# Color quality guide

The Color quality guide helps users understand how operations available on the printer can be used to adjust and customize color output.

## Quality menu

| Use | To |
|---|---|
| **Print Mode**<br>Color<br>Black Only | Specify whether images are printed in black and white or in color.<br>**Notes:**<br>• Color is the factory default setting.<br>• The printer driver is capable of overriding this setting. |
| **Color Correction**<br>Auto<br>Off<br>Manual | Adjust the color output on the printed page.<br>**Notes:**<br>• Auto is the factory default setting. Auto applies different color conversion tables to each object on the printed page.<br>• Off turns off color correction.<br>• Manual allows customization of the color tables using the settings available from the Manual Color menu.<br>• Due to the differences in additive and subtractive colors, certain colors that appear on computer monitors are impossible to duplicate on the printed page. |
| **Print Resolution**<br>1200 dpi<br>4800 CQ | Specify the printed output resolution in dots per inch or in color quality (CQ).<br>**Note:** 4800 CQ is the factory default setting. |
| **Toner Darkness**<br>1–5 | Lighten or darken the printed output.<br>**Notes:**<br>• 4 is the factory default setting.<br>• Selecting a smaller number can help conserve toner. |
| **Enhance Fine Lines**<br>On<br>Off | Enable a print mode preferable for files such as architectural drawings, maps, electrical circuit diagrams, and flow charts.<br>**Notes:**<br>• Off is the factory default setting.<br>• To set this option using the Embedded Web Server, type the network printer IP address in the Web browser address field.<br>• You can set this option from the software program.<br>For Windows users:<br>Click **File** > **Print**, and then click **Properties**, **Preferences**, **Options**, or **Setup**.<br>For Macintosh users:<br>Choose **File** > **Print**, and then adjust the settings from the print dialog and pop-up menus. |

| Use | To |
|---|---|
| **Color Saver**<br>On<br>Off | Reduce the amount of toner used for graphics and images. The amount of toner used for text is not reduced.<br>**Notes:**<br>• Off is the factory default setting.<br>• On overrides Toner Darkness settings. |
| **RGB Brightness**<br>-6 to 6 | Adjust the printed output either by lightening or darkening it. You can conserve toner by lightening the output.<br>**Note:** 0 is the factory default setting. |
| **RGB Contrast**<br>0–5 | Adjust the contrast of printed objects.<br>**Note:** 0 is the factory default setting. |
| **RGB Saturation**<br>0–5 | Adjust saturation in color outputs.<br>**Note:** 0 is the factory default setting. |
| **Color Balance**<br>Cyan<br>-5 to 5<br>Magenta<br>-5 to 5<br>Yellow<br>-5 to 5<br>Black<br>-5 to 5<br>Reset Defaults | Adjust color in printed output by increasing or decreasing the amount of toner being used for each color.<br>**Note:** 0 is the factory default setting. |
| **Color Samples**<br>sRGB Display<br>sRGB Vivid<br>Display—True Black<br>Vivid<br>Off—RGB<br>US CMYK<br>Euro CMYK<br>Vivid CMYK<br>Off—CMYK | Print sample pages for each of the RGB and CMYK color conversion tables used in the printer.<br>**Notes:**<br>• Selecting any setting prints the sample.<br>• Color samples consist of a series of colored boxes along with the RGB or CMYK combination that creates the color observed. These pages can be used to help decide which combinations to use to get the desired printed output.<br>• To access a complete list of color sample pages using the Embedded Web Server, type the network printer IP address in the Web browser address field. |

| Use | To |
|---|---|
| **Manual Color**<br>RGB Image<br>RGB Text<br>RGB Graphics | Customize the RGB color conversions.<br>Select from the following options:<br>Vivid<br>sRGB Display<br>Display—True Black<br>sRGB Vivid<br>Off<br>**Notes:**<br>• sRGB Display is the factory default setting for RGB Image. This applies a color conversion table to an output that matches the colors displayed on a computer monitor.<br>• sRGB Vivid is the factory default setting for RGB Text and RGB Graphics. sRGB Vivid applies a color table that increases saturation. This is preferred for business graphics and text.<br>• Vivid applies a color conversion table that produces brighter, more saturated colors.<br>• Display—True Black applies a color conversion table that uses only black toner for neutral gray colors.<br>• Off turns off color conversion. |
| **Manual Color (continued)**<br>CMYK Image<br>CMYK Text<br>CMYK Graphics | Customize the CMYK color conversions.<br>Select from the following options:<br>US CMYK<br>Euro CMYK<br>Vivid CMYK<br>Off<br>**Notes:**<br>• US CMYK is the factory default setting. US CMYK applies a color conversion table that tries to produce output that matches SWOP color output.<br>• Euro CMYK is the international factory default setting. Euro CMYK applies a color conversion table that tries to produce output that matches Euroscale color output.<br>• Vivid CMYK increases color saturation for the US conversion table.<br>• Off turns off color conversion. |
| **Spot Color Replacement** | Assign specific CMYK values to named spot colors. |
| **Color Adjust** | Initiate a recalibration of color conversion tables and allow the printer to make adjustments for color variations in output.<br>**Notes:**<br>• Adjusting color starts when the menu is selected. **`Adjusting color`** appears on the display until the process is finished.<br>• Color variations in output sometimes result from changeable conditions such as room temperature and humidity. Color adjustments are made on printer algorithms. Color alignment is also recalibrated in this process. |

# FAQ about color printing

**What is RGB color?**

Red, green, and blue light can be added together in various amounts to produce a large range of colors observed in nature. For example, red and green can be combined to create yellow. Televisions and computer monitors create colors in this manner. RGB color is a method of describing colors by indicating the amount of red, green, or blue needed to produce a certain color.

**What is CMYK color?**

Cyan, magenta, yellow, and black inks or toners can be printed in various amounts to produce a large range of colors observed in nature. For example, cyan and yellow can be combined to create green. Printing presses, inkjet printers, and color laser printers create colors in this manner. CMYK color is a method of describing colors by indicating the amount of cyan, magenta, yellow, and black needed to reproduce a particular color.

**How is color specified in a document to be printed?**

Software programs typically specify the document color using RGB or CMYK color combinations. Additionally, they let users modify the color of each object in a document. For more information, see the help information of your operating system.

**How does the printer know what color to print?**

When a user prints a document, information describing the type and color of each object is sent to the printer. The color information is passed through color conversion tables that translate the color into the appropriate amounts of cyan, magenta, yellow, and black toner needed to produce the color you want. The object information determines the application of color conversion tables. For example, it is possible to apply one type of color conversion table to text while applying a different color conversion table to photographic images.

**What is manual color correction?**

When manual color correction is enabled, the printer employs user-selected color conversion tables to process objects. However, Color Correction must be set to Manual, or no user-defined color conversion will be implemented. Manual color correction settings are specific to the type of object being printed (text, graphics, or images), and how the color of the object is specified in the software program (RGB or CMYK combinations).

**Notes:**

- Manual color correction is not useful if the software program does not specify colors with RGB or CMYK combinations. It is also not effective in situations in which the software program or the computer operating system controls the adjustment of colors.
- When **Auto Color Correction** is selected, the color conversion tables will generate preferred colors used for the majority of the documents.

To manually apply a different color conversion table, do the following:

1. From the Quality menu on the printer control panel, select **Color Correction**, and then select **Manual**.
2. From the Quality menu on the printer control panel, select **Manual Color**, and then select the appropriate color conversion table for the affected object type.

| Object type | Color conversion tables |
|---|---|
| RGB Image<br>RGB Text<br>RGB Graphics | • **Vivid**—Produces brighter, more saturated colors and may be applied to all incoming color formats.<br>• **sRGB Display**—Produces an output that approximates the colors displayed on a computer monitor.<br>**Note:** Black toner usage is optimized for printing photographs.<br>• **Display-True Black**—Produces an output that approximates the colors displayed on a computer monitor. This uses only black toner to create all levels of neutral gray.<br>• **sRGB Vivid**—Provides an increased color saturation for the sRGB Display color correction.<br>**Note:** Black toner usage is optimized for printing business graphics.<br>• **Off**—No color correction is implemented. |
| CMYK Image<br>CMYK Text<br>CMYK Graphics | • **US CMYK**—Applies color correction to approximate the SWOP (Specifications for Web Offset Publishing) color output.<br>• **Euro CMYK**—Applies color correction to approximate Euroscale color output.<br>• **Vivid CMYK**—Increases the color saturation of the US CMYK color correction setting.<br>• **Off**—No color correction is implemented. |

**How can I match a particular color (such as a corporate logo)?**

Nine types of Color Samples sets are available from the Quality menu on the printer control panel. These are also available from the Color Samples page of the Embedded Web Server. Selecting any sample set generates a multiple-page printout consisting of hundreds of colored boxes. Either a CMYK or RGB combination is located on each box, depending on the table selected. The observed color of each box is obtained by passing the CMYK or RGB combination labeled on the box through the selected color conversion table.

By examining Color Samples sets, you can identify the box whose color is the closest to the color you want. The color combination labeled on the box can then be used for modifying the color of the object in a software program. For more information, see the help information of your operating system.

**Note:** Manual color correction may be necessary to utilize the selected color conversion table for the particular object.

Selecting which Color Samples set to use for a particular color-matching problem depends on the Color Correction setting being used , the type of object being printed, and how the color of the object is specified in the software program. When Color Correction is set to Off, the color is based on the print job information, and no color conversion is implemented.

**Note:** The Color Samples pages are not useful if the software program does not specify colors with RGB or CMYK combinations. Additionally, certain situations exist in which the software program or the computer operating system adjusts the RGB or CMYK combinations specified in the program through color management. The resulting printed color may not be an exact match of the Color Samples pages.

**What are detailed color samples and how do I access them?**

Detailed color samples sets are available only through the Embedded Web Server of a network printer. A detailed Color Samples set contains a range of shades that are similar to a user-defined RGB or CMYK value. The likeness of the colors in the set is dependent on the value entered in the RGB or CMYK Increment box.

To access a detailed Color Samples set from the Embedded Web Server, do the following:

1 Open a Web browser, and then type the printer IP address in the address field.

**Note:** If you do not know the IP address or printer name, then you can:

- View the information on the printer home screen, or in the TCP/IP section in the Networks/Ports menu.
- Print a network setup page or menu settings page, and then locate the information in the TCP/IP section.

**2** Click **Configuration** > **Color Samples** > **Detailed Options**.

**3** Select a color conversion table.

**4** Enter the RGB or CMYK color number.

**5** Enter an increment value from 1 to 255.

**Note:** The closer the value is to 1, the narrower the color sample range will appear.

**6** Click **Print**.