

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today  
(1) was not written for publication in a law journal and  
(2) is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte BEHZAD SHAHRARAY

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Appeal No. 1997-0650  
Application 08/171,136<sup>1</sup>

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ON BRIEF

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Before URYNOWICZ, THOMAS, and FRAHM, Administrative Patent  
Judges.

THOMAS, Administrative Patent Judge.

DECISION ON APPEAL

Appellant has appealed to the Board from the examiner's  
final rejection of claims 1 through 27, which constitute all  
the claims in the application.

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<sup>1</sup> Application for patent filed December 21, 1993.

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Representative claim 1 is reproduced below:

1. A method of determining scene changes in a sequence of visual information-bearing frames, comprising the steps of:

(a) dividing a first digitized frame into a first plurality of regions and a second digitized frame into a second plurality that respectively correspond in location to the first plurality of regions;

(b) block-matching the regions of the first digitized frame to the regions of the second digitized frame to produce regional match signals that represent a likelihood that the regions of the first digitized frame contain visual information substantially similar to respective matching regions of the second digitized frame;

(c) ordering, to obtain an ordered sequence, the regional match signals beginning with a best regional match signal defining a best match and ending with a worst regional match signal defining a worst match;

(d) averaging together a predetermined number of the regional match signals that are selected in the ordered sequence of step (c) beginning with the best match signal, to obtain an instantaneous match (IM), said IM signal providing a criteria for determining whether the first digitized frame represents a scene different from a scene represented by the second digitized frame; and

(e) indicating a scene change when the IM signal meets a predetermined decision criterion.

The following references are relied on by the examiner:

Avis et al. (Avis)	5,027,205	June 25, 1991
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Golin  
1993

5,265,180

Nov. 23,

Claims 1 through 27 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner relies upon Golin in view of Avis.

Rather than repeat the positions of the appellant and the examiner, reference is made to the brief and answer for the respective details thereof.

#### OPINION

Generally for the reasons set forth by appellant at pages 9 through 21 of the brief, we reverse the outstanding rejection of claims 1 through 27 under 35 U.S.C. § 103.

The examiner attempts to correlate the various claimed features in the statement of the rejection to certain figures and columnar locations in Golin and Avis. On the one hand, the examiner asserts that Golin teaches the instantaneous match signal (IM) of the claims on appeal as well as the cumulative match signal (CM), but recognizes at page 5 of the answer that there is no specific teaching of these signals, asserting at page 6 that the artisan would have recognized the

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teachings of Golin as the same as these signals. Appellant asserts otherwise in the brief and we agree with this position. We do not see nor do we understand how the artisan would have seen the correlation of the various signals of the output circuit block diagrams of the figures of Golin to correspond to the claimed instantaneous match signal of independent claims 1 and 25 on appeal, as well as this signal in addition to the cumulative match (CM) signal of independent claims 21 and 24 on appeal. Although both appellant and we agree that Avis teaches broadly the concept of block comparisons between respective frames of a video signal, we are not persuaded by any rationale provided by the examiner or any teachings or suggestions of Golin and Avis to have led the artisan to have combined the block division teachings of Avis into the system of Golin as asserted by the examiner. We are therefore not persuaded that the examiner has set forth a prima facie case of obviousness of the claimed invention set forth at least in independent claims 1, 11, 21, 24 and 25 on appeal.

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Moreover, assuming for the sake of argument that the references are properly combined, we find no teaching or suggestion of the claimed ordering and averaging together steps of independent claim 1 on appeal to derive the best match signal and to eventually obtain the instantaneous or IM signal which is claimed to indicate a scene change only when the signal meets predetermined decision criteria as set forth in independent claims 1 and 25 on appeal.

We do not understand Avis as teaching the details of block matching defined by clause (c) of claim 11 on appeal, let alone the combined teachings of the references teaching the calculation of an average value and then normalizing a minimum value of the first match signal to obtain a normalized minimum value set forth at the end of claim 11 on appeal.

Finally, as to independent claims 21 and 24 on appeal, we find no basis in the combined teachings and suggestions of the references relied upon for comparing the plurality of pairs of frames set forth in claim 21, for example, in order to generate an instantaneous match (IM) signal and then "temporally filtering" this signal to generate the claimed

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cumulative match (CM) signal, let alone the feature of indicating a scene change when both the (IM) and the (CM) signals meet predetermined decision criteria.

Since we reverse the rejection of each independent claim 1, 11, 21, 24 and 25 on appeal, we also reverse the rejection of their respective dependent claims.

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In view of the foregoing, we have reversed the rejection  
of claims 1 through 27 under 35 U.S.C. § 103.

REVERSED

	Stanley M. Urynowicz, Jr.	)	
	Administrative Patent Judge	)	
		)	
		)	
	James D. Thomas	)	BOARD OF
PATENT	Administrative Patent Judge	)	APPEALS AND
		)	INTERFERENCES
		)	
	Eric S. Frahm	)	
	Administrative Patent Judge	)	

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