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(54) **DE-BLOCKING AND DE-BANDING FILTER WITH ADJUSTABLE FILTER STRENGTH FOR VIDEO AND IMAGE PROCESSING**

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(58) **Field of Classification Search**

None
See application file for complete search history.

(57)

ABSTRACT

A novel de-blocking and de-banding filter and a related method of operation reduce and/or remove blocking and banding artifacts that originate from a low bitrate video compression. For filtering a luminance channel, the de-blocking and de-banding filter determines filtering needs and also adjusts filtering strengths based on a compression level (Q_p) and a gray level of the video signal. For filtering a chrominance channel, the de-blocking and de-banding filter determines the filtering needs and adjusts the filtering strengths based on Q_p alone. Preferably, the de-blocking and de-banding filter utilizes a low pass filter of adjustable strength at a border of a block perpendicular to the border or a band border. The adjustable strength of the de-blocking and de-banding filter is a function of the compression level (Q_p) and/or the gray level of the video signal, but does not depend on a duration of the blocking and/or banding artifacts.

12 Claims, 8 Drawing Sheets

