

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board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. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARK E. EIDSON,
KARL H. MAURITZ and
PAUL S. GRYSKIEWICZ

Appeal No. 2003-0556
Application 09/185,248

ON BRIEF

Before THOMAS, JERRY SMITH, and LEVY, Administrative Patent Judges.
THOMAS, Administrative Patent Judge.

DECISION ON APPEAL

Appellants have appealed to the Board from the examiner's final rejection of claims 1-4, 10-12, 16, 19-21 and 23.

Representative claim 1 is reproduced below:

1. A method to combine diversely encoded audio data streams, comprising:

receiving a first audio data stream in a first perceptually based format;

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decoding the first audio data stream into a linear pulse code modulated format;

obtaining a second audio data stream in a linear pulse code modulated format; and

combining the decoded first audio data stream with the second audio data stream, utilizing in part a linear pulse code modulated mixer, for receipt by a CODEC.

The following references are relied on by the examiner:

Farhangi et al. (Farhangi)	5,647,008	July 8, 1997
Hinderks	5,706,335	Jan. 6, 1998
Alexander et al. (Alexander)	6,259,957	July 10, 2001
		(filing date Apr. 4, 1997)

Bergher et al. (Bergher), "Dolby AC-3™ and MPED-2 Audio Decoder IC with 6-Channels Output," IEEE Transactions on Consumer Electronics, Vol. 43, No. 3, pp. 567-574 (Aug. 1997).

Claims 1-4, 10-12, 16, 19-21 and 23 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner relies upon the collective teachings and suggestions of Farhangi in view of Bergher, further in view of Hinderks and Alexander.

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

OPINION

We affirm the rejection of all claims on appeal for the reasons set forth by the examiner in the answer. We recognize the examiner's initial statement of combining the teachings and suggestions of four references as to independent claims 1 and 19 at pages 3-5 of the answer may be somewhat awkwardly stated or viewed as somewhat disjointed and based upon combining bits and pieces of prior art. On the other hand, we remain convinced of the obviousness of the subject matter since the examiner provides clarifying analyses as to his position in the Remarks section of the answer beginning at page 8. With respect to these remarks, the examiner's reasoning of combinability appears to us to be better expressed in the paragraph bridging pages 9 and 10 of the answer, which is repeated again in a paragraph bridging pages 10 and 11 of the answer. It is here that the overlapping nature of the teachings and suggestions of the references relied upon is better expressed by the examiner such as to at least present to the reader, without considering the nature of the teachings and suggestions of the references themselves, a more persuasive line of reasoning of combinability. Therefore, we do not agree with one of appellants' basic urgings that there is no motivation or

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rationale of combinability and that the examiner has utilized prohibited hindsight.

Appellants' arguments in the brief and reply brief appear to continually urge that there is no teaching per se of linear pulse code modulated formats or LPCM, the emphasis being upon the absence of the word "linear" as expressly taught among the four references relied upon by the examiner. The examiner essentially acknowledges this with respect to the statement at the bottom of page 8 of the answer at least with respect to Farhangi, but the paragraph bridging pages 8 and 9 and the other last noted paragraph bridging pages 9 and 10 offers persuasive lines of reasoning that it would have been obvious for the artisan to have used linear pulse code modulated formats as a common type format since the collective teachings and showings of the references clearly utilize mixing pulse code modulated (PCM) audio information for output to CODECs. Appellants' brief and reply brief do not argue the basic thrust of the examiner's position, which appears to be that it would have been obvious to use LPCM over the conventional PCM that is actually taught among the references. From our detailed study of the references relied upon, we agree with the examiner's views and conclude that there

is no patentable distinction in using LPCM over the actual PCM formats actually taught among the references.

From our review of the appellants' specification there appears to be no criticality as to the use of LPCM anyway. At specification page 3, in the context of Figure 2, the decoding operation is expressed in the terms of converting any inputted digital audio information "into a raw format such as LPCM (block 202)." Thus, the LPCM format is suggested by appellants' specification to have been known in the art. A similar approach is taken with respect to the discussion at specification page 5 in the context of the block diagram circuit presented in Figure 3 of the specification as filed. Here, the data is decoded into "a raw audio data stream (e.g., an audio data stream and LPCM format)." Note the discussion at lines 8-10. The use of the term "raw data" by the examiner in his rationale in the answer is consistent with this disclosed language. The examiner has persuasively shown to us that the applied prior art clearly indicates that it was known in the art to mix two signals of a common digital format, that is, to mix digital PCM formatted information representing raw audio data.

Bergher, for example, has more compelling teachings than realized by the examiner as they apply to the subject matter of representative independent claim 1 on appeal. There appears to be no real dispute that the Dolby AC-3™ and MPEG-2 audio data are in a compressed format (claim 19 on appeal) or otherwise known to be in a "perceptually based" format. Each of these types of formats are clearly decoded into a common data stream thus appearing to indicate that it was known to receive a first audio data stream in a first perceptually based format and decoding it into a (linear) pulse code modulated format, and "obtaining" a second audio data stream through its corresponding process since the integrated circuit chip of Bergher is taught to provide plural input channels of at least these two types of compressed audio information. The discussion of the input data processor at the first column of page 571 suggests not only decoding of the information into a common audio bit stream by removing all of the extra buffering digital information, but also to apparently linearize it in order "to give consistent data to the DSP core" of Figure 1 at page 569 to process. In a similar manner, the teachings at the top of column 1 at Bergher's page 571 seems to indicate not only the use of a CODEC, the idea of interleaving

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or mixing common PCM sampled information is taught as well.

This reference also appears to suggest the subject matter of dependent claim 2 and the encoding clause of independent claim 12, which are not argued but which are indirectly reflected in the arguments presented by appellants with respect to claim 20 which recites essentially the same feature of encoding the combined data stream in a second compressed format before it is received by a CODEC device. The architecture of Figure 1 at page 569 of Bergher indicates that there are plural channels of PCM data outputted but as well that there is also formatted or encoded digitized output information of a common channel. This feature is also shown by the formatted 296 to the far right of Farhangi's Figure 2.

When looked at in the proper perspective, appellants' disclosed and claimed invention appears to seek to decode disparate or diverse types of audio coded information into a common audio digitized format for later coding and outputting. This is essentially what Bergher does. Similarly, the same may be said of Farhangi and the explicit aim of Alexander, as well, for example. The Abstract and Summary at column 1 of Alexander makes it clear that not only are digital sources of data of

diverse formats mixed by digital mixers, the analog sources of data are first digitized after they have been mixed for subsequent common mixing by the digital mixers of Alexander to yield a mixed digital audio output stream. PCM data is bidirectionally exchanged in Alexander as best represented in Figure 1B which is representative of the broader showing in Figure 1A. The focus of this reference is a CODEC (Figure 2A), a feature also suggested in Bergher as well as shown in the far right corner of Farhangi's Figure 2 teaching to provide an analog output. Thus, the additional reliance upon Hinderks is cumulative for the teachings of a CODEC. Note also the teachings in Figure 2A of Alexander and the use of a well-known AC'97 digital controller and related circuitry which is what appellants have disclosed as well to be known in the art. See specification page 1. Alexander's digital mixer system 300 is shown in various embodiments in Figures 3A-3C.

We have also indicated earlier that it appears that the input processor discussion at the first column of 571 of Bergher would have indicated to the artisan that the inputted, coded data would have been decoded to give a common or consistent PCM data stream (Figure 2) for processing by the DSP core structure shown

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in Figure 1 at page 569 of Bergher. This appears to suggest decoding to yield a uniform or linear processing approach of PCM information. It appears to us that the artisan may also well recognize that the basic approach of Farhangi correlates to this as well since the Abstract and Summary of this reference states that different types of coded digital information that may be inputted to his device of Figure 2 may be first deformatted or otherwise decoded into a common format before digital mixing by mixers 277 and 278. In doing so, the title of Farhangi's patent of "mixing of audio signals in multimedia platforms" is in part achieved by a conversion of the digitized information to a common sampling rate, which appears to suggest a uniform or linear PCM approach. A corresponding discussion of column 1 at page 571 of Bergher appears to exist as well at columns 3 and 4 of Farhangi.

In view of the foregoing, the decision of the examiner rejecting all claims on appeal under 35 U.S.C. § 103 is affirmed.

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

AFFIRMED

James D. Thomas)	
Administrative Patent Judge)	
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Jerry Smith)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
Stuart S. Levy)	
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