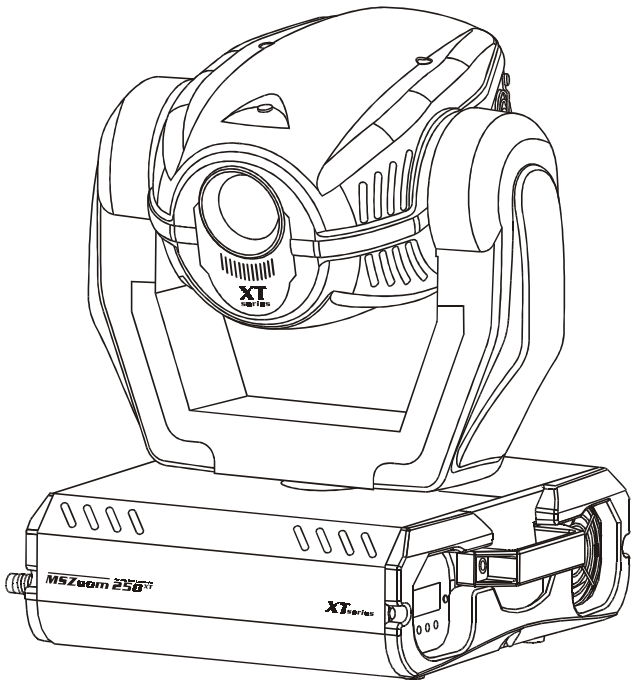
Moving Yoke Luminaire

MSZoom 250 XT



USER MANUAL

XT series

ROBE show lighting

www.robe.cz

MS ZOOM 250 XT

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

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

1. Safety instructions

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

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

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

Important:

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

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

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

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

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

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

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

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

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

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

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

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

CAUTION ! EYEDAMAGES !
Avoid looking directly into the light source
(meant especially for epileptics) !

2.Operating determinations

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

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

Never run the device without lamp!

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

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

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

The minimum distance between light-output and the illuminated surface must be more than 1,3 meter.

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

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

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

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

The maximum ambient temperature t_a = 45° C must never be exceeded. Otherwise, the lamp is switched off and the fixture is out of operation for 5 minutes.

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

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

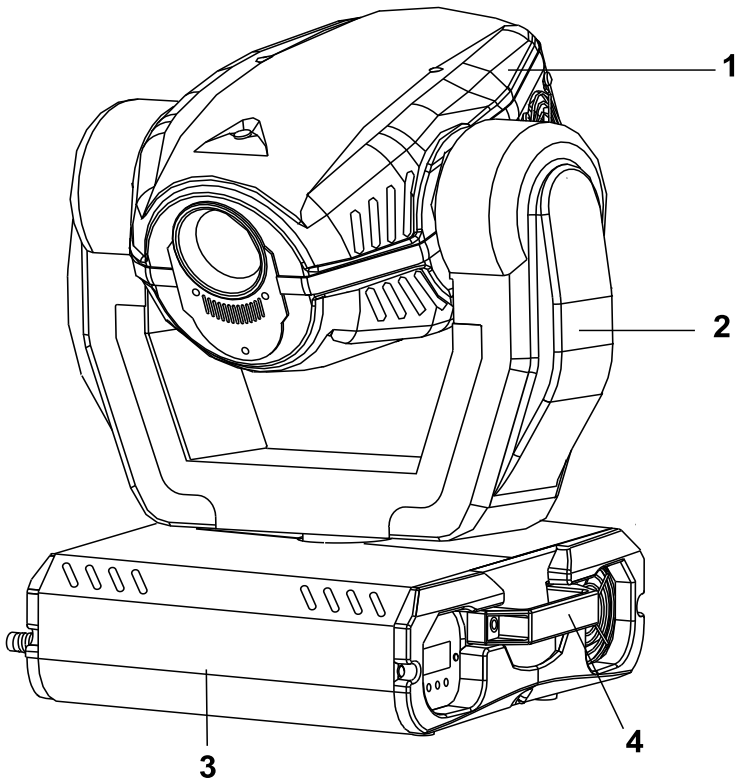
CAUTION!
The lamp has to be replaced when it is damaged or deformed due to the heat!

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

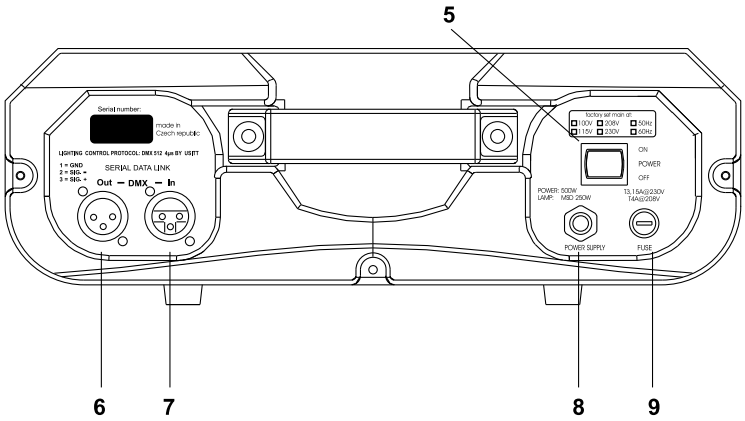
Please consider that unauthorized modifications on the device are forbidden due to safety reasons!

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

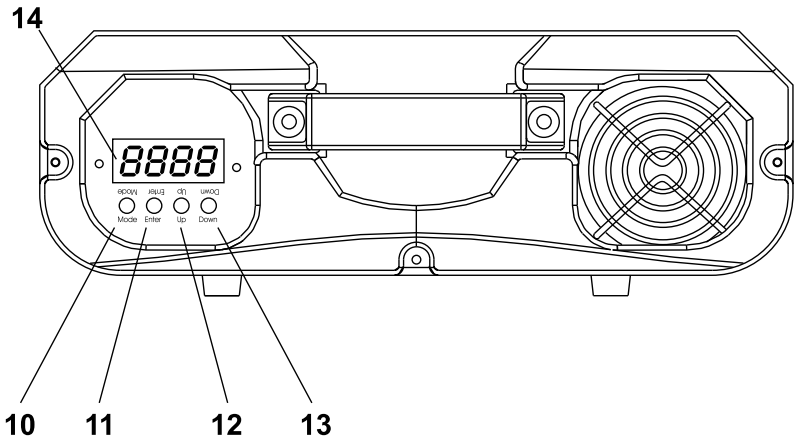
3. Description of the device



1 - Moving Head
2 - Yoke
3 - Base
4 - Carrying handle



Rear panel:
5 - Power-switch
6 - DMX output
7 - DMX input
8 - Powercord
9 - Fuseholder



Front panel:
10 - Mode-button
11 - Enter-button
12 - Up-button
13 - Down-button
14 - Display

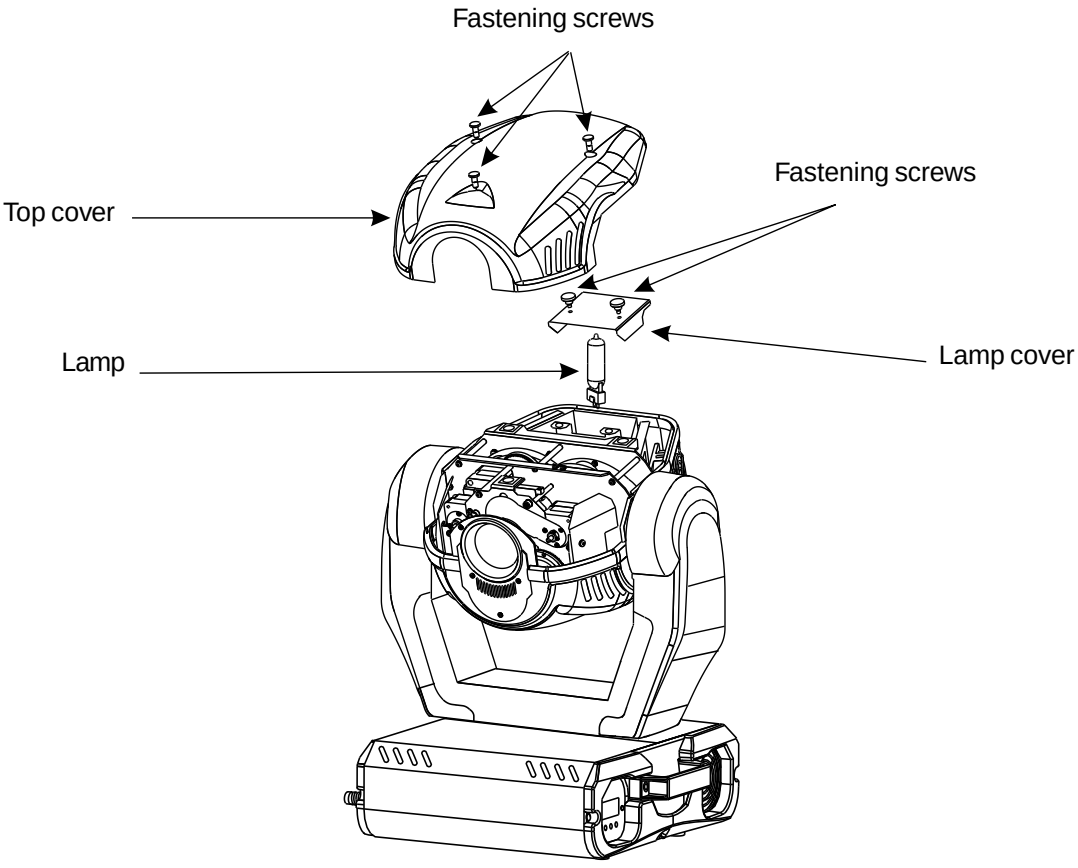
4. Installation

4.1Fitting the lamp

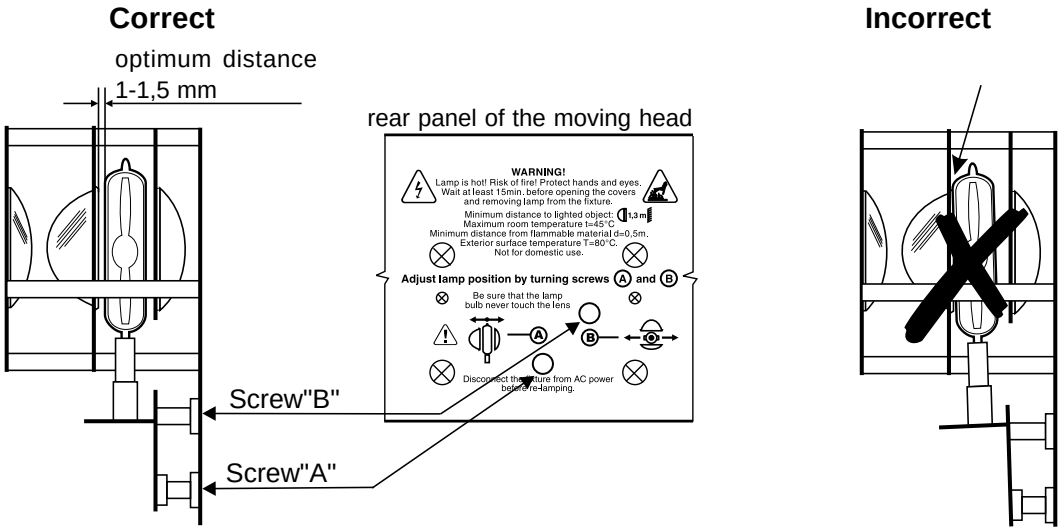
DANGER !
Install the lamps with the device switched off only.
Unplug from mains before !

To insert the lamp MSD 250 or MSD 250/2 open the top cover of the projector-head (see the drawing to identify which cover is top) by loosening the 3 screws on the cover.
Then open the small lamp cover by loosening 2 fastening screws (see the drawing).
If changing the lamp, remove the old lamp from the socket.
Insert the lamp to the socket.
Do not install a lamp with a higher wattage! A lamp like this generates temperatures the device is not designed for.
Damages caused by non-observance are not subject to warranty. Please follow the lamp manufacturer‘s notes!
Do not touch the glass bulb with bare hands during the installation! Make sure that the lamp is installed tightly into the lampholder system.
Adjust the optimal distance 1-1.5 mm from the lens by turning the screw **"A"** (see the drawings "Lamp adjustment" below) on the rear panel of the head.
Then close the small lamp cover by tighten 2 fastening screws again.
Reclose the top cover of the head and tighten the 3 screws.
Before striking the lamp, reset the **"LAti/rSEt"** and **"LASt/rSEt"**counters in the "**InFO**" menu on the control panel, by pressing the **"Up"** and **"Down"** buttons in one time and then confirming with the **"Enter"**-button.

Do not operate this fixture with opened housing-cover!



4.2 Lamp adjustment



The lampholder is aligned at the factory. Due to differences between lamps, fine adjustment may improve light performance.
Strike the lamp, cancel all effects, open the shutter and set the dimmer intensity onto 100 % and focus the light on a flat surface (wall) or use function "**LAAd**" in the **Special functions** . As the optimum distance of the lamp from lens was adjusted during the installing or changing the lamp (by turning the screw **"A"**), it is necessary to adjust only the second position by turning the screw **"B"**, in order to center the hot-spot (the brightest part of the beam).
If the hot spot seems to be too bright, you can lower its intensity by moving the lamp closer to the reflector. Do so by turning the srew **"A"** until the light is evenly distributed.
If the light on the edge seems to be brighter as in the center, the lamp is too close at the reflector. In this case, you need to move the lamp away from the reflector until the light is evenly distributed and the beam appears bright enough.

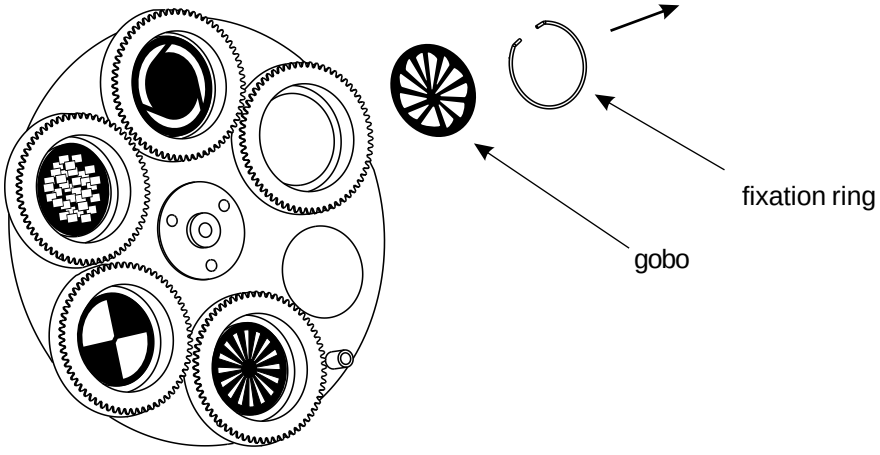
4.3 Inserting/Exchanging gobos

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

Turn off the lamp and allow it to cool for at least 10 minutes.Disconnect the fixture from power.
To insert the gobos open the top cover of the moving-head by loosening the 3 screws on the top cover and follow the instructions below:

Rotating gobo-wheel:

Press the ends of the fixation-ring together with an appropriate tool and remove it.Remove the gobo and insert the new gobo. Press the ends of the fixation-ring together and insert it in the front of the gobo.

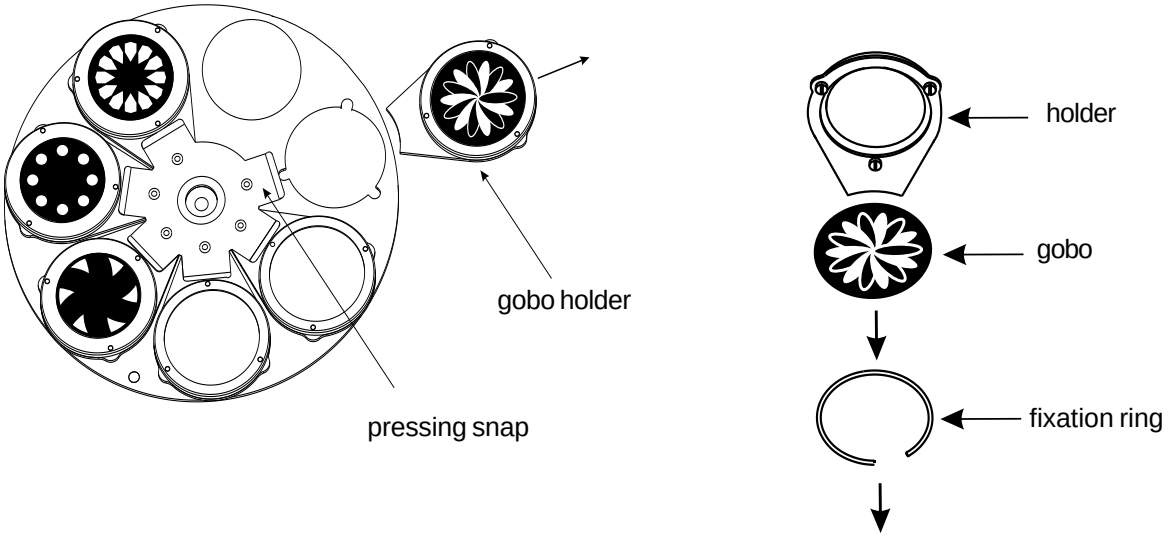


CAUTION!
Never unscrew the screws of the rotating gobo as the ball bearing will otherwise be opened!

Colour/Static gobo-wheel:

Gently bend out the gobo holder to release it from the fixative holes and eject it from the pressing snap. Press the ends of the fixation-ring together with an appropriate tool and remove it.Remove the gobo and insert the new gobo. Press the ends of the fixation-ring together and insert it in the front of the gobo.
Put the gobo holder back under the pressing snap and push it to the 3 fixative notches.

Note: 4 additional metal-gobos ,2 glass gobos and 3 gobo holders are included in accessories.
Only additional gobo holders from accessories are demountable (you can change gobo).



4.4 Rigging the fixture

Danger of fire !
When installing the device, make sure there is no highly inflammable material (decoration articles, etc.) in between a distance of min. 0,5 m.

Warning ! Use 2 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 installation of the projector has to be built and constructed in a way that it can hold 10 times the weight for 1 hour without any harming deformation.

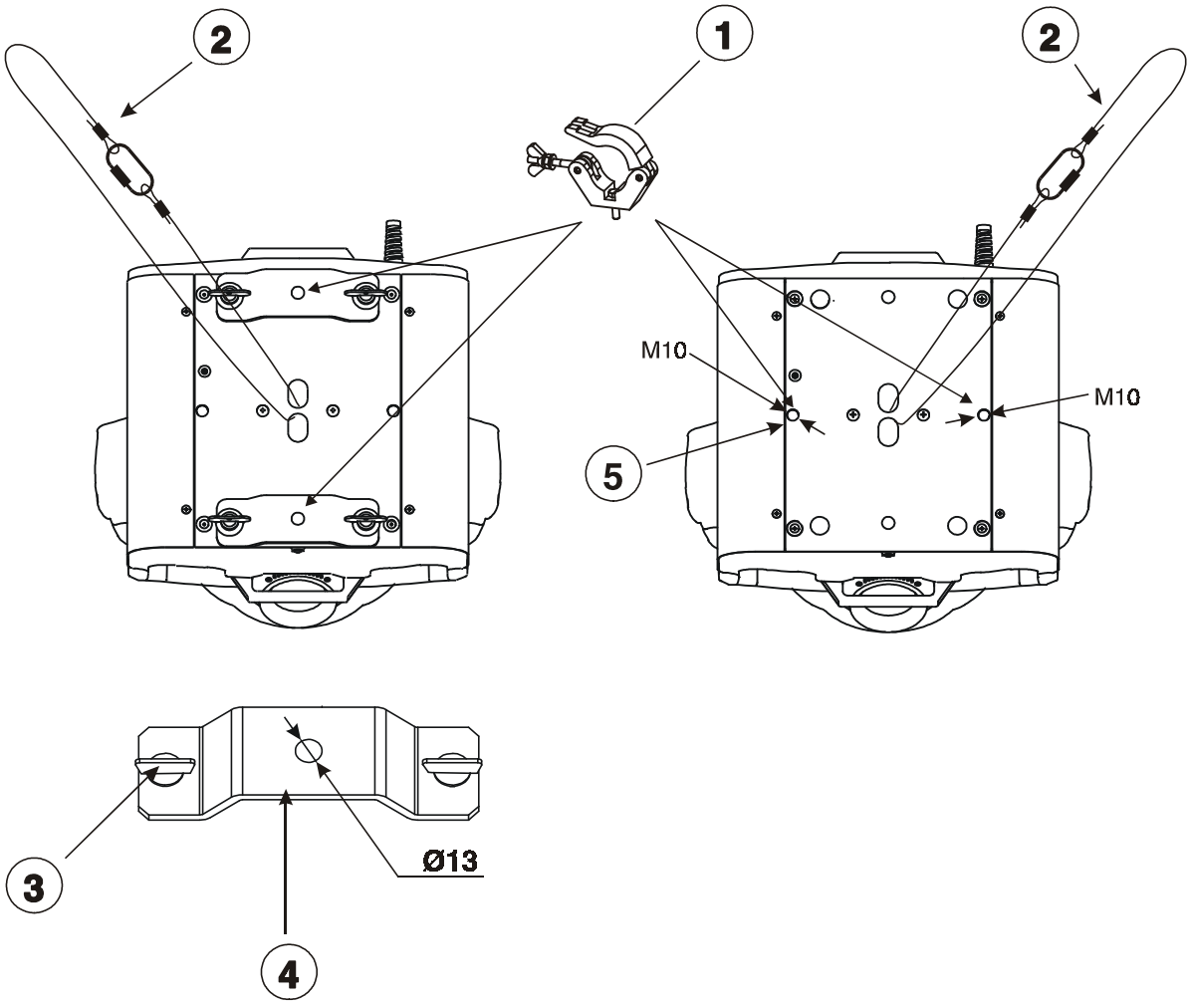
The installation must always be secured with a secondary safety attachment, e.g. an appropriate catch net. This secondary safety attachment must be constructed in a way that no part of the installation can fall down if the main attachment fails.

When rigging, derigging or servicing the fixture staying in the area below the installation place, on bridges, under high working places and other endangered areas is forbidden.The moving-head can be placed directly on the stage floor or rigged in any orientation on a truss without altering its operation characteristics (see the drawing).

The moving-head can be placed directly on the stage floor or rigged in any orientation on a truss without altering its operation characteristics (see the drawing).
You can fix the MS ZOOM 250 XT on a truss via 2 Omega holders or using the mounting plate(it is not the standard part of delivery) or screw the clamps directly to 2 holes (5) in the base.
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 Omega holders

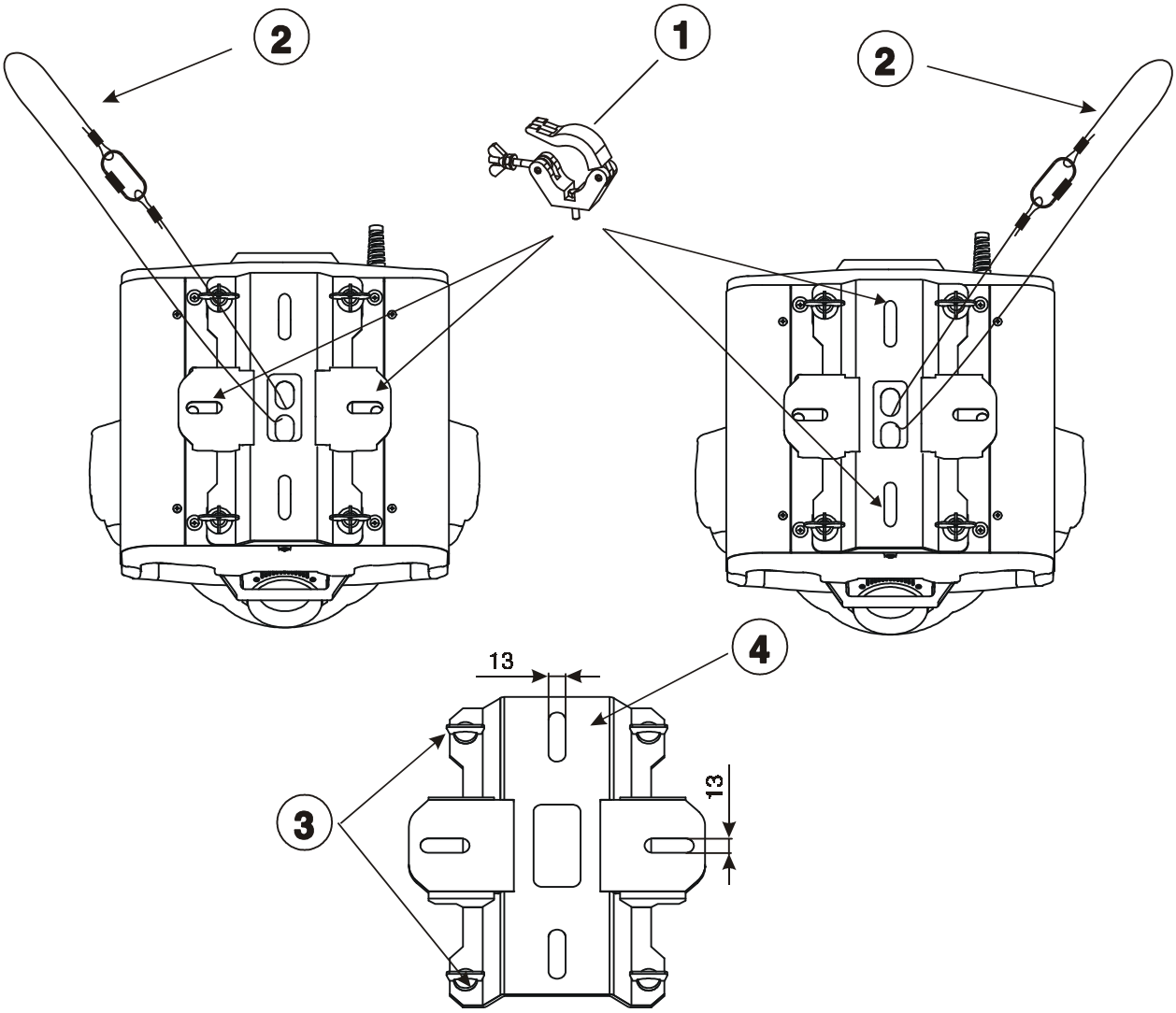
1.Bolt each clamp (1) to the omega holder (4) with M12 bolt and lock nut through the hole in the holder.
2.Fasten the omega holders on the bottom of the base by inserting both quick-lock fasteners (3) into the holes of the base and tighten fully clockwise.
3.Fasten the safety-rope (2) through the two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



1-Clamp
2-Safety-rope
3-Quick-lock fastener
4-Omega holder
5-Mounting holes 2x M10

Fixation via a mounting plate

1. Screw 2 clamps (1) to the mounting plate (4) with M12 bolts and lock nuts through the holes in the mounting plate (4).
2. Insert the 4 quick-lock fasteners (3) into the holes on the bottom 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 fasteners
4-Mounting plate

4.5 Connection to the mains

Verify the power supply settings before applying power!

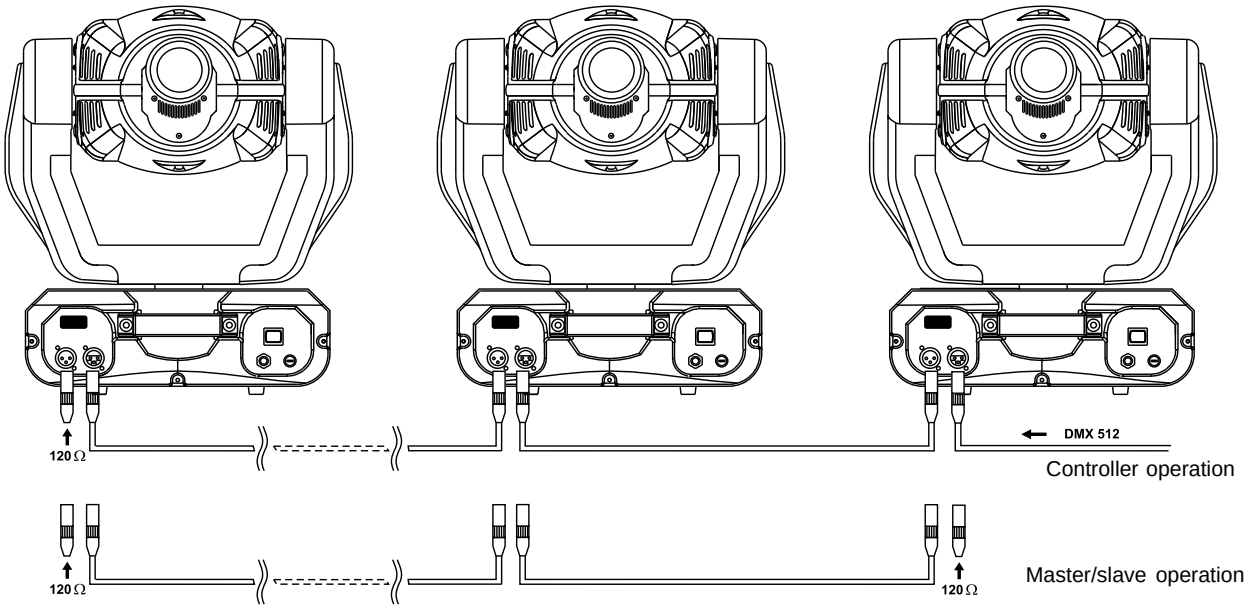
If you wish to change the power supply settings,see the chapter Appendix.

Connect the fixture to the mains with the enclosed power cord and plug.
The earth has to be connected!

The occupation of the connection-cables is as follows:

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

4.6 DMX-512 connection/connection between fixtures



Only use a stereo shielded cable and 3-pin XLR-plugs and connectors in order to connect the controller with the fixture or one fixture with another.

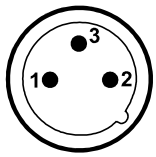
Occupation of the XLR-connection:

DMX - output
XLR mounting-socket:



1 - Ground
2 - Signal (-)
3 - Signal (+)

DMX-input
XLR mounting-plug:



1 - Ground
2 - Signal (-)
3 - Signal (+)

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

Building a master/slave-chain:
Connect the DMX-output of the master fixture in the data-chain with the DMX-input of the first slave. Always connect output with the input of the next slave until all slaves are connected (up to 9 fixtures).
Caution: It's necessary to insert the XLR termination plug (with 120 Ohm) into the input of the master fixture and into the output of the last slave fixture in the link in order to ensure proper transmission on the data link.

5. DMX PROTOCOL

Mode 1 channel	Mode 2 channel	8 bit channel	Value	Function	Type of control
1	**1**	**1**		**Pan**	
			0-255	Pan movement by 530°	proportional
2	**3**	**2**		**Tilt**	
			0-255	Tilt movement by 280°	proportional
3	**2**			**Pan fine**	
			0-255	Fine control of pan movement	proportional
4	**4**			**Tilt fine**	
			0-255	Fine control of tilt movement	proportional
5	**5**	**3**		**Speed of PAN/TILT movement**	
			0	Max. speed (tracking mode)	step
			1-249	From max. to min.speed (vector mode)	proportional
			250-252	Max. speed,(track.mode),black-out while color or rot./stat. gobo changes	step
			253-255	Max.speed (vector mode) ,black out while pan/tilt moving or color or gobo changes	step
6	**6**	**4**		**Lamp on/off,reset,fans speed control**	
			0-127	From max.speed of fan to min. speed of fan	proportional
			128-139	Lamp on,reset,	step
			140-229	No function	step
			230-239	Lamp off after 3 sec	step
			240-255	No function	step
7	**7**	**5**		**Colours 1**	
			0	Open/white	proportional
			16	Blue	proportional
			32	Red	proportional
			48	Green	proportional
			64	Yellow	proportional
			80	Magenta	proportional
			96	Cyan	proportional
			112	Light green	proportional
			128-189	Forwards rainbow effect from fast to slow	proportional
			190-193	No rotation	step
			194-255	Backwards rainbow effect from slow to fast	proportional
			0-255	*Colour macro function (channel 8 set from 128-191)-32 different colours in following order:white,pink,magenta,red,orange,yellow, green,cyan,blue,UV*	*proportional*
8	**8**	**6**		**Colours 2/static gobos**	
			0-15	White	step
			16-35	Light blue	step
			36-51	Pink	step
			52-71	Umber	step
			72-87	Gobo 1(dichroic)	step
			88-107	Gobo 2(dichroic)	step
			108-127	Gobo 3(dichroic)	step
			128-191	Enable macro colour on channel 7	step
			192-193	No rotation	step
			194-255	Rainbow effect from slow to fast	step

Mode 1 channel	Mode 2 channel	8bit channel	Value	Function	Type of control
9	**9**	**7**		**3-facet prism rotatin control,Prism macros**	
			0-95	Open position (no prism)	step
			96- 159	3-facet rotating prism	proportional
			160-255	***Prism/rot.gobo macros***	
			160-167	Macro 1	step
			168-175	Macro 2	step
			176-183	Macro 3	step
			184-191	Macro 4	step
			192-199	Macro 5	step
			200-207	Macro 6	step
			208-215	Macro 7	step
			216-223	Macro 8	step
			224-231	Macro 9	step
			232-239	Macro 10	step
			240-247	Macro 11	step
			248-255	Macro 12	step
10	**10**	**8**		**3-facet prism rotation control**	
			0	No rotation	step
			1-126	Forwards rotation from fast to slow	proportional
			127-128	No rotation	step
			129-255	Backwards rotation from slow to fast	proportional
11	**11**	**9**		**Rotating gobos**	
			0-31	Open/hole	step
			32-63	Rot.gobo 1 (glass)	step
			64-95	Rot.gobo 2 (metal)	step
			96-127	Rot.gobo 3 (metal)	step
			128-159	Rot.gobo 4 (metal)	step
			160-223	Rot.gobo 5 (metal)	step
			224-255	Rot.gobo wheel cont.rotation from slow to fast	proportional
12	**12**	**10**		**Rotating gobo index,rotating gobo rotation**	
			0-127	Gobo indexing	proportional
			128-190	Forwards gobo rotation from fast to slow	proportional
			191-192	No rotation	step
			193-255	Backwards gobo rotation from slow to fast	proportional
13	**13**	**11**		**Zoom,frost,UV filter**	
				Zoom without focus corection	
			0-31	Zoom 15°	step
			32-47	Zoom 18°	step
			48-63	Zoom 21°	step
			64-79	Zoom 24°	step
			80-95	Zoom 26°	step
			96-111	Frost	step
			112-127	UV-filter	step
				Zoom with focus corection	
			128-159	Zoom 15°	step
			160-175	Zoom 18°	step
			176-191	Zoom 21°	step
			192-207	Zoom 24°	step
			208-223	Zoom 26°	step
			224-239	Frost	step
			240-255	UV-filter	step

Mode 1 channel	Mode 2 channel	8bit channel	Value	Function	Type of control
14	**14**	**12**		**Focus**	
			0-255	Continuous adjustment from far to near	proportional
15	**15**	**13**		**Shutter,strobe**	
			0-31	Shutter closed	step
			32-63	No function (Shutter open)	step
			64-95	Strobe-effect from slow to fast (max.10 flashes/s)	proportional
			96-127	No function (Shutter open)	step
			128-159	Pulse-effect in sequences from slow to fast	proportional
			160-191	No function (Shutter open)	step
			192-223	Random strobe-effect from slow to fast	proportional
			224-255	No function (Shutter open)	step
16	**16**	**14**		**Dimmer intensity**	
			0-255	Gradual adjustment of the dimmer intensity from 0 to 100%	proportional

6. Controller mode

The fixtures are individually addressed (001-497) on a data link and connected to the controller.The fixtures respond to the DMX signal from the controller.

6.1 DMX addressing

The control panel on the front panel of the fixture allows you to assign the DMX fixture address, which is defined as the first channel from which the MS Zoom 250 XT will respond to the controller.
If you set, for example, the address to channel 5, the MSZoom 250 XT will use the channel 5 to 20 for control.
Please, be sure that you don't have any overlapping channels in order to control each MS Zoom 250 XT correctly and independently from any other fixture on the DMX data link.
If two, three or more MS Zoom 250 XT are addressed similarly, they will work similarly.
For address setting, please refer to the instructions under "Addressing"(menu "**A001"**).

Controlling:

After having addressed all MS Zoom 250 XT , you may now start operating these via your lighting controller.
Note: After switching on, the MS Zoom 250 XT will automatically detect whether DMX 512 data is received or not.If there is no data received at the DMX-input, the display will start to flash **"A001"** with actually set address.
This situation can occur if:
- the 3 PIN XLR plug (cable with DMX signal from controller) is not connected with the input of the MS Zoom 250 XT
- the controller is switched off or defective, the cable or connector is defective or the signal wires are swap in the input connector.

Note: It's necessary to insert the XLR termination plug (with 120 Ohm) to the last fixture in the link in order to ensure proper transmission on the DMX data link.

6.2 Remotely controllable functions

Lamp

The MS Zoom 250 XT is to be operated with a MSD/HSD 250 or MSD 250/2 GY-9,5 lamp.
A relay inside of the MS Zoom 250 XT allows you to switch on and off the lamp via the control panel or via your DMX-controller without affecting the rest of the lighting.
To switch On/Off the lamp, please refer to "Switching On/Off the lamp " (menu "**LAMP**").
Note: It is also important to note, that the discharge lamp is cold restrike types, that means, that they have to be cold before re-striking. For this reason, you have to wait 5 minutes (max. speed of fan must be adjusted) after having switched Off the lamp before you can switch it back On again. If you try to switch On the lamp within 5 minutes after having switched it Off, the MS Zoom 250 XT will store this information and automatically ignite the lamp when the 5 minutes period has expired. The message **"HEAt"** will appear on the control panel display of the MS Zoom 250 XT. If the ignition of the lamp is seven times unsuccessful, on the display will appear **"LA.Er"**, meaning that the lamp could be damaged or even missed, or there could be a failure on the ignitor or ballast.

Colour 1- wheel

The MS Zoom 250 XT contains a colour wheel with 8 colour positions - 7 of these with dichroic colours and the last one white. The colour-wheel can be positioned between two adjacent colours in any position. It is also possible to rotate the colour- wheel continuously at different speeds("Rainbow effect" in both directions).
By colour macro function it is possible to obtain 32 different colours in the following order: white, pink, magenta, red, orange, yellow, green, cyan, blue.

Colour 2/static gobo- wheel

This wheel has 3 dichroic gobos , open position/hole and 3 colour positions with dichroic colours, all gobos are interchangeable.The gobos have an outside diameter of 37.3 mm and an image diameter of 31 mm.

Rotating gobo-wheel

The rotating gobo-wheel includes 4 metal gobos and 1 glass gobo rotating in both directions, indexable, rotating gobo wheel continuously rotations from slow to fast.All gobos are interchangeable. The metal gobos have an outside diameter of 37.5mm and an image diameter of 31,5 mm.Glass gobo has an outside diameter of 37.3 mm.

3-facet rotating prism

3-facet prism rotating in both directions at different speeds,12 prism-rot.gobo macros.

Focus-multistep zoom

Motorized focus enables the beam to be focused anywhere on the stage at different beam angles: 15°,18°,21°,24°,26°,provided by the special multistep zoom.

Dimmer/Shutter/Strobe

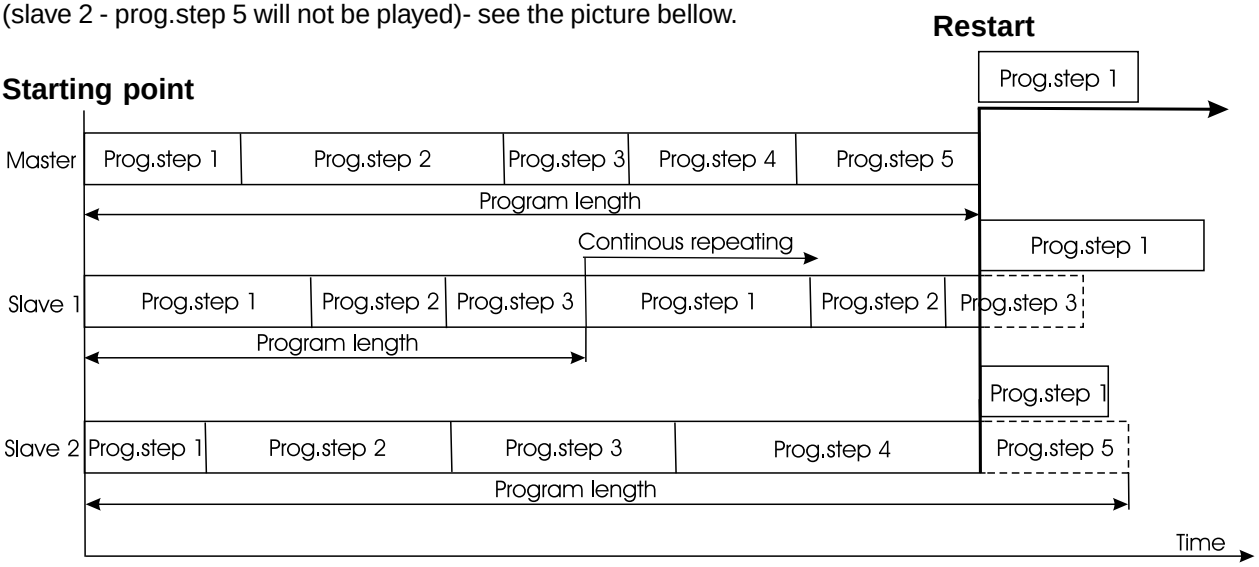
Smooth 0 - 100 % dimming is provided by the combined mechanical dimmer/shutter unit. This unit may also be used for strobe effect (1 - 10 flashes per second).

Fans

The MS Zoom 250 XT is cooled by three axial fans - two in the projector head and one in the base. The speed of the fans (and of course the noise) can be continuously reduced if very quiet performance is required.
By the control panel using the **"FAnS"** function you can choose 5 types of the fan speed operating modes.

7. Stand - alone mode

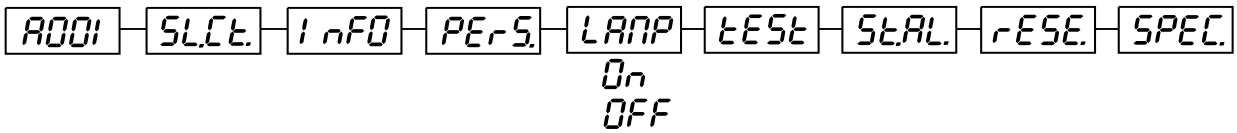
The fixtures on a data link are not connected to the controller but can execute pre-set programs which can be different for every fixture.To set the program to be played,see the "Stand-alone setting" **(** menu **"St.AL."**).
"Stand-alone operation" can be applied to the single fixture (the fixture may be set to the master /slave mode or controller mode) or to multiple fixtures operating synchronously.
Synchronous operation of multiple fixtures requires that they must be connected on a data link and one of them is set as a master (master mode) and the rest as the slaves (slave mode).The slaves are assigned to SLA1-SLA9 and on the certain slave address can be connected only one fixture.To set the fixture as the master or slave , see the "Addressing" (menu "**A001"**).
If the master fixture runs a reset,switches On/Off the lamp or plays test(program) ,all slaves will execute these acts too (e.g. if the master fixture has switched the lamp off,no slaves can switch the lamp on)!
You can't play or edit any programs on the slaves by their control panels if the master is switched on and connected to the master/slave chain.
The master fixture starts simultaneous program start in the other slave fixtures.All fixtures have a definite, synchronized starting point when playing back their programs.The number of running program is the same in all slaves and depends on the master's choice (menu "**St.AL.**").Every fixture runs its program repeatedly ,starting the program step No.1 when requested by the master .
For example:
If the slave fixture has a shorter program length, it will continously repeat its program until the master fixture finishes its own program and restarts its program running (slave 1- prog.step 3 will not be finished).
If the slave fixture has a longer program length, it will restart at prog. step 1 before it completes all its prog.steps (slave 2 - prog.step 5 will not be played)- see the picture bellow.



Note: Disconect the fixtures from the DMX controller before master/slave operating ,otherwise data collisions can occur and the fixtures will not work properly!
It's necessary to insert the XLR termination plug (with 120 Ohm) into the input of the master fixture and into the output of the last slave fixture in the data link in order to ensure proper transmission on the data link.
From the master's control panel is possible to control any slave in a master/slave chain.

8. Functions of the control panel

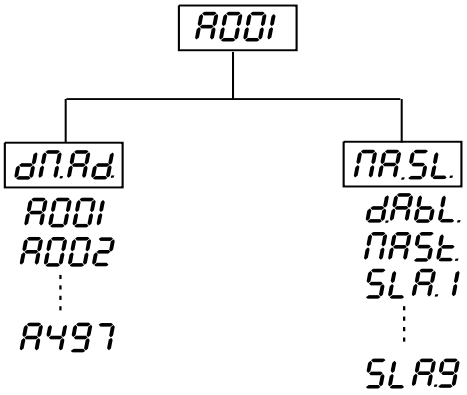
The control panel situated on the front side of the base offers several features. You can simply set the DMX address,master/slave mode, read the number of lamp or unit hours, switch On and Off the lamp, run test, make a reset and also use many functions for setting and service purposes.
The main menu of the control panel is accessed by pressing the **[Mode]** button - press this one so many times until the display shows message **"A001"** (with actually stored address). Browse through the menu by the pressing **[Up]** or **[Down]** buttons - the display shows step by step these messages: **A001,SLCt, InFO,PErS, LAMP, tESt, StAL,rESE, SPEC**. Press **[Enter]** if you wish to select one of them. The functions are described in the following sections and the function hierarchy is shown below.



8.1 Addressing



By this menu you can set the DMX address or address the fixture as a master/slave.





DMX addressing

1. Press the **[Mode]-** button so many times until the display shows message **"A001"** (with actually stored address).
2. Press **[Enter]**-button and use the **[Up]** and **[down]** buttons to select"**dM.Ad.**"-menu.
3. Press**[Enter]**-button(the letter "A" flashes) and by **[Up]** and **[down]** buttons select required address (001 - 497), press **[Enter]**-button to confirm.
4. Select **"M.ASL."**-menu,press**[Enter]**-button and use **[Up]** and **[down]** buttons to select "**d.AbL.**"(no master or slave),press **[Enter]** to confirm.
5. Press the **[Mode]-** button.Choosen address is shown on the display.

If message **"A001"** (with actually stored address) flashes-no DMX data received at the DMX-input.



Master/slave adressing

1. Press the **[Mode]** button so many times until the display shows message **"A001"**(with actually stored address).
2. Press **[Enter]**-button and use the **[Up]** and **[down]** buttons to select **"MA.SL."**-menu.
3. Press**[Enter]**-button(display flashes) and select**"MASt"**(to set the fixture as the master in a chain of multiple fixtures) or **"SLA.1"-"SLA.9"** (to set the fixture to be the slave in a chain of multiple fixtures) and press **[Enter]**

to confirm. If you want address no master or slave, select "**d.AbL.**".
4. Press the **[Mode]-** button.Choosen address is shown on the display.
If message **"MASt."** fast flashes-DMX signal is received at the DMX-input- disconnect DMX controller!

Only one fixture may be the master. Up to the 9 slaves may be connected to the master and on the certain address can be connected only one slave fixture (SLA1-SLA9).

Note: Disconect the fixtures from the DMX controller before master/slave operating ,otherwise data collisions can occur and the fixtures will not work properly!
If the fixture is set as the master and DMX signal is connected to its input,the error massage "MAEr" will appear on its display and the fixture's address will be set to its DMX address in order to respond to DMX signal from the controller.
For example:
The master fixture has these address setting:"dM.Ad."-menu.....**.A017**
"MA.SL."-menu.....**MASt** (is displayed)

8.2 Slave control

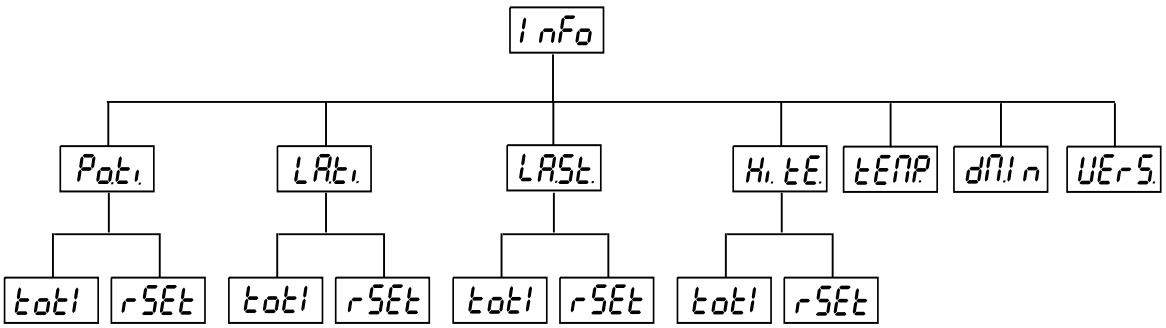


This function allows you to control the slaves from the master's control panel in a master/slave operation.
Select this function from the main menu and press **[Enter]**-button**.**Browse the list of all connected slaves (**"SL.C.1" - "SL.C.9"**) by pressing **[Up]** or **[Down]** button.Select the desired slave and press **[Enter]**-button.The slave's control panel is available from the master's control panel.
If no slave is connected to the master,massages "SL.C.1","SL.C.2","SL.C3"..."SL.C.9" still round repeat.
Note: This function is available from the master fixture only.

8.3 Fixture informations



The menu allows you to read an useful information about the fixture as the lamp life,head temperature,software version, etc.
Press **[Up]** and **[Down]** buttons to select the desired option and press **[Enter]** to see the value or next submenu.





Power On time



-By this option you can read the total number of the operation hours since the MS Zoom 250 XT has been fabricated. Press **[Enter]** or [Mode] to return to the menu.



- The number of the hours that the MS Zoom 250 XT has been powered On since the counter was last reset.Press **[Enter]** or **[Mode]** to return to the menu.In order to reset this counter to 0, you have to hold the **[Up]** and **[Down]**-button and press the **[Enter]**-button.



Lamp On time



- This option enables you to read the total number of the operation hours with the lamp on since the MS Zoom 250 XT has been fabricated.Press **[Enter]** or **[Mode]** to return to the menu.



- The number of hours that the lamp has been powered On since the counter was last reset.Press **[Enter]** or **[Mode]** to return to the menu. In order to reset this counter to 0, you have to hold the **[Up]** and **[Down]**-button and press the **[Enter]**-button.



Lamp strikes



- By this option you can read the total number of the lamp strikes since the MS ZOOM 250 has been fabricated.Press **[Enter]** or **[Mode]** to return to the menu.



-The number of the lamp strikes since the counter was last reset.Press **[Enter]** or **[Mode]** to return to the menu. In order to reset the counter to 0, you have to hold the **[Up]** and **[Down]**-button and press the **[Enter]**-button.



Max. fixture head temperature



- By this option you can read the max. temperature of the head inside since the MS Zoom 250 XT has been fabricated.Press **[Enter]** or **[Mode]** to return to the menu.



- Max. temperature of the head inside since the counter was last reset.Press **[Enter]** or **[Mode]** to return to the menu. In order to reset the counter to 0, you have to hold the **[Up]** and **[Down]**-button and press the **[Enter]**-button.



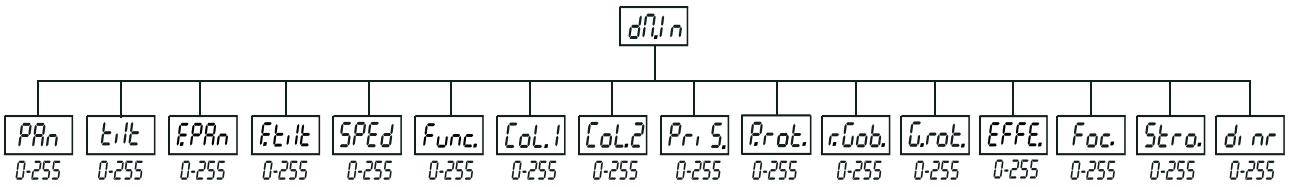
Current fixture head temperature

Temperature readouts of the head inside in Celsius. Inside temperatures below 74°C are not critical. 74° C and more lead to the lamp being switched off. Please note that the outside temperature should not exceed 45° C.



DMX values

Readout DMX values of each channel received by the fixture. Use the **[Up]** and **[Down]** buttons to select desired channel and press **[Enter]** to read its value coming to the fixture or **[Mode]** to cancel and return to the menu.





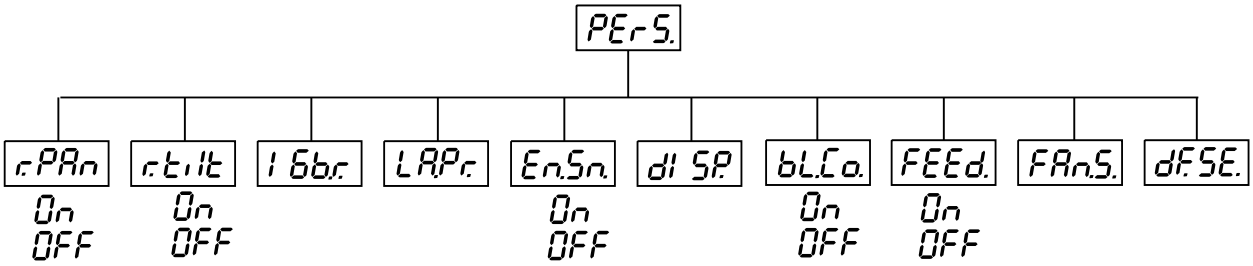
Software version

By this function you can read the software version of the display module. Press **[Enter]** to read its value or [Mode] to return to the menu.

8.4 Personality options



These options allow you to modify MS Zoom 250 XT operating behavior.
Press **[Up]** and **[Down]** buttons to select the desired option and press **[Enter]** to set the value or to see next submenu.





Pan reverse

This function allows you to invert the pan movement. Use the **[Up]** and **[Down]** buttons to select **"On"** if you wish this feature or **"Off"** if you don't wish this feature and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.



Tilt reverse

This function allows you to invert the tilt movement. Use the **[Up]** and **[Down]** buttons to select **"On"** if you wish this feature or **"Off"** if you don't wish this feature and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.



Movement resolution

By this function you can adjust the 16-bit movement resolution (Mod.1, Mod. 2) or 8-bit resolution (8bit).
Use the **[Up]** or **[Down]** keys to select the desired movement resolution and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

List of the channels settings:

Channel	Mode 1-16bit (default)	Mode 2-16bit	8 bit
1	Pan	Pan	Pan
2	Tilt	Fine Pan	Tilt
3	Fine Pan	Tilt	Pan/Tilt speed
4	Fine Tilt	Fine Tilt	Fans,Lamp On/Off
5	Pan/Tilt speed	Pan/Tilt speed	Colour 1
6	Fans, On/Off lamp	Fans, On/Off lamp	Colour2/stat.gobo
7	Colour 1	Colour 1	Prism
8	Colour 2/stat.gobo	Colour 2/stat.gobo	Prism control
9	Prism	Prism	Rotating gobo
10	Prism control	Prism control	Rot.gobo rotation
11	Rotating gobo	Rotating gobo	Zoom
12	Rot.gobo rotation	Rot.gobo rotation	Focus
13	Zoom	Zoom	Strobe
14	Focus	Focus	Dimmer
15	Shutter, strobe	Shutter, strobe	
16	Dimmer	Dimmer	

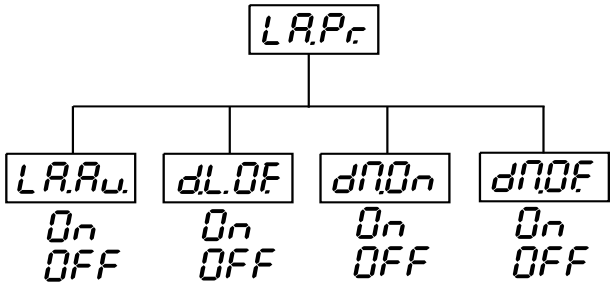
Please refer to the chapter "DMX- protocol" for detail description.

Note: If you adjust the 16 bit resolution (Mode 1 or Mode 2), the fixture will occupy 16 DMX channels, if you adjust the 8 bit resolution,the fixture will be operated by only 14 DMX channels.



Lamp presetting

This function allows you to adjust the lamp settings:





Lamp On after switching the fixture On

This function enables to turn the lamp on automatically after switching the fixture on. Use the **[Up]** and **[Down]** buttons to select **"On"** if you wish to turn the lamp on automatically after switching the fixture on or **"Off"** if you wish the lamp off after switching on the fixture and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.



Lamp Off via DMX

This function allows you to switch off the lamp by DMX. Use the **[Up]** and **[Down]** buttons to select **"On"** if you want to switch off the lamp by DMX or **"Off"** if you don't want to switch off the lamp by DMX and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.



Lamp On if DMX is present

This function allows you to strike the lamp automatically after 26 seconds if DMX signal is present on the data link.If the ignition is unsuccessfull (e.g.lamp is too hot),the fixture will try to ignite the lamp after next 26 s.This process will repeat until the lamp lights.Use the **[Up]** and **[Down]** buttons to select **"On"** if you want to strike the lamp or **"Off"** if you don't want to strike the lamp and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

dn.OF. Lamp Off if DMX is missing

This function allows you to switch Off the lamp automatically after 2 minutes if DMX signal is missing on the data link. Use the **[Up]** and **[Down]** buttons to select **"On"** if you want to switch Off the lamp or **"Off"** if you don't want to switch Off the lamp and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

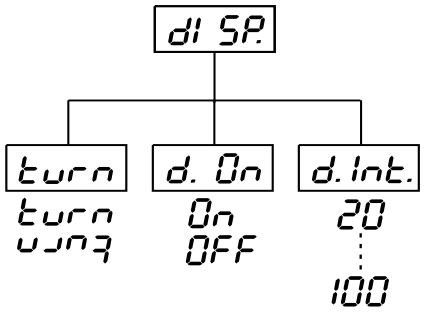
En.Sn. Switch On/Off the lamp light sensor

Use the **[Up]** and **[Down]** buttons to select **"On"** if you wish to switch the lamp light sensor on and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.**The option"On" is for the standard operation.**Use the **[Up]** and **[Down]** buttons to select **"Off"** if you wish to switch the lamp light sensor Off and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

Important: The option"Off" is for "emergency operation" only if the lamp light sensor is defective and you will wait for a service intervertion! If the lamp light sensor is switched Off,the error messages "**LAEr,SnEr,HEAt**" will not appear on the display (only the message "HEAt" will appear if the lamp was turned off and on within 5 minutes) and at switching the lamp on the electronics will still try to ignite the lamp until it shines (even when the lamp is damaged or absent), on this account some electronics parts could be damaged!

dI SP. Display adjusting

This function allows you to adjust the display settings:



dI. nt. Display intensity

With this function you can adjust the display-intensity from 20% to 100% . Use the **[Up]** and **[Down]** buttons to select the level of the display- intensity and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

turn Display-reverse

With this function, you can rotate the display by 180°. Use the **[Up]** and **[Down]** buttons to select "normal display" or "display turned by 180°" and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

d.On Display-On

This function allows you to keep the display on or to turn off automatically 2 minutes after last pressing any button on the control panel. Use the **[Up]** and **[Down]** buttons to select **"On"** if you wish to keep the display on or **"Off"** if you wish to turn off automatically 2 minutes after last pressing any button on the control panel and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

bL.Co. Blackout during movement correction

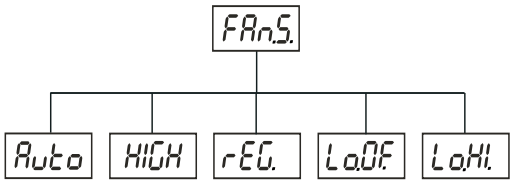
The function executes the blackout during the head movement correction (the moving head has lost its right pan/ tilt-position for a short moment). Use the **[Up]** and **[Down]** buttons to select **"On"** if you want to execute the blackout or **"Off"** if you don't and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

FEEd. PAN/TILT-feedback

This function allows to return the mowing head to the required pan/tilt position after changing the position by external force (e.g.by stroke). Use the **[Up]** and **[Down]** buttons to select **"On"** if you wish to enable this function or **"Off"** if you wish not to return the mowing head to the required position and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.
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.

FAn.S. Fan speed operating modes

By using this function you can choose 5 types of the fan speed operating modes. Browse through this menu by the pressing **[Up]** and **[Down]** buttons - the display shows step by step these messages: **"Auto,HIGH, reG, LoOF, LoHI"**. Press **[Enter]** if you wish to select one of them or **[Mode]** to cancel and return to the menu.



Auto Continuous controlling of the fan speed without the DMX value

The fan automatically raises its speed in order to control inside temperature of the lighting, if the temperature inside increases about certain level (the low fan speed reduces the cooling of the lighting). This cycle can repeat several times until the temperature inside is on suitable level.The initial level of the fan speed can´t be adjusted by the DMX.

HI GH High (max.) speed of fans

The cooling fan works on max. speed (max. cooling)

rEG. Continuous controlling of the fan speed

This mode is similar to "Auto", but the initial level of the fan speed can be adjusted by the DMX.

Lo.OF. Low speed/Switch Off the lamp operating

The fan keeps the adjusted low speed until the temperature exceeds max. inside temperature of the fixture, then the MS Zoom 250 XT automatically switches off the lamp.

Lo.HI. Low/high speed of the fan operating

The fan keeps the adjusted low speed until the temperature exceeds max. inside temperature of the fixture, then the MS Zoom 250 XT automatically switches from low to high the fan speed.

Note: The modes "Auto" and "HIGH" don´t interact to the DMX value on the channel 6 (0-127)!



Default settings

Press **[Enter]** to reset all fixture personalities (not the adjusting functions) to the default values. On the display will appear **"rSt"** meaning that the fixture makes the reset. See the table of personality setting and their default positions.

Personality	**Display**	**Default values** (SHADED)
Pan reverse	rPAn	On OFF
Tilt reverse	rtilt	On OFF
Movement resolution	16br	Mod1 Mod2 8bit
Lamp On after switch. the fixture On	LAMu	On OFF
Lamp Off via DMX	dLOF	On OFF
Lamp On if DMX is present	dMOn	On OFF
Lamp Off if DMX is missing	dMOF	On OFF
Blackout during mov. correction	bLCo	On OFF
Display-On	d On	On OFF
Display intensity	d Int	20 40 60 80 100
Display- reverse	turn	turn USER
PAN/TILT feedback	FEEd	On OFF
Switch On/Off the lamp light sensor	EnSn	On OFF
Fan speed operating modes	FAnS	Auto HIGH rEG LoOF LoHI

8.5 Switching On/Off the lamp

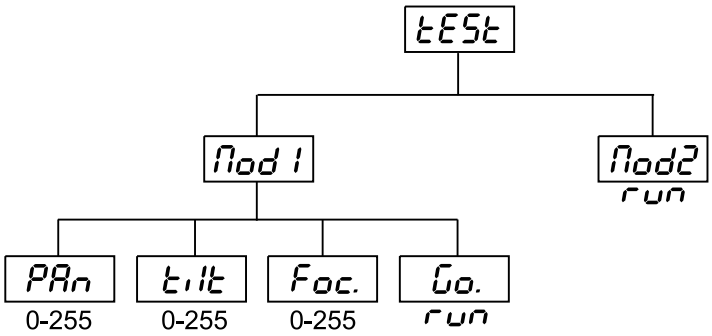


Press the **[Mode]** button in order to access the main menu. Browse through the menu by pressing the **[Up]** and **[Down]** buttons until the display shows **"LAMP"**. Confirm by pressing **[Enter]** button.
Use the **[Up]** and **[Down]** buttons to select **"On"** to switch On the lamp and **"Off"** to switch Off the lamp and press **[Enter]** to confirm or **[Mode]** to cancel.

8.6 Test sequences



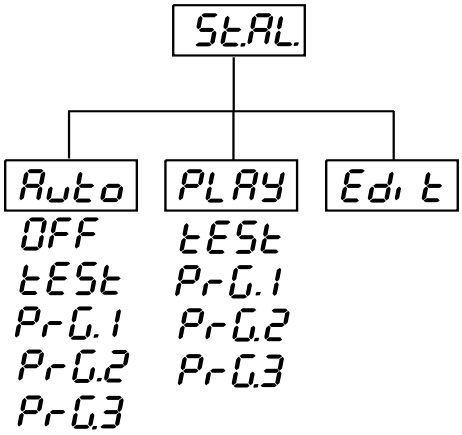
This function allows you to run a special demo-test sequences without an external controller, which will show you some possibilities of using MS Zoom 250 XT. Press **[Up]** and **[Down]** keys to select the **"Mod1"** or **"Mod2"** sequences. The **"Mod1"** is suitable for projections on the wall, ceiling or ground without any head-movement, the **"Mod2"** uses all MS Zoom 250 XT functions and therefore is good for a complete introduction of the fixture.Select "**Mod1**" or "**Mod2**" by **[Up]** and **[Down]** buttons and press **[Enter]** to confirm the choice.If the test program is running,messages "**run/test**" blink on the display.
If you want to pause the runnnig program in the required position, press the **[Enter]-**button(messages"**PAUS**"/"**test**" blink).To continue the program running,press the **[Enter]-**button again.



8.7 Stand-alone setting



This menu offers options for stand-alone mode as a selection of the playing program,programming and modifying current programs.





Presetting playback

This function allows you to select the the program which will be played in the stand-alone mode after switching the fixture On.Use the **[Up]** and **[Down]** buttons to select desired program ("**tESt**"- bilt-in program) or **"OFF"** if you don't want trigger any program after switching the fixture On and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.Selected program will be played continuously in a loop as long as it appears on the display.

This option should be set "**OFF**" for all slaves in the master/slave chain by reason of the right program starts.
For example: You have selected program "**PrG.3**" in this menu and:
this fixture is set as a single fixture (master/slave or controller operating)- the fixture will run its program "**PrG.3**".
this fixture is set as a master in a data chain- the fixture will run its program "**PrG.3**".
this fixture is set as a slave in a data chain- the fixture will run its program according to the master(if the master runs its own program "**PrG.1**", the slave will run its own program "**PrG.1**"also).

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



Playing program

This function allows you to run a bilt-in program **"tESt"** and the 3 freely-programmable programs **"PrG.1,PrG.2,PrG.3"** .Press **[Up]** or **[Down]** buttons to select the desired program and press **[Enter] t**o run the program which will be played continuously in a loop**.**
If you want to pause the runnnig program in the required position, press the **[Enter]-**button(messages"**PAUS**"/" **program No**."blink).To continue the program running,press the **[Enter]-**button again.
Note:If the fixture operates in the controller mode (DMX controller is connected) and any program from this function is selected in this case the fixture will not respond to the DMX controller and will play selected program. You can't play programs on the slave fixtures from their control panels if the master fixture is switched On and connected to the slaves (playing is forced by the master).



Editing program

This menu item allows you to select a program to edit or create.The MS Zoom 250 XT has one built-in program (**"tESt"**) and the 3 free programs,each up to 99 steps.
If the fixture is set as a master ,then you may edit any program in the slaves.You can't edit programs on the slave fixtures from their control panels if the master fixture is switched on and connected to the slaves (editing is possible by the master control panel only).
Procedure:
1. Press **[Up]** or **[Down]-**button to select the program you want to edit ("PrG.1" - "PrG.3") and press **[Enter]**.
2. Press **[Up]** or **[Down]-**button to select the desired fixture ("MASt." - "SLA.9") and press **[Enter]**-button.
3. Press **[Up]** or **[Down]-**button to select the desired program step ("St.01" - "St.99") and press **[Enter]**-button.
4 Press **[Up]** or **[Down]-**button to select the desired item and press **[Enter]-**button.Now you can edit by **[Up]** or **[Down]** buttons the DMX value for selected item:
   - **"P.End." -** a total number of the program steps,value 1-99 .**This value you must set before start programming**(e.g. if you want to create program with the 10 steps,set the value onto 10).
   - **"PAn" -** a pan,value 0-255
   - **"tilt" -** a tilt,value 0-255
   - **"F.PAn" -** a fine pan, value 0-255
   - **"F.tilt" -** a fine tilt,value 0-255
   - **"SPEd" -** a speed of PAN/TILT movement,value 0-255
   - **"Col.1" -** a colour 1, value 0-255
   - **"Col.2" -** a colour 2/stat.gobo,value 0-255
   - **"Pris."** - a prism and prism/rot.gobo macro,value 0-255
   - **"P.rot" -** a prism rotation,value 0-255
   - **"r.Gob." -** a rot.gobo,value 0-255
   - **"G.rot." -** a rot. gobo rotation,value 0-255
   - **"EFFE." -** a zoom,frost and UV filter, value 0-255
   - **"Foc." -** a focus ,value 0-255
   - **"Stro." -** a strobe,value 0-255
   - **"dimr" -** a dimmer, value 0-255
   - **"S.tim." -** a step time,value 0,1-25,5 seconds
   - **"COPY." -** a copying the current prog. step to the next prog. step .If the last prog.step is copied to the next prog. step ,parameter **"P.End"** is increased about 1 by itself (except step 99).
5. Press **Enter]-**button to confirm adjusted value .

6. Press **[Mode]-**button,select next prog. step and repeat this procedure (steps 4 and 6).
The editting programs "PrG.1,PrG.2,PrG.3" are saved in the current modified fixture (master or slave1-9).

8.8 Reset function

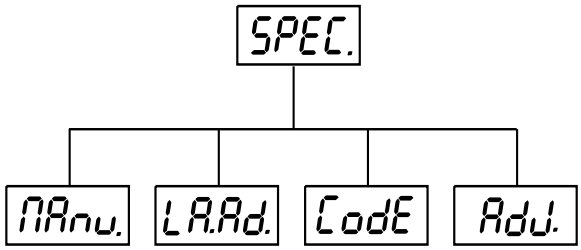


Press **[Enter]** button to run a reset. This option enables the MS Zoom 250 XT to index all effects (functions) and return to their standard positions.

8.9 Special functions



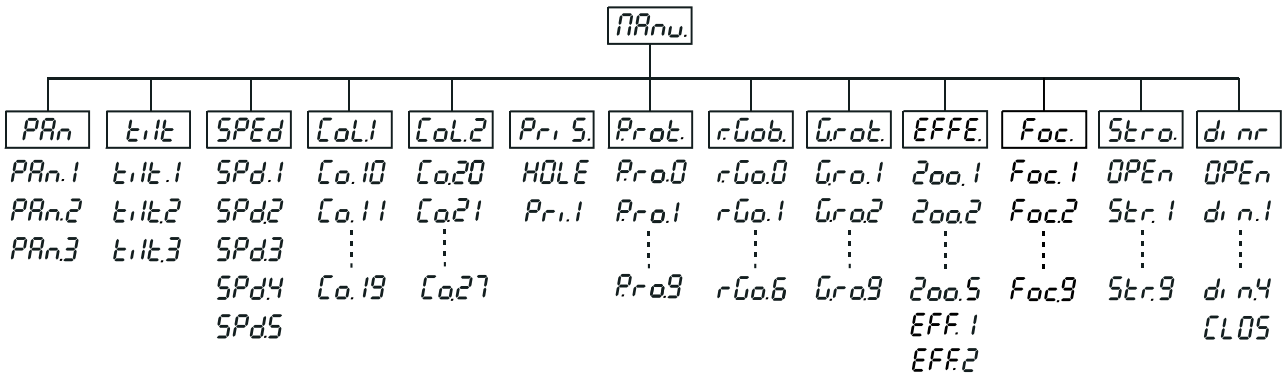
Use the **[Up]** and **[Down]** buttons to browse through the special functions and select the one by pressing **[Enter]**.





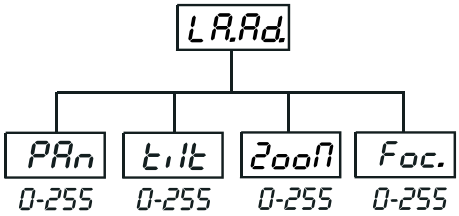
Manual control of effects

The function allows you to control manually the channel functions of the fixture. Use the **[Up]** and **[D o w n]** buttons to select desired function and press **[Enter]** to adjust the effect or **[Mode]** to cancel and return to the menu.



LA.Ad. Lamp adjustment

This function can be used when you make the fine adjustment of the lamp.If you select "**LAAd**" pressing by **[Enter]**-button ,all effects will be canceled,shutter will be opened and the dimmer intensity will be set onto 100%.By using the options "**PAn, tilt,ZooM,Foc**" you can focus the light on a flat surface (wall) and perform the fine lamp adjustment.

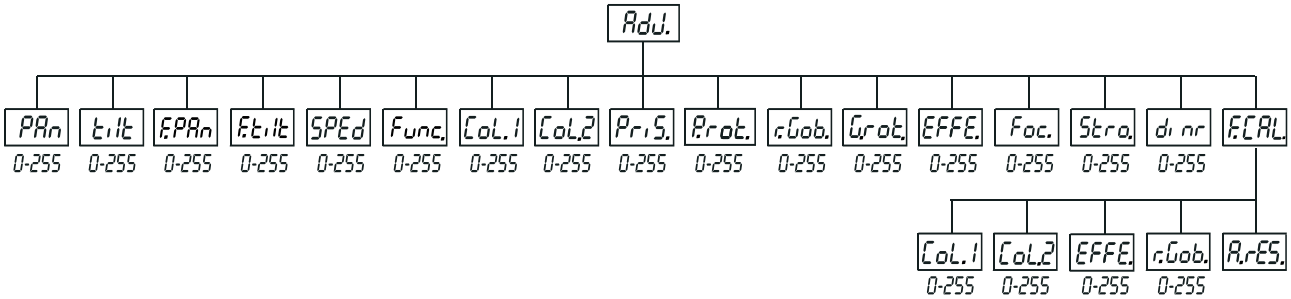


CodE Fixture code

The option contains identification code (1-9999) for the fixture, which is used for the master/slave operation.

AdJ. Adjusting the default positions of the colour,effect and gobo wheels

By this function you can calibrate and adjust the colour and gobo wheels to their standard/right positions. Use the **[Up]** and **[Down]** buttons to browse through the adjusting menu - the display shows step by step these messages: **"PAn, tilt, FPAn,Ftilt,SPEd,Func, Col1, Col2, PriS, Prot,rGob, Grot,EFFE, Foc, Stro, dimr, FCAL"** by which you can adjust the fixture to the required/desired position (0-255) before the function calibration. Then when the positioning is finished use the last **"F.CAL."** function (Fixture calibration).



1. Calibration via the control panel

Press **[Enter]** and the **[Up]** and **[Down]** buttons in order to display the following messages: **"Col1, Col2,EFFE rGob"** for very smooth function calibration. Select one of them, press **[Enter]** and use the **[Up]** and **[Down]** buttons in order to adjust their right value from 0 to 255. Then press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu. This can be repeated for each calibration parameter if it is required. When the calibration is finished, it is necessary to use the **"A.rES."** function in order to write the calibration values to the memory (EPROM) and to make a reset in order to check the newly adjusted positions of the colour,effect and gobo wheels. When the reset of the fixture is finished, the display will show the **"F.CAL."** message. Press **[Enter]** to repeat the calibration or **[Mode]** to return to the **"AdJ."** menu.

2. Calibration via the external controller

Connect the DMX controller, press **[Enter]** and the **[Up]** or **[Down]** buttons in order to display the following messages: **"Col1, Col2, EFFE,rGob"** - calibration parameters. Select one of them and press **[Enter]**.
Now you can calibrate the colour1, colour 2/static gobo ,effect wheel and rotating gobo wheel by your controller. The DMX calibration protocol is described in the table mentioned below.

DMX Calibration protocol:

DMX chanel	Function		
1	Colour 1	Smooth microstep movement	Calibration 0-255
2	Colour 2/stat.gobo		Calibration 0-255
3	Effect		Calibration 0-255
4	Rotating gobo		Calibration 0-255
5	No function		
6	No function		
7	Colours 1	Standard protocol	
8	Colours 2/stat.gobos	Standard protocol	
9	Prism	Standard protocol	
10	Prism rotation	Standard protocol	
11	Rotating gobos	Standard protocol	
12	Gobo rotation	Standard protocol	
13	Effects/zoom	Standard protocol	
14	Focus	Standard protocol	
15	Strobo	Standard protocol	
16	Dimmer	Standard protocol	

After having calibrated required functions press **[Enter]** to confirm (or **[Mode]** to cancel and return to the menu without reset by the **"A.rES."** function) and use the **"A.rES."** function in order to write the calibration values to the memory (EEPROM) and to make a reset in order to check the new adjusted positions of the colour 1, colour 2/static gobo,effect and rot.gobo wheels.

9. Error and information messages

HEAt

This message appears if you try to switch on the lamp within 5 minutes after having switched it off (the lamp is too hot). The message will appear on the display if the lamp doesn't ignite within 28 seconds. The MS Zoom 250 XT will store this information and automatically ignite the lamp when the 5 minutes period has expired.
Caution: The message is disabled if the lamp light sensor (function "En.Sn.") is switched Off (only if the lamp was turned Off and On within 5 minutes,the message "*HEAt*" will appear).

LA.Er.

The ignition of the lamp is seven times unsuccessful (the "*HEAt*" message appeared six times before), and the display shows **"***LA.Er***"**, meaning that the lamp could be damaged or even missed, the fixture is overheating (this can occur if the ambient temperature is 45° C or more) or there could be a failure on the ignitor or ballast.
Please place or replace the lamp, check the ambient temperature or contact your dealer if the situation was not caused by the lamp.
Caution: The message is disabled if the lamp light sensor (function "En.Sn.") is switched Off.

FAn

The message informs you that the fixture was overheating and switched off. This message will appear on the display if the fan speed operating "LOOF" was selected.

M.b.Er.

This messsage informs you that the main PCB does not communicate correctly with the Control Panel.

C.1Er. (color 1-wheel error)

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

C.2Er.(color 2/static gobo-wheel error)

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

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

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

EF.Er(effect-wheel error)

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

F.tEr.

The message informs you that the fixture was overheating (occured if the ambient temperature is 45° C or more) and that the relay switched off the lamp. This message will appear on the display until the temperature will be on a suitable level, then the display will show the "*HEAt*" message meaning the lamp is too hot.

SnEr.

This message appears if the lamp lighting sensor is failed. Please, contact your dealer.
Caution: The message is disabled if the lamp light sensor (function "En.Sn.") is switched Off.

Po.Er.

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

PA.Er.(Pan-yoke movement error)

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

ti.Er.(TILT-head movement error)

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

MA.Er.(Master error)

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

Fr.Er.

It will appear if the frequency of the mains is not standard 50 or 60Hz.

10. Technical specifications

Power supply:

EU-model:Voltage.....208/230/240 V AC, 50/60 Hz ~
-Fuse.....T 3.15 A@230V
US-model: Voltage.....100/120/208/230/240 V AC, 50/60 Hz ~
-Fuse.....T 6.3 A@120V
-Power consumption.....500VA

Lamps:

Philips MSD 250 or MSD250/2 GY9.5

Optical system:

-High luminous-efficiency parabolic mirror and double condenser system
-Multi-step zoom (15°,18°,21°,24°,26°)
-All lenses are anti-reflection coated

Colours:

Colour - wheel :
- 7 dichroic-filters plus white,colour-wheel with variable rotation speed in both directions
Colour/static gobo - wheel:
- 3 dichroic-filters plus white

Static gobos:

- 3 dichroic gobos plus an open position
- Outside diameter= 37.3 mm, image diameter= 31 mm,thickness=1.1mm
- Material:high temperature borofloat or better glass

Rotating gobos:

-Rotating gobo-wheel with 5 interchangeable rotating gobos plus open
-Rotating gobo-wheel cont. rotation
-4 metal gobos and 1 glass gobo rotating in both directions at different speeds
-Rotating gobos can be turned by 360°,the adjusted position is memorized
-Gobo indexing
-Metal gobos:outside diameter= 37.3 mm, image diameter =31.5 mm,
stainless steel,thickness=0.15mm
-Glass gobo:outside diameter= 37.3 mm, image diameter =31.5 mm,high temperature borofloat or better glass, max.thickness=4mm

Strobe:

-Strobe effect with variable speed (1 - 10 flashes per second)
-Preprogrammed variable/random strobe and dimmer pulse-effects

Dimmer:

-Smooth dimmer from 0 - 100 %

Prism:

-3-facet-prism rotating in both directions at different speeds
-Macro-function for rotating gobos/rotating prism combinations

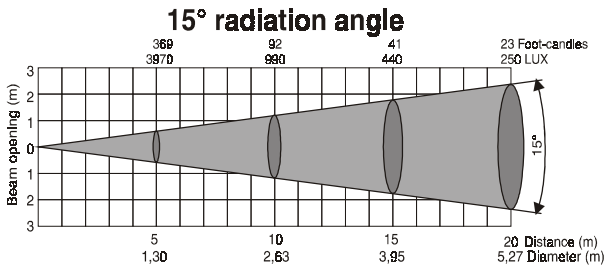
Focus:

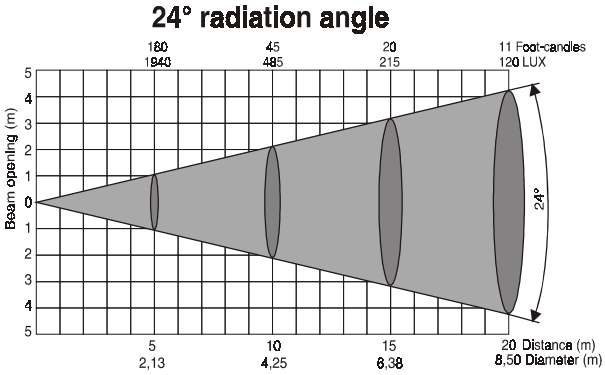
-Remotely controllable motorized focus from near to far

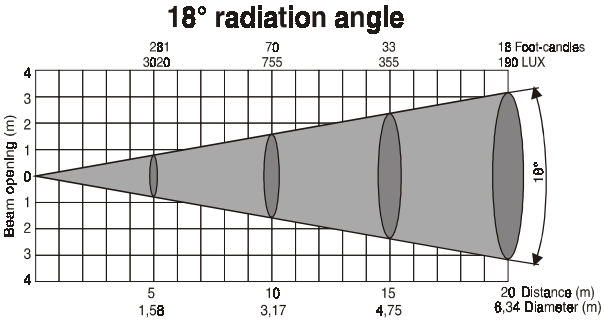
Motors:

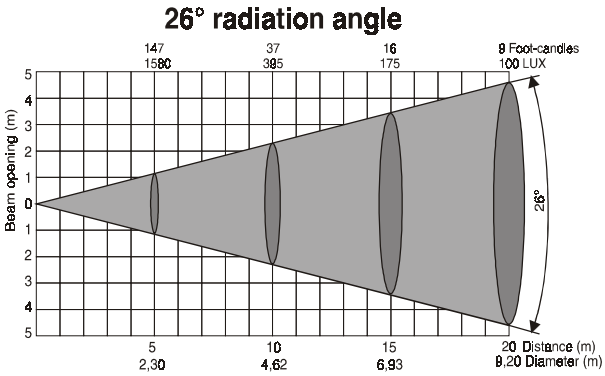
-10 high quality stepping-motors controlled by microprocessors

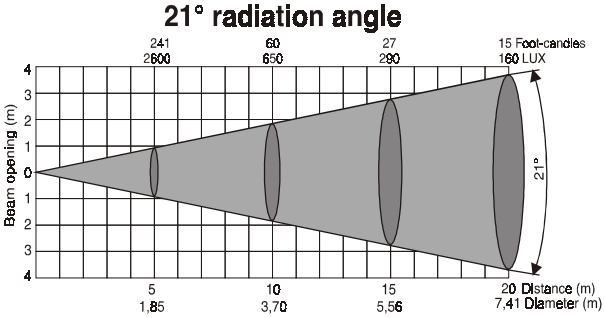
Beampath:

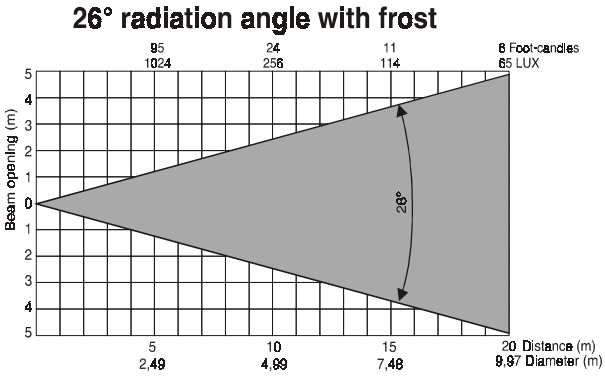


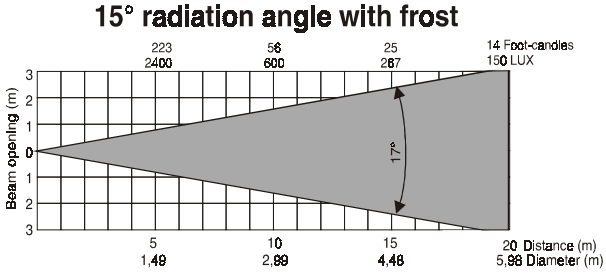












Electronics:

-Addressing,special functions setting,effects calibration via control panel with 4-digit LED display
-Readout fixture and lamp usage,receiving DMX values,temperature, etc
-Built-in analyzer for easy fault finding,error messages
-Remotely switching of the lamp
-Bilt-in demo sequences
-Black-out while head moving or gobo/color changing
-5 fan speed modes,remotely controllable speed of fans
-Self-resetable thermo-fuse
-Master/slave operation
-Stand-alone operation
-Digital serial input DMX-512
-DMX-control via every stanndard DMX controller
-14 DMX-channels (8 bit Pan/Tilt movement resolution)
-16 DMX-channels (16 bit Pan/Tilt movement resolution):

Channel	Mode 1-16bit (default)	Mode 2-16bit	8 bit
1	Pan	Pan	Pan
2	Tilt	Fine Pan	Tilt
3	Fine Pan	Tilt	Pan/Tilt speed
4	Fine Tilt	Fine Tilt	Fans,Lamp On/Off
5	Pan/Tilt speed	Pan/Tilt speed	Colour 1
6	Fans, On/Off lamp	Fans, On/Off lamp	Colour2/stat.gobo
7	Colour 1	Colour 1	Prism
8	Colour 2/stat.gobo	Colour 2/stat.gobo	Prism control
9	Prism	Prism	Rotating gobo
10	Prism control	Prism control	Rot.gobo rotation
11	Rotating gobo	Rotating gobo	Zoom
12	Rot.gobo rotation	Rot.gobo rotation	Focus
13	Zoom	Zoom	Strobe
14	Focus	Focus	Dimmer
15	Shutter, strobe	Shutter, strobe	
16	Dimmer	Dimmer	

Pan/Tilt:

-Pan movement range 530°
-Tilt movement range 280°
-8/16 bit movement resolution
-Automatic Pan / Tilt position correction
-Maximum PAN-movement 530° in 2.7 s
-Maximum TILT-movement 280° in 1.7 s
-Remotely controllable speed of Pan/Tilt movement for easy programming

Rigging:

-Stands directly on the floor
-Mounts horizontally or vertically with 2 clamps
-2 truss orientation
-Safety chain/cord attachment point

Temperatures:

-Maximum ambient temperature t_a: 45° C
-Maximum housing temperature t_B (steady state): 80° C

Minimum distances:

-Min.distance from flammable surfaces: 0,5m
-Min.distance to lighted object: 1,3m

Accessories

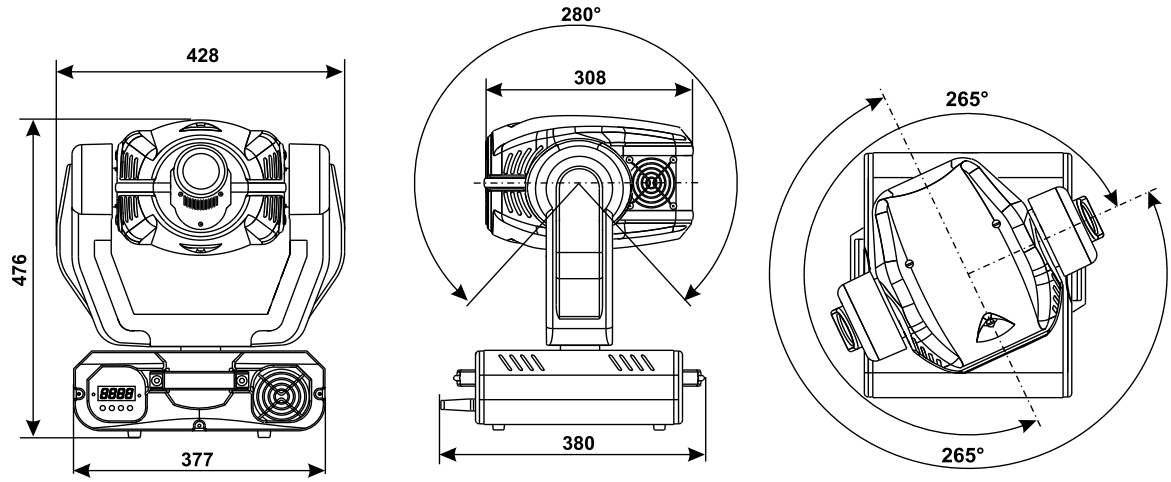
- Accessories gobo-set 5.....15050014
- Omega holder (2 pieces).....99010420

Optional accessories:

- Mounting plate.....99010500

Dimensions and weight:

-Length of base (including handles):	380 mm
-Width :	377 mm
-Height (head horizontal):	476 mm
-Weight (net):	19 kg
-Shipping weight:	24 kg



11. Maintenance and cleaning

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

DANGER !
Disconnect from the mains before starting any maintenance work

The front objective lens will require weekly cleaning as smoke-fluid tends to building up residues, reducing the light-output very quickly. The cooling-fans should be cleaned monthly.

The gobos may be cleaned with a soft brush. The interior of the fixture should be cleaned at least annually using a vacuum-cleaner or an air-jet.

The gobos may be cleaned with a soft brush. The interior of the fixture should be cleaned at least annually using a vacuum-cleaner or an air-jet.
The dichroic colour-filters, the gobo-wheel and the internal lenses should be cleaned monthly.

To ensure a proper function of the gobo-wheel and the zoom screwline, we recommend lubrication in six month intervals. The quantity of oil must not be excessive in order to avoid that oil runs out when the gobo-wheel rotates.

There are no serviceable parts inside the device except for the lamp and the fuse.
Please refer to the instructions under "Fitting/Exchanging the lamp".
Maintenance and service operations are only to be carried out by authorized dealers.

Replacing the fuse

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

Before replacing the fuse, unplug mains lead.

Procedure:

1) Unscrew the fuseholder on the rear panel of the base with a 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.

12. Appendix

12.1 Changing the power supply settings

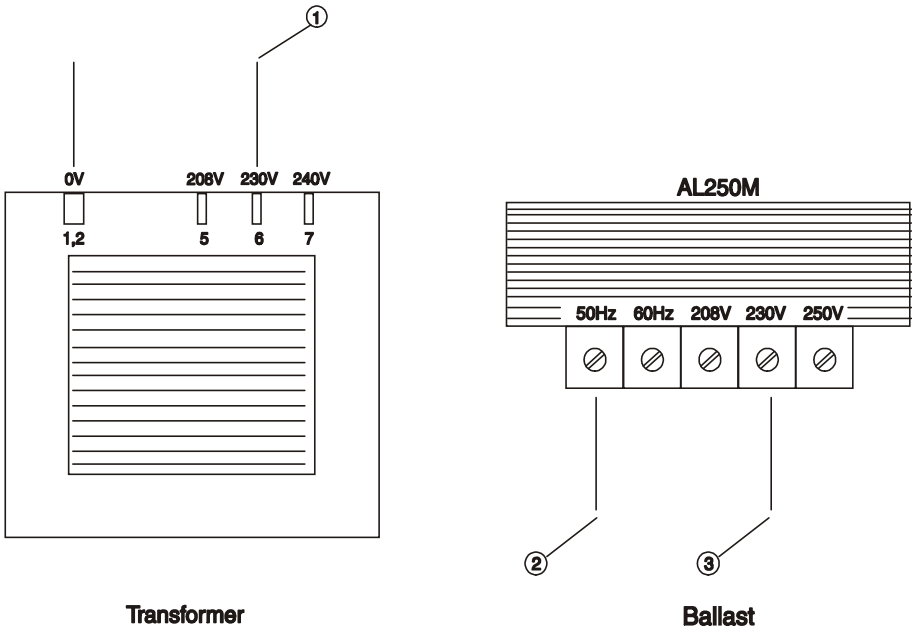
Both the transformer and the ballast must be connected correctly for the local AC voltage and frequency. The wrong settings can cause poor performance or demage of the moving head.The factory settings are printed next to the power switch.

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

1.Disconnect the fixture from AC power.
2.Remove the top base cover (closest to the power cord) by loosening the 6 screws.
3.Move the wire ① on the transformer connection block to the position according to the desired voltage.
4.Move the wires ② and ③ on the ballast connection block to the position according to the desired frequency (voltage).
5.Close the base before applying AC power.

Examples:

EU-version
Power supply settings: 230V/50Hz



US-version
Power supply settings: 120V/60Hz

