



Copying or Digitally Scanning Highlighted Images.

Security Level – Public

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Introduction

When digitally sending or copying highlighted images or text objects, you may see that the image appears lighter than expected or does not show up at all with certain brands/types of highlighter pens.

This document will help to provide settings which will affect the way highlighters are scanned or copied.

A Firmware enhancement has also been introduced for certain products to help with the reproduction of highlighted images. (See table below)

Background

Highlighters come in bright, often fluorescent colors. Fluorescent highlighter inks tend to reflect more light than that which is absorbed by the paper source. This reflection may cause the image to not show up as well as non-fluorescent colors depending upon the scanner/MFP being used.

The most common color for highlighters is yellow, but many other colors are also found such as pink, blue, green, orange, and purples. Yellow is often the preferred color to use when making a photocopy as it tends to not produce as much of a shadow on copies or scans.

There are different color and ink properties depending upon the brand of highlighters used. Due to these differences, scanning of the images may vary greatly from not being seen at all to changing colors (e.g., orange highlighter may appear brown in the copy or scan or yellow highlighter may appear green).

Automatic Color Detect

HP has a feature in all FutureSmart products which automatically detects color on each page. Depending upon the amount of color information on a page, the scanner may determine the page to be black and white due to a very, very small amount of color which may be considered background artifacts. This helps to reduce the file size of sent files as well as toner usage on a copied page.

You may see small highlighted marks on pages print out in black and white or even disappear.

- The black and white effect is due to the printer not seeing enough color on the page, in which case the whole image is rendered as a black and white page.
- The highlighted mark disappearing may be due to the marker characteristics not being detected by the scanner.

Firmware Improvements for Fluorescent colors

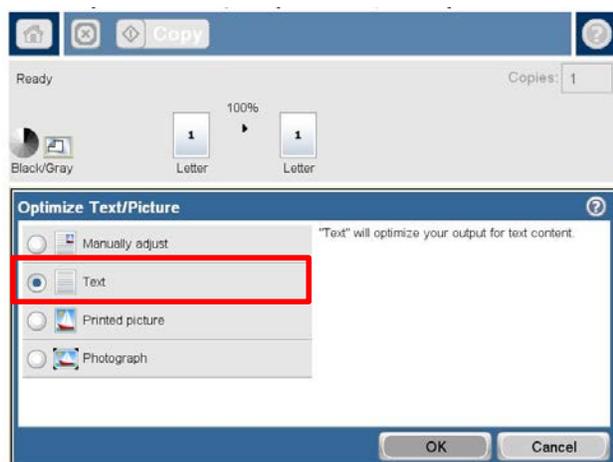
Some FutureSmart MFPs running FS 3.5.3 or later firmware have improved color reproduction of fluorescent highlighters when scanning documents that have been marked with fluorescent highlighters. This improvement is applicable to both copying and digital sending.

Affected Products & Firmware Revisions Needed

Model	Minimum Firmware Revision
HP Color LaserJet Enterprise M527 MFP	FutureSmart 3.6
HP Color LaserJet Enterprise M577 MFP	FutureSmart 3.6
HP Color LaserJet Enterprise M630 MFP	FutureSmart 3.6.1
HP Color LaserJet Enterprise M680 MFP	FutureSmart 3.6.1
HP LaserJet Enterprise M725 MFP series	FutureSmart 3.5.4
HP Color LaserJet Enterprise M775 MFP series	FutureSmart 3.6.1
HP LaserJet Enterprise M830 MFP series	FutureSmart 3.5.2
HP Color LaserJet Enterprise M880 MFP	FutureSmart 3.5.2
HP OfficeJet Enterprise X585	FutureSmart 3.6.1

How to Enable FW Enhancement

From the Home screen, select the desired scanning application (Copy, E-Mail, Save to Network Folder, etc). Then select More Options>Optimize Text/Picture >Text button (not slider). This will invoke the improved color reproduction of fluorescent highlighters.



NOTE: Administrators can set Text as the default setting on the device.

Highlighter scan improvement

BEFORE

B1y	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein
Py	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein
POy	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein
S1y	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein
S2y	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein
Shy	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein
Zy	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein
S1o	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein
Sho	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein
To	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein
Zo	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein
B1p	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein
Tp	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein
Zp	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein

R	O	Y	G	C	B	P ₁	P ₂	B ₁	Y ₁
H1y	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein								
H1p	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein								
H1g	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein								
H1b	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein								
H2o	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein								
Shr	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein								
S1b	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein								
B1g	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein								

**Worst highlighter colors

*Best highlighter colors

AFTER

B1y	The significant problems we face can't be solved by the same level of thinking that created them—Albert Einstein
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**Worst highlighter colors

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Alternative Settings

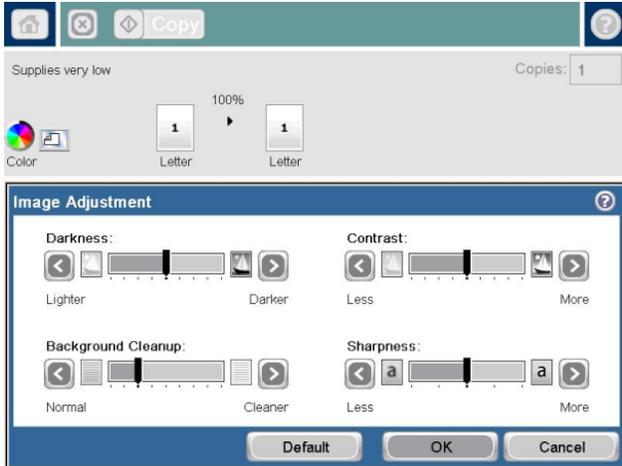
Below you will see settings within the **COPY** and the **SEND TO** applications on the control panel that may alter the appearance of the highlighters if you are not able to use the "Text" mode option listed above.

Suggested setting to use:

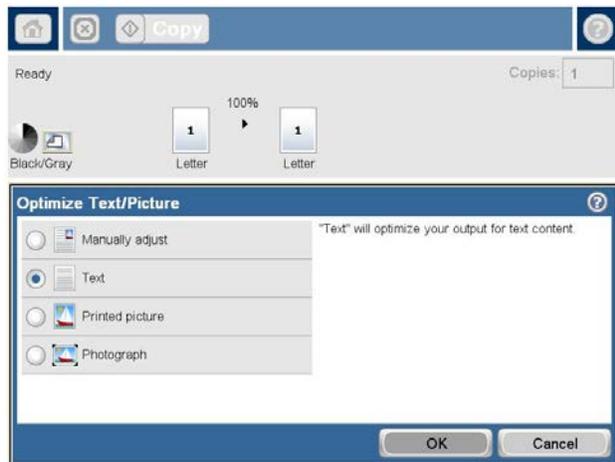
- Background Cleanup = -1 (highlighters will become more visible)
- Background Cleanup = -1, Darkness = +2, Contrast = +2 (highlighters will become more visible, but other colors will be darker and background may be more visible with a slightly mottled gray appearance)
- Darker = +2, Contrast = +2 (highlighters may become more visible)

NOTE: Images below show a representative of the menus to make adjustments.

Image Adjustment Settings. Use the sliders to perform a Background Cleanup, adjust the image Darkness as well as changing the Sharpness and Contrast.



Optimize Text/Picture setting under the Copy menu will cause the image to render differently. Text will give you best results. Photograph may also help depending upon the image.



Color/Black settings under the Copy or Send to Email menu will affect the page to scan or copy in either a color or monochrome mode. (some highlighters will not auto detect as color)



Definitions

Color/Black Setting

Automatically detect: Scans or prints color documents in color and black and white documents in black and white. For mixed documents, the product will determine whether to scan or print in color or black and white.

Color: Scans or prints documents in color.

Black /Gray: Scans or prints documents in black and white.

Black: Scans documents in black and white with a compressed file size.

Image Adjustment Setting

Use this feature to improve the overall quality of the copy. For example, you can adjust the darkness and sharpness, and you can use the Background Cleanup setting to remove faint images from the background or to remove a light background color.

- Adjust the **Darkness** setting to increase or decrease the amount of white and black in the colors.
- Adjust the **Contrast** setting to increase or decrease the difference between the lightest and darkest color on the page.
- Adjust the **Background Cleanup** setting if you are having trouble copying a faint image.
- Adjust the **Sharpness** Setting to clarify or soften the image. For example, increasing the sharpness could make text appear crisper, but decreasing it would make photographs appear smoother.

Optimize Text/Picture Setting

Use this setting to optimize the output for a particular type of content.

Use **Manually adjust** to manually optimize the setting for each document.

Use **Text** for documents that contain mostly text. Best for Highlighters

Use **Printed Picture** for line drawing and preprinted images such as magazine clippings or pages from a book. If you see bands of irregular intensity on copies, try selecting **printed pictures** to improve quality.

Use **Photographs** for photographic prints.

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delivered directly to your desktop

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