

Manual Color Adjustment

of the P2+sBL NEO · Step-by-Step Guide

How Chroma Calibration Works

During factory chroma calibration, a camera system measures the color output and brightness of every single pixel to calculate the perfect calibration coefficients for a homogeneous image. Due to high production volumes and the finest nuances in the calibration process, minimal deviations can occur in practice. We analyzed these details and divided our panels into five different color families.

The good news: Since all modules are absolutely identical in hardware, the stored calibration values only control the mixing ratio of the primary colors red, green and blue. For a homogeneous overall image on your LED wall, the color ratios of these families simply need to be matched to one another.

How to Find the Right Values

Since we have already assigned the individual color families in advance, you can quickly and easily determine the matching correction values using our provided online tool. For this, we work with calibration numbers of the modules or tiles:

Stickers on Modules and Tiles

You will find stickers with a unique calibration number both on the frame of the modules and on the individual tiles.

Using our online tool at **farbanpassung.led-tek.de** and the following guide, you can look up the exact correction values based on these numbers and carry out the fine-tuning quickly and easily yourself.

Note: This number is not the serial number, but the exact assignment number of the module or tile in our calibration database.

Before You Start: Is It Really a Calibration Issue?

Slight color or brightness differences aren't always caused by different values stored in the calibration. To save you unnecessary work, please briefly check the following points before investing time in the color adjustment:

- **Different brightness values:** Adjust the brightness across the entire wall so that all modules are set to the same brightness value.
- **Differing color spaces:** Check the ImageBooster settings – individual modules might be working in a different color space.
- **Differing firmware versions:** If in doubt, send the current .NCP file from our website to all modules again.

Requirements for the Color Adjustment

You should make sure of these points before starting the manual color adjustment:

- **Software installation:** Download and install the current NovaLCT version from our website or at ledtek.de/downloads.
- **Signal connection:** Make sure there is an active video signal connection from the computer (running NovaLCT) to the Novastar controller.
- **Basic configuration & firmware:** The LED wall must be properly programmed into the NovaLCT controller. The current .NCP file must be identically installed on all modules.

Important: The color adjustment can currently only be carried out with Novastar controllers from the NovaLCT family. COEX controllers unfortunately don't support the adjustment at this time. If you only own a COEX device, get in touch with us – we'll be happy to provide you with a suitable controller.

Find Calibration Numbers

Whether you replaced a tile or simply want to correct a color difference: first you need a calibration number for the tool as a reference, which you read off the back of the module or tile. Note: All views and module arrangements in NovaLCT always correspond to the front view of the LED wall.



- The **module calibration number** (e.g. "22") is located on the carrying handle of the module and applies to the entire module.
- The **tile calibration number** (e.g. "22-1") is printed directly on the respective tile.

Calculate Values in the Online Tool

Enter the calibration numbers you read off into our color adjustment tool at farbanpassung.led-tek.de. The tool automatically compares the color families of the reference wall and the deviating module or tile and calculates the exact correction values for red, green and blue.

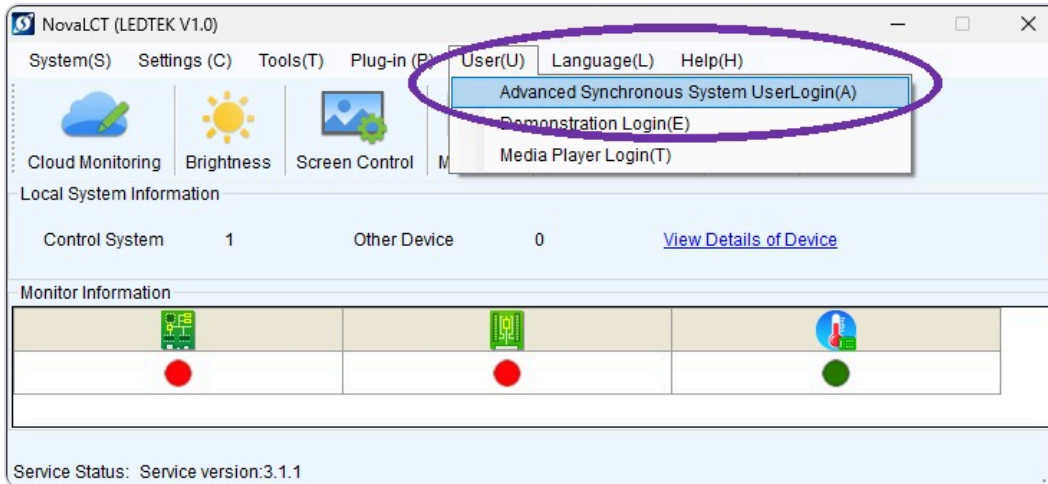
- Choose the appropriate mode: **Whole Module** or **Individual Tiles**.
- Enter the reference wall number under "Calibration Number – Reference Module".
- Enter the calibration number(s) of the deviating module or tile(s) under "Module to Adjust" or the tile fields.
- Click "Calculate Correction Values" and note down the values shown for red, green and blue (value / saturation / hue).

Color Adjustment with NovaLCT – Step by Step

With the values provided, open NovaLCT and enter them for the color adjustment.

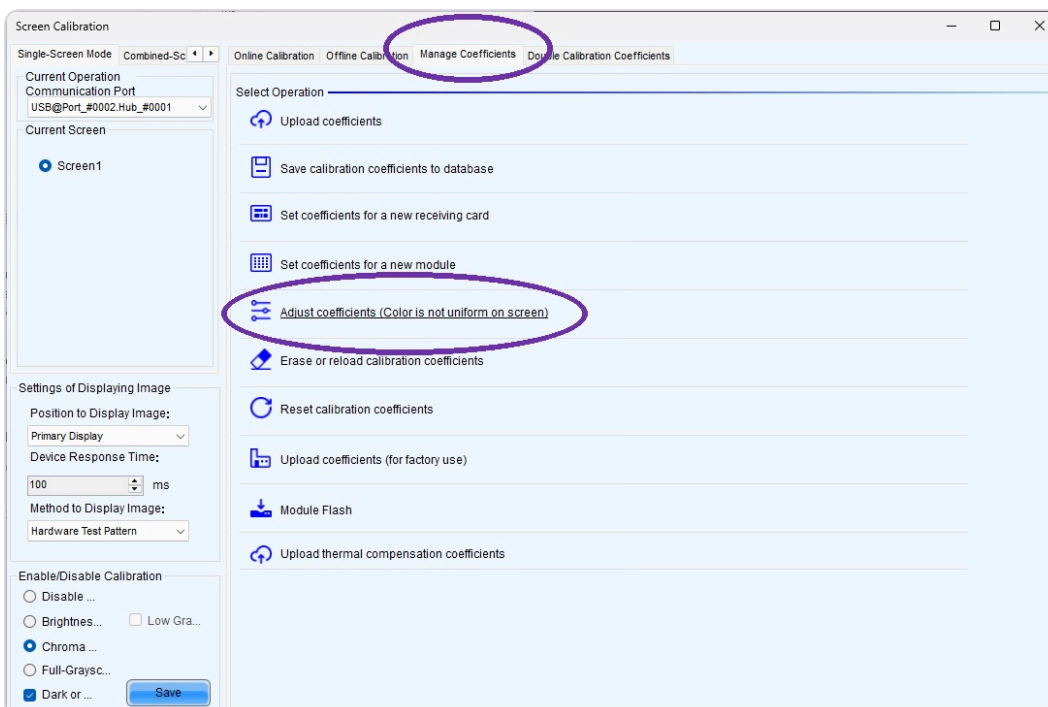
1 Log In

Open NovaLCT and navigate to **User** → **Advanced Synchronous System User Login**. Enter **admin** as the password and confirm with **Login**.



2 Open Calibration Menu

In the main window, click **Calibration**, select the **Manage Coefficients** tab and click **Adjust coefficients**.



Module or tile? Only one of the two: if you are adjusting a **whole module**, follow step 3. If it's just a **single tile**, jump straight to step 4.

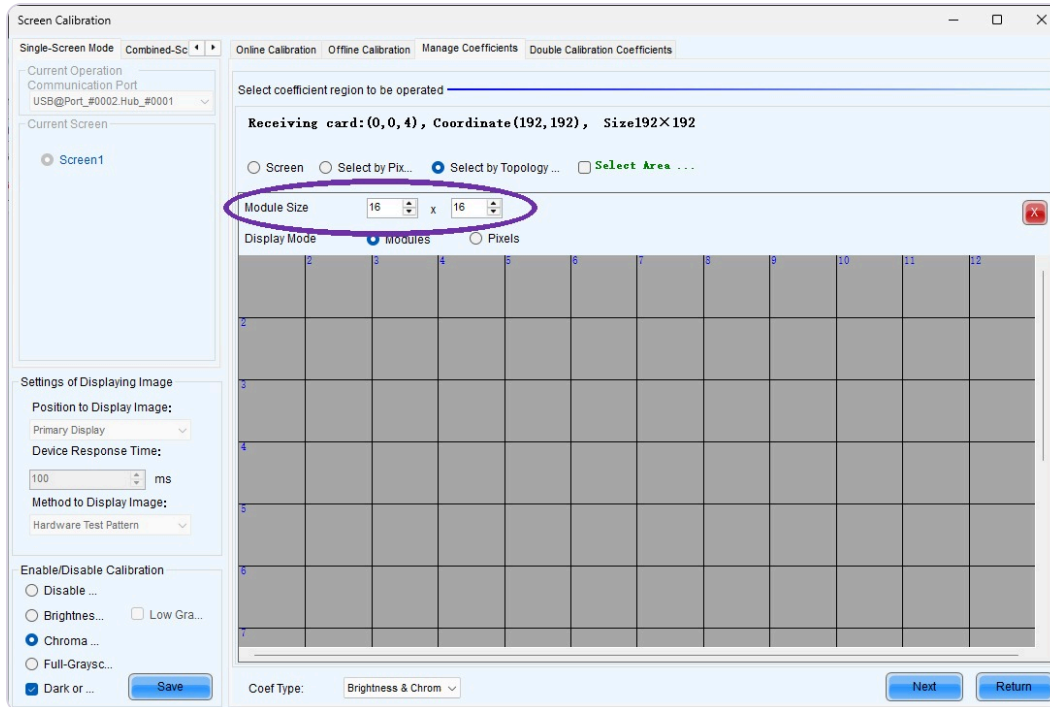
3 Select Whole Module

Set **Select coefficient region to be operated** to **Select by Topology** and **Coef Type** to **Brightness & Chroma**. Click directly on the affected module in the overview and confirm with **Next**.



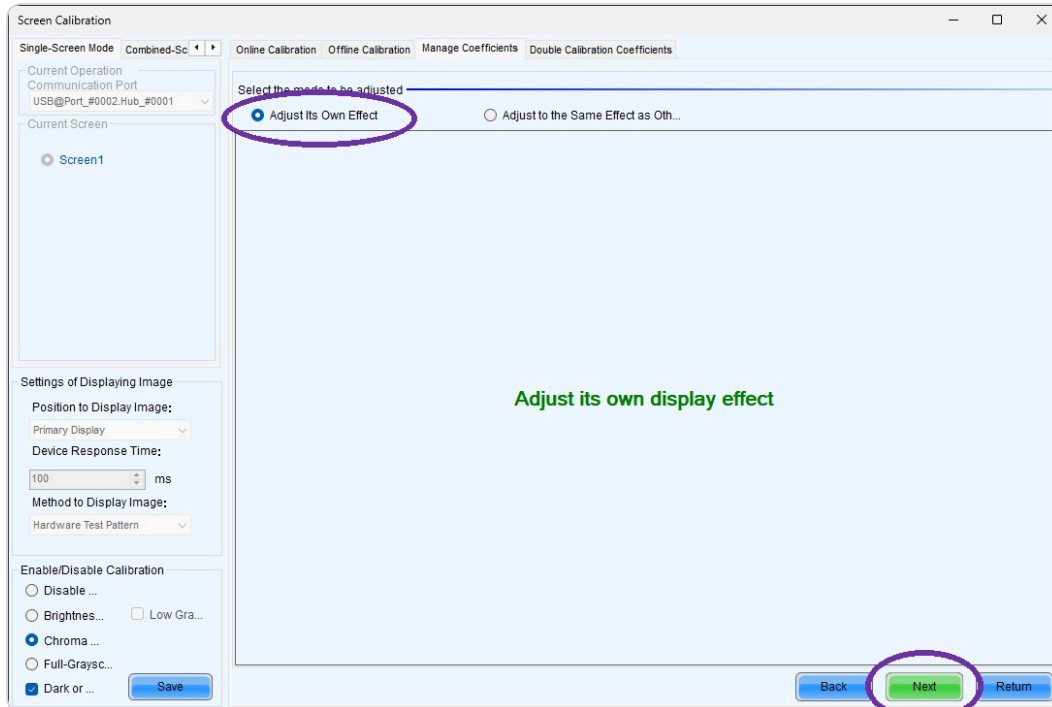
4 Select Individual Tile

If you only want to adjust a single tile: double-click the module, enter **96 × 96 pixels** for **Module Size** (P2+sBL NEO), click the tile and confirm with **Next**.



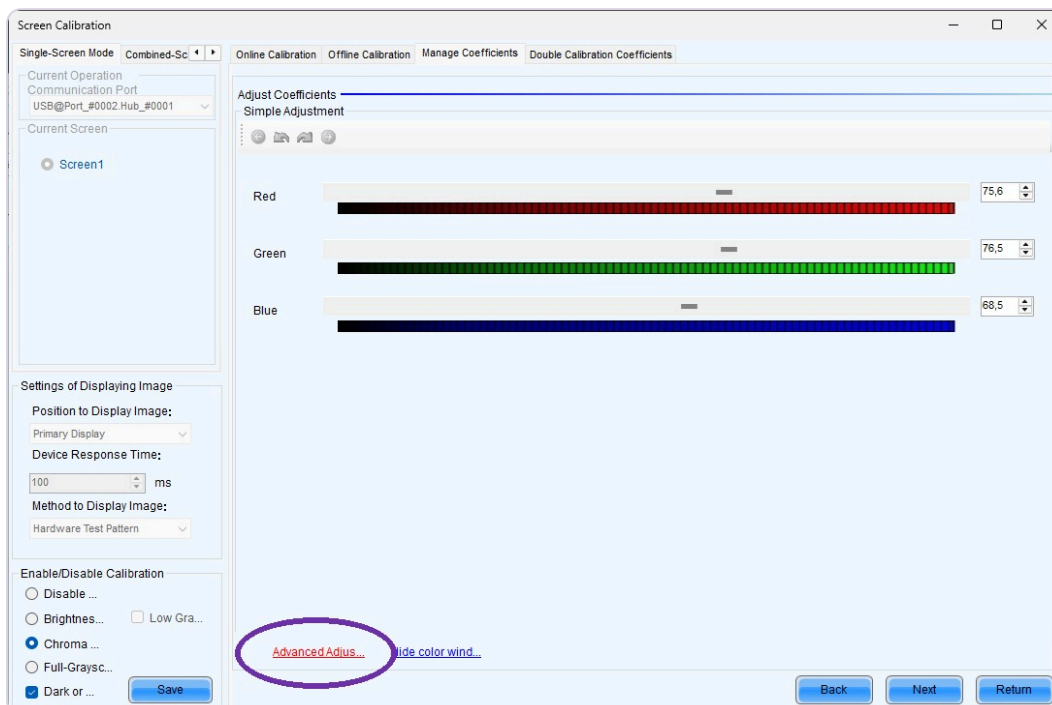
5 Confirm Adjustment Options

Leave the default setting on **Adjust Its Own Effect** and confirm with **Next**. The controller now reads the current coefficients from the module – confirm the window with **OK**.



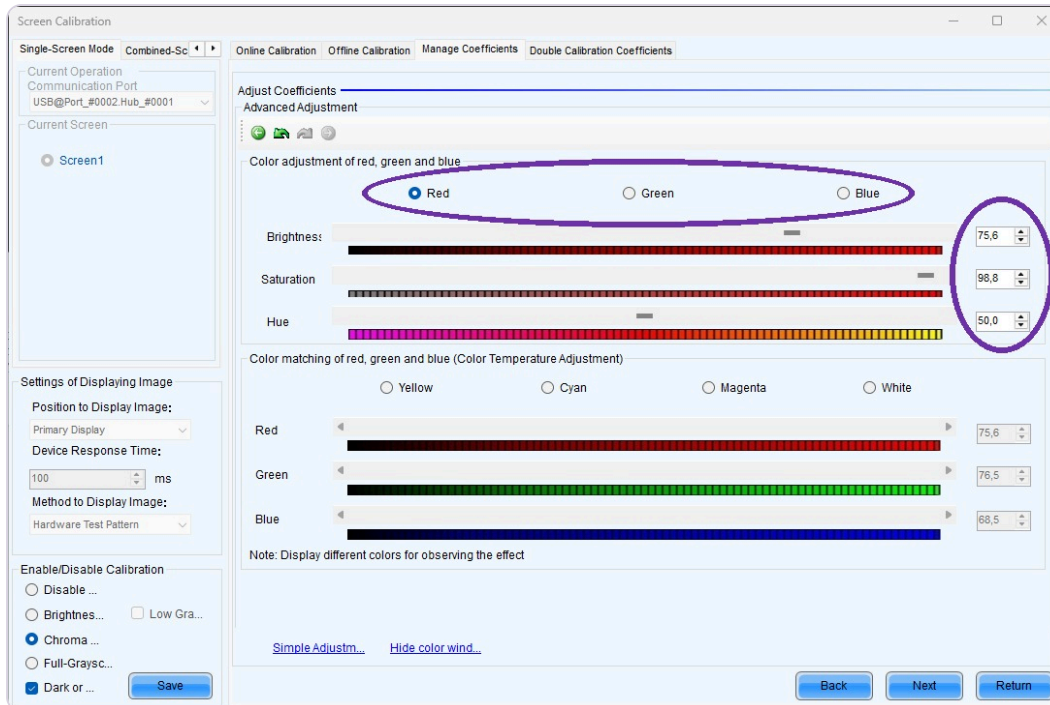
6 Open Advanced Adjustments

In the **Adjust Coefficients** window, click **Advanced Adjustments** to unlock the advanced color sliders for brightness, saturation and hue.



7 Perform Color Adjustment

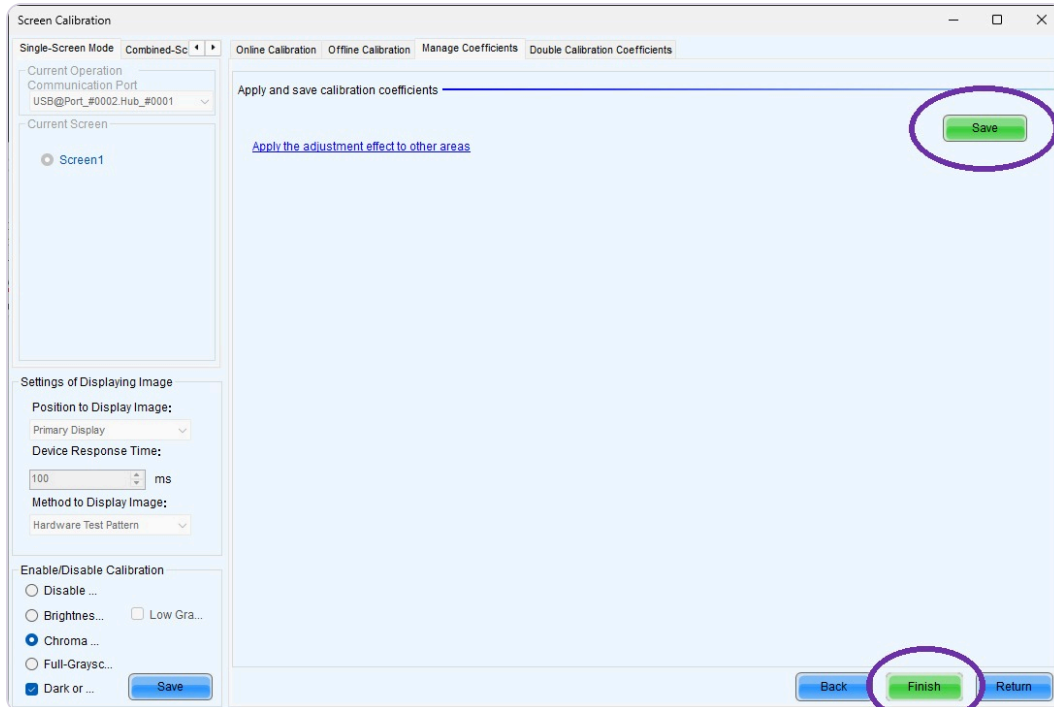
Now the values from the tool come into play: select red, green or blue and enter the matching values on the right – **Value** → **Brightness**, **Saturation** → **Saturation**, **Hue** → **Hue**. Repeat this for all three colors and compare visually with the neighboring modules.



Live preview: If your computer sends a video signal to the Novastar controller, NovaLCT opens a color window on the main screen. This way, all changes become directly visible live on the LED wall! If no signal is present, you can instead use the controller's internal test images to display red, green and blue. Our tip: at the end, also check a white test image once more to confirm the perfect result of the color adjustment.

8 Save & Finish

Click **Save** to permanently store the values on the receiving card, confirm with **OK** and click **Finish** to complete the color adjustment.



Adjusting more modules/tiles? Simply click Back as many times as needed until you're back in the selection view from step 3 – the “Select by Topology” option stays active. For tiles, the resolution doesn't need to be entered again, it stays saved at 96 × 96 pixels.