Image Compression

When to use Uncompressed

The drop down menu for an APE image formats includes an 'uncompressed' option and you may have wondered when it is appropriate to set a texture to uncompressed. The short answer is pretty much *never*. You should **always use the default settings first**, and view the results in the game before selecting a non-default setting

The Rule:

For almost all images, **'compressed'** is the default setting and 99% percent of the time you will want to leave it like that.

If your image is used as a **color map** or **effects map** (with or without an Alpha channel) the default will be set to **Best color compression** and 99% percent of the time you will want to leave it like that. For these images there two additional compression options:

- **Better Alpha compression** – used for images where the color data is not as important as the alpha info (example: all white UI texture with a detailed alpha for use as an icon, font, etc.)
- **Low quality color compression with no Alpha**—this is the old, low-quality DXT1 compression, and does not support alpha.

The Exception:

When it is **OK to use 'uncompressed':**

- Your texture is not a **multiple of 4** in height or width. These textures cannot be compressed and you must select 'uncompressed.' However, please ask yourself if the odd dimension is really necessary – a compressed 4x256 texture might be smaller than an uncompressed 2x256.
- Your texture is **super important** and compressing it makes it look super crappy and your texture is the game font, or a similar **asset that will never be streamed.**
- Your texture is a **technical ramp or gradient**, or random noise, and the math in the texture matters, or compression causes objectionable banding in the gradient and there is nothing else you can do. if your noise is truly random, than this texture can likely be very small without showing any repeat. Truly random means the texture was not made in Photoshop using the "noise" filter

- You compressed your texture, and after comparing the compressed size to the uncompressed size, you realized the **compressed texture was much bigger that the uncompressed one** – use the uncompressed setting!

When is it **NOT OK to use uncompressed:**

- If you are using your texture in as an **effect map** and want it to be **OIT** sorted – uncompressed textures cannot take advantage of the compute sprite/OIT sorting.

Image Properties

Mipmap Method

The Mipmap Method settings determine how the mipmaps are filtered when they are generated at convert time. The default setting is Average. A detailed description of the other settings from the drop-down are as follows:

- **Average:** uses the average brightness of the color pixels to generate each mip (lowest mip will be an average of all the highest mips colors)
- **Luminance:** biases the look of each mip to keep the brightest pixels from disappearing as the the low mips are generated (lowest mip will be brighter than the average of highest mip) useful for textures where the average color would give incorrect visual results
- **Alpha:** biases the mips to maintain alpha information – useful for textures with alpha info
- **Alpha Luminance:** combination of the luminescence and alpha methods – useful for effect!