ROBE.

Color Spot 700^{AT}

*aT*series

USER MANUAL

Wersion 2.0

ROBE® Lighting s.r.o. • Czech republic • www.robe.cz

ColorSpot 700E AT

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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 qualilfied
- 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.

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 accessable 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.

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┌─────────────────────────────────────────────────┐
│             CAUTION !  EYEDAMAGES !              │
│        Avoid looking directly into the light     │
│                     source                       │
│           (meant especially for epileptics) !    │
└─────────────────────────────────────────────────┘
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2.Operating determinations

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

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

Never run the device without lamp!

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

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

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

The minimum distance between light output and the illuminated surface must be more than 3 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 explose and emit a high ultraviolet radiation, which may cause burns.

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

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

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

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

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

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

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

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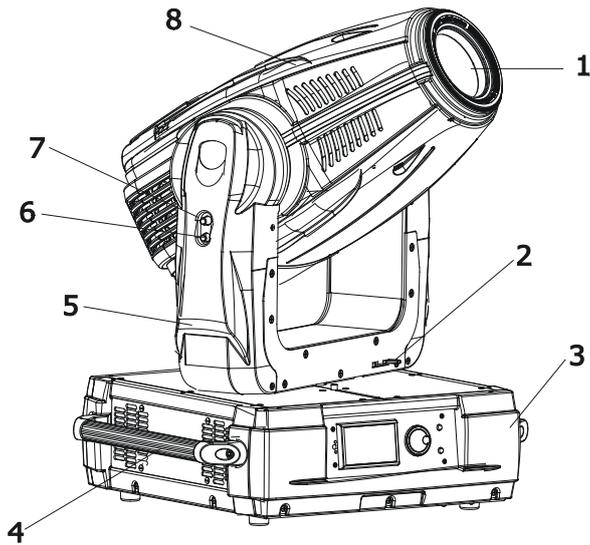
1 - Front lens
2 - Pan lock
3 - Base
4 - Handle
5 - Head yoke
6 - Tilt unlock button (green)
7 - Tilt lock button (red)
8 - Moving head

The head should be locked for transportation- the tilt lock button (7) is pushed and the pan lock/unlock lever (2) is in locked position. To unlock the head, press the tilt unlock button (6) and move the pan lock/unlock latch (2) into unlocked position.
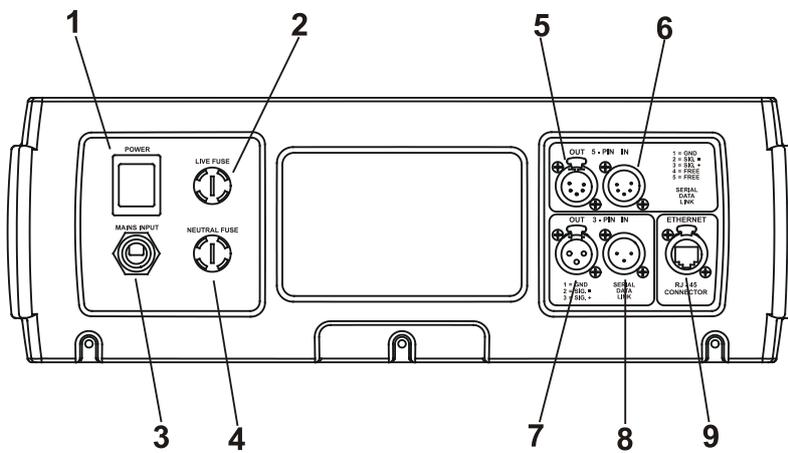
Rear panel of the base:
1 - Power switch
2 - Fuse holder-live
3 - Power cord
4 - Fuse holder-neutral
5 - 5-pin DMX output
6 - 5-pin DMX input
7 - 3-pin DMX output
8 - 3-pin DMX input
9 - RJ 45 connector
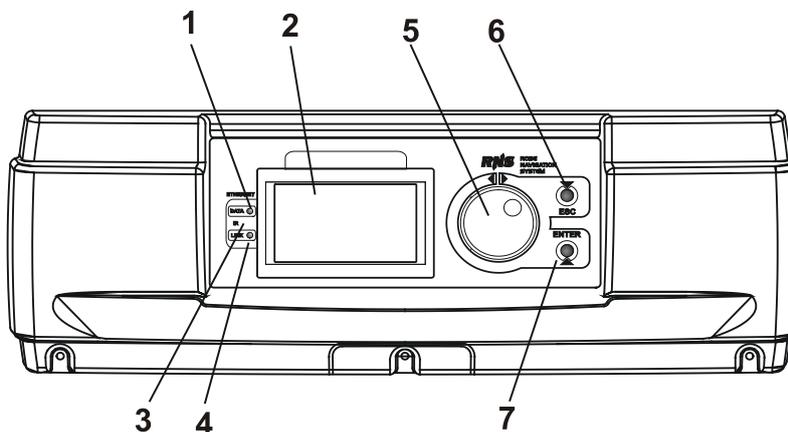
Front panel of the base:
1 - Ethernet indicator
2 - Display
3 - Infra-red sensor
4 - Data transfer indicator
5 - RNS control wheel
6 - Escape button
7 - Enter button

4. Installation

 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 ColorSpot 700E AT is equipped with auto-switching power supply that automatically adjusts to any 50/60Hz AC power source from 100-240 Volts.
For use with 100-130 V supplies,the both main 6.3 A fuses has to be exchanged for 10 A fuses which are enclosed in the packing.
To install the 10 A fuses:
1. Disconect the fixture from AC power.
2. Unscrew the "live" fuseholder on the rear panel of the base with a flat-tip screwdriver from the housing (anticlockwise).
3. Remove the 6.3 A fuse from the fuseholder.
4. Put the 10 A fuse in the fuseholder.
5. Replace the fuseholder in the housing and screw it fully clockwise.
6.Repeat steps 2-5 for "neutral" fuseholder

If you need to fit the power cable with a power plug that is suitable for your local AC power outlets, installl a 3-prong grounding-type plug on the power cable. The earth has to be connected!
If you have any doubts about proper installation, consult a qualified electrician.

**The occupation of the connection-cables is as follows:**

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

4.2 Fitting the lamp

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

To insert the lamp (MSR GOLD 700 FastFit):
1. Disconnect the fixture from power and allow it to cool at least 15 minutes.
2. Make sure that fixture´s head is in the position as shown on the picture.Loosen the two quarter-turn fasteners (1) marked "X,Y" on the lamp cover (2) to turn the cover down.
3. Holding the lamp by its ceramic base (3), carefully turn the lamp to the left as shown on the picture in order to loosen the lamp from the lamp holder (4). Gently pull the lamp out of the lamp holder
4. Holding the new lamp by its ceramics base, gently insert the lamp to the lamp socket and turn the base to the right. Make sure that the lamp is installed tightly into the lamp socket.
   Do not install a lamp with a higher wattage! A lamp like this generates temperatures the device is not designed for. Damages caused by non-observance are not subject to warranty. Please follow the lamp manufacturer's notes! Do not touch the glass bulb bare hand during the installation!
5. Reinsert the lamp cover (2) and tighten two quarter-turn fasteners (1) again.
6. Align the new lamp (see instructions below)
7. Reset „Lamp On Time" and „Lamp Strikes" counters in „Fixture information" menu.
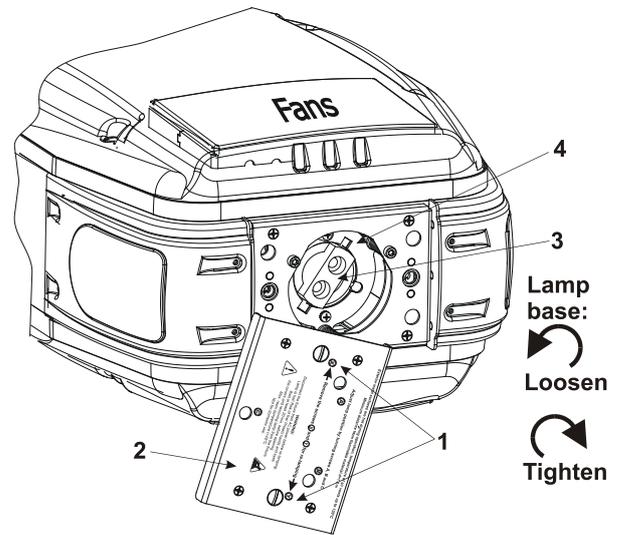
1 - Quater-turn fasteners
2 - Lamp cover
3 - Lamp base
4 - Lamp holder

Do not operate this fixture with open lamp cover!

4.3 Lamp adjustment

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

1. Switch on the fixture and after reset turn on the lamp.
2. Cancel all effects, open the shutter and focus the light on a
   flat surface (wall) using either DMX controller or function „Lamp adjustment" in „Special functions menu".
3. Center the hot-spot (the brightest part of the beam) using the
   3 adjustment screws "A, B, C". Turn one screw at a time to drag the hot-spot, diagonally across the projected image. If you cannot detect a hot -spot, adjust the lamp until the light is even.
   To reduce a hot-spot, pull the lamp in by turning all three screws „A, B, C" clockwise 1/4-turn at a time until the light is evenly distributed.
   If the light is brighter around the edge than it is in the center, or if light output is low, the lamp is too far back in the reflector. „Push" the lamp out by turning the screws "A, B, C" counterclockwise 1/4-turn at a time until the light is bright and evenly distributed.

Exterior metal surfaces are hot during operation, temperature of air vents up to 130°C
Minimum distance from flammable material d=1.2 m

Adjust lamp position by turning screws A, B and C

Remove the screws X and Y for re-lamping

WARNING!
Disconnect the fixture from AC power before re-lamping.
Lamp is hot! Risk of fire! Protect hands and eyes.
Wait at least 20 min. before opening
the covers and removing lamp from the fixture.
Max. room temperature t=40°C
Not for domestic use.

3 adjustment scews "A, B, C"

4.4 Replacing the colour filters,gobos and the animation wheel

> **DANGER!**
> **Install the colour filters,gobos and animation wheel 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 bottom 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.Break the magnet´s initial hold by skewing the dichroic filter in a direction outlined on the picture below.Protect the glass filter with a piece of paper or clout during this action.
5. Insert the new dichroic filter into colour wheel.
6. Replace the bottom cover before applying power.
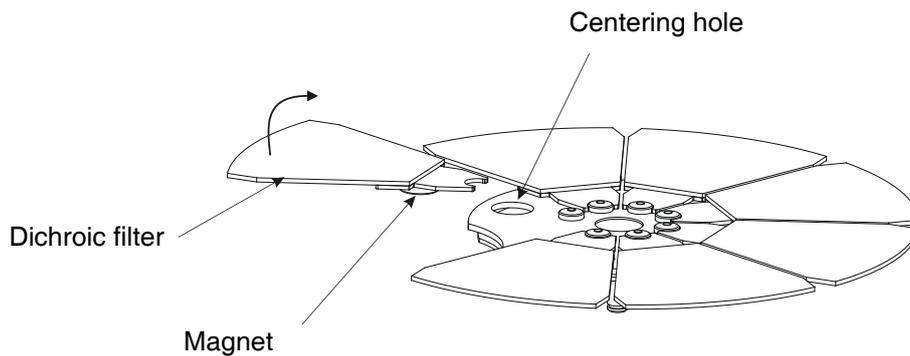
Static gobos

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 bend out the gobo module to release it from the distance slots and pull it up from the pressing snap.
4. Insert the new gobo module back under the pressing snap and push it to the 3 distance slots.
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 bend out the gobo module to release it from the distance slots and pull it up from the pressing snap.
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 gobos as the oils from your hands can damage the
   pattern.
5. Remove the original gobo and insert the new gobo (black and white glass gobos with glazy side
   upwards-it means glazy side towards the lamp). Insert the spring gobo to secure it in the gobo holder.
6. Insert the the gobo module back under the pressing snap and push it to the 3 distance slots.
5. Replace the bottom cover before applying power.

Gobo module

Pressing snap

Distance slots

Fixation ring

Gobo

Distance ring

Gobo holder

The animation wheel

The animation wheel is fixed on its holder by the magnet and centered by the 3 guide-pins on the animation
wheel.
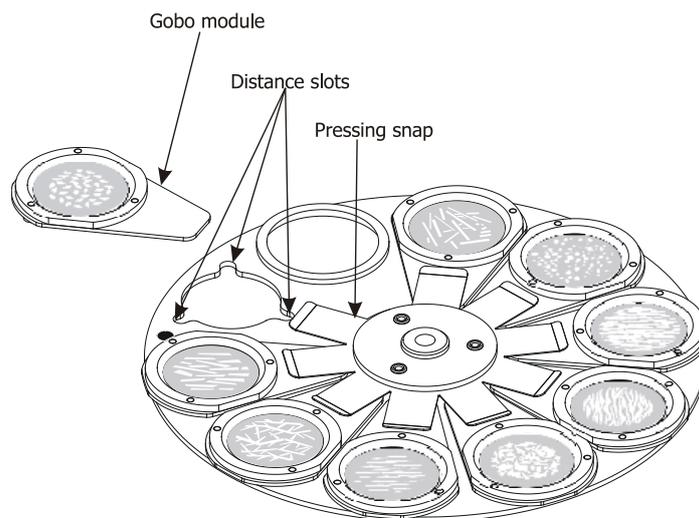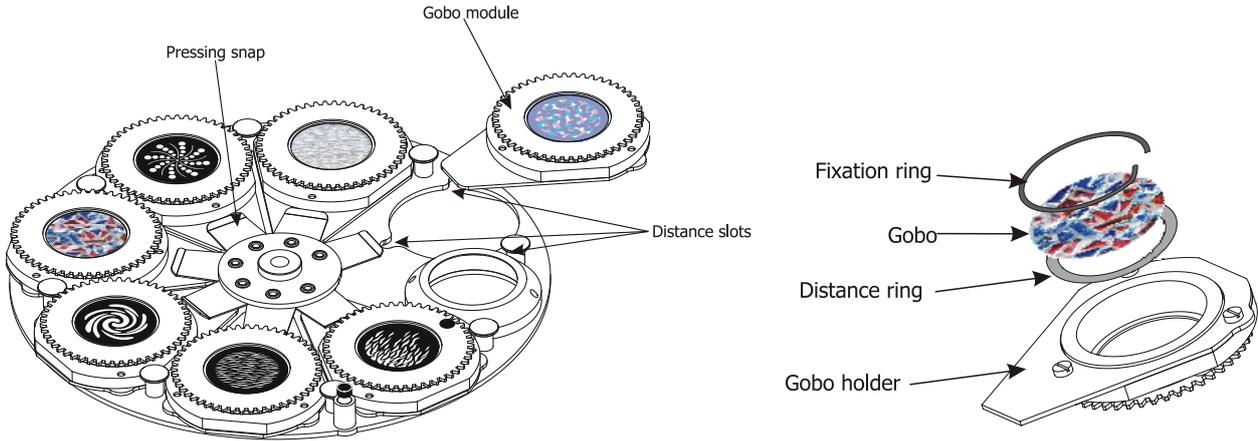1. Disconnect the fixture from mains and allow it to cool.
2. Remove the bottom plastic cover of the head by loosening the 4 quarter-turn fasteners on the cover.
3. To avoid bending the animation wheel while removing,break the magnet´s initial hold by prying the wheel
off with a small-bladed screwdriver gently inserted betwen the animation wheel and its holder.
4. Place the new animation wheel.Verify that the guide-pins are seated in its holder correctly correctly.
5. Replace the bottom cover before applying power.

Animation wheel
with 3 guide-pins

Animation wheel

Animation wheel holder
with 3 guide-holes
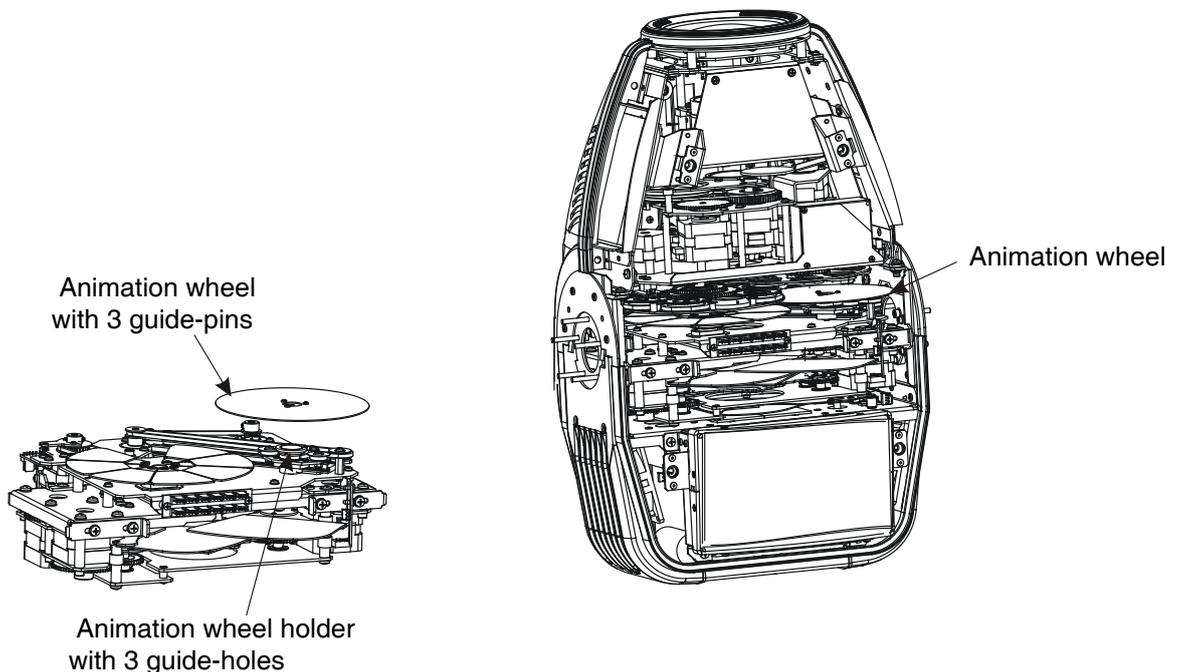
4.5 Rigging the fixture

> **DANGER TO LIFE!**
> **Please consider the respective national norms during the installation!**

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

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

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

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

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

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

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

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

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

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

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

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

> **Danger of fire !**
> **When installing the device, make sure there is no highly inflammable**
> **material (decoration articles, etc.) in a distance of min. 1 m.**

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

The projector can be placed directly on the stage floor or rigged in any orientation on a truss without altering its operation characteristics .
For overhead use, always install a safety-rope that can hold at least 10 times the weight of the fixture. You must

only use safety-ropes with screw-on carabines. Pull the safety-rope through the two apertures on the bottom of the base and over the trussing system etc. Insert the end in the carabine and tighten the fixation screw.

Fixation via the omega holders

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

1-Clamp
2-Safety-rope
3-Quick-lock fastener
4-Omega holder

Ø13
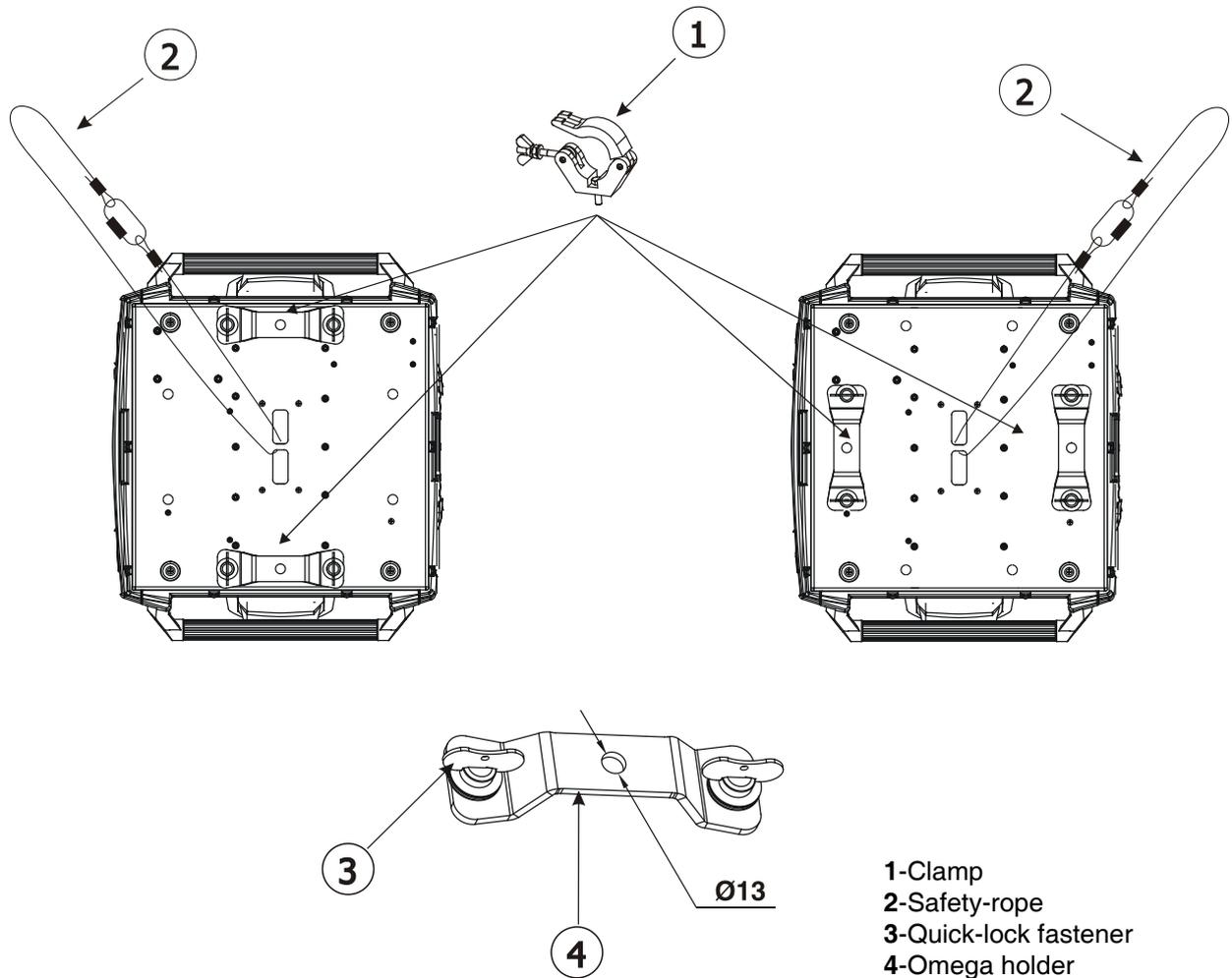
**When installing fixtures side-by-side,
avoid illuminating one fixture with another!**

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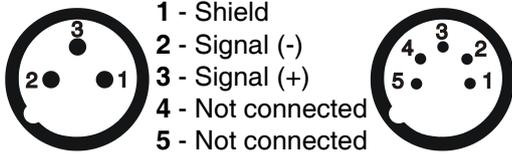
DMX-input
XLR mounting-plugs (rear view):

1 - Shield
2 - Signal (-)
3 - Signal (+)
4 - Not connected
5 - Not connected
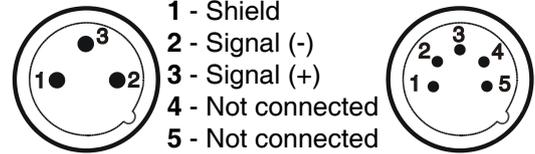
 If you are using the standard DMX controllers, you can connect the DMX output of the controller directly with
the DMX input of the first fixture in the DMX-chain. If you wish to connect DMX-controllers with other XLR-out-
puts, you need to use adapter-cables.
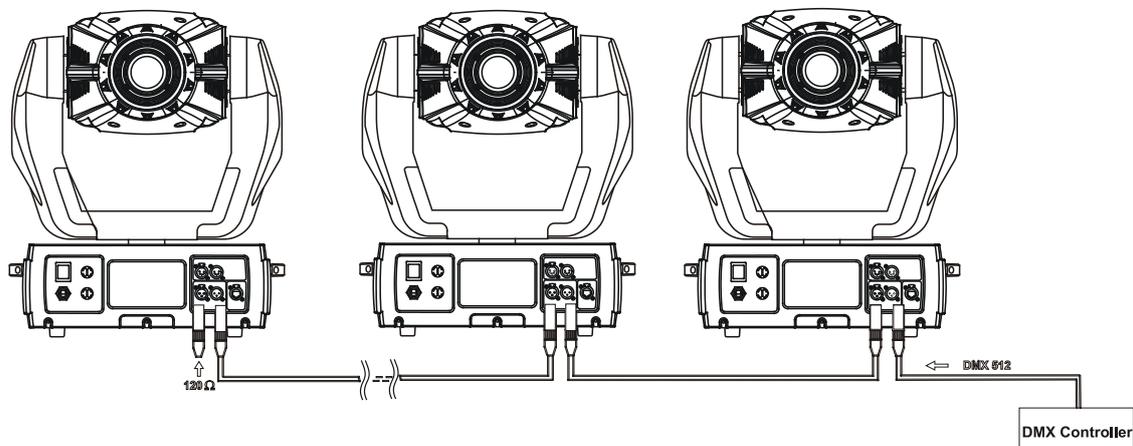
Building a serial DMX-chain:
Connect the DMX-output of the first fixture in the DMX-chain with the DMX-input of the next fixture. Always
connect one output with the input of the next fixture until all fixtures are connected.
Caution: At the last fixture, the DMX-cable has to be terminated with a terminator. Solder a 120 Ω resistor
between Signal (–) and Signal (+) into a 3-pin XLR-plug and plug it in the DMX-output of the last fixture.

4.7 Ethernet connection

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

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

The ColorSpot 700E AT 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):   **RJ-45 plug (front view):**
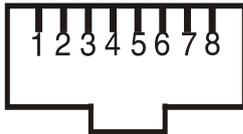
| 1 2 3 4 5 6 7 8 | 1- TD+   5- Not connected | 8 7 6 5 4 3 2 1 |
| 2- TD-   6- RX-
| 3- RX+   7- Not connected
| 4- Not connected 8- Not connected
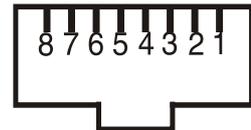
Patch cables that connect fixtures to the hubs or LAN sockets are wired 1:1,that is,pins with the same numbers are connected together:

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

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

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

Direct Ethernet operation

Connect the Ethernet-inputs of all fixtures in the fixture chain with the network.
Option " Ethernet" has to be selected from "Set Ethernet Mode" menu on the fixture.
Set IP address (002.xxx.xxx.xxx / 010.xxx.xxx.xxx) and the Universe.
Example:

(DMX address=56)   (DMX address=29)   (DMX address=1)
IP addres=002.168.002.004   IP addres=002.168.002.003   IP addres=002.168.002.002
Universe=1   Universe=1   Universe=1

Art-Net

Art-Net

Art-Net

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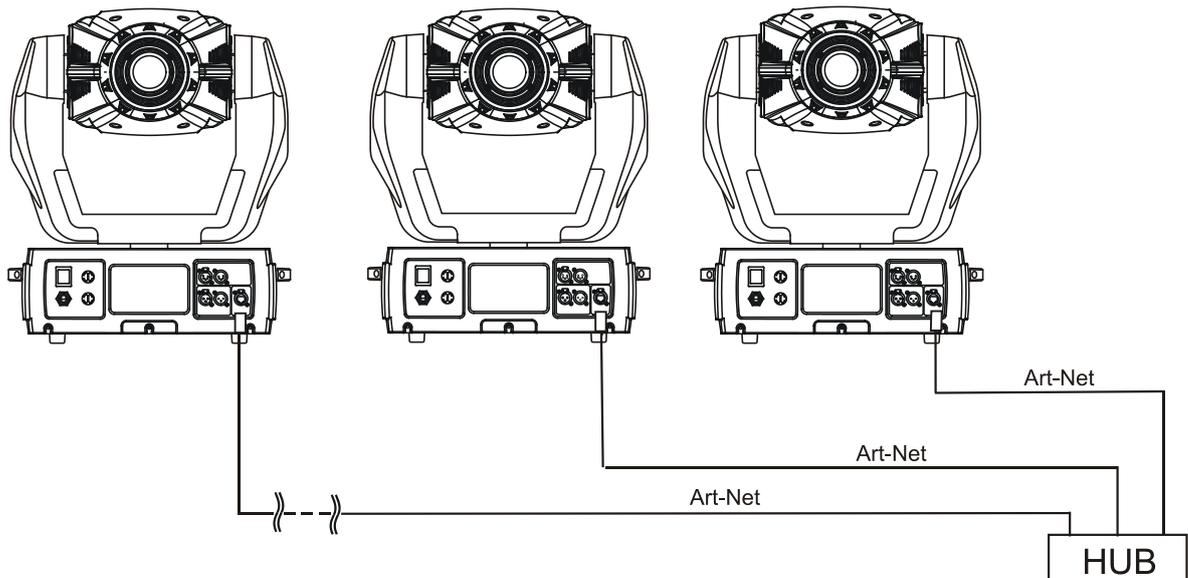
An advised PC setting: IP address: 002.xxx.xxx.xxx / 010.xxx.xxx.xxx (Different from fixture IP addresses)
                       NET mask: 255.0.0.0

Ethernet / DMX operation

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

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

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

Example:

DMX address=57   DMX address=29   (DMX address=1)
                                                IP addres=002.168.002.002
                                                Universe=0

120 Ω   DMX 512   DMX 512   Art-Net

HUB

DMX address=217   DMX address=29   (DMX address=1)
                                                IP addres=002.168.002.003
                                                Universe=1

120 Ω   DMX 512   DMX 512   Art-Net
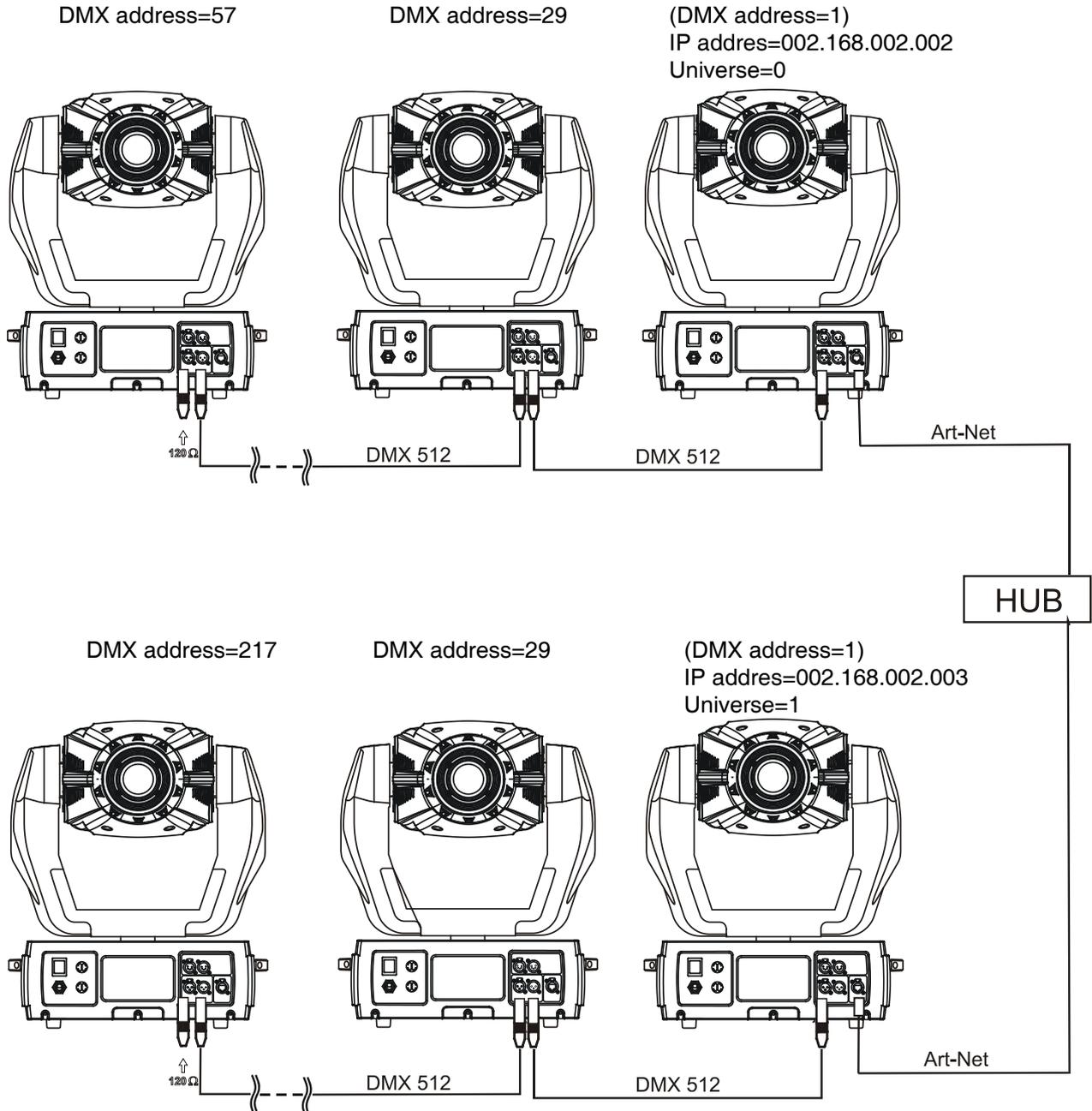
5. ColorSpot 700E AT - DMX Protocol-version 1.4

Mode/Channel						Value	Function	Type of control
1	2	3	4	5	6			
1	1	1	1	26	1	0 - 255	**Pan** Pan movement by 540°	proportional
2	2	2	2	27	-	0 - 255	**Pan Fine** Fine control of pan movement	proportional
3	3	3	3	28	2	0 - 255	**Tilt** Tilt movement by 280°	proportional
4	4	4	4	29	-	0 - 255	**Tilt fine** Fine control of tilt movement	proportional
5	5	5	5	30	3	0 1 - 255 1 - 255	**Pan/Tilt speed , Pan/Tilt time** Max. speed (tracking mode) *P./T. speed-set Speed Mode in menu: Pan/Tilt Mode* Speed from max. to min. (vector mode) *P./T. time - set Time Mode in menu: Pan/Tilt Mode* Time from 0.1 s to 25.5 s.	step proportional proportional
6	6	6	6	31	4	0 - 49 50 - 59 60 - 69 70 - 79 80 - 89 90 - 99 100 - 109 110 - 119 120-129 130 - 139 140 - 149 150 - 159 160 - 169 170 - 179 180 - 189 190 - 199 200 - 209 210 - 229 230 - 239 240 - 255	**Power/Special functions** Reserved *To activate following functions, stop in DMX value for at least 3 s and shutter must be closed at least 3 s. („Shutter,Strobe" channel 34 (27) must be at range: 0-31 DMX). Corresponding menu items are temporarily overriden).* Pan/Tilt speed mode Pan/Tilt time mode Blackout while pan/tilt moving Disabled blackout while pan/tilt moving Blackout while colour wheel moving Disabled blackout while colour wheel moving Blackout while gobo wheel moving Disabled blackout while gobo wheel moving *To activate following functions,* *stop in DMX value for at least 3 s.* Lamp On,reset(total reset except pan/tilt reset) Pan/Tilt reset Colour system reset Gobo wheels reset Dimmer/strobe reset Zoom/focus/frost reset Iris/prism/animation wheel reset Total reset Reserved Lamp Off Reserved	 step step step step step step step step step step step step step step step step step step
7	7	-	-	-	-	0 - 9 10 - 31 32 - 63 64 - 95 96 - 127 128 - 159 160 - 191 192 - 223 224 - 255	**Pan/Tilt macro selection** Disabled pan/tilt macro Reserved Figure of circle (from small to large) Figure of horizontal eight (from small to large) Figure of vertical eight (from small to large) Figure of rectangle (from small to large) Figure of triangle (from small to large) Figure of star (from small to large) Figure of cross (from small to large)	step step proportional proportional proportional proportional proportional proportional proportional
8	8	-	-	-	-	0 1 - 127 128 - 129 130 - 255	**Pan/Tilt macro speed** *(Set pan/tilt speed (channel 5) at 0)* No macro generation Macro generation from fast to slow-forwards No macro generation Macro generation from slow to fast-backwards	step proportional step proportional

Mode/Channel						Value	Function	Type of control
1	2	3	4	5	6			
9	9	7	7	10	5		**Colour wheel** *Continual positioning*	
						0	Open/white	proportiona
						16	Deep red	proportiona
						32	Deep blue	proportiona
						48	Orange	proportional
						64	Green	proportional
						80	Light red	proportional
						96	Amber	proportional
						112	UV filter	proportional
						128-129	White	proportional
							Positioning	
						130-137	Deep red	step
						138-145	Deep blue	step
						146-153	Orange	step
						154-163	Green	step
						164-171	Light red	step
						172-181	Amber	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 (Set microphone sensitivity in menu „Personality")	step
						250 - 255	Auto random colour selection from fast to slow	proportional
10	-	8	-	11	-		**Colour wheel - fine positioning**	
						0 - 255	Fine positioning	proportional
11	10	9	8	4	6		**Cyan**	
						0 - 255	Cyan (0-white, 255-full cyan)	proportional
12	11	10	9	6	7		**Magenta**	
						0 - 255	Magenta (0-white, 255-full magenta)	proportional
13	12	11	10	8	8		**Yellow**	
						0 - 255	Yellow (0-white, 255-full yellow)	proportional
14	13	12	11	-	9		**CTO filter**	
						0 - 255	(0-6000K, 255-3200K)	proportional
15	14	13	12	16	10		**CMY colour macros**	
						0 - 7	No function	step
						8 - 15	Macro 1	step
						16 -23	Macro 2	step
						24-31	Macro 3	step
						32-39	Macro 4	step
						40-47	Macro 5	step
						48-55	Macro 6	step
						56-63	Macro 7	step
						64-71	Macro 8	step
						72-79	Macro 9	step
						80-87	Macro 10	step
						88-95	Macro 11	step
						96-103	Macro 12	step
						104-111	Macro 13	step
						112-119	Macro 14	step
						120-127	Macro 15	step
						128-135	Macro 16	step
						136-143	Macro 17	step
						144-151	Macro 18	step
						152-159	Macro 19	step

Mode/Channel						Value	Function	Type of control
1	2	3	4	5	6			
15	14	13	12	16	10	160-167	Macro 20	step
						168-175	Macro 21	step
						176-183	Macro 22	step
						184-191	Macro 23	step
						192-199	Macro 24	step
						200 - 207	Macro 25	step
						208 - 215	Macro 26	step
						216 - 223	Macro 27	step
						224 - 231	Macro 28	step
						232 - 239	Macro 29	step
						240 - 243	Macro 30 - Random rainbow effect from fast to slow	proportional
						244 - 249	Random macro selection by audio control (Set microphone sensitivity in menu "PErS")	step
						250 - 255	Auto random macro selection from fast to slow	proportional
16	15	14	13	-	11	0 - 255	**Effect Speed** Speed of CMY&CTO and Rot. gobo selection Speed from max. to min.	proportional
17	16	15	14	17	12		**Animation wheel**	
						0-31	Open	step
						32-47	Horizontal indexed position-set indexing on channel18 (17)	step
						48-63	Vertical indexed position-set indexing on channel 18 (17)	step
						64-79	Cont.rotation,horizon. position-set speed on channel 18 (17)	step
						80-95	Cont.rotation,vertical. position-set speed on channel 18 (17)	step
						96-111	Horizontal pulse effects-set speed on channel 18 (17)	step
						112-127	Vertical pulse effects-set speed on channel 18 (17)	step
						128-191	Indexed angle position from horizont. to vert. with indexing (set indexing on channel 18 (17))	step
						192-255	Indexed angle position from vertic. to horizont. with rotation (set rotation on channel 18 (17))	step
18	17	16	15	18	13		**Animation wheel rotation and indexing** *Rotation of animation wheel*	
						0	No rotation	step
						1-127	Forward rotation from fast to slow	proportional
						128-129	No rotation	step
						130-255	Backward rotation from slow to fast	proportional
							Indexing of animation wheel	
						0-255	Indexed angle	proportional
							Speed of pulse offects	
						0-255	From fast to slow	proportional
19	18	17	16	15	14		**Static gobo wheel** **_Continual Positioning_** *In range 0-64 DMX is possible fine gobo positioning - set value on channel 20*	
						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	Gobo 6	proportional
						45	Gobo 7	proportional
						51	Gobo 8	proportional
						58	Gobo 9	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

Mode/Channel						Value	Function	Type of control
1	2	3	4	5	6			
						90 - 94	Gobo 6	step
						95 - 99	Gobo 7	step
						100 - 104	Gobo 8	step
						105 - 109	Gobo 9	step
							Shaking gobos from slow to fast	
						110 - 119	Gobo 1	proportional
						120 - 129	Gobo 2	proportional
						130 - 139	Gobo 3	proportional
						140 - 149	Gobo 4	proportional
						150 - 159	Gobo 5	proportional
19	18	17	16	15	14	160 - 169	Gobo 6	proportional
						170 - 179	Gobo 7	proportional
						180 - 189	Gobo 8	proportional
						190 - 199	Gobo 9	proportional
						200 - 201	Open/hole	
						202 - 221	Forwards gobo wheel rotation from fast to slow	proportional
						222 - 223	No rotation	
						224 - 243	Backwards gobo wheel rotation from slow to fast	proportional
						244 - 249	Random gobo selection by audio control (Set microphone sensitivity in menu „Personality")	step
						250 - 255	Auto random gobo selection from fast to slow	proportiona
20	**-**	**18**	**-**	**-**	**-**		**Fine static gobo wheel**	
						0-255	Fine positioning	proportional
							Rotating gobo wheel	
							Index - set indexing on channel 22 (20)	
						0-3	Open/hole	step
						4-7	Gobo 1	step
						8-11	Gobo 2	step
						12-15	Gobo 3	step
						16-19	Gobo 4	step
						20-23	Gobo 5	step
						24-27	Gobo 6	step
						28-31	Gobo 7	stepl
							Rotation - set rotation on channel 22 (20)	
						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
21	**19**	**19**	**17**	**12**	**15**	56-59	Gobo 7	step
							Shaking gobos from slow to fast	
							Index - set indexing on channel 22 (20)	
						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
							Positioning - Shaking gobos from slow to fast	
							Rotation - set rotation on channel 22 (20)	
						130 - 139	Gobo 1	proportional
						140 - 149	Gobo 2	proportional
						150 - 159	Gobo 3	proportional
						160 - 169	Gobo 4	proportional
						170 - 179	Gobo 5	proportional
						180 - 189	Gobo 6	proportional

Mode/channel						Value	Function	Type of control
1	2	3	4	5	6			
21	19	19	17	12	15	190 - 199	Gobo 7	proportional
						200 - 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	proportiona
22	20	20	18	13	16		**Rot. gobo indexing and rotation**	
							**Gobo indexing** _- **set position on channel 21 (19)**_	
						0 - 255	Gobo indexing	proportional
							**Gobo rotation** _- **set position on channel 21 (19)**_	
						0	No rotation	step
						1 - 127	Forwards gobo rotation from fast to slow	proportional
						128 - 129	No rotation	step
						130 - 255	Backwards gobo rotation from slow to fast	proportional
23	-	21	-	14	-		**Gobo fine indexing**	
						0-255	Fine indexing	proportional
24	21	22	19	19	17		**Prism**	
						0 - 19	Open position (hole)	step
						20 - 127	3-facet rotating prism	step
						128 - 255	**Prism/gobo macros**	
						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
25	22	23	20	-	18		**Prism rotation**	
						0	No rotation	step
						1 - 127	Forwards rotation from fast to slow proportional	proportional
						128 - 129	No rotation	step
						130 - 255	Backwards rotation from slow to fast	proportional
26	23	24	21	-	19		**Frost**	
						0	Open	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
27	-	25	-	-	-		**Frost fine**	
						0-255	Smooth frosting	proportional
28	24	26	22	20	20		**Iris**	
						0	Open	step
						1 - 179	From max.diameter to min.diameter	proportional
						180 - 191	Closed	step

Mode/Channel						Value	Function	Type of control
1	2	3	4	5	6			
28	24	26	22	20	20		*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
29	-	27	-	21	-		**Iris fine**	
						0 - 255	Iris fine	proportional
30	25	28	23	24	21		**Zoom**	
						0 - 255	Zoom from max. to min.beam angle	proportional
31	-	29	-	25	-		**Zoom fine**	
						0-255	Zoom fine	proportional
32	26	30	24	22	22		**Focus**	
						0 - 255	Continuous adjustment from far to near	proportional
33	-	31	-	23	-		**Focus fine**	
						0- 255	Focus fine	proportional
34	27	32	25	1	23		**Shutter, strobe**	
						0 - 31	Shutter closed, Lamp power reduced to 350 W (after 10 s*)	step
						32 - 63	Shutter open, Full lamp power	step
						64 - 95	Strobe-effect from slow to fast (max.12 flashes/s)	proportional
						96 - 127	Shutter open, Lamp power reduced to 350 W	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, Electronic strobing „ZAP" from slow to fast (from 7 to 33 flashes/s)	proportional
						192 - 223	Random strobe-effect from slow to fast	proportional
						224 - 255	Shutter open, Full lamp power	step
35	28	33	26	2	24		**Dimmer intensity**	
						0 - 255	Dimmer intensity from 0% to 100% (In range of 0-8 DMX,lamp power reduced to 350 W)	proportional
36	-	34	-	3	-		**Fine dimmer intensity**	
						0 - 255	Dimmer intensity fine	proportional
-	-	-	-	5	-		**No function**	
-	-	-	-	7	-		**No function**	
-	-	-	-	9	-		**No function**	

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

6. Controller mode

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

6.1 DMX addressing

The control panel on the front panel of the fixture base allows you to assign the starting DMX address from which the ColorSpot 700E AT will respond to the DMX controller.
If you set, for example, the address to channel 29, the ColorSpot 700E AT will use the channel 29 to 55 for control (if DMX mode 2 is selected).
Please, be sure that you don't have any overlapping channels in order to control each ColorSpot 700E AT correctly and independently from any other fixture on the DMX data link.
If two, three or more ColorSpot 700E AT are addressed similarly, they will work similarly.
For address setting, please refer to the instructions under "Fixture Address".

Controlling:
After having addressed all ColorSpot 700E AT, you may now start operating these via your lighting controller.
Note: After switching it on, the ColorSpot 700E AT will automatically detect whether DMX 512 data is received or not.If there is no data received at the DMX-input, the display will start to flash **"A001"** with actually set address.
This situation can occur if:
- the 3 pin (5pin) XLR plug (cable with DMX signal from controller) is not connected with the input of the ColorSpot 700E AT
- the controller is switched off or defective, the cable or connector is defective or the signal wires are swaped in the input connector.

6.2 Remotely controllable functions

Lamp
The ColorSpot 700E AT is to be operated with a Philips MSR Gold 700 Fast Fit lamp.
A relay inside of the ColorSpot 700E AT allows you to switch on and off the lamp via the control panel or via your DMX controller without affecting the rest of the lighting.
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 ColorSpot 700E AT 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).

CMY colour mixing system
The CMY color mixing system is based on graduated cyan, magenta, and yellow colour filters. A continuous range of colors may be achieved by varying the amount of each filter from 0 to 100%.
Colour temperature correction filtre lowers the colour temperature from 6000K to 3200 K.

Static gobo wheel
The static gobo wheel includes 9 replaceable „SLOT&LOCK" metal gobos + open ,gobo-shake function.

Rotatin gobo wheel
The rotating gobo wheel includes 7 gobos rotating in both directions,indexable,replaceable „SLOT&LOCK" glass gobos + open position.

Animation wheel
Variable rotation angle,continuous rotation and indexing

Effect wheel
This wheel provides 3-facet prism rotating in both directions at different speeds.Prism/gobo macros are prepared.

Frost
Frost module provides variable frost for fine frosting.

Iris

Motorized adjustable iris,wide range of variable pulse effects.

Zoom

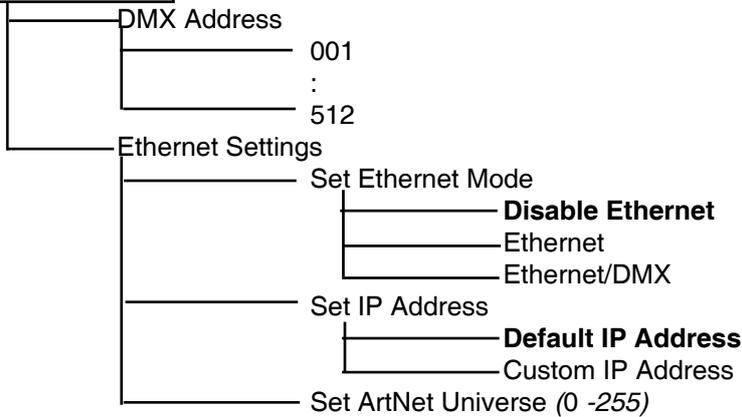Motorized zoom unit enables zoom between 15° and 51° beam angle.

Dimmer/Shutter/Strobe

Smooth 0 - 100 % dimming is provided by the mechanical dimmer/shutter unit. This unit may also be used for strobe effect.
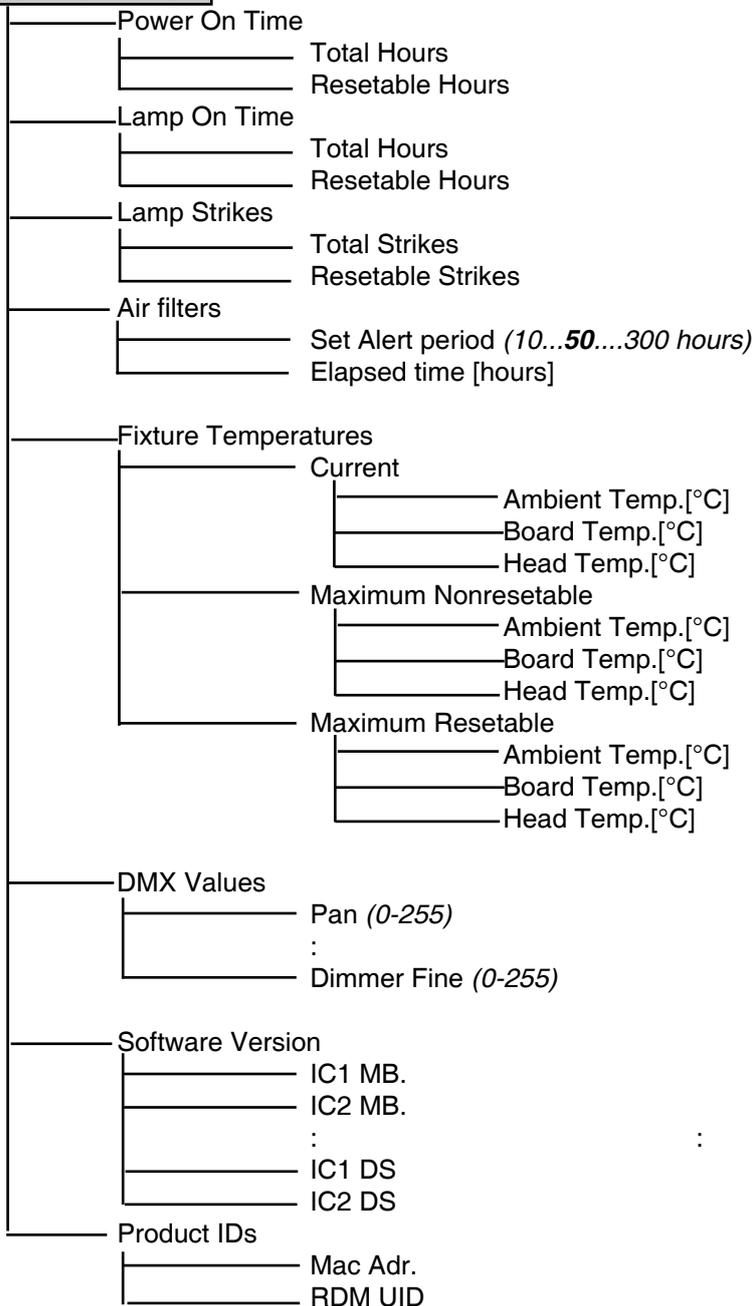
7.Control menu map

Default settings=Bold print

Fixture Address

- DMX Address
  - 001
  - :
  - 512
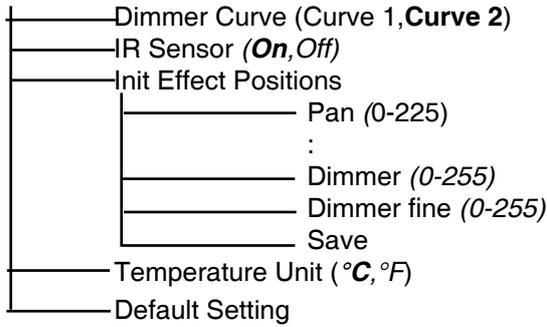- Ethernet Settings
  - Set Ethernet Mode
    - **Disable Ethernet**
    - Ethernet
    - Ethernet/DMX
  - Set IP Address
    - **Default IP Address**
    - Custom IP Address
  - Set ArtNet Universe *(0 -255)*

Fixture information

- Power On Time
  - Total Hours
  - Resetable Hours
- Lamp On Time
  - Total Hours
  - Resetable Hours
- Lamp Strikes
  - Total Strikes
  - Resetable Strikes
- Air filters
  - Set Alert period *(10...**50**....300 hours)*
  - Elapsed time [hours]
- Fixture Temperatures
  - Current
    - Ambient Temp.[°C]
    - Board Temp.[°C]
    - Head Temp.[°C]
  - Maximum Nonresetable
    - Ambient Temp.[°C]
    - Board Temp.[°C]
    - Head Temp.[°C]
  - Maximum Resetable
    - Ambient Temp.[°C]
    - Board Temp.[°C]
    - Head Temp.[°C]
- DMX Values
  - Pan *(0-255)*
  - :
  - Dimmer Fine *(0-255)*
- Software Version
  - IC1 MB.
  - IC2 MB.
  - :   :
  - IC1 DS
  - IC2 DS
- Product IDs
  - Mac Adr.
  - RDM UID

Personality

- User Mode
  - User A Settings
  - User B Settings
  - User C Settings
- DMX Presetting
  - **Mode 1**
    - Ch.1 Pan
    - :
    - Ch.36 Dimmer Fine
    - Set Active
  - Mode 2
    - Ch.1 Pan
    - :
    - Ch.28 Dimmer
    - Set Active
  - Mode 3
    - Ch.1 Pan
    - :
    - Ch.34 Dimmer Fine
    - Set Active
  - Mode 4
    - Ch.1 Pan
    - :
    - Ch.26 Dimmer
    - Set Active
  - Mode 5
    - Ch.1 Shutter/Strobe
    - :
    - Ch.31 Special functions
    - Set Active
  - Mode 6
    - Ch.1 Pan
    - :
    - Ch.24 Dimmer
    - Set Active
- Pan Reverse *(On,**Off**)*
- Tilt Reverse *(On,**Off**)*
- Lamp Presetting
  - Lamp On/Power On *(On,**Off**)*
  - Lamp Off via DMX *(**On**,Off)*
  - Lamp On if DMX Present *(On,**Off**)*
  - Lamp Off if not DMX *(On,**Off**)*
  - Lamp Ignition delay*(**0**..1..90)s*
  - Lamp Low Power Delay *(**10s**-600s)*
  - Green Energy mode *(**On**,Off)*
- Lamp Light Sensor (**On**,Off)
- Display Adjusting
  - Display Permanent On *(**On**,Off)*
  - Display Intensity *(1..**10**)*
  - Display Backlight *(1..**5**..10)*
  - Display Turned *(On,**Off**)*
- Blackout d.M.C. *(On,**Off**)*
- Pan/Tilt Feedback *(**On**,Off)*
- Microphone Sensitivity *(1..**10**..20)*
- Fan Modes
  - **Auto Cooling**
  - High Cooling
- Pan/Tilt mode *(Time mode,**Speed Mode**)*
- Active Blackout While:
  - Pan/Tilt Moving *(On,**Off**)*
  - Colour Wheels Moving *(On,**Off**)*
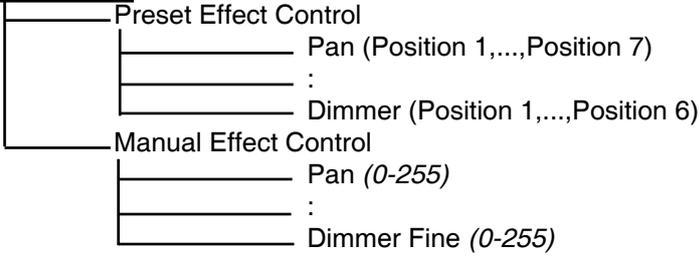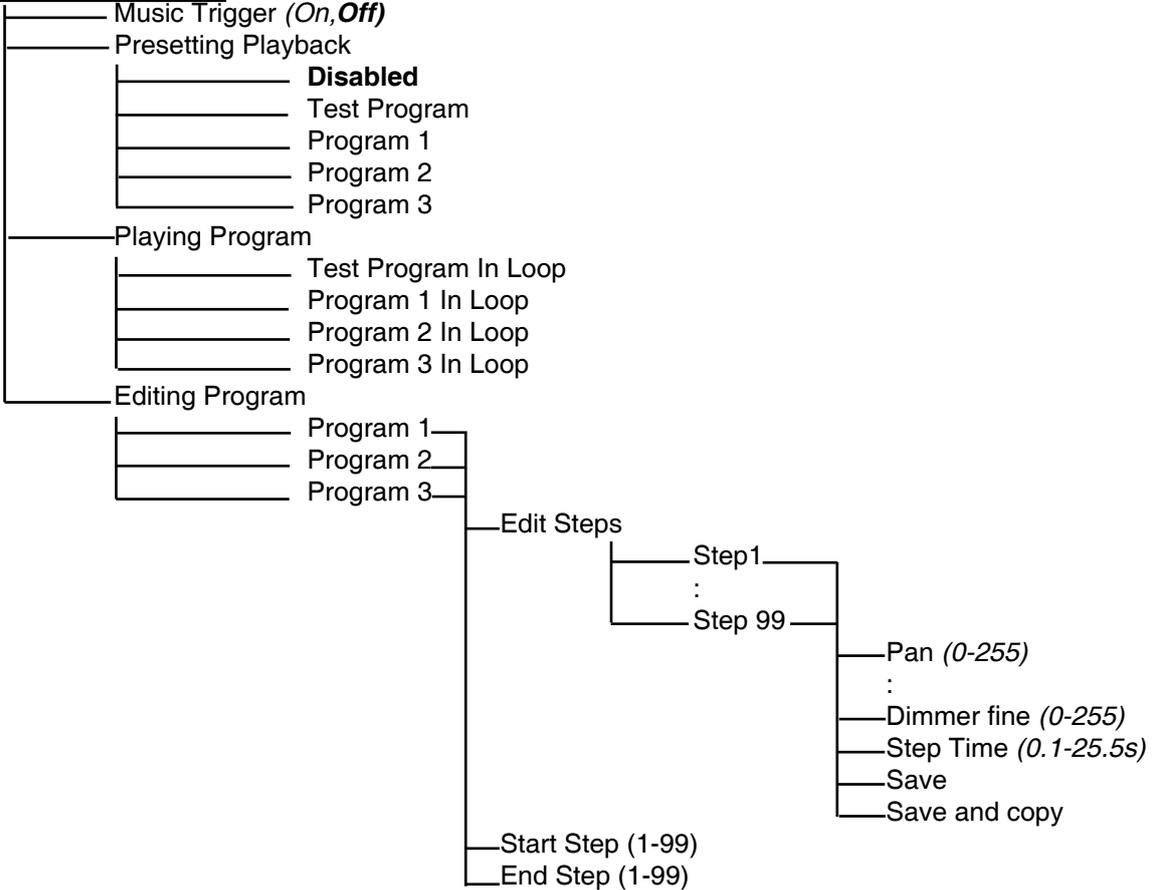 - Gobo Wheels Moving *(On,**Off**)*

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```
├──────── Dimmer Curve (Curve 1,**Curve 2**)
├──── IR Sensor (**On**,Off)
├──── Init Effect Positions
│              ├──────── Pan (0-225)
│              ├            :
│              ├──────── Dimmer (0-255)
│              ├──────── Dimmer fine (0-255)
│              └──── Save
├──── Temperature Unit ( °C, °F)
└──── Default Setting
```

Lamp On/Off *(On,Off)*

Test sequences

```
├──────── Mode 1
│              ├──────── Pan (0-255)
│              ├──────── Tilt (0-255)
│              ├──────── Zoom (0-255)
│              └──────── Run Test Program
└──── Mode 2
```

Manual Mode

```
├──────── Preset Effect Control
│              ├──────── Pan (Position 1,...,Position 7)
│              ├            :
│              └──────── Dimmer (Position 1,...,Position 6)
└──── Manual Effect Control
               ├──────── Pan (0-255)
               ├            :
               └──────── Dimmer Fine (0-255)
```

Stand- alone setting

```
├──── Music Trigger (On,**Off**)
├──── Presetting Playback
│              ├──────── **Disabled**
│              ├──────── Test Program
│              ├──────── Program 1
│              ├──────── Program 2
│              └──────── Program 3
├──── Playing Program
│              ├──────── Test Program In Loop
│              ├──────── Program 1 In Loop
│              ├──────── Program 2 In Loop
│              └──────── Program 3 In Loop
└──── Editing Program
               ├──────── Program 1
               ├──────── Program 2
               └──────── Program 3
                              ├── Edit Steps
                              │       ├── Step1
                              │       │     :
                              │       └── Step 99
                              │                  ├──── Pan (0-255)
                              │                  ├            :
                              │                  ├──── Dimmer fine (0-255)
                              │                  ├──── Step Time (0.1-25.5s)
                              │                  ├──── Save
                              │                  └──── Save and copy
                              ├── Start Step (1-99)
                              └── End Step (1-99)
```

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Reset function
```
            ———————— Reset All
   ———————— Pan/Tilt
   ———————— :
   └———————— Zoom reset
```

Special functions
```
   ———————— Lamp Adjustment
   │                 ———————— Pan (0-255)
   │                 ———————— Tilt (0-255)
   │                 └———————— Zoom (0-255)
   │
   ———————— Effect Adjustment
   │                 ———————— DMX Values
   │                 │                 ———————— Pan (0-255)
   │                 │                 ———————— :
   │                 │                 └———————— Dimmer fine (0-255)
   │                 │
   │                 └———————— Calibrate Values
   │                                   ———————— Colour Wheel (0-225)
   │                                   ———————— :
   │                                   ———————— Mech. dimmer 2 (0-255)
   │                                   ———————— Save and Reset
   │                                   └———————— Load Default Values
   │
   └———————— Updating Software
```

8. Control menu

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

Control elements on the control board:

[RNS] encoder wheel-moves between menu items on the the same level, scrolls between values.
[ESC] button-leaves menu without saving changes
[ENTER] button-enters menu, confirms adjusted values and leaves menu

After switching the fixture on,   **Press [ENTER],**
the display shows the initial screen: **the display shows current address:**

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

8.1 Fixture Address

Use this menu to set the DMX address.

DMX Address - Select this submenu to set DMX start address.
Ethernet Settings - Select this submenu to set the fixture for Ethernet operating.
      Set Ethernet Mode - Select this submenu to select Ethernet operating mode:
           Disable Ethernet - disables network operating.
           Ethernet - Data are received to the Ethernet input of the fixture - every fixture from fixture chain has to be connected to the network.
           Ethernet/DMX - Data go from Ethernet input „through" the fixture to the DMX output of the fixture- it is possible to connect the next fixture to DMX output and to make a DMX chain.
      Set IP Address - Select this submenu to set IP address.IP address is the Internet protocol address. The IP uniquely identifies any node (fixture) on a network. There can't be 2 fixtures with the same IP address on the network!
           Default IP Address -Presetted IP address, you can edit only first number of IP address (2 or 10) e.g. **002**.019.052.086.
           Custom IP Address - The option enables edit all numbers of IP address e.g.
                002.019.052.086.
        To set the custom IP address:
                1. Select „Custom IP Address" and press [ENTER].
                2. Use RNS wheel to set the first number of IP addres
                3. Press [ENTER] to move on the second number of IP address
                4. Repeat steps 2 and 3 for the third and the fourth number of IP address.
                If you want to return back on the previouly editted number, press [ESC].

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

8.2 Fixture information

Use this menu to read an useful information about the fixture.
Power On Time - Select this submenu to read the number of operation hours.
           Total Hours - The function shows the total number of the operation hours since the Color Wash 700E AT has been fabricated.
           Resetable Hours - The function shows the number of the operation hours that the Color Wash 700E AT has been powered on since the counter was last reset. In order to reset this counter to 0, press [ENTER] twice.
Lamp On Time - Select this submenu to read the number of the operation hours with the lamp on.
           Total Hours - The function shows the total number of the operation hours with the lamp on since the ColorSpot 700E AT has been fabricated.

Resetable Hours - The function shows the number of the operation hours with the lamp on that the ColorSpot 700E AT has been powered on since the counter was last reset. In order to reset this counter to 0, press [ENTER] twice.

Lamp Strikes - Select this submenu to read the total number of the lamp strikes.

Total Hours - The function shows the total number of the lamp strikes since the ColorSpot 700E AT has been fabricated.

Resetable Hours - The function shows the number of the lamp strikes since the counter was last reset.In order to reset this counter to 0, press [ENTER] twice.

Air Filters --- Regular cleaning of the air filters is very important for the fixture´s life and performance.Bildup 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 peeriod of the air filters.

Set alert period - Cleaning schedule for the fixture depends on the operating enviroment. It is therefore imposible to specify accurate cleaning interval.This function allows you to change the cleaning interval of the air filters.This "alert" value is 50 hours and it is set as default.Inspect the fixture within its 50 hours of operation to see whether cleaning is necessary.If clening is required,clean all air filters and change the value in this menu on acceptable level.Min. level of alert period is 10 hours, max. is 300 hours.

Elapsed Time - The option allows you to read the time which remains to cleaning air filters. The time period is set in the menu mentioned above.

Expired time period is signalized by a negative mark at the time value and a warning icon (triangle) on the display with the following message: "Clean Air Filters"

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

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

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

Maximum nonresetable - The function shows the max.temperatures of the fixture inside (Board Temp.,Head Temp.Ambient Temp.) since the ColorWash 700E AT has been fabricated.

Maximum resetable - The function shows the maximum temperatures of the fixture inside (Board Temp.,Head Temp.Ambient temp.) since the respective counter was last reset.

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

Measurement points:

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

Head Temp. - temperature of the head inside.

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

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

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

Product IDs   --- Select this function to read the MAC address or fixture code.

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

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

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

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

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

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

IC2 L.--- Prism rotation+animation wheel processor in the left arm (arm with tilt lock) of the fixture

IC1 R.--- Colour wheel+Yellow+Magenta processor in the right arm of the fixture

IC2 R.--- Cyan+CTF+Animation wheel rotation processor in the right arm of the fixture

IC1 H--- Rot.gobo rotation+Rot.gobo wheel+Iris processor in the fixture head

IC2 H--- Focus+Zoom+Static.gobo wheel processor in the fixture head

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

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

8.3 Personality

Use this menu to to modify ColorSpot 700E AT operating behavior.

User mode --- ColorSpot 700E AT allows you to recall up to 3 user settings.After switching the fixture on for the first time, the **User A settings** is active.All changes made in "Personality" menu ,"Fixture Address" menu and Music Trigger and Presetting Playback functions from "Stand-alone setting" menu are saved to the **User A settings**.If you now set the **User B settings** active,from this moment these changes are saved to the **User B settings.**After switching the fixture off and on ,the User B setting is active.In this way you may use the 3 fixture operating behaviours.

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

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

DMX Preseting --- Select this function to set desired effects assigning to the channels.Please refer to the chapter "DMX protocol" for detail description.

Lamp Presetting --- Select this menu to change the lamp "behaviour".

> **Lamp On/Power On** --- Select this function to turn the lamp on automatically after switching the fixture on.
> **Lamp Off via DMX** --- Select this function to switch off the lamp via DMX.
> **Lamp On if DMX Present** --- 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.
> **Lamp Off if not DMX** --- This function allows you to switch Off the lamp automatically after 2 minutes if DMX signal is missing on the data link.
> **Lamp 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 direct from the control panel (menu "Lamp On/Off").
> **Lamp Low Power Delay** - This function enables set the time period after that the lamp power will be reduced if the shutter/dimmer is closed.The delay time can be set up to 600 seconds.Default setting is10s.
> **Green Energy Mode** - The option "On" saves the the energy consumption of the lamp if the light output is dimmed for long time (10 minutes and more).

Lamp Light Sensor --- Select this function to switch the lamp light sensor on or off.The option"On" is for the standard operation.
Important: The option"Off" is for "emergency operation" only if the lamp light sensor is defective and you will wait for a service intervertion! If the lamp light sensor is switched off and at switching the lamp on the electronics will still try to ignite the lamp until it shines (even when the lamp is damaged or absent), on this account some electronics parts could be damaged!

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

> **Display Permanent On** --- This function allows you to keep the display on or to turn off automatically 2 minutes after last pressing any button on the control panel.
> **Display Intensity** --- Select this function to adjust the display intensity (1-min.,10-max.).
> **Display Backlight** --- Select this function to adjust the display backlight (1-min.,10-max.).
> **Display Turned** --- Select this function to turn the display by 180°.

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

Pan/Tilt Feedback --- This function allows to return the 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 the standard operation and the head of the fixture can be demaged!
Note: If the feedback was switched off ,the pan/tilt-position is changed by an external force and the feedback is switched on again,the moving head might not to be synchronized with the DMX signal.You have to make a reset in order to synchronize the moving head with the DMX signal.

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

Fan Modes --- By using this function you can choose 2 types of the fan speed operating modes.
        Auto Cooling --- The fans automatically raise their speed in order to control inside temperature of the lighting, if the temperature inside increases about certain level (the low fan speed reduces the cooling of the lighting). This cycle can repeat several times until the temperature inside is on a suitable level.
        High Cooling --- The cooling fans work on max. speed (max. cooling).This mode we recommend for high ambient temperature (30 °C and more).

Pan/Tilt mode --- Use this menu to set the character of the pan/tilt movement.
        Time mode --- Pan and tilt will move with different speeds and they will come at the same time to end point (pan and tilt sets its optimal speed).
        Speed Mode --- Pan and tilt will move with the same speed as adjusted by the channel 5 (Pan/Tilt speed).E.g. pan will come to the end point and wait for tilt,which has longer track.

Active Blackout while: - Use this function if you wish to close the light output during effect changing.
        Pan/Tilt Moving - This function closes the light output during pan/tilt changing.
        Colour Wheel Moving - This function closes the light output during colour changing.
        Gobo Wheels Moving - This function closes the light output during rot. gobo wheel/static gobo wheel changing.

Dimmer Curve - Select desired dimmer running.
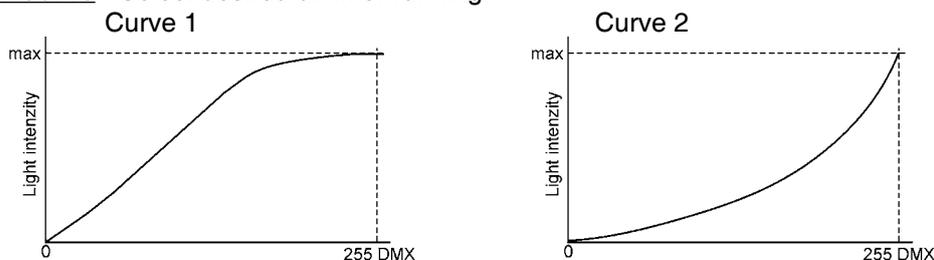
IR Sensor --- Select this function to switch on/off infra-red remote control.

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

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

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

8.4 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.

8.5 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 ColorSpot 700E AT.
        Mode 1 --- This mode is suitable for projections on the wall, ceiling or ground without any head movement.

        Mode 2 --- This mode uses all ColorSpot 700E AT functions including pan/tilt movement and therefore is good for a complete introduction of the fixture.

8.6 Manual mode

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

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

8.7 Stand-alone setting

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

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

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

Disabled --- The option disables "Presetting playback" function.
Test Program --- The option will start built-in test program.
Program 1 --- The option will start created program No.1
Program 2 --- The option will start created program No. 2
Program 3 --- The option will start created program No. 3

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

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

Test Program In Loop --- The option starts built-in test program.
Program 1 In Loop --- The option starts created program No. 1
Program 2 In Loop --- The option starts created program No. 2
Program 3 In Loop --- The option starts created program No. 3

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

Editing Program --- Select this menu to edit or create the program.The ColorSpot 700E AT has one built-in program and the 3 free programs,each up to 99 steps.Each program step has a step time.
Step time-the time,during which effects last in the current step.
Procedure:
1. Select the program you want to edit ("Program 1" - "Program 3") and press [ENTER].
2. Select "Edit Steps" menu and press [ENTER].
3. Select the desired program step ("Step 01" - "Step 99") and press [ENTER].
4 Select the desired item and press [ENTER].Now you can edit DMX value for selected item:

"Pan"- value 0-255
:
:
"Dimmer" - value 0-255
"Step time Time"- value 0-25.5 s

5. Select "Save" or "Save and Copy" and press [Enter] to confirm adjusted values:

"Save" - saving the current prog. step
"Save and Copy" - saving and copying the current prog. step to the next prog. step .

6. Go on next prog. step and repeat this procedure (steps 4 and 5).
After creation the program,you can simply reduced its length (by changing the start/end steps) using the "Start Step" and "End Step" menu.

8.8 Reset functions

The ColorSpot 700E AT can be reset totally or by function modules.Select relevant function to run a reset:
Reset All --- This function enables the fixture to index all effects and return to their standard positions.
Pan/Tilt --- This function resets a pan and a tilt.
Colour System --- This function resets colour wheels.
Zoom/Focus/Frost --- This function resets a zoom,focus and a frost module.
Iris/Effect/Animation Wheel --- This function an iris,effect and an animation wheel.
Dimmer/Strobe --- This function resets a dimmer/strobe module.

8.9 Special functions

Use this menu for special services like adjusting lamp or adjusting effects.
Lamp Adjustment --- This function can be used when you make the fine adjustment of the lamp.If you select this function,all effects will be canceled,shutter will be opened and the dimmer intensity will be set onto 100%.By

using the options "**PAn, Tilt, Zoom**" you can aim the light at a flat surface (wall) and perform the fine lamp adjustment.

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

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

Colour Wheel	Yellow	Rot.gobo wheel	Prism rotation	Zoom
Cyan	CTO filter	Gobo indexing	Animation wheel	Focus
Magenta	Static gobo wheel	Prism	Iris	Dimmer 1
				Dimmer 2

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

Effect	Mode 1	Mode 2	Mode 3	Mode 4	Mode 5	Mode 6
Colour wheel	channel 37	channel 29	channel 35	channel 27	channel 32	channel 25
Cyan	channel 38	channel 30	channel 36	channel 28	channel 33	channel 26
Magenta	channel 39	channel 31	channel 37	channel 29	channel 34	channel 27
Yellow	channel 40	channel 32	channel 38	channel 30	channel 35	channel 28
Static gobo	channel 41	channel 33	channel 39	channel 31	channel 36	channel 29
Rot.gobo wheel	channel 42	channel 34	channel 40	channel 32	channel 37	channel 30
Gobo indexing	channel 43	channel 35	channel 41	channel 33	channel 38	channel 31
Prism	channel 44	channel 36	channel 42	channel 34	channel 39	channel 32
Prism rotation	channel 45	channel 37	channel 43	channel 35	channel 40	channel 33
Animation whee	channel 46	channel 38	channel 44	channel 36	channel 41	channel 34
Iris	channel 47	channel 39	channel 45	channel 37	channel 42	channel 35
Zoom	channel 48	channel 40	channel 46	channel 38	channel 43	channel 36
Focus	channel 49	channel 41	channel 47	channel 39	channel 44	channel 37
Dimmer 1	channel 50	channel 42	channel 48	channel 40	channel 45	channel 38
Dimmer 2	channel 51	channel 43	channel 49	channel 41	channel 46	channel 39

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

Updating software. --- Using this function you can update software in the fixture via PC and serial link.
The following are required in order to update software:
- PC running Windows 95/98/2000/XP or Linux
- DMX Software Uploader
- Flash cable RS 232Robe (No.13050624)
Note1:Software update should execute a qualified person.If you lack qualification, do not attempt the update yourself and ask for help your ROBE distributor.
Note 2:DMX address, IP address ,programs 1-3 and all functions in menu Personality will be set to their default values.

To update software in the fixture:
1.Installation of DMX Software Uploader.
   1.DMX Software Uploader program is available from the ROBE web site at WWW.robe.cz.
   2.Make a new directory (e.g. Robe_Uploader) on your hard disk and download the software to it.
   3.Unpack the program from the archive.Program file has name:DSU_name of corresponding fixture_SoftwareID.If the Robe fixture is produced in magnetic and electronic ballast version, the name of DMX Software Uploader is the same for both versions.
   SoftwareID describes the versions of fixture software included in DMX Software Uploader. Higher number means later software versions.
2.Fixture software updating.
   1.Determine which of your COM port is available on your PC and connect it with to the DMX input of the fixture using the Flash cable. Do not extend this cable. Disconnect the fixture from the other fixtures.
   in DMX chain! Turn on the computer and the fixture. Make sure that the lamp is switched off.

2.Switch the fixture to the update mode by selecting the option Updating Software in menu Special Functions on the fixture control panel.(From this option you cannot return back to the main menu. If you do not want to continue in software update, you have to switch off and on the fixture to leave this option!)

3.It is recommended that you exit all programs before running this Software Uploader.

4.Start the Software Uploader program. Select desired COM and then click Connect button. If the conection is OK, click Start Uploading button to start uploading. It will take several minutes to perform software update.If the option "Incremental Update"isn´t checked ,all processors will be updated (including processors with the same software version).

If you wish to update only later versions of processors, enable the Incremental Update check box. Avoid interrupting the process. Update status is being displayed in the list window.

When the update is finished, the line with the text "The fixture is successfuly updated' will appear in this window and the fixture will reset with the new software.

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

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

9. Power down mode

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

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

<div align="center">

Realy Skip Initial Reset?

Escape/Enter

</div>

Press [ENTER] to activate "Power down mode" without fixture reset.Now you can set features and behaviour of the fixture by using "Fixture Address"menu and "Personality" menu.It is expected,that this mode will be exited by switching the fixture off ,but if you want to go directly to "normal operation mode",execute any fixture reset.

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

10. RDM

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

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

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

The list of commands for ColorSpot 700 AT 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			*

Parameter ID	Discovery command	SET command	GET command
SENSOR_VALUE			*
DISPLAY_INVERT		*	*
DISPLAY_LEVEL		*	*
PAN_INVERT		*	*
TILT_INVERT		*	*
DEVICE_RESET		*	
DMX_PERSONALITY		*	*
DMX_PERSONALITY_DESCRIPTION			*
STATUS_MESSAGES			*
STATUS_ID_DESCRIPTION			*
LAMP_STATE		*	*
LAMP_ON_MODE [1]		*	*
DEVICE_HOURS [2]			*
LAMP_HOURS [2]			*
LAMP_STRIKES [2]			*

[1]...Another options for this command (only for Robe´s fixtures):
                value PARAMETER_DATA=0x84 - lamp OFF by DMX value on DMX channel
                value PARAMETER_DATA=0x88 - lamp OFF if DMX is not present
[2]...Commands relative resetable values

11. Error and information messages

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

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

Active Lamp Timer
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 28 seconds. The ColorSpot 700E AT 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 "Lamp Sensor"in menu Personality) is switched Off.

Lamp Error
The ignition of the lamp is seven times unsuccessful (the "*Active Lamp Timer*" message appeared six times before), and the display shows **"***Lamp Error***"**, 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 and contact your dealer if the situation was not caused by the lamp.
Caution: The message is disabled if the lamp light sensor (function "Lamp Sensor" in menu Personality) is switched off.

Lamp Sensor Error
This message informs the lamp light sensor is failed.
Caution: The message is disabled if the lamp sensor (function Lamp Sensor in menu Personality) is switched Off.

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

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

Short Power Error

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

Supply Frequency Error

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

Temper.Sensor Error

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

Power down mode

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

The following error messages are separated into 2 groups:
xxxx xxxx Error 1 (e.g.*Colour Wheel Error 1*)
xxxx xxxx Error 2 (e.g.Colour Wheel Error 2)
There are some possible reasons of faults:

Message	Characteristic fault
xxxx xxxx Error 1	Magnetic sensor is permanently On (e.g. leading wire is short-circulated,defective stepping motor, defective control circuit on the PCB)
xxxx xxxx Error 1/xxxx xxxx Error 2	Magnetic sensor is permanently Off(e.g.leading wire is disconnected, defective magnetic sensor,missing magnet),defective stepping motor

Colour Wheel Error 1 (Colour Error 2)

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

Cyan Lamella Error 1 (Cyan Error 2)

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

Magenta Lamella Error 1 (Magenta Error 2)

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

Yellow Lamella Error 1 (Yelow Error 2)

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

CTO Lamella Error 1 (CTO Lamella Error 2)

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

Strobe 1 Error 1 (Strobe 1 Error 2)

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

Strobe 2 Error 1 (Strobe 2 Error 2)

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

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.

Prism Rot. Error 1 (Effect Rot. Error 2)

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

Zoom Error 1 (Zoom Error 2)

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

position.

Gobo Wheel Error 1 (Rot.Gobo Wheel 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 Index. Error 1 (Rot. Gobo Index. 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 Wheel Error 2)
The messages will appear after the reset of the static gobo wheel if this wheel is not located in the default position.

Animate wheel Error 1 (Animate Error 2)
The messages will appear after the reset of the animation 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 iris lamellas are not located in the default positions.

Pan Error 1 (Pan Error 2)
The messages will appear after the reset of the yoke if the yoke is not located in the default position.

Tilt Error 1 (Tilt Error 2)
The messages will appear after the reset of the head if the head is not located in the default position.

12. Technical specifications

Electrical:

Power supply:.........................electronic auto-ranging
Input voltage range:...............100-240 V AC, 50/60 Hz
Live Fuse:..............................T 6.3 A@230V, T 10 A@120V
Neutral Fuse:..........................T 6.3 A@230V,T 10A@120V

Power consumption:.........930 VA

Lamp:

Approved model:Philips MSR Gold 700 FastFit ,750 hours
Base:PGJX 50

Ballast:

Electronic

Optical System:

High luminous-efficiency glass reflector
zoom range: 15°-51°

Colour wheel:

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

CMY colour mixing module

Smooth CMY colour mixing system
Colour temperature correction filter lowers the colour temperature to 3200 K
30 colour macros

Static gobo wheel:

9 replaceable 'SLOT&LOCK' metal gobos plus an open position, outside diameter=26.9mm, image diameter=22.5mm, aluminium, thickness=0.5 mm

Rotating gobo wheel:

7 glass gobos (4 black and white,2 multicolour,1 effect glass)can be indexed and rotated in both directions at different speeds
Gobo wheel continuosly rotation

Glass gobos:outside diameter=26.8 mm, max.thickness=4mm, high temperature borofloat or better glass
"Slot&lock" system for easy replacement of gobos

Animation wheel:

Variable rotation angle,continuous rotation,indexing
Easy replaceable

Prism:

Rotating 3-facet prism,indexable 360° with continuous rotation

Iris: Motorized (steplessly adjustable) iris for different beam diameters

Frost filter:

Separate,variable frost filter

Zoom

Linear motorized zoom:

Strobe:

Strobe effect with variable speed (max.15 flashes per second)

Dimmer:

Smooth dimmer from 0 - 100 %

Electronics:

Control via graphic LCD display and Robe navigation system
Readout fixture and lamp usage,receiving DMX values,temperature, etc
Built-in analyzer for easy fault finding,error messages
Remotely switching on/off the lamp
Bilt-in demo sequences
Black-out while head moving or color changing
Silent fans cooling,
Self-resetable thermo-fuse
Ethernet operation (Art-Net communication protocol)
Stand-alone operation
Suport of RDM (Remote Device Management) protocol
Protocol USITT DMX 512,
6 DMX modes (24, 26,28,31,34 or 36 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: 4 pairs of 1/4-turn locks
Mounting horizontally or vertically via 2 Omega brackets
Safety chain/cord attachment point

Temperatures

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

Minimum distances

Min.distance from flammable surfaces: 1 m
Min.distance to lighted object: 3 m

Total heat dissipation

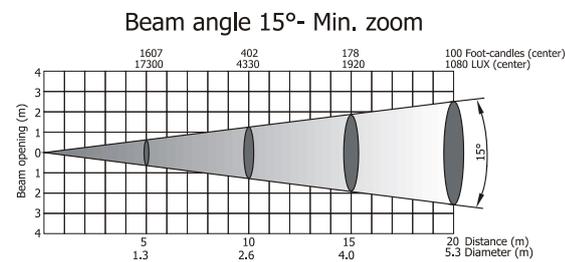3280 BTU/h (calculated)

Weight (net):

32 kg

Dimensions(mm)
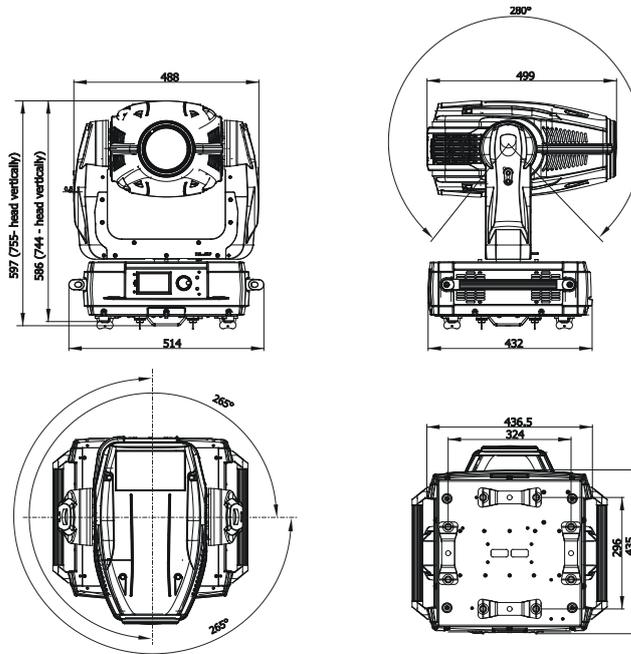
Accessories

- Omega holder (No.99010420)...............................2 pcs
- Gobo-set 15 (No.15050024)..................................1 pcs

Optional Accessories

- Flash cable RS232/DMX (No.13050624)

Beam path

Beam angle 15°- Min. zoom

Beam angle 15° with frost

Beam angle 51°- Max. zoom

Beam angle 51° with frost
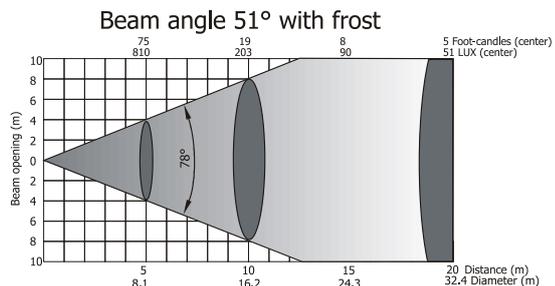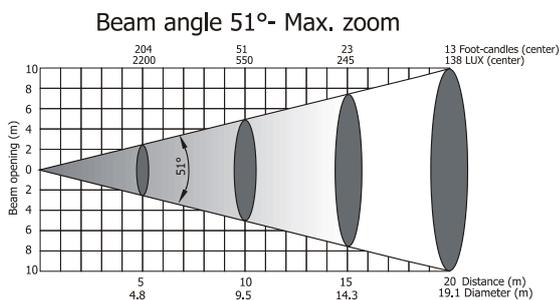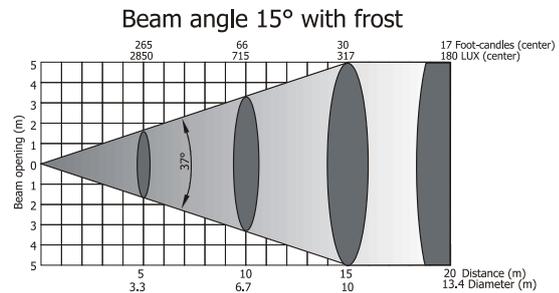
13. Maintenance and cleaning

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

> ### DANGER !
> ### Disconnect from the mains before starting any maintenance work

The front 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, CMY lamelas,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 from the front fans with a vacuum cleaner, compressed air or you can wash them and put back dry.

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

air filter

Velcro fastener

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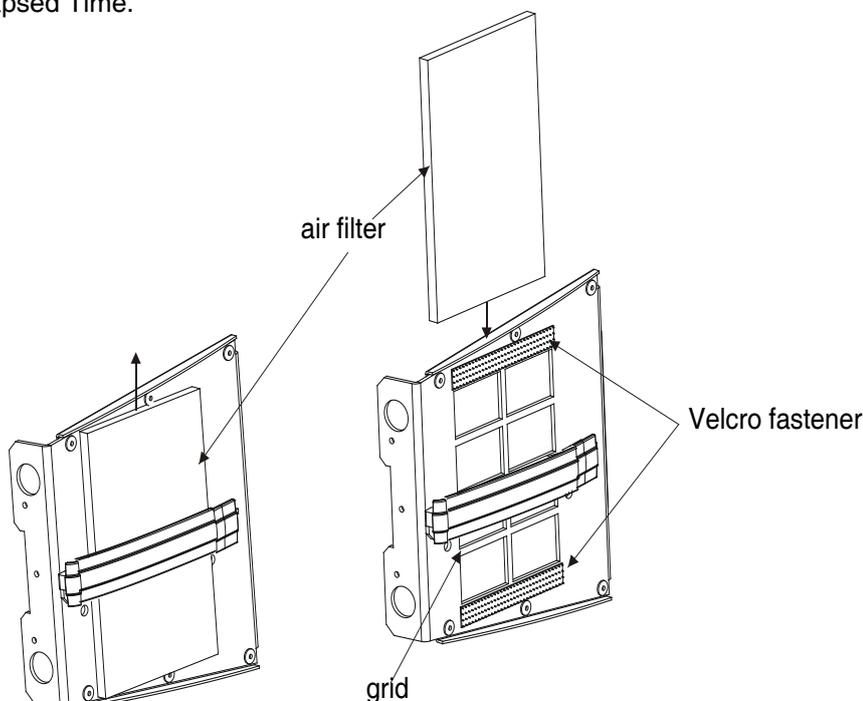
Replacing the air filter in the fixture base.
1)Disconect the fixture from power.
2)Remove side fans cover by loosening the 4 quarter-turn fasteners.
3)Remove the air filter from the cover.
4)Clean or replace the air filter.
5)Place the filter on the cover and put this cover back
6)Reset the elapsed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

air filter

cover

quarter-turn fasteners
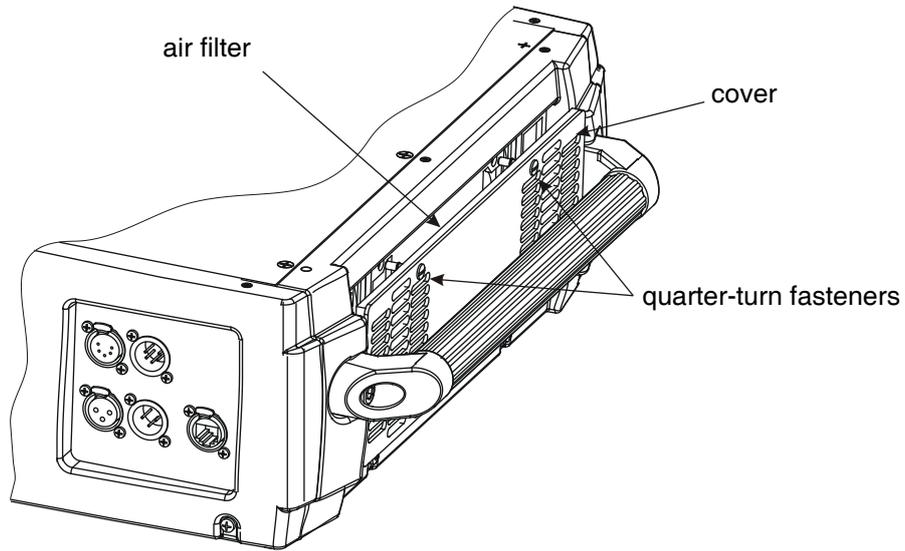
Replacing the fuse

If the lamp burns out, the fine-wire fuse of the device might fuse, too. Only replace the fuse by a fuse of same type and rating.

Before replacing the fuse, unplug mains lead.

Procedure:

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

Specifications are subject to change without notice.
November 11, 2010

14.Appendix

14.1 Standard effect configuration

Static gobo wheel
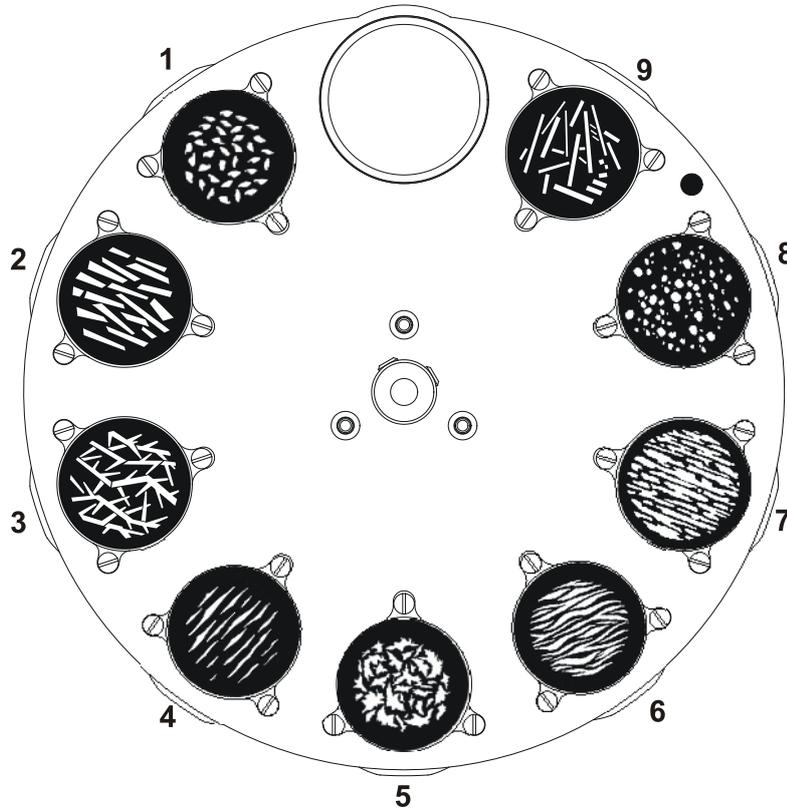
Rot. gobo wheel

Gobo-set 15 (No.15050024)

15020142 15020143 15020184 15020185 15020186 15020187 15050001 17030141

27 mm
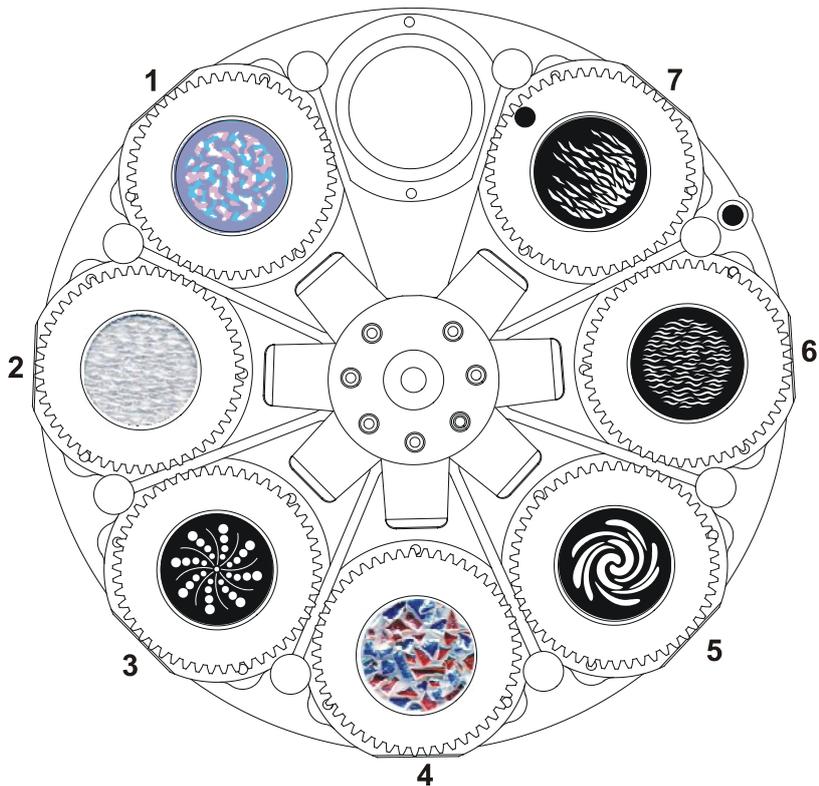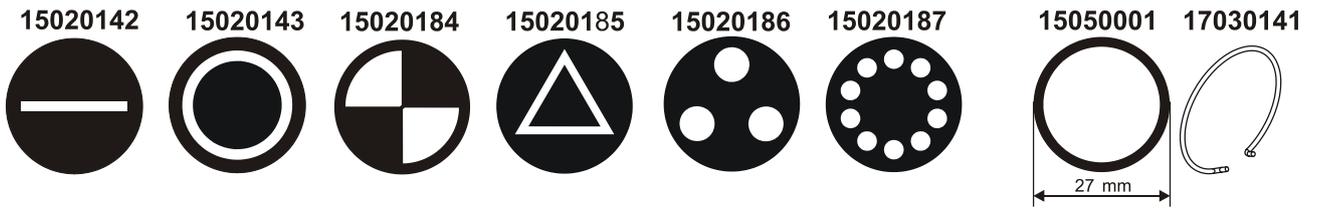
Animation wheel

99011769
Radial breakup
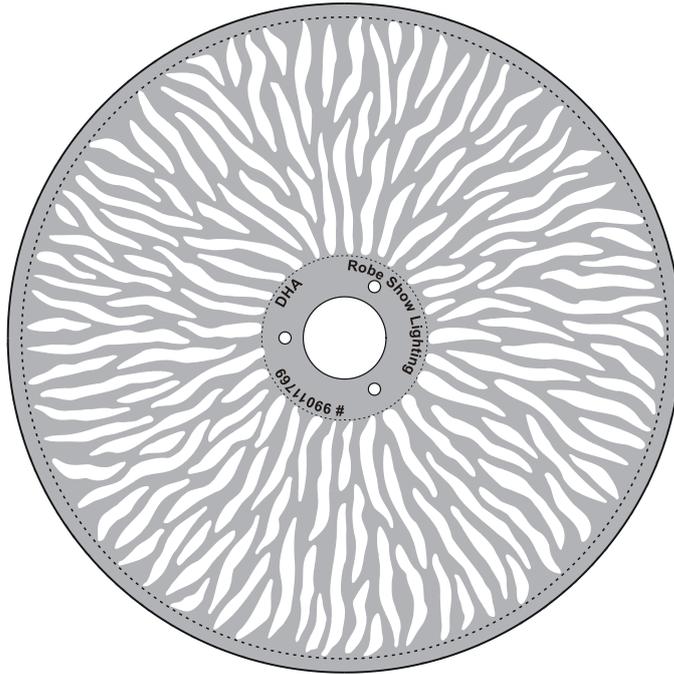
14.2 Optional animation wheels

99011871
Spiral breakup
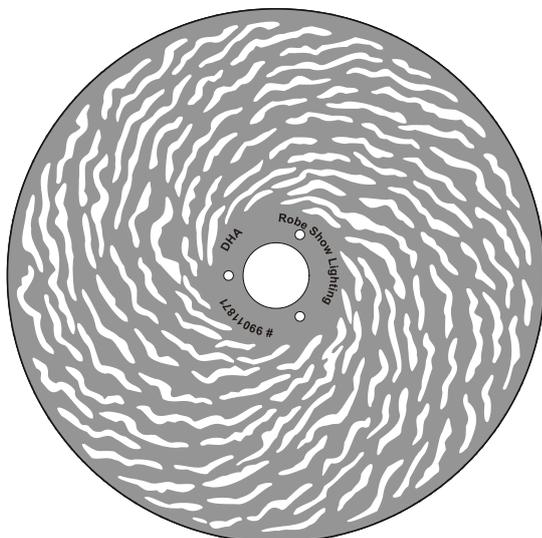
99011872
Linear breakup

42
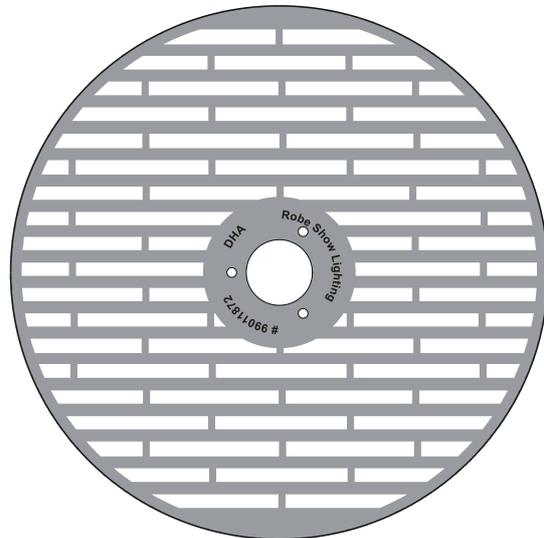
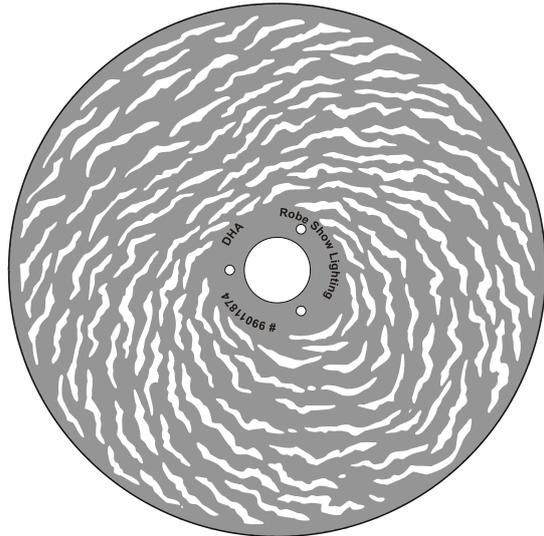**99011873**
Cloud breakup

99011874
Elliptical breakup

99011875
Dot breakup
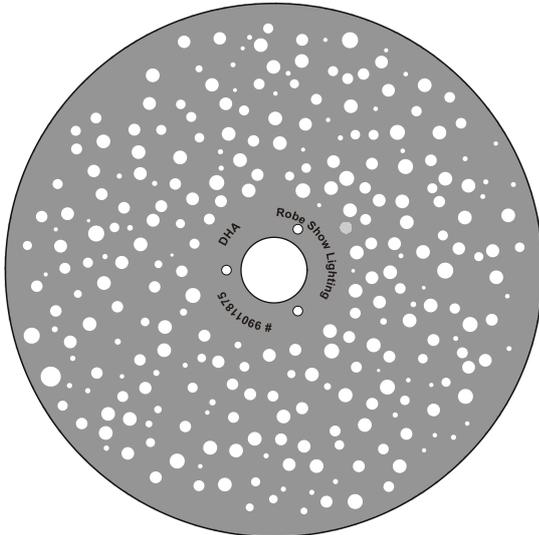
99011876
Coarse tangential