

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. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte MARK WALKER

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Appeal No. 1998-2557  
Application No. 08/335,550

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ON BRIEF

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Before JERRY SMITH, BARRETT and HECKER, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 21-40, which constitute all the claims remaining in the application.

The disclosed invention pertains to a computer-implemented process for encoding video signals so as to improve the bandwidth of video signal transmission. The invention is directed to a technique for determining whether a current region of a video frame should be encoded as an inter encoded region, an intra encoded region or a skipped region.

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Representative claim 21 is reproduced as follows:

21. A computer-implemented process for encoding video signals, comprising the steps of:

(a) applying a transform to a current region of a current video frame to generate transform signals;

(b) generating quantized transform signal differences using the transform signals and reference transform signals from a corresponding region of a reference video frame;

(c) quantizing the transform signals to generate quantized transform signals;

(d) encoding the current region as an inter encoded region, if there are fewer non-zero quantized transform signal differences than non-zero quantized transform signals; and

(e) encoding the current region as an intra encoded region, if there are not fewer non-zero quantized transform signal differences than non-zero quantized transform signals.

The examiner relies on the following references:

Gerard	4,827,338	May 02, 1989
Alattar et al. (Alattar)	5,440,346	Aug. 08, 1995
		(filed Sep. 09,
1993)		
Sugiyama et al. (Sugiyama)	5,502,491	Mar. 26, 1996
		(effectively filed Aug. 31,
1993)		

The following rejections are on appeal before us:

1. Claims 26 and 33 stand rejected under 35 U.S.C.

§ 102(b) as being anticipated by the disclosure of Gerard.

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2. Claims 21, 22, 27, 32, 34, 39 and 40 stand rejected under 35 U.S.C. § 103 as being unpatentable over the collective teachings of Gerard and Alattar.

3. Claims 23-25, 28-31 and 35-38 stand rejected under 35 U.S.C. § 103 as being unpatentable over the collective teachings of Gerard, Alattar and Sugiyama.

Rather than repeat the arguments of appellant or the examiner, we make reference to the brief and the answer for the respective details thereof.

#### OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of anticipation and obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellant's arguments set forth in the brief along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

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It is our view, after consideration of the record before us, that the applied prior art does not support any of the rejections made by the examiner. Accordingly, we reverse.

We consider first the rejection of claims 26 and 33 under 35 U.S.C. § 102(b) as being anticipated by the disclosure of Gerard. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

The examiner indicates how he reads these claims on the disclosure of Gerard [final rejection, pages 2-3]. Appellant makes the following arguments in the brief: 1) appellant argues that the claimed invention is directed to an *a priori* scheme for encoding blocks of data whereas Gerard is directed to an *a posteriori* scheme for encoding such data blocks; and

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2) appellant argues that Gerard has no teaching regarding the use of the number of non-zero quantized transform signal differences and the number of non-zero quantized transform signals [brief, pages 5-7]. The examiner responds that appellant's arguments regarding the differences between an *a priori* scheme and an *a posteriori* scheme are not relevant to the scope of the claimed invention. The examiner also responds that notwithstanding appellant's arguments in the brief, the claimed encoding scheme reads on the encoding scheme disclosed by Gerard [answer, pages 5-8].

Although we agree with the examiner that appellant's first argument noted above is not limited to the invention as claimed and is, therefore, not persuasive, we do not agree with the examiner's position in response to appellant's second argument noted above. It is clear that Gerard makes no mention whatsoever of the number of non-zero quantized transform signal differences, the number of non-zero quantized transform signals, and the encoding of a block of data based on the relationship of these numbers. Therefore, the examiner's rejection on anticipation is fundamentally based on

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a position that the encoding scheme disclosed by Gerard inherently or implicitly results in the encoding of claims 26 and 33 taking place. We are unable to find any evidence on this record which supports this position of the examiner.

For reasons set forth by appellant in the brief, the examiner has mischaracterized the teachings of Gerard and/or misapplied those teachings in rejecting the claimed invention. Since we agree with appellant that Gerard does not fully meet the invention as set forth in claims 26 and 33, we do not sustain the rejection of these claims under 35 U.S.C. § 102.

We now consider the rejections under 35 U.S.C. § 103. In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467

(1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the

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claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made

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by appellant have been considered in this decision. Arguments which appellant could have made but chose not to make in the brief have not been considered [see 37 CFR § 1.192(a)].

Claims 21-25, 27-32 and 34-39 all contain the encoding feature discussed above with respect to claims 26 and 33. We make two critical observations with respect to the rejection of these claims. First, the examiner relies on the same incorrect interpretation of Gerard to support the conclusion that the invention of these claims would have been obvious. Second, the additional teachings of Alattar alone or Alattar and Sugiyama taken together do not overcome the basic deficiency in Gerard discussed above. Therefore, the collective evidence applied by the examiner fails to establish a prima facie case of the obviousness of the claimed invention. Accordingly, we do not sustain the obviousness rejection of claims 21-25, 27-32 and 34-39.

Remaining independent claim 40 does not have the limitations discussed above with respect to claims 21-39. The examiner explains how the collective teachings of Gerard and Alattar are perceived to render the invention of claim 40 obvious [final rejection, pages 5-6]. Appellant argues that

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the final rejection does not even address the specific limitations of steps (c) and (d) of claim 40. Appellant also argues that there is no suggestion for applying the coefficient weighting of Sugiyama<sup>1</sup> to the Gerard system for encoding data blocks as a skipped region [brief, pages 9-10]. The examiner responds that Gerard's fixed mode reads on appellant's skipped coding mode, and that the quantization in Gerard is weighted. The examiner also notes that Sugiyama teaches an additional reason for using weighted sums in Gerard<sup>2</sup> [answer, pages 8-9].

We agree with appellant that Gerard provides no teaching in support of the obviousness of the step of generating a composition-change measure as a weighted sum of the quantized transform signal differences as recited in claim 40. Gerard indicates how fixed (skipped) regions are handled at column 10, lines 31-57. The formula in Gerard indicates that the

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<sup>1</sup> We note that Sugiyama was not applied against claim 40 although claim 40 has limitations similar to claims 23 and 24 for which the examiner did use the teachings of Sugiyama.

<sup>2</sup> Since Sugiyama was not applied against claim 40, we will not consider this particular argument. Note In re Hoch, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970).

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threshold measure is formed from a simple sum of the square of signal differences. There is no weighting indicated in the formula in Gerard, and there is certainly no weighting that weights low-frequency transform signal differences greater than high-frequency transform signal differences. Thus, the examiner has improperly interpreted the teachings of Gerard and has, therefore, failed to establish a prima facie case of the obviousness of claim 40. Accordingly, we do not sustain the examiner's rejection of claim 40.

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In summary, we have not sustained any of the examiner's rejections of the claims on appeal. Therefore, the decision of the examiner rejecting claims 21-40 is reversed.

REVERSED

JERRY SMITH	)	
Administrative Patent Judge	)	
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	)	
	)	BOARD OF PATENT
LEE E. BARRETT	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
STUART N. HECKER	)	
Administrative Patent Judge	)	

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WILLIAM H. MURRAY  
DUANE MORRIS & HECKSCHER LLP  
ONE LIBERTY PLACE  
PHILADELPHIA, PA 19103-7396

