

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board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. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte CHANG Y. CHOO

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Appeal No. 2001-1929  
Application 09/167,994

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ON BRIEF

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Before THOMAS, RUGGIERO, and GROSS Administrative Patent Judges.  
THOMAS, Administrative Patent Judge.

DECISION ON APPEAL

Appellant has appealed to the Board from the examiner's final rejection of claims 1-5, 8, 9, 13, 17 and 19-24.

Representative claim 1 is reproduced below:

1. A process for real-time decoding and displaying a moving image, comprising:

Appeal No. 2001-1929  
Application 09/167,994

decoding a first frame from a signal representing the moving image;

decoding a second frame from the signal representing the moving image, wherein the second frame immediately follows the first frame in a first series of frames encoded in the signal representing the moving image;

generating an interpolated frame that is not encoded in the signal representing the moving image, wherein generating the interpolated frame comprises:

determining a set of motion vectors that corresponds to a set of base areas in the second frame, each motion vector identifying an area that is in the first frame and is similar to the base area corresponding to the motion vector,

determining interpolated motion vectors from the motion vectors; and

for each interpolated motion vector, generating a block of pixel values representing an area of the interpolated frame having a position that the interpolated motion vector identifies; and

displaying a second series of frames that includes the first frame followed by the interpolated frame followed by the second frame, whereby displaying the second series of frames provides a higher frame rate than does the signal representing the image.

The following reference is relied on by the examiner:

Boyce et al. (Boyce)                      6,025,878                      Feb. 15, 2000  
(effective filing date Nov. 14, 1994)

Claims 1-5, 8, 9, 13, 17 and 19-24 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Boyce. It is noted that the examiner's apparent reliance upon the final rejection

Appeal No. 2001-1929  
Application 09/167,994

as well as the Advisory Action at pages 4 and 5 of the answer to jointly explain the examiner's reasoning for the art rejection of the claims on appeal is highly disfavored since it makes reference to more than one prior Office action. Note MPEP § 1208.

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

#### OPINION

We reverse.

As the title of Boyce reveals, his invention relates to decoding both high and standard definition video signals utilizing the same video decoder. As noted at the bottom of page 3 of the principal brief on appeal and throughout this brief, Boyce discloses reducing the cost and complexity of such a decoder by reducing the amount of data processed for a high definition video signal, thus lowering the image quality of this type of video signal to correlate substantially to that of a standard video signal. This is consistent with the end of the abstract and is mentioned several times in the summary of the invention

Appeal No. 2001-1929  
Application 09/167,994

at column 3. The remaining portions of Boyce's specification detail the particular methodologies to achieve this data reduction.

On the other hand, appellant's disclosed and claimed invention relates to a decoder which in essence aims to expand upon the data presented to it for decoding rather than to reduce it, thus effectively increasing the frame rate.

We also find ourselves in agreement with appellant's basic position set forth at the bottom of page 3 of the brief as it relates to each independent claims 1, 13 and 19 on appeal that Boyce does not disclose the generation of an interpolated image that is not encoded in a signal representing a moving image, which feature is specifically recited in each of these independent claims and argued in the principal brief on appeal at pages 5 and 6 as well.

The operation of the MCP (Motion Compensated Prediction) circuit 130 in Figures 1, 2A and 2B is discussed in detail beginning at the bottom of column 11 through the end of column 14 as relied upon by the examiner in the answer. In any of these figures frame memory 118 stores the received, down-sampled decompressed frames before their respective submission to the MCP

130. The data there is selectively upsampled, interpolated and compensated, then downsampled before resubmission to the summer 128.

As explained between columns 11-14 of Boyce, it appears to us that the interpolation operation does not generate an additional or interpolated frame from a first and second frame. Indeed, the generation of a single anchor frame from two anchor frames that are averaged together as discussed at column 14 yields only the generation of single picture output by the MCP circuit rather than the ultimate ability to display the first frame, the interpolated frame and lastly the second frame as required by each of the independent claims 1, 13 and 19 on appeal. As indicated earlier, the discussion between columns 11 and 14 of Boyce clearly is directed at reducing the amount of data from a high definition TV signal to permit the decoding of HD-TV pictures at approximately the resolution of a standard definition television picture. The examiner's overfocused view upon drift in these noted columns in the answer loses sight of the basic requirements of each of the independent claims on appeal as urged by the appellant. The examiner's extensive rationale from the final rejection through the answer does not make up for the technical deficiencies present in Boyce itself.

Appeal No. 2001-1929  
Application 09/167,994

In view of the foregoing, the decision of the examiner rejecting independent claims 1, 13 and 19 on appeal is reversed. As such, the rejection of their respective dependent claims is also reversed. Accordingly, the decision of the examiner is reversed.

REVERSED

James D. Thomas	)	
Administrative Patent Judge	)	
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	)	
	)	
Joseph F. Ruggiero	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
Anita Pellman Gross	)	
Administrative Patent Judge	)	

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Appeal No. 2001-1929  
Application 09/167,994

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