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Title: Remapping Colors for Imported CMX Files

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Summary: This document describes the process of remapping colors in an imported CMX file to achieve accurate color conversion for specific colors.

Remapping colors for imported CMX files

When creating files in CorelDRAW®, there are many color models that can be used. OMEGA™ supports a limited number of these color models. When CorelDRAW files are imported into OMEGA, the color model is translated into one of the Gerber-supported color models including:

- PANTONE®
- RGB (red, green, blue)
- CMY (cyan, magenta, yellow)
- CMYK (0-100) (cyan, magenta, yellow, black)
- CMYK (0-255) (cyan, magenta, yellow, black)

To maintain control over color conversion, Gerber recommends using a Gerber-supported color model and saving a CorelDRAW file as CorelDRAW Presentation Metafile (CMX). OMEGA's CMX file converter maps these color models directly into Composer. After the file is imported, you can alter individual colors to achieve exact color matches. Only fill and stroke colors can be modified, embedded images are not affected when imported CMX colors are remapped.

Understanding color models

The following section describes how PANTONE, RGB, and CMYK color models import through the CMX file converter.

PANTONE

In CorelDRAW, PANTONE colors have a unique numbering scheme that identifies each color. In order for these colors to map to PANTONE color names used in OMEGA, a mapping file – PantonePMS.ink, must be present in the Palettes folder.

Note: Since PANTONE continues to add new colors to its PMS PANTONE Matching System, some PANTONE colors may not automatically map to PANTONE color names used by OMEGA.

When converting a CMX file with PANTONE colors, OMEGA first looks at the gspcmap.ink file (this is a text file) for a PANTONE color conversion map. If there is no color definition in gspcmap.ink, OMEGA checks gspanton.pal, the PANTONE color-matching file. As long as a color definition is present in one of these files, the color converts into Composer with the same values and uses the PANTONE name. If the color is not found in either file, it will not translate correctly.

PANTONE colors present in the CorelDRAW file that are less than 100% density, do map through the gspcmap.ink. If OMEGA finds the tint color in gspanton.pal, it is converted to a CMYK color, but loses the PANTONE name.

RGB

CorelDRAW files created using RGB colors are converted into Gerber's WCS (Working Color Space). In the WCS, the CorelDRAW RGB is mapped to Gerber RGB, which is then converted to CMYK based on the selected Gerber output device.

CMYK

CMYK colors in the 0-100 range are mapped directly from CorelDRAW into Composer. The CMYK (0-100) value that you specify in CorelDRAW will be the same CMYK color in Composer. CMYK (0-255) values from CorelDRAW are converted to CMYK (0-100) color model in Composer, which can cause color inconsistency. To ensure uniform colors, use the CMYK (0-100) color model when creating files in CorelDRAW.

Remapping colors when importing CMX files

Note: It is very important that your system is color-calibrated using MonacoEZcolor. High quality color profiles, rather than generic profiles are essential to achieve accurate color results. See "Color Calibrating the Monitor, Scanner, and Printer" in the OMEGA Reference Guide or in Help for detailed information on calibrating your system.

Whenever a CMX file is imported, OMEGA appends a running text file named gspcmap.txt. This file is located in GSP > Software > Palettes. Each time a CMX file is imported, the most recent CMX file name, and all the colors included in that file are appended at the end of the gspcmap.txt file. To import fill and stroke colors, the CMX file converter uses a mapping file located in the Palettes folder called gspcmap.ink. The gspcmap.ink file is a user-created text file that can be edited with the Notepad or Wordpad applications. You may create and edit the gspcmap.ink file to alter how a color is mapped in OMEGA. You can specify specific CMYK colors, Gerber Spot colors, GerberColor Spectratone™ colors, and PANTONE Simulations. The INK file provides a way to alter how specific colors convert, for example adjusting a color to match a logo.

Image files embedded in a CMX file are not affected by the color adjustments in gspcmap.ink.

To remap colors when importing CMX files

1. Export a CMX file from CorelDRAW with the colors that need to be remapped.
2. Import the CMX file into Composer.
3. Navigate to GSP > Software > Palettes and open the gspcmap.txt file using Notepad or WordPad.
4. Go to the end of the gspcmap.txt file and locate the CMX graphic file that was just imported.
5. Locate the lines with CMYK, RGB, or PANTONE CorelDraw colors that need to be revised.
6. Edit the second half of the line (0 0 0 0) by replacing the zeros with a new color value using the following conventions:

   ; P CorelPantoneNumber c m y k
   ; R r g b c m y k
   ; C c m y k c m y k
   ; X c m y k c m y k
   ;
   ; or
   ;
   ; P CorelPantoneNumber <GSP Spot shortname>
   ; R r g b <GSP Spot shortname>
   ; C c m y k <GSP Spot shortname>
   ; X c m y k <GSP Spot shortname>

   - PANTONE colors that are translated directly into OMEGA appear as the PANTONE name in quotation marks, for example "PANTONE Blue 072".

   - Translated RGB or CMYK color values are followed by 0 0 0 0. To remap the color, enter a new CMYK color in place of the 0 0 0 0.

   - To remap a color to a GSP Spot Color, enter a Spot Color short name enclosed by the < > characters, for example <Gnn-xxx>. A complete list of GSP Spot Color names is at the end of the document.

   - To remap a color to a Spectratone color, enter the Spectratone color using the GSP Spot color short names enclosed by the < > characters, for example, <Gnn-xxx/Gnn-xxx>.

(Top GerberColor Spectratone /bottom GerberColor Spectratone color.) A complete list of GSP Spot Color names is at the end of the document.

- Certain colors may not be used in a GerberColor Spectratone combination. These colors include GCM Medal-series, Abrasion Guard or Matte Clear, ColorSet™, GCX Fluorescent and GCLT L.T. foils. Your resultant converted colors will not be correct if you create a GerberColor Spectratone combination using these invalid colors.

- Colors that are not remapped may be deleted or omitted.

- Lines beginning with a semi-colon (;) are comments and are not necessary.

7. After remapping the colors save the gspcmap.txt file.
8. Copy any color lines that have been remapped (including the new values) to the clipboard.
9. In GSP > Software > Palettes open gspcmap.ink. If gspcmap.ink does not exist, open a new file in Notepad or WordPad. (Click File > New to open a new text file.)
10. Paste the copied lines from gspcmap.txt into the existing gspcmap.ink or the new text file.
11. Save gspcmap.ink or click File > Save As and save the new text file as GSP\Software\Palettes\gspcmap.ink.
12. Re-import the original CMX file into Composer. During import, the CMX file converter uses the remapped color values in the gspcmap.ink file when converting fill and stroke colors. If the colors are still unsatisfactory, re-edit the gspcmap.ink file and import the CMX file again.

Each time a CMX file is imported the original gspcmap.txt file is appended with the most recent file at the end. Address one file at a time or extract just the color section that you want to edit and copy it into the INK file. You may delete any color sections that are not used. Lines beginning with a semi-colon (;) are comments and are not necessary. Immediately below are examples of some original colors from a CMX file.

```
; Gerber EDGE Color Map
;
; X:\Jobs\Bank corp logo.cmx
P 4 0 0 0 0 "PANTONE Proc Black C"
C 0 0 0 100 0 0 0 0
C 0 40 70 0 0 0 0 0
C 3 50 67 0 0 0 0 0
```

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```
P 7 0 0 0 0 "PANTONE Blue 072 C"
R 255 255 191 0 0 0 0
C 3 50 67 7 0 0 0 0
C 0 100 100 0 0 0 0 0
R 255 255 63 0 0 0 0
P 32 0 0 0 0 "PANTONE 123 C"
C 79 65 0 5 0 0 0 0
C 10 99 92 13 0 0 0 0
R 255 255 255 0 0 0 0
```

Below is an example of the edited gspcmap.txt file. The PANTONE colors have not been altered as they converted correctly. The 0 0 0 0 has been replaced by new CMYK values or a Gerber Spot or Spectratone short name.

```
; X:\Jobs\Bank corp logo.cmx
P 4 0 0 0 0 "PANTONE Proc Black C"
C 0 0 0 100 0 0 0 0
C 0 40 70 0 0 54 79 0
C 3 50 67 0 12 57 65 0
P 7 0 0 0 0 "PANTONE Blue 072 C"
R 255 255 191 18 0 49 0
C 3 50 67 7 3 52 64 10
C 0 100 100 0 0 100 96 0
R 255 255 63 <GCS-012/GCS-603>
P 32 0 0 0 0 "PANTONE 123 C"
C 79 65 0 5 <GCS-047>
C 10 99 92 13 10 102 90 11
R 255 255 255 0 0 0 0
```

After the gspcmap.ink is edited, re-import the CMX file into Composer. The CMX file converter uses the new values in the gspcmap.ink file when importing the fill and stroke colors. If the colors are still unsatisfactory, re-edit the gspcmap.ink file and import the CMX file again.

Gerber Spot Color short names

Below is a list of Gerber Spot Color names. The short name for a Spot Color is GXX-nnn. For example, the short name for Ruby Red GCS-053 is <GCS-053>. The descriptive color name (Ruby Red) is not included in the short name.
Layering one spot foil on top of another creates GerberColor Spectratone colors. The naming convention places the top GerberColor Spectratone before the bottom GerberColor Spectratone color. The short name for a Spectratone color comprised of Yellow GCS-015 on top of and Orange GCS-014 is <GCS-015/GCS-014>.

White GCS-010	Purple GCS-038	Process – Yellow GCP-605
Black GCS-012	Cobalt Blue GCS-037	Process – Black GCP-012
Grey GCS-031	Olympic Blue GCS-057	Burgundy GCS-058
Brown GCS-019	Green GCS-186	Forest Green GCS-066

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Yellow GCS-015
Orange GCS-014
Tomato Red GCS-013
Ruby Red GCS-053
Light Purple GCS-668
Pink GCS-643
Peacock Blue GCS-077

Kumquat GCS-074
Lemon Yellow GCS-155

Aqua GCS-176
Abrasion Guard GCF-114
L.T. Process Cyan GCLT-607
L.T. Process Yellow GCLT-605
L.T. Process Magenta GCLT-273
L.T. Process Black GCLT-012
L.T. Red GCLT-613
L.T. Green GCLT-606
L.T. Blue GCLT-647
Kelly Green GCS-046
Brick Red GCS-603
Gold GCS-631
Silver GCS-620
Navy GCS-627
Raspberry GCS-133
Tan GCS-039
Trans Yellow GCT-625
Trans Red GCT-643
Trans Orange GCT-614
Trans Blue GCT-617
Trans Green GCT-116

Gold Medal GCM-731
Silver Medal GCM-720
Process – Magenta GCP-273
Process – Cyan GCP-607
Trans Brown GCT-629
Trans Gold GCT-105
Trans Burgundy GCT-049

Trans Plum Purple GCT-128
Trans Sapphire Blue GCT-037

Trans Tomato Red GCT-013
Process – Yellow GCP-705
Process – Magenta GCP-773
Process – Cyan GCP-707

Process – Black GCP-712

Apple Green GCS-196
Champagne Gold GCS-601
Copper GCS-629
Dark Green GCS-056
Dark Grey GCS-641
Imitation Gold GCS-105
Intense Red GCS-663
Light Grey GCS-681
Terra Cotta GCS-024
Matte Clear GCF-334
Process – Black CSP-012
Process – Cyan CSP-607
Process – Magenta CSP-273
Process – Yellow CSP-605
Spot Black CSS-012
Cobalt Blue CSS-037
Warm Red CSS-253

Intense Blue GCS-047
Sunflower Yellow GCS-625
Teal GCS-096
Beige GCS-049
Green CSS-186
Spot Yellow CSS-015
Fluor Yellow-Orange GCX-604
Lime Green GCS-616
Violet Purple GCS-628

Fluor Pink GCX-413
Fluor Red-Orange GCX-414
Fluor Lime Green GCX-626