!

**Pan/Tilt mode** - Use this menu to set the mode of the pan/tilt movement

**Time mode** - The pan and tilt will move with different speeds and they will come at the same time to the end point of their tracks (pan and tilt use their optimal speeds). Time of the pan/tilt movement (25.5 sec. max.) is set by the channel "Pan/Tilt speed, Pan/Tilt time".

**Speed Mode** - Both Pan and tilt will move with the same speed as adjusted at the channel "Pan/Tilt speed, Pan/Tilt time".

**Pan/Tilt EMS** - Built-in electronic motion stabilizer ensures precise position of the fixture's head during its movement and also reducing its swinging when the truss shakes.

**Follow Spot Mode** - If the function is activated, the pan/tilt motors perform on lower power and the head position can be controlled manually. You can choose from three levels of the pan/tilt "consistency": soft, medium and hard. Note: reset of pan/tilt will not be executed if the fixture is in the Follow Spot Mode.

**Microphone Sensitivity** - Enter the menu if you want to adjust the microphone sensitivity from 1 (max.) to 20 (min.).

**Blackout Settings** - Use the menu if you need to close the light output under certain conditions which are described below

**Blackout During MC** - Blackout during movement correction. Set this option On if you wish to close light output during the time when the head goes to its correct position from which has been changed by an external force.

**Active Blackouts** - Use this menu if you wish to close the light output during effect changes.

**Pan/Tilt Moving** - The menu item enables to close light output while the pan/tilt DMX values are changing.

**Colour Wheel Moving** - The menu item enables to close light output while colour wheel is moving.

**Frequency Setup** - The function allows you to set the PWM (Pulse Width Modulation) output frequency of LEDs to 300Hz, 600Hz, 1200Hz or 2400Hz.

**Frequency Adjust** - The menu item allows you fine adjustment of the LED frequency around selected frequency.

**Init Effect Positions** - Use the menu to set all effects to the desired positions at which they will stay after switching the fixture on without DMX signal received.

**Screen Settings** - Use this menu to change the touch screen settings.

**Display Intensity** - The item allows to control the intensity of the screen (1-min., 10-max.).

**Screen saver Delay** - The item allows you to keep the screen on or to turn it off automatically after 1-10 minutes after last touch (or pressing any button on the control panel).

**Touchscreen Lock** - The item allows you to lock the screen after last touch (or pressing any button on the control panel). The time delay can be set in range of 1-10 minutes. To unlock the screen, press the [ENTER/Display On] button.

**Recalibrate Touchscreen** - The item starts calibration of the touch screen. Follow the instructions on the screen.

**Display Orientation** - The menu allows to change display orientation.

**Normal** - Standard display orientation if the fixture is placed horizontally (e.g. on the ground).

**Inverted** - Inverted orientation (needed if the fixture is hanging on the truss).

**Auto** - The option activates a gravitation sensor for automatic screen orientation.

Note: **Auto** option is set as default. You change the display orientation by touching the icon  on the display, and the option set in the "Display Orientation" menu is temporarily overridden.

**Temperature unit** - Use the menu item to change temperature unit from °C to °F.

**Fan Settings** - Use the menu to set fans operation mode.

**Fan Mode** - Use the menu to set the fixture fans to max. power mode (option "**High**") or to the auto-control mode (option "**Auto**"). The third option "**Quiet**" allows you to set desired fan noise. The light output of the fixture is reduced at low speeds of fans.

**Quiet - Blackout Fan Off** - The menu item allows you to stop all fans in the fixture (option "**On**") when its light output is closed (shutter in range of 0-31 DMX or dimmer in 0 DMX).

**Dimmer Curve** - Use the menu to select desired dimmer curve: Linear or Square Law.

**Gobo Indexing** - The following three options define transition from gobo rotation to gobo indexing.

**Max. Speed & Shortcut** - Gobo goes from its rotation to desired indexed position with max. speed and via shortest track.

**Follow Speed & Direction** - Gobo goes from its rotation to desired indexed position with current speed and keeps a direction of rotation.

**Max. Speed & Follow Dir.** - Gobo goes from its rotation to desired indexed position with max. speed and keeps a direction of rotation.

**Date & Time Settings** - Use this menu to set current date and time for the fixture log system (menu "View Logs"). Set this menu items before first fixture operation.

**Default Settings** - The menu item allows to set all fixture parameters in this menu to the default (factory) values except items "DMX Input".

**Password Protection** - allows to enter password in order to prevent unauthorized person from changing setting of the fixture.

**Reset Web Password** - The menu item allows you to reset a password for access on the Web server (default password: 2479, user: robe).

## 7.4 Tab "Manual Control"



**Reset Functions** - The menu allows to reset the fixture either per function modules or all modules together.

**Total System Reset** - The item resets all function modules.

**Pan/Tilt Reset** - The item resets a pan and a tilt.

**Colour System Reset** - The item resets colour wheel 1/colour wheel 2 and CMY+CTO system.

**Gobo/Eff. Wh. Reset** - The item resets rotating gobo wheels and an effect wheel.

**Optics/Prism/Frost Res.** - The item resets a zoom, focus, prism and a frost module.

**Iris/Framing Sh. Reset** - The item resets an iris module and framing shutters.

**Manual Effect control** - Use the menu to control all fixture channels by means of the control panel.

## 7.5 Tab "Stand-alone"



**Test Sequences** -Use the menu to run a test/demo sequences without an external controller, which will show you some possibilities of using Robin Forte.

**Dynamic Mode** - This mode uses all Robin Forte functions including pan/tilt movement and therefore is good for a complete introduction of the fixture.

**Static Mode** - This mode is suitable for projections on the wall, ceiling or ground without any pan/tilt movement. Adjust the pan, tilt, zoom and focus to desired positions and start test sequences by touching the green ► icon.

**Music Trigger** - Use the item to activate the sound control of the running program via the built-in microphone.

**Preset Playback** - This menu allows you to select the program which will be played in a loop after switching the fixture on (the option is commonly used in a stand-alone operation without an external controller).

**None** - The option disables "Presetting playback" function.

**Test** - The option starts the test sequences.

**Prog. 1** - The option starts user program No. 1.

**Prog. 2** - The option starts user program No. 2.

**Play program** - Use the menu to run desired program in a loop.

**Play Program 1** - The option starts user program No.1.

**Play Program 2** - The option starts user program No. 2.

**Edit Program** - Use the menu to create or to edit desired program. The Robin Forte offers 2 free programs, each up to 80 steps.

**Edit Program 1** - The option allows you to edit user program No.1.

**Edit Program 2** - The option allows you to edit user program No.2.

To edit program:

1. Touch the item which you want to edit ("Edit Program 1" - "Edit Program 2").

2. Touch the item "Edit Program Steps".

3. Touch the item "Step 1".

4. From the list of effects touch desired effect and set its value. Browse through the list by touching the [up arrow] and [down arrow] and set all desired effects.

An item "Step Time" (value of 0-25.5 sec.) is the time during which effects last in the current step

5. Save adjusted effects to the current step by touching the [confirm] or save and copy them to the following step by touching the [confirm+copy]. By touching the text box "Preview" next to the current program step you can view created scene.

6. Repeat the steps 4 and 5 for next program steps.

7. After editing desired program steps, adjust the length of the program by touching the text boxes "Start Step" and "End Step".

Meaning of the icons used in the "Edit Program" menu:

⬇ - moves down on the next page

✓ - saves adjusted values and leaves menu

⬆ - moves up on the previous page

✓ - saves values to the current step and copy them to the following prog. step

✗ - leaves menu without saving values

## 7.6 Tab "Service"



**Adjust DMX Values** - The menu allows you to set all effects to desired positions before fine calibration of the effects .

**Calibrations** - This menu enables fine calibration of fixture effects and download default calibration values.

**Calibrate Effects** - The menu allows the fine adjustment of effects.

**Pan**- a pan position fine adjustment (value range: 0-255)

**Tilt** - a tilt position fine adjustment (value range: 0-255)

**Effect Wheel** - an effect wheel position fine adjustment (value range: 0-255)

**Rot. Gobo Wheel 1** - a carousel 1 of rotating gobos fine movement (value range: 0-255)

**R. Gobo Index 1/1** - a fine movement of the rotating gobo 1 (value range: 0-255)

**R. Gobo Index 1/2** - a fine movement of the rotating gobo 2 (value range: 0-255)

**R. Gobo Index 1/3** - a fine movement of the rotating gobo 3 (value range: 0-255)

**R. Gobo Index 1/4** - a fine movement of the rotating gobo 4 (value range: 0-255)

**R. Gobo Index 1/5** - a fine movement of the rotating gobo 5 (value range: 0-255)

**R. Gobo Index 1/6** - a fine movement of the rotating gobo 6 (value range: 0-255)

**Rot. Gobo Wheel 2** - a carousel 2 of rotating gobos fine movement (value range: 0-255)

**R. Gobo Index 2/1** - a fine movement of the rotating gobo 1 (value range: 0-255)

**R. Gobo Index 2/2** - a fine movement of the rotating gobo 2 (value range: 0-255)

**R. Gobo Index 2/3** - a fine movement of the rotating gobo 3 (value range: 0-255)

**R. Gobo Index 2/4** - a fine movement of the rotating gobo 4 (value range: 0-255)

**R. Gobo Index 2/5** - a fine movement of the rotating gobo 5 (value range: 0-255)

**R. Gobo Index 2/6** - a fine movement of the rotating gobo 6 (value range: 0-255)

**Colour Wheel 1** - a colour wheel 1 fine movement (value range: 0-255)

**Colour Wheel 2** - a colour wheel 2 fine movement (value range: 0-255)

**Prism 1** - a prism fine movement (value range: 0-255)

**Prism 2** - a prism fine rotation (value range: 0-255)

**Zoom** - a zoom module fine movement (value range: 0-255)

**Focus** - a focus module fine movement (value range: 0-255)

**Iris** - an iris fine movement (value range: 0-255)

**Frost 1/1** - a light frost fine position movement 1

**Frost 1/2** - a light frost fine position movement 2

**Frost 2/1** - a medium frost fine position movement 1

**Frost 2/2** - a medium frost fine position movement 2

**Fr. Shutters.rot**- a framing shutters module fine rotation (value range: 0-255)

**Fr. Shutter 1 Move** - a Fram. lamella 1 fine moving

**Fr. Shutter 1 Swiv.** - a Fram. lamella 1 fine swivelling

**Fr. Shutter 2 Move** - a Fram. lamella 2 fine moving

**Fr. Shutter 2 Swiv.**- a Fram. lamella 2 fine swivelling

**Fr. Shutter 3 Move** - a Fram. lamella 3 fine moving

**Fr. Shutter 3 Swiv.** - a Fram. lamella 3 fine swivelling

**Fr. Shutter 4 Move** - a Fram. lamella 4 fine moving

**Fr. Shutter 4 Swiv.** - a Fram. lamella 4 fine swivelling

### *Calibration of the effects via the control board*

1. Disconnect DMX controller from the fixture and enter the "Calibrate Effects" menu.
2. Use the [up arrow] and [down arrow] to find "Pan" and touch it to enter the fine effect adjustment screen.
3. Set desired value and save it by touching the [confirm].
4. Repeat steps 2 and 3 for next item
5. After calibrating all effects, touch the [confirm] to save all adjusted values and reset the fixture.

### *Calibration of the effects via the DMX controller*

1. Connect DMX controller to the fixture and enter the "Calibrate Effects" menu.

Calibration protocol:

#### **Effect**

|                   |            |
|-------------------|------------|
| Pan               | channel 54 |
| Tilt              | channel 55 |
| Ef. wheel         | channel 56 |
| Rot. Gobo Wheel 1 | channel 57 |

|                          |            |
|--------------------------|------------|
| R. Gobo Index 1/1        | channel 58 |
| R. Gobo Index 1/2        | channel 59 |
| R. Gobo Index 1/3        | channel 60 |
| R. Gobo Index 1/4        | channel 61 |
| R. Gobo Index 1/5        | channel 62 |
| R. Gobo Index 1/6        | channel 63 |
| Rot. Gobo Wheel 2        | channel 64 |
| R. Gobo Index 2/1        | channel 65 |
| R. Gobo Index 2/2        | channel 66 |
| R. Gobo Index 2/3        | channel 67 |
| R. Gobo Index 2/4        | channel 68 |
| R. Gobo Index 2/5        | channel 69 |
| R. Gobo Index 2/6        | channel 70 |
| Colour wheel 1           | channel 71 |
| Colour wheel 2           | channel 72 |
| Prism 1                  | channel 73 |
| Prism 2                  | channel 74 |
| Zoom                     | channel 75 |
| Focus                    | channel 76 |
| Iris                     | channel 77 |
| Frost 1/1                | channel 78 |
| Frost 1/2                | channel 79 |
| Frost 2/1                | channel 80 |
| Frost 2/2                | channel 81 |
| Fr. Shutters rot.        | channel 82 |
| Fr. Shutter 1 Move       | channel 83 |
| Fr. Shutter 1 swiveling. | channel 84 |
| Fr. Shutter 2 Move       | channel 85 |
| Fr. Shutter 2 swiveling  | channel 86 |
| Fr. Shutter 3 Move       | channel 87 |
| Fr. Shutter 3 swiveling  | channel 88 |
| Fr. Shutter 4 Move       | channel 89 |
| Fr. Shutter 4 swiveling  | channel 90 |

### **Calibrate Fr. Hysteresis**

**Framing Lamella 1** - a framing lamella 1 reverse movement (value range: 0-8)

**Framing Lamella 2** - a framing lamella 1 reverse movement (value range: 0-8)

**Framing Lamella 3** - a framing lamella 1 reverse movement (value range: 0-8)

**Framing Lamella 4** - a framing lamella 1 reverse movement (value range: 0-8)

The value set for every framing lamella gives a value at which the lamella reacts to its reverse movement promptly (without movement hysteresis).

**Calibrate Pan/Tilt EMS** - This menu item allows calibration of the pan/tilt electronic motion stabilizer.

Important: during this calibration any external force must not influence the fixture and the surface at which the fixture stands (or truss if the fixture hangs) has to be without movement, shake, strokes etc.

**Load Default Calibrations** - The item loads default (factory) calibration values.

**Rotating Gobos Change** - This menu makes changing of rotating gobos in the fixture easier.

**Gobo Carousel 1** - The menu allows movement of rotating gobos on the gobo carousel 1 to positions suitable for their changing.

**G1-Mg** - a movement of the gobo 1 (gobo holder with magnet) to the changing position.

**G2** - a movement of the gobo 2 to the changing position.

:

**Gobo Offset** - a gobo offset setting. The function allows fine swiveling of the gobo holder. The set value is valid for all gobos on the gobo carousel 1.

**Gobo Carousel 2** - The menu allows movement of rotating gobos on the gobo carousel 2 to positions suitable for their changing.

**G1-Mg** - a movement of the gobo 1 (gobo holder with magnet) to the changing position.

**G2** - a movement of the gobo 2 to the changing position.

:

**Gobo Offset** - a gobo offset setting. The function allows fine swiveling of the gobo holder. The set value is valid for all gobos on the gobo carousel 2.

**LEDs Measure** - This menu item runs a procedure which measures a light intensity of the LEDs module installed in the fixture. This procedure takes about 1 minute (message "LEDs Module Measurement" is displayed on the screen"). During the procedure the fixture does not receive DMX signal, pan/tilt go to 128 DMX, a shutter is open and a dimmer is set at max. light intensity (255 DMX). All effects are taken out from the light beam. The measured light intensity is recorded in the item Intensity in the menu LED Module Info:

Tab Information --> Actual Module Info --> Intensity

Tab Information --> Intensity History --> Intensity

The light intensity in the menu item Intensity is displayed in percentages in relation to the initial intensity of the new LEDs module (initial intensity=100%).

The LEDs Measure procedure should be run after every change of the LED light source.

Note: The fixture has to be connected to mains in order to run LEDs Measure procedure.

**Update software** - The menu item allows you to update software in the fixture.

The following items are required in order to update software:

- PC running Windows or Linux or macOS
- DSU file
- Flash cable RS232/DMX, P/N13050624 (if you want to use a serial port of PC)
- Robe Universal Interface or Robe Universal interface WTX (if you want to use an USB port of PC)

After the software updating the fixture will be set to default values.

To update software in the fixture:

1. DSU file is available from Robe web site at [WWW.robe.cz](http://WWW.robe.cz).

File with extension zip is intended for Windows (used and tested from XP to W10 on 32/64bit systems).

File with extension tbz is intended for Linux (used and tested on Debian and Ubuntu 32/64bit).

File with extension dmg is intended for macOS (used and tested on OSX up to Sierra) XQuartz required, install it from <https://www.xquartz.org/>

Save the download file to a folder on your computer.

In case that you use windows, extract files in the zip file (e.g. DSU\_RobinForte\_18100828.zip)

2. Disconnect the fixture from DMX controller.

3. If you use the flash cable RS232/DMX, connect a serial port of your computer with DMX input of the fixture by means of the cable.

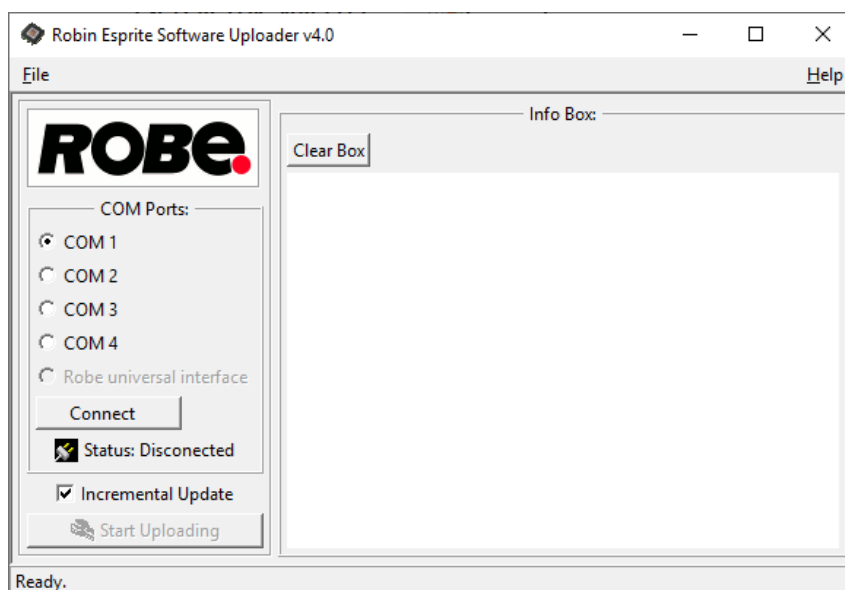
If you use the Robe Universal Interface, connect a USB port of your computer with the Robe Universal Interface by means of the USB cable and DMX input of the fixture with the DMX output of the Robe Universal Interface via a DMX cable.

4. Switch the fixture to the update mode (tab "Service" --> Update Software).

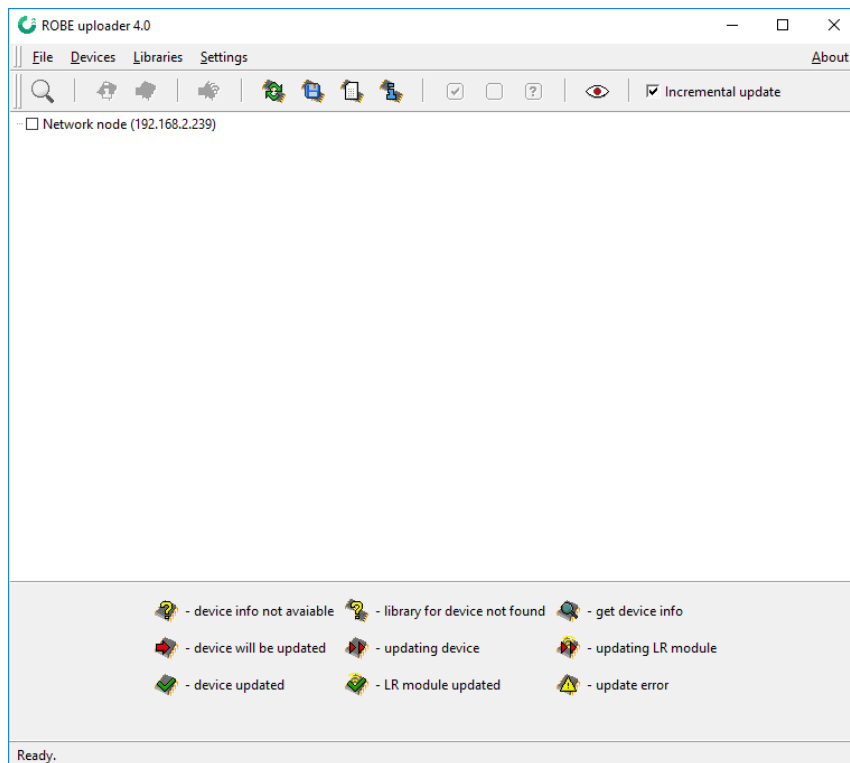
Note: If you do not want to continue in the software update, you have to switch off and on the fixture to escape from the updating mode.

We recommend to cancel all running programs on your computer before starting the software update.

5. Double-click the software uploader file (e.g. DSU\_RobinForte\_18100828.exe) in the extracted files. The Software Uploader program will start to run.



6. Select correct "COM " number if you use a Flash cable RS232/DMX or select "Robe Universal Interface " if you use the Robe Universal Interface/Robe Universal Interface WTX and then click on the "Connect" button.
  7. If the connection is OK, click the "Start Uploading" button to start software uploading. It will take several minutes to perform software update.  
If the option "Incremental Update" is not checked, all processors will be updated (including processors with the same software version).  
If you wish to update only processors with new version of software, check the "Incremental Update box".  
Avoid interrupting the process. Update status is being displayed in the "Info Box" window.  
When the update is finished, the line with the text "Fixture is successfully updated" will appear in this window.
- In case upload process is interrupted (e.g. power loss), the fixture stays in "Updating mode" and you will have to repeat the software update again.
- Another way, how to update software in the fixtures (especially large installation of fixtures) is to use the ROBE Uploader. It is a software for automatized software update of Robe fixtures. It takes advantage of RDM support).
- For more information please see <https://www.robe.cz/robe-uploader/>.



## 8. RDM

This fixture supports RDM operation. RDM (Remote Device Management) is a bi-directional communications protocol for use in DMX512 control systems, it is the new open standard for DMX512 device configuration and status monitoring.

The RDM protocol allows data packets to be inserted into a DMX512 data stream without adversely affecting existing non-RDM equipment. By using a special „Start Code,“ and by complying with the timing specifications for DMX512, the RDM protocol allows a console or dedicated RDM controller to send commands to and receive messages from specific moving lights.

RDM allows explicit commands to be sent to a device and responses to be received from it.

The list of commands for Robin Forte is the following:

| Parameter ID         | Discovery command | SET command | GET command |
|----------------------|-------------------|-------------|-------------|
| DISC_UNIQUE_BRANCH   | *                 |             |             |
| DISC_MUTE            | *                 |             |             |
| DISC_UN_MUTE         | *                 |             |             |
| DEVICE_INFO          |                   |             | *           |
| SUPPORTED_PARAMETERS |                   |             | *           |

|                             |  |   |   |
|-----------------------------|--|---|---|
| SOFTWARE_VERSION_LABEL      |  |   | * |
| DMX_START_ADDRESS           |  | * | * |
| IDENTIFY_DEVICE             |  | * | * |
| DEVICE_MODEL_DESCRIPTION    |  |   | * |
| MANUFACTURER_LABEL          |  |   | * |
| DEVICE_LABEL                |  | * | * |
| SENSOR_DEFINITION           |  |   | * |
| SENSOR_VALUE                |  |   | * |
| DISPLAY_INVERT              |  | * | * |
| DISPLAY_LEVEL               |  | * | * |
| PAN_INVERT                  |  | * | * |
| TILT_INVERT                 |  | * | * |
| DEVICE_RESET                |  | * |   |
| DMX_PERSONALITY             |  | * | * |
| DMX_PERSONALITY_DESCRIPTION |  |   | * |
| STATUS_MESSAGES             |  |   | * |
| STATUS_ID_DESCRIPTION       |  |   | * |

RDM model ID for the Robin Forte is 0x0111.

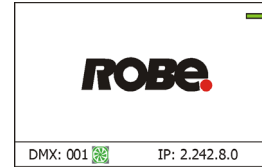
## 9. Error and information messages

### Information icon



#### - Air Filters Cleaning

This icon signals that cleaning period of the air filters has elapsed and you have to clear air filters and reset the menu item "Elapsed Time".



### Errors

Error in the fixture is signalled by the yellow warning icon at the bottom line of the screen:



Touch the warning icon or press the [ESCAPE] button to display error messages.  
List of error and information messages:

#### **Tilt Error 1 (Tilt Error 2)**

This message will appear after the reset of the fixture if the head's magnetic-indexing circuit malfunctions (sensor failed or magnet is missing) or the stepping motor is defective or its driving IC on the PCB. The head is not located in the default position after the reset.

#### **Pan Error 1 (Pan Error 2)**

This message will appear after the reset of the fixture if the yoke's magnetic-indexing circuit malfunctions (sensor failed or magnet is missing) or the stepping motor is defective or its driving IC on the PCB. The yoke is not located in the default position after the reset of the fixture.

#### **Colour Wheel 1 Error 1 (Colour Wheel 1 Error 2)**

The messages will appear after the reset of the colour wheel 1 if this wheel is not located in the default position.

#### **Colour Wheel 2 Error 1 (Colour Wheel 2 Error 2)**

The messages will appear after the reset of the colour wheel 2 if this wheel is not located in the default position

#### **Prism 1 Error 1 (Prism 1 Error 2 )**

The messages will appear after the reset of the prism wheel 1 if this wheel is not located in the default position.

#### **Prism 2 Error 1 (Prism 2 Error 2 )**

The messages will appear after the reset of the prism wheel 2 if this wheel is not located in the default position.

#### **Iris Error 1 (Iris Error 2 )**

The messages will appear after the reset of the iris if the iris is not located in the default position.

#### **Frost 1 Error 1 (Frost 1 Error 2 )**

The messages will appear after the reset of the frost module 1 if this module is not located in the default position.

#### **Frost 2 Error 1 (Frost 2 Error 2 )**

The messages will appear after the reset of the frost module 2 if this module is not located in the default position.

#### **Zoom Error 1 (Zoom Error 2 )**

The messages will appear after the reset of the zoom module if the zoom lens is not located in the default position.

#### **Focus Error 1 (Focus Error 2 )**

The messages will appear after the reset of the focus module if the focus lens is not located in the default.

#### **Gobo Carousel 1 Error 1 (Gobo Carousel 1 Error 2 )**

The messages will appear after the reset of the rotating gobo wheel 1 if this wheel is not located in the default position.

**Gobo Rotation 1 Error 1 (Gobo Rotation 1 Error 2 )**

The messages will appear after the reset of the rotating gobo wheel 1 if the rotating gobos are not located in the default positions.

**Gobo Carousel 2 Error 1 (Gobo Carousel 2 Error 2 )**

The messages will appear after the reset of the rotating gobo wheel 2 if this wheel is not located in the default position.

**Gobo Rotation 2 Error 1 (Gobo Rotation 2 Error 2 )**

The messages will appear after the reset of the rotating gobo wheel 2 if the rotating gobos are not located in the default positions.

**Effect Wheel Error 1**

The messages will appear after the reset of the effect wheel if this wheel is not located in the default position.  
Possible reason: missing magnetic sensor or magnet.

**Effect Wheel Error 2**

The messages will appear after the reset of the effect wheel if this wheel is not located in the default position.  
Possible reason: effect wheel cannot leave a magnetic sensor.

**Effect Wheel Error 3**

The messages will appear after the reset of the effect wheel if this wheel is not located in the default position.  
Possible reason: error of an alternative reset.

**Effect Wheel Error 4**

The messages will appear after the reset of the effect wheel if this wheel is not located in the default position  
Possible reason: unsuccessful check of the motor track.

**Fr. Shutters Rot. Error 1 (Fr. Shutters Rot. Error 2 )**

The messages will appear after the reset of the framing shutters module if this module is not located in the default position.

**Fr. Shutter 1 Error 1 (Fr. Shutter 1 Error 2 )**

The messages will appear after the reset of the framing shutters module if the frame 1 is not located in the default position.

**Fr. Shutter 2 Error 1 (Fr. Shutter 2 Error 2 )**

The messages will appear after the reset of the framing shutters module if the frame 2 is not located in the default position.

**Fr. Shutter 3 Error 1 (Fr. Shutter 3 Error 2 )**

The messages will appear after the reset of the framing shutters module if the frame 3 is not located in the default position.

**Fr. Shutter 4 Error 1 (Fr. Shutter 4 Error 2 )**

The messages will appear after the reset of the framing shutters module if the frame 4 is not located in the default position.

**EEPROM Error**

Hardware error of the EEPROM.

**Recharge The battery**

The battery on the display board needs to be charged. Let the fixture on for cca 6 hrs.

**Battery Faulty. Replace it.**

The battery on the display board is exhausted and should be replaced immediately.

**Pan/Tilt EMS Cal. Error**

The EMS system is not calibrated.

**Pan/Tilt EMS Error**

Control electronics cannot communicate with the EMS system.

**Internal Error 1**

Communication error between PCBs (error or noise was detected on communication wires)

**Internal Error 2**

Communication error (some PCB has failed or is disconnected (this PCB will show as N/A in menu --> Information --> Software versions) or error/noise was detected on communication wires)

**Clean Air Filters**

The message informs you that the item "Elapsed Time" in the "Fixture Information" menu is at 0 value. Clean air filters and reset this counter.

**Overheated**

The LED engine is overheated and light output is closed.

**Base Fan 1 Bad/ Base Fan 2 Bad**

One or both fans in the fixture base are disconnected from their control PCB or are faulty and has to be replaced. .

**Suction LED Fan 1 Bad/ Suction LED Fan 2 Bad/ Suction LED Fan 3 Bad**

The suction fan 1 (fan 2/ fan 3) at the LED engine is disconnected from its control PCB or is faulty and has to be replaced.

**Exhaust LED Fan 1 Bad/ Exhaust LED Fan 2 Bad/ Exhaust LED Fan 3 Bad**

The exhaust fan 1 (fan 2, fan 3) at the LED engine is is disconnected from its control PCB or is faulty and should be replaced.

**Iris Fan 1 Bad/ Iris Fan 2 Bad**

The iris fan 1 (fan 2) which cools the iris and framing shutters in the fixture head is disconnected from its control PCB or is faulty and should be replaced. A light output from the fixture is closed.

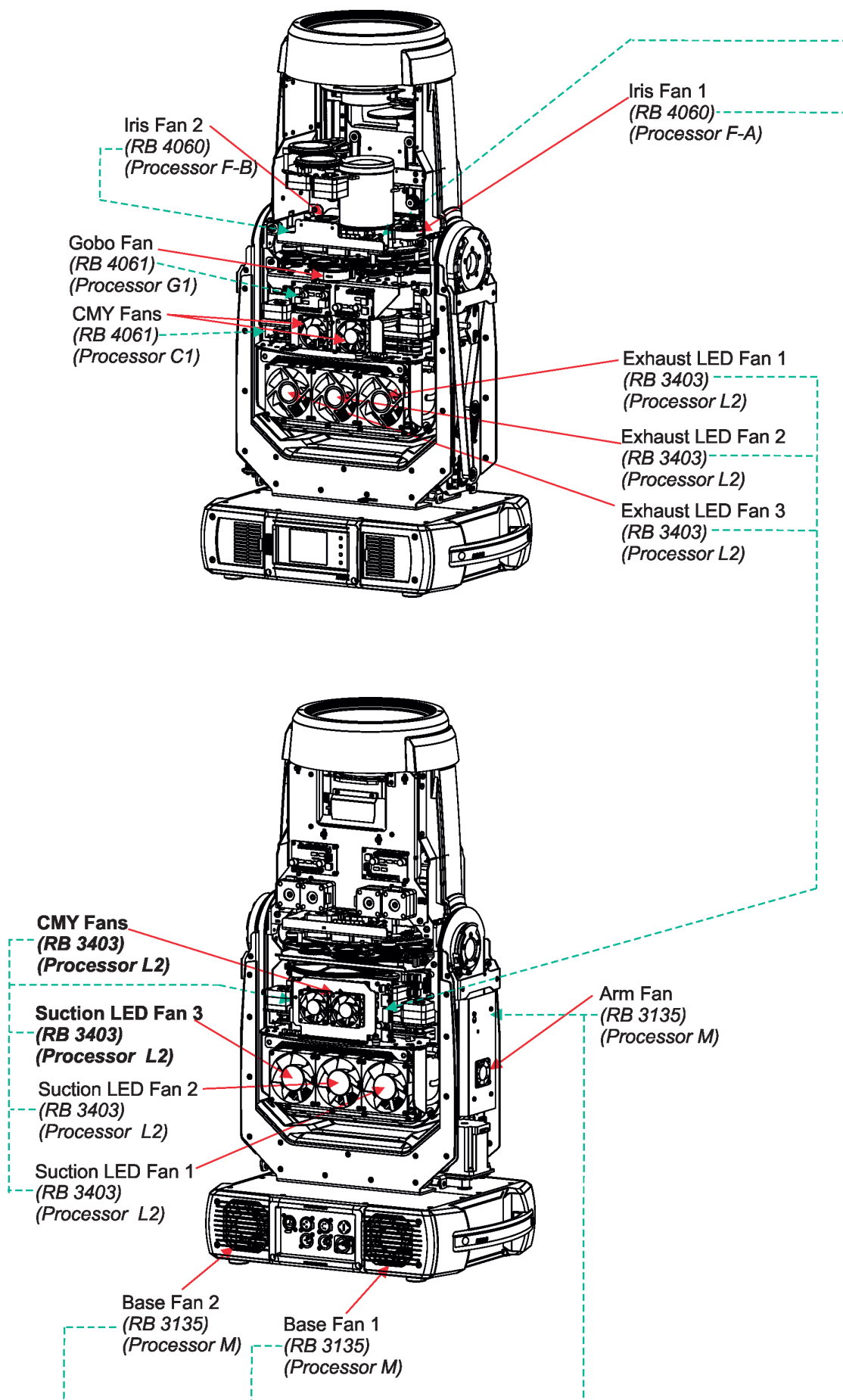
**Arm Fan Bad**

The fan which cools the PCB in the fixture head is disconnected from its control PCB or is faulty and should be replaced. A light output from the fixture is closed.

**Gobo Fan Bad**

The fan which cools the gobo wheels in the fixture head is disconnected from its control PCB or is faulty and should be replaced. A light output from the fixture is closed.

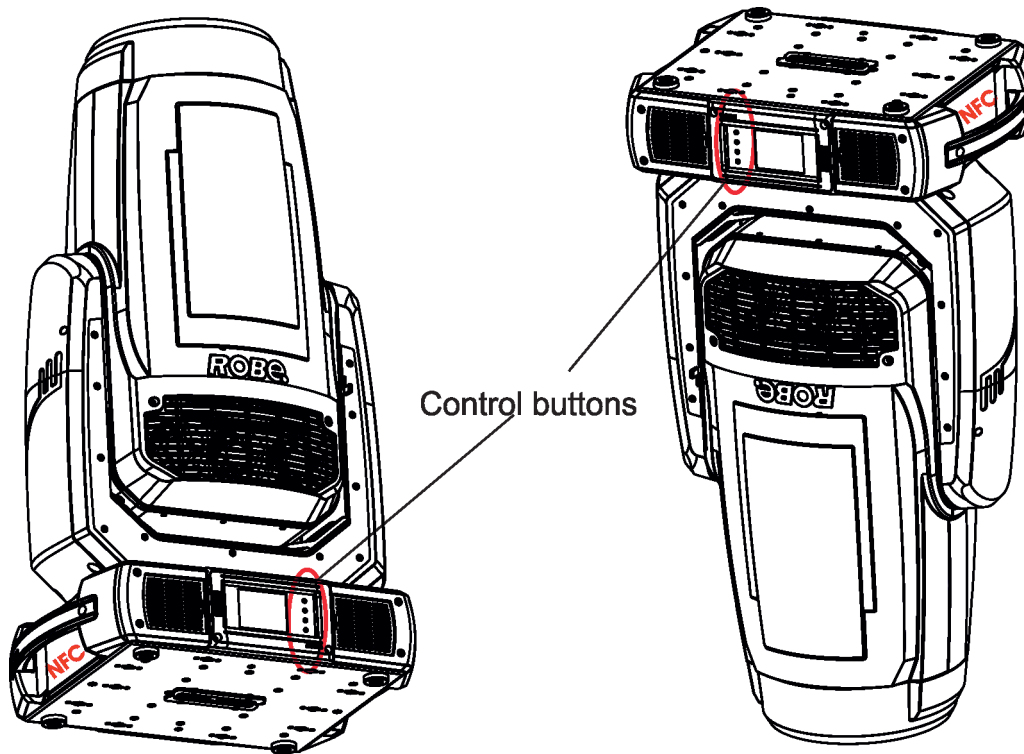
Positions of cooling fans and their control PCBs:



## 10. NFC

The fixture supports NFC. Using the mobile phone application ROBE COM you can read and set the Robin Forte parameters (DMX address, IP address...etc.), get information about temperatures, operation hours, RDM identification etc.

The NFC point is situated on the side of the fixture base:



Download and install the ROBE COM from Google Play (for Android 5.0 and higher) or App Store (for iOS 12.0 and higher) to your mobile phone. Your mobile phone has to support NFC (Near-Field Communication).

Hold the mobile phone on the side of the fixture base, if NFC connection is OK, discovered fixture will appear on the screen, after touching the fixture name the following menu items will appear:

- DMX/RDM settings
- Ethernet settings
- Blackout settings
- Colour settings
- Display settings
- Standalone settings
- Pan/Tilt settings
- Other settings
- Software versions
- Device hours
- Device temperatures

Touch desired menu item to enter its submenu.

## 11. Technical Specifications

### Electrical

Power supply: electronic auto-ranging  
Input voltage range: 100-240V, 50-60Hz  
Fuse: T 15 A  
Max. power consumption: 1250W (Power factor 0.98)

### Optic

Light source: TE™ 1.000W HP White LED Engine (Transferable)  
Colour temperature: 6700K  
CRI: CRI: 70/80/90, remotely selectable  
Light source warranty: 4 years or 20 000 hours

### Colour wheel 1

five dichroic filters (deep red, deep blue, orange, green, congo blue) + open

### Colour wheel 2

five dichroic filters (multicolour filter, laser green, lavender, CRI filter 80, CRI filter 90)  
+ open

### CMY + CTO mixing module

Smooth CMY colour mixing system  
Variable CTO: 3000K - 6.700K

### Virtual colour wheel

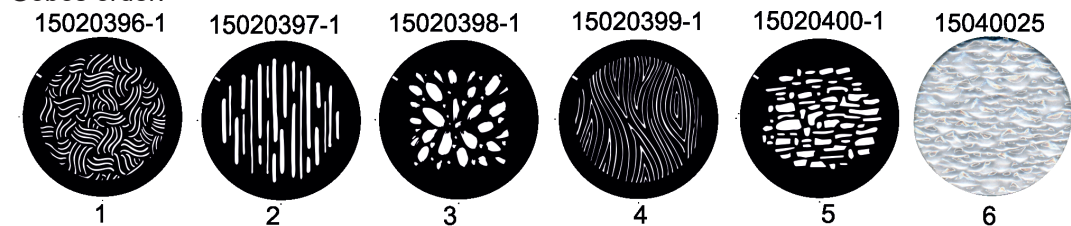
66 preset colours

### Effect wheel

Aluminium effect wheel rotating in both directions with variable speed

### Rotating gobo wheel 1

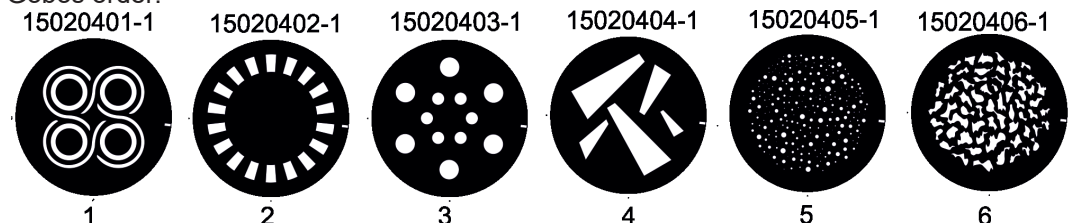
6 glass gobos can be indexed and rotated in both directions at different speeds,  
gobo wheel continuous rotation  
Gobos: outside diameter=  $30.9^{+0.1}$  mm, image diameter=25 mm, thickness=1-3.5 mm, high  
temperature borofloat or better glass.  
Gobos order:



Note. Metal (or aluminium) gobos cannot be used due to thermal stress.

### Rotating gobo wheel 2

6 glass gobos can be indexed and rotated in both directions at different speeds,  
gobo wheel continuous rotation  
Gobos: outside diameter=  $30.9^{+0.1}$  mm, image diameter=25 mm, thickness=1-3.5 mm, high  
temperature borofloat or better glass.  
Gobos order:



Note. Metal (or aluminium) gobos cannot be used due to thermal stress.

**Prism 1**

Rotating 6-facet linear prism with continuous rotation in both directions and indexing

**Prism 2**

Rotating 6-facet radial prism with continuous rotation in both directions.

**Iris**

Motorized iris for different beam diameters

**Frost filters**

2 separate, variable frost filters ( light (1°) and medium (5°))  
Both filters are replaceable

**Framing shutters module**

4 individually positionable shutters rotation of the complete frame system +/- 60°  
Each framing shutter can be swiveled

**Zoom**

Linear motorized zoom  
Min. beam angle :5°  
Max. beam angle: 55°

**Strobe**

Strobe effect with variable speed (0.3 - 20Hz)

**Dimmer**

Smooth dimmer from 0 - 100 % (8 or 16 bit (internal 18 bit))

**Camera (Robin Forte FS only)**

Type: SNZ-6320  
Max. resolution: 1920 x 1080  
16 : 9 Full HD (1080p) resolution support  
32x optical zoom, 16x digital zoom  
H.264, MJPEG dual codec, Multiple streaming  
Day & Night (ICR), WDR (120dB)

**Control**

Graphic touch screen for fixture setting and addressing  
Gravitation sensor for auto screen positioning  
Battery backup of the touch screen  
Readout fixture and LEDs usage, receiving DMX values, temperatures, etc  
Built-in analyzer for easy fault finding, error messages  
Built-in demo sequences  
Stand-alone operation  
2 user editable programs, each up to 80 steps  
Supported protocols: USITT DMX 512-A, RDM, ArtNet, MANet, MANet2, sACN  
Support of RDM (Remote Device Management) and NFC  
1 DMX mode (54 control channels)

**Wireless DMX/RDM module**

Compliance with USITT DMX-512 (1986 & 1990) and 512-A  
Full DMX fidelity and frame integrity  
Auto sensing of DMX frame rate and frame size  
<5ms DMX latency  
Operational frequency range of 2402-2480 MHz  
Producer: LumenRadio

**Pan/Tilt**

Pan movement range 540°  
Tilt movement range 270°  
16 bit movement resolution  
Pan/Tilt electronic motion stabilizer  
Automatic Pan/Tilt position correction  
Remotely controllable speed of pan/tilt movement for easy programming  
Pan/tilt-lock mechanism

**Connection**

DMX data in/out: 2x Locking 3-pin XLR, 2x Locking 5-pin XLR  
2x Locking 5-pin XLR (Forte FS only)  
AC power input: Chassis connector Neutrik PowerCon TRUE 1, NAC3MPX  
Ethernet In/Out: 2 x RJ 45  
Camera output: 1x RJ 45 (Forte FS only)

**Rigging**

Mounting points: 5 pairs of 1/4-turn locking points  
Mounting horizontally or vertically via 2 Omega brackets

**Temperatures**

Maximum/Minimum ambient operating temperature : +45°C/-5°C  
Maximum housing temperature : 80° C

**Minimum distances**

Min. distance from flammable surfaces: 1 m  
Min. distance to lighted object: 4 m

**Total heat dissipation**

4265 BTU/hr (calculated)

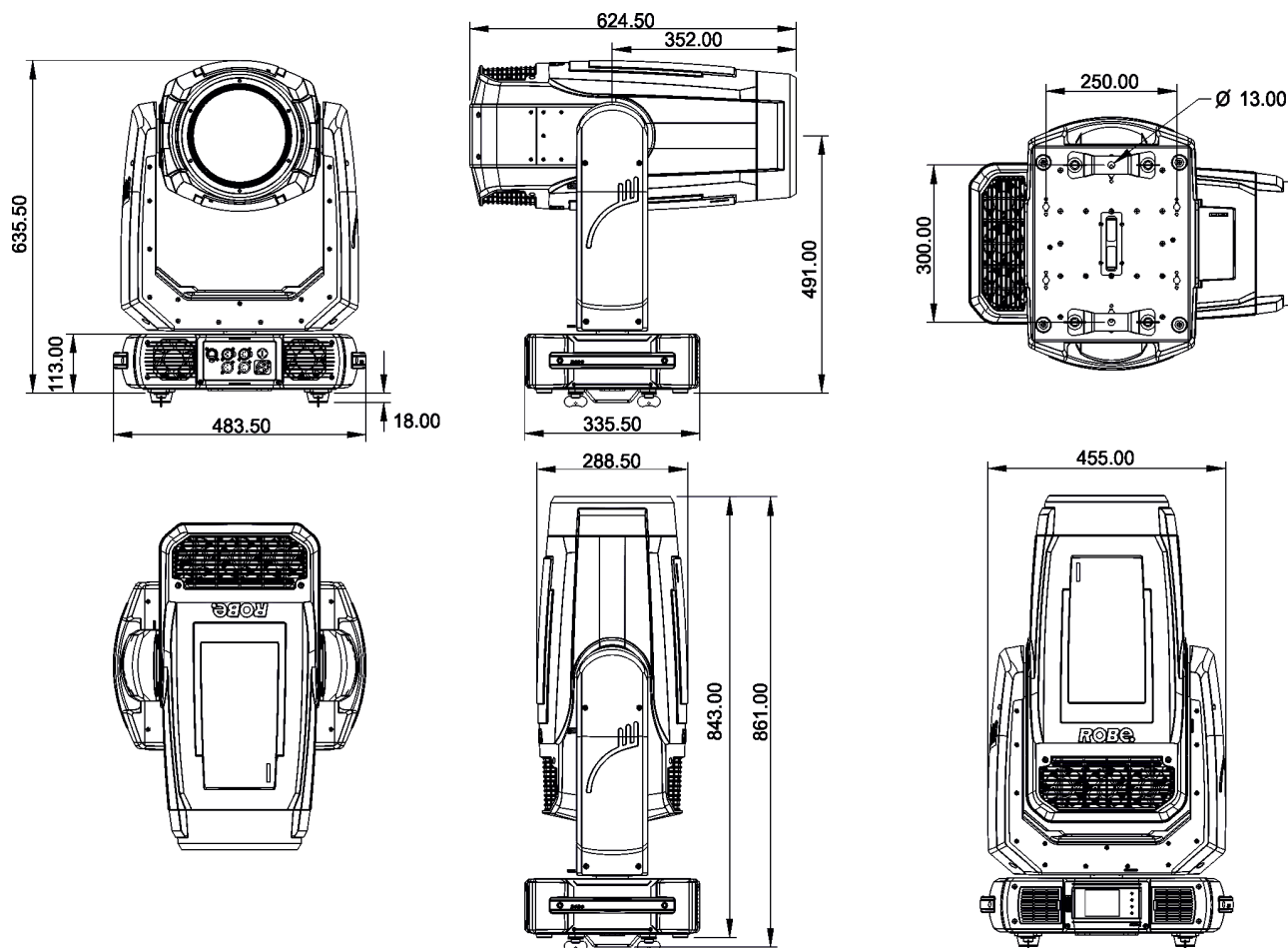
**Ingress protection rating**

IP20

**Weight**

39.8 kg (87.7 lbs ) (Forte)  
41.2 kg (90.8 lbs (Forte FS)

## Dimensions (mm)



## Accessories

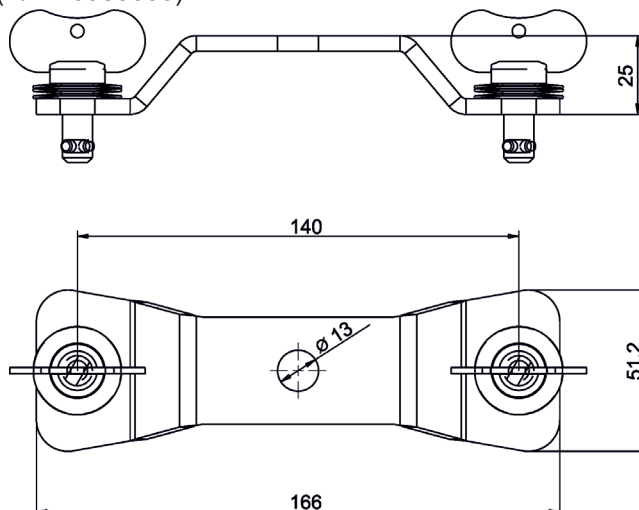
- 1 x Omega adaptor CL-regular 2 pcs in box (P/N 10980033)
- 1 x Power cable including powerCON TRUE1 In connector

## Optional accessories

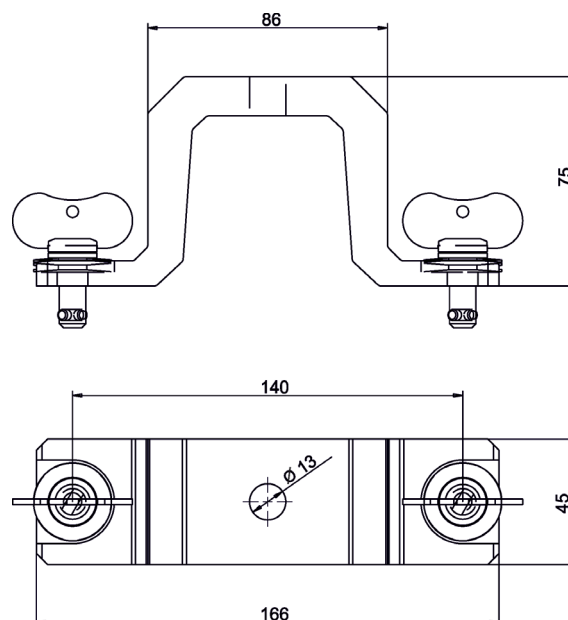
- Frost 0,5° (exchange) for Robin T2 Profile/Forte (P/N 10980581)
- Frost 1° (exchange) for Robin T2 Profile/Forte (P/N 10980564)
- Frost 5° (exchange) for Robin T2 Profile/Forte (P/N 10980565)
- Frost 10° (exchange) for Robin T2 Profile/Forte (P/N 10980556)
- Frost 20° (exchange) for Robin T2 Profile/Forte (P/N 10980577)
- Frost 30° (exchange) for Robin T2 Profile/Forte (P/N 10980582)
- Doughty Trigger Clamp (P/N 17030386)
- Safety wire 50 kg (P/N 99011957)
- Omega Adaptor Tall CL-regular 2 pcs in box (P/N 10980501)
- Hot Spot lens in gobo holder (P/N 10980557)
- Robin Forte LightMaster rear kit SET (P/N 10080335)
- Robin Forte LightMaster side kit SET (P/N 10080334)

Difference between Omega adaptor CL-regular and Omega adaptor Tall CL-regular:

Omega adaptor CL-regular (P/N 10980033)



Omega adaptor Tall CL-regular (P/N 10980501)



## 12. Maintenance and cleaning

It is absolutely essential that the fixture is kept clean and that dust, dirt and smoke-fluid residues must not build up on or within the fixture. Otherwise, the fixture's light-output will be significantly reduced. Regular cleaning will not only ensure the maximum light-output, but will also allow the fixture to function reliably throughout its life. A soft lint-free cloth moistened with any good glass cleaning fluid is recommended, under no circumstances should alcohol or solvents be used!

***DANGER !***  
***Disconnect from mains before starting any  
maintenance work***

The front objective lens will require weekly cleaning as smoke-fluid tends to building up residues, reducing the light-output very quickly. The cooling-fans should be cleaned monthly.  
The interior of the fixture should be cleaned at least annually using a vacuum-cleaner or an air-jet.  
Gobo wheels and the internal lenses should be cleaned monthly.  
Remove dust and dirt from the fans and cooling vents using a soft brush and vacuum-cleaner.

***Important! Check the air filters periodically and clean before they become clogged!***

Clean two air filters placed in the fixture base. Use a vacuum cleaner, compressed air or you can wash them and put back dry.

After replacing the air filters, reset the elapsed time counter in the menu "Information" (Information--->Air Filters---> Elapsed Time).

#### **Replacing the fuse.**

Before replacing the fuse, unplug mains lead.

1. Remove the fuse holder on the rear panel of the base with a fitting screwdriver from the housing (anti-clockwise).
2. Remove the old fuse from the fuse holder.
3. Install the new fuse in the fuse holder (only the same type and rating).
4. Replace the fuseholder in the housing and fix it.

#### **Checking plastic parts of the fixture.**

The plastic parts of the fixture should be checked for damages and beginning cracks at least every two months. In addition, the plastic part of the front lens has to be checked mechanically (by means of movement by the plastic part) if it is firmly fastened to the fixture. If hint of a crack is found on some plastic part, do not use the fixture until the damaged part will be replaced.

Cracks or another damages of the plastic parts can be caused by the fixture transportation or manipulation and also ageing process may influence plastic materials.

This checking is necessary for both fixed installations and preparing fixtures for renting. Any free moving parts inside of the fixture head, cracked plastic or any plastic part of front lens not sitting properly in place need to be immediately replaced.

## **12.1 Disposing of the product**

To preserve the environment please dispose or recycle this product at the end of its life according to the local regulations and codes.

## **13. ChangeLog**

This section summarizes changes in the user manual.

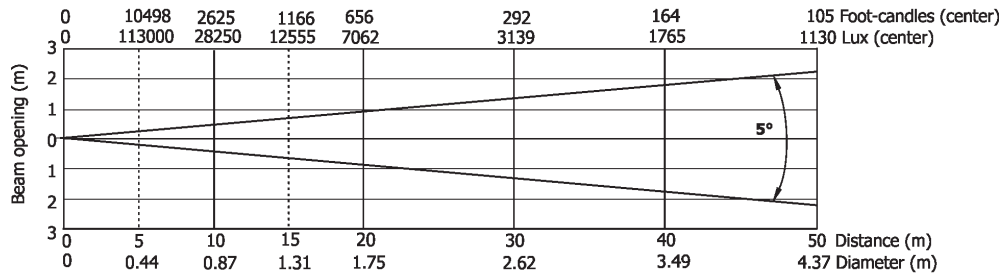
| <b>Version of the manual</b> | <b>Date of issue</b> | <b>Description of changes</b>                                      |
|------------------------------|----------------------|--------------------------------------------------------------------|
| 1.1                          | 25/09/2020           | DMX chart ver. 1.3                                                 |
| 1.2                          | 13/09/2020           | Zoom range chaged to 5°-55°                                        |
| 1.3                          | 27/10/2020           | DMX chart ver. 1.4                                                 |
| 1.4                          | 12/11/2020           | DMX chart ver. 1.5                                                 |
| 1.5                          | 04/02/2021           | Optional frosts added                                              |
| 1.6                          | 08/02/2021           | Information about NFC added                                        |
| 1.7                          | 22/02/2021           | DMX chart ver. 1.6                                                 |
| 1.8                          | 09/03/2021           | Forte EP rear panel added                                          |
| 1.9                          | 23/03/2021           | Optical diagrams updating, DMX chart ver. 1.7                      |
| 2.0                          | 31/03/2021           | Forte EP version removed                                           |
| 2.1                          | 18/05/2021           | Rot. gobos - numbers changed                                       |
| 2.2                          | 20/05/2021           | DMX chart ver. 1.8                                                 |
| 2.3                          | 18/08/2021           | Types of LED engine (HFC, HP) indication added, DMX chart ver. 1.9 |
| 2.4                          | 13/10/2021           | ROBE CON screenshots updated                                       |

## 14. Photometric diagrams

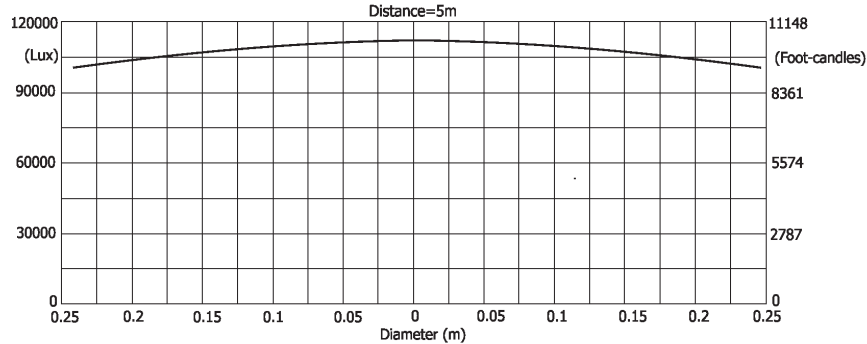
Auto mode - CRI 70

Beam angle 5° - Min. zoom

Total Output: 16695 lumens

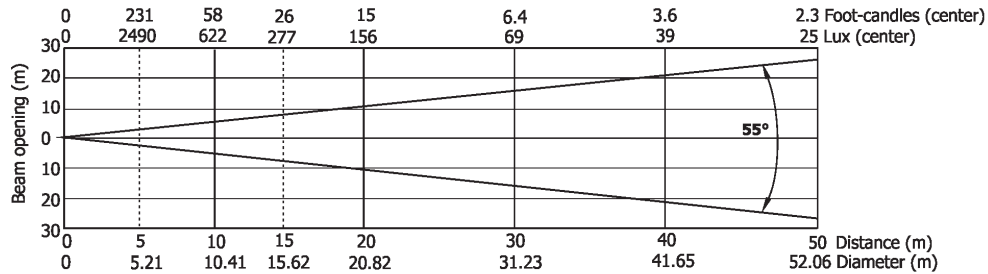


Illuminance distribution

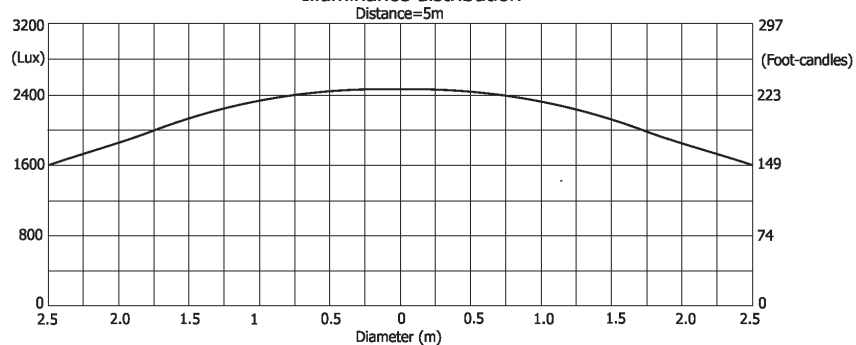


Beam angle 55° - Max. zoom

Total Output: 40191 lumens



Illuminance distribution

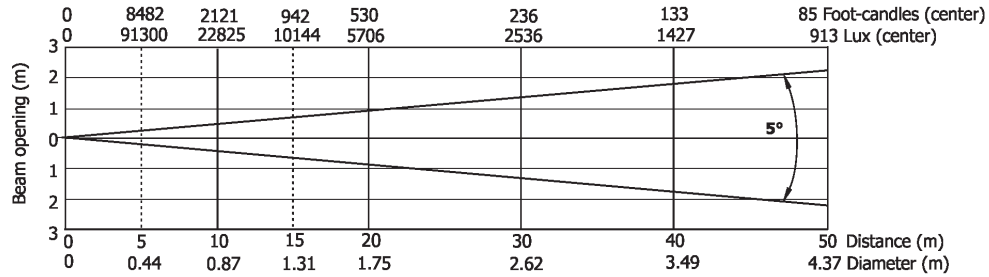


Fixture setting:  
Fans: Auto  
CRI: 70

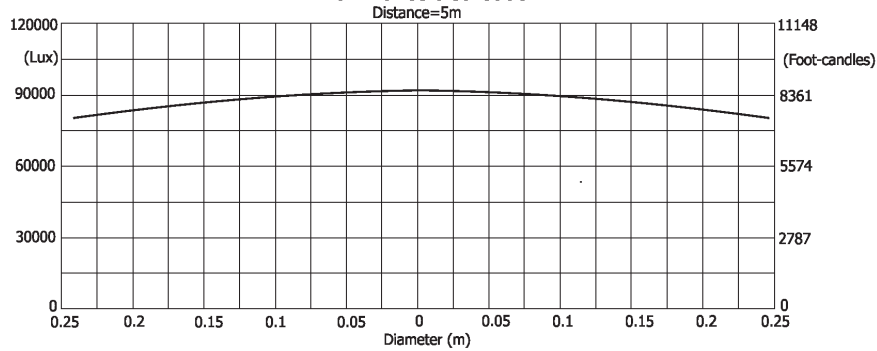
## Auto mode - CRI 80

### Beam angle 5° - Min. zoom

Total Output: 13391 lumens

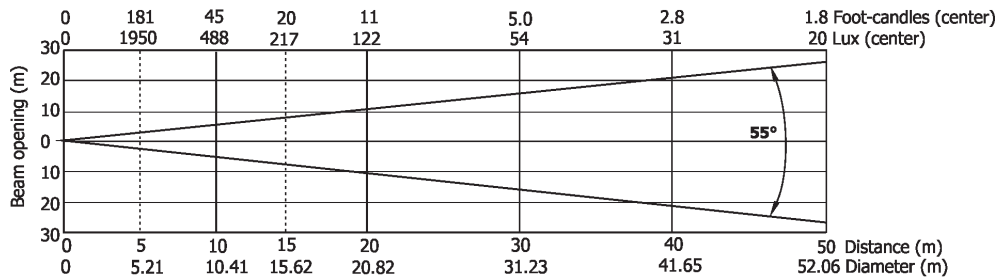


#### Illuminance distribution

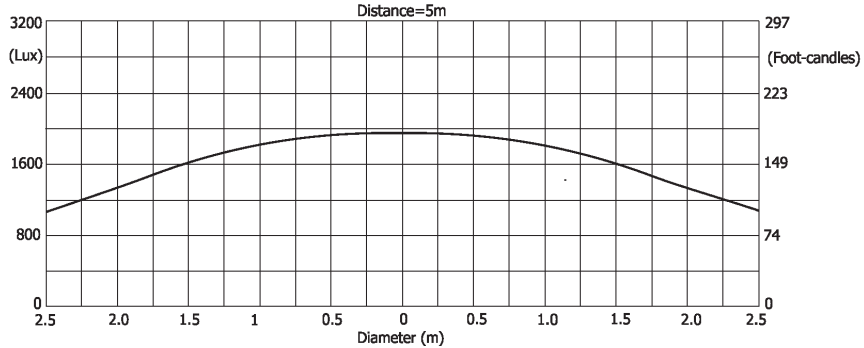


### Beam angle 55° - Max. zoom

Total Output: 31489 lumens



#### Illuminance distribution

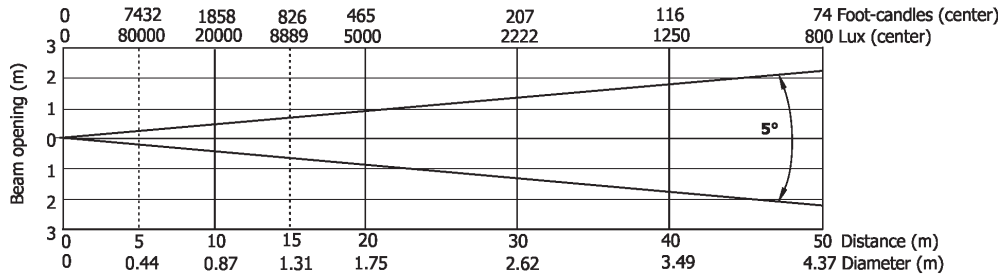


Fixture setting:  
Fans: Auto  
CRI: 80

## Auto mode - CRI 90

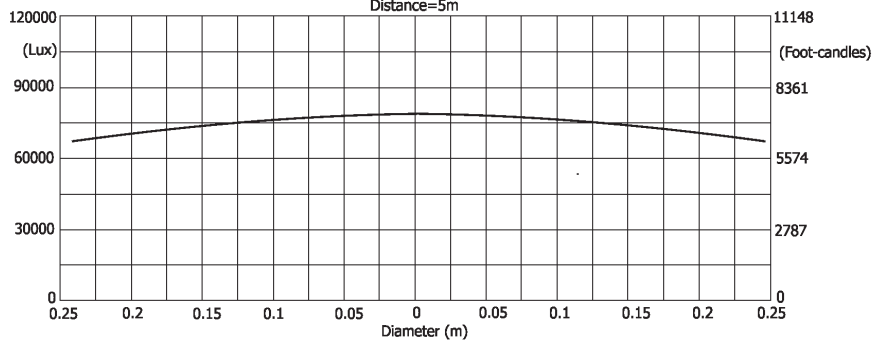
### Beam angle 5° - Min. zoom

Total Output: 11826 lumens



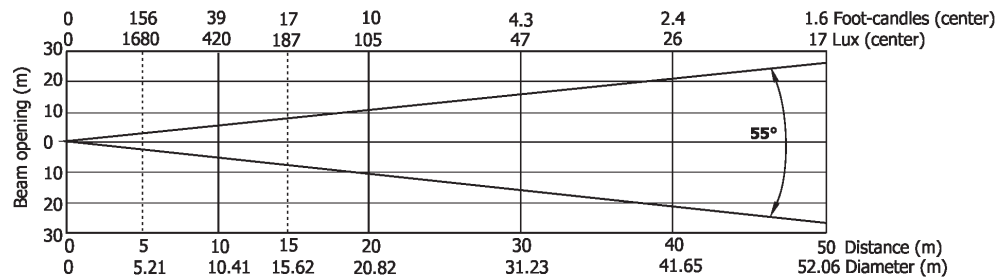
#### Illuminance distribution

Distance=5m



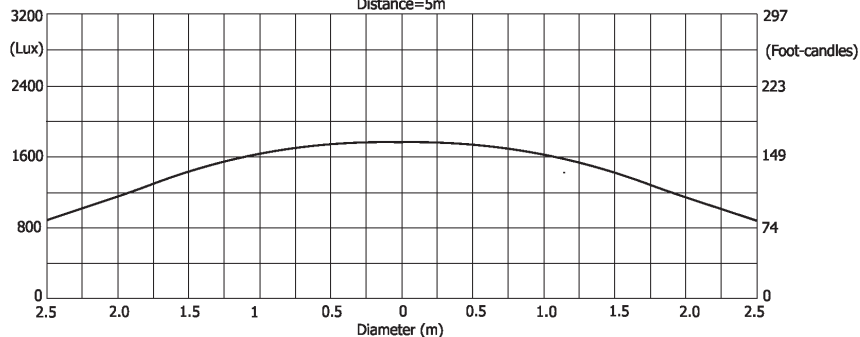
### Beam angle 55° - Max. zoom

Total Output: 26932 lumens



#### Illuminance distribution

Distance=5m



Fixture setting:  
Fans: Auto  
CRI: 90

September 13, 2021

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All Specifications subject to change without notice

Made in CZECH REPUBLIC by ROBE LIGHTING s.r.o. Palackeho 416/20 CZ 75701 Valasske Mezirici

UK  
CA

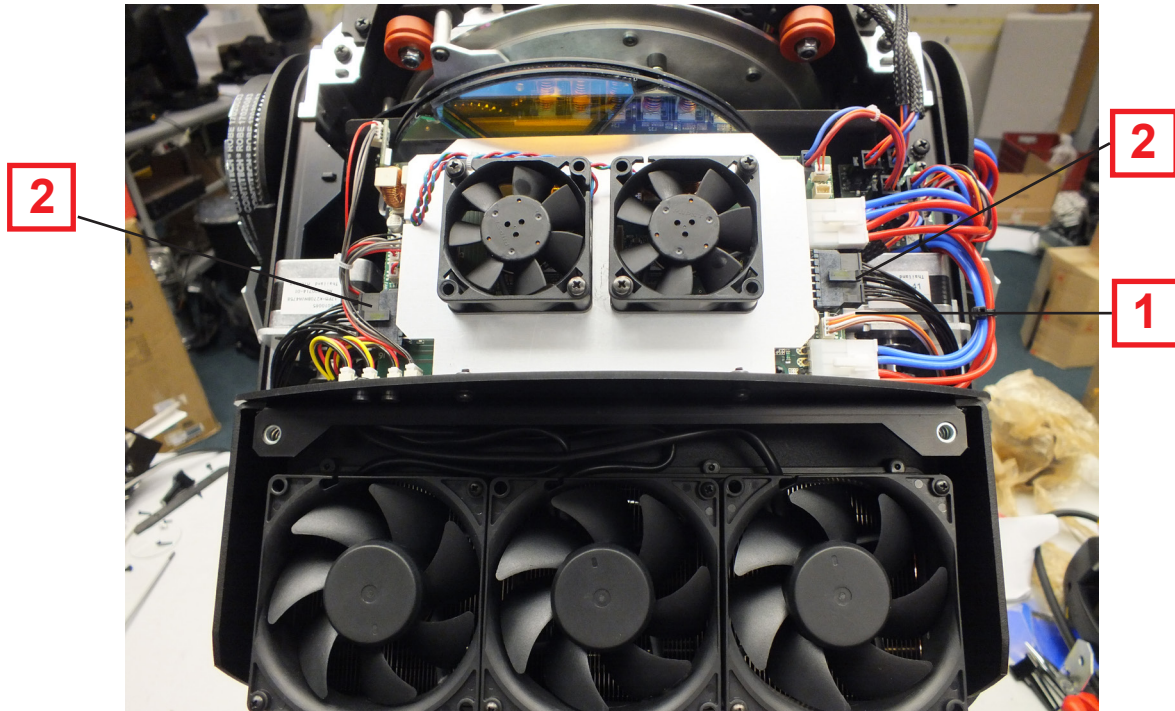
## 15. Appendix

### 15.1 Changing the LED light source

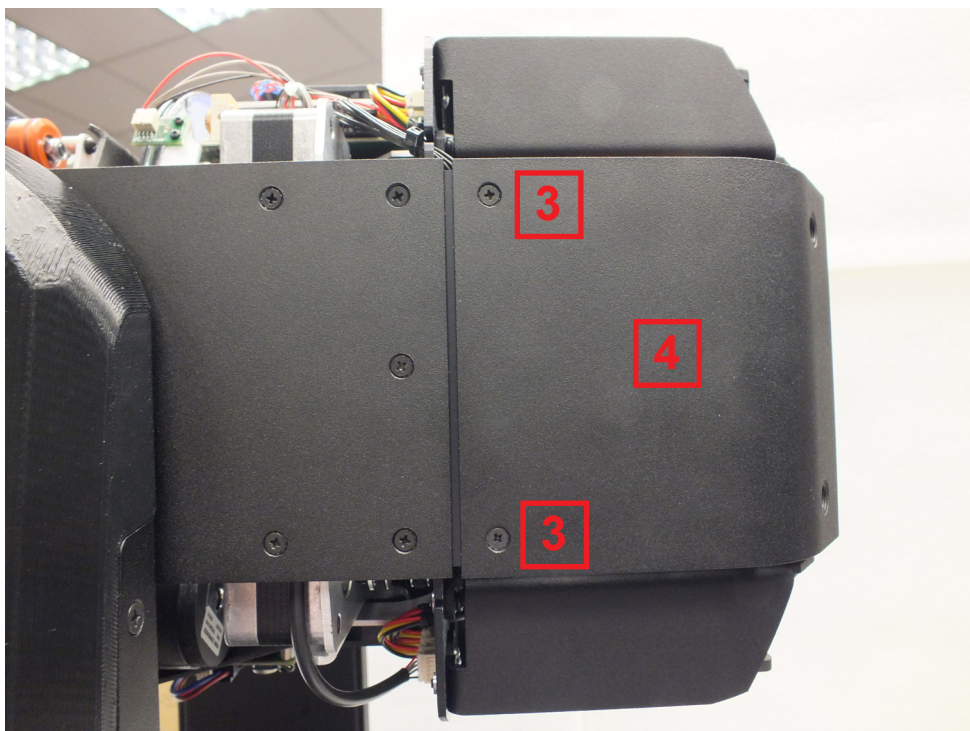
The Robin Esprite allows you to change the LED light source and this way keep a high performance of the fixture.

To change the LED light source.

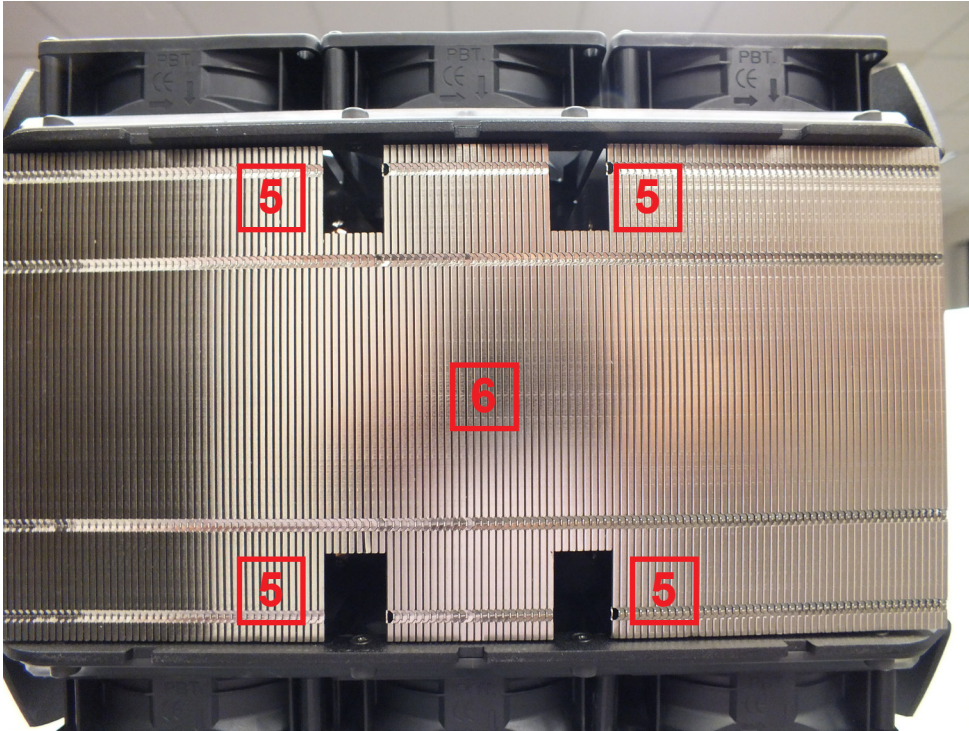
1. Disconnect the fixture from mains and allow it to cool about 30 minutes.
2. Remove top covers of the fixture and lock the head in a horizontal position in which you will have access to the control PCB of the LED light source.
3. Disconnect two black connectors (2) and one white connector (1) from the LEDs control PCB.



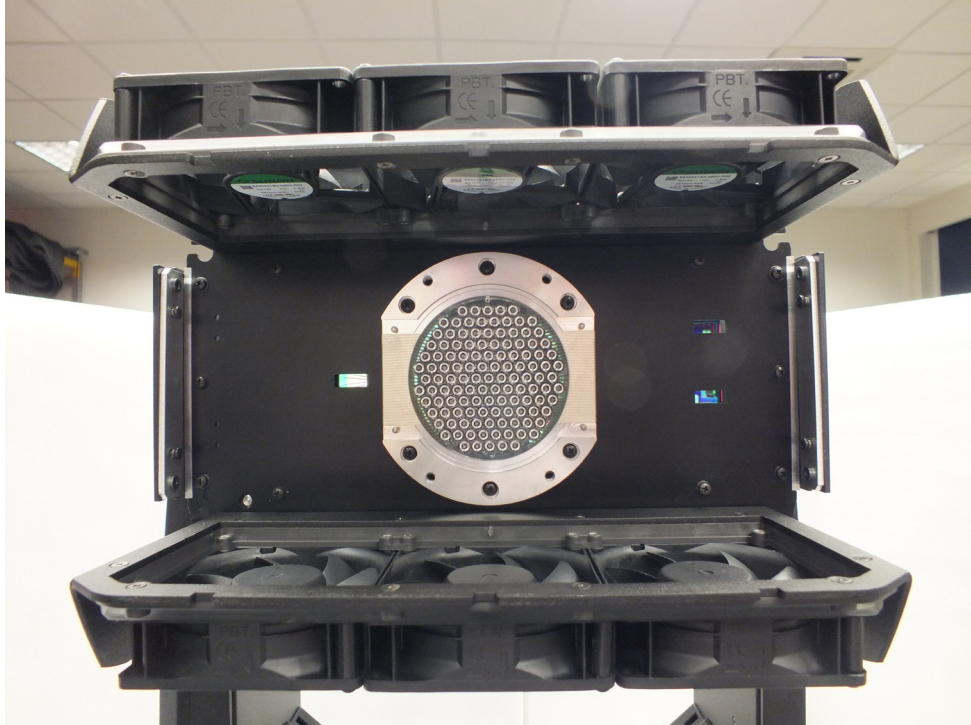
4. Unscrew two screws M3x12 with star washers (3) on each side of the rear cover (4) of the head and remove the cover (4).



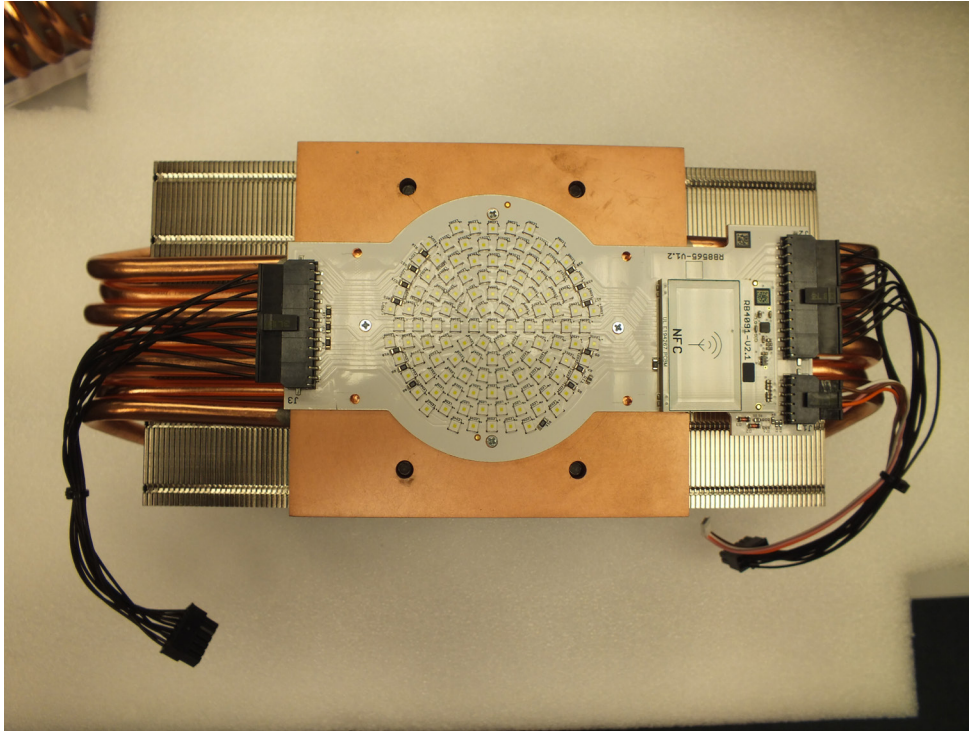
5. Unscrew the four screws M5x25 and remove the LED light source (6) from the head. Be careful, the LED light source is heavy.



Fixture head without the LED light source.



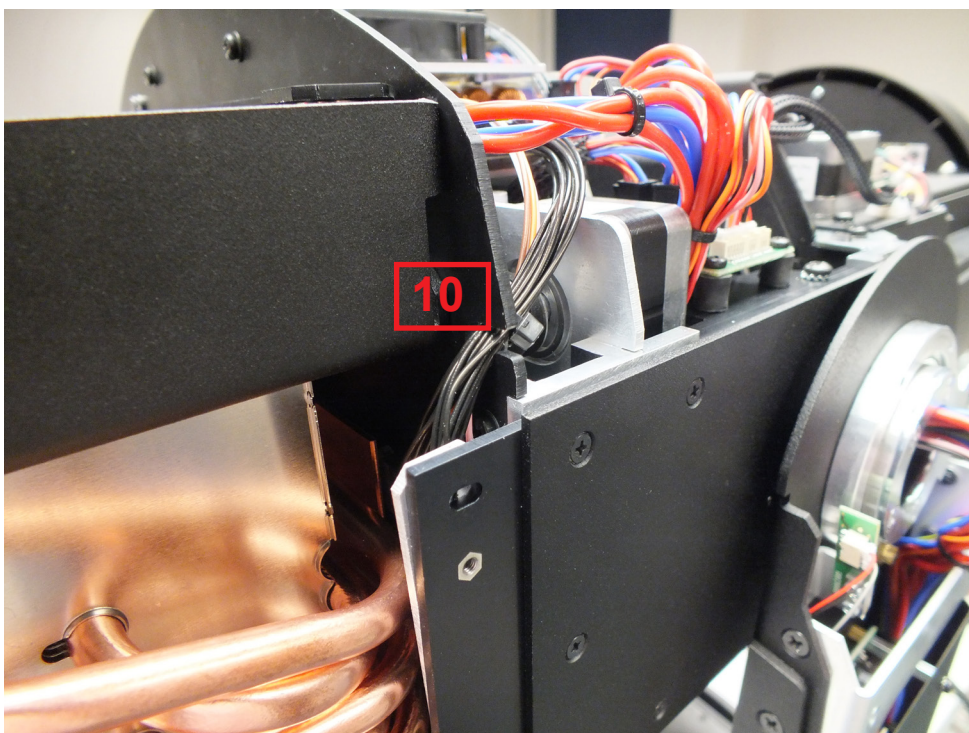
The new LED light source includes PCB with LEDs, heat sink and connecting cables with connectors. Handle with care. Do not touch LEDs with bare hands.



6. To install the new LED light source, proceed in a reverse order than at its dismantling, i.e. screw the LED lightsource (6) to the head, screw the rear cover (4) on the head and connect the connectors from the LED light source to the LEDs control PCB.

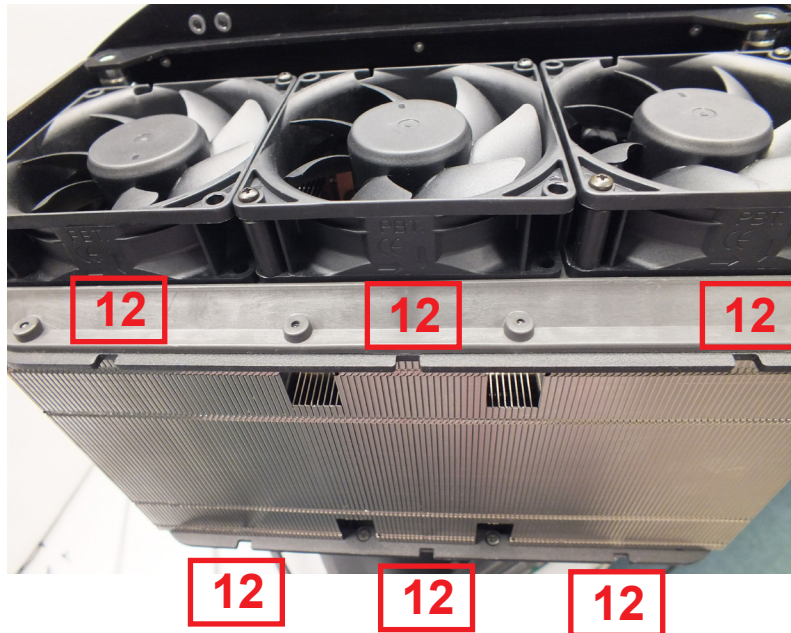
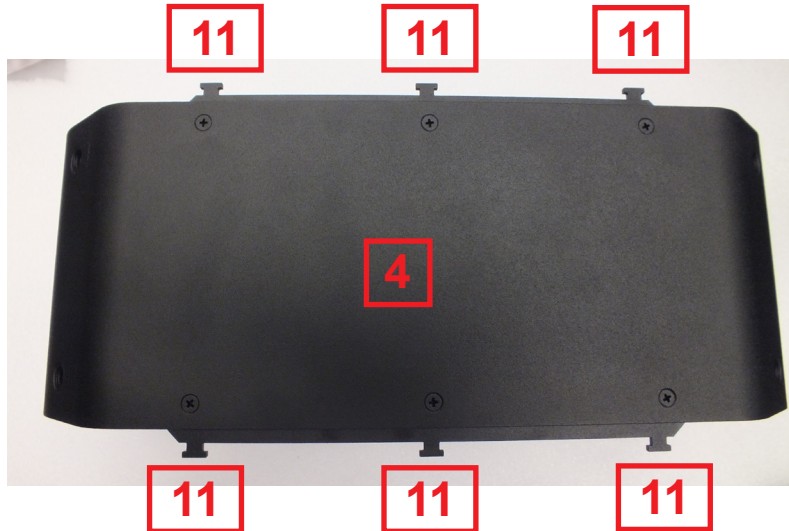
Placing of the LED light source cables:

Cables on both sides of the LED light source have to be inserted in the grooves (10) of the chassis.

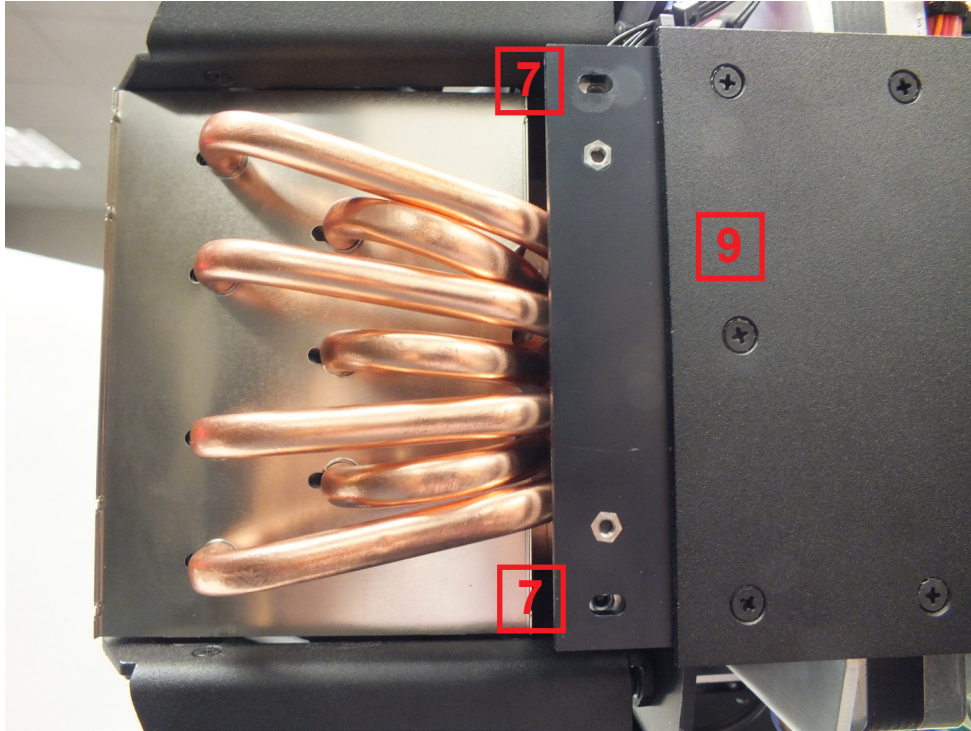


**Note for mounting of the rear cover (4).**

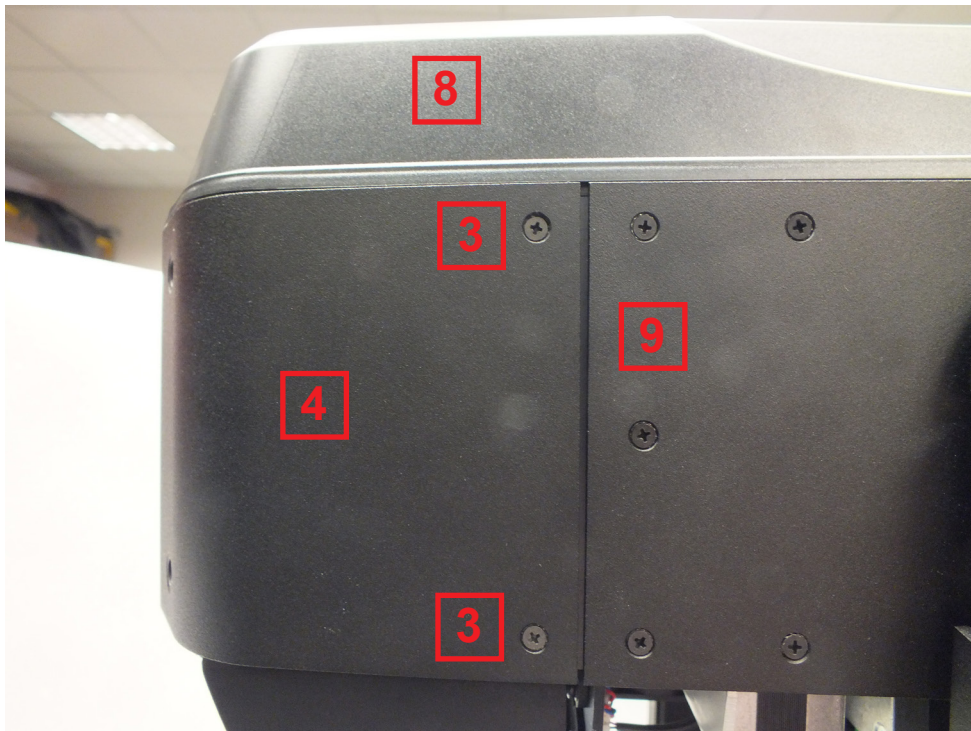
The protrusions (11) of the rear cover (4) have to be correctly placed to the openings (12) of chassis.



After placing the rear cover (4) on the head, do not fully tighten the screws (3) in the holes with M3 thread (7). We recommend you to install one or both plastic covers (8) on the head, check that cover (s) properly fits to the rear cover (4) and then fully tighten the rear cover screws (3).



There can be a space (about 1 mm) between the rear cover (4) and the side cover (9).



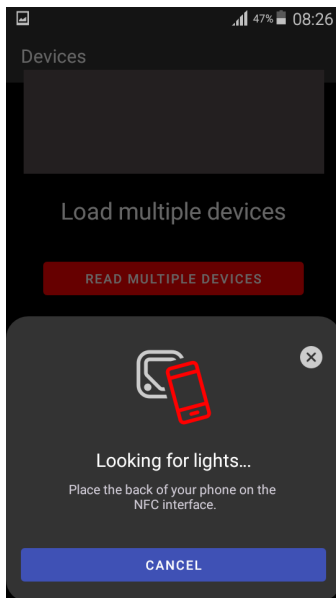
After finishing the LED light source installation and placing all covers back on the fixture, connect the fixture to mains and run the procedure LEDs Measure from the tab Service on the touch screen.

## 15.2. Obtaining information about the LED light source by mobile phone

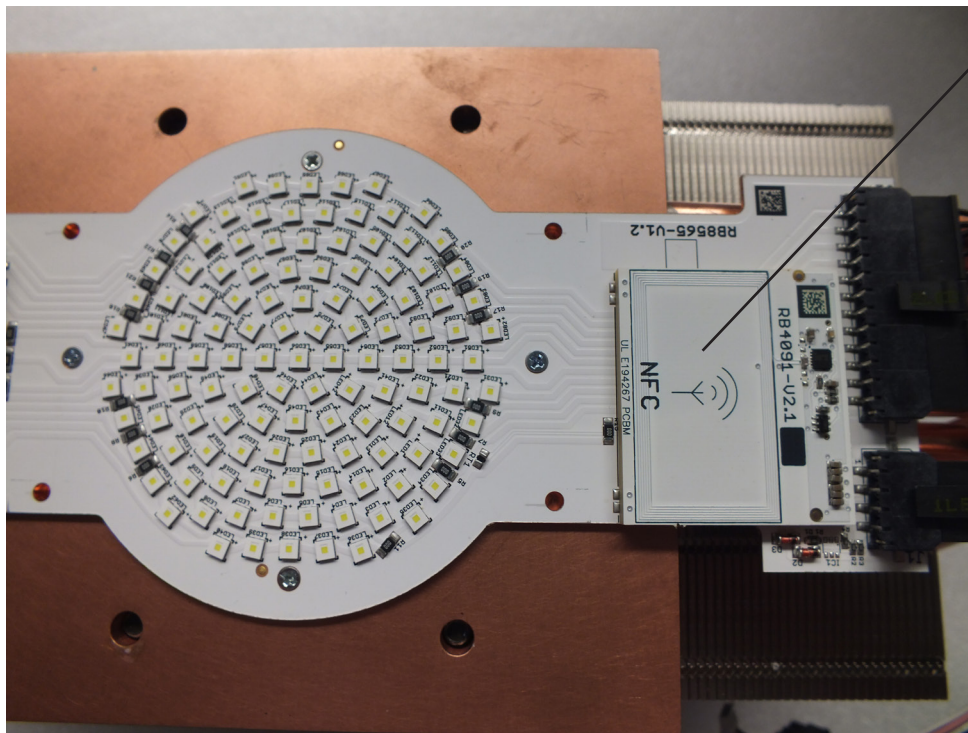
You can read information about the LED light source by means of the mobile application ROBE COM. The LED light source has to be outside of the fixture.

Download and install the application ROBE COM from Google Play (for Android 5.0 and higher) or App Store (for iOS 12.0 and higher) to your mobile phone. Your mobile phone has to support NFC (Near-Field Communication).

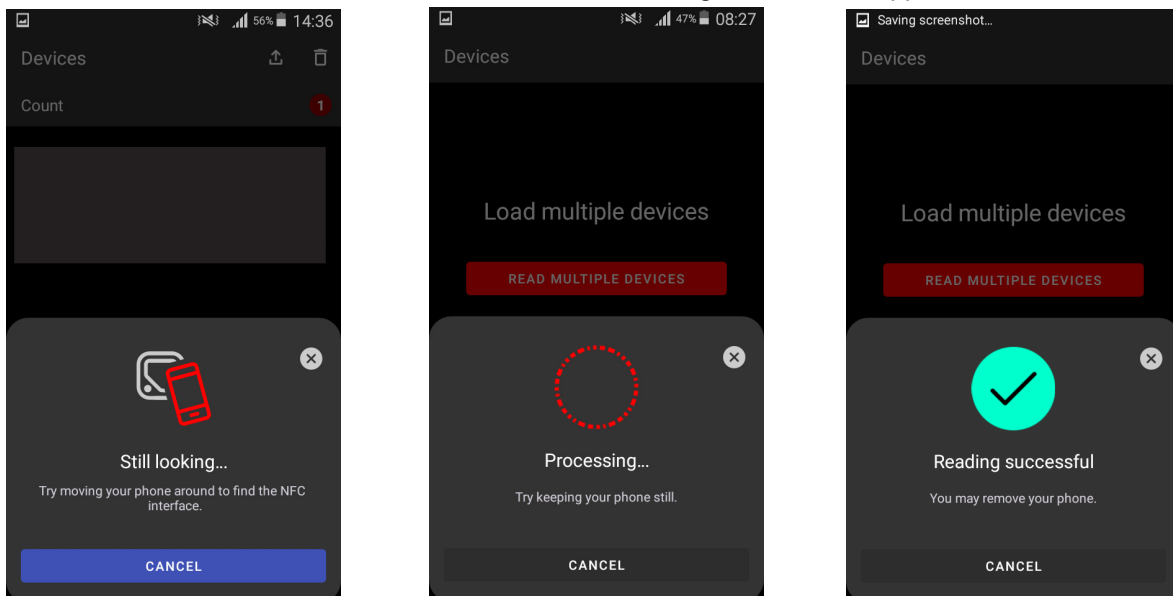
After installing the ROBE COM, run the application by touching the icon  .  
The following screen will appear:



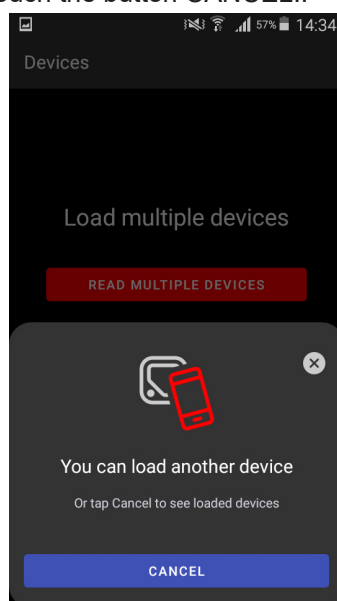
Hold the mobile phone close to the point of the LED light source PCB which is marked with the symbol NFC.



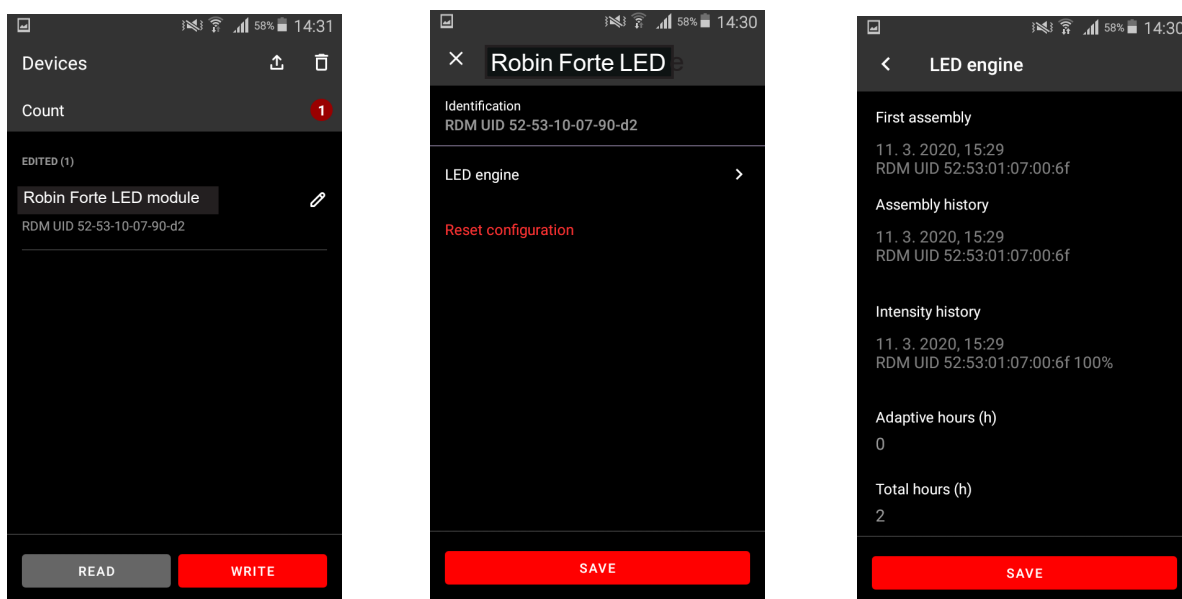
If NFC connection is OK, the screen with RDM UID of the LED light source will appear.



When the following screen will appear, touch the button CANCEL..



Touch the found LED module ("Robin Forte LED module") and than touch "LED engine" to read information about found LED module.



| Robin FORTE - DMX protocol                            |           |                                                   |
|-------------------------------------------------------|-----------|---------------------------------------------------|
| Version: 1.9 Mode 1 - Standard 16 bit                 |           |                                                   |
| Quick overview of default DMX values for each channel |           |                                                   |
| Mode 1                                                | Default   | Function                                          |
| Channel                                               | DMX Value |                                                   |
| 1                                                     | 128       | Pan                                               |
| 2                                                     | 0         | Pan Fine                                          |
| 3                                                     | 128       | Tilt                                              |
| 4                                                     | 0         | Tilt fine                                         |
| 5                                                     | 0         | Pan/Tilt speed , Pan/Tilt time                    |
| 6                                                     | 0         | Power/Special functions                           |
| 7                                                     | 10        | LED frequency selection                           |
| 8                                                     | 128       | LED frequency fine adjusting                      |
| 9                                                     | 0         | Max. light intensity indication and setting       |
| 10                                                    | 0         | Colour wheel 1                                    |
| 11                                                    | 0         | Colour wheel 1-fine positioning                   |
| 12                                                    | 0         | Colour wheel 2                                    |
| 13                                                    | 0         | Colour wheel 2-fine positioning                   |
| 14                                                    | 0         | Cyan                                              |
| 15                                                    | 0         | Magenta                                           |
| 16                                                    | 0         | Yellow                                            |
| 17                                                    | 0         | CTO                                               |
| 18                                                    | 128       | Green correction                                  |
| 19                                                    | 0         | Virtual colour wheel                              |
| 20                                                    | 0         | Effects speed                                     |
| 21                                                    | 0         | CMY+CTO+Colour wheels time                        |
| 22                                                    | 0         | Framing shutters/Zoom/Focus/Iris/Frost/Prism time |
| 23                                                    | 0         | Effect wheel positioning                          |
| 24                                                    | 128       | Effect wheel rotation                             |
| 25                                                    | 0         | Effect wheel animations                           |
| 26                                                    | 0         | Rot. Gobo 1 selection                             |
| 27                                                    | 128       | Rot. Gobo 1 indexing and rotation                 |
| 28                                                    | 0         | Rot. Gobo 1 indexing/rotation - fine              |
| 29                                                    | 0         | Rot. Gobo 2 selection                             |
| 30                                                    | 128       | Rot. Gobo 2 indexing and rotation                 |
| 31                                                    | 0         | Rot. Gobo 2 indexing/rotation - fine              |
| 32                                                    | 0         | Prism 1 (6-facet linear)                          |
| 33                                                    | 128       | Prism 1 indexing/rotation                         |
| 34                                                    | 0         | Prism 2 (6-facet circular)                        |
| 35                                                    | 128       | Prism 2 indexing/rotation                         |
| 36                                                    | 0         | Frost                                             |
| 37                                                    | 0         | Iris                                              |
| 38                                                    | 0         | Iris - fine                                       |
| 39                                                    | 128       | Zoom                                              |
| 40                                                    | 0         | Zoom - fine                                       |
| 41                                                    | 128       | Focus                                             |
| 42                                                    | 0         | Focus - fine                                      |
| 43                                                    | 128       | Framing shutters module rotation                  |
| 44                                                    | 0         | Framing shutter 1- movement                       |

# DMX protocol

| Mode 1  | Default   | Function                                                                                                                                                                                                                                                                          |                 |
|---------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Channel | DMX Value |                                                                                                                                                                                                                                                                                   |                 |
| 45      | 128       | Framing shutter 1- swivelling                                                                                                                                                                                                                                                     |                 |
| 46      | 0         | Framing shutter 2- movement                                                                                                                                                                                                                                                       |                 |
| 47      | 128       | Framing shutter 2- swivelling                                                                                                                                                                                                                                                     |                 |
| 48      | 0         | Framing shutter 3 movement                                                                                                                                                                                                                                                        |                 |
| 49      | 128       | Framing shutter 3- swivelling                                                                                                                                                                                                                                                     |                 |
| 50      | 0         | Framing shutter 4 movement                                                                                                                                                                                                                                                        |                 |
| 51      | 128       | Framing shutter 4- swivelling                                                                                                                                                                                                                                                     |                 |
| 52      | 32        | Shutter/ strobe                                                                                                                                                                                                                                                                   |                 |
| 53      | 0         | Dimmer intensity                                                                                                                                                                                                                                                                  |                 |
| 54      | 0         | Dimmer intensity - fine                                                                                                                                                                                                                                                           |                 |
|         |           |                                                                                                                                                                                                                                                                                   |                 |
|         |           |                                                                                                                                                                                                                                                                                   |                 |
| Mode 1  | DMX Value | Function                                                                                                                                                                                                                                                                          | Type of control |
| Channel |           |                                                                                                                                                                                                                                                                                   |                 |
| 1       |           | Pan                                                                                                                                                                                                                                                                               |                 |
|         | 0 - 255   | Pan movement by 540° (128=default)                                                                                                                                                                                                                                                | proportional    |
| 2       |           | Pan Fine                                                                                                                                                                                                                                                                          |                 |
|         | 0 - 255   | Fine control of pan movement (0=default)                                                                                                                                                                                                                                          | proportional    |
| 3       |           | Tilt                                                                                                                                                                                                                                                                              |                 |
|         | 0 - 255   | Tilt movement by 270° (128=default)                                                                                                                                                                                                                                               | proportional    |
| 4       |           | Tilt fine                                                                                                                                                                                                                                                                         |                 |
|         | 0 - 255   | Fine control of tilt movement (0=default)                                                                                                                                                                                                                                         | proportional    |
| 5       |           | Pan/Tilt speed , Pan/Tilt time                                                                                                                                                                                                                                                    |                 |
|         | 0         | Standard mode (0=default)                                                                                                                                                                                                                                                         | step            |
|         | 1         | Max. Speed Mode                                                                                                                                                                                                                                                                   | step            |
|         |           | Pan/Tilt speed mode                                                                                                                                                                                                                                                               |                 |
|         | 2 - 255   | Speed from max. to min.                                                                                                                                                                                                                                                           | proportional    |
|         |           | Pan/Tilt time mode                                                                                                                                                                                                                                                                |                 |
|         | 2 - 255   | Time from 0.2 sec. to 25.5 sec.                                                                                                                                                                                                                                                   | proportional    |
| 6       |           | Power/Special functions                                                                                                                                                                                                                                                           |                 |
|         |           | Factory display menu setting: DMX Input-Wired ,Graphic display-On, Pan/tilt Mode-Speed,Blackout while pan/tilt moving-Off, Blackout while gobo wheels moving-Off,Blackout while colour wheels moving-Off, Fans mode-Auto, High-power mode Off , Quiet mode: Fans Off at blackout. |                 |
|         | 0 -9      | Reserved (0=default)                                                                                                                                                                                                                                                              |                 |
|         |           | To activate following functions, stop in DMX value for at least 3 s and shutter must be closed at least 3 sec. (Channel „Shutter/ Strobe” 52 must be at range: 0-31 DMX). Corresponding menu items are temporarily overridden except DMX input .                                  |                 |
|         | 10-14     | DMX input: Wired DMX *                                                                                                                                                                                                                                                            | step            |
|         | 15-19     | DMX input: Wireless DMX *                                                                                                                                                                                                                                                         | step            |
|         |           | * function is active only 10 seconds after switching the fixture on                                                                                                                                                                                                               |                 |
|         | 20-24     | Graphic display: On                                                                                                                                                                                                                                                               | step            |
|         | 25-29     | Graphic display: Off                                                                                                                                                                                                                                                              | step            |
|         | 30-31     | Quiet mode: Fans On at blackout                                                                                                                                                                                                                                                   | step            |
|         | 32-33     | Quiet mode: Fans Off at blackout                                                                                                                                                                                                                                                  | step            |
|         | 34-39     | Reserved                                                                                                                                                                                                                                                                          |                 |
|         | 40-44     | Pan/Tilt mode: Speed                                                                                                                                                                                                                                                              | step            |

# DMX protocol

| Mode 1   | DMX Value | Function                                                                                                                                                                                                                              | Type of control |
|----------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Channel  |           |                                                                                                                                                                                                                                       |                 |
|          | 45-49     | Pan/Tilt mode: Time                                                                                                                                                                                                                   | step            |
|          | 50-54     | Blackout while pan/tilt moving: On                                                                                                                                                                                                    | step            |
|          | 55-59     | Blackout while pan/tilt moving: Off                                                                                                                                                                                                   | step            |
|          | 60-64     | Blackout while gobo wheels moving: On                                                                                                                                                                                                 | step            |
|          | 65-69     | Blackout while gobo wheels moving: Off                                                                                                                                                                                                | step            |
|          | 70-74     | Blackout while colour wheels moving: On                                                                                                                                                                                               | step            |
|          | 75-79     | Blackout while colour wheels moving: Off                                                                                                                                                                                              | step            |
|          | 80-84     | Fans mode: Auto                                                                                                                                                                                                                       | step            |
|          | 85-89     | Fans mode: High                                                                                                                                                                                                                       | step            |
|          | 90-99     | Reserved                                                                                                                                                                                                                              | step            |
|          | 100-104   | Focus Tracking: On                                                                                                                                                                                                                    | step            |
|          | 105-109   | Focus Tracking: Off                                                                                                                                                                                                                   | step            |
|          | 110-114   | Dimmer curve: Square law                                                                                                                                                                                                              | step            |
|          | 115-119   | Dimmer curve: Linear                                                                                                                                                                                                                  | step            |
|          | 120-124   | Parking position: On                                                                                                                                                                                                                  | step            |
|          | 125-129   | Parking position: Off                                                                                                                                                                                                                 | step            |
|          |           | <i>To activate following functions, stop in DMX value for at least 3 seconds.</i>                                                                                                                                                     |                 |
|          | 130 - 139 | Total Fixture reset (except pan/tilt)                                                                                                                                                                                                 | step            |
|          | 140 - 149 | Pan/Tilt reset                                                                                                                                                                                                                        | step            |
|          | 150 - 159 | Colour system reset                                                                                                                                                                                                                   | step            |
|          | 160 - 169 | Gobo wheels/effect wheel reset                                                                                                                                                                                                        | step            |
|          | 170 - 179 | Reserved                                                                                                                                                                                                                              |                 |
|          | 180 - 189 | Zoom/focus/frost/prisms reset                                                                                                                                                                                                         | step            |
|          | 190 - 199 | Iris /framing shutters reset                                                                                                                                                                                                          | step            |
|          | 200 - 209 | Total fixture reset (including pan/tilt)                                                                                                                                                                                              | step            |
|          | 210 - 218 | Reserved                                                                                                                                                                                                                              |                 |
|          |           | The following three commands define transition from gobo rotation to gobo indexing:                                                                                                                                                   |                 |
|          | 219 - 220 | Gobo indexing: Maximum speed and shortcut                                                                                                                                                                                             | step            |
|          | 221 - 222 | Gobo indexing: Follow speed and direction                                                                                                                                                                                             | step            |
|          | 223 - 224 | Gobo indexing: Maximum speed and follow direction                                                                                                                                                                                     | step            |
|          |           | The following RoboSpot related commands are only applicable when the RoboSpot is connected:                                                                                                                                           |                 |
|          | 225 - 229 | RoboSpot enabled                                                                                                                                                                                                                      | step            |
|          | 230 - 234 | RoboSpot disabled - except handle faders and pan/tilt                                                                                                                                                                                 | step            |
|          | 235 - 239 | RoboSpot fully disabled                                                                                                                                                                                                               | step            |
|          | 240       | Disabled "Quiet mode"                                                                                                                                                                                                                 | step            |
|          | 241 - 255 | Quiet mode - fan noise control from min. to max.                                                                                                                                                                                      | proportional    |
| <b>7</b> |           | <b>LED frequency selection</b>                                                                                                                                                                                                        |                 |
|          |           | Factory display menu setting: 600Hz                                                                                                                                                                                                   |                 |
|          |           | <i>Select PWM output frequency of LEDs. Selected PWM frequency can be fine adjusted in 127 steps up/down around selected PWM frequency on the channel below. Corresponding menu item (Frequency Setup) is temporarily overridden.</i> |                 |
|          | 0-4       | PWM frequency from Display menu (fixture utilizes PWM frequency set in the display menu item Frequency Setup).                                                                                                                        | step            |
|          | 5-9       | 300 Hz                                                                                                                                                                                                                                | step            |
|          | 10-14     | 600 Hz (10=default)                                                                                                                                                                                                                   | step            |
|          | 15-19     | 1200 Hz                                                                                                                                                                                                                               | step            |

# DMX protocol

| Mode 1  | DMX Value | Function                                                                                                                                                                                                                                                                                                                                                                                     | Type of control |
|---------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Channel |           |                                                                                                                                                                                                                                                                                                                                                                                              |                 |
|         | 20-24     | 2400 Hz                                                                                                                                                                                                                                                                                                                                                                                      | step            |
|         | 25-255    | Reserved (fixture utilizes PWM frequency set in the display menu item Frequency Setup).                                                                                                                                                                                                                                                                                                      |                 |
| 8       |           | <b>LED frequency fine adjusting</b>                                                                                                                                                                                                                                                                                                                                                          |                 |
|         |           | Factory display menu setting: 600Hz                                                                                                                                                                                                                                                                                                                                                          |                 |
|         |           | <i>Select desired PWM output frequency of LEDs on the channel above.</i>                                                                                                                                                                                                                                                                                                                     |                 |
|         | 0-1       | Selected LED Frequency                                                                                                                                                                                                                                                                                                                                                                       | step            |
|         | 2         | LED Frequency (step -126)                                                                                                                                                                                                                                                                                                                                                                    | step            |
|         | 3         | LED Frequency (step -125)                                                                                                                                                                                                                                                                                                                                                                    | step            |
|         | 4         | LED Frequency (step -124)                                                                                                                                                                                                                                                                                                                                                                    | step            |
|         | :         |                                                                                                                                                                                                                                                                                                                                                                                              |                 |
|         | 125       | LED Frequency (step -3)                                                                                                                                                                                                                                                                                                                                                                      | step            |
|         | 126       | LED Frequency (step -2)                                                                                                                                                                                                                                                                                                                                                                      | step            |
|         | 127       | LED Frequency (step -1)                                                                                                                                                                                                                                                                                                                                                                      | step            |
|         | 128       | Selected LED Frequency (128=default)                                                                                                                                                                                                                                                                                                                                                         | step            |
|         | 129       | LED Frequency (step +1)                                                                                                                                                                                                                                                                                                                                                                      | step            |
|         | 130       | LED Frequency (step +2)                                                                                                                                                                                                                                                                                                                                                                      | step            |
|         | 131       | LED Frequency (step +3)                                                                                                                                                                                                                                                                                                                                                                      | step            |
|         | :         |                                                                                                                                                                                                                                                                                                                                                                                              |                 |
|         | 252       | LED Frequency (step +124)                                                                                                                                                                                                                                                                                                                                                                    | step            |
|         | 253       | LED Frequency (step +125)                                                                                                                                                                                                                                                                                                                                                                    | step            |
|         | 254       | LED Frequency (step +126)                                                                                                                                                                                                                                                                                                                                                                    | step            |
|         | 255       | Selected LED Frequency                                                                                                                                                                                                                                                                                                                                                                       | step            |
| 9       |           | <b>Max. light intensity indication and setting</b>                                                                                                                                                                                                                                                                                                                                           |                 |
|         | 0-10      | No function (0=default)                                                                                                                                                                                                                                                                                                                                                                      |                 |
|         | 11-20     | Indication of drop of max. light intensity                                                                                                                                                                                                                                                                                                                                                   | step            |
|         |           | <i>A drop of max. light intensity of the fixture (compared to its original intensity) is indicated by a corresponding colour output:</i><br>0-5%, (WHITE /new LED module/)<br>6-10% (RED)<br>11-15% (GREEN)<br>16-20% (BLUE )<br>21-25% (CYAN )<br>26-30% (MAGENTA)<br>31-35% (YELLOW)<br>36-40% (ORANGE)<br><i>Pan/tilt/zoom is set at 128 DMX (50%), Dimmer is open at 255 DMX (100%).</i> |                 |
|         |           | <i>To set a drop of max. light intensity (compared to original light intensity), stay at DMX value for at least 3 sec. and shutter must be closed at least 3 sec. (Channel „Shutter/ Strobe“ 47/41 must be at range: 0-31 DMX). Corresponding menu items are permanently overwritten.</i>                                                                                                    |                 |
|         | 21-30     | Set drop by 6-10% (RED)                                                                                                                                                                                                                                                                                                                                                                      | step            |
|         | 31-40     | Set drop by 11-15% (GREEN)                                                                                                                                                                                                                                                                                                                                                                   | step            |
|         | 41-50     | Set drop by 16-20% (BLUE)                                                                                                                                                                                                                                                                                                                                                                    | step            |
|         | 51-60     | Set drop by 21-25% (CYAN)                                                                                                                                                                                                                                                                                                                                                                    | step            |
|         | 61-70     | Set drop by 26-30% (MAGENTA)                                                                                                                                                                                                                                                                                                                                                                 | step            |

# DMX protocol

| Mode 1    | DMX Value | Function                                           | Type of control |
|-----------|-----------|----------------------------------------------------|-----------------|
| Channel   |           |                                                    |                 |
|           | 71-80     | Set drop by 31-35% (YELLOW)                        | step            |
|           | 81-90     | Set drop by 36-40% (ORANGE)                        | step            |
|           | 91-100    | Original intensity (WHITE)                         | step            |
|           | 101-255   | Reserved                                           |                 |
| <b>10</b> |           | <b>Colour wheel 1</b>                              |                 |
|           |           | <b>Continual positioning</b>                       |                 |
|           | 0         | Open/white (0=default)                             | proportional    |
|           | 21        | Deep red                                           | proportional    |
|           | 43        | Deep blue                                          | proportional    |
|           | 64        | Orange                                             | proportional    |
|           | 86        | Green                                              | proportional    |
|           | 107       | Congo blue                                         | proportional    |
|           | 128-129   | Open/White                                         | step            |
|           |           | <b>Positioning</b>                                 |                 |
|           | 130-141   | Deep red                                           | step            |
|           | 142-153   | Deep blue                                          | step            |
|           | 154-165   | Orange                                             | step            |
|           | 166-177   | Green                                              | step            |
|           | 178-189   | Congo blue                                         | step            |
|           | 190 - 215 | Forwards rainbow effect from fast to slow          | proportional    |
|           | 216 - 217 | No rotation                                        | step            |
|           | 218 - 243 | Backwards rainbow effect from slow to fast         | proportional    |
|           | 244 - 249 | Random colour selection by audio control           | step            |
|           |           | (Set microphone sensitivity in menu „Personality“) |                 |
|           | 250 - 255 | Auto random colour selection from fast to slow     | proportional    |
| <b>11</b> |           | <b>Colour wheel 1 - fine positioning</b>           |                 |
|           | 0 - 255   | Fine positioning (0=default)                       | proportional    |
| <b>12</b> |           | <b>Colour wheel 2</b>                              |                 |
|           |           | <b>Continual positioning</b>                       |                 |
|           | 0         | Open/white (0=default)                             | proportional    |
|           | 21        | Multicolour                                        | proportional    |
|           | 43        | Laser green                                        | proportional    |
|           | 64        | Lavender                                           | proportional    |
|           | 86        | Filter CRI 80                                      | proportional    |
|           | 107       | Filter CRI 90                                      | proportional    |
|           | 128-129   | Open/White                                         | step            |
|           |           | <b>Positioning</b>                                 |                 |
|           | 130-141   | Multicolour                                        | step            |
|           | 142-153   | Laser green                                        | step            |
|           | 154-165   | Lavender                                           | step            |
|           | 166-177   | Filter CRI 80                                      | step            |
|           | 178-189   | Filter CRI 90                                      | step            |
|           | 190 - 215 | Forwards rainbow effect from fast to slow          | proportional    |
|           | 216 - 217 | No rotation                                        | step            |
|           | 218 - 243 | Backwards rainbow effect from slow to fast         | proportional    |
|           | 244 - 249 | Random colour selection by audio control           | step            |
|           |           | (Set microphone sensitivity in menu „Personality“) |                 |
|           | 250 - 255 | Auto random colour selection from fast to slow     | proportional    |

DMX protocol

| Mode 1    | DMX Value | Function                                                  | Type of control |
|-----------|-----------|-----------------------------------------------------------|-----------------|
| Channel   |           |                                                           |                 |
| <b>13</b> |           | <b>Colour wheel 2 - fine positioning</b>                  |                 |
|           | 0 - 255   | Fine positioning (0=default)                              | proportional    |
| <b>14</b> |           | <b>Cyan</b>                                               |                 |
|           | 0 - 255   | Cyan from min. saturation --> full cyan (0=default)       | proportional    |
| <b>15</b> |           | <b>Magenta</b>                                            |                 |
|           | 0 - 255   | Magenta from min. saturation --> full magenta (0=default) | proportional    |
| <b>16</b> |           | <b>Yellow</b>                                             |                 |
|           | 0 - 255   | Yellow from min. saturation --> full yellow (0=default)   | proportional    |
| <b>17</b> |           | <b>CTO filter</b>                                         |                 |
|           | 0 - 255   | CTO from 6700K --> 3000K (0=default)                      | proportional    |
| <b>18</b> |           | <b>Green correction</b>                                   |                 |
|           | 0         | Uncorrected white                                         | step            |
|           | 1-127     | Minus green --> uncorrected white                         | proportional    |
|           | 128       | Uncorrected white (128=default)                           | step            |
|           | 129-255   | Uncorrected white --> Plus green                          | proportional    |
| <b>19</b> |           | <b>Virtual colour wheel</b>                               |                 |
|           | 0         | No function (0=default)                                   | step            |
|           | 1-2       | Filter 4 (Medium Bastard Amber)                           | step            |
|           | 3-4       | Filter 10 (Medium Yellow)                                 | step            |
|           | 5-6       | Filter 19 (Fire)                                          | step            |
|           | 7-8       | Filter 26 (Bright Red)                                    | step            |
|           | 9-10      | Filter 58 (Lavender)                                      | step            |
|           | 11-12     | Filter 68 (Sky Blue)                                      | step            |
|           | 13-14     | Filter 71 (Tokyo Blue)                                    | step            |
|           | 15-16     | Filter 79 (Just Blue)                                     | step            |
|           | 17-18     | Filter 88 (Lime Green)                                    | step            |
|           | 19-20     | Filter 90 (Dark Yellow Green)                             | step            |
|           | 21-22     | Filter 100 (Spring Yellow)                                | step            |
|           | 23-24     | Filter 101 (Yellow)                                       | step            |
|           | 25-26     | Filter 102 (Light Amber)                                  | step            |
|           | 27-28     | Filter 103 (Straw)                                        | step            |
|           | 29-30     | Filter 104 (Deep Amber)                                   | step            |
|           | 31-32     | Filter 105 (Orange)                                       | step            |
|           | 33-34     | Filter 106 (Primary Red)                                  | step            |
|           | 35-36     | Filter 111 (Dark Pink)                                    | step            |
|           | 37-38     | Filter 115 (Peacock Blue)                                 | step            |
|           | 39-40     | Filter 116 (Medium Blue-Green)                            | step            |
|           | 41-42     | Filter 117 (Steel Blue)                                   | step            |
|           | 43-44     | Filter 118 (Light Blue)                                   | step            |
|           | 45-46     | Filter 119 (Dark Blue)                                    | step            |
|           | 47-48     | Filter 120 (Deep Blue)                                    | step            |
|           | 49-50     | Filter 121 (Filter Green)                                 | step            |
|           | 51-52     | Filter 128 (Bright Pink)                                  | step            |
|           | 53-54     | Filter 131 (Marine Blue)                                  | step            |
|           | 55-56     | Filter 132 (Medium Blue)                                  | step            |
|           | 57-58     | Filter 134 (Golden Amber)                                 | step            |
|           | 59-60     | Filter 135 (Deep Golden Amber)                            | step            |
|           | 61-62     | Filter 136 (Pale Lavender)                                | step            |

DMX protocol

| Mode 1    | DMX Value | Function                                                                             | Type of control |
|-----------|-----------|--------------------------------------------------------------------------------------|-----------------|
| Channel   |           |                                                                                      |                 |
|           | 63-64     | Filter 137 (Special Lavender)                                                        | step            |
|           | 65-66     | Filter 138 (Pale Green)                                                              | step            |
|           | 67-68     | Filter 139 (Primary Green)                                                           | step            |
|           | 69-70     | Filter 141 (Bright Blue)                                                             | step            |
|           | 71-72     | Filter 147 (Apricot)                                                                 | step            |
|           | 73-74     | Filter 148 (Bright Rose)                                                             | step            |
|           | 75-76     | Filter 152 (Pale Gold)                                                               | step            |
|           | 77-78     | Filter 154 (Pale Rose)                                                               | step            |
|           | 79-80     | Filter 157 (Pink)                                                                    | step            |
|           | 81-82     | Filter 158 (Deep Orange)                                                             | step            |
|           | 83-84     | Filter 162 (Bastard Amber)                                                           | step            |
|           | 85-86     | Filter 164 (Flame Red)                                                               | step            |
|           | 87-88     | Filter 165 (Daylight Blue)                                                           | step            |
|           | 89-90     | Filter 169 (Lilac Tint)                                                              | step            |
|           | 91-92     | Filter 170 (Deep Lavender)                                                           | step            |
|           | 93-94     | Filter 172 (Lagoon Blue)                                                             | step            |
|           | 95-96     | Filter 179 (Chrome Orange)                                                           | step            |
|           | 97-98     | Filter 180 (Dark Lavender)                                                           | step            |
|           | 99-100    | Filter 181 (Congo Blue)                                                              | step            |
|           | 101-102   | Filter 197 (Alice Blue)                                                              | step            |
|           | 103-104   | Filter 201 (Full C.T. Blue)                                                          | step            |
|           | 105-106   | Filter 202 (Half C.T. Blue)                                                          | step            |
|           | 107-108   | Filter 203 (Quarter C.T. Blue)                                                       | step            |
|           | 109-110   | Filter 204 (Full C.T. Orange)                                                        | step            |
|           | 111-112   | Filter 205 (Half C.T. Orange)                                                        | step            |
|           | 113-114   | Filter 206 (Quarter C.T. Orange)                                                     | step            |
|           | 115-116   | Filter 247 (Filter Minus Green)                                                      | step            |
|           | 117-118   | Filter 248 (Half Minus Green)                                                        | step            |
|           | 119-120   | Filter 281 (Three Quarter C.T. Blue)                                                 | step            |
|           | 121-122   | Filter 285 (Three Quarter C.T. Orange)                                               | step            |
|           | 123-124   | Filter 352 (Glacier Blue)                                                            | step            |
|           | 125-126   | Filter 353 (Lighter Blue)                                                            | step            |
|           | 127-128   | Filter 715 (Cabana Blue)                                                             | step            |
|           | 129-130   | Filter 778 (Millennium Gold)                                                         | step            |
|           | 131-132   | Filter 793 (Vanity Fair)                                                             | step            |
|           | 133-255   | Reserved                                                                             |                 |
| <b>20</b> |           | <b>Effects Speed</b>                                                                 |                 |
|           |           | <i>Speed of CMY&amp;CTO movement and Rot. Gobos selection</i>                        |                 |
|           | 0-255     | Speed of CMY+CTO movement from max. to min. (0=default)                              | proportional    |
|           | 0-255     | Speed of Rot. Gobos selection from max. to min.                                      | proportional    |
| <b>21</b> |           | <b>CMY+CTO+Colour wheels time</b>                                                    |                 |
|           | 0         | Function is off (0=default)                                                          | step            |
|           | 1 - 255   | Time of CMY, CTO and Colour wheels movement (0.1sec-->25.5sec.)                      | proportional    |
| <b>22</b> |           | <b>Framing shutters/Zoom/Focus/Iris/Frost/Prism time</b>                             |                 |
|           | 0         | Function is off (0=default)                                                          | step            |
|           | 1 - 255   | Time of framing shutters, zoom, focus, iris and frost movement (0.1 sec-->25.5 sec.) | proportional    |
|           | 1-50      | Time of prism movement (0.1 sec-->5 sec.)                                            | proportional    |

DMX protocol

| Mode 1    | DMX Value | Function                                                                                                                                                                                                                                                                      | Type of control |
|-----------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Channel   |           |                                                                                                                                                                                                                                                                               |                 |
| <b>23</b> |           | <b>Effect wheel positioning</b>                                                                                                                                                                                                                                               |                 |
|           | 0-19      | No function (0=default)                                                                                                                                                                                                                                                       | step            |
|           | 20-127    | Proportional indexing (73-center)                                                                                                                                                                                                                                             | proportional    |
|           | 128-170   | Ramping from open to full position ( max--->min. speed)                                                                                                                                                                                                                       | proportional    |
|           | 171-213   | Ramping from open to half position ( max. --->min. speed)                                                                                                                                                                                                                     | proportional    |
|           | 214-255   | Ramp. from half position to full position ( max. --->min. speed)                                                                                                                                                                                                              | proportional    |
| <b>24</b> |           | <b>Effect wheel rotation</b>                                                                                                                                                                                                                                                  |                 |
|           | 0         | No rotation                                                                                                                                                                                                                                                                   | step            |
|           | 1 - 127   | Forwards rotation from fast to slow                                                                                                                                                                                                                                           | proportional    |
|           | 128       | No rotation (128=default)                                                                                                                                                                                                                                                     | step            |
|           | 129 - 255 | Backwards rotation from slow to fast                                                                                                                                                                                                                                          | proportional    |
| <b>25</b> |           | <b>Effect wheel animations</b>                                                                                                                                                                                                                                                |                 |
|           | 0-7       | No animation (0=default)                                                                                                                                                                                                                                                      |                 |
|           |           | <i><b>Note :</b> Set suitable DMX value at <b>Focus</b> channel to get desired animation. All animations were created at distance of 5 m from screen with zoom=128 DMX, Focus value is different for each effect (focus value is stated in parentheses for this distance)</i> |                 |
|           |           | <i>The following channels are blocked: Effect wheel positioning, Effect wheel rotation, Rotating gobo wheel 1/2, Rot. Gobo 1/2 indexing and rotation, Rot. Gobo wheel 1/2 fine rotation.</i>                                                                                  |                 |
|           | 8-9       | Macro 1 (Focus=190)                                                                                                                                                                                                                                                           | step            |
|           | 10-11     | Macro 2 (Focus=167)                                                                                                                                                                                                                                                           | step            |
|           | 12-13     | Macro 3 (Focus=170)                                                                                                                                                                                                                                                           | step            |
|           | 14-15     | Macro 4 (Focus=170)                                                                                                                                                                                                                                                           | step            |
|           | 16-17     | Macro 5 (Focus=170)                                                                                                                                                                                                                                                           | step            |
|           | 18-19     | Macro 6 (Focus=136)                                                                                                                                                                                                                                                           | step            |
|           | 20-21     | Macro 7 (Focus=140)                                                                                                                                                                                                                                                           | step            |
|           | 22-23     | Macro 8 (Focus=130)                                                                                                                                                                                                                                                           | step            |
|           | 24-25     | Macro 9 (Focus=142)                                                                                                                                                                                                                                                           | step            |
|           | 26-27     | Macro 10 (Focus=140)                                                                                                                                                                                                                                                          | step            |
|           | 28-255    | Reserved                                                                                                                                                                                                                                                                      |                 |
| <b>26</b> |           | <b>Rotating gobo wheel 1</b>                                                                                                                                                                                                                                                  |                 |
|           |           | <i>Index - set indexing on channel 27/25</i>                                                                                                                                                                                                                                  |                 |
|           | 0-4       | Open/hole (0=default)                                                                                                                                                                                                                                                         | step            |
|           | 5-8       | Gobo 1                                                                                                                                                                                                                                                                        | step            |
|           | 9-13      | Gobo 2                                                                                                                                                                                                                                                                        | step            |
|           | 14-17     | Gobo 3                                                                                                                                                                                                                                                                        | step            |
|           | 18-22     | Gobo 4                                                                                                                                                                                                                                                                        | step            |
|           | 23-26     | Gobo 5                                                                                                                                                                                                                                                                        | step            |
|           | 27-31     | Gobo 6                                                                                                                                                                                                                                                                        | step            |
|           |           | <i>Rotation - set rotation on channel 27/25</i>                                                                                                                                                                                                                               |                 |
|           | 32-35     | Gobo 1                                                                                                                                                                                                                                                                        | step            |
|           | 36-40     | Gobo 2                                                                                                                                                                                                                                                                        | step            |
|           | 41-44     | Gobo 3                                                                                                                                                                                                                                                                        | step            |
|           | 45-49     | Gobo 4                                                                                                                                                                                                                                                                        | step            |
|           | 50-54     | Gobo 5                                                                                                                                                                                                                                                                        | step            |
|           | 55-59     | Gobo 6                                                                                                                                                                                                                                                                        | step            |
|           |           | <b><i>Shaking gobos from slow to fast</i></b>                                                                                                                                                                                                                                 |                 |
|           |           | <i>Index - set indexing on channel 27/25</i>                                                                                                                                                                                                                                  |                 |

# DMX protocol

| Mode 1    | DMX Value | Function                                             | Type of control |
|-----------|-----------|------------------------------------------------------|-----------------|
| Channel   |           |                                                      |                 |
|           | 60-71     | Gobo 1                                               | proportional    |
|           | 72-83     | Gobo 2                                               | proportional    |
|           | 84-95     | Gobo 3                                               | proportional    |
|           | 96-106    | Gobo 4                                               | proportional    |
|           | 107-118   | Gobo 5                                               | proportional    |
|           | 119-129   | Gobo 6                                               | proportional    |
|           |           | <b><u>Shaking gobos from slow to fast</u></b>        |                 |
|           |           | <i>Rotation - set rotation on channel 27/25</i>      |                 |
|           | 130-141   | Gobo 1                                               | proportional    |
|           | 142-153   | Gobo 2                                               | proportional    |
|           | 154-165   | Gobo 3                                               | proportional    |
|           | 166-176   | Gobo 4                                               | proportional    |
|           | 177-188   | Gobo 5                                               | proportional    |
|           | 189-199   | Gobo 6                                               | proportional    |
|           | 200 - 201 | Open/hole                                            | step            |
|           | 202 - 222 | Forwards gobo wheel rotation from fast to slow       | proportional    |
|           | 223 - 243 | Backwards gobo wheel rotation from slow to fast      | proportional    |
|           | 244 - 249 | Random gobo selection by audio control               | step            |
|           |           | (Set microphone sensitivity in menu „Personality“)   |                 |
|           | 250 - 255 | Auto random gobo selection from fast to slow         | proportional    |
| <b>27</b> |           | <b>Rot. Gobo 1 indexing and rotation</b>             |                 |
|           |           | <i>Gobo indexing - set position on channel 26/24</i> |                 |
|           | 0 - 255   | Gobo indexing                                        | proportional    |
|           |           | <i>Gobo rotation - set position on channel 26/24</i> |                 |
|           | 0         | No rotation                                          | step            |
|           | 1 - 127   | Forwards gobo rotation from fast to slow             | proportional    |
|           | 128       | No rotation (128=default)                            | step            |
|           | 129 - 255 | Backwards gobo rotation from slow to fast            | proportional    |
| <b>28</b> |           | <b>Rot. Gobo 1 indexing/rotation - fine</b>          |                 |
|           | 0-255     | Fine indexing/rotation (0=default)                   | proportional    |
| <b>29</b> |           | <b>Rotating gobo wheel 2</b>                         |                 |
|           |           | <i>Index - set indexing on channel 27/25</i>         |                 |
|           | 0-4       | Open/hole (0=default)                                | step            |
|           | 5-8       | Gobo 1                                               | step            |
|           | 9-13      | Gobo 2                                               | step            |
|           | 14-17     | Gobo 3                                               | step            |
|           | 18-22     | Gobo 4                                               | step            |
|           | 23-26     | Gobo 5                                               | step            |
|           | 27-31     | Gobo 6                                               | step            |
|           |           | <i>Rotation - set rotation on channel 27/25</i>      |                 |
|           | 32-35     | Gobo 1                                               | step            |
|           | 36-40     | Gobo 2                                               | step            |
|           | 41-44     | Gobo 3                                               | step            |
|           | 45-49     | Gobo 4                                               | step            |
|           | 50-54     | Gobo 5                                               | step            |
|           | 55-59     | Gobo 6                                               | step            |
|           |           | <b><u>Shaking gobos from slow to fast</u></b>        |                 |
|           |           | <i>Index - set indexing on channel 27/25</i>         |                 |

# DMX protocol

| Mode 1    | DMX Value | Function                                                                                                                                                                   | Type of control |
|-----------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Channel   |           |                                                                                                                                                                            |                 |
|           | 60-71     | Gobo 1                                                                                                                                                                     | proportional    |
|           | 72-83     | Gobo 2                                                                                                                                                                     | proportional    |
|           | 84-95     | Gobo 3                                                                                                                                                                     | proportional    |
|           | 96-106    | Gobo 4                                                                                                                                                                     | proportional    |
|           | 107-118   | Gobo 5                                                                                                                                                                     | proportional    |
|           | 119-129   | Gobo 6                                                                                                                                                                     | proportional    |
|           |           | <b><i>Shaking gobos from slow to fast</i></b>                                                                                                                              |                 |
|           |           | <i>Rotation - set rotation on channel 27/25</i>                                                                                                                            |                 |
|           | 130-141   | Gobo 1                                                                                                                                                                     | proportional    |
|           | 142-153   | Gobo 2                                                                                                                                                                     | proportional    |
|           | 154-165   | Gobo 3                                                                                                                                                                     | proportional    |
|           | 166-176   | Gobo 4                                                                                                                                                                     | proportional    |
|           | 177-188   | Gobo 5                                                                                                                                                                     | proportional    |
|           | 189-199   | Gobo 6                                                                                                                                                                     | proportional    |
|           | 200 - 201 | Open/hole                                                                                                                                                                  | step            |
|           | 202 - 222 | Forwards gobo wheel rotation from fast to slow                                                                                                                             | proportional    |
|           | 223 - 243 | Backwards gobo wheel rotation from slow to fast                                                                                                                            | proportional    |
|           | 244 - 249 | Random gobo selection by audio control                                                                                                                                     | step            |
|           |           | (Set microphone sensitivity in menu „Personality“)                                                                                                                         |                 |
|           | 250 - 255 | Auto random gobo selection from fast to slow                                                                                                                               | proportional    |
| <b>30</b> |           | <b>Rot. gobo indexing and rotation</b>                                                                                                                                     |                 |
|           |           | <i>Gobo indexing - set position on channel 26/24</i>                                                                                                                       |                 |
|           | 0 - 255   | Gobo indexing                                                                                                                                                              | proportional    |
|           |           | <i>Gobo rotation - set position on channel 26/24</i>                                                                                                                       |                 |
|           | 0         | No rotation                                                                                                                                                                | step            |
|           | 1 - 127   | Forwards gobo rotation from fast to slow                                                                                                                                   | proportional    |
|           | 128       | No rotation (128=default)                                                                                                                                                  | step            |
|           | 129 - 255 | Backwards gobo rotation from slow to fast                                                                                                                                  | proportional    |
| <b>31</b> |           | <b>Rot. gobo indexing/rotation - fine</b>                                                                                                                                  |                 |
|           | 0-255     | Fine indexing/rotation (0=default)                                                                                                                                         | proportional    |
| <b>32</b> |           | <b>Prism 1 (6-facet linear)</b>                                                                                                                                            |                 |
|           | 0 - 19    | Open position - hole (0=default)                                                                                                                                           | step            |
|           | 20 - 73   | Prism 1 indexing                                                                                                                                                           | step            |
|           | 74-127    | Prism 1 rotation                                                                                                                                                           | step            |
|           |           | <b>Prism 1 /gobo macros</b>                                                                                                                                                |                 |
|           |           | <i>The following channels are blocked: Prism 1, Prism 1 indexing/ rotation, Rotating gobo 1/2 wheel, Rot. Gobo 1/2 indexing and rotation, Rot. Gobo 1/2 fine rotation.</i> |                 |
|           | 128 - 135 | Macro 1                                                                                                                                                                    | step            |
|           | 136 - 143 | Macro 2                                                                                                                                                                    | step            |
|           | 144 - 151 | Macro 3                                                                                                                                                                    | step            |
|           | 152 - 159 | Macro 4                                                                                                                                                                    | step            |
|           | 160 - 167 | Macro 5                                                                                                                                                                    | step            |
|           | 168 - 175 | Macro 6                                                                                                                                                                    | step            |
|           | 176 - 183 | Macro 7                                                                                                                                                                    | step            |
|           | 184 - 191 | Macro 8                                                                                                                                                                    | step            |
|           | 192 - 199 | Macro 9                                                                                                                                                                    | step            |
|           | 200 - 207 | Macro 10                                                                                                                                                                   | step            |

DMX protocol

| Mode 1    | DMX Value | Function                                                                                                                                                          | Type of control |
|-----------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Channel   |           |                                                                                                                                                                   |                 |
|           | 208 - 215 | Macro 11                                                                                                                                                          | step            |
|           | 216 - 223 | Macro 12                                                                                                                                                          | step            |
|           | 224 - 231 | Macro 13                                                                                                                                                          | step            |
|           | 232 - 239 | Macro 14                                                                                                                                                          | step            |
|           | 240 - 247 | Macro 15                                                                                                                                                          | step            |
|           | 248 - 255 | Macro 16                                                                                                                                                          | step            |
| <b>33</b> |           | <b>Prism 1 indexing/rotation</b>                                                                                                                                  |                 |
|           |           | <i><b>Prism 1 indexing - set position on channel 29/26</b></i>                                                                                                    |                 |
|           | 0 - 255   | Prism 1 indexing                                                                                                                                                  | proportional    |
|           |           | <i><b>Prism 1 rotation - set position on channel 29/26</b></i>                                                                                                    |                 |
|           | 0         | No rotation                                                                                                                                                       | step            |
|           | 1 - 127   | Forwards prism rotation from fast to slow                                                                                                                         | proportional    |
|           | 128       | No rotation (128=default)                                                                                                                                         | step            |
|           | 129-255   | Backwards prism rotation from slow to fast                                                                                                                        | proportional    |
| <b>34</b> |           | <b>Prism 2 (6-facet circular)</b>                                                                                                                                 |                 |
|           | 0 - 19    | Open position - hole (0=default)                                                                                                                                  | step            |
|           | 20-127    | Prism 2 rotation                                                                                                                                                  | step            |
|           |           | <b>Prism 2 /gobo macros</b>                                                                                                                                       |                 |
|           |           | <i>The following channels are blocked: Prism 2, Prism 2 rotation, Rotating gobo wheel 1/2, Rot. Gobo 1/2 indexing and rotation, Rot. Gobos 1/2 fine rotation.</i> |                 |
|           | 128 - 135 | Macro 1                                                                                                                                                           | step            |
|           | 136 - 143 | Macro 2                                                                                                                                                           | step            |
|           | 144 - 151 | Macro 3                                                                                                                                                           | step            |
|           | 152 - 159 | Macro 4                                                                                                                                                           | step            |
|           | 160 - 167 | Macro 5                                                                                                                                                           | step            |
|           | 168 - 175 | Macro 6                                                                                                                                                           | step            |
|           | 176 - 183 | Macro 7                                                                                                                                                           | step            |
|           | 184 - 191 | Macro 8                                                                                                                                                           | step            |
|           | 192 - 199 | Macro 9                                                                                                                                                           | step            |
|           | 200 - 207 | Macro 10                                                                                                                                                          | step            |
|           | 208 - 215 | Macro 11                                                                                                                                                          | step            |
|           | 216 - 223 | Macro 12                                                                                                                                                          | step            |
|           | 224 - 231 | Macro 13                                                                                                                                                          | step            |
|           | 232 - 239 | Macro 14                                                                                                                                                          | step            |
|           | 240 - 247 | Macro 15                                                                                                                                                          | step            |
|           | 248 - 255 | Macro 16                                                                                                                                                          | step            |
| <b>35</b> |           | <b>Prism 2 rotation</b>                                                                                                                                           |                 |
|           | 0         | No rotation                                                                                                                                                       | step            |
|           | 1 - 127   | Forwards prism rotation from fast to slow                                                                                                                         | proportional    |
|           | 128       | No rotation (128=default)                                                                                                                                         | step            |
|           | 129-255   | Backwards prism rotation from slow to fast                                                                                                                        | proportional    |
| <b>36</b> |           | <b>Frost</b>                                                                                                                                                      |                 |
|           | 0         | Open (0=default)                                                                                                                                                  | step            |
|           |           | <i><b>Light Frost</b></i>                                                                                                                                         |                 |
|           | 1-50      | Light Frost from 0% to 100%                                                                                                                                       | proportional    |
|           | 51-53     | 100% Light Frost                                                                                                                                                  | step            |
|           | 54-63     | Pulse closing from slow to fast                                                                                                                                   | proportional    |

DMX protocol

| Mode 1    | DMX Value | Function                                             | Type of control |
|-----------|-----------|------------------------------------------------------|-----------------|
| Channel   |           |                                                      |                 |
|           | 64-73     | Pulse opening from fast to slow                      | proportional    |
|           | 74-83     | Ramping from fast to slow                            | proportional    |
|           | 84-86     | Open                                                 | step            |
|           |           | <b>Medium Frost</b>                                  |                 |
|           | 87-136    | Medium Frost from 0% to 100%                         | proportional    |
|           | 137-139   | 100% Medium Frost                                    | step            |
|           | 140-149   | Pulse closing from slow to fast                      | proportional    |
|           | 150-159   | Pulse opening from fast to slow                      | proportional    |
|           | 160-169   | Ramping from fast to slow                            | proportional    |
|           | 170-255   | Open                                                 | step            |
| <b>37</b> |           | <b>Iris</b>                                          |                 |
|           | 0         | Open (0=default)                                     | step            |
|           | 1 - 179   | From max. diameter to min. diameter                  | proportional    |
|           | 180 - 191 | Closed                                               | step            |
|           |           | <b>Pulse effects with Iris blackout</b>              |                 |
|           | 192 - 219 | Pulse opening from slow to fast                      | proportional    |
|           | 220 - 247 | Pulse closing from fast to slow                      | proportional    |
|           | 248 - 249 | Random pulse opening (fast)                          | step            |
|           | 250 - 251 | Random pulse opening (slow)                          | step            |
|           | 252 - 253 | Random pulse closing (fast)                          | step            |
|           | 254 - 255 | Random pulse closing (slow)                          | step            |
| <b>38</b> |           | <b>Iris - fine</b>                                   |                 |
|           | 0 - 255   | Fine iris movement (0=default)                       | proportional    |
| <b>39</b> |           | <b>Zoom</b>                                          |                 |
|           | 0 - 255   | Zoom from max. to min. beam angle (128=default)      | proportional    |
| <b>40</b> |           | <b>Zoom - fine</b>                                   |                 |
|           | 0-255     | Fine zooming (0=default)                             | proportional    |
| <b>41</b> |           | <b>Focus</b>                                         |                 |
|           | 0 - 255   | Continuous adjustment from far to near (128=default) | proportional    |
| <b>42</b> |           | <b>Focus - fine</b>                                  |                 |
|           | 0- 255    | Fine focusing (0=default)                            | proportional    |
| <b>43</b> |           | <b>Framing shutters module rotation</b>              |                 |
|           | 0-127     | Rotation from right (0°) to 60°                      | proportional    |
|           | 128       | Centre (128=default)                                 | step            |
|           | 129-255   | Rotation from 60° to left (120°)                     | proportional    |
| <b>44</b> |           | <b>Framing shutter 1- movement</b>                   |                 |
|           | 0-255     | Movement from Outward to Inward (0=default)          | proportional    |
| <b>45</b> |           | <b>Framing shutter 1- swivelling</b>                 |                 |
|           | 0-127     | Swivelling from -30 degrees towards 0 degrees        | proportional    |
|           | 128       | 0 degrees (128=default)                              | step            |
|           | 129-255   | Swivelling from 0 degrees to +30 degrees             | proportional    |
| <b>46</b> |           | <b>Framing shutter 2- movement</b>                   |                 |
|           | 0-255     | Movement from Outward to Inward (0=default)          | proportional    |
| <b>47</b> |           | <b>Framing shutter 2- swivelling</b>                 |                 |
|           | 0-127     | Swivelling from -30 degrees towards 0 degrees        | proportional    |
|           | 128       | 0 degrees (128=default)                              | step            |
|           | 129-255   | Swivelling from 0 degrees to +30 degrees             | proportional    |
| <b>48</b> |           | <b>Framing shutter 3 movement</b>                    |                 |

# DMX protocol

| Mode 1                                                           | DMX Value | Function                                      | Type of control |
|------------------------------------------------------------------|-----------|-----------------------------------------------|-----------------|
| Channel                                                          |           |                                               |                 |
|                                                                  | 0-255     | Movement from Outward to Inward (0=default)   | proportional    |
| <b>49</b>                                                        |           | <b>Framing shutter 3- swivelling</b>          |                 |
|                                                                  | 0-127     | Swivelling from -30 degrees towards 0 degrees | proportional    |
|                                                                  | 128       | 0 degrees (128=default)                       | step            |
|                                                                  | 129-255   | Swivelling from 0 degrees to +30 degrees      | proportional    |
| <b>50</b>                                                        |           | <b>Framing shutter 4 movement</b>             |                 |
|                                                                  | 0-255     | Movement from Outward to Inward (0=default)   | proportional    |
| <b>51</b>                                                        |           | <b>Framing shutter 4- swivelling</b>          |                 |
|                                                                  | 0-127     | Swivelling from -30 degrees towards 0 degrees | proportional    |
|                                                                  | 128       | 0 degrees (128=default)                       | step            |
|                                                                  | 129-255   | Swivelling from 0 degrees to +30 degrees      | proportional    |
| <b>52</b>                                                        |           | <b>Shutter/ strobe</b>                        |                 |
|                                                                  | 0 - 31    | Shutter closed                                | step            |
|                                                                  | 32 - 63   | Shutter open (32=default)                     | step            |
|                                                                  | 64 - 95   | Strobe-effect from slow to fast               | proportional    |
|                                                                  | 96 - 127  | Shutter open                                  | step            |
|                                                                  | 128 - 143 | Opening pulse in sequences from slow to fast  | proportional    |
|                                                                  | 144 - 159 | Closing pulse in sequences from fast to slow  | proportional    |
|                                                                  | 160 - 191 | Shutter open                                  | step            |
|                                                                  | 192 - 223 | Random strobe-effect from slow to fast        | proportional    |
|                                                                  | 224 - 255 | Shutter open                                  | step            |
| <b>53</b>                                                        |           | <b>Dimmer intensity</b>                       |                 |
|                                                                  | 0 - 255   | Dimmer intensity from 0% to 100% (0=default)  | proportional    |
| <b>54</b>                                                        |           | <b>Dimmer intensity - fine</b>                |                 |
|                                                                  | 0 - 255   | Fine dimming (0=default)                      | proportional    |
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| All Specifications subject to change without notice              |           |                                               |                 |
|                                                                  |           |                                               |                 |

| <b>Robin Forte - Colours on Virtual Colour Wheel</b> |                                 |                                 |                 |                        |                       |                    |
|------------------------------------------------------|---------------------------------|---------------------------------|-----------------|------------------------|-----------------------|--------------------|
| <b>Colour name</b>                                   | <b>Col.<br/>Wheel 1<br/>DMX</b> | <b>Col.<br/>Wheel 2<br/>DMX</b> | <b>Cyan DMX</b> | <b>Magenta<br/>DMX</b> | <b>Yellow<br/>DMX</b> | <b>CTO<br/>DMX</b> |
| Filter 4 (Medium Bastard Amber)                      | 0                               | 0                               | 0               | 132                    | 133                   | 196                |
| Filter 10 (Medium Yellow)                            | 0                               | 0                               | 0               | 6                      | 195                   | 255                |
| Filter 19 (Fire)                                     | 0                               | 0                               | 0               | 234                    | 255                   | 0                  |
| Filter 26 (Bright Red)                               | 135                             | 0                               | 0               | 0                      | 0                     | 0                  |
| Filter 58 (Lavender)                                 | 0                               | 0                               | 0               | 191                    | 93                    | 0                  |
| Filter 68 (Sky Blue)                                 | 0                               | 0                               | 188             | 165                    | 0                     | 0                  |
| Filter 71 (Tokyo Blue)                               | 144                             | 0                               | 0               | 0                      | 0                     | 0                  |
| Filter 79 (Just Blue)                                | 0                               | 0                               | 190             | 168                    | 0                     | 0                  |
| Filter 88 (Lime Green)                               | 0                               | 0                               | 114             | 0                      | 197                   | 0                  |
| Filter 90 (Dark Yellow Green)                        | 0                               | 0                               | 214             | 0                      | 212                   | 0                  |
| Filter 100 (Spring Yellow)                           | 0                               | 0                               | 0               | 0                      | 191                   | 154                |
| Filter 101 (Yellow)                                  | 0                               | 0                               | 0               | 73                     | 193                   | 225                |
| Filter 102 (Light Amber)                             | 0                               | 0                               | 0               | 92                     | 162                   | 155                |
| Filter 103 (Straw)                                   | 0                               | 0                               | 0               | 0                      | 124                   | 225                |
| Filter 104 (Deep Amber)                              | 0                               | 0                               | 0               | 161                    | 215                   | 0                  |
| Filter 105 (Orange)                                  | 0                               | 0                               | 0               | 186                    | 228                   | 0                  |
| Filter 106 (Primary Red)                             | 0                               | 0                               | 0               | 255                    | 255                   | 0                  |
| Filter 111 (Dark Pink)                               | 0                               | 0                               | 0               | 184                    | 176                   | 0                  |
| Filter 115 (Peacock Blue)                            | 0                               | 0                               | 230             | 0                      | 163                   | 0                  |
| Filter 116 (Medium Blue-Green)                       | 0                               | 0                               | 230             | 0                      | 174                   | 0                  |
| Filter 117 (Steel Blue)                              | 0                               | 0                               | 164             | 31                     | 140                   | 0                  |
| Filter 118 (Light Blue)                              | 0                               | 0                               | 216             | 0                      | 149                   | 0                  |
| Filter 119 (Dark Blue)                               | 0                               | 0                               | 255             | 109                    | 0                     | 0                  |
| Filter 120 (Deep Blue)                               | 0                               | 154                             | 255             | 0                      | 0                     | 0                  |
| Filter 121 (Filter Green)                            | 0                               | 0                               | 172             | 0                      | 241                   | 0                  |
| Filter 128 (Bright Pink)                             | 0                               | 0                               | 0               | 222                    | 169                   | 0                  |
| Filter 131 (Marine Blue)                             | 0                               | 0                               | 198             | 0                      | 117                   | 0                  |
| Filter 132 (Medium Blue)                             | 0                               | 0                               | 234             | 0                      | 71                    | 0                  |
| Filter 134 (Golden Amber)                            | 0                               | 0                               | 0               | 179                    | 255                   | 0                  |
| Filter 135 (Deep Golden Amber)                       | 0                               | 0                               | 0               | 209                    | 255                   | 0                  |
| Filter 136 (Pale Lavender)                           | 0                               | 0                               | 22              | 175                    | 86                    | 0                  |
| Filter 137 (Special Lavender)                        | 0                               | 0                               | 22              | 141                    | 99                    | 0                  |
| Filter 138 (Pale Green)                              | 0                               | 0                               | 80              | 25                     | 167                   | 0                  |
| Filter 139 (Primary Green)                           | 0                               | 0                               | 255             | 0                      | 228                   | 0                  |
| Filter 141 (Bright Blue)                             | 0                               | 0                               | 233             | 20                     | 109                   | 62                 |
| Filter 147 (Apricot)                                 | 0                               | 0                               | 0               | 164                    | 205                   | 0                  |
| Filter 148 (Bright Rose)                             | 0                               | 0                               | 0               | 211                    | 195                   | 0                  |
| Filter 152 (Pale Gold)                               | 0                               | 0                               | 0               | 166                    | 176                   | 0                  |
| Filter 154 (Pale Rose)                               | 0                               | 0                               | 0               | 164                    | 163                   | 0                  |
| Filter 157 (Pink)                                    | 0                               | 0                               | 0               | 204                    | 196                   | 0                  |
| Filter 158 (Deep Orange)                             | 0                               | 0                               | 0               | 206                    | 242                   | 0                  |
| Filter 162 (Bastard Amber)                           | 0                               | 0                               | 0               | 146                    | 176                   | 0                  |
| Filter 164 (Flame Red)                               | 0                               | 0                               | 0               | 255                    | 243                   | 0                  |
| Filter 165 (Daylight Blue)                           | 0                               | 0                               | 201             | 0                      | 50                    | 0                  |
| Filter 169 (Lilac Tint)                              | 0                               | 0                               | 0               | 177                    | 135                   | 0                  |

| <b>Colour name</b>                     | <b>Col.<br/>Wheel 1<br/>DMX</b> | <b>Col.<br/>Wheel 2<br/>DMX</b> | <b>Cyan DMX</b> | <b>Magenta<br/>DMX</b> | <b>Yellow<br/>DMX</b> | <b>CTO<br/>DMX</b> |
|----------------------------------------|---------------------------------|---------------------------------|-----------------|------------------------|-----------------------|--------------------|
| Filter 170 (Deep Lavender)             | 0                               | 0                               | 45              | 177                    | 88                    | 0                  |
| Filter 172 (Lagoon Blue)               | 0                               | 0                               | 218             | 7                      | 125                   | 0                  |
| Filter 179 (Chrome Orange)             | 0                               | 0                               | 0               | 166                    | 217                   | 0                  |
| Filter 180 (Dark Lavender)             | 0                               | 0                               | 174             | 175                    | 0                     | 0                  |
| Filter 181 (Congo Blue)                | 0                               | 0                               | 187             | 210                    | 0                     | 0                  |
| Filter 197 (Alice Blue)                | 0                               | 154                             | 216             | 0                      | 0                     | 0                  |
| Filter 201 (Full C.T. Blue)            | 0                               | 0                               | 166             | 0                      | 93                    | 0                  |
| Filter 202 (Half C.T. Blue)            | 0                               | 0                               | 138             | 0                      | 51                    | 0                  |
| Filter 203 (Quarter C.T. Blue)         | 0                               | 0                               | 126             | 0                      | 109                   | 0                  |
| Filter 204 (Full C.T. Orange)          | 0                               | 0                               | 0               | 176                    | 226                   | 0                  |
| Filter 205 (Half C.T. Orange)          | 0                               | 0                               | 0               | 154                    | 182                   | 0                  |
| Filter 206 (Quarter C.T. Orange)       | 0                               | 0                               | 0               | 149                    | 146                   | 0                  |
| Filter 247 (Filter Minus Green)        | 0                               | 0                               | 0               | 167                    | 108                   | 0                  |
| Filter 248 (Half Minus Green)          | 0                               | 0                               | 0               | 121                    | 98                    | 0                  |
| Filter 281 (Three Quarter C.T. Blue)   | 0                               | 0                               | 163             | 0                      | 105                   | 0                  |
| Filter 285 (Three Quarter C.T. Orange) | 0                               | 0                               | 0               | 162                    | 219                   | 0                  |
| Filter 352 (Glacier Blue)              | 0                               | 0                               | 197             | 0                      | 99                    | 0                  |
| Filter 353 (Lighter Blue)              | 0                               | 0                               | 210             | 0                      | 131                   | 0                  |
| Filter 715 (Cabana Blue)               | 0                               | 154                             | 255             | 0                      | 0                     | 0                  |
| Filter 778 (Millennium Gold)           | 0                               | 0                               | 0               | 198                    | 255                   | 0                  |
| Filter 793 (Vanity Fair)               | 0                               | 0                               | 0               | 221                    | 140                   | 0                  |
|                                        |                                 |                                 |                 |                        |                       |                    |