

# **Robin 300 Spot Classic**

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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 gualified

- follow the instructions of this manual

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

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

### Important:

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

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

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

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

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

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

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

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

The electric connection, repairs and servicing must be carried out by a qualified employee. Do not connect this device to a dimmer pack.

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

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

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



## 2. Operating determination

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

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

Never run the device without lamp!

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

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

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

The minimum distance between light output and the illuminated surface must be more than 2 meters.

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

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

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

The lamp must never be ignited if the objective-lens or any housing-cover is open, as discharge lamps may explode and emit a high ultraviolet radiation, which may cause burns.

The maximum ambient temperature 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!

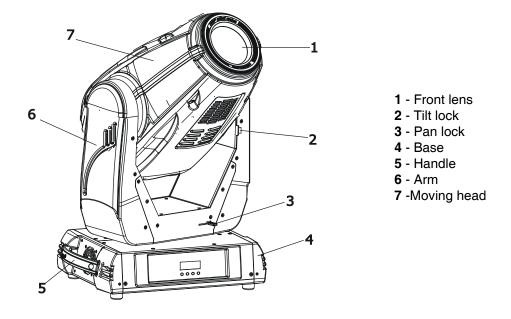
CAUTION! The lamp has to be replaced when it is damaged or deformed due to the heat!

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

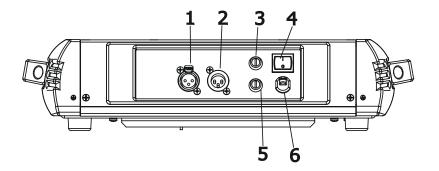
Please consider that unauthorized modifications on the device are forbidden due to safety reasons!

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

### 3. Fixture exterior view

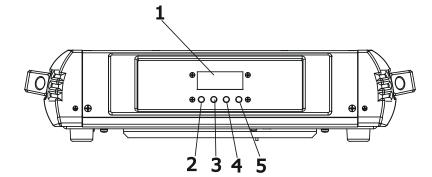


The head should be locked for transportation- the tilt lock latch (2) and the pan lock latch (3) have to be in the locked positions. To unlock the head, move these latches to unlock positions before operating the fixture.



### Rear panel of the base:

- 1 3-pin DMX output
- 2 3-pin DMX input
- 3 Fuse holder-neutral
- 4 Power switch
- 5 Fuse holder-live
- 6 Power cord



#### Front panel of the base:

- 1 4-digit LED display
- 2 ESCAPE button
- 3 ENTER button
- 4 UP button
- 5 DOWN button

## 4. Installation

## 4.1 Connection to the mains

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

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

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

Core (EU)	Core (US)	Connection	Plug Terminal Marking				
Brown	Black	Live	L				
Light blue	White	Neutral	N				
Yellow/Green	Green	Earth					
Verify the	e power supply	settings bef	ore applying power				

If you wish to change the power supply settings, see the chapter below.

## 4.2 Changing the power supply setting

Both the transformer and the ballast must be connected correctly for the local AC voltage and frequency. The wrong settings can cause poor performance or demage of the moving head. The factory settings are printed next to the power switch.

If you want to change the power supply settings, follow the instructions:

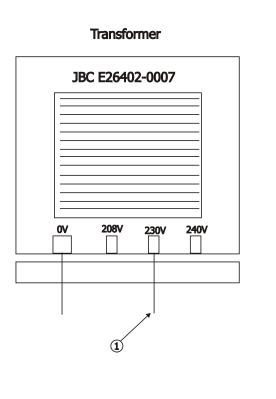
1. Disconnect the fixture from AC power.

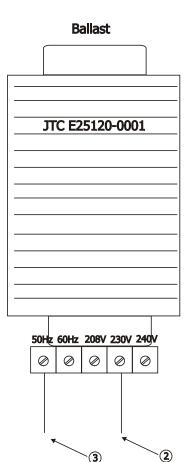
2. Remove the top base cover (closest to the power cord) by loosening the 9 screws.

3. Move the wire 1 on the transformer connection block to the position according to the desired voltage.

4. Move the wires 2 and 3 on the ballast connection block to the position according to the desired voltage (frequency).

5. Close the base before applying AC power.





## 4.3 Installing the lamp

### DANGER ! Install the lamp with the device switched off only. Unplug from mains before !

### To insert the new lamp.

1. Disconnect the fixture from power and allow it to cool at least 15 minutes.

2. Make sure that the fixture's head is in the position as shown on the picture (notices on the lamp cover are in

- readable position) .Loosen the two quarter-turn fasteners (1) marked "X,Y" on the lamp cover to open this cover.
- 3. Holding the lamp by its ceramic base, carefully turn the lamp to the left to loosen the lamp from the lamp holder.

Gently pull the lamp out of the lamp holder

4. Holding the new lamp by its ceramics base, gently insert the lamp to the lamp socket and turn the base to the right. Make sure that the lamp is installed tightly into the lamp socket.

Do not install a lamp with a higher wattage! A lamp like this generates temperatures the device is not

designed for. Damages caused by non-observance are not subject to warranty. Please follow the lamp manufacturer's

notes! Do not touch the glass bulb bare hand during the installation!

- 5. Re-insert the lamp cover and tighten the two quarter-turn fasteners (1).
- 6. Switch on the fixture.
- 7. Align the lamp (see instructions below)
- 8. Reset the "LA.ti." and "LA.St" counters
  - in the menu "InFo".



## 4.3 Lamp adjustment

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

### To adjust the lamp in the fixture.

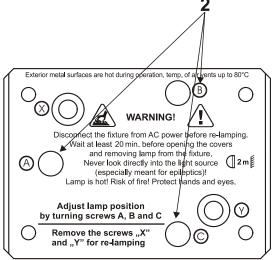
1. Switch on the fixture and after its reset turn on the lamp.

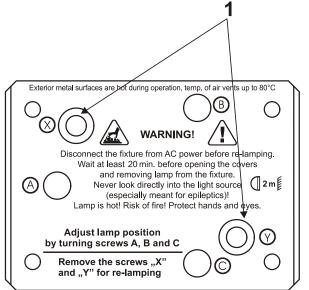
2. Go to the "SPEC." menu and select the item "LA.Ad." to project the light beam on the wall.

3. Use items in this menu to focus the light beam on the wall .

3. Turn adjustment screws marked "A, B, C" (2) one after another until you reach a max.light output.

4. Center the hot-spot (the brightest part of the beam) using these 3 adjustment screws.



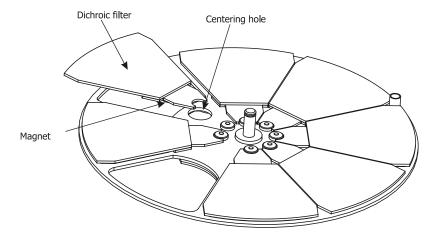


## 4.4 Replacing the colour filters and gobos

### DANGER! Install the colour filters or gobos with the device switched off only. Unplug from mains before!

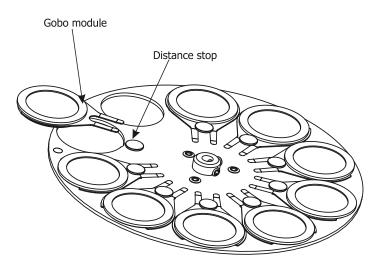
### **Colour filters**

- 1. Disconnect the fixture from mains and allow it to cool.
- 2. Remove the top plastic cover of the head by loosening the 4 quarter-turn fasteners on the cover.
- 3. Turn the colour wheel to the desired position. The dichroic filters are fixed on the colour wheel by the magnets.
- 4. Release the dichroic filter from the colour wheel by inclining it from its position to break the power of the magnet. Protect the glass filter with a piece of paper or clout.
- 5. Insert a new dichroic filter into the colour wheel.
- 6. Place the top cover back before applying power.



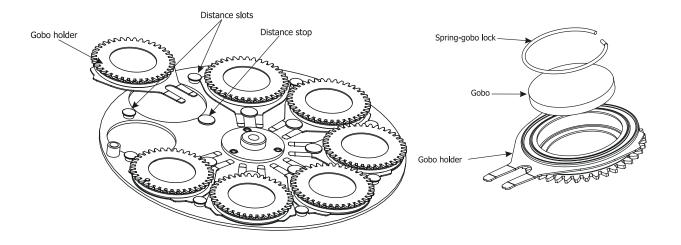
### Static gobos

- 1. Disconnect the fixture from mains and allow it to cool.
- 2. Remove the top plastic cover of the head by loosening the 4 quarter-turn fasteners on the cover.
- 3. Gently skew the gobo module to release it from the hole in the static gobo wheel and pull it up.
- 4. Insert the new gobo module spring holder under the distance stop and push the gobo module into hole in the static gobo wheel.
- 5. Replace the top cover before applying power.



### **Rotating gobos**

- 1. Disconnect the fixture from mains and allow it to cool.
- 2. Remove the bottom plastic cover of the head by loosening the 4 quarter-turn fasteners on the cover.
- 3. Gently pull up the gobo holder from the rotation gobo wheel.
- 4. Remove the spring gobo-lock 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 and insert the new one (glazy side towards the lamp). Insert the spring-gobo lock to secure it in the gobo holder.
- 6. Insert the gobo holder back under the distance slots into rotating gobo wheel.
- 5. Replace the bottom cover before applying power.



## 4.5 Rigging the fixture

### DANGER TO LIFE!

### Please consider the respective national norms during the installation! The installation must only be carried out by an authorized dealer!

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

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

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

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

The operator has to make sure that safety-relating and machine-technical installations are approved by an expert after every four year in the course of an acceptance test.

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

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

IMPORTANT! OVERHEAD RIGGING REQUIRES EXTENSIVE EXPERIENCE, including (but not limited to) calculating working load limits, installation material being used, and periodic safety inspection of all installation material and the fixture. If you lack these qualifications, do not attempt the installation yourself, but instead use a professional structural rigger. Improper installation can result in bodily injury or damage to property.

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

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

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

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

### 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 a safety wire that can hold at least 10 times the weight of the fixture.

Use only safety wire with screw-on carabine. Pull the safety wire through the carrying handles and around the truss as shown on the pictures below.

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

### **Truss installation**

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

3. Pull the safety wire (2) through the carrying handles (5) and around the truss (6) as shown on the pictures below.

### Securing the fixture via one safety wire Securing the fixture via two safety wires 5 3 3 2 œ O ۲ 2 6 6 @°°°° Ð 2 1 5 1 5 1-Clamps 2-Safety wire 3-Omega holder 4-Quick-lock fastener 3 5-Carrying handles Ø13 6-Truss

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!

## 4.6 DMX-512 connection

The fixture is equipped with 3-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 XLR-plugs and connectors in order to connect the controller with the fixture or one fixture with another.

### DMX - output

XLR mounting-sockets (rear view):

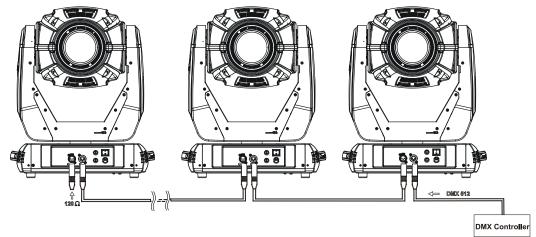
DMX-input XLR mounting-plugs (rear view):



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

### Building a serial DMX-chain:

Connect the DMX-output of the first fixture in the DMX-chain with the DMX-input of the next fixture. Always



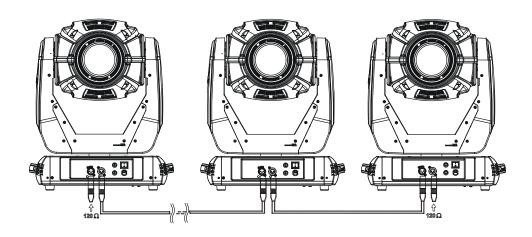
connect one output with the input of the next fixture until all fixtures are connected.

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

### Building a master/slave-chain:

Connect the DMX-output of the master fixture in the data-chain with the DMX-input of the first slave. Always connect output with the input of the next slave until all slaves are connected (up to 9 fixtures).

**Caution:** It's necessary to insert the XLR termination plug (with 120 Ohm) into the input of the master fixture and into the output of the last slave fixture in the link in order to ensure proper transmission on the data link.



## 4.7 Stand-alone operation

The fixtures on a data link are not connected to the controller but can execute pre-set programs which can be different for every fixture. To set the program to be played, see the "Stand-alone setting" (menu "**St.AL**.").

"Stand-alone operation" can be applied to the single fixture (the fixture may be set to the master/slave mode) or to multiple fixtures operating synchronously.

Synchronous operation of multiple fixtures requires that they must be connected on a data link and one of them is set as a master (master mode) and the rest as the slaves (slave mode). To set the fixture as the master or slave, see the "Fixture address" (menu "**A001**").

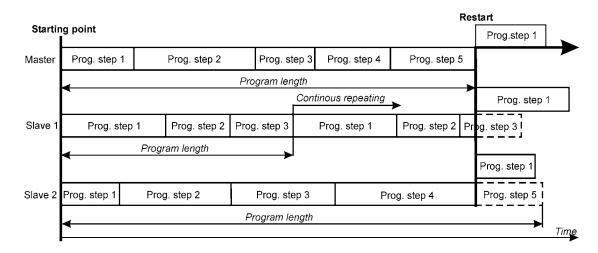
If the master fixture runs a reset, switches On/Off the lamp or plays test (program), all slaves will execute these acts too (e.g. if the master fixture has switched the lamp off, no slaves can switch the lamp on)

The master fixture starts simultaneous program start in the other slave fixtures. All fixtures have a definite, synchronized starting point when playing back their programs. The number of running program is the same in all slaves and depends on the master's choice (menu "**St.AL**."). Every fixture runs its program repeatedly, starting the program step No. 1 when requested by the master.

### For example:

If the slave fixture has a shorter program length, it will continously repeat its program until the master fixture finishes its own program and restarts its program running (slave 1- prog. step 3 will not be finished).

If the slave fixture has a longer program length, it will restart at prog. step 1 before it completes all its prog. steps



(slave 2 - prog. step 5 will not be played)- see the picture bellow.

**Note:** Disconect the fixtures from the DMX controller before master/slave operating, otherwise data collisions can occur and the fixtures will not work properly!

It's necessary to insert the XLR termination plug (with 120 Ohm) into the input of the master fixture and into the output of the last slave fixture in the data link in order to ensure proper transmission on the data link. From the master's control panel is possible to control any slave in a master/slave chain.

## 5. Remotely controllable functions

### Lamp

The Robin 300 Spot Classic is to be operated with a Philips MSD Gold 300/2 MiniFastFit .

**Note:** It is also important to note, that the discharge lamp is cold restrike types, that means, that they have to be cold before re-striking. For this reason, you have to wait 5 minutes after having switched the lamp off before you can switch it on again. If you try to switch on the lamp within 5 minutes after having switched it off, the Robin 300 Spot Classic will store this information and automatically ignite the lamp when the 5 minutes period has expired.

### Colour wheel

This wheel contains 7 replaceable 'SLOT&LOCK' dichroic filters + open. The colour wheel can be positioned between two adjacent colours in any position. It is also possible to rotate the colour wheel continuously at different speeds ("Rainbow effect" in both directions).

### Colour-gobo gobo wheel

The colour- gobo wheel includes 5 replaceable "SLOT&LOCK" metal gobos and 4 colours. Gobo positioning and continual gobo positioning is available as well as a gobo-shake function.

### Rotating gobo wheel

The rotating gobo wheel includes 7 gobos rotating in both directions, indexable, replaceable "SLOT&LOCK" glass gobos + open position. Gobo positioning and gobo selection speed is available as well as a gobo-shake function.

### Prism

The 3-facet prism rotates in both directions at different speeds, 16 prism/gobo macros are available.

### Zoom

Motorized zoom unit enables zoom between 12° and 36° beam angle.

### **Dimmer/Shutter unit**

Smooth 0 - 100 % dimming is provided by the mechanical dimmer /shutter unit. This unit is also used for strobe effects with variable speed.

## 6. Control menu map

## Default settings=Bold print

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
A001	dM.Ad.	001-512			
AUUT	MA.SL.	d.AbL			
	MA.SE.	MASt.			
		SLA			
In <b>F</b> -	De ti	4-41			
InFo	Po.ti.	totl			
		rSEt			
	La.ti.	totl			
		rSEt			
	LA.St.	totl			
		rSEt	40.000		
	FiLt.	AL.PE.	10- <b>300</b>		
		EL.tl.	0.055		
	DM.In.	Pan	0-255		
		:	0.055		
		F.Dim	0-255		
	tEMP.	Cur.t.	boAr.		
		rSEt	HEAd		
		Hi.tE.			
	VErS	IC1			
		IC2			
		IC3			
		IC4			
		IC5			
PErS.	r.PAn.	On, <b>Off</b>			
	r.tilt	On, <b>Off</b>			
	dM.Pr.	Mod1			
		Mode 2			
		Mode 3			
	LA.Pr.	LA.Au.	On, <b>Off</b>		
		d.L.OF.	On, Off		
		d.M. On	On, <b>Off</b>		
		d.M.OF	On, <b>Off</b>		
		LA.dE	<b>0</b> -90		
	dISP.	d.On	Off, On		
		d.Int.	20100		
		turn	Off, On		
	bL.Co.	<b>Off</b> , On			
	FEEd.	Off, <b>On</b>			
	Mi.SE.	1- <b>10-</b> 20			
	FAn.S.	Auto, High			
	P.t.Mo.	ti.Mo., <b>SP. Mo.</b>			
	A.bLc	P.t. M.	On, <b>Off</b>		
		CoL.M.	On, <b>Off</b>		
		Gob.M.	On, <b>Off</b>		
	tEM.U.	° <b>C</b> , °F			
	In.Po.	PAn	1		
		:			
		F.dim			

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		Stor			
	dF.SE.				
LAMP	Off, On				
	- / -				
MAn.M.	PrE.C.	PAn	PAn1PAn		
		:			
		dimr	dim1dim5		
	Man.C.	PAn			
		:			
		F.dim			
tESt	Mod.1	Pan	0-255		
		tilt	0-255		
		Zoom	0-255		
		Foc.	0-255		
	Mod.2				
St.AL.	Audi	On, <b>Off</b>			
	Auto	Off			
		tESt			
		ProG.			
	PLAY	tESt			
		ProG			
	Edit	St.01	PAn	0-255	
		:	:		
		St.50	S.tim.	0-25.5	
			COPY		
RESE					
SPEC	LA.Ad.	PAn	:		
		:		İ	
		Foc.			
	rdML				
	rdMH				
	Adj.	DMH	PAn	0-255	
			:		
			F.dinr	0-255	
		CAL.u.	PAn	0-255	
			:	0-255	
			Stor.		
	UPd.				

## 7. Control menu

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

### Control elements on the control board:

[MODE] button-leaves menu without saving changes.

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

[UP] button and [DOWN] button- moves between menu items on the the same level, sets values.

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



Use [UP], [DOWN] to browse through the menu. To select a function or submenu, press [ENTER].

## **701** 7.1 Fixture Address

Use this menu to set the DMX address of the fixture or set the fixture as a Master (Slave).

- dM.Ad. DMX addressing. Select this submenu to set DMX start address.
- MA.SL. Master/slave addressing. Select this submenu to set the fixture as a Master or Slave. Option "d.AbL" deactivates master/slave setting.

## 10Fo 7.2 Fixture informations

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

Po.ti. - Power on time. Select this submenu to read the number of operation hours.

**totL** - The function shows the total number of the operation hours since the Robin 300 Spot Classic has been fabricated.

<u>rSEt</u> - The function shows the number of the operation hours that the Robin 300 Spot Classic has been powered on since the counter was last reset. In order to reset this counter to 0 you have to hold **[UP]** and **[DOWN]** and press the **[ENTER]**.

<u>La.ti.</u> - Lamp on time. Select this submenu to read the number of the operation hours with the lamp on. <u>totL</u> - The function shows the total number of the operation hours with the lamp on since the Robin 300 Spot Classic has been fabricated.

<u>rSEt</u> - The function shows the number of the operation hours with the lamp on that the Robin 300 Spot Classic has been powered on since the counter was last reset. In order to reset this counter to 0 you have to hold **[UP]** and **[DOWN]** and press the **[ENTER]**.

**LA.St.** - Lamp strikes. Select this submenu to read the total number of the lamp strikes.

totL - The function shows the total number of the lamp strikes since the Robin 300 Spot Classic has been fabricated.

<u>rSEt</u> - The function shows the number of the lamp strikes since the counter was last reset. In order to reset this counter to 0 you have to hold **[UP]** and **[DOWN ]** and press the **[ENTER]**.

- <u>FiLt</u> Filters. Regular cleaning of the air filters is very important for the fixture's life and performance. Cumulation 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.
  - **AL.PE.** Set alert period cleaning schedule for the fixture depends on the operating environment. It is therefore impossible to specify accurate cleaning interval. This function allows you to change the cleaning interval of the air filters. This "alert" value is 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.
  - <u>EL.ti.</u> Elapsed time the option allows you to read the time which remains to cleaning air filters. The time period is set in the menu mentioned above. Expired time period is signalized by the message "FiLt" on display. Clean the filters and reset this menu item (press and hold the **[UP]** and **[DOWN ]** buttons and at the same time press the **[ENTER]**).

**<u>tEMP</u>** - **Fixture temperatures**. Select this submenu to read the fixture temperatures (°C). Please note that the outside temperature should not exceed 45° C.

### Cur.t. - Current fixture temperatures.

**boAr.** - Current temperature in the fixture base

HEAd - Current temperature of the head inside.

Hi.tE. - Maximum fixture temperatures.

**boAr.** - The function shows the max. temperature in the fixture base since the Robin 300 Spot Classic has been fabricated.

**<u>HEAd</u>** - The function shows the max.temperature of the head inside since the Robin 300 Spot Classic has been fabricated.

### <u>rSEt</u> - Maximum resetable temperatures.

**boAr.** - The function shows the maximum temperature in the fixture base since the counter was last reset. In order to reset the counter to 0 you have to hold **[UP]** and **[DOWN]** and press the **[ENTER]**.

<u>**HEAd</u>** - The function shows the maximum temperature of the head inside since the counter was last reset. In order to reset the counter to 0 you have to hold **[UP]** and **[DOWN]** and press the **[ENTER]**.</u>

<u>DM.In.</u> - **Readout of DMX values**. Select this function to read DMX values (0-255) of each channel received by the fixture.

PAn	a coarse pan movement	G.rot. a gobo indexing and rotation
F.PAn	a fine pan movement	F.G.ro. a fine gobo indexing
tilt	a coarse tilt movement	PriS. a prism
F.tilt	a fine tilt movement	<b>P.rot.</b> a prism rotation
Spd	a pan/tilt speed	Zoom a zoom
Func.	a special function	F. Zon. a fine zoom
Colo	a colour wheel	Foc. a focus
F.CoL.	a fine colour wheel	F.Foc. a fine focus
Co.MA.	a colour macros	Stro. a shutter, strobe
E.SPd.	an effect speed	dinr a dimmer
S.Gob.	a colour -gobo wheel	F.din. a fine dimmer
F.S.Go.	a fine colour -gobo wheel	
r.Gob.	a rotating gobo wheel	

VErS. - Software version. Select this function to read the software version of processors:

- IC1 Pan/tilt processor
- IC2 EEProm
- IC3. Strobe/colour processor
- IC4. Rot. gobos/Colour-gobo wheel processor
- IC5. Focus/zoom/ prism processor

# PEr 5. 7.3 Personality

Use this menu to to modify Robin 300 Spot Classic operating behavior. **<u>r.PAn</u>** - **Pan reverse**.Select this function to invert the pan movement.

**<u>r.tilt</u>** - **Tilt reverse**. Select this function to invert the tilt movement.

**DM.Pr.** - **DMX preseting**. Select this function to set desired channels setting. Please refer to the DMX protocol" for detail description.

LA.Pr. - Lamp presetting. Select this menu to change the lamp "behaviour".

**LA.Au.** - Select this function to turn the lamp on automatically after switching the fixture on.

d.L.OF. - Select this function to switch off the lamp via DMX.

<u>dM.On</u> - This function allows you to strike the lamp automatically after 26 seconds if DMX signal is present on the data link. If the ignition is unsuccessfull (e.g.lamp is too hot), the fixture will try to ignite the lamp after next 26 s.This process will repeat until the lamp lights.

**<u>dM.OF.</u>** - This function allows you to switch Off the lamp automatically after 2 minutes if DMX signal is missing on the data link.

LA.dE. - Lamp ignition delay. This function allows you to set the time delay (0-90s) before the lamp

will be ignited. This setting will not affect starting the lamp directly from the control panel (menu "Lamp On/Off").

**LA.Sn.** - Switching on/off the lamp light sensor. Select this function to switch the lamp light sensor on or off. The option "On" is for standard operation.

<u>**DiSP.</u></u> - <b>Display adjusting**. This function allows you to change the display settings.</u>

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

**<u>d.On</u>** - This function allows you to keep the display on or to turn off automatically 2 minutes after last pressing any button on the control panel.

d.Int. - Select this function to adjust the display intensity (20-min.,100-max.).

<u>A.bLc.</u> - Automatic blackout. Use this function if you wish to close the light output during effect changes. <u>P.t.M.</u> - This function closes the light output during pan/tilt changes. <u>Col.M.</u> - This function closes the light output during colour wheel moving. <u>Go.Mo.</u> - This function closes the light output during colour-gobo wheel or gobo wheel moving.

<u>**bL.Co.</u>** - **Blackout during movement correction**. Select this function to enable the blackout during the head movement correction (if the moving head lost its correct pan/tilt position for a short moment).</u>

<u>FEEd</u> - **Pan/Tilt feedback**. This function allows to return the mowing head to the required pan/tilt position after changing the position by external force (e.g.by stroke).

## Be careful, the Pan/Tilt Feedback OFF is not suitable for standard operation and the head of the fixture can be demaged!

<u>Mi.SE.</u> - Microphone sensitivity. Select this function to adjust the microphone sensitivity from 1 (maximum) to 20 (minimum). If the sensitivity is correctly adjusted, the upper segment of the first digit blinks in the bass beats.

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

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

**<u>HIGH</u>** - The cooling fans work on max. speed (max. cooling). This mode we recommend for high ambient temperature (35°C and more).

P.t.Mo. - Pan/tilt movement mode. Use this menu to set the character of the pan/tilt movement.

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

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

<u>In.Po.</u> - **Init effect positions**. Select this function to adjust all effects to the desired initial positions. After switching the fixture on (if DMX is not connected), all effects will move to initial positions. Use the **[UP]** and **[DOWN]** buttons to select desired channel and press **[ENTER]**. Set the effect to the desired position using **[UP]** and **[DOWN]** buttons and confirm by pressing **[ENTER]**. After having adjusted all effects, select "**Stor**." to save all initial values to the memory.

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

# *と用门P* 7.4 Lamp On/Off

Use this option in order to switch on/off the lamp. It is also important to note, that the lamp is cold restrike type, that means, that it has to be cold before striking.

# ח.ח. 7.5 Manual mode

Select this menu to call up presetted positions of channel effects or direct control channel effects. **PrE.C.** - **Presetted effect control**. Select this menu to call up presetted positions of the channel effects. Man.C. - Manual effect control. Select this menu to control effects by the control buttoms on the control board.



## ESE 7.6 Test sequences

Use this menu to to run a special demo-test sequences without an external controller, which will show you some possibilities of using Robin 300 Spot Classic.

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

Mod. 2 - Mode 2. This mode uses all Robin 300 Spot Classic functions including pan/tilt movement and therefore is good for a complete introduction of the fixture.

## 7.7 Stand-alone setting

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

Audi - Music trigger. Select this function to enable the sound control of the running program via the built-in microphone.

Auto - Presetting playback. This function allows you to select the program which will be played in the standalone mode after switching the fixture on. Selected program will be played continuously in a loop.

- d.Abl The option disables "Auto" function.
- tESt The option will start built-in test program.
- ProG The option will start user- created program

PLAY - Playing program. Select this menu to run a user-created pgram in a loop.

tESt - The option starts built-in test program.

**ProG** - The option starts user -created program

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

Edit - Editing program. Select this menu to edit or create the program. The Robin 300 Spot Classic has one built-in program and one user-editable program up to 50 steps. Each program step has a step time. Step time - the time, during which effects last in the current step.

To edit program:

### **Procedure:**

1. Press [UP] or [DOWN] to select the menu "Edit" and press [ENTER].

2. Press [UP] or [DOWN] to select the desired program step and press [ENTER]-button.

3. Press [UP] or [DOWN] to select the desired item and press [ENTER]-button. Now you can edit by [UP] or [DOWN] buttons the DMX value (0-255) for selected item:

P.End. a total number of the program steps (value 1-50).

This value you should be set before starting of programming (e.g. if you want to create program with the 10 steps, set P.End=10).

program man			
PAn	a coarse pan movement	G.rot.	a gobo indexing and rotation
F.PAn	a fine pan movement	F.G.ro.	a fine gobo indexing
tilt	a coarse tilt movement	Pris.	a prism
F.tilt	a fine tilt movement	P.rot.	a prism rotation
Spd	a pan/tilt speed	Zoon	a zoom
Func.	a special function	F. Zon.	a fine zoom
Colo	a colour wheel	Foc.	a focus
F.Col.	a fine colour wheel	F.Foc.	a fine focus
Co.MA.	a colour macros	Stro.	a shutter,strobe
E.SPd.	a effect speed	dinr	a dimmer
S.Gob.	a colour -gobo wheel	F.din.	a fine dimmer
F.S.Go.	a fine colour -gobo wheel		
r.Gob.	a rotating gobo wheel		
· · ·			

**S.tim.** a step time, value 0,1-25.5 seconds

COPY a copying the current prog. step to the next prog. step. If the last prog. step is copied to the next prog. step, parameter "P.End" is increased about one auttomatically(except step 50).

- 4. Press [ENTER]-button to confirm adjusted value .
- 5. Press [MODE]-button, select next prog. step and repeat this procedure (steps 3 5).

rESE.

## . 7.8 Reset functions

This option enables the Robin 300 Spot Classic to index all effects and return to their standard positions.

## SPEC. 7.9 Special functions

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

**LA.Ad.** - Lamp adjustment. This function can be used when you make the fine adjustment of the lamp. If you select this function, all effects will be canceled, shutter will be opened and the dimmer intensity will be set at 100%.By using the options "**PAn**, tilt, **Zoom**, **Foc.**" you can focus the light on a flat surface (wall) and perform the fine lamp adjustment.

rdML - Code. This menu item shows the first part of the RDM identification code.

rdMH - Code. This menu item shows the second part of the RDM identification code.

<u>AdJ.</u> - Effect adjustment. By this menu you can calibrate and adjust the effects to their standard/right positions.

<u>dMH</u> - Use the menu to set all effects to desired posiotions.

<u>CAL.u</u> - Use the menu to perform fine calibration of effects.

### 1. Calibration via the control board

Disconnect DMX controller from the fixture. Press [ENTER] and use [UP] and [DOWN] in order to display the following items: "PAn, tiLt, Colo., S.Gob., rGob., G.rot., PriS, Zoon, Foc,din1, din2, Stor." for very smooth function calibration. Select one of them, press [ENTER] and use the [UP] and [DOWN] in order to adjust their right value from 0 to 255. Then press [ENTER] to confirm or [MODE] to cancel and return to the menu. This can be repeated for each calibration parameter if it is required. When the calibration is finished, it is necessary to use the "Stor" item in order to write the calibration values to the memory (EPROM) and to make a reset in order to check the newly adjusted positions of the calibrated effects.

### 2. Calibration via the external controller

Connect the DMX controller to the fixture, press [ENTER] and the [UP] and [DOWN] buttons in order to display the following items: "PAn, tiLt, Colo., S.Gob., rGob., G.rot., PriS, Zoon, Foc,din1, din2, Stor.". Select one of them and press [ENTER].

Now you can calibrate this effect by your controller. The DMX calibration protocol is described in the table mentioned below.

### DMX calibration protocols:

Effect "Pan"- pan movement "tiLt"- tilt movement "Colo."-colour wheel "S.Gob."- static gobo wheel "r.Gob." - rot. gobo wheel "G.rot." - gobo rotation "Pris"- prism "Zoon." - zoom "Foc." - focus	Mode 1 channel 25 channel 26 channel 27 channel 28 channel 29 channel 30 channel 31 channel 32 channel 33 channel 33	Mode 2 channel 19 channel 20 channel 21 channel 22 channel 23 channel 24 channel 25 channel 26 channel 27	Mode 3 channel 17 channel 18 channel 19 channel 20 channel 21 channel 22 channel 23 channel 24 channel 25 channel 26
"din1"- Dimmer lamella 1 "din2"- Dimmer lamella 2	channel 34 channel 35	channel 28 channel 29	channel 26 channel 27
<i>"</i> -			

After having calibrated required effects, use the "**Stor**." item in order to write the calibration values to the memory (EEPROM) and to make a reset of the fixture.

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

The following are required in order to update software:

- PC running Windows 95/98/2000/XP or Linux

- DMX Software Uploader

- Flash cable RS232/DMX No.13050624 (if you want to use a serial port of PC)

- Robe Universal Interface (if you want to use an USB port of PC)

Note1: Software update should execute a qualified person. If you lack qualification, do not attempt the update

yourself and ask for help your ROBE distributor.

Note 2: DMX address, programs and all items in the menu "PErS" will be set to their default values.

To update software in the fixture:

I. Installation of the DMX Software Uploader.

- 1. DMX Software Uploader program is available from the ROBE web site at WWW.robe.cz.
- 2. Make a new directory (e.g. Robe\_Uploader) on your hard disk and download the software to it.
- 3. Unpack the program from the archive.

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 input 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:
- 1 Use the UP/DOWN buttons to find "SPEC." menu.
- 2 Press the ENTER button.
- 3 Use the UP/DOWN buttons to select "uPd." item.
- 4 Press the ENTER button
- 5 Use the UP/DOWN buttons to select "yES" option
- 6 Press the ENTER button

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.

- 3. We recommend to cancel all running programs before start the Software Uploader.
- 4. Run the Software Uploader program. Select desired COM and then click on the Connect button.

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.

## 8. Power down mode

This mode omits fixture reset after switching the fixture on and lowers motor powers of the fixture. "Power down mode" is useful in special cases e.g. if the fixture is in a flight case and you want to set its DMX address without taking it out from the case. To enter "Power down mode", press and hold **[UP]** and **[DOWN]** and at the same time switch on the Power switch. The following message appears on the display: "P.d.Mo."

Now you can set features and behaviour of the fixture by using the control panel on fixture base.

If you want to go escape from this mode, run a fixture reset.

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

### 9. RDM

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

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

RDM allows explicit commands to be sent to a device and responses to be received from it. The list of commands for Robin 300 Spot Classic is the following.

Parameter ID	Discovery command	SET command	GET command
DISC_UNIQUE_BRANCH	*		
DISC_MUTE	*		
DISC_UN_MUTE	*		
DEVICE_INFO			*
SUPPORTED_PARAMETERS			*
SOFTWARE_VERSION_LABEL			*
DMX_START_ADDRESS		*	*
IDENTIFY_DEVICE		*	*
DEVICE_MODEL_DESCRIPTION			*
MANUFACTURER_LABEL			*
DEVICE_LABEL		*	*
SENSOR_DEFINITION			*
SENSOR_VALUE			*
DISPLAY_INVERT		*	*
DISPLAY_LEVEL		*	*
PAN_INVERT		*	*
TILT_INVERT		*	*
DEVICE_RESET		*	
DMX_PERSONALITY		*	*
DMX_PERSONALITY_DESCRIPTION			*
STATUS_MESSAGES			*
STATUS_ID_DESCRIPTION			*
LAMP_STATE		*	*
LAMP_ON_MODE 1		*	*
DEVICE_HOURS <sup>2</sup>			*
LAMP_HOURS <sup>2</sup>			*
LAMP_STRIKES <sup>2</sup>			*

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

value PARAMETER\_DATA=0x84 - lamp OFF by DMX value on DMX channel value PARAMETER\_DATA=0x88 - lamp OFF if DMX is not present

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

## 10. Error and information messages

### L.On.

This message appears if you try to switch on the lamp within 5 minutes after having switched it off (the lamp is too hot). The message will appear on the display if the lamp doesn't ignite within 20 seconds. The Robin 300 Spot Classic will store this information and automatically ignite the lamp when the 5 minutes period has expired. **Caution:** The message is disabled if the lamp light sensor (function "En.Sn.") is switched Off

### LA.Er.

The ignition of the lamp was seven times unsuccessful and the display shows "*LA.Er*, meaning that the lamp could be damaged or even missed or there could be a failure on the ignitor or ballast. Please place or replace the lamp, check the ambient temperature or contact your dealer if the situation was not caused by the lamp. **Caution:** The message is disabled if the lamp light sensor (function "En.Sn.") is switched Off.

### Co.Er. (color-wheel error)

This messsage will appear after the reset of the fixture if the magnetic-indexing circuit malfunctions (sensor failed or magnet missing) or the stepping-motor is defective (or its driver circuit on the main PCB). The color wheel is not located in the default position after the reset.

### *r.G.Er.* (rotating gobo-wheel error)

The message will appear after the reset of the fixture if the magnetic-indexing circuit malfunctions (sensor failed or magnet missing) or the stepping-motor is defective (or its driver circuit on the main PCB). The rotating gobo wheel is not located in the default position after the reset.

### *i.G.Er.* (rotating gobo indexing error)

The message will appear after the reset of the fixture and if the magnetic-indexing circuit malfunctions (sensor failed or magnet missing) or the stepping-motor is defective (or its driver circuit on the main PCB). The rotating gobo is not located in the default position after the reset.

### S.G.Er. (static gobo-wheel error)

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

### Ir.Er. (iris error)

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

### Ft.Er.

This error message informs you that the fixture was overheating (occured if the ambient temperature is 45° C or more) and that the temperature sensor switched off the lamp.

### Fr.Er.

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

### Sn.Er.

This message appears if the lamp lighting sensor is failed.

### PoEr

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

### PA.Er. (Pan-yoke movement error)

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

### *ti.Er.* (TILT-head movement error)

This message will appear after the reset of the fixture if the head.s magnetic-indexing circuit malfunctions

(sensor failed or magnet missing) or the stepping motor is defective. (Or its driving IC on the main PCB). The head is not located in the default position after the reset.

#### MA.Er. (Master error)

The message informs you that the fixture was addressed as a master and DMX signal is connected to its input. Disconnect the DMX controller from fixture's input and address the fixture as the master again.

#### t.M.Er. (Temperature measuring error)

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

### **11. Technical Specifications**

### **Electrical:**

#### Lamp:

Approved model: MSD Gold 300/2 MiniFastFit (22000 Lm, 8400K, 2000 hrs lamp life Base:PGJX 28

### Ballast:

Magnetic

#### **Optical System:**

High luminous-efficiency glass reflector zoom range: 12°-36°

### Colour wheel:

7 replaceable 'SLOT&LOCK' dichroic filters (including UV filter)

#### colour-gobo wheel:

5 replaceable 'SLOT&LOCK' metal gobos ( outside diameter=26.9mm, image diameter=22.5mm, aluminium, thickness=0.5 mm) and 4 colours Gobo wheel continuous rotation

### Rotating gobo wheel:

7 glass gobos can be indexed and rotated in both directions at different speeds Gobo wheel continuous rotation Glass gobos: outside diameter=26.8 mm, max. thickness=4 mm, high temperature borofloat or better glass "Slot&lock" system for easy replacement of gobos

#### Prism:

Rotating 3-facet 11° prism with continuous rotation in both directions

### Zoom & focus:

Motorized zoom and focus

### Strobe:

Str	be effect with variable speed (max.15 flashes/sec.	)
Ra	ndom strobe effects	

### Dimmer:

Smooth dimmer from 0 - 100 %

### **Electronics:**

4-digit LED display for fixture setting and addressing
Readout fixture and lamp usage, receiving DMX values, temperatures, etc
Built-in analyzer for easy fault finding, error messages
Remotely switching on/off the lamp
Built-in demo sequences
Black-out while head moving, colour or gobo changing
Silent fans cooling,
Self-resetable thermo-fuse
Stand-alone operation
One user editable program up to 50 steps
Supported protocols: USITT DMX 512,RDM
Support of RDM (Remote Device Management)
3 DMX modes (24, 18, 16 control channels)

### Pan/Tilt

Pan movement range 540° Tilt movement range 280° 16 bit movement resolution Automatic Pan/Tilt position correction Remotely controllable speed of pan/tilt movement for easy programming Movement control: tracking and vector Pan/tilt-lock mechanism

### Rigging

Mounting points: 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

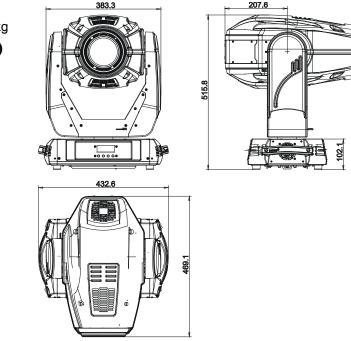
Min. distance from flammable surfaces: 0.5 m Min. distance to lighted object: 2 m

### **Total heat dissipation**

1518 BTU/h (calculated)

Weight (net):

23 kg Dimensions (mm)



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

### **Optional Accessories**

- Flash cable RS232/DMX (No.13050624)

### 12. Maintenance and cleaning

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

### DANGER ! Disconnect from 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.

Dichroic colour filters, 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 fixture's covers. 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 "InFo" (InFo --->FILt---> EL.tl.).

Specifications are subject to change without notice. July 19, 2010

### DMX protocol

			R	obin 300 Spot Classic - DMX protocol, version 1.1	
Mod	le/cha		DMX	Function	Type of
1	2	3	Value		control
1	1	1		Pan	
			0 - 255	Pan movement by 540°	proportional
2	2	*		Pan Fine	
			0 - 255	Fine control of pan movement	proportional
3	3	2		Tilt	
			0 - 255	Tilt movement by 280°	proportional
4	4	*		Tilt fine	
			0 - 255	Fine control of tilt movement	proportional
5	5	3		Pan/Tilt speed , Pan/Tilt time	
			0	Max. speed (tracking mode)	step
				P./T. speed-set Speed Mode in menu: Pan/Tilt Mode	
			1 - 255	Speed from max. to min. (vector mode)	proportional
				P./T. time - set Time Mode in menu: Pan/Tilt Mode	
	1		1 - 255	Time from 0.1 s to 25.5 sec.	proportional
6	6	4		Power/Special functions	
-	-		0 - 49	Reserved	
				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 22/17/15 must be at range: 0-31 DMX). Corresponding	
				menu items are temporarily overriden).	
			50 - 59	Pan/Tilt speed mode	step
			60 - 69	Pan/Tilt time mode	step
			70 - 79	Blackout while pan/tilt moving	step
			80 - 89	Disabled blackout while pan/tilt moving	step
			90 - 99	Blackout while colour wheel moving	step
			100 - 109	Disabled blackout while colour wheel moving	step
			110 - 119	Blackout while gobo wheel moving	step
			120-129	Disabled blackout while gobo wheel moving To activate following functions, stop in DMX value for at least 3 seconds.	step
			130 - 139	Lamp On,reset(total reset except pan/tilt reset)	step
	1			Pan/Tilt reset	step
				Colour system reset	step
				Gobo wheels reset	step
				Dimmer/Shutter	step
				Zoom/focus/prism reset	step
			190 - 199		step
				Total reset	step
			210 - 229		
			230 - 239		step
			240 - 255	-	зіср
7	7	5	210 233	Colour wheel	
,				Continual positioning	
			0	Open/white	proportional
			16	Deep red	
			32	Deep fed Deep blue	proportional
			-	•	proportional
			48	Green	proportional
			64	Amber Maganta	proportional
			80	Magenta	proportional

### DMX protocol

Nod	e/cha	nnel	DMX	Function	Type of
1	2	3	Value	runction	control
			96	Yellow	proportional
			112	UV filter	proportional
			128-129	White	step
				Positioning	
			130-137	Deep red	step
			138-145	Deep blue	step
			146-153	Green	step
			154-163	Amber	step
			164-171	Magenta	step
			172-181	Yellow	step
			182-189	UV filter	step
			190 - 215	Forwards rainbow effect from fast to slow	proportional
			216 - 217	No rotation	step
			218 - 243	Backwards rainbow effect from slow to fast	proportional
			244 - 249	Random colour selection by audio control	step
				(Set microphone sensitivity in menu "Personality")	
			250 - 255	Auto random colour selection from fast to slow	proportional
8	*	*		Colour wheel - fine positioning	
			0 - 255	Fine positioning	proportional
9	8	6		Colour macros	
			0 - 7	No function	
			8-15	Macro 1	step
			16-23	Macro 2	step
			24-31	Macro 3	step
			32-39	Macro 4	step
			40-47	Macro 5	step
			48-55	Macro 6	step
			56-63	Macro 7	step
			64-71	Macro 8	step
			72-79	Macro 9	step
			80-87	Macro 10	step
			88-95	Macro 11	step
			96-103	Macro 12	step
			104-111	Macro 13	step
			112-119	Macro 14	step
			120-127	Macro 15	step
			128-135	Macro 16	step
			136-143	Macro 17	step
			144-151	Macro 18	step
			152-159	Macro 19	step
			160-167	Macro 20	step
			168-175	Macro 21	step
			176-183	Macro 22	step
			184-191	Macro 22 Macro 23	step
			192-191	Macro 24	
			200-255	Reserved	step
10	9	7	200-255	Effect Speed	
10	Э	/	0 - 255	•	
11	10	8	0 - 255	Speed of Rot. Gobo Selection from max. to min. (0-25.5sec.) Colour-gobo gobo wheel	proportional
11	10	ŏ			

Мос	le/cha	nnel	DMX	Eurstion	Type of
1	2	3	Value	Function	control
				In range 0-64 DMX is possible fine gobo positioning - set value on	
				channel 12	
			0	Open/hole	proportional
			7	Gobo 1	proportional
			13	Gobo 2	proportional
			19	Gobo 3	proportional
			26	Gobo 4	proportional
			32	Gobo 5	proportional
			39	Cyan	proportional
			45	сто	proportional
			51	Pink	proportional
			58	Dark azure	proportional
			64	Open/hole	proportional
				Positioning	
			65 - 69	Gobo 1	step
			70 - 74	Gobo 2	step
			75 - 79	Gobo 3	step
			80 - 84	Gobo 4	step
			85 - 89	Gobo 5	step
			90 - 94	Cyan	step
			95 - 99	сто	step
			100 - 104		step
			105 - 109		step
			100 100	Shaking gobos from slow to fast	step
			110 - 119		proportional
			120 - 129		proportional
			130 - 139		proportional
			140 - 149		proportional
			150 - 159		proportional
			160 - 169		proportional
			170 - 179		proportional
			180 - 189		proportional
				Dark azure	proportional
				Open/hole	step
				Forwards gobo wheel rotation from fast to slow	proportional
				No rotation	r spectronal
				Backwards gobo wheel rotation from slow to fast	proportional
				Random gobo selection by audio control	step
			245	(Set microphone sensitivity in menu "Personality")	зсер
			250 - 255	Auto random gobo selection from fast to slow	proportional
12	*	*		Colour-gobo gobo wheel - fine	P -P
			0 - 255	Fine positioning	proportional
13	11	9	00	Rotating gobo wheel	Preparational
		-		In the range of 0-59 DMX the gobo selection speed is controlled	
				by the Effect Speed channel.	
				Index - set indexing on channel 14/12/10	
	1		0-3	Open/hole	step
	1		4-7	Gobo 1	step
			8-11	Gobo 2	step
			12-15	Gobo 3	step
			16-19	Gobo 4	step
		1			

Mod	e/cha	nnel	DMX	<b>-</b>	Type of
1	2	3	Value	Function	control
			20-23	Gobo 5	step
			24-27	Gobo 6	step
			28-31	Gobo 7	step
				Rotation - set rotation on channel 14/12/10	
			32-35	Gobo 1	step
			36-39	Gobo 2	step
			40-43	Gobo 3	step
			44-47	Gobo 4	step
			48-51	Gobo 5	step
			52-55	Gobo 6	step
			56-59	Gobo 7	step
				Shaking gobos from slow to fast	
				Index - set indexing on channel 14/12/10	
			60 - 69	Gobo 1	proportional
			70 - 79	Gobo 2	proportional
			80 - 89	Gobo 3	proportional
			90 - 99	Gobo 4	proportional
			100 - 109	Gobo 5	proportional
			110 - 119	Gobo 6	proportional
			120 - 129	Gobo 7	proportional
				Shaking gobos from slow to fast	
				Rotation - set rotation on channel 14/12/10	
			130 - 139	Gobo 1	proportional
			140 - 149	Gobo 2	proportional
			150 - 159	Gobo 3	proportional
			160 - 169	Gobo 4	proportional
			170 - 179		proportional
			180 - 189		proportional
			190 - 199	Gobo 7	proportional
				Open/hole	step
				Forwards gobo wheel rotation from fast to slow	proportional
				No rotation	step
				Backwards gobo wheel rotation from slow to fast	proportional
				Random gobo selection by audio control	step
				(Set microphone sensitivity in menu "Personality")	•
			250 - 255		proportional
14	12	10		Rot. gobo indexing and rotation	
-				Gobo indexing - set position on channel 13/11/9	
			0 - 255	Gobo indexing	proportional
				Gobo rotation - set position on channel 13/11/9	
			0	No rotation	step
			1 - 127	Forwards gobo rotation from fast to slow	proportional
				No rotation	step
			130 - 255		proportional
15	*	*		Rot. gobo indexing/rotation - fine	
			0-255	Fine indexing (rotation)	proportional
16	13	11		Prism	
-			0 - 19	Open position (hole)	step
			20 - 127	3-facet rotating prism	step
			128 - 255		

Mode/channel		DMX	F	Type of	
1			Value	Function	control
			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
17	14	12		Prism rotation	
			0	No rotation	step
			1 - 127	Forwards rotation from slow to fast	proportional
			128 - 129	No rotation	step
			130 - 255	Backwards rotation from slow to fast	proportional
18	15	13		Zoom	
			0 - 255	Zoom from max. to min.beam angle	proportional
19	*	*		Zoom - fine	
			0-255	Fine zooming	proportional
20	16	14		Focus	
			0 - 255	Continuous adjustment from far to near	proportional
21	*	*		Focus - fine	
			0- 255	Fine focusing	proportional
22	17	15		Shutter/ strobe	
			0 - 31	Shutter closed	step
			32 - 63	Shutter open	step
			64 - 95	Strobe-effect from slow to fast	proportional
·			96 - 127	Shutter open	step
			128 - 143	Opening pulse in sequences from slow to fast	proportional
			144 - 159	Closing pulse in sequences from fast to slow	proportional
			160 - 191	Shutter open	step
			192 - 223	Random strobe-effect from slow to fast	proportional
			224 - 255	Shutter open	step
23	18	16		Dimmer intensity	
			0 - 255	Dimmer intensity from 0% to 100%	proportional
24	*	*		Dimmer intensity - fine	
			0 - 255	Fine dimming	proportional