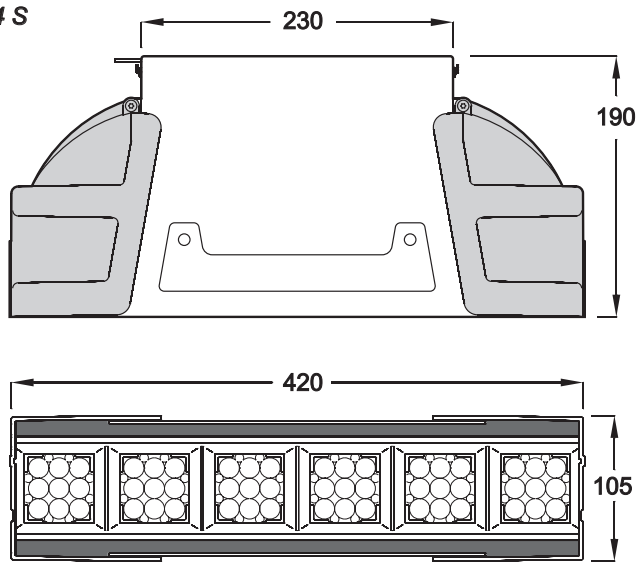
Stagebar 54™

user manual

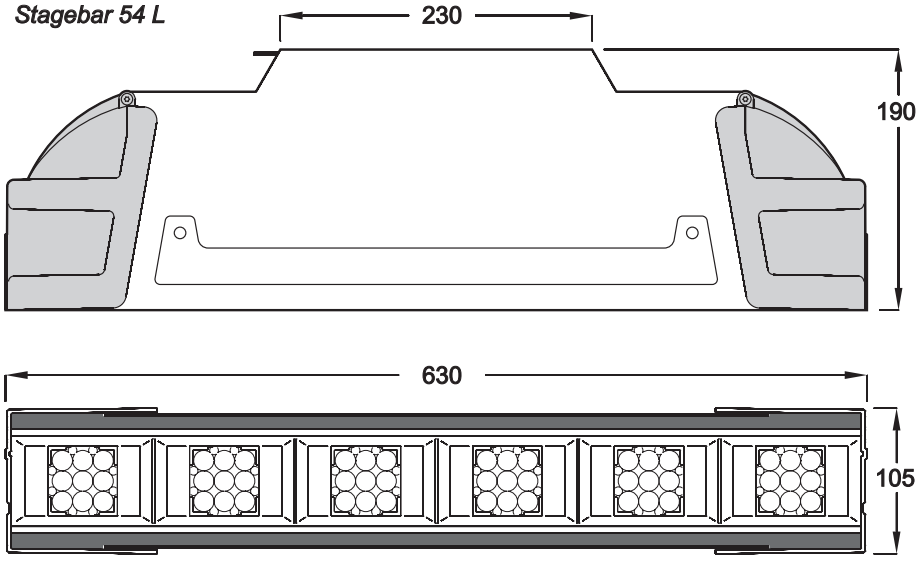
Dimensions

All dimensions are in millimeters

Stagebar 54 S



Stagebar 54 L



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P/N 35000195, Rev. F

Safety Information

WARNING!
Read the safety precautions in this section before installing, powering, operating or servicing this product.

The following symbols are used to identify important safety information on the product and in this manual:

Warning! Safety hazard. Risk of severe injury or death.

Warning! LED light emission. Risk of eye injury.

Warning! Refer to manual before installing, powering or servicing.

Warning! Hazardous voltage. Risk of lethal or severe electric shock.

Warning! Fire hazard.

Warning! Class 2M LED product. Do not look into the beam from a distance of less than 40 cm (16 inches). Do not stare into the beam for extended periods at a short distance. Do not view the beam directly with optical instruments.

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

This product presents risks of severe injury or death due to fire hazards, electric shock and falls.

Read this manual before installing, powering or servicing 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 Martin™ dealer or call the Martin™ 24-hour service hotline at +45 70 200 201.

PROTECTION FROM ELECTRIC SHOCK

- Shut down power to the entire installation at the building's main power distribution board and lock out power (by removing the fuse for example) before carrying out any installation or maintenance work.
- Disconnect the fixture from AC power before removing or installing any cover or part and when not in use.
- Always ground (earth) the fixture electrically.
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault (earth-fault) protection.
- Connect this fixture to AC power either using the supplied power cable or via 3-conductor cable that is rated minimum 20 amp, hard usage. Suitable cable types include ST, SJT, STW, SEO, SEOW and STO.
- The voltage and frequency at the power outlet are the same as the voltage and frequency applied to the power inlet. Only connect devices to the power outlet that accept this voltage and frequency.
- Before using the fixture, check that all power distribution equipment and cables are in perfect condition and rated for the current requirements of all connected devices.
- Do not use the fixture if the power cable or power plug are in any way damaged, defective or wet, or if they show signs of overheating.

- Do not expose the fixture to rain or moisture.
- Refer any service operation not described in this manual to a qualified technician.

PROTECTION FROM FIRE

- Do not attempt to bypass thermostatic switches or fuses. Replace defective fuses with ones of the specified type and rating only.
- Provide a minimum clearance of 0.1 m (4 in.) around fans and air vents.
- Do not modify the fixture or install other than genuine Martin™ parts.
- Do not stick filters, masks or other materials directly onto LEDs.
- Do not operate the fixture if the ambient temperature (Ta) exceeds 40° C (104° F).

PROTECTION FROM INJURY

- Do not hang fixtures from each other. Use one clamp per fixture when suspending.
- When suspending the fixture, ensure that the structure and all hardware used can hold at least 10 times the weight of all devices suspended from them.
- Use a secondary attachment (such as a safety cable) to secure each fixture. Secondary attachments must be able to hold at least 10 times the weight of all devices suspended from them and must be installed as described in this manual.
- Check that all external covers and rigging hardware are securely fastened.
- Block access below the work area and work from a stable platform whenever installing, servicing or moving the fixture.

- The LED emission presents a hazard to eyesight at a distance of 4 - 40 cm (1.6 - 16 inches) when the eye is exposed to the beam for longer than 0.25 seconds.
- Do not look at LEDs from a distance of less than 40 cm (1 ft. 4 in.) without suitable protective eyewear.
- Do not look at LEDs with magnifiers or similar optical instruments that may concentrate the light output.

Disposing of this product

Martin™ products are supplied in compliance with Directive 2002/96/EC of the European Parliament and of the Council of the European Union on WEEE (Waste Electrical and Electronic Equipment), as amended by Directive 2003/108/EC, where applicable.

Help preserve the environment! Ensure that this product is recycled at the end of its life. Your supplier can give details of local arrangements for the disposal of Martin™ products.

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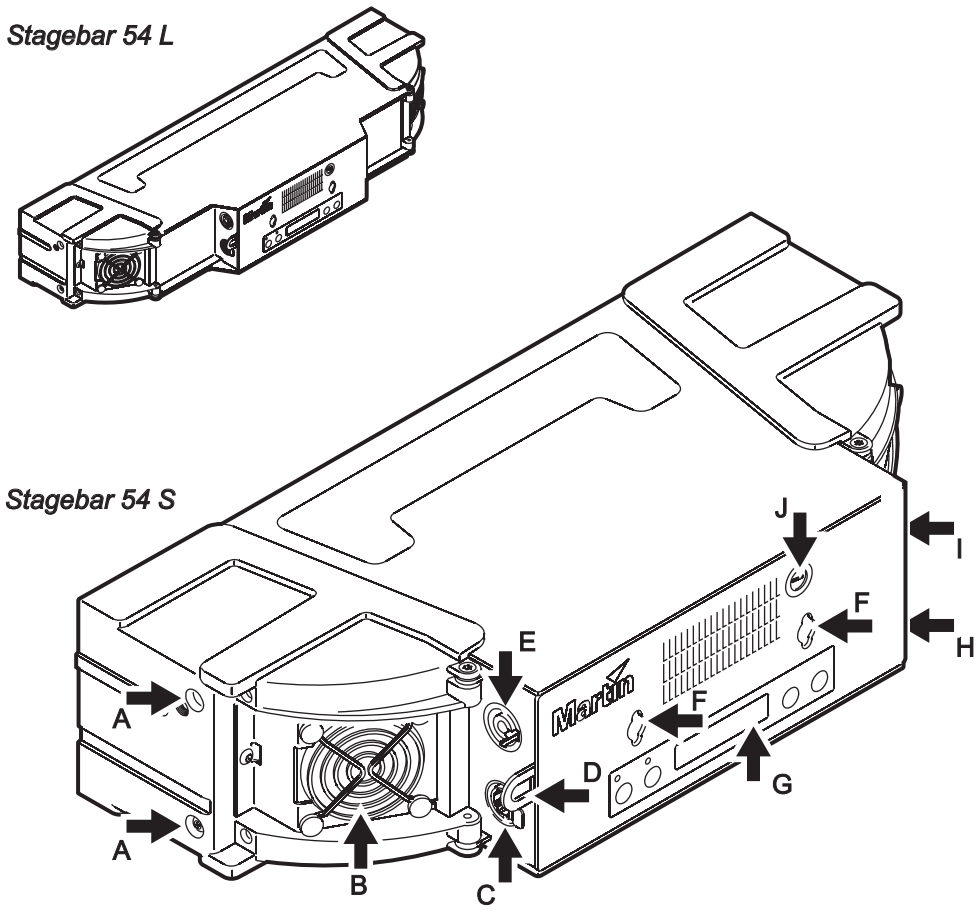
Product overview



A - End cap release screws

B - Cooling fan

C - Data output connector (RJ-45)
Use to relay DMX control data to the next fixture.

D - Safety attachment eye
Use only this attachment point for secondary attachment (e.g. safety cable).

E- Power outlet (PowerCon light grey)
Connect a power cable with a light-grey Neutrik PowerCon connector to lead power to the next fixture. The total current draw of all the devices connected to the power outlet of the first fixture in the chain must not exceed 15 amps peak, 11 amps constant

F - Quarter-turn mounting points
Use to attach the floorstand/mounting bracket supplied with the fixture or an omega bracket.

G - Control panel/display

H - Data input connector (RJ-45)
Connect to DMX control data from the controller or previous fixture.

I- Power inlet (PowerCon blue)
Connect a power cable with a blue Neutrik PowerCon connector from a 100-240 VAC nominal 50/60 Hz power source.

J - Primary fuseholder
Replace fuse with one of same type and rating only.

Figure 1: Connections panel

Introduction

Thank you for selecting the Stagebar 54™, a modular LED-based color changer and pixel display fixture from Martin™. This product features:

- Luxeon K2 high-power LEDs
- 116 watts total LED output per fixture at 25° C (77° F)
- RGBAW (red, green, blue, amber, white), and RGB color mixing, HSIC (hue, saturation, intensity, color temperature) and HSI color management
- 54 LEDs arranged into 6 pixels per fixture
- Individual (6 x 1) or grouped (1 x 6, 2 x 3 or 3 x 2) pixel control
- Diffuser front for even color rendition
- 25° viewing angle
- DMX 512A control
- Control data in/out via RJ-45 connectors
- Control panel and full text backlit LCD display with battery power for offline setting and addressing
- Auto-sensing power supply unit with 100 - 240 V, 50/60 Hz operating range
- Daisy-chainable power link
- Power in/out via Neutrik PowerCon connectors
- Adjustable floorstand/mounting bracket
- Quarter-turn fastener mounting points
- Short (Stagebar 54S™) and long (Stagebar 54L™) models. To simplify the combination of different models in installations, three short models have the same length as two long models.

For the latest firmware updates, documentation, and other information about this and all Martin Professional™ products, please visit the Martin website at http://www.martin.com

Comments or suggestions regarding this document may be e-mailed to service@martin.dk or posted to:

Service Department
Martin Professional A/S
Olof Palmes Allé 18
DK-8200 Aarhus N
Denmark

Unpacking

The following items are included with the Stagebar 54:

- 3 m power cable with blue Neutrik PowerCon power input connector
- 5-pin XLR to RJ-45 adapter
- Adjustable floorstand/mounting bracket
- Six 3 x 3 LED lens sheets (installed)
- Diffuser front
- This user manual

Using for the first time

Before applying power to the fixture:

- Carefully review “Safety Information” on page 3.
- Check that the local AC power voltage is within the ranges listed on the serial number label and in “AC power” on page 9.
- Install a power plug on the power cable as described in “Power connection” on page 9.

Physical installation

WARNING! Use either the supplied adjustable floorstand/mounting bracket or an omega bracket and rigging clamp to install each Stagebar 54. With all methods of installation:

1. ***Check that all structures, equipment or surfaces used for support can bear at least 10 times the weight of all the fixtures, clamps, cables, auxiliary equipment, etc. that they will support.***
2. ***Check that there are no combustible materials within 0.5 m (20 in.) of the fixtures when installed, and that there are no flammable materials nearby.***
3. ***Do not hang fixtures from each other – every fixture must be installed with its own bracket and/or clamp.***
4. ***Secure each fixture with an approved safety cable that can hold at least 10 times the weight of the fixture and hardware attached to it, looping the cable through the attachment point labelled on the fixture and over or through the supporting structure. Do not use the mounting bracket as a secondary attachment point, as this will leave the fixture unsecured.***
5. ***If the diffuser front is not installed, make sure that it is impossible for LEDs to be viewed from a distance of less than 40 cm (16 inches).***

If the diffuser front is installed, there is no eye hazard at any distance.

important! Make sure that there will be at least 0.1 m (4 in.) of free space and unrestricted airflow to and around the air vents in the back of the fixtures.

The Stagebar 54 can be installed in a standing position or suspended in any orientation from a truss or supporting structure. The supplied mounting bracket can be fitted with a rigging clamp or bolted to a surface. Alternatively, the mounting bracket can be replaced with an omega bracket and rigging clamp.

Adjustable mounting bracket

The adjustable mounting bracket supplied with the fixture can either be folded around the fixture and used as a floorstand, fastened directly to a surface or fitted with a rigging clamp for flying installation. Use at least two bolts, grade 8.8 minimum, if fastening to a surface. A drilling template is provided on the inside back cover of this manual.

Standing installation

If you install fixtures in a standing position:

1. Install fixtures on a level, stable surface where they do not present a hazard of tripping or falling.
2. Stack a maximum of four fixtures vertically and secure stacked fixtures so that they cannot fall over.

Flying from a truss, bar or other structure

To fly a fixture from a rig or other structure:

1. Install a rigging clamp on an omega clamp attachment bracket, then fasten the omega bracket to the fixture using the quarter-turn mounting points on the rear panel (see Figure 1 on page 6). Ensure that quarter-turn fasteners are turned a full 90° clockwise to lock them (see Figure 2).

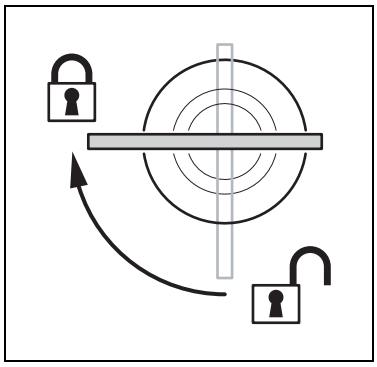


Figure 2: Locking a quarter-turn fastener

2. Block access under the work area. Working from a stable platform, suspend the fixture by fastening the rigging clamp to the truss or structure.As soon as a fixture is fastened in place, install a secondary attachment such as a safety cable to secure it.

AC power

Warning! Read "Safety Information" on page 3 before connecting the Stagebar 54 to AC power. Lock out power to the entire distribution system before carrying out installation work.

Warning! Replace fuses with ones of the same type and rating only.

Important! Do not supply the fixture with power via an external dimming system, or you may cause damage the fixture that is not covered by the product warranty.

The Stagebar 54 features an auto-sensing switch-mode power supply that automatically adapts to 100 - 240 V nominal AC power at 50 or 60 Hz. Only connect the fixture to AC power within this voltage range.

The fixture is protected by a 4 amp slow-blow primary fuse located in a fuseholder on the rear panel (see Figure 1 on page 6). The power output circuit is protected by a 15 amp slow-blow fuse located inside the fixture. See "Fuse replacement" on page 20 for details of changing fuses.

Power connection

Warning! For protection from electric shock, the fixture must be grounded (earthed). Power distribution circuits must be fitted with a fuse or circuit breaker and ground-fault (earth-fault) protection.

Power is supplied to the fixture via a blue Neutrik PowerCon inlet that accepts a blue PowerCon NAC3FCA cable connector. Power can be relayed to another device via the light-grey PowerCon outlet that accepts a light-grey PowerCon NAC3FCB cable connector. Note that blue input and light-grey output connectors have different designs: one type cannot be connected to the other.

You may need to fit the power cable with a power plug that is suitable for your AC power outlets. If so, install a grounding-type (earthed) plug that is rated 20 A minimum. Follow the plug manufacturer's instructions. Table 1 shows some possible pin identification schemes; if pins are not clearly identified, or if you have any doubts about proper installation, consult a qualified electrician.

Wire Color	Pin	Symbol	Screw (US)
brown	live	L	yellow or brass
blue	neutral	N	silver
yellow/green	ground (earth)	⏚	green

Table 1: Power plug connections

There is no separate power on/off switch: power is applied to the fixture as soon as it is connected to power.

Relaying power to other devices

Important! To avoid blowing the power output fuse, the total current draw of all devices connected to one fixture's power outlet must not exceed 15 amps peak, 11 amps constant.

Fixtures can be linked in a chain, power outlet to power inlet, so that they all draw power via the first fixture, but certain points must be respected:

- Either the supplied power cable or a three-conductor cable rated SJT, 20 A minimum (12 AWG or 2.5 mm^2) must be used to connect the first fixture to AC power.
- Either the supplied power cable or a cable rated SJT, 15 A minimum (AWG 14 or 1.5 mm^2) must be used to connect the subsequent fixtures in the chain to the first fixture.

- The total current draw of all the fixtures in the chain after the first fixture must not exceed 15 amps peak, 11 amps constant. See the following examples for an explanation of what this means in practice:
  - At **100 V AC** power, a **maximum of five Stagebar 54 fixtures** may be linked in one chain so that they draw AC power from the same source. As stated in the Stagebar 54 Specifications (see page 28), each fixture draws a current of 2.5 A at 100 V. The first fixture will draw a current of 2.5 A. The four fixtures linked to the first fixture will draw a total of 10 A, which is within the 11 A limit for constant current draw.
  - At **230 V AC** power, a **maximum of 11 Stagebar 54 fixtures** may be linked in one chain so that they draw AC power from the same source. As stated in the Stagebar 54 Specifications (see page 28), each fixture draws a current of 1.1 A at 230 V. The first fixture will draw a current of 1.1 A. The ten fixtures linked to the first fixture will draw a total of 11 A, which is equal to the 11 A limit for constant current draw.

Control data link

Stagebar 54 fixtures must be connected via a control data link for DMX controller operation.The following considerations must be taken into account when planning the data link:

- CAT 5 cable of a suitable type and RJ-45 connectors must be used. Installation-type cable is acceptable for fixed installations, but flexible patch-type cable with good bend and torsion recovery is required for touring installations. Martin patch cables are recommended.
- The maximum permitted control data cable length before a control signal amplifier is required is 500 meters (1640 ft.).
- Luminaires must be ‘daisy-chained’, i.e. the data cable must be connected in one single chain of luminaires.
- Each chain may connect a maximum of 32 fixtures.
- An optically isolated amplifier-splitter such as the Martin RS-485 Opto-Splitter (P/N 90758060) must be used to:
  - extend a link beyond 500 meters (1640 ft.)
  - extend the link to include a further maximum 32 luminaires, or
  - branch the link into further single chains, each containing 32 luminaires. The Martin Opto-Splitter allows a link to be branched into four new chains.
- Each chain on the link must be terminated by inserting an RJ-45 termination plug (P/N 91613028) into the data output of the last Stagebar 54 on the chain. The termination plug places a resistance across data hot (+) and cold (-).
- Long parallel runs of AC power and control data cables may cause interference on the data link and must be avoided.
- One DMX universe has 512 DMX control channels available. If individual control of the Stagebar 54 fixtures in an installation is required, each fixture must be given its own channels until the limit of 512 is reached. At this point, a new DMX universe must be created before more fixtures can be added.
- The number of Stagebar 54 fixtures that can be individually controlled in one DMX universe depends on the number of DMX channels they use, which in turn depends on which mode they are set to. For example, if fixtures are set to individual pixel control in HSI mode, they will each require 18 DMX channels (one channel for hue, one for saturation and one for intensity on each of six pixels). The total number of fixtures that can be linked in one DMX universe will therefore be 512/18 = 28. See Table 2 on page 14 for an overview of the number of DMX channels required by Stagebar 54 fixtures in different modes.

Connectors

The Stagebar 54 has two RJ-45 connectors on the connections panel: one for data input and one for data output. These connectors are for connection to a DMX data link only. Although connecting to an Ethernet network will not normally cause any damage, it is still not recommended.

A male RJ-45 to male 5-pin XLR adapter cable is supplied with the fixture, allowing you to connect a fixture to a DMX device or cable with 5-pin XLR connectors. The male RJ-45 connector is protected in a Neutrik NE8MC housing.

Note that auto-addressing (see “Automatically setting different DMX addresses” on page 15) will only work with fixtures that are connected to each other via their RJ-45 connectors and CAT 5 cable. RJ-45 to XLR converters cannot carry auto-addressing signals.

RJ-45 connector pinout

RJ-45 cable connector pins are numbered from the left, looking at the face of the connector with the locking clip on top (see Figure 3). Connectors must be wired according to the 568-B system:

- Pin 1 (White/orange): DMX data hot (+)
- Pin 2 (Orange): DMX data cold (-)
- Pin 7 (White/brown): Token (required for auto addressing)
- Pin 8 (Brown): Common

The following pins are not used, but can be wired as follows:

- Pin 3 (White/green)

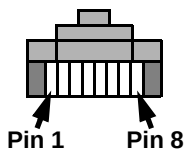


Figure 3: RJ-45 cable connector pins

- Pin 6 (Green)
- Pin 4 (Blue)
- Pin 5 (White/blue)

XLR connector pinout

To connect Stagebar 54 fixtures to a controller with an XLR output, for example, connectors are suitable if DMX cable is used for the data link. XLR pin numbers are normally marked on connectors. Connectors must be wired using the standard XLR DMX pin-out:

- Pin 1: Cable shield
- Pin 2: DMX Data 1 - (cold)
- Pin 3: DMX Data 1 + (hot)

Pins 4 and 5 on 5-pin XLR connectors are available for Data 2 connections in DMX 512-A or similar systems. They must be wired as follows:

- Pin 4: DMX Data 2 - (cold)
- Pin 5: DMX Data 2 + (hot)

To avoid ground/earth loop interference, ensure that the DMX cable shield does not come into contact with the shell or body of XLR connectors.

Connecting the data link

To connect the data link:

1. Cut power to all devices. If the luminaire has been in use, allow it to cool for at least 10 minutes.
2. Connect a suitable cable to the DMX output socket on the DMX controller and route it to the first luminaire on the link.
3. Connect the cable to the first fixture's DMX input socket, using an XLR to RJ-45 converter cable if necessary.
4. Continue adding fixtures, connecting DMX output to DMX input sockets.
5. On the last fixture in each chain on the link, insert an RJ-45 DMX termination plug in the DMX output socket.
6. When you have made all connections, set up the fixtures as described in the next section of this manual before applying power.

Fixture setup

The control panel and backlit LCD display on the Stagebar 54's rear panel allows you to set DMX addresses and alter various fixture settings. The Stagebar 54's onboard battery makes the most important fixture setup functions – including manual DMX addressing but not including auto-addressing and address copying – available when the fixture is not connected to AC power.

- Press **Menu** to access the menu or go up one level.
- Press **Enter** to confirm a selection.
- Press **Up** and **Down** to navigate in the menus.

The current menu level is displayed in capital letters and sub-menus or menu items are displayed in small letters in the LCD display.

See "Onboard control panel menus" on page 24 for an overview of the menus available in the control panel.

DMX mode

Color control mode

Martin use the highest quality components based on the most advanced technology available. However, despite rigorous quality assurance and manufacturing tolerances, there are very small variations in color rendition between LEDs. Stagebar 54 fixtures are therefore tested and set up at the factory so that pixels give evenly matched color in RGB, HSI and HSIC modes. Settings are stored in EEPROM on fixtures' main PCBs.

The `DMX MODE` → `control mode` menu allows you to set the fixture to respond in one of four color control modes:

`RGB` *(red, green, blue)*

In RGB mode, all LEDs (including amber and white) are active in red, blue and green color output. The intensity of each color is controlled on one DMX channel, giving RGB additive color mixing.

`RGBAW` *(red, green, blue, amber, white)*

RGBAW is a 'raw' control mode in which the intensity of each color LED is controlled on one DMX channel. LED intensity is thus not managed by the fixture software based on its factory settings, but is controlled directly by the user. The factory settings are designed to ensure even color rendition across pixels and fixtures. By bypassing these, RGBAW mode can allow slightly more saturated color.

`HSI` *(hue, saturation, intensity)*

In HSI mode, one DMX channel controls hue (selects a color), one channel controls saturation (adjusts depth of the selected color) and one channel controls intensity (brightness of the selected color).

`HSIC` *(hue, saturation, intensity, color temperature)*

HSIC mode is identical to HSI mode, but with the addition of color temperature control on a fourth DMX channel that allows easy adjustment of the color temperature of white light output.

Pixel grouping

The `DMX MODE` → `pixel grouping` menu also allows you to set up pixel control (one pixel is one of the six blocks of LEDs in a Stagebar 54). You can control each pixel individually, so that each pixel displays its own color and is controlled using its own DMX channels, or you can control pixels in groups. Pixels in a group use the same DMX channels and behave identically. The options available are:

- `1` (each pixel is controlled individually)
- `2` (pixels are controlled in pairs, giving three groups of 2 pixels)
- `3` (pixels are controlled in two groups of 3 pixels)
- `All` (all pixels are controlled together in one group)

Pixel left/right inversion

The DMX MODE → pixel invert command allows you to swap the pixels from left to right so that pixel 1 becomes pixel 6, pixel 2 becomes pixel 5, and so on. This feature can be used to obtain mirror effects, or to simplify control if certain fixtures are installed upside-down in your installation.

Copying DMX mode to other fixtures

The DMX MODE → copy DMX mode command lets you save time by setting up one fixture's DMX mode settings and then copying those settings to all the fixtures connected to the data output or data input connector.

Fixtures must not receive an external DMX signal during the copy process.

- If you apply a copy output <- command, the settings are copied forward along the link to all the fixtures that are powered on and connected to the fixture's data output.
- If you apply a copy input -> command, the settings are copied back along the link to all the fixtures that are powered on and connected to the fixture's data input.

Fixture settings and DMX channel requirements

Depending on the DMX mode and pixel control setting selected in the control menus, each fixture uses the number of DMX channels shown in Table 2.

For example, a fixture in DMX mode HSI, with pixel grouping set to 3 (in which pixels are controlled in two groups of 3 pixels), will use six DMX channels. The first three channels will control hue, saturation and intensity on the first 3 pixels, and the next three channels will control HSI on the remaining 3 pixels.

To give another example, a fixture in DMX mode RGBAW and pixel grouping set to 2 (in which pixels are controlled in three groups of 2 pixels) will use 15 DMX channels. The first five channels will control RGBAW on the first group of 2 pixels. The next five channels will control RGBAW on the next group, and the next five channels will control RGBAW on the last group.

Pixel control setting	RGB mode	RGBAW mode	HSI mode	HSIC mode
1 (individual control)	18	30	18	24
2 (three groups of 2 pixels)	9	15	9	12
3 (two groups of 3 pixels)	6	10	6	8
all (1 group of 6 pixels)	3	5	3	4

Table 2: DMX channels required in different control modes

DMX addresses

The DMX address, also known as the start channel, is the first of the DMX channels used to receive instructions from the controller. If two fixtures are set to the same mode and share the same DMX address, they will behave identically. For individual control, each fixture must have its own channels. Thus, if a fixture has DMX address 1 and uses 18 channels, the DMX address of the next fixture must be set to 19, and so on.

Manually setting DMX addresses

The fixture's DMX address can be set manually using ADDRESS → man. address in the control panel. Press **Enter**, then use the up and down buttons to set the address.

The fixture's battery power means that the fixture does not have to be connected to mains power for manual address setting.

Automatically setting different DMX addresses

The `ADDRESS → auto address` command in the control panel lets you set the DMX addresses of fixtures in an installation automatically so that:

- all fixtures have their own DMX address
- channels used do not overlap, and
- all fixtures have enough DMX channels to operate correctly.

Unlike manual address setting, auto-addressing requires mains power.

Fixtures must not receive an external DMX signal during the automatic addressing process.

If you apply an `addr. output <-` command to a Stagebar 54:

1. The Stagebar 54 checks its own DMX address, checks to see how many DMX channels it requires in the mode it is set to, and calculates the next available DMX address.
2. The Stagebar 54 sends a token (a single message) to the next Stagebar 54 fixture connected to its data output, instructing that fixture to set itself to the next available DMX address
3. That fixture checks to see how many DMX channels it requires in the mode it is set to. If the DMX address it has received gives it enough channels (within the maximum of 512 channels available in one DMX universe), it sets itself to that address and lights up green for a moment.
4. That fixture sends a token to the next Stagebar 54 fixture connected to its data output, instructing that fixture to set itself to the next available DMX address.

Steps 3. and 4. repeat themselves until all fixtures on the link have accepted a DMX address or until a fixture is given a DMX address that is not valid (i.e. the number of channels the fixture requires means that the maximum of 512 channels would be exceeded). If this happens, this last fixture will refuse to accept the invalid DMX address and will light up red for a moment.

If you apply an `addr. input ->` command to a Stagebar 54, you will run the same process, but you will assign addresses to all the fixtures that are connected to the first fixture's data *input* connector.

The fact that fixtures light up green or red gives an easy visual indication of which fixtures in an installation have accepted a valid DMX address and which fixture must be connected to a new DMX universe if the process is to continue.

Automatically setting the same DMX address on multiple fixtures

The DMX address of one fixture can be copied to other fixtures, so that all fixtures have the same DMX address, using `ADDRESS → copy address` in the control panel:

- If you apply an `addr. copy <-` command to a Stagebar 54 fixture, that fixture's DMX address is copied forward along the link to all the fixtures that are powered on and connected to that fixture's data output.
- If you apply an `addr. copy ->` command to a Stagebar 54 fixture, that fixture's DMX address is copied back along the link to all the fixtures that are powered on and connected to that fixture's data input.

Automatic address copying requires mains power. Fixtures must not receive an external DMX signal during the copy process.

Fixture readouts

Fixture info

Gives information about currently installed software version, total hours of use and temperature of PCBs. For each PCB, the Stagebar 54 can display:

- the current temperature
- the highest temperature logged since the fixture was reset (fixtures reset each time they are powered on), or
- the highest temperature logged since the fixture was manufactured.

Temperatures are given in degrees Celsius and Fahrenheit.

DMX link info

Gives information about the characteristics and quality of the DMX signal the fixture is receiving.

Other control menu features

Adjustment

The ADJUSTMENT menu gives manual control of the output for individual colors. This feature allows you to test LEDs or set a static color display without using a DMX controller.

Test sequence

TEST SEQUENCE runs a test of all LEDs, fans, indicator LEDs and the LCD display for service purposes.

Software upload

Select UTILITIES → software upload before uploading new software.

Restoring factory settings

UTILITIES → factory setting reloads the default factory settings.

Switching between cooling fan modes

The UTILITIES → fan mode settings allow you to set the cooling fans to run in one of two modes:

- regulated (fans are thermostatically controlled, giving quietest operation)
- full speed (fans run at full speed while power is applied).

Copying all fixture settings to other fixtures

The UTILITIES → cpy fixt. setup command lets you save time by setting up one fixture and then copying all that fixture's settings to all the fixtures connected to the data output or data input connector:

- If you apply a copy output <- command, the settings are copied forward along the link to all the fixtures that are powered on and connected to the fixture's data output.
- If you apply a copy input -> command, the settings are copied back along the link to all the fixtures that are powered on and connected to the fixture's data input.

Fixtures must not receive an external DMX signal during the settings copy process.

Operation

Once the Stagebar 54 is connected and set up as described earlier in this manual, adjust color and intensity using the DMX controller following the applicable DMX protocol (see page 22).

Color control

See “Color control mode” on page 13 for a description of RGB, RGBAW, HSI and HSIC modes.

RGBAW is a ‘raw’ control mode. If the Stagebar 54 is set to RGBAW mode and you require precisely matched, even color, it may be necessary to compensate for small differences in LED color rendition by fine-tuning LED intensity on individual pixels at the controller. If this is inconvenient, switching to one of the other color control modes will give management of color mixing to the fixture software and deploy factory settings, thus restoring color evenness.

All five LED colors are active in all color control modes.

Stand-alone operation

In stand-alone operation, the Stagebar 54 can be programmed to run two types of display without the need for a DMX controller:

- A static color that you select by adjusting the intensity of the RGBAW pixels.
- Dynamic sequences of RGB, RGBAW or pastel colors that you can set to run at fast, medium or slow speed. Colors cross-fade (this means that one color fades smoothly into the next with an overlap) and each sequence repeats in a loop.

Programming stand-alone operation

Stand-alone operation is programmed in the `STAND ALONE` → `sa setup` control menu.

You can copy a fixture’s stand-alone settings to other fixtures using the `STAND ALONE` → `copy sa setup` control menu.

When stand-alone operation has been programmed, the Stagebar 54 runs the selected stand-alone display whenever it is powered on.

DMX override

If a Stagebar 54 receives a DMX signal during stand-alone operation, it stops its stand-alone display and obeys DMX commands. If the DMX signal is no longer received, the Stagebar 54 resumes stand-alone operation after a delay of approximately 5 seconds.

Service and maintenance

Warning! Read “Safety Information” on page 3 before carrying out service or maintenance work on the Stagebar 54. Lock out power to the entire distribution system before servicing, cleaning or opening any cover. Refer any service operation not described here to a qualified service technician.

Important! Excessive dust, smoke fluid, and particle buildup degrades performance, causes overheating and will damage the fixture. Damage caused by inadequate cleaning or maintenance is not covered by the product warranty.

Important! As with electronic components in general, the Stagebar 54’s PCBs are sensitive to ESD (electrostatic discharge). Take precautions to avoid ESD damage during service.

It is Martin policy to use the best quality materials available to ensure optimum performance and the longest possible component lifetimes. However, optical components in all lighting fixtures are subject to wear and tear over the life of the fixture, resulting in gradual changes in color rendition, for example.

The extent of wear and tear depends heavily on operating conditions, maintenance and environment, so it is impossible to specify precise lifetimes for optical components. However, you will eventually need to replace LEDs if their characteristics are affected by wear and tear after an extended period of use and if you require fixtures to perform within very precise optical and color parameters.

To maximize the life of the Stagebar 54 and protect the investment it represents, clean the fixture regularly – especially the cooling fans and grilles – following the guidelines in this section.

Cleaning

Regular cleaning is essential for fixture life and performance. Buildup of dust, dirt, smoke particles, fog fluid residues, etc. degrades the fixture’s light output and cooling ability.

Cleaning schedules for lighting fixtures vary greatly depending on the operating environment. It is therefore impossible to specify precise cleaning intervals for the Stagebar 54. Cooling fans suck in airborne dust and smoke particles, and in extreme cases fixtures may require cleaning after surprisingly few hours of operation. Environmental factors that may result in a need for frequent cleaning include:

- Use of smoke or fog machines.
- High airflow rates (near air conditioning vents, for example).
- Presence of cigarette smoke.
- Airborne dust (from stage effects, building structures and fittings or the natural environment at outdoor events, for example).

If one or more of these factors is present, inspect fixtures within their first 25 hours of operation to see whether cleaning is necessary. Check again at frequent intervals. This procedure will allow you to assess cleaning requirements in your particular situation. If in doubt, consult your Martin dealer about a suitable maintenance schedule.

Do not use abrasive, caustic or solvent-based products for cleaning, as they can damage plastic or painted surfaces.

To clean the fixture:

1. Disconnect the fixture from power and allow it to cool for at least 10 minutes.
2. Vacuum or gently blow away dust and loose particles from the fan blades and grilles in the fixture’s end caps with compressed air.
3. Clean the diffuser front with a soft cloth dampened in a warm water/detergent solution.
4. If the lens sheets require cleaning, remove their retaining screws and wash them in a hot water/detergent solution with a soft brush. Dry completely before reinstalling.

5. See Figure 4. If a cooling fan or grille requires more thorough cleaning, loosen the fan assembly retaining screw (arrowed) slightly and slide the assembly out of the end cap for access. Do not strain the wires to the fan. Brush dirt from the fan blades with a soft brush, preferably in conjunction with a vacuum cleaner.

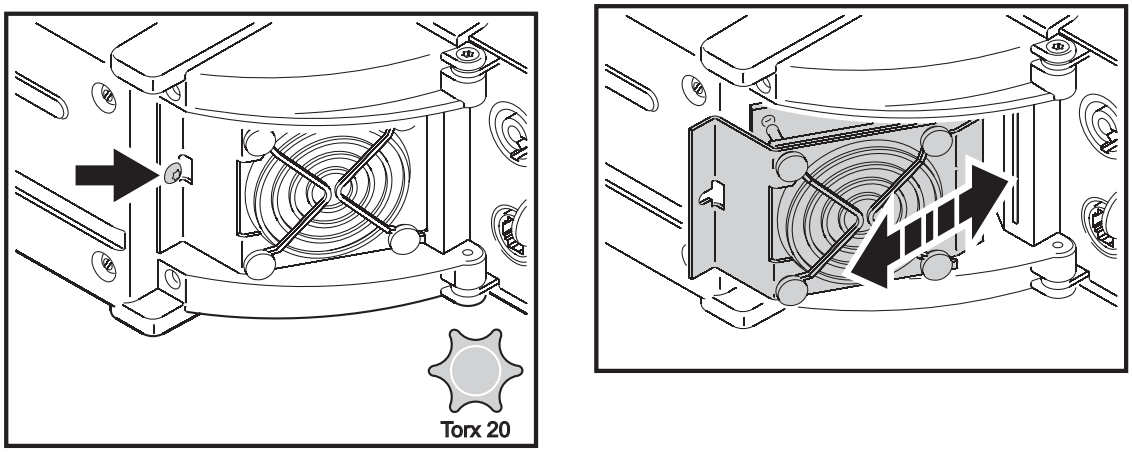


Figure 4: Cooling fan removal

6. Avoid trapping wires while reinstalling the fan assembly.

Installing and removing the diffuser front

The diffuser front makes the individual LEDs invisible, giving a surface with smooth color. Before installing it, remove the LED lenses as described on page 20, otherwise hot-spots will be visible on the diffuser surface.

To install a diffuser front:

1. Isolate the fixture from power. If the fixture has been in use, allow it to cool for at least 10 minutes.
2. See Figure 5. Loosen the two captive screws (arrowed) on the end cap and swing the end cap open.

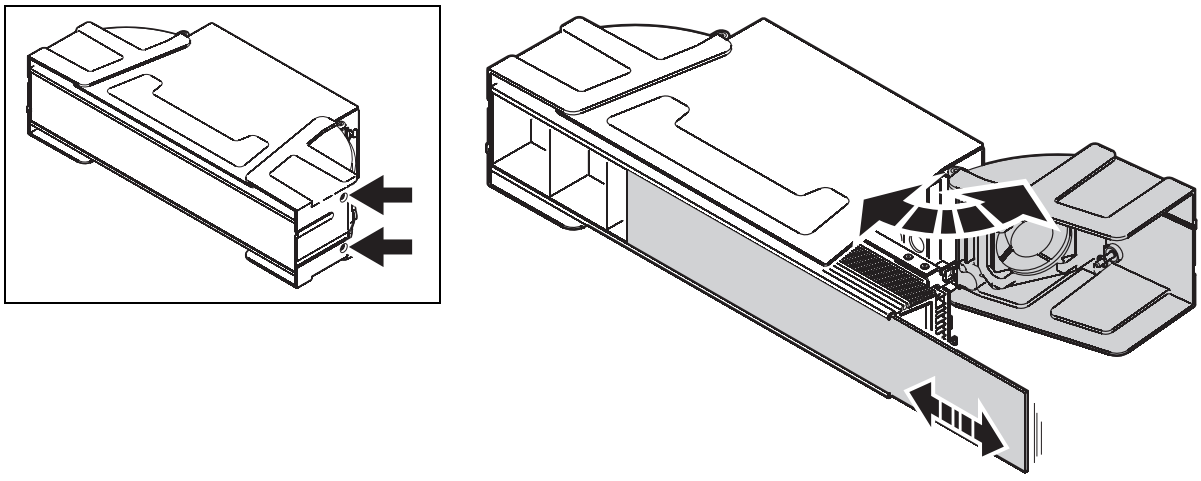


Figure 5: Installing and removing the diffuser front

3. Slide the diffuser front into the slots provided in the front of the fixture.
4. Close and fasten the end cap before reapplying power.

To remove a diffuser front:

1. Isolate the fixture from power. If the fixture has been in use, allow it to cool for at least 10 minutes.
2. See Figure 5. Loosen the two captive screws (arrowed) on the end cap and swing the end cap open.
3. Slide the diffuser front out of the slots in the front of the fixture.
4. Reinstall the LED lens sheets as described on page 20.
5. Close and fasten the end cap before reapplying power.

Removing and installing LED lenses

The LED lenses are constructed in sheets of 9 lenses. The lenses concentrate the LED output into a 25° half-peak beam angle. Lenses must be removed to obtain smooth color using the diffuser front.

To remove a lens sheet:

1. Isolate the fixture from power. If the fixture has been in use, allow it to cool for at least 10 minutes.
2. If a diffuser front is fitted, remove it (see “Installing and removing the diffuser front” on page 19).
3. See Figure 6. Lens sheets are retained by magnetic mountings. Press on one side of the lens sheet until you can grip the other side. Lift the lens sheet off the magnets and store for possible future use.

To install a lens sheet:

1. Isolate the fixture from power. If the fixture has been in use, allow it to cool for at least 10 minutes.
2. Place the lens sheet into position so that it is held securely in its magnetic mounting.

Earlier models had lens sheets with retaining screws. If replacing screw-type lens sheets with magnetic sheets, you must also replace the lens sheet mounting posts.

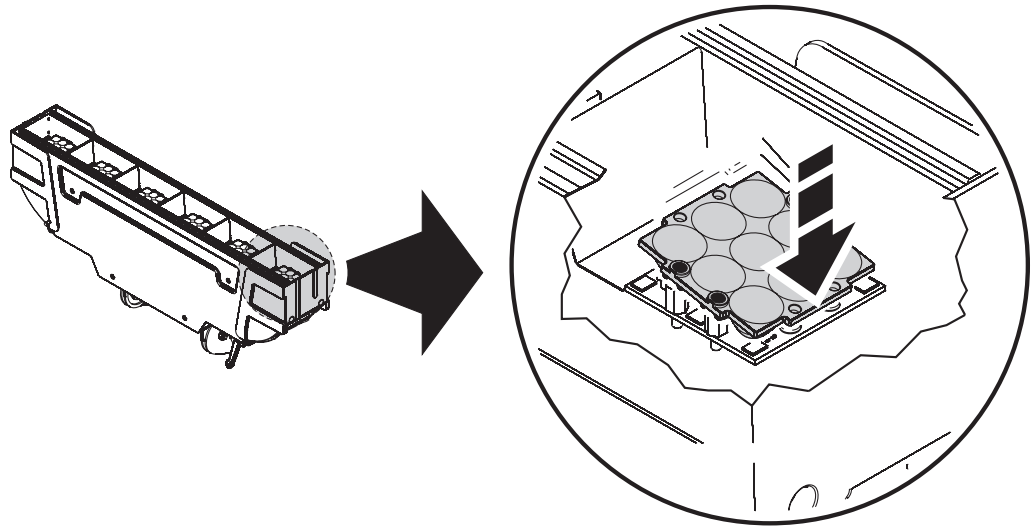


Figure 6: Lens removal

Fuse replacement

Warning! Disconnect from power before opening covers. Replace fuses with ones of the same type and rating only.

Primary fuse

Stagebar 54 fixtures are protected by a 4 amp slow-blow primary fuse located in a fuseholder on the rear panel (see Figure 1 on page 6). If a fixture is completely dead (apart from the battery-powered functions available in the control panel and display), the primary fuse may have blown.

To replace the primary fuse:

1. Disconnect the fixture from power and allow to cool for 10 minutes.
2. Using a flat-head screwdriver, turn the fuseholder cap counter-clockwise to release it, then remove the fuse.
3. Replace a defective fuse with one of the same type and rating only. Replacement primary fuses are available from Martin suppliers (P/N 05020016).
4. Reinstall the fuseholder before reapplying power.

Power output fuse

The power output circuit and connector are protected by a 15 amp slow-blow fuse located inside the fixture on the mains filter PCB. If devices connected to a Stagebar 54 via the power output connector are dead but the Stagebar 54 is working normally, this fuse may have blown.

To replace the power output fuse:

1. Disconnect the fixture from power and allow to cool for 10 minutes.

2. Remove the blue power input connector from the power inlet. See Figure 5. Loosen the two captive screws (arrowed) on the end cap next to the power inlet and swing the end cap open.
3. The fuse is visible on the mains filter PCB. Remove it with long-nosed pliers, being careful not to disturb the power wiring or pull the mains filter PCB off its mounting posts.
4. Replace a defective fuse with one of the same type and rating only. Replacement power output fuses are available from Martin suppliers (P/N 05020050).
5. Reinstall the end cap before reapplying power.

Battery service

The onboard battery that provides power to the control panel and LCD display is recharged while the fixture is connected to AC power. If the battery has lost its charge over a long period with the fixture disconnected from AC power, the first remedy is to reconnect the fixture to power.

Due to natural aging, the battery will over time lose its ability to hold a charge. Eventually it will reach the end of its service life and require replacement. The battery is located immediately behind the bottom cover, attached to the chassis. Contact a Martin service technician for replacement.

Reflector removal

To remove the reflector, open both end caps as shown in Figure 5 on page 19 and lift the reflector out of the fixture.

Software installation

It may be necessary to upload new software to the Stagebar 54 if you believe that the product has a software-related fault or if you want to update to a newer version. Software updates are available from the Martin website (http://www.martin.com) and can be installed via the DMX data link with the following items:

- The Stagebar 54 main CPU software update file, downloadable free of charge from the Support area of the Martin website.
- The Martin Software Uploader program, version 5.0 or later, downloadable free of charge from the Support area of the Martin website.
- A Martin Universal USB-DMX Interface or similar PC/fixture hardware interface and Windows PC (or a Martin MP-2 Uploader device loaded with the Stagebar 54 main CPU software update file).

Installing software: normal method

1. Connect the uploader hardware to a Stagebar 54 fixture's data input connector. The software will be uploaded to that fixture and all Stagebar 54 fixtures that are powered on and connected via the DMX link.
2. Upload the fixture software as described in the uploader's help file or user documentation.
3. Disconnect the uploader hardware and reconnect the fixture to the DMX link.
4. Cycle power off and on. Check that the fixture resets correctly. If an error message appears in the display, cycle power off and on again and check that the fixture now resets correctly.

Installing software: boot mode upload

A boot mode upload must be carried out by a qualified professional only.If you believe that a boot mode upload may be required (if the display is completely dead when power is applied, for example), or if the software notes call for a boot mode upload:

1. Isolate the fixture from power and open for access to the main PCB.
2. Locate the DIP switch on the main PCB and move pin 6 to ON.
3. Close all covers, reapply power and perform the upload as described above.
4. Isolate from power, open covers, set DIP switch pin 6 to OFF, close all covers and reapply power.
5. Check that the fixture resets correctly. If a checksum error occurs, cycle power off and on again and check that the fixture now resets correctly.

DMX protocols

All pixels controlled together

The tables in this section explain DMX commands for a fixture with all its pixels controlled as one group (DMX MODE → Pixel grouping → All in the control panel).

RGB Mode, pixels = All

Start code = 0

Channel	Value	Percent	Function
1	0 - 255	0 - 100%	**Red** Intensity 0 →100%
2	0 - 255	0 - 100%	**Green** Intensity 0 →100%
3	0 - 255	0 - 100%	**Blue** Intensity 0 →100%

RGBAW Mode, pixels = All

Start code = 0

Channel	Value	Percent	Function
1	0 - 255	0 - 100%	**Red** Intensity 0 →100%
2	0 - 255	0 - 100%	**Green** Intensity 0 →100%
3	0 - 255	0 - 100%	**Blue** Intensity 0 →100%
4	0 - 255	0 - 100%	**Amber** Intensity 0 →100%
5	0 - 255	0 - 100%	**White** Intensity 0 →100%

HSI Mode, pixels = All

Start code = 0

Channel	Value	Percent	Function
1	0 - 255	0 - 100	**Hue** Red → Orange → Amber→ Yellow → Green → Cyan → Blue → Indigo → Violet → Magenta → Red
2	0 - 255	0 - 100	**Saturation** Zero (white) → Full
3	0 - 255	0 - 100%	**Intensity** Intensity 0 →100%

In HSI mode, white color temperature is fixed at 5500 K.

HSIC Mode, pixels = All

Start code = 0

Channel	Value	Percent	Function
1	0 - 255	0 - 100	**Hue** Red → Orange → Amber→ Yellow → Green → Cyan → Blue → Indigo → Violet → Magenta → Red
2	0 - 255	0 - 100	**Saturation** Zero (white) → Full saturation
3	0 - 255	0 - 100%	**Intensity** Intensity 0 →100%
4	0 - 255	0 - 100	**Color Temperature Control** 2000 - 10 000 K

A DMX value of 191 (75%) must be sent on channel 4 to obtain a white color temperature of 5500 K.

Pixels controlled in groups

When a fixture's pixels are set to individual or grouped control (DMX MODE → Pixel grouping → 1, 2 or 3 in the control panel), the fixture uses one block of DMX channels per group. are repeated for each group of pixels.

For example, a Stagebar 54 with pixels that is:

- set to three groups of 2 pixels (DMX MODE → Pixel grouping → 2), and
- set to RGB mode (DMX MODE → Control mode → RGB)

will use nine DMX channels as follows:

RGB Mode, pixels = 2

Start code = 0

Channel	Value	Percent	Function
1	0 - 255	0 - 100%	**Pixel group 1 Red** Intensity 0 →100%
2	0 - 255	0 - 100%	**Pixel group 1 Green** Intensity 0 →100%
3	0 - 255	0 - 100%	**Pixel group 1 Blue** Intensity 0 →100%
4	0 - 255	0 - 100%	**Pixel group 2 Red** Intensity 0 →100%
5	0 - 255	0 - 100%	**Pixel group 2 Green** Intensity 0 →100%
6	0 - 255	0 - 100%	**Pixel group 2 Blue** Intensity 0 →100%
7	0 - 255	0 - 100%	**Pixel group 3 Red** Intensity 0 →100%
8	0 - 255	0 - 100%	**Pixel group 3 Green** Intensity 0 →100%
9	0 - 255	0 - 100%	**Pixel group 3 Blue** Intensity 0 →100%

Table 2 on page 14 shows the number of channels required in all the DMX modes available in the Stagebar 54.

Onboard control panel menus

Menu	Options		Notes
ADDRESS	1 - X		Set the luminaire's DMX address using up and down buttons (where **X** is the last useable address depending on the mode the fixture is set to)
	auto address	addr. output <-	Automatically assign DMX addresses to all fixtures linked to data output connector
		addr. input ->	Automatically assign DMX addresses to all fixtures linked to data input connector
	copy address	addr. output <-	Copy this fixture's DMX address to all fixtures linked to data output connector
		addr. input ->	Copy this fixture's DMX address to all fixtures linked to data input connector
DMX MODE	control mode	HSI	**HSI color control**
		HSIC	HSIC color control
		RGB	RGB color control
		RGBAW	RGBAW color control
	pixel grouping	1	Individual control of pixels
		2	Pixels controlled in 3 groups of 2 pixels
		3	Pixels controlled in 2 groups of 3 pixels
		all	**Pixels controlled in 1 group of 6 pixels (control all pixels at same time)**
	pixel invert	on	Pixels swapped left to right (1 moved to 6, 2 moved to 5, etc.)
		off	**Pixels normal**
	copy dmx mode	copy output <-	Copy this fixture's DMX mode to all fixtures linked to data output connector
		copy input ->	Copy this fixture's DMX mode to all fixtures linked to data input connector
STAND ALONE	sa setup	stand alone off	Disable stand-alone operation
		static colour	Enable static color display – select display intensity from 0 - 255 for white, amber, blue, green and/or red
		sa: rgb fade	Select slow, medium or fast RGB sequence
		sa: rgbaw fade	Select slow, medium or fast RGBAW sequence
		sa: pastel fade	Select slow, medium or fast pastel colors sequence
	copy sa setup	copy output <-	Copy this fixture's stand-alone settings to all fixtures linked to data output connector
		copy input ->	Copy this fixture's stand-alone settings to all fixtures linked to data input connector
ADJUSTMENT	red		Manually set red intensity
	green		Manually set green intensity
	blue		Manually set blue intensity
	amber		Manually set amber intensity
	white		Manually set white intensity
PERSONALITY	backlight	intensity	Set display backlight intensity to **high**, medium or low
		delay	Set time before display backlight goes into sleep mode to **15 secs.**, 30 secs. or 2 mins.

Menu	Options		Notes
FIXTURE INFO	softw. version		Display main fixture software versions
	power on hours	resettable hours	Display number of hours fixture powered on since last reset (to reset, display hours then press **Up** key for 5 secs.)
		total hours	Display number of hours fixture powered on since manufacture (non-resettable)
	temp. mainboard	current	Display main PCB temperature
		max since reset	Display highest main PCB temperature since last fixture reset
		max recorded	Display highest main PCB temperature since manufacture
	temp. driver	current	Display current average driver PCB temperature
		max since reset	Display highest driver PCB temperature since last fixture reset
		max recorded	Display highest driver PCB temperature since manufacture
	temp. pixel	current	Display current average pixel PCB temperature
		max since reset	Display highest pixel PCB temperature since last fixture reset
		max recorded	Display highest pixel PCB temperature since manufacture
DMX LINK INFO	refresh rate		Display DMX signal refresh rate
	link quality		Display DMX signal quality
	start code		Display DMX start code
	channel		Display DMX channel
TEST SEQUENCE	run		Test all components in sequence
UTILITIES (Hold **Enter** pressed in for 5 secs. to use this menu)	software upload		Set fixture to receive new software via DMX link
	factory setting		Return fixture to factory default settings
	fan mode	regulated	**Set fans to thermostatically regulated operation**
		full speed	Set fans to permanently on, full speed
	cpy fixt. setup	copy output <-	Copy this fixture's settings to all fixtures linked to data output connector
		copy input ->	Copy this fixture's settings to all fixtures linked to data input connector

Default settings are shown in **bold print**

All temperatures are displayed in both °C and °F

Display messages

Message	Appears if...	What to do...
MERR	...there is an error communication with EEPROM memory	Contact Martin Service for assistance
F1ER F2ER	...there is a fan error on fan 1 or 2	Contact Martin Service for assistance
DTER	...there is a driver temperature sensor error	Contact Martin Service for assistance
PTER	...there is a pixel temperature sensor error	Contact Martin Service for assistance
FTCO	...the fixture temperature cutoff is activated	Clean fixture (especially fans and air vents), check that airflow around air vents is unobstructed, check ambient temperature. If this does not solve problem, contact Martin service for assistance.
D1CO D2CO D3CO D4CO D5CO D6CO	...there is a temperature error on a driver PCB (1 - 6 identifies the PCB involved, CO = Cutoff)	Contact Martin Service for assistance
P1CO P2CO P3CO P4CO P5CO P6CO	...there is a temperature error on a pixel PCB (1 - 6 identifies the PCB involved, CO = Cutoff)	Contact Martin Service for assistance
DPER	...there is a display programming error	Contact Martin Service for assistance
BALO	...the battery level is low	Apply power to fixture for several hours to recharge battery. If this does not solve problem, contact Martin Service for assistance.
DIER	...there is a display error	Contact Martin Service for assistance
DCER	...there is a driver board communication error	Contact Martin Service for assistance
RUER	...the fixture's unique I.D. (identification code) is missing from the fixture software or invalid	Contact Martin for assistance with obtaining and loading a new I.D.

Troubleshooting

Problem	Probable cause(s)	Remedy
Fixture is completely dead.	No power to fixture.	Check power and connections.
	Primary fuse blown (located in fuseholder on rear panel).	Isolate fixture from power. Check fuse and replace.
Fixture works normally but other fixtures connected to power output on rear panel are completely dead.	Power output fuse blown (located inside fixture behind right-hand end cap on PCB near power inlet).	Isolate fixture from power. Check fuse and replace.
One or more fixtures responds incorrectly to DMX control or does not respond at all.	Fault on DMX link.	Inspect connections and cables. Correct poor connections. Repair or replace damaged cables.
	Incorrect fixture addressing.	Check fixture is set to correct DMX mode. Check number of channels required by fixture's DMX mode and check fixture addresses.
	Fixture defective.	Have faulty fixture serviced by Martin service technician.
	Other device on DMX link defective.	Bypass devices on DMX link until the faulty device has been identified. Have faulty device tested and serviced by Martin service technician or device supplier.
One or more fixtures displays stand-alone sequences incorrectly or not at all.	Fixtures incorrectly set up.	Check settings in control menus (save time by using the copy settings commands to replicate settings between fixtures)
	Fault on DMX link.	Inspect connections and cables. Correct poor connections. Repair or replace damaged cables.
	Incorrect fixture addressing.	Check number of channels required by fixture's DMX mode and check fixture addresses.
	Fixture defective.	Have faulty fixture serviced by Martin service technician.
	Other device on DMX link defective.	Bypass devices on DMX link until the faulty device has been identified. Have faulty device tested and serviced by Martin service technician or device supplier.
LEDs cut out intermittently.	Fixture is too hot.	Ensure free airflow around air vents. Clean fans and vents. Check that ambient temperature does not exceed maximum permitted level. Contact Martin for service.
LCD display dead when fixture is connected to power.	Fixture software is corrupted.	Contact Martin for assistance with boot mode software upload.
LCD display dead when fixture is not connected to power.	Onboard battery flat.	Connect to AC power to recharge battery.
	Battery defective or at end of service life.	Contact Martin for replacement.

Table 4: Troubleshooting

Stagebar 54™ specifications

Physical

Stagebar 54S™

Length	420 mm (16.5 in.)
Width	190 mm (7.5 in.)
Height	105 mm (4.1 in.)
Weight	5.5 kg (12.1 lbs.) without bracket

Stagebar 54L™

Length	630 mm (24.8 in.)
Width	190 mm (7.5 in.)
Height	105 mm (4.1 in.)
Weight	7.3 kg (16.1 lbs.) without bracket

Dynamic Effects

Color mixing	RGBAW, RGB, HSI, HSIC, 0 - 100% independently variable

Control and Programming

Control options	DMX, stand-alone
DMX channels	3 - 40
Pixel control grouping options	6 x 1 (individual), 3 x 2, 2 x 3, 1 x 6 (all pixels as one group)
Fixture setup	Onboard control panel and display, auto settings copy
DMX address setting	Manual, auto addressing and auto address copy
Display	Battery-powered backlit LCD, 2 x 16 character
16-bit control (internal)	RGBAW, RGB, HSI, HSIC color mixing
Protocol	USITT DMX512-A
Stand-alone and master/slave programming	Control panel and display
Receiver	RS-485
Firmware update	Serial upload via DMX link

Photometric Data

Light source	Luxeon K2 high power emitters
Half-peak beam angle	29°, consult Martin for availability of optional beam angles
Total LED power per pixel	2 x 1.2 W red, 2 x 2.9 W green, 2 x 2.9 W royal blue, 2 x 1.2 W amber, 1 x 2.9 W white
Total LED power per bar	116 W
Total output	1900 lumen
Even pitch across adjacent fixtures	Horizontal/vertical (Stagebar 54L), horizontal (Stagebar 54S)

Construction

Color	Black
Housing	Aluminum and steel
Finish	Electrostatic powder-coated
Protection rating	IP 20

Installation

Mounting points	Adjustable mounting bracket, 1/4-turn locks, four M6 threaded holes
Orientation	Any

Connections

Power in/out	Neutrik Powercon
Data in/out	RJ-45

Electrical

AC power	100 - 240 V nominal, 50/60 Hz
Power supply unit	Integrated, auto-sensing multi-voltage
Primary fuse	4 AT slow blow

Typical power and current

100 V, 50 Hz	238 W. 2.5 A, PF 0.998
100 V, 60 Hz	240 W, 2.5 A, PF 0.998
110 V, 60 Hz	237 W, 2.3 A, PF 0.997
120 V, 60 Hz	233 W, 2.1 A, PF 0.996
208 V, 60 Hz	228 W, 1.2 A, PF 0.986
220 V, 50 Hz	227 W, 1.1 A, PF 0.986
220 V, 60 Hz	244 W, 1.3 A, PF 0.984
230 V, 50 Hz	225 W, 1.1 A, PF 0.986
240 V, 50 Hz	224 W, 1.0 A, PF 0.984

Figures apply to both S and L models with all LEDs at maximum intensity. Figures are valid at nominal voltage and represent typical averages, not maximum.

Thermal

Cooling	Forced air
Maximum ambient temperature (Ta max.)	40° C (104° F)
Minimum ambient temperature (Ta min.)	5° C (41° F)
Maximum surface temperature, steady state, Ta=40° C	75° C (167° F)
Total heat dissipation (+/- 10%, calculated)	860 BTU/hr.

Acoustic

Noise level	<40 dBA at 1 m (3.3 ft.), steady state, Ta 25° C (77° F)

Approvals

EU safety	EN 60598-1, EN 60598-2-17, IEC/EN 60825-1
EU EMC	EN 55 015, EN 55 103-1, EN 55 103-2
US safety	ANSI/UL 1573
Canadian safety	CAN/CSA E60598-2-17

INCLUDED ITEMS

Diffuser front, 54S models	P/N 41704080
Diffuser front, 54L models	P/N 41704060
Adjustable floorstand/mounting bracket	P/N 71606007
3 m power cable, 12 AWG, SJT, with PowerCon NAC3FCA power input connector	P/N 11541503
5-pin male XLR to male RJ-45 adapter (both cable connectors Neutrik in locking housing)	P/N 11840114
User manual	P/N 35000195

Accessories

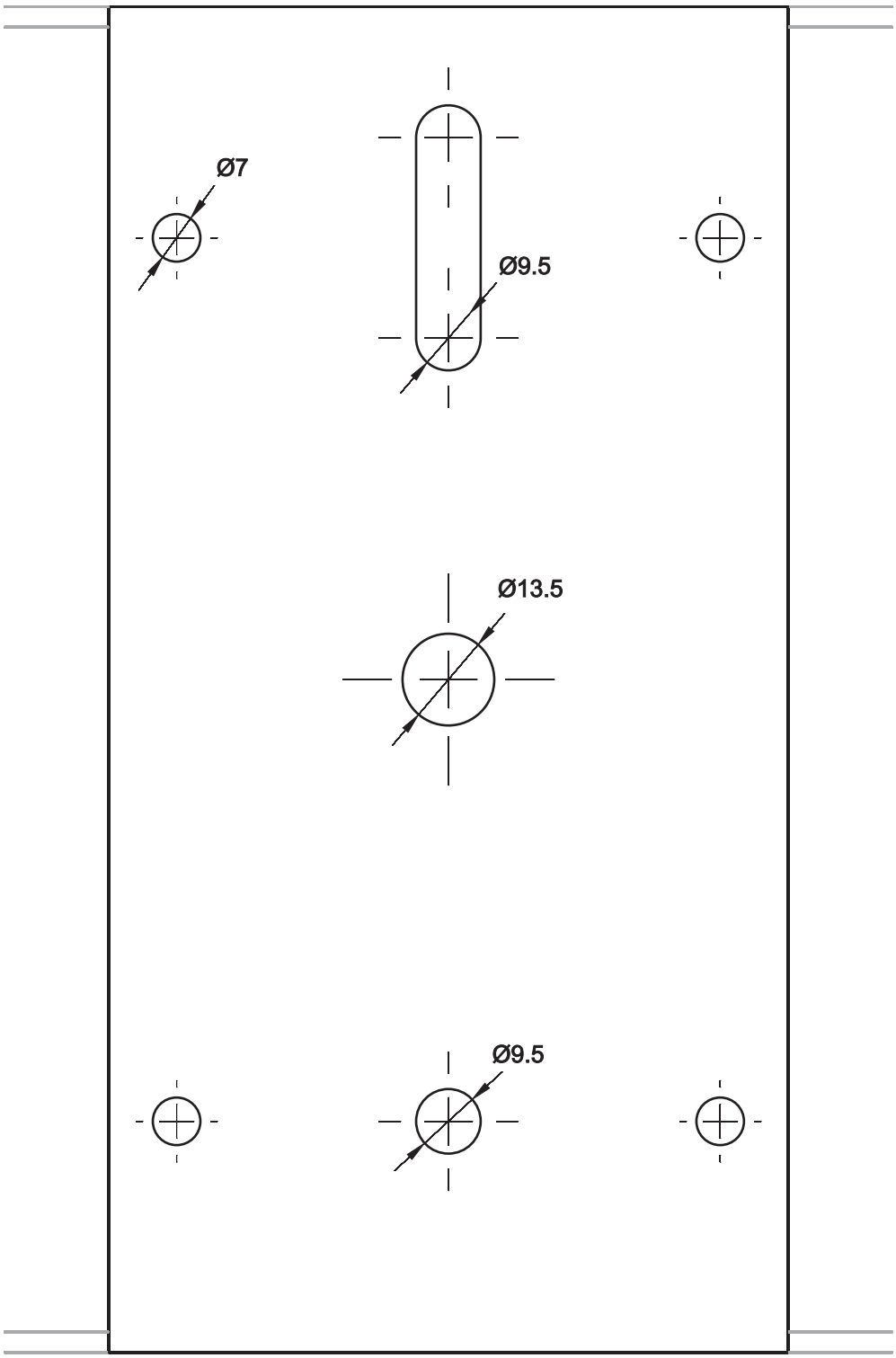
Neutrik PowerCon NAC3FCA power input connector, cable mount, blue	P/N 05342804
Neutrik PowerCon NAC3FCB power output connector, cable mount, light grey	P/N 05342805
PowerCon daisy-chain power cable, 1400 mm (55 in.)	P/N 11850099
PowerCon daisy-chain power cable, 2250 mm (88.5 in.)	P/N 11850100
PowerCon daisy-chain power cable, 3250 mm (128 in.)	P/N 11850101
RJ-45 patch cable, 250 mm (9.8 in.)	P/N 11840088
RJ-45 patch cable, 600 mm (23.5 in.)	P/N 11840105
5-pin male XLR to male RJ-45 adapter (both cable connectors Neutrik in locking housing)	P/N 11840114
5-pin female XLR to male RJ-45 adapter (both cable connectors Neutrik in locking housing)	P/N 11840116
5-pin female XLR to male RJ-45 adapter (RJ-45 connector without housing)	P/N 11840112
3-pin male XLR to male RJ-45 adapter (RJ-45 connector without housing)	P/N 11840087
3-pin female XLR to male RJ-45 adapter (RJ-45 connector without housing)	P/N 11840086
DMX termination plug, RJ-45	P/N 91613028

Spare parts

3 m power cable, 12 AWG, SJT, with PowerCon NAC3FCA power input connector	P/N 11541503
Diffuser front, 54S models	P/N 41704080
Diffuser front, 54L models	P/N 41704060
Lens array sheet with magnetic mounting (fits magnetic-type mounting posts only)	P/N 41350030
Adjustable floorstand/mounting bracket	P/N 71606007
15 AT power output fuse	P/N 05020050
4 AT primary fuse	P/N 05020016

Ordering Information

Stagebar 54S™	P/N 90352000
Stagebar 54L™	P/N 90352010

Specifications subject to change without notice.

Drilling template