Using the Color Picker

The **Color Picker** is a window that can be used to select a color in fixtures with a mix color system.

It does not affect color wheels, only color mixing systems.

The color picker provides convenient access to mixing the desired color using several color mixing and selection options. The method used is independent of the fixture's actual color mix system (LED emitters or color subtraction).

Open the Color Picker

To open the color picker window, see **Add windows**. It is found in the **Common** tab.

RGB and HSB color space:

Tap RGB/HSB Space in the title bar of the color picker to switch the color picker's color space. There are four options:

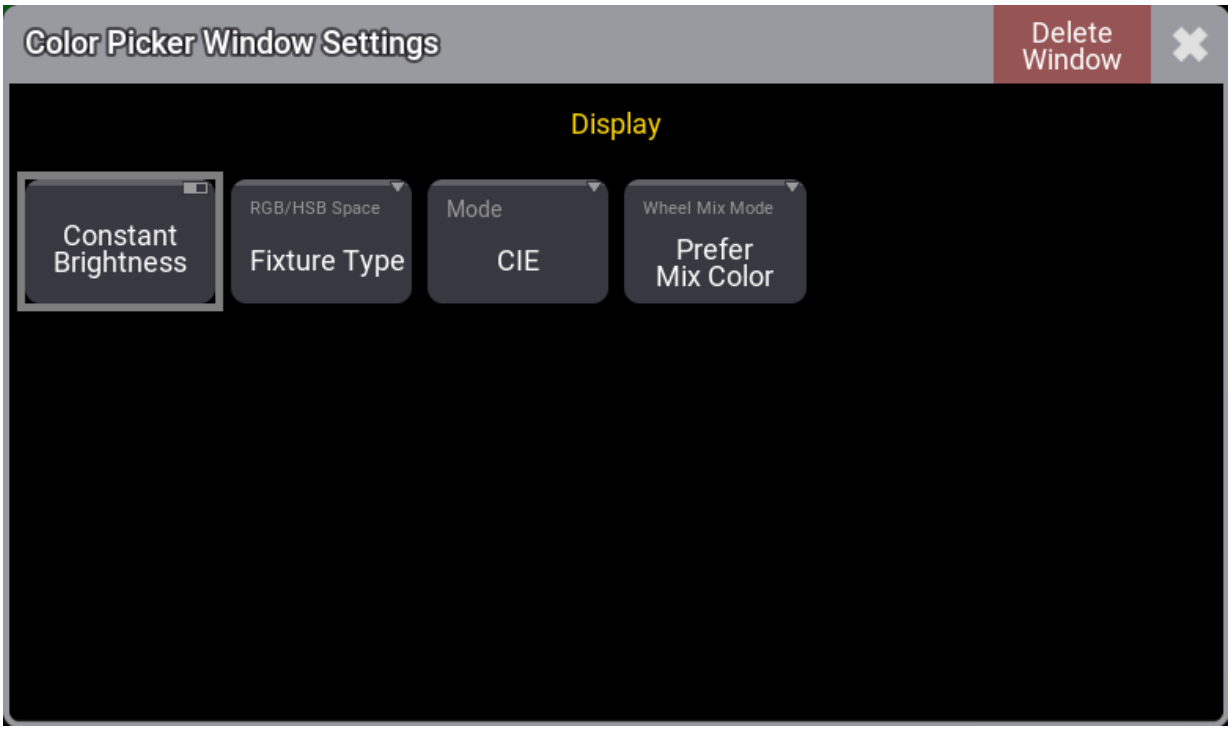
Fixture Type: The color space is defined by the emitters of the respective fixture type.

Standard: Plasa Standard E1.54 for Color Communication in Entertainment Lighting.

Rec.2020: ITU-R BT.2020 or Rec. 2020, is an audiovisual industry standard for ultra high definition (UHDTV).

Rec.709: ITU-R BT 709 or Rec. 709 is an audiovisual industry standard for high definition (HDTV).

Tap MA in the top left corner of the color picker to open the settings.



Color Picker Window Settings

The mode can be selected using the buttons in the title bar. This is a short description of the different modes.

CIE: A CIE color space area picker with Brightness, Quality, x, and y on-screen faders.

HSB: An HSB area with Brightness and Quality on-screen faders.

Fader: On-screen faders to adjust RGB, CMY, HSB, Brightness, and Quality.

Book: This is a swatch book with colors from different filter manufacturers.

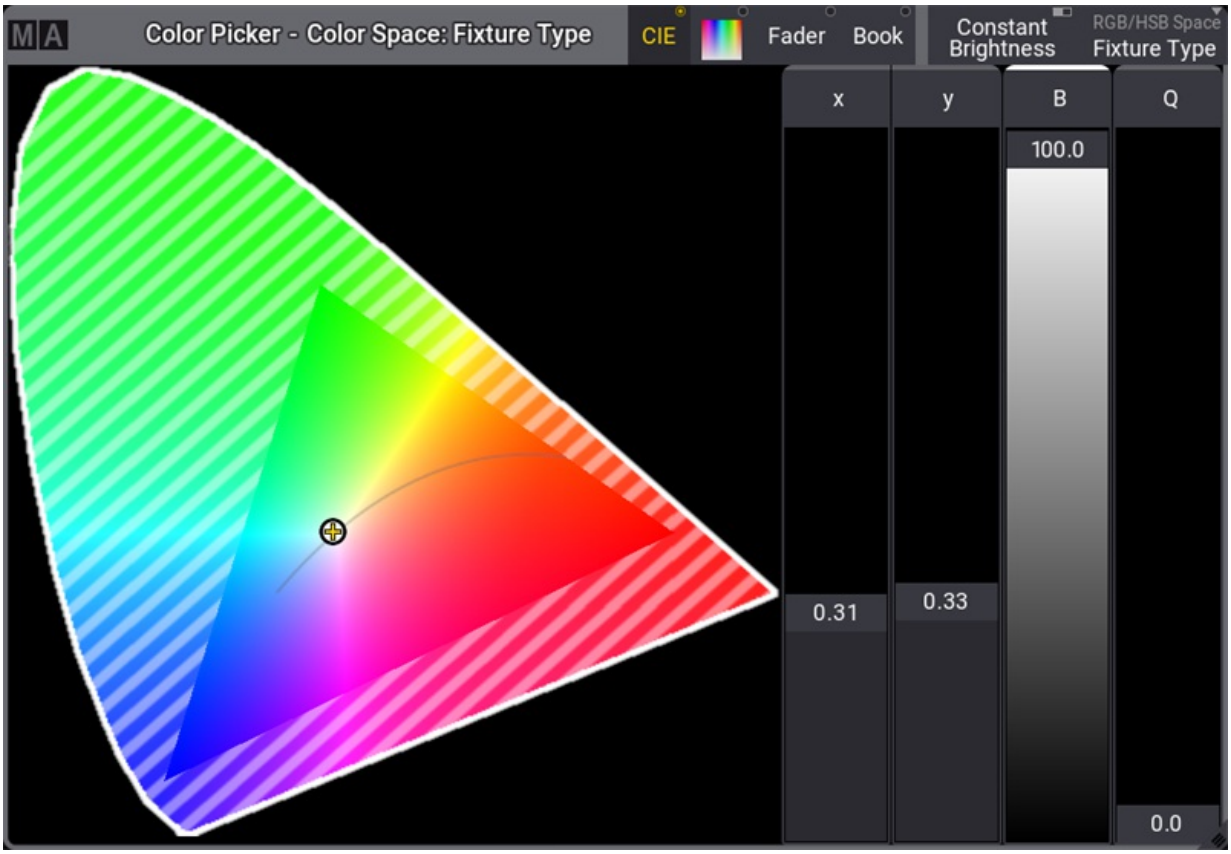
Quality

The Q fader or quality fader is available when the fixtures have a color mix system of more than three colors. It controls how the colors are mixed.
Q at 100 results in kind of small band mixing (the specialized emitters are used). 0% results in a broad band mix. That uses as much emitters as possible to mix the color.

Hint:
The **Align** function can be used together with the color picker.

CIE

The CIE (Commission Internationale de l'éclairage) standard uses a figure that indicates the visible light spectrum.



Color Picker in CIE mode and a selected fixture

The RGB triangle shows the colors that the specific fixture can mix.

- To select a color, tap inside this area.

If the fixture has more than 3 mixing colors, the shaded part will become smaller.

The color picker offers the Constant Brightness Mode. The Constant Brightness mode can be enabled by tapping Constant Brightness in the title bar. The default setting is off.

If the constant brightness is disabled, the selected color is mixed with maximum brightness when the brightness fader is set to 100%. In this case, the fixture's output intensity is not kept constant but changes with the color. If the constant brightness mode is enabled, the maximum overall brightness is limited to the brightness of the fixture's darkest emitter. Changing the color in constant brightness mode does not change the output intensity of the fixture.

Hint:
When enabling the constant brightness mode while the brightness fader is currently positioned above the constant brightness color mixing range, the CONST B fader will become red, showing a value of > 100 %. To ensure constant brightness color mixing, the fader needs to be moved to <= 100 %.

Hint:
The color mixing and the constant brightness mode works the better, the more precise the fixture type's emitter data is.

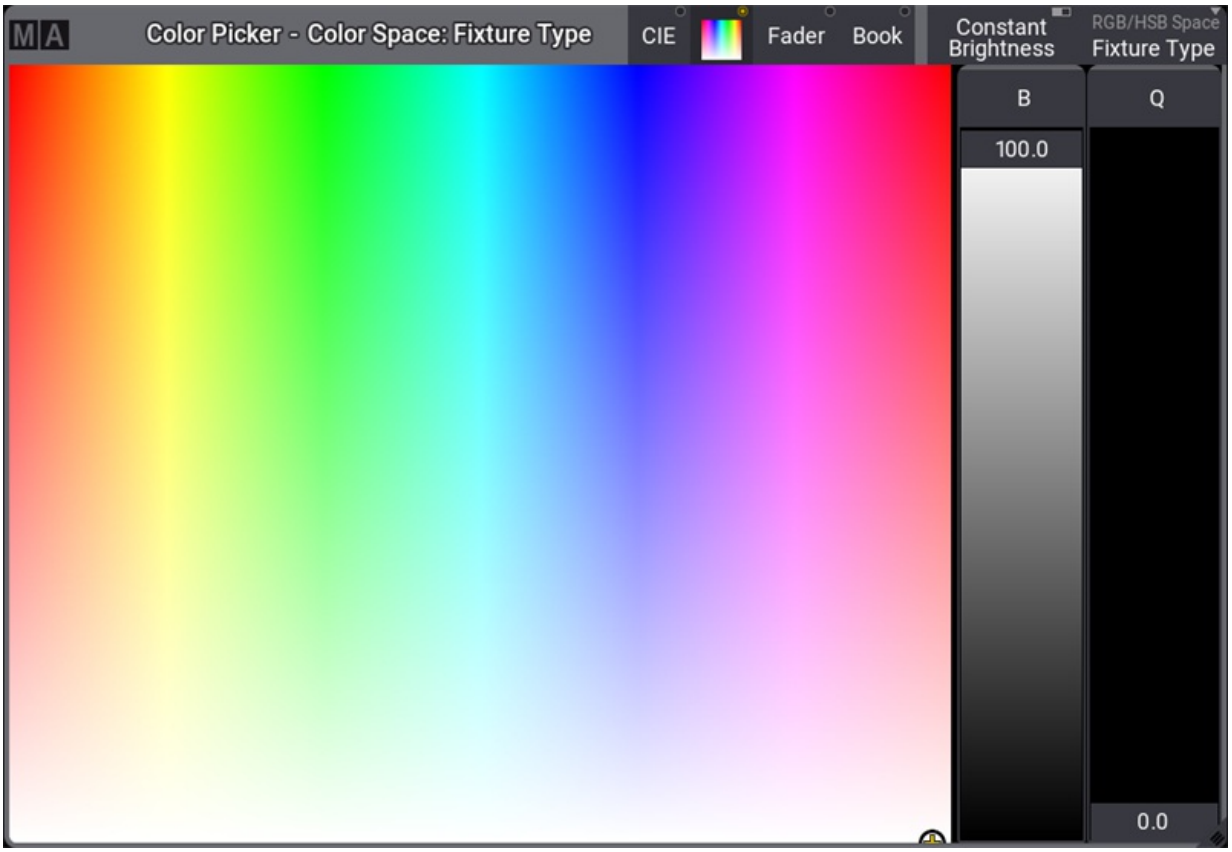
Except for the Fixture Type color space, the gamut of the selected color space is displayed in the CIE color picker with a white line. The shaded area only depends on the emitters of the fixture. It does not change with the Color Space (only the small white triangle changes with the selected color space). Color mixing in the RGB tab and the HSB Color Picker depends on the color coordinates of the RGB primaries of the selected color space.

Hint:
If a color is picked in the CIE Color picker outside of the gamut of the selected color space, the faders in the RGB tab will show values below 0% or above 100%.

The CIE Color Picker displays the spectral profile (or **curve**) at a specific temperature that corresponds to a specific peak wavelength, and vice versa. As the temperature of the black body increases, the peak wavelength decreases (Wien's Law). The intensity (or flux) at all wavelengths increases as the temperature of the blackbody increases. That is what we call the **black body curve**.

Color Picker

Tap the HSB field symbol in the title bar, also known as a Color Picker, to adjust the color mix.

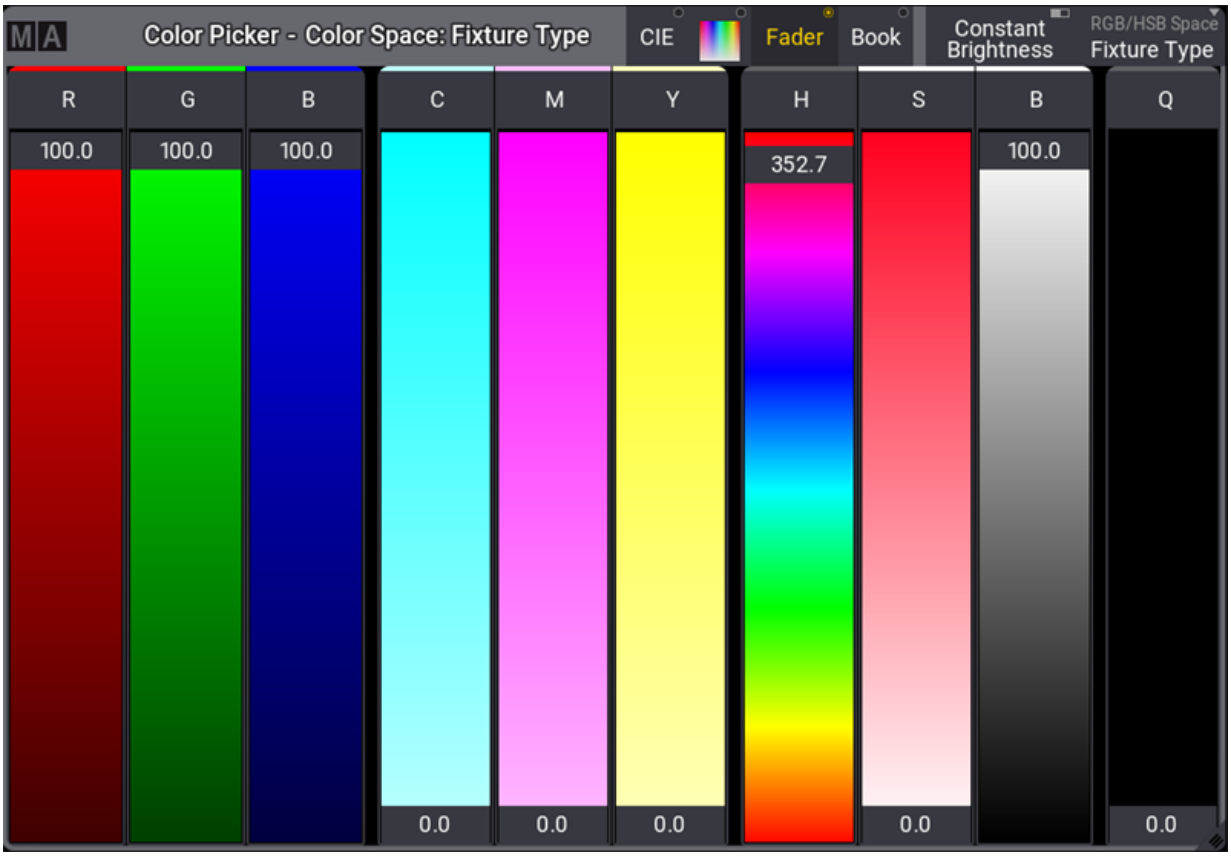


Color Picker HSB mode

Here it is possible to tap a color in the HSB field. The x-axis (left/right) is the Hue value. The y-axis (up/down) is the Saturation value, and the B-fader on the right side is Brightness.

Fader

On-screen RGB, CMY, HSB, Brightness, and Quality faders.



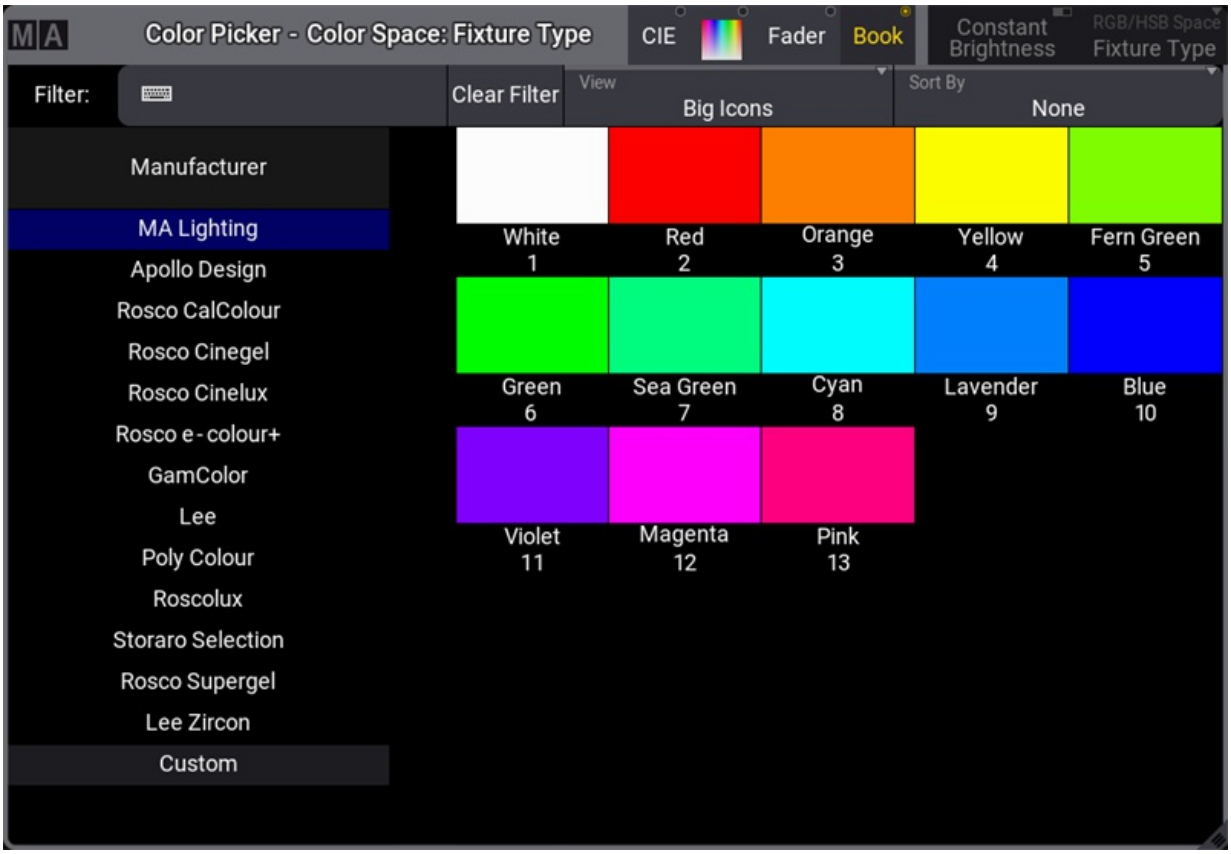
On-screen fader

Here it is possible to adjust the colors using RGB, CMY, or HSB. The Three-color systems are interlinked. This means that adjusting the colors in RGB also moves the CMY and HSB faders.

Book

The swatch book is a library of filter colors from different manufacturers. This can also be accessed using the **Gel keyword**.

The manufacturers are listed on the left side, and the right side displays the manufacturer's colors.



Color picker book mode

There are three buttons at the top of the window.

- Filter is to enter a name or a key of the color to limit the list of colors.
- View defines how the color list is displayed. It is a swipe button with the following options:
  - **Big Icons** - This displays a big color example. Below the color are the name and color key.
  - **List** - This displays a list with Name, Key, and Color columns.
  - **Small Icons** - displays a small color field only.
- Sort by has three different ways to sort the displayed colors. It has the following options:
  - **None** - the list is not sorted and is displayed in the order in the library.
  - **Key** - Sorted by the color key number.
  - **Name** - The colors are sorted by the color name.

The manufacturer list includes many of the filter manufacturers. It also includes MA Lighting. The MA Lighting library contains all the primary colors and the most used colors.

Color Wheels

When working with fixtures that have color wheels, the software chooses the color that is as close as possible to the picked color from the color picker. When the fixture has two or more color wheels the software will use all wheels (also combined) to get a color as close as possible.

To change the wheel mix mode, tap MA in the title bar. The Color Picker Window Settings opens.

There are three different Wheel Mix Modes available:

- **Mix Color Only:**
  Uses only color mixing engine attributes, for example RGB.
- **Color Wheel Only:**
  Uses only color wheel attributes.
- **Prefer Mix Color:**
  Uses mainly the color mixing engine attributes. If needed the color wheels will be used as well.

> **Restriction:**
> When a fixture type has more than one color wheel, the color picker can only handle up to 255 different color combinations across the color wheels.

The **Fixture Sheet** shows the selected color for the individual wheels. The combined color output is displayed in the sheet.