Glossary

alpha;¬Alpha-channel An additional channel in a bitmapped image, containing opacity values instead of color information.

bps Abbreviation for *bits per sample*. Indicates how many bits are used for the maximal number of shades of one channel. 8 bits would mean that the picture can contain maximum 256 shades. The number of colors can be calculated with the formula *number of colors* $= 2^{bps}$.

Channel A channel is one component of a color model. RGBA has four channels representing red, green, blue and alpha. CMYK also has four channels. These are cyan, magenta, yellow and one channel for contrast, also called black.

CMYK Color model mostly used for printing on color

printers. CMYK is uses subtractive color mixing. It uses cyan, magenta, yellow and black as base colors to mix every other shade.

CMYKA   Same as CMYK but with alpha.

Equalization   Process of balancing the percentages of colors in a picture by lowering extremely high numbers of pixels of one color and by increasing the number of pixels of colors that appear rarely.

HSB   Abbreviation for hue, saturation, brightness. Represents the picture by using its hue (angle on the color wheel), color saturation and brightness of the pixels. Note: A pure red and a pure yellow have the same brighness in this color model.

HSI   Abbreviation for hue, saturation, intensity. Represents the picture by using its hue, color saturation and intensity of the pixels. Note: A pure red has a lower intensity than a pure yellow in this color model.

JPEG   Abbreviation for Joint Photographers Experts
                Group. This is an institution which had the job to
                create a standard for still picture compression.
                JPEG compression achieves good results in
                compression but is always linked with a more or
                less large loss of quality of the picture. The rule is:
                the better the compression the bigger the loss of
                information.

LZW   Lempl-Ziv-Welch. A compression method for picture
                or other data files. This method catalogues
                sequences of bytes which appear often and
                replaces them with shorter codes.

Noise   Unwanted changes of color from one pixel to
                another. These are mostly pixels that can be seen
                in more homogenous areas of coloring and don't fit
                in.

PackBits   Commonly known and used compression method.
                Also called Runlength Encoding. Long sequences

of bytes that are all the same are reduced the number of bytes in the sequence and the byte's value.

RGB　　　　Most common color model in work with computers. The three colors red, green and blue are sensitive spots (always in triplets) on an RGB monitor activated by the cathode ray. The intensity of each color is added in one pixel giving the resulting shade of color.

Runlength Encoding　　See *PackBits*.

Separation　　Process of splitting RGB pictures into CMYK pictures for printing on color printers so as not to produce false colorings when printed out.

spp　　　　Abbreviation for *samples per pixel*. Indicates the number of channels of a pixel according to the different color models. RGB has three samples (red, green, blue) RGBA adds the ALPHA-channel,

CMYK also has four samples, CMYKAhas five samples.

TIFF   Abbreviation for Tag Image File Format. The TIF format was designed to become the standard format for pictures on all computers. The standard supports different encoding methods such as: No-compression, PackBits, LZW, JPEG, Huffman encoding, CITT3 and CITT4.