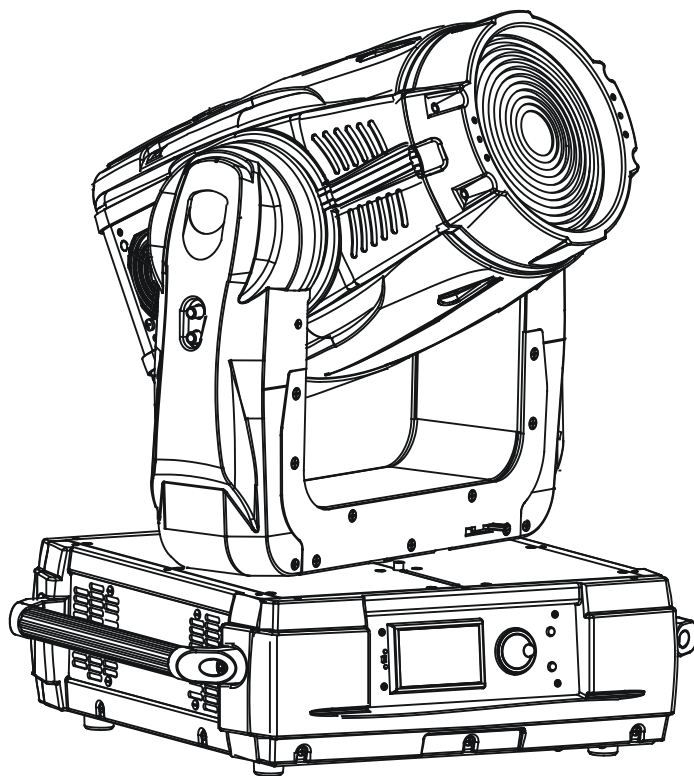


**ROBE**

**Color Wash 750<sup>AT</sup> Tungsten**



**AT series**

**USER MANUAL**

*Version 1.7*

# ColorWash 750 AT Tungsten

## Table of contents

|  |           |
|--|-----------|
| <b>1. Safety instructions</b> .....                                  | <b>3</b>  |
| <b>2. Operating determinations</b> .....                             | <b>4</b>  |
| <b>3. Description of the device</b> .....                            | <b>5</b>  |
| <b>4. Installation</b> .....   | <b>6</b>  |
| 4.1 Connection to the mains .....                                    | 6         |
| 4.2 Fitting the lamp.....  | 6         |
| 4.3 Lamp adjustment .....  | 7         |
| 4.4 Changing the front lens .....                                    | 7         |
| 4.5 Installing top hats .....  | 8         |
| 4.6 Rigging the fixture .....  | 9         |
| 4.7 DMX-512 connection.....  | 11        |
| 4.8 Ethernet connection .....  | 12        |
| <b>5. ColorWash 750 AT Tungsten - DMX Protocol-version 1.4</b> ..... | <b>14</b> |
| <b>6. Controller mode</b> .....                                      | <b>17</b> |
| 6.1 DMX addressing.....  | 17        |
| 6.2 Remotely controllable functions .....                            | 17        |
| <b>7. Control menu map</b> .....                                     | <b>18</b> |
| <b>8. Control menu</b> .....   | <b>22</b> |
| 8.1 Fixture Address .....  | 22        |
| 8.2 Fixture information .....  | 22        |
| 8.3 Personality .....  | 24        |
| 8.5 Test sequences.....  | 25        |
| 8.6 Manual mode .....  | 25        |
| 8.7 Stand-alone setting .....  | 25        |
| 8.8 Reset functions .....  | 26        |
| 8.9 Special functions .....  | 26        |
| <b>9. Power down mode</b> .....                                      | <b>27</b> |
| <b>10. RDM</b> .....   | <b>28</b> |
| <b>11. Error and information messages</b> .....                      | <b>29</b> |
| <b>12. Technical specifications</b> .....                            | <b>30</b> |
| <b>13. Maintenance and cleaning</b> .....                            | <b>33</b> |

**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**

Every person involved with installation and maintenance of this device have to:

- be qualified
- follow the instructions of this manual

**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.

### **Important:**

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.

Always plug in the power plug least. Make sure that the power-switch is set to OFF-position before you connect the device to the mains. The power plug has to be accessible after installing the device.

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.

Do not switch the fixture on and off in short intervals as this would reduce the lamp's life.

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 lamps and fuses of same type and rating only.

**CAUTION ! EYEDAMAGES !**  
***Avoid looking directly into the light source***  
***(meant especially for epileptics) !***

## 2. Operating determinations

This device is a moving-head for creating decorative effects and was designed for indoor use only.

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.

Never run the device without lamp!

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!

The minimum distance between light output and the illuminated surface must be more than 1 meter.

Make sure that the area below the installation place is blocked when rigging, derigging or servicing the fixture.

Always fix the fixture with an appropriate safety rope. Fix the safety rope 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 lamp must never be ignited if the objective-lens or any housing-cover is open, as discharge lamps may explode and emit a high ultraviolet radiation, which may cause burns.

The maximum ambient temperature 40°C must never be exceeded.

**CAUTION!**

***The 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!

**CAUTION!**

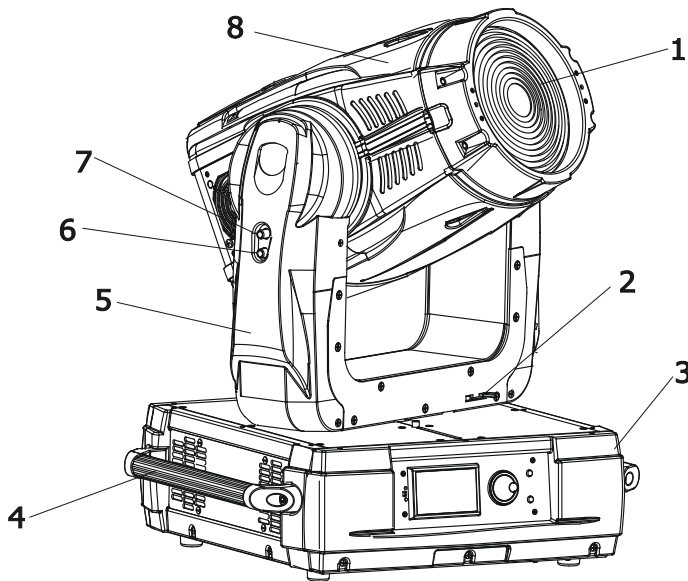
***The lamp has to be replaced when it is damaged or deformed due to the heat!***

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!

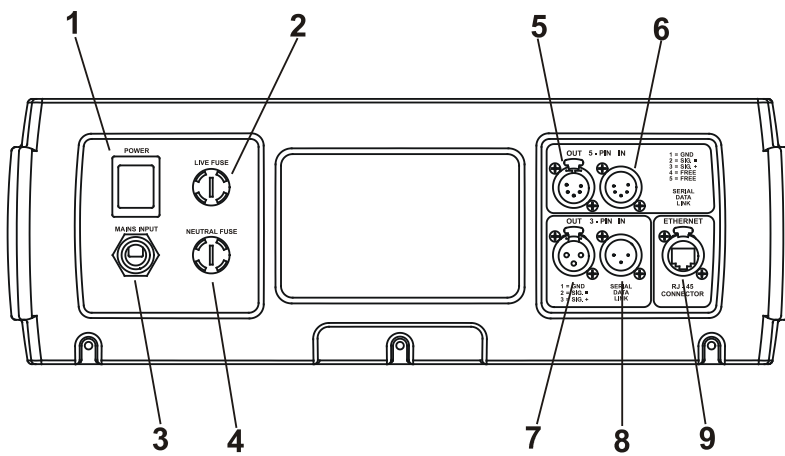
If this device will be operated in any way different to the one described in this manual, the product may suffer damages and the guarantee becomes void. Furthermore, any other operation may lead to dangers like short-circuit, burns, electric shock, burns due to ultraviolet radiation, lamp explosion,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

### 3. Description of the device



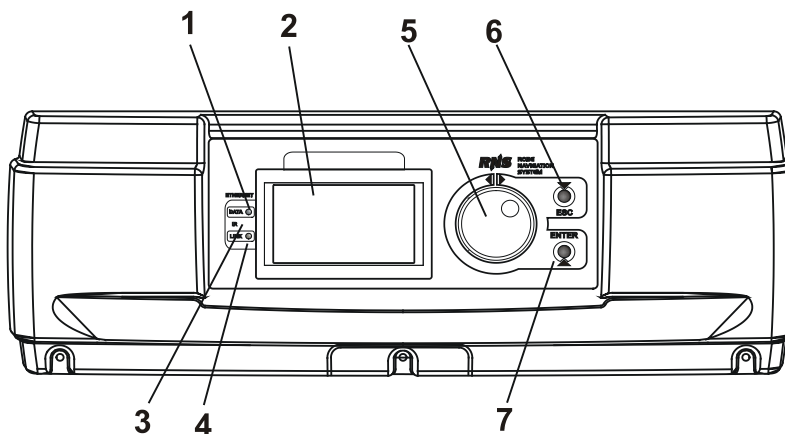
- 1 - Front lens
- 2 - Pan lock
- 3 - Base
- 4 - Handle
- 5 - Head yoke
- 6 - Tilt unlock button (green)
- 7 - Tilt lock button (red)
- 8 - Moving head

The head should be locked for transportation- the tilt lock button (7) is pushed and the pan lock/unlock lever (2) is in locked position. To unlock the head, press the tilt unlock button (6) and move the pan lock/unlock lever (2) into unlocked position.



#### Rear panel of the base:

- 1 - Power switch
- 2 - Fuse holder-live
- 3 - Power cord
- 4 - Fuse holder-neutral
- 5 - 5-pin DMX output
- 6 - 5-pin DMX input
- 7 - 3-pin DMX output
- 8 - 3-pin DMX input
- 9 - RJ 45 connector



#### Front panel of the base:

- 1 - Ethernet indicator
- 2 - Display
- 3 - Infra-red sensor
- 4 - Data transfer indicator
- 5 - RNS control wheel
- 6 - Escape button
- 7 - Enter button

## 4. Installation

### 4.1 Connection to the mains

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

The ColorWash 750E AT Tungsten is equipped with auto-switching power supply that automatically adjusts to any 50/60Hz AC power source from 110-240 Volts.

**For use with 100-130 V supplies, the both main 6.3 A fuses has to be exchanged for 10 A fuses which are enclosed in the packing.**


To install the 10 A fuses:

1. Disconnect the fixture from AC power.
2. Unscrew the "live" fuseholder on the rear panel of the base with a flat-tip screwdriver from the housing (anticlockwise).
3. Remove the 6.3 A fuse from the fuseholder.
4. Put the 10 A fuse in the fuseholder.
5. Replace the fuseholder in the housing and screw it fully clockwise.
6. Repeat steps 2-5 for "neutral" fuseholder

If you need to fit the power cable with a power plug that is suitable for your local AC power outlets, install a 3-prong grounding-type plug on the power cable. The earth has to be connected!

If you have any doubts about proper installation, consult a qualified electrician.

The occupation of the connection-cables is as follows:

| Cable (EU)   | Cable (US) | Pin     | International  |
|--------------|------------|---------|--|
| Brown        | Black      | Live    | L  |
| Light blue   | White      | Neutral | N  |
| Yellow/Green | Green      | Earth   |  |

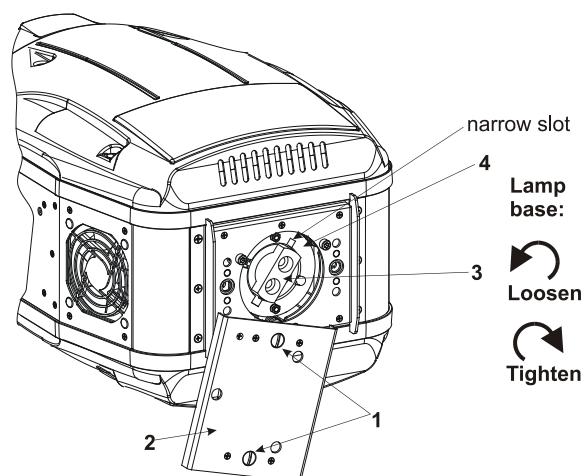
### 4.2 Fitting the lamp

**DANGER ! Install the lamps with the device switched off only.  
Unplug from mains before !**

**To insert the lamp (halogen lamp 750W/80V):**

1. Disconnect the fixture from power and allow it to cool at least 20 minutes.
2. Make sure that fixture's head is in the position as shown on the picture. Loosen the two quarter-turn fasteners (1) marked "X,Y" on the lamp cover (2) to turn the cover down.
3. Holding the lamp by its ceramic base (3), carefully turn the lamp to the left as shown on the picture in order to loosen the lamp from the lamp holder (4). Gently pull the lamp out of the lamp holder
4. Holding the new lamp by its ceramics base, gently insert the lamp to the lamp socket and turn the base to the right. Make sure that the lamp is installed tightly into the lamp socket.

Do not install a lamp with a higher wattage! A lamp like this generates temperatures the device is not designed for. Damages caused by non-observance are not subject to warranty. Please follow the lamp manufacturer's notes! Do not touch the glass bulb bare hand during the installation!



- 1 - Quarter-turn fasteners
- 2 - Lamp cover
- 3 - Lamp base
- 4 - Lamp holder

- Reinsert the lamp cover (2) and tighten two quarter-turn fasteners (1) again.
- Align the new lamp (see instructions below)
- Reset „Lamp On Time” and „Lamp Strikes” counters in „Fixture information” menu.

**Do not operate this fixture with open lamp cover!**

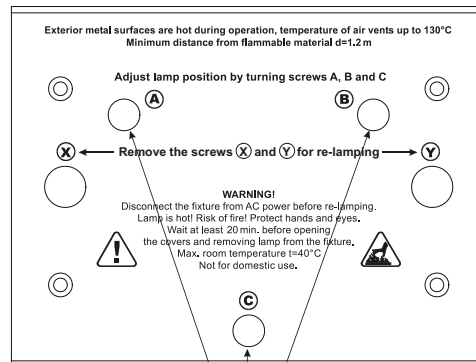
### 4.3 Lamp adjustment

The lamp holder is aligned at the factory. Due to differences between lamps, fine adjustment may improve light performance:

- Switch on the fixture and after reset turn on the lamp.
- Cancel all effects, open the shutter and focus the light on a flat surface (wall) using either DMX controller or function „Lamp adjustment” in „Special functions menu”.
- Center a hot spot (the brightest part of the beam) using the three adjustment screws „A, B, C” (4 mm Allen screws). Turn one screw by one screw to drag the hot-spot, diagonally across the projected image. If you cannot detect the hot spot, adjust the lamp until the light is even.

To reduce a hot-spot, pull the lamp in by turning all three screws „A, B, C” clockwise 1/4-turn at a time until the light is evenly distributed.

If the light is brighter around the edge than it is in the center, or if light output is low, the lamp is too far back in the reflector. „Push” the lamp out by turning the screws „A, B, C” counterclockwise 1/4-turn at a time until the light is bright and evenly distributed.



3 adjustment screws „A, B, C”

### 4.4 Changing the front lens

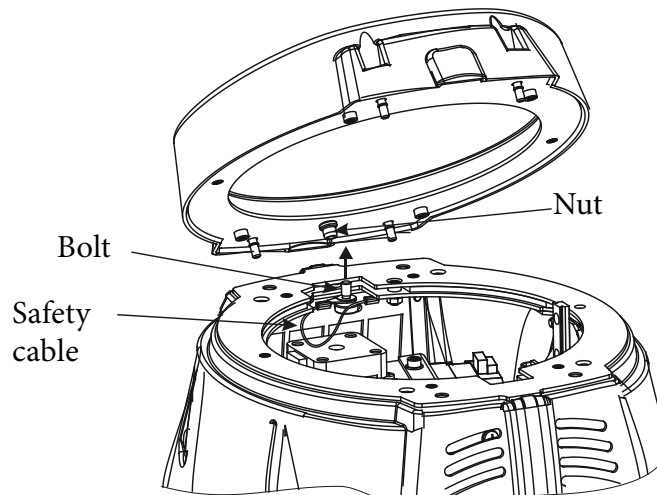
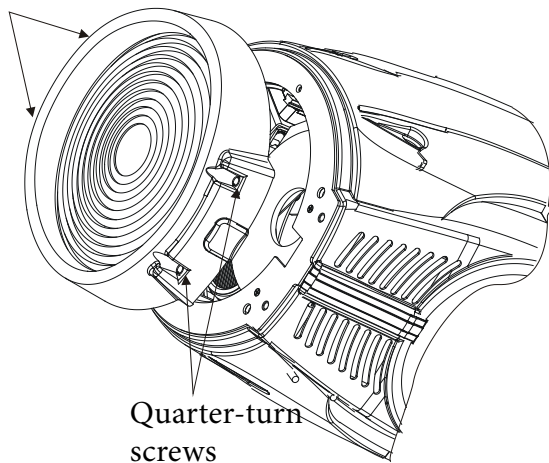
The ColorWash 700E AT is supplied with the front Fresnel lens installed as standard. If you wish to install a front wide-angle lens (optional), follow the instructions:

**Switch the device off before changing the lens. Be careful. Front lens is heavy!**

#### Changing the front Fresnel lens:

- Remove the front lens using a flathead screwdriver to unlock the four quarter-turn screws.
- Unscrew the safety cable from the lens
- Screw up the safety cable to the wide-angle lens.
- Place this lens and fix it by locking the four quarter-turn screws.

Quarter-turn screws



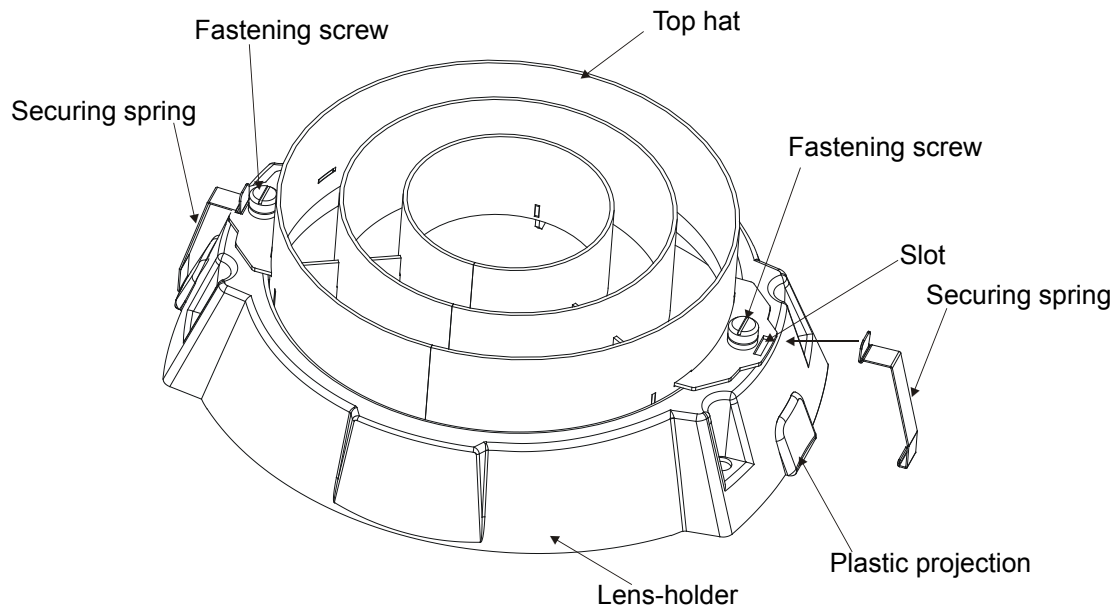
## 4.5 Installing top hats

The ColorWash 750E AT Tungsten can be fitted with various types of the top hats-see chapter "Technical specifications". If you wish to install a top hat (optional), follow the instructions:

**Switch the device off before installing the top hat!**

### Installing the top hat on the front lens-holder of the fixture:

1. Put desired top hat onto a front lens-holder and fasten it by two fastening screws.
2. Secure the top hat by means of two securing springs (hook first tip of the spring to the plastic projection in the front lens-holder and the second one snap to the slot in the top hat).





## 4.6 Rigging the fixture

**DANGER TO LIFE!**  
**Please consider the respective national norms during the installation!**  
**The installation must only be carried out by an authorized dealer!**

The installation of the projector has to be built and constructed in a way that it can hold 10 times the weight for 1 hour without any harming deformation.

The installation must always be secured with a secondary safety attachment, e.g. an appropriate catch net. This secondary safety attachment must be constructed in a way that no part of the installation can fall down if the main attachment fails.

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 an expert after every four year in the course of an acceptance test.

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

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

**IMPORTANT! OVERHEAD RIGGING REQUIRES EXTENSIVE EXPERIENCE**, including (but not limited to) 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 instead use a professional structural rigger. Improper installation can result in bodily injury and/or damage to property.

The projector has to be installed out of the reach of people.

If the projector shall be lowered from the ceiling or high joists, professional trussing systems have to be used. The projector must never be fixed swinging freely in the room.

**Caution:** Projectors may cause severe injuries when crashing down! If you have doubts concerning the safety of a possible installation, do not install the projector!

Before rigging make sure that the installation area can hold a minimum point load of 10 times the projector's weight.

**Danger of fire !**  
**When installing the device, make sure there is no highly inflammable material (decoration articles, etc.) in a distance of min. 0.7 m.**

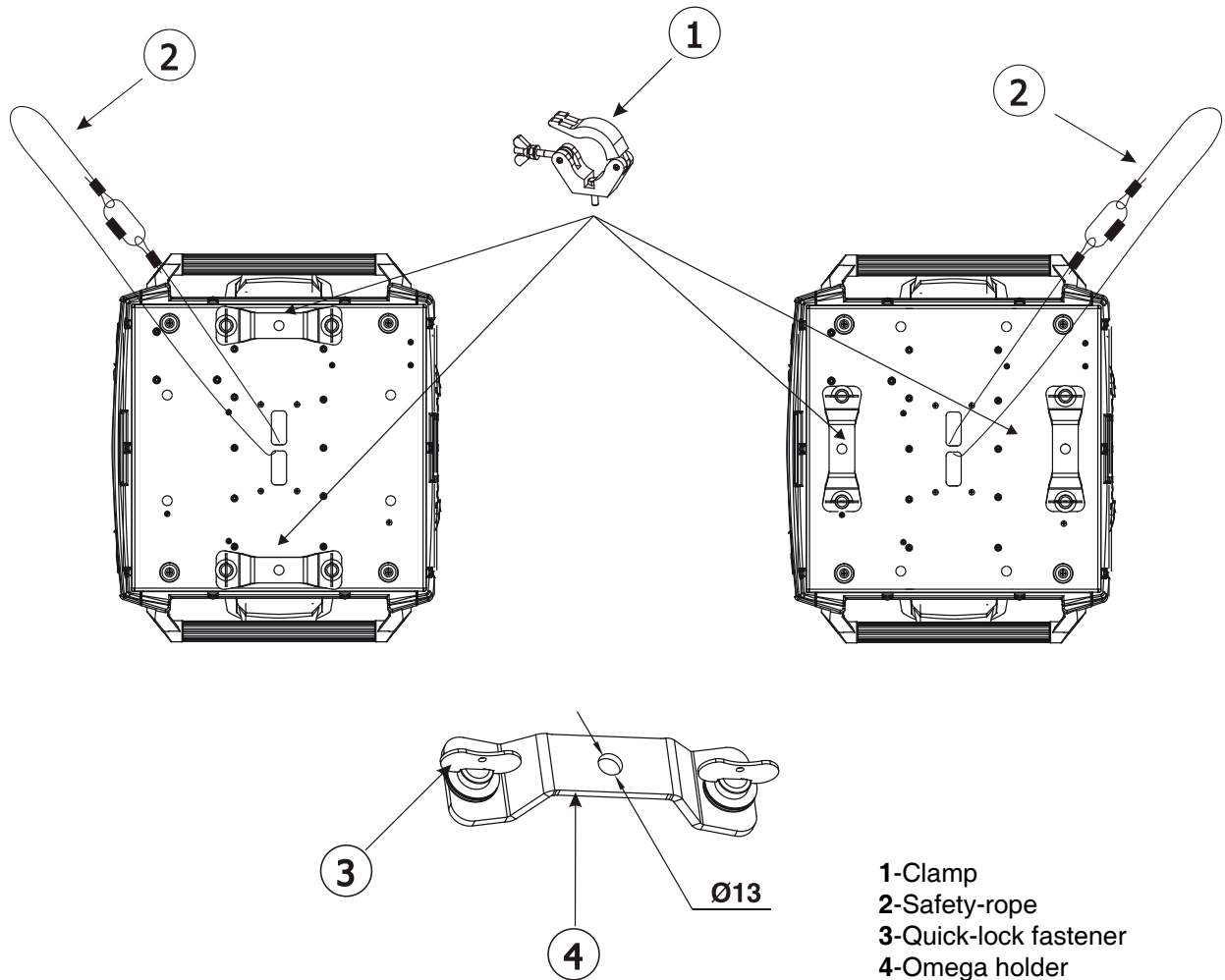
**CAUTION!**  
**Use 2 appropriate clamps to rig the fixture on the truss.**  
**Follow the instructions mentioned at the bottom of the base.**  
**Make sure that the device is fixed properly! Ensure that the structure (truss) to which you are attaching the fixtures is secure.**

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

For overhead use, always install a safety-rope that can hold at least 10 times the weight of the fixture. You must only use safety-ropes with screw-on carabines. Pull the safety-rope through the two apertures on the bottom of the base and over the trussing system etc. Insert the end in the carabine and tighten the fixation screw.

### Fixation via the omega holders

1. Bolt each clamp (1) to the omega holder (4) with M12 bolt and lock nut through the hole in the holder.
2. Fasten the omega holders on the bottom of the base by inserting both quick-lock fasteners (3) into the holes of the base and tighten fully clockwise.
3. Fasten the safety-rope (2) through the two apertures on the bottom of the base and over the trussing system.



**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!**

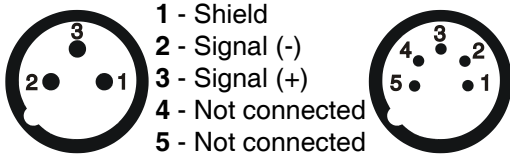
## 4.7 DMX-512 connection

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.

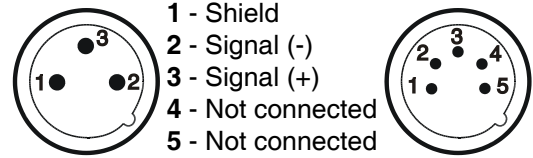
### DMX - output

XLR mounting-sockets (rear view):



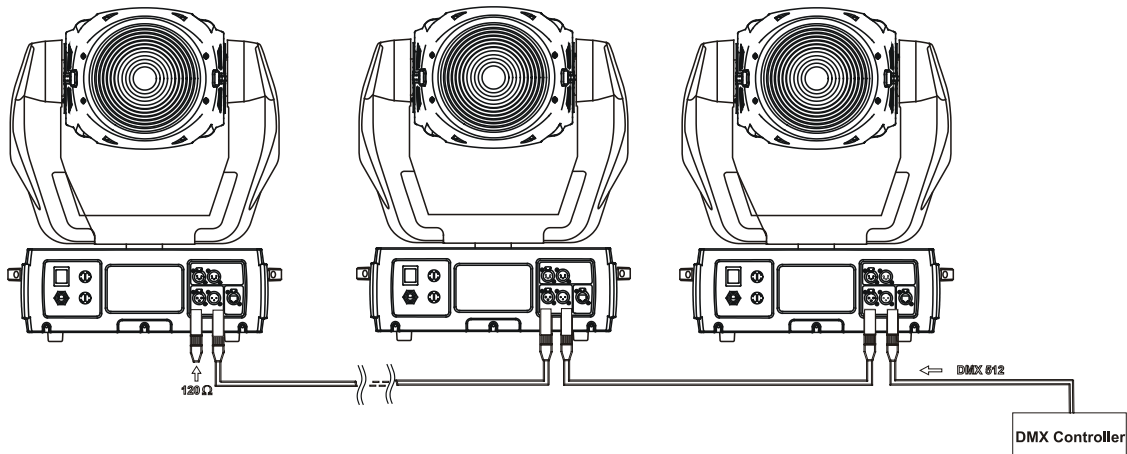
### DMX-input

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 on a serial link.

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

## 4.8 Ethernet connection

The fixtures on a data link are connected to the Ethernet with Art-Net communication protocol. The controlling software from PC (or lighting console) has to support Art-Net protocol.

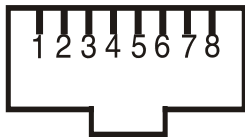
Art-Net communication protocol is a 10 Base T Ethernet protocol based on the TCP/IP. Its purpose is to allow transfer of large amounts of DMX 512 data over a wide area using standard network technology.

**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.

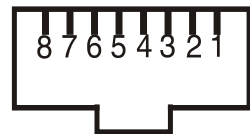
The ColorWash 750E AT Tungsten Tungsten is equipped with 8-pin RJ-45 socket for Ethernet input. Use a network cable category 5 (with four "twisted" wire pairs) and standard RJ-45 plugs in order to connect the fixture to the network.

**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 |
|-----|-----|-----|-----|-----|-----|-----|-----|

### Direct Ethernet operation

Connect the Ethernet inputs of all fixtures in the fixture chain with the network.

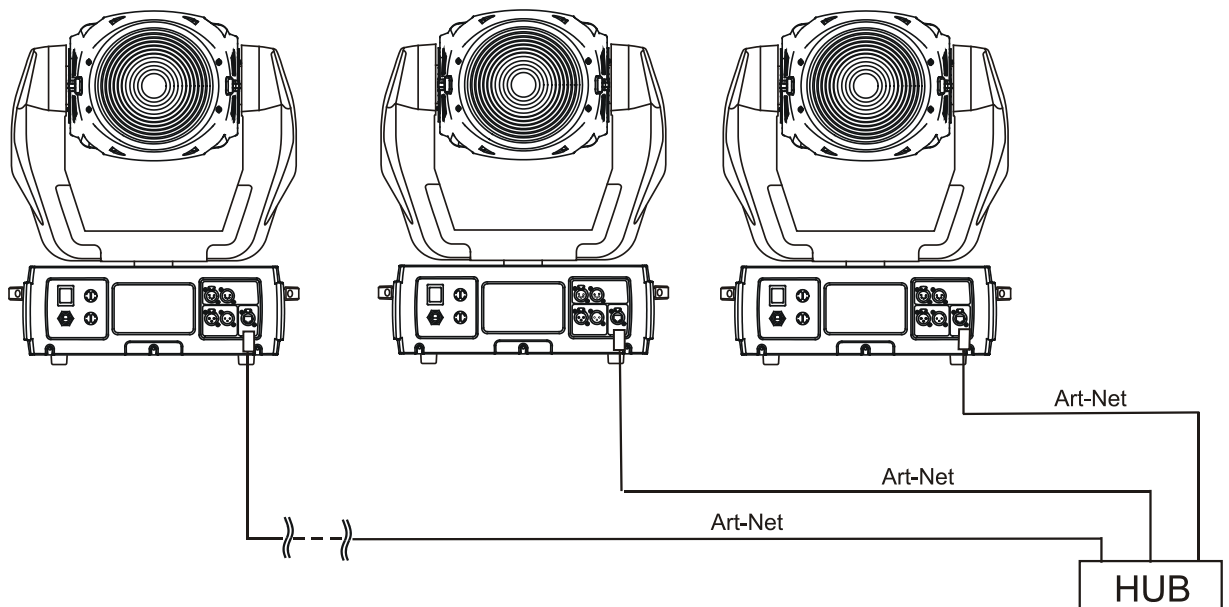
Option "Ethernet" has to be selected from "Set Ethernet Mode" menu on the fixture.

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

(DMX address=47)  
IP address=002.168.002.004  
Universe=1

(DMX address=24)  
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 / 010.xxx.xxx.xxx (Different from fixture IP addresses)  
NET mask: 255.0.0.0

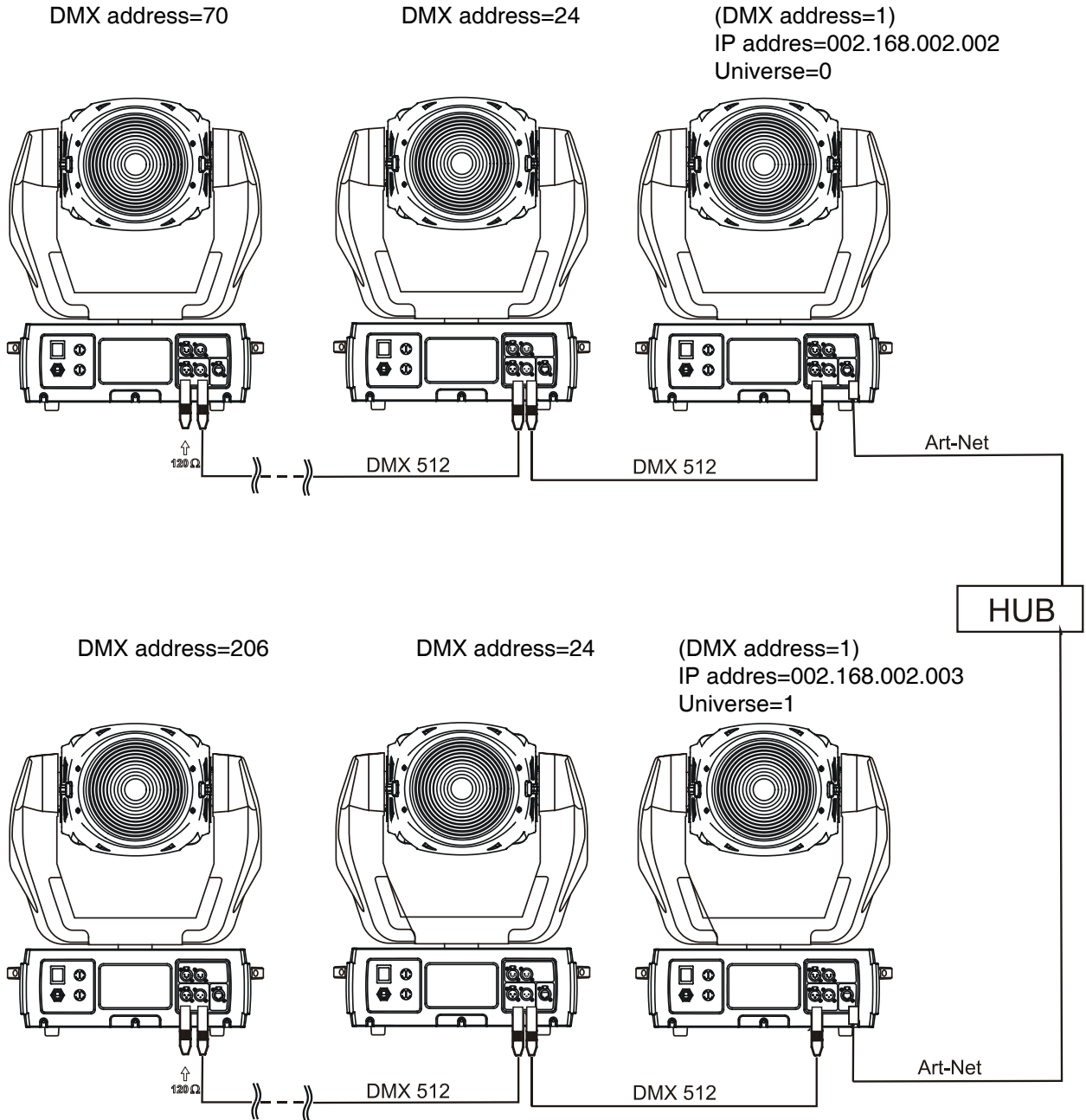
## Ethernet / DMX operation

Options "Ethernet/DMX" has to be selected from "Set Ethernet Mode" menu on the first fixture (connected to the network) in the fixture chain, next fixtures have standard DMX addresses.

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 Ω resistor between Signal (-) and Signal (+) into a XLR-plug and connect it in the DMX-output of the last fixture.

Example:



## 5. ColorWash 750 AT Tungsten - DMX Protocol-version 1.4

| Mode/Channel |          |   |   |    | Value     | Function  | Type of control |
|--------------|----------|---|---|----|-----------|---|-----------------|
| 1            | 2        | 3 | 4 | 5  |           |   |                 |
| 1            | 1        | 1 | 1 | 14 | 0 - 255   | <b>Pan</b><br>Pan movement by 530°  | proportional    |
| 2            | 2        | 2 | 2 | 15 | 0 - 255   | <b>Pan Fine</b><br>Fine control of pan movement   | proportional    |
| 3            | 3        | 3 | 3 | 16 | 0 - 255   | <b>Tilt</b><br>Tilt movement by 280°  | proportional    |
| 4            | 4        | 4 | 4 | 17 | 0 - 255   | <b>Tilt fine</b><br>Fine control of tilt movement   | proportional    |
| 5            | 5        | 5 | 5 | 18 | 0         | <b>Pan/Tilt speed , Pan/Tilt time</b><br>Max. speed (tracking mode)   | step            |
|              |          |   |   |    | 1 - 255   | <b><i>P./T. speed-set Speed Mode in menu: Pan/Tilt Mode</i></b><br>Speed from max. to min. (vector mode)  | proportional    |
|              |          |   |   |    | 1 - 255   | <b><i>P./T. time - set Time Mode in menu: Pan/Tilt Mode</i></b><br>Time from 0.1 s to 25.5 s.   | proportional    |
| 6            | 6        | 6 | 6 | 20 | 0 - 49    | <b>Power/Special functions</b><br>Reserved<br><i>To activate following functions, stop in DMX value for at least 3 s and shutter must be closed at least 3 s. („Shutter, Strobe” channel 18 (16,20) must be at range: 0-31 DMX. Corresponding menu items are temporarily overridden).</i> |                 |
|              |          |   |   |    | 50 - 59   | Pan/Tilt speed mode   | step            |
|              |          |   |   |    | 60 - 69   | Pan/Tilt time mode  | step            |
|              |          |   |   |    | 70 - 79   | Blackout while pan/tilt moving  | step            |
|              |          |   |   |    | 80 - 89   | Disabled blackout while pan/tilt moving   | step            |
|              |          |   |   |    | 90 - 139  | Reserved<br><i>To activate following functions, stop in DMX value for at least 3 s.</i>   |                 |
|              |          |   |   |    | 140 - 149 | Pan/Tilt reset  | step            |
|              |          |   |   |    | 150 - 159 | Colour system reset   | step            |
|              |          |   |   |    | 160 - 169 | Reserved  |                 |
|              |          |   |   |    | 170 - 179 | Dimmer/Strobe reset   | step            |
|              |          |   |   |    | 180 - 189 | Zoom/effect wheel reset   | step            |
|              |          |   |   |    | 190 - 199 | Reserved  |                 |
|              |          |   |   |    | 200 - 209 | Total reset   | step            |
| 210 - 255    | Reserved |   |   |    |           |   |                 |
| -            | -        | 7 | 7 | -  | 0 - 9     | <b>Pan/Tilt macro selection</b><br>Disabled pan/tilt macro  | step            |
|              |          |   |   |    | 10 - 31   | Reserved  | step            |
|              |          |   |   |    | 32 - 63   | Figure of circle (from small to large)  | proportional    |
|              |          |   |   |    | 64 - 95   | Figure of horizontal eight (from small to large)  | proportional    |
|              |          |   |   |    | 96 - 127  | Figure of vertical eight (from small to large)  | proportional    |
|              |          |   |   |    | 128 - 159 | Figure of rectangle (from small to large)   | proportional    |
|              |          |   |   |    | 160 - 191 | Figure of triangle (from small to large)  | proportional    |
|              |          |   |   |    | 192 - 223 | Figure of star (from small to large)  | proportional    |
|              |          |   |   |    | 224 - 255 | Figure of cross (from small to large)   | proportional    |
| -            | -        | 8 | 8 | -  | 0         | <b>Pan/Tilt macro speed</b><br><i>(Set pan/tilt speed (channel 5) at 0)</i><br>No macro generation  | step            |
|              |          |   |   |    | 1 - 127   | Macro generation from fast to slow-forwards   | proportional    |
|              |          |   |   |    | 128 - 129 | No macro generation   | step            |
|              |          |   |   |    | 130 - 255 | Macro generation from slow to fast-backwards  | proportional    |

| Mode/Channel |   |              |    |    | Value     | Function  | Type of control |
|--------------|---|--------------|----|----|-----------|---|-----------------|
| 1            | 2   | 3            | 4  | 5  |           |   |                 |
| 7            | 7   | 9            | 9  | 6  | 0-255     | <b>Cyan</b><br>Cyan (0-white, 255-full cyan)  | proportional    |
| 8            | 8   | 10           | 10 | 8  | 0-255     | <b>Magenta</b><br>Magenta (0-white, 255-full magenta)   | proportional    |
| 9            | 9   | 11           | 11 | 10 | 0 - 255   | <b>Yellow</b><br>Yellow (0-white, 255-full yellow)  | proportional    |
| 10           | 10  | 12           | 12 | -  | 0 - 255   | <b>Colour temperature correction filter</b><br>(0-3300 K, 255-8000 K)   | proportional    |
| 11           | 11  | 13           | 13 | 19 | 0 - 255   | <b>Speed of CMY and conv.temp. filter</b><br>Speed from max. (0) to min.(255)   | proportional    |
| 12           | 12  | 14           | 14 | -  | 0 - 7     | <b>CMY colour macros</b><br>No function   | step            |
|              |   |              |    |    | 8 - 15    | Macro 1   | step            |
|              |   |              |    |    | 16 -23    | Macro 2   | step            |
|              |   |              |    |    | 24-31     | Macro 3   | step            |
|              |   |              |    |    | 32-39     | Macro 4   | step            |
|              |   |              |    |    | 40-47     | Macro 5   | step            |
|              |   |              |    |    | 48-55     | Macro 6   | step            |
|              |   |              |    |    | 56-63     | Macro 7   | step            |
|              |   |              |    |    | 64-71     | Macro 8   | step            |
|              |   |              |    |    | 72-79     | Macro 9   | step            |
|              |   |              |    |    | 80-87     | Macro 10  | step            |
|              |   |              |    |    | 88-95     | Macro 11  | step            |
|              |   |              |    |    | 96-103    | Macro 12  | step            |
|              |   |              |    |    | 104-111   | Macro 13  | step            |
|              |   |              |    |    | 112-119   | Macro 14  | step            |
|              |   |              |    |    | 120-127   | Macro 15  | step            |
|              |   |              |    |    | 128-135   | Macro 16  | step            |
|              |   |              |    |    | 136-143   | Macro 17  | step            |
|              |   |              |    |    | 144-151   | Macro 18  | step            |
|              |   |              |    |    | 152-159   | Macro 19  | step            |
|              |   |              |    |    | 160-167   | Macro 20  | step            |
|              |   |              |    |    | 168-175   | Macro 21  | step            |
|              |   |              |    |    | 176-183   | Macro 22  | step            |
|              |   |              |    |    | 184-191   | Macro 23  | step            |
|              |   |              |    |    | 192-199   | Macro 24  | step            |
|              |   |              |    |    | 200 - 207 | Macro 25  | step            |
|              |   |              |    |    | 208 - 215 | Macro 26  | step            |
| 216 - 223    | Macro 27  | step         |    |    |           |   |                 |
| 224 - 231    | Macro 28  | step         |    |    |           |   |                 |
| 232 - 239    | Macro 29  | step         |    |    |           |   |                 |
| 240 - 243    | Macro 30 - Random rainbow effect from fast to slow  | proportional |    |    |           |   |                 |
| 244 - 249    | Random macro selection by audio control<br>(Set microphone sensitivity in menu "Personality") | step         |    |    |           |   |                 |
| 250 - 255    | Auto random macro selection from fast to slow   | proportiona  |    |    |           |   |                 |
| 13           | 13  | 15           | 15 | -  | 0-19      | <b>Effect wheel</b><br>Full beam  | step            |
|              |   |              |    |    | 20-127    | Beam shaper-Indexing ( Min.zoom automatically)  | step            |
|              |   |              |    |    | 128-255   | Beam shaper-Rotation ( Min.zoom automatically)  | step            |
| 14           | 14  | 16           | 16 | -  | 0 - 255   | <b>Beam shaper indexing and rotation</b><br><b>Shaper indexing</b> - set position on channel13 (15)<br>Beam shaper indexing | proportional    |
|              |   |              |    |    | 0         | <b>Shaper rotation</b> - set position on channel13 (15)<br>No rotation  | step            |
|              |   |              |    |    | 1 - 127   | Forwards shaper rotation from fast to slow  | proportional    |
|              |   |              |    |    | 128 - 129 | No rotation   | step            |
|              |   |              |    |    | 130 - 255 | Backwards shaper rotation from slow to fast   | proportiona     |

| Mode/Channel |    |    |    |    | Value   | Function   | Type of control  |
|--------------|----|----|----|----|---|--|--|
| 1            | 2  | 3  | 4  | 5  |   |  |  |
| 15           | -  | 17 | -  | -  | 0-255   | <b>Beam shaper fine indexing</b><br>(set position on channel 14 (16)<br>Fine indexing  | proportiona  |
| 16           | 15 | 18 | 17 | 12 | 0 - 255   | <b>Zoom</b><br>Coarse zoom from min. to max.beam angle   | proportional   |
| 17           | -  | 19 | -  | 13 | 0 - 255   | <b>Zoom fine</b><br>Fine zoom movement   | proportional   |
| 18           | 16 | 20 | 18 | 1  | 0 - 31<br>32 - 63<br>64 - 95<br>96 - 127<br>128 - 143<br>144 - 159<br>160 - 191<br>192 - 223<br>224 - 255 | <b>Shutter, strobe</b><br>Shutter closed, Lamp power reduced to 370 W (after 10 s *)<br>Shutter open<br>Strobe-effect from slow to fast (max.12 flashes/s)<br>Shutter open<br>Opening pulse in sequences from slow to fast<br>Closing pulse in sequences from fast to slow<br>Shutter open<br>Random strobe-effect from slow to fast<br>Shutter open | step<br>step<br>proportional<br>step<br>proportional<br>proportional<br>step<br>proportional<br>step |
| 19           | 17 | 21 | 19 | 4  | 0 - 255   | <b>Mechanical dimmer</b><br>Dimmer intensity from 0% to 100%<br>(In range of 0-3 DMX,lamp power reduced to 370W)   | proportional   |
| 20           | -  | 22 | -  | 5  | 0 - 255   | <b>Mechanical dimmer fine</b><br>Dimmer intensity fine   | proportional   |
| 21           | 18 | 23 | 20 | 2  | 0 - 255   | <b>Electronic dimmer</b><br>Dimmer intensity from 0% to 100%   | proportional   |
| -            | -  | -  | -  | 3  |   | <b>No function</b>   |  |
| -            | -  | -  | -  | 6  |   | <b>No function</b>   |  |
| -            | -  | -  | -  | 7  |   | <b>No function</b>   |  |
| -            | -  | -  | -  | 9  |   | <b>No function</b>   |  |
| -            | -  | -  | -  | 11 |   | <b>No function</b>   |  |

\* 10s=default time delay,this value can be changed by "Lamp Low Power Delay" menu



## 6. Controller mode

The fixtures are individually addressed on a data link and connected to the controller. The fixtures respond to the DMX signal from the controller.

### 6.1 DMX addressing

The control panel on the front panel of the fixture allows you to assign the DMX fixture address, which is defined as the first channel from which the ColorWash 750E AT Tungsten will respond to the controller.

If you set, for example, the address to channel 24, the ColorWash 750E AT Tungsten will use the channel 24 to 47 for control (if DMX mode 3 is selected).

Please, be sure that you don't have any overlapping channels in order to control each ColorWash 750E AT Tungsten correctly and independently from any other fixture on the DMX data link.

If two, three or more ColorWash 750E AT Tungsten have the same addresses, they will work equally.

For address setting, please refer to the instructions under "Fixture Address".

#### Controlling:

After having addressed all ColorWash 750E AT Tungsten, you may now start operating these via your lighting controller.

**Note:** After switching it on, the ColorWash 750E AT Tungsten will automatically detect whether DMX 512 data is received or not. If there is no data received at the DMX-input, the display will start to flash "A001" with actually set address.

This situation can occur if:

- the 3 pin (5pin) XLR plug (cable with DMX signal from controller) is not connected with the input of the ColorWash 750E AT Tungsten
- the controller is switched off or defective, the cable or connector is defective or the signal wires are swapped in the input connector.

### 6.2 Remotely controllable functions

#### Lamp

The ColorWash 750E AT Tungsten is to be operated with a Philips 750W/80V halogen lamp.

An electronic dimming unit inside of the ColorWash 750E AT Tungsten allows you to switch on and off the lamp via the control panel (menu "Manual Mode-->Manual Effect Control-->EI.Dimmer) or via your DMX controller (channel Electronic dimmer-->255 DMX).

**Note:** To reduce the risk of lamp failure, replace the lamp when it reaches the limit of its average service life. Hours of lamp use / number of lamp cycles are logged and can be read in the fixture's display.

#### CMY 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%.

Colour temperature correction filter increases the colour temperature from 3300 K to 8000 K.

#### Effect wheel

This wheel contains a rotating indexable beam shaper.

#### Zoom

Motorized zoom unit enables zoom between 8° and 45° beam angle.

#### Mechanical dimming

0 - 100 % dimming is provided by the combined mechanical dimmer/shutter system. This system may also be used for variable strobe effects and random or variable pulse effects.

#### Electronic dimming

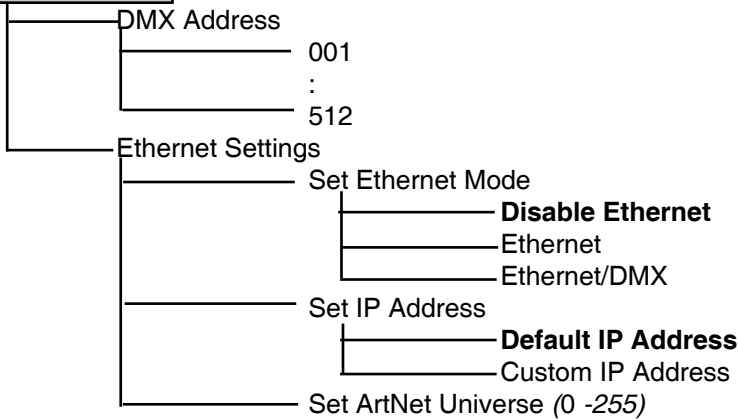
The internal electronic dimming system provides very smooth dimming.

## 7.Control menu map

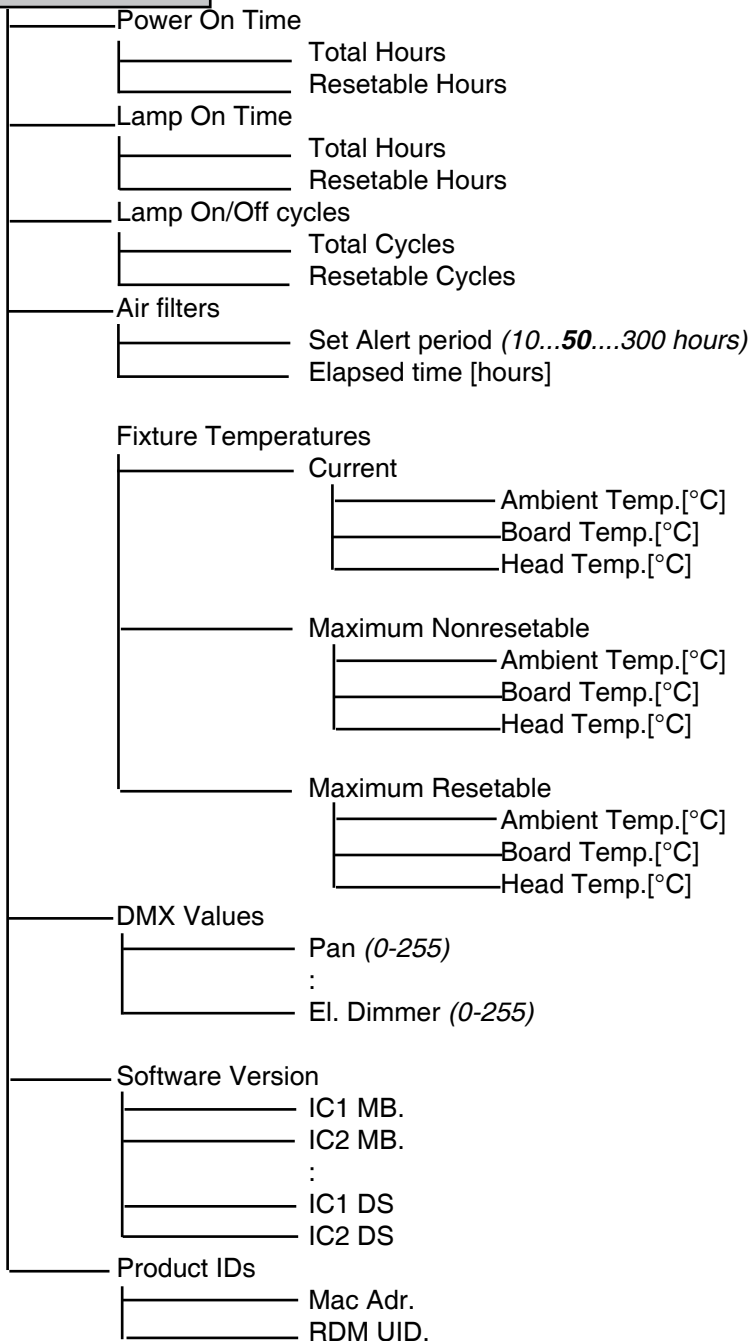
### Default settings=**Bold print**

Default settings=**Bold print**

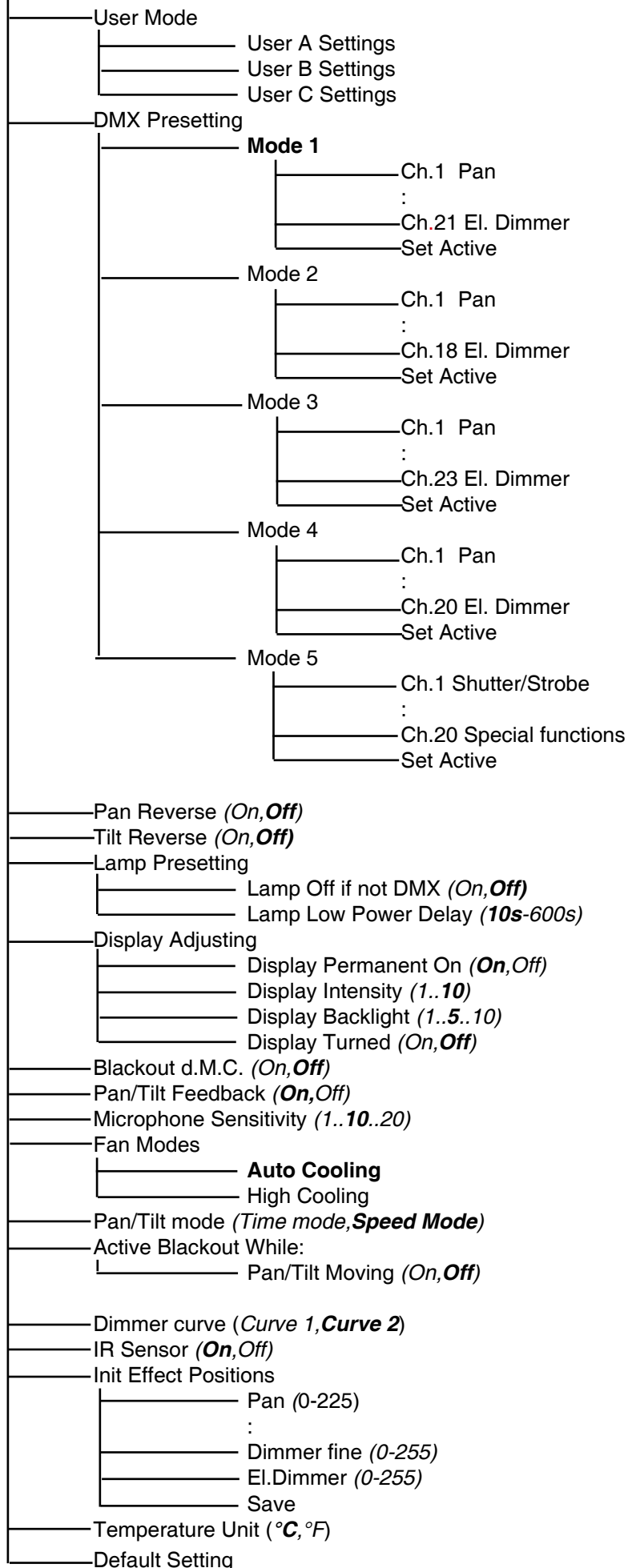
#### Fixture Address



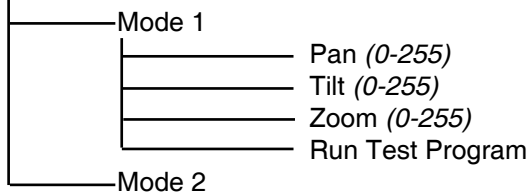
#### Fixture information



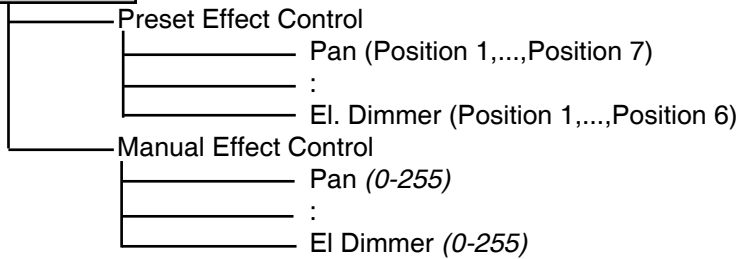
# Personality



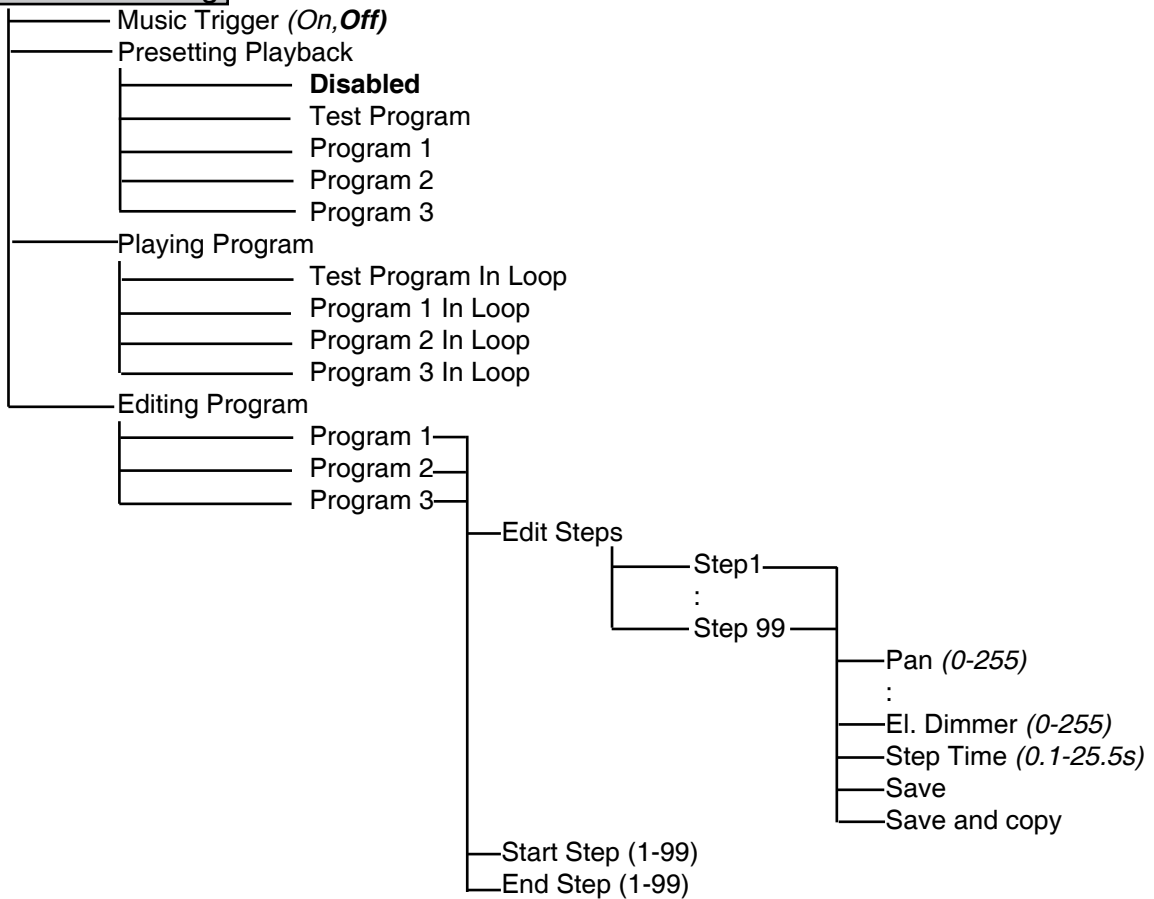
### Test sequences



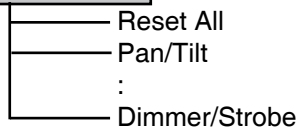
### Manual Mode



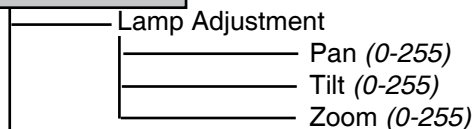
### Stand- alone setting

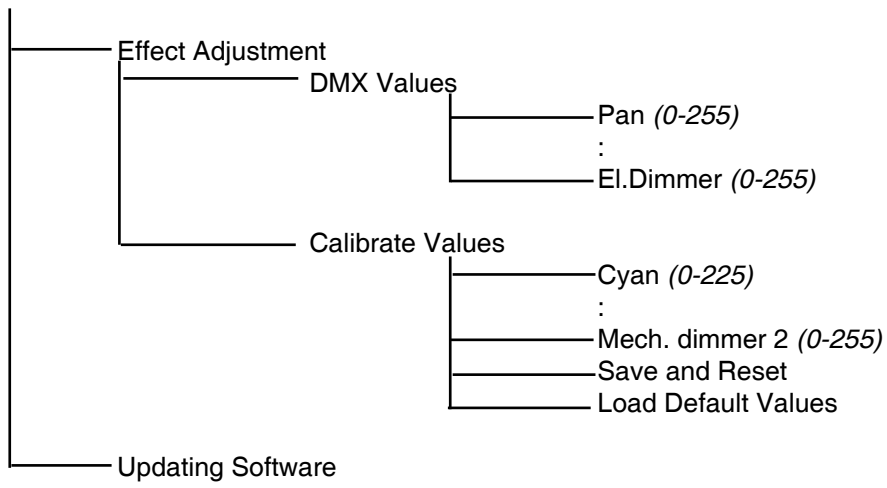


### Reset functions



### Special functions





## 8. Control menu

The control panel situated on the front panel of the base offers several features. You can simply set the DMX address, read the number of the lamp or unit hours, switch On and Off the lamp, run test, make a reset and also use many functions for setting fixture behaviour.

### Control elements on the control board:

[RNS] encoder wheel-moves between menu items on the the same level, scrolls between values.

[ESC] button-leaves menu without saving changes

[ENTER] button-enters menu, confirms adjusted values and leaves menu

**After switching the fixture on,  
the display shows the initial screen:**



**Press [ENTER],  
the display shows current address:**



The main menu of the control panel is accessed by pressing [ENTER] button. To browse through the menu, rotate [RNS] wheel. To select a function or submenu, press [ENTER] button. Presetted options are displayed negative.

### 8.1 Fixture Address

Use this menu to set the DMX address.

**DMX Address** - Select this submenu to set DMX start address.

**Ethernet Settings** - Select this submenu to set the fixture for Ethernet operating.

**Set Ethernet Mode** - Select this submenu to select Ethernet operating mode:

**Disable Ethernet** - disables network operating.

**Ethernet** - Data are received to the Ethernet input of the fixture - every fixture from fixture chain has to be connected to the network.

**Ethernet/DMX** - Data go from Ethernet input „through” the fixture to the DMX output of the fixture- it is possible to connect the next fixture to DMX output and to make a DMX chain.

**Set IP Address** - Select this submenu to set IP address. IP address is the Internet protocol address. The IP uniquely identifies any node (fixture) on a network. There can't be 2 fixtures with the same IP address on the network!

**Default IP Address** -Presetted IP address, you can edit only first number of IP address (2 or 10) e.g. **002.019.052.086**.

**Custom IP Address** - The option enables edit all numbers of IP address e.g. **002.019.052.086**.

To set the custom IP address:

1. Select „Custom IP Address” and press [ENTER].
  2. Use RNS wheel to set the first number of IP address
  3. Press [ENTER] to move on the second number of IP address
  4. Repeat steps 2 and 3 for the third and the fourth number of IP address.
- If you want to return back on the previously edited number, press [ESC].

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

### 8.2 Fixture information

Use this menu to read an useful information about the fixture.

**Power On Time** - Select this submenu to read the number of operation hours.

**Total Hours** - The function shows the total number of the operation hours since the Color Wash 750E AT Tungsten has been fabricated.

**Resetable Hours** - The function shows the number of the operation hours that the Color Wash 750E AT Tungsten has been powered on since the counter was last reset.

In order to reset this counter to 0, press [ENTER] twice.

**Lamp On Time** - Select this submenu to read the number of the operation hours with the lamp on (to count the operation hours, the lamp intensity has to be 50% or more).

**Total Hours** - The function shows the total number of the operation hours with the lamp on since the ColorWash 750E AT Tungsten has been fabricated.

**Resetable Hours** - The function shows the number of the operation hours with the lamp on that the ColorWash 750E AT Tungsten has been powered on since the counter was last reset. In order to reset this counter to 0, press [ENTER] twice.

**Lamp On/Off Cycles** - Select this submenu to read the total number of the "Lamp On/Off" cycles.

The one "Lamp On/Off" cycle is defined in the following way: The electronic dimmer has to be closed for at least 5 s and after that open on 50% (or more) of max. dimming intensity.

**Total Cycles** - The function shows the total number of the "Lamp On/Off" cycles since the ColorWash 750E AT Tungsten has been fabricated.

**Resetable Cycles** - The function shows the number of the "Lamp On/Off" cycles since the counter was last reset. In order to reset this counter to 0, press [ENTER] twice.

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

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

It is therefore impossible to specify accurate cleaning interval. This function allows you to change the cleaning interval of the air filters. This "alert" value is 50 hours and it is set as default. Inspect the fixture within its 50 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 option 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 signaled by a negative mark at the time value and a warning icon (triangle) on the display with the following message: "Clean Air Filters"

Clean the filters and reset this menu item (by pressing "Enter" button twice while this menu is highlighted) to start the new time countdown.

**Fixture Temperatures** --- Select this submenu to read the temperatures of the fixture:

**Current** - Select this function to read the current temperatures of the fixture inside (Board Temp., Head Temp. Ambient Temp.)

**Maximum nonresetable** - The function shows the max. temperatures of the fixture inside (Board Temp., Head Temp. Ambient Temp.) since the ColorWash 750E AT Tungsten has been fabricated.

**Maximum resetable** - The function shows the maximum temperatures of the fixture inside (Board Temp., Head Temp. Ambient temp.) since the respective counter was last reset. In order to reset desired counter to 0, press [ENTER] twice.

Measurement points:

**Board Temp.** - temperature on the main board in the fixture base.

**Head Temp.** - temperature of the head inside.

**Ambient Temp.** - temperature of the air which is sucked to the fixture base.

This temperature can be different from the real ambient temperature due to e.g. suction of the hot air from the fixture head to the base if the fixture is hanging at the ceiling. The ambient temperature should not exceed 40°C.

The temperatures can be displayed in °C or °F- see option "Temperature unit" in Personality"

**DMX Values** --- Select this function to read DMX values of each channel received by the fixture.

**Product IDs** --- Select this function to read the MAC address and RDM UID.

**Software Version** --- Select this function to read the software version of the fixture modules:

**IC1 MB.** --- Main processor on the main board in the fixture base

**IC2 MB.** --- Tilt processor on the main board in the fixture base

**IC3 MB.** --- Pan processor on the main board in the fixture base

**IC4 MB.** --- EEPROM (it is not separate processor)

**IC1 L.** --- Strobe processor in the left arm (arm with tilt lock) of the fixture.

**IC2 L.** --- Effect+effect rotation+ zoom processor in the left arm (arm with tilt lock) of the fixture

**IC1 R.** --- Cyan+CTF processor in the right arm of the fixture

**IC2 R.** --- Yellow+Magenta+Colour wheel processor in the right arm of the fixture

**IC1 DS**--- Display processor 1 on the display module in the fixture base

**IC2 DS**--- Display processor 2 on the display module in the fixture base

## 8.3 Personality

Use this menu to to modify ColorWash 750E AT Tungsten operating behavior.

**User mode** --- ColorWash 750E AT Tungsten allows you to recall up to 3 user settings. After switching the fixture on for the first time, the **User A settings** is active. All changes made in “Personality” menu, “Fixture Address” menu and Music Trigger and Presetting Playback functions from “Stand-alone setting” menu are saved to the **User A settings**. If you now set the **User B settings** active, from this moment these changes are 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 3 fixture operating behaviours.

**User A Settings** --- The function recall the user A settings.

**User B Settings** --- The function recall the user B settings.

**User C Settings** --- The function recall the user C settings.

**Pan Reverse** --- Select this function to invert the pan movement.

**Tilt Reverse** --- Select this function to invert the tilt movement.

**DMX Presetting** --- Select this function to set desired effects assigning to the channels. Please refer to the chapter “DMX protocol” for detail description.

**Lamp Presetting** --- Select this menu to change the lamp “behaviour”.

**Lamp Off if not DMX** --- This function allows you to switch Off the lamp automatically after 2 minutes if DMX signal is missing on the data link.

**Lamp Low Power Delay** - This function enables set the time period after that the lamp power will be reduced if the mechanical shutter/dimmer is closed. The delay time can be set in range 10 - 600 seconds. Default setting is 10 seconds.

**Display Adjusting** --- This function allows you to change the display settings.

**Display Permanent On** --- This function allows you to keep the display on or to turn off automatically 2 minutes after last pressing any button on the control panel.

**Display Intensity** --- Select this function to adjust the display intensity (1-min., 10-max.).

**Display Backlight** --- Select this function to adjust the display backlight (1-min., 10-max.).


**Display Turned** --- Select this function to turn the display by 180°.

**Blackout d.M.C.** --- Select this function to enable the blackout during the head movement correction (if the moving head lost its right pan/tilt position for a short moment) .

**Pan/Tilt Feedback** --- This function allows to return the moving head to the required pan/tilt position after changing the position by external force (e.g. by stroke).

**Be careful, the Pan/Tilt Feedback OFF is not the standard operation and the head of the fixture can be damaged!**

Note: If the feedback was switched off, the pan/tilt-position is changed by an external force and the feedback is switched on again, the moving head might not to be synchronized with the DMX signal. You have to make a reset in order to synchronize the moving head with the DMX signal.

**Microphone Sensitivity** --- Select this function to adjust the microphone sensitivity from 1 (maximum) to 20 (minimum). If the sensitivity is correctly adjusted, the mark  will appear (blinking in the bass beat.)

**Fan Modes** --- By using this function you can choose 2 types of the fan speed operating modes.

**Auto Cooling** --- The fans automatically raise their speed in order to control inside temperature of the lighting, if the temperature inside increases about certain level (the low fan speed reduces the cooling of the lighting). This cycle can repeat several times until the temperature inside is on a suitable level.

**High Cooling** --- The cooling fans work on max. speed (max. cooling). This mode we recommend for high ambient temperature (30 °C and more).

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

**Time mode** --- Pan and tilt will move with different speeds and they will come at the same time to end point (pan and tilt sets its optimal speed).

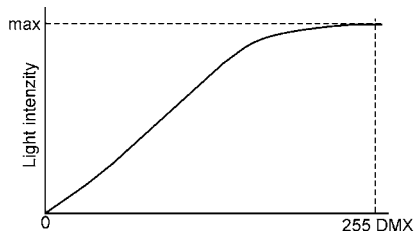
**Speed Mode** --- Pan and tilt will move with the same speed as adjusted by the channel 5 (Pan/Tilt speed). E.g. pan will come to the end point and wait for tilt, which has longer track.

**Active Blackout while:** --- Use this function if you wish to close the light output during effect changes.

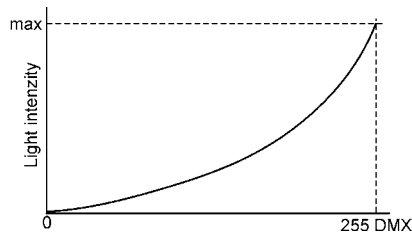


**Pan/Tilt Moving** --- This function closes the light output during changing pan/tilt positions.

**Dimmer Curve** - Select desired dimmer running.



Curve 1



Curve 2

**IR Sensor** --- Select this function to switch on/off infra-red remote control.

**Init Effect Positions** --- Select this function to set all effects to the desired positions. After switching the fixture on (if DMX is not connected), all effects will move to these init positions.

**Temperature Unit** --- Select this menu in order to display fixture temperatures in °C or °F.

**Default Settings** --- Select this option to reset all fixture personalities to the default values.

## 8.5 Test sequences

Use this menu to run a special demo-test sequences without an external controller, which will show you some possibilities of using ColorWash 750E AT Tungsten.

**Mode 1** --- This mode is suitable for projections on the wall, ceiling or ground without any head movement.

**Mode 2** --- This mode uses all ColorWash 750E AT Tungsten functions including pan/tilt movement and therefore is good for a complete introduction of the fixture.

## 8.6 Manual mode

**Preset Effects** --- Select this menu to call up presetted positions of channel effects.

**Manual Effect control** --- Select this menu to control channels by control elements on the control board.

## 8.7 Stand-alone setting

Use this menu to set options for stand-alone mode as a selection of the playing program, programming and modifying current programs.

**Music Trigger** --- Select this function to enable the sound control of the running programs via the built-in microphone.

**Presetting Playback** --- This function allows you to select the program which will be played in the stand-alone mode after switching the fixture on. Selected program will be played continuously in a loop.

**Disabled** --- The option disables "Presetting playback" function.

**Test Program** --- The option will start built-in test program.

**Program 1** --- The option will start created program No.1

**Program 2** --- The option will start created program No. 2

**Program 3** --- The option will start created program No. 3

**Note:** If the fixture operates in the controller mode ( DMX controller is connected) and any program from this menu is selected, in this case the fixture will not respond to the DMX controller after switching on and will play selected program.

**Playing program** --- Select this menu to run a built-in program or the 3 freely-programmable programs in a loop.

**Test Program In Loop** --- The option starts built-in test program.

**Program 1 In Loop** --- The option starts created program No. 1

**Program 2 In Loop** --- The option starts created program No. 2

**Program 3 In Loop** --- The option starts created program No. 3

Select the program you wish and press [ENTER].The selected program starts running.By Pressing [ENTER] again is possible to pause the program running.

**Editing Program** --- Select this menu to edit or create the program.The ColorWash 750E AT Tungsten has one built-in program and the 3 free programs,each up to 99 steps.Each program step has a step time. Step time-the time,during which effects last in the current step.

Procedure:

1. Select the program you want to edit (“Program 1” - “Program 3”) and press [ENTER].
2. Select “Edit Steps” menu and press [ENTER].
3. Select the desired program step (“Step 01” - “Step 99”) and press [ENTER].
4. Select the desired item and press [ENTER].Now you can edit DMX value for selected item:
  - “Pan”- value 0-255
  - :
  - :
  - “Step Time” - value 0-25.5s
5. Select “Save” or “Save and Copy” and press [Enter] to confirm adjusted values:
  - “Save” - saving the current prog. step
  - “Save and Copy” - saving and copying the current prog. step to the next prog. step .
6. Go on next prog. step and repeat this procedure (steps 4 and 5).

After creation the program,you can simply reduced its length (by changing the start/end steps) using the “Start Step” and “End Step” menu.

## 8.8 Reset functions

The ColorWash 750E AT Tungsten can be reset totally or by function modules.Select relevant function to run a reset:

**Reset All** --- This function enables the fixture to index all effects and return to their standard positions.

**Pan/Tilt** --- This function resets pan and tilt.

**Colour System** --- This function resets CMY module.

**Zoom/Effect** --- This function resets zoom and effect wheel.

**Dimmer/Strobe** --- This function resets dimmer/strobe module.

## 8.9 Special functions

Use this menu for special services like adjusting lamp or adjusting effects.

**Lamp Adjustment** --- This function can be used when you make the fine adjustment of the lamp.If you select this function,all effects will be canceled,shutter will be opened and the dimmer intensity will be set onto 100%.By using the options “Pan, Tilt, Zoom” you can aim the light at a flat surface (wall) and perform the fine lamp adjustment.

**Effect Adjustment** --- By this function you can calibrate and adjust the effects to their standard/right positions.Disconnect the DMX controller from the fixture and select “DMX Values” menu.The display shows step by step effects by which you can adjust the fixture to the required position before the function calibration. When the positioning is finished ,select “Calibrate Values” and press [ENTER]:

### 1. Calibration via the control board

Select desired effect, press [ENTER] and adjust its right value (0 - 255). This can be repeated for each calibrated effect if it is required. When the calibration is finished, it is necessary to use the “Save and Reset” function to write the calibration values to the memory and to make a reset in order to check the newly adjusted positions of the calibrated effects.

List of the calibrated effects:

|         |                   |                 |                |
|---------|-------------------|-----------------|----------------|
|         | Yellow            | Effect indexing | Mech. dimmer 2 |
| Cyan    | Conversion filter | Zoom            |                |
| Magenta | Effect wheel      | Mech. dimmer 1  |                |

### 2. Calibration via the DMX controller

Connect the DMX controller to the fixture.Now you can calibrate the selected effect by your controller.

| Effect  | Mode 1     | Mode 2     | Mode 3     | Mode 4     | Mode 5     |
|---------|------------|------------|------------|------------|------------|
| Cyan    | channel 22 | channel 19 | channel 24 | channel 21 | channel 21 |
| Magenta | channel 23 | Channel 20 | channel 25 | channel 22 | channel 22 |

|                   |            |            |            |            |            |
|-------------------|------------|------------|------------|------------|------------|
| Yellow            | channel 24 | channel 21 | channel 26 | channel 23 | channel 23 |
| Conversion filter | channel 25 | channel 22 | channel 27 | channel 24 | channel 24 |
| Effect wheel      | channel 26 | channel 23 | channel 28 | channel 25 | channel 25 |
| Effect indexing   | channel 27 | channel 24 | channel 29 | channel 26 | channel 26 |
| Zoom              | channel 28 | channel 25 | channel 30 | channel 27 | channel 27 |
| Mech. dimmer 1    | channel 29 | channel 26 | channel 31 | channel 28 | channel 28 |
| Mech. dimmer 2    | channel 30 | channel 27 | channel 32 | channel 29 | channel 29 |

After having calibrated required effects ,use the **“Save and Reset”** function to write the calibration values to the memory and to make a reset in order to check the newly adjusted positions of the calibrated effects. Item **„Load Default Values”** restores factory calibration values.

**Updating software.** --- Using this function you can update software in the fixture via PC and serial link. The following are required in order to update software:

- PC running Windows 95/98/2000/XP or Linux
- DMX Software Uploader
- Flash cable RS 232Robe (No.13050624)

**Note1:**Software update should execute a qualified person.If you lack qualification, do not attempt the update yourself and ask for help your ROBE distributor.

**Note 2:**DMX address, IP address ,programs 1-3 and all functions in menu Personality will be set to their default values.

#### **To update software in the fixture:**

##### **1.Installation of DMX Software Uploader.**

- 1.DMX Software Uploader program is available from the ROBE web site at [WWW.robe.cz](http://WWW.robe.cz).
- 2.Make a new directory ( e.g. Robe\_Uploader) on your hard disk and download the software to it.
- 3.Unpack the program from the archive.Program file has name:DSU\_name of corresponding fixture\_SoftwareID.If the Robe fixture is produced in magnetic and electronic ballast version, the name of DMX Software Uploader is the same for both versions. SoftwareID describes the versions of fixture software included in DMX Software Uploader. Higher number means later software versions.

##### **2.Fixture software updating.**

- 1.Determine which of your COM port is available on your PC and connect it with to the DMX input of the fixture using the Flash cable. Do not extend this cable! Disconnect the fixture from the other fixtures in DMX chain! Turn on the computer and the fixture. Make sure that the lamp is switched off.
- 2.Switch the fixture to the update mode by selecting the option Updating Software in menu Special Functions on the fixture control panel.(From this option you cannot return back to the main menu. If you do not want to continue in software update, you have to switch off and on the fixture to leave this option!)
- 3.It is recommended that you exit all programs before running this Software Uploader.
- 4.Start the Software Uploader program. Select desired COM and then click Connect button. If the connection is OK, click Start Uploading button to start uploading. It will take several minutes to perform software update.If the option "Incremental Update" isn't checked ,all processors will be updated (including processors with the same software version). If you wish to update only later versions of processors, enable the Incremental Update check box. Avoid interrupting the process. Update status is being displayed in the list window. When the update is finished, the line with the text "The fixture is successfully updated" will appear in this window and the fixture will reset with the new software.

Note: In the case of interruption of the upload process (e.g. power cut), the fixture remains in the update mode and you have to repeat the software update again.

For example: The fixture was switched off before finishing software upload. After switching the fixture on again, the fixture is still in the update mode and the display is dark. Restart the Software Uploader program and repeat software update from your PC.

## **9. Power down mode**

This mode omits fixture reset after switching the fixture on and lowers motor powers of the fixture."Power down mode" is useful in special cases e.g. if the fixture is in a flight case and you want to set its DMX address without taking it out from the case.To enter "Power down mode":

Press and hold [ENTER] and at the same time switch on the Power switch.The following message appears:

Really Skip Initial Reset?  
Escape/Enter

Press [ENTER] to activate "Power down mode" without fixture reset.Now you can set features and behaviour of the fixture by using "Fixture Address" menu and "Personality" menu.It is expected,that this mode will be exited by

switching the fixture off ,but if you want to go directly to “normal operation mode”,execute any fixture reset.

**Note:**All motors (except pan and tilt motors) in “Power down mode” are deactivated and switching the lamp on from the control panel is blocked.

## 10. RDM

This fixture is ready for 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 ColorWash 750 AT tungsten 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       |                   |             | *           |
| LAMP_STATE                  |                   | *           | *           |
| LAMP_ON_MODE <sup>1</sup>   |                   | *           | *           |
| DEVICE_HOURS <sup>2</sup>   |                   |             | *           |
| LAMP_HOURS <sup>2</sup>     |                   |             | *           |
| LAMP_STRIKES <sup>2</sup>   |                   |             | *           |

<sup>1</sup>...Another options for this command (only for Robe´s fixtures):

value PARAMETER\_DATA=0x84 - lamp OFF by DMX value on DMX channel

value PARAMETER\_DATA=0x88 - lamp OFF if DMX is not present

<sup>2</sup>...Commands relative resetable values

## 11. Error and information messages

Occured errors during fixture operation are signaled by warning icon on the display:



Press [ESC] to see the current error messages. Description of error messages:

### ***Overheated-Lamp Off***

This message informs that the fixture head had been overheated and the lamp was switched off by head temperature sensor.

### ***Overheated-Lamp Low***

This message informs that the fixture head has been overheated and the lamp power is reduced.

### ***Short Power Error***

This message will appear if the fixture was shortly disconnect from the main.

### ***Supply Frequency Error***

This message will appear if the frequency of the main is not standard 50 or 60 Hz. This message can appear as a result of the interference during the lamp starting (if the lamp or igniter is old) or as a result of the interference by neighbouring devices. **In these cases the message does not affect the fixture operating!**

### ***Temper.Sensor Error***

The message informs you that the communication between the head and the main board in the fixture base was cut off (or the head temperature sensor is defective) and the lamp was automatically switched off.

### ***Power down mode***

This message will appear if the fixture is switched to the "Power down mode" (e.g. fixture head is overheated).

The following error messages are separated into 2 groups:

**xxxx xxxx Error 1** (e.g. *Colour Wheel Error 1* )

**xxxx xxxx Error 2** (e.g. *Colour Wheel Error 2* )

There are some possible reasons of faults:

#### **Message**

**xxxx xxxx Error 1**

#### **Characteristic fault**

Magnetic sensor is permanently On (e.g. leading wire is short-circulated, defective stepping motor, defective control circuit on the PCB)

**xxxx xxxx Error 1/xxxx xxxx Error 2** Magnetic sensor is permanently Off (e.g. leading wire is disconnected, defective magnetic sensor, missing magnet), defective stepping motor

### ***Effect Wheel Error 1 (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.

### ***Effect Index. Error 1 (Effect Index. Error 2)***

The messages will appear after the reset of the effect wheel if the beam shaper wheel is not located in the default position.

### ***Optical Zoom Error 1 (Optical 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.

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

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

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

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

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

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

### ***Cyan Lamella Error 1 (Cyan Lamella Error 2)***

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

**Magenta Lamella Error 1 (Magenta Lamella Error 2 )**

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

**Yellow Lamella Error 1 (Yellow Lamella Error 2 )**

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

**CTB Lamella Error 1 (CTB Lamella Error 2 )**

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

**Strobe 1 Error 1 (Strobe 1 Error 2 )**

The messages will appear after the reset of the dimmer/strobe module if the strobe lamella1 is not located in the default position.

**Strobe 2 Error 1 (Strobe 2 Error 2 )**

The messages will appear after the reset of the dimmer/strobe module if the strobe lamella 2 is not located in the default position.

## 12. Technical specifications

**Electrical:**

Power supply:.....electronic auto-ranging  
 Input voltage range:.....110-240 V AC, 50/60 Hz  
 Live Fuse:.....T 6.3 A@230V, T 10A@120V  
 Neutral Fuse:.....T 6.3 A@230V, T 10A@120V  
 Power consumption:.....900 VA

**Lamp:**

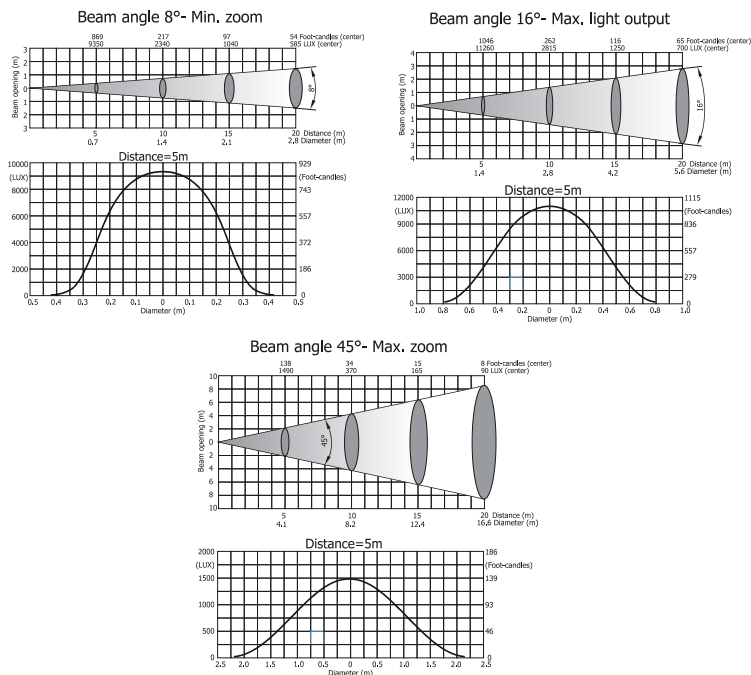
Approved model:Philips Hi-Bright 750 FastFit,780W,80V;3250K;300 hours lifetime  
 Base: PGJX 50

**Optical System:**

- High luminous-efficiency glass reflector
- Front Fresnel lens with diameter of 200 mm

**Photometric performance:**

Lamp: Halogen lamp 750W/80V



**CMY colour mixing module**

- Smooth CMY colour mixing system
- Colour temperature correction filter increases the colour temperature from 3300 K to 8000K
- 30 CMY macros

**Strobe:**

- Strobe effect with variable speed (max.15 flashes/sec.),random and variable pulse effects.

**Dimmer:**

- Mechanical dimming
- Electronic dimming

**Effect:**

- Rotatable beam shaper ,indexable 360° with continuous rotation

**Zoom**

Linear motorized zoom:8°- 45°  
Front wide-angle lens (optional): 87°

**Electronics:**

- Control via graphic LCD display and ROBE navigation system
- Readout fixture and lamp usage,receiving DMX values,temperature, etc
- Built-in analyzer for easy fault finding,error messages
- Remotely switching on/off the lamp
- Bilt-in demo sequences
- Black-out while head moving or color changing
- Silent fans cooling,
- Self-resetable thermo-fuse
- Ethernet operation (Art-Net communication protocol)
- Stand-alone operation
- Ready for RDM (Remote Device Management) protocol
- Protocol USITT DMX 512
- 5 DMX modes (18,20,21,23 control channels)

**Pan/Tilt**

- Pan movement range 530°
- Tilt movement range 280°
- 16 bit movement resolution
- Automatic Pan / Tilt position correction
- Remotely controllable speed of pan/tilt movement for easy programming
- Movement control:tracking and vector
- Pan/tilt-lock mechanism

**Rigging**

- Mounting points: 4 pairs of 1/4-turn locks
- Mounting horizontally or vertically via 2 Omega brackets
- Safety chain/cord attachment point

**Temperatures**

- Maximum ambient temperature : 40 °C
- Maximum housing temperature : 120 °C

**Minimum distances**

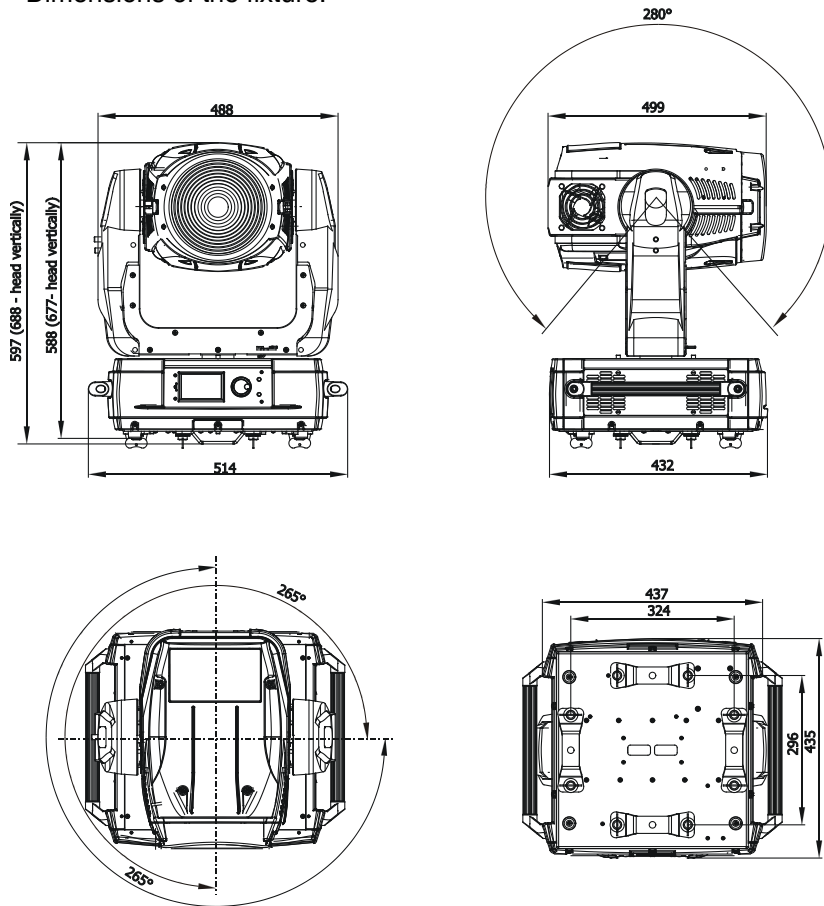
- Min.distance from flammable surfaces: 0.7 m
- Min.distance to lighted object: 1 m

**Weight (net):**

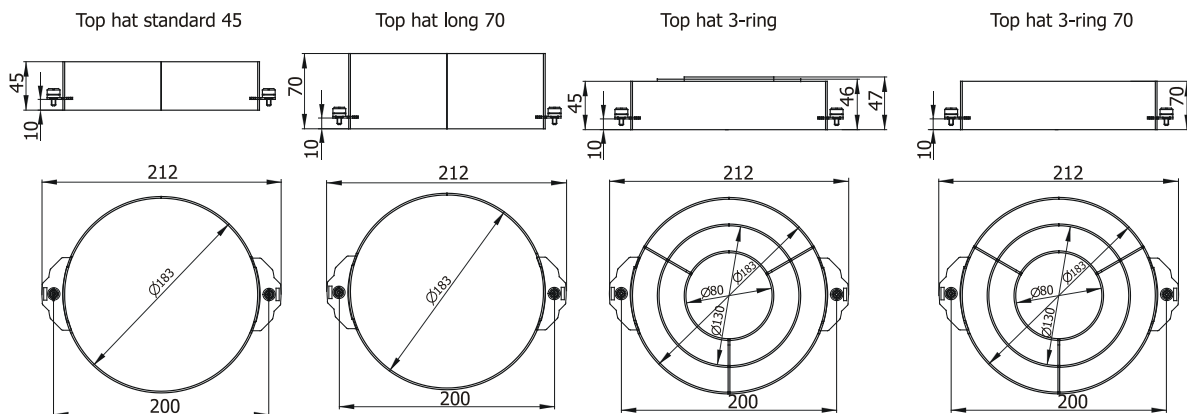
30.9 kg

## Dimensions(mm)

- Dimensions of the fixture:



- Dimensions of the optional top hats:



## Accessories

- Omega holder (2 pieces).....No.99010420

## Optional Accessories

- Module of front wide-angle lens .....No. 99010879
- Flash cable RS232/DMX.....No.13050624
- Top hat standard 45 .....No.10980044
- Top hat long 70 .....No.10980045
- Top hat 3-ring 45 .....No.10980046
- Top hat 3-ring 70 .....No.10980050



## 13. 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 the mains before starting any  
maintenance work**

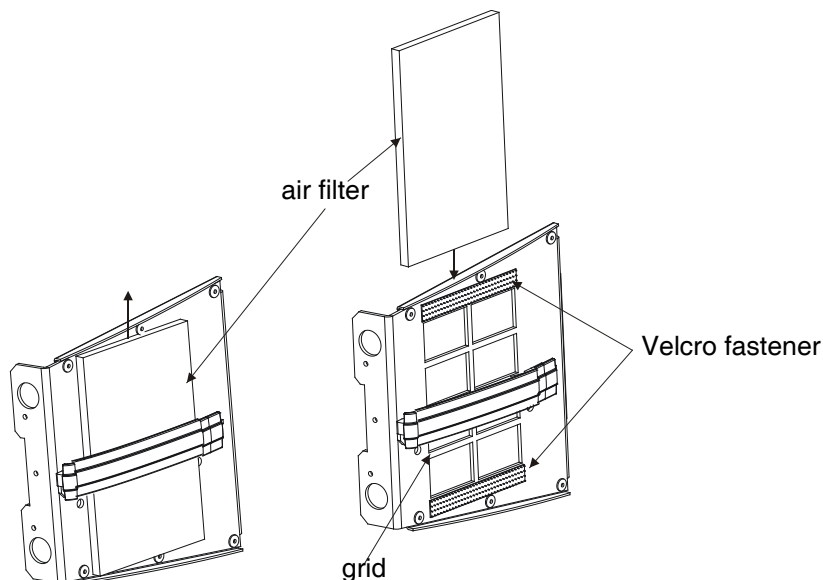
The front Fresnel lens will require weekly cleaning as smoke-fluid tends to building up residues, reducing the light output very quickly. Remove dust and dirt from the fans and cooling vents using a soft brush and vacuum-cleaner. The interior of the fixture should be cleaned at least annually using a vacuum-cleaner or an air-jet. Dichroic colour filters, CMY flags and an internal lens should be cleaned monthly. Maintenance and service operations are only to be carried out by authorized distributors.

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

Clean the air filters with a vacuum cleaner, compressed air or you can wash them and put back dry.

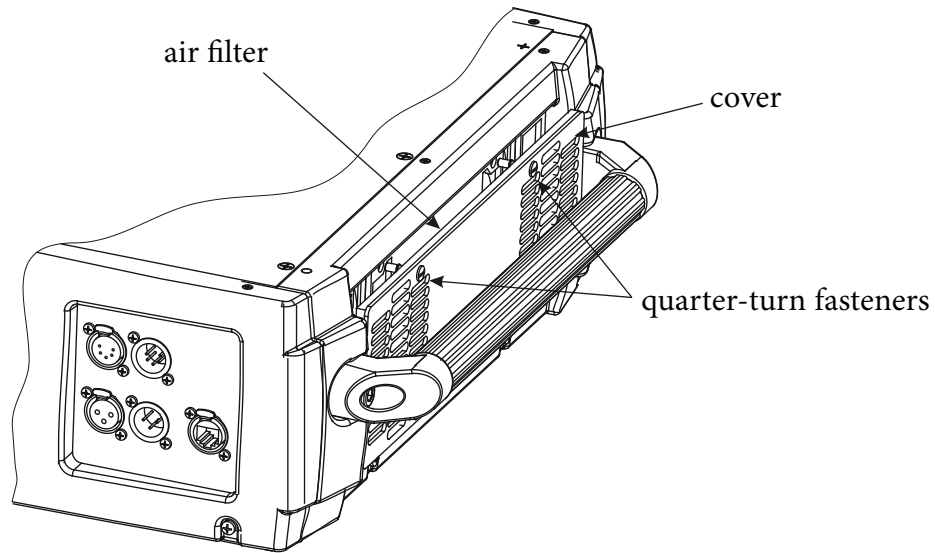
### Replacing the air filters in the fixture head.

- 1) Disconnect the fixture from power.
- 2) Remove both top and bottom cover of the head (by loosening the 4 quarter-turn fasteners on each cover).
- 3) Remove the air filters (they are fixed with Velcro fastener) from grids.
- 4) Clean or replace the air filters.
- 5) Place the filters on the grid and put head cover back.
- 6) Reset the elapsed time counter in menu Fixture information (Fixture Information--->Air Filters--->Elapsed Time).



### Replacing the air filter in the fixture base.

- 1) Disconnect the fixture from power
- 2) Remove side fans cover by loosening the 4 quarter-turn fasteners.
- 3) Remove the air filter from the cover.
- 4) Clean or replace the air filter.
- 5) Place the filter on the cover and put this cover back.
- 6) Reset the elapsed time counter in menu Fixture information (Fixture Information--->Air Filters--->Elapsed Time).



### **Replacing the fuse**

Before replacing the fuse, unplug mains lead.

#### **Procedure:**

- 1) Unscrew the fuseholder on the rear panel of the base with a fitting screwdriver from the housing (anticlockwise).
- 2) Remove the old fuse from the fuseholder.
- 3) Install the new fuse in the fuseholder.
- 4) Replace the fuseholder in the housing and fix it.

