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Filed on behalf of Sony Electronics Inc.

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SONY ELECTRONICS INC.,
Petitioner,

v.

JAWBONE INNOVATIONS, LLC,
Patent Owner.

IPR2023-01065
U.S. Patent No. 10,779,080

**PETITIONER'S REPLY TO
PATENT OWNER'S PRELIMINARY RESPONSE**

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**I. McCOWAN TEACHES HOW TO IMPROVE IKEDA
FOR NEAR-FIELD APPLICATIONS, INCLUDING HEADSETS**

Contrary to Jawbone’s contention that Sony’s petition and declaration contain “no reference to . . . the motivation to create a headset . . . in connection with the combination [of Ikeda] with McCowan or Kanamori” (Ex. 2002 ¶ 71; POPR 25), Dr. Vipperman’s declaration includes a lengthy discussion of why a POSITA would have looked to McCowan’s near-field compensation unit to provide a gain (which Dr. Vipperman refers to as β) for use in noise-reduction circuitry to modify and improve Ikeda for a near-field headset application (Ex. 1003 ¶¶ 61-66; Pet. 20-26).

Dr. Vipperman explained that McCowan teaches that amplitude differences across sensors are negligible for far-field sources, but can be significant for near-field sources. (Ex. 1003 ¶¶ 61, 65.) To compensate for these amplitude differences, a POSITA would have been motivated by McCowan to apply a gain to the signal of near-field microphone M1 for forming the reference microphone. (*Id.* ¶ 65; Ex. 1007, 93-96.) Jawbone, by directing the Board only to paragraph 62 of Dr. Vipperman’s declaration (POPR 24; Ex. 2002 ¶ 68), ignores subsequent paragraphs 63-66, which explain in detail that McCowan teaches a POSITA how and why to make the modifications in question for a headset (Ex. 1003 ¶¶ 61-66).

Jawbone argues Sony did not explain the motivation to use Ikeda for a near-field headset application (POPR 22-23; Ex. 2002 ¶ 67), but Ikeda’s disclosure

itself encompasses a headset as an application, under the rubric of a “hands-free telephone unit” (Ex. 1003 ¶ 61; Ex. 1006 ¶ [0036]). Jawbone provides no evidence to dispute that a POSITA understood that term to include headsets. *In re Thrift*, 298 F.3d 1357, 1364 (Fed. Cir. 2002) (principal reference’s use of “voice-activated transfer means” supported motivation to use speech recognition). Prior art disclosing headsets for near-field applications provided further motivation. (Ex. 1003 ¶ 61.)

Jawbone faults Sony for not including McCowan’s large microphone array and “fixed near-field super directive beamformer” in Ikeda (POPR 24-26), but Sony was not required to include all features of McCowan in Ikeda. *In re Keller*, 642 F.2d 413, 425 (C.C.P.A. 1981) (“[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference”). A POSITA would have incorporated McCowan’s gain because it solved a specific problem in constructing a near-field device—compensating for near-field amplitude differences to allow for production of “a true null . . . in the beam-pattern . . . in the direction *and* distance corresponding to the desired source.” (Ex. 1003 ¶ 64 (citing Ex. 1007, 94).) As Dr. Vipperman explained, such a system would minimize leakage of a desired signal of a near-field speech source into the noise reference signal. (Ex. 1003 ¶ 64 (citing Ex. 1007, 87-91, 93-96, Fig.3).)

Jawbone argues that McCowan’s objective was improving low frequency directivity for near-field speech (POPR 25; Ex. 2002 ¶ 70), but McCowan’s microphone attenuation factor, which accounts for differences in amplitude decay due to distance traveled, does not depend on the frequency of the sound source; it depends only on distance from sound source to microphone (Ex. 1007, 90). Indeed, although <1 kHz frequencies are near field for McCowan’s larger array size and source distance (*id.* at 96), McCowan’s system works for both low and high frequency nearfields (*id.* at 98-100). Thus, McCowan’s discussion of low frequencies would not dissuade a POSITA from using near-field compensation to “ensure[] that a true null exists” in the headset. (*Id.* at 94; Ex. 1003 ¶¶ 63-66.)

**II. THE PETITION AND DR. VIPPERMAN’S DECLARATION
EXPLAIN WHY KANAMORI’S TEACHINGS
WOULD BE USED TO MODIFY A NEAR-FIELD DEVICE**

Although Kanamori is directed to a far-field system (POPR 28-29) a POSITA would apply Kanamori’s teachings to a near-field Ikeda-McCowan system to more accurately estimate the noise included in the main signal V_m based on the reference signal V_r , resulting in better noise reduction (Ex. 1003 ¶ 69). *KSR Int’l Co. v. Teleflex Inc.* 550 U.S. 398, 417, 421 (2007) (POSITAs may use their creativity to apply teachings in one field to another). Jawbone does not show this combination would not work for near-field applications.

Sony Electronics Inc. v. Jawbone Innovations, LLC
U.S. Patent 10,779,080

Respectfully submitted,
LERNER DAVID LLP

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing
**PETITIONER'S REPLY TO PATENT OWNER'S PRELIMINARY
RESPONSE** is being served on October 26, 2023, on counsel of record for patent
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