

Small, illegible text block in the top right corner of the page.

Still Image Compression

Summary

ICRA's compression technology is exploited to its fullest extent in the *Image* product. Using Wavelet techniques, two versions of this product are available:

- *Image* is for compressing colour images. It features excellent colour reproduction, and it eliminates the blockiness associated with other compression techniques. As an example, for the same quality, *Image* file sizes are on average **one quarter** the size of a JPEG file.
- *M-IMAGE* is for compressing monochrome (black and white) images. Again, for the same quality, *M-Image* file sizes are on average **one half** the size of a Group 4 TIFF file.

Benefits

Not only does good image compression reduce the disc storage demands of an image database, image compression also dramatically reduces data transfer times which adds convenience and reduces telecommunications costs. With ICRA compression, these benefits can be significantly increased, to the advantage of the business and the convenience of the user.



10KB



JPEG 38KB

Examples

The pictures below illustrate the results of compressing an image with both JPEG and *Image*, using the same compression ratio in both cases. Clearly at this compression ratio, the JPEG image is unusable, exhibiting the typical JPEG characteristics of colour loss and blockiness.



JPEG and our Image compression 1 : 425

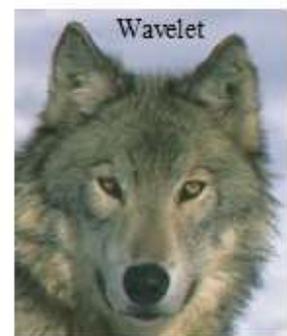
Comparison Fractal

image Wavelet Compression



Fractal

42:1



Wavelet

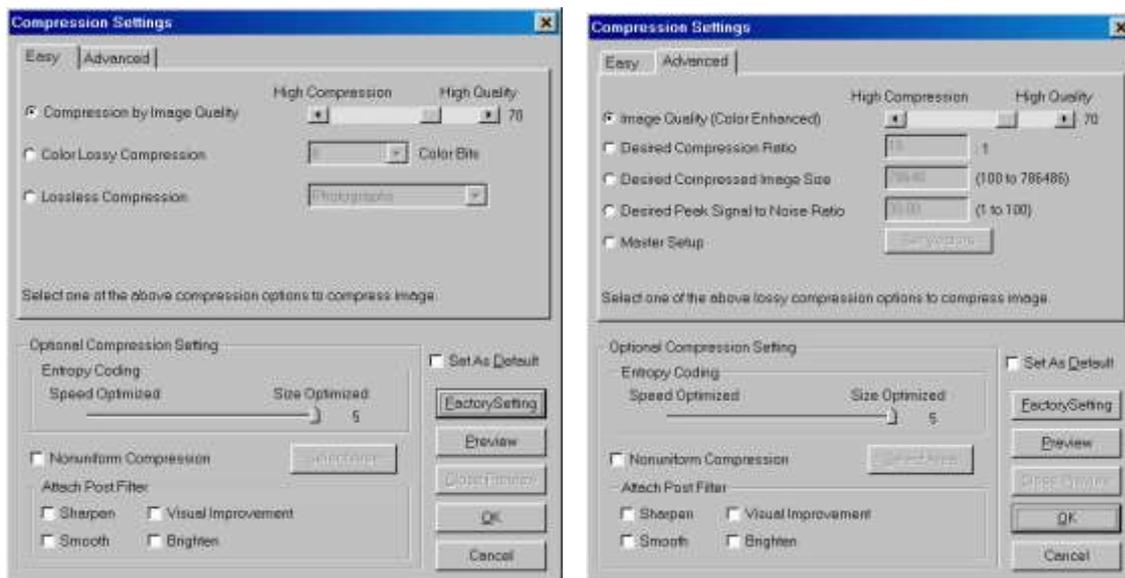
73:1

The example shows that for the same image quality, the file size is approximately one quarter that of the JPEG compressed image. The original bitmap file was 769 KB in size.

Moreover, although it is always a subjective opinion, the colours in the JPEG image are beginning to show signs of degradation.

Whilst JPEG compression is the industry standard, it is interesting to compare ICRA's compression with other compression techniques. As an example, below our Wavelet compression is compared with Fractal compression. For the same quality, ICRA achieves a file size almost half that of the Fractal file.

The *Image* compressor offers the user wide flexibility in performance options. A new user can choose between the compression options illustrated below:



An advanced user has available the options above right.

In addition, post compression filtering algorithms can be applied to enhance the image quality if this is necessary.

Finally, an example of monochrome compression using *M-Image* illustrates the extent of the significant savings which can be achieved compared with TIFF compression techniques.

