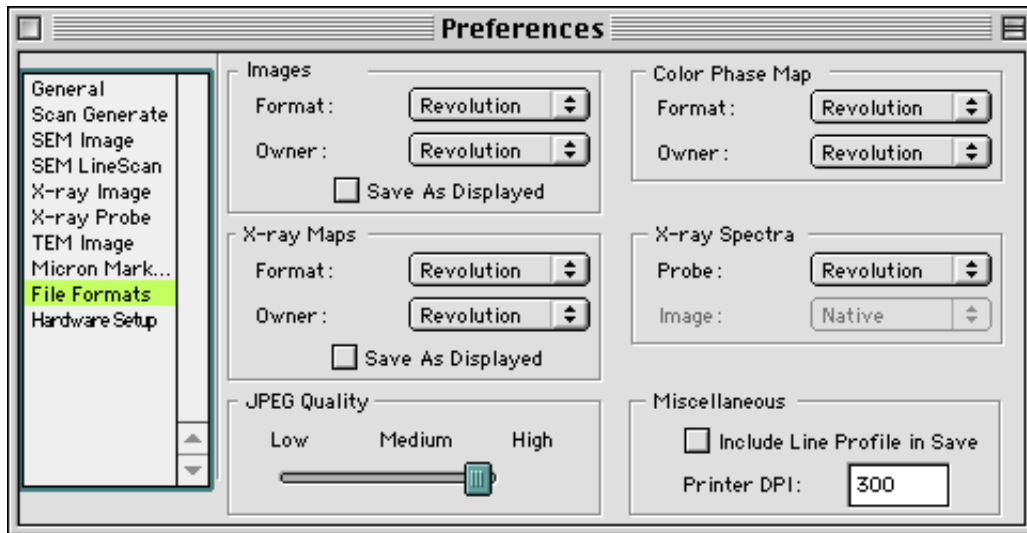


File Formatting Preferences [\[download as pdf\]](#)

current for: v1.5.6

The File Formatting Preferences panel is shown below:

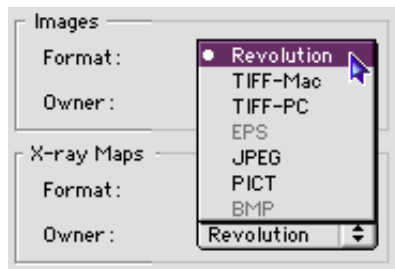


Other Preferences

[General](#)
[Scan Generate](#)
[SEM Image](#)
[SEM Linescan](#)
[X-ray Image](#)
[X-ray Probe](#)
[TEM Image](#)
[Micron Marker](#)
[File Formats](#)
[Hardware Setup](#)

• *Format Options*

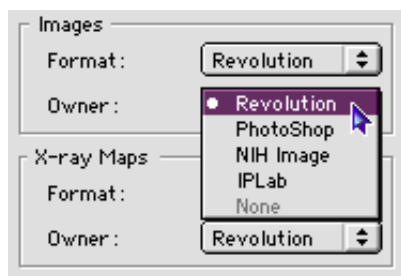
- **Image/Map Format.** Allows you to select the type (format) for the saved files, independently for images, x-ray maps, and color phase maps.



- **Revolution** is a 4pi proprietary format. It allows graphical objects to be embedded in an image. This allows objects (e.g., micron markers and line profiles) to be moved or removed from an image after it is acquired.
- **TIFF-Mac** is TIFF written in big-endian format.
- **TIFF-PC** is TIFF written in little-endian format.
- **EPS** is Encapsulated Postscript, a vector graphics format.
- **JPEG** is the Joint Photographic Experts Group format for compressed images. Recommended for web publishing. The JPEG compression slider allows the user to select the quality of the resulting graphics file.
- **PICT** is the native Macintosh graphics format (not available on Revolution for Windows).
- **BMP** is the native Windows graphics format (not available on Revolution for Macintosh).

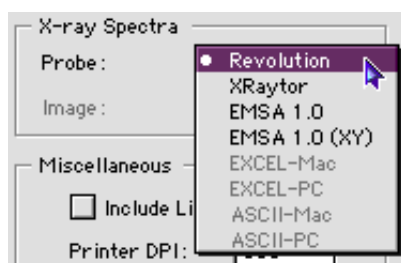
- **Image/Map Owner.** Allows you to select the **owner** for images, x-ray maps, color phase maps, and spectra. Windows uses 3-letter extensions to specify the owner. Macintosh uses an invisible

4-character resource (the creator) to specify the owner.



- **Revolution** is a 4pi-specific creator called 'MBDY'. The equivalent Windows extension is ".mbd".
- **NIH Image** sets the creator to 'Imag' for the program NIH Image. The equivalent Windows extension is unknown.
- **Photoshop** sets the creator to '8BIM' for the program Adobe Photoshop. The equivalent Windows extension is ".ps".
- **IPLab** sets the creator to 'IPLB' for the program IPLab Spectrum. The equivalent Windows extension is unknown.

- **Save as Displayed.** Saves the image or map to disk exactly as it looks on the computer screen. This is useful if you have applied custom scaling to the raw image data and want to preserve the appearance. **Warning: this checkbox will rescale the original data to new values - the original data will be lost!**
- **Spectrum Probe Data Format.** Specifies the data format for the spectrum data.



- **Revolution** is a 4pi proprietary binary format.
- **Xraytor** is a 4pi proprietary binary format.
- **EMSA 1.0** is an industry-standard format compatible with DTSA. The spectrum data is a one-dimensional array of x-ray intensity. It can be used to import data into an Excel spreadsheet.
- **EMSA 1.0 (XY)** is an industry-standard format compatible with DTSA. The spectrum data is a two-dimensional array of x-ray energy and x-ray intensity. It can be used to import data into an Excel spreadsheet.
- **EXCEL** is a spreadsheet format suitable for importing into Microsoft Excel (part of the MS Office Suite).
- **ASCII** is a straightforward text format for use where another format is insufficient.

- **Spectrum Image Format.** Specifies format options for spectrum-at-every-pixel. No further documentation is available at this time.

• **JPEG Quality**

- Selector to determine degree of JPEG compression. Units are dimensionless and inversely proportional to compression. High quality (100) is lowest compression. Low quality (0) is highest compression.

• **Miscellaneous Options**

- **Printer DPI.** The user can specify an arbitrary **printer dpi** (dots per inch) value for acquired images. There is often confusion about the meaning of this value. In Revolution, **Printer DPI** is the number inserted into the X- and Y-Resolution Tags of a TIFF file. You must understand how your imaging program interprets the TIFF Resolution Tags to predict the effect on printed image size. Depending on the program that you use, the results may not be what you expect. In Revolution, knowing the pixel dimensions of the image or map and the printer dpi, one can determine how large the image or map will be when printed. Note that a 512x512 image on the

computer screen will print out smaller than 2" x 2" on paper (512 pixels divided by 300 dpi).

The 4pi setting for **Printer DPI** is synonymous with **resolution** in the **Image Size** window in **Adobe Photoshop**. Note that further manipulation of the image in the same window (for example, changing resolution, image width and height, and the ruler units) can lead to unexpected results when printed. Consult your image application manuals for complete information on these image attributes.

Note **carefully** that *an image on screen has no printer dpi association until it is either saved or printed*. When saved as a TIFF image, the listed Printer DPI setting is saved in the appropriate X- and Y-Resolution tags. When printed from Revolution, the listed Printer DPI setting is used. So for example, consider saving a TIFF image at 300 dpi to disk. If then printed from Revolution, it will be printed at 300 dpi. If one then changes the dpi field to 150 and prints from Revolution again (without resaving), the value 150 will be used, even though the file saved to disk has dpi = 300.

- **Include Line Profile in Save**. When checked, the line profile overlay for either the [SEM image](#) or the [X-ray map](#) is burned into the image or map.

- ***A note about Color TIFF files in Revolution 1.5.x***

- Revolution 1.5.x will correctly open a color TIFF with 8-bit color channels and with or without an alpha channel, which is ignored. In other words, Revolution can read standard 24- or 32-bit color TIFF images. Revolution can then correctly save out such an image again as a color TIFF. There are 3 issues involving any examples other than the ones just stated:
 - Grayscale images or maps with color overlays are **not** saved as color TIFFs even if the file format is set to TIFF.
 - Colorized x-ray maps with or without color overlays are **not** saved as color TIFFs even if the file format is set to TIFF.
 - Color Phase Maps **are** saved as color TIFFs if the File Format is set to TIFF.

The upshot of this is that, for example, color text overlays or color waveform overlays saved in TIFF images or maps will reopen with a grayscale equivalent. They will reopen in full color for Color Phase Maps. In general, to retain color in images and maps, save them in either Revolution format or jpeg or bmp/pict; TIFF should still be avoided. These issues will be resolved in a later release.