ERO 704
RGBW LED Beam moving head

User manual

All information and illustrations shown in this user manual are subject to change without further notice.

User manual version: 1.0 Creation date + author initials: 13-05-2015 RV Revision date + author initials:

Safety instructions

WARNING!

Always keep this device away from moisture and rain! Hazardous electric shocks may occur!

WARNING!

Only connect this device to a matching power outlet. This device is intended to work on a specific AC current. Connecting this device to power outlets with other voltages may result in permanent damage and possible hazardous situations, such as fire or electric shocks!

WARNING!

Be careful with every operation of this device. Touching live wires inside and outside the unit may cause hazardous electric shocks!

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

Every person involved with the installation, operation and maintenance of this device has to:
- Be qualified
- Follow the instructions of this manual

- Make sure there is no damage caused by transport. If the device seems damaged from the outside, do not use it and contact your dealer for more information.
- To make sure the device remains in perfect condition and for safe operation, the user must follow the instructions and warning notes of this user manual.
- Damage caused by improper use or modifications to the device are not covered by the warranty.
- This device does not have any user-serviceable parts inside. This device must be serviced by qualified technicians.
- The light source of this device is not replaceable. When the light source reaches its end of life, the whole luminaire must be replaced.

Important notes regarding safety and health:
- Never let the power cord come in contact with other cables. Handle the power cord and all mains connectors with caution.
- Never remove any warning or informative labels from the unit.
- The ground contact must be connected at all times. Do not cover or remove the ground contact.
- Never leave cables lying around.
- Do not open the device and do not modify any hardware or software.
- Do not insert objects into air vents of this device.
- Do not connect this device to a dimmer pack.
- Do not switch the system on and off frequently, as this will reduce the lifespan of the device.
- Do not drive the inputs of the fixture with a signal greater than required to work at full performance.

- Only use this device indoors, avoid contact with water, moisture and other liquids. Do not place items filled with liquids on top of the unit.
- Avoid nearby flames or heat sources, do not place this device near flammable liquids, gas or flammable items.
- Always disconnect the device when it is not in use for a longer period or time, when servicing is needed, or when the device needs cleaning.
- Only handle the power cord by its connectors. Never pull the cable to remove a connector from its socket, as this could lead to damage and electric shocks.
- Always operate this device with a stable AC current.
- Always operate this device with the AC ground wire connected to the electrical system's ground.
- Never use other types of cables than specified in the manual, do not use defective or malfunctioning cables. Contact your dealer if the included or required cables do not work properly with this device.
- If the device has been exposed to considerable temperature changes (for example, transport from outdoors to indoors), do not connect the device immediately. Do not activate the unit until it has reached room temperature, as moisture might build up inside the unit, which may cause short-circuiting and/or electric shocks.

Guidelines and types of use:
- This device is intended to be used by professionals on stage, in theatres, clubs and similar venues.
- This device is used for light effects and entertainment. This product is not suitable for regular household room illumination.
- This device is not suitable for use by children and must always be operated by an adult.
- Only use the device when the environment is suitable and will not cause any damage. Do not use the product in moist or dusty environments, or where long-term damage may occur such as:
    - indoor swimming pools where chlorine is used.
    - Beaches, where sand and salt are present.
    - Outdoors.
    - Indoor areas where intense heat sources are present or where the temperature exceeds levels that are comfortable for humans.
- Use only the included power cable and only connect the device to a suitable power outlet with the correct output voltage. Connecting the device to a power outlet with the wrong type of voltage or using the product with a wrong type of power supply may cause permanent damage to the device.
- Avoid shocks and collision during use and transport. Do not transport the device while in use. Avoid brute force during the installation and operation of this device.
- Familiarise yourself with the functions of the device before use. Do not allow operation of the device by unskilled or unqualified people.
- Use of the device in other ways than described in this user manual may cause damage and injury. Ayra can not be held responsible for any damage or injury caused by improper use.

Storage and transport:
- This device is intended for mobile use as well as fixed installations. During transport, use the original packaging of the product, or a fitting flight case, preferably filled with foam.
- This device is not intended for continuous use. Operation breaks will ensure that the lifespan of the device is not reduced.
- If the device is not used for a longer period of time, disconnect it from its power source and store it in its original packaging, or in a fitting flight case.
- Store the device dry and indoors, and do not expose the device to extreme temperature changes.

Housing:
- Inspect the housing of the device frequently. Severe dents, cracks and missing screws should be prevented at all costs. Do not use the device when the housing is not in optimal condition. Contact your dealer or a skilled technician when in doubt about the state of the device.
- Check the fixture and screws for corrosion. Corrosion should not be present on the fixture. Contact your dealer or a skilled technician when corrosion is found on the fixture.
- Every power or signal chassis/connector should be mounted tightly. Do not use the device when connectors are loose.
- Do not use the power cord if the cores are visible. Contact your dealer for a replacement if needed.
- Prevent the build-up of dust and dirt. Clean the exterior of the fixture every month with a dry or damp cloth. If the device is intensively used, the cleaning frequency must be increased. Disconnect the fixture when it is

going to be serviced.

Fuses:
- The main fuse of this device can be found on the rear of the device, usually next to the power inlet.
- Only replace the fuse for a new one of the same type and rating! Do not use a fuse with a higher or lower rating.
- Do not bridge the fuse in any way, as the fuse is used for protection against electric shocks and short-circuiting. The fuse is a safety measure for protecting your audience from hazardous electric shocks.
- Always replace the fuse cover over the fuse compartment. Do not use tape or other fastening materials to close the cover. If the fuse holder is broken, contact your local dealer and do not use the fixture.

Symbol clarification:

	**WEEE:** Dispose of this product properly. This product is part of the WEEE directive – the Waste Electrical and Electronic Equipment directive. The requirements stated in this directive apply to all manufacturers and producers of electronic equipment in the EU. Do not dispose of this product together with regular household trash. Contact your local government for more information about proper disposal and recycling of electronic products in your region. By recycling this product properly after use, we can work together to enjoy these products and also protect our environment from being polluted.
	**CE:** The CE mark indicates that the product complies with applicable European directives and regulations.

	**Indoor use only:** This device is designed to only be used indoors. The maximum environmental temperature should not exceed 40 degrees Celsius (104 degrees Fahrenheit)

Box contents

Box contents
1x ERO 704 moving head
1x mounting bracket
1x safety eye bolt
1x mounting hardware (2 bolts and 1 hex wrench)
1x power cable blue Neutrik Powercon to Schuko (3x 1.5 mm²)
1x power cable blue Neutrik Powercon to UK (3x 1.5 mm²)
1x power link cable blue Neutrik Powercon to gray Neutrik Powercon (3x 1.5 mm²)

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.

Device overview

1. Beam output
2. Carrying handles
3. Neutrik Powercon power input
4. Neutrik Powercon power output
5. Power switch
6. Fuse cover
7. DMX input (3P XLR)
8. DMX output (3P XLR)
9. Cooling fan
10. LED display with menu buttons and status LEDs
Red LED left: DMX receiving OK
Yellow LED left: Slave mode OK
Red LED right: Master OK
Green LED right: Sound OK
11. Bracket mounting points
12. Safety eye bolt mounting point
13. Bracket with attachment point for coupler
14. Safety eye bolt
15. Bracket mounting hardware

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Setting up the unit

To activate the unit, connect the appropriate included power cable to the unit and to a suitable 230V, 50Hz power outlet.

During start-up, the stepping motors and other parts of the fixture need to calibrate. It may be possible that you notice some shaking and rattling of the fixture; this is perfectly normal if this takes no longer than 30 seconds. During start-up the display reads 'Ayra ERO 704' and the fixture cannot be used. Do not try to enter the menu during start-up. When the start-up is complete, the last used mode will be shown and the settings and values can be changed. For a new product, this is usually the DMX mode with the value set to 001 Through the menu and the buttons below the display, you are able to adjust settings and read data from the fixture.

Use the display and the menu buttons on the bottom to set preferences, change settings and scroll through the menu. “Enter” is used to save a certain setting or preset; press “Menu” for at least 2 seconds to return to the main menu.
The table below shows an explanation for every feature and value.

display	Mode	Function
DMX Address	DMX address setting	Address 001 … 512
Channel mode	Channel mode selection	9 CH / 11 CH
Show mode	Show mode selection (for music controlled mode)	Show 1 - 4
AutoRun mode	Select automatic program with user set speed	Show 1-4 Speed 1-9
Slave mode	Slave mode selection	Master Slave 1 Slave 2
Black out	Fixture blackout during DMX signal loss?	Yes No
Sound State	Sound activated mode enabled or disabled	Sound mode on yes/no
Sound Sense	Sound sensitivity	Set sound sensitivity 0-100
White Balance	Adjust the white balance of the beam output	Red 50-255 Green 50-255 Blue 50-255
Pan inverse	Invert the pan values	Invert pan values yes/no
Tilt inverse	Invert the tilt values	Invert tilt values yes/no
Back light	Back light on/off during use when the menu is no longer in use	Back light yes/no
Auto test	Internal test mode, for service and maintenance purposes	Internal testing mode, testing LED and pan/tilt
Temp. check	Check temperature of fixture	Head/body (switch with up/down) Displayed temperature in degrees Celsius
Fan speed	Fan speed selection, complete control	Auto run Block up Slow Medium Fastest
Fixture time	Number of hours the fixture has been used	0000 - 9,999
Firmware version	Displays the current firmware version, not user upgradeable	V1.0 - ….
Reset	Use this mode to reset the fixture without removing power connectors	Reset, shows Ayra ERO 704 on display

DMX Address: DMX address setting, used to determine the DMX starting channel. From this channel on,

the fixture will respond to values corresponding with the number of channels that the fixture is occupying. (For example, when you set the starting address to value 003, the fixture will respond to channels 3, 4, 5 etc.)

Channel mode: The channel mode of the fixture makes it possible to use the correct channel mode setting for every application. For simple and basic setups, users may prefer to use the 9 CH mode. For advanced setups, users may prefer to choose the 11CH mode to be able to control the colour of every pixel.

Show mode: Select one of the 4 built-in shows for the music controlled mode. Please note that the Sound State needs to be activated for this function to be used effectively.

AutoRun mode: Select one of the 4 built-in shows and select an operating speed for the show. The user can choose from speeds 1 through 9, where 1 is slow and 9 is fast. During low speed operation, movements will change as fluently as possible.

Slave mode: Select the right operation for the fixture. The usual mode is the master mode. If you select Slave mode 1 or 2 (2 is partially reversed in music controlled mode), the fixture only listens to a signal provided by the master fixture.

To use the master-slave mode, connect two ERO 704 fixtures together with standard 3P XLR male – 3P XLR female cable (not included). Connect the DMX output of the master to the DMX input of the slave function. Regardless of the mode selected on the master fixture (AutoRun, Sound controlled), the slave will mimic the actions.

It is possible to invert the pan or tilt value of the slave, which makes wonderful synchronized or mirrored performances possible without having to use a controller.

NOTE: Please note that it is not possible to switch to any working mode if the Slave mode is active on your fixture!

Black out: Choose what the fixture will do during DMX signal loss. For theatrical applications, most users choose to let the fixture switch to Black out, where all values are set to 0 and there is no light output until the signal comes back.
For disco applications, most users might want to activate the last chosen mode if the last signal is lost. This can be the AutoRun mode or the music controlled mode.

Sound state: The sound state shows if the built-in microphone of the unit is active or not. It can be enabled or disabled in the menu.

Sound sense: The sensitivity of the built-in microphone is adjustable, in order to optimise the built-in sound-controlled mode. For example, when your music source (speakers) is placed far away, it is possible to increase the sensitivity to make sure that the fixture responds to the sound accurately.

White balance: Colour balance. For theatrical applications, users may want to change the colour balance of the bar so it is more similar to the colours of other lighting fixtures. With this mode, the maximum intensity for each basic colour (red, green, blue) can be limited from values 50 to 255. When this mode is selected, use the up and down buttons to scroll between the basic colours, and press enter to see the current values. Adjust values with the up and down buttons and press enter to store changes. The default setting is 255 for each basic colour.

Backlight: LED display on/off. When using this device in a club or theatre, the environment is mostly dark. Therefore, it is possible to shut off the LED menu display when it is not in use. The default setting is ON, which means that the LED display remains on all the time.

Auto test: When this mode is selected, the unit will perform pan and tilt movements to test the stepping motors. After this, the LEDs are tested to see if there are any broken LEDs. The process continues until the process is disabled manually via the menu display.

Temp check: Check the temperature of the fixture if anything is wrong or if you are interested in the current

temperature levels of the fixture. The temperature of the head and body is measured and displayed in Celsius. Use the up and down buttons to switch between the head and body temperature display.

Fan speed: The fan speed of the fixture can be changed by users, which enables them to use the fixtures for any purpose. For example, for normal use the auto mode can be used to regulate the fan speed automatically. When the temperature of head and body increases, the fan speed will be increased.

Fan noises are, however, undesireable for theatrical applications. As such, if you are only going to use the fixtures for single or mixed colour use and not continuously on full performance/output, it is possible to switch off the internal fans. By keeping the internal temperature check active, you can preserve the lifespan of your fixture.

When using the fixtures installed in night clubs (where the temperature near the roof can be quite high) it is recommended to select the auto speed or the medium/high speed selection. This way you are ensured that the internal components are being cooled sufficiently and that there will be no damage to your products on a long-term basis.

Fixture time:
Service intervals are primarily used by companies who hire products for all kinds of purposes and users who use the fixtures frequently. So after a particular number of hours, the fixture is brought in for service, to check if all components are in good shape and to fix any problems. This function displays the number of hours that the product has been used.

Firmware version:
Displays the firmware version that is installed on the PCB. Users can not upload new firmware to this fixture.

Reset:
Resets the fixture without requiring you to remove the power cables or switch the product off.

Operating modes

The ERO 704 offers various operating modes, each with its own advantages. For simple events there are stand-alone modes, and for advanced situations it's possible to create synchronised light shows. You can also control every feature of the ERO 704 via DMX in two channel modes. A short description for each mode can be found below:

AutoRun:
Automatic light show with a pre-programmed internal show on a pre-defined speed. Use the AutoRun modes to activate the programs and set the speed. The speed of the internal programs can be adjusted from 0 to 9.

Sound:
Automatic light show with a pre-programmed internal show in sync with the music, thanks to an internal microphone that picks up the beat of the music and changes a step every time a beat is detected. Use the Sound Sense mode to change the sensitivity of the internal microphone so it will respond optimally to the beat of the music. In this mode, any set function in the AutoRun mode is overruled, and the fixture will change effects in sync with the beat of the music.

Slave:
In master/slave mode, it is possible to link several ERO 704 fixtures together, to create synchronised light shows in the AutoRun or Sound mode. The first fixture in the chain must be set in the Auto or Music mode, and the other fixtures must be set to Slave, so they will mimic the behaviour of the first fixture. The master/slave function requires 3p XLR male – XLR female cables (not included). Connect the DMX out of the master fixture to the DMX input of the second (and other slave) fixtures. You can also experiment with inverting pan and tilt values to create amazing mirrored light shows.

DMX:
The ERO 704 can be connected to a DMX controller with standard 3p XLR male – XLR female cable. In DMX mode, a DMX terminator must be connected to the last fixture at the end of the DMX chain to prevent reflections in the DMX signal, which could cause flickering and unwanted behaviour from your intelligent fixtures.
A DMX terminator is an XLR connector with a 120-ohm resistor placed between pin 2 and 3 as a bridge.

NOTE: The ERO 704 can be switched between two DMX modes. The only difference is that in the 13CH mode you have control over pan and tilt fine values (for the precise aiming of your beams), and there are extra functions for triggering the music controlled mode and colour macros.

9CH mode:

CH	Function	Values
CH1	Pan movement	000-255
CH2	Tilt movement	000-255
CH3	Shutter/strobe channel	000-007 – Shutter closed 008-015 – LED quick start 016-131 – Strobe, slow to fast 132-139 – LED quick start 140-181 – Pulse, slow to fast 182-189 – LED quick start 190-231 – Inverted pulse, slow to fast 232-239 – LED quick start 240-247 – Strobe, slow to fast 248-255 – Shutter open
CH4	Dimmer Red 0-100%	000-255
CH5	Dimmer green 0-100%	000-255

CH6	Dimmer blue 0-100%	000-255
CH7	Dimmer White 0-100%	000-255
CH8	Master dimmer 0-100%	000-255
CH9	Sound active trigger	000-239 – No function 240-255 – Sound active trigger on

13CH mode:

CH	Function	Values
CH1	Pan movement	000-255
CH2	Pan fine movement	000-255
CH3	Tilt movement	000-255
CH4	Tilt fine movement	000-255
CH5	X/Y movement speed, fast to slow	000-255
CH6	Master dimmer 0-100%	000-255
CH7	Shutter/strobe channel	000-007 – Shutter closed 008-015 – LED quick start 016-131 – Strobe, slow to fast 132-139 – LED quick start 140-181 – Pulse, slow to fast 182-189 – LED quick start 190-231 – Inverted pulse, slow to fast 232-239 – LED quick start 240-247 – Strobe, slow to fast 248-255 – Shutter open
CH8	Dimmer Red 0-100%	000-255
CH9	Dimmer green 0-100%	000-255
CH10	Dimmer blue 0-100%	000-255
CH11	Dimmer White 0-100%	000-255
CH12	Colour macro	000-007 – No function 008-255 – Colour macro
CH13	Sound active trigger	000-239 – No function 240-255 – Sound active trigger on

Installation and connection requirements

The Ayra ERO 704 is a versatile product and can be used in many ways. To use this device as intended and to be sure that the product is used in a safe way, the following requirements must be met during the setup, installation and connection of the device.

Standing installation
The ERO 704 is equipped with rubber feet at the bottom and may be used in an upright position. Please make sure the fixture is placed on a solid surface that is perfectly horizontal. This way you can ensure that the fixture will not fall during use. The device can be placed on a table or DJ booth, as well as truss totems. If the fixture is being placed on a surface higher than 2 meters from the floor, near an audience, you have to anchor the moving head to the surface via the handles and the bottom of the fixture's base. This keeps it from falling off. You may use a small ratchet strap to secure the fixture, but please be cautious when tightening the strap as the handles may break if the tension becomes too high. Avoid brute force.

Hanging installation
The ERO 704 comes with installation hardware for hanging installation. The ERO 704 may be installed in any position. The included hardware was designed for permanent and mobile installation to truss and lighting stands, but also may used for installation to a ceiling, beam or wall.

When hanging the ERO 704 from a truss, always use proper installation materials. As the thickness of the main tubes may vary, clamps are not included in delivery. These can be purchased separately from your local dealer. Ayra recommends using of half couplers as they will not damage your truss.

If you want to mount the ERO 704 directly to a ceiling, wall or beam, use proper installation materials to do so, and contact a skilled engineer if necessary to find out if the material can handle it. As the material may vary, installation hardware is not included in delivery and should be purchased separately.

If the fixture is going to be suspended from a construction (such as truss, a beam, a ceiling or a lighting stand) the included safety eye bolt has to be mounted to the fixture in the correct place. Furthermore, a proper safety cable has to be attached between the safety eye bolt and the construction to which it is being mounted. This way the fixture is secure, should the primary mounting gear fail for any reason. Please note that the safety cable has to be mounted in a way that makes it impossible for the fixture to fall more than 30 cm should the primary mounting gear fail. This prevents the fixture from swinging and possibly damaging other nearby fixtures.

Ayra can not be held responsible for any damage or injury caused by improper use of the fixture or the included hardware.

Transport and storage
The Ayra ERO 704 can be transported directly after shut-down. As the light sources of the ERO 704 do not need time to cool down, the device can be stored and transported instantly.

During transport, the device must be securely protected to ensure it stays reliable and in optimal shape. Always use the original box and packaging material to transport the unit, or a fitting flight case or flight bag if the device is transported frequently during mobile use.

Power input and output
The ERO 704 is equipped with original Neutrik Powercon inputs and outputs. Proper connection cables anda link cable, are included in delivery. Please notice that the corresponding colour is used to connect the fixture. When connecting the plug to the chassis, please be aware that the connector has to be locked by turning the connector clockwise or counter-clockwise. When you hear a 'click', the connector is in place and secured tightly. This ensures a proper connection.

To disconnect the Powercon connectors, pull the metal lock mechanism of the connector back with your thumb to release the locking mechanism. While pulling back the mechanism with your thumb, turn the connector clockwise or counter-clockwise and remove the connector from its socket.

Please note that Neutrik Powercon connectors are not 'hot-swappable'. This means that the Powercon connectors may not be pulled out of the chassis if the cable is still connected to a power output socket.

The ERO 704 is equipped with a fuse for its own components. The power input of the device is directly linked to the power output of the device.

Please note that the internal 1.5mm² power wiring of the fixture wiring and the included cables are designed to withstand a maximum current of 16 A. However, please pay attention to the maximum allowed power that is available on the power outlet (and/or the electrical installation) you are going to use.

When using the daisy-chain option to link several fixtures through the input and output of the device (using only the original, included cables), a maximum of 17 fixtures can be used. If you wish to power additional fixtures, a new daisy-chain loop must be made on a new power outlet.

XLR input and output
The ERO 704 fixtures are equipped with XLR chassis connectors. The DMX input is usually connected with a XLR cable that has a locking mechanism so it can not be pulled from the chassis easily. Usually the locking part has to be pressed and held to unlock the mechanism. When doing this, the connector can be removed from its socket.

Fan control
The ERO 704 is equipped with intelligent fan and temperature control. Through the display, it is possible to read the actual temperature measured by the head and body by temperature sensors.

The default setting of the fans is automatic. This means that the fans are in temperature-controlled mode and will not turn on unless the temperature rises to a certain level. The fans have 3 speeds, so when the fan is activated after passing the first temperature level, it will only spin slightly without too much noise.

Through the menu, the user has access to the fan control settings. Please be aware that the automatic mode is the best mode, as the fixture will regulate the fan speed properly.

The internal fans of the head and body (for the LEDs and power supply) can be turned off, should the situation require it. If the temperature is high, which could occur if the fixture is used at full output for a longer period of time, for instance, the fixture will try to reduce output power to lower the temperature. If this does not work, the fixture will be shut down.

When using the fixture for theatrical applications, you may want to switch off the fans during quiet scenes, so the theatre is absolutely silent and without fan noise.
If the fans are switched off and the temperature rises, the LED output power will be decreased should the temperature level exceed 65 degrees Celsius. If the temperature rises any further, the output will be progressively lowered to protect the LED and its connections from overheating and/or reducing the lifespan of the device.

When using the fixture in fixed installations such as a club or bar, where loud music is typically present, it is recommended to use the fan control's medium, high or auto mode, as the music will drown out any noise from the fan. Often there is a large crowd present in night clubs and bars, and as such the temperature in the venue rises easily. As hot air rises, the temperature level at the ceiling or roof (where fixtures are installed usually) may be up to 10 degrees Celsius higher than the average temperature level in the room!

To ensure that the fixture remains reliable and the temperature control will not reduce the output power, use proper fan settings so the fixtures will continue to perform without any problems. Please contact your local dealer if you are not sure which settings to use for your purpose.

DMX lighting troubleshooting

If you have any problems with DMX lighting, consult this troubleshooting section to solve the 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 cannot be turned on	Blown fuse	Check the fuse compartment for blown fuses and replace them if necessary
	No power cable plugged in	Connect the power cable to a suitable power outlet
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 connector breaks and replace them if necessary
	Wrong working mode	Switch the working mode of the device to DMX mode.
The fixture does not respond to sound	Wrong operating mode selected.	Check if the sound-activated mode of the fixture is activated.
	Microphone sensitivity level is set too low	Increase the sensitivity level of the built-in microphone
	Speaker placed too far away or lack of bass	Place your light effect closer to your speakers (or vice versa) and/or increase low-frequency volumes. The microphone will not be triggered by 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 oddly	Faulty/broken DMX cables	Check your DMX cables for possible connector 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	Insert a DMX terminator at the end

		of your DMX chain
	Signal loss or distortion in DMX values	Insert a DMX booster in your DMX chain after 32 fixtures or fewer. After a maximum of 32 fixtures the DMX signal needs to be refreshed.
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.
The pan and tilt of the fixture does not respond to DMX commands properly	Movement speed set too high in 13CH DMX mode	Decrease the movement speed value so the speed increases.
	Programming of the fixture is not optimal	If the movement values switch directly from value 000 to 255 and back in a program and the speed is set too high, it may be possible that the fixture cannot keep up physically. Decrease the speed or try to adjust your programming.
I cannot switch working modes	Fixture set to slave mode	Enter the menu and adjust the Master-slave function to Master, if it is set to Slave 1 or 2. During operation as Slave, it is not possible to activate the automatic or music controlled modes.
Fans make too much noise	Adjust fan settings	If the fans make too much noise for your purpose, it is possible to adjust the fan speed via the menu. It is recommended to use the automatic fan speed mode so the cooling is regulated automatically. For theatrical purposes, the fans can be turned off. The built-in temperature protection has to be enabled if you switch the fans off.
Fan does not turn on	Auto mode, temperature controlled	The fan will spin for some seconds during start-up. If the automatic fan control mode is used, the fan will only turn on if needed, to cool the head or body of the device. When the temperature of the fixture increases, the fan will start cooling slowly.

Technical specifications

- powerful RGBW LED beam moving head
- 7x12W RGBW 4-in-1 Osram Ostar LED
- projection angle: 12 degrees
- X/Y movement: 540 / 220 degrees
- high-quality stepping motors for fast, precise, smooth and silent movement
- special optics for perfect beam effect
- auto mode with user defined speed
- 4 exciting built-in programs for auto and music control
- smooth movement and colour fading when slow speed is selected
- music controlled mode through built-in microphone
- microphone sensitivity adjustable
- master-slave mode with slave 1 and 2 options
- Pan/tilt invert options in every mode
- Neutrik Powercon input and output for power
- Easy power and DMX linking through inputs and outputs
- 3-pin XLR inputs and outputs for DMX
- DMX control via 9 or 13 channels
- temperature controlled fan, can also be set to a standard fan level
- temperature protection, reduces power if the temperature gets too high
- temperature sensor display – easy read-out of temperature levels
- digital shutter via DMX: strobe and pulse control
- movement speed control in 13CH working mode
- DMX colour macros in 13CH working mode
- 16 character display with backlight LED
- backlight on/off during operation
- on/off switch
- operation status LEDs (DMX signal reception, audio signal, master/slave)

Technical data:

- fixture dimensions: 310 (H) x 260 (W) x 150 (D) mm (including feet and handles)
- operation voltage: 100-240V AC, 50/60 Hz
- power consumption: 75.1 W max.
- Fuse: F3AL250V
- Neutrik Powercon power input and output
- 3-pin XLR input and output for DMX
- LED current: 650 mA for Red, 75 0mA for Green, Blue, White
- Power factor: 0.528 PF
- AC current: 0.624 A
- Minimum and maximum environmental temperature: 0 to 40 degrees Celsius max.
- Exterior surface temperature during steady use: 48 degrees Celsius

Photometric data:

- Red: 6,460 lux @ 1 m, 1,920 lux @ 2 m, 299 lux @ 5 m
- Green: 13,995 lux @ 1 m, 4,450 lux @ 2 m, 750 lux @ 5 m
- Blue: 31,200 lux @ 1 m, 4,450 lux @ 2 m, 750 lux @ 5 m
- White: 22,000 lux @ 1m, 6,280 lux @ 2 m, 1,028 lux @ 5 m
- Full output: 64,100 lux @ 1 m, 18,060 lux @ 2 m, 3,010 lux @ 5 m

User manual version: 1.0 Creation date + author initials: 13-05-2015 RV Revision date + author initials:

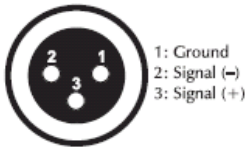
Included accessories:
- mounting bracket
- bracket hardware
- safety eye bolt
- Neutrik Powercon to Schuko cable (1.5 m, 3x 1.5 mm²)
- Neutrik Powercon to UK cable (1.5 m, 3x 1.5 mm²)
- Neutrik Powercon extension cord (3 m, 3x 1.5 mm²)

Connectors and wiring schematics:

DMX connectors:

DMX-output

XLR mounting-socket:



DMX-input

XLR mounting-plug:

Electrical wiring:

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