

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

RESONANT SYSTEMS, INC.,
Patent Owner.

Case No. IPR2024-00697
U.S. Patent No. 8,093,767

PATENT OWNER'S RESPONSE

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PATENT OWNER'S EXHIBIT LIST

<i>Exhibit No</i>	<i>Description</i>
2001	Defendant Apple Inc.'s Proposed Claim Constructions, (<i>Resonant Systems, Inc. v. Apple Inc.</i> , Case No. 23-cv-00077-ADA (W.D. Tex.))
2002	Court's Claim Construction Order (<i>Resonant Systems, Inc. v. Apple Inc.</i> , Case No. 23-cv-00077-ADA (W.D. Tex.), Dkt. 91)
2003	Defendant Apple Inc.'s Opening Claim Construction Brief (<i>Resonant Systems, Inc. v. Apple Inc.</i> , Case No. 23-cv-00077-ADA (W.D. Tex.), Dkt. 75)
2004	Order Modifying Scheduling Order (<i>Resonant Systems, Inc. v. Apple Inc.</i> , Case No. 23-cv-00077-ADA (W.D. Tex.), Dkt. 57)
2005	Federal Court Management Statistics, Western District of Texas, 2018-2023
2006	Excerpt of Plaintiff's Infringement Contentions (<i>Resonant Systems, Inc. v. Apple Inc.</i> , Case No. 23-cv-00077-ADA (W.D. Tex.))
2007	Excerpt of Defendant's Final Invalidity Contentions (<i>Resonant Systems, Inc. v. Apple Inc.</i> , Case No. 23-cv-00077-ADA (W.D. Tex.))
2008	[Reserved]
2009	Declaration of Keith W. Goossen, Ph.D.
2010	Curriculum Vitae of Keith W. Goossen, Ph.D.
2011	Transcript of Deposition of Blake Hannaford, Ph.D., Jan. 27, 2025
2012	Transcript of Deposition of Blake Hannaford, Ph.D., Jan. 28, 2025
2013	Transcript of Deposition of Blake Hannaford, Ph.D., Jan. 29, 2025
2014	Excerpt of CRC Handbook of Chemistry and Physics (52 nd Ed. 1964)
2015	"Why do ferromagnetic materials channel magnetic field lines?," Physics Stack Exchange, <i>available at</i> https://physics.stackexchange.com/questions/129782/why-do-ferromagnetic-materials-channel-magnetic-field-lines

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<i>Exhibit No</i>	<i>Description</i>
2016	“Quality Factor (Q)” in Smith, J.O., <i>Introduction to Digital Filters with Audio Applications</i> , available at https://ccrma.stanford.edu/~jos/fp/Quality_Factor_Q.html
2017	Texas Instruments Precision Designs: Verified Design SLAU508, “Analog Pulse Width Modulation,” by John Caldwell

I. INTRODUCTION

The Board granted institution on several enumerated grounds of obviousness, each including the combination of Shahoian and Cosper. The arguments presented herein and the additional evidence submitted, such as the testimony of Patent Owner's expert Dr. Keith Goossen (Ex. 2009), demonstrate that Petitioner has failed to establish obviousness of the challenged claims and that Petitioner's grounds should be rejected.

II. SUMMARY OF ARGUMENT

The Petition fails to show motivation to combine Shahoian and Cosper. Because each asserted Ground requires this combination, all grounds fail.

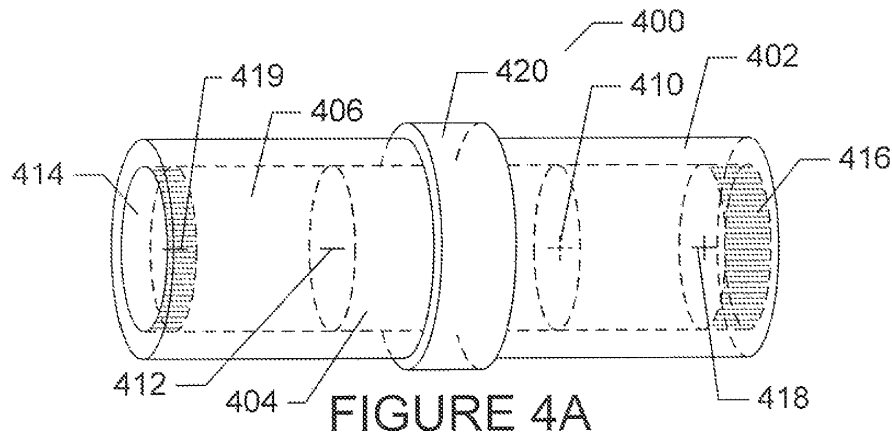
Furthermore, the Petition's Grounds 1B, 1C, and 2B fail to show disclosure of both [2.3] "a directional-signal splitter/inverter that generates two complementary internal signals d and $\bar{d}$ " and [2.4] "two pairs of solid-state switches, a first switch of each pair controlled by internal signal d and a second switch of the pair controlled by internal signal $\bar{d}$," and thus fail for that independently sufficient ground.

Finally, Grounds 1B and 2B fail to show either the "vibration sensor" or "continuously monitors" limitations of Claim 3 and thus fail as to that claim.

III. BACKGROUND

A. Background to the '767 Patent

Many electronic devices such as mobile phones and game controllers make use of components that produce vibrational forces. The '767 patent teaches and claims improved vibration modules with features suitable for such applications:



(Ex. 1001 at 5.) Compared to prior art solutions, the inventions of the '767 patent offer greater durability, greater efficiency, an ability to generate useful vibrations over a range of frequencies, and more desirable patterns of vibration.

IV. LEVEL OF ORDINARY SKILL IN THE ART

Patent Owner believes that a POSITA at the time of the invention would have had (1) a bachelor's degree in electrical engineering, mechanical engi-

neering, or a comparable field of study, and (2) at least two years of professional experience with electro-mechanical control systems, or other similarly relevant industry experience. Additional relevant industry experience may compensate for lack of formal education or vice versa.

Petitioners offer a similar level of ordinary skill in the art. Patent Owner does not believe that any of the arguments herein would change if the Board were to adopt Petitioners' definition for the level of ordinary skill rather than Patent Owner's.

V. LEGAL STANDARDS

The petitioner has the burden to clearly set forth the basis for its challenges in the petition. *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) as “requiring IPR petitions to identify ‘with particularity ... the evidence that supports the grounds for the challenge to each claim’”). A petitioner may not rely on the Board to substitute its own reasoning to remedy the deficiencies in a petition. *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1355 (2018) (“Congress chose to structure a process in which it’s the petitioner, not the Director, who gets to define the contours of the proceeding.”); *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016) (rejecting the Board’s reliance on obviousness arguments that “could have been included” in the petition but were not, and holding that the

Board may not “raise, address, and decide unpatentability theories never presented by the petitioner and not supported by the record evidence”); *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1367 (Fed. Cir. 2015) (holding that “a challenge can fail even if different evidence and arguments might have led to success”); *Wasica Finance GMBH v. Continental Auto. Systems*, 853 F.3d 1272, 1286 (Fed. Cir. 2017) (holding that new arguments in a reply brief are “foreclosed by statute, our precedent, and Board guidelines”).

The Board “may reject even uncontroverted expert testimony when it is intrinsically unpersuasive.” *Granite Constr. Co. v. United States*, 962 F.2d 998, 1006 (Fed. Cir. 1992). The petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements.” *Magnum*, 829 F.3d at 1380.

An obviousness determination requires finding that a POSITA would have been motivated to modify or combine teachings in the prior art. *In re Stepan Co.*, 868 F.3d 1342, 1345–46 (Fed. Cir. 2017). Obviousness concerns “whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.” *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015). The “mere fact that these possible arrangements existed in the prior art” does not provide a motivation to substitute the arrangement in one prior

art embodiment with the arrangement in another.” *Virtek Vision International ULC v. Assembly Guidance Systems, Inc.*, 97 F.4th 882, 887 (Fed. Cir. 2024). Because a motivation to modify or combine is part of the *prima facie* case for obviousness that must be set forth in the petition, a petitioner should not be permitted to present “an entirely new rationale to explain why one of skill in the art would have been motivated to combine” in its reply. *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1370 (Fed. Cir. 2016).

“An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.” 35 U.S.C. § 112 ¶ 6. Even were a claim does not utilize the word “means,” § 112 ¶ 6 will apply if “the claim term fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015).

For a reference to be considered in the obviousness analysis, it must be analogous *to the invention of the challenged claims*. *Corephotonics, Ltd. v. Apple Inc.*, 84 F.4th 990, 1003–04 (Fed. Cir. 2023) (“Prior art references are

applicable to the obviousness inquiry only when they are analogous to the claims being challenged.”) There are two tests for defining the scope of analogous art: “(1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.” *Id.* (quoting *Airbus S.A.S. v. Firepass Corp.*, 941 F.3d 1374, 1379 (Fed. Cir. 2019)).

VI. CLAIM CONSTRUCTION

In the District Court, Petitioner has asserted that the preamble of claim 1 is limiting. Ex. 2001 (Apple’s Proposed Claim Constructions) at 2. Patent Owner consented to that proposal and the District Court entered a construction that the preamble of claim 1 is limiting. Ex. 2002 (*Markman* order) at 1. The Board should enter the same construction, finding that the preamble of claim 1 is limiting based on Petitioner’s assertion in the District Court and based on the District Court’s order. Furthermore, the Board may also consider the arguments made by Petitioner before the District Court in connection with the identical preambles of other patents and reach a conclusion on the merits that the preamble is limiting. For example, Petitioner argued before the District Court that the preambles of several claims, including ’767 Patent claim 1, are

“limiting because the specifications are replete with references to the ‘invention’ as described in the preamble.” Ex. 2003 (Apple opening claim construction brief) at 12 (citing ’767 patent, 10:9–14). Petitioner relied on case law that, in Petitioner’s view, held that a preamble should be construed as limiting when “[t]he specification is replete with references to the invention as [described in the preamble], including the title of the patent itself and the ‘Summary of the Invention.’” *Id.* at 23 (quoting *Poly-Am., L.P. v. GSE Lining Tech., Inc.*, 383 F.3d 1303, 1310 (Fed. Cir. 2004)). For these reasons, the Board should apply the construction that Petitioner asserted in the District Court, that the preamble of claim 1 as limiting.

The claim construction arguments expressly raised in the Petition regarding means-plus-function terms relate to issues not relevant to the arguments made in this Response, such that there is no need for the Board to make claim construction determinations about Section 112, Paragraph 6. *See* Pet. at 5-10; *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999); *Apple Inc. v. Uniloc Luxembourg S.A.*, IPR2018-00420, Paper No. 7 at 8 (PTAB Aug. 6, 2018). For reference, the District Court agreed with Patent Owner and ordered that the “control component” term has its plain and ordinary meaning and is not subject to means-plus-function treatment. Ex. 2002 at 3-4.

In its institution decisions for each of the '767 IPRs, the Board determined, for the purposes of institution, that the preamble of '767 patent claim 1 is limiting. (Paper 9 at 10) The parties had agreed to that construction in their related district court litigation. (Ex. 3001 at 10)

In its institution decisions for each of the '767 IPRs, the Board determined, for the purposes of institution, that the term “driving component” is a means-plus-function term, with a function “drives the moveable component in each of two opposite directions” and a corresponding structure that includes “coils 420, 514, 626, 1202, 1204, 1302, 1304, 1412, 1414, 1510 (also shown in Figs. 16–17); electromagnets shown in Figs. 10–11; and equivalents thereof.” (Paper 9 at 11) The parties had agreed to that construction in their related district court litigation. (Ex. 3001 at 11)

In its institution decisions for each of the '767 IPRs, the Board determined, for the purposes of institution, that the term “control component” is not a means-plus-function term. (Paper 9 at 11) In particular, the Board determined that: “Given the context provided by claim 1 as a whole, a person having ordinary skill in the art would have understood the ‘control component’ as identifying a specific structure (requiring a microprocessor, control program, and switch as claim 1 recites).” (Paper 9 at 11.)

Patent Owner agrees that the limitations in claim 1 including “microprocessor,” “control program,” and “switch” identify specific structure for performing the functions of the “control component.” The means-plus-function provision of 35 U.S.C. § 112 ¶ 6 therefore do not apply.

VII. OBVIOUSNESS

A. No Motivation To Combine (All Grounds)

Each ground of the -00697 IPR requires combining Shahoian with Cosper, in some cases with additional references as well. Cosper is from a different field of endeavor than Shahoian and is not pertinent to the problems being addressed in Shahoian. For these reasons, Shahoian and Cosper are not analogous art that could be combined to demonstrate obviousness. (Ex. 2009, ¶ 79.) Even if they were considered to be analogous art, the differences between them mean that a POSITA would not be motivated to combine them as proposed by the petition. (*Id.*)

Ground 1A of the -00697 IPR involves modifying Shahoian to add “feedback” and “multiple sensors” based upon Cosper. (Petition at 15–16.) Grounds 1B and 1C add additional features from Rossi and from Ramsay, but they still rely on modifying Shahoian to add the same features from Cosper as Ground 1A. (Petition at 31–36, 47–52.) Ground 2A adds a “feedback control algorithm” from the Aldrich reference, but it describes adding that to a system

“that implement feedback control in accordance with Cosper.” (Petition at 31–36, 55–56.) Like Ground 1B, Ground 2B adds features from Rossi, but it still relies upon the same feedback control in accordance with Cosper and feedback control algorithm from Aldrich as Ground 2A. (Petition at 73–75.) Thus, each of the grounds depends on the combinability of Shahoian with Cosper. (Ex. 2009, ¶ 80.)

Shahoian identifies its field of endeavor (Ex. 1004 at 2:3–8.):

The present invention is directed to moving magnet actuators that provide haptic sensations in a *haptic feedback device* that is interfaced with a host computer. The present invention provides actuators that output high magnitude, *high bandwidth vibrations* for more compelling force effects.

Shahoian specifically seeks to be able to produce vibrations over a range of different frequencies “independently” from the magnitude of vibration:

Both the frequency and amplitude of the vibrations can be controlled using bi-directional control, and features such as the elastic material and flexures contribute to a high quality and *high bandwidth vibration* force output.

(Ex. 1004 at 4:56–60.)

The controller can also *adjust the frequency of the drive waveform independently of the amplitude* to adjust the frequency of

vibration. This allows different frequency vibrations to be output independently of the magnitude of those vibrations.

(Ex. 1004 at 7:41–45.)

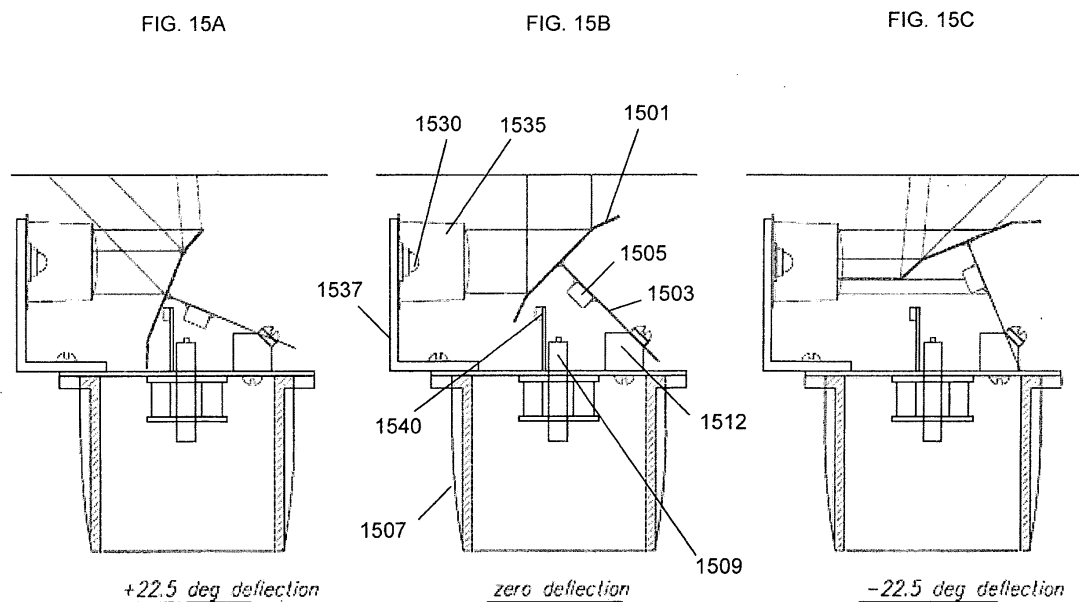
When Shahoian mentions the gain due to operating near resonance, it describes it as an effect that must be counteracted in order to achieve the desired “flat” frequency response, not a desirable effect to take advantage of (Ex. 1004 at 7:54–62; Ex. 2009, ¶ 83):

The linear actuator **100** provides a greater magnitude of vibrations at higher frequencies (assuming the waveform magnitude is held constant). This gain at higher frequencies is due primarily to the vibration occurring at the resonance frequency of the mechanical system including actuator, foam, housing, etc., and, if desired, *can be compensated for in other embodiments to obtain a more flat response by providing compensating frequencies that will provide the desired response* (e.g. from a look-up table or firmware).

Cosper’s field of endeavor has nothing to do with haptic feedback or with high bandwidth vibrations. (Ex. 2009, ¶ 84.) Rather, Cosper describes an optical beam scanner, e.g., where a “light source is used in conjunction with a resonant engine (not shown) having a mirror and a bias, and a mirror driver that oscillates the mirror at or near a resonant frequency of the mirror and bias” and “[a]s a result, the spot of light from the light source is effectively

scanned over the target.” (Ex. 1009, ¶ [0067].) Cosper does not describe haptics or tactile applications at all. (Ex. 2009, ¶ 84.)

While Cosper does use the words “linear . . . movement” in abstract, the two embodiments shown describe rotational motion of the moving mass. (Ex. 2009, ¶ 85.) The embodiment shown in fig. 2 describes “the electromagnetic coil 207 can be excited by electrical current to create a magnetic field that interacts with the magnet 209 to load the bias 205 and thereby move the mirror 201 around the light source 203, projecting the light from the opening in the housing 220 in the process.” (Ex. 1009, ¶ [0073].) The second embodiment shown in Figure 15 shows clearly rotational movement (Ex. 1009, Fig. 15; Ex. 2009, ¶ 85):



In addition, Cosper is not in the field of “high bandwidth” vibrations.

(Ex. 2009, ¶ 86.) Instead, it explains that:

Driving a mechanical resonant system for low loss, and a **high Q** , at or near its resonant frequency using an external frequency references may require a **highly stable frequency source**. It may also require that the resonant frequency of the mass and spring mechanism itself be very stable. The frequency of the two systems, one mechanical, and one electronic, will typically drift apart over time. ***Even relatively small variations in frequency between the two systems may cause the amplitude of the mechanical oscillations to decrease significantly.***

(Ex. 1009, ¶ [0007].)

The high “Q” or quality factor that Cosper refers to “may be defined as the resonance frequency divided by the resonator bandwidth,” and a “nearly equivalent definition of from mechanics is the amplitude gain at resonance.”

(Ex. 2016; Ex. 2009, ¶ 87.) Thus, a “high Q” implies a narrow bandwidth, with high gain but only at frequencies very close to the resonant frequency.

(Ex. 2009, ¶ 87.) This is the opposite of Shahoian’s “high bandwidth” (and thus low Q) system that can operate at a range of frequencies, with a relatively “flat response” and ability to adjust frequency and amplitude independently.

(*Id.*)

Thus, Shahoian's high bandwidth (low Q) haptic feedback device and Cosper's low bandwidth (high Q) scanning light source device belong to different fields of endeavor. (Ex. 2009, ¶ 88.) Cosper's techniques for "driving . . . and maintaining oscillations . . . at a resonant frequency" (Ex. 1009, ¶ [0009]) apply to a high Q system, where "even relatively small variations in frequency" from resonance must be avoided. (Ex. 1009, ¶ [0007]; Ex. 2009, ¶ 88.) They are not pertinent to any problem Shahoian is involved with, given its high bandwidth, intentional operation at multiple frequencies and relatively flat frequency response. (Ex. 2009, ¶ 88.) There also would be no motivation for applying Cosper's techniques for maintaining the oscillations at the resonant frequency to Shahoian. (*Id.*) Operation at resonance is not specifically desirable in the Shahoian system, which instead must operate over a range of frequencies. (*Id.*) Even when operating in the vicinity of resonance, there is no particular importance in Shahoian to maintaining the oscillation specifically at resonance, as Cosper teaches, because the gain in Shahoian's low Q, high bandwidth system is not highly sensitive to small variations in frequency. (*Id.*)

The addition of the Aldrich reference to the combinations in Grounds 2A and 2B does not change the situation. (Ex. 2009, ¶ 89.) Like Cosper, Aldrich

addresses the problem of keeping the frequency “at or near the resonance frequency,” through its teaching of “fine resonance tracking.” (Ex. 1021 at 1–2.)

Like Cosper, Aldrich is not in the same field of endeavor as Shahoian, is not pertinent to problems Shahoian is involved with, and a POSITA would not have been motivated to apply its “fine resonance tracking” to the devices taught by Shahoian. (Ex. 2009, ¶ 89.)

For these reasons, each ground of the -00697 IPR involves combining references that are not analogous, and even if they were analogous a POSITA would not have been motivated to make the proposed combinations. (Ex. 2009, ¶¶ 79-90.)

B. Limitations [2.3] and [2.4] (Grounds 1B, 1C, and 2B)

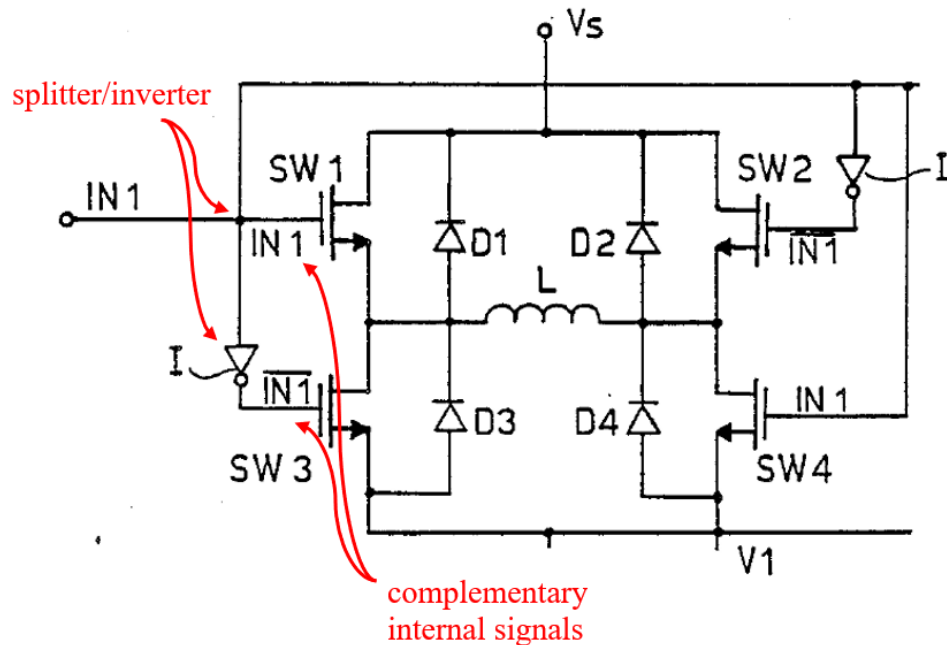
Claim 2 of the ‘767 Patent includes the limitations:

[2.3] a directional-signal splitter/inverter that generates *two complementary internal signals, d and $\bar{d}$* , corresponding to directional-signal d ; and

[2.4] *two pairs of solid-state switches, a first switch of each pair controlled by internal signal d and a second switch of the pair controlled by internal signal $\bar{d}$* , that apply the input voltage in a first direction to the driving component when the d is in a first voltage state and that apply the input voltage in a second direction to the driving component when the d is in a second voltage state. (’767 Patent at 12:3–12.)

Claims 3–5 depend from claim 2 and thus also include these limitations. ('767 Patent at 12:13–33.)

To satisfy these limitations in each of Grounds 1B, 1C, and 2B, the petitions depend on the “H-bridge switching circuit” of the Rossi reference (Petition at 31–32, 40–46, 52–54, 75; annotated figure is from Petition at 41):



As the petition states, each of the symbols made up of a triangle with a small circle at one vertex, labeled “I,” is an inverter. (Petition at 40.) According to the petition, the junction and inverter “I” with red arrows pointing to them correspond to the “splitter/inverter” of limitation [2.3], and the signals “IN 1” and “ $\overline{IN\ 1}$ ” correspond to the claimed internal signals d and $\bar{d}$ of limitation [2.3], respectively. (Petition at 40; Ex. 2009, ¶ 104.)

As for limitation [2.4], the petition points to switches “SW2” and “SW3” of the Rossi figure as corresponding to the “second switch” of each pair. (Petition at 42) But these switches fail to satisfy the limitation “controlled by internal signal $\bar{d}$,” as required by [2.4]. (Ex. 2009, ¶ 105.) While each of SW2 and SW3 is shown receiving a signal labelled “ $\overline{IN\ 1}$,” only the signal received by SW3 is the “internal signal $\bar{d}$,” i.e. the signal generated by the splitter/inverter of limitation [2.3]. (*Id.*) The signal labelled “ $\overline{IN\ 1}$ ” that is received by SW2 is generated by a different inverter “I” on the right hand side of the circuit diagram. (*Id.*)

For these reasons, the “H-bridge switching circuit” of Rossi does not satisfy both limitation [2.3] and [2.4], as they appear together in claims 2–5 of the ’767 patent. (Ex. 2009, ¶ 106.) As a result, the petition fails to establish that any of these claims is obvious under any of their asserted grounds.

C. Failure to Satisfy Either “Vibration Sensor” or “Continuously Monitors Output from the Vibration Sensor” in Claim 3 (Grounds 1B and 2B)

Limitation [3.1] of the ’767 patent adds the requirement of “a vibration sensor.” (’767 patent at 12:15.) For this “vibration sensor,” the petition points to an “accelerometer” that is distinct from the sensors that were mapped to the limitations of claim 1. (Petition at 45.) Specifically, petition points to “a vi-

bration sensor (*accelerometer*) in addition to the sensors associated with ‘position’ and ‘velocity’ that are used as part of the feedback control.” (Petition at 45; Ex. 2009, ¶ 107.)

The Petition is silent on which reference or references it relies upon for the accelerometer. (Ex. 2009, ¶ 108.) It cites to nothing in Cosper or any other reference that is allegedly an accelerometer. (*Id.*) The Petition does cite to a declaration of Dr. Hannaford’s. (Petition at 45.) Dr. Hannaford is clear in each declaration that he is pointing to an “accelerometer” that is “in accordance with Cosper.” (Ex. 1003, ¶ 158.) But like the petitions, his declaration do not point to anything in Cosper that is allegedly an accelerometer. (Ex. 1003, ¶ 158; Ex. 2009, ¶ 108.) The only exhibit that either the petitions or Dr. Hannaford’s declarations point to for this limitation that actually mention an accelerometer is the ’767 patent itself. (Petition at 45, Ex. 1003, ¶ 158.)

For these reasons, the Petition fails to identify what in the prior art it points to as the claimed “vibration sensor” or what the claimed “vibration sensor” would be in the proposed combination. (Ex. 2009, ¶ 109.)

The petition also fails to explain why a POSITA would have been motivated to add a separate accelerometer for adjusting frequency, in addition to the sensors already being used for the feedback control in the mapping of claim 1. (Ex. 2009, ¶ 110.) While Cosper speaks generically of “one or more

sensors,” (Ex. 1009, ¶ [0050]) it never mentions an accelerometer, let alone an accelerometer in combination with other sensors measuring position and velocity. (Ex. 2009, ¶ 110.) The petition and Dr. Hannaford fail to explain why a POSITA would be motivated to use this particular combination of sensors, in a way that would satisfy claim 3, either to achieve the oscillation near resonance desired in Cosper or for any other reason. (*Id.*) For these reasons, each petition fails to show that a combination satisfying limitation [3.1] would have been obvious. (Ex. 2009, ¶ 110.)

Limitation [3.2] of the ’767 patent adds the requirement that the control program “continuously monitors output from the vibration sensor.” (’767 patent at 12:16–17.) Both the petitions and the declarations from Dr. Hannaford that they cite fail to point to anything in the prior art references that teaches “continuous” monitoring or to explain why it would have been obvious to modify the prior art to perform such “continuous” monitoring. (Petition at 4–465, Ex. 1003, ¶ 159.) Indeed, the only exhibit that either the petition or Dr. Hannaford’s declaration points to for this limitation that actually describes continuous monitoring is the ’767 patent itself. (Petition at 4–465, Ex. 1003, ¶ 159.) For these reasons, the petition fails to show that a combination satisfying limitation [3.2] would have been obvious.

VIII. CONCLUSION

For the reasons set forth above, Resonant Systems respectfully requests that the Board affirm the validity of all challenged claims.

Dated: February 7, 2025

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CERTIFICATE OF WORD COUNT

I certify that there are 3,957 words in this paper, excluding the portions exempted under 37 C.F.R. § 42.24(a)(1), according to the word count tool in Microsoft Word.

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Case No. IPR2024-00697
U.S. Patent No. 8,093,767

CERTIFICATE OF SERVICE

I hereby certify that “Patent Owner’s Response” was served on February 7,
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