ROBIN® DL7S
Profile

ROBIN® DL7S
Profile Wireless DMX
CRMX™
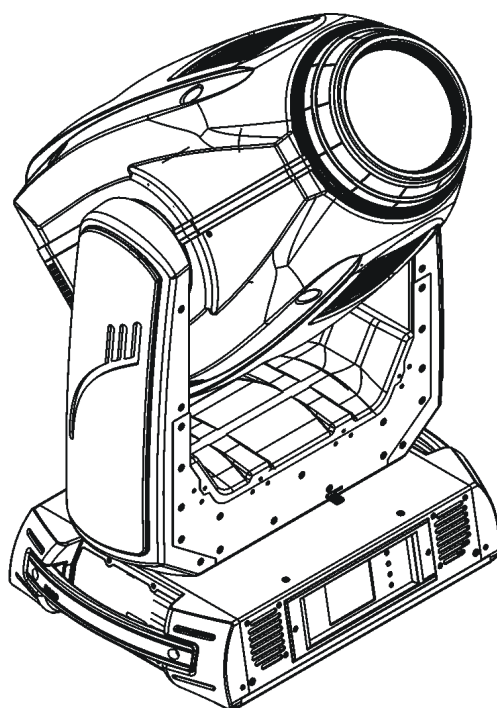
ROBIN®
Innovative Technology

USER MANUAL

Version 2.2

Robin DL7S Profile

Table of contents

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┌─────────────────────────────────────────────────────────────────┐
│                           CAUTION!                               │
│           Keep this device away from rain and moisture!          │
│          Unplug mains lead before opening the housing!           │
└─────────────────────────────────────────────────────────────────┘
```

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

1. Safety instructions

Every person involved with installation and maintenance of this device have to:
- be qualified
- follow the instructions of this manual

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┌─────────────────────────────────────────────────────────────────┐
│                           CAUTION!                               │
│                 Be careful with your operations.                 │
│                 With a  high voltage  you can suffer             │
│          a dangerous electric shock when touching the wires!     │
└─────────────────────────────────────────────────────────────────┘
```

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

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

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

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

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

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.

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┌─────────────────────────────────────────────────────────────────┐
│         Warning! Risk Group 2 LED product according to EN 62471. │
│                  LED light emission. Risk of eye injury.         │
│      Do not look straight at the fixture´s LED source during operation. The intense light │
│                       beam may damage your eyes.                 │
└─────────────────────────────────────────────────────────────────┘
```

**Do not view the light output with optical instruments or any device that may conncentrate the beam.
The light source contains blue LEDs.**

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 fix the fixture with an appropriate safety rope. Fix the safety rope at the correct holes only.

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

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

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

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

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

The fixture housing never must be covered with cloth or other materials.

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

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

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

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

3. Fixture exterior view
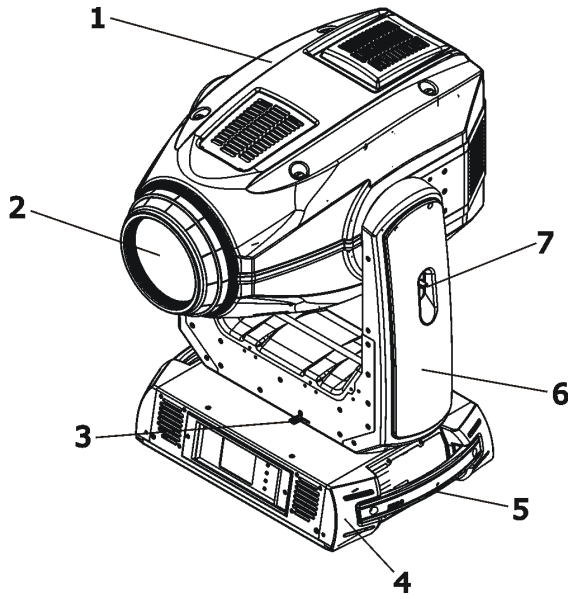
1 - Moving head
2 - Front lens
3 - Pan lock
4 - Base
5 - Handle
6 - Arm
7 -Tilt lock

The head should be locked for transportation- the tilt lock latch (7) and the pan lock latch (3) have to be in the locked positions. To unlock the head, move these latches to unlock positions before operating the fixture.
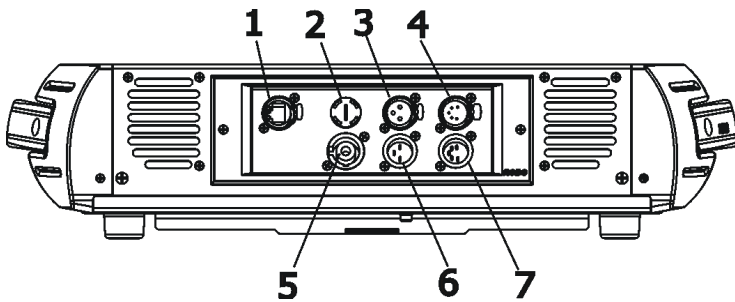
Rear panel of the base:
1 - Ethernet input-RJ45
2 - Fuse holder
3 - 3-pin DMX output
4 - 5-pin DMX output
5 - PowerCon
6 - 3-pin DMX input
7 - 5-pin DMX input
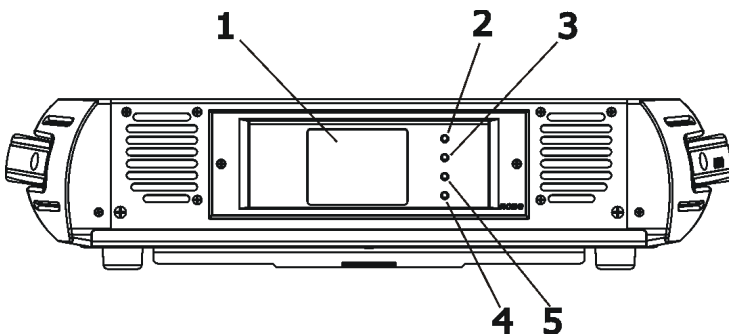
Front panel of the base:
1 - QVGA touch screen
2 - ESCAPE button
3 - NEXT button
4 - ENTER/DISPLAY ON button
5 - PREV button

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 regulation.*

4.1 Connection to the mains

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

The Robin DL7S is equipped with auto-switching power supply that automatically adjusts to any 50-60Hz AC power source from 100-240 Volts.
Power cord is enclosed to the fixture. Install a suitable plug on the power cord if needed, 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	⏚

4.2 Replacing frost

**Install frost module with the device switched off only.
Unplug from mains before!**

To replace the frost module.
1. Disconnect the fixture from mains and allow it to cool for 10 minutes.
2. Remove plastic cover of the head by loosening the 4 quarter-turn fasteners on the cover to get access to the frost module (1).
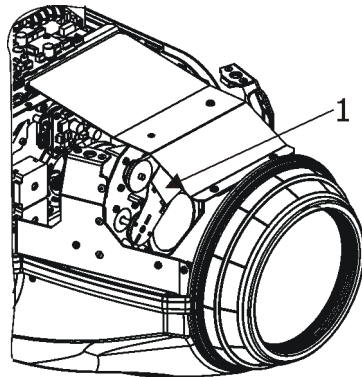
3. The holder (2) of the frost foil is fastened to the frost holder (3) by means of the four magnets (4). Grip the holder (2) and carefully tilt it out to break a force of magnets (4) on the frost holder (3).
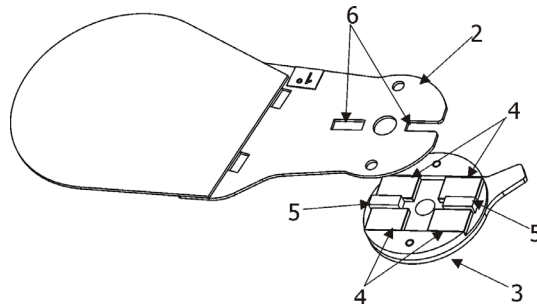
4. Place a new frost module into the frost holder (3). The glass heat filter has to face towards the light source (LED module)! Check, that both slots (6) snapped correctly into two protrusions (5) in the holder (3).
5. Place the plastic cover back on the fixture before applying power.

4.3 Replacing gobos

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

Rotating gobos
1. Disconnect the fixture from mains and allow it to cool.
2. Remove the plastic cover of the head by loosening the 4 quarter-turn fasteners on the cover.
3. Gently pull up the gobo holder (3) from the rotation gobo wheel.
4. Remove the spring lock (1) with an appropriate tool (e.g. small-bladed screwdriver) and remove it.
   Do not touch the surface of the pattern of the glass gobo with bare fingers.
5. Remove the original gobo (2) and insert the new one (glazy side towards the light source).
   The Robe gobo has a small position point (8) at its edge which has to aimed at the position point (4) on
   the gobo holder (4). Insert the spring lock to secure correct gobo position in the gobo holder.
6. Insert he gobo holder back under the distance slots (6, 7) into rotating gobo wheel in this way, that its
   position point (4) has to aimed at a small toothlike projection (5) on the edge of the rotating gobo wheel.
Important! When inserting the gobo holder back to the rotating gobo wheel, one of the adjacent gobo holder
has to be oriented according to the same rule, it means that its position point (4) has to aimed at the toothlike
projection (5) on the edge of the rotating gobo wheel. You have keep both marks (4) and (5) side by side when
rotating the gobo wheel to the position allows inserting the gobo holder back.
5. Replace the plastic cover before applying power.
6. Use the menu Service to fine adjust replaced gobo (Service -> Calibration -> Calibrate effects -> R. Gobo
Index 1 ...R. Gobo Index 6).
Note. The magnet (9) of the gobo holder has the same function as the position point (4) on the rest of gobo
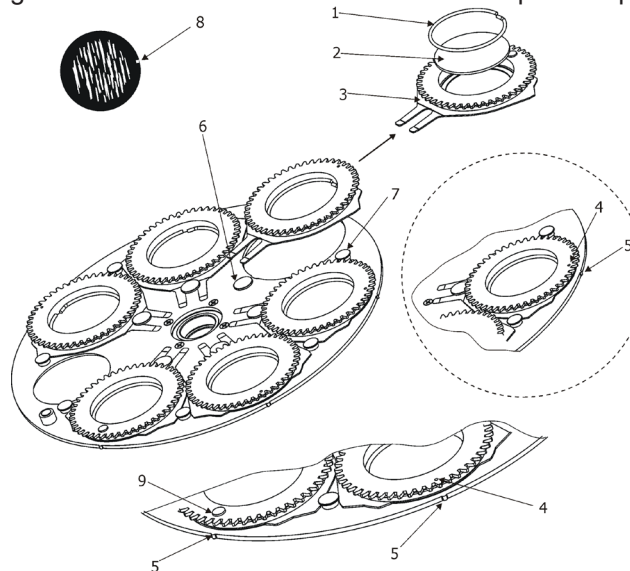holders.

Static gobos
1. Disconnect the fixture from mains and allow it to cool.
2. Remove the plastic cover of the head by loosening the 4 quarter-turn fasteners on the cover.
3. Gently pull up the gobo holder (1) from the static gobo wheel.
4. Remove the spring gobo-lock (3) with an appropriate tool (e.g. small-bladed screwdriver) and remove it.
   Do not touch the surface of the pattern of the glass gobo.
5. Remove the original gobo (2) and insert the new one (glazy side towards the light source). Insert the
   spring-gobo lock (3) to secure it in the gobo holder (1).
6. Insert the gobo holder back to the static gobo wheel until it reaches the stop (4) in the static gobo wheel.
5. Replace the bottom cover before applying power.
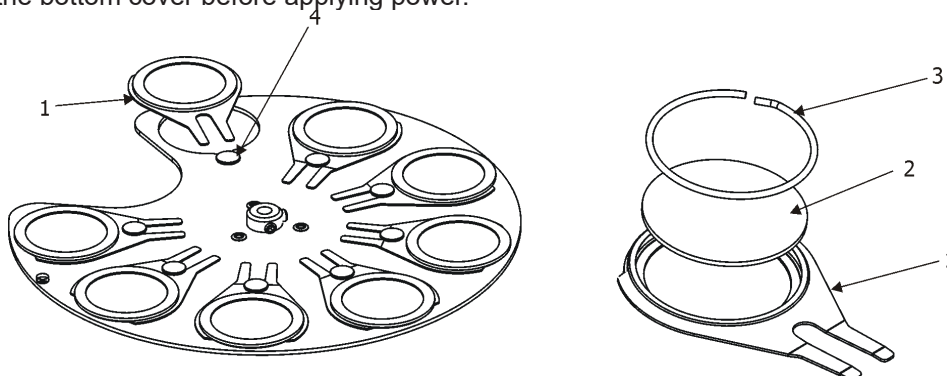
4.4 Rigging the fixture

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

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

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

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

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

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

Allow the fixture to cool for ten minutes before handling.

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

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

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

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

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

.
Danger of fire !
When installing the device, make sure there is no highly inflammable
material (decoration articles, etc.) in a distance of min. 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 a fixture to the truss, install two safety wires which can hold at least 10 times the weight of the fixture. Use only the safety wires with screw-on carabines.

Truss installation

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

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

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

4. Pull one safety wire (4) around the truss (6) and through the handle (7) and another safety wire (4) pull around the truss (6) and through the handle (7) and lock the screw-on carabine through attachment point (5) as shown on the picture below.
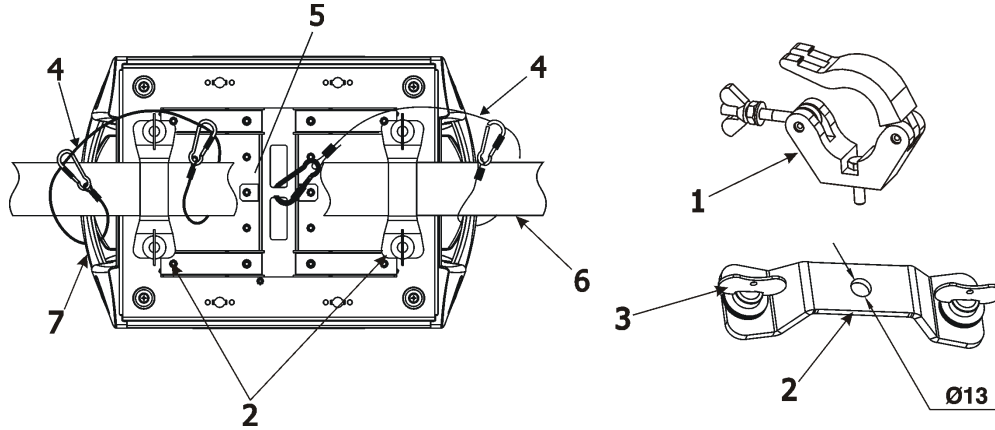
1-Clamp
2-Omega holder
3-Quick-lock fastener
4-Safety wire
5-Attachment point
6-Truss
7-Handle

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!

4.5 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):

1 - Shield
2 - Signal (-)
3 - Signal (+)
4 - Not connected
5 - Not connected
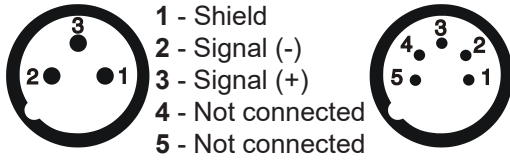
DMX-input
XLR mounting-plugs (rear view):

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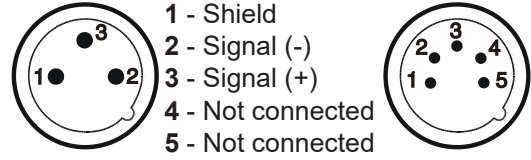
 If you are using the standard DMX controllers, you can connect the DMX output of the controller directly with the DMX input of the first fixture in the DMX chain. If you wish to connect DMX controllers with other XLR-outputs, you need to use adapter-cables.

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 conected.
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.

DMX controller
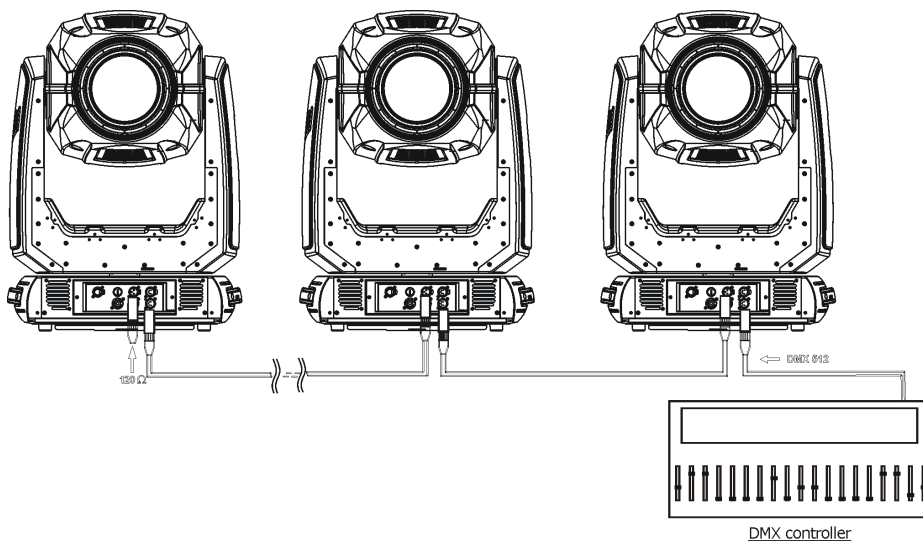
4.6 Ethernet connection

The fixtures on a data link are connected to the Ethernet with ArtNet communication protocol.The control software running on your PC (or light console) has to support Art-Net protocol.
Art-Net communication protocol is a 10 Base T Ethernet protocol based on the TCP/IP.Its purpose is to allow transfer of large amounts of DMX 512 data over a wide area using standard network technology.

IP address is the Internet protocol address.The IP uniquely identifies any node (fixture) on a network.
The Universe is a single DMX 512 frame of 512 channels.

The Robin DL7S 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
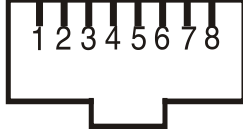
1- TD+	5- Not connected
2- TD-	6- RX-
3- RX+	7- Not connected
4- Not connected	8- Not connected

RJ-45 plug (front view):

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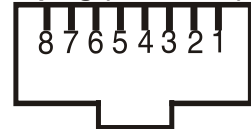
Patch cables that connect fixtures to the hubs or LAN sockets are wired 1:1,that is,pins with the same numbers are connected together:

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:

ROBe.

DMX: 001   IP: 2.242.8.0
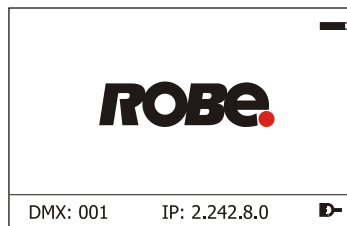
Direct Ethernet operation

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

(DMX address=144)
IP addres=002.168.002.004
Universe=1

(DMX address=48)
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
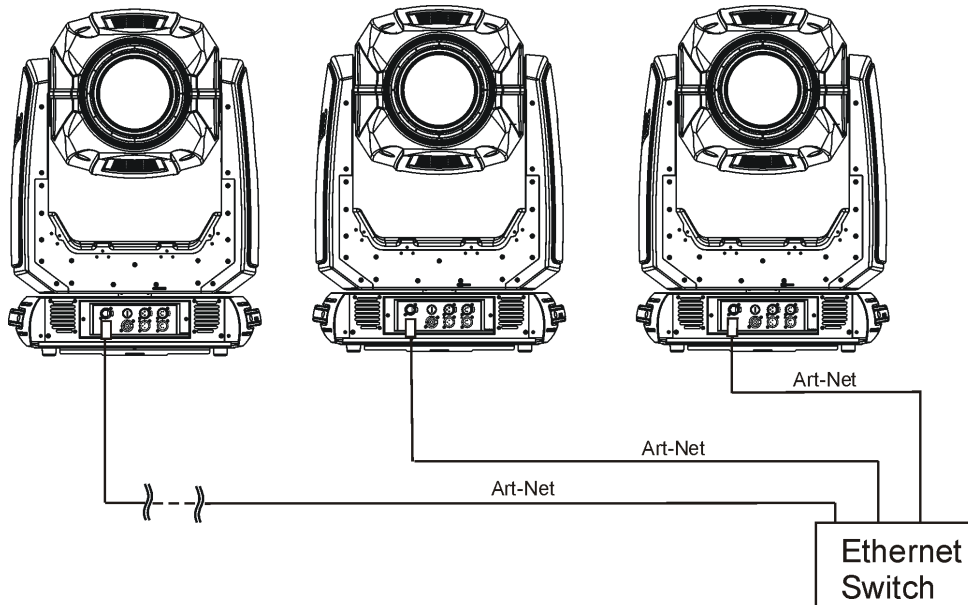
An advised PC setting: IP address: 002.xxx.xxx.xxx / 010.xxx.xxx.xxx (Different from fixture IP addresses)
NET mask: 255.0.0.0

Ethernet / DMX operation

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

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

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

Caution: At the last fixture, the DMX chain has to be terminated with a terminator. Solder a 120 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   DMX address=48   DMX address=144
IP addres=002.168.002.002
Universe=0

Art-Net   DMX 512   DMX 512   120 Ω

Ethernet
Switch

Art-Net   DMX 512   DMX 512   120 Ω

DMX address=1   DMX address=48   DMX address=144
IP addres=002.168.002.003
Universe=1
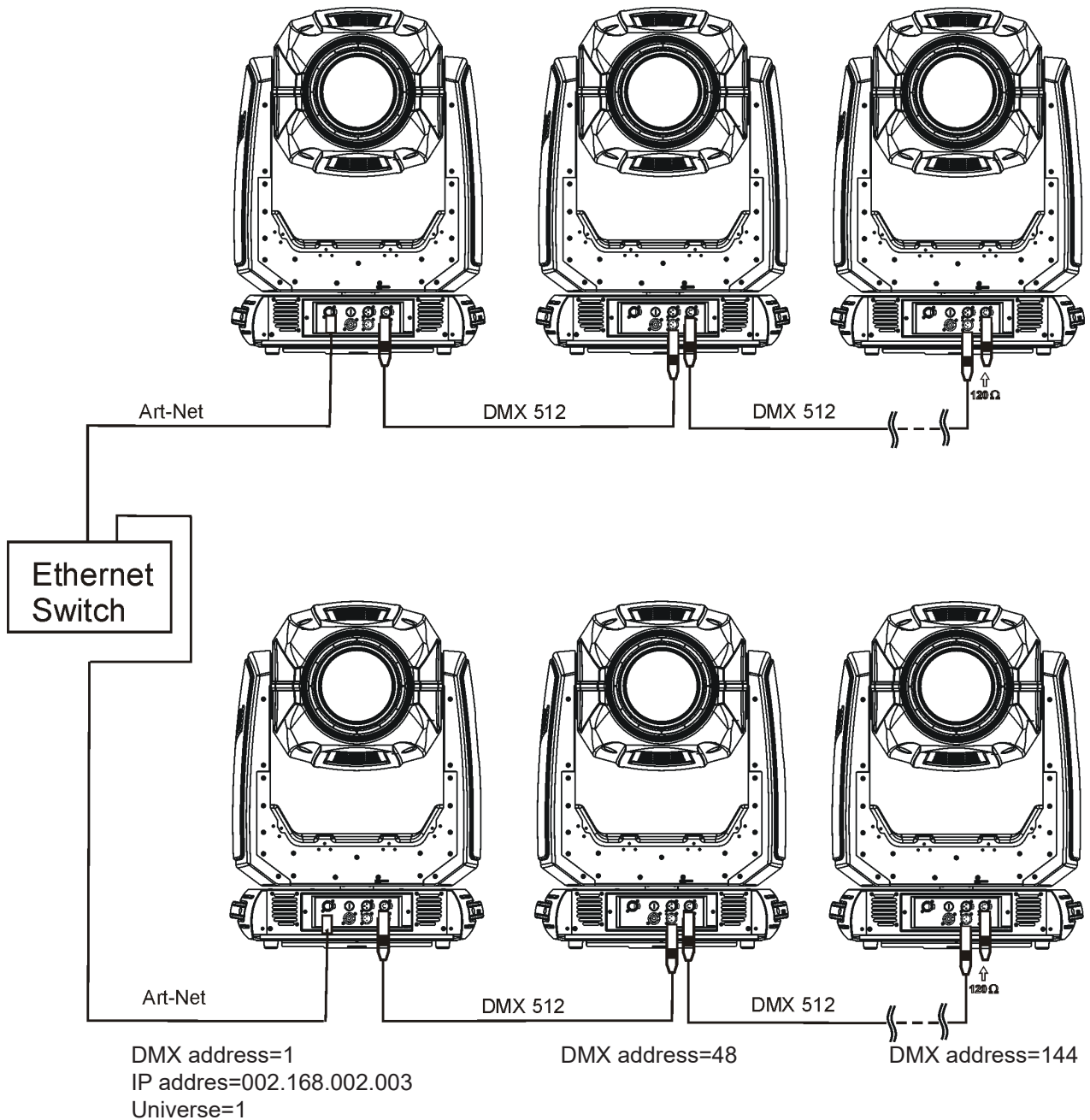
4.7 Wireless DMX operation

The wireless version of the Robin DL7S Spot 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 <u>permanently written</u> into fixture´s memory.

DMX range of 10-19 switching fixture to the wired/wireless operation is active <u>only</u> 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".

<u>To link the fixture with DMX transmitter.</u>
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).

<u>To unlink the fixture from DMX transmitter.</u>
The fixture can be unlinked from receiver via the menu item " Unlink Wireless Adapter" (Information--> Wireless State --> Unlink Wireless Adapter).

Example:
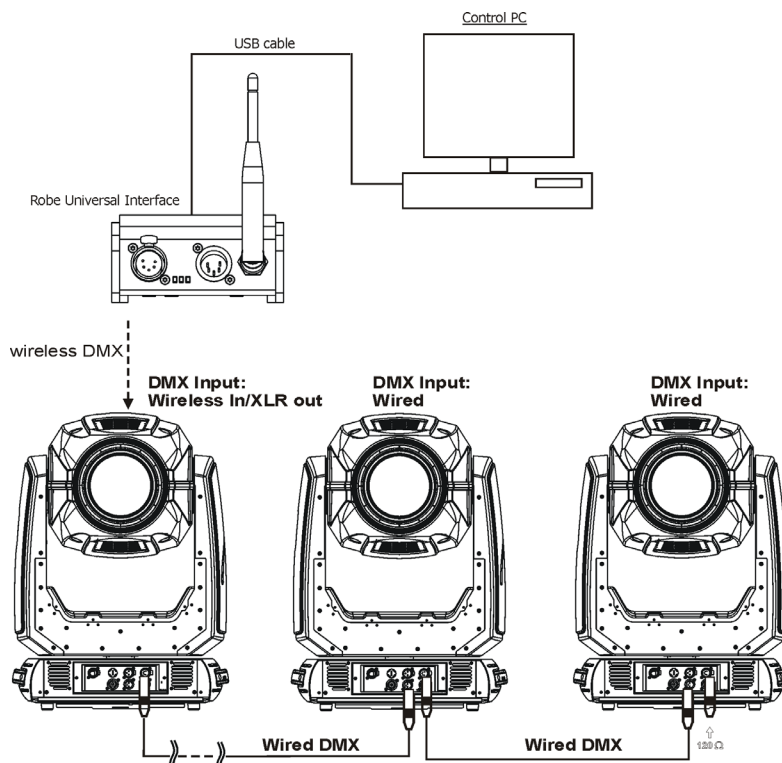
5. Remotely controllable functions

Colour mixing system
The colour mixing system allows switching among CMY, RGB and 7 colour system (red, green, blue, amber, cyan, light green, Congo blue).

Virtual colour wheel
This wheel contains 80 preset colours, and 10 user-definable colours.
To save user colours:
1.Set White Point Off (Channel Colour Mix Control, range 70-79 DMX).
2.Mix desired colour on colour channels .
3.Stay in desired position of user colours (216-235 DMX) on the Virtual colour wheel for 1 sec.
4.Leave the range of user colours (216-235 DMX) on the Virtual colour wheel.
5. Repeat steps 2-4 for next user colour
6.To permanently save user colours, stay for 3 sec. at DMX range of 110-114 on the channel Colour functions. After that the colour system will be reset (this action lasts about 2 minutes). Previous user colours will be overwritten.

Colour temperarature correction (CTC)
This channel allows to set calibrated white colour from range of 8000K-2700K. The light ouput can be set to max. intensity or to max. CRI.

Green correction
This channel allows slightly correct tint of white colours.

Saving user colours
This channel allows slightly correct tint of white colours.

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

Gobo wheels
The fixture includes one static gobo wheel with 8 replaceable gobos and one rotating gobo wheel with 6 glass gobos rotating in both directions, indexable, replaceable "SLOT&LOCK" system Gobo positioning and gobo selection speed is available as well as a gobo-shake function.

Prism
The 5-facet prism rotates in both directions at different speeds, 16 prism/gobo macros are available.

Frost
Frost module provides variable frost for fine frosting. This frost can be replaced with another frost filter. One frost filter (1°) is installed in the fixture, the second filter (20°) is included and two optional filters (10°, 30°) are available on request.

Iris
Motorized adjustable iris, wide range of variable pulse effects.

Zoom
Motorized zoom unit enables zoom between 7 °- 43°.

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

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

Pan/Tilt

Fast pan/tilt movement due to built-in electronic motion stabilizer (EMS). The electronic motion stabilizer ensures precise position of the fixture´s head during its movement and reduces its swinging when the truss shakes.
Pan /Tilt movement range: 0-540°/0-270°.
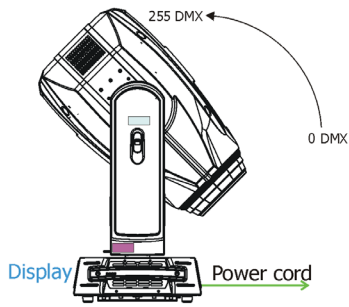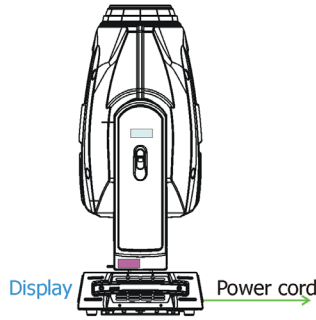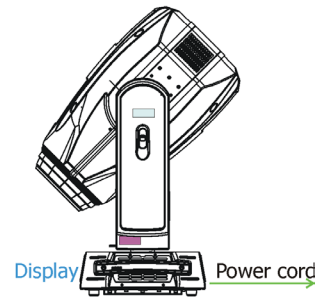
Tilt = 0 DMX	**Tilt = 128 DMX**	**Tilt = 255 DMX**
255 DMX		
0 DMX		
Display Power cord	Display Power cord	Display Power cord
Pan=128	Pan=128	Pan=128

Tilt movement range: 270°   Pan movement range: 540°
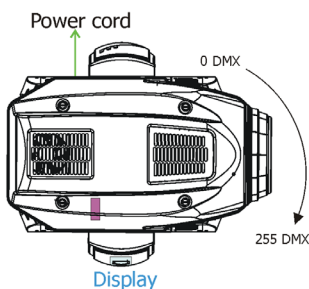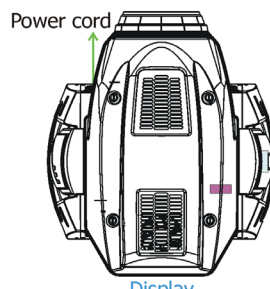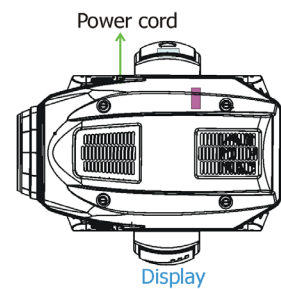
Pan = 0 DMX	**Pan = 128 DMX**	**Pan = 255 DMX**
Power cord	Power cord	Power cord
Tilt lock 0 DMX		
Pan lock		
255 DMX		
Display	Display	Display
Tilt = 43 DMX	Tilt = 43 DMX	Tilt = 43 DMX

Framing system orientation

Image on the wall

255 DMX

Framing module rotation

Barndoor 1

0 DMX

Barndoor 2

Barndoor 4

Barndoor 3

Head position

Tilt lock

Pan lock
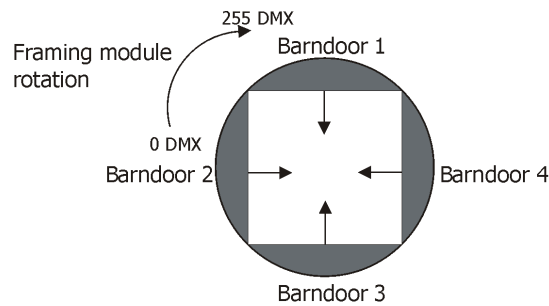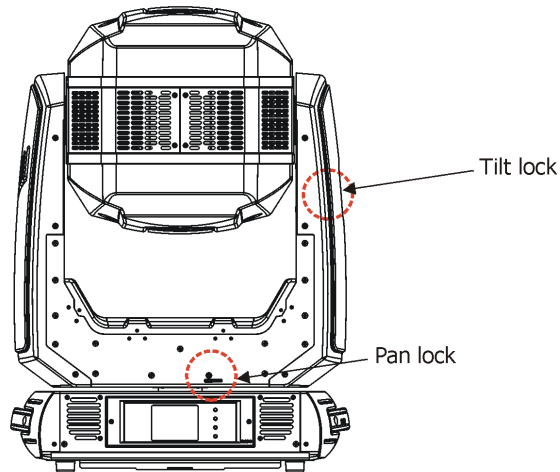
Pan = 128 DMX
Tilt = 45 DMX

15

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				
		Mode 4				
		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		
Information	Fixture Times	Power On Time	Total Hours			
			Resetable Hours			
		LEDs On Time	Total Hours			
			Resetable Hours			
		Air Filters	Elapsed Time			
			Alert Period	10-300		
	Fixture Temperatures	LEDs Temperatures	Current			
			Maximum NonRes.			
			Maximum Res.			
		LEDs Board 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					
	Colour functions state					
	Software Versions	Display System				
		Module M				
		Module L-A				
		Module L-B				

Tab	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Module L-C				
		Module O				
		Module F-A				
		Module F-B				
		Module G				
	Product IDs	Mac Address				
		RDM UID				
		RDM Label				
	View Logs	Fixture Errors	Pan Errors			
			:			
			Temp.Sensor Errors			
		Fixture States	Power On			
			Power Off			
		Fixture Position				
		Fixture Temperatures	LED Temperatures			
			Ambient Temperatures			
			Base Temperatures			
Personality	User Mode	User A Settings				
		User B Settings				
	DMX Presets	**Mode 1**				
		Mode 2				
		Mode 3				
		Mode 4				
		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/Tilt EMS	**On**, Off				
	Microphone Sensitivity	1-**10**-20				
	Blackout Settings	Blackout During M.C.	**Off**, On			
		Blackout while:	Pan/Tilt moving	**Off**, On		
			Gobo Wheel Moving	**Off**, On		
	Theatre Mode	**Off**				
		Quiet	0-100%			
	Colour Calibration Mode	Off, **On**				
	Colour Mixing Mode	RGB				
		CMY				
	UV Stability	Off, **On**				
	Wavelength Correction	Off, **On**				
	Chromatic White	**Off**, On				
	Output Mode	Intensity				
		CRI	CRI Settings			
				Output Uniformity	**On**, Off	
				Output Consistency	30°...**50°**...65°	
				CRI Selection	**70**, 75,80,85,90	
	Thungsten Eff. Sim.	**Off**				
		750W				
		1000W				

Tab	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		1200W				
		2000W				
		25000W				
	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				
	Dimmer Curve	Linear				
		Square law				
	Date & Time Settings					
	Extra Color Functions	Off, **On**				
	Default Settings					
	Password Protection	**Off,** On				
Manual Control	Reset Functions	Reset All Systems				
		Pan/Tilt reset				
		Gobo System Reset				
		Optics/Prism/Frost Res.				
		Iris.Fr.Sh. Eff. Wh. Reset				
	Manual Effect Control	Pan	0-255			
		:				
		Dimmer Fine	0-255			
Stand -Alone	Test Sequences	Dynamic Mode				
		Static Mode	Pan	0-255		
			Tilt	0-255		
			Zoom	0-255		
			Focus	0-255		
	MusicTrigger	**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	1-80		
		Edit Program 2	End Step	1-80		
		Edit Program 3	Edit Program Steps	Step 1	Pan	0-255
				:	:	
				:	Dimmer Fine	0-255
				:	Step Time	0-25,5 sec.
				Step 100	Pan	0-255
					:	

Tab	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
					Dimmer Fine	0-255
					Step Time	0-25,5 sec.
Service	Adjust DMX Values	Pan	0-255			
		:				
		Dimmer Fine	0-255			
	Calibrations	Calibrate Effects	Pan	0-255		
			:			
			Fr.Shut. 4 Swiv	0-255		
		Calibrate colours	Red Calibration			
			Green Calibration			
			Blue Calibration			
			Amber Calibration			
			Cyan Calibration			
			Congo Blue Calibration			
			Light Green Calibration			
		Green Corrections	2700 K (CRI´70)			
			3200 K (CRI=70)			
			4200 K (CRI=70)			
			5600 K (CRI=70)			
			8000 K (CRI=70)			
			2700 K (CRI=90)			
			3200 K (CRI=90)			
			4200 K (CRI=90)			
			5600 K (CRI=90)			
			8000 K (CRI=90)			
		Calibrate Pan/Tilt EMS				
		Load Default Calibrations				
	LEDS HW Version	O , I				
	Update Software					

7. Control menu

The Robin DL7S 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:
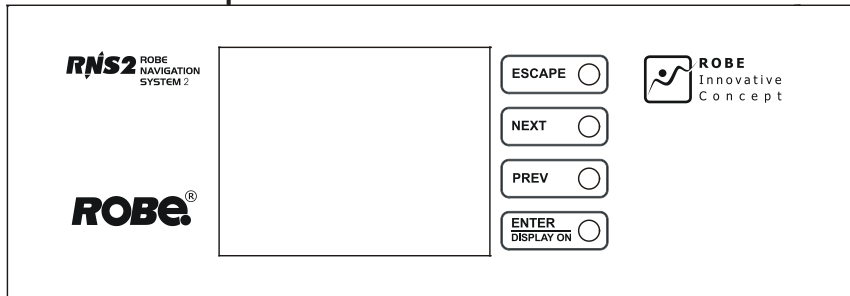
[ESCAPE] button used to leave the menu without saving changes.
[NEXT] , [PREV] buttons for moving between menu items and symbols, adjusting values.
[ENTER/Display On] button used to enter the selected menu (menu item) and to confirm adjusted value.
If the fixture is disconnected from mains, the button 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.

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

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

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

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

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

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

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

```
       ▄▄▄
      ┌──────────────┐
      │            ▄▄ │
      │              │
      │     001      │
      │              │
      │ ⟵        ⟶   │
      └──────────────┘
```
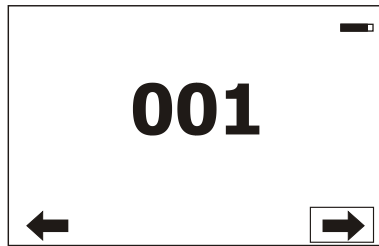
Note: The green icon at the top right corner of the screen indicates the level of the display battery charging. If the whole icon is green, the battery is fully charged while the red icon indicates exhausted battery. The battery charges during fixture operation, its charging lasts cca 6 hours.
We recommend 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 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.
   DMX Preset - Use the menu to select desired channel mode.
    Mode 1 - 51 control channels
    Mode 2 - 42 control channels
    Mode 3 - 59 control channels
    Mode 4 - 46 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
           gMAl - 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.

7.2 Tab "Information"

Fixture Times - The menu provides readouts of fixture and LED module operation hours.
   Power On Time Hours - Select this menu to read the number of fixture operation hours.
> **Total Hours** - The item shows the total number of the operation hours since the
> Robin DL7S has been fabricated.
> **Resetable Hours** - The item shows the number of the operation hours that the
> Robin DL7S 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:"

   LEDs On Time - Select this menu to read the number of LEDs operation hours.
> In order to reset some counter to 0, touch the yellow text box next to desired colour.

   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 LED PCBs in the light source (RA-red + amber
LEDs, GCY-green + cyan+light green LEDs, BU-blue+congo blue LEDs).
> **Cur.** - A current temperature of the LED PCBs.

Max. - A maximum temperature of the LED PCBs since the fixture has been fabricated.
Max. Res. - A maximum temperature of the LED PCBs since the counter was last reset.
In order to reset some counter to 0, touch desired text box under item "Max.Res."

LEDs Board Temperature - The menu shows temperature in the fixture head on the LEDs control PCB.
Current - A current temperature on the LEDs control PCB.
Maximum NonRes. - A maximum temperature on the LEDs control PCB since the fixture has been fabricated.
Maximum Res. - A maximum temperature on the LEDs control PCB since the counter was last reset.
In order to reset this counter to 0, touch the text box next to the item "Maximum Res."

Ambient Temperature - The menu shows temperature next to AC-DC power supplyies in the fixture base .
Current - A current temperature next to AC-DC power supplyies in the fixture base.
Maximum NonRes. - A maximum temperature next to AC-DC power supplyies in the fixture base since the fixture has been fabricated.
Maximum Res. - A maximum temperature next to AC-DC power supplyies 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 (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 a transmitter.

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

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

Software Version - Select this item to read the software version of the fixture modules:
Display System - A display processor on the display board in the fixture base
Module M - Pan/Tilt processor
Module L-A - LEDs control processor
Module L-B - LEDs control processor
Module L-B - LEDs control processor
Module O - Focus/zoom/prism/frost/ processor
Module F-A -Framming shutters processor
Module F-B - Framming shutters + Iris processor
Module G - Rot. gobo/Effect wheel processor

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.
There is a list of error folders:
Fixture Errors
Fixture States

Fixture Position

| Disp-FN | Disp-FI | Disp-ST | Disp-SB | Disp-T | Disp-B |
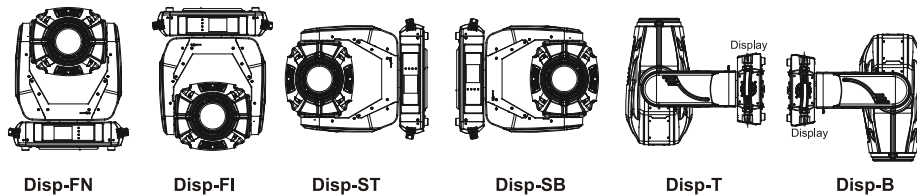
Fixture temperatures- Recorded temperatures which have exceeded defined levels.

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

7.3 Tab "Personality"

User mode - The Robin DL7S allows you to recall two user settings. After switching the fixture on for the first time, the User A settings is active. Now all changes made in the "Personality" menu , "Addressing" menu and the "Music Trigger" and " Preset Playback" items from the "Stand-alone" menu are saved to the User A settings. If you now select the User B settings, from this moment the changes made in these menus will be saved to the User B settings. After switching the fixture off and on, the User B setting is active. In this way you may use the two fixture operating behaviours.
   User A Settings - the function recalls the user A settings.
   User B Settings - the function recalls the user B settings.

DMX Preset - Use the menu to select desired channel mode.
   Mode 1 - 51 control channels
   Mode 2 - 42 control channels
   Mode 3 - 59 control channels
   Mode 4 - 46 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.
>
> **Gobo Wheel Moving** - The menu item enables to close light output while the rot. gobo wheel is moving.

Theatre Mode - The mode reduces noise of the fixture due to adjustment of the fans speed.

Off - The option is disabled

Quiet - After selecting this item, the option "Fan Noise Level" is accessible where desired level of fans noise can be set and a speed of following effects is reduced: zoom, focus, iris and framing shutters macro. Note: The light output of the fixture is noticeably reduced at low fans speeds.

Colour Calibration Mode - the function switches on an internal control of colours. This function has to be set on if all settings in the menu "Output mode " are to work correctly. Option off has to be set only during colour calibration of the fixture.

Colour Mixing Mode - This item allows selection between RGB and CMY mode. In all 3 or 7 color controlling modes, all internal 7 colors are always utilized where possible.

UV Stability - If this function is on, UV colour is reduced and mixed colours are more uniform.The function does not influence calibrated white colours.

Wavelength Correction - If this function is on, 7 base colours of the light source (red,amber...light green) are corrected according to the corresponding wavelengths in order to get to get same colours from more fixtures. The function does not influence calibrated white colours.

Chromatic White - If this function is on, the CTC channel influences colours and calibrated white colours.
> If this function is off, the CTC channel influences calibrated whites only.

Output mode - the item allows you to select desired calibration mode for white colours.

> **Intensity** - Max. light intensity for calibrated whites (2700K-8000K) at CTC channel.
>
> **CRI** - Max. CRI for calibrated whites (2700K-8000K) at CTC channel. This option has the following other options in the menu CRI Settings:
>
>> **Output Uniformity** - **On** - Intensities of calibrated whites are set at certain levels, which are the same for all fixtures.
>>
>> **Off** - Intensities of calibrated whites may vary from fixture to fixture.
>>
>> **Output Consistency** - The option allows to set temperature (30°C - 65°C) of the LEDs source up to which the light output will be consistent (a current ambient operating temperature has to be taken into account when this temperature is choosing). The temperatures of the LEDs source are stated in the menu " LEDs Temperatures" (tab Information). All current temperatures in this menu should be below (or equal to) the temperature set in the menu "Output Consistency". If some current temperature exceeds the value set in the menu "Output Consistency", the light intensity, which was kept at the same level, will fall slightly.
>>
>> **CRI selection** - The option allows to choose desired CRI value (70, 75, 80, 85, 90+).

Tungsten effect simulation - This function simulates behaviour of a halogen lamp during dimming at calibrated whites 2700K-4200K. You can select from various lamp wattage simulation: 750W, 1000W, 1200W, 2000W, 2500W.

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

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

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

Screen saver Delay - The item allows you to keep the screen on or to turn it off automatically after 1-10

minutes after last touch (or pressing any button on the control panel).

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

Recalibrate Touchscreen - The item starts calibration of the 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**").

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

Extra Colour functions - If this function is on, all functions on the Colour functions channel can be controlled by DMX command. If this function is off, no function on the Colour functions channel can be changed by DMX command except Tungsten effect simulations.

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

Password Protection - if the item is on, a password is required to enter the fixture menu. The password cannot be changed. The password prevents unauthorized person from changing setting of the fixture.

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.
>
> **Gobo System Reset** - The item resets a static/rotating gobo wheel.
>
> **Optics/Prism/Frost Res.** - The item resets a zoom, focus, prism and a frost module.
>
> **Iris Fr. Shu. Eff. Wh. Reset** - The item resets an iris module,framing shutters and effect wheel.

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 DL7S.

> **Dynamic Mode** - This mode uses all Robin DL7S functions including pan/tilt movement and therefore is good for a complete introduction of the fixture.
>
> **Static Mode** - This mode is suitable for projections on the wall, ceiling or ground without any pan/tilt movement.

Adjust the pan, tilt, zoom and focus to desired positions an 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 DL7S offers 3 free programs, each up to 80 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

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
1 - 127	Macro generation from fast to slow-forwards
128 - 129	No macro generation
130 - 255	Macro generation from slow to fast-backwards

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 Wheel - an effect wheel position fine adjustment
Static gobo - a static gobo wheel position fine adjustment
Rot. Gobo Wheel - a carousel of rotating gobos
R. Gobo Index 1 - a fine movement of rotating gobo 1
R. Gobo Index 2 - a fine movement of rotating gobo 2
R. Gobo Index 3 - a fine movement of rotating gobo 3
R. Gobo Index 4 - a fine movement of rotating gobo 4
R. Gobo Index 5 - a fine movement of rotating gobo 5
R. Gobo Index 6 - a fine movement of rotating gobo 6
Prism - a prism fine adjustment
Prism Rot - a prism fine rotation
Iris - an iris module fine adjustment
Zoom - a zoom module fine adjustment
Focus - a focus module fine adjustment
Fr. Shutters.rot- a framing shutters module fine rotation
Fr. Reset I M1 - distance from lamella 1 to stop (recoil) via framing lamella 1 motor 1
Fr. Reset I M2 - distance from lamella 1 to stop (recoil) via framing lamella 1 motor 2
Fr. Reset 2 M1 - distance from lamella 2 to stop (recoil) via framing lamella 2 motor 1
Fr. Reset 2 M2 - distance from lamella 2 to stop (recoil) via framing lamella 2 motor 2
Fr. Reset 3 M1 - distance from lamella 3 to stop (recoil) via framing lamella 3 motor 1
Fr. Reset 3 M2 - distance from lamella 3 to stop (recoil) via framing lamella 3 motor 2
Fr. Reset 4 M1 - distance from lamella 4 to stop (recoil) via framing lamella 4 motor 1
Fr. Reset 4 M2 - distance from lamella 4 to stop (recoil) via framing lamella 4 motor 2

Fr. Shutter I Move - a framing lamella 1 fine movement
Fr. Shutter I Swiv.- a framing lamella 1 fine swivelling
Fr. Shutter 2 Move - a framing lamella 2 fine movement
Fr. Shutter 2 Swiv.- a framing lamella 2 fine swivelling
Fr. Shutter 3 Move - a framing lamella 3 fine movement
Fr. Shutter 3 Swiv.- a framing lamella 3 fine swivelling
Fr. Shutter 4 Move - a framing lamella 4 fine movement
Fr. Shutter 4 Swiv.- a framing lamella 4 fine swivelling

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

Calibration of the effects via the DMX controller
1. Connect DMX controller to the fixture and enter the "Calibrate Effects" menu.
Calibration protocol:

Effect	Mode 1	Mode 2	Mode 3	Mode 4
Pan	channel 52	channel 43	channel 60	channel 47
Tilt	channel 53	channel 44	channel 61	channel 48
Ef. wheel	channel 54	channel 45	channel 62	channel 49
Rot. Gobo Wheel	channel 55	channel 46	channel 63	channel 50
R. Gobo Index 1	channel 56	channel 47	channel 64	channel 51
R. Gobo Index 2	channel 57	channel 48	channel 65	channel 52
R. Gobo Index 3	channel 58	channel 49	channel 66	channel 53
R. Gobo Index 4	channel 59	channel 50	channel 67	channel 54
R. Gobo Index 5	channel 60	channel 51	channel 68	channel 55
R. Gobo Index 6	channel 61	channel 52	channel 69	channel 56
Prism	channel 62	channel 53	channel 70	channel 57
Prism Rot.	channel 63	channel 54	channel 71	channel 58
Iris	channel 64	channel 55	channel 72	channel 59
Zoom	channel 65	channel 56	channel 73	channel 60
Frost	channel 66	channel 57	channel 74	channel 61
Focus	channel 67	channel 58	channel 75	channel 62
Fr. Shutters rot.	channel 68	channel 59	channel 76	channel 63

Fr. Reset I M1	channel 69	channel 60	channel 77	channel 64
Fr. Reset I M2	channel 70	channel 61	channel 78	channel 65
Fr. Reset 2 M1	channel 71	channel 62	channel 79	channel 66
Fr. Reset 2 M2	channel 72	channel 63	channel 80	channel 67
Fr. Reset 3 M1	channel 73	channel 64	channel 81	channel 68
Fr. Reset 3 M2	channel 74	channel 65	channel 82	channel 69
Fr. Reset 4 M1	channel 75	channel 66	channel 83	channel 70
Fr. Reset 4 M2	channel 76	channel 67	channel 84	channel 71
Fr. Shutter 1 mov.	channel 77	channel 68	channel 85	channel 72
Fr. Shutter 1 swiv.	channel 78	channel 69	channel 86	channel 73
Fr. Shutter 2 mov.	channel 79	channel 70	channel 87	channel 74
Fr. Shutter 2 swiv.	channel 80	channel 71	channel 88	channel 75
Fr. Shutter 3 mov.	channel 81	channel 72	channel 89	channel 76
Fr. Shutter 3 swiv.	channel 82	channel 73	channel 90	channel 77
Fr. Shutter 4 mov.	channel 83	channel 74	channel 91	channel 78
Fr. Shutter 4 swiv.	channel 84	channel 75	channel 92	channel 79

Calibrate Colours - The menu serves for calibration of white colours in the factory.

Green Corrections - The menu allows to corrected calibrated whites for CRI 70 and 90.

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.

LEDS HW version - The item serves for selection of right HW version of light source. User
should not change this item.

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 software.
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 DL7S 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			*

9. Error and information messages

Information icons

⊛ **- 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".
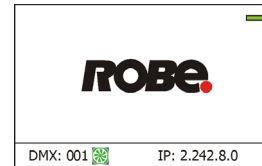
Errors

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:

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.

Prism Error 1 (Prism Error 2)

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

Iris Error 1 (Iris Error 2)

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

Frost Error 1 (Frost Error 2)

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

Zoom Error 1 (Zoom Error 2)

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

Focus Error 1 (Focus Error 2)

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

Gobo Carousel Error 1 (Gobo Carousel Error 2)

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

Gobo Rotation Error 1 (Gobo Rotation Error 2)

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

Static Gobo Error 1 (Static gobo Error 2)

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

Effect Wheel Error 1 (Effect Wheel Error 2)

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

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

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

Fr. Shutter 1 Error 1 (Fr. Shutter 1 Error 1)

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

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

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

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

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

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

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

Temper.Sensor Error

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

EEprom Error

Hardware error of the EEprom.

Recharge The battery

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

Battery Faulty. Replace it.

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

Pan/Tilt EMS Cal. Error

The EMS system is not calibrated.

Pan/Tilt EMS Error

Control electronics cannot communicate with the EMS system.

Internal Error 1

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

Internal Error 2

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

Clean Air Filters

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

Congo Blue 1 Short Error/ Congo Blue 2 Short Error/ Congo Blue 3 Short Error/ Congo Blue 4 Short Error

Some congo blue LEDs in the light source have short circuit or are disconnected.

Blue 1 Short Error/ Blue 2 Short Error/ Blue 3 Short Error/ Blue 4 Short Error

Some blue LEDs in the light source have short circuit or are disconnected.

Cyan 1 Short Error/ Cyan 2 Short Error

Some cyan LEDs in the light source have short circuit or are disconnected.

Green 1 Short Error/ Green 2 Short Error

Some green LEDs in the light source have short circuit or are disconnected.

Light Green 1 Short Error/ Light Green 2 Short Error/ Light Green 3 Short Error/ Light Green 4 Short Error

Some light green LEDs in the light source have short circuit or are disconnected.

Amber 1 Short Error/ Amber 2 Short Error/ Amber 3 Short Error/ Amber 4 Short Error

Some amber LEDs in the light source have short circuit or are disconnected.

Red 1 Short Error/ Red 2 Short Error/ Red 3 Short Error/ Red 4 Short Error

Some red LEDs in the light source have short circuit or are disconnected.

Fans Failure

One (or more) fixture fan is faulty or disconnected from supply.

Base Fan Bad

Some fan in the fixture base is faulty and should be replaced immediately.

Arm Fan Bad

The fan in the fixture arm (arm without tilt lock) is faulty and should be replaced immediately.

10. Technical Specifications

Electrical

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

Max. power consumption (all colour channels=full):

1000W at 230V (power factor= 0.98; I=4.4A)

Optic

Light source: 7 colors LED module (Red,Green,Blue,Amber,Cyan,Light Green, Congo Blue)
RGB or CMY colour mixing +CT0
Output options: high CRI or high intensity (at calibrated whites 2700K, 3200K,4200K,5600K,
6600K, 8000K)
CRI setting range: 70-90
Min. LED life expectancy: 20.000 hours

Virtual colour wheel

80 preset colours
Rainbow effect with in both directions with variable speed

Colour temperature correction

Continuous selection of whites from 8000K to 2700K
Halogen lamp effect at whites 2700K and 3200K

Effect wheel

Rotation in both directions with variable speed

Static gobo wheel

8 replaceable 'SLOT&LOCK' glass gobos , outside diameter= 30.8 mm,
image diameter=25 mm
Gobo wheel continuous rotation
Gobo order:

15020304	15020305	15020306	15020307	15020308	15020309	15020310	15020311
1	2	3	4	5	6	7	8
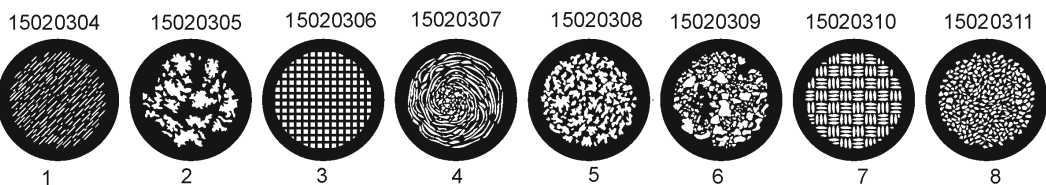
Rotating gobo wheel

6 glass gobos can be indexed and rotated in both directions at different speeds
Gobo wheel continuous rotation
Glass gobos: outside diameter=30.8 mm, image diameter=25 mm, max. thickness=3.5 mm, high temperature borofloat or better glass
"Slot&lock" system for easy replacement of gobos
Gobo order:

15020312	15020313	15020314	15020315	15020316	15020317
1	2	3	4	5	6
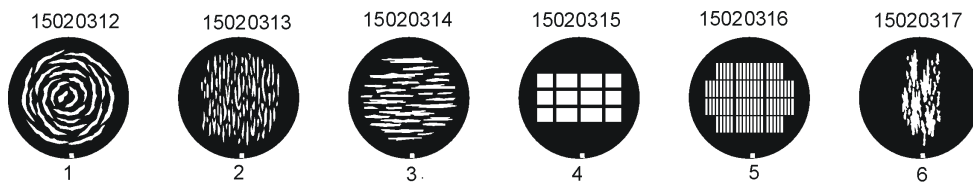
Prism

Rotating 5-facet 10° prism with continuous rotation in both directions

Iris

Motorized iris for different beam diameters

Frost filter

Separate,variable and replaceable frost filter 1° (installed in the fixture)
20° frost filter included
10° filter and 30° filter optional

Framing shutters module

Four framing shutters can be moved or swivelled to desired position separately
Each framing shutter can move up to 80% of the beam and swivel +/- 25°
Complete framing shutters module can rotate +/- 45°
Smooth & Fast blade movements for creating mid-air effects, variable speed
Pre-programmed shape and blade sequence

Zoom

Linear motorized zoom
Min. beam angle :7°
Max. beam angle: 43°

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 LEDs usage, receiving DMX values, temperatures, etc
Built-in analyzer for easy fault finding, error messages
Built-in demo sequences
Black-out while head moving or gobo changing
Silent fans cooling,
Stand-alone operation
3 user editable programs, each up to 100 steps
Supported protocols: USITT DMX 512, RDM, ArtNet, MANet, MANet2, sACN
Support of RDM (Remote Device Management)
4 DMX modes (51, 42, 59 and 46 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 270°
16 bit movement resolution
Pan/Tilt electronic motion stabilizer
Automatic Pan/Tilt position correction
Remotely controllable speed of pan/tilt movement for easy programming
Pan/tilt-lock mechanism

Connection

DMX data in/out: Locking 3-pin and 5-pin XLR
AC power input: Chassis connector Neutrik PowerCon TRUE 1, NAC3MPX

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 : 80° C

Minimum distances

Min. distance from flammable surfaces: 0.5 m
Min. distance to lighted object: 2 m

Total heat dissipation

Maximum: 3170 BTU/hr

Weight (net)

35.9 kg

Dimensions (mm)
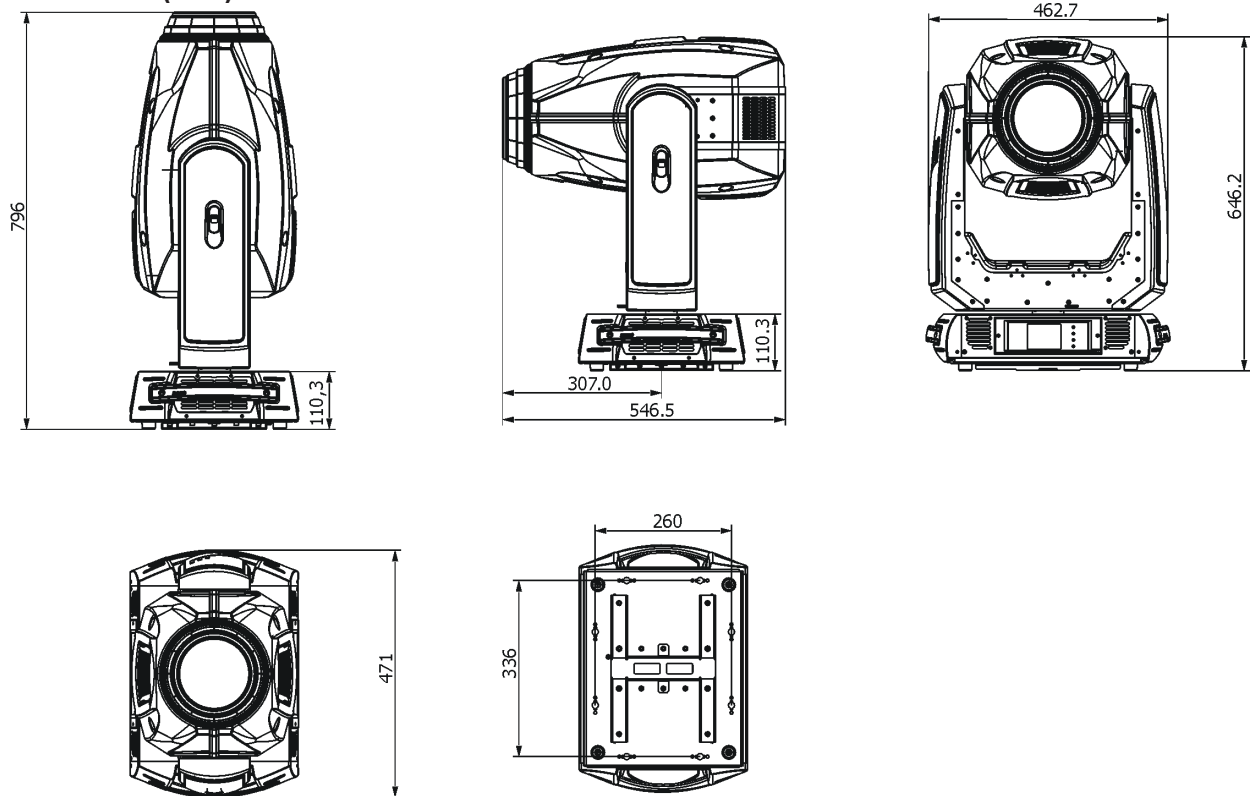
Accessories

1 x Omega adaptor CL-regular 2 pcs in box (P/N 10980033)
1 x Power cable
1 x Frost module 20° (P/N 15050009)

Optional accessories

Frost 10° (exchange) DL7S - assembled (P/N 10980288)
Frost 30° (exchange) DL7S - assembled (P/N 10980289)
Upgrade kit CRMX Univerzal 260 (P/N 9903 0100)
Doughty Trigger Clamp (P/N 17030386)
Safety wire 50 kg (P/N 99011957)

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

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

Clean the air filters placed in the head´s covers and the 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.

11.1 Disposing of the product

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

regulations and codes.

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	04/01/2016	Frost filters specification improvement
1.2	13/01/2016	DMX protocol ver. 1.2 (rot. gobo carousel rotation change)
1.3	20/01/2016	New photometric diagrams
1.4	09/02/2016	New items in menu Personality, DMX protocol ver. 1.3, new photometric diagrams
1.5	15/04/2016	DMX protocol ver. 1.4
1.6	28/04/2016	Errorr messages "Fans Failure, Base Fan Bad, Arm Fan Bad" added.
1.7	31/08/2016	DMX protocol ver. 1.5 (Colour mix control channel, 45DMX= default)
1.8	14/12/2016	DMX protocol ver. 1.6 , Changes in menu Personality
1.9	04/04/2017	DMX protocol ver. 1.7 (colours renamed on Virtual colour wheel))
2.0	20/10/2017	DMX protocol ver. 1.8 (RoboSpot Support added on Power channel)
2.1	16/01/2018	Optional accessories changed
2.2	27/04/2018	DMX protocol ver. 1.9

13. Photometric diagrams

Beam angle 7° - Min. zoom
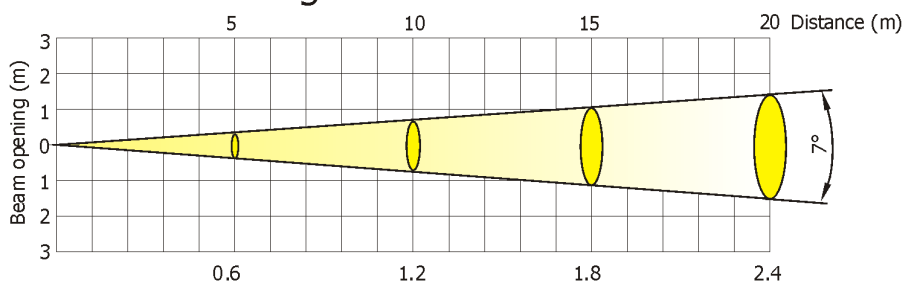
Output Mode: Intensity

Distance (m)	5	8	10	12	14	16	18	20	
Red	3450/321	1348/125	860/80	600/56	440/41	337/31	266/25	215/20	
Green	3700/344	1445/134	925/86	642/60	472/44	361/34	285/27	231/22	
Blue	1070/99	418/39	268/25	186/17	137/13	105/10	83/8	67/6	
Amber	2730/254	1066/99	683/63	474/44	348/32	266/25	210/20	170/16	Intensity (center) Lux/Footcandles
Cyan	2260/210	883/82	565/52	392/37	288/27	221/21	174/16	141/13	
Congo Blue	3.5/0.3	1.4/0.1	0.9/0.1	0.6/0.1	0.4/0	0.3/0	0.3/0	0.2/0	
Light Green	11940/1109	4664/433	2985/277	2073/193	1523/141	1166/108	921/86	746/70	
R+G+B+A+C+CB+LG	17720/1646	6922/643	4430/412	3076/286	2260/210	1730/161	1367/127	1108/103	

Beam angle 43° - Max. zoom
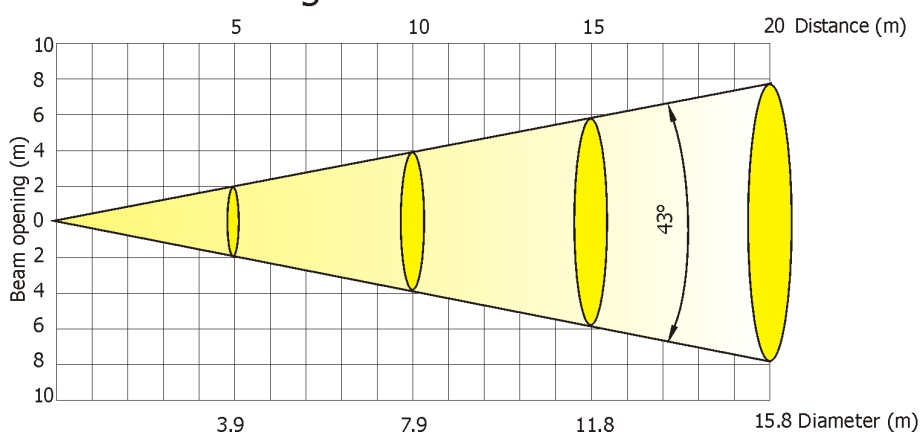
Output Mode: Intensity

Distance (m)	5	8	10	12	14	16	18	20	
Red	166/15	65/6	42/4	29/2.7	21/2	16/1.5	13/1.2	10/1	
Green	174/16	68/6	44/4	30/2.8	22/2.1	17/1.6	13/1.2	11/1.0	
Blue	53/5	21/1.9	13/1.2	9/0.9	7/0.6	5/0.5	4/0.4	3/0.3	
Amber	365/40	143/13	91/8.5	63/5.9	47/4.3	36/3.3	28/2.6	23/2.1	Intensity (center) Lux/Footcandles
Cyan	101/9	40/4	25/2.3	18/1.6	13/1.2	10/0.9	8/0.7	6/0.6	
Congo Blue	0.2/0	0.1/0.1	0.1/0	0/0	0/0	0/0	0/0	0/0	
Light Green	550/51	215/20	137/13	95/9	70/6.5	54/5	42/4	34/3.2	
R+G+B+A+C+CB+LG	820/76	320/30	205/19	142/13	105/10	80/7.4	63/6	51/5	

Fixture settings:
  DMX Mode: 3
  Colour calibration mode: On
  Colour mixing mode: RGB
  Output mode: Intensity
  Theatre mode: Off

Beam angle 7° - Min. zoom
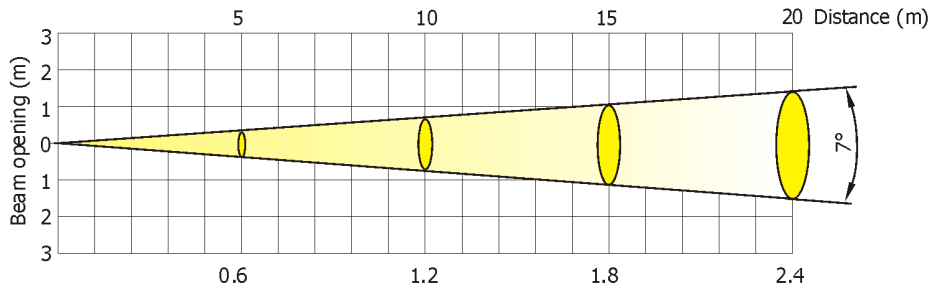
Output Mode: Intensity

Distance (m)	5	8	10	12	14	16	18	20	
White 2700K	10660/990	4164/387	2665/248	1850/172	1360/126	1041/97	822/76	666/62	
White 3200K	12050/1120	4707/437	3013/280	2090/194	1537/143	1177/109	930/86	753/70	
White 4200K	14100/1310	5507/512	3525/328	2448/227	1798/167	1377/128	1088/101	881/82	Intensity (center) Lux/Footcandles
White 5600K	16220/1507	36336/589	4055/377	2816/262	2069/192	1584/147	1252/116	1014/94	
White 6600K	16740/1555	3527/328	2558/210	1567/146	1152/107	882/82	695/65	564/52	
White 8000K	17500/1626	6836/635	4375/407	3038/282	2232/207	1710/159	1350/125	1094/102	

Beam angle 43° - Max. zoom
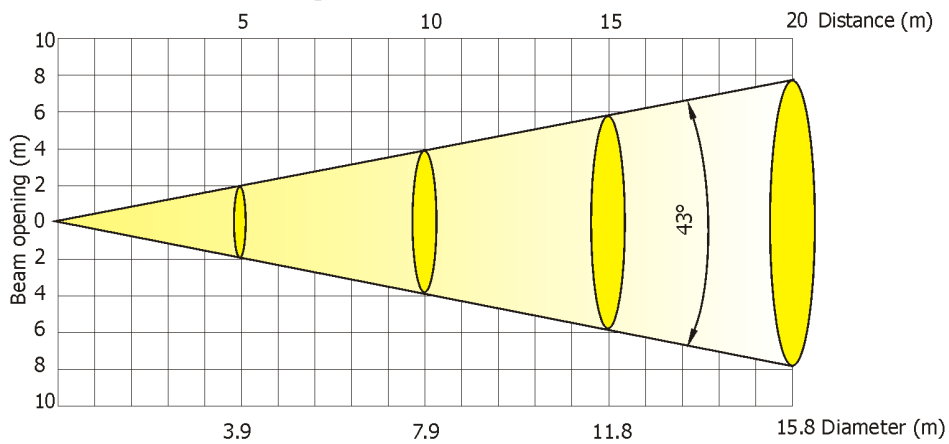
Output Mode: Intensity

Distance (m)	5	8	10	12	14	16	18	20	
White 2700K	535/50	209/19	134/12	93/9	68/6	52/5	41/3.8	33/3	
White 3200K	577/54	225/21	144/13	100/9	75/7	56/5	44/4	36/3.4	
White 4200K	664/62	259/24	166/15	115/11	85/8	65/6	51/5	42/4	Intensity (center) Lux/Footcandles
White 5600K	731/68	286/27	182/17	127/12	94/9	72/7	56/5	46/4.2	
White 6600K	750/70	293/27	188/17	130/12	96/9	73/7	58/5	47/4.4	
White 8000K	800/74	313/29	200/19	140/13	102/9.5	78/7	62/5.7	50/4.6	

Fixture settings:
DMX Mode: 3 (R+G+B+A+C+CB+LG=full)
Colour calibration mode: On
Colour mixing mode: RGB
Output mode: Intensity
Theatre mode: Off

Beam angle 7° - Min. zoom
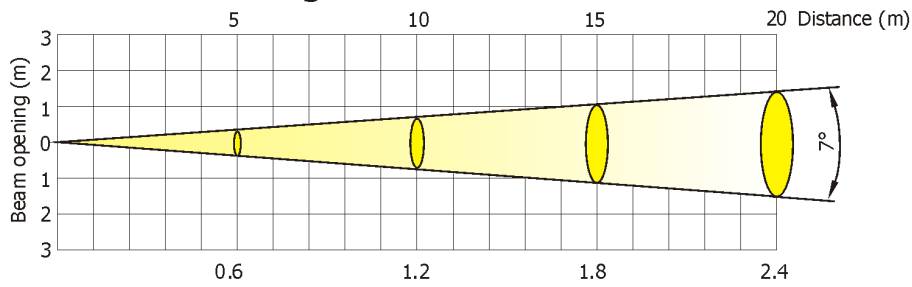
Output Mode: CRI (70)

Distance (m)	5	8	10	12	14	16	18	20	
White 2700K	8820/819	3445/320	2205/205	1530/142	1125/104	862/80	680/63	551/51	
White 3200K	9980/927	3898/362	2495/232	1732/161	1273/118	975/91	770/72	624/58	
White 4200K	11830/1099	4620/429	2960/275	2054/191	1509/140	1155/107	913/85	740/69	Intensity (center) Lux/Footcandles
White 5600K	13420/1247	5242/487	3355/312	2330/217	1712/159	1310/122	1035/96	839/78	
White 6600K	13950/1296	5450/506	3487/324	2422/225	1779/165	1362/127	1076/100	872/82	
White 8000K	15000/1394	5859/544	3750/348	2604/242	1913/177	1465/136	1157/108	938/87	

Beam angle 43° - Max. zoom
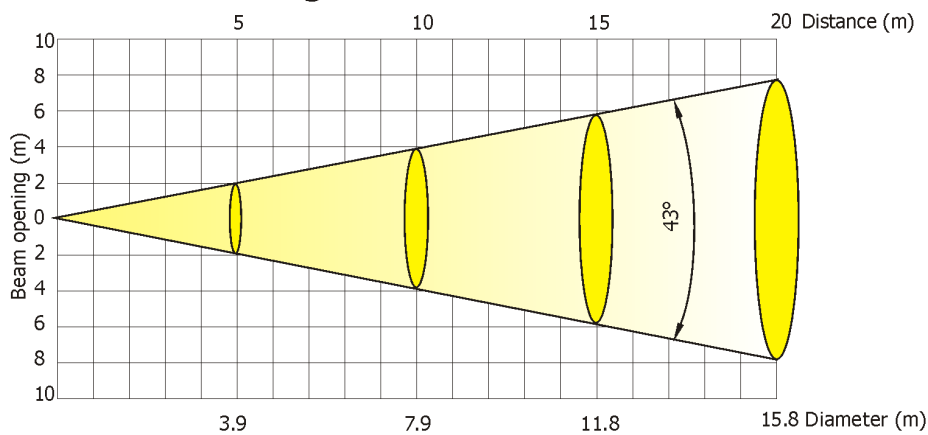
Output Mode: CRI (70)

Distance (m)	5	8	10	12	14	16	18	20	
White 2700K	425/40	166/15	106/10	74/7	54/5	42/4	33/3	27/2.5	
White 3200K	480/45	188/17	120/11	83/8	61/6	47/4.4	37/3.4	30/3	
White 4200K	570/53	223/21	143/13	99/9	73/7	56/5	44/4	36/3.3	Intensity (center) Lux/Footcandles
White 5600K	638/59	249/23	160/15	110/10	82/8	62/6	49/4.6	40/3.7	
White 6600K	663/62	259/24	166/15	115/11	85/8	65/6	51/5	42/3.8	
White 8000K	700/65	273/25	175/16	122/11	90/8	68/6.4	54/5	43/4	

Fixture settings:

        DMX Mode: 3 (R+G+B+A+C+CB+LG=full)
        Colour calibration mode: On
        Colour mixing mode: RGB
        Output mode: CRI
                Output Uniformity: On
                Output Consistency: 50°C
                CRI Selection: 70
        Theatre mode: Off

Beam angle 7° - Min. zoom
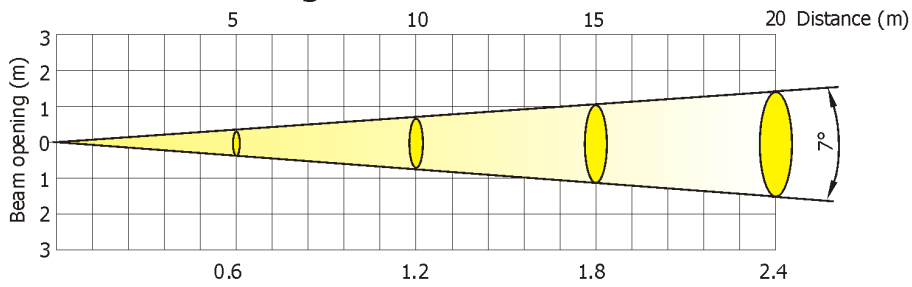
Output Mode: CRI (80)

Distance (m)	5	8	10	12	14	16	18	20	
White 2700K	7100/660	2773/258	1775/165	1233/115	906/84	693/64	550/51	443/41	
White 3200K	8230/765	3215/299	2058/191	1429/133	1248/116	955/89	754/70	611/57	
White 4200K	9777/908	3820/355	2444/227	1698/158	970/90	742/69	586/55	475/44	Intensity (center) Lux/Footcandles
White 5600K	11390/1058	4450/413	2848/265	1977/184	1453/135	1112/103	880/82	712/66	
White 6600K	11960/1111	4672/434	2990/278	2076/193	1525/142	1168/109	923/86	748/69	
White 8000K	12820/1191	5007/465	3205/298	2256/207	1635/152	1252/116	989/92	801/74	

Beam angle 43° - Max. zoom
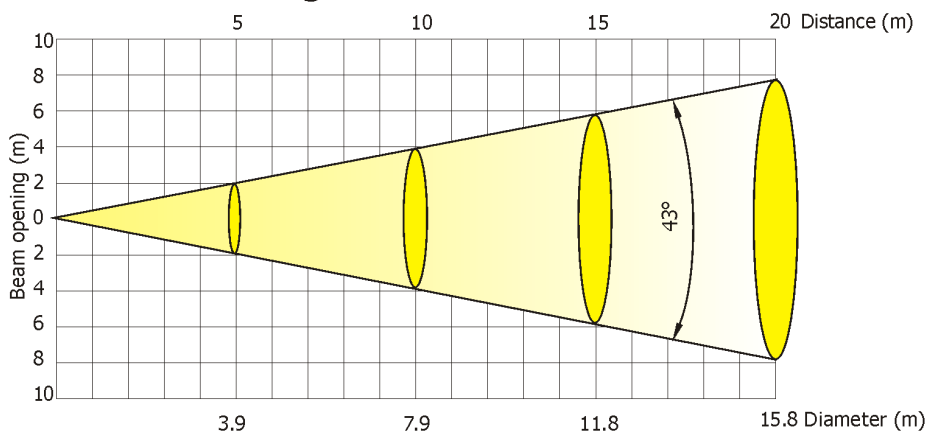
Output Mode: CRI (80)

Distance (m)	5	8	10	12	14	16	18	20	
White 2700K	345/32	135/13	86/8	60/6	44/4	34/3	27/2.5	22/2	
White 3200K	394/37	154/14	99/9	68/6	50/5	39/3.6	30/2.8	25/2	
White 4200K	467/43	182/17	117/11	81/8	60/6	46/4	36/3	30/3	Intensity (center) Lux/Footcandles
White 5600K	548/51	214/20	137/13	95/9	70/7	54/5	42/4	34/3	
White 6600K	578/54	226/21	144/13	100/9	74/7	56/5	45/4	36/3.4	
White 8000K	625/58	244/23	156/15	109/10	80/7.4	61/6	48/4.5	39/3.6	

Fixture settings:

        DMX Mode: 3 (R+G+B+A+C+CB+LG=full)
        Colour calibration mode: On
        Colour mixing mode: RGB
        Output mode: CRI
            Output Uniformity: On
            Output Consistency: 50°C
            CRI Selection: 80
        Theatre mode: Off

Beam angle 7° - Min. zoom
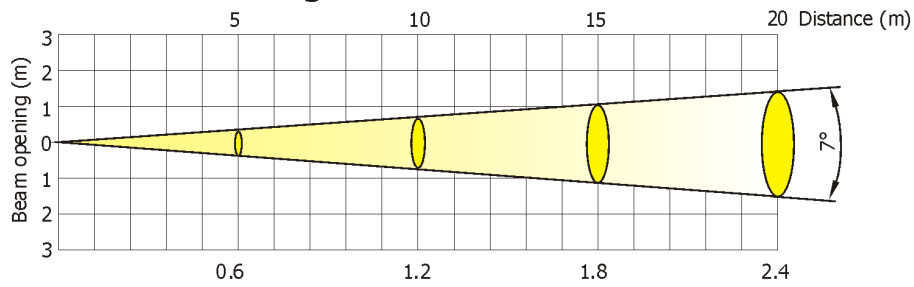
Output Mode: CRI (90+)

Distance (m)	5	8	10	12	14	16	18	20	
White 2700K	5450/506	2130/198	1362/127	950/88	695/65	532/49	420/39	340/32	
White 3200K	6330/588	2473/230	1583/147	1099/102	807/75	618/57	488/45	395/37	
White 4200K	7600/706	2970/276	1900/177	1319/123	970/90	742/69	586/55	475/44	Intensity (center) Lux/Footcandles
White 5600K	9520/884	3720/346	2380/221	1653/154	1214/112	930/86	735/68	595/55	
White 6600K	10140/942	3961/368	2535/235	1760/163	1293/120	990/92	782/73	634/59	
White 8000K	11100/1031	4336/403	2775/258	1927/179	1416/132	1084/101	856/80	694/65	

Beam angle 43° - Max. zoom
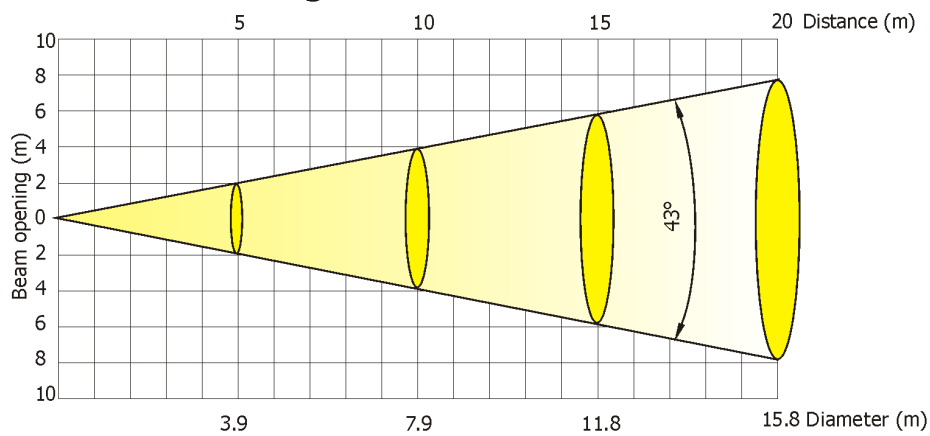
Output Mode: CRI (90+)

Distance (m)	5	8	10	12	14	16	18	20	
White 2700K	260/24	102/9	65/6	45/4.2	33/3	25/2.4	20/2	18/1.6	
White 3200K	302/28	118/11	76/7	52/5	39/4	30/2.7	23/2.2	19/2	
White 4200K	359/33	140/13	90/8	62/6	46/4	35/3	28/2.6	22/2	Intensity (center) Lux/Footcandles
White 5600K	445/41	174/16	111/10	77/7	57/5	44/4	34/3.2	28/2.6	
White 6600K	480/45	188/17	120/11	83/8	61/5.7	47/4.4	37/3.4	30/2.8	
White 8000K	536/50	209/20	134/12	93/9	68/6.4	52/5	41/4	34/3.1	

Fixture settings:
    DMX Mode: 3 (R+G+B+A+C+CB+LG=full)
    Colour calibration mode: On
    Colour mixing mode: RGB
    Output mode: CRI
        Output Uniformity: On
        Output Consistency: 50°C
        CRI Selection: 90+
    Theatre mode: Off

| Mode/channel				DMX Value	Function	Type of control
1	**2**	**3**	**4**			
1	**1**	**1**	**1**		**Pan**	
				0 - 255	Pan movement by 540° (128=default)	proportional
2	**2**	**2**	**2**		**Pan Fine**	
				0 - 255	Fine control of pan movement (0=default)	proportional
3	**3**	**3**	**3**		**Tilt**	
				0 - 255	Tilt movement by 270° (128=default)	proportional
4	**4**	**4**	**4**		**Tilt fine**	
				0 - 255	Fine control of tilt movement (0=default)	proportional
5	**5**	**5**	**5**		**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
6	**6**	**6**	**6**		**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 49/41/57/45 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 only 10 seconds after switching the fixture on	
				20-24	Graphic display On	step
				25-29	Graphic display Off	step
				30-39	Reserved	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	Blackout while gobo wheels moving	step
				65-69	Disabled blackout while gobo wheels moving	step
				70-74	Fans mode: Auto	step
				75-79	Fans mode: High	step
				80-84	Dimmer curve: Square law	step
				85-89	Dimmer curve: Linear	step
				90-129	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	Reserved	step
				160 - 169	Gobo wheels reset	step
				170 - 179	Reserved	
				180 - 189	Zoom/focus/frost/prism reset	step
				190 - 199	Iris /framing shutters/effect wheel reset	step

Table title: **Robin DL7S Profile - DMX protocol**
Version: 1.9   **Mode 1**-CMY/RGB, **Mode 2** -CMY/RGB reduced, **Mode 3** -Seven colours, **Mode 4** -Seven colours reduced

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				200 - 209	Total fixture reset	step
				210-224	Reserved	
					The following RoboSpot related commands are only applicable when the RoboSpot is connected:	
				225 - 229	RoboSpot enabled	step
				230 - 234	RoboSpot disabled - except handle faders and pan/tilt	step
				235 - 239	RoboSpot fully disabled except pan/tilt	step
				240	Disable "Theatre mode"	step
				241 - 255	"Theatre mode" - fan noise control from min. to max.	proportional
7	7	7	7		**Colour functions**	
				0	No function (0=default)	
					To activate following functions, stop in DMX value for at least 3 seconds. Corresponding menu items are temporarily overriden	
				1-4	Clear extended Special/Color settings* *	step
				5-9	Reserved	
				10-14	UV stability On	step
				15-19	UV stability Off	step
				20-24	Wavelenght correction On	step
				25-29	Wavelenght correction Off	step
				30-34	Colour calibration mode On	step
				35-39	Colour calibration mode Off	step
				40-44	Colour mixing mode: CMY	step
				45-49	Colour mixing mode: RGB	step
				50-54	Colour mixing mode 7 colours On (mode 3 and 4 only)	step
				55-59	Colour mixing mode 7 colours Off (mode 3 and 4 only)	step
				60-64	Output uniformity On (at selected CRI - (DMX values 151-155))	step
				65-69	Output uniformity Off	step
				70-74	Output mode: CRI	step
				75-79	Output mode: Intensity	step
					The Tungsten effects influence whites 2700K-4200K at CTC channel.	
				80-84	Tungsten effect simulation (750W) On	step
				85-89	Tungsten effect simulation (1000W) On	step
				90-94	Tungsten effect simulation (1200W) On	step
				95-99	Tungsten effect simulation (2000W) On	step
				100-104	Tungsten effect simulation (2500W) On	step
				105-109	Tungsten effect simulation Off	step
				110-114	Save user colour	step
					Output consistency (CRI output mode only) up to:	
				115	30°C	step
				116	31°C	step
				117	32°C	step
				118	33°C	step
				119	34°C	step
				120	35°C	step
				121	36°C	step
				122	37°C	step
				123	38°C	step
				124	39°C	step

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				125	40°C	step
				126	41°C	step
				127	42°C	step
				128	43°C	step
				129	44°C	step
				130	45°C	step
				131	46°C	step
				132	47°C	step
				133	48°C	step
				134	49°C	step
				135	50°C	step
				136	51°C	step
				137	52°C	step
				138	53°C	step
				139	54°C	step
				140	55°C	step
				141	56°C	step
				142	57°C	step
				143	58°C	step
				144	59°C	step
				145	60°C	step
				146	61°C	step
				147	62°C	step
				148	63°C	step
				149	64°C	step
				150	65°C	step
					CRI selection (CRI output mode only)	
				151	CRI=70	step
				152	CRI=75	step
				153	CRI=80	step
				154	CRI=85	step
				155	CRI=90+	step
				156-159	Reserved	
				160-164	Chromatic white On	step
				165-169	Chromatic white Off	step
				170-255	Reserved	
8	8	8	8		**Virtual colour wheel**	
				0	No function (0=default)	step
				1-2	Filter 4 (Medium Bastard Amber)	step
				3-4	Filter 10 (Medium Yellow)	step
				5-6	Filter 19 (Fire)	step
				7-8	Filter 26 (Bright Red)	step
				9-10	Filter 58 (Lavender)	step
				11-12	Filter 68 (Sky Blue)	step
				13-14	Filter 71 (Tokyo Blue)	step
				15-16	Filter 79 (Just Blue)	step
				17-18	Filter 88 (Lime Green)	step
				19-20	Filter 90 (Dark Yellow Green)	step

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				21-22	Filter 100 (Spring Yellow)	step
				23-24	Filter 101 (Yellow)	step
				25-26	Filter 102 (Light Amber)	step
				27-28	Filter 103 (Straw)	step
				29-30	Filter 104 (Deep Amber)	step
				31-32	Filter 105 (Orange)	step
				33-34	Filter 106 (Primary Red)	step
				35-36	Filter 111 (Dark Pink)	step
				37-38	Filter 115 (Peacock Blue)	step
				39-40	Filter 116 (Medium Blue-Green)	step
				41-42	Filter 117 (Steel Blue)	step
				43-44	Filter 118 (Light Blue)	step
				45-46	Filter 119 (Dark Blue)	step
				47-48	Filter 120 (Deep Blue)	step
				49-50	Filter 121 (Filter Green)	step
				51-52	Filter 128 (Bright Pink)	step
				53-54	Filter 131 (Marine Blue)	step
				55-56	Filter 132 (Medium Blue)	step
				57-58	Filter 134 (Golden Amber)	step
				59-60	Filter 135 (Deep Golden Amber)	step
				61-62	Filter 136 (Pale Lavender)	step
				63-64	Filter 137 (Special Lavender)	step
				65-66	Filter 138 (Pale Green)	step
				67-68	Filter 139 (Primary Green)	step
				69-70	Filter 141 (Bright Blue)	step
				71-72	Filter 147 (Apricot)	step
				73-74	Filter 148 (Bright Rose)	step
				75-76	Filter 152 (Pale Gold)	step
				77-78	Filter 154 (Pale Rose)	step
				79-80	Filter 157 (Pink)	step
				81-82	Filter 158 (Deep Orange)	step
				83-84	Filter 162 (Bastard Amber)	step
				85-86	Filter 164 (Flame Red)	step
				87-88	Filter 165 (Daylight Blue)	step
				89-90	Filter 169 (Lilac Tint)	step
				91-92	Filter 170 (Deep Lavender)	step
				93-94	Filter 172 (Lagoon Blue)	step
				95-96	Filter 179 (Chrome Orange)	step
				97-98	Filter 180 (Dark Lavender)	step
				99-100	Filter 181 (Congo Blue)	step
				101-102	Filter 197 (Alice Blue)	step
				103-104	Filter 201 (Full C.T. Blue)	step
				105-106	Filter 202 (Half C.T. Blue)	step
				107-108	Filter 203 (Quarter C.T. Blue)	step
				109-110	Filter 204 (Full C.T. Orange)	step
				111-112	Filter 205 (Half C.T. Orange)	step
				113-114	Filter 206 (Quarter C.T. Orange)	step
				115-116	Filter 247 (Filter Minus Green)	step

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				117-118	Filter 248 (Half Minus Green)	step
				119-120	Filter 281 (Three Quarter C.T. Blue)	step
				121-122	Filter 285 (Three Quarter C.T. Orange)	step
				123-124	Filter 352 (Glacier Blue)	step
				125-126	Filter 353 (Lighter Blue)	step
				127-128	Filter 715 (Cabana Blue)	step
				129-130	Filter 778 (Millennium Gold)	step
				131-132	Filter 793 (Vanity Fair)	step
				133-191	Reserved	step
				192-193	Deep Red	step
				194-195	Deep Blue	step
				196-197	Orange	step
				198-199	Green	step
				200-201	Magenta	step
				202-203	Congo Blue	step
				204-205	Pink	step
				206-207	Lavender	step
				208-209	Laser Green	step
				210-211	CTB	step
				212-213	Minus 1/1 Green	step
				214-215	Minus 1/2 Green	step
				216-217	User colour 1	step
				218-219	User colour 2	step
				220-221	User colour 3	step
				222-223	User colour 4	step
				224-225	User colour 5	step
				226-227	User colour 6	step
				228-229	User colour 7	step
				230-231	User colour 8	step
				232-233	User colour 9	step
				234-235	User colour 10	step
				236-245	Rainbow effect (with fade time) from slow-> fast	proportional
				246-255	Rainbow effect (without fade time) from slow-> fast	proportional
9	9	*	*		**Cyan/Red(8 bit)**	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
10	*	*	*		**Cyan/Red(16 bit)**	
				0 - 255	Colour saturation control - fine (255=default)	proportional
11	10	*	*		**Magenta/Green (8 bit)**	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
12	*	*	*		**Magenta/Green (16 bit)**	
				0 - 255	Colour saturation control - fine (255=default)	proportional
13	11	*	*		**Yellow/Blue (8 bit)**	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
14	*	*	*		**Yellow/Blue (16 bit)**	
				0 - 255	Colour saturation control - fine (255=default)	proportional
*	*	9	9		**Red (8 bit)**	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	*	10	*		**Red (16bit)**	

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				0 - 255	Colour saturation control - fine (255=default)	proportional
*	*	11	10		**Green (8 bit)**	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	*	12	*		**Green (16bit)**	
				0 - 255	Colour saturation control - fine (255=default)	proportional
*	*	13	11		**Blue (8 bit)**	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	*	14	*		**Blue(16bit)**	
				0 - 255	Colour saturation control - fine (255=default)	proportional
*	*	15	12		**Amber (8 bit)**	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	*	16	*		**Amber (16bit)**	
				0 - 255	Colour saturation control - fine (255=default)	proportional
*	*	17	13		**Cyan (8 bit)**	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	*	18	*		**Cyan (16bit)**	
				0 - 255	Colour saturation control - fine (255=default)	proportional
*	*	19	14		**Congo blue (8 bit)**	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	*	20	*		**Congo blue (16bit)**	
				0 - 255	Colour saturation control - fine (255=default)	proportional
*	*	21	15		**Light green (8 bit)**	
				0 - 255	Colour saturation control - coarse 0-100% (255=default)	proportional
*	*	22	*		**Light green (16bit)**	
				0 - 255	colour saturation control - fine (255=default)	proportional
15	12	23	16		**Colour temperature correction (CTC)**	
				0-1	8000K	step
				2-64	Colour temperature changing 7978K ->6622K (22K /1 DMX)	proportional
				65	6600K	step
				66-109	Colour temperature changing 6578K ->5622K (22K/1 DMX)	proportional
				110	5600K (default)	step
				111-179	Colour temperature changing 5580K ->4220K (20K/1 DMX)	proportional
				180	4200K	step
				181-229	Colour temperature changing 4180K ->3220K (20K/1 DMX)	proportional
				230	3200K	step
				231-254	Colour temperature changing 3180K ->2720K (20K /1 DMX)	proportional
				255	2700K	step
16	13	24	17		**Green correction**	
				0	Uncorrected white	step
				1-127	Minus green --> uncorrected white	proportional
				128	Uncorrected white (default)	step
				129-254	Uncorrected white --> Plus green	proportional
				255	Uncorrected white	step
17	14	25	18		**Colour mix control**	
					Defines relation between colour channels	
					"Virtual" = Virtual Colours (Virtual Colour Wheel) "Colour mix" = Colour channels (RGB/CMY/R,G,B,A,C,Congo Blue,Light green/CTC/ Green Correction)	

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
					Range 0-69 DMX - only for Output mode: CRI	
				0-9	Virtual colours ("Virtual" has priority)	step
				10-19	Maximum mode (highest values have priority)	step
				20-29	Minimum mode (lowest values have priority)	step
				30-39	Multiply mode (multiply Virtual and Colour mix)	step
				40-49	Addition mode (Virtual + Colour mix) (45=default)	step
				50-59	Subtraction mode (Virtual – Colour mix)	step
				60-69	Inverted Subtraction mode (Colour mix-Virtual)	step
				70-79	White Point Off (CTC+Green Cor.+Virtual Col.Wheel deactivated)	step
				80-128	reserved	
					Range 129-255 DMX - for both Output modes: CRI and Intensity	
				129	Virtual colours ("Virtual" has priority)	step
				130-254	Crossfade (crossfade between Virtual and Colour mix)	proportional
				255	Colour channels ("Colour mix" has priority)	step
18	15	26	19		**Speed of rot. Gobo selection**	
				0-255	Speed of rot. gobo selection from max. to min. (0=default)	proportional
19	16	27	20		**Stat. Gobo+Rot. Gobo carousel + Framing shutters +Zoom+Focus+Iris+Frost+Prism time**	
				0	Function is off (default)	step
				1 - 255	Time of stat. Gobo, rot. Gobo, framing shutters, zoom, focus, iris and frost movement (0.1 sec-->25.5 sec.)	proportional
				1-50	Time of prism movement (0.1 sec-->5 sec.)	proportional
20	17	28	21		**Effect wheel positioning**	
				0-19	No function (0=default)	step
				20-127	Proportional indexing (73-center)	proportional
				128-170	Ramping from open to full position (max--->min. speed)	proportional
				171-213	Ramping from open to half position (max. --->min. speed)	proportional
				214-255	Ramp. from half position to full position (max. --->min. speed)	proportional
21	18	29	22		**Effect wheel rotation**	
				0	No rotation	step
				1 - 127	Forwards rotation from fast to slow	proportional
				128	No rotation (128-default)	step
				129 - 255	Backwards rotation from slow to fast	proportional
22	19	30	23		**Effect wheel animations**	
				0-7	No animation (0-default)	
					*Note : Set suitable DMX value at **Focus** channel to get desired animation. All animations were created at distance of 5 m from screen with zoom=128DMX, Focus value is different for each effect (focus value is stated in parentheses for this distance)*	
					The following channels are blocked: Effect wheel positioning, Effect wheel rotation, Static gobo wheel, Rotating gobo wheel, Rot. Gobo indexing and rotation.	
				8-9	Macro 1 (Focus=101)	step
				10-11	Macro 2 (Focus=101)	step
				12-13	Macro 3 (Focus=152)	step
				14-15	Macro 4 (Focus=152)	step
				16-17	Macro 5 (Focus=152)	step
				18-19	Macro 6 (Focus=145)	step
				20-21	Macro 7 (Focus=145)	step

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				22-23	Macro 8 (Focus=145)	step
				24-25	Macro 9 (Focus=114)	step
				26-27	Macro 10 (Focus=104)	step
				28-255	Reserved	
23	20	31	24		**Static gobo wheel**	
					In range 0-64 DMX is possible fine gobo positioning - set value at channel 24/32	
					Continual Positioning	
				0	Open/hole (0=default)	proportional
				7	Gobo 1	proportional
				14	Gobo 2	proportional
				21	Gobo 3	proportional
				28	Gobo 4	proportional
				36	Gobo 5	proportional
				43	Gobo 6	proportional
				50	Gobo 7	proportional
				57	Gobo 8	proportional
				64	Open/hole	proportional
					Positioning	
				65-70	Gobo 1	step
				71-75	Gobo 2	step
				76-81	Gobo 3	step
				82-86	Gobo 4	step
				87-92	Gobo 5	step
				93-97	Gobo 6	step
				98-103	Gobo 7	step
				104-109	Gobo 8	step
					Shaking gobos from slow to fast	
				110-120	Gobo 1	proportional
				121-131	Gobo 2	proportional
				132-142	Gobo 3	proportional
				143-153	Gobo 4	proportional
				154-164	Gobo 5	proportional
				165-175	Gobo 6	proportional
				176-186	Gobo 7	proportional
				187-197	Gobo 8	proportional
				198-201	Open/hole	step
				202 - 221	Forwards gobo wheel rotation from fast to slow	proportional
				222 - 223	No rotation	step
				224 - 243	Backwards gobo wheel rotation from slow to fast	proportional
				244 - 249	Random gobo selection by audio control*	step
					(Set microphone sensitivity in menu „Personality")	
				250 - 255	Auto random gobo selection from fast to slow	proportional
24	*	32	*		**Static gobo wheel-fine**	
				0 - 255	Fine positioning (0=default)	proportional
25	21	33	25		**Rotating gobo wheel**	
					In the range of 0-59 DMX the gobo selection speed is controlled by the "Speed of rot. Gobo selection" channel.	
					Index - set indexing on channel 26/22/33/26	

Mode/channel				DMX Value	Function	Type of control
1	**2**	**3**	**4**			
				0-4	Open/hole (0=default)	step
				5-8	Gobo 1	step
				9-13	Gobo 2	step
				14-17	Gobo 3	step
				18-22	Gobo 4	step
				23-26	Gobo 5	step
				27-31	Gobo 6	step
					Rotation - set rotation on channel 26/22/33/26	
				32-35	Gobo 1	step
				36-40	Gobo 2	step
				41-44	Gobo 3	step
				45-49	Gobo 4	step
				50-54	Gobo 5	step
				55-59	Gobo 6	step
					Shaking gobos from slow to fast	
					Index - set indexing on channel 26/22/33/26	
				60-71	Gobo 1	proportional
				72-83	Gobo 2	proportional
				84-95	Gobo 3	proportional
				96-106	Gobo 4	proportional
				107-118	Gobo 5	proportional
				119-129	Gobo 6	proportional
					Shaking gobos from slow to fast	
					Rotation - set rotation on channel 26/22/33/26	
				130-141	Gobo 1	proportional
				142-153	Gobo 2	proportional
				154-165	Gobo 3	proportional
				166-176	Gobo 4	proportional
				177-188	Gobo 5	proportional
				189-199	Gobo 6	proportional
				200 - 201	Open/hole	step
				202 - 222	Forwards gobo wheel rotation from fast to slow	proportional
				223 - 243	Backwards gobo wheel rotation from slow to fast	proportional
				244 - 249	Random gobo selection by audio control*	step
					*(Set microphone sensitivity in menu „Personality")	
				250 - 255	Auto random gobo selection from fast to slow	proportional
26	**22**	**34**	**26**		**Rot. gobo indexing and rotation**	
					Gobo indexing - set position on channel 25/21/33/26	
				0 - 255	Gobo indexing (128=default)	proportional
					Gobo rotation - set position on channel 25/21/33/26	
				0	No rotation	step
				1 - 127	Forwards gobo rotation from fast to slow	proportional
				128	No rotation (default)	step
				129 - 255	Backwards gobo rotation from slow to fast	proportional
27	*****	**35**	*****		**Rot. gobo indexing/rotation - fine**	
				0-255	Fine indexing/rotation (0=default)	proportional
28	**23**	**36**	**27**		**Prism**	
				0 - 19	Open position -hole (0=default)	step

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				20 - 127	5-facet rotating prism	step
					Prism/gobo macros *The following channels are blocked: Prism, Prism rotation, Rotating gobo wheel, Rot. Gobo indexing and rotation.*	
				128 - 135	Macro 1	step
				136 - 143	Macro 2	step
				144 - 151	Macro 3	step
				152 - 159	Macro 4	step
				160 - 167	Macro 5	step
				168 - 175	Macro 6	step
				176 - 183	Macro 7	step
				184 - 191	Macro 8	step
				192 - 199	Macro 9	step
				200 - 207	Macro 10	step
				208 - 215	Macro 11	step
				216 - 223	Macro 12	step
				224 - 231	Macro 13	step
				232 - 239	Macro 14	step
				240 - 247	Macro 15	step
				248 - 255	Macro 16	step
29	24	37	28		**Prism rotation**	
				0	No rotation	step
				1 - 127	Forwards rotation from fast to slow	proportional
				128	No rotation (default)	step
				129 - 255	Backwards rotation from slow to fast	proportional
30	25	38	29		**Frost**	
				0	Open (0=default)	step
				1 - 179	Frost from 0% to 100%	proportional
				180 - 189	100% frost	step
				190 - 211	Pulse closing from slow to fast	proportional
				212 - 233	Pulse opening from fast to slow	proportional
				234 - 255	Ramping from fast to slow	proportional
31	26	39	30		**Iris**	
				0	Open (0=default)	step
				1 - 179	From max.diameter to min.diameter	proportional
				180 - 191	Closed	step
					Pulse effects with Iris blackout	
				192 -219	Pulse opening from slow to fast	proportional
				220 - 247	Pulse closing from fast to slow	proportional
				248 - 249	Random pulse opening (fast)	step
				250 - 251	Random pulse opening (slow)	step
				252 - 253	Random pulse closing (fast)	step
				254 - 255	Random pulse closing (slow)	step
32	*	40	*		**Iris - fine**	
				0 - 255	Fine iris movement (0=default)	proportional
33	27	41	31		**Zoom**	
				0 - 255	Zoom from max. to min.beam angle (128=default)	proportional
34	*	42	*		**Zoom - fine**	

Mode/channel				DMX Value	Function	Type of control
1	**2**	**3**	**4**			
				0-255	Fine zooming (0=default)	proportional
35	**28**	**43**	**32**		**Focus**	
				0 - 255	Continuous adjustment from far to near (128=default)	proportional
36	*****	**44**	*****		**Focus - fine**	
				0- 255	Fine focusing (0=default)	proportional
37	**29**	**45**	**33**		**Reserved**	
38	**30**	**46**	**34**		**Framing shutters module rotation**	
				0-127	Rotation from right (0°) to 45°	proportional
				128	Center (default)	step
				129-255	Rotation from 45° to left (90°)	proportional
39	**31**	**47**	**35**		**Framing shutter 1- movent**	
				0-255	Movement from Outward to Inward (0=default)	proportional
40	**32**	**48**	**36**		**Framing shutter 1- swivelling**	
				0-127	Swivelling from -25 degrees towards 0 degrees	proportional
				128	0 degrees (default)	step
				129-255	Swivelling from 0 degrees to +25 degrees	proportional
41	**33**	**49**	**37**		**Framing shutter 2- movent**	
				0-255	Movement from Outward to Inward (0=default)	proportional
42	**34**	**50**	**38**		**Framing shutter 2- swivelling**	
				0-127	Swivelling from -25 degrees towards 0 degrees	proportional
				128	0 degrees (default)	step
				129-255	Swivelling from 0 degrees to +25 degrees	proportional
43	**35**	**51**	**39**		**Framing shutter 3 movent**	
				0-255	Movement from Outward to Inward (0=default)	proportional
44	**36**	**52**	**40**		**Framing shutter 3- swivelling**	
				0-127	Swivelling from -25 degrees towards 0 degrees	proportional
				128	0 degrees (default)	step
				129-255	Swivelling from 0 degrees to +25 degrees	proportional
45	**37**	**53**	**41**		**Framing shutter 4 movent**	
				0-255	Movement from Outward to Inward (0=default)	proportional
46	**38**	**54**	**42**		**Framing shutter 4- swivelling**	
				0-127	Swivelling from -25 degrees towards 0 degrees	proportional
				128	0 degrees (default)	step
				129-255	Swivelling from 0 degrees to +25 degrees	proportional
47	**39**	**55**	**43**		**Framing shutters macros**	
				0-3	No function (0=default)	
				4-7	Macro 1	step
				8-11	Macro 2	step
				12-15	Macro 3	step
				16-19	Macro 4	step
				20-23	Macro 5	step
				24-27	Macro 6	step
				28-31	Macro 7	step
				32-35	Macro 8	step
				36-39	Macro 9	step
				40-43	Macro 10	step
				44-47	Macro 11	step
				48-51	Macro 12	step

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				52-55	Macro 13	step
				56-59	Macro 14	step
				60-63	Macro 15	step
				64-67	Macro 16	step
				68-71	Macro 17	step
				72-75	Macro 18	step
				76-79	Macro 19	step
				80-83	Macro 20	step
				84-87	Macro 21	step
				88-91	Macro 22	step
				92-95	Macro 23	step
				96-99	Macro 24	step
				100-103	Macro 25	step
				104-107	Macro 26	step
				108-111	Macro 27	step
				112-115	Macro 28	step
				116-119	Macro 29	step
				120-123	Macro 30	step
				124-127	Macro 31	step
				128-131	Macro 32	step
				132-135	Macro 33	step
				136-139	Macro 34	step
				140-143	Macro 35	step
				144-147	Macro 36	step
				148-151	Macro 37	step
				152-155	Macro 38	step
				156-159	Macro 39	step
				160-163	Macro 40	step
				164-167	Macro 41	step
				168-171	Macro 42	step
				172-175	Macro 43	step
				176-179	Macro 44	step
				180-183	Macro 45	step
				184-187	Macro 46	step
				188-191	Macro 47	step
				192-195	Macro 48	step
				196-199	Macro 49	step
				200-203	Macro 50	step
				204-207	Macro 51	step
				208-211	Macro 52	step
				212-255	Reserved	
48	40	56	44		**Framing shutters macro speed**	
				0- 255	Speed from slow to fast (128=default)	proportional
49	41	57	45		**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

Mode/channel				DMX Value	Function	Type of control
1	2	3	4			
				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
50	42	58	46		**Dimmer intensity**	
				0 - 255	Dimmer intensity from 0% to 100% (0=default)	proportional
51	*	59	*		**Dimmer intensity - fine**	
				0 - 255	Fine dimming (0=default)	proportional

** **Resets following items to their menu values:**

Dimmer curve

Colour calibration mode

Colour mixing mode

Colour mixing mode 7 colours

Output uniformity On

Output uniformity

Output mode

Output consistency

CRI selection

UV stability

Wavelength correction

All Specifications subject to change without notice

Colour macros on Virtual Colour Wheel							
Colour name	Red DMX	Green DMX	Blue DMX	Amber DMX	Cyan DMX	Congo Blue DMX	Light Green DMX
Filter 4 (Medium Bastard Amber)	255	125	27	255	0	0	88
Filter 10 (Medium Yellow)	255	65	0	255	0	0	170
Filter 19 (Fire)	255	0	0	255	0	0	5
Filter 26 (Bright Red)	255	0	0	16	0	0	0
Filter 58 (Lavender)	255	0	168	255	0	0	47
Filter 68 (Sky Blue)	111	0	255	0	255	0	0
Filter 71 (Tokyo Blue)	0	0	255	0	10	0	0
Filter 79 (Just Blue)	108	0	255	0	255	0	0
Filter 88 (Lime Green)	255	0	0	174	255	0	255
Filter 90 (Dark Yellow Green)	0	128	0	0	255	0	255
Filter 100 (Spring Yellow)	255	0	0	255	0	0	255
Filter 101 (Yellow)	255	0	0	255	0	0	189
Filter 102 (Light Amber)	255	0	16	255	0	0	206
Filter 103 (Straw)	255	255	16	255	0	0	90
Filter 104 (Deep Amber)	255	0	0	255	0	0	151
Filter 105 (Orange)	255	0	0	255	0	0	77
Filter 106 (Primary Red)	255	0	0	141	0	0	0
Filter 111 (Dark Pink)	255	0	28	255	0	0	82
Filter 115 (Peacock Blue)	0	255	133	0	255	0	194
Filter 116 (Medium Blue-Green)	0	255	68	0	255	0	116
Filter 117 (Steel Blue)	131	200	114	154	255	0	169
Filter 118 (Light Blue)	39	255	115	0	255	0	91
Filter 119 (Dark Blue)	0	43	255	0	255	0	0
Filter 120 (Deep Blue)	26	0	255	0	255	0	0
Filter 121 (Filter Green)	111	255	0	255	0	0	255
Filter 128 (Bright Pink)	255	0	26	156	0	0	0
Filter 131 (Marine Blue)	27	0	143	49	255	0	134
Filter 132 (Medium Blue)	27	255	255	0	255	0	0
Filter 134 (Golden Amber)	255	200	0	255	0	0	0
Filter 135 (Deep Golden Amber)	255	0	0	255	0	0	30
Filter 136 (Pale Lavender)	255	0	122	255	255	0	0
Filter 137 (Special Lavender)	255	0	122	255	255	0	99
Filter 138 (Pale Green)	255	255	22	255	0	0	255
Filter 139 (Primary Green)	0	255	0	0	0	0	60
Filter 141 (Bright Blue)	0	255	255	0	255	0	116
Filter 147 (Apricot)	255	0	7	255	0	0	138
Filter 148 (Bright Rose)	255	0	13	255	0	0	24
Filter 152 (Pale Gold)	255	0	28	255	0	0	133
Filter 154 (Pale Rose)	255	0	36	255	0	0	133
Filter 157 (Pink)	255	0	13	255	0	0	39
Filter 158 (Deep Orange)	255	0	0	255	0	0	46
Filter 162 (Bastard Amber)	255	255	26	255	0	0	66
Filter 164 (Flame Red)	255	0	0	255	0	0	0
Filter 165 (Daylight Blue)	71	255	255	0	255	0	0
Filter 169 (Lilac Tint)	255	0	62	255	255	0	0
Filter 170 (Deep Lavender)	255	0	129	255	255	0	0

Colour name	Red DMX	Green DMX	Blue DMX	Amber DMX	Cyan DMX	Congo Blue DMX	Light Green DMX
Filter 172 (Lagoon Blue)	0	0	255	0	255	0	255
Filter 179 (Chrome Orange)	255	0	0	255	0	0	135
Filter 180 (Dark Lavender)	100	0	255	47	120	0	0
Filter 181 (Congo Blue)	6	0	16	0	0	255	0
Filter 197 (Alice Blue)	36	36	255	36	255	0	0
Filter 201 (Full C.T. Blue)	118	36	255	36	255	0	255
Filter 202 (Half C.T. Blue)	146	133	255	130	255	0	141
Filter 203 (Quarter C.T. Blue)	255	255	202	255	255	0	255
Filter 204 (Full C.T. Orange)	255	125	0	255	0	0	49
Filter 205 (Half C.T. Orange)	255	125	21	255	31	0	111
Filter 206 (Quarter C.T. Orange)	255	125	64	255	31	0	111
Filter 247 (Filter Minus Green)	255	0	107	255	141	0	70
Filter 248 (Half Minus Green)	255	0	107	255	255	0	136
Filter 281 (Three Quarter C.T. Blue)	112	0	219	95	255	0	255
Filter 285 (Three Quarter C.T. Orange)	255	0	0	255	0	0	152
Filter 352 (Glacier Blue)	51	90	255	0	255	0	164
Filter 353 (Lighter Blue)	51	255	255	0	255	0	255
Filter 715 (Cabana Blue)	21	0	255	0	255	0	0
Filter 778 (Millennium Gold)	255	0	0	255	0	0	50
Filter 793 (Vanity Fair)	255	0	84	255	0	0	0
Deep Red	255	0	0	0	0	0	0
Deep Blue	0	0	255	0	0	15	0
Orange	44	18	0	255	0	0	0
Green	0	255	0	0	66	0	18
Magenta	255	0	209	299	0	0	5
Congo Blue	4	0	5	0	0	255	0
Pink	255	0	175	255	0	0	89
Lavender	255	172	255	100	255	0	254
Laser Green	122	255	0	255	140	0	254
CTB	229	255	156	255	255	0	255
Minus 1/1 Green	255	247	151	255	0	0	255
Minus 1/2 Green	255	255	128	255	124	0	255