

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AUTOMOTIVE DATA SOLUTIONS, INC.,
Petitioner,

v.

AAMP OF FLORIDA, INC.,
Patent Owner.

Case IPR2016-00061
Patent 9,165,593 B2

Before KEN B. BARRETT, KRISTEN L. DROESCH, and
TRENTON A. WARD, *Administrative Patent Judges*.

DROESCH, *Administrative Patent Judge*.

DECISION

Institution of *Inter Partes* Review
35 U.S.C. § 314, 37 C.F.R. § 42.108

I. INTRODUCTION

A. Background

Automotive Data Solutions, Inc. (“Petitioner”) and Audionics System, Inc. (“Audionics”) filed a Petition (Paper 1, “Pet.”) for *inter partes* review of claims 1–4, 6–8, 15, and 16 (“the challenged claims”) of U.S. Patent No. 9,165,593 (“the ’593 Patent”). *See* 35 U.S.C. §§ 311–312. AAMP of Florida, Inc. (“Patent Owner”) timely filed a Preliminary Response (Paper 18, “Prelim. Resp.”). *See* 35 U.S.C. § 313. Subsequent to filing the Petition, Audionics was dismissed from this *inter partes* review because Audionics and Patent Owner reached a settlement agreement. Paper 16. Automotive Data Solutions, Inc. remains as the sole Petitioner. *Id.*

We have statutory authority under 35 U.S.C. § 314, which provides that *inter partes* review may not be instituted unless it is determined that “the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a).

After considering the Petition and Preliminary Response, for the reasons provided below, we determine there is a reasonable likelihood Petitioner would prevail in showing claims 1, 2, 4, 6, 7, 15, and 16 are unpatentable.

B. Related Proceedings

The ’593 Patent is related to U.S. Patent Nos. 8,014,540 (“’540 Patent”) and 8,184,825 (“’825 Patent”) that were, or are, the subject of three district court proceedings. Pet. 1–2; Paper 9, 1–2. The ’540 Patent was also

the subject of an *ex parte* reexamination request in Control No. 90/012,739. Pet. 2; Paper 9, 2.

C. The '593 Patent (Ex. 1038)

The '593 Patent discloses a vehicle stereo control interface system for use with factory installed local stereo controls and an aftermarket in-dash stereo. Ex. 1038, 5:35–44. The system includes a remote interface circuit adapted to be connected to the existing local stereo controls located in the center of a steering wheel via existing hardwiring. *Id.* at 5:55–61, Fig. 1. The remote interface circuit is adapted to communicate with an aftermarket in-dash stereo via an output signal transmitter to enable local stereo controls to control operation of an aftermarket in-dash stereo. *Id.* at 6:4–8, Fig. 1. The output signal transmitter is located in the line of sight of a remote signal receiver on the aftermarket in-dash stereo. *Id.* at 6:8–16. The '593 Patent discloses that the typical aftermarket in-dash stereo is equipped with a wireless receiver, such as an infrared (IR) receiver that is adapted to receive signals from a handheld remote control. *Id.* at 6:26–29. The stereo receiver also is equipped to receive wireless signals, such as IR signals, from the output signal transmitter to change or adjust the aftermarket in-dash stereo receiver operation. *Id.* at 7:23–27. The remote interface circuit includes a microcontroller adapted to receive, from a handheld remote control, a wireless signal for controlling a particular stereo function, store this signal in memory, and then reproduce and broadcast this signal to the aftermarket in-dash stereo when the local stereo control is activated corresponding to the function of the stored signal. *Id.* at 7:45–53, Figs. 3, 4A; *accord id.* at 8:6–15, 8:61–9:17, 9:58–64.

D. Illustrative Claim

Claims 1, 6, and 15 are independent, and claims 2–4, 7, 8, and 16 depend respectively from claims 1, 6, and 15. Claim 1 is illustrative:

1. A stereo control interface device adapted to be installed in a vehicle as an aftermarket product,
wherein the stereo control interface device is adapted to be hardwired coupled to at least one local vehicle stereo control device originally installed in the vehicle so as to receive signals in a first format from the at least one local vehicle stereo control device to control an originally installed stereo receiver that was responsive to signals in the first format,
wherein the stereo control interface device is adapted to produce output signals in a second format and transmit the output signals via hardwire connection to a replacement aftermarket stereo receiver that is responsive to signals in the second format and that is installed in the vehicle to replace the originally installed stereo receiver,
wherein the stereo control interface device is adapted to translate the signals in the first format to signals in the second format so that the at least one local vehicle stereo control device originally installed in the vehicle can be used to control the operation of the replacement aftermarket stereo receiver via the stereo control interface device,
wherein the stereo control interface contains in a memory output signals corresponding to the local vehicle stereo control device signals such that activation of the local vehicle stereo control results in the stereo control interface recalling front [sic] the memory at least one output signal corresponding to at least one of the local vehicle stereo control device signals and
wherein the stereo control interface is adapted for use with a plurality of different types of replacement stereo receivers.

E. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims 1–4, 6–8, 15, and 16 of the '593 Patent on the following grounds (Pet. 3–4):

Statutory Basis	Reference(s)
§§ 102, 103	Daly ¹
§§ 102, 103	Quigley ²
§ 103	SoundGate ³
§ 103	SoundGate and Quigley
§ 103	Lightning Audio ⁴ and Quigley
§ 103	SoundGate and Yaroch ⁵
§ 103	Lightning Audio and Yaroch
§ 103	SoundGate and Weeder ⁶
§ 103	Lightning Audio and Weeder
§ 103	Daly, Quigley, Lightning Audio, SoundGate, Yaroch, and Weeder

¹ Ex. 1003, U.S. Patent Application Publication No. 2011/0046788 A1, published Feb. 24, 2011, filed Aug. 21, 2009 (“Daly”).

² Ex. 1004, U.S. Patent No. 6,253,131 B1, issued Jun. 26, 2001, filed Sep. 8, 1999 (“Quigley”).

³ Ex. 1014, SoundGate Interfaces, SONY TO FORD/MERCURY REMOTE AUDIO INTERFACE, FRDSW1 Packaging and Installation Manual (1997); Ex. 1015, SoundGate, SONY TO GM AUDIO CONTROL INTERFACE, GMSW1 Packaging and Installation Manual (1998); Ex. 1016, SoundGate Interfaces, WINTER/SPRING 1997 PRODUCT GUIDE; Ex. 1017, SoundGate, SPRING 1997 PRODUCT CATALOG (collectively “SoundGate”).

⁴ Ex. 1007, Sean P. Gibbons, *Lightning Audio’s Steering Wheel Control Module*, 12(9) CAR AUDIO AND ELECTRONICS 90 (1999) (“Lightning Audio”).

⁵ Ex. 1006, U.S. Patent No. 5,790,065, issued Aug. 4, 1998, filed Feb. 28, 1997 (“Yaroch”).

⁶ Ex. 1010, Terry J Weeder, *Remote Control Adapter*, 66(8) ELECTRONICS NOW 41, 48, 49, 83 (1995); Ex. 1011, Terry J Weeder, *IR Remote Decoder*, 19(2) NUTS & VOLTS MAGAZINE 38–40 (1998) (collectively “Weeder”).

II. ANALYSIS

A. Claim Construction

Claims of an unexpired patent that will not expire before a final written decision is issued are interpreted using the broadest reasonable interpretation in light of the specification. *See* 37 C.F.R. § 42.100(b); *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1275–79 (Fed. Cir. 2015), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 890 (2016) (mem.).

Petitioner proposes the following constructions (Pet. 10):

Claim Phrase	Petitioner’s Proposed Construction
“adapted to”	“suitable for”
“a second format”	“a format different from the first format”

Petitioner’s proposed construction of “adapted to” is consistent with the ’593 Patent Specification. *See* Ex. 1038, 5:55–61, 6:4–11, 6:26–29, 6:31–36, 7:10–16, 7:28–45, 8:5–9, 9:42–49, 9:59–64, 13:32–38. Petitioner’s construction of “a second format” also is consistent with the ’593 Patent Specification. *See id.* at 12:62–13:49; Fig. 5B. Patent Owner does not dispute Petitioner’s proposed constructions. Accordingly, for purposes of this decision and on the current record, we adopt Petitioner’s proposed claim constructions.

“Aftermarket”

For purposes of this decision we find it necessary to construe “aftermarket” recited in independent claims 1, 6, and 15. Petitioner implicitly construes “aftermarket” to mean “stand-alone” as compared to “built-in.” *See* Pet. 34–35; *accord id.* at 50. The ’593 Patent Specification does not provide an explicit definition for “aftermarket,” nor does it describe “aftermarket” as “stand-alone.” The ’593 Patent utilizes “aftermarket” in the

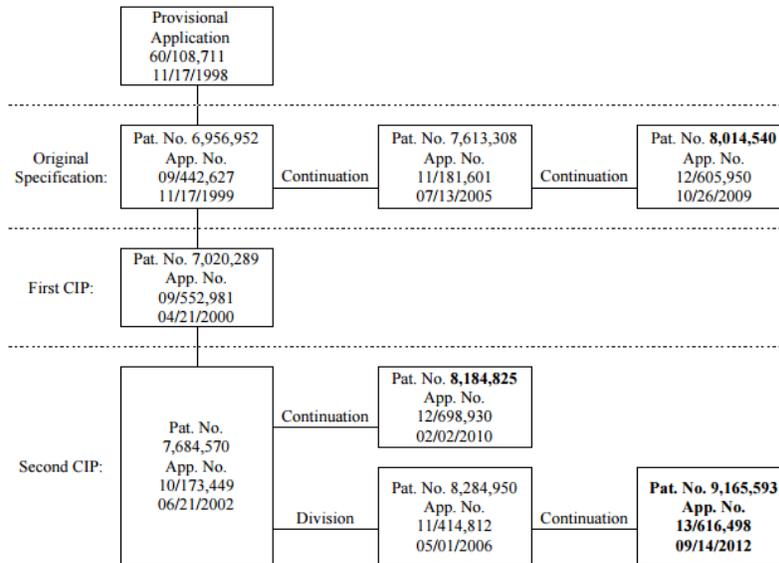
context of equipment, in-dash stereo, stereo receiver, video system, entertainment systems, and entertainment components, and further discloses replacing a factory-installed entertainment system with an aftermarket entertainment system. Ex. 1038, 2:15–24. The '593 Patent also discloses “after-market entertainment components may include original equipment manufacturer (OEM) entertainment components that may be considered replacement components for factory-installed entertainment components.” *Id.* at 18:10–14. Thus, Petitioner’s implicit construction of “aftermarket” is narrower than the '593 Patent Specification disclosures of “aftermarket.”

Consistent with the '593 Patent Specification, we determine the broadest reasonable interpretation of “aftermarket” includes “components that can replace factory-installed components, including original equipment manufacturer (OEM) components that may be considered replacement components for a factory-installed components.”

B. Benefit of Earlier Filing Date under 35 U.S.C. §§ 119(e) and 120

Petitioner asserts the '593 Patent is not entitled to the benefit of the November 17, 1998, filing date of Provisional Application No. 60/108,711 (“Provisional Application”), or any of the intervening filing dates of the chain of parent patent applications. Pet. 11–24. Petitioner’s chart illustrating the relationships between the '593 Patent, the chain of parent applications, other related applications, and the Provisional Application is reproduced below (Pet. 8):

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Petitioner’s chart above illustrates: (A) the ’593 Patent issued from Application No. 13/616,498, which is a continuation of a divisional of Application No. 10/173,449 (“’449 Application”), now U.S. Patent No. 7,684,570 (“’570 Patent”); (B) the ’449 Application is a continuation in-part of Application No. 09/552,981, now U.S. Patent No. 7,020,289 (“’289 Patent”), which is a continuation in-part of Application No. 09/442,627 (“the ’627 Application”), now U.S. Patent No. 6,956,952 (“the ’952 Patent”), which claims benefit to the Provisional Application filing date. *See* Pet. 8. The chart further illustrates the ’825 Patent issued from a continuation of the ’449 Application and the ’540 Patent is a continuation of a continuation of the ’627 Application. *See id.*

Petitioner asserts there is no written description support in the ’593 Patent Specification, the Provisional Application, or in any of the intervening parent applications for the claim 1 limitation reciting “transmit the output signals via hardware connection to a replacement aftermarket stereo receiver” (“transmit output via hardware connection limitation”). Pet. 9, 11, 15, 16. Petitioner contends the transmit output via hardware

connection limitation does not appear in any version of the specification, or in any of the claims prior to the related '825 Patent. *Id.* at 9 (citing Ex. 1019, 119:9–120:14). Petitioner asserts this limitation was first added to the claims of the '825 Patent via an examiner's amendment entered on April 12, 2012. *Id.* (citing Ex. 1036, 9–10, 240).

Petitioner contends that evidence and inventor testimony in related litigation confirms that there is no disclosure in the Provisional Application of the transmit output via hardwire connection limitation. Pet. 15. Petitioner asserts the Provisional Application is a compilation of design documents of the first commercialized interface device SWI-2, and the inventor Brett D. Riggs testified that the SWI-2 interface device did not have any other way to communicate with an aftermarket stereo other than by infrared. *Id.* at 15–16 (citing Ex. 1029, 10; Ex. 1030, 3–5 RFA Nos. 11–19; Ex. 1018, 29:23–30:18).

Petitioner also asserts the '952 Patent, which claims benefit to the Provisional Application filing date, does not disclose the transmit output via hardwire connection limitation. Pet. 17–19. Petitioner contends the '952 Patent uses the term hardwiring to describe the connection between the steering wheel controls and the remote interface (*id.* at 17–18 (citing Ex. 1021, 4:38–40); *accord id.* at 19 (citing Ex. 1021, 3:9–16)) and discloses the output from the remote interface device is via a tip of a transmission cable comprising an output signal transmitter positioned within close proximity of the aftermarket stereo (*id.* at 18 (citing Ex. 1021, 4:42–51); *accord id.* at 19 (citing Ex. 1021, 3:9–16)). Petitioner further asserts: (1) the only output transmitter disclosed in the '952 Patent is a wireless transmitter comprising an infrared light emitting diode (*id.* at 19 (citing Ex.

1021, 9:12–25, Fig. 4A; Ex. 1001 ¶ 106)) and (2) the tip of the transmission cable is not directly connected (i.e., hardwire connected) to the aftermarket stereo (*id.* at 18). Lastly, Petitioner contends that the intervening '289 Patent and '570 Patent also do not disclose the transmit output via hardwire connection limitation. *Id.* at 19–21.

Patent Owner rebuts Petitioner's contentions by asserting the Provisional Application reasonably conveys that the inventor Brett D. Riggs possessed the invention claimed in the '593 Patent as of the filing date of the Provisional Application. Prelim. Resp. 22. In support of its assertion, Patent Owner contends: (1) the Provisional Application includes the circuit diagram for SWI-2, the first commercial embodiment of the invention, and (2) a person of ordinary skill would understand the disclosure of the SWI-2 circuit diagram conveys possession of both infrared and hardwired output because the same circuit board that is used for infrared could be used to control another radio via hardwire. *Id.* (citing Ex. 1020, 6; Ex. 1019, 120:19–25, 121:7–122:11). Also in support of its position, Patent Owner contends the expert opinion of Dr. Salvatore Domenic Morgera (Ex. 2001) indicates the Provisional Application conveys to one of skill in the art that the inventor possessed sending signals by either wireless or wired means. *Id.*; *accord id.* at 21 (citing Ex. 2001 ¶¶ 104–163). Dr. Morgera's testimony is based on the Provisional Application disclosing communication using hardwire and wireless mediums, and disclosing versatility as a goal of the invention. *Id.* at 22–23 (citing Ex. 2001 ¶¶ 119–120). Patent Owner further asserts the '593 Patent has full written description support in the Provisional Application because: (1) less evidence is required to show possession in technologies where the knowledge and level of skill is high, such as in the

case of hardwired transmission of signals (*id.* at 23 (citing *Ariad Pharms. Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc))) and (2) both parties’ engineers and experts have testified and agree that there is nothing complex or unpredictable about hardwired signal transmission (*id.* at 23–24 (citing Ex. 2022, 73:6–12; Ex. 2023, 47:16–48:1; Ex. 2024, 38:2–19)).

Patent Owner further rebuts Petitioner’s arguments by asserting the ’952 Patent Specification adequately supports the claims of the ’593 Patent. Prelim Resp. 26–28. Patent Owner asserts Dr. Morgera testified that the ’952 Patent conveys to one of skill in the art that the inventor possessed transmitting to the aftermarket stereo by hardwire connection, because specific portions of the ’952 Patent describe sending output signals without reference to any particular medium. *See id.* (citing Ex. 2001 ¶¶ 126, 128–130, 132–134, 146). Patent Owner contends Dr. Morgera cites Figures 3 and 5B of the ’952 Patent as conveying to those skilled in the art in 1998 that the inventor of the ’593 Patent, Brett Riggs, possessed multiple means of signal transmission, including hardwired. *Id.* at 28–29 (citing Ex. 2001 ¶ 135; *Commonwealth Scientific & Indus. Research Org. v. Buffalo Tech. (USA), Inc.*, 542 F.3d 1363, 1381 (Fed. Cir. 2008)). Patent Owner further argues the inventor had possession of a hardwire embodiment based on Brett Riggs’s testimony that the ’540 Patent Specification is “pretty open regarding whether [the connection] is infrared or connected,” and that the signal transmitter “could be both hard-wired or wireless connection.” *Id.* at 29–30 (citing Ex. 2025, 113:1–116:10).

To satisfy the written description requirement, “a prior application itself must describe an invention, and do so in sufficient detail that one

skilled in the art can clearly conclude that the inventor invented the claimed invention as of the filing date sought.” *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997); *see also VasCath v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed. Cir. 1991) (“[T]he applicant must [] convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention . . . now claimed.”), *Ariad*, 598 F.3d at 1352 (“[I]t is the specification itself that must demonstrate possession.”).

For purposes of this decision, we are persuaded the Provisional Application and intervening parent applications do not provide written description support for the transmit output via hardwire connection limitation recited in claim 1 of the ’593 Patent. On the current record, we are not persuaded for purposes of this decision that the following disclosures convey with reasonable clarity that the inventor had possession of the claimed invention as of the Provisional Application filing date: (1) the SWI-2 circuit board diagram (*see* Ex. 1020, 6); (2) using hardwire connections between the steering wheel controls and the SWI-2 interface (*see* Ex. 1020, 7 ¶¶ 5–6; 8 ¶ 1; 12) and using infrared wireless signals to communicate from the SWI-2 interface to the aftermarket stereo (*see* Ex. 1020, 7 ¶ 7; 8 ¶ 4; 9 ¶ 4); and (3) “[t]he interface must be versatile so that it can adapt to all variations of the steering wheel control buttons and infrared remote control commands” (Ex. 1020, 7 ¶ 1). We also are not persuaded for purposes of this decision that certain disclosures of sending output signals without reference to any output medium are sufficient to convey with reasonable clarity that the inventor had possession of transmitting output signals via

hardwire connection to a replacement aftermarket stereo as of the filing date of the '952 Patent. *See* Ex. 1021, Figs. 3, 5B.

We further are not persuaded, for purposes of this decision, by Patent Owner's suggestion that, because hardwire connections are not complex, the Provisional Application disclosure of both hardwire connections and wireless communications is sufficient detail to demonstrate possession of the transmit output via hardwire connection limitation. *See* Prelim. Resp. 23–24. The written description requirement is not satisfied by “subject matter which is not disclosed but would be obvious over what is expressly disclosed.” *Lockwood*, 107 F.3d at 1571–72. Although it may have been obvious to one with ordinary skill in the art to transmit output signals via hardwire connection to an aftermarket stereo based on the Provisional Application disclosure of both hardwire connections and wireless communication, a disclosure that renders the claimed subject matter obvious is not sufficient to demonstrate written description support. For similar reasons we are not persuaded for purposes of this decision that the Provisional Application provides written description support for the claimed subject matter based on Patent Owner's assertion that disclosed SWI-2 circuit *could be used* to control a radio via a hardwire connection. *See* Prelim. Resp. 22. And for similar reasons, we are not persuaded for purposes of this decision that the '952 Patent provides written description support for the claimed subject matter based on Patent Owner's assertion that the disclosed signal transmitter *could be* both a hardwired or wireless connection in view of certain descriptions of sending output signals without reference to any particular medium. *See id.* at 26–30.

Accordingly, based on the record before us, we are persuaded, for purposes of this decision, that the claimed subject matter of the '593 Patent is not disclosed in the Provisional Application and any of the intervening parent applications in the manner provided by the written description requirement of 35 U.S.C. § 112, and therefore, we are persuaded for purposes of this decision that the '593 Patent is not entitled to the filing date of the Provisional Application and any of the filing dates of the intervening parent applications.

We also decline Patent Owner's invitation to exercise our discretion under 35 U.S.C. § 325(d) to reject the portions of the Petition disputing the benefit of earlier filing dates based on Patent Owner's assertion that the filing date benefit question of the '593 Patent is nearly identical to, and redundant of, the already-considered and rejected filing date benefit question in the '540 Patent in Reexamination Control No. 90/012,739. *See* Prelim. Resp. 18–20 (citing Ex. 2009, 3, 10, 11; *Prism Pharma Co., Ltd. v. Choongwae Pharma Corp.*, Case IPR2014-00315, slip op. at 13 (PTAB July 8, 2014) (Paper 14)). We do not agree with Patent Owner's characterization that the '593 Patent filing date benefit question before us turns on whether the disclosures of the '952 Patent and the Provisional Application are limited to wireless signal transmission. *See id.* at 19. Instead, as discussed above, the filing date benefit dispute before us turns on whether the Provisional Application and/or any of the intervening parent applications provide written description support for the transmit output via hardwire connection limitation. The '540 Patent claims do not include the transmit output via hardwire connection limitation. *See* Ex. 1024, 12:34–65, 13:17–14:11. Because of the differences between the '593 Patent claims and the '540

Patent claims, we determine the filing date benefit dispute of the '593 Patent before us is not nearly identical to, or redundant of, the filing date benefit question addressed by the Office in the reexamination of the '540 Patent.

C. Asserted Grounds of Unpatentability

1. Alleged Unpatentability Grounds Based on Daly

a. Daly (Ex. 1003)

Daly discloses a steering wheel control (SWC) interface including an input side hardwired to the steering wheel component, and an output side coupled to an aftermarket component (e.g., stereo) via a wired connection. Ex. 1003 ¶¶ 13, 38, 39, 47, 56, Fig. 4: steps 402, 403. The SWC interface automatically detects a vehicle configuration, including differentiating among multiple SWC signals and determining the meaning of each signal. *Id.* ¶¶ 13, 30, 38, 56, 57, Fig. 4: step 405, Fig. 5. The SWC interface automatically detects the aftermarket component, including determining the manufacturer or model of the component in order to provide SWC signals in a format recognizable by the component. *Id.* ¶¶ 15, 46, 56, 57, Fig. 4: step 406, Fig. 5. The SWC interface delivers SWC signals to the aftermarket component, including reformatting the signals by the SWC interface. *Id.* ¶ 15. Based on electrical characteristics measurements of the aftermarket component made during auto-detection, signal processing components of the SWC interface access a predetermined lookup table correlating the electrical characteristics of aftermarket component to a particular manufacturer or model, and the SWC interface associates itself with a set of electrical output signals correlated to respective remote control commands recognized by the aftermarket component. *Id.* ¶¶ 51, 53, Fig. 3. If auto-detection of the vehicle configuration and the aftermarket component fails, manual

configuration of the SWC interface can be accomplished through the steering wheel controls. *Id.* ¶¶ 57, 58, Figs. 6A, 6B. Figure 6A illustrates a flow chart for programming buttons of a steering wheel control, including a step of storing a button into memory, after a user presses and holds a button. Figure 6B illustrates a flow chart for manual configuration including user selection of a radio type from a predetermined set of radio types (e.g., Pioneer, Kenwood, etc.).

b. Alleged Unpatentability under § 102 of Claims 1, 2, 4, 6, 7, 15, and 16

We are persuaded for purposes of this decision and on the present record by Petitioner’s citations to specific disclosures of Daly and supporting evidence that Petitioner establishes sufficiently that Daly discloses each of the recited limitations of claim 1. *See* Pet. 26–32. For example, for purposes of this decision we are persuaded Daly describes “a stereo interface [] adapted to be hardwired coupled to at least one local vehicle stereo control device originally installed in the vehicle so as to receive signals in a first format from the at least one local vehicle stereo control device to control an originally installed stereo receiver that was responsive to signals in the first format.” *See id.* at 27–28 (citing Ex. 1003 ¶¶ 2, 13, 28, 56, Fig. 4). As another example, for purposes of this decision, we are persuaded Daly describes “the stereo control interface device is adapted to produce output signals in a second format and transmit the output signals via hardwire connection to a replacement aftermarket stereo receiver that is responsive to signals in the second format.” *See id.* at 28–29 (citing Ex. 1003 ¶¶ 15, 47, 51, 56). As yet another example, for purposes of this decision we are persuaded Daly describes “the stereo control interface device is adapted to translate the signals in the first format to signals in the

second format so that the at least one local vehicle stereo control device originally installed in the vehicle can be used to control the operation of the replacement aftermarket stereo receiver.” *See id.* at 29 (citing Ex. 1003 ¶¶ 2, 4, 13, 15). As still yet another example, we are persuaded for purposes of this decision that Daly describes “the stereo interface is adapted for use with a plurality of different types of replacement stereo receivers.” *See id.* at 32 (citing Ex. 1003 ¶¶ 47, 53, Fig. 6B).

We further are persuaded for purposes of this decision that Daly describes “the stereo control interface contains in a memory output signals corresponding to the local vehicle stereo control device signals such that activation of the local vehicle stereo control results in the stereo control interface recalling front⁷ the memory at least one output signal corresponding to at least one of the local vehicle stereo control device signals.” *See* Pet. 29–31. Petitioner relies on two alternative disclosures of Daly to address this claim limitation. First, Petitioner asserts Daly discloses that the SWC interface can access a predetermined lookup table which correlates the component’s electrical characteristics to a manufacturer and/or model, and the SWC interface associates itself with a set of electrical output signals that are correlated to respective remote control commands recognized by the component. *Id.* at 30 (citing Ex. 1003 ¶ 51). Petitioner contends these disclosures mean that Daly’s device must have a storage medium to store the lookup table and the set of electrical output signals. *Id.* (citing Ex. 1001 ¶ 132). Petitioner further asserts Daly discloses a processor-based system, and that a person of ordinary skill in the art would

⁷ The word “front” appears to be a typographical error for the word “from.”

understand that a lookup table in a processor-based system would be implemented in memory. *Id.* (citing Ex. 1003 ¶ 41, Figs. 2A–2B; Ex. 1001 ¶ 132). As the second alternative, Petitioner contends that Daly’s manual programming of the interface includes pressing various SWC buttons and a step of “store button into memory.” *Id.* at 31 (citing Figs. 6A, 6B).

Petitioner asserts the manual programming allows an installer to reassign or remap functions, such as swapping a seek-up button with a volume-up button. *Id.* at 31–32 (citing Ex. 1003 ¶ 59). Petitioner contends the manual programming shows that Daly explicitly discloses storing of output signals in the memory. *Id.* at 32. Petitioner further asserts the capability of swapping a seek-up button for a volume-up button using manual programming shows that Daly’s interface can store different outputs, assign the output signals to different vehicle stereo controls, and recall the stored signals based on the activation of the local stereo controls. *Id.* Based on the cited disclosures and supporting evidence discussed above, we are persuaded for purposes of this decision that Daly describes “the stereo control interface contains in a memory output signals corresponding to the local vehicle stereo control device signals such that activation of the local vehicle stereo control results in the stereo control interface recalling front the memory at least one output signal corresponding to at least one of the local vehicle stereo control device signals.”

As to independent claims 6 and 15, for purposes of this decision, we are persuaded, for the same reasons as claim 1, that Daly discloses the limitations of claims 6 and 15. *See* Pet. 26. Regarding dependent claims 2, 7, and 16, for purposes of this decision, we are persuaded by Petitioner’s citations to specific disclosures of Daly, that Daly discloses the local vehicle

stereo control device comprises a switch located adjacent the steering wheel. *See id.* at 32 (citing Ex. 1003 ¶¶ 2–4). As to dependent claim 4, for purposes of this decision, we are persuaded by Petitioner’s citations to specific disclosures of Daly, that Daly discloses the interface device includes a memory and is programmable. *See id.* at 33 (citing Ex. 1003, Figs 6A, 6B).

Patent Owner’s assertion that Daly is not prior art is not persuasive because we determined for purposes of this decision that the ’593 Patent is not entitled to the benefit of any of the earlier filing dates of the Provisional Application and the intervening parent applications (*see* Section II.B. above). *See* Prelim. Resp. 54.

Therefore, on the record before us and for purposes of this decision, there is a reasonable likelihood that Petitioner would prevail in showing claims 1, 2, 4, 6, 7, 15, and 16 are anticipated by Daly.

c. Alleged Unpatentability under § 102 of Claims 3 and 8

Dependent claims 3 and 8 recite “the vehicle comprises a motorcycle and the at least one local vehicle stereo control device comprises at least one switch located adjacent to handlebars of the motorcycle.” Petitioner makes the following assertions regarding claims 3 and 8: “This configuration provides no significant structural difference from a system in a four-wheel vehicle. As such, Daly still anticipates these claims.” Pet. 32–33.

We are not persuaded that Petitioner establishes sufficiently that Daly discloses each of the recited limitations of claims 3 and 8. Petitioner provides insufficient explanation to support the assertion of no structural difference imparted by the limitations of claims 3 and 8. *See* Pet. 32–33. For example, Petitioner does not address the relationship between the limitations of claims 3 and 8 and the limitations of independent claims 1 and

6. As a further example, Petitioner does not explain sufficiently why the recitation of “the at least one local stereo control device comprises at least one switch located adjacent to handlebars of the motorcycle,” recited in dependent claim 8, imparts no non-obvious structural difference to the “at least one local stereo control device,” recited in the body of independent claim 6. *See* Ex. 1038, 24:28–32, 24:64–67; Pet. 32–33.

Accordingly, based on the record before us, there is not a reasonable likelihood that Petitioner would prevail in showing claims 3 and 8 are anticipated by Daly.

d. Alleged Unpatentability under § 103 of Claims 1–4, 6–8, 15, and 16

Petitioner also asserts the challenged claims are unpatentable as obvious over Daly. Pet. 3, 30, 33. In addressing “the stereo control interface contains in a memory output signals corresponding to the local vehicle stereo control device signals,” recited in claim 1, Petitioner asserts the word “memory” is not explicitly used in paragraph 51 of Daly. *Id.* at 30. Petitioner asserts that Daly’s disclosure of the interface accessing a predetermined lookup table and associating itself with a set of electrical output signals correlated to remote control commands recognized by the component “renders the ’593 patent obvious.” *Id.* Petitioner further asserts “the use of memory as a storage medium would have been an obvious way to achieve the storage of the ‘lookup table’ and the ‘set of electrical signals.’” *Id.* (citing Ex. 1001 ¶ 133).

Petitioner’s assertions of obviousness are insufficient because they are conclusory and do not provide sufficient articulated reasoning with rational underpinning for modifying the teachings of Daly to “store in memory output signals.” An obviousness determination “cannot be sustained by

mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (quoted with approval in *KSR*, 550 U.S. 398, 418 (2007)). In regard to dependent claims 3 and 8, Petitioner’s stand-alone conclusion that “[a]t the very least Daly renders these claims obvious” also is insufficient. *See id.* at 33.

Therefore, based on the record before us, there is not a reasonable likelihood that Petitioner would prevail in showing that claims 1–4, 6–8, 15, and 16 are unpatentable as obvious over Daly.

2. *Alleged Unpatentability Grounds Based on Quigley*

a. *Quigley (Ex. 1004)*

Quigley discloses a steering wheel interface module in a steering wheel assembly connected between steering wheel inputs from various controls and a data communication bus incorporated in the steering wheel assembly. Ex. 1004, Abs., 1:52–61, 3:8–15, 4:29–33, Fig. 1. The data communication bus in the steering wheel assembly connects to a data communication bus in the vehicle. *Id.* at 3:28–31, Fig. 2. The data communication bus in the vehicle is connected to a number of control units located throughout the vehicle, including an audio control unit that controls operation of a radio, cassette or CD player or other audio equipment installed in a vehicle. *Id.* at 3:36–38, 3:42–47, Fig. 2. The steering wheel interface module includes a processing unit that operates in accordance with programmed instructions stored in the memory. *Id.* at 4:44–48. Programmed instructions for interpreting and acting upon control information received from steering wheel inputs are stored in a flash memory. *Id.* at 5:4–7. Data messages formulated by the processing unit are

stored in the flash memory and accessed by the processing unit when control information is received from the steering wheel inputs. *Id.* at 5:7–11. The flash memory is easily programmed and later reprogrammed to add or modify the functionality of the steering wheel interface module. *Id.* at 5:13–16; *accord id.* at 9:20–23. The processing unit receives control information from the steering wheel inputs, interprets the control information in accordance with programmed instructions that associate functions with each of the steering wheel inputs, formulates a data message based on the control information, and outputs the data message on the data communication bus via a bus interface transceiver. *Id.* at 6:17–40, Fig. 3; *accord id.* at 7:38–54.

b. Alleged Unpatentability under § 102 of Claims 1, 2, 4, 6, 7, 15, and 16

We are persuaded for purposes of this decision by Petitioner’s citations to specific disclosures of Quigley and supporting evidence that Petitioner establishes sufficiently that Quigley discloses each of the recited limitations of claim 1. *See* Pet. 33–39. For example, for purposes of this decision we are persuaded Quigley discloses “[a] stereo control interface device adapted to be installed in vehicle as an aftermarket product.” *See id.* at 33–34 (citing Ex. 1004, 1:18–21, 1:28–31, 1:41–46, 1:50–67, 3:28–31, 4:13–25; Ex. 1001 ¶ 144). Based on the broadest reasonable interpretations of “adapted to” and “aftermarket” discussed above in section II.A., we are persuaded for purposes of this decision that Quigley’s steering wheel interface module is suitable to be installed in a vehicle as an OEM replacement component for a factory-installed component.⁸ As another

⁸ Petitioner characterizes Quigley’s steering wheel interface as “built-in” (*see* Pet. 34 (citing Ex. 1004, 1:50–67), 35). Quigley does not use the term

example, for purposes of this decision, we are persuaded Quigley describes a stereo interface adapted to be hardwired coupled to a local vehicle stereo control device originally installed in the vehicle, to receive signals in a first format from the vehicle stereo control device to control an originally installed stereo receiver that was responsive to signals in the first format. *See id.* at 35–36 (citing Ex. 1004 1:35–38, 3:11–14, 3:20–25, 4:27–33, Fig. 1). As a further example, for purposes of this decision, we are persuaded Quigley describes “the stereo control interface device is adapted to produce output signals in a second format and transmit the output signals via hardwired connection to a replacement aftermarket stereo receiver that is responsive to signals in the second format.” *See id.* at 36 (citing Ex. 1004, 3:44–46, 4:2–7, 4:13–19, 4:36–43). As yet a further example, for purposes of this decision, we are persuaded Quigley describes “the stereo control interface device is adapted to translate the signals in the first format to signals in the second format,” based on Quigley’s description of control information and data messages, “so that the local vehicle stereo control device can be used to control the operation of aftermarket stereo receiver.” *See id.* at 36–37 (citing Ex. 1004, 4:26–42). As still yet another example, we are persuaded for purposes of this decision that “the stereo control interface contains in memory output signals that correspond to the local vehicle stereo control device signals such that activation of the local vehicle stereo control results in the stereo control interface recalling front the memory at least one output signal corresponding to at least one of the local vehicle stereo control device signals,” is described by Quigley’s data messages stored in a memory

“built-in,” but instead refers consistently to the steering wheel interface as a *module*. *See e.g.*, Ex. 1004, Abs., Figs. 2, 4.

and accessed by the processing unit when control information is received. *See id.* at 37–38 (citing Ex. 1004, 4:44–49, 4:62–63, 5:6–11). As a final example, we are persuaded for purposes of this decision that “the stereo interface is adapted for use with a plurality of different types of replacement stereo receivers,” is described by Quigley’s interface module that allows modifying or adding to the programmed instructions stored in the memory, including modifying or adding to the data messages stored in the memory. *See id.* at 38 (citing Ex. 1004, 9:10–17). Based on the broadest reasonable construction of “adapted to” (*see* Section II.A. above), we are persuaded for purposes of this decision that Quigley describes an interface module that is suitable for use with a plurality of different types of stereo receivers because Quigley’s interface module can accommodate additions and modifications to the output data messages stored in the memory. *See* Pet. 38.

Regarding independent claims 6 and 15, for purposes of this decision, we are persuaded for the same reasons as claim 1, that Quigley discloses the limitations of claims 6 and 15. *See* Pet. 26. As to dependent claims 2, 7, and 16, for purposes of this decision, we are persuaded that Quigley discloses the local vehicle stereo control device comprises a switch located adjacent to a steering wheel. *See id.* at 39; *see* Ex. 1004, Fig 2. As to dependent claim 4, for purposes of this decision, we are persuaded that Quigley discloses a memory that is programmable based on Quigley’s disclosure that new data messages can be added to the memory. *See id.* at 39; *accord id.* at 38 (citing Ex. 1004, 9:10–17).

Patent Owner’s assertion that Quigley is not prior art is not persuasive because we determined for purposes of this decision that the ’593 Patent is not entitled to the benefit of any of the earlier filing dates of the Provisional

Application and the intervening parent applications (*see* Section II.B. above). *See* Prelim. Resp. 48. We also are not persuaded by Patent Owner’s argument that Petitioner is unlikely to prevail in showing the claims are unpatentable based on Quigley because Quigley’s interface device works with OEM equipment and cannot operate with aftermarket equipment. *See id.* at 50–54. As explained in Section II.A. above, the broadest reasonable interpretation of “aftermarket” includes “original equipment manufacturer (OEM) components that may be considered replacement components for factory-installed components.” Thus, Patent Owner’s arguments are unavailing because “aftermarket” equipment includes OEM components that may be considered replacement components for factory installed components.

Therefore, on the record before us and for purposes of this decision, we are persuaded there is a reasonable likelihood that Petitioner would prevail in showing claims 1, 2, 4, 6, 7, 15, and 16 are anticipated by Quigley.

c. Alleged Unpatentability under § 102 of Claims 3 and 8

Regarding dependent claims 3 and 8, Petitioner asserts “the configuration in a motorcycle provides no significant structure difference [from] a system in a four-wheel vehicle.” Pet. 39. For substantially the same reasons as those discussed above in Section II.C.1.c., Petitioner’s assertions are insufficient. Accordingly, based on the record before us, there is not a reasonable likelihood that Petitioner would prevail in showing claims 3 and 8 are anticipated by Quigley.

d. Alleged Unpatentability under § 103 of Claims 1–4, 6–8, 15, and 16

Petitioner also asserts the challenged claims are unpatentable as obvious over Quigley. Pet. 3, 34, 35, 38, 39. In addressing the claim 1

preamble “[a] stereo control interface device adapted to be installed in a vehicle as an aftermarket product,” Petitioner asserts Quigley is not specifically directed to an aftermarket product. *Id.* at 34. Petitioner asserts that Quigley teaches how to take advantage of an existing data communication bus that connects all control units by connecting another data communication bus to the existing data communication bus. *Id.* (citing Ex. 1004, 1:18–21, 1:28–31, 3:28–31, 4:13–25). Petitioner asserts “[o]nce a skilled artisan learns how to utilize data communication buses to connect vehicle components, making a stand-alone interface module that connects different vehicle components would be obvious.” *Id.* (citing Ex. 1001 ¶ 144). Petitioner further asserts “[a]n ordinarily skilled artisan would only need to design a stand[-]alone device that takes a new data bus, then connects the data bus to the vehicle’s existing data bus. [] This is a simple way to connect many different vehicle components ‘without having to redesign the track electrical system.’” *Id.* (citing Ex. 1001 ¶ 144). Petitioner concludes “an ordinarily skilled artisan would understand, after reading Quigley, how to make a built-in steering wheel interface module. It would be obvious for the ordinarily skilled artisan to build a stand-alone, aftermarket version of the same interface module.” *Id.* at 35.

We are not persuaded by Petitioner’s conclusory assertions of obviousness. Although Petitioner suggests the proposed modification would be simple, Petitioner and its declarant fail to present sufficient articulated reasoning with rational underpinning for modifying Quigley’s teachings to “mak[e] a stand-alone interface module that connects different vehicle components.” *See* Pet. 34–35. Without sufficient articulated reasoning with

rational underpinning, we are left to speculate as to the reason(s) one with ordinary skill in the art would have modified Quigley's teachings.

Accordingly, based on the record before us, there is not a reasonable likelihood that Petitioner would prevail in showing that claims 1–4, 6–8, 15, and 16 are unpatentable as obvious over Quigley.

3. Alleged Unpatentability under § 103 over SoundGate

a. SoundGate (Exs. 1014–1017)

“SoundGate” comprises: (1) printed packaging and installation instructions accompanying SoundGate's Sony to Ford/Mercury interface model #FRDSW1 (Ex. 1014); (2) printed packaging and installation instructions accompanying SoundGate's Sony to GM interface model GMSW1 (Ex. 1015); (3) SoundGate's Winter/Spring 1997 Product Guide (Ex. 1016); and (4) SoundGate's Spring 1997 Product Catalogue (Ex. 1017).

b. Claims 1–4, 6–8, 15, and 16

Petitioner asserts the challenged claims are unpatentable as obvious over SoundGate. Pet. 3, *see id.* at 44–50. Petitioner acknowledges that SoundGate does not expressly disclose storing output signals in the memory. *Id.* at 56.

We agree with Patent Owner that SoundGate does not disclose a memory, and the Petition does not address sufficiently the memory required by claim 1. *See* Prelim. Resp. 33 (citing Pet. 49). The Petition also is silent regarding the obviousness of the subject matter of claim 1 based on the teachings of SoundGate alone. *See* Pet. 46–50.

Accordingly, based on the record before us, there is not a reasonable likelihood that Petitioner would prevail in showing that claims 1–4, 6–8, 15, and 16 are unpatentable as obvious over SoundGate.

4. *Alleged Unpatentability of Claims 1–4, 6–8, 15, and 16 under § 103 over SoundGate and Quigley*

Petitioner acknowledges SoundGate does not expressly disclose storing output signals in the memory. Pet. 56. In addressing the combination of SoundGate and Quigley, Petitioner makes the following assertions:

Quigley expressly provides a solution on how to make . . . an interface module and teaches in detail how to utilize[] a customizable memory to store different output signals for different units (Ex. 1004, Quigley Col. 5:6–11; 9:10–64.) The use of a customizable memory allows the Quigley interface module to work with a plurality of different output devices. (*See Supra.*) As such, SoundGate Publication . . . teach[es] one to connect steering wheel controls to aftermarket stereos and Quigley teaches step-by-step how to design such an interface unit.

Pet. 50.

Petitioner does not provide sufficient articulated reasoning with rational underpinning for modifying the teachings of SoundGate to include a memory as taught by Quigley. *See* Pet. 46–50. As a result, we are left to speculate regarding the reason(s) one with ordinary skill in the art would have modified SoundGate’s teachings in view of Quigley. Petitioner’s showing that SoundGate teaches an interface device and that Quigley teaches an interface device including a memory is insufficient to demonstrate that the claimed subject matter composed of those elements would have been obvious. *See KSR*, 550 U.S. at 418.

Therefore, based on the record before us, there is not a reasonable likelihood that Petitioner would prevail in showing that claims 1–4, 6–8, 15, and 16 are unpatentable as obvious over SoundGate and Quigley.

5. *Alleged Unpatentability under § 103 over SoundGate and Yaroch*

a. *Yaroch (Ex. 1006)*

Yaroch discloses a vehicle audio system connected with a security system remote entry receiver. Ex. 1006, 2:47–49, Fig. 2. The remote entry receiver receives RF entry signals from a remote entry pushbutton transmitter and also responds to RF audio control signals transmitted by an audio remote transmitter. *Id.* at 2:49–51, 2:55–57, Fig. 2. New codes can be added to the remote entry receiver memory, thereby, allowing “programming in” of additional authorized remotes. *Id.* at 3:45–57. Yaroch also discloses the audio remote transmitter can be mounted in or on a steering wheel. *Id.* at 4:40–47, Fig. 11.

b. *Claims 1–4, 6–8, 15, and 16*

Petitioner acknowledges SoundGate does not expressly disclose storing output signals in memory. Pet. 56. Petitioner asserts that SoundGate and Yaroch are similar because both disclose establishing communications between a transmitter mounted to a steering wheel and an audio system. *Id.* at 56–57. Petitioner contends SoundGate discloses a stand-alone interface device to facilitate communication between two vehicle systems, and Yaroch addresses a similar problem and discloses a programming-in-feature involving storing signals in the memory. *Id.* at 57 (citing Ex. 1006, 3:45–57, Fig. 6). Petitioner concludes “the claims of the ’593 patent would have been obvious in view of the combination of the SoundGate Publication and Yaroch.” *Id.* at 56, *accord id.* at 57.

Petitioner’s assertions are insufficient because an obviousness determination “cannot be sustained by mere conclusory statements.” *See Kahn*, 441 F.3d at 988. Petitioner does not provide sufficient articulated

reasoning with rational underpinning for combining SoundGate’s teachings with Yaroch’s programming-in feature involving storing signals in the memory. *See* Pet. 46–50. Absent sufficient explanation in the Petition, we are left to speculate as to the reason(s) one with ordinary skill in the art would have modified the teachings of SoundGate in view of Yaroch. Petitioner’s showings that SoundGate teaches an interface device and Yaroch teaches a transmitter including a programming-in feature for storing signals in memory are insufficient to demonstrate that the claimed subject matter composed of those elements would have been obvious. *See KSR*, 550 U.S. at 418.

Therefore, based on the record before us, there is not a reasonable likelihood that Petitioner would prevail in showing that claims 1–4, 6–8, 15, and 16 are unpatentable as obvious over SoundGate and Yaroch.

6. Alleged Unpatentability under § 103 over SoundGate and Weeder

a. Weeder (Exs. 1010, 1011)

“Weeder” comprises two magazine articles disclosing a remote control receiver including a memory that can be programmed to receive remote control infrared (IR) signals for controlling appliances. *See* Ex. 1010, 45; Ex. 1011, 5–7.

b. Claims 1–4, 6–8, 15, and 16

Petitioner acknowledges SoundGate does not expressly disclose storing output signals in memory. Pet. 56. Petitioner asserts SoundGate discloses the problem of steering wheel controls not being able to function with replacement stereos, and discloses that it was possible to provide an interface device so that the steering wheel control would work with replacement stereos in 1998 or 1999. *Id.* at 59–60. Petitioner contends

Weeder discloses how to achieve interfacing by teaching ordinary skilled artisans how to store output signals in the memory for subsequent use. *Id.* at 60. Petitioner asserts “[t]he ‘593 patent would have been obvious over the Weeder Articles in combination with the SoundGate Publication.” *Id.* at 59.

For substantially the same reasons as those explained above in Section II.C.5.b. addressing the combination of SoundGate and Yaroch, Petitioner does not provide sufficient articulated reasoning with rational underpinning for combining SoundGate’s teachings with Weeder’s storing output signals in the memory for subsequent use. *See* Pet. 59–60. Therefore, based on the record before us, there is not a reasonable likelihood that Petitioner would prevail in showing that claims 1–4, 6–8, 15, and 16 are unpatentable as obvious over SoundGate and Weeder.

7. Alleged Unpatentability under § 103 over Lightning Audio and Quigley

a. Lightning Audio (Ex. 1007)

Lightning Audio describes a SWC-2 interface for steering wheel controls and aftermarket radios. *See* Ex. 1007, 3. The SWC-2 interface includes a wire for connecting to the factory steering wheel control, and a wire with an infrared LED attached for transmitting IR signals to the aftermarket radio. *See id.* The SWC-2 interface can store programmed assignments of functions to specific steering wheel control buttons. *See id.* at 4.

b. Claims 1–4, 6–8, 15, and 16

Petitioner acknowledges Lightning Audio does not teach transmitting output signals via hardwire connection. Pet. 39, 41. Petitioner contends Quigley teaches this missing element. *Id.* at 41. However, the Petition is silent regarding the obviousness of the subject matter of claim 1 based on

Lighting Audio's teachings combined with Quigley's teaching of transmitting output signals via hardwired connection. *See id.* at 39–43, 50.

Absent a sufficient articulated reasoning with rational underpinning, we are left to speculate as to why one with ordinary skill in the art would have modified Lighting Audio's teachings in view of Quigley. Merely demonstrating that each element was independently known in the prior art is not sufficient to demonstrate that the subject matter of a claim composed of those elements would have been obvious. *See KSR*, 550 U.S. at 418.

Petitioner also acknowledges Lightning Audio does not explicitly use the word “memory.” Pet. 42. In addressing the obviousness of the claimed subject matter based on the combination of Lightning Audio and Quigley, Petitioner relies on the same arguments utilized for the combination of SoundGate and Quigley. *See id.* at 50. For the same reasons as those discussed above in Section II.C.4., Petitioner does not provide sufficient articulated reasoning with rational underpinning for modifying the teachings of Lightning Audio in view of Quigley's teachings of a memory. *See id.* at 39–43, 50.

Accordingly, based on the record before us, there is not a reasonable likelihood that Petitioner would prevail in showing that claims 1–4, 6–8, 15, and 16 are unpatentable as obvious over Lightning Audio and Quigley.

8. Alleged Unpatentability of Claims 1–4, 6–8, 15, and 16 under § 103 over Lightning Audio and Yaroch

In addressing the combination of Lightning Audio and Yaroch, Petitioner relies on the same arguments utilized to address the combination of SoundGate and Yaroch. *See Pet.* 56–57. For the same reasons as those discussed above in Section II.C.5.b., Petitioner does not provide sufficient articulated reasoning with rational underpinning for combining Lightning

Audio's teachings with Yaroch's programming-in feature involving storing signals in the memory. *See* Pet. 46–50. Therefore, based on the record before us, there is not a reasonable likelihood that Petitioner would prevail in showing that claims 1–4, 6–8, 15, and 16 are unpatentable as obvious over Lightning Audio and Yaroch.

9. Alleged Unpatentability of Claims 1–4, 6–8, 15, and 16 under § 103 over Lightning Audio and Weeder

For addressing the combination of Lightning Audio and Weeder, Petitioner relies on the same arguments as those used to address the combination of SoundGate and Weeder. *See* Pet. 59–60. For the same reasons as those discussed above in Section II.C.6.b., Petitioner does not provide sufficient articulated reasoning with rational underpinning for combining Lightning Audio's teachings with Weeder's storing output signals in the memory for subsequent use. *See id.* at 59–60. Therefore, based on the record before us, there is not a reasonable likelihood that Petitioner would prevail in showing that claims 1–4, 6–8, 15, and 16 are unpatentable as obvious over Lightning Audio and Weeder.

10. Alleged Unpatentability of Claims 1–4, 6–8, 15, and 16 under § 103 over Daly, Quigley, Lightning Audio, SoundGate, Yaroch, and Weeder

There is not a reasonable likelihood that Petitioner would prevail in showing that claims 1–4, 6–8, 15, and 16 are unpatentable as obvious over Daly, Quigley, Lightning Audio, SoundGate, Yaroch and Weeder based on Petitioner's conclusion that "the combination of all these references would have rendered the claims in the '593 patent obvious." *See* Pet. 60.

III. CONCLUSION

For the foregoing reasons, based on this record, there is a reasonable likelihood that Petitioner would prevail in showing that claims 1, 2, 4, 6, 7, 15, and 16 of the '593 Patent are unpatentable. At this stage of the proceeding, we have not made a final determination with respect to the patentability of the challenged claims, including the claim construction.

IV. ORDER

Accordingly, it is ORDERED that pursuant to 35 U.S.C. § 314, *inter partes* review of the '593 Patent is instituted hereby on the following grounds:

Claims 1, 2, 4, 6, 7, 15, and 16 under 35 U.S.C. § 102 as anticipated by Daly; and

Claims 1, 2, 4, 6, 7, 15, and 16 under 35 U.S.C. § 102 as anticipated by Quigley;

FURTHER ORDERED that the trial is limited to the grounds identified above; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is given hereby of the institution of a trial on the grounds of unpatentability authorized above; the trial commences on the entry date of this Decision.

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