

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte TODD C. HOUG

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Appeal No. 2003-2116  
Application No. 09/306,954

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ON BRIEF

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Before FRANKFORT, MCQUADE, and NASE, Administrative Patent Judges.

MCQUADE, Administrative Patent Judge.

DECISION ON APPEAL

Todd C. Houg originally took this appeal from the final rejection (Paper No. 14) of claims 1 through 26, all of the claims pending in the application. Upon consideration of the appellant's main brief (Paper No. 18), the examiner issued an Office action (Paper No. 19) reopening prosecution and entering superseding rejections of the claims. Pursuant to 37 CFR § 1.193(b)(2)(ii), the appellant then filed a request that the appeal be reinstated (Paper No. 20) and a supplemental brief (Paper No. 21). Implicitly granting the request, the examiner

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entered an answer (Paper No. 22), noted a reply brief (Paper No. 23) filed by the appellant and forwarded the application to this Board for review of the current rejections of claims 1 through 26.

#### THE INVENTION

The invention relates to "audio systems with range finding devices" (specification, page 1). Representative claims 1 and 14 read as follows:

1. An audio system comprising:
  - a plurality of speakers;
  - a first range device coupled to a first speaker and a second range device coupled to a second speaker, the first range device adapted to generate a first indication representing a first distance to a listener, the second range device adapted to generate a second indication representing a second distance to the listener; and
  - a positioning routine executed by a processor unit and operatively coupled to the plurality of speakers and to the first and second range devices, the positioning routine adapted to modify a timing of an audio signal transmitted to the plurality of speakers based on the first and second indications.
  
14. A method to adjust an audio output signal, comprising:
  - obtaining a first distance from a first range device to a listener;
  - obtaining a second distance from a second range device to the listener; and
  - modifying an intensity and at least another component of the audio output signal based on the first and second distances.

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THE PRIOR ART

The references relied on by the examiner to support the rejections on appeal are:

Stevenson	5,255,326	Oct. 19, 1993
Friedman	5,499,294	Mar. 12, 1996
Tatemi et al., Japanese Patent Document (Tatemi) <sup>1</sup>	10-126900	May 15, 1998

THE REJECTIONS

Claims 14, 15 and 24 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Stevenson.

Claims 1 through 7, 10 through 13, 16 through 23, 25 and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Stevenson in view of Tatemi.

Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Stevenson in view of Tatemi and Friedman.

Attention is directed to the main, supplemental and reply briefs and to the answer for the respective positions of the appellant and the examiner regarding the merits of these rejections.

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<sup>1</sup> The version of this reference of record includes an English language translation.

DISCUSSION

I. The 35 U.S.C. § 102(b) rejection of claims 14, 15 and 24 as being anticipated by Stevenson

Anticipation is established only when a single prior art reference discloses, expressly or under principles of inherency, each and every element of a claimed invention. RCA Corp. v. Applied Digital Data Sys., Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984). In other words, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. Scripps Clinic & Research Found. v. Genentech Inc., 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991).

Stevenson discloses an interactive audio system "which is capable of tracking a principal listener and balancing the reproduced sound in accordance with the position of the principal listener" (column 2, lines 24 through 27). The system comprises a surround sound signal processor 12, stereophonic speaker units in the form of transceivers 14 and 16, a microprocessor 30 and various audio sources including a television set 32, a tape deck 33, a compact disc player 35 and a radio 36. Stevenson describes the listener tracking aspect of the system as follows:

[t]he system illustrated in FIG. 1 additionally employs a pair of infrared sensors 18 and 22. These sensors are coupled, respectively, through analog-to-

digital convertors 19 and 23 to digital transmitters 20 and 24 for supplying digitized signals indicative of the triangulation or location of the principal listener 10, back through the transceivers 14 and 16, respectively, to the surround sound signal processor 12. This information is supplied to the microprocessor 30 which then supplies signals back to the surround sound signal processor 12 for automatically adjusting the "balance" of the audio signals to be reproduced by the loudspeakers of the transceivers 14 and 16. The utilization of the infrared sensors 18 and 22 permits the system continually to triangulate on the principal listener 10 and, essentially, report the position of the principal listener 10 in the room to effect automatic adjustment of the balance of the speakers to the desired level initially set by the principal listener 10 for some initial starting position when the system first is turned on [column 3, lines 28 through 47].

As indicated above, independent claim 14 recites a method to adjust an audio output signal comprising, inter alia, the step of modifying "the intensity and at least another component of the audio output signal" based on first and second distances from first and second range devices to a listener. In the face of Stevenson's apparent disclosure of modifying only the balance (i.e., the intensity) of the audio output signal based on first and second distances from first and second range devices to a listener, the examiner submits that "the claim does not patentably differentiate over Stevenson's adjusting of the balance of the speakers from a first setting to a second setting, since the second setting would read upon the claimed 'another

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component' of the audio signal" (answer, page 4). The examiner further explains that

[t]he claim to "another component" of the audio signal does not define over a first intensity and a second intensity (balancing and then, in response to movement of the listener, rebalancing) of the audio signal. The breath of "another component" of the audio signal is such as to read upon two different levels of balancing or intensity [answer, page 7].

The examiner's position here is unreasonable. Stevenson discloses the modification of only one component of an audio signal, i.e., the balance or intensity, based on first and second distances from first and second range devices to a listener. A person of ordinary skill in the art clearly would not view a further modification of this same component to be a modification of another component of the audio signal. Hence, the examiner's determination that Stevenson discloses each and every element of the invention set forth in claim 14 is unsound.

Accordingly, we shall not sustain the standing 35 U.S.C. § 102(b) rejection of independent claim 14, and dependent claims 15 and 24, as being anticipated by Stevenson.

II. The 35 U.S.C. § 103(a) rejection of claims 1 through 7, 10 through 13, 16 through 23, 25 and 26 as being unpatentable over Stevenson in view of Tatemi

Independent claim 1 recites an audio system comprising, inter alia, a positioning routine adapted to modify a "timing" of

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an audio signal. Independent claims 11 and 17 contain similar recitations. The examiner (see page 5 in the answer) concedes that Stevenson does not respond to these claim limitations. To overcome this deficiency, the examiner turns to Tatemi.

It is not disputed that Tatemi discloses an audio system for a theater wherein the distances between one or more movable sound sources on a stage and a plurality of stationary speakers is sensed and utilized to adjust the timing of the speaker outputs so as to enable spectators to readily recognize the relative positions of the sound sources.

In proposing to combine Stevenson and Tatemi to reject independent claims 1, 11 and 17, the examiner concludes that it would have been obvious in view of Tatemi "to have modified Stevenson to include modifying the timing of the audio signals from the speakers in addition to the volume or intensity and balance so as to optimize the ambiance of the audio sound system and the directional audio quality" (answer, pages 5 and 6). The examiner adds that

with respect to Tatemi et al, it is irrelevant whether the source or the listener is the one moving. . . .  
[T]here is no difference, conceptually, in the timing of signals based upon a movement of a source or a movement of a listener. What is important is the fact that the timing of audio receiving apparatuses or

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speakers may be adjusted based upon a changing distance or range between the source or listener to a speaker(s) so as to provide greater audio ambiance [answer, page 7].

The examiner's assertion that there is no difference conceptually between the timing of audio signals based on movement of a sound source and the timing of audio signals based on movement of a listener finds no support in the fair teachings of Stevenson and Tatemi. In addition to lacking factual support, this attempted distillation of the claimed invention and the prior art to a common concept represents a superficial mode of analysis which improperly disregards both express claim limitations and specific prior art teachings. In short, the disparate disclosures of Stevenson and Tatemi would not have provided the artisan with any suggestion to combine them in the manner proposed by the examiner so as to arrive at the subject matter recited in claims 1, 11 and 17.

Therefore, we shall not sustain the standing 35 U.S.C. § 103(a) rejection of independent claims 1, 11 and 17, and dependent claims 2 through 7, 10, 12, 13, 16, 18 through 23, 25 and 26, as being unpatentable over Stevenson in view of Tatemi.

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III. The 35 U.S.C. § 103(a) rejection of claims 8 and 9 as being unpatentable over Stevenson in view of Tatemi and Friedman

As Friedman's disclosure of a digital camera having a range finder which may be acoustic, infrared, laser or optical in nature does not cure the above noted flaws in the Stevenson and Tatemi combination relative to the subject matter recited in parent claim 1, we shall not sustain the standing 35 U.S.C. § 103(a) rejection of dependent claims 8 and 9 as being unpatentable over Stevenson in view of Tatemi and Friedman.

SUMMARY

The decision of the examiner to reject claims 1 through 26 is reversed.



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