

Title (en)
IN-STREAM LOSSLESS COMPRESSION OF DIGITAL IMAGE SENSOR DATA

Title (de)
VERLUSTLOSE IN-STREAM-KOMPRIMIERUNG DIGITALER BILDSENSORDATEN

Title (fr)
COMPRESSION SANS PERTE DU FLOT DES TRAVAUX DE DONNEES D'UN CAPTEUR D'IMAGES NUMERIQUES

Publication
EP 1559072 A2 20050803 (EN)

Application
EP 03776298 A 20031014

Priority
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• US 41798202 P 20021011

Abstract (en)
[origin: WO2004034331A2] A method and system provide in-stream compression of bytes of digital image sensor data. A specified number of least significant bits of the byte of digital image sensor data is masked or dropped (54 of Figure 5) to reduce the amount of image data if a frame of image data. After masking, alternate bytes of digital image sensor data are subtracted to produce an entropy-reduced data model (56 & 64 of Figure 5). The difference bytes of digital image sensor data are split into a predetermined number of channels (65 of Figure 5), each channel having a bit width such that the sum of the bit widths of each channel equals a bit width of the byte of digital image sensor data. Each channel is operated upon by a distinct cumulative distribution function (66, 68, and 70 of Figure 5) before being multiplexed (72 of Figure 5). The multiplexed digital image sensor data is encoded by arithmetic compression encoding (74 of Figure 5). The method and system also utilize a division-free method of arithmetic encoding to simplify the hardware requirements of encoding. Lastly, the method and system utilize a round-robin removal approach for adaptively fixing a number of elements in a histogram.

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Citation (search report)
See references of WO 2004034331A2

Citation (examination)
• US 2002135683 A1 20020926 - TAMAMA HIDEO [JP], et al
• WO 02071622 A2 20020912 - KONINKL PHILIPS ELECTRONICS NV [NL], et al

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