

Estimated Spectrum Adaptive Postfilter (ESAP) and the Iterative Prepost Filtering Algorithms

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DESCRIPTION

This ESAP algorithm is an image-adaptive postfiltering method designed to minimize the discrete cosine transform (DCT) blocking distortion caused by compressing JPEG images. The algorithm consists of an ESAP encoder, which includes a JPEG encoder and a JPEG decoder. The JPEG decoder uses the DCT coefficients to estimate the two-dimensional bandwidth of each pixel in the image. The local pixel bandwidths are then used to adaptively postfilter the decoded image. The postfiltered image shows minimal blurring of its true edges, while blocking distortion is significantly reduced. These techniques offer lower peak signal-to-noise ratio (PSNR) and lower subjective quality than the techniques based on Goddard's algorithms. In addition, ESAP can be cost-effectively implemented in firmware to enable real-time image results. The algorithm can be commercially developed to enable enhanced video and image quality that is superior to previous techniques and the default JPEG or MPEG compression parameters.

FEATURES AND BENEFITS

- The technology minimizes the loss in image quality that occurs in compressed JPEG images.
- The technology adheres to the coded stream syntax of the Independent JPEG Group (IJG) Software

APPLICATIONS

- File Sharing
- Streaming Video
- HDTV Broadcasting

FOR MORE INFORMATION

If you are interested in more information or want to pursue transfer of this technology, GSC-14213-1, please contact:

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