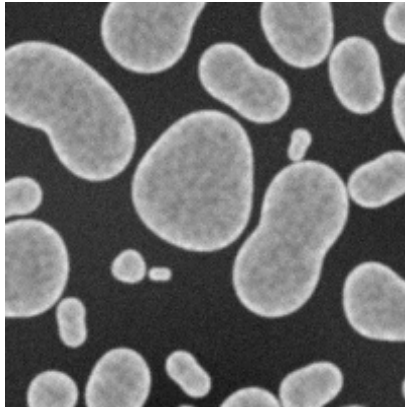# EM Image Conversion (EM_CNV98.EXE)

Kimio Kanda

[Introduction]

It is sometimes necessary to convert images (16-bit grayscale tiff image, 8-bit grayscale tiff image, and 8-bit grayscale bitmap image) with each other, for testing the algorithm of software developed for the evaluation of SEM image sharpness (i.e. SEM image resolution).


**Tiff image displayed by 8-bit format**

[Environment]

A PC with Microsoft Windows 98 (or later)

[Target image]

1. An un-compressed tiff image (with 16-bit or 8-bit grayscale) or
2. An un-compressed bitmap image (with 8-bit grayscale)

[Usage]

1. Open a tiff or bitmap file by "Open BMP/TIF" button ( ).
2. Press "Save 16-bit TIF" button ( ), when an 8-bit grayscale tiff image or an 8-bit grayscale bitmap image has been opened.
3. Press "Save 8-bit TIF" button ( ), when a 16-bit grayscale tiff image or an 8-bit grayscale bitmap image has been opened.
4. Press "Save 8-bit BMP" button ( ), when a 16-bit grayscale tiff image or an 8-bit grayscale tiff image has been opened.

 OR
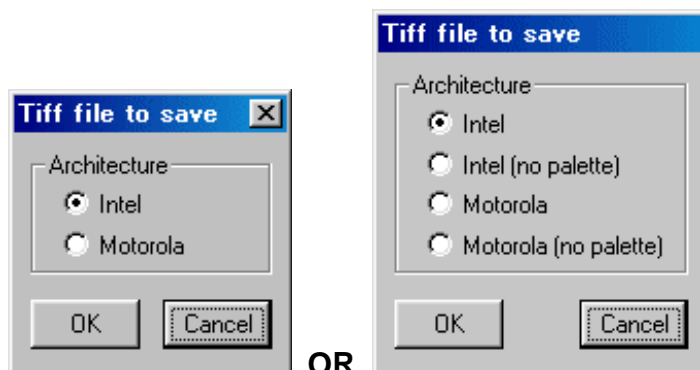
After assigning a tiff filename to save the opened image by using a dialog-box obtained by "Save 16-bit TIF" button or "Save 8-bit TIF" button, you can select the tiff architecture for the assigned tiff file by a dialog-box (shown left) which automatically appears.

5. The displayed image can be copied to the Clipboard as an 8-bit image by pressing "Copy image" button ( ).

[Supplement 1]

Regarding 16-bit grayscale tiff images, it might be better to see them by using "Adobe Photoshop."


Because, some "image processing software" cannot properly display 16-bit grayscale tiff images.
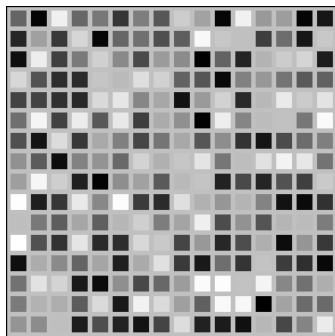
Note: Some image file with "1 bit grayscale format" cannot be properly displayed by "Adobe Photoshop (version 6)."

[Supplement 2]

If you want to randomize the palette of an 8-bit grayscale bitmap (or, tiff) image as shown below, you can use PALORD99.EXE (Palette Order of SEM Image [II]), for testing the algorithm of software developed for the evaluation of SEM image sharpness (i.e. SEM image resolution).
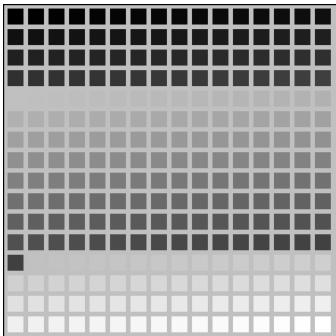
Partially inverted palette   **Random order palette**

NOTE:
There is no palette (built in an image file) for a 16-bit grayscale tiff file.   Therefore, you cannot randomize or partially invert the palette of a 16-bit grayscale tiff file, even if using PALORD99.EXE.   Also, even for an 8-bit grayscale tiff file, you cannot randomize or partially invert the palette of it if it does not have a color palette.

[Supplement 3]

A 16-bit grayscale tiff does not have a color palette as described above.   But, an 8-bit grayscale tiff either has a color palette or no color palette.

[Supplement 4]

It is possible to convert an 8-bit color bitmap image and an 8-bit color tiff image with each other, by using EM_CNV98.EXE.   This is an additional function of this application software.