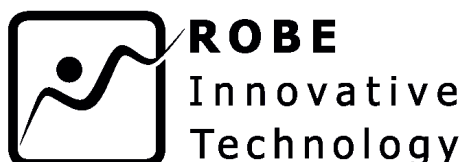
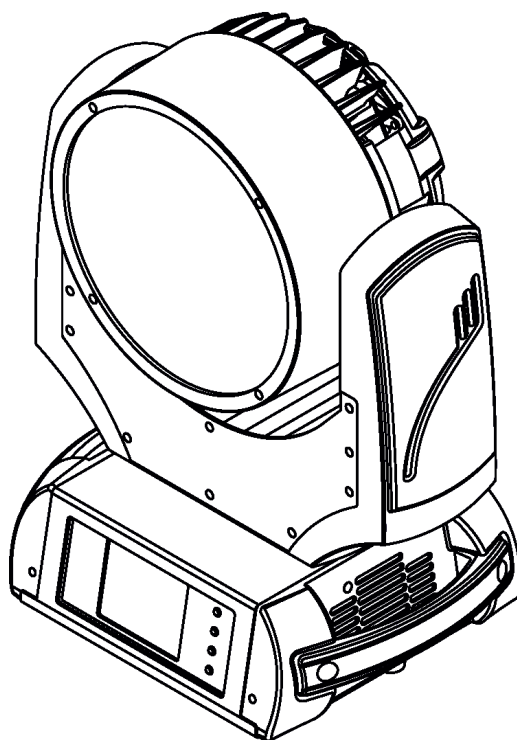

ROBE

ROBIN[®] 600⁺
LedWash

ROBIN[®] 600⁺
LedWash Wireless DMX
CRMX[™]



USER MANUAL

Version 1.4

ROBE[®] lighting s.r.o. • Czech Republic • www.robe.cz

Robin 600+ LEDWash

Robin 600+ LEDWash Wireless DMX

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FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE POWERING OR INSTALLING YOUR ROBIN 600+ LEDWASH !

Save it for future reference.

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.

The Robin 600+ LEDWash was designed for indoor use and it is intended for professional application only. It is not for household use.

1. Safety instructions

DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THIS UNIT!

Make sure that the available voltage is not higher than stated on the rear panel of the fixture. This fixture should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied, consult your authorized distributor or local power company.

Always disconnect the fixture from AC power before cleaning, removing or installing the fuses, or any part.

The power plug has to be accessible after installing the fixture. Do not overload wall outlets and extension cords as this can result in fire or electric shock.

Do not allow anything to rest on the power cord. Do not locate this fixture where the cord may be damaged by persons walking on it.

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

Refer servicing to qualified service personnel.

This fixture falls under protection class I. Therefore this fixture has to be connected to a mains socket outlet with a protective earthing connection.

Do not connect this fixture to a dimmer pack.

LED light emission. Risk of eye injury. Do not look into the beam at a distance of less than 1 meter from the front surface of the product. Do not view the light output with optical instruments or any device that may concentrate the beam

If the fixture 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 fixture. Avoid brute force when installing or operating the fixture.

This fixture was designed for indoor use only, do not expose this unit to rain or use near water.

When choosing the installation spot, please make sure that the fixture is not exposed to extreme heat, moisture or dust.

Air vents and slots in the fixture's head and base are provided for ventilation, to ensure reliable operation of the device and to protect it from overheating.

Do not block the LEDs array with any object when the fixture is under operation.

The openings should never be covered with cloth or other materials, and never must be blocked.

This fixture should not be placed in a built-in installation unless proper ventilation is provided.

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

Always use a secondary safety cable when mounting this fixture.

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

Do not block the front objective LEDs with any object when the fixture is under operation.

The fixture becomes very hot during operation. Allow the fixture to cool approximately 20 minutes prior to manipulate with it.

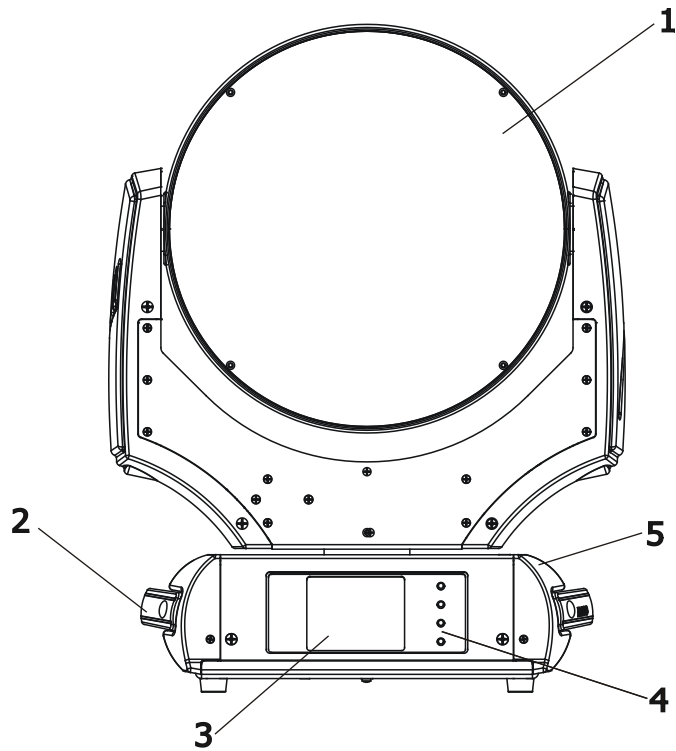
Operate the fixture only after having familiarized with its functions. Do not permit operation by persons not qualified for operating the fixture. Most damages are the result of unprofessional operation!

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

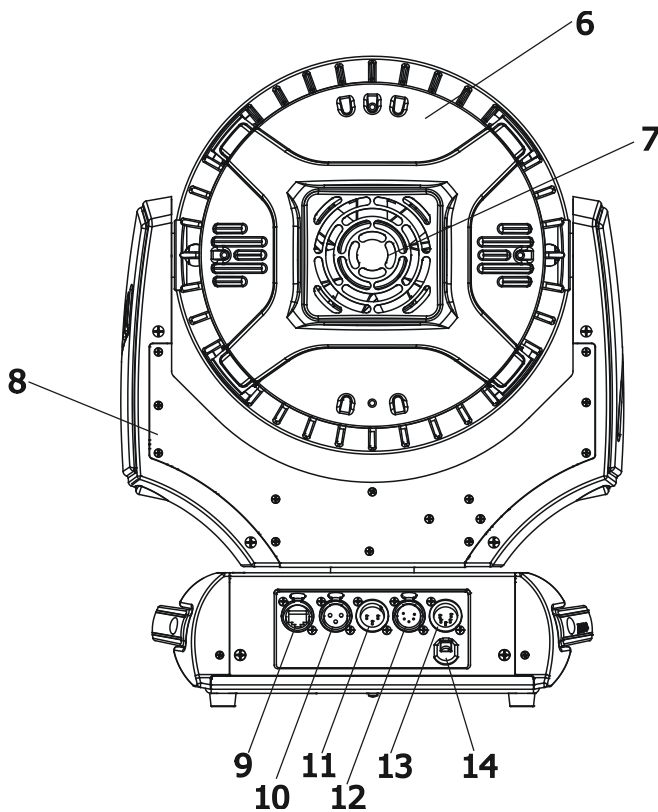
Please consider that unauthorized modifications on the fixture are forbidden due to safety reasons!

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, crash etc.

2. Fixture exterior view



- 1 - Lens array
- 2 - Carrying handle
- 3 - QVGA touch screen
- 4 - Control buttons
- 5 - Base



- 6 - Head cover
- 7 - Fan
- 8 - Yoke
- 9 - Ethernet input
- 10 - 3-pin DMX OUT
- 11 - 3-pin DMX IN
- 12 - 5-pin DMX OUT
- 13 - 5-pin DMX IN
- 14 - Power cord

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

3. Installation



Fixtures must be installed by a Qualified electrician in accordance with all national and local electrical and construction codes and regulation.

3.1 Connection to the mains

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

The Robin 600+ LEDWash is equipped with auto-switching power supply that automatically adjusts to any 50/60Hz AC power source from 100-240 Volts.

Install a suitable plug on the power cord, note that the cores in the power cord are coloured according to the following table. The earth has to be connected!

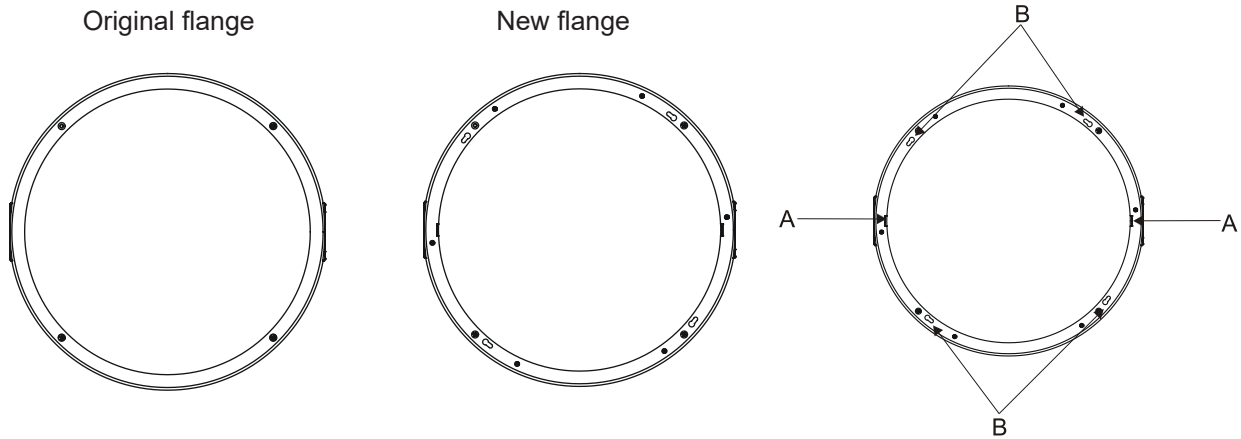
If you have any doubts about proper installation, consult a qualified electrician.

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

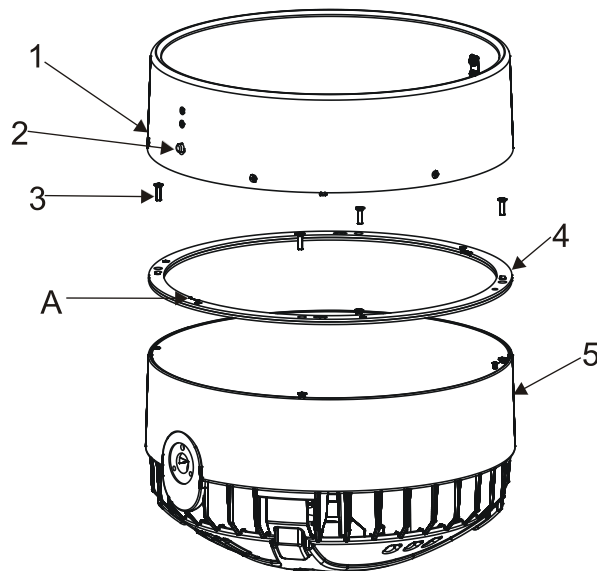
3.2 Installing the top hat

Switch off the fixture before top hat installation

1. Go to the fixture menu and set reduced tilt movement (Personality --> Pan/Tilt Setting--> Tilt Movement Range --> reduced).
2. Unscrew the four fastening screws (3) which securing flange (4) to the head (5) and install new flange. Keep its right position- the cutouts (A) in the flange must look towards the arms.



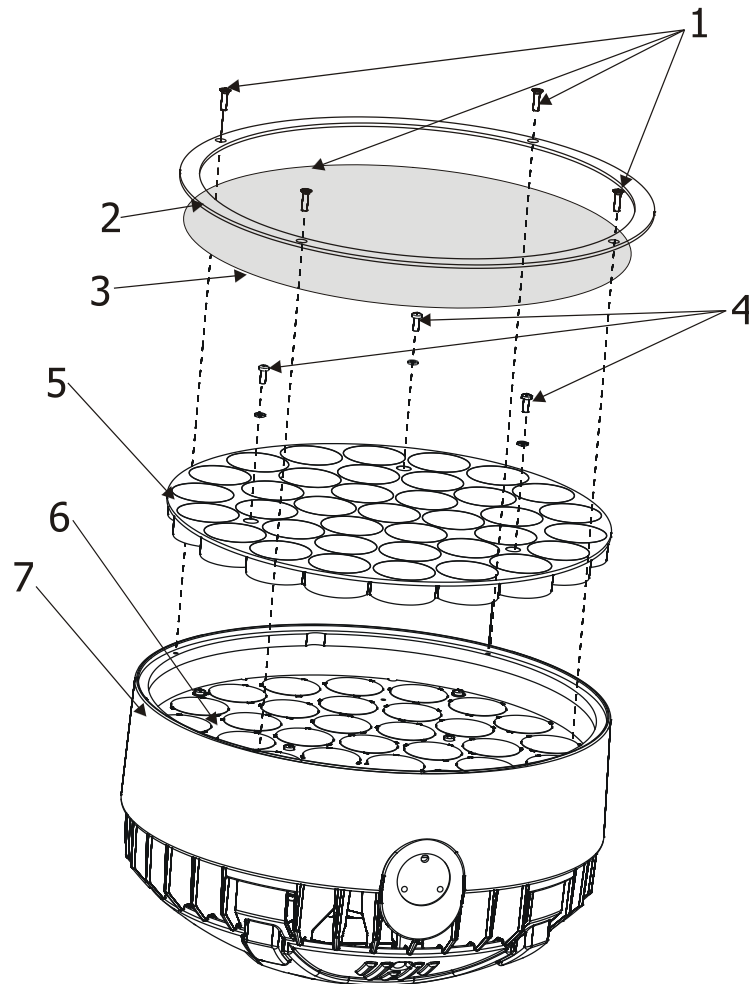
3. Place the top hat (1) on the head (5), press locks (2) and turn the top hat counter-clockwise until it snap into slots (B) in the flange.



3.3 Installing the eggcrate

Switch off the fixture before top hat installation

1. Unscrew the four fastening screws (1) which securing top flange (2) to the head (7) and remove both flange and transparent plastic cover (3) from the head.
2. Unscrew the three fastening screws (4) which securing black eggcrate (5) to the zoom module (6) and remove it.
3. Put the transparent eggcrate on the zoom module (6) and screw it with three screws (4) with washers to the zoom module (6).
4. Place the transparent cover (3) and the top flange (2) back to the head and secure it with four screws (1).



3.4 Rigging the fixture

The installation of the fixture 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 fixture 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 or damage to property. The fixture has to be installed out of the reach of people.

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

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

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

When installing the device, make sure there is no highly inflammable material (decoration articles, etc.) in a distance of min. 0.5 m.

CAUTION!
Use an appropriate clamp 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 on a truss without altering its operation characteristics .

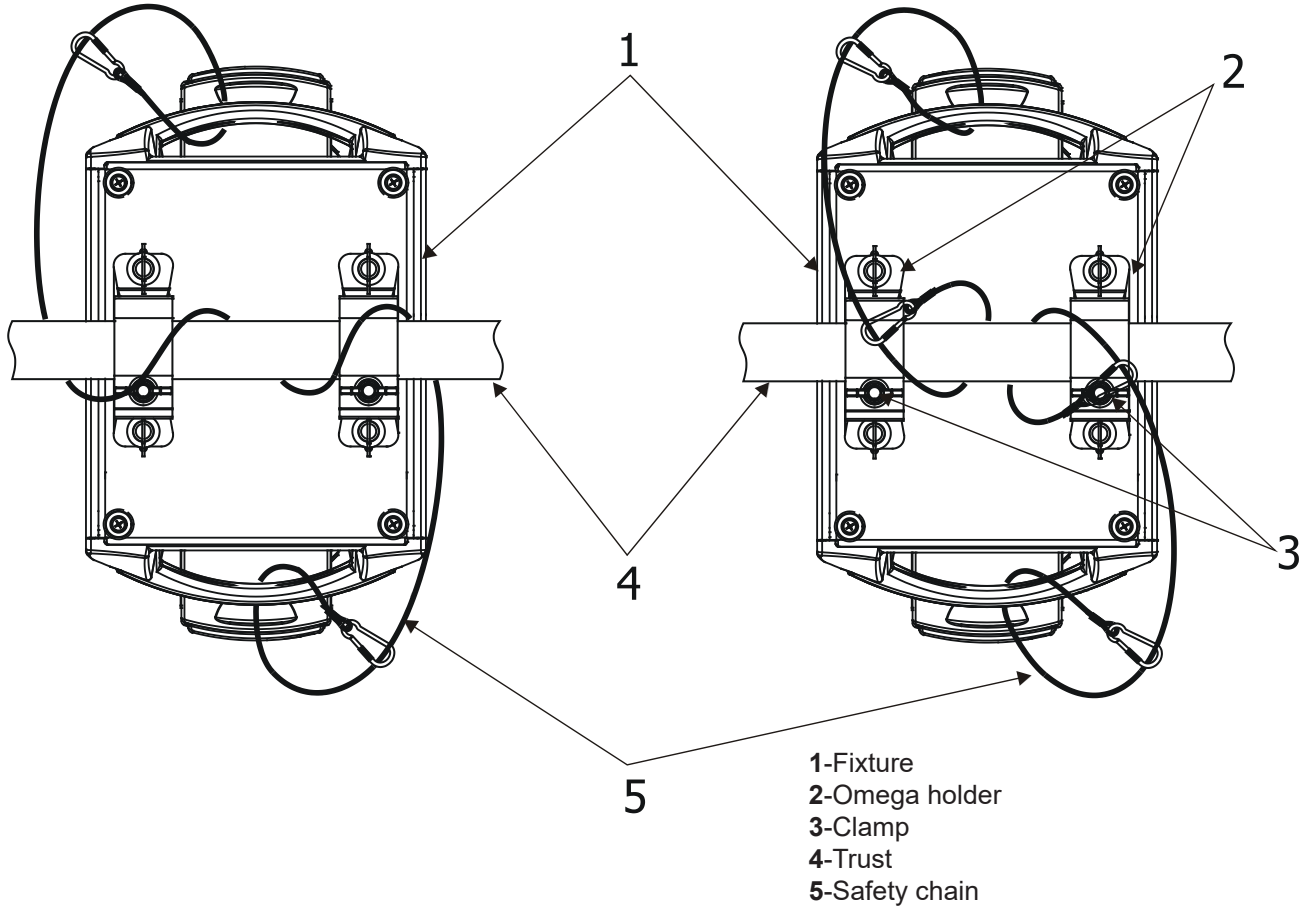
For securing a fixture to the truss install a safety wire that can hold at least 10 times the weight of the fixture. Use only safety wire with screw-on carabine. Pull the safety wire through the carrying handles and around the truss as shown on the pictures below.

Note: If the safety wire is too long, whip it several times around the trusses in order to attach the fixture tight. In case of an accident, the way of the falling fixture will be short.

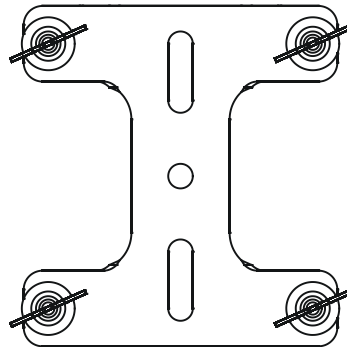
Rigging via two Omega holders

Securing the fixture via one safety wire

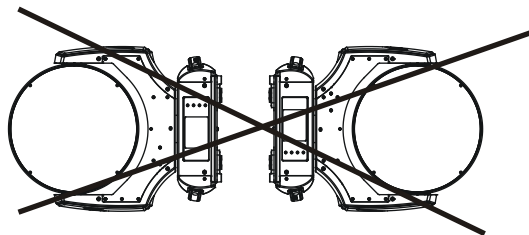
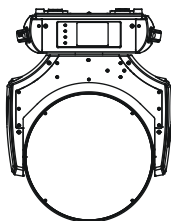
Securing the fixture via two safety wires



The fixture can be also rigged by means of the mounting adapter (option) for one Omega holder..



In this case the fixture can hang on the truss in horizontal position only, not sideways .



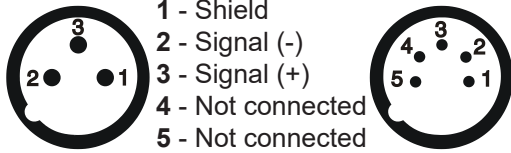
3.5 DMX-512 connection

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.

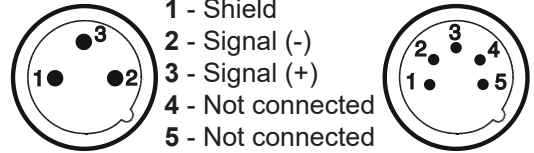
DMX - output

XLR mounting-sockets (rear view):



DMX-input

XLR mounting-plugs (rear view):

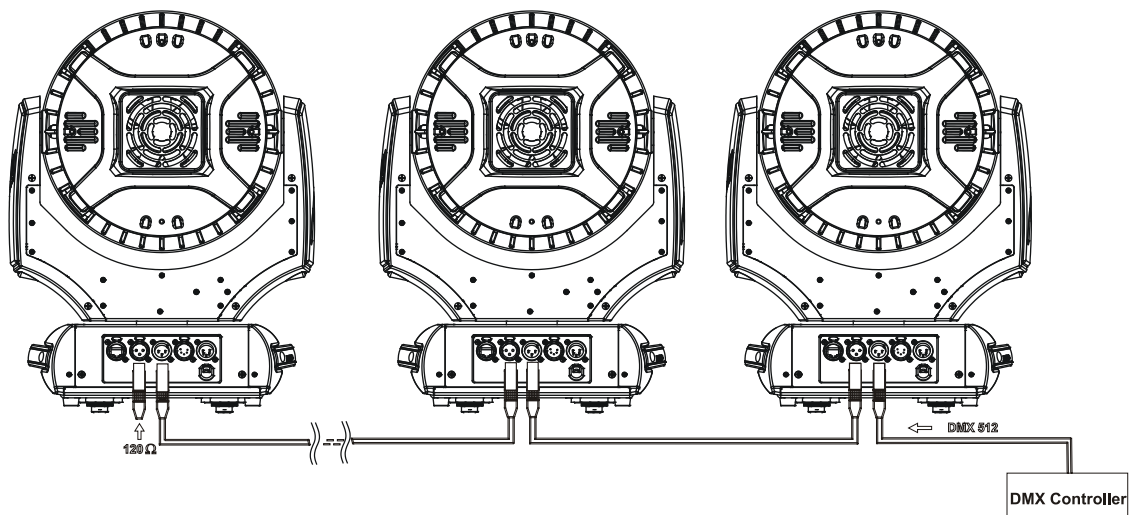


If you are using the standard DMX controllers, you can connect the DMX output of the controller directly with the DMX input of the first fixture in the DMX-chain. If you wish to connect DMX-controllers with other XLR-outputs, you need to use adapter-cables.

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.

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.



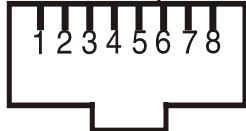
3.6 Ethernet connection

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.

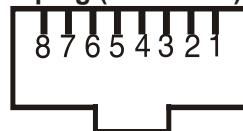
The Robin 600+ LEDWash is equipped with 8-pin RJ-45 socket for Ethernet input. Use a network cable category 5 (with four "twisted" wire pairs) and standard RJ-45 plugs in order to connect the fixture to the network.

RJ-45 socket (front view):



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

RJ-45 plug (front view):



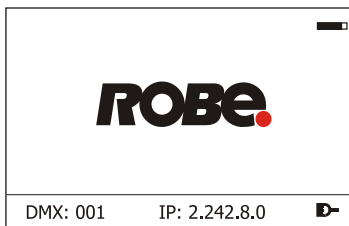
Patch cables that connect fixtures to the hubs or LAN sockets are wired 1:1, that is, pins with the same numbers are connected together:



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:



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:



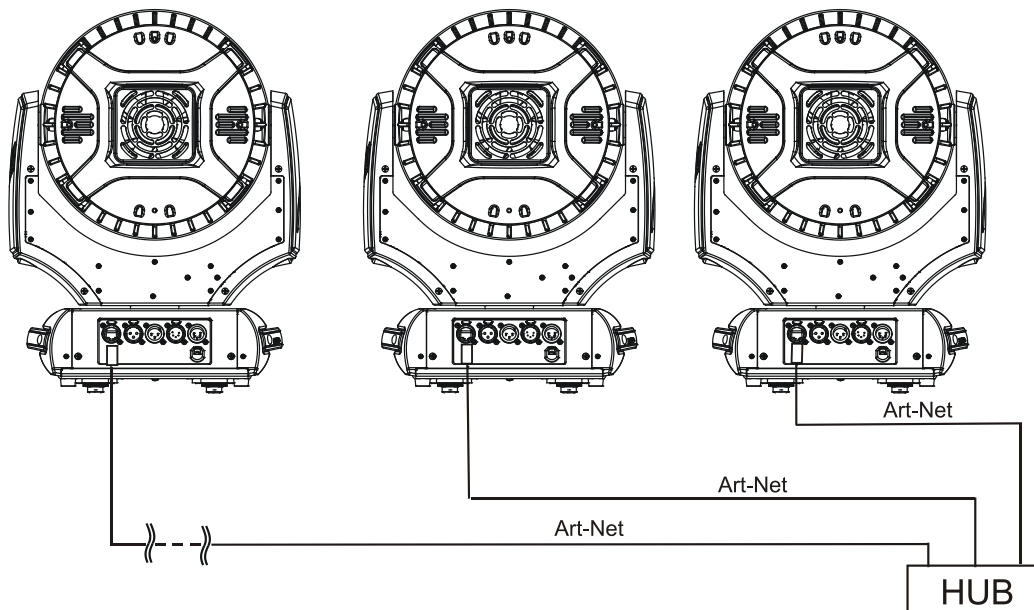
Direct Ethernet operation

Connect the Ethernet inputs of all fixtures with the Ethernet network. Option "Artnet (gMal or gMA2)" has to be selected from "Ethernet Mode" menu on the fixture. Set IP address (002.xxx.xxx.xxx / 010.xxx.xxx.xxx) and the Universe.

(DMX address=46)
IP address=002.168.002.004
Universe=1

(DMX address=23)
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

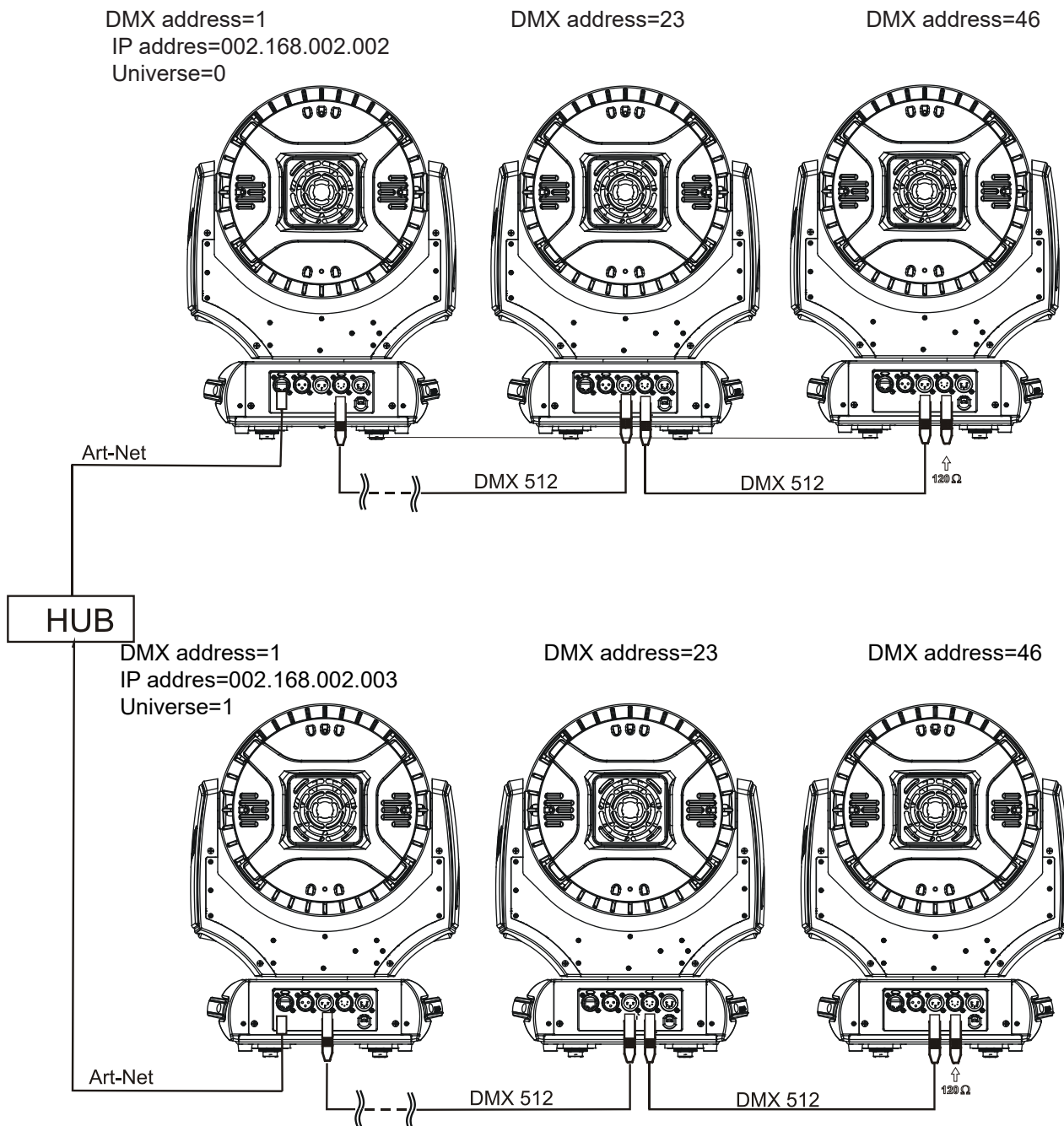
Ethernet / DMX operation

Options "Art2DMX" has to be selected from the "Ethernet Mode" menu on 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 Ω resistor between Signal (-) and Signal (+) into a XLR-plug and connect it in the DMX-output of the last fixture.



Example:



4. Control menu map

Default settings=**Bold print**

| Tab | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 | Level 6 | |
|---|---|-------------------------|---------------------|--------------------|--------------------|---------|--|
|  | Settings | DMX Address | 001-512 | | | | |
| | | | Ethernet Settings | Ethernet Mode | Disable | | |
| | | | | | ArtNet | | |
| | | | | | gMA1 | | |
| | | | | | gMA2 | | |
| | | | | | Art2DMX | | |
| | | | | IP Address/NetMask | Default IP Address | | |
| | | | | | Custom IP Address | | |
| | | | | | Net Mask | | |
| | | | | ArtNet Universe | 0-255 | | |
| | | | | MANet settings | MANet I/IIUniverse | 1-256 | |
| | | | | | MANet Session ID | 1-32 | |
| | | | | | | | |
| |  | Fixture Times | Power On Time | Total Hours | | | |
| | | | Resetable Hours | | | | |
| Fixture Temperatures | | LEDs Temperature | Current | | | | |
| | | | Maximum NonRes. | | | | |
| | | | Maximum Res. | | | | |
| | | AmbientTemperature | Current | | | | |
| | | | Maximum NonRes. | | | | |
| | | | Maximum Res. | | | | |
| | | Base Temperature | Current | | | | |
| | | | Maximum NonRes. | | | | |
| | | | Maximum Res. | | | | |
| | | DMX Values | Pan | | | | |
| | | | : | | | | |
| | | | Dimmer Fine | | | | |
| Wireless State* | | Signal Quality | | | | | |
| | | Unlink Wireless Adapter | | | | | |
| Software Versions | | Display System | | | | | |
| | | Module M | | | | | |
| | | Module L | | | | | |
| Product IDs | | Mac Address | | | | | |
| | | RDM UID | | | | | |
| | | RDM Label | | | | | |
| View Logs | | Fixture Errors | | | | | |
| | | Fixture Status | Power On | | | | |
| | | | Power Off | | | | |
| | | Fixture Position | | | | | |
| | | Fixture Temperatures | LEDs Temperature | | | | |
| | | | Ambient Temperature | | | | |
| | | | Base Temperature | | | | |
| | | | | | | | |
|  | | User Mode | User A Settings | | | | |
| | | | User B Settings | | | | |
| | | | User C Settings | | | | |
| | DMX Presets | Mode 1 | | | | | |
| | | Mode 2 | | | | | |
| | | Mode 3 | | | | | |
| | | : | | | | | |
| | | Mode 6 | | | | | |
| | | View Selected Preset | | | | | |
| | DMX Input | Wired | | | | | |

| Tab | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 | Level 6 |
|---|-------------------------|-------------------------|------------------------|---------|---------|---------|
| | | Wireless | | | | |
| | | Wireless In/XLR Out | | | | |
| | Pan/Tilt Settings | Pan Reverse | Off, On | | | |
| | | Tilt Reverse | Off, On | | | |
| | | Pan/Tilt Feedback | Off, On | | | |
| | | Pan/Tilt mode | Time | | | |
| | | | Speed | | | |
| | | Tilt Movement range | Stand. | | | |
| | | | Reduc. | | | |
| | Microphone Sensitivity | 1-10-20 | | | | |
| | Blackout Settings | Blackout During M.C. | Off, On | | | |
| | | Blackout while: | Pan/Tilt moving | Off, On | | |
| | Colour Calibration Mode | Off, On | | | | |
| | Zoom Mode | Beam Mode | | | | |
| | | Wash Mode | | | | |
| | Init Effect Positions | Pan | 0-255 | | | |
| | | : | | | | |
| | | Dimmer Fine | 0-255 | | | |
| | Screen Settings | Display Intensity | 1-10 | | | |
| | | Screen Saver Delay | Off-10min. | | | |
| | | Touchscreen Lock | Off-10min. | | | |
| | | Recalibrate Touchscreen | | | | |
| | | Display Orientation | Normal | | | |
| | | | Inverted | | | |
| | | | Auto | | | |
| | Temperature Unit | °C, °F | | | | |
| | Fan Mode | Auto | | | | |
| | | High | | | | |
| | | Silent | | | | |
| | Theatre mode | On, Off | | | | |
| | Date & Time Settings | | | | | |
| | Default Settings | | | | | |
| | | | | | | |
| Manual Control | Reset Functions | Total System Reset | | | | |
|  | | Pan/Tilt reset | | | | |
| | | Zoom Reset. | | | | |
| | Preset Effect Control | Pan | Position 1-Position 5 | | | |
| | | : | | | | |
| | | Dimmer | Position 1- Position 5 | | | |
| | 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 | | |
| | MusicTrigger | Off, On | | | | |
| | Preset Playback | None | | | | |
| | | Test | | | | |
| | | : | | | | |
| | | Prog. 3 | | | | |

| Tab | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 | Level 6 |
|---|-------------------|---------------------------|--------------------|----------|---------------------|---------|
| | Play Program | Play Program 1 | | | | |
| | | Play Program 2 | | | | |
| | | Play Program 3 | | | | |
| | Edit Program | Edit Program 1 | Start Step | 1-100 | | |
| | | | End Step | 1-100 | | |
| | | | Edit Program Steps | Step 1 | Pan (0-255) | |
| | | | | : | : | |
| | | | | : | Dimmer Fine (0-255) | |
| | | | | : | Step Time (0-25.5s) | |
| | | | | Step 100 | Pan (0-255) | |
| | | | | | : | |
| | | | | | Dimmer Fine (0-255) | |
| | | | | | Fade Time (0-25.5s) | |
| | | | | | | |
| Service | Adjust DMX Values | Pan | 0-255 | | | |
|  | | : | | | | |
| | | Dimmer Fine | 0-255 | | | |
| | Calibrations | Calibrate Effects | Pan | 0-255 | | |
| | | | Tilt | 0-255 | | |
| | | Calibrate colours | Red | 0-255 | | |
| | | | Green | 0-255 | | |
| | | | Blue | 0-255 | | |
| | | | White | 0-255 | | |
| | | Load Default Calibrations | | | | |
| | Update Software | | | | | |

* Only for wireless DMX version

5. Robin 600+ LEDWash DMX chart

Version 1.3

| Mode/Channel | | | | | | Value | Function | Type of control |
|--------------|---|--------------|---|---|---|-----------|---|-----------------|
| 1 | 2 | 3 | 4 | 5 | 6 | | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 0-255 | Pan (8 bit) Pan movement by 450° | proportional |
| 2 | 2 | 2 | 2 | 2 | 2 | 0-255 | Pan Fine (16 bit) Fine control of pan movement | proportional |
| 3 | 3 | 3 | 3 | 3 | 3 | 0-255 | Tilt (8bit) Tilt movement by 300° | proportional |
| 4 | 4 | 4 | 4 | 4 | 4 | 0-255 | Tilt fine (16 bit) Fine control of tilt movement | proportional |
| 5 | 5 | 5 | 5 | 5 | 5 | 0 | Pan/Tilt speed, Pan/Tilt time Max. speed -standard mode (0=default) | step |
| | | | | | | 1 - 255 | <u>P./T. speed-set Speed Mode in menu: P./T. Mode</u> Speed from max. to min. | proportional |
| | | | | | | 1 - 255 | <u>P./T. time - set Time Mode in menu: Pan/Tilt Mode</u> Time from 0.1 s to 25.5 s. | proportional |
| 6 | 6 | 6 | 6 | 6 | 6 | 0 - 9 | Special functions Reserved <i>To activate following functions , stop in DMX value for at least 3sec. and shutter must be closed at least 3sec. (Shutter channel 35/19/14/9/9 /22 must be at range of 0-31DMX). Corresponding menu items are temporarily overridden except DMX Input.</i> | |
| | | | | | | 10 - 14 | DMX input: Wired DMX * | step |
| | | | | | | 15 - 19 | DMX input: Wireless DMX* * function is active only 10 seconds after switching the fixture on | step |
| | | | | | | 20 - 49 | Reserved | |
| | | | | | | 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 - 99 | Theatre mode On | step |
| | | | | | | 100-109 | Theatre mode Off | step |
| | | | | | | 110-139 | Reserved <i>To activate following reset function, stop in DMX value for at least 3 sec.</i> | |
| | | | | | | 140 - 149 | Pan/Tilt reset | step |
| | | | | | | 150 - 179 | Reserved | |
| | | | | | | 180 - 189 | Zoom reset | step |
| 190 - 199 | Reserved | | | | | | | |
| 200 - 209 | Total reset | step | | | | | | |
| 210 - 239 | Reserved | | | | | | | |
| 240 | Disable "Silent mode" of fans <i>To activate "Silent ", stop in range of 241-255 at least 3 sec.</i> | step | | | | | | |
| 241 - 255 | "Silent mode of fans":fans noise from min. to max. | proportional | | | | | | |
| - | 7 | 7 | - | - | - | 0-255 | Red (8 bit) - all zones Red LEDs saturation control (0-100%) | proportional |
| - | 8 | - | - | - | - | 0-255 | Red fine(16 bit) - all zones Fine red LEDs saturation control | proportional |
| - | 9 | 8 | - | - | - | 0-255 | Green (8 bit) - all zones Green LEDs saturation control (0-100%) | proportional |
| - | 10 | - | - | - | - | 0-255 | Green fine (16 bit) - all zones Fine green LEDs saturation control | proportional |
| - | 11 | 9 | - | - | - | 0-255 | Blue (8 bit) - all zones Blue LEDs saturation control (0-100%) | proportional |
| - | 12 | - | - | - | - | 0-255 | Blue fine (16 bit) - all zones Fine blue LEDs saturation control | proportional |

| Mode/Channel | | | | | | Value | Function | Type of control |
|--------------|----|----|---|----|----|-------|--|-----------------|
| 1 | 2 | 3 | 4 | 5 | 6 | | | |
| - | 13 | 10 | - | - | - | 0-255 | White (8 bit) - all zones White LEDs saturation control (0-100%) | proportional |
| - | 14 | - | - | - | - | 0-255 | White fine (16 bit) - all zones Fine white LEDs saturation control | proportional |
| 7 | - | - | - | 14 | 7 | 0-255 | Red (8 bit) - zone 1 Red LEDs saturation control (0-100%) | proportional |
| 8 | - | - | - | 15 | - | 0-255 | Red fine (16 bit) - zone 1 Fine red LEDs saturation control | proportional |
| 9 | - | - | - | 16 | 8 | 0-255 | Green (8 bit) - zone 1 Green LEDs saturation control (0-100%) | proportional |
| 10 | - | - | - | 17 | - | 0-255 | Green fine (16 bit) - zone 1 Fine green LEDs saturation control | proportional |
| 11 | - | - | - | 18 | 9 | 0-255 | Blue (8 bit) zone 1 Blue LEDs saturation control (0-100%) | proportional |
| 12 | - | - | - | 19 | - | 0-255 | Blue (16 bit) zone 1 Fine blue LEDs saturation control | proportional |
| 13 | - | - | - | 20 | 10 | 0-255 | White (8 bit) - zone 1 White LEDs saturation control (0-100%) | proportional |
| 14 | - | - | - | 21 | - | 0-255 | White (16 bit) - zone 1 Fine white LEDs saturation control | proportional |
| 15 | - | - | - | 22 | 11 | 0-255 | Red (8 bit) - zone 2 Red LEDs saturation control (0-100%) | proportional |
| 16 | - | - | - | 23 | - | 0-255 | Red fine (16 bit) - zone 2 Fine red LEDs saturation control | proportional |
| 17 | - | - | - | 24 | 12 | 0-255 | Green (8 bit) - zone 2 Green LEDs saturation control (0-100%) | proportional |
| 18 | - | - | - | 24 | - | 0-255 | Green fine (16 bit) - zone 2 Fine green LEDs saturation control | proportional |
| 19 | - | - | - | 26 | 13 | 0-255 | Blue (8 bit) - zone 2 Blue LEDs saturation control (0-100%) | proportional |
| 20 | - | - | - | 27 | - | 0-255 | Blue fine (16 bit) - zone 2 Fine blue LEDs saturation control | proportional |
| 21 | - | - | - | 28 | 14 | 0-255 | White (8 bit) - zone 2 White LEDs saturation control (0-100%) | proportional |
| 22 | - | - | - | 29 | - | 0-255 | White (16 bit) - zone 2 Fine white LEDs saturation control | proportional |
| 23 | - | - | - | 30 | 15 | 0-255 | Red (8 bit) - zone 3 Red LEDs saturation control (0-100%) | proportional |
| 24 | - | - | - | 31 | - | 0-255 | Red fine (16 bit) - zone 3 Fine red LEDs saturation control | proportional |
| 25 | - | - | - | 32 | 16 | 0-255 | Green (8 bit) - zone 3 Green LEDs saturation control (0-100%) | proportional |
| 26 | - | - | - | 33 | - | 0-255 | Green fine (16 bit) - zone 3 Fine green LEDs saturation control | proportional |
| 27 | - | - | - | 34 | 17 | 0-255 | Blue (8 bit) zone 3 Blue LEDs saturation control (0-100%) | proportional |
| 28 | - | - | - | 35 | - | 0-255 | Blue fine (16 bit) zone 3 Fine blue LEDs saturation control | proportional |
| 29 | - | - | - | 36 | 18 | 0-255 | White (8 bit) zone 3 White LEDs saturation control (0-100%) | proportional |
| 30 | - | - | - | 37 | - | 0-255 | White fine (16 bit) zone 3 Fine white LEDs saturation control (| proportional |

| Mode/Channel | | | | | | Value | Function | Type of control |
|--------------|--------------|----|----|----|----|---------|--|-----------------|
| 1 | 2 | 3 | 4 | 5 | 6 | | | |
| 35 | 19 | 14 | 9 | 9 | 22 | 0-31 | Shutter/Strobe Shutter closed Strobe effect from slow--> fast (zone 3 only) Strobe effect from slow--> fast (All zones together) -----Set value on Virtual colour wheel----- Zone effects+rainbow effects speed control, slow--> fast Zone effects+rainbow effects speed control, fast--> slow / opposite direction/ ----- Opening pulses in sequences from slow--> fast (All zones together) Closing pulses in sequences from fast--> slow (All zones together) Random strobe effect from slow--> fast (random zone) Random strobe effect from slow--> fast (random zone + random strobe) Random strobe effect from slow --> fast (All zones together) Shutter open | step |
| | | | | | | 32-63 | | proportional |
| | | | | | | 64-95 | | proportional |
| | | | | | | 96-111 | | proportional |
| | | | | | | 112-127 | | proportional |
| | | | | | | 128-143 | | proportional |
| | | | | | | 144-159 | | proportional |
| | | | | | | 160-175 | | proportional |
| 176-191 | proportional | | | | | | | |
| 192-223 | proportional | | | | | | | |
| 224-255 | step | | | | | | | |
| 36 | 20 | 15 | 10 | 10 | 23 | 0-255 | Dimmer (8 bit) Dimmer intensity from 0% to 100% | proportional |
| 37 | 21 | - | - | 11 | 24 | 0-255 | Dimmer fine (16 bit) Fine dimming | proportional |

**In the Halogen lamp mode the Dimmer channel imitates behaviour of the halogen lamp during dimming.

5.1 Virtual colour wheel - colour mixing chart

| Scale* | Virtual Colour Wheel | Red | Green | Blue | White |
|--------|----------------------------|-----|-------|------|-------|
| | DMX | DMX | DMX | DMX | DMX |
| | 1-2 (White 2700K) | 250 | 118 | 0 | 63 |
| | 3 (White 2700K /Hal.mode/) | 250 | 118 | 0 | 63 |
| | 4-5 (White 3200K) | 255 | 141 | 5 | 89 |
| | 6 (White 3200K /Hal.mode/) | 255 | 141 | 5 | 89 |
| | 7-9 (White 4200K) | 254 | 141 | 3 | 255 |
| | 10-12 (White 5600K) | 254 | 207 | 37 | 255 |
| | 13-15 (White 8000K) | 228 | 255 | 79 | 255 |
| | 16 | 0 | 0 | 255 | 0 |
| | 17 | 0 | 3 | 255 | 0 |
| | 18 | 0 | 6 | 255 | 0 |
| | 19 | 0 | 9 | 255 | 0 |
| | 20 | 0 | 12 | 255 | 0 |
| | 21 | 0 | 15 | 255 | 0 |
| | 22 | 0 | 18 | 255 | 0 |
| | 23 | 0 | 21 | 255 | 0 |
| | 24 | 0 | 24 | 255 | 0 |
| | 25 | 0 | 27 | 255 | 0 |
| | 26 | 0 | 30 | 255 | 0 |
| | 27 | 0 | 36 | 255 | 0 |
| | 28 | 0 | 41 | 255 | 0 |
| | 29 | 0 | 46 | 255 | 0 |
| | 30 | 0 | 52 | 255 | 0 |
| | 31 | 0 | 58 | 255 | 0 |
| | 32 | 0 | 64 | 255 | 0 |
| | 33 | 0 | 68 | 255 | 0 |
| | 34 | 0 | 74 | 255 | 0 |
| | 35 | 0 | 80 | 255 | 0 |
| | 36 | 0 | 86 | 255 | 0 |
| | 37 | 0 | 92 | 255 | 0 |
| | 38 | 0 | 98 | 255 | 0 |
| | 39 | 0 | 104 | 255 | 0 |
| | 40 | 0 | 110 | 255 | 0 |
| | 41 | 0 | 119 | 255 | 0 |
| | 42 | 0 | 129 | 255 | 0 |
| | 43 | 0 | 138 | 255 | 0 |
| | 44 | 0 | 147 | 255 | 0 |
| | 45 | 0 | 156 | 255 | 0 |
| | 46 | 0 | 165 | 255 | 0 |
| | 47 | 0 | 174 | 255 | 0 |
| | 48 | 0 | 183 | 255 | 0 |
| | 49 | 0 | 192 | 255 | 0 |
| | 50 | 0 | 201 | 255 | 0 |
| | 51 | 0 | 210 | 255 | 0 |
| | 52 | 0 | 219 | 255 | 0 |
| | 53 | 0 | 228 | 255 | 0 |
| | 54 | 0 | 237 | 255 | 0 |
| | 55 | 0 | 246 | 255 | 0 |
| | 56 | 0 | 255 | 255 | 0 |
| | 57 | 0 | 255 | 246 | 0 |
| | 58 | 0 | 255 | 237 | 0 |
| | 59 | 0 | 255 | 228 | 0 |
| | 60 | 0 | 255 | 219 | 0 |
| | 61 | 0 | 255 | 210 | 0 |
| | 62 | 0 | 255 | 201 | 0 |
| | 63 | 0 | 255 | 192 | 0 |

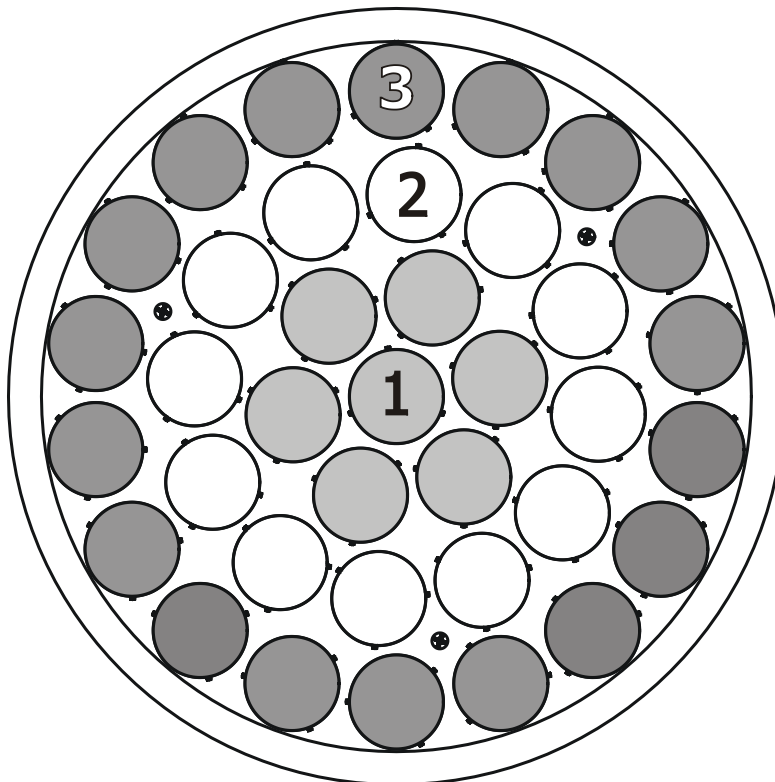
| Scale* | Virtual Colour Wheel | Red | Green | Blue | White |
|--------|----------------------|-----|-------|------|-------|
| | DMX | DMX | DMX | DMX | DMX |
| | 64 | 0 | 255 | 183 | 0 |
| | 65 | 0 | 255 | 174 | 0 |
| | 66 | 0 | 255 | 165 | 0 |
| | 67 | 0 | 255 | 156 | 0 |
| | 68 | 0 | 255 | 147 | 0 |
| | 69 | 0 | 255 | 138 | 0 |
| | 70 | 0 | 255 | 129 | 0 |
| | 71 | 0 | 255 | 119 | 0 |
| | 72 | 0 | 255 | 110 | 0 |
| | 73 | 0 | 255 | 104 | 0 |
| | 74 | 0 | 255 | 98 | 0 |
| | 75 | 0 | 255 | 92 | 0 |
| | 76 | 0 | 255 | 86 | 0 |
| | 77 | 0 | 255 | 80 | 0 |
| | 78 | 0 | 255 | 74 | 0 |
| | 79 | 0 | 255 | 68 | 0 |
| | 80 | 0 | 255 | 64 | 0 |
| | 81 | 0 | 255 | 58 | 0 |
| | 82 | 0 | 255 | 52 | 0 |
| | 83 | 0 | 255 | 46 | 0 |
| | 84 | 0 | 255 | 41 | 0 |
| | 82 | 0 | 255 | 36 | 0 |
| | 86 | 0 | 255 | 30 | 0 |
| | 87 | 0 | 255 | 27 | 0 |
| | 88 | 0 | 255 | 24 | 0 |
| | 89 | 0 | 255 | 21 | 0 |
| | 90 | 0 | 255 | 18 | 0 |
| | 91 | 0 | 255 | 15 | 0 |
| | 92 | 0 | 255 | 12 | 0 |
| | 93 | 0 | 255 | 9 | 0 |
| | 94 | 0 | 255 | 6 | 0 |
| | 95 | 0 | 255 | 3 | 0 |
| | 96 | 0 | 255 | 0 | 0 |
| | 97 | 3 | 255 | 0 | 0 |
| | 98 | 6 | 255 | 0 | 0 |
| | 99 | 9 | 255 | 0 | 0 |
| | 100 | 12 | 255 | 0 | 0 |
| | 101 | 15 | 255 | 0 | 0 |
| | 102 | 18 | 255 | 0 | 0 |
| | 103 | 21 | 255 | 0 | 0 |
| | 104 | 24 | 255 | 0 | 0 |
| | 105 | 27 | 255 | 0 | 0 |
| | 106 | 30 | 255 | 0 | 0 |
| | 107 | 36 | 255 | 0 | 0 |
| | 108 | 41 | 255 | 0 | 0 |
| | 109 | 46 | 255 | 0 | 0 |
| | 110 | 52 | 255 | 0 | 0 |
| | 111 | 58 | 255 | 0 | 0 |
| | 112 | 64 | 255 | 0 | 0 |
| | 113 | 68 | 255 | 0 | 0 |
| | 114 | 74 | 255 | 0 | 0 |
| | 115 | 80 | 255 | 0 | 0 |
| | 116 | 86 | 255 | 0 | 0 |
| | 117 | 92 | 255 | 0 | 0 |
| | 118 | 98 | 255 | 0 | 0 |

| Scale* | Virtual Colour Wheel | Red | Green | Blue | White |
|--------|----------------------|-----|-------|------|-------|
| | DMX | DMX | DMX | DMX | DMX |
| | 119 | 104 | 255 | 0 | 0 |
| | 120 | 110 | 255 | 0 | 0 |
| | 121 | 119 | 255 | 0 | 0 |
| | 122 | 129 | 255 | 0 | 0 |
| | 123 | 138 | 255 | 0 | 0 |
| | 124 | 147 | 255 | 0 | 0 |
| | 125 | 156 | 255 | 0 | 0 |
| | 126 | 165 | 255 | 0 | 0 |
| | 127 | 174 | 255 | 0 | 0 |
| | 128 | 183 | 255 | 0 | 0 |
| | 129 | 192 | 255 | 0 | 0 |
| | 130 | 201 | 255 | 0 | 0 |
| | 131 | 210 | 255 | 0 | 0 |
| | 132 | 219 | 255 | 0 | 0 |
| | 133 | 228 | 255 | 0 | 0 |
| | 134 | 240 | 255 | 0 | 0 |
| | 135 | 255 | 255 | 0 | 0 |
| | 136 | 255 | 246 | 0 | 0 |
| | 137 | 255 | 237 | 0 | 0 |
| | 138 | 255 | 228 | 0 | 0 |
| | 139 | 255 | 219 | 0 | 0 |
| | 140 | 255 | 210 | 0 | 0 |
| | 141 | 255 | 201 | 0 | 0 |
| | 142 | 255 | 192 | 0 | 0 |
| | 143 | 255 | 183 | 0 | 0 |
| | 144 | 255 | 174 | 0 | 0 |
| | 145 | 255 | 165 | 0 | 0 |
| | 146 | 255 | 156 | 0 | 0 |
| | 147 | 255 | 147 | 0 | 0 |
| | 148 | 255 | 138 | 0 | 0 |
| | 149 | 255 | 129 | 0 | 0 |
| | 150 | 255 | 119 | 0 | 0 |
| | 151 | 255 | 110 | 0 | 0 |
| | 152 | 255 | 104 | 0 | 0 |
| | 153 | 255 | 98 | 0 | 0 |
| | 154 | 255 | 92 | 0 | 0 |
| | 155 | 255 | 86 | 0 | 0 |
| | 156 | 255 | 80 | 0 | 0 |
| | 157 | 255 | 74 | 0 | 0 |
| | 158 | 255 | 68 | 0 | 0 |
| | 159 | 255 | 64 | 0 | 0 |
| | 160 | 255 | 58 | 0 | 0 |
| | 161 | 255 | 52 | 0 | 0 |
| | 162 | 255 | 46 | 0 | 0 |
| | 163 | 255 | 41 | 0 | 0 |
| | 164 | 255 | 36 | 0 | 0 |
| | 165 | 255 | 30 | 0 | 0 |
| | 166 | 255 | 27 | 0 | 0 |
| | 167 | 255 | 24 | 0 | 0 |
| | 168 | 255 | 21 | 0 | 0 |
| | 169 | 255 | 18 | 0 | 0 |
| | 170 | 255 | 15 | 0 | 0 |
| | 171 | 255 | 12 | 0 | 0 |
| | 172 | 255 | 9 | 0 | 0 |
| | 173 | 255 | 6 | 0 | 0 |

| Scale* | Virtual Colour Wheel | Red | Green | Blue | White |
|---------------|-----------------------------|------------|--------------|-------------|--------------|
| | DMX | DMX | DMX | DMX | DMX |
| | 174 | 255 | 3 | 0 | 0 |
| | 175 | 255 | 0 | 0 | 0 |
| | 176 | 255 | 0 | 3 | 0 |
| | 177 | 255 | 0 | 6 | 0 |
| | 178 | 255 | 0 | 9 | 0 |
| | 179 | 255 | 0 | 12 | 0 |
| | 180 | 255 | 0 | 15 | 0 |
| | 181 | 255 | 0 | 18 | 0 |
| | 182 | 255 | 0 | 21 | 0 |
| | 183 | 255 | 0 | 24 | 0 |
| | 184 | 255 | 0 | 27 | 0 |
| | 185 | 255 | 0 | 30 | 0 |
| | 186 | 255 | 0 | 36 | 0 |
| | 187 | 255 | 0 | 41 | 0 |
| | 188 | 255 | 0 | 46 | 0 |
| | 189 | 255 | 0 | 52 | 0 |
| | 190 | 255 | 0 | 58 | 0 |
| | 191 | 255 | 0 | 64 | 0 |
| | 192 | 255 | 0 | 68 | 0 |
| | 193 | 255 | 0 | 74 | 0 |
| | 194 | 255 | 0 | 80 | 0 |
| | 195 | 255 | 0 | 86 | 0 |
| | 196 | 255 | 0 | 92 | 0 |
| | 197 | 255 | 0 | 98 | 0 |
| | 198 | 255 | 0 | 104 | 0 |
| | 199 | 255 | 0 | 110 | 0 |
| | 200 | 255 | 0 | 119 | 0 |
| | 201 | 255 | 0 | 129 | 0 |
| | 202 | 255 | 0 | 138 | 0 |
| | 203 | 255 | 0 | 147 | 0 |
| | 204 | 255 | 0 | 156 | 0 |
| | 205 | 255 | 0 | 165 | 0 |
| | 206 | 255 | 0 | 174 | 0 |
| | 207 | 255 | 0 | 183 | 0 |
| | 208 | 255 | 0 | 192 | 0 |
| | 209 | 255 | 0 | 201 | 0 |
| | 210 | 255 | 0 | 210 | 0 |
| | 211 | 255 | 0 | 219 | 0 |
| | 212 | 255 | 0 | 228 | 0 |
| | 213 | 255 | 0 | 237 | 0 |
| | 214 | 255 | 0 | 246 | 0 |
| | 215 | 255 | 0 | 255 | 0 |
| | 216 | 246 | 0 | 255 | 0 |
| | 217 | 237 | 0 | 255 | 0 |
| | 218 | 228 | 0 | 255 | 0 |
| | 219 | 219 | 0 | 255 | 0 |
| | 220 | 210 | 0 | 255 | 0 |
| | 221 | 201 | 0 | 255 | 0 |
| | 222 | 192 | 0 | 255 | 0 |
| | 223 | 183 | 0 | 255 | 0 |
| | 224 | 174 | 0 | 255 | 0 |
| | 225 | 165 | 0 | 255 | 0 |
| | 226 | 156 | 0 | 255 | 0 |
| | 227 | 147 | 0 | 255 | 0 |
| | 228 | 138 | 0 | 255 | 0 |

| Scale* | Virtual Colour Wheel | Red | Green | Blue | White |
|--|---------------------------------|------|-------|------|-------|
| | DMX | DMX | DMX | DMX | DMX |
| | 229 | 129 | 0 | 255 | 0 |
| | 230 | 119 | 0 | 255 | 0 |
| | 231 | 110 | 0 | 255 | 0 |
| | 232 | 104 | 0 | 255 | 0 |
| | 233 | 98 | 0 | 255 | 0 |
| | 234 | 91 | 0 | 255 | 0 |
| | 235 | 84 | 0 | 255 | 0 |
| | 236 | 77 | 0 | 255 | 0 |
| | 237 | 70 | 0 | 255 | 0 |
| | 238 | 63 | 0 | 255 | 0 |
| | 239 | 56 | 0 | 255 | 0 |
| | 240 | 49 | 0 | 255 | 0 |
| | 241 | 42 | 0 | 255 | 0 |
| | 242 | 35 | 0 | 255 | 0 |
| | 243 | 28 | 0 | 255 | 0 |
| | 244 | 21 | 0 | 255 | 0 |
| | 245 | 14 | 0 | 255 | 0 |
| | 246 | 7 | 0 | 255 | 0 |
| | 247 | 0 | 0 | 255 | 0 |
| | 248-255 (Rainbow+ zone effects) | **** | **** | **** | **** |
| * Colour scale as an illustration only | | | | | |

5.2 LED zone order

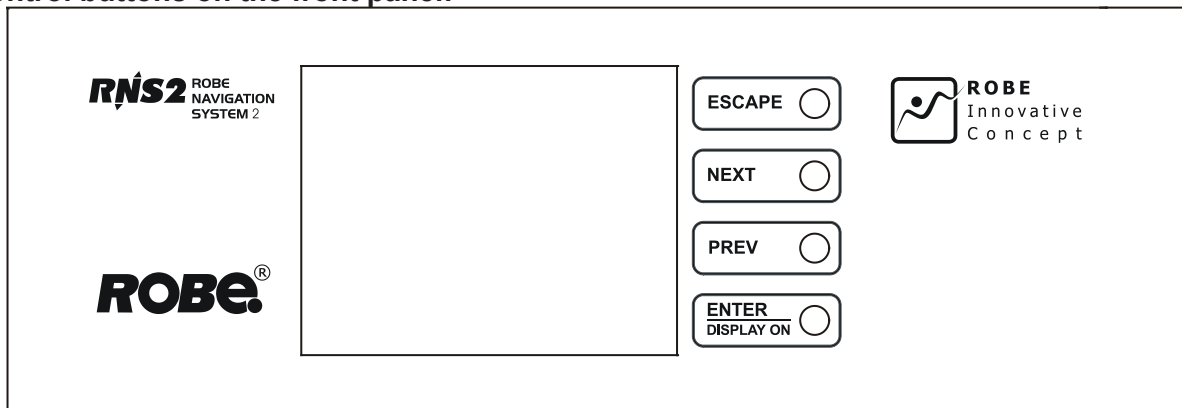


6. Control menu

The Robin 600+ LEDWash Light is equipped with the QVGA Robe touch screen with battery backup which allows to set the fixture's behaviour according to your needs, obtain information on its operation, test its various parts and lastly program it, if it has to be used in a 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.

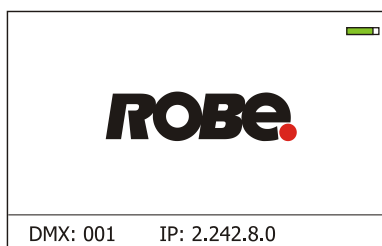
If the fixture is disconnected from mains, the button switches the touch screen on.

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.
- [display turn] used to turn the display by 180°.

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:

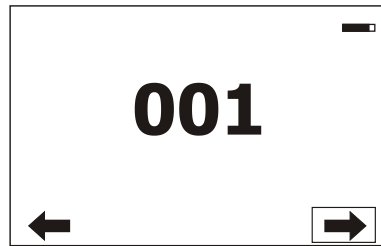


The green icon at the top right corner of the screen indicates the level of the display battery charging. If the whole icon is green, the battery is fully charged while the red icon indicates exhausted battery. The battery charges during fixture operation, its charging lasts cca 6 hours.

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.

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



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

An 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 Settings" (menu path: Personality--> Date &Time Settings).

6.1 Tab "Address"



Settings - Select the menu to set desired fixture address setting.

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

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

Ethernet Mode - Use the menu to set the Ethernet operation mode:

Disable - The option disables Ethernet operation.

Artnet - Fixture receives Artnet protocol - every fixture has to be connected to the network.

gMAI - Fixture receives MANet protocol.

gMA2 - Fixture receives MANet2 protocol.

Art2DMX - Fixture receives Artnet protocol from the Ethernet input and sends DMX data to its DMX output (fixture works as an "Artnet/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 I/II Universe - 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.

6.2 Tab "Information"



Fixture Times - The menu provides readouts of fixture 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 600+ LEDWash has been fabricated.

Resetable Hours - The item shows the number of the operation hours that the Robin 600+ LEDWash 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:"

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

LEDs Temperature - The menu shows temperatures in the LED module.

Current - A current temperature of the LED module.

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

Maximum Res. - A maximum temperature of the the LED module 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 of the induced air on the fan in the fixture base .

Current - A current temperature of the induced air in the fixture base.

Maximum NonRes. - A maximum temperature of the induced air in the fixture base since the fixture has been fabricated.

Maximum Res. - A maximum temperature of the induced air in the fixture base since 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 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."

DMX Values - The menu is used to read DMX values of each channel received by the fixture.

Wireless State - The menu serves for reading of the wireless operation status (only for Wireless DMX version).

Unlink Wireless Adapter - The item serves for unlinking the fixture from the transmitter.

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

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

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

Module M - A pan/Tilt processor on the main board in the fixture arm

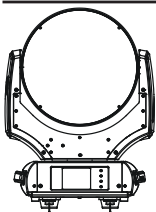
Module L - Zoom and LED control processor on the board in the fixture head.

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

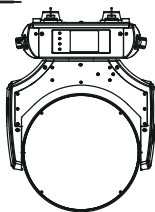
Fixture Errors - Use this menu to read fixture errors which have occurred during fixture operation.

Fixture States - Recorded following actions: Fixture On, Fixture Off.

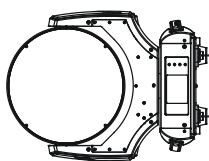
Fixture Position - Recorded installation positions of the fixture:



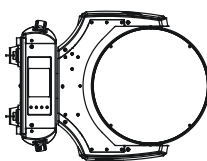
Disp-FN



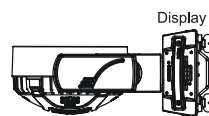
Disp-FI



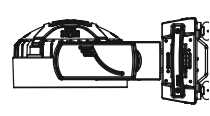
Disp-ST



Disp-SB



Disp-T



Disp-B

Fixture Temperatures - Recorded temperatures which have exceeded defined levels.

6.3 Tab "Personality"



User mode - The Robin 600+ LEDWash allows you to recall up to 3 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 3 fixture operating behaviours.

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

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

User C Settings - the function recalls the user C settings.

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

Mode 1 - 37 control channels

Mode 2 - 21 control channels

Mode 3 - 15 control channels

Mode 4 - 10 control channels

Mode 5 - 37 control channels

Mode 6 - 24 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 receiving DMX signal.

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).

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".

Tilt Movement Range - Use this menu to set the range of the tilt movement of the fixture's head

Stand. – Standard range 0-300°.

Reduc. - Reduced range 0-210°. This option must be selected when the top hat is installed otherwise fixture's head runs into base.

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 DMC - 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, 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 coordinates are changing.

Colour Calibration Mode - If the function is on, the white output from the fixture (and also mixed colours) is

more uniform. Each colour is dynamically corrected according to the value set in the menu "Calibrate Effects" (Service-> Calibrations-> Calibrate Effects).

Zoom mode - Use this menu to change min. beam angle.

Beam Zoom - Beam angle 8°-63°

Wash Zoom - Beam angle 15°-63°, compatible zoom range with the standard Robin 600+ LEDWash.

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 connected.

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 touchscreen. 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 Mode - Use the menu to set the fixture fans to max. fan power mode ("**High**") or to auto-control mode ("**Auto**"). The third mode ("**Silent**") allows to set desired noise of the fixture fans and the adjusted noise level is kept during fixture operation. The "**Fan Noise Level**" menu serves for adjusting fans power from min. to max. To switch the fixture to the "Silent" mode can be also realized by DMX value from range of 241-255 on the "power/Special functions channel".

Note: the light output near min. level of the fan noise is reduced.

Theatre mode - The mode reduces max. pan/tilt and zoom speed in order to provide silent operation of the fixture:

Pan range 0-450°: 3.4 seconds at max. speed.

Tilt range 0-300°: 2.5 seconds at max. speed.

Zoom min-max: 10 seconds at max speed

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

Default Settings - The menu item allows to set all fixture parameters to the default (factory) values.

6.4 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 tilt movement.

Zoom Reset - The item resets a zoom module.

Preset Effect Control - Use the menu to show preset positions of each channel effect.

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

6.5 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 600+ LEDWash.

Dynamic Mode - This mode uses all Robin 600+ LEDWash 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 and zoom 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.

Prog. 3 - The option starts user program No. 3.

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.

Play Program 3 - The option starts user program No. 3.

Edit Program - Use the menu to create or to edit desired program. The Robin 600+ LEDWash offers 3 free programs, each up to 100 steps.

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

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

Edit Program 3 - The option allows to edit user program No.3

To edit program:

1. Touch the item which you want to edit ("Edit Program 1" - "Edit Program 3").
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
- ↑ - moves up on the previous page
- ✓ - saves adjusted values and leaves menu
- ✓ - saves values to the current step and copy them to the following prog. step

✗ - leaves menu without saving values

There is a chart describing behaviour of items "Pan/Tilt Macro" and "P./T. Macro Speed".

| | |
|------------|--|
| DMX | Pan/Tilt Macro |
| 0 - 9 | Disabled pan/tilt macro |
| 10 - 31 | Reserved |
| 32 - 63 | Figure of circle (from small to large) |
| 64 - 95 | Figure of horizontal eight (from small to large) |
| 96 - 127 | Figure of vertical eight (from small to large) |
| 128 - 159 | Figure of rectangle (from small to large) |
| 160 - 191 | Figure of triangle (from small to large) |
| 192 - 223 | Figure of star (from small to large) |
| 224 - 255 | Figure of cross (from small to large) |
| | Pan/Tilt Macro Speed |
| 0 | No macro generation |
| 01 - 127 | Macro generation from fast to slow-forwards |
| 128 - 129 | No macro generation |
| 130 - 255 | Macro generation from slow to fast-backwards |

6.6 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

Tilt - a tilt position fine adjustment

Static Gobo - a static gobo wheel

Rot. Gobo Wheel - a carousel of rotating gobos

R. Gobo Index - an indexing of rotating gobo

Prism - a prism module

Iris - an iris module

Zoom - a zoom module

Focus - a focus module

Calibrate Colours - The menu serves for adjusting of LEDs saturation to achieve colour temperature of 5600K for white output.

Red - a red LEDs saturation fine adjustment

Green - a green LEDs saturation fine adjustment

Blue - a blue LEDs saturation fine adjustment

White - a white LEDs saturation fine adjustment

By using these items you can calibrate and adjust effects to desired positions.

Calibration of the pan/tilt 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 colour saturations via the control board

1. Disconnect DMX controller from the fixture , open shutter and dimmer and set the Virtual cpl. wheel channel to DMX=10 (white 5600K). Aim the light beam on the lux meter (e.g. Minolta CL-200 Chroma meter) which is placed at min distance of 2.5m from the fixture
2. Set the menu item "Colour Calibration Mode" to On (Personality-> Colour Calibration Mode-> On).
3. Enter the menu "Calibrate Effects".
4. Use the [up arrow] and [down arrow] to find desired colour and touch it to enter the fine effect adjustment screen.
5. By means of the Red, green, Blue and White items adjust the 5600K colour temperature as exactly as possible ($\Delta u'v' = 0$).

7. After adjusting 5600K colour temperature, touch the [confirm] to save all adjusted values and reset the fixture.

Note: you can also use DMX controller for both calibrations stated above, calibration protocol is the following:

| <i>Effect</i> | <i>Mode 1</i> | <i>Mode 2</i> | <i>Mode 3</i> | <i>Mode 4</i> | <i>Mode 5</i> |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| Pan-fine movement | channel 38 | channel 22 | channel 16 | channel 11 | channel 38 |
| Tilt - fine movement | channel 39 | channel 23 | channel 17 | channel 12 | channel 39 |
| Red - red saturation | channel 40 | channel 24 | channel 18 | channel 13 | channel 40 |
| Green- green saturation | channel 41 | channel 25 | channel 19 | channel 14 | channel 41 |
| Blue - blue saturation | channel 42 | channel 26 | channel 20 | channel 15 | channel 42 |
| White - white saturation | channel 43 | channel 27 | channel 21 | channel 16 | channel 43 |

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

Updating software - The menu item allows you to update software in the fixture via either serial or USB port of PC.

The following are required in order to update software:

- PC running Windows 95/98/2000/XP or Linux
- DMX Software Uploader
- Flash cable RS232/DMX No.13050624 (if you want to use a serial port of PC)
- Robe Universal Interface (if you want to use an USB port of PC)

Note 1: 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 items in the menu "Personality" will be set to their default (factory) values.

To update software in the fixture:

I. Installation of the DMX Software Uploader.

1. DMX Software Uploader program is available from the ROBE web site at 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. If the Robe fixture is produced in both magnetic and electronic ballast version, name of DMX Software Uploader is the same for both versions.

II. Fixture software updating.

1. Determine which of your ports is available on your PC and connect it:
 - with the DMX input of the fixture if you using the flash cable RS232/DMX
 - with the DMX output of the Robe Universal Interface if you using the USB cable.

Disconnect the fixture from the other fixtures in a DMX chain. Turn both the computer and the fixture on. Make sure the lamp is switched off (only if the fixture involves a lamp).

2. Switch the fixture to the updating mode by touching the "Updating Software " item

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

We recommend to cancel all running programs before starting the Software Uploader.

3. Run the Software Uploader program. Select desired COM and then click on the Connect button. (Select COM if the serial port is used or Robe Universal Interface if the USB port is used).

If the connection is OK, click on the "Start Uploading button" to start 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 later versions of processors, 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 "The fixture is successfully updated" will appear in this window and the fixture will reset with the new software.

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

7. 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 600 LEDWash 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 | | | * |
| DEVICE_HOURS | | | * |
| PARAMETER_DESCRIPTION | | | * |
| ROBE_DMX_INPUT | | * | * |
| ROBE_WIRELESS_UNLINK | | * | |

8. Wireless DMX operation

The wireless version of the Robin 600+ LEDWash 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 receiver via the menu item "Unlink Wireless Adapter" (Information --> Wireless State --> Unlink Wireless Adapter.).

9. Error and information messages

Occurred errors during fixture operation are 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:

Temper.Sensor Error

The message informs you that the communication between the head temperature sensor and the main processor failed.

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.

LED Zone 1 Short Error

The message informs you that short circuit has occurred on the PCB of LED zone 1.

LED Zone 2 Short Error

The message informs you that short circuit has occurred on the PCB of LED zone 2.

LED Zone 3 Short Error

The message informs you that short circuit has occurred on the PCB of LED zone 3.

10. Technical Specifications

Electrical

Power supply:.....electronic auto-ranging
Input voltage range:..... supply 100-240V, 50/60Hz
Fuse:.....T 4 A
Power consumption:.....430 VA /415W (power factor=0.98)

Optic

Light source: 37 Osram Ostar RGBW multichips (SMT LE RTDUW S2W)
3 zones with individual colour control of each
Typical Lumen Maintenance: 70% @ 60,000 hours
LED life expectancy: 60.000 hours
RGBW colour mixing +CTC

Virtual colour wheel

237 colours including whites (2700K, 3200K, 4200K, 5600K and 8000K)
Halogen lamp effect at whites 2700K and 3200K
Rainbow effect with in both directions with variable speed
Zone effects in both directions with variable speed

Strobe

All LED zones together:
 Strobe effect with variable speed (0.3 - 20Hz)
 Random strobe pulse-effect with variable speed
 Opening/closing pulse effect with variable speed
Independent strobe effect with variable speed (0.3 - 20Hz) at LED zone 3
Random strobe and random LED zone effect

Dimmer

Smooth dimmer from 0 - 100 %

Zoom

Motorized
Beam angle range: 8°-63° (Beam mode), 15°-63° (Wash mode)

Pan/Tilt

Pan movement range: 450°
Tilt movement range: 300°
16 bit movement resolution
Automatic Pan/Tilt position correction
Remotely controllable speed of pan/tilt movement for easy programming
Pan movement 0° - 450° at max. speed: 2.1 sec. (3.4 sec. - Theatre mode)
Tilt movement 0° - 300° at max. speed:1.1 sec. (2.5 sec. - Theatre mode)

Control

Graphic touch screen for fixture setting and addressing
Gravitation sensor for auto screen positioning
Battery backup of the touch screen
Readout fixture usage, receiving DMX values, temperatures, etc
Built-in analyzer for easy fault finding, error messages
Built-in demo sequences
Theatre mode for silent pan/tilt and zoom moving
Silent fans cooling,
Stand-alone operation
3 user editable programs, each up to 100 steps
Supported protocols: USITT DMX 512, RDM, ArtNet, MANet, MANet2
Support of RDM (Remote Device Management)

6 DMX modes (37, 21, 15, 10, 37, 24 control channels)

Wireless DMX/RDM module (only for Wireless DMX version)

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

Connection

DMX data in/out: Locking 3-pin and 5-pin XLR
AC power input: 1.5 m power cord without plug
Ethernet: RJ45

Rigging

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

Temperatures

Maximum ambient temperature : 45° C
Maximum housing temperature : 75° C

Minimum distances

Min. distance from flammable surfaces: 0.5 m
Min. distance to lighted object: 1.0 m

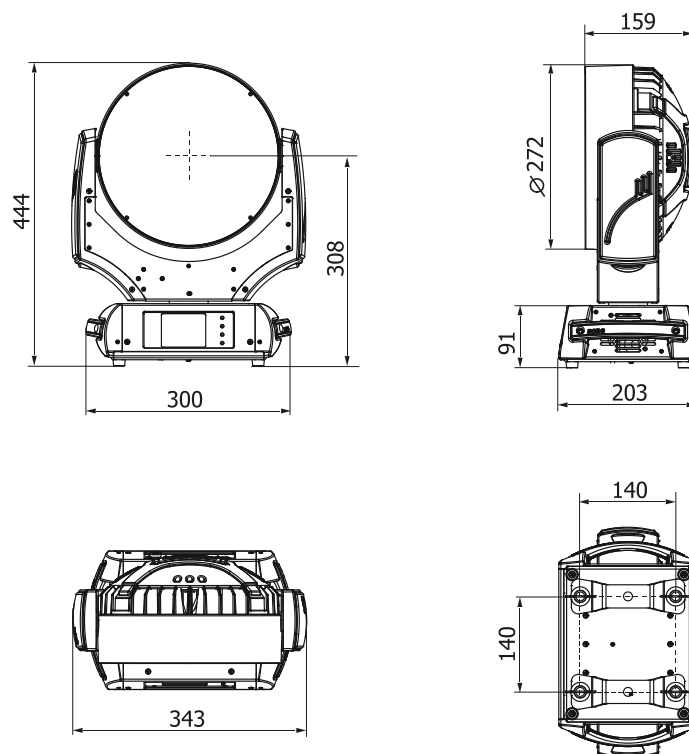
Total heat dissipation

1330 BTU/h (calculated)

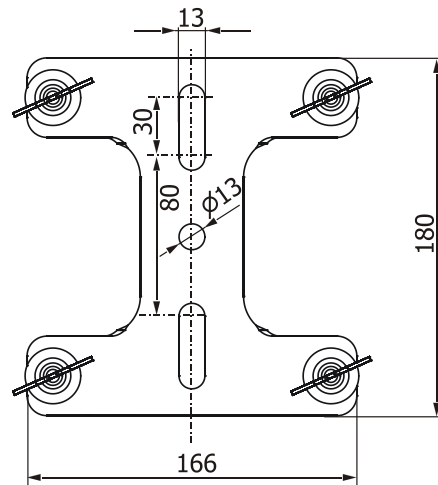
Weight (net):

10.6 kg

Dimensions (mm)



Mounting adapter for one Omega holder



Accessories

1 x Omega Adaptor CL-regular 2 pcs (P/N 10980033)

Optional accessories

Top Hat ROBIN 600/800 LEDWash(black) (P/N 10980101)
Top Hat ROBIN 600/800 LEDWash(white) (P/N.10980103)
Top Hat ROBIN 600/800 LEDWash(silver) (P/N.10980111)
Mounting adapter for Omega holder in black (P/N.10980100)
Mounting adapter for Omega holder in neutral - glazy aluminium (P/N.10980113)
EggCrate Robin 600 LEDWash-transparent (P/N 1098 0114)
Doughty Trigger Clamp (P/N 17030386)
Safety wire 35 kg (P/N 99011963)
Upgrade kit CRMX Univerzal 150 (P/N 99030099)

11. 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 head's transparent cover 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 base should be cleaned at least annually using a vacuum-cleaner or an air-jet.

More complicated maintenance and service operations are only to be carried out by authorized distributors.

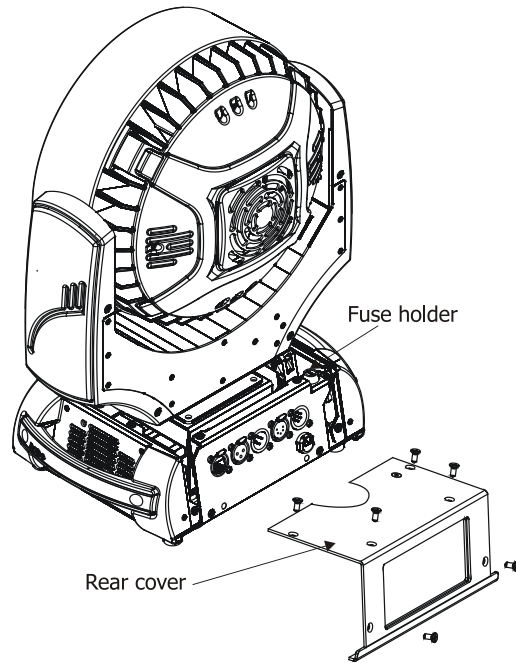
11.1 Replacing fuse

Only replace the fuse by a fuse of the same type and rating.

Before replacing the fuse, unplug mains lead!

If you need to replace the main fuse, follow the instructions:

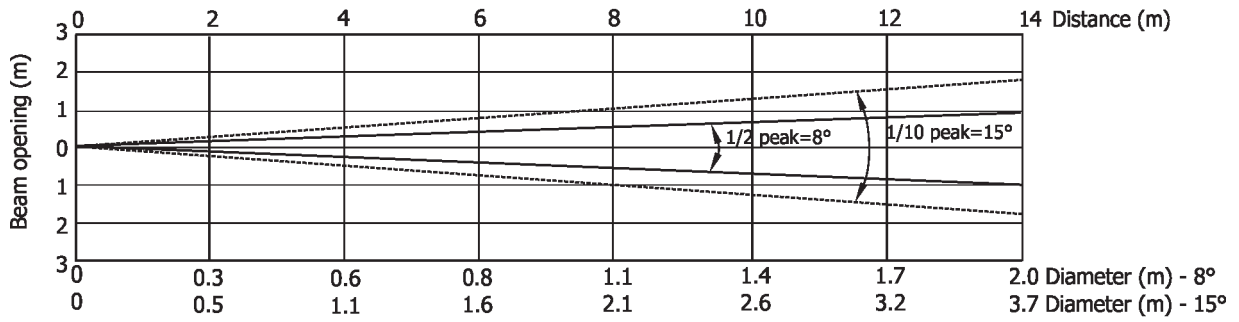
- 1) Remove the rear cover of the base by unscrewing 6 fastening screws.
- 2) Remove the old fuse from the fuseholder.
- 3) Install the new fuse into the fuseholder.
- 4) Replace the rear cover back to the base..



12. Photometric diagrams

Min. Zoom (Beam mode)

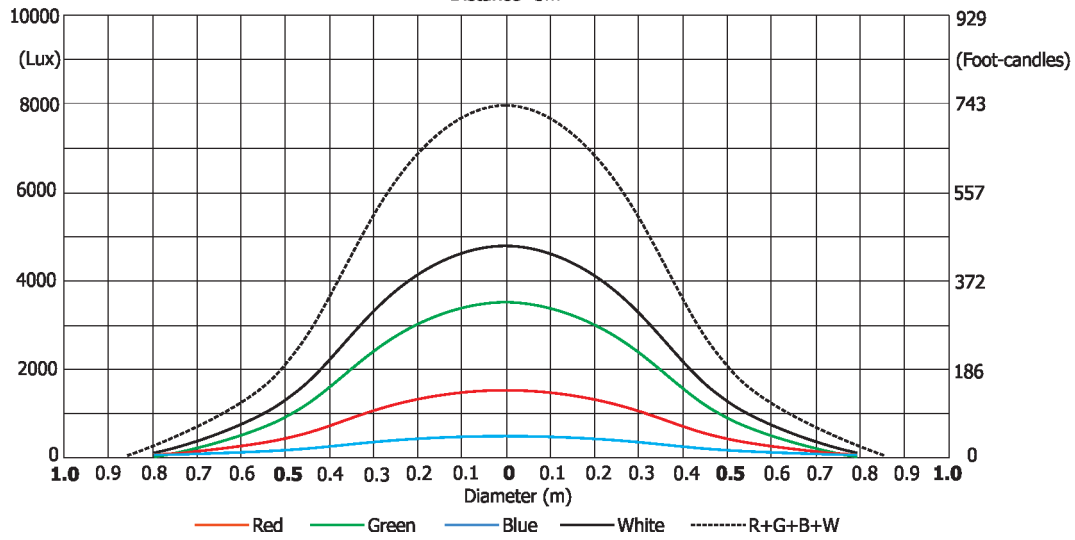
Total Output: 4130 lumens



| Distance (m) | 2 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | |
|--------------|------------|------------|----------|----------|----------|----------|----------|---------|---------------------------------------|
| Red | 10313/958 | 2578/240 | 1650/153 | 1146/107 | 645/60 | 413/38 | 287/27 | 211/20 | Intensity (center) Lux/Footcandles |
| Green | 23625/2195 | 5906/549 | 3780/351 | 2625/244 | 1477/137 | 945/88 | 656/61 | 482/45 | |
| Blue | 3562/331 | 891/83 | 570/53 | 396/37 | 223/21 | 143/13 | 99/9 | 73/7 | |
| White | 30625/2845 | 7656/711 | 4900/455 | 3403/316 | 1914/178 | 1225/114 | 851/79 | 625/58 | |
| R+G+B+W | 50000/4645 | 12500/1161 | 8000/743 | 5555/516 | 3125/290 | 2000/186 | 1388/129 | 1024/95 | |

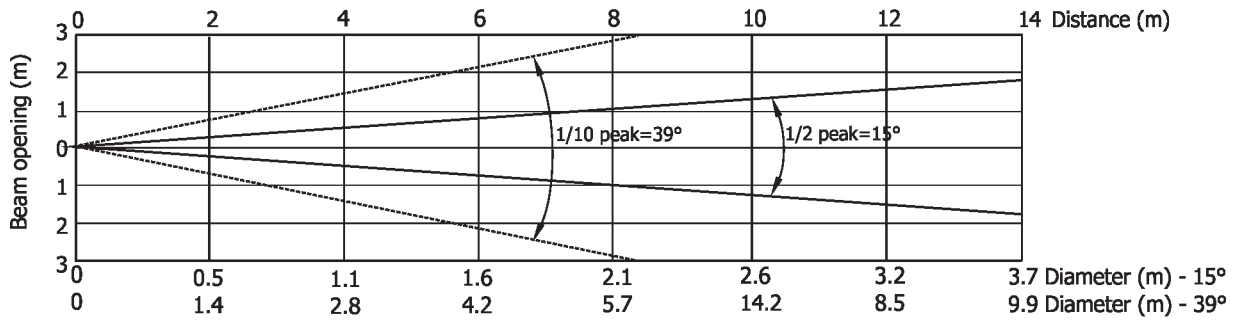
Illuminance distribution

Distance=5m



Min. Zoom (Wash mode)

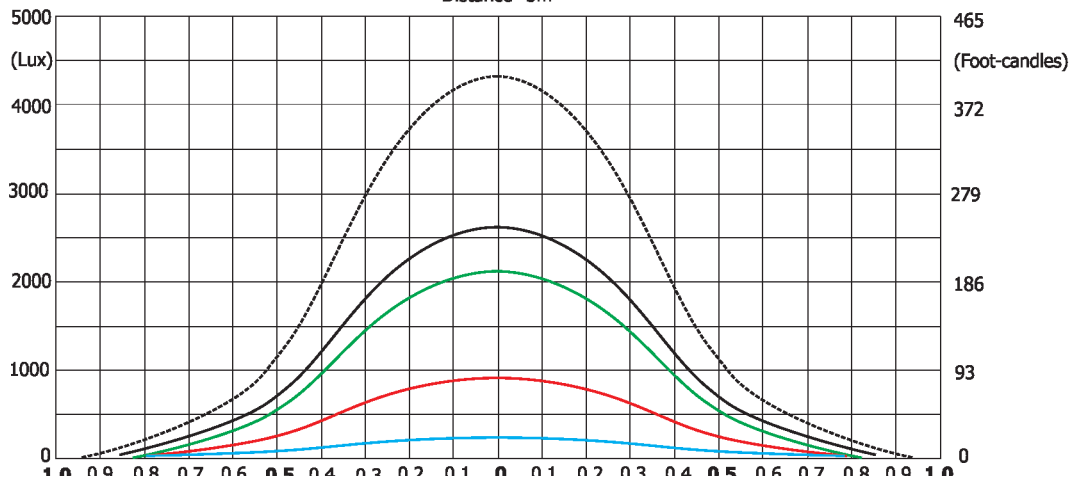
Total Output: 4370 lumens



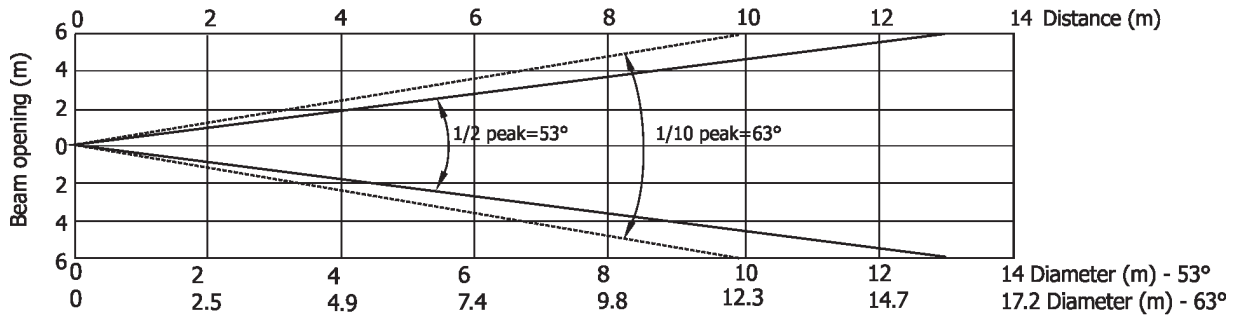
| Distance (m) | 2 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | |
|--------------|------------|----------|----------|----------|----------|----------|--------|--------|---------------------------------------|
| Red | 5688/528 | 1422/132 | 910/85 | 632/59 | 356/33 | 228/21 | 158/15 | 116/11 | Intensity (center) Lux/Footcandles |
| Green | 12688/1178 | 3172/295 | 2030/189 | 1410/131 | 793/74 | 508/47 | 352/33 | 260/24 | |
| Blue | 1875/174 | 469/44 | 300/28 | 208/19 | 117/11 | 75/7 | 52/5 | 38/4 | |
| White | 15813/1469 | 3953/367 | 2530/235 | 1757/163 | 988/92 | 632/59 | 439/41 | 323/30 | |
| R+G+B+W | 26875/2497 | 6719/624 | 4300/400 | 2986/277 | 1680/156 | 1075/100 | 747/69 | 549/51 | |

Illuminance distribution

Distance=5m



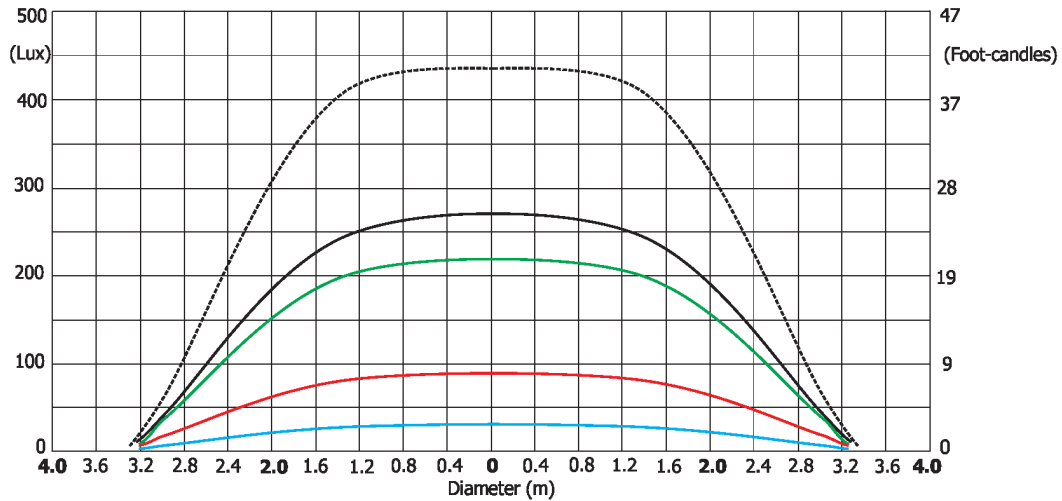
Max. zoom
Total Output: 5620 lumens



| Distance (m) | 2 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | |
|--------------|----------|--------|--------|--------|--------|--------|--------|--------|---------------------------------------|
| Red | 594/55 | 148/14 | 95/9 | 66/6 | 37/3.4 | 24/2.2 | 17/1.5 | 12/1.1 | Intensity (center) Lux/Footcandles |
| Green | 1344/125 | 336/31 | 215/20 | 149/14 | 84/8 | 54/5 | 37/3.5 | 27/2.5 | |
| Blue | 188/17 | 47/4.4 | 30/2.8 | 21/2 | 12/1 | 8/0.7 | 5/0.5 | 4/0.4 | |
| White | 1688/157 | 422/39 | 270/25 | 188/17 | 106/10 | 68/6 | 47/4 | 34/3 | |
| R+G+B+W | 2863/266 | 716/67 | 458/43 | 318/30 | 179/17 | 115/11 | 80/7 | 58/5 | |

Illuminance distribution

Distance=5m



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All Specifications subject to change without notice

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