

MicroStrip 48

High Power LED Wash Luminaire

User's Manual

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1 INTRODUCTION

Thank you for selecting the MicroStrip 48. This intelligent LED line color changer is bright, quiet, reliable and consumes very low power.

It delivers exceptionally bright colored light that instantly snaps or smoothly fades to virtually any color, at any intensity, anywhere on stage.

The MicroStrip 48 has 16x3 (RGB colour) 1W Luxeon LEDs.

The flexibility of the unit is given by that it's divided to four individual sub-units internally. Each of these sub units can be addressed to the same address to behave as single unit or to different DMX addresses to be used as four separate units. (Other setups are also possible like two halves, etc.) Each sub units driving 4x3 (RGB) LEDs.

1.1 About this manual

This manual covers the features of MicroStrip 48 and the procedures using is.

This manual describes the features of software version 1.0. The latest MicroStrip 48 documentations are available from the Raymax web site at <http://www.raymax.hu>

1.2 Safety precautions

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| This product is for professional use only. It is not for household use. |
|--|

This product presents risks of lethal or severe injury due to electric shock and falls.

Read this manual before powering or installing the fixture, follow the safety precautions listed below and observe all warnings in this manual and printed on the fixture. If you have questions about how to operate the fixture safely, please contact your MicroStrip 48 dealer.

1.2.1 To protect yourself and others from electric shock

- Disconnect the fixture from AC power before removing any part, and when not in use.
- Always ground (earth) the fixture electrically.
- Never operate the fixture with missing or damaged covers.
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault protection.
- Do not expose the fixture to rain or moisture.
- Refer any service operation not described in this manual to a qualified technician.
- Do not modify the fixture or install other than genuine MicroStrip 48 parts.
- Do not operate the fixture if the ambient temperature (T_a) exceeds 40°C (104°F).

1.2.2 To protect yourself and others from injury due to falls

- When suspending the fixture, verify that the structure can hold at least 10 times the weight of all installed devices.
- Verify that all external covers and rigging hardware are securely fastened and use an approved means of secondary attachment such as a safety cable.
- Block access below the work area whenever installing or removing the fixture.

2 SETUP

This section describes the simple steps required to prepare the MicroStrip 48 for operation.

2.1 Unpacking

The MicroStrip 48 package includes:

- MicroStrip 48 unit
- User's manual

The packing material is carefully designed to protect the fixture during shipment - always use it or a custom MicroStrip 48 flight case to transport the fixture.

2.2 Installation of the fixture

2.2.1 Connecting to the electrical power supply

MicroStrip 48 unit has been designed to work with the European voltage and frequency. Your local AC power must match to the following conditions:

- **180-240V AC, 50-60Hz**

A separated lead of **ground protection** is **required**.

If the local power does not match these conditions, do not use the fixture with it.

WARNING!

For protection from dangerous electric shock, the fixture must be grounded (earthed). The AC mains supply shall be fitted with a fuse or circuit breaker and ground-fault protection.

2.2.2 Using the power cord

The MicroStrip 48 has a built-on power cord and no needs any installations.

Connect the MicroStrip 48 directly to AC power.

You can connect the next MicroStrip 48 using the power output on the fixture.

Do not connect the unit to a dimmer system; doing so may damage the fixture.

2.2.3 Rigging the fixture in place

WARNING!

**Use common C-clamps to rig the fixture. Lock each clamp with the fastener.
The fasteners are locked only when turned fully clockwise.**

Attach an approved safety cable to the base.

The MicroStrip 48 can be placed directly on the stage floor or rigged paralelly on a truss.

1. Verify that the rigging C-clamps (not included in the package) are undamaged.
3. Verify that the structure can bear at least 10 times the weight of all installed fixtures, clamps, cables, auxiliary equipment, etc.
4. Working from a stable platform, hang the fixture on the truss.
5. Tighten the rigging clamps securely to the structure.
6. Install a safety wire that can bear at least 10 times the weight of the fixture. The attachment points are designed to fit a carabiner clamp.

The light direction can be adjusted by ± 75 degrees.

2.2.4 Connecting the serial link

2.2.4.1 Tips for building a serial link

1. Use shielded twisted-pair cable designed for RS-485 devices. Standard microphone cable cannot transmit control data reliably over long runs; use only cable designed for RS-485 applications. 24 AWG cable is suitable for runs up to 300 meters (1000 ft). Heavier gauge cable and/or an amplifier are recommended for longer runs.

2. Never use a “Y” connector to split the link. To split the serial link into branches use an active splitter/amplifier.

3. Do not overload the link. Up to 32 devices may be connected on a serial link.

4. Terminate the link by installing a termination plug in the output socket of the last fixture on the link.

The termination plug, which is simply a male XLR connector with a 120 ohm, 0.25 watt resistor soldered between pins 2 and 3, will not let the control signal to reflect back down the link causing interference. If a splitter is used, terminate each branch of the link.

2.2.4.2 Connecting fixtures

The MicroStrip 48 has locking 3-pin data input and output sockets that can be used with DMX Protocol controllers. **The pinout is configured according to the DMX-512 standard**, i.e., pin 1 to shield, pin 2 to signal (-) and pin 3 to signal (+).

1. Connect the controller’s data output to the MicroStrip 48’s data input. For a

- **DMX controller with 5-pin output:** use a cable with 5-pin male and 3-pin female connectors.

- **DMX controller with 3-pin output:** use a cable with 3-pin male and female connectors such as the one supplied.

2. Continuing the link: connect the DMX output of the fixture closest to the controller to the DMX input of the next fixture.

3. Insert a male 120 Ohm XLR termination plug in the output of the last fixture on the link.

When the fixture has no or bad DMX (bad polarity) signal the 7 segment displays flashes “Err” text on the front panel to show the error condition. This enables checking the DMX cabling when the fixture is already up on the truss.

2.2.4.3 Setting up fixture address

All four sub-units are independent. Their addresses should be set up separately. It is not necessary to set them to different addresses. When two sub-units programmed to the same address they will provide the same synchronized output.

The address being shown is the address of the first byte the sub-unit will use from a DMX data frame. Together with the next five bytes the sub-unit uses six bytes in total.

You will need to power up the device to set its addresses.

All four sub-unit address will be displayed for a few seconds on the base after powering up the unit.

When the address disappears you can always push either the [Up] or the [Down] button to get the address shown again. This action will not change the address

When the address is shown there are two ways to change it:

- Pushing the [Up] or [Down] keys shortly to increase or decrease by one
- Holding the [Up] or [Down] keys to increase or decrease by six (the number of DMX channels used by a unit). By holding the key the counting by six will continue periodically.

The address can be reset to 001 by pressing both the [Up] and [Down] keys together.

3 EFFECTS

This section describes the controllable features of MicroStrip 48 and the options for customizing them for your application.

Option selection is described in the next section.

3.1 RGB additive color mixing

- Red, Green, Blue 8 bit DMX channels provided for additive color mixing.
- Each DMX channel is linear from 0 to 255 to provide 0 to 100 percent light output.

3.2 Dimmer

- The dimmer channel provides smooth, high-resolution 100 percent dimming of the color values.
- In MicroStrip 48 every color has true 16 bit resolution. This 16 bit is accessible by the 8 bit of the dimmer channel and 8 bit of each color channel.
- The dimmer channel has:
 - an off region from values 0 to 5
 - a 100 percent (on) region for values 248 to 255
 - between those regions (6 to 247) are the dimmer values linearly from 0 to 100 percent.

3.3 Shutter

- The shutter channel provides shutter function at far higher speed that a mechanical shutter can ever achieve. Light flashing frequency can be adjusted from 0.24 Hz up to 32.41 Hz as an exponential function of the DMX channel values between 8 and 239.
- From 0 to 7 and from 248 to 255 the shutter function is switched off (lights are on).
- From values between 240 and 247 the shutter is also switched off (lights are on).

3.4 Pulse Width and Lightning

Flashing of the shutter function adjusted by this channel.

- From DMX values between 0 and 100 the width of the flashing pulses can be adjusted from 100 to 0 percent of the flashing period.
- From values between 101 and 127 the shutter function changed to provide the lightning effect. The lightning effect is a pseudo random chain of flashes.
 - Increasing the value on this channel enables more and more flashes from the sequence.
 - The pulse width of flashes and the wait times between flashes are being adjusted by the sequence.
 - The frequency given by the shutter channel is still effective.
 - Starting the lightning effect on multiple fixtures with the same shutter frequency allows the units to provide random but synchronized flashes even with different lightning effect control values.
- From values between 128 and 255 the lights are on. These values are reserved for future functions.

3.5 Channel list

| Channel number | Relative address | Function |
|----------------|------------------|------------------------------------|
| 01 | +0 | Red |
| 02 | +1 | Green |
| 03 | +2 | Blue |
| 04 | +3 | Dimmer |
| 05 | +4 | Shutter |
| 06 | +5 | Effect (Pulse width and Lightning) |

4 Maintenance

IMPORTANT: Isolate the fixture from the electrical power supply before commencing maintenance work of any description.

4.1 Cleaning

You should clean your MicroStrip 48 on a regular basis. Dust, fog, and smoke particles can accumulate and cause malfunctions.

To clean exterior surfaces, wipe with a soft lint-free polyester cloth or use a small vacuum to remove any built-up dust and dirt.

Caution: Do not use a blower because it will force foreign particles into the fixture.