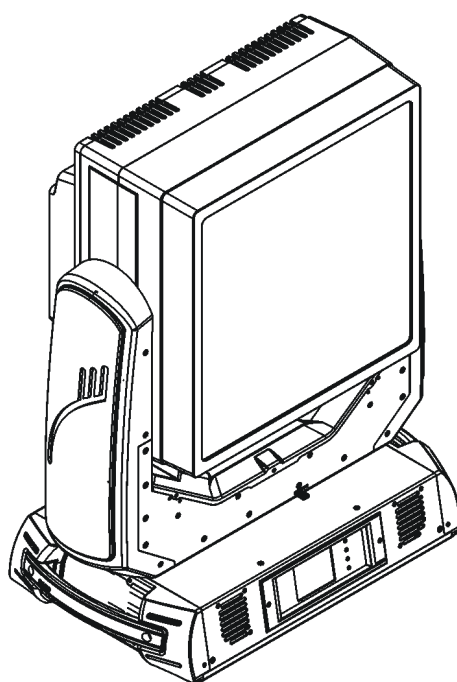# ROBIN® Square

ROBIN® Square
Wireless DMX
CRMX™

ROBIN®
Innovative Technology

USER MANUAL

Version 1.6

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

Robin Square

Table of contents

```
┌─────────────────────────────────────────────────────┐
│                    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.

Handle the power cord and all connections with the mains with particular caution!

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

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

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

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

This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.

The electric connection, repairs and servicing must be carried out by a qualified employee.

Do not connect this device to a dimmer pack.

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

Do not touch the device's housing bare hands during its operation (housing becomes hot)!
For replacement use fuses of same type and rating only.

```
┌─────────────────────────────────────────────────────┐
│   Warning! Risk Group 2 LED product according to EN 62471. │
│ LED light emission. Risk of eye injury. Do not look into the beam at short distance of │
│ the of the product. Do not view the light output with optical instruments or any device │
│            that may conncentrate the beam.          │
│           The light source contains blue LEDs.      │
└─────────────────────────────────────────────────────┘
```

Do not touch the internal side of the yoke when fixture head is moving (tilt movement). There is a danger of injury of your fingers.
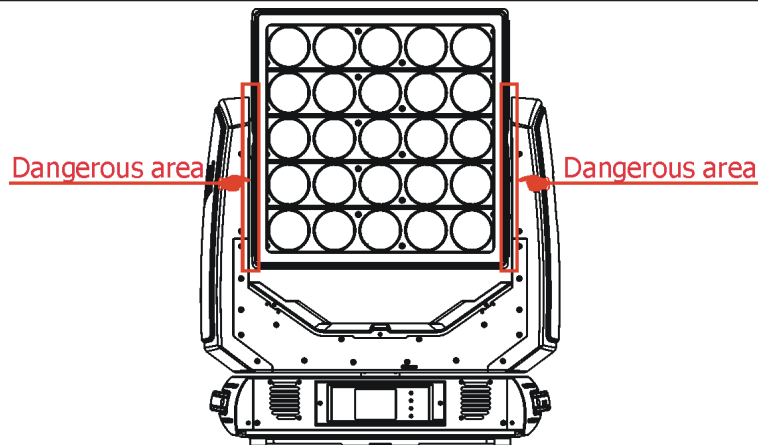
2. Operating determination

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

This device is for professional use only. It is not for household use.

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

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

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

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

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

Always secure the fixture with an appropriate safety wire.

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

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

To avoid damage of the internal optical system of the fixture, never let the sunlight or other light source lights directly to the lens array, even when the fixture is not working!

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!

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

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

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

3. Fixture exterior view
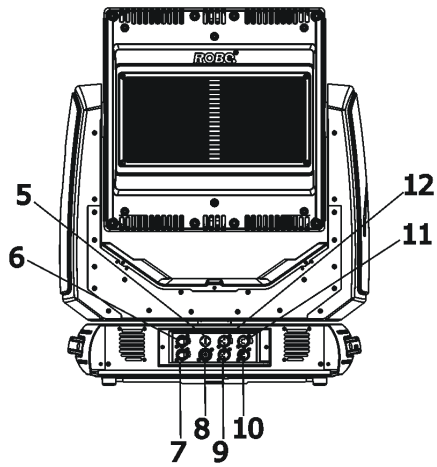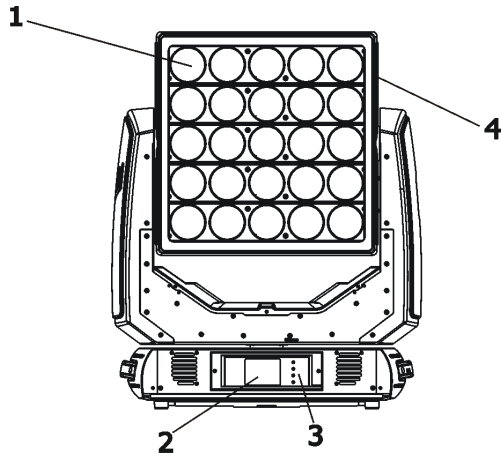
1 - LED area
2 - QVGA touch screen
3 - Pan lock
4 - Moving head
5 - Fuse holder
6 - Ethernet IN
7 - Ethernet OUT
8 - Power socket
9 - 3-pin DMX IN
10 - 5-pin DMX IN
11 - 5-pin DMX OUT
12- 3-pin DMX OUT
13- Handle
14- Pan lock
15- Yoke
16- Tilt lock
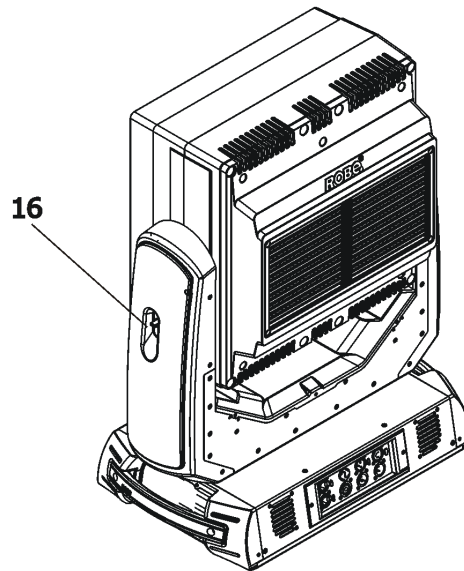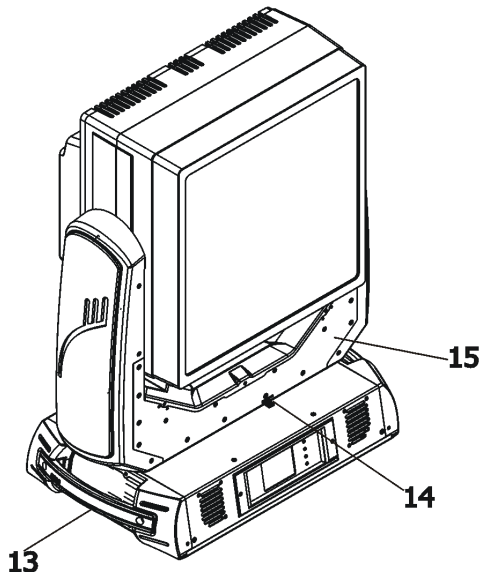
The head should be locked for transportation- the tilt lock latch (16) and the pan lock latch (14) have to be in the   locked positions. To unlock the head, move these latches to unlock positions before operating the fixture.

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

4. Installation

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

4.1 Connection to the mains

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

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

If you install a cord cap on the power cable to allow connection to power outlets, install a grounding-type (earthed) plug, following the plug manufacturer's instructions.
To apply power, first check that the head pan and tilt locks are released.
The cores in the power cable are coloured according to the following table.
.

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

4.2 Rigging the fixture

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

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

.
For overhead installation, the fixture must be always secured with 2 safety wires that can bear at least 10 times the weight of the fixture.

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

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

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

Allow the fixture to cool for ten minutes before handling.

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

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

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

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

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

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

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

The fixture can be placed directly on the stage floor or rigged in any orientation on a truss without altering its operation characteristics .
For securing the fixture to the truss, install two safety wires which can hold at least 10 times the weight of the fixture. Use only safety wires with a snap hooks with screw lock gates.

Truss installation

1. Bolt each clamp (1) to the omega holder (2) with M12 bolt and lock nut through the hole in the holder.

2. Fasten the omega holders to the bottom of the base by inserting both quick-lock fasteners (3) into
the holes of the base and tighten fully clockwise.

3. Clamp the fixture on a truss (6) and tighten the rigging clamps.

4. Pull one safety wire (4) around the truss (6) and through the handle (7) and secure lock snap hooks with screw lock gates. Pull another safety wire (4) around the truss (6) and through the handle (7) and secure it. Lock snap hook with screw lock gate in the attachment point (5) as shown on the picture below.
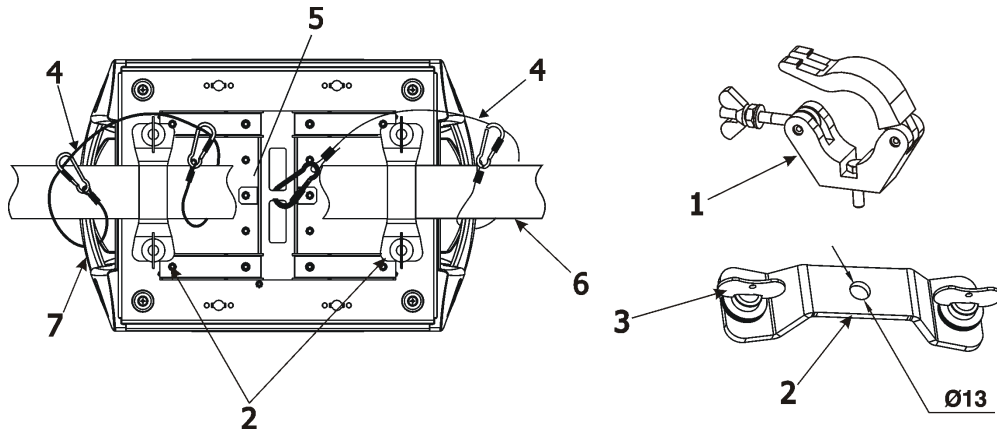
1-Clamp
2-Omega holder
3-Quick-lock fastener
4-Safety wire
5-Attachment point
6-Truss
7-Handle

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

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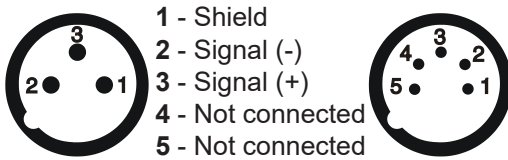**Before taking into operation for the first time,the installation has to be approved by an expert!**

4.3 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   **DMX-input**
XLR mounting-sockets (rear view):   **XLR mounting-plugs (rear view):**

1 - Shield
2 - Signal (-)
3 - Signal (+)
4 - Not connected
5 - Not connected

1 - Shield
2 - Signal (-)
3 - Signal (+)
4 - Not connected
5 - Not connected
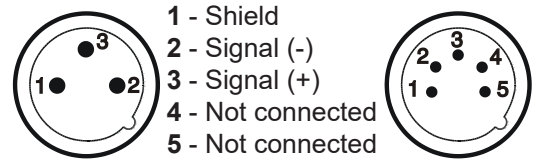
If you are using the standard DMX controllers, you can connect the DMX output of the controller directly with the DMX input of the first fixture in the DMX-chain. If you wish to connect DMX-controllers with other XLR-outputs, you need to use adapter-cables.

Building a serial DMX-chain:
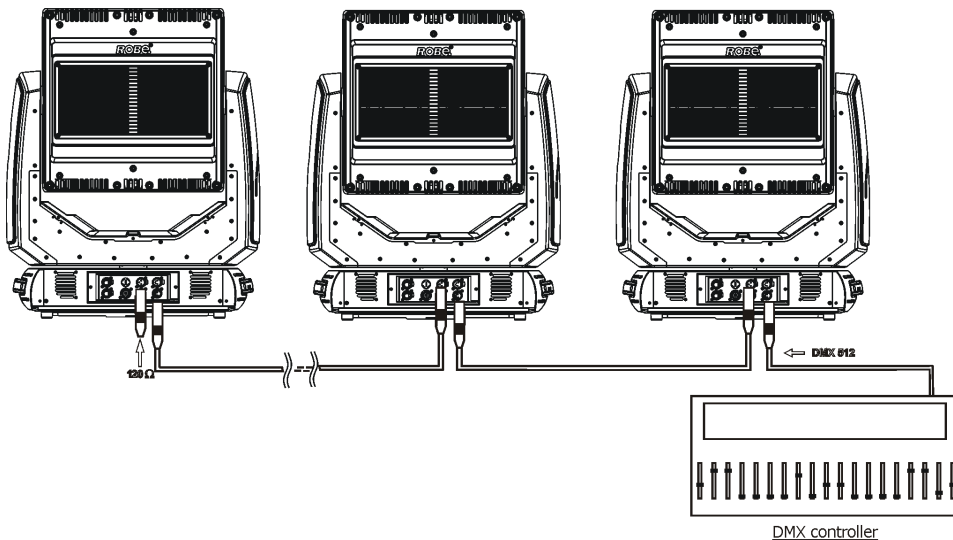
Connect the DMX-output of the first fixture in the DMX-chain with the DMX-input of the next fixture. Always connect one output with the input of the next fixture until all fixtures are connected. Up to 32 fixtures can be connected.
Caution: At the last fixture, the DMX-cable has to be terminated with a terminator. Solder a 120 Ω resistor between Signal (−) and Signal (+) into a 3-pin XLR-plug and plug it in the DMX-output of the last fixture.

4.4 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 Square 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.
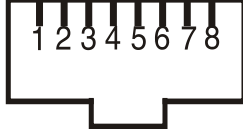
RJ-45 socket (front view):

1 2 3 4 5 6 7 8

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):

8 7 6 5 4 3 2 1
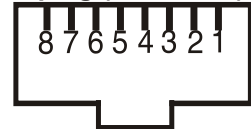
Patch cables that connect fixtures to the hubs or LAN sockets are wired 1:1,that is,pins with the same numbers are connected together:

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

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

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

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

DMX: 001   IP: 2.242.8.0
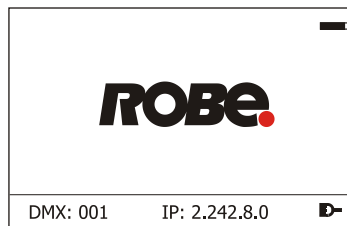
Direct Ethernet operation
Connect the Ethernet inputs of all fixtures with the Ethernet network.
Option "Artnet (gMaI or gMA2)" has to be selected from "Ethernet Mode" menu on the fixture.
Set IP address (002.xxx.xxx.xxx / 010.xxx.xxx.xxx) and the Universe.

(DMX address=131)
IP addres=002.168.002.004
Universe=1

(DMX address=30)
IP addres=002.168.002.003
Universe=1

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

Art-Net

Art-Net

Art-Net

Ethernet Switch
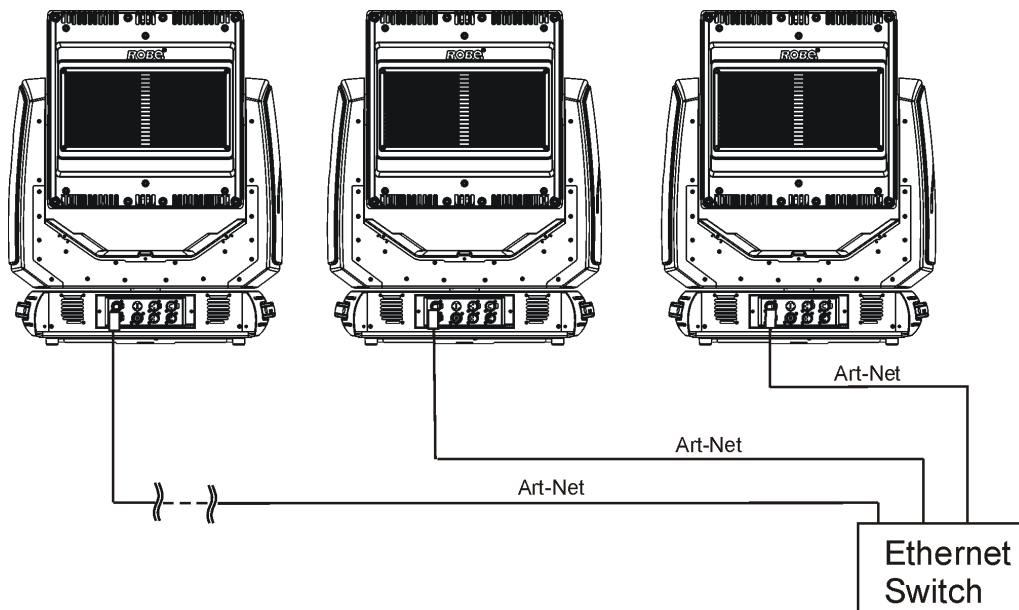
An advised PC setting: IP address: 002.xxx.xxx.xxx / 010.xxx.xxx.xxx (Different from fixture IP addresses)
NET mask: 255.0.0.0

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:

DMX address=1
IP addres=002.168.002.002
Universe=0

DMX address=30

DMX address=131

Art-Net

DMX 512   DMX 512

120 Ω

Ethernet Switch

DMX address=1
IP addres=002.168.002.003
Universe=1

DMX address=30

DMX address=131

Art-Net

DMX 512   DMX 512

120 Ω
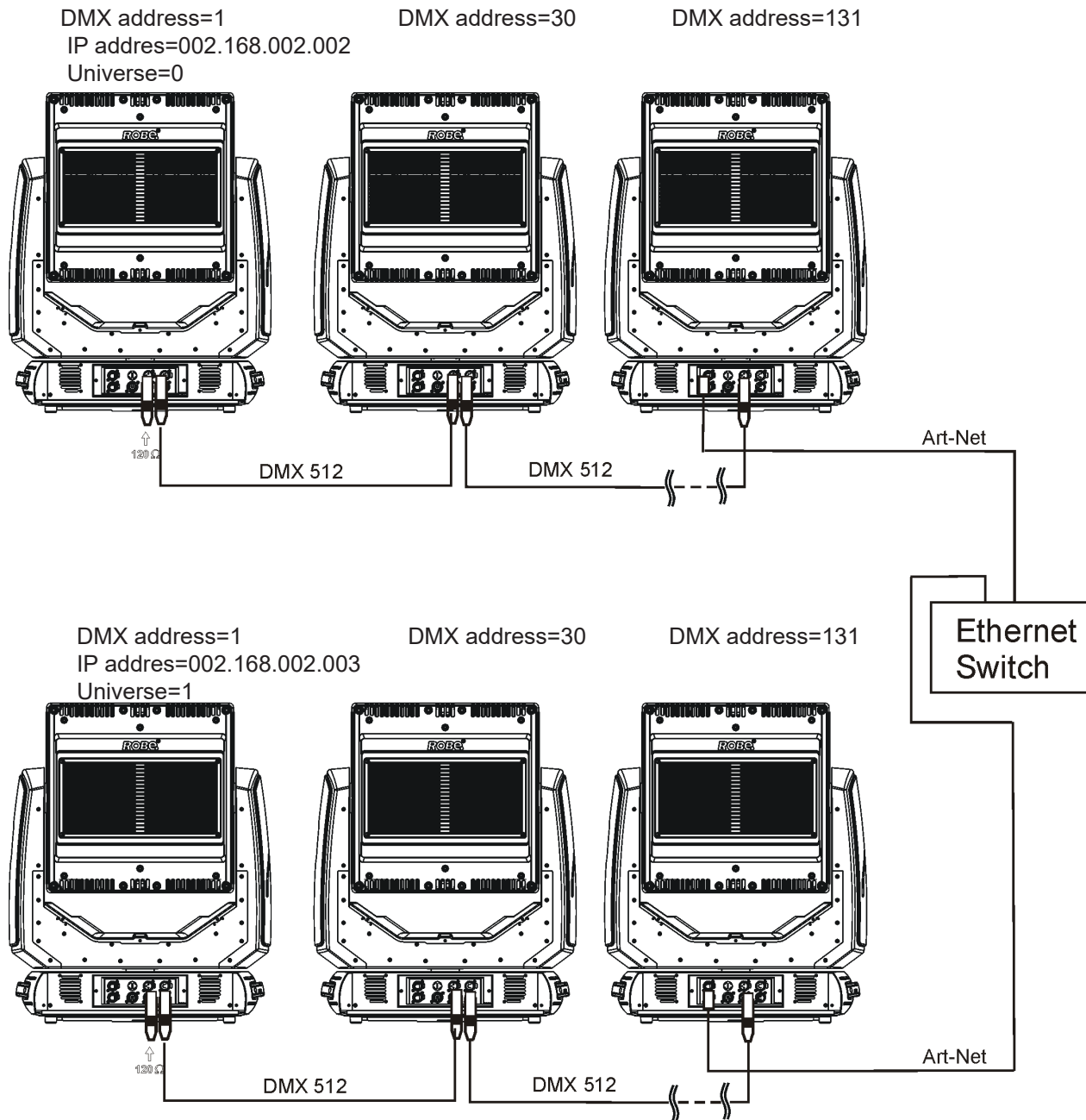
4.5 Wireless DMX operation

The wireless version of the Robin Square 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.).

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

Example:
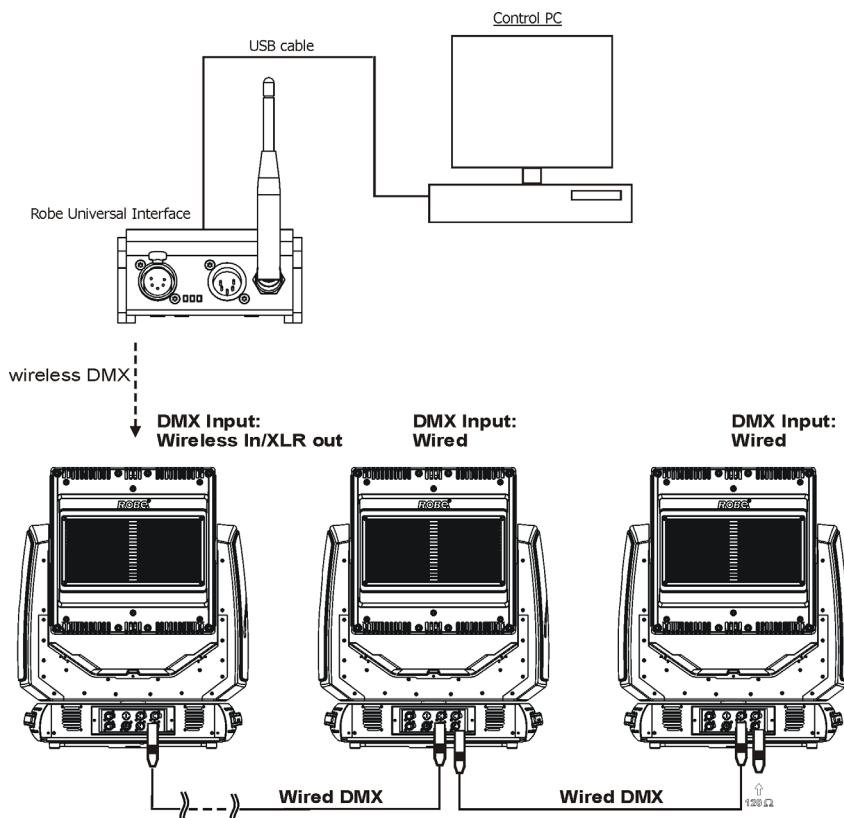
5. Remotely controllable functions

Virtual colour wheel
This wheel contains 236 colours including whites (2700K, 3200K, 4200K, 5600K and 8000K). Tungsten lamp effect at whites 2700K and 3200K.

RGBW or CMY colour mixing system
The RGBW colour mixing system is based on red, green, blue and white high power LEDs. Option for switching the fixture to the CMY colour mixing system is available.

Colour Mix control
The Colour Mix control channel defines relation between global colours (RGBW, CTO, Virtual colour wheel) and individual RGB pixels or Kling-Net.

>Global = Global Colours (RGBW, CTO, Virtual Color Wheel)
>Pixel = Pixel Colors (RGB individual pixels or Kling-Net)

DMX value	Function
0-9	Global colours (Global has priority)
10-19	Maximum mode (highest values have priority)
20-29	Minimum mode (lowest values have priority)
30-39	Multiply mode (multiply Global and Pixel)
40-49	Addition mode (Global + Pixel)
50-59	Subtraction mode (Global – Pixel)
60-69	Inverted Subtraction mode (Pixel – Global)
70-79	Coloured background
80-127	Reserved
128	Global colours (Global has priority)
129-254	Crossfade (crossfade between Global and Pixel)
255	Pixel colours (Pixel has priority)

E.g. If you wish to control RGBW channels, set the Colour Mix Control channel to 0 DMX, if you need to use pixel effects, set the Colour Mix Control channel to 255 DMX.

Effects
9 effects rotating in both directions create lot of image shapes, the effects can be rotated individually or all together.

Zoom
5 zoom zones create unique image effects. The zoom zones can be controlled individually or all zones together.

Pixel control and pixel effects
25 RGB pixels allow you to create many effects or use 85 pre-defined pixel effects

Pixels order

Tilt=128

Power cord ↑

Display

Pan=128
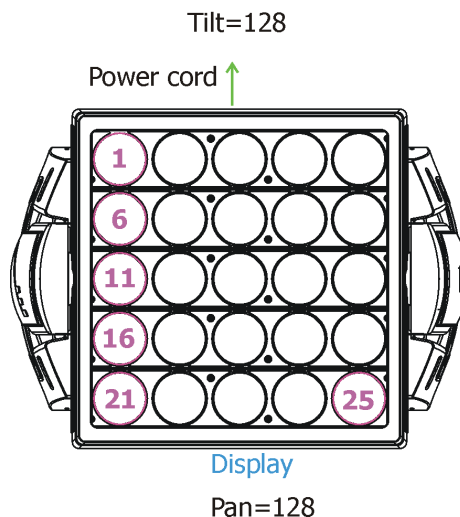
Dimmer/Shutter unit

Smooth 0 - 100 % dimming is provided by the electronic control unit. This unit is also used for strobe effects with variable speed.

Pan/Tilt

Precise pan/tilt movement due to built-in electronic motion stabilizer. The electronic motion stabilizer ensures precise position of the fixture´s head during its movement and reduces its swinging when the truss shakes. Continual pan/tilt rotation.

Tilt = 0 DMX   **Tilt = 128 DMX**   **Tilt = 255 DMX**

0 DMX
255 DMX
Display   Power cord
Pan=128

Display   Power cord
Pan=128

Display   Power cord
Pan=128
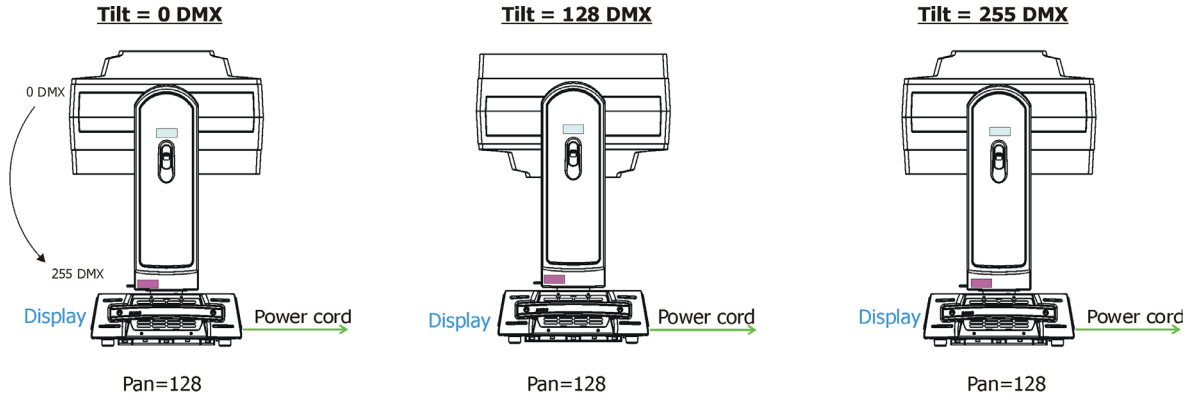
Tilt movement range: 360°   Pan movement range: 540°

Pan = 0 DMX   **Pan = 128 DMX**   **Pan = 255 DMX**

Power cord   Power cord   Power cord

Tilt lock
Pan lock

0 DMX
255 DMX

Display   Display   Display
Tilt = 128 DMX   Tilt = 128 DMX   Tilt = 128 DMX

Continual rotation

Tilt=128

128-189 DMX   194-255 DMX

Display   Power cord

Pan=128

Tilt=128

Power cord

194-255 DMX   128-189 DMX

Display

Pan=128

14
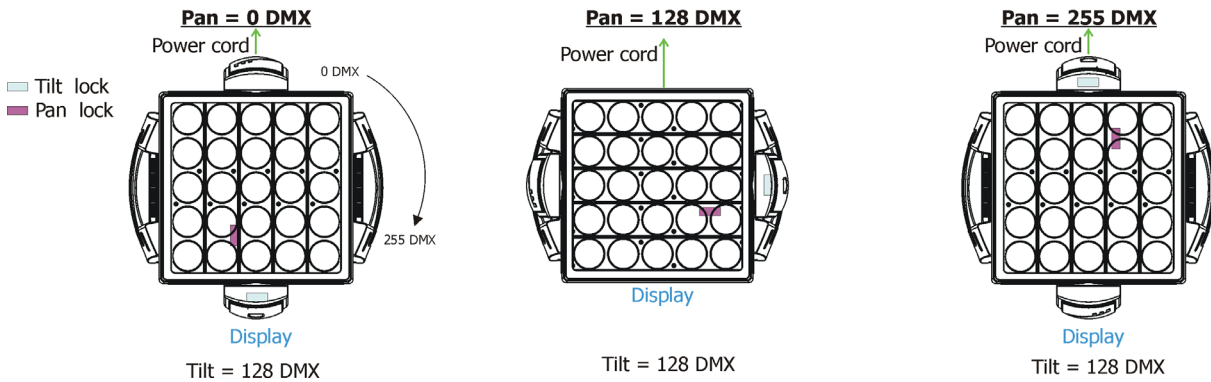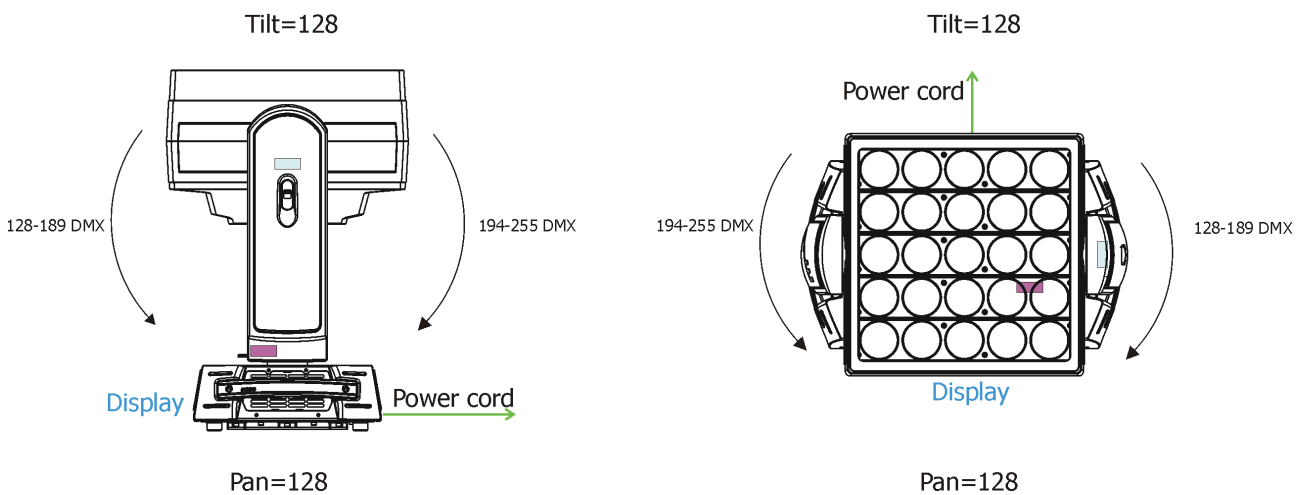
6. Control menu map

Default settings=Bold print

Tab	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Addressing	Settings	DMX Address	001-512			
		DMX Presets	**Mode 1**			
			Mode 2			
			Mode 3			
			View Selected Preset			
		Ethernet Settings	Ethernet Mode	Disable		
				ArtNet		
				gMAI		
				gMA2		
				sACN		
			Ethernet To DMX	**Off**, On		
			IP Address/Net Mask	Default IP Address		
				Custom IP Address		
				Net Mask		
			ArtNet Universe	0-255		
			MANet settings	MANetI/II Universe	01-256	
				MANet Session ID	01-32	
			sACN Settings	sACN Universe	00001-32000	
				sACN Priority	0-255	
			Klingnet Settings	**Disable**		
				Enable		
Information	Fixture Times	Power On Time	Total Hours			
			Resetable Hours			
		Air Filters	Elapsed Time			
			Alert Period	10-300		
	Fixture Temperatures	LEDs Temperature	Current			
			Maximum NonRes.			
			Maximum Res.			
		Ambient Temperature	Current			
			Maximum NonRes.			
			Maximum Res.			
		Base Temperature	Current			
			Maximum NonRes.			
			Maximum Res.			
	DMX Values	Pan				
		:				
		Dimmer Fine				
	Wireless State	Signal Quality				
		Unlink Wireless Adapter				
	Power Channel State					
	Software Versions	Display System				
		Module M				
		Module DR				
		Module PX				
		Module P1				
		Module P2				
		Module P3I				
	Product IDs	Mac Address				
		RDM UID				
		RDM Label				

Tab	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	View Logs	Fixture Errors				
		Fixture States	Power On			
			Power Off			
		Fixture Position				
		Fixture Temperatures	LEDs Temperatures			
			Ambient Temperatures			
			Base Temperatures			
Personality						
	DMX Presets	**Mode 1**				
		Mode 2				
		Mode 3				
		View Selected Preset				
	DMX Input	**Wired**				
		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			
		Pan Path	**Short**			
			Long			
		Tilt Path	**Short**			
			Long			
	Pan/Tilt EMS	**On**, Off				
	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**				
	Colour Mixing Mode	**RGBW**				
		CMY				
	Dimmer Curve	Linear				
		Square Law				
	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				
	Date & Time Settings					
	Default Settings					
Manual Control	Reset Functions	Total System reset				
		Pan/Tilt reset				
		Zoom Reset				
		MBE Reset				

Tab	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Manual Effect Control	Pan	0-255			
		:				
		Blue Pixel 25	0-255			
Stand -Alone	Test Sequences	Dynamic Mode				
		Static Mode	Pan	0-255		
			Tilt	0-255		
	MusicTrigger	**Off**, On				
	Preset Playback	**None**				
		Test				
		Prog. 1				
		Prog. 2				
		Prog. 3				
	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	0-25,5 sec.
				Step 100	Pan	0-255
					:	
					Dimmer Fine	0-255
					Step Time	0-25,5 sec.
Service	Adjust DMX Values	Pan	0-255			
		:				
		Blue Pixel 25	0-255			
	Calibrations	Calibrate Effects	Pan	0-255		
			:			
			Effect 9/2	0-255		
		Calibrate colours	Red	0-255		
			Green	0-255		
			Blue	0-255		
			White	0-255		
		Calibrate Pan/Tilt EMS				
		Load Default Calibrations				
	Update Software					

7. Control menu

The Robin Square 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:
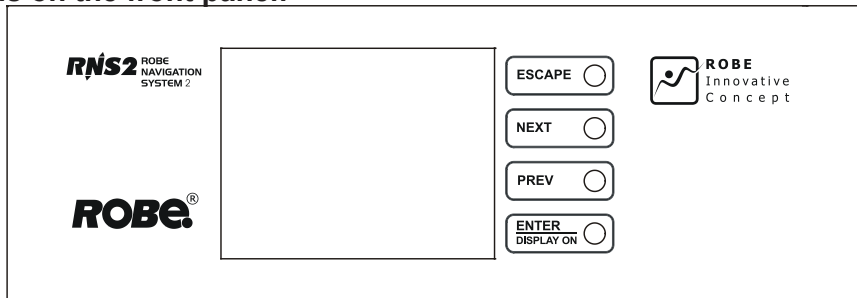
[ESCAPE] button used to leave the menu without saving changes.
[NEXT] , [PREV] buttons for moving between menu items and symbols, adjusting values.
[ENTER/Display On] button used to enter the selected menu (menu item) and to confirm adjusted value.
If the fixture is disconnected from mains, the button 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°.

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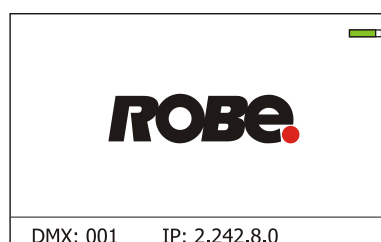
- [keyboard control] used to recall keyboard system for setting desired value.

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

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

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


DMX: 001   IP: 2.242.8.0

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

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

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

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

Touch any part of the screen or press the [ENTER/Display On] button to display the initial screen with the current stored DMX address:
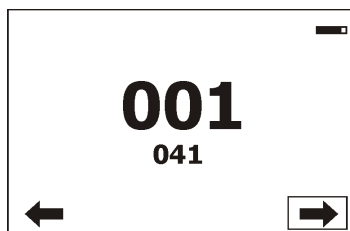
Touch the green arrow at the bottom right corner of the screen or press the [ENTER/Display On] button to enter the " Address" menu.

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

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

7.1 Tab " Address"

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

DMX Preset - Use the menu to select desired channel mode.
  Mode 1 - 24 control channels
  Mode 2 - 43 control channels
  Mode 3 - 118 control channels

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

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

    Ethernet Mode
            Disable - The option disables Ethernet operation.
            Artnet - Fixture receives Artnet protocol
            gMAI - Fixture receives MANet I protocol
            gMA2 - Fixture receives MANet 2 protocol
            sACN - Fixture receives sACN protocol

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

 IP Address/Net Mask - Select this menu to set IP address. IP address is the Internet protocol
address.The IP uniquely identifies any node (fixture) on a network.
There cannot be 2 fixtures with the same IP address on the network!

    Default IP Address -Preset IP address, you can set up only first byte of IP address
    (2 or 10) e.g. **002**.019.052.086.
    Custom IP Address - The option enables to set up all bytes of IP address.
    Net Mask - The option enables to set up all bytes of Net Mask.

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

 MANet Settings - Use this menu to set parameters for MANet operation.
    MANet Universe I/II - The value of this item can be set in range 1-256.
    MANet Session ID - The value of this item can be set in range 1-32.

 sACN Settings - Use this menu to set parameters for sACN operation.
    sACN Universe - The value of this item can be set in range 1-32000.
    sACN Priority - The value of this item can be set in range 0-255.

 Klingnet Settings - Use this menu to enable or disable Klingnet protocol f

7.2 Tab "Information"

Fixture Times - The menu provides readouts of fixture operation hours and air filters using 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 Square has been fabricated.
    Resetable Hours - The item shows the number of the operation hours that the
Robin Square 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:"

  Air Filters - Regular cleaning of the air filters is very important for the fixture´s life and performance.
Bild-up of dust, dirt and fog fluid residues reduces the fixture´s light output and cooling ability.
The two items of this menu help you to keep cleaning period of the air filters.
    Alert period - Cleaning schedule for the fixture depends on the operating environment.
    It is therefore impossible to specify accurate cleaning interval. This item allows
    you to change the cleaning interval of the air filters. This "alert" value is 300 hours and it
    is set as default. Inspect the fixture within its 300 hours of operation to see whether cleaning
    is necessary. If cleaning is required, clean all air filters and change the value in this menu
    on acceptable level. Min. level of alert period is 10 hours, max. is 300 hours.
    Elapsed Time - The item allows you to read the time which remains to cleaning air filters.
    The time period is set in the menu mentioned above.
    Expired time period is signalled by a negative mark (-) at the time value and a warning icon
    on the display.
    Clean the filters and reset this menu item (by touching the text box next to the item
    "Elapsed Time").

  Fixture Temperatures - The menu is used to view temperatures of the fixture´s inside.
  LEDs temperatures - The menu shows temperature on the LEDs PCB .
    Cur. - A current temperature of the LEDs PCB.
    Max. - A maximum temperature of the LEDs PCB since the fixture has
    been fabricated.
    Max. Res. - A maximum temperature of the LEDs PCB since the counter

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

Ambient Temperature - The menu shows temperature on the PCB in the fixture arm (arm without tilt lock).
Current - A current temperature on the PCB in the fixture arm.
Maximum NonRes. - A maximum temperature on the PCB in the fixture arm since the fixture has been fabricated.
Maximum Res. - A maximum temperature on the PCB in the fixture arm 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 (on the display PCB).
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.
Unlink Wireless Adapter - The item serves for unlinking the fixture from DMX transmitter.

Power Channel State - The menu item shows state of the Power/Special functions switches.

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 processors
Module DR - A LEDs driver
Module DX - Pixels + zooms control
Module P1 - Prisms control
Module P2 - Prisms control
Module P3 - Prisms control

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

View Logs - Use this menu to read fixture´s data which have been recorded during fixture operation. This colected data allows easier troubleshooting.
Fixture Errors - Use this menu to read fixture errors which have occured during fixture operation.
Fixture States - Recorded following actions: Fixture On, Fixture Off.
Fixture Position - Recorded installation positions of the fixture:
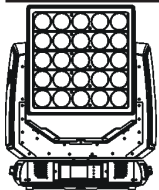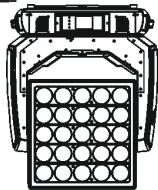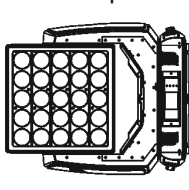
| Disp-FN | Disp-FI | Disp-ST | Disp-SB | Disp-T | Disp-B |

Fixture Temperatures - Recorded temperatures which have exceeded defined levels.

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

7.3 Tab "Personality"

DMX Preset - Use the menu to select desired channel mode.
    Mode 1 - 24 control channels
    Mode 2 - 43 control channels
    Mode 3 - 118 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 mowing head to the required pan/tilt position after changing the position by an external force if this option is set on.
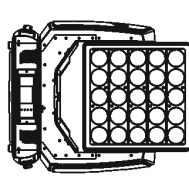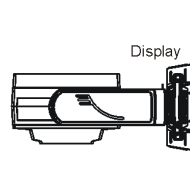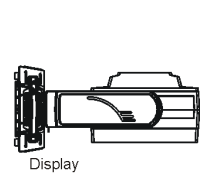   Note. Be careful, the Pan/Tilt Feedback should be permanent On, the option Off is not suitable for standard operation and the head of the fixture can be damaged!
    Pan/Tilt mode - Use this menu to set the mode of the pan/tilt movement
                Time mode – The pan and tilt will move with different speeds and they will come at the same time to the end point of their tracks (pan and tilt use their optimal speeds). Time of the pan/tilt movement (25.5 sec. max.) is set by the channel "Pan/Tilt speed, Pan/Tilt time".
                Speed Mode - Both Pan and tilt will move with the same speed as adjusted at the channel "Pan/Tilt speed, Pan/Tilt time".

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

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).

Colour Mixing Mode - This item allows switching into RGBW or CMY mode. In the CMY mode, the white(8bit)/ white (16) bit channels are not active.

Dimmer Curve - You can select desired dimmer curve: Linear or Square Law.

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, an the option set in the "Display Orientation" menu is temporarily overriden.

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. power mode ("**High**") or to auto-control mode ("**Auto**").
 Law.

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.

7.4 Tab "Manual Control"

Reset Functions - The menu allows to reset the fixture either per function modules or all modules together.
  Total System Reset - The item resets all function modules.
  Pan/Tilt Reset - The item resets a pan and tilt movement.
  Zoom Reset - The item resets zooms 1-5.
  MBE Reset - The item resets MBE effects 1-9.

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

7.5 Tab "Stand-alone"

Test Sequences -Use the menu to run a test/demo sequences without an external controller, which will show you some possibilities of using Robin Square.
  Dynamic Mode - This mode uses all Robin Square 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 and tilt 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 Square 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 throw the list by touching the [up arrow] and [down arrow] and set all desired effects.
An item "Step Time" (value of 0-25.5 sec.) is the time during which effects last in the current step
5. Save adjusted effects to the current step by touching the [confirm] or save and copy them to the following step by touching the [confirm+copy]. By touching the text box "Preview" next to the current program step you can view created scene.
6. Repeat the steps 4 and 5 for next program steps.
7. After editing desired program steps, adjust the length of the program by touching the text boxes "Start Step" and "End Step".

Meaning of the icons used in the "Edit Program" menu:
  ⬇ - moves down on the next page   ✔ - saves adjusted values and leaves menu
  ⬇ - moves up on the previous page   ✔ - saves values to the current step and copy them to the
                                                        following prog. step

❌ - leaves menu without saving values

7.6 Tab "Service"

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

Calibrations - This menu enables fine calibration of fixture effects and download default calibration values.
  Calibrate Effects - The menu allows the fine adjustment of effects.
      Pan- a pan position fine adjustment
      Tilt - a tilt position fine adjustment
      Effect 1/1 - adjusting distance between effect 1 and its stop
      Effect 1/2 - centering effect 1 above optical rod
      Effect 2/1 - adjusting distance between effect 2 and its stop
      Effect 2/2 - centering effect 2 above optical rod
      :
      Effect 9/1 - adjusting distance between effect 9 and its stop
      Effect 9/2 - centering effect 9 above optical rod

Calibration of the effects via the control board
1. Disconnect DMX controller from the fixture and enter the "Calibrate Effects" menu.
2. Use the [up arrow] and [down arrow] to find "Pan" and touch it to enter the fine effect adjustment screen.
3. Set desired value and save it by touching the [confirm].
4. Repeat steps 2 and 3 for next item
5. After calibrating all effects, touch the [confirm] to save all adjusted values and reset the fixture.
  Calibrate Colours - The menu serves for adjusting of LEDs saturation to achieve uniform white colours
      Red - a red LEDs saturation fine adjustment
      Green - a green LEDs saturation fine adjusment

Blue - a blue LEDs saturation fine adjustment
White - a white LEDs saturation fine adjustmentt

Calibration protocol:

Effect	Mode 1	Mode 2
Pan	channel 25	channel 44
Tilt	channel 26	channel 45
Effect 1/1	channel 27	channel 46
Effect 1/2	channel 28	channel 47
Effect 2/1	channel 29	channel 48
Effect 2/2	channel 30	channel 49
Effect 3/1	channel 31	channel 50
Effect 3/2	channel 32	channel 51
Effect 4/1	channel 33	channel 52
Effect 4/2	channel 34	channel 53
Effect 5/1	channel 35	channel 54
Effect 5/2	channel 36	channel 55
Effect 6/1	channel 37	channel 56
Effect 6/2	channel 38	channel 57
Effect 7/1	channel 39	channel 58
Effect 7/2	channel 40	channel 59
Effect 8/1	channel 41	channel 60
Effect 8/2	channel 42	channel 61
Effect 9/1	channel 43	channel 62
Effect 9/2	channel 44	channel 63

Calibrate Pan/Tilt EMS - This menu item allows calibration of the pan/tilt electronic motion stabilizer. Important: during this calibration any external force must not influence the fixture and the surface at which the fixture stands (or truss if the fixture hangs) has to be without movement, shake, strokes etc.

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

Update 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/7/8 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: Software update should execute a qualified person. If you lack qualification, do not attempt the update yourself and ask for help your ROBE distributor.
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 seftware.
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.

8. RDM

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

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

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

The list of commands for Robin Square 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 [1]		*	*
DEVICE_HOURS [2]			*
LAMP_HOURS [2]			*
LAMP_STRIKES [2]			*

[1]...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

[2]...Commands relative resetable values

9. Error and information messages

Information icon

🌀 **- Air Filters Cleaning**

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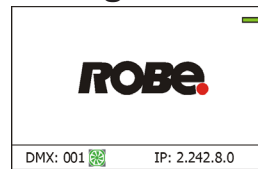
Errors

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

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

Temper.Sensor Error

The message informs you that the communication betwen 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.

Zoom Error 1 (Zoom Error 2)

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

Faulty battery

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

Clean Air Filters

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

10. Technical Specifications

Electrical

Power supply:........................electronic auto-ranging
Input voltage range:.............. supply 100-240V, 50-60Hz
Fuse:.............................T 12 A

Max. power consumption .....800W (power factor= 0.98; I=3.6A at 230V)

Optic

Light source: 25 RGBW LED multichips
RGBW or CMY colour mixing
Min. LED life expectancy: 20.000 hours (at full load of LEDs)

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

Zoom

Individually zoom control of 5 LED lines
Min. beam angle :4° (1/2 beam, all zoom modules together, all zoom modules lite)
Max. beam angle: 38°(1/10 beam, all zoom modules together, all zoom modules lite)
46°(1/10 beam, all zoom modules together, 2 zoom modules lite)

Effects

9 beam effects rotating in both directions with variable speed

Strobe

Strobe effect with variable speed (0.3 - 20Hz)

Dimmer

Smooth dimmer from 0 - 100 %

Control

Graphic touch screen for fixture setting and addressing
Gravitation sensor for auto screen positioning
Battery backup of the touch screen
Readout fixture and LED module usage, receiving DMX values, temperatures, etc
Built-in analyzer for easy fault finding, error messages
Built-in demo sequences
Individual pixel control of each LED
Stand-alone operation
3 user editable programs, each up to 100 steps
Supported protocols: USITT DMX 512, RDM, ArtNet, MANet, MANet2, sACN, Kling-Net
Support of RDM (Remote Device Management)
3 DMX modes (24, 43, 118 control channels)

Wireless DMX/RDM module (only for Wireles 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

Pan/Tilt

Pan movement range 540°
Tilt movement range 360°
Continual pan/tilt rotation
16 bit movement resolution
Automatic Pan/Tilt position correction
Remotely controllable speed of pan/tilt movement for easy programming
Pan/tilt-lock mechanism

Connection

DMX data in/out: Locking 3-pin and 5-pin XLR
AC power input: Chassis connector Neutrik PowerCon, NAC3MPX
Ethernet IN/Out: RJ45

Max. number of fixtures in Ethernet IN/Out line

5

Rigging

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

Temperatures

Maximum ambient temperature : 40° C
Maximum housing temperature : 80° C

Minimum distances

Min. distance from flammable surfaces: 0.5 m
Min. distance to lighted object: 1 m

Total heat dissipation

Maximum: 2730 BTU/hr

Ingress protection

IP2x

Accessories

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

Optional accessories

Upgrade kit CRMX Univerzal 260 (P/N 9903 0100)
Doughty Trigger Clamp (17030386)
Safety wire 50 kg (99011957)

Weight (net)

36.5 kg

Dimensions (mm)

263

136

698.7

541.9

559

320.6
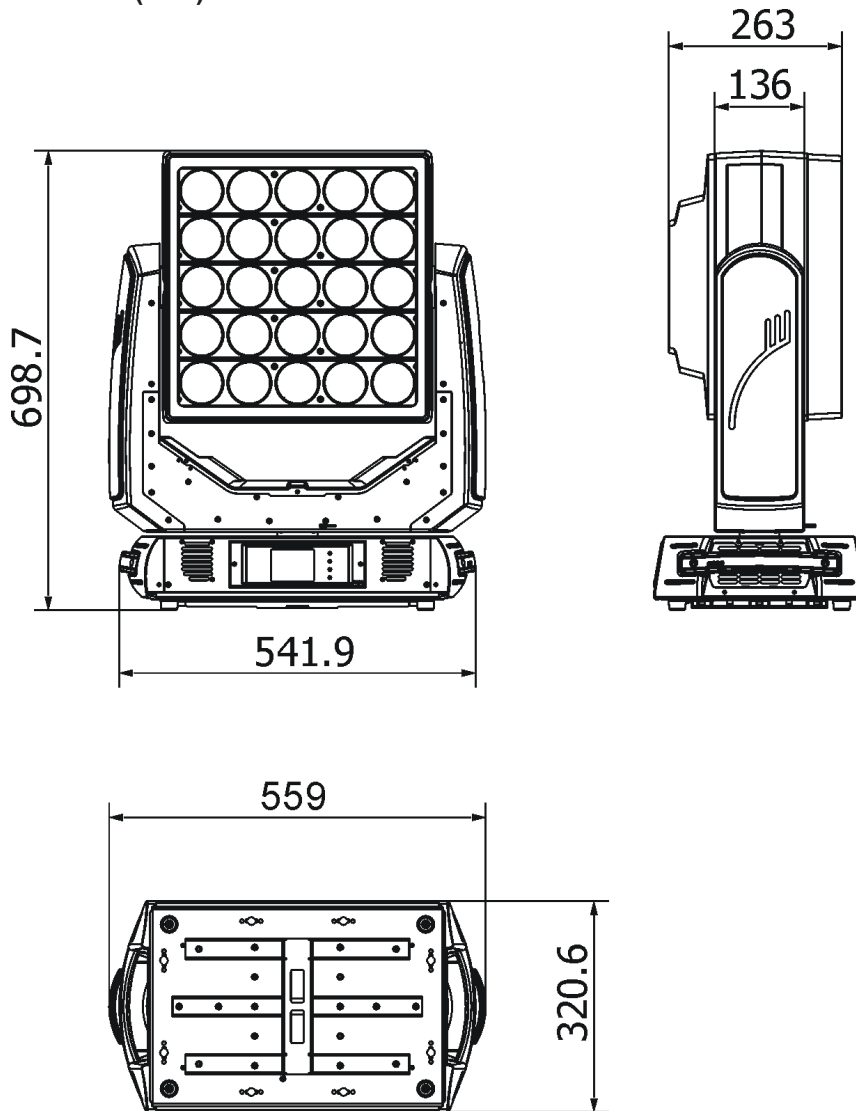
11. Maintenance and cleaning

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 and cleaning work

The front 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 fixture should be cleaned at least annually using a vacuum-cleaner or an air-jet.

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

Periodically clean the air filters placed in the fixture´s base. Use a vacuum cleaner, compressed air or you can wash them and put back dry.
After replacing the air filters, reset the elapsed time counter in the menu "Information" (Information--->Air Filters---> Elapsed Time).

Replacing the fuse.

Before replacing the fuse, unplug mains lead.

       1) Remove the fuse holder on the rear panel of the base with a fitting screwdriver from the housing
          (anti-clockwise).

       2) Remove the old fuse from the fuse holder.

       3) Install the new fuse in the fuse holder (only the same type and rating).

       4) Replace the fuseholder in the housing and fix it.

12. ChangeLog

This section summarizes all types of changes in the user manual.

Version of the manual	Date of issue	Description of changes
1.1	04/03/2016	Added new photometric diagrams
1.2	21/04/2016	DMX chart version 1.4
1.3	25/072016	Color Mix Control description added into chapter 5 (Remotely controllable functions). DMX chart ver. 1.5
1.4	04/09/2016	DMX chart ver. 1.6
1.5	24/01/2018	Optional accessories changed
1.6	30/04/2018	DMX chart ver. 1.7

Specifications are subject to change without notice.
April 30, 2018
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13. Photometric diagrams

Min. Zoom
(All Zones On)
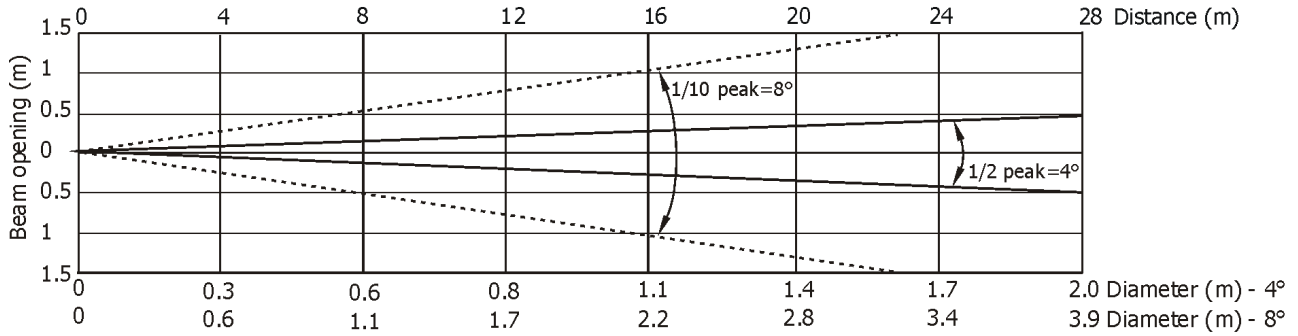
Distance (m)	4	5	8	12	16	20	24	28	
Red	11000/1022	7040/654	2750/256	1222/114	687/64	440/41	306/28	224/21	
Green	18156/1687	11620/1079	4540/422	2017/187	1135/105	726/68	504/47	370/34	Intensity (center) Lux/Footcandles
Blue	3250/302	2080/193	813/76	360/34	203/19	130/12	90/8.5	66/6	
White	24843/2308	15900/1477	6210/577	2760/257	1552/144	993/92	690/64	507/47	
R+G+B+W	54720/5084	35020/3254	13680/1271	6079/565	3420/318	2188/203	1520/141	1117/104	

Illuminance distribution
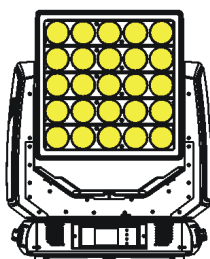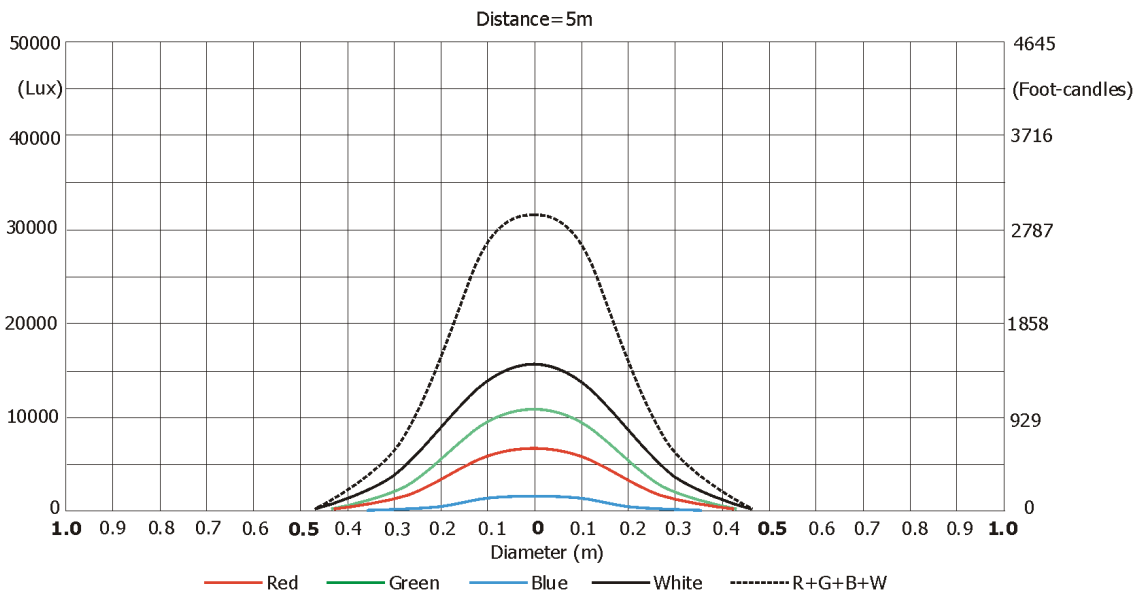
Distance=5m

Max. Zoom
(All Zones On)
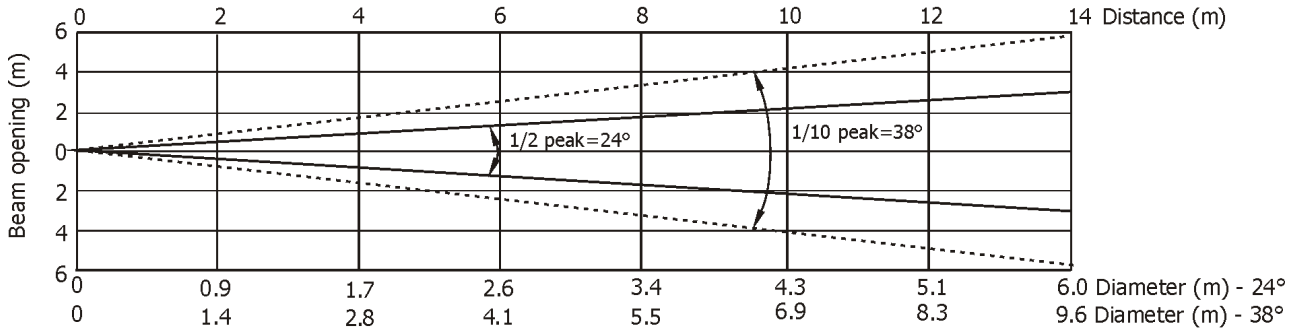
Distance (m)	2	4	5	6	8	10	12	14	
Red	2169/202	542/50	347/32	241/22	136/13	87/8	60/6	44/4	
Green	3768/350	942/88	603/56	419/39	235/22	151/14	105/10	77/7	Intensity (center) Lux/Footcandles
Blue	725/67	181/17	116/11	80/8	45/4	29/3	20/1.9	15/1.4	
White	4781/444	1195/111	765/71	531/49	300/28	191/18	133/12	98/9	
R+G+B+W	11063/1028	2766/257	1770/164	1230/114	691/64	442/41	307/29	226/21	

Illuminance distribution
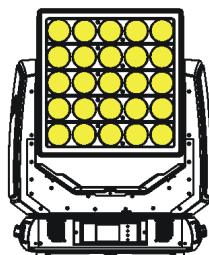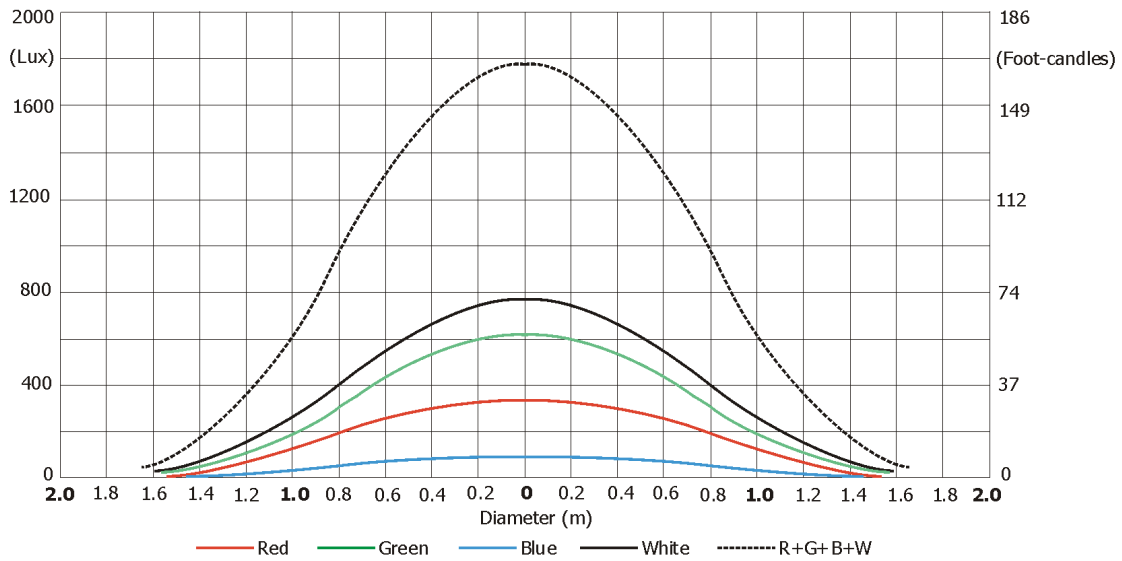
Distance=5m

Max. Zoom
(Zone 2 & 4 On)
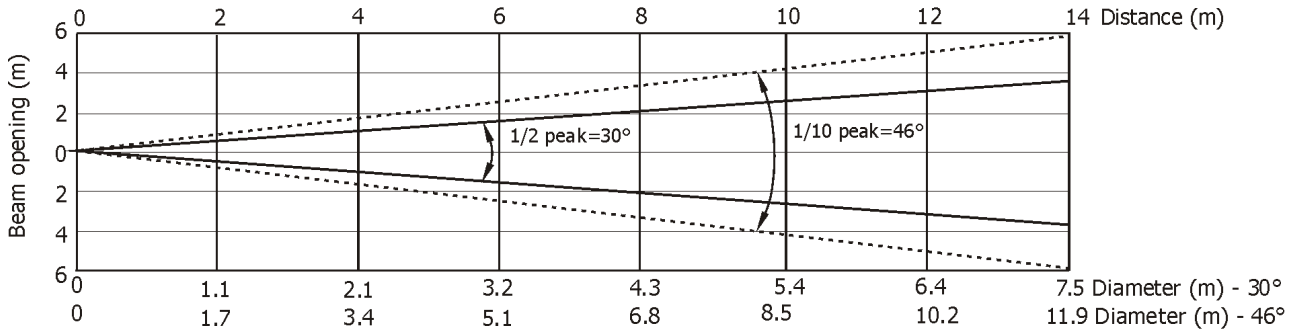
Distance (m)	2	4	5	6	8	10	12	14	
Red	613/57	153/14	98/9	68/6	38/4	25/2.3	17/1.6	13/1.2	
Green	1100/102	275/26	176/16	122/11	69/6	44/4	30/2.8	22/2.1	Intensity (center) Lux/Footcandles
Blue	194/18	48/5	31/3	22/2	12/1.1	8/0.7	5/0.5	4/0.4	
R+G+B+W	2969/276	742/69	475/44	330/31	186/17	119/11	83/7.7	60/6	

Illuminance distribution
Distance=5m

Mode/channel			DMX	Function	Type of
1	**2**	**3**	Value		control
1	**1**	**1**		**Pan (8 bit)**	
			0 - 255	Pan movement by 540°/360° (128=default)	proportional
2	**2**	**2**		**Pan Fine (16 bit)**	
			0 - 255	Fine control of pan movement (0=default)	proportional
3	**3**	**3**		**Tilt (8 bit)**	
			0 - 255	Tilt movement by 360° (128=default)	proportional
4	**4**	**4**		**Tilt fine (16 bit)**	
			0 - 255	Fine control of tilt movement (0=default)	proportional
5	**5**	**5**		**Pan control**	
			0	Pan range 540°, shortcut Off (0=default)	step
			1	Pan range 360°, shortcut On	step
			2-127	No function	
			128-189	Continuous rotation fast -> slow , Forwards	proportional
			190-193	Stop rotation	step
			194-255	Continuous rotation slow -> fast , Backwards	proportional
6	**6**	**6**		**Tilt control**	
			0	Tilt range 360°, Shortcut Off (0=default)	step
			1	Tilt range 360°, Shortcut On	step
			2-127	No function	
			128-189	Continuous rotation fast -> slow , Forwards	proportional
			190-193	Stop rotation	step
			194-255	Continuous rotation slow -> fast , Backwards	proportional
7	**7**	**7**		**Pan/Tilt speed , Pan/Tilt time**	
			0	Max. speed-Standard Mode (0=default)	step
				P./T. speed-set Speed Mode in menu: Pan/Tilt Mode	
			1 - 255	Speed from max. to min.	proportional
				P./T. time - set Time Mode in menu: Pan/Tilt Mode	
			1 - 255	Time from 0.1 s to 25.5 sec.	proportional
8	**8**	**8**		**Power/Special functions**	
			0 -9	Reserved (0=default)	
				To activate following functions, stop in DMX value for at least 3 s and shutter must be closed at least 3 sec. („Shutter,Strobe" channel 23/41 must be at range: 0-31 DMX). Corresponding menu items are temporarily overriden).	
			10-14	DMX input: Wired DMX	step
			15-19	DMX input: Wireless DMX *	step
				* function is active only10 seconds after switching the fixture on	
			20-24	Graphic display ON	step
			25-29	Graphic display OFF	step
			30-34	RGBW colour mixing mode	step
			35-39	CMY colour mixing mode	step
			40-44	Pan/Tilt speed mode	step
			45 - 49	Pan/Tilt time mode	step
			50 -54	Blackout while pan/tilt moving	step
			55 -59	Disabled blackout while pan/tilt moving	step
			60 - 64	Dimmer curve-square law	step
			65 - 69	Dimmer curve-linear	step

Mode/channel			DMX Value	Function	Type of control
1	2	3			
			70 - 74	Fans mode: Auto	step
			75 - 79	Fans mode: High	step
			80 -109	Reserved	
			110-114	Kling-Net On	step
			115-119	Kling-Net Off	step
			120-129	Reserved	
				To activate following functions, stop in DMX value for at least 3 seconds.	
			130 - 139	Fixture reset (except pan/tilt)	
			140 - 149	Pan/Tilt reset	step
			150 - 159	Zoom reset	step
			160 - 169	Effects reset	step
			170 - 199	Reserved	step
			200 - 209	Total fixture reset	step
			210 - 255	Reserved	
9	9	9		**Virtual colour wheel**	
			0	No function (0=default)	step
			1-2	White 2700 K	step
			3	White 2700 K (Halogen lamp mode**)	step
			4-5	White 3200 K	step
			6	White 3200 K (Halogen lamp mode**)	step
			7-9	White 4200 K	step
			10-12	White 5600 K	step
			13-15	White 8000 K	step
			16	Blue (Blue=full, Red+Green+White=0)	step
			17-55	Red=0, Green->up,Blue =full, White=0	proportional
			56	Light Blue (Red=0, Green=full, Blue =full, White=0)	step
			57 - 95	Red=0, Green=full, Blue->down, White=0	proportional
			96	Green (Red=0, Green=full, Blue =0, White=0)	step
			97 – 134	Red->up, Green=full, Blue=0, White=0	proportional
			135	Yellow (Red=full, Green=full, Blue=0, White=0)	step
			136 - 174	Red=full, Green->down, Blue=0, White=0	proportional
			175	Red(Red=full, Green=0, Blue=0, White=0)	step
			176 -214	Red=full, Green=0, Blue->up, White=0	proportional
			215	Magenta (Red=full, Green=0, Blue=full, White=0)	step
			216 - 246	Red -> down, Green=0, Blue=full, White=0	proportional
			247	Blue (Red=0, Green=0, Blue=full, White=0)	step
			248-251	Rainbow effect (with fade time)from slow-> fast	proportional
			252-255	Rainbow effect(without fade time) from slow-> fast	proportional
10	10	10		**Red/Cyan (8 bit)- all pixels***	
			0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	11	11		**Red/Cyan (16bit)- all pixels***	
			0 - 255	Colour saturation control - fine (255=default)	proportional
11	12	12		**Green/Magenta (8 bit) - all pixels ***	
			0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	13	13		**Green/Magenta (16bit) - all pixels***	
			0 - 255	Colour saturation control - fine (255=default)	proportional
12	14	14		**Blue/Yellow (8 bit) - all pixels ***	
			0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	15	15		**Blue/ Yellow (16bit) -all pixels***	

Mode/channel			DMX Value	Function	Type of control
1	2	3			
			0 - 255	Colour saturation control - fine (255=default)	proportional
13	16	16		**White (8 bit) - all pixels**	
				If RGBW mode is selected:	
			0-255	Colour saturation control - coarse 0-100% (255=default)	proportional
				If CMY mode is selected:	
			0 - 255	No function	
*	17	17		**White (16 bit) - all pixels**	
			0 - 255	Colour saturation control - fine (255=default)	proportional
14	18	18		**CTC**	
			0-255	Colour temperature correction for from cool col. to warm colour	proportional
15	19	19		**Colour Mix control**	
				The channel defines relation between color channels	
				Global = Global Colours (RGBW, CTO, Virtual Color Wheel)	
				Pixel = Pixel Colors (RGB individual pixels or Kling-Net)	
			0-9	Global colors (Global has priority)	
			10-19	Maximum mode (highest values have priority)	step
			20-29	Minimum mode (lowest values have priority)	step
			30-39	Multiply mode (multiply Global and Pixel)	step
			40-49	Addition mode (Global + Pixel) (45=default)	step
			50-59	Subtraction mode (Global – Pixel)	step
			60-69	Inverted Subtraction mode (Pixel – Global)	step
			70-79	Coloured background	step
			80-127	Reserved	
			128	Global colors (Global has priority)	step
			129-254	Crossfade (crossfade between Global and Pixel)	proportional
			255	Pixel colors (Pixel has priority)	step
16	20	20		**Pixel effects**	
			0-2	No function (0=default)	
			3-4	Effect 1	step
			5-6	Effect 2	step
			:	:	:
			171-172	Effect 85	step
			173-255	Reserved	
17	21	21		**Pixel effects speed**	
			0-127	Speed from from min. to max. (0=default)	proportional
			128-255	Speed from max. to min. (opposite direction)	proportional
18	22	22		**Pixel effects fade**	
			0	Without fade time (0=default)	step
			1-255	Fade time from min. to max.	proportional
*	23	23		**MBE 1 (Multiple Beam Engine 1)**	
			0	Open position -without Effect (0=default)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
*	24	24		**MBE 2 (Multiple Beam Engine 2)**	
			0	Open position -without Effect (0=default)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional

Mode/channel			DMX Value	Function	Type of control
1	2	3			
*	25	25		**MBE 3 (Multiple Beam Engine 3)**	
			0	Open position -without Effect (0=default)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
*	26	26		**MBE 4 (Multiple Beam Engine 4)**	
			0	Open position (without Effect)	step
			1 - 127	Open position -without Effect (0=default)	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
*	27	27		**MBE 5 (Multiple Beam Engine 5)**	
			0	Open position -without Effect (0=default)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
*	28	28		**MBE 6 (Multiple Beam Engine 6)**	
			0	Open position -without Effect (0=default)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
*	29	29		**MBE 7 (Multiple Beam Engine 7)**	
			0	Open position -without Effect (0=default)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
*	30	30		**MBE 8 (Multiple Beam Engine 8)**	
			0	Open position -without Effect (0=default)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
*	31	31		**MBE 9 (Multiple Beam Engine 9)**	
			0	Open position -without Effect (0=default)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
19	32	32		**MBE effects**	
			0-2	Open position -without Effect (0=default)	step
			3-4	All MBEs together (synchronous rotation - set rotation at channel 20/33)	step
			5-6	Effect 1	step
			7-8	Effect 2	step
			9-10	Effect 3	step
			11-12	Effect 4	step
			13-14	Effect 5	step
			15-16	Effect 6	step
			17-18	Effect 7	step
			19-20	Effect 8	step
			21-22	Effect 9	step
			23-24	Effect 10	step
			25-26	Effect 11	step

Mode/channel			DMX Value	Function	Type of control
1	2	3			
			27-28	Effect 12	step
			29-30	Effect 13	step
			31-32	Effect 14	step
			33-34	Effect 15	step
			35-36	Effect 16	step
			37-38	Effect 17	step
			39-40	Effect 18	step
			41-42	Effect 19	step
			43-44	Effect 20	step
			45-46	Effect 21	step
			47-48	Effect 22	step
			49-50	Effect 23	step
			51-52	Effect 24	step
			53-54	Effect 25	step
			55-56	Effect 26	step
			57-58	Effect 27	step
			59-60	Effect 28	step
			61-62	Effect 29	step
			63-64	Effect 30	step
			65-66	Effect 31	step
			67-68	Effect 32	step
			69-70	Effect 33	step
			71-72	Effect 34	step
			73-74	Effect 35	step
			75-76	Effect 36	step
			77-78	Effect 37	step
			79-80	Effect 38	step
			81-82	Effect 39	step
			83-84	Effect 40	step
			85-86	Effect 41	step
			87-88	Effect 42	step
			89-90	Effect 43	step
			91-92	Effect 44	step
			93-94	Effect 45	step
			95-96	Effect 46	step
			97-98	Effect 47	step
			99-100	Effect 48	step
			101-255	Reserved	
20	33	33		**MBE effect rotation**	
				If "All MBEs together" is selected at channel 19/32	
			0	No rotation	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation - MBEs inserted (128=default)	step
			129-255	Backwards rotation from slow to fast	proportional
				If "Effect 1- 48" is selected at channel 19/32	
			0-255	Effects proportional rotation	proportional
*	34	34		**Zoom-zone 1**	
			0 - 255	Zoom from max. to min.beam angle (128=default)	proportional
*	35	35		**Zoom-zone 2**	

Mode/channel			DMX Value	Function	Type of control
1	**2**	**3**			
			0 - 255	Zoom from max. to min.beam angle (128=default)	proportional
*	36	36		**Zoom-zone 3**	
			0 - 255	Zoom from max. to min.beam angle (128=default)	proportional
*	37	37		**Zoom-zone 4**	
			0 - 255	Zoom from max. to min.beam angle (128=default)	proportional
*	38	38		**Zoom-zone 5**	
			0 - 255	Zoom from max. to min.beam angle (128=default)	proportional
21	39	39		**Zoom effects**	
			0-2	No function (0=default)	
			3-4	All zones together (synchronous movement - set zoom at channel 22/40)	step
			5-6	Effect 1	step
			7-8	Effect 2	step
			9-10	Effect 3	step
			11-12	Effect 4	step
			13-14	Effect 5	step
			15-255	Reserved	
22	40	40		**Zoom effects speed**	
				If " All zones together" is selected at channel Zoom effects:	
			0-255	Zoom from max. to min.beam angle (128=default)	proportional
				If " Effect 1-Effect 5" is selected at channel Zoom effects:	
			0-255	Speed from min. to max.	proportional
23	41	41		**Shutter/ strobe**	
			0 - 31	Shutter closed	step
			32 - 63	Shutter open (32=default)	step
			64 - 95	Strobe-effect from slow to fast	proportional
			96 - 127	Shutter open	step
			128 - 143	Opening pulse in sequences from slow to fast	proportional
			144 - 159	Closing pulse in sequences from fast to slow	proportional
			160 - 191	Shutter open	step
			192 - 223	Random strobe-effect from slow to fast	proportional
			224 - 255	Shutter open	step
24	42	42		**Dimmer intensity (8 bit)**	
			0 - 255	Dimmer intensity from 0% to 100% (0=default)	proportional
*	43	43		**Dimmer intensity - fine (16 bit)**	
			0 - 255	Fine dimming (0=default)	proportional
*	*	44		**Red pixel 1**	
			0-255	Red LED saturation control 0-100% (0=default)	proportional
*	*	45		**Green pixel 1**	
			0-255	Green LED saturation control 0-100% (0=default)	proportional
*	*	46		**Blue pixel 1**	
			0-255	Blue LED saturation control 0-100% (0=default)	proportional
				:	
*	*	116		**Red pixel 25**	
			0-255	Red LED saturation control 0-100% (0=default)	proportional
*	*	117		**Green pixel 25**	
			0-255	Green LED saturation control 0-100% (0=default)	proportional
*	*	118		**Blue pixel 25**	
			0-255	Blue LED saturation control 0-100% (0=default)	proportional

DMX protocol

Mode/channel			DMX Value	Function	Type of control
1	2	3			
				** In the Halogen lamp mode the Dimmer channel imitates behaviour of the halogen lamp during dimming	
				*** Select RGB or CMY mixing mode on channel "Power/Special functions"	
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				All Specifications subject to change without notice	