

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NISSAN NORTH AMERICA, INC.,
Petitioner,

v.

JOAO CONTROL & MONITORING SYSTEMS, LLC,
Patent Owner.

Case IPR2015-01509
Patent 6,549,130 B1

Before HOWARD B. BLANKENSHIP, STACEY G. WHITE, and
JASON J. CHUNG, *Administrative Patent Judges*.

CHUNG, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. §318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Petitioner, Nissan North America, Inc., filed a Petition to institute an *inter partes* review of claims 26, 29, 30, 33, 42, 43, 48, 60, and 68 of U.S. Patent No. 6,549,130 B1 (“the ’130 patent”). Paper 1 (“Pet.”). Patent

Owner, Joao Control & Monitoring Systems, LLC, filed a Preliminary Response pursuant to 35 U.S.C. § 313. Paper 9 (“Prelim. Resp.”).

Upon consideration of the Petition and the Preliminary Response, on January 7, 2016, we instituted *inter partes* review of claims 26, 29, 30, 33, 42, 43, 48, 60, and 68 (“instituted claims”), pursuant to 35 U.S.C. § 314. Paper 10 (“Dec.”).

Subsequent to institution, Patent Owner filed a Patent Owner Response. Paper 20 (“PO Resp.”). Petitioner filed a Reply to Patent Owner’s Response. Paper 24 (“Reply”). An oral hearing was held on September 9, 2016, and a transcript of the hearing is included in the record. Paper 28 (“Tr.”).

We issue this Final Written Decision pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed herein, Petitioner has shown by a preponderance of the evidence that claims 26, 29, 30, 33, 42, 43, 48, 60, and 68 of the ’130 patent are unpatentable. *See* 35 U.S.C. § 316(e).

A. *Related Matters*

Both Petitioner and Patent Owner indicate that the ’130 patent or related patents have been asserted in numerous proceedings. Exs. 1016–1018; Paper 5.

B. The Asserted Grounds

Petitioner identifies the following as asserted grounds of unpatentability:

Reference(s)	Basis	Instituted Claim(s)
Frossard (Ex. 1005) ¹	§ 102(a) ²	26, 29, 33, 42, 48, and 68
Frossard and Pagliaroli (Ex. 1006) ³	§ 103(a)	30 and 43
Frossard and Simms (Ex. 1007) ⁴	§ 103(a)	60
Pagliaroli	§ 102(e)	26, 29, 30, 42, 43, and 48
Pagliaroli and Frossard	§ 103(a)	33 and 68
Pagliaroli and Simms	§ 103(a)	60

C. The '130 Patent

The '130 patent is directed to controlling a vehicle or premises. Ex. 1001, Abs. The '130 patent describes three control devices; a first control device is located at a vehicle or premises, a second control device is located

¹ European Patent Application Publication No. 0 505 266 A1, published March 17, 1992.

² The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112–29, revised 35 U.S.C. § 103 and the relevant sections took effect on March 16, 2013. Because the application from which the '130 patent issued was filed before that date, our citations to Title 35 are to its pre-AIA version.

³ U.S. Patent No. 5,276,728, filed Nov. 6, 1991.

⁴ U.S. Patent No. 5,334,974, filed Feb. 6, 1992.

remote from the vehicle or premises, and a third control device is located remote from the vehicle or premises and remote from the second control device. *Id.* The first control device generates a first signal in response to a second signal from the second control device. *Id.* The first control device can activate, de-activate, disable or re-enable, one or more of “a respective system, component, device, equipment, equipment system, and/or appliance, of a respective vehicle or premises with a first signal.” *Id.* The second control device generates the second signal in response to a third signal from the third control device. *Id.* The “second control device is at least one of a server computer, a computer, and a network computer.” *Id.* at 81:19–21. In addition,

the third control device is at least one of a stationary device, a portable device, a hand-held device, a mobile device, a telephone, a cordless telephone, a cellular telephone, a home computer, a personal computer, a personal digital assistant, a television, an interactive television, a digital television, a personal communications device, a personal communications services device, a display telephone, a video telephone, a watch, and a two-way pager.

Id. at 81:21–29.

D. The Instituted Claims

Of the instituted claims 26, 29, 30, 33, 42, 43, 48, 60, and 68, claims 26, 42, and 48 are independent. Claim 26 is illustrative and reproduced below:

26. A control apparatus, comprising:
a first control device, wherein the first control device at least one of generates and transmits a first signal for at least one of

activating, de-activating, disabling, and re-enabling, at least one of a vehicle system, a vehicle component, a vehicle device, a vehicle equipment, a vehicle equipment system, and a vehicle appliance, of a vehicle, wherein the first control device is located at the vehicle, wherein the first control device is responsive to a second signal, wherein the second signal is at least one of generated by and transmitted from a second control device, wherein the second control device is located at a location which is remote from the vehicle, wherein the second signal is transmitted from the second control device to the first control device, and further wherein the second signal is automatically received by the first control device,

wherein the second control device is responsive to a third signal, wherein the third signal is at least one of generated by and transmitted from a third control device, wherein the third control device is located at a location which is remote from the vehicle and remote from the second control device, wherein the third signal is transmitted from the third control device to the second control device, and further wherein the third signal is automatically received by the second control device,

wherein the at least one of a vehicle system, a vehicle component, a vehicle device, a vehicle equipment, a vehicle equipment system, and a vehicle appliance, is at least one of a vehicle ignition system, a vehicle fuel pump system, a vehicle alarm system, a vehicle door locking device, a vehicle hood locking device, a vehicle trunk locking device, a wheel locking device, a brake locking device, a horn, a vehicle light, a vehicle lighting system, a refrigerator, an air conditioner, an oven, a vehicle window locking device, a video recording device, an audio recording device, a camera, an intercom device, a microphone, a locking device, a monitoring device for monitoring at least one of fuel supply, water or coolant supply, generator operation, alternator operation, battery charge level, and engine temperature, fire extinguishing equipment, radar equipment, hydraulic equipment, pneumatic equipment, a winch, a self-defense system, a weapon system, a gun, an electronic warfare system, a pumping device, sonar equipment,

a locking device for preventing unauthorized access to a vehicle compartment, and landing gear.

II. ANALYSIS

A. Claim Construction

In the Decision to Institute, we noted that the '130 patent was expired. Dec. 8. For claims of an expired patent, the Board's claim interpretation is similar to that of a district court. *See In re Rambus, Inc.*, 694 F.3d 42, 46 (Fed. Cir. 2012). "In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence." *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips v. AWH Corp.*, 415 F. 3d 1303, 1312–17 (Fed. Cir. 2005) (en banc)).

1. Terms Preliminarily Construed in the Decision to Institute

For purposes of the Decision to Institute, we construed the term "control device." Dec. 8–10. Based on our review of the full record, we discern no reason to modify or further discuss in this Final Written Decision our constructions for this claim term. For convenience, this claim construction is reproduced in the table below.

Term	Citations	Construction
Control Device	Pet. 36 n.1; PO Resp. 14–15; Ex. 2002, 6	A device or a computer, or that part of a device or a computer, which performs an operation, an action, or a function, or which performs a number of operations, actions, or functions.

2. *First Signal, Second Signal, and Third Signal Terms*

Patent Owner provides proposed constructions for the first, second, and third signal terms. PO Resp. 15–16. Specifically, Patent Owner asserts that the “first signal” is “a signal sent by a first device;” the “second signal” is “a signal sent by a second device;” and the “third signal” is “a signal generated by a third device.” *Id.* at 16.

We agree, for example, that a first signal is sent by a first device. The parties’ dispute, however, is directed to whether there may be an intermediate device between the transmitting device (e.g., first device) and the signal’s destination (e.g., second device). Claim 42 recites, in relevant part, that the “first signal” must be transmitted to and “automatically received” by the “second control device.” In Patent Owner’s view, there may not be an intermediate device, between the first and second devices, that modifies or changes the signal. *See* PO Resp. 20–24, 26–31.

As part of our analysis, we note that the Applicant provided an express definition of the term “signal” in the First Remarks filed on November 23, 2007, during prosecution of the patent application that issued as the U.S. Patent No. 7,397,363 (“the ’363 patent”) (Ex. 2002). The ’130 patent and ’363 patents all descend from U.S. Patent Application Nos. 09/551,365, 08/622,749, 09/277,935, and 08/683,828. *See* Ex. 1001, at [63]. Patent Owner relied upon this same filing in support of its arguments regarding the construction of “control device.” *See* Dec. 8. The Applicant provided this definition several years after the issuance of the ’130 patent. *See* Ex. 1001, at [45] (April 15, 2003 issuance date). As the Federal Circuit has noted, however, “[a] statement made during prosecution of related patents may be properly considered in construing a term common to those

patents, regardless of whether the statement pre- or post-dates the issuance of the particular patent at issue.” *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1343 (Fed. Cir. 2015) (citing *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004)).

In that 2007 filing, the term “signal” was defined as “an indication, or an indication having or conveying data, information, or a message, or a conveyor of data, information, or a message, or an indication representing data or information.” Ex. 2002, 11. We are persuaded that this definition is instructive to understanding the proper scope of these claim terms. Thus, a first signal, for example, is an “an indication, or an indication having or conveying data, information, or a message, or a conveyor of data, information, or a message, or an indication representing data or information that is sent by a first device.”

We have not been directed to evidence in the specification sufficient to show that the Applicant desired to narrow this very broad definition of signal in a manner that would exclude signals that pass through intermediaries. As defined by the Applicant, a signal may be an indication, information, or a message and we are not persuaded that it is impermissible for an intermediary to pass this information on and to add further data to the information that it received.

For the foregoing reasons, we construe the term “first signal” to be “a signal sent by a first device;” “second signal” to be “a signal sent by a second device;” and “third signal” to be “a signal sent by a third device.” For convenience, this claim construction is reproduced in the table below.

Term	Citations	Construction
First Signal	PO Resp. 15–16	A signal sent by a first device
Second Signal	PO Resp. 15–16	A signal sent by a second device
Third Signal	PO Resp. 15–16	A signal sent by a third device

The recited signals all are construed to be “an indication, or an indication having or conveying data, information, or a message, or a conveyor of data, information, or a message, or an indication representing data or information.” Finally, we are not persuaded that these terms exclude signals that may pass through an intermediary and any such intermediary may append additional information to the received signals for the reasons discussed *infra* in §§ II.C.2. and II.F.1.

3. *Interface Device*

Patent Owner proposes a new definition of the term “interface device.” PO Resp. 12–14. In reply, Petitioner does not contest the definition for “interface device” at this juncture. Reply 1. We are not persuaded that express construction of “interface device” is necessary in order to resolve the disputes currently before us. Thus, we discern no need to provide an express construction for this term at this time. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”).

B. Mr. David McNamara's Testimony

1. Mr. McNamara Reviewed the Prosecution History

Petitioner argues the “petition is supported by the declaration of Mr. David McNamara.” Pet. 7. Mr. McNamara⁵ signed his declaration on June 24, 2015. Ex. 1003 ¶ 14. Paragraph 14 of his declaration states that “I have read the ’130 Patent and its prosecution history.” *Id.*

Patent Owner asserts that we should accord little or no weight to the testimony of Mr. David McNamara.⁶ PO Resp. 19. Patent Owner’s objections are twofold. First, Patent Owner argues that Mr. McNamara did not review the proper materials such as the prosecution history of the ’130 patent. *Id.* at 16–17. Second, Patent Owner contends that Mr. McNamara has an erroneous understanding of the standards of claim construction. *Id.* at 17–19.

⁵ According to Petitioner, Mr. McNamara earned a “M.S. in Engineering in Solid State Physics from the University of Florida in 1976.” Pet. 7. According to Mr. McNamara, he achieved a “Master of Engineering degree in Solid State Physics from the University of Florida in 1976” rather than a “M.S.” degree. Ex. 1003 ¶ 2. Although we determine this distinction to be minor and this distinction does not alter our decision, we credit Mr. McNamara as achieving a “Master of Engineering degree in Solid State Physics from the University of Florida in 1976.”

⁶ Mr. McNamara acknowledged the highest level of education that he completed was “a “Master of Engineering degree in Solid State Physics from the University of Florida in 1976.” Ex. 1003 ¶ 2; *see also* Pet. 7. Although Patent Owner refers to Mr. McNamara as Dr. McNamara, because Petitioner and Mr. McNamara do not proffer evidence of Mr. McNamara achieving a PhD or equivalent and it is not clear from the record that Mr. McNamara attained a PhD or equivalent, we, therefore, refer to Petitioner’s declarant as “Mr. McNamara.”

Patent Owner argues Mr. McNamara's testimony is fatally flawed because during cross-examination, Mr. McNamara testified that he had not reviewed the prosecution history of the '130 patent. PO Resp. 16–17 (citing Ex. 2003, 153:11–22 (In response to Patent Owner's questions "you did not review the prosecution histories for the four JCMS patents [including the '130 patent] at issue correct" and "you did not apply the, any definitions that may have been provided by Mr. Joao during prosecution of those patents, correct," Mr. McNamara answers "[t]hat's correct.")).

In reply, Petitioner argues Mr. McNamara signed his declaration on June 24, 2015 and in the declaration he states that he read the '130 patent and its prosecution history. Reply 2 (citing Ex. 1003 ¶ 14). According to Petitioner, Patent Owner improperly tries to latch onto Mr. McNamara's testimony that he did not read the prosecution history while ignoring other statements to the contrary. Reply 2 (citing Ex. 2003, 153:11–15). Petitioner argues Mr. McNamara's testimony was, however, approximately nine months after Mr. McNamara signed his declaration. Reply 2 (citing Ex. 2003, 153:11–15). Petitioner further argues Patent Owner ignores Mr. McNamara's other statements that demonstrate that he reviewed the prosecution history. Reply 2–3 (citing Ex. 2003, 154:11–20). According to Petitioner, Mr. McNamara's inconsistent testimony, at best, illustrates a lapse in memory during a lengthy deposition. Reply 3.

Petitioner also argues Patent Owner's argument (i.e., Mr. McNamara did not review the prosecution history of the '130 patent) would have no bearing on the claim construction in this proceeding. Reply 3. Specifically, Petitioner argues Patent Owner's argument that Mr. McNamara did not review the prosecution history of the '130 patent is irrelevant because Patent

Owner did not define any claim terms at issue during the prosecution of the '130 patent. *Id.* at 3. Petitioner argues the only terms Mr. McNamara defined were “automatically” and “automatically received,” which neither party contests. *Id.* (citing Ex. 1020, 26). According to Petitioner and Mr. McNamara, Mr. McNamara’s definitions for the terms “automatically” and “automatically received” are their plain and ordinary meaning. *Id.* at 3–4 (citing Ex. 1003 ¶ 10).

According to Petitioner, the only attempts to define claim terms are found in the prosecution history of U.S. Patent Nos. 7,397,363 B2 (the '363 patent) and 7,277,010 B2 (the '010 patent). Petitioner further argues to the extent that weight should be given to the claim term definitions at issue, Mr. McNamara reviewed and considered the definitions identified in Exhibit 1009. *Id.* at 4. Exhibit 1009 includes prosecution history definitions of the '363 patent and the '010 patent. *Id.* (citing Ex. 1003 ¶¶ 14 and 20). During the cross-examination, Mr. McNamara re-affirmed that he reviewed these definitions. *Id.* In response to the question ““with respect to Paragraphs 14 through 25, through 24, other than the information that is referenced in 25, is that a complete list of the information that you considered in reaching the opinions or conclusions expressed in Exhibit 1?,” Mr. McNamara answered “[t]hat is correct.” *Id.* (quoting Ex. 2003, 154:11–20).

We are not persuaded that Mr. McNamara’s statements on cross examination are sufficient reason to accord his testimony little or no weight. The prosecution history is an important element in understanding the claims of a patent. We are persuaded that the statements made during cross examination appear to misstatements as to Mr. McNamara’s review of the patent and its underlying prosecution history. Mr. McNamara signed his

declaration under penalty of perjury and he has made other statements consistent with his testimony under oath stating that he reviewed the prosecution history. *See* Ex. 1003 ¶ 14; Ex. 2003, 154:11–20.

Mr. McNamara signed his declaration on June 24, 2015, which states that he read the '130 patent and its prosecution history. Ex. 1003 ¶ 14. Although Mr. McNamara testified that he did not read the prosecution history (Ex. 2003, 153:11–15), Patent Owner ignores Mr. McNamara's other statements that demonstrate that he reviewed the prosecution history (*id.* at 154:11–20). In addition, Mr. McNamara's statement was during a lengthy deposition approximately nine months after Mr. McNamara signed his declaration. Mr. McNamara's inconsistent testimony appears to illustrate a momentary lapse in memory. *Compare e.g., id.* at 153:11–15, *with id.* at 154:11–20.

Moreover, the only claim terms Mr. McNamara defined in view of the prosecution history of the '130 patent were “automatically” and “automatically received,” which neither party contests. *Compare* PO Resp. 10–16; Reply 1; Pet. 8–9, *with* Ex. 1020, 26. In addition, we are not persuaded that Mr. McNamara's statement that he did not review the prosecution history of the '130 patent displays a lack of understanding of the prosecution history because Patent Owner did not define any claim terms at issue in this proceeding that overlap with claim terms defined during the prosecution of the '130 patent. *Compare* PO Resp. 10–16, *with* Ex. 1020, 26.

The only attempts at defining claim terms in this proceeding that overlap with claim terms found in the prosecution history occur in two *other* patents, which are U.S. Patent Nos. 7,397,363 B2 (the '363 patent) and

7,277,010 B2 (the '010 patent). For the claim terms found in the prosecution history of the '363 patent and the '010 patent, Mr. McNamara reviewed and considered these definitions. Ex. 1003 ¶¶ 14 and 20; *see also* Ex. 1009. During the cross-examination, Mr. McNamara re-affirmed that he reviewed these definitions. Ex. 2003, 154:11–20 (In response to the question “with respect to Paragraphs 14 through 25, through 24, other than the information that is referenced in 25, is that a complete list of the information that you considered in teaching the opinions or conclusions expressed,” Mr. McNamara answered “[t]hat is correct.”).

Accordingly, we are not persuaded Mr. McNamara’s testimony displays a lack of understanding of the prosecution history.

2. *Mr. McNamara Applied the Correct Claim Construction Standard*

Mr. McNamara stated that he applied the plain and ordinary meaning as understood by a person having ordinary skill in the art. Ex. 1003 ¶ 10. During cross-examination, Mr. McNamara re-affirmed his position by stating “I used the same standard through all of the four patents [including the '130 patent]. I used the one of ordinary and customary understanding.” Ex. 2003, 152:15–18.

In response, Patent Owner argues Mr. McNamara acknowledged during cross-examination that he used the wrong claim construction standard when construing the claims in a related *inter partes* review brought by the same Petitioner. PO Resp. (citing Ex. 2003, 151:14–152:18 (Mr. McNamara acknowledged that he used “the broadest reasonable construction in light of the specification of the ['363] patent.” However, in response to Patent Owner’s questions “[a]re you aware that the PTAB has indicated or stated

that this is, in fact, the wrong standard for the 363' patent" and "[h]ow does the use of the wrong claim construction standard affect your opinions in this case," Mr. McNamara answers "I don't think I used the wrong standard because I used the same standard through all of the four patents [including the '130 patent]. I used the one of ordinary and customary understanding.")). Patent Owner further argues that Mr. McNamara acknowledged that he cannot discern the difference between claims in an expired patent and claims in an unexpired patent and uses the same claim construction standard (i.e., plain and ordinary meaning) for both expired and unexpired patents. PO Resp. 17–19 (citing Ex. 2003, 152:19–25).

In reply, Petitioner argues Mr. McNamara stated that he applied the plain and ordinary meaning as understood by a person having ordinary skill in the art. Reply 5 (citing Ex. 1003 ¶ 10; Ex. 2003, 152:15–18). Petitioner further argues Patent Owner's reliance on Mr. McNamara being unable to differentiate between the "broadest reasonable construction" and the "ordinary and customary understanding" is misplaced because the difference between the two standards is a legal question. Reply 5. Petitioner also argues Patent Owner fails to demonstrate how Mr. McNamara's claim construction is incorrect, why Mr. McNamara's claim construction is different from the plain and ordinary meaning, or that his opinion and conclusion allegedly are based on an incorrect standard. *Id.* According to Petitioner, at best, Patent Owner illustrates that Mr. McNamara failed to explain the difference between the "broadest reasonable construction" and the "plain and ordinary meaning." *Id.*

Petitioner also argues Mr. McNamara's declaration is consistent with the Board's construction of "control device" and the remaining claim terms,

which were given their plain and ordinary meaning. *Id.* at 5–6 (citing Dec. 10; Ex. 1003 ¶ 10). Regarding the claim term “control device,” as an example, Petitioner refers to Mr. McNamara’s statement that “‘Frossard further states that the receiver-decoder means ‘decodes this message’ that it received and ‘addresses the corresponding commands to equipment 3 itself, causing an immediate or deferred shutdown depending on the application under consideration.’” *Id.* at 6 (quoting Ex. 1003 ¶ 41). Petitioner argues Frossard performing numerous operations such as decoding and addressing is consistent with the Board’s construction of “control device” that includes performing “a number of operations.” *Id.* Petitioner also argues another example of Mr. McNamara’s consistency with the Board is disclosed in Mr. McNamara’s statement that “‘the CPU 4 is acting as a control device as it is performing actions and operations on the ignition system and fuel pump.’” *Id.* (quoting Ex. 2003, 164:16–18). Petitioner further argues Mr. McNamara also states “‘I agree with the PTAB’s construction that control device is generally something that performs an operation or function or action; the transmitter is, yes, the transmitter is performing an operation.’” *Id.* (quoting Ex. 2003, 166:11–15).

We agree with Petitioner. Mr. McNamara stated that he applied the plain and ordinary meaning as understood by a person having ordinary skill in the art. Ex. 1003 ¶ 10; Ex. 2003, 152:14–18. We also agree with Petitioner that Patent Owner’s reliance on Mr. McNamara being unable to differentiate between the “broadest reasonable construction” and the “ordinary and customary understanding” is misplaced because the difference between the two standards is a legal question. Moreover, we agree with Petitioner that Patent Owner’s argument fails to demonstrate how Mr.

McNamara's claim construction is incorrect, why Mr. McNamara's claim construction is different from the plain and ordinary meaning, or that Mr. McNamara's opinion and conclusion allegedly are based on an incorrect standard.

Mr. McNamara's declaration is consistent with the Board's construction of "control device" and the remaining claim terms, which were given their plain and ordinary meaning. Dec. 10; Ex. 1003 ¶ 10. For instance, Mr. McNamara states "Frossard further states that the receiver-decoder means 'decodes this message' that it received and 'addresses the corresponding commands to equipment 3 itself, causing an immediate or deferred shutdown depending on the application under consideration.'" Ex. 1003 ¶ 41. Frossard's performance of numerous operations such as decoding and addressing is consistent with the Board's construction of "control device" that includes performing "a number of operations." *Compare e.g.*, Dec. 10, with Ex. 1003 ¶ 41. Another example of Mr. McNamara's consistency with the Board is disclosed in Mr. McNamara's statement that "the CPU 4 is acting as a control device as it is performing actions and operations on the ignition system and fuel pump." *Compare* Dec. 10, with Ex. 2003, 164:16–18. Moreover, Mr. McNamara also states, "I agree with the PTAB's construction that control device is generally something that performs an operation or function or action; the transmitter is, yes, the transmitter is performing an operation." Ex. 2003, 166:11–15.

Accordingly, we determine Mr. McNamara's testimony is reliable and we will accord it appropriate weight in our analysis that follows.

equipment 3. *Id.* at 9:23–24. Figure 2, which is reproduced below, provides a more detailed explanation of how equipment 3 is shut down.

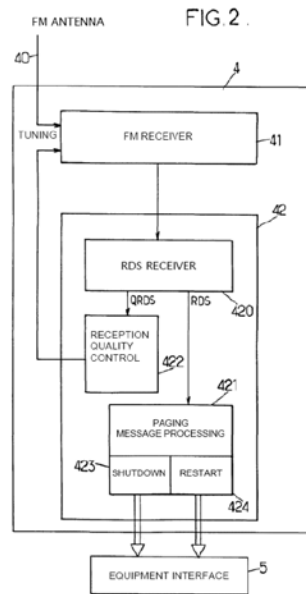


Figure 2 illustrates receiver-decoder circuits 4 and equipment interface 5 from Figure 1. *Id.* at 3:26–27, 7:21–23. Shutdown circuit 423 controls immediate or deferred shut down of equipment 3. *Id.* at 9:28–10:3. When shut down of equipment 3 occurs, an electrical contact that activates the starter is broken. *Id.* at 10:13–21.

2. Discussion

a. Frossard Discloses the “A to B to C” System/Method of Independent Claims 26, 42, and 48

The parties argue whether Frossard discloses the “A to B to C” system/method of independent claims 26, 42, and 48.⁷ PO Resp. 21–24;

⁷ Each of the three instituted independent claims 26, 42, and 48 recite three control devices, with one control device located at the vehicle, and the other two control devices located remote from the vehicle. In claims 26 and 48, the “first control device” is located at the vehicle and the “second control

Reply 7–14. Because Petitioner has the burden of proof (*see* 35 U.S.C. § 315(e), 37 C.F.R. § 42.20(c)), we begin with Petitioner’s arguments.

Petitioner argues Frossard’s telephone and Minitel are two examples of disclosures of a “first control device” as recited in claim 42 and similarly recited in claims 26 and 48. Pet. 13, 18 (citing Ex. 1005, 4). Moreover, Petitioner argues the access code and corresponding intervention order is an example of the first signal, which is transmitted from the first control device as recited in claim 42 and similarly recited in claims 26 and 48. Pet. 18; *see also* Pet. 13 (quoting Ex. 1005, 4). Petitioner refers to the combination of Frossard’s server 1 and network 2 as disclosing a “second control device” as recited in claims 26, 42, and 48. Pet. 12, 21 (citing Ex. 1005, 4, Figs. 1, 4; Ex. 1003 ¶¶ 46, 70). In addition, Petitioner argues Frossard’s receiver decoder circuits 4 receiving “an order message to shut down the

device” and “third control device” are located remote from the vehicle. In claim 42, the “third control device” is located at the vehicle, and “first control device” and “second control device” are located remote from the vehicle. In all three challenged independent claims, the “second control device” is the intermediate control device between the “first control device” and the “third control device.” Patent Owner refers to the “third control device” as being the control device within the vehicle that receives a signal from the intermediate “second control device,” and refers to the “first control device” as being remote from the vehicle that sends a signal to the intermediate “second control device.” PO Resp. 19–20. Patent Owner’s nomenclature refers to the “first control device” as being the control device located remote from the vehicle, which in turn sends a signal to an intermediate “second control device” located remote from vehicle, which in turn sends a signal to a “third control device” located at the vehicle. *Id.* at 20. To avoid confusion, we, thus, refer to Patent Owner’s nomenclature when discussing Patent Owner’s arguments to identify features recited in claims 26, 42, and 48.

equipment”” discloses receiving a second signal as recited in claims 26, 42, and 48. Pet. 10, 19 (quoting Ex. 1005, 3). Petitioner argues Frossard’s receiver-decoder circuits 4 discloses the claimed “third control device” as recited in claim 42 and similarly recited in claims 26 and 48. Pet. 9–10, 19 (citing Ex. 1005, 5). Petitioner further argues Frossard’s control inhibition means being commanded by receiver-decoder circuits 4 in order to ensure that the equipment is switched to shutdown, startup, or standby status discloses the “third signal” as recited in claim 42 and similarly recited in claims 26 and 48. Pet. 19; *see also id.* at 10 (quoting Ex. 1005, 3).

In response, Patent Owner argues Frossard fails to disclose the “A to B to C” method/system as recited in claims 26, 42, and 48. PO Resp. 21. Patent Owner explains that Petitioner’s allegation that Frossard’s receiver-decoder circuits 4 disclose the claimed “third control device,” Frossard’s resource 2 and server 1 discloses the claimed “second control device,” and Frossard’s telephone or Minitel discloses the claimed “first control device” is flawed for the reasons discussed below. *Id.*

Patent Owner explains that although Petitioner asserts Frossard’s resource 2 and server 1 discloses the “second control device” as recited in claims 26, 42, and 48, Frossard’s “resource 2” and “server 1” are actually at least *two separate* devices. *Id.* at 21–22. Patent Owner argues claims 26, 42, and 48 require that the “second control device” receive a first signal from the claimed “first control device.” According to Patent Owner, Frossard’s device that receives a signal from the telephone or minitel (i.e., the device Petitioner alleges that discloses the claimed “first control device”) is actually Frossard’s server 1. *Id.* at 22. Patent Owner argues based on Petitioner’s argument, Frossard’s server 1 must be the element

corresponding to the claimed “second control device” because it receives a signal from the claimed “first control device.” *Id.*

Patent Owner further argues that claims 26, 42, and 48 require that the claimed “third control device” located at the vehicle receives and is responsive to the second signal from the claimed “second control device.” *Id.* Patent Owner argues because Petitioner asserts Frossard’s receiver-decoder circuits 4 discloses the claimed “third control device,” there must be a signal from Frossard’s server 1 to Frossard’s receiver-decoder circuits 4 based on the proper construction of “first signal,” “second signal,” and “third signal.” *Id.* More specifically, Patent Owner argues there is no signal from Frossard’s server 1 to Frossard’s receiver-decoder circuits 4 because there is an intermediate device between Frossard’s server 1 and Frossard’s receiver-decoder circuits 4; the intermediate device is Frossard’s resource 2. *Id.*

According to Patent Owner, Frossard’s resource 2 generates a “third signal” so Frossard’s receiver-decoder circuits 4 are not receiving a “second signal” from the intermediate second control device, but rather a “third signal” from a device located in between Frossard’s server 1 and Frossard’s receiver-decoder circuits 4. *Id.* at 23. From Patent Owner’s perspective, Frossard discloses a first control device remote from the vehicle (i.e., Frossard’s telephone or minitel) that sends a first signal to a second control device (i.e., Frossard’s server 1) remote from the vehicle, which sends a second signal to a third control device (i.e., Frossard’s resource 2) remote from the vehicle, which sends a third signal to a fourth control device (i.e., Frossard’s receiver-decoder circuits 4) at the vehicle, which sends a fifth signal to a device in the controlled vehicle. *Id.* According to Patent Owner,

Frossard discloses devices A, B, and C are remote from the vehicle in an “A to B to C to D” configuration. *Id.*

Patent Owner further argues, in contrast to the “A to B to C to D” configuration disclosed by Frossard, claims 26, 42, and 48 require a first control device remote from the vehicle; the first control device sends a first signal to a second control device remote from the vehicle; the second control device sends a second signal to a third control device located at the vehicle; the third control device sends a third signal to a device located in the vehicle that is being controlled. *Id.* at 23–24. Stated differently, Patent Owner argues Frossard discloses an “A to B to C to D” configuration in which A, B, and C are remote from the vehicle, whereas the claim requires an “A to B to C” configuration in which A and B are remote from the vehicle. *Id.* at 24.

In reply, Petitioner argues Patent Owner improperly attempts to limit “control device” in a way that contradicts Patent Owner’s proposed claim construction. Reply 7. Petitioner argues even applying Patent Owner’s proposed construction, Frossard discloses the recited control device. *Id.* Petitioner further argues Patent Owner proposes to construe “control device” as “a device or a computer, or that part of a device or a computer, which performs an operation, an action, or a function, or which performs a number of operations, actions, or functions.” *Id.* at 8 (citing PO Resp. 14–15). According to Petitioner, because the “control device” can comprise “part of a device,” it follows that a device can comprise multiple parts. *Id.* Petitioner also explains because a “control device” is a type of device, a “control device” can include necessarily multiple parts. *Id.*

Petitioner argues the specification of the ’130 patent fails to support Patent Owner’s argument that a transmitter and a server cannot disclose a

control device. *Id.* The specification of the '130 patent fails to use the term “control device.” *Id.* Rather, Figure 11B illustrates a three device architecture that controls vehicle systems. *Id.* (citing Ex. 1001, Fig. 11B). According to Petitioner, the claimed “second control device” comprises two parts: server 952 and transmitter 957. *Id.* Petitioner argues the disclosure corresponding to Figure 11B describes that, in response to a command received by server receiver 953, server 952 transmits a control signal via transmitter 957. *Id.* (citing Ex. 1001, 50:31–38, 50:45–48).

Petitioner specifically argues the specification states ““server 952 can perform complete control, monitoring and/or security functions on, or over the apparatus 1, the apparatus 950, the vehicle, and/or each of the vehicle systems.”” *Id.* at 9 (quoting Ex. 1001, 50:35–38). In addition, “[d]ata access and command code data . . . may also be transmitted by the authorized user or operator, via the respective apparatus transmitters to the receiver 953 of the server 952.”” *Id.* (quoting Ex. 1001, 50:31–34). Moreover, “[t]he server transmitter 957 can transmit control signals and/or other data, including information to the authorized user or operator and to the apparatus 1 and/or to the apparatus 950.”” *Id.* (quoting Ex. 1001, 50:45–48).

According to Petitioner, the specification of the '130 patent discusses a control device including two components: a server and a transmitter; the server transmits control signals via the transmitter to exercise remote controls. *Id.* Petitioner argues Patent Owner’s argument that Frossard’s server 1 and resource 2 cannot be the claimed “second control device,” therefore, contradicts the specification of the '130 patent because Patent Owner’s argument ignores that the specification of the '130 patent also

discloses two components (i.e., a server and a transmitter) as part of a control device. *Id.*

Moreover, Petitioner argues the specification does not describe “a second device that is remote from a vehicle and that performs control-related operations over the vehicle, where this second device does not use a transmitter for the remote control.” *Id.* According to Petitioner, every disclosed second device uses transmitters (e.g., in Figure 11B, server 952 uses transmitter 957). *Id.* Petitioner further argues the ’130 patent fails to enable a second control device that is remote from the vehicle that does not include a transmitter. *Id.* at 9–10. That is, Petitioner argues Patent Owner’s allegation that the second control device excludes a transmitter to distinguish over Frossard has no support in the ’130 patent. *Id.* at 10. Petitioner argues Patent Owner’s argument is attempting to capture claim scope for an invention that it did not invent.

Petitioner contends that Patent Owner’s argument that Frossard’s server 1 and resource 2 does not disclose a control device is unsupported by expert testimony. *Id.* Moreover, Petitioner asserts that Patent Owner’s arguments are conclusory because they fail to explain how or why Frossard’s resource 2 would transmit a third signal that is different from the second signal generated by Frossard’s server 1. *Id.* Petitioner argues Patent Owner’s conclusory arguments should not be entitled to any weight. *Id.*

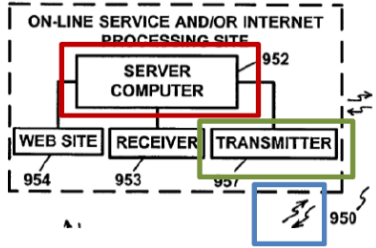
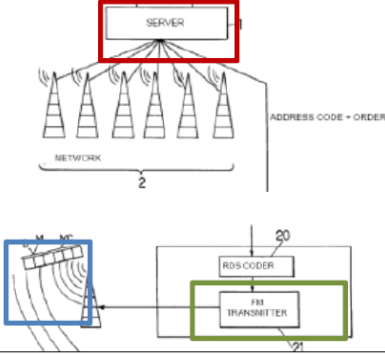
Moreover, Petitioner asserts that Patent Owner’s argument that Frossard’s resource 2 is not a control device because it is an intermediate device generating a third signal is flawed because Frossard’s server 1 and resource 2, together, form a control device generating and transmitting a signal. *Id.* Petitioner explains Frossard’s server 1 is part of the claimed

“second control device,” such that it performs an operation, an action, or a function of generating the message order M (i.e., the claimed second signal). *Id.* at 10–11. In addition, Petitioner argues Frossard’s resource 2 is part of the claimed “second control device,” such that it performs an operation, an action, or a function of transmitting the order message M. *Id.* at 11.

Petitioner particularly argues Frossard discloses an intervention code is “transmitted to server center 1 by the subscriber or an authorized person in order to generate . . . a request to shut down the aforesaid equipment 3.” *Id.* (quoting Ex. 1005, 5). Petitioner also argues Frossard discloses that its “system contains a resource 2 for selective transmission to the aforesaid equipment of an order message M to shut down this equipment 3 [T]he aforesaid transmission resource advantageously contains an analog radio frequency transmitter provided with a subcarrier.” *Id.* (quoting Ex. 1005, 4–5).

In addition, according to Petitioner, Frossard’s Figure 1 illustrates order message M that server 1 generates to order message M that resource 2 transmits to conclude that resource 2 transmits, without changing, order message M to the equipment in the vehicle. *Id.* Petitioner argues, when viewed in totality, Frossard’s server 1 and resource 2 collectively form the claimed “second control device,” such that server 1 and resource 2 collectively generate and transmit message order M (i.e., the claimed “second signal”). *Id.* Petitioner argues this is what independent claims 26, 42, and 48 recite (e.g., “wherein the second signal is at least one of generated by and transmitted from a second control device” as recited in claim 26 and similarly recited in claims 42 and 48). *Id.*

Petitioner argues Frossard's server 1 and resource 2 architecture is the equivalent to server computer 952 and transmitter 957 architecture of Figure 11B of the '130 patent. *Id.* at 12 (comparing Ex. 1005, Fig. 1 with Ex. 1001, Fig. 11B). Petitioner further explains Frossard's server 1 is an equivalent to server computer 952 illustrated in Figure 11B of the '130 patent because both server 1 and server computer 952 generate a signal for remote control. *Id.* (comparing Ex. 1005, Fig. 1 with Ex. 1001, Fig. 11B). Moreover, Petitioner explains Frossard's resource 2 is equivalent to transmitter 957 illustrated in Figure 11B of the '130 patent because both resource 2 and transmitter 957 transmit the signal. *Id.* (comparing Ex. 1005, Fig. 1 with Ex. 1001, Fig. 11B). Petitioner argues because independent claims 26, 42, and 48 describe server computer 952 and transmitter 957 architecture, then Frossard's server 1 and resource 2 architecture discloses the features of independent claims 26, 42, and 48. *Id.* Petitioner illustrates the similarities between Figure 11B of the '130 patent and Figure 1 of Frossard in the chart below. *Id.*

<u>Claims 26 and 48</u> wherein the second signal is at least one of generated by and transmitted from a second control device. <u>Claim 42</u> transmitting a second signal from the second control device to a third control device.	
FIG. 11B of the '130 Patent	FIG. 1 of Frossard
	

The chart above illustrates Figure 11B of the '130 patent, Figure 1 of Frossard, and the corresponding claim language. Petitioner argues even assuming Patent Owner's flawed argument that Frossard's server 1 and resource 2 are two separate control devices were true, Frossard discloses the claimed "second control device" and the claimed "second signal." *Id.* at 12–13. In particular, Petitioner explains Patent Owner's application of Frossard would result in Petitioner mapping Frossard's server 1 (i.e., Patent Owner asserts server 1 to be a "control device") to the claimed "third control device" (as recited in claims 26 and 48 and similarly recited in claim 42) and maps order message M from server 1 to the claimed "third signal" (as recited in claims 26 and 48 and similarly recited in claim 42). *Id.* at 13. In addition, Patent Owner's application of Frossard would result in Petitioner mapping Frossard's resource 2 (i.e., Patent Owner asserts to be a "control device") to the claimed "second control device" and maps order message M from resource 2 to the claimed "second signal." *Id.* Moreover, Patent Owner's application of Frossard would result in Petitioner mapping Frossard's receiver-decoder circuits 4 to the claimed "first control device" as recited in claims 26 and 48 and similarly recited in claim 42. *Id.*

We agree with Petitioner that Patent Owner attempts to limit "control device" improperly in a way that contradicts Patent Owner's proposed claim construction. As discussed *supra*, "control device" is construed as "a device or a computer, or that part of a device or a computer, which performs an operation, an action, or a function, or which performs a number of operations, actions, or functions." We agree with Petitioner that Frossard's server 1 *and* resource 2 discloses the claimed "second control device" because Patent Owner's proposed definition of "control device" can

comprise “part of a device”; it follows that a device can comprise multiple parts. Also, because a “control device” is a type of device, a “control device” can include necessarily multiple parts.

We also determine that because Patent Owner acknowledged, in its own definition, that “control device” means “a device *or* a computer, *or* that part of a device *or* a computer, which performs an operation, an action, *or* a function, *or* which performs a number of operations, actions, *or* functions” (emphases added), it necessarily follows that the “or” implies that a control device can include multiple parts. Tr. 32:15–19. For example, a “control device” can be “[1] a device *or* [2] a computer”; in other words, logic dictates that the “or” can be interpreted as an “and” such that a “control device” can be “[1] a device *and* [2] a computer.” *Id.* Moreover, during oral hearing, Patent Owner acknowledged Frossard’s server 1 is a “computer” and Frossard’s resource 2 is a “device.” *Id.* at 34:14–35:11 (In response to the question, “[s]o you are saying that a server can’t be a device,” Patent Owner acknowledged “[a] server is a computer, and broadly, if you consider a computer a device, a server is a device.”) (In response to the question “resource 2 or indicating a network number 2, is that a device as well?” Patent Owner acknowledged “resource 2 has a coder and has a transmitter. I would say it is a computer, but in a broad sense it can be considered a device.”). Using Patent Owner’s acknowledgement during the oral hearing, it follows that Frossard’s server 1 and Frossard’s resource 2, together, discloses a “control device” under Patent Owner’s proposed definition of “control device.”

Furthermore, Figure 1 illustrates that Frossard’s server 1 and resource 2, together, form a control device generating and transmitting a signal.

Ex. 1005, Fig. 1. Frossard's server 1 is part of the claimed "second control device," such that this part performs an operation, an action, or a function of generating the message order M (i.e., the claimed "second signal"). *Id.* at 4–5. In addition, Frossard's resource 2 is part of the claimed "second control device," such that this part performs an operation, an action, or a function of transmitting the order message M (i.e., the claimed "second signal"). *Id.*

In addition, we find that the specification of the '130 patent fails to support Patent Owner's argument that a transmitter and a server cannot disclose a control device. In particular, only the abstract and the claims recite "control device," while the remainder of the specification of the '130 patent fails to use the term "control device." *See generally* Ex. 1001, 1:1–74:57. Figure 11B illustrates a three device architecture that controls vehicle systems. Ex. 1001, Fig. 11B. Patent Owner acknowledged that Figure 11B provides support for the subject matter recited in claims 26, 42, and 48. *See* Prelim. Resp. 19–21. Patent Owner specifically acknowledged that the claimed "third control device"⁸ can be CPU 4, the claimed "second control device" can be server 952, and the claimed "first control device" can be home and/or personal computer 150. *See id.*

The text corresponding to Figure 11B describes that, in response to a command received by server receiver 953, server 952 transmits a control signal via transmitter 957. Ex. 1001, 50:31–38, 50:45–48. Moreover, the specification states "server 952 can perform complete control, monitoring and/or security functions on, or over, the apparatus 1 [i.e., apparatus 1

⁸ Although Patent Owner refers to CPU 4 as a "first control device" (*see* Prelim. Resp. 19–21), we refer to CPU 4, which is located at the vehicle, as the "third control device" for reasons discussed *supra*. *See supra* 19–20 n.7.

includes CPU 4, which is the component that Patent Owner acknowledged to be the claimed “third control device”], the apparatus 950, the vehicle, and/or each of the vehicle systems.” *Id.* at 50:35–38. In addition, “[d]ata access and command code data . . . may also be transmitted by the authorized user or operator, via the respective apparatus transmitters to the receiver 953 of the server 952.” *Id.* at 50:31–34. The specification also states “[t]he server transmitter 957 can transmit control signals and/or other data, including information to the authorized user or operator and to the apparatus 1 [i.e., apparatus 1 includes CPU 4, which is the component that Patent Owner acknowledged to be the claimed ‘third control device’] and/or to the apparatus 950.” *Id.* at 50:45–48.

Applying Patent Owner’s acknowledgement that the claimed “second control device” is server 952, the specification of the ’130 patent discloses that the claimed “second control device” (i.e., server 952) has transmitter 957 connected to it, such that server 952 transmits control signals via transmitter 957 to exercise remote controls. *Id.* Put another way, Patent Owner’s argument that Frossard’s server 1 and resource 2 cannot be the claimed “second control device” contradicts the specification of the ’130 patent because Patent Owner’s argument ignores that the specification of the ’130 patent also discloses server 952 (i.e., the claimed “second control device”) has transmitter 957 connected to it. *Compare* Ex. 1005, Fig. 1, *with* Ex. 1001, Fig. 11B.

Furthermore, the specification does not describe a second control device remote from a vehicle and absent a transmitter that exercises remote control over the vehicle. *See generally* Ex. 1001. Every disclosed second device uses transmitters (e.g., in Figure 11B, server 952 uses transmitter

957). *Id.* The '130 patent fails to enable a second control device that is remote from the vehicle that is absent a transmitter. *Id.* That is, Patent Owner's allegation that the second control device excludes a transmitter to distinguish over Frossard has no support in the '130 patent. *Id.* Patent Owner's argument is attempting to capture claim scope for an invention that it did not invent.

In summary, we note the similarities between Figure 11B of the '130 patent and Figure 1 of Frossard. The chart above illustrates server computer 952 in Figure 11B of the '130 patent with a corresponding red box; similarly, server 1 of Frossard's Figure 1 has a corresponding red box. *Compare* Ex. 1001, Fig. 11B, *with* Ex. 1005, Fig. 1 (emphases added by Petitioner). The transmitter in Figure 11B of the '130 patent with a corresponding green box and FM Transmitter 21 with a corresponding green box of Frossard's Figure 1 are also similar. *Compare* Ex. 1001, Fig. 11B, *with* Ex. 1005, Fig. 1 (emphases added by Petitioner). The signal in Figure 11B of the '130 patent with a corresponding blue box and signal with a corresponding blue box of Frossard's Figure 1 are also similar. *Compare* Ex. 1001, Fig. 11B, *with* Ex. 1005, Fig. 1 (emphases added by Petitioner).

In addition, Patent Owner's argument that Frossard's server 1 and resource 2 does not disclose a control device is not supported by expert testimony. *See* PO Resp. 20–24. That is, Patent Owner's arguments are conclusory because they fail to explain how or why Frossard's resource 2 would transmit a third signal that is different from the second signal generated by Frossard's server 1. *Id.*

Even if we agreed with Patent Owner's argument that Frossard's server 1 and resource 2 are two separate control devices, which we do not,

Patent Owner's argument would lead to Petitioner re-mapping Frossard in a way to disclose sufficiently the limitations construed under Patent Owner's arguments. In particular, Patent Owner's argument that Frossard's server 1 and resource 2 are two separate control devices would result in Petitioner mapping Frossard's server 1 (i.e., Patent Owner asserts server 1 to be a "control device") to the claimed "third control device" (as recited in claims 26 and 48 and similarly recited in claim 42) and Petitioner mapping order message M from server 1 to the claimed "third signal" (as recited in claims 26 and 48 and similarly recited in claim 42). Reply 13. In addition, Patent Owner's application of Frossard would result in Petitioner mapping Frossard's resource 2 (i.e., Patent Owner asserts to be a "control device") to the claimed "second control device" and Petitioner mapping order message M from resource 2 to the claimed "second signal." *Id.* Moreover, Patent Owner's application of Frossard would result in Petitioner mapping Frossard's receiver-decoder circuits 4 to the claimed "first control device" as recited in claims 26 and 48 and similarly recited in claim 42. *Id.* Accordingly, we agree with Petitioner's arguments that Frossard discloses the "A to B to C" system/method of independent claims 26, 42, and 48.

b. Undisputed Limitations

We have reviewed the arguments and evidence presented in the Petition regarding how Frossard discloses the remaining limitations of claims 26, 29, 33, 42, 48, and 68. Pet. 9–24. Patent Owner does not contest that Frossard discloses these limitations. See PO Resp. 20–24; see also Reply 7–14. Based on our review of the Petition and the supporting evidence, we find persuasive Petitioner's arguments and evidence, including

citations to Frossard and Mr. McNamara's testimony, and we adopt them as the basis for our determination that Frossard discloses the limitations of claims 26, 29, 33, 42, 48, and 68. Pet. 9–24.

c. Conclusion

In conclusion, for the reasons given above and based on our review of the arguments and evidence of record, Petitioner has shown by a preponderance of the evidence that Frossard anticipates the subject matter of claims 26, 29, 33, 42, 48, and 68 of the '130 patent.

D. Alleged Obviousness of Claims 30 and 43 in View of Frossard and Pagliaroli

1. Pagliaroli (Ex. 1006)

Pagliaroli describes enabling or disabling remotely an automobile. Ex. 1006, Abs. When an automobile owner realizes their vehicle is stolen, the owner dials a telephone number to disable the automobile. *Id.* Figure 1 is reproduced below.

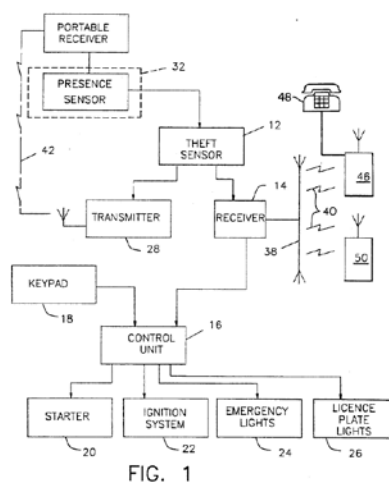


Figure 1 illustrates a user connecting to receiver 14 when dialing from telephone 48. *Id.* at 4:53–5:1. In addition, Figure 1 shows telephone 48

connects to receiver 14 via transmitter 46. *Id.* Receiver 14 receives signal code 40 and forwards code 40 to control unit 16. *Id.* at 5:30–33. When a disabling signal is sent, control unit 16 disables starter 20 and ignition system 22 stops the operation of the automobile and sends a signal activating emergency lights 24 of the automobile. *Id.* at 5:44–55. License plate lights 26 may change colors or flash to identify to police that the automobile is stolen. *Id.* at 5:55–58.

2. *Discussion*

a. *Pagliaroli's Theft Sensor*

Claims 30 and 43 depend from claims 26 and 42, respectively. Both claims 30 and 43 recite further limitations regarding at least one of controlling, monitoring, or determining a vehicle status. The parties' arguments focus on whether Pagliaroli's theft sensor teaches the claimed "control device." PO Resp. 24–25; Reply 14–15.

Petitioner argues Pagliaroli teaches that theft sensors 12 monitor the condition of an automobile and optionally are coupled to transmitter 28; once activated, transmitter 12 transmits signal 42 that is received by a portable receiver device notifying a person that tampering or attempted theft of the automobile is occurring. Pet. 24–25 (citing Ex. 1006, 4:22–24, 4:46–52).

In response, Patent Owner argues Pagliaroli's theft sensor 12 is not a control device. PO Resp. 25. Patent Owner further argues Pagliaroli's theft sensor 12 and a control device are separate devices. *Id.*

In reply, Petitioner argues Patent Owner's argument mischaracterizes how Petitioner applies Pagliaroli. Reply 14. That is, Petitioner does not

argue that Pagliaroli's theft sensor 12 is a control device nor does Petitioner argue for replacing Frossard's receiver-decoder circuits 4 with Pagliaroli's theft sensor 12. *Id.* Rather, Petitioner argues that Pagliaroli's theft sensor 12 teaches the additional limitations recited by dependent claims 30 and 43 and articulates how Pagliaroli and Frossard are combinable. *Id.*

We agree with Petitioner. Patent Owner's argument mischaracterizes how Petitioner applies Pagliaroli. Specifically, Petitioner does not argue that Pagliaroli's theft sensor 12 is a control device nor does Petitioner argue for replacing Frossard's receiver-decoder circuits 4 with Pagliaroli's theft sensor 12. *See* Pet. 24–25. Rather, Petitioner argues that Pagliaroli's theft sensor 12 teaches a determination of an operating status, which in this case would be sensing whether a vehicle has been stolen as required by claims 30 and 43 and Petitioner articulates how Pagliaroli and Frossard would have been combined. *Id.* at 24–27.

b. The Combination of Frossard and Pagliaroli Does Not Destroy the Functionality of Frossard

The parties' arguments regarding the motivation to combine focus on whether the combination of Frossard and Pagliaroli would destroy the functionality of Frossard. PO Resp. 24–25; Reply 14–15.

Petitioner argues it would have been obvious to a person having ordinary skill in the art to combine Frossard's system with Pagliaroli's theft sensor 12 to provide a system for remotely disabling or enabling a vehicle that also provides a notification when it detects tampering or theft. Pet. 25 (citing Ex. 1003 ¶ 82).

In response, Patent Owner argues replacing Frossard's receiver-decoder circuits 4 (i.e., Petitioner asserts this is the control device at the vehicle) with Pagliaroli's theft sensor 12 would destroy the functionality of Frossard because there is no teaching or suggestion in Pagliaroli that theft sensor 12 can function as Frossard's receiver-decoder circuits 4. PO Resp. 25.

In reply, Petitioner argues Patent Owner fails to proffer any rationale or evidence for why the combination of Frossard and Pagliaroli would destroy the functionality of Frossard. Reply 14. Further, Petitioner argues Patent Owner fails to proffer its own expert testimony refuting Petitioner's arguments and Mr. McNamara's opinion. *Id.* Petitioner further argues Patent Owner's conclusory arguments should not be given any weight. *Id.* at 14–15.

Petitioner also argues Patent Owner's argument that Pagliaroli does not provide a teaching or suggestion that its theft sensor 12 can function as Frossard's receiver-decoder circuits 4 is improper because Petitioner argues for *combining* (rather than replacing) Pagliaroli's theft sensor 12 and Frossard's receiver-decoder circuits 4. *Id.* at 15. In addition, Petitioner argues Patent Owner is incorrect legally because any teaching or suggestion need not be found in the reference itself. *Id.*

We agree with Petitioner and Mr. McNamara that it would have been obvious to a person having ordinary skill in the art to combine Frossard's system with Pagliaroli's theft sensor 12 to provide a system for remotely disabling or enabling a vehicle that also provides a notification when it detects tampering or theft. Patent Owner fails to proffer any rationale or evidence for why the combination of Frossard and Pagliaroli would destroy

the functionality of Frossard. Further, Patent Owner fails to proffer its own expert testimony refuting Petitioner's arguments and Mr. McNamara's opinion. Patent Owner's arguments are conclusory attorney argument.

Patent Owner's argument that Pagliaroli does not provide a teaching or suggestion that its theft sensor 12 can function as Frossard's receiver-decoder circuits 4 is improper because Petitioner argues for *combining* (rather than replacing) Pagliaroli's theft sensor 12 and Frossard's receiver-decoder circuits 4. In addition, Patent Owner is incorrect because any teaching or suggestion need not be found in the reference itself.

c. Undisputed Limitations

We have reviewed the arguments and evidence presented in the Petition regarding how the combination of Frossard and Pagliaroli teaches the remaining limitations of claims 30 and 43. Pet. 24–27. Patent Owner does not contest that the combination of Frossard and Pagliaroli teaches the remaining limitations; rather, Patent Owner merely contests that Pagliaroli does not remedy the alleged deficiencies of Frossard. See PO Resp. 24–25; see also Reply 14–15. Based on our review of the Petition and the supporting evidence, we find persuasive Petitioner's arguments and evidence, including citations to Frossard, Pagliaroli, and Mr. McNamara's testimony, and we adopt them as the basis for our determination that the combination of Frossard and Pagliaroli teaches the limitations of claims 30 and 43. Pet. 24–27.

d. Conclusion

In conclusion, for the reasons given above and based on our review of the arguments and evidence of record, Petitioner has shown by a

preponderance of the evidence that the combination of Frossard and Pagliaroli renders obvious the subject matter of claims 30 and 43 of the '130 patent.

E. Alleged Obviousness of Claim 60 in View of Frossard and Simms

1. Simms (Ex. 1007)

Simms describes a security system utilizing Global Position Satellite (“GPS”). Ex. 1007, Abs. The security system comprises a mobile unit. *Id.* The mobile unit communicates emergency data including position coordinates to a central dispatch station that receives the emergency data and displays emergency information on a digitized map at a position corresponding to the location of the mobile unit. *Id.* Central dispatch station 40 is a database that processes the code to display the position of the mobile entity on the digitized map. *Id.* at 5:49–51, 5:62–68, 12:37–41, 12:51–13:9.

2. Discussion

a. A Substantial Redesign In Frossard Would Not Be Required To Combine the Teachings of Frossard and Simms

Claim 60 depends from claim 48. Claim 60 recites further limitations regarding using a positioning device to determine the position or location of a vehicle. The parties’ arguments focus on whether a substantial redesign would have been required to combine the teachings of Frossard and Simms. PO Resp. 25–26; Reply 15–16.

Petitioner argues it would have been obvious to a person having ordinary skill in the art to combine Frossard and Simms to remotely disable or enable a vehicle that also utilizes a positioning device to determine the location of the vehicle and display that location on a digital map because it

would have been nothing more than a use of a known technique to improve similar devices and methods in the same way. Pet. 30 (citing Ex. 1003 ¶ 92).

In response, Patent Owner argues Simms does not remedy the deficiencies of Frossard and Frossard's server 1 and vehicle would require a substantial redesign at Frossard's server 1 and at Frossard's vehicle in order to combine Frossard and Simms; according to Patent Owner, Mr. McNamara's acknowledged this during his cross-examination. PO Resp. 25–26 (citing Ex. 2004, 324:5–25, 329:7–14).

In reply, Petitioner argues it does not apply Simms as teaching any features of independent claim 48, from which claim 60 depends. Reply 15. Instead, Petitioner argues it proffered Simms to teach the positioning device of claim 60 and explained how and why Simms's positioning device is combinable with Frossard's system. *Id.* (citing Pet. 27–32).

Petitioner argues Patent Owner did not proffer any rationale or evidence for why combining Frossard and Simms is improper. *Id.* Petitioner argues Patent Owner merely argues that a substantial redesign would be required without any explanation what the alleged redesign would involve and its significance. *Id.* at 16. Petitioner also argues Patent Owner's argument is conclusory because it did not proffer its own expert testimony refuting arguments in the Petition and Declaration. *Id.* Petitioner argues Patent Owner's reliance on page 324, lines 5–25 and page 329, lines 7–14 of the Cross-Examination do not support Patent Owner's argument. *Id.* Petitioner argues the statements from the Cross-Examination explain a simple implementation for combining Frossard's system and Simms' positioning device. *Id.* Petitioner argues Mr. McNamara further explains

other implementations at page 335, line 13 through page 336, line 6 of the Cross-Examination. *Id.*

We agree with Petitioner. Petitioner did not apply Simms as teaching any features of independent claim 48, from which claim 60 depends. Pet. 27–32. Instead, Petitioner proffered Simms to teach the positioning device of claim 60 and explained how and why Simms’s positioning device is combinable with Frossard’s system. *Id.* We are persuaded that Simms teaches such a positioning device through its discussion of a GPS enabled security system.

Patent Owner did not proffer any rationale or evidence for why combining Frossard and Simms is improper. Patent Owner merely argues that a substantial redesign would be required without any explanation what the alleged redesign would involve and its significance. Patent Owner’s argument is conclusory because it did not proffer its own expert testimony refuting arguments in the Petition and Declaration. Patent Owner’s reliance on page 324, lines 5–25 and page 329, lines 7–14 of the Cross-Examination do not support Patent Owner’s argument. Ex. 2004, 324:5–25, 329:7–14. The statements from the Cross-Examination explain a simple implementation for combining Frossard’s system and Simms’ positioning device. *Id.* Mr. McNamara further explains other implementations at page 335, line 13 through page 336, line 6 of the Cross-Examination. *Id.* at 335:13–336:6.

We find persuasive Petitioner’s stated rationale that the combination of Frossard and Simms is a combination of known techniques to improve similar devices and methods in a predictable way. *See* Pet. 30; *see also KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). Thus, we find that the

cited references together would have taught one of ordinary skill in the art “a system for remotely disabling or enabling a vehicle that also utilizes a positioning device to determine the location of the vehicle and display that location on a digital map.” Pet. 30.

b. Undisputed Limitations

We have reviewed the arguments and evidence presented in the Petition regarding how the combination of Frossard and Simms teaches the remaining limitations of claim 60. Pet. 27–32. Patent Owner does not contest that the combination of Frossard and Simms teaches the remaining limitations; rather, Patent Owner merely contests that Simms does not remedy the alleged deficiencies of Frossard. See PO Resp. 25–26; see also Reply 15–16. Based on our review of the Petition and the supporting evidence, we find persuasive Petitioner’s arguments and evidence, including citations to Frossard, Simms, and Mr. McNamara’s testimony, and we adopt them as the basis for our determination that the combination of Frossard and Simms teaches the limitations of claim 60. Pet. 27–32.

c. Conclusion

In conclusion, for the reasons given above and based on our review of the arguments and evidence of record, Petitioner has shown by a preponderance of the evidence that the combination of Frossard and Simms renders obvious the subject matter of claim 60 of the ’130 patent.

F. Alleged Anticipation of Claims 26, 29, 30, 42, 43, and 48 by Pagliaroli

1. Pagliaroli Discloses the “A to B to C” System/Method of Independent Claims 26, 42, and 48

The parties argue whether Pagliaroli discloses the “A to B to C” system/method of independent claims 26, 42, and 48. PO Resp. 26–30; Reply 16–24.

Petitioner argues Pagliaroli’s telephone 48 discloses a “first control device” as recited in claim 42 and similarly recited in claims 26 and 48. Pet. 42–43; *see also* Pet. 39 (citing Ex. 1006, 4:66–5:4). Moreover, Petitioner argues Pagliaroli’s dialed phone number of the receiver discloses the “first control signal” as recited in claim 42 and similarly recited in claims 26 and 48. Pet. 44; *see also id.* at 38 (citing Ex. 1006, 4:66–5:4). Petitioner refers to Pagliaroli’s mobile telephone signal transmitter 46 as disclosing a “second control device” as recited in claims 26, 42, and 48. Pet. 37, 45 (citing Ex. 1006, 4:58–60, 4:62–64). In addition, Petitioner argues receiving Pagliaroli’s signal code 40 discloses receiving the claimed “second signal” as recited in claims 26, 42, and 48. Pet. 34–35, 45 (citing Ex. 1006, 4:54–56, 4:62–64). Petitioner argues Pagliaroli discloses that “[i]t should be obvious to a person skilled in the art that these components . . . may be integrally formed”; according to Petitioner, Pagliaroli’s receiver 14 and control unit 16, thus, discloses the claimed “third control device” as recited in claim 42 and similarly recited in claims 26 and 48. Pet. 45 (citing Ex. 1003 ¶ 125); *see also* Pet. 33 (quoting Ex. 1006, 6:9–11, Fig. 1). Petitioner further argues Pagliaroli’s disabling signals 60, 62, control signal 64, and control signal 68 discloses the “third signal” as recited in claim 42

and similarly recited in claims 26 and 48. Pet. 47 (citing Ex. 1006, 5:30–33); *see also* Pet. 33 (citing Ex. 1006, 5:48, 5:51, 5:55; Ex. 1003 ¶ 100).

In response, Patent Owner argues Pagliaroli fails to disclose the “A to B to C” method/system as recited in claims 26, 42, and 48. PO Resp. 26. Patent Owner argues a “first signal” is “a signal sent by a first device,” a “second signal” is “a signal sent by a second device,” and a “third signal” is “a signal generated by a third device.” *Id.* Patent Owner explains that Petitioner’s allegation that Pagliaroli’s telephone 48 discloses the claimed “first control device,” Pagliaroli’s transmitter 46 discloses the claimed “second control device,” and Pagliaroli’s receiver 14 and control unit 16 discloses the claimed “third control device” is flawed for the reasons discussed below. *Id.* at 26–27.

Patent Owner argues even though Petitioner argues that the claimed “third control device” located at the vehicle is disclosed by Pagliaroli’s receiver 14 and control unit 16, Pagliaroli’s receiver 14 and control unit 16 are actually at least two separate devices. *Id.* at 27. Patent Owner argues Mr. McNamara testified under cross-examination that Pagliaroli’s receiver 14 is not merely a “dumb” passive device that just relays a signal; rather, Mr. McNamara testified that receiver 14 is complex because it has to deal with different protocols and has additional features. *Id.* (citing 2004, 256:3–12).

Patent Owner argues independent claims 26, 42, and 48 require that the claimed “second control device” receive a “first signal” from the claimed “first control device.” *Id.* at 28. Patent Owner argues that Pagliaroli’s mobile telephone signal transmitter 46 receives a signal from telephone 48 (i.e., Petitioner argues telephone 48 discloses the claimed “first control

device”). *Id.* Patent Owner argues Pagliaroli’s receiver 14 receives a signal from mobile telephone signal transmitter 46. *Id.* Patent Owner further argues based on Petitioner’s anticipation theory, Pagliaroli’s receiver 14 must be the corresponding component disclosing the claimed “third control device” because it receives a signal from the claimed “second control device.” *Id.*

Patent Owner argues claims 26, 42, and 48 require that a vehicle device/system is controlled in response to a “third signal” from the “third control device,” which, as discussed *supra*, must be a signal from Pagliaroli’s receiver 14 (i.e., Patent Owner argues Pagliaroli’s receiver 14 is the “third control device”) based on the proper construction of “first signal,” “second signal,” and “third signal.” *Id.* Patent Owner further argues an intermediate device (i.e., Pagliaroli’s control unit 16) between Pagliaroli’s receiver 14 and Pagliaroli’s vehicle systems/devices receives the “third signal,” rather than Pagliaroli’s receiver 14 receiving the “third signal.” *Id.* at 28–29 (citing Ex. 1006, Fig. 1).

Patent Owner argues Pagliaroli’s control unit 16 generates a fourth signal that controls Pagliaroli’s vehicle devices/systems. *Id.* at 29. In addition, Patent Owner argues Pagliaroli’s vehicle/devices systems are not responsive to a “third signal” from the “second control device” (i.e., Pagliaroli’s receiver 14), but rather a “fourth signal” from a device located between Pagliaroli’s receiver 14 and Pagliaroli’s vehicle devices/systems. *Id.*

Patent Owner argues Pagliaroli teaches a “first control device” (i.e., Pagliaroli’s telephone 48) remote from the vehicle that sends a “first signal” to a “second control device” (i.e., Pagliaroli’s mobile telephone signal

transmitter 46) remote from the vehicle, which in turn sends a “second signal” to a “third control device” (i.e., Pagliaroli’s receiver 14) located at the vehicle, which in turn sends a “third signal” to a “fourth control device” (i.e., Pagliaroli’s control unit 16) located at the vehicle, which in turn sends a “fourth signal” to a vehicle device/system that is being controlled. *Id.*

Patent Owner argues this configuration illustrates an “A to B to C to D” system in which devices A and B are located remote from the vehicle, and devices C and D are located at the vehicle. *Id.* Patent Owner argues claims 26, 42, and 48 instead require a “first control device” located remote from the vehicle, which sends a “first signal” to a “second control device” located remote from the vehicle, which in turn sends a “second signal” to a “third control device” located at the vehicle, which in turn sends a “third signal” to a device in the vehicle that is being controlled. *Id.* at 29–30. Patent Owner argues this is an “A to B to C” system in which devices A and B are located remote from the vehicle. *Id.* at 30.

In reply, Petitioner argues Patent Owner attempts to limit “control device” improperly in a way that contradicts Patent Owner’s proposed claim construction. Reply 17. Petitioner argues even applying Patent Owner’s proposed construction, Pagliaroli discloses the recited control device. *Id.* Petitioner further argues Patent Owner’s argument that Pagliaroli has two parts, which are receiver 14 and control unit 16, so that one part can be a control device, whereas the other part must be a separate and intermediate device is flawed. *Id.* Petitioner argues Patent Owner’s argument is flawed because Patent Owner proposes to construe “control device” as “a device or a computer, or that part of a device or a computer, which performs an operation, an action, or a function, or which performs a number of

operations, actions, or functions.” *Id.* According to Petitioner, because the “control device” can comprise “part of a device,” it follows that a device can comprise multiple parts. *Id.* Petitioner also explains because a “control device” is a type of device, a “control device” can include necessarily multiple parts. *Id.*

Petitioner argues the specification of the ’130 patent fails to support Patent Owner’s argument that a transmitter and a server cannot disclose a control device. *Id.* at 17–18. The specification of the ’130 patent fails to use the term “control device.” *Id.* at 18. Rather, Figure 11B illustrates a three device architecture that controls vehicle systems. *Id.* (citing Ex. 1001, Fig. 11B). According to Petitioner, the vehicle “control device” comprises two parts: receiver 3 and CPU 4. *Id.* Petitioner argues the disclosure corresponding to Figure 11B describes that “[i]t is envisioned that the apparatus 1 may be installed in the motor vehicle.” *Id.* (quoting Ex. 1001, 21:23–24). In addition, “‘apparatus 1 also comprises a receiver 3 for receiving the signals which are transmitted by the transmitter system 2.’” *Id.* (quoting Ex. 1001, 19:56–58). Moreover, “‘apparatus 1 also comprises a controller or a central processing unit CPU 4, which is electrically connected with the receiver 3 . . . and which receives, or reads, whichever the case may be, the digital signal or signals, or portions thereof, which are received by the receiver 3 and/or generated by the receiver 3 in response to the received signal.’” *Id.* (quoting Ex. 1001, 20:60–21:2). Petitioner argues the specification of the ’130 patent explains the interaction between receiver 3 and CPU 4 in Figures 6A and 6B by stating “[u]pon receipt of the command code by the receiver 3, the command code is then transmitted to, or read by, the CPU 4 The CPU 4 will then . . . perform a processing routine in

order to identify the command code which has been entered.”” *Id.* (quoting Ex. 1001, 32:17–22). Petitioner argues, subsequently, CPU 4 ““issue[s] a disabling signal to the vehicle fuel pump system 9 thereby deactivating the vehicle fuel pump system 9.”” *Id.* at 18–19 (quoting Ex. 1001, 34:25–28).

According to Petitioner, the specification of the ’130 patent discusses receiver 3 receiving a command code causes CPU 4 to read the command code, perform a processing routine, and issue a disabling signal. *Id.* at 19. According to Petitioner, Patent Owner’s argument contradicts the specification of the ’130 patent. *Id.* By arguing that Pagliaroli’s receiver 14 and control unit 16 cannot be the claimed vehicle “control device,” Patent Owner ignores that the specification ’130 patent discloses a vehicle control device that comprises two separate parts (i.e., receiver 3 and CPU 4), just like Pagliaroli’s two parts (i.e., Pagliaroli’s receiver 14 and control unit 16). *Id.*

Moreover, Petitioner argues the specification of the ’130 patent is devoid of disclosure of a vehicle control device absent receiver 3 and CPU 4. *Id.* According to Petitioner, the ’130 patent does not enable any vehicle control device that has only one of the two of receiver 3 and CPU 4. *Id.* Petitioner argues Patent Owner’s argument, therefore, is merely an attempt to capture claim scope for an invention that it did not invent. *Id.*

Petitioner argues Patent Owner’s argument that Mr. McNamara’s Cross-Examination does not support Patent Owner’s argument that Pagliaroli’s receiver must be a complex receiver. *Id.* Petitioner argues Patent Owner quotes a single statement of Mr. McNamara as proof that Mr. McNamara determines Pagliaroli’s receiver 14 must be a complex receiver. *Id.* (citing PO Resp. 27). Petitioner argues Patent Owner improperly applies

this quote to advance its argument that Pagliaroli's receiver 14 is complex and, thus, sends a "third signal" to Pagliaroli's control unit 16, as opposed to forwarding the received "second signal" to Pagliaroli's control unit 16. *Id.* at 20.

According to Petitioner, Mr. McNamara did not state that Pagliaroli's receiver 14 is only a complex receiver. *Id.* Rather, Petitioner explains during Mr. McNamara's Cross-Examination, Mr. McNamara opined numerous times that Pagliaroli's receiver 14 can also be a dumb and passive device. *Id.* (citing Ex. 2004, 255:4–9 (In response to the question "[i]sn't it true that the comparison that we have discussed with respect to the code that is received and the code that is actually done in Control Unit 16 and not in Receiver 14," Mr. McNamara answered "[i]t could be done both ways."), 255:13–17 (Mr. McNamara also discussed that "it could be just enabling the control unit, the receiver could send the data to the control unit, let the control unit make the decision."), 258:5–13 (Mr. McNamara also explained that "if you are using a mobile phone which has significant intelligence, you can do that comparison, to, and just send the signal to control unit to appropriately shut down the car in a controller manner. Or, if you have a more simpler receiver design, you might want to have that functionality in the control unit and have it do the comparison."))).

Petitioner also argues Patent Owner's argument that Pagliaroli's receiver 14 and control unit 16 cannot disclose a "control device" is unsubstantiated. *Id.* Petitioner argues Mr. McNamara did not take the position that Pagliaroli's receiver 14 only can be a complex receiver. *Id.* at 20–21. Petitioner argues that Mr. McNamara's Declaration and Cross-Examination, instead, demonstrate that Mr. McNamara testified that

Pagliaroli's receiver 14 and control unit 16 disclose a vehicle "control device." *Id.* at 21. Petitioner argues Patent Owner does not proffer its own expert testimony to support its conclusion. *Id.* Moreover, Petitioner argues Patent Owner fails to explain why or how Pagliaroli's receiver 14 would not pass the signal it receives to Pagliaroli's control unit 16 and why or how Pagliaroli's control unit 16 would not generate and transmit the vehicle signal in response to the signal passed from Pagliaroli's receiver 14. According to Petitioner, Patent Owner's argument is conclusory and should not be entitled to any weight. *Id.*

Petitioner argues Patent Owner's argument that Pagliaroli's receiver 14 and control unit 16 are two separate devices is flawed because Pagliaroli's receiver 14 and control unit 16, together, form a vehicle "control device" that generates and transmits a vehicle signal. *Id.* Petitioner argues Pagliaroli's "receiver 14, control unit 16 . . . are added to the automobile." *Id.* (quoting Ex. 1006, 3:50–52). Petitioner argues Pagliaroli describes "that '[i]t should be obvious to a person skilled in the art that these components [receiver and control unit] may . . . be integrally formed.'" *Id.* (quoting Ex. 1006, 6:9–11). Petitioner argues even under Patent Owner's narrow claim interpretation where a vehicle "control device" can include only one component, Pagliaroli's receiver 14 and control unit 16 disclose Patent Owner's construction by integrally forming a single device located at a vehicle. *Id.* at 21–22.

Petitioner also argues the argument that Pagliaroli's receiver 14 receiving and forwarding a signal code to control unit 16, which, in turn, generates and transmits disabling and control signals to vehicle systems was articulated in the Petition. *Id.* at 22 (citing Ex. 1006, 4:44–45, 4:66–5:7,

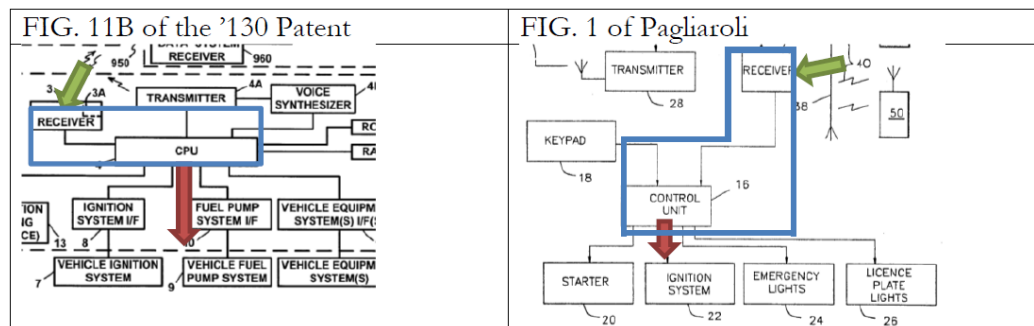
5:44–55). According to Petitioner, when Pagliaroli’s receiver 14 and control unit 16 are viewed together, Pagliaroli fits this proposed claim construction. *Id.* Petitioner argues similar to any other device, Pagliaroli’s receiver 14 and control unit 16 interact such that the control device receives signal code 40, and generates and transmits disabling and control signals to vehicle systems/devices such as starter, ignition, emergency lights, and license plate lights. *Id.* Petitioner argues Pagliaroli’s receiver 14 is part of the vehicle “control device,” wherein this part performs an operation, an action, or a function of receiving Pagliaroli’s signal code 40 (i.e., the claimed “second signal”) from telephone signal transmitters 46 (i.e., the claimed “second control device”). *Id.* Petitioner argues Pagliaroli’s control unit 16 (with Pagliaroli’s receiver 14) is also part of the vehicle “control device,” wherein this part performs an operation, an action, or a function of generating and transmitting the vehicle signal in response to Pagliaroli’s signal code 40. *Id.*

Petitioner argues Pagliaroli’s receiver 14 and control unit 16, therefore, collectively form the vehicle “control device,” wherein receiver 14 and control unit 16 collectively receive Pagliaroli’s signal code 40 (i.e., the claimed “second signal”) and generate and transmit the vehicle signal. *Id.* Petitioner argues this is exactly what independent claims 26, 42, and 48 recite (e.g., “wherein the first control device is responsive to a second signal” and “wherein the first control device at least one of generates and transmits a first signal” as recited in claim 26 and similarly recited in claims 42 and 48). *Id.* at 22–23.

Petitioner argues Pagliaroli’s receiver 14 and control unit 16 architecture is equivalent to receiver 3 and CPU 4 illustrated in Figure 11B of the ’130 patent. *Id.* at 23. Petitioner explains that Pagliaroli’s “receiver

14 and control unit 16 . . . are added to the automobile.” *Id.* (quoting Ex. 1006, 3:50–52). Moreover, Petitioner argues Pagliaroli discloses “signal codes 40 received by the receiver 14 are forwarded to the control unit 16.” *Id.* (quoting Ex. 1006, 4:44–45). Petitioner argues Pagliaroli’s receiver 14, therefore, is equivalent to receiver 3 of Figure 11B of the ’130 patent because both parts are located at a vehicle and receive signals from a remote control device (i.e., the claimed “second control device”). *Id.*

Furthermore, Petitioner argues Pagliaroli describes “control unit 16 recalls the enabling and disabling code from the memory source 58 and compares the recalled codes with input code read from the receiver 14 . . . If the input code matches the disabling code, disabling signals 60, 62 are sent to the starter 20 and ignition system 22.” *Id.* (quoting Ex. 1006, 5:44–49). Petitioner argues Pagliaroli’s control unit 16, thus, is equivalent to CPU 4 shown in Figure 11B of the ’130 patent because both parts are located at a vehicle and transmit the vehicle signal. *Id.* Petitioner argues because independent claims 26, 42, and 48 cover receiver 3 and CPU 4 architecture illustrated in Figure 11B of the ’130 patent, Pagliaroli’s receiver 14 and control unit 16 architecture disclose the subject matter of independent claims 26, 42, and 48. *Id.* Petitioner illustrates the similarities between Figure 11B of the ’130 patent and Figure 1 of Pagliaroli in the chart below. *Id.* at 23–24.



We agree with Petitioner. Patent Owner attempts to limit “control device” improperly in a way that contradicts Patent Owner’s proposed claim construction. Patent Owner’s argument that Pagliaroli has two parts, which are receiver 14 and control unit 16, so that one part can be a control device, whereas the other part must be a separate and intermediate device is flawed. Patent Owner’s argument is flawed because Patent Owner proposes to construe “control device” as “a device or a computer, or that part of a device or a computer, which performs an operation, an action, or a function, or which performs a number of operations, actions, or functions.” Because the claimed “control device” can comprise “part of a device,” it follows that a device can comprise multiple parts. Petitioner also explains because a “control device” is a type of device, a “control device” can include necessarily multiple parts.

We also determine that because Patent Owner acknowledged, in its own definition, that “control device” means “a device *or* a computer, *or* that part of a device *or* a computer, which performs an operation, an action, *or* a function, *or* which performs a number of operations, actions, *or* functions” (emphases added), it necessarily follows that the “or” implies that a control device can include multiple parts. Tr. 32:15–19. For example, a “control device” can be “[1] a device *or* [2] a computer”; in other words, logic dictates that the “or” can be interpreted as an “and” such that a “control device” can be “[1] a device *and* [2] a computer.” *Id.*

We also agree with Petitioner that the specification of the ’130 patent fails to support Patent Owner’s argument that a transmitter and a server cannot disclose a control device. The specification of the ’130 patent fails to use the term “control device.” Rather, Figure 11B illustrates a three device

architecture that controls vehicle systems. Ex. 1001, Fig. 11B. In addition, the vehicle “control device” comprises two parts: receiver 3 and CPU 4. *Id.* The disclosure corresponding to Figure 11B describes that “[i]t is envisioned that the apparatus 1 may be installed in the motor vehicle.” *Id.* at 21:23–24. Also, “apparatus 1 also comprises a receiver 3 for receiving the signals which are transmitted by the transmitter system 2.” *Id.* at 19:56–58. Moreover, “apparatus 1 also comprises a controller or a central processing unit CPU 4, which is electrically connected with the receiver 3 . . . and which receives, or reads, whichever the case may be, the digital signals or signals, or portions thereof, which are received by the receiver 3 and/or generated by the receiver 3 in response to the received signal.” *Id.* at 20:60–21:2. The specification of the ’130 patent explains the interaction between receiver 3 and CPU 4 in Figures 6A and 6B by stating “[u]pon receipt of the command code by the receiver 3, the command code is then transmitted to, or read by, the CPU 4 The CPU 4 will then . . . perform a processing routine in order to identify the command code which has been entered.” *Id.* at 32:17–22. Subsequently, CPU 4 “issue[s] a disabling signal to the vehicle fuel pump system 9 thereby deactivating the vehicle fuel pump system 9.” *Id.* at 34:25–28.

As explained above, the specification of the ’130 patent discusses receiver 3 receiving a command code causes CPU 4 to read the command code, perform a processing routine, and issue a disabling signal. Patent Owner’s argument contradicts the specification of the ’130 patent. By arguing that Pagliaroli’s receiver 14 and control unit 16 cannot be the claimed vehicle “control device,” Patent Owner ignores that the specification of the ’130 patent discloses a vehicle control device that

comprises two separate parts (i.e., receiver 3 and CPU 4), just like Pagliaroli's two parts (i.e., Pagliaroli's receiver 14 and control unit 16).

Moreover, the specification of the '130 patent is devoid of disclosure of a vehicle control device absent receiver 3 and CPU 4. The '130 patent does not enable any vehicle control device that has only one of the two of receiver 3 and CPU 4. Patent Owner's argument, therefore, is merely an attempt to capture claim scope for an invention that it did not invent.

Patent Owner's argument that Mr. McNamara's Cross-Examination does not support Patent Owner's argument that Pagliaroli's receiver must be a complex receiver. Patent Owner merely quotes a single statement of Mr. McNamara as proof that Mr. McNamara determines Pagliaroli's receiver 14 must be a complex receiver. Patent Owner applies this quote to advance its argument that Pagliaroli's receiver 14 is complex and, thus, sends a "third signal" to Pagliaroli's control unit 16, as opposed to forwarding the received "second signal" to Pagliaroli's control unit 16.

Mr. McNamara, however, did not state that Pagliaroli's receiver 14 is only a complex receiver. During Mr. McNamara's Cross-Examination, Mr. McNamara opined numerous times that Pagliaroli's receiver 14 can also be a dumb and passive device. Ex. 2004, 255:4–9 (In response to the question "[i]sn't it true that the comparison that we have discussed with respect to the code that is received and the code that is actually done in Control Unit 16 and not in Receiver 14," Mr. McNamara answered "[i]t could be done both ways."), 255:13–17 (Mr. McNamara also discussed that "it could be just enabling the control unit, the receiver could send the data to the control unit, let the control unit make the decision."), 258:5–13 (Mr. McNamara also explained that "if you are using a mobile phone which has significant

intelligence, you can do that comparison, to, and just send the signal to control unit to appropriately shut down the car in a controlled manner. Or, if you have a more simpler receiver design, you might want to have that functionality in the control unit and have it do the comparison.”)).

Furthermore, Patent Owner’s argument that Pagliaroli’s receiver 14 and control unit 16 cannot disclose a “control device” is unsubstantiated. That is, Mr. McNamara did not take the position that Pagliaroli’s receiver 14 only can be a complex receiver. Mr. McNamara’s Declaration and Cross-Examination, instead, demonstrate that Mr. McNamara testified that Pagliaroli’s receiver 14 and control unit 16 disclose a vehicle “control device.” Patent Owner does not proffer its own expert testimony to support its conclusion. Moreover, Patent Owner fails to explain why or how Pagliaroli’s receiver 14 would not pass the signal it receives to Pagliaroli’s control unit 16 and why or how Pagliaroli’s control unit 16 would not generate and transmit the vehicle signal in response to the signal passed from Pagliaroli’s receiver 14. Patent Owner’s argument is conclusory.

Patent Owner’s argument that Pagliaroli’s receiver 14 and control unit 16 are two separate devices is flawed because Pagliaroli’s receiver 14 and control unit 16, together, form a vehicle “control device” that generates and transmits a vehicle signal. Specifically, Pagliaroli’s “receiver 14, control unit 16 . . . are added to the automobile.” Ex. 1006, 3:50–52. Pagliaroli also discloses that “[i]t should be obvious to a person skilled in the art that these components [receiver and control unit] may . . . be integrally formed.” *Id.* at 6:9–11. Even if we agreed with Patent Owner’s narrow argument that a vehicle “control device” can include only one component, which we do not,

Pagliaroli's receiver 14 and control unit 16 disclose Patent Owner's construction by integrally forming a single device located at a vehicle.

Pagliaroli's receiver 14 receives and forwards a signal code to control unit 16, which, in turn, generates and transmits disabling and control signals to vehicle systems. *Id.* at 4:44–45, 4:66–5:7, 5:44–55. When Pagliaroli's receiver 14 and control unit 16 are viewed together, Pagliaroli fits the proposed claim construction in Part II.A. That is, similar to any other device, Pagliaroli's receiver 14 and control unit 16 interact such that the control device receives signal code 40, and generates and transmits disabling and control signals to vehicle systems/devices such as starter, ignition, emergency lights, and license plate lights. More specifically, Pagliaroli's receiver 14 is part of the vehicle “control device,” wherein this part performs an operation, an action, or a function of receiving Pagliaroli's signal code 40 (i.e., the claimed “second signal”) from telephone signal transmitters 46 (i.e., the claimed “second control device”). Pagliaroli's control unit 16 (with Pagliaroli's receiver 14) is also part of the vehicle “control device,” wherein this part performs an operation, an action, or a function of generating and transmitting the vehicle signal in response to Pagliaroli's signal code 40.

Pagliaroli's receiver 14 and control unit 16, therefore, collectively form the vehicle “control device,” wherein receiver 14 and control unit 16 collectively receive Pagliaroli's signal code 40 (i.e., the claimed “second signal”) and generate and transmit the vehicle signal. This is exactly what independent claims 26, 42, and 48 recite (e.g., “wherein the first control device is responsive to a second signal” and “wherein the first control device at least one of generates and transmits a first signal” as recited in claim 26 and similarly recited in claims 42 and 48).

Pagliaroli's receiver 14 and control unit 16 architecture is equivalent to receiver 3 and CPU 4 illustrated in Figure 11B of the '130 patent. *Compare* Ex. 1006, Fig. 1, *with* Ex. 1001, Fig. 11B. This is because Pagliaroli discloses "receiver 14 and control unit 16 . . . are added to the automobile." Ex. 1006, 3:50–52. Moreover, Pagliaroli discloses "signal codes 40 received by the receiver 14 are forwarded to the control unit 16." *Id.* at 4:44–45. Pagliaroli's receiver 14, therefore, is equivalent to receiver 3 of Figure 11B of the '130 patent because both parts are located at a vehicle and receive signals from a remote control device. (i.e., the claimed "second control device"). *Compare* Ex. 1006, Fig. 1, *with* Ex. 1001, Fig. 11B.

Furthermore, Pagliaroli describes "control unit 16 recalls the enabling and disabling code from the memory source 58 and compares the recalled codes with input code read from the receiver 14 . . . [and] [i]f the input code matches the disabling code, disabling signals 60, 62 are sent to the starter 20 and ignition system 22." Ex. 1006, 5:44–49. Pagliaroli's control unit 16, thus, is equivalent to CPU 4 shown in Figure 11B of the '130 patent because both parts are located at a vehicle and transmit the vehicle signal. *Compare* Ex. 1006, Fig. 1, *with* Ex. 1001, Fig. 11B. Because independent claims 26, 42, and 48 cover receiver 3 and CPU 4 architecture illustrated in Figure 11B of the '130 patent, Pagliaroli's receiver 14 and control unit 16 architecture disclose the subject matter of independent claims 26, 42, and 48. *Compare* Ex. 1006, Fig. 1, *with* Ex. 1001, Fig. 11B.

In summary, we note the similarities between Figure 11B of the '130 patent and Figure 1 of Pagliaroli. Petitioner's chart above illustrates receiver 3 and CPU 4 in Figure 11B of the '130 patent with a corresponding blue box; similarly, receiver 14 and control unit 16 of Pagliaroli's Figure 1 has a

corresponding blue box. *Compare* Ex. 1001, Fig. 11B, *with* Ex. 1006, Fig. 1 (emphases added by Petitioner). The incoming signal into receiver 3 in Figure 11B of the '130 patent with a corresponding green arrow; similarly, Pagliaroli's incoming signal into receiver 14 has a corresponding green arrow. *Compare* Ex. 1001, Fig. 11B, *with* Ex. 1006, Fig. 1 (emphases added by Petitioner). The signal output from CPU 4 in Figure 11B of the '130 patent with a corresponding red arrow and the signal output with a corresponding red arrow of Pagliaroli's Figure 1 are also similar. *Compare* Ex. 1001, Fig. 11B, *with* Ex. 1006, Fig. 1 (emphases added by Petitioner). Accordingly, we agree with Petitioner's arguments that Pagliaroli discloses the "A to B to C" system/method of independent claims 26, 42, and 48.

2. *Pagliaroli's Theft Sensor*

The parties' arguments regarding the claimed "control device" focus on whether Pagliaroli's theft sensor teaches the claimed "control device." Pet. 49–50; PO Resp. 30–31.

Petitioner argues Pagliaroli teaches that theft sensor 12 monitors the condition of an automobile and is optionally coupled to transmitter 28; once activated, transmitter 12 transmits signal 42 that is received by a portable receiver device notifying a person that tampering or attempted theft of the automobile is occurring. Pet. 24–25 (citing Ex. 1006, 4:22–24, 4:46–52).

In response, Patent Owner argues Pagliaroli's theft sensor 12 is not a control device. PO Resp. 25. Patent Owner further argues Pagliaroli's theft sensor 12 and a control device are separate devices. *Id.*

We agree with Petitioner. Patent Owner's argument mischaracterizes how Petitioner applies Pagliaroli. Specifically, Petitioner does not argue that

Pagliaroli's theft sensor 12 is a control device nor does Petitioner argue for replacing Pagliaroli's receiver 14 and control unit 16 with Pagliaroli's theft sensor 12. *See* Pet. 49–50. Rather, Petitioner argues that Pagliaroli's "control device" (i.e., Pagliaroli's receiver 14 and control unit 16) monitor the condition of the vehicle via theft sensor 12; Pagliaroli, therefore, discloses the claimed functionalities required by claims 30 and 43. *Id.*

3. *Undisputed Limitations*

We have reviewed the arguments and evidence presented in the Petition regarding how the combination of Pagliaroli discloses the remaining limitations of claims 26, 29, 30, 42, 43, and 48. Pet. 32–50. Patent Owner does not proffer any other arguments. PO Resp. 26–31; *see also* Reply 16–24. Based on our review of the Petition and the supporting evidence, we find persuasive Petitioner's arguments and evidence, including citations to the references and Mr. McNamara's testimony, and we adopt them as the basis for our determination that Pagliaroli discloses the limitations of claims 26, 29, 30, 42, 43, and 48, thereby rendering claims 26, 29, 30, 42, 43, and 48 anticipated. Pet. 32–50.

4. *Conclusion*

In conclusion, for the reasons given above and based on our review of the arguments and evidence of record, Petitioner has shown by a preponderance of the evidence that the subject matter of claims 26, 29, 30, 42, 43, and 48 of the '130 patent is anticipated by Pagliaroli.

G. Alleged Obviousness of Claims 33 and 68 in View of Pagliaroli and Frossard

1. Undisputed Limitations

We have reviewed the arguments and evidence presented in the Petition regarding how the combination of Pagliaroli and Frossard teaches or suggests the limitations of dependent claims 33 and 68. Pet. 51–53. In particular, we are persuaded by Petitioner’s argument that it would have been obvious to one having ordinary skill in the art to combine Pagliaroli with Frossard to provide a system, “including a computer (e.g., a server), for remotely disabling a vehicle because it would have been nothing more than the use of a known technique to improve similar devices and methods in the same way.” *Id.* at 51 (citing Ex. 1003 ¶ 143).

Patent Owner merely argues Frossard does not remedy Pagliaroli’s deficiencies with respect to independent claims 26 and 48. PO Resp. 31; *see also* Reply 34. Based on our review of the Petition and the supporting evidence, we find persuasive Petitioner’s arguments and evidence, including citations to the references and Mr. McNamara’s testimony, and we adopt them as the basis for our determination that the combination of Pagliaroli and Frossard teaches or suggests the limitations of claims 33 and 68, thereby rendering claims 33 and 68 unpatentable for obviousness. Pet. 51–53.

2. Conclusion

In conclusion, for the reasons given above and based on our review of the arguments and evidence of record, Petitioner has shown by a preponderance of the evidence that the subject matter of claims 33 and 68 of the ’130 patent would have been obvious over Pagliaroli and Frossard.

H. Alleged Obviousness of Claim 60 in View of Frossard and Simms

1. A Substantial Redesign In Frossard Would Not Be Required To Combine the Teachings of Frossard and Simms

The parties' arguments focus on whether a substantial redesign would be required to combine the teachings of Pagliaroli and Simms. PO Resp. 31; Reply 24.

Petitioner argues it would have been obvious to a person having ordinary skill in the art to combine Pagliaroli and Simms to remotely disable or enable a vehicle that also utilizes a positioning device to determine the location of the vehicle and display that location on a digital map because it would have been nothing more than a use of a known technique to improve similar devices and methods in the same way. Pet. 54 (citing Ex. 1003 ¶ 151).

In response, Patent Owner argues Simms does not remedy the deficiencies of Pagliaroli and Pagliaroli's wireless telephone transmitter 46 and vehicle would require a substantial redesign in order to combine Pagliaroli and Simms. PO Resp. 31 (citing Ex. 2004, 324:5–25, 329:7–14).

In reply, Petitioner argues it applies the same reasoning from pages 15–16 of Petitioner's Reply. Reply 24. That is, Petitioner does not apply Simms as teaching any features of independent claim 48, from which claim 60 depends. Reply 15. Instead, Petitioner argues it proffered Simms to teach the positioning device of claim 60 and explained how and why Simms's positioning device is combinable with Pagliaroli's system. *Id.* (citing Pet. 53–55).

Petitioner argues Patent Owner did not proffer any rationale or evidence for why combining Pagliaroli and Simms is improper. *Id.*

Petitioner argues Patent Owner merely argues that a substantial redesign would be required without any explanation what the alleged redesign would involve and its significance. *Id.* at 16. Petitioner also argues Patent Owner's argument is conclusory because it did not proffer its own expert testimony refuting arguments in the Petition and Declaration. *Id.* Petitioner argues Patent Owner's reliance on page 324, lines 5–25 and page 329, lines 7–14 of the Cross-Examination do not support Patent Owner's argument. *Id.* Petitioner argues the statements from the Cross-Examination explain a simple implementation for combining Pagliaroli's system and Simms' positioning device. *Id.* Petitioner argues Mr. McNamara further explains other implementations at page 335, line 13 through page 336, line 6 of the Cross-Examination. *Id.*

We agree with Petitioner. Petitioner did not apply Simms as teaching any features of independent claim 48, from which claim 60 depends. Pet. 53–55. Instead, Petitioner proffered Simms to teach the positioning device of claim 60 and explained how and why Simms's positioning device would have been combined with Pagliaroli's system. *Id.*

Patent Owner did not proffer any rationale or evidence for why combining Pagliaroli and Simms is improper. Patent Owner merely argues that a substantial redesign would be required without any explanation what the alleged redesign would involve and its significance. Patent Owner's argument is conclusory because it did not proffer its own expert testimony refuting arguments in the Petition and Declaration. Patent Owner's reliance on page 324, lines 5–25 and page 329, lines 7–14 of the Cross-Examination do not support Patent Owner's argument. Ex. 2004, 324:5–25, 329:7–14. The statements from the Cross-Examination explain a simple

implementation for combining Pagliaroli's system and Simms' positioning device. *Id.* Mr. McNamara further explains other implementations at page 335, line 13 through page 336, line 6 of the Cross-Examination. *Id.* at 335:13–336:6.

2. *Undisputed Limitations*

We have reviewed the arguments and evidence presented in the Petition regarding how the combination of Pagliaroli and Simms teaches the remaining limitations of claim 60. Pet. 53–55. Patent Owner does not contest that the combination of Pagliaroli and Simms teaches the remaining limitations; rather, Patent Owner merely contests that Simms does not remedy the alleged deficiencies of Pagliaroli. *See* PO Resp. 31; *see also* Reply 24. Based on our review of the Petition and the supporting evidence, we find persuasive Petitioner's arguments and evidence, including citations to Pagliaroli, Simms, and Mr. McNamara's testimony, and we adopt them as the basis for our determination that the combination of Pagliaroli and Simms teaches the limitations of claim 60. Pet. 53–55.

3. *Conclusion*

In conclusion, for the reasons given above and based on our review of the arguments and evidence of record, Petitioner has shown by a preponderance of the evidence that the combination of Pagliaroli and Simms renders obvious the subject matter of claim 60 of the '130 patent.

III. CONCLUSION

In conclusion, Petitioner has shown by a preponderance of the evidence that claims 26, 29, 33, 42, 48, and 68 of the '130 patent are

anticipated under 35 U.S.C. § 102(a) by Frossard; claims 30 and 43 are unpatentable under 35 U.S.C. § 103(a) in view of Frossard and Pagliaroli; claim 60 is unpatentable under 35 U.S.C. § 103(a) in view of Frossard and Simms; claims 26, 29, 30, 42, 43, and 48 are anticipated under 35 U.S.C. § 102(e) by Pagliaroli; claims 33 and 68 are unpatentable under 35 U.S.C. § 103(a) in view of Pagliaroli and Frossard; claim 60 is unpatentable under 35 U.S.C. § 103(a) in view of Pagliaroli and Simms.

IV. ORDER

Accordingly, it is

ORDERED that Petitioner has shown by a preponderance of the evidence that claims 26, 29, 30, 33, 42, 43, 48, 60, and 68 of the '130 patent are unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, the parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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