

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

Ex parte JONATHAN J. STONE  
and  
CLIVE H. GILLARD

---

Appeal No. 2000-1498  
Application No. 08/721,623

---

ON BRIEF

---

Before HAIRSTON, KRASS, and BARRY, Administrative Patent Judges.  
HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 6, 9, 13, 14 and 17. Claims 10 through 12, 15 and 16 have been allowed.

The disclosed invention relates to a video data compression method and apparatus that detects image activity values indicative of image activity for regions of an input image to be compressed, filters the detected image activity values to reduce the variation in image activity values between groups of adjacent

Appeal No. 2000-1498  
Application No. 08/721,623

regions of the image, and then compresses the regions of the image by a degree of data compression dependent on the image activity value for each region.

Claim 1 is illustrative of the claimed invention, and it reads as follows:

1. Video data compression apparatus comprising:
  - (i) means for detecting image activity values indicative of image activity for regions of an input image to be compressed;
  - (ii) means for filtering said detected image activity values to reduce the variation in image activity values between groups of adjacent regions of said image; and
  - (iii) means for compressing said regions of said image by a degree of data compression dependent on said image activity value for each region.

The references relied on by the examiner are:

Sugiyama	5,253,075	Oct. 12, 1993
Murakami et al. (Murakami)	5,543,848	Aug. 6, 1996
	(effective filing date Nov. 24, 1993)	

Russ, The Image Processing Handbook, pp. 165-66 (2<sup>nd</sup> Ed., Boca Raton, FL, CRC Press, 1995).

Claims 1, 3, 5, 6, 9, 13 and 17 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Sugiyama.

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Sugiyama in view of Murakami.

Appeal No. 2000-1498  
Application No. 08/721,623

Claims 4 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sugiyama in view of Russ.

Reference is made to the briefs (paper numbers 13 and 16) and the answer (paper number 15) for the respective positions of the appellants and the examiner.

#### OPINION

We have carefully considered the entire record before us, and we will sustain all of the rejections of record.

All of the claims on appeal require "filtering said detected image activity values to reduce the variation in image activity values between groups of adjacent regions of said image." Appellants argue (brief, pages 9 and 10; reply brief, pages 2 and 3) that Sugiyama filters class values as opposed to activity values. Inasmuch as the Figure 4 embodiment of Sugiyama converts the activity value A to a class value C, and then filters the class value C, we agree with appellants' argument that this embodiment of Sugiyama does not filter "said detected image activity values [A] to reduce the variation in image activity values between groups of adjacent regions of said image." On the other hand, we agree with the examiner (answer, pages 4 and 8) that the Figure 11 embodiment discloses the use of a filter (i.e., a multi-tap spatial filter formed by LPF 22 and HPF 23) at

Appeal No. 2000-1498  
Application No. 08/721,623

the output of the activity detector 6 (column 8, lines 57 through 64). The output M from the LPF 22 is a mean value of an activity value of an object block and those of blocks in the vicinity therewith, and the output from the HPF 23 indicates the degree of the change in the activity relative to adjacent blocks. Based upon these teachings, and the fact that appellants' disclosed invention uses either a two-dimensional multi-tap spatial filter or a median filter (specification, page 7, lines 27 through 29), we agree with the examiner that the filter in this embodiment filters "said detected image activity values to reduce the variation in image activity values between groups of adjacent regions of said image." Although this filtered activity value is thereafter converted to class value C, this converted value is still a representation of the "image activity value for each region," and this value is used by adaptive quantizer 3 and variable-length encoder 4 to compress the regions of the image by a degree of data compression that is dependent on the image activity value for each region.

In summary, the 35 U.S.C. § 102(b) rejection of independent claims 1, 13 and 17 is sustained. The 35 U.S.C. § 102(b) rejection of dependent claims 3, 5, 6 and 9 is likewise sustained because appellants have chosen to let these claims stand or fall

Appeal No. 2000-1498  
Application No. 08/721,623

together as a group with the independent claims (brief, pages 8 and 10). The 35 U.S.C. § 103(a) rejections of claims 2, 4 and 14 are sustained because appellants have again chosen to let these dependent claims stand or fall as a group with independent claim 1 (brief, page 11). Appellants' argument (brief, page 11) that neither Murakami nor Russ discloses the claimed filtered activity values is without merit since Sugiyama is relied on by the examiner for such a filter.

#### DECISION

The decision of the examiner rejecting claims 1, 3, 5, 6, 9, 13 and 17 under 35 U.S.C. § 102(b) is affirmed, and the decision of the examiner rejecting claims 2, 4 and 14 under 35 U.S.C. § 103(a) is affirmed.

Appeal No. 2000-1498  
Application No. 08/721,623

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

KENNETH W. HAIRSTON	)	
Administrative Patent Judge	)	
	)	
	)	
ERROL A. KRASS	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
LANCE LEONARD BARRY	)	
Administrative Patent Judge	)	

KWH:hh

Appeal No. 2000-1498  
Application No. 08/721,623

WILLIAM S. FROMMER  
FROMMER, LAWRENCE & HAUG  
745 FIFTH AVE.  
NEW YORK, NY 10151