Zoom Moving Head (19LED*40w)

Model : ML-1319

MAX LIGHTING ®

USER MANUAL

CONTENTS

1. Open the box and checking

Congratulations on choosing our products! Please carefully read this instruction manual in its entirety and keep it well for using reference. This manual contained about the installation and the relative using information of this products. Please according to this manual's relative speaking when using this equipment. Instructions and warning notes written in this manual

2. Safety Introduction

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

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

This fixture should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied, consult your authorized distributor or local power company.

Always disconnect the fixture from AC power before cleaning, removing or installing the fuses, or any part.

The power plug has to be accessible after installing the fixture. Do not overload wall outlets and extension cords as this can result in fire or electric shock.

Do not allow anything to rest on the power cord. Do not locate this fixture where the cord may be damaged by persons walking on it.

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

Refer servicing to qualified service personnel

This fixture falls under protection class I. Therefore this fixture has to be connected to a mains socket outlet with a protective earthing connection

Do not connect this fixture to a dimmer pack.

LED light emission. Risk of eye injury. Do not look into the beam at a distance of less than 1 meter from the front surface of the product. Do not view the light output with optical instruments or any device that may concentrate the beam.

If the fixture 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 fixture. Avoid brute force when installing or operating the fixture.

This fixture was designed for indoor use only, do not expose this unit to rain or use near water.

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

Air vents and slots in the fixture´s head and base are provided for ventilation, to ensure reliable operation of the device and to protect it from overheating.

Do not block the LEDs array with any object when the fixture is under operation.

The openings should never be covered with cloth or other materials, and never must be blocked.

This fixture should not be placed in a built-in installation unless proper ventilation is provided.

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

Always use a secondary safety cable when mounting this fixture.

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

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

The fixture becomes very hot during operation. Allow the fixture to cool approximately 20 minutes prior to manipulate with it.

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

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

Please consider that unauthorized modifications on the fixture 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, crash etc.

3. Installation

CAUTION!
Fixtures must be installed by a Qualified electrician in accordance with all national and local electrical and construction codes and regulation.

3.1 Connection to the mains

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

The LED COLOR ZOOM 300 is equipped with auto-switching power supply that automatically adjusts to any 50/60Hz AC power source from 100-240 Volts.

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

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

Core (EU)	Core (US)	Connection Plug	Terminal Marking
Brown	Black	Live	L
Light blue	White	Neutral	N
Yellow/Green	Green	Earth	⏚

3.2 Rigging the fixture

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

The installation must always be secured with a secondary safety attachment, e.g. an appropriate catch net.

This secondary safety attachment must be constructed in a way that no part of the installation can fall down if the main attachment fails.

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

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

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

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

The fixture 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 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!

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

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

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

CAUTION!

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

The fixture can be placed directly on the stage floor or rigged on a truss without altering its operation characteristics

For securing a fixture to the truss install a safety wire that can hold at least 10 times the weight of the fixture.

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

Note: If the safety wire is too long, whip it several times around the trusss in order to attach the fixture tight.

In case of an accident, the way of the falling fixture will be short.

4. CONTROL PANEL

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.

Occupation of the XLR-connection:

DMX - output DMX-input

XLR mounting-sockets (rear view):

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 want to connect DMX controllers with other XLR outputs, you need to use a dapter-cables.

Building a serial DMX chain:

Connect the DMX output of the first fixture in the DMX chain with the DMX input of the next fixture. Always connect one output with the input of the next fixture until all fixtures are connected.

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

IMPORTANT: The wires must not make contact with each other or with the metal casing of the connectors. The casing itself must be connected to the shield braid and to pin 1 of the connectors.

Switching on the projector

Press the switch. The projector starts resetting the effects. At the same time, the following information scrolls on the display:

On conclusion of resetting in case of absence of the DMX signal, Pan and Tilt move to the “Home” position (Pan 50% - Tilt 50%). The control panel has a display and buttons for the complete programming and management of the projector menu. The display can be in one of two conditions: rest status and setting status. When it is in the rest status, the display shows the projector’s DMX address and the Fixture ID address (if set).

During menu setting status, after a wait time (about 30 seconds) without any key having been pressed, the display automatically returns to rest status.

It should be noted than when this condition occurs, any possible value that has been modified but not yet confirmed with the F key will be cancelled.

Setting the projector starting address

On each projector, the starting address must be set for the control signal (addresses from 1 to 512).

The address can also be set with the projector switched off.

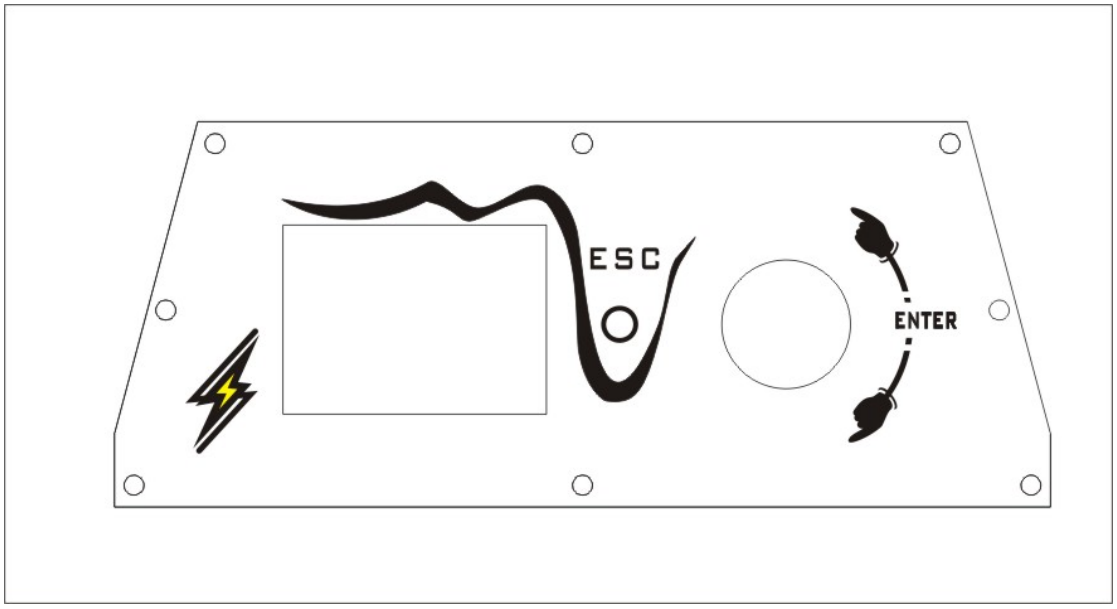
Setting the address:

5. Functions of the buttons - Using the menu

"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, comfirms adjusted values and leaves menu.



Setting addresses and options with the projector disconnected

The projector’s DMX address, as well as other possible operating options, can also be set when the appliance is disconnected from the electricity supply.

All that is needed is to press " **ENTER** " to momentarily activate the display and thus access the settings. Once the required operations have been carried out, the display will switch off again after a wait time of 30 seconds.

6. MENU SETTING v1.0

Fixture Address	DMX Address	001----512	
Personality	Display Adjusting	Display Permanent On (ON/Off)	
		Display Intensity (1..10)	
		Display Backlight (1..5..10)	
		Display turned (On/Off)	
	DMX Presetting	Mode 1	Ch.1
			Ch.24
			Set Active
		Mode 2	Ch.1
			Ch.20
			Set Active
		Mode 3	Ch.1
			Ch.16
			Set Active
	Pan/Tilt Presetting	Pan Reverse(On,Off)	
		Tilt Reverse(On,Off)	
		Pan/Tilt Feedback (On,Off)	
		Pan/Tilt mode	Time Mode
			Speed Mode
		Pan/Tilt Speed	Standard Speed
			High Speed
	Colour Calibration	On/off	
	Active Blackout While	Blackout D.M.C. (On,Off)	
		pan/Tilt Moving (On,Off)	
	Temperature Unit	℃, ℉	
	Iinit Effect Positions	Ch.1	
		Ch.32	
	Default Setting		
Fixture information	Power On Time	Total Hours	
		Resetable Hours	
	Fixrure Temperatures	Current Temp.	Ambient Temp.[℃]
			LEDs Temp.[℃]
		Maximum Temp.	Ambient Temp.[℃]
			LEDs Temp.[℃]
	Software Version		
	Product IDs	MAC Adr.	
		Code	

	DMX Values	CH1	
		Ch32	
Test sequences	Mode 1	Pan (0-255)	
		Tilt	
		Zoom	
		Focus	
		Run Test Program	
	Mode 2	Run Test Program	
Manual Mode	Manual Effect Control	Pan (0-255)	
		Dimmer fine(0-255)	
Stand-alone setting	Editing Program	Program1	
		Program2	
		Program3	
		Edit Steps	Step1~Step99
			Pan (0-255)
			Dimmer fine (0-255)
			Step Time (0.1-25.5s)
			Save
			Save and copy
		Start Step (1-99)	
		End Step (1-99)	
	Playing Program	Test Program In Loop	
		Program 1In Loop	
		Program 2In Loop	
		Program 3In Loop	
	Presetting Playback	Disabled	
		Test Program	
		Program1	
		Program2	
		Program3	
Reset functions	Reset All		
	Pan/Tilt		
	Zoom		
Special functions	Effect Adjustment	DMX Values	Pan (0-255)
			Dimmer (0-255)
		Calibrate Values	Red(0-255)
			Green (0-255)
			Save and Reset
			Restore

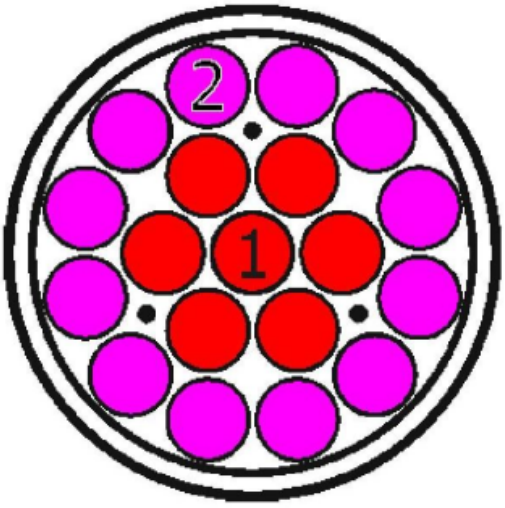
7. DMX protocol v1.0

Model Channel			Value	Founction
1	2	3		
1	1	1		**Shutter/Strobe**
			0-31	Shutter closed
			32-63	Strobe effect from slow--> fast
			64-95	Strobe effect from slow--> fast (All zones together)
			96-111	Zone effects+rainbow effects speed control, slow--> fast
			112-127	Zone effects+rainbow effects speed control, fast--> slow
			128-143	Opening pulses in sequences from slow--> fast
			144-159	Closing pulses in sequences from fast--> slow
			160-175	Random strobe effect from slow--> fast
			176-191	Random strobe effect from slow--> fast
			192-223	Random strobe effect from slow --> fast (All zones together)
			224-255	Shutter open
2	2	2	0-255	**Dimmer (8 bit)**
				Dimmer intensity from 0% to 100%
3	3	3	0-255	**Zoom**
				Zoom from max to min. beam angle
4	4	4	0-255	**Pan(8 bit)**
				Pan movement by 540°
5	5	5	0-255	**Pan fine(16 bit)**
				Fine control of pan movement
6	6	6	0-255	**Tilt(8bit)**
				Tilt movement by 270°
7	7	7	0-255	**Tilt fine(16bit)**
				Fine control of tilt movement
8	8	8		**Special functions**
			0-49	Reserved
				To activate following functions , stop in DMX value
				for at least 3sec. and shutter must be closed at least
				3sec. (Shutter channel 35/19/14/9/9 must be at
				range of 0-31DMX). Corresponding menu items are
				temporily overrided.
			50-59	Pan/Tilt speed mode
			60-69	Pan/Tilt time mode
			70-79	Blackout while pan/tilt moving
			80-89	Disabled blackout while pan/tilt moving

			90-99	Theatre mode On
			100-109	Theatre mode Off
			110-139	Reserved
				To activate following reset function, stop in DMX
				value for at least 3 sec.
			140-149	Pan/Tilt reset
			150-179	Reserved
			180-189	Zoom reset
			190-199	Reserved
			200-209	Total reset
			210-255	Reserved
9	9	9		**Beam RGBW Virtual Colour Wheel**
				For detailed description see " Virtual colour wheel- colour mixing chart
			0	No function
			1~2	White 2700 K
			3	White 2700 K (Halogen lamp mode*)
			4~5	White 3200 K
			6	White 3200 K (Halogen lamp mode*)
			7~9	White 4200 K
			10~12	White 5600 K
			13-15	White 8000 K
			16	Blue (Blue=full, Red+Green+White=0)
			17-55	Red=0, Green->up,Blue =full, White=0
			56	Light Blue (Red=0, Green=full, Blue =full, White=0)
			57-95	Red=0, Green=full, Blue->down, White=0
			96	Green (Red=0, Green=full, Blue =0, White=0)
			97-134	Red->up, Green=full, Blue=0, White=0
			135	Yellow (Red=full, Green=full, Blue=0, White=0)
			136-174	Red=full, Green->down, Blue=0, White=0
			175	Red(Red=full, Green=0, Blue=0, White=0)
			176-214	Red=full, Green=0, Blue->up, White=0
			215	Magenta (Red=full, Green=0, Blue=full, White=0)
			216-246	Red -> down, Green=0, Blue=full, White=0
			247	Blue (Red=0, Green=0, Blue=full, White=0)
			248-255	Reserved
_	10	10		**Beam Red /Red fine -** all zones
			0-255	Red LEDs saturation control (0-100%)
			0-255	Fine red LEDs saturation control
_	11	11		**Beam Green /Green fine** - all zones
			0-255	Green LEDs saturation control (0-100%)
			0-255	Fine green LEDs saturation control
_	12	12		**Beam Blue /Blue fine** - all zones

			0-255	Blue LEDs saturation control (0-100%)
			0-255	Fine blue LEDs saturation control
_	13	13		**Beam White /White fine** - all zones
			0-255	White LEDs saturation control (0-100%)
			0-255	Fine white LEDs saturation control
10	_			**Beam Red /Red fine** - zone 1
			0-255	Red LEDs saturation control (0-100%)
			0-255	Fine red LEDs saturation control
11	_			**Beam Green /Green fine** - zone 1
			0-255	Green LEDs saturation control (0-100%)
			0-255	Fine green LEDs saturation control
12	_			**Beam Blue /Blue fine** - zone 1
			0-255	Blue LEDs saturation control (0-100%)
			0-255	Fine blue LEDs saturation control
13	_			**Beam White /White fine** - zone 1
			0-255	White LEDs saturation control (0-100%)
			0-255	Fine white LEDs saturation control
14	_			**Beam Red /Red fine** - zone 2
			0-255	Red LEDs saturation control (0-100%)
			0-255	Fine red LEDs saturation control
15	_			**Beam Green /Green fine** - zone 2
			0-255	Green LEDs saturation control (0-100%)
			0-255	Fine green LEDs saturation control
16	_			**Beam Blue /Blue fine** - zone 2
			0-255	Blue LEDs saturation control (0-100%)
			0-255	Fine blue LEDs saturation control
17	_			**Beam White /White fine** - zone 2
			0-255	White LEDs saturation control (0-100%)
			0-255	Fine white LEDs saturation control
18	14	14		**CTO**
			0	No function
			1-255	Colour temperature correction from 20000K to 2700K
				(menu item "Colour Calibration Mode"=Off)
			1-255	Colour temperature correction from 15500K to 2700K
				(menu item "Colour Calibration Mode"=On)
19	15	15		**Beam Brightness**
			0~31	Beam RGBW NORM
			32~127	Beam RGBW Fine
			128~223	Beam RGBW OFF
			224~255	Beam RGBW NORM
20	17	_		**Aura RGB Virtual Colour Wheel**
			0	No function
			1~3	White 2700 K

			4~6	White 3200 K
			7~9	White 4200 K
			10~12	White 5600 K
			13-15	White 8000 K
			16	Blue (Blue=full, Red+Green)
			17-55	Red=0, Green->up,Blue =full
			56	Light Blue (Red=0, Green=full, Blue =full)
			57-95	Red=0, Green=full, Blue->down
			96	Green (Red=0, Green=full, Blue =0)
			97-134	Red->up, Green=full, Blue=0
			135	Yellow (Red=full, Green=full, Blue=0)
			136-174	Red=full, Green->down, Blue=0
			175	Red(Red=full, Green=0, Blue=0)
			176-214	Red=full, Green=0, Blue->up
			215	Magenta (Red=full, Green=0, Blue=full)
			216-246	Red -> down, Green=0, Blue=full
			247	Blue (Red=0, Green=0, Blue=full)
			248-255	Reserved
21	18	–		**Aura Red**
			0-255	Red LEDs saturation control (0-100%)
22	19	–		**Aura Green**
			0-255	Green LEDs saturation control (0-100%)
23	20	–		**Aura Blue**
			0-255	Blue LEDs saturation control (0-100%)
24	16	16		**Pan/Tilt speed, Pan/Tilt time**
			0	Max. speed (tracking mode)
			1-255	P./T. speed-set Speed Mode in menu: P./T. Mode
				Speed from max. to min. (vector mode)
			1-255	P./T. time - set Time Mode in menu: Pan/Tilt Mode
				Time from 0. 1s to 13 s.



8. TECHNICAL INFORMATION

AC power: 100-240 V nominal, 50/60 Hz
Maximum total power consumption: 1020 W
Light source: Osram high-power LED emitters
Beam color mixing: RGBW
Aura color mixing: RGB
Total output: 11000 lumens (zoom at maximum)
Minimum LED lifetime: 60 000 hours (to >70% luminous output)
Control: DMX, protocol modes 24/20/16
3-editable programs, each up to 100 steps
RDM: Implemented
Pan/Tilt used 3-Phase 1.2° ENCAPSULATED STEPPING MOTOR, ZOOM linear actuators.
Pan and tilt speed: Adjustable via onboard control panel and DMX
Pan/Tilt movement: Pan: 540°; Tilt: 270°
Control resolution: 8-bit, with 16-bit control of pan & tilt
Resolution: PAN=2.11°, PAN FINE=0.008°, TILT=0.98°, TILT FINE=0.004°
Virtual color wheel： 237 colors including whites (2700K, 3200K, 4200K, 5600K and 8000K)
Color temperature control: CTO, variable 10 000 - 2500 K
Strobe effect with variable speed (max. 20 flashes per second)
Zoom: 11° - 60°
Display: Blue/white LCD graphic
Color: Black
Housing: High-impact flame-retardant thermoplastic
Protection rating: IP20
Weight: 9.33kg

9. Maintenance and cleaning

CAUTION!

Disconnect from the mains before starting any maintenance work

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!

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

The interior of the base 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 distributors.

9.1 Replacing fuse

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

Before replacing the fuse, unplug mains lead!

If you need to replace the main fuse, follow the instructions:

1) Remove the rear cover of the base by unscrewing 6 fastening screws.
2) Remove the old fuse from the fuse holder.
3) Install the new fuse into the fuse holder.
4) Replace the rear cover back to the base..