AYRA

ERO 540 MKII

RGB LED movinghead

User manual

Safety precautions

This unit must be operated by, or under the supervision of an adult. This device is not suitable for children.

Do not look directly into the beam from a short distance. This may cause serious injury to the eyes. Ayra is not responsible for any injuries caused by (incorrect) use of this device.

Installation requirements:
- Always check the power supply to which you want to connect the device. If the voltage requirements do not meet, do not connect the device as this may cause serious damage.
- This device must be installed by a professional technician, in a standing or hanging position. Only use the included mounting bracket if you want to position the unit to a ceiling or truss system.
- When installed in a hanging position, always install the included mounting eye
- When installed in a hanging position above your audience, this unit **MUST** be secured by using a safety cable, capable of holding 10x the weight of this device.
- The unit is designed to be installed with a halfcoupler or G-clamp, by using the included mounting bracket. Direct installation with proper bolts is also possible.
- Make sure there are no flammable objects in the direct environment of the device.
- Do not block the beam-exit and fan.
- Keep a minimum distance of 0.25 meter from any walls to provide sufficient cooling.
- Make sure the beam-exit and fan are not blocked by any objects in the near environment.
- Always use the included power supply. Contact your local dealer for a replacement unit if necessary.

Maintenance and protection
- Keep the unit away from dusty environments, as this may have negative effects on the fan-cooling system and optics. Clean the optics and fan with a small, soft brush and vacuum cleaner when needed. Clean the housing of the unit with a damp cloth. **WARNING:** Always disconnect the unit from the power supply when cleaning the unit. Reconnect the unit only when any moist on the fixture has evaporated completely.
- Do not switch the power on and off frequently, as this may cause serious damage to the unit.
- Avoid heavy shocks and collision during transport and use, as this may cause damage to the LED light source, electronic circuit, optics and housing.
- Keep the device away from moisture, rain, water or any liquids as this may cause a short circuit and/or electric shocks. If any liquid enters the unit, power supply or housing of the unit, disconnect the unit immediately and do not reconnect the power supply. Contact your local dealer or technician to inspect the unit for any damage.

Box contents

Box contents
1x ERO 540 MKII movinghead
1x power cable
1x installing bracket
1x small bag with mounting hardware

Unit and accessory inspection
- Always use the supplied power cable to connect the unit to a power supply. If the cable appears broken or has visible damage, do not use it.
- If the unit is not going to be used for a longer period of time, disconnect it from the power supply and store it in a dust-free environment.
- Always check the unit for possible damage before use. If you suspect that something is wrong with the unit, do not connect it to a power source! When you suspect that your unit is broken or damaged, contact your local dealer or a certified technician to inspect the unit.
- When your device does not generate any light, do not look directly into the lens. When the fixture suddenly produces a beam, it may cause injury to your eyes.

Device overview

1. **Beam output**
2. **Control panel with display and menu-functions**
3. **Adjustable manual focus**
4. **Cooling fan head**
5. **IEC power inlet**
6. **DMX input**
7. **DMX output**

This unit is equipped with an adjustable focus, which makes it possible to sharpen the beam when used at a small or large distance.

Setting up the device

To activate the unit, connect the included power supply to the unit and a suitable 230V, 50 Hz power outlet. The unit will activate directly after it is plugged in to a wall outlet or other power source.

Give the movinghead time to calibrate the stepping motors, which are used to determine the position of the head. You may hear and see some shaking, which is normal. The stepping motors use an end point to determine the beginning and end of their movement. The displays shows the current status. After calibration, the movinghead will start the previously used mode, but by default it is usually set to DMX mode.

The status of the movinghead is shown on the display (which automatically shuts off after a few seconds of inactivity). The shown values determine the current status and can be changed by pressing the buttons on the control panel. The four buttons each have their own function, for easy navigation.

Press the 'ESC' button to switch modes, so you can easily select the built-in automatic, music controlled or DMX mode.

The several operation modes and settings are set by using the buttons beneath the display. The following codes represent the different features:

Mode 1: d001 – d512 (DMX mode)
d001 is set as the default DMX address, it is possible to select a value between 001 and 512. Press Enter to confirm the new set address.

Mode 2: nStA / nStS / SLAv
- nStA: Master auto mode
- nStS: Master music controlled mode
- SLAv: Slave mode
Select the right mode by using the up and down buttons, press Enter to confirm.

To let the fixtures work in master/slave mode, connect several fixtures with standard XLR male – female cable. Set the first fixture in line to 'Master' (sound activated or automatic) and the following fixtures to 'Slave'. The slaves will mimic the signal of the master unit. It is possible to invert the pan and tilt modes for all connected slaves seperately, for synchronized shows.

Mode 3: Pan / rPan
The default setting is a normal pan mode, but it is possible to invert the pan values internally. This way, several fixtures can be set to the same mode, but the movement of pan can be inverted for synchronized shows. rPan inverts the values. Press Enter to confirm.

Mode 4: tiL / rtiL
The default setting is a normal tilt mode, but as stated above it is possible to invert the values for synchronized shows. Press Enter to confirm.

Mode 5: dIs / rdIs
The default setting is a normal shown display, but when installing the fixture upside down (for example, in a truss system), you may wish to invert the display character mode. This way, it is easier to read the several statuses. Press Enter to confirm.

DMX mode
After calibration the display shows ' D001', which indicates that the unit is currently on DMX-mode, with DMX-channel 1 as the starting address. A small LED next to the last digit states wheter the unit is receiving DMX.

Changing the DMX starting address is done by pressing the 'up' and 'down' buttons on the control panel. You can select a value between 1 and 512.

The ERO 540 has two DMX modes, one for basic control (5 channels), the other for extended control (13 channels).

The following table shows the DMX charts, with the several channels and a function for each channel.

5-CH DMX mode	DMX values	Description
1	0 – 255	Pan
2	0 – 255	Tilt
3	0 – 7: Shutter closed 8 – 134: Dimmer 0-100% 135 – 239: Strobe slow-fast 240 – 255: Shutter open	Dimmer/Shutter
4	0 – 127: Color macro 128 – 256: Clockwise and counter-clockwise rainbow feature	Color
5	0 – 127: Gobo selection 128 – 191: Clockwise gobo scroll 192 – 255: Counter-clockwise scroll	Gobo

13-CH DMX mode	DMX values	Description
1	0 – 255	Pan
2	0 – 255	Pan fine
3	0 – 255	Tilt
4	0 – 255	Tilt fine
5	0 – 255: Fast – Slow	Pan and tilt speed adjustment
6	0 – 7: Shutter closed 8 – 134: Dimmer 0-100% 135 – 239: Strobe slow-fast 240 – 255: Shutter open	Dimmer/Shutter
7	0 – 255: 0-100%	Red
8	0 – 255: 0-100%	Green
9	0 – 255: 0-100%	Blue
10	0 – 255: 0-100%	Color macro
11	0 – 255: Slow – Fast	Color macro speed adjustment
12	0 – 127: Auto mode 128 – 255: Sound controlled mode	Working mode
13	0 – 12: Gobo 1 13 – 25: Gobo 2 26 – 38: Gobo 3 39 – 51: Gobo 4 52 – 65: Gobo 5 66 – 77: Gobo 6 78 – 90: Gobo 7 91 – 103: Gobo 8 104 – 116: Gobo 9 117 – 127: Gobo 10 128 – 191: Clockwise gobo scroll 192 – 255: Counter-clockwise scroll	Gobo

Additional information

Mounting the bracket
On the bottom of the movinghead, there are two holes to mount the included bracket, using the included bolts. It is possible to mount a G-clamp or halfcoupler to this bracket. It is also possible to mount the bracket on a ceiling, wall, bar, floor, desk or any flat surface. Use proper equipment to install this fixture, as a dropping fixture may cause severe injury! Ayra is not responsible for any damage or injuries caused by improper installation.

Focus
The ERO 540 MKII movinghead is equipped with an adjustable focus system. This focus system is positioned directly below the lens and makes it possible to sharpen the projection of gobos and spot figures.

To adjust the focus for optimal projection results, you need a Phillips screwdriver. Only adjust the focus of the movinghead when it is positioned in a static positioned (disconnected from the power supply or via DMX in a static position).

Always support the head with your hand when tightening or loosening the screw for the focus system. Do not touch the lens as this may cause fingerprints and negative influences on the output.

Loosen the screw with the screwdriver, until you are able to move the focus back and forth. Avoid loosenig the screw too much as it is spring loaded. Choose the right position for the focus and after that, tighten it again to fixate the focus in the current position.

See the images below for more information.
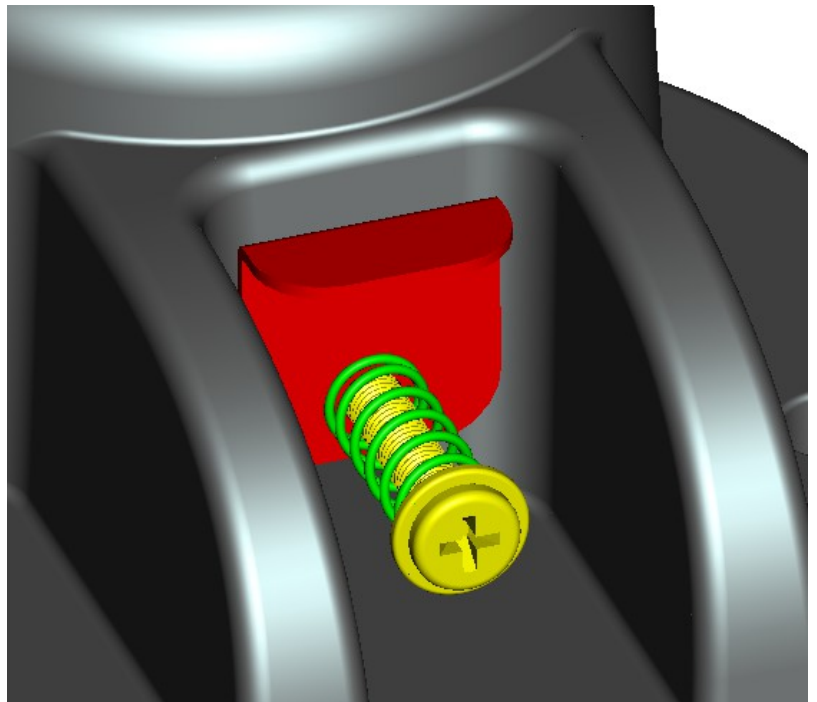
DMX lighting troubleshooting

If you have any problems with DMX lighting, consult this troubleshooting section to solve any difficulties with your product. If this troubleshooting section does not solve your problem, contact your dealer for more information and help.

This troubleshooting section contains the most frequent problems and is not a complete collection of possible faults, defects and solutions. The troubleshooting section applies for DMX controllers, DMX cabling and DMX lighting fixtures. It is possible that not all described problems, causes and solutions apply to your situation as product details may vary from product to product.

Problem	Possible Cause	Solution
The fixture does not activate itself	Blown fuse	Check the fuse compartment for blown fuses and replace it if necessary.
	No power cable plugged in	Plug in the power supply to a matching power outlet
	Power switch is not in the ON position	Turn on the device by switching the ON/OFF switch to the ON position, if available
The fixture does not respond to DMX signals	Wrong DMX address	Set the DMX address to the right value
	DMX controller blackout function activated	Deactivate the blackout function of your DMX controller
	Faulty positioning of the DMX polarity switch on the controller	flip the polarity switch on your DMX controller
	No response or DMX activity signal LEDs active	Check your DMX cables for possible connection breaks and replace them if necessary.
The fixture does not respond to sound	Wrong working mode selected.	Check if the sound activated mode of the fixture is activated.
	Microphone sensitivity level is set too low	Increase the microphone sensitivity of the built-in microphone
	Speaker placed too far away or lack of bass	Place your lighting effect closer to your speakers (or vice versa) and/or increase low frequency volumes. The microphone will not be triggered with high pitched sounds.
The beam output is very low	Dirty/dusty optics	Clean the lens and/or other optics with a dry or damp cloth
	Dimmer is not set to full output	Set all dimmer levels to 100% on your DMX console
Sometimes the DMX signal is lost and/or some fixtures are flickering / behaving odd sometimes	Faulty/broken DMX cables	Check your DMX cables for possible connection breaks and replace them if necessary.
	Power cable interference on your DMX signal	Avoid installing the DMX and (high) power cables parallel to each other.
	No DMX terminator	Apply a DMX terminator at the end of your DMX-chain

	Signal loss or distortion in DMX values	Apply a DMX booster in your DMX chain after 32 fixtures or less. After a maximum of 32 fixtures the DMX signal needs to be refreshed.
Moving parts are not functioning well, values do not match and/or rattling sounds are noticed	Faulty stepping motor positioning	Possible value loss of stepping motors. Activate the reset function, or unplug the power supply and plug it back in to activate the reset program. This will reset all values to the original 0-point.
The fixture does not respond fast enough to the set speed on my DMX controller	Moving parts can not keep up with the set speed	Decrease the chase speed of your DMX controller, as the stepping motors of your fixture need some time to move from one point to another.
The fixture does not respond to all DMX-channels	Wrong DMX channel mode	Check the DMX channel mode of the fixture. If the wrong value is set, change the channel mode to a different setting and try again.

Technical specifications

- Compact movinghead using a RGB LED light source
- Light source: 15 Watt RGB LED chip
- Lifespan LED module: +/- 50.000 h
- Pan range: 540 degrees max.
- Tilt range: 270 degrees max.
- Modes: stand-alone, music controlled, master/slave, DMX
- Built-in stand-alone programs
- Built-in music controlled programs
- DMX-control with 5 or 13 DMX-channels
- Gobowheel: 9 gobo's + open
- Variable electronic strobe function (slow-fast)
- Electronic dimmer: 0-100%
- Beam angle: 13 degrees
- Maximum ambient temperature: 40 degrees Celsius
- Maximum housing temperature: 55 degrees Celsius
- Minimum distance from flammable surfaces: 0.5 m
- Power consumption: 60W max.
- Fuse: 1A 250V 20mm glass fast blow
- Power supply: 110-240V AC, 50/60Hz
- Measurements: 175 x 175 x 250 mm (without bracket)
- Weight: 5 kg

Connectors:
- DMX: 3p XLR male and female
- Power: IEC power connector

Included accessories:
- Power cable with Shucko & IEC connectors
- Mounting bracket with allen bolts

Connectors and wiring schematics:
DMX-connections:

DMX-output
XLR mounting-socket:

1: Ground
2: Signal (–)
3: Signal (+)

DMX-input
XLR mounting-plug:

1: Ground
2: Signal (–)
3: Signal (+)

Electrical wiring:

Cable	Pin	International
Brown	Live	L
Blue	Neutral	N
Yellow/Green	Earth	⏚