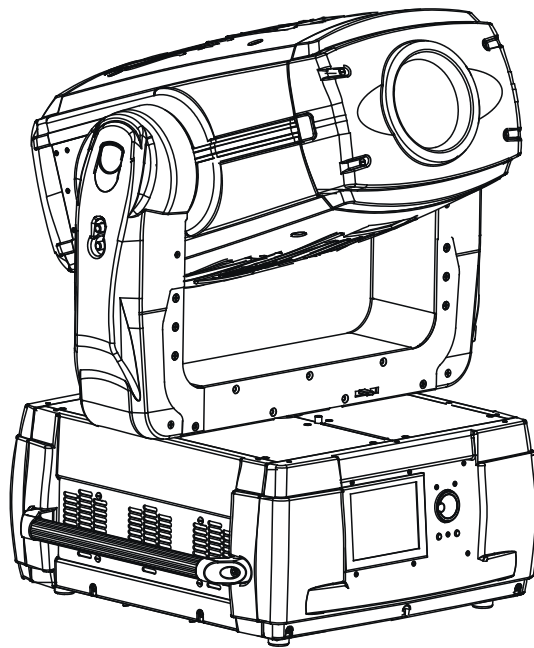


ROBE

Digital Spot 5000^{DT}



***DT* series**

USER MANUAL Version 2.0

DigitalSpot 5000 DT

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CAUTION!

***Keep this device away from rain and moisture!
Unplug mains lead before opening the housing!***

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

1. Safety instructions

Every person involved with installation and maintenance of this device have to:

- be qualified
- follow the instructions of this manual

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.

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

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

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

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

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

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

**To switch the DigitalSpot 5000 DT off , always use the fixture control panel(main menu, option "Fixture Off") or DMX controller (channel 8, valus 240-249).
Never switch the fixture off by pulling out the power plug from the socket otherwise the device may be damaged (projector lamp, operating system...)**

2. Operating determinations

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

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

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

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.

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

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

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

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

3. Introduction

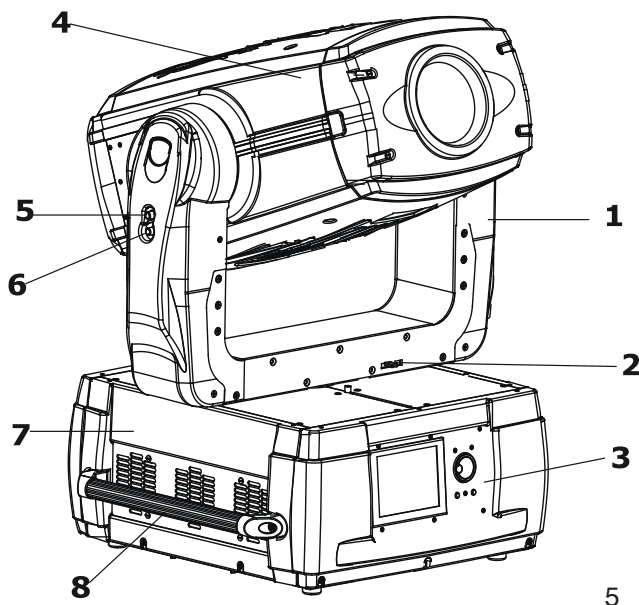
The DigitalSpot 5000 DT features moving head with a video projection and automated lighting technologies including a DMX controllable digital media server installed in a fixture's base. The built-in 32-bit Graphics Engine utilizes Linux and DirectX application programming interface to provide extensive image control of graphic objects.

The Digital spot 5000 DT uses DMX512 protocol to control hardware functions like pan, tilt, and zoom, as well as media fixture capabilities including loading images and movies. The graphics engine allows you manipulate position, scale, rotation, apply visual effects and color mix each image.

S-Video and VGA inputs for direct input to data projectors are handy for performing presentations.

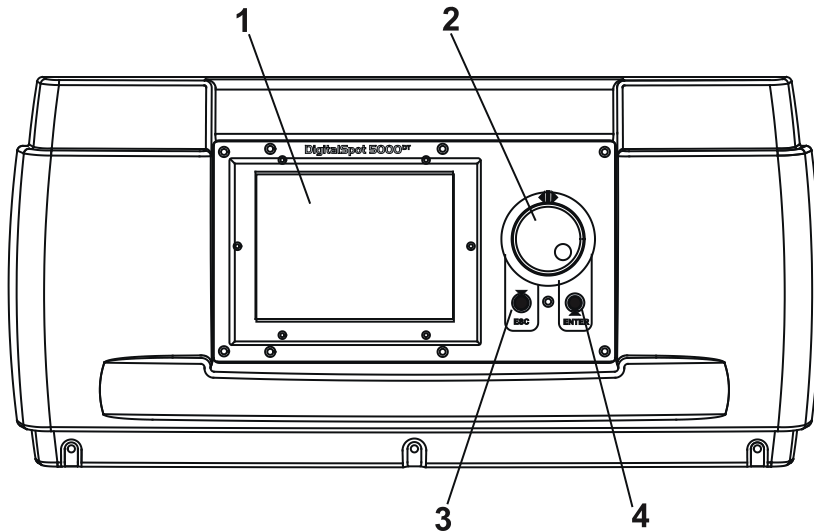
S-Video and Composite live inputs can be used in graphics effects of DigitalSpot 5000DT

4. Description of the device



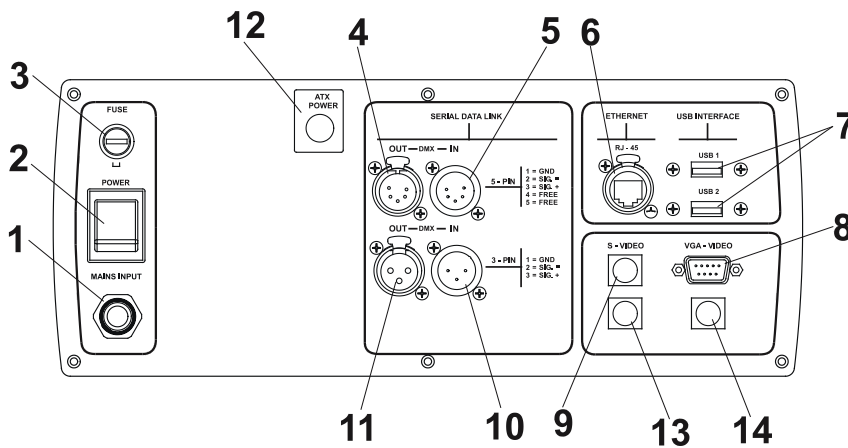
- 1 - Yoke
- 2 - Pan lock/unlock lever
- 3 - Front panel
- 4 - Moving head
- 5 - Tilt lock button (red)
- 6 - Tilt unlock button (green)
- 7 - Base
- 8 - Handle

The head can be locked for transportation- the tilt lock button (5) is pushed and the pan lock/unlock lever (2) is in lock position. To unlock the head, press the tilt unlock button (6) and move the pan lock/unlock lever to unlock position.



Front panel

- 1 - Display
- 2 - RNS control wheel
- 3 - Escape button
- 4 - Enter button



Rear panel

- 1 - Power cord
- 2 - Power switch
- 3 - Fuse
- 4 - 5-pin DMX output
- 5 - 5-pin DMX input
- 6 - Ethernet input
- 7 - USB inputs
- 8 - 15-Pin VGA input-dataprojec.
- 9 - S-video input-dataprojector
- 10 - 3-pin DMX input
- 11 - 3-pin DMX output
- 12 - ATX switch
- 13 - S-video input- graphics engine
- 14 -Composite input-graphics engine

4.1 Video inputs

The VGA (8) and S-VIDEO (9) inputs provide direct connection to data projector. These inputs are allocated for static presentation (standard using of the data projector) because data going through these inputs cannot be processed in graphics engine, it means that the most of graphics effects from DMX protocol are not active. In this mode function Keystones from DMX protocol does not work. Nevertheless is possible to set keystones by means of menu "Manual Control"(Manual Control ->Dataprojector Control and in this menu you have to select Keystonning. After ending presentation is necessary to set Keystone into original state).

The S-VIDEO (13) and COMPOSITE (14) inputs enable to process data in graphics engine, it is means that you can use all spectrum of effects that offer DMX protocol including digital Keystones.

5. Powering on the DigitalSpot 5000 DT

To power on the fixture, simply connect it to the AC mains supply (the power switch on the rear side of the fixture has to be in "On" position).

6. Shutting down the DigitalSpot 5000 DT

There are two recommended ways to shutdown the fixture:

1. A DMX controller can switch off the projector lamp and shut down the fixture with the "Lamp Off, Fixture Off" option on the control channel 8 (see DMX protocol).
2. The option "Fixture Off" in main menu of DigitalSpot 5000 DT switches off the projector lamp and shuts down the fixture.

**Removing power directly without the shutdown procedure
can reduce fixture reliability!**

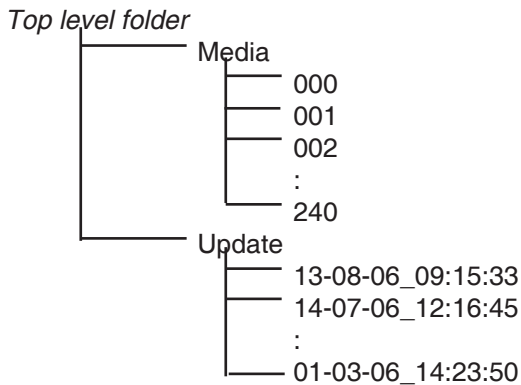
7. Folders organization

The DigitalSpot 5000 DT has a file system that holds the images and movies. These files are saved in a **Media** folder. This folder contains subfolders (000,001...240) and valid files may go into those subfolders.

The images and video clips can be in one of the following formats: .bmp; .jpg; .tga; .png; .mpg1; .mpg2.

The folder named "**Update**" contains subfolders with the update files and names of subfolders are dedicated from date when software update has been executed.

Folders structure:



All the above-mentioned folders are shared.

8. Rigging the fixture

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

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

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

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

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

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

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

Allow the fixture to cool for ten minutes before handling.

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

IMPORTANT! OVERHEAD RIGGING REQUIRES EXTENSIVE EXPERIENCE, including (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 fixture has to be installed out of the reach of people.

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

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

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

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

**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 device should be placed horizontally on a plain surface or upside down on a truss:

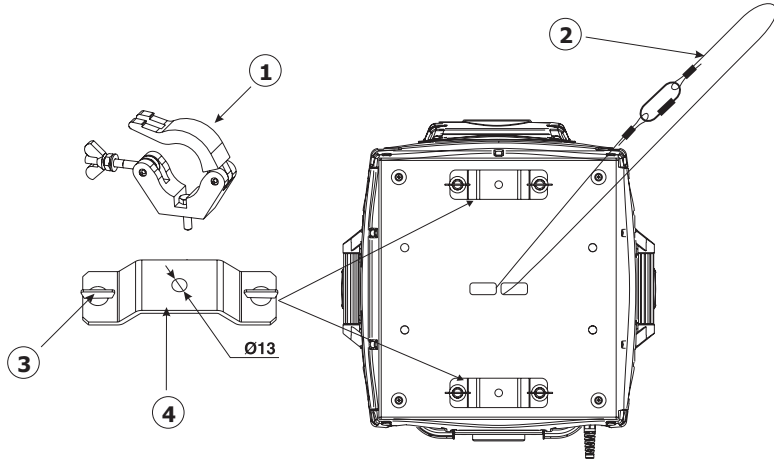
The Omega holders can be placed in 4 positions on the bottom of the base. Use the clamps (not supplied) with screws M12.

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.

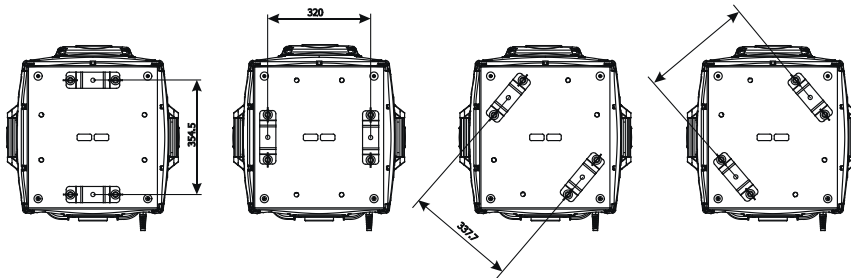
Fixation via the omega holders

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



Possible omega holder 4 positions:



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

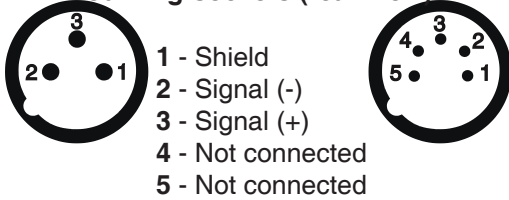
9. DMX-512 connection

The fixture is equipped with both 3-pin and 5-pin XLR sockets for DMX input and output. The sockets are wired in parallel.

Only use a shielded twisted-pair cable designed for RS-485 and 3-pin or 5-pin XLR-plugs and connectors in order to connect the controller with the fixture or one fixture with another.

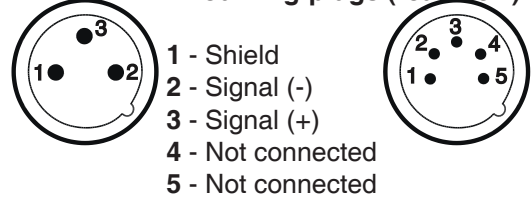
DMX - output

XLR mounting-sockets (rear view):



DMX-input

XLR mounting-plugs (rear view):

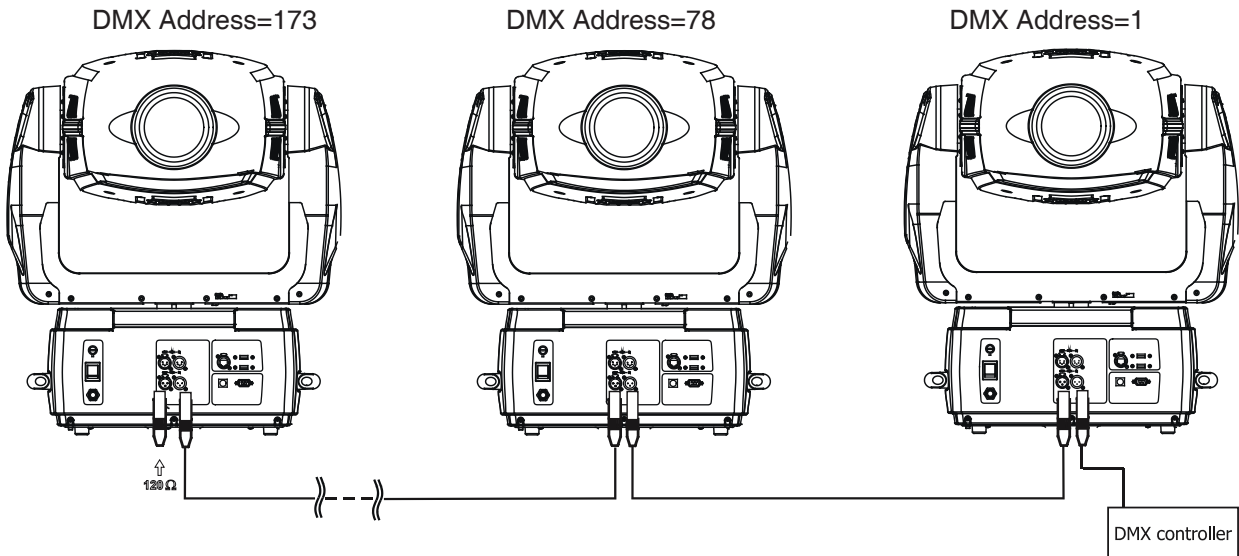


If you are using the standard DMX controllers, you can connect the DMX output of the controller directly with the DMX input of the first fixture in the DMX chain. If you wish to connect DMX controllers with other XLR-outputs, you need to use adapter cables.

Building a serial DMX chain:

1. 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.
2. Use menu "DMX Settings" to set the DMX start address on all fixtures (see "Fixture address" menu).
3. The option "Activate DMX mode" has to be confirmed in "DMX Settings" menu on all fixtures.

Example:



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 (or 5pin) XLR plug and plug it into the DMX output of the last fixture.

10. Ethernet connection

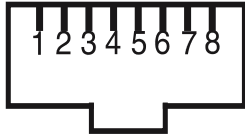
The fixtures on a data link are connected to the Ethernet with Art-Net communication protocol. The controlling software from PC (or lighting console) has to support Art-Net protocol.

Art-Net communication protocol is 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.

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

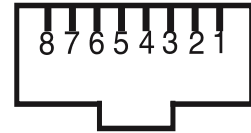
The DigitalSpot 5000 DT is equipped with 8-pin RJ-45 socket for Ethernet input. Use a network cable category 5 (with four "twisted" wire pairs) and standard RJ-45 plugs in order to connect the fixture to the network.

RJ-45 socket (front view):



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

RJ-45 plug (front view):



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



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

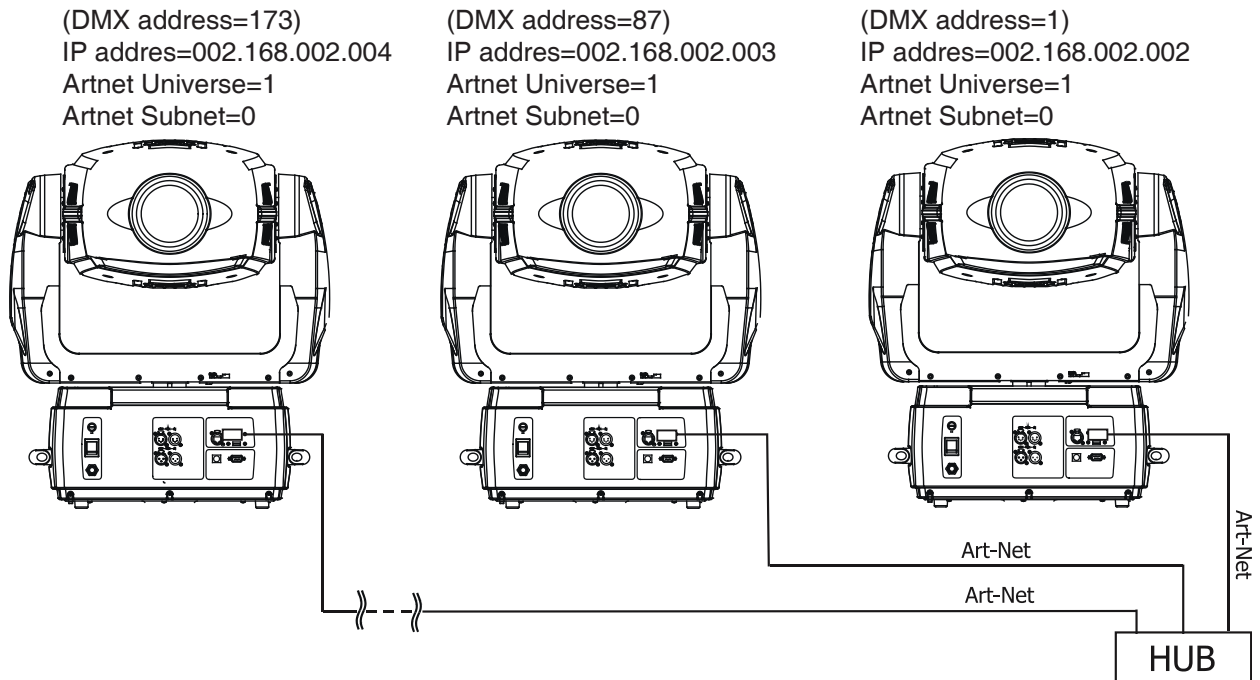


Ethernet operation

Connect the Ethernet inputs of all fixtures in the fixture chain with the network.

Use menu "Artnet Settings" to set the IP address, artnet universe and the artnet subnet on all fixtures (see "Fixture address" menu).

The option "Activate Artnet mode" has to be confirmed in "Artnet Settings" menu on all fixtures.



11. DigitalSpot 5000 DT - DMX Protocol - version 3.5

Channel	Value	Function	Type of control
1	0 - 255	Pan Pan movement by 530°	proportional
2	0 - 255	Pan Fine Fine control of pan movement	proportional
3	0 - 255	Tilt Tilt movement by 280°	proportional
4	0 - 255	Tilt fine Fine control of tilt movement	proportional
5	0	Pan/Tilt speed , Pan/Tilt time Max. speed (tracking mode)	step
	1 - 255	<i>P./T. speed-set Speed Mode in menu: Pan/Tilt Mode</i> Speed from max. to min. (vector mode)	proportional
	1 - 255	<i>P./T. time - set Time Mode in menu: Pan/Tilt Mode</i> Time from 0.1 s to 25.5 s.	proportional
6	0 - 9	Pan/Tilt macro selection Disabled pan/tilt macro	step
	10 - 31	Reserved	step
	32 - 63	Figure of circle (from small to large)	proportional
	64 - 95	Figure of horizontal eight (from small to large)	proportional
	96 - 127	Figure of vertical eight (from small to large)	proportional
	128 - 159	Figure of rectangle (from small to large)	proportional
	160 - 191	Figure of triangle (from small to large)	proportional
	192 - 223	Figure of star (from small to large)	proportional
224 - 255	Figure of cross (from small to large)	proportional	
7	0	Pan/Tilt macro speed No macro generation	step
	1 - 127	Macro generation from fast to slow-forwards	proportional
	128 - 129	No macro generation	step
	130 - 255	Macro generation from slow to fast-backwards	proportional
8	0 - 49	Power/Special functions Reserved <i>To activate following functions, hold DMX value 3 sec. and digital iris must be closed at least 3 sec. (channel 75 must be at 255 DMX). Corresponding menu items are temporarily overridden.</i>	
	50 - 59	Pan/Tilt speed mode	step
	60 - 69	Pan/Tilt time mode	step
	70 - 79	Blackout while pan/tilt moving	step
	80 - 89	Disabled blackout while pan/tilt moving	step
	90 - 94	Ceiling projection On	step
	95 - 99	Ceiling projection Off	step
	100 - 104	Rear projection On	step
	105 - 109	Rear Off	step
	110 - 114	DMX In	step
	115-119	Artnet In	step
	120-129	Reserved	
		<i>To activate following functions,hold DMX value 3 seconds.</i>	
	130 - 139	Lamp On	step
	140 - 149	Pan/Tilt reset	step
	180 - 189	Focus/Zoom reset	step
	190 - 199	Analog iris reset	step
	200 - 209	Total reset	step
	210 - 215	Graphic engine reset/software update executing	step
	216 - 229	Reserved	
	230 - 239	Lamp Off	step
	240 - 249	Lamp Off, Fixture Off (<i>hold DMX value 5 seconds</i>)	step
250 - 255	Reserved		
9	0-63	Video input selection Internal graphic engine to projector	step
	64-127	External VGA to projector	step
	128-191	External S-video to projector ₁₂	step
	192-255	Reserved	step

Channel	Value	Function	Type of control
10	0-255	Zoom Zoom from min. to max. <i>(128-default)</i>	proportional
11	0-255	Focus Continuous adjustment from far to near <i>(128-default)</i>	proportional
12	0 0-255	Analog Iris Open From max. diameter to min. diameter	step proportional
13	0-255	KeyStone Top Left X Move top left corner X value to center <i>(0-default)</i>	proportional
14	0-255	KeyStone Top Left Y Move top left corner Y value to center <i>(0-default)</i>	proportional
15	0-255	KeyStone Top Right X Move top right corner X value to center <i>(0-default)</i>	proportional
16	0-255	KeyStone Top Right Y Move top right corner Y value to center <i>(0-default)</i>	proportional
17	0-255	KeyStone Bottom Right X Move bottom right corner X value to center <i>(0-default)</i>	proportional
18	0-255	KeyStone Bottom Right Y Move bottom right corner Y value to center <i>(0-default)</i>	proportional
19	0-255	KeyStone Bottom Left X Move bottom left corner X value to center <i>(0-default)</i>	proportional
20	0-255	KeyStone Bottom Left Y Move bottom left corner Y value to center <i>(0-default)</i>	proportional
21		<i>Reserved</i>	
Gobo layer 1			
22	0 - 255	Dimmer Dimmer intensity from 0% to 100% <i>(255-default)</i>	proportional
23	0-20 21-240 241-250 251 252-255	Gobo Folder selection Factory folders User folders Reserved Live input (grab. card)-see channel 24 Reserved	step step step step step
24	0 1 - 255 0 1-20 21-40 41-60 61-80 81-100 101-120 121-255	Gobo selection White 255 Gobos (one by one) If Live input (251 DMX) is selected on channel 23: White screen Video composite input-PAL system SVIDEO input- PAL system Video composite input-NTSC system SVIDEO input- NTSC system Video composite input-SECAM system SVIDEO input- SECAM system Reserved	step step step step step step step step step
25	0-255	In Frame High Defines the beginning of a media file segment as a percentage of the movie length <i>(0-default)</i>	proportional
26	0-255	In Frame Low Defines the beginning of a media file segment as a percentage of the movie length <i>(0-default)</i>	proportional
27	0-255	Out Frame High Defines the end of a media file segment as a percentage of the movie length <i>(255-default)</i>	proportional
28	0-255	Out Frame Low Defines the beginning of a media file segment as a percentage of the movie length <i>(255-default)</i>	proportional

Channel	Value	Function	Type of control
29	0	Gobo control Play forward if dimmer (on layer 1) > 0, looping continuously	step
	1	Play forward if dimmer (on layer 1) > 0, hold on last frame	step
	2	Pause	step
	3	Play forward in continuous loop	step
	4	Play forward once and hold on the last frame	step
	5	No function	
	6	Scrub (Display) the selected In Frame	step
	7	Scrub (Display) the selected Out Frame	step
	8	No function	
	9	No function	
	10-255	Reserved	
30	0	Playback Speed Normal Speed	step
	1-127	Slow speeds from slowest ---> normal	proportional
	128	Normal Speed	step
	129-255	Faster than Normal ---> Fastest	proportional
31	0 - 63	Gobo rotation and indexing Clockwise rotation from fast to slow	proportional
	64-127	Indexing	proportional
	128	No rotation-centre (128-default)	step
	129-192	Indexing	proportional
	193-255	Anticlockwise rotation from slow to fast	proportional
32	0 - 255	Gobo fine indexing (rotation) Fine indexing (rotation)	proportional
33	0	Gobo effect 1 Selection No effect	Type of effect control
	1	Zoom sinus	speed
	2	Zoom bump in fade out	speed
	3	Zoom fade in bump out	speed
	4	Reserved	
	5	Zoom in fade	speed
	6	Zoom out fade	speed
	7	Scale xy sinus	speed
	8	Reserved	
	9	Reserved	
	10	Reserved	
	11	XY pos. circle counter-clockwise	speed
	12	XY pos. circle clockwise	speed
	13	XY pos. scroll up	speed
	14	XY pos. scroll down	speed
	15	XY pos. scroll left	speed
	16	XY pos. scroll right	speed
	17	Right-left diag. down scroll	speed
	18	Right-left diag. up scroll	speed
	19	Left-right diag. down scroll	speed
	20	Left-right diag. up scroll	speed
	21	X rotate	speed
	22	Y rotate	speed
	23	XY rotate	speed
	24	XY inv. rotate	speed
	25	X inv. y rotate	speed
	26	Tile xy	amount
	27	Tile xy	speed
	28	XYZ rot. cube	speed
	29	XYZ rot. sphere	speed
	30	X rot. cylinder	speed
	31	Y rot. cylinder	speed
	32	Reserved	
	33	Kaleidoscope	none

Channel	Value	Function	Type of control					
33	34	Squeeze in	none					
	35	Squeeze out	none					
	36	Bend X	none					
	37	Bend Y	none					
	38	Tile frame	none					
	39	Frame	none					
	40	Plane ip X	none					
	41	Plane ip Y	none					
	42	Plane ip XY	none					
	43	Plane mirror X top	none					
	44	Plane mirror X bottom	none					
	45	Plane mirror Y left	none					
	46	Plane mirror Y right	none					
	47	Plane mirror XY segment 1	<table border="1"> <tr> <td>segment 1</td> <td>segment 2</td> </tr> <tr> <td>segment 4</td> <td>segment 3</td> </tr> </table>	segment 1	segment 2	segment 4	segment 3	none
	segment 1	segment 2						
	segment 4	segment 3						
	48	Plane mirror XY segment 2		none				
	49	Plane mirror XY segment 3	none					
	50	Plane mirror XY segment 4	none					
	51	Plane tile 2x	none					
	52	Plane tile 3x	none					
	53	Plane tile 4x	none					
	54	Plane tile 5x	none					
	55	Plane cross tile 2x	none					
	56	Plane cross tile 2x inverse	none					
	57	Plane cross tile 3x	none					
	58	Plane cross tile 3x inverse	none					
	59	Plane cross tile 4x	none					
	60	Plane cross tile 4x inverse	none					
	61	Plane cross tile 5x	none					
	62	Plane cross tile 5x inverse	none					
	63	Plane cross tiler 5x	none					
	64	Plane cross tiler 5x inverse	none					
	65	Plane bar	none					
	66	Plane bar inverse	none					
	67	Plane bar left-right	none					
	68	Plane bar top-bottom	none					
	69	<i>Reserved</i>	none					
	70	<i>Reserved</i>	none					
	71	Gobo disc	none					
	72	Gobo disc ip X	none					
	73	Gobo disc ip Y	none					
	74	Gobo disc ip XY	none					
	75	Gobo disc mirror X	none					
	76	Gobo disc mirror Y	none					
	77	Gobo disc mirror XY	none					
	78-79	<i>Reserved</i>						
	80	Plane mirror X top inverse	none					
	81	Plane mirror X bottom inverse	none					
	82	Plane mirror Y left inverse	none					
83	Plane mirror Y right inverse	none						
84	Plane mirror XY inverse	none						
85	Plane mirror X-inverse,Y	none						
86	Plane mirror X,Y-inverse	none						
87-255	<i>Reserved</i>							
34	0 - 255	Gobo effect 1 control Control of amount/speed	proportional					
35	0	Gobo effect 2 Selection No effect	Type of effect control					
	1	Colour to black and white						
	2	Colour to black and white inverse						
	3	Black and white to black and white inverse						
	4	Inversion						

Channel	Value	Function	Type of control
35	5	Black Mask	amount
	6	Black Mask inverse	amount
	7	Contrast	amount
	8	Brightness	amount
	9	RGB to GBR	amount
	10	RGB to BRG	amount
	11	RGB to RBG	amount
	12	Black and white to black and white inverse timed	speed
	13	Colour to black and white timed	speed
	14	Colour to inverse timed	speed
	15	Cycle	speed
	16	Cycle inverse	speed
	17	<i>Reserved</i>	
	18	<i>Reserved</i>	
	19	Colour Key	amount
	20	Colour Key inverse	amount
	21	Key Black	amount
	22	Key Black inverse	amount
	23	Key White	amount
	24	Key White inverse	amount
	25	White ash	speed
	26	Black ash	speed
	27	Alpha ash	speed
	28	Invert ash	speed
	29	BW ash	speed
	30	Black and white to black and white inverse Flash	speed
	31	Gradient Wipe X	speed
	32	Gradient Wipe Y	speed
	33-39	<i>Reserved</i>	
	40	Gaussian filter	amount
	41	Mean filter	amount
42	Laplacian filter	amount	
43	Emboss filter	amount	
44	Sharpness filter	amount	
45-255	<i>Reserved</i>		
36	0 - 255	Gobo effect 2 control Control of amount/speed	proportional
37		<i>Reserved</i>	
38		<i>Reserved</i>	
39	0-127 128 129-255	Gobo Position X coarse Movement forward Centre (128-default) Movement backward	proportional step proportional
40	0-255	Gobo position X fine Position X fine	proportional
41	0-127 128 129-255	Gobo position Y coarse Movement down Centre (128-default) Movement up	proportional step proportional
42	0-255	Gobo position Y fine Position Y fine	proportional
43	0-127 128 129-255	Gobo zoom X coarse Narrowing Centre (128-default) Widening	proportional step proportional
44	0-255	Gobo zoom X fine Zoom X fine	proportional

Channel	Value	Function	Type of control
45	0-127 128 129-255	Gobo zoom Y coarse Narrowing Centre (128-default) Widening	proportional step proportional
46	0-255	Gobo zoom Y fine Zoom Y fine	proportional

Gobo layer 2			
Channel	Value	Function	Type of control
47	0-255	Dimmer Dimmer intensity from 0% to 100% (255-default)	proportional
48	0-20 21-240 241-250 251 252-255	Gobo Folder selection Factory folders User folders Reserved Live input (capture card)- see channel 49 Reserved	step step step step step
49	0 1-255 0 1-20 21-40 41-60 61-80 81-100 101-120 121-255	Gobo selection White 255 Gobos (one by one) If Live input (251 DMX) is selected on channel 48: White screen Video composite input-PAL system SVIDEO input- PAL system Video composite input-NTSC system SVIDEO input- NTSC system Video composite input-SECAM system SVIDEO input- SECAM system Reserved	step step step step step step step step step step
50	0-255	In Frame High Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
51	0-255	In Frame Low Defines the beginning of a media file segment as a percentage of the movie length (0-default)	proportional
52	0-255	Out Frame High Defines the end of a media file segment as a percentage of the movie length (255-default)	proportional
53	0-255	Out Frame Low Defines the end of a media file segment as a percentage of the movie length (255-default)	proportional
54	0 1 2 3 4 5 6 7 8 9 10-255	Gobo control Play forward if dimmer (on layer 2) > 0, looping continuously Play forward if dimmer (on layer 2) > 0, hold on last frame Pause Play forward in continuous loop Play forward once and hold on the last frame No function Scrub (Display) the selected In Frame Scrub (Display) the selected Out Frame No function No function Reserved	step step step step step step step
55	0 1-127 128 129-255	Playback Speed Normal Speed Slow speeds from slowest ---> normal Normal Speed Faster than Normal ---> Fastest	step proportional step proportional
56	0 - 63 64-127 128 129-192 193-255	Gobo rotation and indexing Clockwise rotation from fast to slow Indexing No rotation-centre (128-default) Indexing Anticlockwise rotation from slow to fast	proportional proportional step proportional proportional
57	0 - 255	Gobo fine indexing (rotation) Fine indexing (rotation)	proportional

Channel	Value	Function	Type of control
		Gobo effect 1 Selection	Type of effect control
58	0	No effect	
	1	Zoom sinus	speed
	2	Zoom bump in fade out	speed
	3	Zoom fade in bump out	speed
	4	Reserved	speed
	5	Zoom in fade	
	6	Zoom out fade	speed
	7	Scale xy sinus	speed
	8	Reserved	speed
	9	Reserved	
	10	Reserved	speed
	11	XY pos. circle counter-clockwise	speed
	12	XY pos. circle clockwise	speed
	13	XY pos. scroll up	speed
	14	XY pos. scroll down	speed
	15	XY pos. scroll left	speed
	16	XY pos. scroll right	speed
	17	Right-left diag. down scroll	speed
	18	Right-left diag. up scroll	speed
	19	Left-right diag. down scroll	speed
	20	Left-right diag. up scroll	speed
21	X rotate	speed	
22	Y rotate	speed	
23	XY rotate	speed	
24	XY inv. rotate	speed	
25	X inv. y rotate	speed	
26	Tile xy	amount	
27	Tile xy	speed	
28	XYZ rot. cube	speed	
29	XYZ rot. sphere	speed	
30	X rot. cylinder	speed	
31	Y rot. cylinder	speed	
32	Reserved		
58	33	Kaleidoscope	none
	34	Squeeze in	none
	35	Squeeze out	none
	36	Bend X	none
	37	Bend Y	none
	38	Tile frame	none
	39	Frame	none
	40	Plane ip X	none
	41	Plane ip Y	none
	42	Plane ip XY	none
	43	Plane mirror X top	none
	44	Plane mirror X bottom	none
	45	Plane mirror Y left	none
	46	Plane mirror Y right	none
	47	Plane mirror XY segment 1	none
	48	Plane mirror XY segment 2	none
	49	Plane mirror XY segment 3	none
	50	Plane mirror XY segment 4	none
	51	Plane tile 2x	none
	52	Plane tile 3x	none
	53	Plane tile 4x	none
	54	Plane tile 5x	none
	55	Plane cross tile 2x	none
	56	Plane cross tile 2x inverse	none
	57	Plane cross tile 3x	none

Channel	Value	Function	Type of control
58	58	Plane cross tile 3x inverse	none
	59	Plane cross tile 4x	none
	60	Plane cross tile 4x inverse	none
	61	Plane cross tile 5x	none
	62	Plane cross tile 5x inverse	none
	63	Plane cross tiler 5x	none
	64	Plane cross tiler 5x inverse	none
	65	Plane bar	none
	66	Plane bar inverse	none
	67	Plane bar left-right	none
	68	Plane bar top-bottom	none
	69	<i>Reserved</i>	
	70	<i>Reserved</i>	
	71	Gobo disc	none
	72	Gobo disc ip X	none
	73	Gobo disc ip Y	none
	74	Gobo disc ip XY	none
	75	Gobo disc mirror X	none
	76	Gobo disc mirror Y	none
	77	Gobo disc mirror XY	none
	78-79	<i>Reserved</i>	
	80	Plane mirror X top inverse	none
	81	Plane mirror X bottom inverse	none
	82	Plane mirror Y left inverse	none
	83	Plane mirror Y right inverse	none
	84	Plane mirror XY inverse	none
	85	Plane mirror X-inverse,Y	none
	86	Plane mirror X,Y-inverse	none
87-255	<i>Reserved</i>		
59	0-255	Gobo effect 1 control Control of amount/speed	proportional
60		Gobo effect 2 Selection	
	0	No effect	
	1	Colour to black and white	amount
	2	Colour to black and white inverse	amount
	3	Black and white to black and white inverse	amount
	4	Inversion	amount
	5	Black Mask	amount
	6	Black Mask inverse	amount
	7	Contrast	amount
	8	Brightness	amount
	9	RGB to GBR	amount
	10	RGB to BRG	amount
	11	RGB to RBG	amount
	12	Black and white to black and white inverse timed	speed
	13	Colour to black and white timed	speed
	14	Colour to inverse timed	speed
	15	Cycle	speed
	16	Cycle inverse	speed
	17	Reserved	amount
	18	Reserved	amount
	19	Colour Key	amount
	20	Colour Key inverse	amount
	21	Key Black	amount
	22	Key Black inverse	amount
	23	Key White	amount
	24	Key White inverse	amount
	25	White ash	speed
26	Black ash	speed	
27	Alpha ash	speed	

Channel	Value	Function	Type of control
60	28	Invert ash	speed
	29	BW ash	speed
	30	Black and white to black and white inverse Flash	speed
	31	Gradient Wipe X	speed
	32	Gradient Wipe Y	speed
	33-39	<i>Reserved</i>	
	40	Gaussian filter	amount
	41	Mean filter	amount
	42	Laplacian filter	amount
	43	Emboss filter	amount
44	Sharpness filter	amount	
45-255	<i>Reserved</i>		
61	0-255	Gobo effect 2 control Control of amount/speed	proportional
62		<i>Reserved</i>	
63		<i>Reserved</i>	
64	0-127	Gobo Position X coarse Movement forward	proportional
	128	Centre (128-default)	step
	129-255	Movement backward	proportional
65	0-255	Gobo position X fine Position X fine	proportional
66	0-127	Gobo position Y coarse Movement down	proportional
	128	Centre (128-default)	step
	129-255	Movement up	proportional
67	0-255	Gobo position Y fine Position Y fine	proportional
68	0-127	Gobo zoom X coarse Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
69	0-255	Gobo zoom X fine Zoom X fine	proportional
70	0-127	Gobo zoom Y coarse Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
71	0-255	Gobo zoom Y fine Zoom Y fine	proportional
Common effects for both gobo layers			
72	0-255	Cyan Cyan (0-white, 255-full cyan)	proportional
73	0-255	Magenta Magenta (0-white, 255-full magenta)	proportional
74	0-255	Yellow Yellow (0-white, 255-full yellow)	proportional
75	0	Digital Iris Open iris	step
	1-254	From max.diameter to min.diameter	proportional
	255	Closed iris	step
76	0-255	Iris fine Iris fine	proportional

Channel	Value	Function	Type of control
77	0 - 30	Strobe Open light output	step
	31 - 80	Strobe-effect from slow to fast	proportional
	81 - 110	Open light output	step
	111 - 140	Random strobe-effect from slow to fast	proportional
	141 - 149	Open light output	step
	150-154	Iris displays current gobo from gobo layer 1	step
	155-160	Iris displays current gobo from gobo layer 2	step
	161 - 255	Reserved	step
78	0-255	Banner left positioning Positioning from left to right (<i>0-default</i>)	proportional
79	0-255	Banner left rotation Rotation +/- 45° (<i>128-default</i>)	proportional
80	0-255	Banner right positioning Positioning from right to left (<i>0-default</i>)	proportional
81	0-255	Banner right rotation Rotation +/- 45° (<i>128-default</i>)	proportional
82	0-255	Banner top positioning Positioning from top to bottom (<i>0-default</i>)	proportional
83	0-255	Banner top rotation Rotation +/- 45° (<i>128-default</i>)	proportional
84	0-255	Banner bottom positioning Positioning from bottom to top (<i>0-default</i>)	proportional
85	0-255	Banner bottom rotation Rotation +/- 45° (<i>128-default</i>)	proportional
86	0-255	All Banners rotation Rotation +/- 45° (<i>128-default</i>)	proportional

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Channel	Value	Function	Type of control
1	0 - 255	Pan Pan movement by 530°	proportional
2	0 - 255	Pan Fine Fine control of pan movement	proportional
3	0 - 255	Tilt Tilt movement by 280°	proportional
4	0 - 255	Tilt fine Fine control of tilt movement	proportional
5	0	Pan/Tilt speed , Pan/Tilt time Max. speed (tracking mode)	step
	1 - 255	<i>P./T. speed-set Speed Mode in menu: Pan/Tilt Mode</i> Speed from max. to min. (vector mode)	proportional
	1 - 255	<i>P./T. time - set Time Mode in menu: Pan/Tilt Mode</i> Time from 0,1 s to 25,5 s.	proportional
6	0 - 9	Pan/Tilt macro selection Disabled pan/tilt macro	step
	10 - 31	Reserved	step
	32 - 63	Figure of circle (from small to large)	proportional
	64 - 95	Figure of horizontal eight (from small to large)	proportional
	96 - 127	Figure of vertical eight (from small to large)	proportional
	128 - 159	Figure of rectangle (from small to large)	proportional
	160 - 191	Figure of triangle (from small to large)	proportional
	192 - 223	Figure of star (from small to large)	proportional
224 - 255	Figure of cross (from small to large)	proportional	
7	0	Pan/Tilt macro speed No macro generation	step
	1 - 127	Macro generation from fast to slow-forwards	proportional
	128 - 129	No macro generation	step
	130 - 255	Macro generation from slow to fast-backwards	proportional
8	0 - 49	Power/Special functions Reserved <i>To activate following functions, hold DMX value 3 sec. and digital iris must be closed at least 3 sec. (channel 76 must be at 255 DMX). Corresponding menu items are temporarily overridden).</i>	
	50 - 59	Pan/Tilt speed mode	step
	60 - 69	Pan/Tilt time mode	step
	70 - 79	Blackout while pan/tilt moving	step
	80 - 89	Disabled blackout while pan/tilt moving	step
	90 - 94	Ceiling projection On	step
	95 - 99	Ceiling projection Off	step
	100 - 104	Rear projection On	step
	105 - 109	Rear projection Off	step
	110 - 114	DMX In	step
	115-119	Artnet In	step
	120-129	Reserved <i>To activate following functions,hold DMX value 3 seconds.</i>	
	130 - 139	Lamp On	step
	140 - 149	Pan/Tilt reset	step
	180 - 189	Focus/Zoom reset	step
	190 - 199	Analog iris reset	step
	200 - 209	Total reset	step
	210 - 215	Graphic engine reset/software update executing	step
	216 - 229	Reserved	
	230 - 239	Lamp Off	step
240 - 249	Lamp Off,Fixture Off (<i>hold DMX value 5 seconds</i>)	step	
250 - 255	Reserved		
9	0-63	Video input selection Internal graphic engine to projector	step
	64-127	External VGA to projector	step
	128-191	External S-video to projector	step
	192-255	Reserved	step

Channel	Value	Function	Type of control
10	0-255	Zoom Zoom from min. to max. <i>(128-default)</i>	proportional
11	0-255	Focus Continuous adjustment from far to near <i>(128-default)</i>	proportional
12	0 0-255	Analog Iris Open From max. diameter to min. diameter	step proportional
13	0-255	KeyStone Top Left X Move top left corner X value to center <i>(0-default)</i>	proportional
14	0-255	KeyStone Top Left Y Move top left corner Y value to center <i>(0-default)</i>	proportional
15	0-255	KeyStone Top Right X Move top right corner X value to center <i>(0-default)</i>	proportional
16	0-255	KeyStone Top Right Y Move top right corner Y value to center <i>(0-default)</i>	proportional
17	0-255	KeyStone Bottom Right X Move bottom right corner X value to center <i>(0-default)</i>	proportional
18	0-255	KeyStone Bottom Right Y Move bottom right corner Y value to center <i>(0-default)</i>	proportional
19	0-255	KeyStone Bottom Left X Move bottom left corner X value to center <i>(0-default)</i>	proportional
20	0-255	KeyStone Bottom Left Y Move bottom left corner Y value to center <i>(0-default)</i>	proportional
21		<i>Reserved</i>	
Gobo layer 1			
22	0 - 255	Dimmer Dimmer intensity from 0% to 100% <i>(255-default)</i>	proportional
23	0-20 21-240 241-250 251 252-255	Gobo Folder selection Factory folders User folders Reserved Live input (grab. card)-see channel 24 Reserved	step step step step step
24	0 1 - 255 0 1-20 21-40 41-60 61-80 81-100 101-120 121-255	Gobo selection White 255 Gobos (one by one) If Live input (251 DMX) is selected on channel 23: White screen Video composite input-PAL system SVIDEO input- PAL system Video composite input-NTSC system SVIDEO input- NTSC system Video composite input-SECAM system SVIDEO input- SECAM system Reserved	step step step step step step step step step
25	0-255	In Frame High Defines the beginning of a media file segment as a percentage of the movie length <i>(0-default)</i>	proportional
26	0-255	In Frame Low Defines the beginning of a media file segment as a percentage of the movie length <i>(0-default)</i>	proportional
27	0-255	Out Frame High Defines the end of a media file segment as a percentage of the movie length <i>(255-default)</i>	proportional
28	0-255	Out Frame Low Defines the beginning of a media file segment as a percentage of the movie length <i>(255-default)</i>	proportional

Channel	Value	Function	Type of control
29		Gobo control	
	0	Play forward if dimmer (on layer 1) > 0, looping continuously	step
	1	Play forward if dimmer (on layer 1) > 0, hold on last frame	step
	2	Pause	step
	3	Play forward in continuous loop	step
	4	Play forward once and hold on the last frame	step
	5	No function	
	6	Scrub (Display) the selected In Frame	step
	7	Scrub (Display) the selected Out Frame	step
	8	No function	
9	No function		
10-255	Reserved		
30	0	Playback Speed Normal Speed	step
	1-127	Slow speeds from slowest ---> normal	proportional
	128	Normal Speed	step
	129-255	Faster than Normal ---> Fastest	proportional
31	0 - 63	Gobo rotation and indexing Clockwise rotation from fast to slow	proportional
	64-127	Indexing	proportional
	128	No rotation-centre (128-default)	step
	129-192	Indexing	proportional
	193-255	Anticlockwise rotation from slow to fast	proportional
32	0 - 255	Gobo fine indexing (rotation) Fine indexing (rotation)	proportional
33		Gobo effect 1 Selection	Type of effect control
	0	No effect	
	1	Zoom sinus	speed
	2	Zoom bump in fade out	speed
	3	Zoom fade in bump out	speed
	4	Reserved	
	5	Zoom in fade	speed
	6	Zoom out fade	speed
	7	Scale xy sinus	speed
	8	Reserved	
	9	Reserved	
	10	Reserved	
	11	XY pos. circle counter-clockwise	speed
	12	XY pos. circle clockwise	speed
	13	XY pos. scroll up	speed
	14	XY pos. scroll down	speed
	15	XY pos. scroll left	speed
	16	XY pos. scroll right	speed
	17	Right-left diag. down scroll	speed
	18	Right-left diag. up scroll	speed
	19	Left-right diag. down scroll	speed
	20	Left-right diag. up scroll	speed
	21	X rotate	speed
	22	Y rotate	speed
	23	XY rotate	speed
	24	XY inv. rotate	speed
	25	X inv. y rotate	speed
	26	Tile xy	amount
	27	Tile xy	speed
	28	XYZ rot. cube	speed
	29	XYZ rot. sphere	speed
	30	X rot. cylinder	speed
	31	Y rot. cylinder	speed
32	Reserved		
33	Kaleidoscope	none	

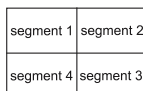
Channel	Value	Function	Type of control					
33	34	Squeeze in	none					
	35	Squeeze out	none					
	36	Bend X	none					
	37	Bend Y	none					
	38	Tile frame	none					
	39	Frame	none					
	40	Plane ip X	none					
	41	Plane ip Y	none					
	42	Plane ip XY	none					
	43	Plane mirror X top	none					
	44	Plane mirror X bottom	none					
	45	Plane mirror Y left	none					
	46	Plane mirror Y right	none					
	47	Plane mirror XY segment 1	<table border="1"> <tr> <td>segment 1</td> <td>segment 2</td> </tr> <tr> <td>segment 4</td> <td>segment 3</td> </tr> </table>	segment 1	segment 2	segment 4	segment 3	none
	segment 1	segment 2						
	segment 4	segment 3						
	48	Plane mirror XY segment 2		none				
	49	Plane mirror XY segment 3	none					
	50	Plane mirror XY segment 4	none					
	51	Plane tile 2x	none					
	52	Plane tile 3x	none					
	53	Plane tile 4x	none					
	54	Plane tile 5x	none					
	55	Plane cross tile 2x	none					
	56	Plane cross tile 2x inverse	none					
	57	Plane cross tile 3x	none					
	58	Plane cross tile 3x inverse	none					
	59	Plane cross tile 4x	none					
	60	Plane cross tile 4x inverse	none					
	61	Plane cross tile 5x	none					
	62	Plane cross tile 5x inverse	none					
	63	Plane cross tiler 5x	none					
	64	Plane cross tiler 5x inverse	none					
	65	Plane bar	none					
	66	Plane bar inverse	none					
	67	Plane bar left-right	none					
	68	Plane bar top-bottom	none					
	69	<i>Reserved</i>	none					
	70	<i>Reserved</i>	none					
	71	Gobo disc	none					
	72	Gobo disc ip X	none					
	73	Gobo disc ip Y	none					
	74	Gobo disc ip XY	none					
	75	Gobo disc mirror X	none					
	76	Gobo disc mirror Y	none					
	77	Gobo disc mirror XY	none					
	78-79	<i>Reserved</i>						
	80	Plane mirror X top inverse	none					
	81	Plane mirror X bottom inverse	none					
	82	Plane mirror Y left inverse	none					
	83	Plane mirror Y right inverse	none					
	84	Plane mirror XY inverse	none					
	85	Plane mirror X-inverse,Y	none					
86	Plane mirror X,Y-inverse	none						
87-255	<i>Reserved</i>							
34	0 - 255	Gobo effect 1 control Control of amount/speed	proportional					
35	0 1 2 3 4	Gobo effect 2 Selection No effect Colour to black and white Colour to black and white inverse Black and white to black and white inverse Inversion	Type of effect control amount amount amount amount					

Channel	Value	Function	Type of control
35	5	Black Mask	amount
	6	Black Mask inverse	amount
	7	Contrast	amount
	8	Brightness	amount
	9	RGB to GBR	amount
	10	RGB to BRG	amount
	11	RGB to RBG	amount
	12	Black and white to black and white inverse timed	speed
	13	Colour to black and white timed	speed
	14	Colour to inverse timed	speed
	15	Cycle	speed
	16	Cycle inverse	speed
	17	<i>Reserved</i>	
	18	<i>Reserved</i>	
	19	Colour Key	amount
	20	Colour Key inverse	amount
	21	Key Black	amount
	22	Key Black inverse	amount
	23	Key White	amount
	24	Key White inverse	amount
	25	White ash	speed
	26	Black ash	speed
	27	Alpha ash	speed
	28	Invert ash	speed
	29	BW ash	speed
	30	Black and white to black and white inverse Flash	speed
	31	Gradient Wipe X	speed
	32	Gradient Wipe Y	speed
	33-39	<i>Reserved</i>	
	40	Gaussian filter	amount
	41	Mean filter	amount
	42	Laplacian filter	amount
43	Emboss filter	amount	
44	Sharpness filter	amount	
45-255	<i>Reserved</i>		
36	0 - 255	Gobo effect 2 control Control of amount/speed	proportional
37		<i>Reserved</i>	
38		<i>Reserved</i>	
39	0-127 128 129-255	Gobo Position X coarse Movement forward Centre (128-default) Movement backward	proportional step proportional
40	0-255	Gobo position X fine Position X fine	proportional
41	0-127 128 129-255	Gobo position Y coarse Movement down Centre (128-default) Movement up	proportional step proportional
42	0-255	Gobo position Y fine Position Y fine	proportional
43	0-127 128 129-255	Gobo zoom X coarse Narrowing Centre (128-default) Widening	proportional step proportional
44	0-255	Gobo zoom X fine Zoom X fine	proportional

Channel	Value	Function	Type of control
45	0-127 128 129-255	Gobo zoom Y coarse Narrowing Centre (128-default) Widening	proportional step proportional
46	0-255	Gobo zoom Y fine Zoom Y fine	proportional

Gobo layer 2			
Channel	Value	Function	Type of control
47	0-255	Dimmer Dimmer intensity from 0% to 100% <i>(255-default)</i>	proportional
48	0-20 21-240 241-250 251 252-255	Gobo Folder selection Factory folders User folders Reserved Live input (capture card)- see channel 49 Reserved	step step step step step
49	0 1-255 0 1-20 21-40 41-60 61-80 81-100 101-120 121-255	Gobo selection White 255 Gobos (one by one) If Live input (251 DMX) is selected on channel 48: White screen Video composite input-PAL system SVIDEO input- PAL system Video composite input-NTSC system SVIDEO input- NTSC system Video composite input-SECAM system SVIDEO input- SECAM system Reserved	step step step step step step step step step
50	0-255	In Frame High Defines the beginning of a media file segment as a percentage of the movie length <i>(0-default)</i>	proportional
51	0-255	In Frame Low Defines the beginning of a media file segment as a percentage of the movie length <i>(0-default)</i>	proportional
52	0-255	Out Frame High Defines the end of a media file segment as a percentage of the movie length <i>(255-default)</i>	proportional
53	0-255	Out Frame Low Defines the end of a media file segment as a percentage of the movie length <i>(255-default)</i>	proportional
54	0 1 2 3 4 5 6 7 8 9 10-255	Gobo control Play forward if dimmer (on layer 2) > 0, looping continuously Play forward if dimmer (on layer 2) > 0, hold on last frame Pause Play forward in continuous loop Play forward once and hold on the last frame No function Scrub (Display) the selected In Frame Scrub (Display) the selected Out Frame No function No function Reserved	step step step step step step step
55	0 1-127 128 129-255	Playback Speed Normal Speed Slow speeds from slowest ---> normal Normal Speed Faster than Normal ---> Fastest	step proportional step proportional
56	0 - 63 64-127 128 129-192 193-255	Gobo rotation and indexing Clockwise rotation from fast to slow Indexing No rotation-centre <i>(128-default)</i> Indexing Anticlockwise rotation from slow to fast	proportional proportional step proportional proportional
57	0 - 255	Gobo fine indexing (rotation) Fine indexing (rotation)	proportional

Channel	Value	Function	Type of control
58		Gobo effect 1 Selection	Type of effect control
	0	No effect	
	1	Zoom sinus	speed
	2	Zoom bump in fade out	speed
	3	Zoom fade in bump out	speed
	4	Reserved	speed
	5	Zoom in fade	
	6	Zoom out fade	speed
	7	Scale xy sinus	speed
	8	Reserved	speed
	9	Reserved	
	10	Reserved	speed
	11	XY pos. circle counter-clockwise	speed
	12	XY pos. circle clockwise	speed
	13	XY pos. scroll up	speed
	14	XY pos. scroll down	speed
	15	XY pos. scroll left	speed
	16	XY pos. scroll right	speed
	17	Right-left diag. down scroll	speed
	18	Right-left diag. up scroll	speed
	19	Left-right diag. down scroll	speed
	20	Left-right diag. up scroll	speed
	21	X rotate	speed
	22	Y rotate	speed
	23	XY rotate	speed
	24	XY inv. rotate	speed
	25	X inv. y rotate	speed
	26	Tile xy	amount
	27	Tile xy	speed
	28	XYZ rot. cube	speed
	29	XYZ rot. sphere	speed
	30	X rot. cylinder	speed
	31	Y rot. cylinder	speed
32	Reserved		
58	33	Kaleidoscope	none
	34	Squeeze in	none
	35	Squeeze out	none
	36	Bend X	none
	37	Bend Y	none
	38	Tile frame	none
	39	Frame	none
	40	Plane ip X	none
	41	Plane ip Y	none
	42	Plane ip XY	none
	43	Plane mirror X top	none
	44	Plane mirror X bottom	none
	45	Plane mirror Y left	none
	46	Plane mirror Y right	none
	47	Plane mirror XY segment 1	none
	48	Plane mirror XY segment 2	none
	49	Plane mirror XY segment 3	none
	50	Plane mirror XY segment 4	none
	51	Plane tile 2x	none
	52	Plane tile 3x	none
	53	Plane tile 4x	none
	54	Plane tile 5x	none
	55	Plane cross tile 2x	none
	56	Plane cross tile 2x inverse	none
	57	Plane cross tile 3x	none



Channel	Value	Function	Type of control
58	58	Plane cross tile 3x inverse	none
	59	Plane cross tile 4x	none
	60	Plane cross tile 4x inverse	none
	61	Plane cross tile 5x	none
	62	Plane cross tile 5x inverse	none
	63	Plane cross tiler 5x	none
	64	Plane cross tiler 5x inverse	none
	65	Plane bar	none
	66	Plane bar inverse	none
	67	Plane bar left-right	none
	68	Plane bar top-bottom	none
	69	<i>Reserved</i>	
	70	<i>Reserved</i>	
	71	Gobo disc	none
	72	Gobo disc ip X	none
	73	Gobo disc ip Y	none
	74	Gobo disc ip XY	none
	75	Gobo disc mirror X	none
	76	Gobo disc mirror Y	none
	77	Gobo disc mirror XY	none
	78-79	<i>Reserved</i>	
	80	Plane mirror X top inverse	none
	81	Plane mirror X bottom inverse	none
	82	Plane mirror Y left inverse	none
	83	Plane mirror Y right inverse	none
	84	Plane mirror XY inverse	none
	85	Plane mirror X-inverse,Y	none
	86	Plane mirror X,Y-inverse	none
87-255	<i>Reserved</i>		
59	0-255	Gobo effect 1 control Control of amount/speed	proportional
60		Gobo effect 2 Selection	
	0	No effect	
	1	Colour to black and white	amount
	2	Colour to black and white inverse	amount
	3	Black and white to black and white inverse	amount
	4	Inversion	amount
	5	Black Mask	amount
	6	Black Mask inverse	amount
	7	Contrast	amount
	8	Brightness	amount
	9	RGB to GBR	amount
	10	RGB to BRG	amount
	11	RGB to RBG	amount
	12	Black and white to black and white inverse timed	speed
	13	Colour to black and white timed	speed
	14	Colour to inverse timed	speed
	15	Cycle	speed
	16	Cycle inverse	speed
	17	<i>Reserved</i>	amount
	18	<i>Reserved</i>	amount
	19	Colour Key	amount
	20	Colour Key inverse	amount
	21	Key Black	amount
	22	Key Black inverse	amount
	23	Key White	amount
	24	Key White inverse	amount
	25	White ash	speed
26	Black ash	speed	
27	Alpha ash	speed	

Channel	Value	Function	Type of control
60	28	Invert ash	speed
	29	BW ash	speed
	30	Black and white to black and white inverse Flash	speed
	31	Gradient Wipe X	speed
	32	Gradient Wipe Y	speed
	33-39	<i>Reserved</i>	
	40	Gaussian filter	amount
	41	Mean filter	amount
	42	Laplacian filter	amount
	43	Emboss filter	amount
	44	Sharpness filter	amount
	45-255	Reserved	
61	0-255	Gobo effect 2 control Control of amount/speed	proportional
62		<i>Reserved</i>	
63		<i>Reserved</i>	
64	0-127	Gobo Position X coarse Movement forward	proportional
	128	Centre (128-default)	step
	129-255	Movement backward	proportional
65	0-255	Gobo position X fine Position X fine	proportional
66	0-127	Gobo position Y coarse Movement down	proportional
	128	Centre (128-default)	step
	129-255	Movement up	proportional
67	0-255	Gobo position Y fine Position Y fine	proportional
68	0-127	Gobo zoom X coarse Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
69	0-255	Gobo zoom X fine Zoom X fine	proportional
70	0-127	Gobo zoom Y coarse Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
71	0-255	Gobo zoom Y fine Zoom Y fine	proportional
Common effects for both gobo layers			
72	0-255	Cyan Cyan (0-white, 255-full cyan)	proportional
73	0-255	Magenta Magenta (0-white, 255-full magenta)	proportional
74	0-255	Yellow Yellow (0-white, 255-full yellow)	proportional
75	0	CTF Without CTF	step
	1	14000 K	step
	2	13000 K	step
	3	12500 K	step
	4	12000 K	step
	5	11500 K	step
	6	11000 K	step
	7	10500 K	step
	8	10000 K	step

Channel	Value	Function	Type of control
75	9	9500 K	step
	10	9000 K	step
	11	8600 K (every next value is by 25 K lower than previous)	step
	12	8575 K	step
	13	8550 K	step
	:	:	:
	255	2500 K	step
76	0	Digital Iris Open iris	step
	1-254	From max.diameter to min.diameter	proportional
	255	Closed iris	step
77	0-255	Digital Iris fine Iris fine	proportional
78	0 - 30	Strobe Open light output	step
	31 - 80	Strobe-effect from slow to fast	proportional
	81 - 110	Open light output	step
	111 - 140	Random strobe-effect from slow to fast	proportional
	141 - 149	Open light output	step
	150 - 154	Iris displays current gobo from gobo layer 1	
	155 - 160	Iris displays current gobo from gobo layer 2	
161 - 255	Reserved		
79	0-255	Banner left positioning Positioning from left to right <i>(0-default)</i>	proportional
80	0-255	Banner left rotation Rotation +/- 45° <i>(128-default)</i>	proportional
81	0-255	Banner right positioning Positioning from right to left <i>(0-default)</i>	proportional
82	0-255	Banner right rotation Rotation +/- 45° <i>(128-default)</i>	proportional
83	0-255	Banner top positioning Positioning from top to bottom <i>(0-default)</i>	proportional
84	0-255	Banner top rotation Rotation +/- 45° <i>(128-default)</i>	proportional
85	0-255	Banner bottom positioning Positioning from bottom to top <i>(0-default)</i>	proportional
86	0-255	Banner bottom rotation Rotation +/- 45° <i>(128-default)</i>	proportional
87	0-255	All Banners rotation Rotation +/- 45° <i>(128-default)</i>	proportional

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Channel	Value	Function	Type of control
1	0 - 255	Pan Pan movement by 530°	proportional
2	0 - 255	Pan Fine Fine control of pan movement	proportional
3	0 - 255	Tilt Tilt movement by 280°	proportional
4	0 - 255	Tilt fine Fine control of tilt movement	proportional
5	0	Pan/Tilt speed , Pan/Tilt time Max. speed (tracking mode)	step
	1 - 255	<i>P./T. speed-set Speed Mode in menu: Pan/Tilt Mode</i> Speed from max. to min. (vector mode)	proportional
	1 - 255	<i>P./T. time - set Time Mode in menu: Pan/Tilt Mode</i> Time from 0.1 s to 25.5 s.	proportional
6	0 - 9	Pan/Tilt macro selection Disabled pan/tilt macro	step
	10 - 31	Reserved	step
	32 - 63	Figure of circle (from small to large)	proportional
	64 - 95	Figure of horizontal eight (from small to large)	proportional
	96 - 127	Figure of vertical eight (from small to large)	proportional
	128 - 159	Figure of rectangle (from small to large)	proportional
	160 - 191	Figure of triangle (from small to large)	proportional
	192 - 223	Figure of star (from small to large)	proportional
224 - 255	Figure of cross (from small to large)	proportional	
7	0	Pan/Tilt macro speed No macro generation	step
	1 - 127	Macro generation from fast to slow-forwards	proportional
	128 - 129	No macro generation	step
	130 - 255	Macro generation from slow to fast-backwards	proportional
8	0 - 49	Power/Special functions Reserved <i>To activate following functions, hold DMX value 3 sec. and digital iris must be closed at least 3 sec. (channel 80 must be at 255 DMX). Corresponding menu items are temporarily overridden.</i>	
	50 - 59	Pan/Tilt speed mode	step
	60 - 69	Pan/Tilt time mode	step
	70 - 79	Blackout while pan/tilt moving	step
	80 - 89	Disabled blackout while pan/tilt moving	step
	90 - 94	Ceiling projection On	step
	95 - 99	Ceiling projection Off	step
	100 - 104	Rear projection On	step
	105 - 109	Rear projection Off	step
	110 - 114	DMX In	step
	115- 119	Artnet In	step
	120-129	Reserved <i>To activate following functions,hold DMX value 3 seconds.</i>	
	130 - 139	Lamp On	step
	140 - 149	Pan/Tilt reset	step
	180 - 189	Focus/Zoom reset	step
	190 - 199	Analog iris reset	step
	200 - 209	Total reset	step
	210 - 215	Graphic engine reset/software update executing	step
	216 - 229	Reserved	
	230 - 239	Lamp Off	step
240 - 249	Lamp Off,Fixture Off (<i>hold DMX value 5 seconds</i>)	step	
250 - 255	Reserved		
9	0-63	Video input selection Internal graphic engine to projector	step
	64-127	External VGA to projector	step
	128-191	External S-video to projector	step
	192-255	Reserved	step
			step

Channel	Value	Function	Type of control
10	0-255	Zoom Zoom from min. to max. <i>(128-default)</i>	proportional
11	0-255	Focus Continuous adjustment from far to near <i>(128-default)</i>	proportional
12	0 0-255	Analog Iris Open From max. diameter to min. diameter	step proportional
13	0-255	KeyStone Top Left X Move top left corner X value to center <i>(0-default)</i>	proportional
14	0-255	KeyStone Top Left Y Move top left corner Y value to center <i>(0-default)</i>	proportional
15	0-255	KeyStone Top Right X Move top right corner X value to center <i>(0-default)</i>	proportional
16	0-255	KeyStone Top Right Y Move top right corner Y value to center <i>(0-default)</i>	proportional
17	0-255	KeyStone Bottom Right X Move bottom right corner X value to center <i>(0-default)</i>	proportional
18	0-255	KeyStone Bottom Right Y Move bottom right corner Y value to center <i>(0-default)</i>	proportional
19	0-255	KeyStone Bottom Left X Move bottom left corner X value to center <i>(0-default)</i>	proportional
20	0-255	KeyStone Bottom Left Y Move bottom left corner Y value to center <i>(0-default)</i>	proportional
21	0-127 128 129-255	KeyStone X-ratio Ratio control from left to center Center <i>(128-default)</i> Ratio control from center to right	proportional step proportional
22	0-127 128 129-255	KeyStone Y-ratio Ratio control from bottom to center Center <i>(128-default)</i> Ratio control from center to top	proportional step proportional
Gobo layer 1			
23	0 - 255	Dimmer Dimmer intensity from 0% to 100% <i>(255-default)</i>	proportional
24	0-20 21-240 241-250 251 252-255	Gobo Folder selection Factory folders User folders Reserved Live input (grab. card)-see channel 24 Reserved	step step step step step
25	0 1 - 255 0 1-20 21-40 41-60 61-80 81-100 101-120 121-255	Gobo selection White 255 Gobos (one by one) If Live input (251 DMX) is selected on channel 23: White screen Video composite input-PAL system SVIDEO input- PAL system Video composite input-NTSC system SVIDEO input- NTSC system Video composite input-SECAM system SVIDEO input- SECAM system Reserved	step step step step step step step step step
26	0-255	In Frame High Defines the beginning of a media file segment as a percentage of the movie length <i>(0-default)</i>	proportional

Channel	Value	Function	Type of control
27	0-255	In Frame Low Defines the beginning of a media file segment as a percentage of the movie length <i>(0-default)</i>	proportional
28	0-255	Out Frame High Defines the end of a media file segment as a percentage of the movie length <i>(255-default)</i>	proportional
29	0-255	Out Frame Low Defines the beginning of a media file segment as a percentage of the movie length <i>(255-default)</i>	proportional
30	0	Gobo control Play forward if dimmer (on layer 1) > 0, looping continuously	step
	1	Play forward if dimmer (on layer 1) > 0, hold on last frame	step
	2	Pause	step
	3	Play forward in continuous loop	step
	4	Play forward once and hold on the last frame	step
	5	No function	
	6	Scrub (Display) the selected In Frame	step
	7	Scrub (Display) the selected Out Frame	step
	8	No function	
	9	No function	
	10-255	Reserved	
31	0	Playback Speed Normal Speed	step
	1-127	Slow speeds from slowest ---> normal	proportional
	128	Normal Speed	step
	129-255	Faster than Normal ---> Fastest	proportional
32	0 - 63	Gobo rotation and indexing Clockwise rotation from fast to slow	proportional
	64-127	Indexing	proportional
	128	No rotation-centre <i>(128-default)</i>	step
	129-192	Indexing	proportional
	193-255	Anticlockwise rotation from slow to fast	proportional
33	0 - 255	Gobo fine indexing (rotation) Fine indexing (rotation)	proportional
34	0	Gobo effect 1 Selection No effect	Type of effect control
	1	Zoom sinus	speed
	2	Zoom bump in fade out	speed
	3	Zoom fade in bump out	speed
	4	Reserved	
	5	Zoom in fade	speed
	6	Zoom out fade	speed
	7	Scale xy sinus	speed
	8	Reserved	
	9	Reserved	
	10	Reserved	
	11	XY pos. circle counter-clockwise	speed
	12	XY pos. circle clockwise	speed
	13	XY pos. scroll up	speed
	14	XY pos. scroll down	speed
	15	XY pos. scroll left	speed
	16	XY pos. scroll right	speed
	17	Right-left diag. down scroll	speed
	18	Right-left diag. up scroll	speed
	19	Left-right diag. down scroll	speed
	20	Left-right diag. up scroll	speed
	21	X rotate	speed
	22	Y rotate	speed
	23	XY rotate	speed

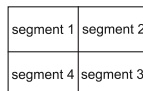
Channel	Value	Function	Type of control				
34	24	XY inv. rotate	speed				
	25	X inv. y rotate	speed				
	26	Tile xy	amount				
	27	Tile xy	speed				
	28	XYZ rot. cube	speed				
	29	XYZ rot. sphere	speed				
	30	X rot. cylinder	speed				
	31	Y rot. cylinder	speed				
	32	Reserved					
	33	Kaleidoscope	none				
	34	Squeeze in	none				
	35	Squeeze out	none				
	36	Bend X	none				
	37	Bend Y	none				
	38	Tile frame	none				
	39	Frame	none				
	40	Plane ip X	none				
	41	Plane ip Y	none				
	42	Plane ip XY	none				
	43	Plane mirror X top	none				
	44	Plane mirror X bottom	none				
	45	Plane mirror Y left	none				
	46	Plane mirror Y right	none				
	47	Plane mirror XY segment 1	<table border="1"> <tr> <td>segment 1</td> <td>segment 2</td> </tr> <tr> <td>segment 4</td> <td>segment 3</td> </tr> </table>	segment 1	segment 2	segment 4	segment 3
	segment 1	segment 2					
	segment 4	segment 3					
	48	Plane mirror XY segment 2		none			
	49	Plane mirror XY segment 3	none				
	50	Plane mirror XY segment 4	none				
	51	Plane tile 2x	none				
	52	Plane tile 3x	none				
	53	Plane tile 4x	none				
	54	Plane tile 5x	none				
	55	Plane cross tile 2x	none				
	56	Plane cross tile 2x inverse	none				
	57	Plane cross tile 3x	none				
	58	Plane cross tile 3x inverse	none				
	59	Plane cross tile 4x	none				
	60	Plane cross tile 4x inverse	none				
	61	Plane cross tile 5x	none				
	62	Plane cross tile 5x inverse	none				
	63	Plane cross tiler 5x	none				
	64	Plane cross tiler 5x inverse	none				
	65	Plane bar	none				
66	Plane bar inverse	none					
67	Plane bar left-right	none					
68	Plane bar top-bottom	none					
69	<i>Reserved</i>						
70	<i>Reserved</i>						
71	Gobo disc	none					
72	Gobo disc ip X	none					
73	Gobo disc ip Y	none					
74	Gobo disc ip XY	none					
75	Gobo disc mirror X	none					
76	Gobo disc mirror Y	none					
77	Gobo disc mirror XY	none					
78-79	<i>Reserved</i>						
80	Plane mirror X top inverse	none					
81	Plane mirror X bottom inverse	none					
82	Plane mirror Y left inverse	none					
83	Plane mirror Y right inverse	none					
84	Plane mirror XY inverse	none					

Channel	Value	Function	Type of control
34	85	Plane mirror X-inverse,Y	none
	86	Plane mirror X,Y-inverse	none
	87-255	<i>Reserved</i>	
35	0 - 255	Gobo effect 1 control Control of amount/speed	proportional
36	0	Gobo effect 2 Selection No effect	Type of effect control
	1	Colour to black and white	amount
	2	Colour to black and white inverse	amount
	3	Black and white to black and white inverse	amount
	4	Inversion	amount
36	5	Black Mask	amount
	6	Black Mask inverse	amount
	7	Contrast	amount
	8	Brightness	amount
	9	RGB to GBR	amount
	10	RGB to BRG	amount
	11	RGB to RBG	amount
	12	Black and white to black and white inverse timed	speed
	13	Colour to black and white timed	speed
	14	Colour to inverse timed	speed
	15	Cycle	speed
	16	Cycle inverse	speed
	17	<i>Reserved</i>	
	18	<i>Reserved</i>	
	19	Colour Key	amount
	20	Colour Key inverse	amount
	21	Key Black	amount
	22	Key Black inverse	amount
	23	Key White	amount
	24	Key White inverse	amount
	25	White ash	speed
	26	Black ash	speed
	27	Alpha ash	speed
	28	Invert ash	speed
	29	BW ash	speed
	30	Black and white to black and white inverse Flash	speed
	31	Gradient Wipe X	speed
	32	Gradient Wipe Y	speed
	33-39	<i>Reserved</i>	
	40	Gaussian filter	amount
	41	Mean filter	amount
	42	Laplacian filter	amount
43	Emboss filter	amount	
44	Sharpness filter	amount	
45-255	<i>Reserved</i>		
37	0 - 255	Gobo effect 2 control Control of amount/speed	proportional
38		<i>Reserved</i>	
39		<i>Reserved</i>	
40	0-127	Gobo Position X coarse Movement forward	proportional
	128	Centre (128-default)	step
	129-255	Movement backward	proportional
41	0-255	Gobo position X fine Position X fine	proportional

Channel	Value	Function	Type of control
42	0-127 128 129-255	Gobo position Y coarse Movement down Centre (128-default) Movement up	proportional step proportional
43	0-255	Gobo position Y fine Position Y fine	proportional
44	0-127 128 129-255	Gobo zoom X coarse Narrowing Centre (128-default) Widening	proportional step proportional
45	0-255	Gobo zoom X fine Zoom X fine	proportional
46	0-127 128 129-255	Gobo zoom Y coarse Narrowing Centre (128-default) Widening	proportional step proportional
47	0-255	Gobo zoom Y fine Zoom Y fine	proportional
48	0 1-255	Synchronization to ID No function Synchronization to fixture ID	proportional

Gobo layer 2			
Channel	Value	Function	Type of control
49	0-255	Dimmer Dimmer intensity from 0% to 100% <i>(255-default)</i>	proportional
50	0-20 21-240 241-250 251 252-255	Gobo Folder selection Factory folders User folders Reserved Live input (capture card)- see channel 49 Reserved	step step step step step
51	0 1-255 0 1-20 21-40 41-60 61-80 81-100 101-120 121-255	Gobo selection White 255 Gobos (one by one) If Live input (251 DMX) is selected on channel 48: White screen Video composite input-PAL system SVIDEO input- PAL system Video composite input-NTSC system SVIDEO input- NTSC system Video composite input-SECAM system SVIDEO input- SECAM system Reserved	step step step step step step step step step
52	0-255	In Frame High Defines the beginning of a media file segment as a percentage of the movie length <i>(0-default)</i>	proportional
53	0-255	In Frame Low Defines the beginning of a media file segment as a percentage of the movie length <i>(0-default)</i>	proportional
54	0-255	Out Frame High Defines the end of a media file segment as a percentage of the movie length <i>(255-default)</i>	proportional
55	0-255	Out Frame Low Defines the end of a media file segment as a percentage of the movie length <i>(255-default)</i>	proportional
56	0 1 2 3 4 5 6 7 8 9 10-255	Gobo control Play forward if dimmer (on layer 2) > 0, looping continuously Play forward if dimmer (on layer 2) > 0, hold on last frame Pause Play forward in continuous loop Play forward once and hold on the last frame No function Scrub (Display) the selected In Frame Scrub (Display) the selected Out Frame No function No function Reserved	step step step step step step step
57	0 1-127 128 129-255	Playback Speed Normal Speed Slow speeds from slowest ---> normal Normal Speed Faster than Normal ---> Fastest	step proportional step proportional
58	0 - 63 64-127 128 129-192 193-255	Gobo rotation and indexing Clockwise rotation from fast to slow Indexing No rotation-centre <i>(128-default)</i> Indexing Anticlockwise rotation from slow to fast	proportional proportional step proportional proportional
59	0 - 255	Gobo fine indexing (rotation) Fine indexing (rotation)	proportional

Channel	Value	Function	Type of control
60		Gobo effect 1 Selection	Type of effect control
	0	No effect	
	1	Zoom sinus	speed
	2	Zoom bump in fade out	speed
	3	Zoom fade in bump out	speed
	4	Reserved	speed
	5	Zoom in fade	
	6	Zoom out fade	speed
	7	Scale xy sinus	speed
	8	Reserved	speed
	9	Reserved	
	10	Reserved	speed
	11	XY pos. circle counter-clockwise	speed
	12	XY pos. circle clockwise	speed
	13	XY pos. scroll up	speed
	14	XY pos. scroll down	speed
	15	XY pos. scroll left	speed
	16	XY pos. scroll right	speed
	17	Right-left diag. down scroll	speed
	18	Right-left diag. up scroll	speed
	19	Left-right diag. down scroll	speed
	20	Left-right diag. up scroll	speed
	21	X rotate	speed
	22	Y rotate	speed
	23	XY rotate	speed
	24	XY inv. rotate	speed
	25	X inv. y rotate	speed
	26	Tile xy	amount
	27	Tile xy	speed
	28	XYZ rot. cube	speed
	29	XYZ rot. sphere	speed
	30	X rot. cylinder	speed
	31	Y rot. cylinder	speed
	32	Reserved	
	33	Kaleidoscope	none
	34	Squeeze in	none
	35	Squeeze out	none
	36	Bend X	none
	37	Bend Y	none
	38	Tile frame	none
	39	Frame	none
	40	Plane ip X	none
	41	Plane ip Y	none
	42	Plane ip XY	none
	43	Plane mirror X top	none
	44	Plane mirror X bottom	none
	45	Plane mirror Y left	none
	46	Plane mirror Y right	none
	47	Plane mirror XY segment 1	none
	48	Plane mirror XY segment 2	none
	49	Plane mirror XY segment 3	none
	50	Plane mirror XY segment 4	none
	51	Plane tile 2x	none
	52	Plane tile 3x	none
	53	Plane tile 4x	none
	54	Plane tile 5x	none
	55	Plane cross tile 2x	none
56	Plane cross tile 2x inverse	none	
57	Plane cross tile 3x	none	



Channel	Value	Function	Type of control
60	58	Plane cross tile 3x inverse	none
	59	Plane cross tile 4x	none
	60	Plane cross tile 4x inverse	none
	61	Plane cross tile 5x	none
	62	Plane cross tile 5x inverse	none
	63	Plane cross tiler 5x	none
	64	Plane cross tiler 5x inverse	none
	65	Plane bar	none
	66	Plane bar inverse	none
	67	Plane bar left-right	none
	68	Plane bar top-bottom	none
	69	<i>Reserved</i>	
	70	<i>Reserved</i>	
	71	Gobo disc	none
	72	Gobo disc ip X	none
	73	Gobo disc ip Y	none
	74	Gobo disc ip XY	none
	75	Gobo disc mirror X	none
	76	Gobo disc mirror Y	none
	77	Gobo disc mirror XY	none
	78-79	<i>Reserved</i>	
	80	Plane mirror X top inverse	none
	81	Plane mirror X bottom inverse	none
	82	Plane mirror Y left inverse	none
	83	Plane mirror Y right inverse	none
	84	Plane mirror XY inverse	none
	85	Plane mirror X-inverse,Y	none
	86	Plane mirror X,Y-inverse	none
87-255	<i>Reserved</i>		
61	0-255	Gobo effect 1 control Control of amount/speed	proportional
62		Gobo effect 2 Selection	
	0	No effect	
	1	Colour to black and white	amount
	2	Colour to black and white inverse	amount
	3	Black and white to black and white inverse	amount
	4	Inversion	amount
	5	Black Mask	amount
	6	Black Mask inverse	amount
	7	Contrast	amount
	8	Brightness	amount
	9	RGB to GBR	amount
	10	RGB to BRG	amount
	11	RGB to RBG	amount
	12	Black and white to black and white inverse timed	speed
	13	Colour to black and white timed	speed
	14	Colour to inverse timed	speed
	15	Cycle	speed
	16	Cycle inverse	speed
	17	<i>Reserved</i>	amount
	18	<i>Reserved</i>	amount
	19	Colour Key	amount
	20	Colour Key inverse	amount
	21	Key Black	amount
	22	Key Black inverse	amount
	23	Key White	amount
	24	Key White inverse	amount
	25	White ash	speed
26	Black ash	speed	
27	Alpha ash	speed	

Channel	Value	Function	Type of control
62	28	Invert ash	speed
	29	BW ash	speed
	30	Black and white to black and white inverse Flash	speed
	31	Gradient Wipe X	speed
	32	Gradient Wipe Y	speed
	33-39	<i>Reserved</i>	
	40	Gaussian filter	amount
	41	Mean filter	amount
	42	Laplacian filter	amount
	43	Emboss filter	amount
	44	Sharpness filter	amount
	45-255	Reserved	
63	0-255	Gobo effect 2 control Control of amount/speed	proportional
64		<i>Reserved</i>	
65		<i>Reserved</i>	
66	0-127	Gobo Position X coarse Movement forward	proportional
	128	Centre (128-default)	step
	129-255	Movement backward	proportional
67	0-255	Gobo position X fine Position X fine	proportional
68	0-127	Gobo position Y coarse Movement down	proportional
	128	Centre (128-default)	step
	129-255	Movement up	proportional
69	0-255	Gobo position Y fine Position Y fine	proportional
70	0-127	Gobo zoom X coarse Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
71	0-255	Gobo zoom X fine Zoom X fine	proportional
72	0-127	Gobo zoom Y coarse Narrowing	proportional
	128	Centre (128-default)	step
	129-255	Widening	proportional
73	0-255	Gobo zoom Y fine Zoom Y fine	proportional
74	0	Synchronization to fixture No function	
	1-255	Synchronization to fixture ID	proportional
Common effects for both gobo layers			
75	0-255	Cyan Cyan (0-white, 255-full cyan)	proportional
76	0-255	Magenta Magenta (0-white, 255-full magenta)	proportional
77	0-255	Yellow Yellow (0-white, 255-full yellow)	proportional
78	0	CTF Without CTF	step
	1	14000 K	step
	2	13000 K	step
	3	12500 K	step
	4	12000 K	step
	5	11500 K	step

Channel	Value	Function	Type of control
78	6	11000 K	step
	7	10500 K	step
	8	10000 K	step
	9	9500 K	step
	10	9000 K	step
	11	8600 K (every next value is by 25 K lower than previous)	step
	12	8575 K	step
	13	8550 K	step
	:	:	:
	255	2500 K	step
79		Digital Iris - type selection	step
	0	Circular ,outside-->in,sharp edge	step
	1	Circular ,outside-->in,fuzzy edge 1	step
	2	Circular ,outside-->in,fuzzy edge 2	step
	3	Circular ,outside-->in,fuzzy edge 3	step
	4	Circular ,outside-->in,fuzzy edge 4 (maximum)	step
	5	Circular ,inside-->out,sharp edge	step
	6	Circular ,inside-->out,fuzzy edge 1	step
	7	Circular ,inside-->out,fuzzy edge 2	step
	8	Circular ,inside-->out,fuzzy edge 3	step
	9	Circular ,inside-->out,fuzzy edge 4 (maximum)	step
	10	Horizontal ellipse ,outside-->in,sharp edge	step
	11	Horizontal ellipse ,outside-->in,fuzzy edge 1	step
	12	Horizontal ellipse ,outside-->in,fuzzy edge 2	step
	13	Horizontal ellipse ,outside-->in,fuzzy edge 3	step
	14	Horizontal ellipse ,outside-->in,fuzzy edge 4 (maximum)	step
	15	Horizontal ellipse ,inside-->out,sharp edge	step
	16	Horizontal ellipse ,inside-->out,fuzzy edge 1	step
	17	Horizontal ellipse ,inside-->out,fuzzy edge 2	step
	18	Horizontal ellipse ,inside-->out,fuzzy edge 3	step
	19	Horizontal ellipse ,inside-->out,fuzzy edge 4 (maximum)	step
	20	Vertical ellipse ,outside-->in,sharp edge	step
	21	Vertical ellipse ,outside-->in,fuzzy edge 1	step
	22	Vertical ellipse ,outside-->in,fuzzy edge 2	step
	23	Vertical ellipse ,outside-->in,fuzzy edge 3	step
	24	Vertical ellipse ,outside-->in,fuzzy edge 4 (maximum)	step
	25	Vertical ellipse ,inside-->out,sharp edge	step
	26	Vertical ellipse ,inside-->out,fuzzy edge 1	step
	27	Vertical ellipse ,inside-->out,fuzzy edge 2	step
	27	Vertical ellipse ,inside-->out,fuzzy edge 3	step
	29	Vertical ellipse ,inside-->out,fuzzy edge 4 (maximum)	step
	30	Clockwise wipe,sharp edge	step
	31	Clockwise wipe,fuzzy edge 1	step
	32	Clockwise wipe,fuzzy edge 2	step
	33	Clockwise wipe,fuzzy edge 3	step
	34	Clockwise wipe,fuzzy edge 4 (maximum)	step
	35	Anticlockwise wipe,sharp edge	step
	36	Anticlockwise wipe,fuzzy edge 1	step
	37	Anticlockwise wipe,fuzzy edge 2	step
	38	Anticlockwise wipe,fuzzy edge 3	step
	39	Anticlockwise wipe,fuzzy edge 4 (maximum)	step
	40	Wedge wipe ,top-->down, sharp edge	step
	41	Wedge wipe ,top-->down, fuzzy edge 1	step
	42	Wedge wipe ,top-->down, fuzzy edge 2	step
	43	Wedge wipe ,top-->down, fuzzy edge 3	step
	44	Wedge wipe ,top-->down, fuzzy edge 4 (maximum)	step
	45	Wedge wipe ,bottom-->up, sharp edge	step
	46	Wedge wipe ,bottom-->up, fuzzy edge 1	step
	47	Wedge wipe ,bottom-->up, fuzzy edge 2	step
48	Wedge wipe ,bottom-->up, fuzzy edge 3	step	
49	Wedge wipe ,bottom-->up, fuzzy edge 4 (maximum)	step	

Channel	Value	Function	Type of control
79	50	Radial wipe ,left -->bottom,sharp edge	step
	51	Radial wipe ,left -->bottom,fuzzy edge 1	step
	52	Radial wipe ,left -->bottom,fuzzy edge 2	step
	53	Radial wipe ,left -->bottom,fuzzy edge 3	step
	54	Radial wipe ,left -->bottom,fuzzy edge 4 (maximum)	step
	55	Radial wipe ,bottom-->left,sharp edge	step
	56	Radial wipe ,bottom-->left,fuzzy edge 1	step
	57	Radial wipe ,bottom-->left,fuzzy edge 2	step
	58	Radial wipe ,bottom-->left,fuzzy edge 3	step
	59	Radial wipe ,bottom-->left,fuzzy edge 4 (maximum)	step
	60	Radial wipe ,top-->left,sharp edge	step
	61	Radial wipe ,top-->left,fuzzy edge 1	step
	62	Radial wipe ,top-->left,fuzzy edge 2	step
	63	Radial wipe ,top-->left,fuzzy edge 3	step
	64	Radial wipe ,top-->left,fuzzy edge 4 (maximum)	step
	65	Radial wipe ,left-->top,sharp edge	step
	66	Radial wipe ,left-->top,fuzzy edge 1	step
	67	Radial wipe ,left-->top,fuzzy edge 2	step
	68	Radial wipe ,left-->top,fuzzy edge 3	step
	69	Radial wipe ,left-->top,fuzzy edge 4 (maximum)	step
	70	Vertical barn-doors,outside-->in,sharp edge	step
	71	Vertical barn-doors,outside-->in,fuzzy edge 1	step
	72	Vertical barn-doors,outside-->in,fuzzy edge 2	step
	73	Vertical barn-doors,outside-->in,fuzzy edge 3	step
	74	Vertical barn-doors,outside-->in,fuzzy edge 4 (maximum)	step
	75	Vertical barn-doors,inside-->out,sharp edge	step
	76	Vertical barn-doors,inside-->out,fuzzy edge 1	step
	77	Vertical barn-doors,inside-->out,fuzzy edge 2	step
	78	Vertical barn-doors,inside-->out,fuzzy edge 3	step
	79	Vertical barn-doors,inside-->out,fuzzy edge 4 (maximum)	step
	80	Horizontal barn-doors,outside-->in,sharp edge	step
	81	Horizontal barn-doors,outside-->in,fuzzy edge 1	step
	82	Horizontal barn-doors,outside-->in,fuzzy edge 2	step
	83	Horizontal barn-doors,outside-->in,fuzzy edge 3	step
	84	Horizontal barn-doors,outside-->in,fuzzy edge 4 (maximum)	step
	85	Horizontal barn-doors,inside-->out,sharp edge	step
	86	Horizontal barn-doors,inside-->out,fuzzy edge 1	step
	87	Horizontal barn-doors,inside-->out,fuzzy edge 2	step
	88	Horizontal barn-doors,inside-->out,fuzzy edge 3	step
	89	Horizontal barn-doors,inside-->out,fuzzy edge 4 (maximum)	step
	90	Horizontal one-way band wipe,top left-->bottom right	step
91	Horizontal one-way band wipe,bottom right-->top left	step	
92	Horizontal one-way band wipe,top right-->bottom left	step	
93	Horizontal one-way band wipe,bottom left-->top right	step	
94	Horizontal two-way band wipe,top left-->bottom right	step	
95	Horizontal two-way band wipe,bottom right-->top left	step	
96	Horizontal two-way band wipe,top right-->bottom left	step	
97	Horizontal two-way band wipe,bottom left-->top right	step	
98	Vertical one-way band wipe,top left-->bottom right	step	
99	Vertical one-way band wipe,bottom right-->top left	step	
100	Vertical one-way band wipe,bottom left-->top right	step	
101	Vertical one-way band wipe,top right-->bottom left	step	
102	Vertical one-way band wipe,top right-->bottom left	step	
103	Vertical one-way band wipe,bottom right-->top left	step	
104	Vertical one-way band wipe,bottom left-->top right	step	
105	Vertical one-way band wipe,top right-->bottom left	step	
106	Horizontal bands 4x,top-->bottom	step	
107	Horizontal bands 4x,bottom-->top	step	
108	Vertical bands 4x,left-->right	step	
109	Vertical bands 4x,right-->left	step	

Channel	Value	Function	Type of control
79	110	Horizontal bands 8x,top-->bottom	step
	111	Horizontal bands 8x,bottom-->top	step
	112	Vertical bands 8x,left-->right	step
	113	Vertical bands 8x,right-->left	step
	114	Horizontal bands 16x,top-->bottom	step
	115	Horizontal bands 16x,bottom-->top	step
	116	Vertical bands 16x,left-->right	step
	117	Vertical bands 16x,right-->left	step
	118	Horizontal bands 32x,top-->bottom	step
	119	Horizontal bands 32x,bottom-->top	step
	120	Vertical bands 32x,left-->right	step
	121	Vertical bands 32x,right-->left	step
	122	Horizontal crossing 4x	step
	123	Horizontal crossing 4x,inverse	step
	124	Vertical crossing 4x	step
	125	Vertical crossing 4x,inverse	step
	126	Horizontal crossing 8x	step
	127	Horizontal crossing 8x,inverse	step
	128	Vertical crossing 8x	step
	129	Vertical crossing 8x,inverse	step
	130	Horizontal crossing 16x	step
	131	Horizontal crossing 16x,inverse	step
	132	Vertical crossing 16x	step
	133	Vertical crossing 16x,inverse	step
	134	Checker wipe 3x4, left-->right	step
	135	Checker wipe 3x4, right-->left	step
	136	Checker wipe 4x4, left-->right	step
	137	Checker wipe 4x4, right-->left	step
	138	Checker wipe 5x8, left-->right	step
	139	Checker wipe 5x8, right-->left	step
	140	Checker wipe 9x8, left-->right	step
	141	Checker wipe 9x8, right-->left	step
	142	Checker wipe 9x16, left-->right	step
	143	Checker wipe 9x16, right-->left	step
	144	Checker wipe 10x32, left-->right	step
	145	Checker wipe 10x32, right-->left	step
	146	2 diagonal curtains, bottom left-->center<-- top right	step
	147	2 diagonal curtains, top left-->center<-- bottom right	step
	148	Grid wipe 8x8,bottom right-->top left	step
	149	Grid wipe 8x8,bottom right-->top left,inverse	step
	150	Grid wipe 8x8,top right-->bottom left	step
151	Grid wipe 8x8,top right-->bottom left,inverse	step	
152	Grid wipe 16x16,bottom right-->top left	step	
153	Grid wipe 16x16,bottom right-->top left,inverse	step	
154	Grid wipe 16x16,top right-->bottom left	step	
155	Grid wipe 16x16,top right-->bottom left,inverse	step	
156	Grid wipe 32x32,bottom right-->top left	step	
157	Grid wipe 32x32,bottom right-->top left,inverse	step	
158	Grid wipe 32x32,top right-->bottom left	step	
159	Grid wipe 32x32,top right-->bottom left,inverse	step	
160	4 sliding triangles	step	
	161-255	Reserved	
80	0 1-254 255	Digital Iris Open iris From max.diameter to min.diameter Closed iris	step proportional step
81	0-255	Digital Iris fine Iris fine	proportional

Channel	Value	Function	Type of control
82	0 - 30	Strobe Open light output	step
	31 - 80	Strobe-effect from slow to fast	proportional
	81 - 110	Open light output	step
	111 - 140	Random strobe-effect from slow to fast	proportional
	141 - 149	Open light output	step
	150 - 154	Iris displays current gobo from gobo layer 1	step
	155 - 160	Iris displays current gobo from gobo layer 2	step
	161 - 255	Reserved	step
83	0-255	Banner left positioning Positioning from left to right (<i>0-default</i>)	proportional
84	0-255	Banner left rotation Rotation +/- 45° (<i>128-default</i>)	proportional
85	0-255	Banner right positioning Positioning from right to left (<i>0-default</i>)	proportional
86	0-255	Banner right rotation Rotation +/- 45° (<i>128-default</i>)	proportional
87	0-255	Banner top positioning Positioning from top to bottom (<i>0-default</i>)	proportional
88	0-255	Banner top rotation Rotation +/- 45° (<i>128-default</i>)	proportional
89	0-255	Banner bottom positioning Positioning from bottom to top (<i>0-default</i>)	proportional
90	0-255	Banner bottom rotation Rotation +/- 45° (<i>128-default</i>)	proportional
91	0-255	All Banners rotation Rotation +/- 45° (<i>128-default</i>)	proportional
92	0	Global Effects No effect	step
	1	Picture merging	step
	2-255	Reserved	
93	0	Global effect P1 None	step
	1-63	Image field configuration for <u>Picture merging</u> (set channel 92 to a DMX=1)	
	64-255	Reserved	
94	0-63	Global effect P2 Segment selection for <u>Pixture merging</u> (set DMX value value on channel 93)	step
	64-255	Reserved	
95	0-171	Global effect P3 Segment edge display for <u>Pixture merging</u> (set DMX value value on channel 94)	step
	172-255	Reserved	

14.DigitalSpot 5000 DT - Control menu map

Default settings=Bold print

Fixture Address

- DMX Settings
 - Set DMX Address
 - Activate DMX Mode
- Artnet Settings
 - Set IP Address
 - Custom IP Address
 - Default IP Address
 - Set ArtNet Universe (0 -15)
 - Set ArtNet Subnet (0 -15)
 - Activate ArtNet Mode

Fixture information

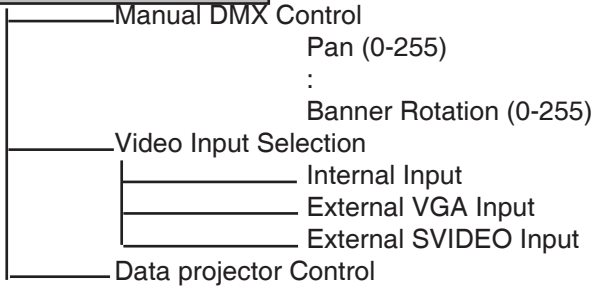
- DMX Values
 - Pan (0-255)
 - :
 - Banner rotation (0-255)
- Software Version
 - Graphic Engine
 - IC1 Motherboard
 - IC2 Motherboard
 - IC3 Motherboard
 - Headboard
- Product IDs
 - Mac Addr.

Personality

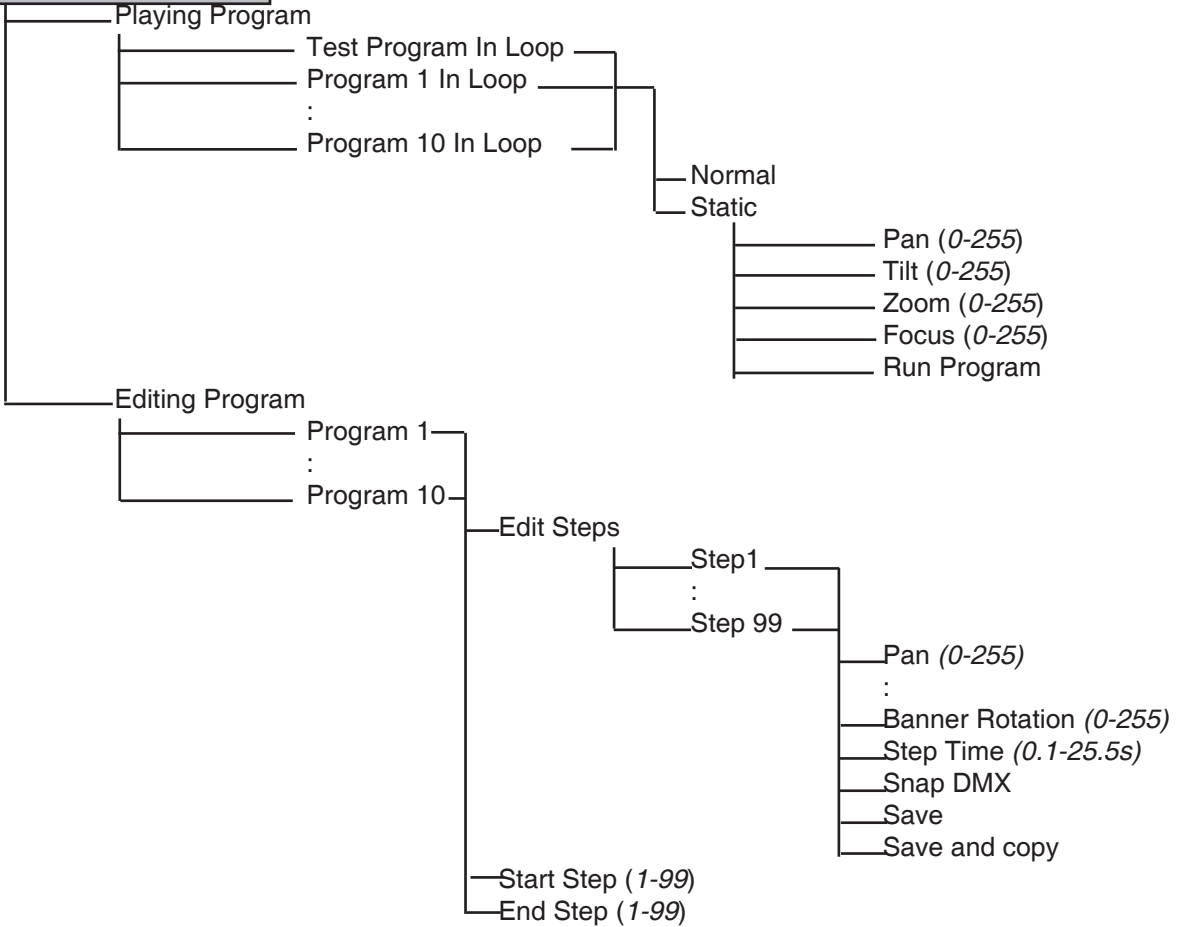
- Pan Reverse (*On, **Off***)
- Tilt Reverse (*On, **Off***)
- Lamp Presetting
 - Lamp On/Power On (*On, **Off***)
 - Lamp Off via DMX (**On, Off**)
 - Lamp On If DMX is Present (*On, **Off***)
 - Lamp Off if not DMX (*On, **Off***)
- Display Adjusting
 - Display Permanent On
 - Display Off After 5 min
 - Permanent On**
 - Display Orientation
 - Normal Orientation**
 - Rotated Orientation
 - Display Gamma Correction
 - Red (**10**)
 - Green (**10**)
 - Blue (**10**)
 - Display Hue (**0**)
 - Display Saturation (**156**)
 - Display Digital Vibrance (**0**)
 - Display Image Sharpening (**0**)
- Pan/Tilt Feedback (**On, Off**)
- Pan/Tilt Mode
 - Time Mode
 - Speed Mode**
- Active Blackout While:
 - During Movement Correction (*On, **Off***)
 - Pan/Tilt Moving (*On, **Off***)
- Datapjector Presetting
 - Ceiling Projection (*Off, **On***)
 - Rear Projection (*Off, **On***)
- Set DMX protocol (*Version 3.5, Version 4.3, **Version 5.1***)
- Default Setting

Lamp On/Off (On, Off)

Manual Control

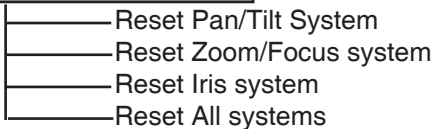


Stand-alone setting

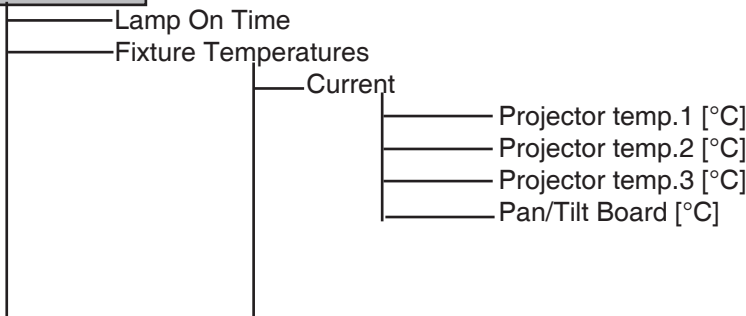


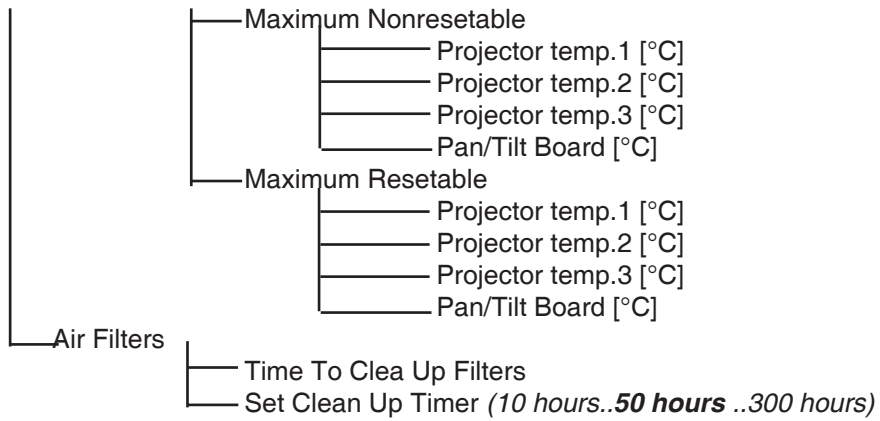
Preview Mode

Reset functions

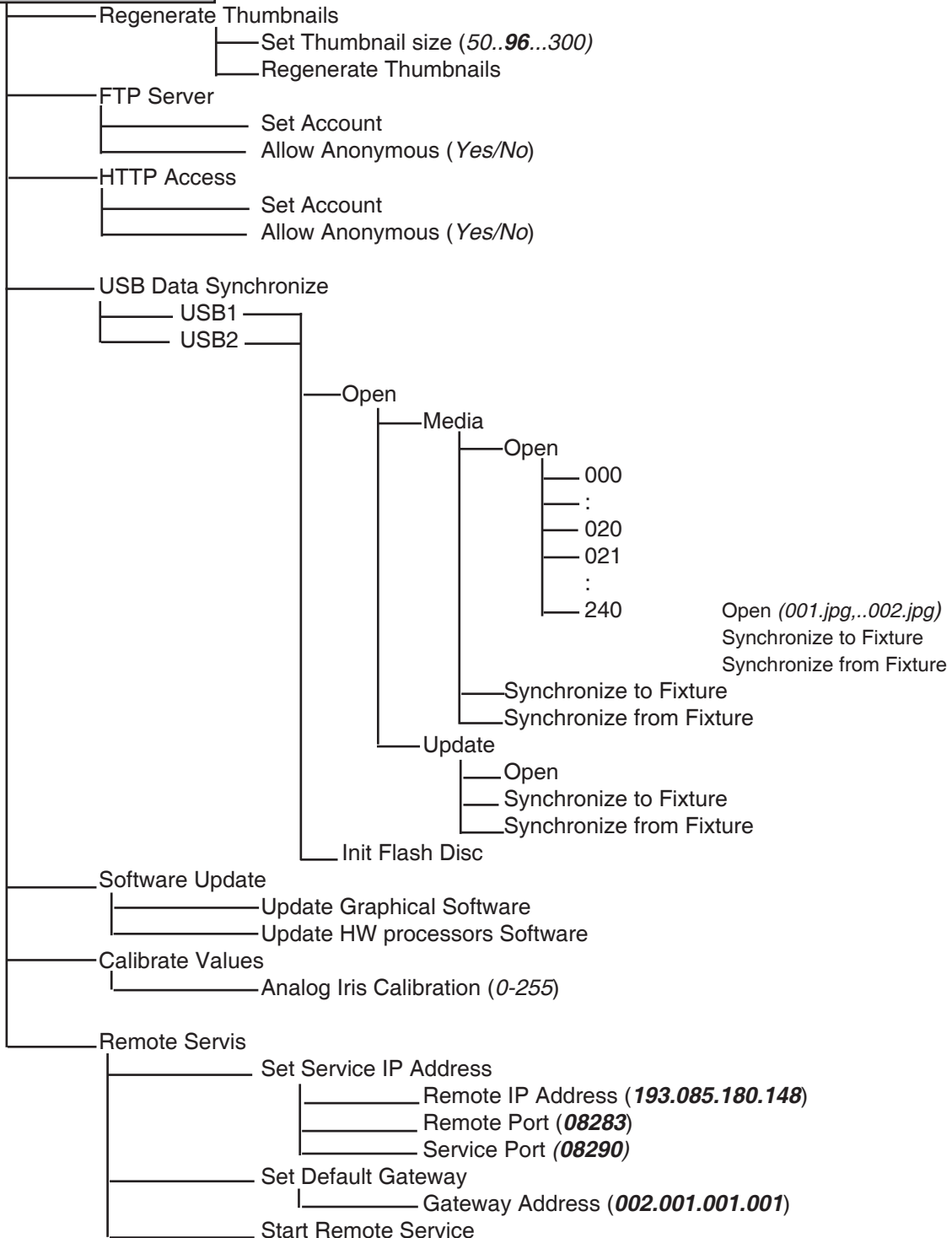


Service menu





Special functions



Open (*001.jpg,..002.jpg*)
 Synchronize to Fixture
 Synchronize from Fixture

Fixture Off

15. Operating modes

Before operating the DigitalSpot 5000 DT from a DMX 512 controller, you need to define the source of DMX data, which may be:

DMX 512 - data is transmitted over standard DMX cables. Set a valid DMX start address, which is defined as the first channel from which the DigitalSpot 5000 DT will respond to the controller.

If you set, for example, the start address to channel 1, the DigitalSpot 5000 DT will use channels from 1 to 86 for control.

Please, be sure that you don't have any overlapping channels in order to control each DigitalSpot 5000 DT correctly and independently from any other fixture on the DMX data link.

For DMX start address setting, please refer to the instructions under "Fixture Address".

ArtNet - data is transmitted over Ethernet cables using ArtNet protocol. Set an IP address, ArtNet Universe and ArtNet Subnet.

For ArtNet setting, please refer to the instructions under "Fixture Address".

16. Control menu

The control panel situated on the front panel of the base offers several features. You can simply set the fixture addresses, configure the fixture, run test, make a reset and also use many functions for setting fixture behaviour.

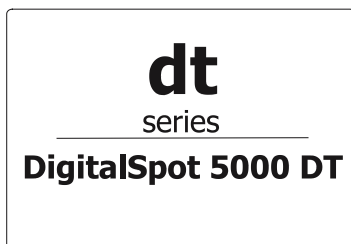
Control elements on the control board:

[RNS] encoder wheel - moves between menu items on the 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,
the display shows the initial screen:**



**than press [ENTER] and
the display shows addresses:**

ARTNET MODE	
IP Address:	Fixture ID: 2.1.1.50
ArtNet Universe:	0
ArtNet Subnet:	0
DMX Address:	001

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.

16.1 Fixture Address

Use this menu to set the DMX address.

DMX Setting --- Select this submenu to set the DMX start address.

Set DMX Address - sets DMX address. After selecting desired DMX address confirm setting by using the function "Activate DMX Mode":

Activate DMX Mode - Data is received from DMX input.

ArtNet Setting --- Select this submenu to set the fixture for Ethernet operating.

Set IP Address - Select this submenu to set an IP address and NetMask.

The IP address is the Internet protocol address and 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 - Preset IP address.

Custom IP Address - The option enables edit all numbers of IP address.

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 address
 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 previously edited number, press [ESC].
The same way you can set the Netmask Address.

Set ArtNet Universe - Select this submenu to set a Universe (0-15). The Universe is a single DMX 512 frame of 512 channels.

Set ArtNet Subnet - Select the option to set Ethernet subnetworks to which the fixture belongs (0-15)

After setting all Artnet parameters confirm setting by using the function "Activate Artnet Mode":

Activate Artnet Mode - Data is received from Ethernet input.

16.2 Fixture information

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

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

Graphic Engine - A graphic software

IC1 Motherboard - A processor IC1 on the main board in the fixture base (communication, DMX)

IC2 Motherboard - A processor IC2 on the main board in the fixture base (tilt)

IC3 Motherboard - A processor IC3 on the main board in the fixture base (pan)

Headboard - A processor in the fixture head (zoom,focus,iris)

16.3 Personality

Use this menu to modify DigitalSpot 5000 DT operating behavior.

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

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

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

Lamp On/Power On - Select this function to turn the projector's 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.

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.

Display Adjusting --- This function allows you to change the display setting:

Display Permanent On - This function allows you to keep the display permanent on or to turn it off after 5 minutes of inactivity of control buttons (wheel)

Display Orientation - Select this function to adjust the display orientation:

Normal orientation - A standard display orientation.

Rotated Orientation - Inverts the display by 180°.

Display Gamma Correction - Use the items Red,Green and Blue to obtain better balance or contrast of the display:

Display Hue - Use the function to adjust desired hue of colour .

Display Saturation - Use the function to adjust desired saturation of colour.

Display Digital Vibrance - Use the function to achieve accurate,bright colours .

Display Image Sharpening - Use the function to adjust desired image sharpening.

Pan/Tilt Feedback --- This function allows to return the moving head to the required pan/tilt position after changing the position by an external force (e.g.by a stroke).

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

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.

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 certain events:

During Movement correction --- 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 Moving --- This function closes the light output during pan/tilt changes.

Dataprojector Presetting --- Use this menu to set useful functions for the special projections:

Ceiling Projection --- When this function is "On", picture is top (bottom and left) right reversed. This function is used to project the image from a ceiling mounting the DigitalSpot 5000 DT.

Rear projection --- When this function is "On", picture is left (right) reversed. This function is used to project the image to a rear projection screen.

Set DMX protocol --- Use this menu to choose desired DMX protocol.

Version 3.5 --- contains 86 control channels.

Version 4.3 --- contains 87 control channels.

Version 5.1 --- contains 95 control channels.

In comparison with Version 3 this version includes the channel for adjusting of the colour temperature filter (CTF).

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

16.4 Lamp On/Off

Use this option in order to switch on/off the projector's lamp. Do not use the projector continuously for 24 hours or more. If using the projector continuously for long periods, turn it off and leave it for one hour at least once during a 24 hour period.

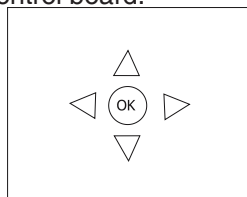
16.5 Manual control

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

Video Input Selection --- This menu enables select desired video input:

Internal input
External VGA Input
External SVIDEO Input

Data projector control --- Select this menu to operating on-screen menu of the projector by means of control elements placed on fixture control board.



[RNS] encoder wheel controls movement between arrow fields on the control display and [ENTER] button enables movement in menu. Pressing [ENTER] on circular field (with "OK") confirms selected options. [ESC] button-leaves menu without saving changes.

16.6 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.

Playing program --- Select this menu to run a built-in program or 10 freely-programmable programs in a loop.

Test Program In Loop - The option starts built-in test program.

Program 1 In Loop ---

: : These options start user's programs

Program 10 In Loop ---

Every program can run in two modes:

Normal-This mode uses pan/tilt movement and therefore is good for dynamic projection.

Static- This mode is suitable for projections on the wall, ceiling or

ground without any head movement. By means of items Pan, Tilt, Zoom and Focus is possible to adjust moving head to desired position.

Running program is possible to pause by pressing [ENTER] .

Editing Program --- Select this menu to edit or create the program. The DigitalSpot 5000 DT has 10 freely-programmable programs, each up to 99 steps. Each program step has a step time, during which effects last in a current step.

Procedure:

1. Select the program you want to edit ("Program 1" - "Program 10") 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 by [RNS] encoder wheel
5. Press [ENTER] to save adjusted value.
6. Select another effects (channels and repeat steps 4 and 5).
7. Select "Save" or "Save and Copy" and press [Enter] to confirm all adjusted values in current step:
 - "Save" - saves the current prog. step
 - "Save and Copy" - saves and copies the current prog. step to the next prog. step.
 - "Snap DMX" - inserts current values from DMX to all effects (channels). It is very useful function, you don't have to adjust all effects to desired positions, values are loaded from DMX.
8. Go on next prog. step, press [ENTER] and repeat this procedure (steps 4 and 7).

After creation of the program, you can simply reduce its length (by changing the start/end step) using the "Start Step" and "End Step" menu.

16.7 Preview mode.

This item enables to display the image going from projector on the fixture's control display.

Note: If this function is called out, the video sequence from projector will not be played continuously because the fixture's processor has to display this sequence twice at the same time.

16.8 Reset functions

The DigitalSpot 5000 DT can be reset totally or by function modules. Select relevant function to run a reset:

Reset Pan/Tilt System --- This function resets pan and tilt.

Reset Zoom/Focus system --- This function resets zoom and focus modules.

Reset Iris System --- This function resets iris module.

Reset All systems --- This function enables the fixture to index all effects and return to their standard positions.

16.9 Service menu

Use this menu to read useful information about the fixture.

Lamp On Time --- Select this submenu to read the number of the operation hours with the lamp on.

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

Current - Select this function to read the current temperatures of the fixture interior .

Maximum nonresetable - The function shows the max. temperatures of the fixture interior since the DigitalSpot 5000 DT has been fabricated.

Maximum resetable - The function shows the maximum temperatures of the fixture interior since the respective counter was last reset. In order to reset desired counter to 0, press [ENTER] twice.

Measuring points of temperatures:

Projector temp.1 [°C]

Projector temp.2 [°C]

Projector temp.3 [°C]

Pan/Tilt Board[°C].....temperature in the base of the fixture

temperatures measured in the data projector in the head

Air Filters --- Regular cleaning of the air filters is very important for the DigitalSpot 5000 DT life and performance. Buildup of dust, dirt and fog uid residues reduces the fixture's light output and cooling ability. The two items of this menu help you to keep cleaning period of the air filters.

Time To Cleanup Filters - The option allows you to read the time which remains to

cleaning air filters.Expired time period is signaled by a negative mark at the time value and a warning icon (triangle) on the display with the following message:

"Please , Clean Up Airs Filters."

Clean the filters and reset this menu item (by pressing "Enter" button twice while this menu is highlighted)

Set Cleanup Timmer - 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 "reminder" value is 50 hours and it is set as default.Inspect 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 is 10 hours, max. is 300 hours.

16.10 Special functions

Use this menu for special services like remote servis or software update.

Regenerate Thumbnails --- Use the menu to manage thumbnails behaviour.

Set Thumbnail size - The menu item allows set the size of thumbnail.50-min.size, 300-max.size.

Regenerate Thumbnails - By pressing "Enter" button the refreshing process of gobo/video thumbnails starts.This action should be performed if you had changed gobo/video files and the fixture was not switched off after this change , otherwise the refreshing process runs automatically at starting up of the DigitalSpot 5000 DT.

FTP Server --- The FTP (File Transfer Protocol) server is used to transfer files between the fixture and a PC over an ethernet network by means of FTP client running on your PC.The "FTP Server" menu enables control of an access to the fixture's folders.

Set Account - The option allows you to protect the access to the fixture folders by setting the name and password.The same data must be entered in FTP terminal running on your PC.

Allow Anonymus - If this option is set "Yes" ,no password is required in FTP terminal but the user name may be "ftp" or "anonymous".

HTTP Access --- This menu enables to set access privileges which are used at entering to the Remote configuration program via your WWW browser.

Set Account - The option allows you to protect the access to the Remote configuration program by setting the name and password.The same data must be used at the Remote configuration program running on your PC or a light control console.

Allow Anonymus - If this option is set "Yes" ,no password is required at entering to the Remote configuration program.

USB Data Synchronization --- The menu allows transfer of media files (images,videos) and software files between the USB stick and fixture's hard disk and related operations.

The USB stick must contain the folders structure:

```
Media
      000
      001
      002
      :
      240
Update
```

To create the folders structure mentioned above,use the option **Init Flash Disc**.After creating folders structure on the USB stick you may load/download files into folders/subfolders .Maximum number of media files in one Media subfolder is 255. **Subfolders 000-020 are reserved for default gobos and videos and can't be changed (you cannot copy media files into these subfolders).**

To upload a file/folder from the USB stick to the Media folder in the fixture:

1.Insert the USB stick to the USB port , select "**USB Data Synchronize**" from the menu and press Enter.There is "**USB1**" or "**USB2**" (depends on used USB port) displayed on the screen.

2.Press Enter,select "**Open**",press Enter.

3.Select "**Media**",press Enter,

4.If you want to copy whole Media folder (including subfolders 000-240),select item "**Synchronize to Fixture**".If you want to copy only one subfolder (e.g. 035) ,select "**Open**",press Enter , select desired subfolder from a list of subfolders ,press Enter and select option "**Synchronize to Fixture**".If you want to copy only one file,select "**Open**" and press Enter.Select the desired file,press Enter and confirm a question in a dialog box.

To download folder from the Media folder to the USB stick.

- 1.Insert the USB stick to the USB port , select "**USB Data Synchronize**" from the menu and press Enter.There is "**USB1**" or "**USB2**" (depends on used USB port) displayed on the screen.
- 2.Press Enter,select **Open**,press Enter.
- 3.Select "**Media**",press Enter,
- 4.If you want to copy whole Media folder from the fixture (including subfolders 000-240),select item "**Synchronize from Fixture**".If you want to copy only one subfolder (e.g. 035) ,select "**Open**",press Enter , select desired subfolder from a list of subfolders ,press Enter and select option "**Synchronize from Fixture**".If you want to copy only one file,select "**Open**" and press Enter.Select the desired file,press Enter and confirm a question in a dialog box.

Software Update --- This menu enables update graphical software or hardware processors.

You have to download the latest version of the DigitalSpot 5000 DT software from ROBE website to your hard disk and then use the Ethernet network or the USB stick to move this file to the relevant folder in the DigitalSpot 5000 DT.

Copying software update file from the USB stick to the fixture:

- 1.Insert the USB stick to the USB port, select "**USB Data Synchronize**" from the menu and press Enter.There is **USB1** or **USB2** (depends on used USB port) displayed on the screen.
 - 2.Press Enter,select **Open**,press Enter.
 - 3.Select **Update** and press Enter.If you want to upload whole Update folder to the fixture,select option "**Synchronize to Fixture**".
- If you only want to copy one or more files to the fixture,select option "**Open**" and press Enter.Select desired file,press Enter and confirm a question in a dialog box.

After copying update file to the fixture,the desired software update will be activated by confirming the follow items:

Update Graphical Software - starts update of graphical software

Update HW processors Software - starts update of hardware functions like pan/tilt movement etc.

Calibrate Values --- This menu allows fine adjusting of mechanical parts of the fixture by microsteps.

Analog Iris calibration- fine adjusting of mechanical iris in range 0-255 microsteps.

Remote servis --- This menu provides items necessary for remote servis control of the DigitalSpot 5000 DT.

16.11 Fixture Off

This function shuts down the fixture.The projector lamp is switched off as first and after cca 10 seconds is switched off the fixture.

17. Media content management

As you seen earlier in chapter "7. Folders organization",the DigitalSpot 5000 DT use the root folder named "Media".This folder contains subfolders (000,001...240) and inside each subfolder is the collection of media that the subfolder holds.The files in subfolders are alphabetized and associated with DMX values.The first part of the file name should be a a 3-digit number followed by an underscore and a name e.g.:

001_sun..... 1 DMX

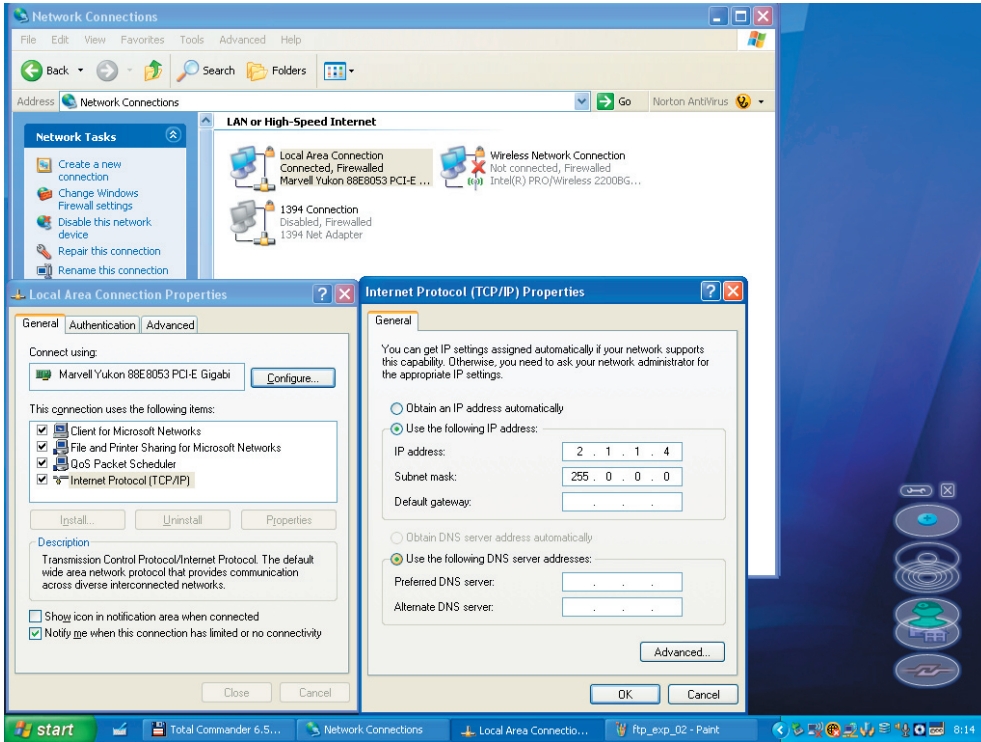
002_snow_castle.....2 DMX

:

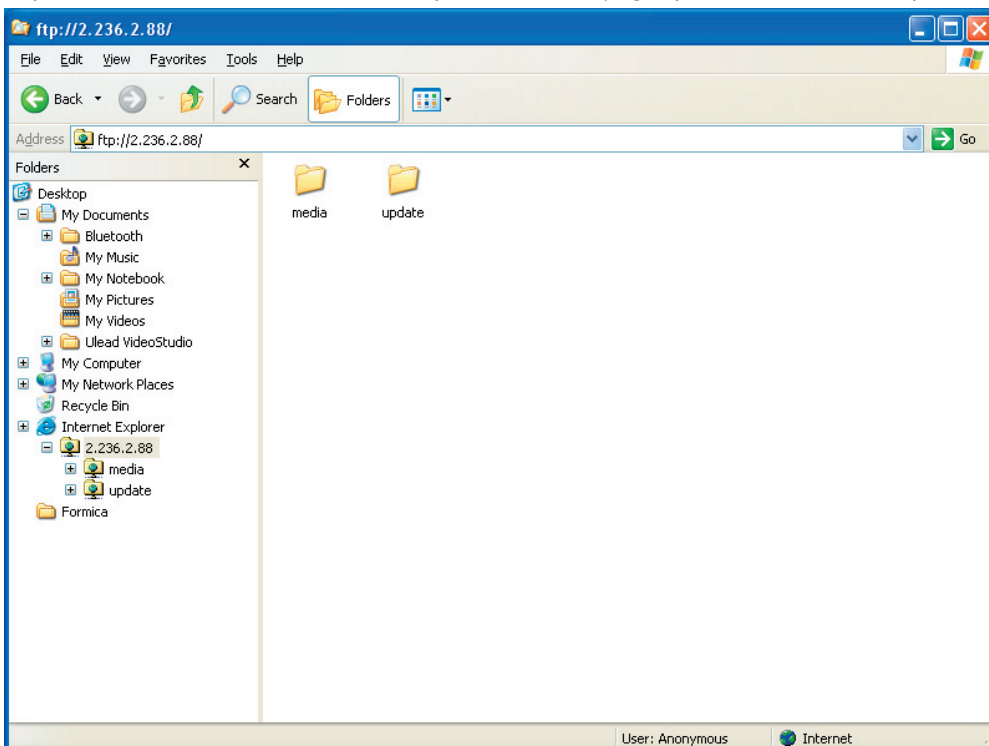
255_apple.....255 DMX

Subfolders 000-020 are reserved for default gobos and videos (from factory) and can't be changed

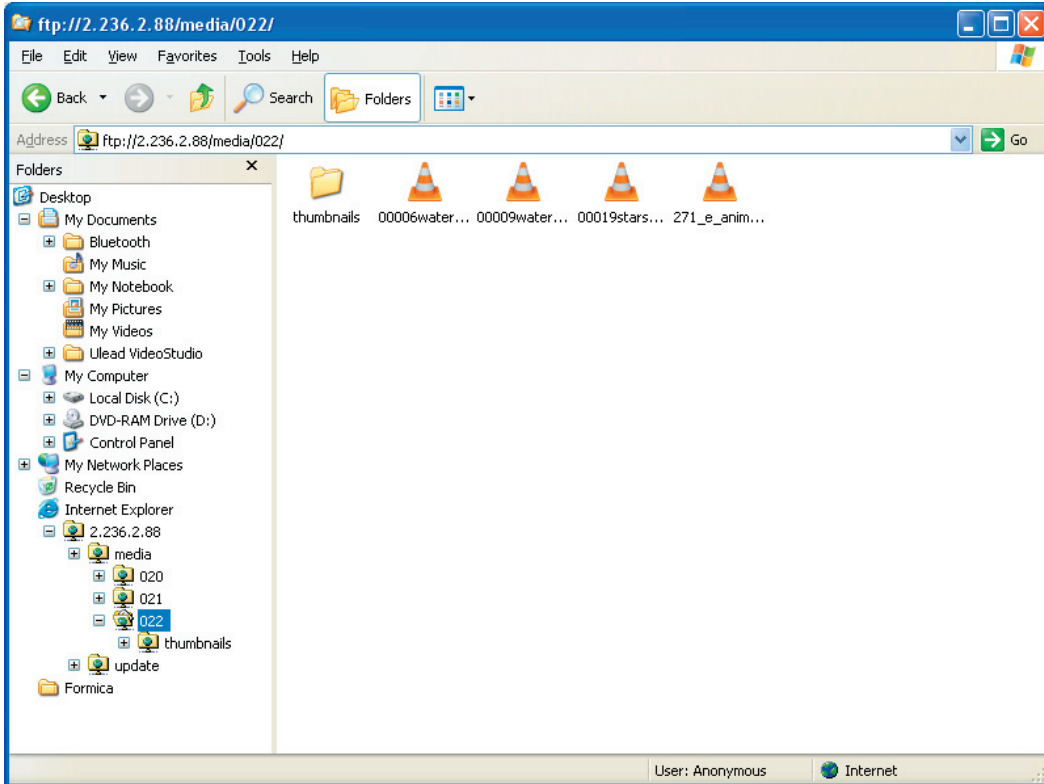
To add or remove files from the subfolders, you can use FTP client running on your PC (light console).In this case, the correct network configuration and IP address settings of PC is important.There is an example for Windows XP:



After network configuration, type the IP address of your DigitalSpot 5000 DT into address line in Windows explorer window.Use the sentence ftp:// 2.X.X.X / (e.g. ftp://2.236.2.88/- see picture below)



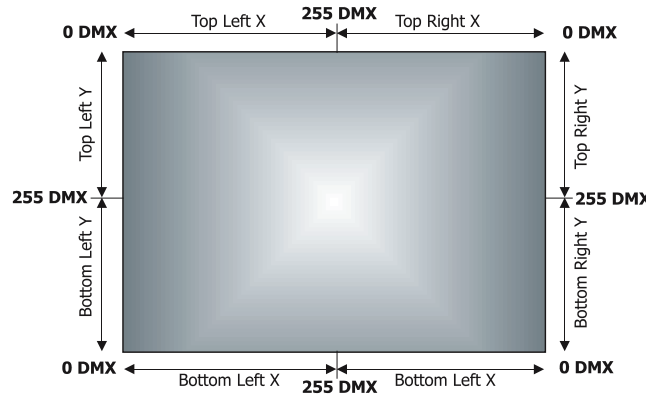
If all settings are correct, you will see "Media" and "Update" folders in Windows explorer window and now you can work with them as with local folders and files.



The second way, how to add or remove files from the subfolders is by means of USB stick-see "USB Data Synchronization" in chapter "16.10 Special function. "

18.Keystones

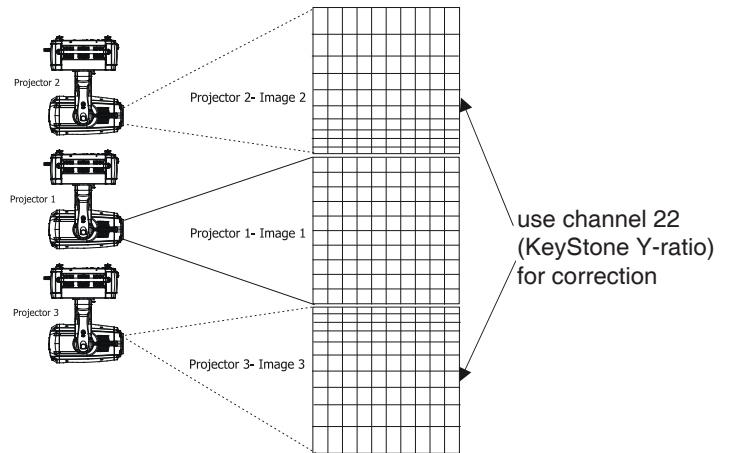
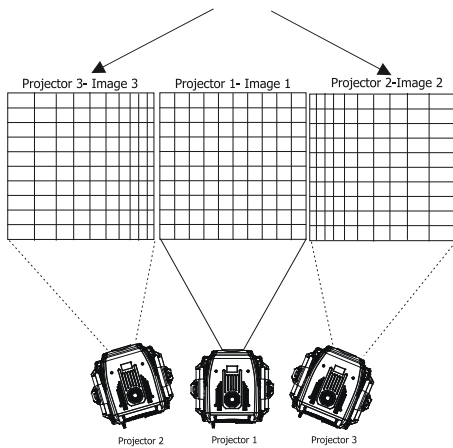
If an image is output from the DigitalSpot 5000 DT at an angle the image may be skewed. Eight keystones adjust the image shape. It is possible to control each of the four corners of the image and reshape it. Default DMX value is 0, it means that no keystone correction has been used.



Setting all keystone values to 0 will place all four corners of the image at the four corners of the projector output. The keystone values can also be used to create interesting skewing effects.

For the picture merging are important both the KeyStone X-ratio and KeyStoneY-ratio channels for correction of the image distortion caused by placing projectors in different distances from the final image:

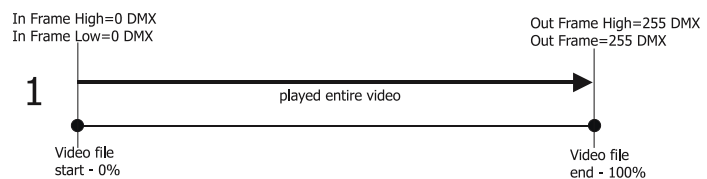
use channel 21(KeyStone X-ratio) for correction



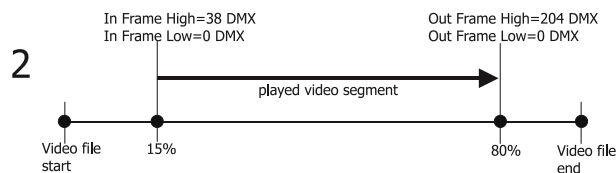
19. In Frame and Out Frame parameters

You can select any segment of a video file for playback by assigning parameters for In Frame (start point) and an Out Frame (end point) as pictured below. The In Frame parameter corresponds to a 16-bit DMX value equal to a starting point for the playback segment of the selected video file. The Out Frame parameter corresponds to a 16-bit DMX value equal to an end point for the playback segment of the selected video file.

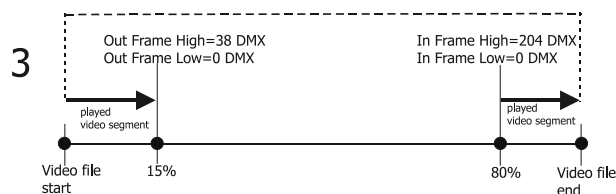
1. Assigning the In Frame DMX values to 0 and Out Frame DMX values to 255 you will playback the entire video file.



2. You can create a segment anywhere between the beginning and the end of video file.



3. It is possible to skip a segment in the video file by setting the In Frame to a point following the Out Frame value.



20. Playback modes

DMX value	Playback mode	Meaning
0.	Play forward continuously if dimmer >0	Plays the video segment from InFrame point to Out Frame point,continuous looping.The dimmer value has to be greater than 0.
1	Play forward once if dimmer >0	Plays the video segment from InFrame point to Out Frame point and holds on the last frame. The dimmer value has to be greater than 0.
2	Pause	Stops playback of video file at the current playing
3	Play forward in continuous loop	Plays the video segment from In frame point to Out Frame point,looping continuously frame

4	Play forward once	Plays the video segment from In Frame point to Out Frame point and holds on the last frame
6	Scrub (display) the selected In Frame	Displays the frame which has been defined by the In Frame value.
7	Scrub (display) the selected Out Frame	Displays the frame which has been defined by the Out Frame value.

21. Playback speed

The Playback Speed value controls the speed of video playback at selected Playback Mode.

DMX value	Playback speed	Meaning
0 or 128	Normal speed	Plays back video files at the original record. speed
1-127	Slow speeds from slowest to normal	Plays back video files at an increasing speed, from the slowest to the original recorded speed
129-255	Faster than Normal to fastest	Plays back video files at an increasing speed, from faster than normal to the fastest.

22. Picture merging

The picture merging system allows to create a panoramic projection controlled from a light DMX console. The resulting seamless image consists of the images of the individual projectors. It is possible to create an image field up to 8x8 segments.

You can display the original DigitalSpot 5000 DT gobos/videos or custom gobos/videos from user folders.





















22.1 Picture merging control channels

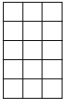
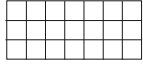


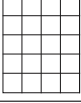
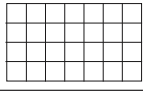
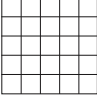
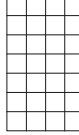

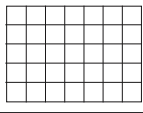
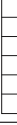
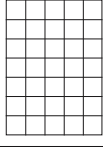
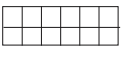
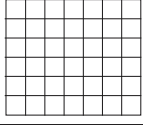
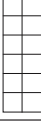
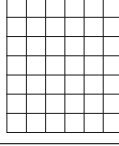
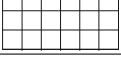
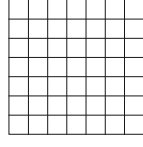


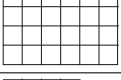

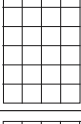
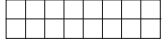
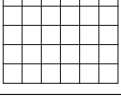
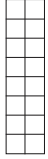
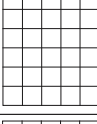
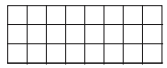
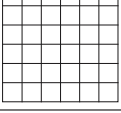
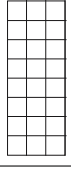
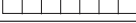
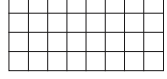

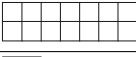

The channel 92 (Global effects)

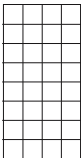
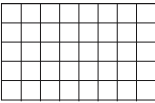
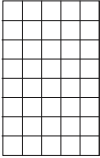
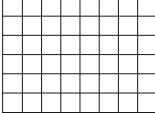
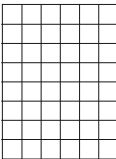
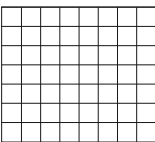
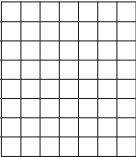
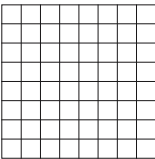
A DMX value of 1 enables the picture merging procedure.

The channel 93 (Global effect P1)

The DMX value from the range of 1- 63 selects desired image field configuration according to the following tables:

DMX value	Number of projectors outputs	Image field configuration	Total number of DigitalSpot 5000 DT
1	2 x 1		2
2	1 x 2		2
3	2 x 2		4
4	3 x 1		3
5	1 x 3		3
6	3 x 2		6
7	2 x 3		6
8	3 x 3		9
9	4 x 1		4
10	1 x 4		4
11	4 x 2		8
12	2 x 4		8
13	4 x 3		12
14	3 x 4		12
15	4 x 4		16
16	5 x 1		5
17	1 x 5		5
18	5 x 2		10
19	2 x 5		10
20	5 x 3		15

DMX value	Number of projectors outputs	Image field configuration	Total number of DigitalSpot 5000 DT	DMX value	Number of projectors outputs	Image field configuration	Total number of DigitalSpot 5000 DT
21	3 x 5		15	40	7 x 3		21
22	5 x 4		20	41	3 x 7		21
23	4 x 5		20	42	7 x 4		28
24	5 x 5		25	43	4 x 7		28
25	6 x 1		6	44	7 x 5		35
26	1 x 6		6	45	5 x 7		35
27	6 x 2		12	46	7 x 6		42
28	2 x 6		12	47	6 x 7		42
29	6 x 3		18	48	7 x 7		49
30	3 x 6		18	49	8 x 1		8
31	6 x 4		24	50	1 x 8		8
32	4 x 6		24	51	8 x 2		16
33	6 x 5		30	52	2 x 8		16
34	5 x 6		30	53	8 x 3		24
35	6 x 6		36	54	3 x 8		24
36	7 x 1		7	55	8 x 4		32
37	1 x 7		7				
38	7 x 2		14				
39	2 x 7		14				

DMX value	Number of projectors outputs	Image field configuration	Total number of DigitalSpot 5000 DT
56	4 x 8		32
57	8 x 5		40
58	5 x 8		40
59	8 x 6		48
60	6 x 8		48
61	8 x 7		56
62	7 x 8		56
63	8 x 8		64

The channel 94 (Global effect P2)

The DMX values from the range of 0-63 are used to step segment by segment throw the image grid. The DMX value of 0 corresponds to the upper left segment of the image grid. The stepping runs from the left to the right and down from top (see example for field 8x3 segments bellow).

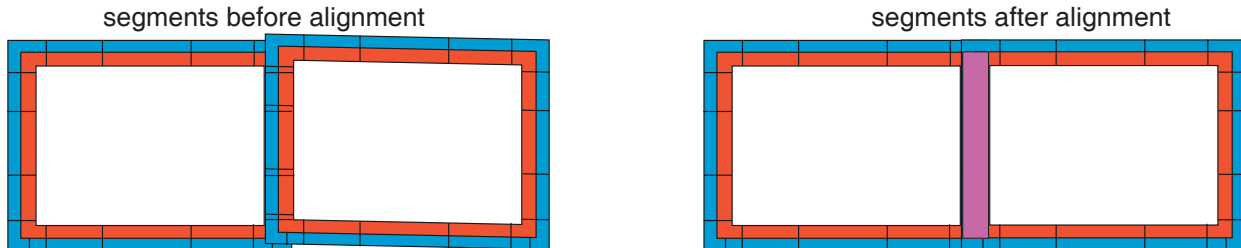
DMX=0	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8
DMX=8	Segment 9	Segment 10	Segment 11	Segment 12	Segment 13	Segment 14	Segment 15	Segment 16
DMX=16	Segment 17	Segment 18	Segment 19	Segment 20	Segment 21	Segment 22	Segment 23	Segment 24

The channel 95 (Global effect P3)

This channel enables to transform displaying of the segment edges-sharp or blended edges.You can also display the blue and red auxiliary frame with the alignment marks for easir alignment of the adjacent segments:

Channel	Value	Type of control	Type of control
95	0-130	Global effect P3 Displays segment with blended edges (active keystoneing)	step
	131-141	Displays segment with sharp edges (active keystoneing)	step
	142-150	Displays segment with sharp edges	step
	151-160	Displays auxiliary patern frame with sharp edges (active keystoneing)	step
	161-171	Displays auxiliary patern frame, sharp edges	step
	172-255	Reserved	

For alignment of segments use pan/tilt/, zoom and keystone channels.



At adjacent edges there is the blue edge that overlaps the red one and respectively :

Note. DMX values of channels 92 and 93 have to be the same on all fixtures used in the picture merging.

22.2 Picture merging example

There is an example of the image field 3x2 .

- 1.All fixtures that are a part of the picture merging have to have a different fixture ID (**The fixture ID= the last number of its IP address**).The fixture's IP address consists of four numbers separated by the dot e.g. 002.168.002.**010**.
- 2.Select the same gobo/video on the six DigitalSpots 5000 DT.
- 3.On all fixtures you are configuring set a DMX value=1 on channel 92 (Global Effect).
- On all fixtures you are configuring set a DMX value=6 on channel 93 (Global Effect P1).
- 4.Set a DMX value on the channel 95(Global Effect P3) between 151-160 to define a sharp edges of segments for a fine alignment.
- 5.On each individual fixture set a DMX value between 0-5 on channel 94 (Global Effect P2) to select the segment that the fixture will project.
- 6.Use pan/tilt/zoom and keystone channels to align the projections of individual fixtures in such a way that there is some overlap between the separate portions of the image.This overlap is necessary for the picture merging adjustment.
- 7.Set a DMX value on channel 95 between 131-141 to display the segment with sharp edges for fine adjustment by means the fine pan/tilt and keystone channels.

To execute the picture merging ,run the same gobo/video on all six fixtures and set the channel 95 to a DMX value 0-130.

Note: In order to assure a correct playback of videos sequences , all fixtures in the picture merging system should be synchronized to the one (master) fixture - see the chapter below.

23. Effect synchronization

The synchronization option can be set separately for each gobo layer (channels 48 and 74 in the DMX protocol v.5.x.The fixture synchronization acts with the fixture ID which is defined as the last number of fixture's IP address. This fixture ID is shown on the fixture's display.The fixtures are synchronized to the one fixture - named a master fixture.

The fixtures may be controlled by the DMX but the fixture synchronization runs over ethernet network - it means that all fixtures that are to be synchronized have to be connected to the ethernet.

Each DMX value of the synchronizing channel (e.g. channel 48) responds to the fixture ID of a certain fixture. You have to set the DMX value (ID) of the master fixture on all fixtures that are to be synchronized.If the DMX

value= fixture ID,in this case the fixture is set as a master.

Example: 4 DigitalSpots 5000 DT which are synchronized through the gobo layer 1 to the fixture 3:

	IP address	Fixture ID	Channel 48	
Fixture 1	002.168.002.010	10	DMX=20	
Fixture 2	002.168.002.015	15	DMX=20	
Fixture 3	002.168.002. 020	20	DMX=20	Master fixture
Fixture 4	002.168.002.021	21	DMX=20	

Note: For a synchronous video projection on the layer 1, the channels 26,27,28,29,30,31 have to have the same values on all fixtures.

The same condition is valid for the gobo layer 2 (channels 52,53,54,55,56,57)

24. Remote configuration via the WWW browser

The DigitalSpot 5000 DT offers a remote configuration of the fixture and displaying useful information about the fixture including the gobo folders contents via WWW browser.

Use the menu "HTTP Access" in "Special functions" to set desired access (password) to this utility, which runs over an ethernet network.

The fixtures has to be connected via ethernet to your local network but their ethernet control is nor required (they can be controlled by DMX).

To run the Remote configuration program write to your WWW browser on your PC the IP address of desired fixture and the input screen of the Remote configuration will appear. The PC or light console has to be connected to the same local network as the fixtures.

The Remote configuration program offers these screens:

1. Fixture Info - the screen offers information about fixture address, disc space, software versions etc.
2. Personality - the screen enables to change the fixture settings like a pan/tilt reverse, feedback, speed, lamp status, DMX protocol selection etc.
3. Status Messages - the screen displays error and status messages.
4. Content - by entering this screen a complete overview of all gobo folders is offered, from which the folder to be view can be selected. Click on desired folder and its contents will be displayed.

To end the program, close WWW browser (or use option "Logout" if you entered the program by user name and password)

25. Technical specifications

Power supply:

Voltage:.....100-120V AC or 200-240V AC, 50/60Hz
 Fuse:.....T 6.3 A
 Power consumption:.....800 VA

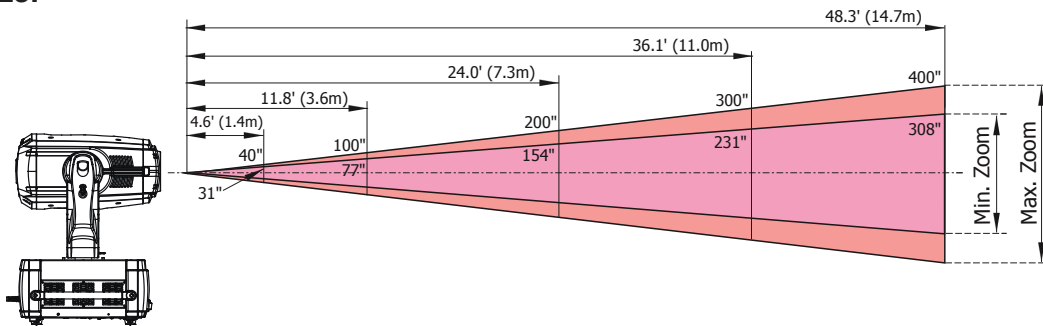
Projector lamp:

POA-LMP81 for projector XP56L
 POA-LMP101 for projector XP57L

Projector specification:

- throw distance:1.4m (4.6') - 14.7m (48.3')
- aspect ratio: 4:3
- panel resolution:1024x 768 dots
- 5500 ANSI Lumen output

Screen size:



Screen Size	Max. Zoom	40"	100"	150"	200"	250"	300"	400"
	Min. Zoom	31"	77"	115"	154"	192"	231"	308"
Distance		4.6' (1.4m)	11.8' (3.6m)	17.7' (5.4m)	24.0' (7.3m)	30.2' (9.2m)	36.1' (11.0m)	48.3' (14.7m)

Video inputs:

Data projector: 1 x 15-Pin VGA
 1 x S-Video

Graphic Engine: 1xS-Video
 1x Composite

DMX inputs/outputs:

3-pin and 5-pin XLR connectors

Other inputs:

2 x USB 2.0 input
 RJ-45 input for Ethernet connection

Hardware:

- MSI 945GM3 motherboard
- 3 GHz Intel LGA775 Pentium 4 processor
- 1GB RAM
- Graphics card nVidia 7600 GT
- Capture card WinFast VC 100XP
- Hard disk Western Digital 80 GB (of which 70 GB is usable for Media folder)

Oper.system:

Linux

Graphic engine:

- Two digital gobo layers with selection up to 244x 255 videos and images per layer
- Individual X and Y positioning and scaling for each gobo layer
- Rotating and indexing with continuous rotation for each gobo layer
- Gobo layer transparency for smooth gobo layer cross-fading

- 2 independent effect channels on each gobo layer with 120 effects
- Visual effects control for each gobo layer:amount or speed
- Adjustable playback speed,In frame and Out frame parametres for wideo playback
- Common effects for both gobo layers :CMY control,stroke, KeyStones, zoom,focus,mechanical and digital iris,framing shutters positioning and rotation
- Supported image file types:BMP,JPG,TGA,PNG
- Max. image resolution is limited to 4096x4096 (since data projector works in 1024x768, therefore it is recommended to convert the image to 1024x768 if the picture merging is not used)
- Supported video files MPG 1,MPG 2 (video resolution is limited to PAL)
- Picture merging up to 8x8 segments
- Effect synchronization
- 86,87 or 95 control channels (depends on choosen DMX protocol)

Control

- 5“ TFT LCD display & Robe navigation system
- Remote configutation via WWW browser

Pan/Tilt

- Pan movement range 530°
- Tilt movement range 280°
- 16 bit movement resolution
- Automatic Pan/Tilt position correction
- Remotely controllible speed of Pan/Tilt movement for easy programming

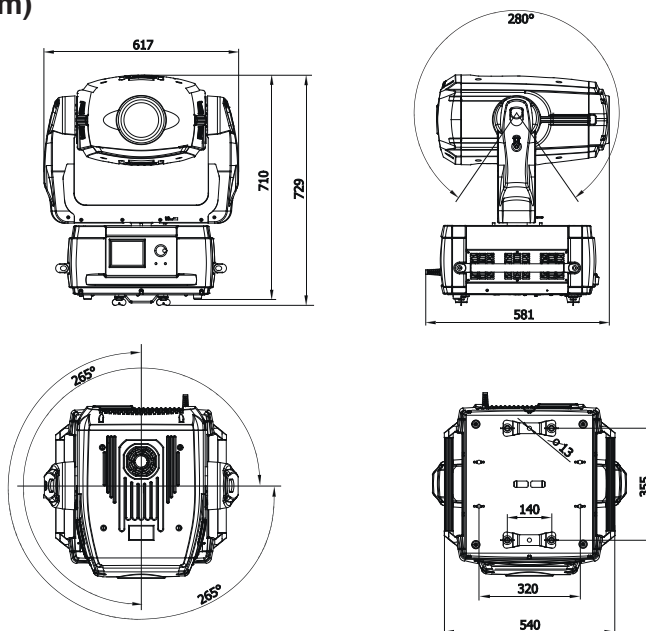
Rigging

- Stands directly on the floor
- Mounts horizontally with 2 Omega brackets
- 4 truss orientation
- Safety chain/cord attachment point

Temperatures

- Operating ambient temperature range : 5°- 35° C
- Maximum housing temperature : 45° C

Dimensions(mm)



Weight:

45 kg

Accessories

- Omega holder (No.99010420).....2 pieces
- Head air filters (No.99011835).....10 pieces

26. Maintenance

26.1 Cleaning

It is absolutely essential that the fixture is kept clean and that dust, dirt and smoke-uid 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 uid is recommended, under no circumstances should alcohol or solvents be used!

DANGER !
**Disconnect from the mains before starting any
cleaning and maintenance work**

The head front glass will require weekly cleaning as smoke-uid 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.

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

Cleaning a projection lens.

Apply a non-abrasive camera lens cleaner to a soft,dry cleaning cloth.Avoid using an excessive amount of cleaner.Abrasive cleaners,solvents or other harsh chemicals might scratch a surface.Lightly wipe a cleaning cloth over projection lens.

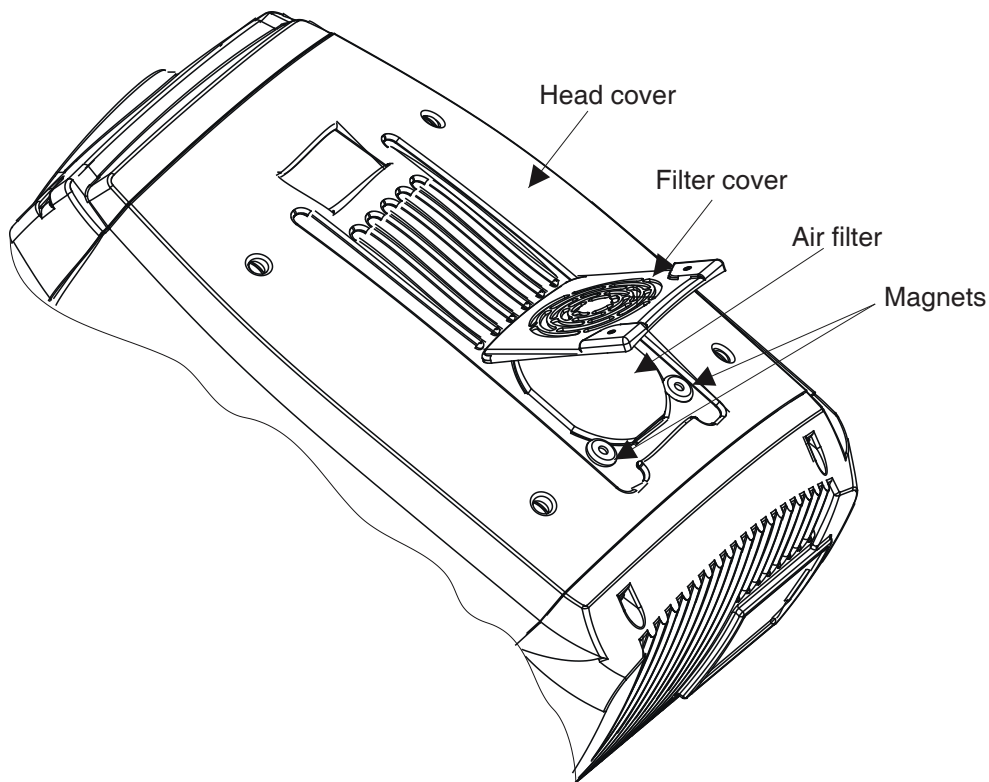
26.2 Replacing the air filters

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

Clean the air filters with a vacuum cleaner or you can wash them and put back dry.

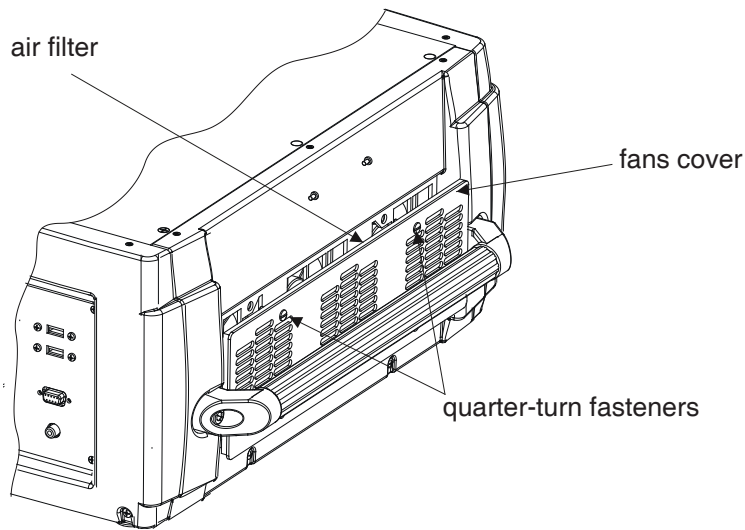
Replacing air filters in the fixture head.

- 1)Disconnect the fixture from power.
- 2)Raise up a filtr cover (fixed with two magnets)on the head cover
- 3)Remove the air filter
- 4)Clean or replace the air filter.
- 5)Snap the filtr cover back to the head cover.
- 6)Reset item "Time To Cleanup Filters" in the "Service menu".



Replacing the air filter in the fixture base.

- 1) Disconnect the fixture from power.
- 2) Remove a 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 fans cover and fix this cover back on the base.
- 6) Reset item "Time To Cleanup Filters" in the "Service menu".



26.3 Replacing the fuse

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

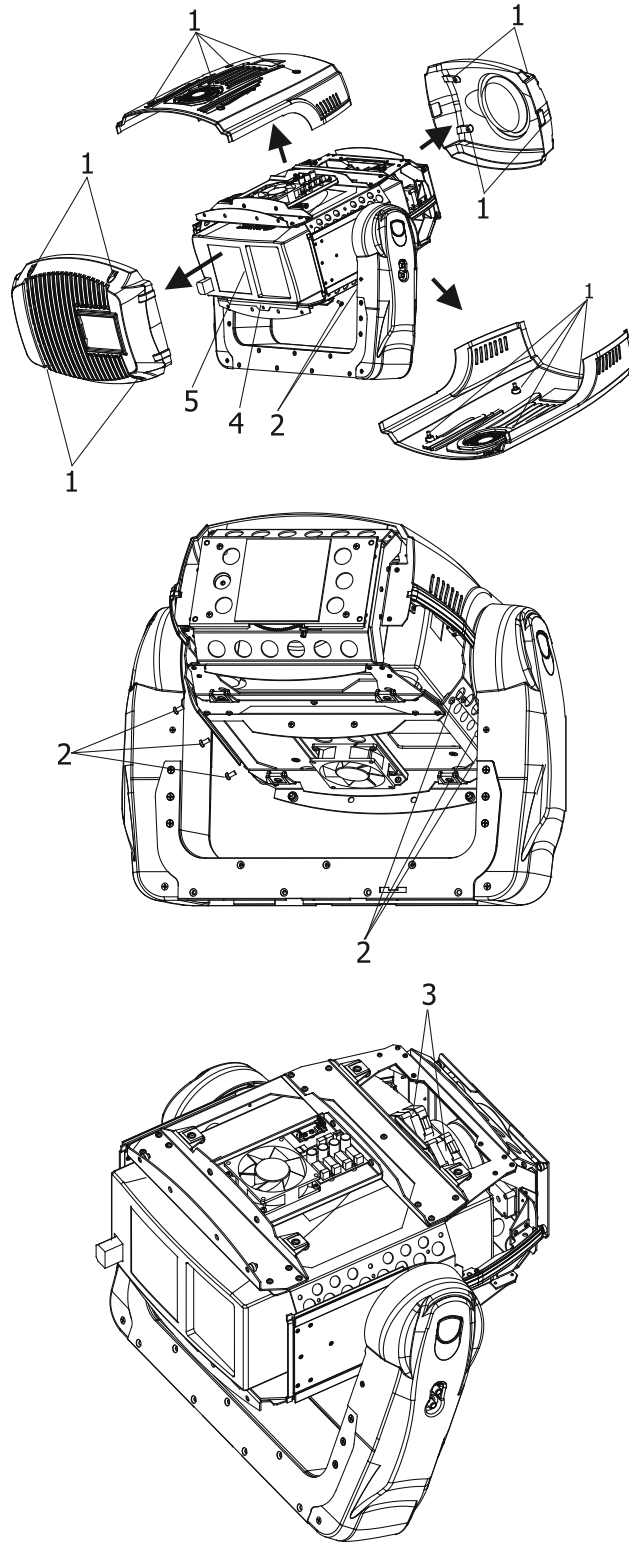
Before replacing the fuse, unplug mains lead.

Procedure:

- 1) Unscrew the fuseholder on the rear panel of the base with a fitting screwdriver from the housing (anti - clockwise).
- 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.

26.4 Changing the projector

If you need to take out the data projector, disconnect the DigitalSpot 5000 DT from the mains. Remove all plastic covers of the head by loosening the quarter-turn fasteners (1). Disconnect cables from two motors (3) and two sensors next to the projector objective. Disconnect all cables from the projector's rear panel and unscrew the 6 fastening screw (2) (three screws per side). Carefully pull out the projector (5) with chassis (4).



Specifications are subject to change without notice.

