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110239	7590	10/05/2020	EXAMINER	
Edell Shapiro & Finnan LLC 9801 Washingtonian Blvd., Suite 750 Gaithersburg, MD 20878			FALEY, KATHERINE A	
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* MICHAEL GOOREVICH and KYRIAKY GRIFFIN

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Appeal 2019-003820  
Application 15/143,183  
Technology Center 2600

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Before ELENI MANTIS MERCADER, JOHNNY A. KUMAR, and  
LARRY J. HUME, *Administrative Patent Judges*.

KUMAR, *Administrative Patent Judge*.

## DECISION ON APPEAL

### STATEMENT OF CASE

#### *Introduction*

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals the Final Rejection of claims 1, 2, 4–8, 10–19, and 21–23. Claims 3, 9, and 20 have been cancelled. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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<sup>1</sup> We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. According to Appellant, Cochlear Limited, is the real party in interest. Appeal Br. 3.

*Exemplary Claim*

Exemplary claim 1 under appeal reads as follows. Independent claims 11 and 19 recite similar subject matter:

1. A method performed by a hearing system for processing audio signals, comprising:
  - analyzing a first audio signal and a second audio signal to determine a first directional signal and a second directional signal;
  - analyzing at least one of the first directional signal to determine a first sound environment or the second directional signal to determine a second sound environment; and
  - based on at least one of the first sound environment or the second sound environment, determining a third audio signal from the first and second directional signal with a beamformer.

*Examiner's Rejections*

Claims 2, 16, and 21 are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement.

Claims 2, 16, and 21 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter.

Claims 1, 4, 5, 7, 10–13, 15, 17, 19, 22, and 23 are rejected under pre-AIA 35 U.S.C. 102(b) as being anticipated by Allegro-Baumann (US 2007/0269064 A1, published Nov. 22, 2007).

Claims 6 and 14 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Allegro-Baumann as applied to claims 1, 5, 11, and 12 above, and further in view of Kremer (US 2004/0078199 A1, published Apr. 22, 2004).

Claims 8 and 18 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Allegro-Baumann as applied to claims 1, 7, 11, and 17 above, and further in view of Boretzki (US 2013/0322669 A1, published Dec. 5, 2013).

## ANALYSIS<sup>2</sup>

We have considered all of Appellant's arguments raised in the Briefs.<sup>3</sup> We disagree with Appellant's arguments, and we adopt as our own: (1) the findings and legal conclusions set forth by the Examiner in the Final Office Action from which this appeal is taken, and (2) the findings, legal conclusions, and explanations set forth in the Answer in response to Appellant's arguments. We highlight and address specific findings and arguments for emphasis in our analysis below.

Appellant contends, the "claimed 'first directional signal' and 'second directional signal' are different from any type of beamformed signals (i.e., signals generated by a beamformer or beamforming operations)." Appeal Br. 13; Reply Br. 3.

The Examiner determines Allegro-Baumann discloses:

Fig. 10: audio signals S1 and S2; para 0123: "possible to control the beam former such that first, a first preferred direction (or, more general, a first directional characteristic) is selected, and then a second preferred direction (or, more general, a second directional characteristic) is selected")

Final Act. 4.

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<sup>2</sup> We *pro forma* affirm the rejections of claims 2, 16, and 21 under 35 U.S.C. § 112, first and second paragraphs (*see* Final Act. 3–4), which were not contested by Appellant. *See* Appeal Br. 9–17.

<sup>3</sup> Separate patentability is not argued for claims 2, 4–8, 10, 12–18 and 21–23. Except for our ultimate decision, these rejections of these claims is not discussed further herein.

In other words, the Examiner equates Allegro-Baumann's audio signals S1 and S2 to the claimed first and second directional signals, respectively.

In particular, the Examiner determines, and we agree:

As to Allegro-Baumann, the beamformed signals S1 and S2 are indeed separate and distinct from the beamforming operation of transfer function G, however, the signals S1 and S2 can still be said to be directional signals. Further, it is reasonable to interpret beamformed signals as being directional signals because beamformed signals are associated with a direction. Specifically, Allegro-Baumann, defines beamforming in para 0068 as “tailoring the amplification of an electrical signal (also referred to as “audio signals”) with respect to an acoustical signal (also referred to as “acoustical sound”) **as a function of direction of arrival of the acoustical signal relative to a predetermined spatial direction.**” Para 0120 of Allegro-Baumann describes the beamformers BF1 and BF2, which create S1 and S2 (which Examiner relies upon as teaching the “directional signals), as being “adjusted **to form a desired directional characteristic**, i.e., the directional characteristic is set by means of the beam former.” As can be seen from Allegro-Baumann, the beamformed signals S1 and S2 are most definitely directional signals, and therefore, Allegro-Baumann teaches the “directional signals” of the claims.

Ans. 9–10 (emphasis in original).

Allegro-Baumann explicitly discloses “the transfer function G may use a beam former.” Allegro-Baumann, ¶ 143.

Further, Appellant contends, “claim 1 recites three (3) different signals, namely a ‘first directional signal,’ ‘a second directional signal,’ and a ‘third audio signal.’ The ‘third audio signal’ is generated from the ‘first and second directional signal[s] with a beamformer.’” Reply Br. 5.

Allegro-Baumann's modified Figure 10, with annotations, is reproduced below:

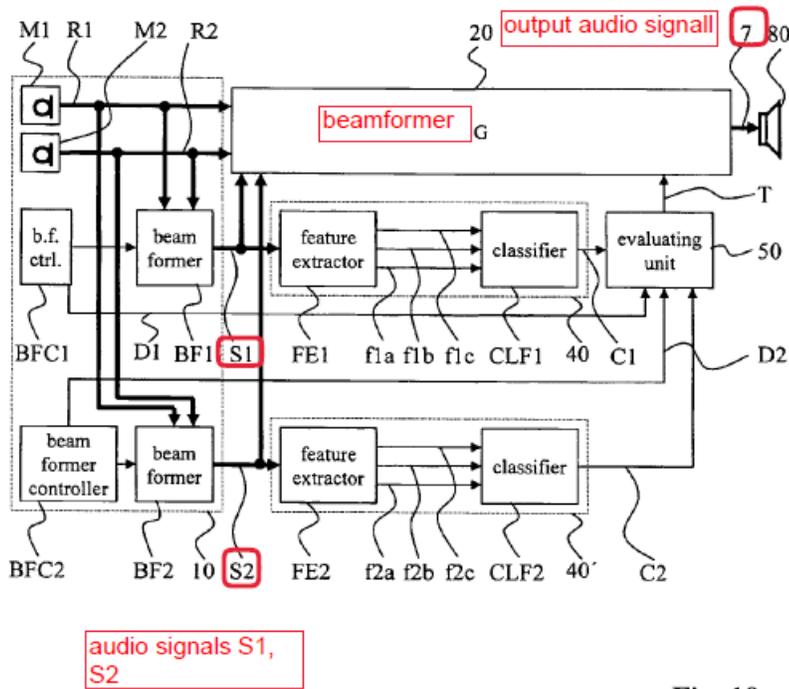


Fig. 10

Modified Figure 10 is a block diagram illustrating a hearing system.

The Examiner determines Allegro-Baumann discloses the claimed third audio signal in “Fig. 10: various audio signals in transmission unit 20; output audio signal 7 all based on classification data).” Final Act. 8.

In other words, the Examiner equates Allegro-Baumann’s audio output signal 7 to the claimed third audio signal. We agree with the Examiner because giving the claim its broadest reasonable interpretation consistent with the Specification, the Examiner has properly found that the claimed “first and second directional signals” and “the third audio signal” limitations are respectively met by Allegro-Baumann’s audio S1, S2, and output audio signal 7 (Allegro-Baumann ¶¶ 52, 120, 123, and 143; see modified Figure 10), as shown above in Figure 10 of Allegro-Baumann.

Accordingly, we agree with the decisions reached by the Examiner in the Examiner’s Answer. We sustain the rejection of claims 1, 4, 5, 7, 10–13, 15, 17, 19, 22, and 23 under 35 U.S.C. § 102.

### CONCLUSION

We *pro forma* affirm the Examiner’s rejection of claims 2, 16, and 21 under 35 U.S.C. § 112, first paragraph, for lacking written description.

We *pro forma* affirm the Examiner’s rejection of claims 2, 16, and 21 under 35 U.S.C. § 112, second paragraph, for being indefinite.

We affirm the Examiner’s rejection of claims 1, 4, 5, 7, 10–13, 15, 17, 19, 22, and 23 as being anticipated under 35 U.S.C. § 102(b).

We affirm the Examiner’s rejection of claims 6, 8, 14, and 18 as being obvious under 35 U.S.C. § 103.

### DECISION SUMMARY

<b>Claim(s) Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
2, 16, 21	112, ¶ 1	Written Description	2, 16, 21	
2, 16, 21	112, ¶ 2	Indefiniteness	2, 16, 21	
1, 4, 5, 7, 10– 13, 15, 17, 19, 22, 23	102(b)	Allegro-Baumann	1, 4, 5, 7, 10– 13, 15, 17, 19, 22, 23	
6, 14,	103(a)	Allegro-Baumann, Kremer	6, 14	
8, 18	103(a)	Allegro-Baumann, Boretzki	8, 18	
<b>Overall Outcome</b>			1, 2, 4–8, 10– 19, 21–23	

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TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv). *See* 37 C.F.R. § 41.50(f).

AFFIRMED