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**Datasheet for the decision  
of 12 May 2022**

**Case Number:** T 2993/19 - 3.5.03

**Application Number:** 06718505.8

**Publication Number:** 1851992

**IPC:** H04R3/00, H04R1/02

**Language of the proceedings:** EN

**Title of invention:**

Method and apparatus for ambient sound therapy user interface and control system

**Applicant:**

Davis, Louis Fisher Jr.

**Headword:**

Ambient sound therapy/DAVIS

**Relevant legal provisions:**

EPC Art. 54, 116(1)  
RPBA 2020 Art. 12(8)

**Keyword:**

Decision in written proceedings: declaration of the appellant not to attend the oral proceedings - oral proceedings neither necessary nor expedient  
Novelty - main and auxiliary request (no)



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Case Number: T 2993/19 - 3.5.03

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.03**  
**of 12 May 2022**

**Appellant:** Davis, Louis Fisher Jr.  
(Applicant) 1304 County Road 49  
Omaha NE 68152 (US)

**Representative:** Appleyard Lees IP LLP  
15 Clare Road  
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**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 14 May 2019  
refusing European patent application  
No. 06718505.8 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chair** K. Bengi-Akyürek  
**Members:** K. Peirs  
N. Obrovski

## Summary of Facts and Submissions

- I. The appeal is against the decision of the examining division refusing the present European patent application on the grounds of lack of
- novelty (Article 54 EPC) regarding claim 1 of a main request;
  - inventive step (Article 56 EPC) regarding claim 1 of a first auxiliary request.
- II. With the statement of grounds of appeal, the appellant submitted four documents, which correspond to the following URLs (board's labelling):
- NPL1:** "<http://www.dpamicrophones.com/mic-university/matching-microphones>";
  - NPL2:** "<http://www.soundonsound.com/sound-advice/q-matched-pair-mics-necessary-stereo-recording>";
  - NPL3:** "<http://recordinghacks.com/2011/09/13/matched-stereo-pairs-debate>";
  - NPL4:** "<https://www.dictionary.com/browse/independent>".
- III. The appellant requests that the decision under appeal be set aside and that a patent be granted on the basis of the claims of the **main request** or the claims of a new **first auxiliary request** filed with the statement of grounds of appeal.
- IV. The appellant was summoned to oral proceedings before the board. A communication was issued under Article 15(1) RPBA 2020 including the board's preliminary opinion concerning novelty (Article 54 EPC) of claim 1

of the claim requests on file, having regard to the following prior-art document:

**D2:** US 5 260 920 A.

- V. In a written reply, the appellant provided counter-arguments on the board's preliminary opinion. In a further written submission, he stated that he would not be attending the arranged oral proceedings and that he was looking forward to receiving the board's written decision.
- VI. Subsequently, the oral proceedings were cancelled.
- VII. Claim 1 of the **main request** reads as follows (board's feature labelling):
- (a) "A recording and playback system comprising:
  - (b) a rectangular array (100) of microphones (102) comprising four independent multidirectional matched microphones and
  - (c) each of said matched microphones are independent of any other matched microphone and
  - (d) said matched microphones are positioned symmetrically about a center point of the rectangular array and each matched microphone position at one of the four corners of the array;
  - (e) thereby having an established sound pickup time delay between matched microphones;  
and
  - (f) a recording system (122) having four independent recording channels (M1-M4) where each channel is operably connected to one of the microphones for receiving sounds independently captured by each matched microphone, and

(g) further having an electronic storage having stored thereon an electronic recording of each channel's captured sounds thereby having an established recording".

VIII. Claim 1 of the **first auxiliary request** reads as follows (amendment vis-à-vis claim 1 of the main request underlined by the board):

"A recording and playback system comprising:

a rectangular array (100) of microphones (102) comprising four independent multidirectional matched microphones and each of said matched microphones are independent of any other matched microphone and said matched microphones are positioned symmetrically about a center point of the rectangular array and each matched microphone position at one of the four corners of the array; thereby having an established sound pickup time delay between matched microphones;

and

a recording system (122) having four independent recording channels (M1-M4) where each channel is operably connected to one of the microphones for receiving sounds independently captured by each matched microphone independent of any other microphone, and further having an electronic storage having stored thereon an electronic recording of each channel's originally captured sounds, independently captured by each matched microphone, thereby having an established recording".

## **Reasons for the Decision**

### 1. *Decision in written proceedings*

1.1 The appellant was summoned to oral proceedings (see point IV above). Subsequently, he declared not to attend the oral proceedings (see point V above). Such a declaration is treated as equivalent to a withdrawal of the request for oral proceedings, thereby obviating the need for oral proceedings in the current appeal case.

1.2 Given that the board does not consider the conduct of oral proceedings to be expedient either (cf. Article 116(1) EPC), the decision is handed down in written proceedings (Article 12(8) RPBA 2020).

### 2. *Technical background*

The present application concerns a sound recording system using omni-directional microphones which are matched in the sense that they have a well-defined time delay between them. The microphones are independent such as to produce recording channels that can be individually processed.

By providing for these individual channels, the originally recorded sound scape can, according to the present application, be reproduced more accurately upon playback. The sound recording system of the invention is in particular supposed to be used in hospitals to provide a calming and natural ambience, e.g. in the framework of "ambient therapy".

### 3. *NPL1 to NPL4: relevance to the present case*

The appellant had filed documents **NPL1 to NPL4** with the statement of grounds of appeal (see point II above). The first three of these relate to the term "matched microphones" while the fourth one concerns a dictionary entry of the term "independent".

The board is well able to properly construe the terms "matched microphones" and "independent microphones" based on the present application itself (see point 4.1 below). Therefore, the board considers documents NPL1 to NPL4 not to be relevant for construing the underlying claims in the present appeal case.

4. *Main request: claim 1 - construction*

Contrary to the appellant's view, claim 1 of the main request comprises several terms that are vague in the sense that they may relate to various, technically different configurations. For the purpose of assessing novelty (see point 5 below), these vague terms are construed as follows.

4.1 **Feature (b)** comprises the expression "independent multidirectional matched microphones", where

- (i) the term "multidirectional [microphones]" is not common in the technical field of microphones;
- (ii) the criteria for when the microphones are "independent" and "matched" are not apparent from features (a) to (g) taken by themselves.

As regards **point (i)**, it can be understood from the last two lines of page 10 and from lines 7 and 8 of page 11 of the application's description

that omnidirectional microphones are meant. In view of the reference to the "eight non-directional microphones" in Reasons 15.1.3 of the appealed decision, the examining division seems to have implicitly adopted the same construction.

Concerning **point (ii)**, the skilled reader understands from lines 1 to 12 of page 4 and from lines 13 to 16 of page 17 of the application's description that

- the microphones are *independent* in the sense that they produce respective channels that can be processed individually

and that

- they are *matched* in the sense that at least the time delay between the microphones during recording is matched.

4.2 As regards **feature (e)**, the skilled reader would be unfamiliar with the term "established sound pickup time delay" (emphasis added). Based on lines 22 to 24 of page 9 of the application's description, this term may be construed such that the time delay between sound pickup by the individual microphones is defined by the dimensions of the rectangular array: this time delay results directly (i.e. without the presence of any further delay sources) from the constructional arrangement of the microphones in the array.

4.3 For **feature (g)**, the expression "electronic storage having stored thereon an electronic recording" (emphasis added) is understood such that the electronic storage is suitable for storing an electronic recording. Moreover, the expression "thereby having an



established recording" (emphasis added) of this feature is construed, in view of lines 2 to 5 of page 4 and lines 17 to 21 of page 11 of the application's description, in the sense that the recording should be of sufficiently high resolution to replicate the sound scape of the recording area to an acceptable degree.

5. *Main request: claim 1 - novelty*

The board holds that the passages in **D2** cited in Reasons 15.1.1 of the appealed decision disclose **features (a) to (g)**. In view of the appellant's arguments, the board makes the following comments.

5.1 As regards **feature (b)**, the board agrees with the appellant that microphones must be "matched" at least in terms of their measured frequency response to provide for an accurate recording. The skilled reader would therefore also immediately understand, e.g. from column 1, lines 7 to 15 and column 1, line 55 to column 2, line 3 of D2, that such a matching frequency response necessarily underlies the configuration of D2.

Moreover, although each one of the *omnidirectional* microphones 16 to 23 is paired with a dedicated *directional* microphone, namely one of directional microphones 26 to 33, it is immediately apparent from Figures 1 and 3 of D2 (or, alternatively, Figures 4 and 5) that the microphones are independent in terms of spatial separation as well as in terms of providing for dedicated, independent channels which can be processed after recording (cf. Reasons 4.1 above). Also, claim 1 of the main request does not exclude that more than four matched and independent microphones according to feature (b) are present, which can all contribute to the recorded signals (see also Reasons 15.1.5 of the

impugned decision).

5.2 Concerning **feature (e)**, the skilled reader would readily see, from document D2's detailed description of the cubical arrangement of the microphones (including a specification of concrete dimensions) at the passage of column 4, line 28 to column 5, line 9, that the microphone arrangement of D2 involves a well-defined time delay between sound pickup by the individual microphones as defined by the spacing between those microphones (cf. points 4.1 and 4.2 above).

5.3 Concerning **feature (f)**, the appellant correctly argued that the skilled reader would immediately understand that, according to this feature, each channel must be connected to one of the four microphones. However, the same holds true for Figures 3 and 5 of D2: each of the microphones 16 to 23 and 26 to 33 has a dedicated, independent line towards head amplifier 56. The appellant contested the anticipation of this feature by D2 and cited various passages of columns 2 to 7 of D2 indicating that the recordings of the individual microphones would be paired and mixed. He particularly highlighted lines 51 to 60 of column 5 of D2, where sixteen microphone-captured sounds would be paired and then received by the recording channels. Yet, feature (f) merely requires that there are four independent recording channels at a certain point in the circuitry of the claimed recording system. This is plainly the case in Figures 3 and 5 of D2 in view of the dedicated, independent line between each of the microphones and head amplifier 56.

That these four independent recording channels are subsequently paired and mixed as expressed in the passages of columns 2 to 7 of D2 cited by the appellant

is not excluded by features (a) to (g), as was already observed in Reasons 15.1.5 of the appealed decision.

- 5.4 As regards **feature (g)**, digital multi-track tape recorder (DMR) 66 of Figures 3 and 5 as well as described in column 5, lines 52 to 64 and column 7, lines 33 to 62 of D2 is a storage means that is suitable for storing "each channel's captured sounds thereby having an established recording" in accordance with feature (g) (cf. point 4.3 above).

It goes without saying that claim 1 of the main request does not exclude any processing taking place *before* storing the captured sounds, such as the mixing as mentioned in Reasons 15.1.5 of the appealed decision. In particular, feature (g) merely concerns storing "each channel's captured sounds". It does not require a recording of each of the channels individually.

- 5.5 In conclusion, the subject-matter of claim 1 of the main request is not new over D2 (Article 54 EPC).

6. *First auxiliary request: claim 1 - novelty*

- 6.1 Claim 1 of the **first auxiliary request** differs from claim 1 of the main request in that it additionally specifies that

(h) the receiving of sounds captured by each matched microphone is taking place independently of any other microphone.

- 6.2 **Feature (h)** is already disclosed in Figures 3 and 5 of D2 (cf. point 5.3 above).

6.3 Hence, the subject-matter of claim 1 of the first auxiliary request is not new over D2 either (Article 54 EPC).

## Order

### For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



B. Brückner

K. Bengi-Akyürek

Decision electronically authenticated