

In certain other applications, the human eye visually analyzes images. Since the human eye is insensitive to certain patterns in the images, such patterns are discarded from the original images so as to yield good compression of data. These schemes are termed as 'Visually Lossless' compression schemes. This is not a perfectly reversible process. In other words, the decompressed image data is different from the original image data. The degree of difference depends on the quality of compression and also the compression ratio.

Compression schemes based on Discrete Cosine Transforms and Wavelet Transforms followed by Lossy Quantization of data are typical examples of visually lossless scheme.

As a general rule, it is desirable to achieve the maximum compression ratio with zero or minimum possible loss in the quality of the image. At the same time, the complexity involved in the system and the power consumed by the image compression system are very critical parameters when it comes to a hardware based implementation.

Usually, the image compression is carried out in two steps. The first step is to use a pre-coding technique, which is mostly based on signal transformations; the second step would be to further compress the data values by standard source coding techniques like Huffman and Lempel-Ziv schemes.