

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FORD MOTOR COMPANY,
Petitioner,

v.

SAFE DRIVING TECHNOLOGIES LLC,
Patent Owner.

IPR2021-01446
Patent 9,047,170 B2

Before RYAN H. FLAX, BRENT M. DOUGAL, and
ALYSSA A. FINAMORE, *Administrative Patent Judges*.

FINAMORE, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining Some Challenged Claims Unpatentable
35 U.S.C. § 318(a)

ORDER
Granting Petitioner's Motion to Exclude
37 C.F.R. § 42.64(c)

I. INTRODUCTION

Ford Motor Company (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 1–4, 6, 10, 12–17, 19–21, and 31 of U.S. Patent No. 9,047,170 B2 (“the ’170 patent”) (Ex. 1001).¹ Pet. 1. We issued a Decision (Paper 11, “Inst. Dec.”) granting institution of an *inter partes* review.

During trial, Safe Driving Technologies LLC (“Patent Owner”) filed a Response (Paper 13, “PO Resp.”). Petitioner filed a Reply (Paper 16, “Reply”),² and Patent Owner filed a Sur-reply (Paper 17, “Sur-reply”).

Petitioner filed a Motion to Exclude (Paper 21, “Mot.”). Patent Owner filed an Opposition (Paper 22, “Opp.”), and Petitioner filed a Reply (Paper 23).

Oral argument took place January 25, 2023. We entered the transcript (Paper 27, “Tr.”) into the record.

This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a). For the reasons that follow, we conclude Petitioner has proven, by a preponderance of the evidence, that claims 1–4, 6, 10, 12–14, 16, 17, 19–21, and 31 are unpatentable, but has not proven, by a preponderance of the evidence, that claim 15 is unpatentable. Furthermore, we grant Petitioner’s Motion to Exclude.

¹ Claims 5, 7–9, 11, 18, and 22–30 are not challenged in this proceeding.

² On the same day, Petitioner filed a Reply (Paper 15) and a Corrected Reply (Paper 16). References herein to Petitioner’s Reply are to the Corrected Reply.

II. BACKGROUND

A. REAL PARTIES-IN-INTEREST

Petitioner identifies itself as a real party-in-interest. Pet. viii. Patent Owner identifies itself and General Patent Corporation as real parties-in-interest. Paper 4, 1.

B. RELATED MATTERS

Petitioner identifies the following district court action involving the '170 patent as a related matter: *Safe Driving Technologies LLC v. Ford Motor Company*, No. 1-21-cv-00064 (D. Del. filed Jan. 21, 2021) (“the related district court litigation”). Pet. viii. Patent Owner also identifies the related district court litigation and further identifies the following Board proceedings as related matters: IPR2021-01341 concerning U.S. Patent No. 9,713,994 B2; IPR2021-01353 concerning U.S. Patent No. 10,532,709 B2; and IPR2022-00086 concerning U.S. Patent No. 8,301,108 B2. Paper 4, 1. The parties indicate that the patents involved in these Board proceedings are also at issue in the related district court litigation. Pet. viii; Paper 4, 1.

C. THE '170 PATENT

The '170 patent issued on June 2, 2015, from an application filed on October 29, 2012. Ex. 1001, codes (22), (45). The '170 patent claims priority as a divisional application to U.S. Patent Application No. 10/838,708, which is a continuation of U.S. Patent Application No. 10/287,299, which is a continuation of U.S. Patent Application No. 10/279,447, filed on October 24, 2002. *Id.* at code (60). The '170 patent also claims priority to U.S. Provisional Application No. 60/390,877, filed June 21, 2002, and U.S. Provisional Application No. 60/336,293, filed October 24, 2001. *Id.* There is no meaningful dispute here that the '170

patent is entitled to priority to the earliest provisional application. *See, e.g.*, Pet. 3 (Petitioner asserting that the ordinarily skilled artisan would be someone as of October 24, 2001).

The '170 patent is titled "Safety Control System for Vehicles." Ex. 1001, code (54). The '170 patent explains that "[o]ne potentially dangerous condition is the use of a vehicle telephone by the vehicle driver while driving the vehicle." *Id.* at 1:28–29. The '170 patent further explains that

[t]he use of telematics in general and particularly cellular telephones by drivers while driving has been found to increase the possibility of an accident since such a telephone not only diverts the driver's attention from driving, but also generally requires the use of at least one of the driver's hands and distract the driver's eyes from the road and traffic.

Id. at 1:29–35.

With this background, the '170 patent describes the invention as "safety control systems for vehicles to reduce driver distraction, avoiding potentially dangerous conditions tending to produce accidents." Ex. 1001, 1:21–24. Such a safety control system includes

a communication device having at least one of an input accessible from within the vehicle and an output communicated within the vehicle, at least one sensor operable to sense at least one condition related to vehicle operation, and a controller communicated with the sensor and the communication device to selectively suppress at least one of said input and said output in response to a sensed parameter of said at least one condition being outside of a threshold.

Id. at 2:22–30.

According to the '170 patent, "[o]ne example of a hazardous situation avoided by the control system . . . is the use of the vehicle telephone in

certain situations wherein a making of a telephone call . . . or the receiving of an incoming call . . . may distract the driver and increase the possibility of an accident” Ex. 1001, 5:38–44. “Similar increased risk can result from the driver changing vehicle controls like temperature settings, or interacting (e.g., inputting or receiving output) with other telematics such as e-mail, radio, CD, DVD, navigation system, incoming page or the like.” *Id.* at 5:44–48. The ’170 patent explains that “[i]n such cases, the vehicle telephone, or other telematics and/or other input/output devices are suppressed and no incoming or outgoing signals are allowed to distract the driver.” *Id.* at 5:48–51.

Figure 1, reproduced below, illustrates a vehicle having a safety control system.

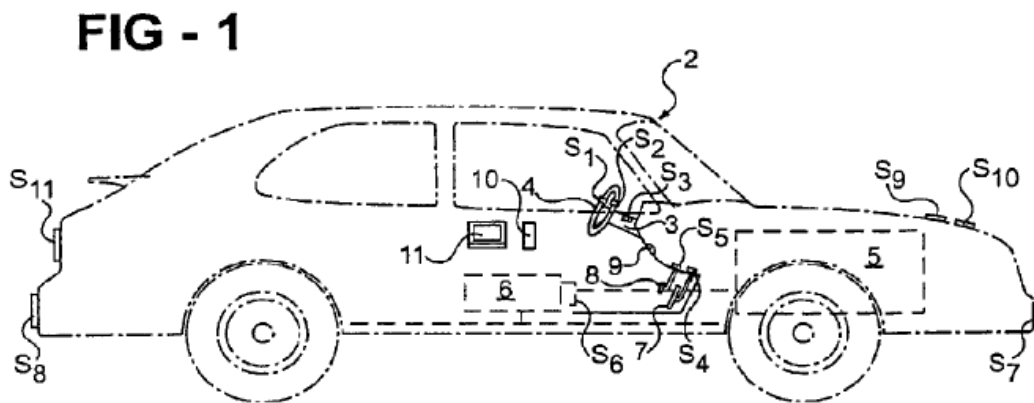


Figure 1 is a schematic illustration of vehicle 2 equipped with a safety control system. Ex. 1001, 5:7–9, 5:27–28. Vehicle 2 includes steering mechanism 3, steering wheel 4, motor or engine 5, transmission or other torque converting means 6, acceleration pedal 7, braking pedal 8, one or more visual indicator and audio alarms 9, cellular telephone 10, and computer 11. *Id.* at 6:4–14. The safety control system includes a plurality

of sensors S₁–S₁₁ for sensing conditions regarding the vehicle driver, the vehicle itself, and the environment. *Id.* at 6:24–27. Sensors S₁ and S₂ sense that the driver's hands are present on both sides of steering wheel 4. *Id.* at 6:29–30, 7:37–39. Sensor S₃ is on steering mechanism 3 to sense changes in the steering direction and actuation of the turning indicator. *Id.* at 6:30–33. Sensor S₄ senses the condition of acceleration pedal 7, and sensor S₅ senses the condition of braking pedal 8. *Id.* at 6:40–42. Sensor S₆ senses the condition of transmission 6. *Id.* at 6:42–44. Sensors S₇ and S₈ sense the proximity of the vehicle with respect to another vehicle. *Id.* at 6:45–47. Sensor S₉ senses darkness or activation of the headlight, and sensor S₁₀ senses weather conditions and the activation of wipers or headlight wipers. *Id.* at 6:47–51. Sensor S₁₁ senses whether the turn indicators of the vehicle signal for a turn or a change of lanes. *Id.* at 9:15–17.

The safety control system further includes microprocessor 20. Ex. 1001, 9:31–33. Figure 3, reproduced below, illustrates microprocessor 20 and its inputs and outputs.

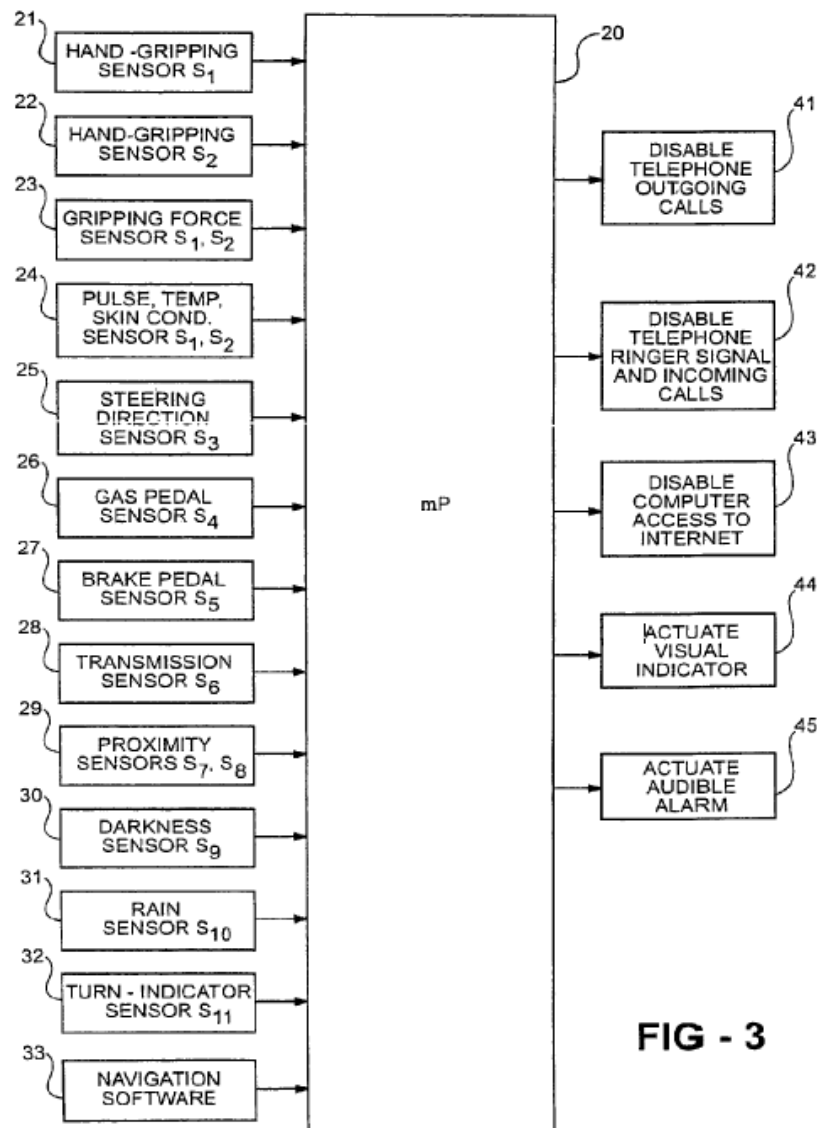


FIG - 3

Figure 3 is a block diagram illustrating the main components the safety control system. *Id.* at 5:12–13. Figure 3 schematically indicates the inputs to microprocessor 20 with blocks 21–33 and the outputs from microprocessor 20 with blocks 41–45. *Id.* at 9:31–35. As denoted in blocks 21–32, microprocessor 20 receives inputs from sensors S₁–S₁₁. *Id.* at 9:36–46, 9:59–60, 10:11–20. Microprocessor 20 also receives input from navigation software, as shown in block 33. *Id.* at 10:21–24. The outputs from microprocessor 20 include control signals. *Id.* at 13:3–4. Block 41

shows a control signal effective to disable the telephone from making outgoing calls, and block 42 shows a control signal effective to disable the telephone from ringing and receiving incoming calls. *Id.* at 13:4–8. Block 43 shows a control signal effective to disable the computer from accessing the Internet. *Id.* at 13:8–11. Blocks 44 and 45 show a control signal effective to actuate a visual indicator and an audible alarm, respectively. *Id.* at 13:11–13.

The operation of the safety control system is shown in Figure 4, reproduced below.

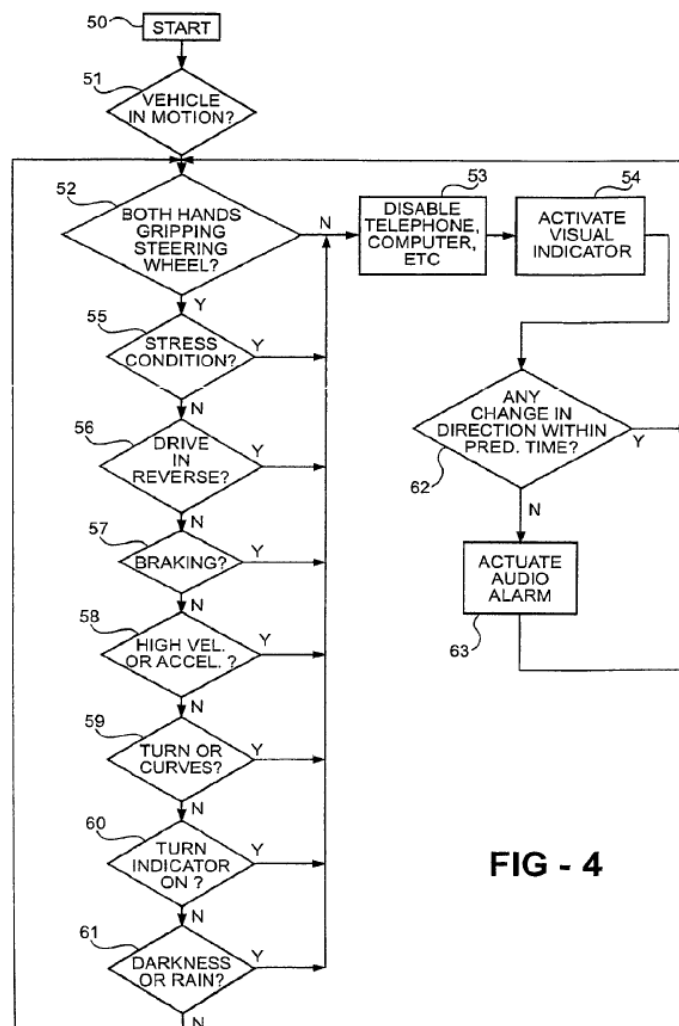


FIG - 4

Figure 4 is a flowchart illustrating the operation of the safety control system. Ex. 1001, 5:14–15, 14:19–20. As shown by blocks 50 and 51, the safety control system is operational when the vehicle is in motion. *Id.* at 14:21–22. In block 52, the safety control system determines whether the driver's hands are properly placed on steering wheel 4 so as to actuate sensors S₁ and S₂. *Id.* at 14:28–30. If the driver's hands are not gripping the steering wheel, the safety control system disables the telephone and computer and activates a visual indicator, as shown in blocks 53 and 54. At block 55, if sensors S₁ and S₂ sense the driver's hands on steering wheel but also sense a stress condition indicated by, for example, an unduly high gripping force, the safety control system similarly disables the telephone and computer and activates a visual indicator, as shown in blocks 53 and 54. *Id.* at 14:30–41.

After sensing conditions regarding the vehicle driver, the safety control system determines the conditions of the vehicle. *Id.* at 14:42–43. In block 56–61, respectively, the safety control system determines whether the vehicle is traveling in reverse based on input from sensor S₆, braking according to input from sensor S₅, traveling at or over a predetermined high velocity according to input from sensor S₆, executing a curve or a turn based on input from sensor S₃, about to execute a turn according to sensor S₁₁, or traveling in the dark as indicated by sensor S₉ or in the rain as indicated by sensor S₁₀. *Id.* at 14:43–51. If the safety control system senses any of these conditions, the safety control system disables the telephone and computer and activates a visual indicator, as shown in blocks 53 and 54. *Id.* at 14:51–54. As also shown in Figure 4, after the safety control system disables the telephone and computer and activates a visual indicator, the safety control system determines whether there has been any change in the

steering direction within a predetermined amount of time, as denoted in block 62. If there has been no change, the safety control system activates an audible alarm, as denoted in block 63, to alter the driver to a possible drowsiness or dozing condition. *Id.* at 14:55–59.

The safety control system “monitors and analyzes a plurality of factors that can affect the safe travel of the vehicle, either alone or in combination with one or more other factors.” Ex. 1001, 18:14–16. “Such factors relate generally to the vehicle, the driver, and the environment,” and “[t]he driver has various communication factors, physiological factors, and preferences/habits, skills and historical factors.” *Id.* at 18:16–19. Examples of driver communication factors include “input and output features of various devices communicated with the driver such as telephones, pagers, PDA’s, computers, fax machines, GPS devices, navigation systems and displays, radios, CD players, CB’s, video monitors, and other telematic or informational devices.” *Id.* at 18:30–34.

D. CHALLENGED CLAIMS

Petitioner challenges claims 1–4, 6, 10, 12–17, 19–21, and 31 of the ’170 patent. Pet. 1. Claims 1 and 31 are independent. Ex. 1001, 22:55–23:6, 25:4–18. Independent claims 1 and 31, reproduced below with Petitioner’s labels for the elements, are illustrative of the claimed subject matter.

[1.0] 1. A method for controlling a telematic device in a vehicle operated by a driver, the telematic device having at least one of an input accessible from within the vehicle and at least one output communicated within the vehicle, the output having an original format and a format different than the original format, the method comprising:

[1.1] sensing movement of the telematic device;

- [1.2] comparing movement of the telematic device to a threshold;
- [1.3] preventing said at least one output from being communicated within the vehicle in the original format of said at least one output when movement of the telematic device is at or above the threshold;
- [1.4] providing said at least one output to the driver in the format different than the original format when movement of the telematic device is at or above the threshold; and
- [1.5] permitting the driver to access said input or providing said output to said driver in the original format when movement of the telematic device is below the threshold.

[31.0] 31. A method for controlling a telematic device in a vehicle operated by a driver, the telematic device having at least one of an input interface accessible from within the vehicle, the input interface having an original input interface and an alternative input interface different than the original input interface, the method comprising:

- [31.1] determining movement of the telematic device or vehicle;
- [31.2] comparing the movement of the telematic device to a threshold;
- [31.3] changing said input interface to the alternative input interface when the movement of the telematic device or vehicle is at or above the threshold; and
- [31.4] changing said input interface to the original input interface when the movement of the telematic device or vehicle is below the threshold.

Id.

E. ASSERTED GROUNDS AND EVIDENCE

Petitioner asserts the following four grounds of unpatentability:

Claim(s) Challenged	35 U.S.C. § ³	Reference(s) ⁴
1, 2, 6, 10, 12–15, 20	103(a)	Arnold ⁵
1–4, 10, 14, 16, 17, 19–21, 31	103(a)	Hardouin ⁶
13	103(a)	Hardouin, Trauner ⁷
4	103(a)	Hardouin, Krüger ⁸

Pet. 2–3.

³ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended certain sections of this statute, including §§ 102 and 103, and the effective date of the relevant amendment is March 16, 2013. The ’170 patent issued from an application filed on October 29, 2012 (Ex. 1001, code (22)), which is before the effective date of the AIA amendment. We therefore apply the pre-AIA version of the statute, but the applicable version of the statute does not affect this Decision.

⁴ For all of the asserted grounds, Petitioner argues the claimed subject matter would have been obvious over the references and the knowledge of an ordinary artisan. Pet. 2–3. Petitioner, however, does not rely on the knowledge of an ordinary artisan to teach a claim limitation but, rather, to explain how the asserted references teach the claim limitations. *See* Pet. 6–80. As Petitioner relies on the knowledge of an ordinary artisan only to elucidate the teachings of the references, we do not consider Petitioner to be relying on the knowledge of an ordinary artisan apart from the references. *See In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (“[A] prior art reference must be ‘considered together with the knowledge of one of ordinary skill in the pertinent art.’” (quoting *In re Samour*, 571 F.2d 559, 562 (CCPA 1978)); *In re Baxter Travenol Labs.*, 952 F.2d 388, 390 (Fed. Cir. 1991) (explaining that testimony from those skilled in the art may be used to explain the meaning of a reference).

⁵ Arnold et al., WO 98/43192, published Oct. 1, 1998 (“Arnold”) (Ex. 1036).

⁶ Hardouin, US 6,311,078 B1, issued Oct. 30, 2001 (“Hardouin”) (Ex. 1027).

⁷ Trauner et al., US 2002/0070852 A1, published June 13, 2002 (“Trauner”) (Ex. 1029).

⁸ Krüger et al., US 7,711,355 B1, issued May 4, 2010 (“Krüger”) (Ex. 1026).

In support of these asserted grounds of unpatentability, Petitioner submits the Declarations of Scott Andrews (Ex. 1003; Ex. 1046).

Patent Owner submits Declarations of John Peck (Ex. 2027; Ex. 2031). Petitioner deposed and cross-examined Mr. Peck and submits a transcript of Dr. Peck's deposition (Ex. 1045).

III. ANALYSIS OF ASSERTED GROUNDS OF UNPATENTABILITY⁹

A. APPLICABLE LEGAL STANDARDS

"In an IPR, the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim"))). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

As set forth above in section II.E, each of Petitioner's asserted grounds of unpatentability is premised on the claimed subject matter being obvious under 35 U.S.C. § 103(a). Pet. 2–3. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), reaffirmed the framework for determining obviousness set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). The *KSR* Court summarized the four factual inquiries set forth in *Graham* (383 U.S. at 17–18) that are applied in

⁹ Although we address certain of Patent Owner's arguments as unpersuasive, this is in the context of each party's arguments and the record as a whole, and we do not shift the burden of proof on patentability from Petitioner. *See Essity Prof'l Hygiene N. Am. LLC v. Cascades Canada ULC*, 811 Fed. App'x 643 (Fed. Cir. 2020).

determining whether a claim is unpatentable as obvious as follows:

(1) determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; (3) resolving the level of ordinary skill in the art; and (4) considering objective evidence indicating obviousness or non-obviousness.¹⁰ *KSR*, 550 U.S. at 406.

An obviousness analysis must include a reason, based upon rational underpinnings, why a person of ordinary skill would have been motivated to modify the prior art to achieve the claimed invention. *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016) (“To satisfy its burden of proving obviousness, a petitioner . . . must . . . articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.” (citing *KSR*, 550 U.S. at 418)). Nonetheless, “a disclosure that anticipates under § 102 also renders the claim invalid under § 103, for ‘anticipation is the epitome of obviousness.’” *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983) (quoting *In re Fracalossi*, 681 F.2d 792 (CCPA 1982)); *see also Application of Pearson*, 494 F.2d 1399, 1402 (CCPA 1974) (“[T]his court has sanctioned the practice of nominally basing rejections on § 103 when, in fact, the actual ground of rejection is that the claims are anticipated by the prior art. The justification for this sanction is that a lack of novelty in the claimed subject matter, e.g., as evidenced by a complete disclosure of the invention in the prior art, is the ‘ultimate or epitome of obviousness.’” (citations and footnote omitted)).

¹⁰ In this proceeding, there is no evidence pertaining to objective indicia of non-obviousness.

B. LEVEL OF ORDINARY SKILL IN THE ART

The level of ordinary skill in the art is “a prism or lens” through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). The prior art may reflect the level of ordinary skill in the art. *Id.*

Petitioner asserts:

An ordinary artisan would have been a person having, as of October 24, 2001, a Bachelor’s degree in Electrical Engineering, Mechanical Engineering, Computer Engineering, or Computer Science, or an equivalent degree with at least two years of experience in electronic user interface systems and vehicle sensor systems or related technologies. Additional education may substitute for lesser work experience and vice-versa.

Pet. 3 (citing Ex. 1003 ¶ 40). Patent Owner does not oppose Petitioner’s proposed definition and puts forth essentially the same definition for the level of ordinary skill in the art as Petitioner. PO Resp. 16 (citing Ex. 2027 ¶¶ 20–21).

We adopt Petitioner’s unopposed definition of the level of ordinary skill in the art. We find, on the record, that this definition is consistent with the level of ordinary skill reflected in the asserted references and the ’170 patent.

C. CLAIM CONSTRUCTION

We interpret a claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b) (2023). Under this standard, we construe the claims “in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *Id.*

“[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc).

[T]he court looks to “those sources available to the public to show what a person of skill in the art would have understood disputed claim language to mean.” Those sources include “the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.”

Id. at 1314 (citations omitted) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004)). “[T]he claims themselves provide substantial guidance as to the meaning of particular claim terms” and “[t]he context in which a term is used in the asserted claim can be highly instructive.” *Id.* Claims, however, “must be read in view of the specification, of which they are part.” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995)). “[T]he Specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). Extrinsic evidence “can shed useful light on the relevant art,” but “it is ‘less significant than the intrinsic record in determining “the legally operative meaning of claim language.’”” *Id.* at 1317 (quoting *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004)). “[E]xtrinsic evidence in the form of expert testimony can be useful to a court for a variety of purposes, such as . . . to establish that a

particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Id.* at 1318. Furthermore,

[b]ecause dictionaries, and especially technical dictionaries, endeavor to collect the accepted meanings of terms used in various fields of science and technology, those resources have been properly recognized as among the many tools that can assist the court in determining the meaning of particular terminology to those of skill in the art of the invention.

Id.

1. “telematic device”

Every clause of independent claim 1 includes the term “telematic device.” Ex. 1001, 22:55–23:6. Similarly, every clause of independent claim 31 includes this term. *Id.* at 25:4–18. Dependent claims 2, 3, 6, 9–11, 14, 16, and 18 also recite this term, although some use the plural “telematics,” interchangeably with “telematic.”¹¹ *See id.* at 23:7–24:10.

¹¹ In view of the record, and the parties’ arguments, we understand that the terms “telematic device,” “telematics device,” and “telematic” are synonymous. For example, independent claim 1 recites a “telematic device,” and claims 3, 6, 9, 10, and 16, which depend from independent claim 1, recite “the telematics device.” Ex. 1001, 22:55–23:6, 23:15–19, 23:27–29, 23:39–45, 23:66–24:2. Similarly, the Specification describes certain devices as “telematic devices,” “telematics devices,” and “telematics.” *See, e.g., id.* at 5:47–48 (“telematics such as e-mail, radio, CD, DVD, navigation system, incoming page or the like”), 15:2 (“a portable Telematic device such as a cell phone, blackberry, PDA, etc.”), 16:65 (“a portable telematics device such as a cellular phone”), 17:17–18 (“a telematic device (e.g., telephone, PDA, computer, and the like)”), 18:30–34 (“various devices communicated with the driver such as telephones, pagers, PDA’s, computers, fax machines, GPS devices, navigations systems and displays, radios, CD players, CB’s, video monitors, and other telematic or informational devices”); *see also* Ex. 1003 ¶ 46 (Mr. Andrews testifying that the ’170 patent uses the terms “telematics” and “telematic device” interchangeably). Moreover, during oral argument, Patent Owner confirmed

In its Petition, Petitioner does not provide an express construction for the claim term “telematic device.” *See* Pet. 5 (arguing “no claim construction is necessary at this time”). Nonetheless, in asserting that Arnold’s travel guide system discloses the recited telematic device, Petitioner points to the Specification’s description of a “telephone, PDA, computer, and the like” as examples of a telematic device. Pet. 7 (citing Ex. 1001, 17:14–20; Ex. 1003 ¶¶ 129–131). Similarly, in contending that Hardouin’s wireless telephone discloses the recited telematic device, Petitioner relies on the Specification’s description of a telephone as a type of telematic device. *Id.* at 36 (citing Ex. 1001, 6:13–17; Ex. 1003 ¶¶ 217–220), 64 (citing Ex. 1001, 6:13–17; Ex. 1003 ¶¶ 309–312).

In its Response, Patent Owner ostensibly acknowledges that a telephone or a computer could be a telematic device, but contends that a telematic device must have certain functionalities and multimedia outputs. To wit, Patent Owner argues “[a] telematics device in accordance with the Plain and Ordinary meaning of this term and as confirmed by the [’]170 [S]pecification is a central multifunction device that integrates together the features of information, communication, computing, and entertainment technologies.” PO Resp. 10 (citing Ex. 1001, 1:18–24, 3:29–35, 17:15–18, Fig. 5B); *see also id.* at 19 (arguing “a telematic device is a multifunction device such as a computer, PDA and the like that integrates together at least the features of information, communication, computing, and entertainment technologies”), 47 (arguing “the Plain and Ordinary meaning of telematics is provided by the [S]pecification as a multifunction device that integrates

the difference among these terms is grammatical, not substantive.
Tr. 36:16–23.

together the features of information, communication, computing, and entertainment technologies”). Patent Owner further argues

[i]t is indisputable that the multiple applications such as navigation, mobile phone interface, Internet access, radio, *etc.* and others that are provided by a telematics device to a driver from certain telematic equipment such as a radio are necessarily done through a singular integrated multimedia output device such as a multifunction screen having both audio and visual components.

Id. at 10 (citation omitted); *see also id.* at 19–20, 48 (arguing that in view of the requisite functionalities, as well as the limitations of dependent claims 12–15, a telematic device necessarily includes an audio and visual output allowing a multitude of integrated functions, such as allowing the user to browse the Internet and retrieve content, receive e-mail, and control entertainment functions).

Patent Owner charges that Petitioner “ignores the definition provided by the Inventor himself, which Petitioner’s expert is obligated to consider and use, when, as here, the inventor acts as his own lexicographer (which, in this case, is the same as the Plain and Ordinary meaning).” PO Resp. 11. Patent Owner also alleges that “Petitioner simply ignores many of the portions of the [S]pecification that describe the required features for a device to qualify as *the claimed telematics device*.” PO Resp. 19, 47.

In reply, Petitioner maintains that the claim term “telematic device” does not require construction. Reply 2. Petitioner nonetheless argues that, if “telematic device” is to be construed, it should be construed as “a telecommunications device such as a telephone, PDA, computer, blackberry, and the like,” in accordance with the examples of telematic devices set forth in the Specification. *Id.* at 2–3 (citing Ex. 1001, 15:2–3, 16:64–66,

17:15–21). Petitioner also argues that the inventor did not act as a lexicographer to specially define the term. *Id.* at 3–4. Petitioner further argues the Specification explains that a telematic device can be multifunctional or a standalone device and provides several examples of telematic devices that are not multifunctional or capable of integrating information, communication, computing, and entertainment technologies. *Id.* at 4 (citing Ex. 1001, 7:39–41). Petitioner additionally argues Patent Owner’s evidence, namely, a document titled “What is Telematics?” contradicts Patent Owner’s construction because it states that telematics can consist of a single-function GPS. *Id.* at 5 (citing Ex. 2024).

In its Sur-reply, Patent Owner contends that “the definition of telematics provided in the Field of Invention [section of the ’170 patent] clearly and concisely defines the functional aspects of telematics” and that “this definition is a summary of the feature set required by the telematics devices of the invention as described in other places in the [S]pecification.” Sur-reply 3 (citing Ex. 1001, 1:18–24, written description associated with Figs. 3–5; Ex. 2027 ¶¶ 35, 48–52). Patent Owner also contends that Petitioner “attempts to supplant the definition of a more sophisticated coined term telematics device with that of a mere conventional telecommunications device.” *Id.* at 5. Patent Owner similarly contends Petitioner’s construction of “telematic device” is “plainly repugnant even to its natural and historical meaning from 1978 which is based at a minimum on *a combination of both telecommunications and informatics technologies.*” *Id.* at 7 (citing Ex. 2024; Ex. 2027 ¶ 30). Patent Owner further contends: “[T]he [S]pecification does not describe ‘standalone telematic devices’ or ‘single function telematic

devices.’ Rather, it merely describes ‘standalone telematics’ and other devices that are enabled along with the telematic device.” *Id.* at 8.

To construe the claim term “telematic device,” we begin with the claims. All of the independent claims, namely claims 1, 22, 27, and 31, recite a method for controlling a device in a vehicle operated by a driver. Ex. 1001, 22:55–56, 24:18–19, 24:47–48, 25:4–5. In independent claims 1 and 31, the device is a telematic device, whereas, in independent claims 22 and 27, the device is a cell phone. *Id.* Independent claim 1 recites that the telematic device has an input and an output in two formats, and the recited steps include preventing output in the original format, providing output in the other format, and permitting the driver to access the input or providing output in the original format. *Id.* at 22:55–23:6. Independent claim 31 recites that the telematic device has two input interfaces, and the recited steps include changing the input interface from the original input interface to the alternative input interface and vice versa. *Id.* at 25:4–18. Independent claims 1 and 31 do not otherwise describe the recited telematic device.

Patent Owner contends that audio and visual outputs recited in dependent claims 12–15 confirm that a telematic device must include a multimedia output and allow for a multitude of integrated function. PO Resp. 19–20, 48. We disagree.

“By definition, an independent claim is broader than a claim that depends from it.” *Littelfuse, Inc. v. Mersen USA EP Corp.*, 29 F.4th 1376, 1380 (Fed. Cir. 2022). The doctrine of claim differentiation, which is premised on the notion that different claims have different scopes, “normally means that limitations stated in different claims are not to be read into the independent claim from which they depend.” *Karlin Tech., Inc. v. Surgical*

Dynamics, Inc., 177 F.3d 968, 971–72 (Fed. Cir. 1999) (citing *Transmatic, Inc. v. Gulton Indus., Inc.*, 53 F.3d 1270, 1277 (Fed. Cir. 1995)). While the telematic device recited in independent claim 1 must be broad enough to encompass audio and visual outputs, the recited telematic device does not necessarily require a multimedia output.

Turning to the Specification, Patent Owner is correct that the Specification expressly describes the field of telematics as “the field of integrating information, communication, computing, and entertainment technologies into vehicles for civilian and military use.” Ex. 1001, 1:18–21. Based on this description of the field of telematics, Patent Owner construes “telematic device” as a central multifunction device that integrates together the features of information, communication, computing, and entertainment technologies. *See* Sur-reply 3 (arguing that “the definition of telematics provided in the Field of Invention clearly and concisely defines the functional aspects of telematics” and that “this definition is a summary of the feature set required by the telematics devices of the invention as described in other places in the [S]pecification”). After reviewing the Specification, however, we do not find support for Patent Owner’s extrapolation of the meaning of “telematic device” from the description of the field of telematics. The Specification describes a safety control system that falls within the field of telematics by integrating devices having different technologies; it does not describe a telematic device as a central multifunction device that integrates together the features of informational, communication, computing, and entertainment technologies.

The Specification describes the disclosed invention as relating to “safety control systems for vehicles to reduce driver distraction, avoiding

potentially dangerous conditions tending to produce accidents.” Ex. 1001, 1:21–24. As shown in Figure 3, the safety control system comprises microprocessor 20, which receives inputs from a plurality of sensors S₁–S₁₁ and a navigation system and produces outputs that, for example, disable a telephone or other telematic device from making outgoing calls and disable a computer from accessing the Internet. *Id.* at 9:31–35, 13:3–13, Fig. 3; *see also id.* at 19:26–31 (“The system controls all machine to man communications (e.g. phone, vehicle alarms/indicators, computer, PDA, etc[.]) to and from the driver as a function of the monitored factors that provide an indication of the level of attention required by the driver to safely operate and control the vehicle.”). The Specification describes that “microprocessor 20, among other functions, acts as a ‘state machine’ to define, arrange and prioritize features and functionalities of the system.” *Id.* at 10:57–60. The Specification further describes “[t]he state machine aspect of the microprocessor may make telematic control decisions on a variety of criteria such as: (a) the frequency of use of the application, the frequency in which a number, e-mail or URL is contacted; (b) based on safety/urgency priorities” *Id.* at 10:61–11:5. Thus, according to the Specification, the safety control system, including the microprocessor, is a central multifunction device that integrates information, communication, computing, and entertainment technologies, in accordance with the Specification’s description of telematics. Patent Owner even points to the safety control system as a telematic device. PO Resp. 20–22. According to Patent Owner, the Specification describes “microprocessor 20 [of the telematic device].” *Id.* at 21 (alteration in original) (quoting Ex. 1001, 10:57–11:2).

Yet, the Specification does not refer to the safety control system as a telematic device. To the contrary, the Specification refers to the devices integrated into the safety control system as telematic devices. For example, as set forth above, Figure 3 shows microprocessor 20 providing outputs 41–43 to disable various functions of a telephone and a computer. The Specification describes the telephone and computer, as well as other devices controlled by microprocessor 20, as telematic devices. *See, e.g.*, Ex. 1001, 5:49–51, 6:13–17, 16:30–35, 18:30–34.

In addition to describing that telematic devices are integrated into the safety control system via the microprocessor, the Specification provides examples of telematic devices. Ex. 1001, 5:47–28, 15:2–3, 16:65, 17:17–18; *see also id.* at Fig. 5 (showing telematics equipment connections including telephone, navigation, directory, message recorder, pager, e-mail, Internet browsing, intelligent collision alarms, long call anti distraction, PDA, and phonebook). Petitioner’s construction of “telematic device” as a “telecommunications device” is based on the examples of telematic devices set forth in the Specification. Reply 2–3. The Specification, however, does not describe the examples of telematic devices as telecommunications devices or otherwise explain why the examples qualify as telematic devices.

We next look to the extrinsic evidence in the record, namely the declarants’ testimonies, to ascertain whether the term “telematic device” has a particular meaning in the field. Petitioner does not point to any testimony in support of its construction of “telematic device.” Patent Owner’s construction is based on Mr. Peck’s testimony. In addition to explaining that Patent Owner’s construction is based on the description of the field of telematics in the Specification (Ex. 2027 ¶ 45), Mr. Peck testifies that “[t]he

term ‘telematics’ is a term of art that was coined based on a concatenation of two words - ‘telecommunications’ and ‘informatics’” (*id.* ¶ 30 (citing Ex. 2024)).

In view of the foregoing, we find the claims provide little guidance as to the meaning of “telematic device,” but the audio and visual outputs recited in dependent claims 12–15 do not require a telematic device to have a multimedia output. We further find the Specification does not refer to the safety control system that integrates various technologies as a telematic device but instead refers to the devices integrated into the safety control system as telematic devices. Ex. 1001, 5:49–51, 6:13–17, 16:30–35. Fig. 3. We also find the Specification provides examples of telematic devices, but does not describe the examples as telecommunications devices or explain why they qualify as telematic devices. Additionally, we find credible Mr. Peck’s un rebutted testimony that “telematics” is a term of art and represents the combination of the words “telecommunications” and “informatics,” as this testimony is supported by the document titled “What is Telematics?” (Ex. 2024).

Thus, with the Specification’s description of a telematic device as a device integrated into a safety control system that incorporates various technologies and the evidence that “telematics” is a term of art, we construe the claim term “telematic device” as a telecommunications and informatics device.

2. *“providing the driver a signal”*

Claim 10 includes the term “providing the driver a signal.” Ex. 1001, 23:44. In its Petition, Petitioner does not provide an express construction for this claim term, but argues that “blanking the screen would be a visual

indicator or *signal* detectable by the driver.” Pet. 23 (citing Ex. 1003 ¶¶ 186–187).

In its Response, Patent Owner contends the claim term “providing the driver a signal” should be construed as “[p]roviding a signal that actuates (puts into action) an audio or visual indicator.” PO Resp. 17. According to Patent Owner, “the [S]pecification describes ‘actuating’ *i.e.*, putting into action a signal not removing a signal from action.” *Id.* at 26 (citing Ex. 1001, 13:11–13, 14:21–27, 14:51–54; Ex. 2025; Ex. 2027 ¶ 61).

In reply, Petitioner argues “providing the driver a signal” means “providing the driver with an audible, visual, or tactile indicator.” Reply 6. In support of its construction, Petitioner relies on the Specification’s description of the safety control system enabling a driver to select the type of feedback from the system, which may be “audible, visual, tactile, etc.” *Id.* (citing Ex. 1001, 20:61–66). Petitioner also argues that, contrary to Patent Owner’s proposed construction, the ’170 patent does not require the audible or visual signal to be actuated. *Id.*

Patent Owner responds that Petitioner “ignor[es] multiple instances in the [S]pecification that describe ‘providing’ as affirmatively ‘supplying a signal’ using the terms ‘actuating’ . . . or ‘activating.’” Sur-reply 8–9 (citing Ex. 1001, 13:10–13, 13:36–37, 14:21–27, 14:39–41, 14:51–54; Ex. 2025; Ex. 2027 ¶ 61). Patent Owner further responds that providing a signal is the opposite of suppressing a signal and that the Specification’s description of customizing the system’s feedback does not support a signal being a suppressed signal. *Id.* at 9.

We agree with Petitioner that intrinsic evidence does not support Patent Owner’s proposed construction, which requires a signal that actuates

an audio or visual indicator. In support of its construction, Patent Owner points to the Specification's description of control signals. As set forth in the Specification, the outputs from microprocessor 20 include control signals which are effective to disable the telephone from making outgoing calls or receiving incoming calls, disable the computer from accessing the Internet, actuate a visual indicator, or actuate an audible alarm. Ex. 1001, 13:3–13, 13:36–38, 14:21–27, 14:36–41, 14:51–54, Figs. 3–4. To disable and actuate the audio and visual indicators, the control signals are provided from the microprocessor to the devices integrated therewith, namely the telephone, computer, visual indicator, and alarm. Patent Owner relies on the Specification's description of electrical signals between devices, whereas the claim term recites providing the driver a signal. Thus, the Specification's description of the control signals does not relate to the claim term.

We also agree with Petitioner that the claim term “providing the driver a signal” should be construed as providing the driver with an audible, visual, or tactile indicator. Both parties' proposed constructions require providing an audible or visual indicator. Petitioner's construction additionally contemplates a tactile indicator. As Petitioner correctly argues, the Specification expressly describes providing audible, visual, and tactile indicators to a driver. Reply 6 (citing Ex. 1001, 20:61–66).

In view of the intrinsic evidence, we adopt Petitioner's construction of “providing the driver a signal” as providing the driver with an audible, visual, or tactile indicator.

3. *“downloading”*

Claim 20 includes the term “downloading.” Ex. 1001, 24:14. In its Petition, Petitioner does not provide an express construction for this claim

term but argues “[a]n ordinary artisan would have understood the transmitted data is received and *downloaded* by [Arnold’s travel guide] system 200.” Pet. 34 (citing Ex. 1003 ¶¶ 213–215).

In its Response, Patent Owner contends the claim term “downloading” should be construed as “[r]eceiving computer-based information based on a request.” PO Resp. 17; *see also id.* at 33 (citing Ex. 2023) (arguing “a ‘download’ is defined as ‘receiving computer-based information based on a request’”). According to Patent Owner, “a download, such as an *http* transfer (hypertext transfer protocol), as would be understood by an ordinary artisan, requires the client to request from the server the information to be downloaded” and “[t]his is because the client needs to establish a reliable communication channel with the server for information transfer and reserve client resources such memory space and initialize a communication pathway for successfully receiving the requested information.” *Id.* at 33 (citing Ex. 2023; Ex. 2027 ¶ 70).

In its Reply, Petitioner argues the claim term “downloading” should be construed as “transmitting from a central computer to a remote computer.” Reply 8–9. Petitioner’s proposed construction is based on the definition of “downloading” in three technical dictionaries. *Id.* at 8 (citing Ex. 1042, 647; Ex. 1043, 140; Ex. 1044, 3).¹² According to Petitioner, the intrinsic evidence is ambiguous as to the meaning of the claim term “downloading” such that extrinsic evidence, including dictionaries and learned treatises, may be used to assist in construction of the term. *Id.* at 7.

¹² The citations to Exhibits 1042–1044 refer to the original page numbering of the reference itself, not the page numbering Petitioner added for the exhibit.

Petitioner also argues Patent Owner’s proposed construction is unduly narrow because it is based on a specific data transfer protocol, namely http, which is commonly understood as the communication protocol for transmitting documents between computers and the basis for the World Wide Web. *Id.* at 8 (citing Ex. 1042, 1037), 9.

In its Sur-reply, Patent Owner responds that Petitioner incorrectly alleges the Specification provides no guidance as to the meaning of “downloading” and that the Specification specially describes the type of data transfer protocols used by the state machine as those governed by http, file transfer protocol (FTP), e-mail, or other similar data transfer protocols, all of which require a request before the transfer of data. Sur-reply 11 (citing Ex. 1001, 16:64–17:4; Ex. 2027 ¶¶ 70–71). Patent Owner further responds that claim 20 itself provides guidance as to the meaning of “downloading” because it recites the step of downloading data, software, operating systems, and applications, which require a reliable download protocol such as a protocol with a request. *Id.* at 12.

To construe the claim term “downloading,” we begin with the claims. Claim 20 recites downloading data, software, operating systems, and applications, but is silent regarding a data transfer protocol, much less a data transfer protocol requiring a request. Ex. 1001, 24:13–15. To the extent Patent Owner is arguing that a person of ordinary skill in the art would have understood that downloading data, software, operating systems, and applications requires a data transfer protocol having a request, we find no support in the record for such an argument.

Turning to the Specification, the Specification does not use the term “downloading” and includes only one instance of a related form of the term.

According to the Specification:

The state machine can allow driver to set their preferences on a portable telematics device such as a cellular phone, or a WAN, Web site or via a FTP and e-mail. Such set up can be transferred to the vehicle in use when the driver docks the cell phone or other portable telematics devices to the system gateway. The *downloaded* profile will be updated with driving skills, driver habits and geographical/time/date based notes added by the driver while driving.

Ex. 1001, 16:64–17:4 (emphasis added). Although the Specification provides examples of setting up a driver’s preferences with various means that may utilize a data transfer protocol with a request, the Specification nonetheless describes downloading simply as transferring the driver’s preferences from the telematics device to the vehicle’s state machine. *Id.*

We next consider to the extrinsic evidence in the record to determine whether “downloading” has a particular meaning in the field. Petitioner’s construction is based on three different technical dictionaries, all of which define “download” essentially as to transmit data¹³ from a central computer to a remote computer. Reply 8 (citing Ex. 1042, 647; Ex. 1043, 140; Ex. 1044, 3). Patent Owner’s construction is based on an online explanation of <http>. PO Resp. 33 (citing Ex. 2023). As Patent Owner’s online explanation does not contemplate the meaning of “downloading,” we do not find it probative.

¹³ Petitioner explains that, unlike the technical definitions, its proposed construction does not recite what is downloaded, e.g., data, because claim 20 specifically recites what is downloaded. Reply 9 n.9.

In view of the foregoing, we find the claims provide little guidance as to the meaning of “downloading.” We also find the Specification describes the process for downloading a driver’s profile as transferring the driver’s preferences from a telematics device to the vehicle’s state machine and provides exemplary means for setting up a driver’s preferences that result in a downloaded profile. Furthermore, we find the three technical dictionary definitions of “download” credible evidence that the term is known in the art to mean to transmit data from a central computer to a remote computer.

Thus, with the Specification’s description of transferring the driver’s preferences from the telematics device to the vehicle’s state machine to create a downloaded profile and the evidence that those skilled in the art understand “download” means to transmit data from a central computer to a remote computer, we adopt Petitioner’s construction of “downloading” as transmitting from a central computer to a remote computer.

D. OBVIOUSNESS BASED ON ARNOLD—CLAIMS 1, 2, 6, 10, 12–15, AND 20

Petitioner challenges claims 1, 2, 6, 10, 12–15, and 20 under 35 U.S.C. § 103(a), contending the claimed subject matter would have been obvious in view of Arnold and the knowledge of an ordinary artisan. Pet. 5–34; Reply 9–19. Patent Owner argues the claims are patentable over Arnold and the knowledge of an ordinary artisan. PO Resp. 18–35; Sur-reply 13–19.

We begin our analysis of this asserted ground of unpatentability with an overview of Arnold. We then turn to the parties’ contentions for each of the claims.

1. *Arnold*

Arnold is the October 1, 1998, publication of International Application No. PCT/US98/05737, filed on March 23, 1998. Ex. 1036, codes (21), (22), (43). There is no dispute that Arnold is prior art. *See generally* PO Resp.

Arnold is titled “In-vehicle Screen Blanking Using Global Positioning System (GPS) Speed Data.” Ex. 1036, code (54). Arnold “relates generally to in-vehicle travel information display systems, and more particularly to a method and apparatus for blanking in-vehicle display screens when the vehicle speed exceeds a predetermined speed, where the vehicle speed is determined from position indicated signals provided by a Global Positioning Systems (GPS).” *Id.* at 1.¹⁴

Arnold’s in-vehicle screen blanking system is shown in Figure 1, reproduced below.

¹⁴ Arnold does not include paragraph or line numbering, and our citations to Exhibit 1036 refer to page numbers.

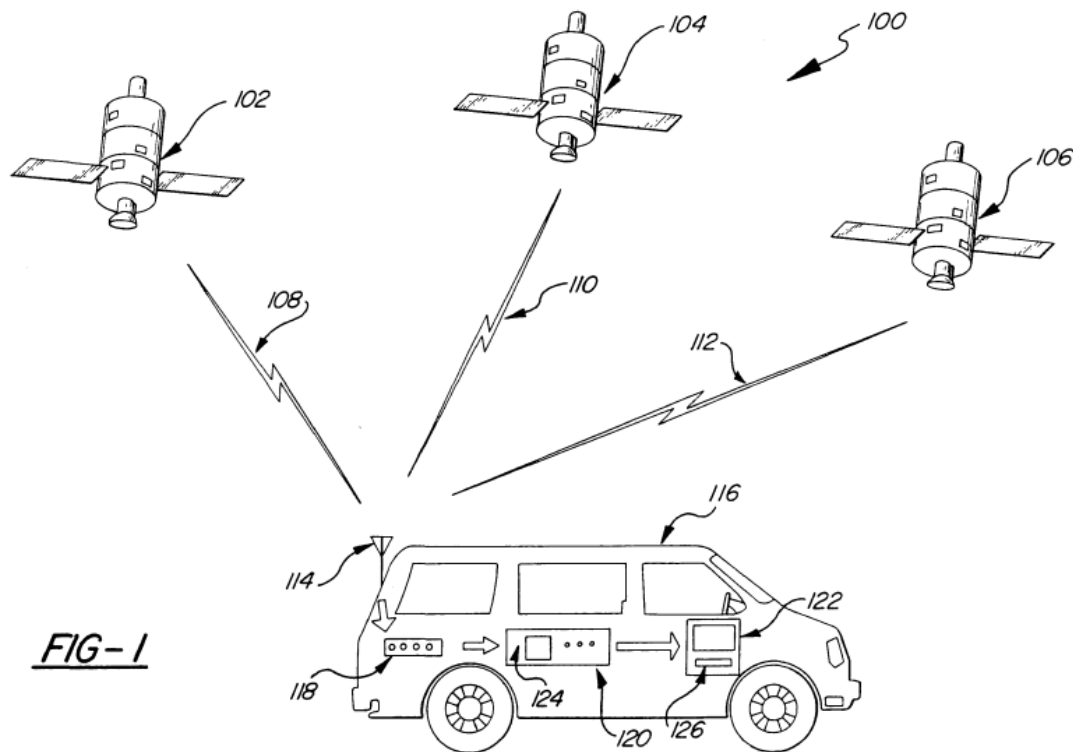


Figure 1 is a diagram of an in-vehicle screen blanking system 100. Ex. 1036, 3. As shown in Figure 1, GPS satellites 102, 104, 106 send positioning signals 108, 110, 112, respectively. *Id.* at 4. GPS signal receiving antenna 114 in vehicle 116 receives the positioning signals and sends them to GPS receiver 118. *Id.* GPS receiver 118 is coupled to data processor 120, which includes speech synthesizer 124. *Id.* Data processor 120 is coupled to in-vehicle display screen 122, which includes speaker 126. *Id.* Display screen 122 may be part of a travel guide information system that displays typical road signs, such as approaching intersection signs, “Road Construction Ahead” signs, signs for rest stops, and signs for commercial advertisements. *Id.*

Figure 7, reproduced below, depicts the operation of the in-vehicle screen blanking system.

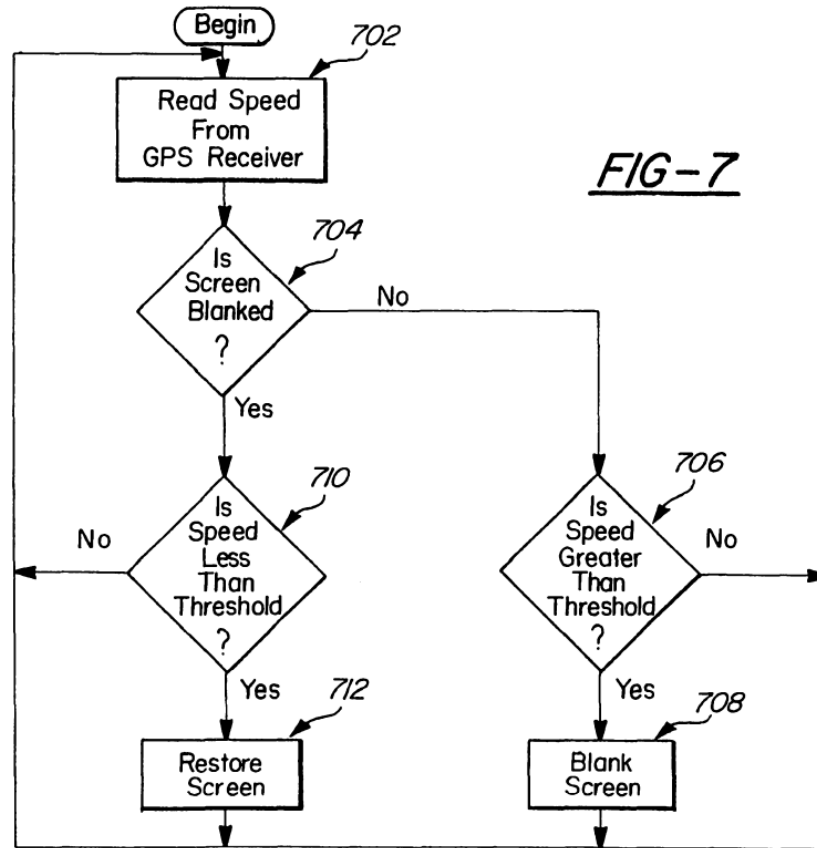


Figure 7 is a flowchart illustrating the steps of operation of the in-vehicle blanking system. Ex. 1036, 3. GPS receiver 118 determines the speed of vehicle 116 based on received GPS positioning signals. *Id.* at 7–8. In step 702, data processor 120 reads the vehicle speed from GPS receiver 118 and, in step 704, determines whether display screen 122 is blanked. *Id.* at 8. If not, and if the vehicle’s speed is greater than a predetermined threshold as determined in step 706, the display screen is blanked in step 708. *Id.* In this case, speech synthesizer 124 and speaker 126 can present data in audio format. *Id.* If, in step 704, the display screen is determined to be blanked, it is assumed that the vehicle’s speed previously exceed the predetermined

threshold. *Id.* It is then determined, in step 710, whether the vehicle's speed is less than the predetermined threshold. *Id.* If not, the display screen is kept off. *Id.* In this case, the data processor returns to step 702 and rechecks the vehicle's speed. *Id.* at 8–9.

2. *Independent Claim 1*

Petitioner maps each element of independent claim 1 to Arnold's disclosure. Pet. 6–19 (citing Ex. 1001, 17:14–20, claim 14; Ex. 1003 ¶¶ 96–98, 129–131, 133–143, 145–148, 150–154, 156–158, 160–162, 164–166; Ex. 1036, 1–2, 4–5, 8–9, claims 1, 2, 10, 11, Figs. 2, 7). Petitioner relies on Arnold's in-vehicle blanking system for disclosing the recited method for controlling a telematic device, and, in particular, Petitioner relies on Arnold's travel guide system for disclosing the recited telematic device. *Id.* According to Petitioner, Arnold's in-vehicle blanking system discloses the recited method for controlling a telematic device because Arnold's in-vehicle blanking system, which includes a travel guide system having a display screen for displaying road signs, blanks the display screen in favor of providing data in an audio format when a vehicle's speed is above a predetermined threshold. *Id.*

Patent Owner's only argument against Petitioner's contentions for independent claim 1 is that Petitioner has not shown Arnold's travel guide system discloses the recited telematic device.¹⁵ PO Resp. 18–25. Patent

¹⁵ Patent Owner specifically references claim elements 1.0 and 1.4 in arguing that Petitioner has failed to show that Arnold's travel guide system discloses the recited telematic device, but acknowledges that all of the claim elements include the term “telematic device.” PO Resp. 23 (arguing “[t]here simply is no description teaching or suggestion of any type of multifunction

Owner’s argument is premised on its proposed construction of the claim term “telematic device” as a multifunction device integrating together at least the features of information, communication, computing, and entertainment technologies, which necessarily includes an audio and visual output. *Id.* Applying its construction of “telematic device,” Patent Owner argues that Arnold’s travel guide system is not a telematic device because it is a standalone, unintegrated, single-function device. *Id.* at 22–23 (citing Pet. 7; Ex. 1036, 3–9, Figs. 2–4; Ex. 2027 ¶¶ 53–54; Ex. 2029). Patent Owner further argues that, even if Arnold’s travel guide system is a navigation system that integrates information, communication, and computing technologies, it does not integrate entertainment technologies. *Id.* at 23–24 (citing Inst. Dec. 11; Ex. 2027 ¶ 55; Ex. 2028). Patent Owner also argues that Petitioner provides insufficient explanation as to why Arnold’s travel guide system discloses the recited telematic device and applies the wrong meaning of the claim term. *Id.* at 24 (citing Pet. 7; Ex. 1003 ¶¶ 129–131; Ex. 2027 ¶ 56).

In its Reply, Petitioner disagrees with Patent Owner’s construction of “telematic device.” Reply 9–12. In particular, Petitioner argues the recited telematic device encompasses a standalone device and is not limited to a multifunction device that integrates various technologies. *Id.* at 10 (citing Ex. 1001, 7:40–41), 12 (citing Ex. 1001, 16:52–63). Petitioner also argues a standalone navigation system, like Arnold’s travel guide system, discloses the recited telematic device because the ’170 patent continually reiterates that a telematic device may be a navigation system or a GPS system. *Id.*

integrated telematics device at all as required by element 1.0 (and elements 1.1-1.5) of claim 1”); Ex. 1001, 22:55–23:6.

at 12–13 (citing Ex. 1001, 5:44–48, 13:23–25, 18:29–34). Petitioner similarly contends that, according to Mr. Peck, the term “telematics” was developed with the introduction of GPS systems, and that Arnold is directed to a navigation system using a GPS system. *Id.* at 13–14 (citing Ex. 1036, Fig. 2; Ex. 2027 ¶ 30).

In its Sur-reply, Patent Owner maintains Arnold does not disclose the recited telematic device pursuant to its proffered construction of the claim term. Sur-reply 13–16. Specifically, Patent Owner argues Arnold’s standalone travel guide system is not a telematic device. *Id.*

As set forth above in section III.C.1, we do not adopt Patent Owner’s proposed construction of “telematic device.” Rather, we construe “telematic device” as a telecommunications and informatics device. Under our construction, we are persuaded Arnold’s travel guide system discloses the recited telematic device.

As an initial matter, we agree with Petitioner that the ’170 patent describes a navigation system, such as Arnold’s travel guide system, is a telematic device. Reply 12–13 (citing Ex. 1001, 5:44–48, 13:23–25, 18:29–34). Furthermore, both Mr. Andrews and Mr. Peck testify that GPS systems were known to be telematic devices. Ex. 1003 ¶ 62; Ex. 2027 ¶ 30 (citing Ex. 2024).

Furthermore, Petitioner has shown that Arnold’s travel guide system is a telecommunications and informatics device. Petitioner correctly argues that Arnold discloses travel guide system 200 including message receiving antenna 202, message receiver 204, GPS antenna 205, location determining system 206, processor 208, and in-vehicle display 210. Pet. 6 (citing Ex. 1036, 4–5, Fig. 2). Message receiving antenna 202 and GPS

antenna 205 are operatively coupled to message receiver 204 and location determining system 206, respectively, and message receiver 204 and location determining system 206 are operatively coupled to processor 208, which is operatively coupled to in-vehicle display 210. Ex. 1036, 4–5, Fig. 2. Location determining system 206 determines the actual location and direction of the vehicle from the GPS position indicating signals sent by GPS satellites 102, 104, 106. *Id.* at 4, 6. Message receiver 204 receives and stores messages from message sending antenna 308 in transmitted message format 400 comprising multiple fields, such as vehicle location and direction field 404 and sign data field 406. *Id.* at 5–6, Figs. 2–4. Processor 208 compares location and direction field 404 of a message with the actual location and direction of a vehicle determined by location determining system 206 from the GPS position indicating signals. *Id.* at 6. If they are substantially similar, processor 208 sends the sign data from sign data field 406 of the message to be displayed on in-vehicle display screen 210. *Id.* As Arnold’s travel guide system 200 receives message and GPS data and uses this data to display road signs on a display, we are persuaded Arnold’s travel guide system is a telecommunications and informatics device and thus discloses the recited telematic device.

After considering the parties’ arguments and evidence, Petitioner has persuaded us that Arnold discloses every element of independent claim 1. Specifically, we are persuaded that Arnold’s in-vehicle blanking system, which includes a travel guide system and blanks the display screen of the travel guide system in favor of providing data in an audio format when a vehicle’s speed is above a predetermined threshold, discloses the recited method for controlling a telematic device. Petitioner has shown, by a

preponderance of the evidence, that the subject matter of independent claim 1 would have been obvious over Arnold.

3. *Claims 2 and 6*

Claim 2 depends from independent claim 1 and recites that the method further includes the step of

preventing an attempted input or output in response to a sensed parameter of said at least one condition being outside of a threshold and operable to permit access to a said input or communication of a said output from the telematic device after said sensed condition that caused prevention of the attempted input or output is again sensed to be within the threshold.

Ex. 1001, 23:7–14. For the step recited in claim 2, Petitioner argues that Arnold’s in-vehicle blanking system blanks the display screen when a vehicle speed is greater than a predetermined threshold. Pet. 19–20 (citing Ex. 1003 ¶¶ 168–169; Ex. 1036, 8, claim 1, Fig. 7). Petitioner further argues that Arnold’s in-vehicle blanking system’s logic reevaluates and restores the screen when the vehicle speed is below the threshold. *Id.* at 20 (citing Ex. 1003 ¶¶ 170–172; Ex. 1036, 8, claim 2, Fig. 7). Additionally, Petitioner argues Arnold discloses preventing an attempted input via a keyboard when a vehicle speed is above a threshold and reenabling the keyboard when the vehicle is not moving. *Id.* at 21 (citing Ex. 1003 ¶¶ 173–175).

Claim 6 depends from independent claim 1 and recites that the method further comprises the step of “denying the driver access to the input screen when the movement of the telematics device is above a threshold.”

Ex. 1001, 23:27–29. For this step recited in claim 6, Petitioner argues Arnold discloses that a driver can use a keyboard to input a threshold speed, which would be visible on the display screen. Pet. 21–22 (citing Ex. 1036, 8). Petitioner further argues Arnold discloses that a driver is denied access

to the input by blanking the display screen. *Id.* at 22 (citing Ex. 1003 ¶¶ 178–183; Ex. 1036, claim 1).

Patent Owner does not present arguments for claims 2 and 6 apart from its arguments for independent claim 1. *See, e.g.*, PO Resp. 25 (arguing “[d]ependent claims 2, 6, 10, 12-15 are therefore patentable for at least the same reasons [as independent claim 1], and no further discussion of additional reasons for patentability is deemed necessary at this time”). We address Patent Owner’s arguments for independent claim 1 above in section III.D.2.

After considering the parties’ arguments and evidence, Petitioner has persuaded us that Arnold’s in-vehicle blanking system discloses the steps recited in claims 2 and 6. Petitioner has shown, by a preponderance of the evidence, that the subject matter of claims 2 and 6 would have been obvious over Arnold.

4. *Claim 10*

Claim 10 depends from independent claim 1 and recites that the method further includes the step of “providing the driver a signal that a the [sic] movement of the telematics device is at or above of [sic] a threshold.” Ex. 1001, 23:43–45. For the step recited in claim 10, Petitioner relies on Arnold’s in-vehicle blanking system blanking the display screen when a vehicle speed is above a predetermined speed. Pet. 23 (citing Ex. 1036, 8). According to Petitioner, “[a]n ordinary artisan would have understood that blanking the screen would be a visual indicator or *signal* detectable by the driver indicating the movement of the device is above the predefined speed limit. *Id.* (citing Ex. 1003 ¶¶ 186–187).

Patent Owner contends Petitioner incorrectly argues that the absence of a visual output or signal qualifies as a signal. PO Resp. 26 (citing Ex. 2027 ¶ 60). Per Patent Owner, suppressing a signal is the opposite of providing a signal. *Id.* Patent Owner further contends “the [S]pecification describes ‘actuating’ *i.e.*, putting into action a signal not removing a signal from action. *Id.* (citing Ex. 1001, 13:11–13, 14:21–27, 14:51–54; Ex. 2025; Ex. 2027 ¶ 61). Patent Owner also contends that Mr. Andrews incorrectly concludes that blanking the screen is a visual indicator to a driver of the movement of the telematic device being above a predefined speed because, according to Patent Owner, a driver would have no way of knowing whether the screen was blanked due to the movement exceeding a threshold speed or simply malfunctioning. *Id.* at 27 (citing Ex. 2027 ¶ 63).

Petitioner replies that “[Patent Owner] attempts to interject the phrase ‘actuate’ into the claim” and that “the claim just requires a ‘signal’ be provided.” Reply 14–15. Petitioner additionally replies that the ’170 patent describes customizing the signal indicating the movement of the telematic device is at or above a threshold and that a driver could customize the signal to be blanking the screen. *Id.* at 14 (citing Ex. 1001, 20:60–66).

Patent Owner responds that Petitioner “glosses over the term ‘providing’ in a manner that seeks to read it out of the claim by arguing that the absence of a signal in blanking the screen is the same as ‘providing’ a signal.” Sur-reply 16. Patent Owner further responds that, even if the ’170 patent describes customizing the signal, there is still no description of completely removing a signal as a signal. *Id.* at 17.

Patent Owner’s argument that blanking a screen is suppressing a signal and thus the opposite of providing a signal is premised on its

proposed construction of the claim term “providing a signal to the driver” as providing a signal that actuates an audio or visual indicator. As set forth above in section III.C.2, we do not adopt Patent Owner’s proposed construction. Rather, we construe “providing the driver a signal” as providing the driver with an audible, visual, or tactile indicator, which does not exclude providing a blanked screen.

The parties dispute whether a blanked screen is an indicator that movement of the telematics device is at or above a threshold. Based on Mr. Andrews’s testimony, Petitioner argues that a driver would understand blanking the screen is a signal that the movement of the telematics device was above a threshold speed. Pet. 23 (citing Ex. 1003 ¶¶ 186–187). Patent Owner cites Mr. Peck’s testimony that a driver would have no way of knowing whether the screen was blanked due to the movement exceeding a threshold speed or some other reason such as a malfunction. PO Resp. 27 (citing Ex. 2027 ¶ 63). Mr. Andrews bases his testimony on Arnold’s disclosure that federal and other regulations require a screen to be blanked to prohibit distractions for drivers of commercial vehicles, whereas Mr. Peck does not provide support for his testimony. Ex. 1003 ¶ 187 (citing Ex. 1036, 1); Ex. 2027 ¶ 63. Given its support, we find Mr. Andrews’s testimony more credible, and we are persuaded that providing a blanked screen is providing a visual indicator that movement of the telematics device is at or above a threshold.

After considering the parties’ arguments and evidence, Petitioner has persuaded us that Arnold’s in-vehicle blanking system, which blanks the display screen when a vehicle speed is above a predetermined speed, discloses providing the driver a signal that movement of the telematics

device is at or above a threshold, as recited in claim 10. Petitioner has shown, by a preponderance of the evidence, that the subject matter of claim 10 would have been obvious over Arnold.

5. *Claims 12–14*

Claim 12 depends from independent claim 1 and recites that the method further comprises the step of “having visually accessible information changed to verbal announcements.” For the step recited in claim 12, Petitioner argues Arnold’s in-vehicle blanking system blanks the display screen and converts the message to be displayed to an audio format when a vehicle speed is greater than a predetermined threshold. Pet. 24–25 (citing Ex. 1003 ¶¶ 190–191; Ex. 1036, 8).

Claim 13 depends from independent claim 1 and recites that the method further comprises the step of “having an incoming text based message read.” Ex. 1001, 23:53–54. For recited step of claim 13, Petitioner argues Arnold’s in-vehicle blanking system displays intersection signs or other traffic/travel information and blanks the display screen and converts the message to be displayed to an audio format when a vehicle speed is greater than a predetermined threshold. Pet. 25–26 (citing Ex. 1003 ¶ 194; Ex. 1036, 4, 8, claim 10). Petitioner further argues Arnold discloses that the sign information displayed on the display screen is first received as a message. *Id.* at 26–28 (citing Ex. 1036, 5, Figs. 2–4). According to Petitioner, an ordinary artisan would have understood the message received by the system includes data that would be displayed visually and text, such as “Rest Stop Ahead” and “Accident Ahead,” that would be presented in an audio format. *Id.* at 28–29 (citing Ex. 1003 ¶¶ 194–201).

Claim 14 depends from independent claim 1 and recites that the step of providing said at least one output to the driver in a different format comprises “selecting at least one from the group consisting of changing the volume, changing the sound effect, changing the tactile feedback, muting the telematic device, converting text to speech, blocking video output but permitting audio output, and replacing video output with a different display.” Ex. 1001, 23:55–61. For claim 14, Petitioner relies on Arnold’s in-vehicle blanking system blanking the display screen and presenting the message to be displayed in an audio format. Pet. 29 (citing Ex. 1003 ¶¶ 203–204; Ex. 1036, 8, claim 10).

Patent Owner does not present arguments for claims 12–14 apart from its arguments for independent claim 1. *See, e.g.*, PO Resp. 25 (arguing “[d]ependent claims 2, 6, 10, 12-15 are therefore patentable for at least the same reasons [as independent claim 1], and no further discussion of additional reasons for patentability is deemed necessary at this time”). We address Patent Owner’s arguments for independent claim 1 above in section III.D.2.

After considering the parties’ arguments and evidence, Petitioner has persuaded us that Arnold’s in-vehicle blanking system discloses the steps recited in claims 12–14. Petitioner has shown, by a preponderance of the evidence, that the subject matter of claims 12–14 would have been obvious over Arnold.

6. *Claim 15*

Claim 15 depends from independent claim 1 and recites that “the step of providing said at least one output to the driver in a different format comprises converting text display to graphical display or iconic

presentation.” Ex. 1001, 23:62–65. For claim 15, Petitioner argues Arnold’s in-vehicle blanking system displays intersection signs or other traffic/travel information so that the displayed information includes traffic/information signs, such as “Road Construction Ahead” and “Rest Stop,” navigational information, and commercial advertisements. Pet. 29–30 (citing Ex. 1003 ¶ 206; Ex. 1036, 4). Petitioner also argues an ordinary artisan would have understood the displayed information can be graphical/iconic representations, with or without textual information, that typically follows specific coloring and shape standards. *Id.* at 30 (citing Ex. 1003 ¶¶ 96–98, 207). Petitioner further argues that an ordinary artisan would have understood a sign including both iconic and textual information requires greater cognitive load than graphical information and that an ordinary artisan would have modified Arnold’s in-vehicle blanking system to suppress the textual component of a displayed road sign to reduce the level of distraction to the driver. *Id.* (citing Ex. 1003 ¶ 208).

Patent Owner maintains Petitioner has not shown that Arnold renders the subject matter of claim 15 obvious. PO Resp. 28–32. Patent Owner argues:

Nowhere in *Arnold* is there any teaching or suggestion whatsoever of how or why it would be desirable to discriminate textual message content from a graphic or iconic content and then selectively filter out the textual portions of the message and then recompose it in a way that results in graphical traffic management content that would still make sense to the driver.

PO Resp. 28. Per Patent Owner, most drivers would not recognize a yield sign without the text “YIELD” in the middle. *Id.* at 28–29 (citing Ex. 2027 ¶ 65). Patent Owner also argues “the system of *Arnold* would need highly complex and sophisticated computational engine and specialized software to

analyze content and to determine how to strip and/or suppress certain content portions and retain others and still maintain driver comprehension in a way that somehow reduces the ‘cognitive load’ on the driver.” *Id.* at 29 (citing Ex. 2027 ¶ 66). Patent Owner further argues that “[t]he general goal of reducing cognitive load simply does not provide the requisite technical teaching or motivation to modify *Arnold* in the specific way proposed by [Petitioner]” and that “cognitive load would at least in some instances be increased.” *Id.* at 30 (citing Ex. 2027 ¶¶ 67–68). Patent Owner additionally argues Arnold fails to disclose a second display format and instead teaches only blanking out screen outputs and providing those outputs in audio format. *Id.* at 28 (citing Ex. 1003 ¶ 162; Ex. 1036, 8), 30. According to Patent Owner, “because [Petitioner] fails to show all the elements of the claim in one or more references, it fails to describe how one of ordinary skill would modify the prior art to produce the claimed invention and clearly relies on hindsight reconstruction in an attempt to produce the claimed invention.” *Id.* at 32.

In reply, Petitioner argues the Manual on Uniform Traffic Control Devices (“MUTCD”) includes advanced warning traffic signs that are graphical representations without wording. Reply 15–16 (citing Ex. 1035, 2C-19; Ex. 1046 ¶¶ 24–25). Petitioner also argues a skilled artisan would have understood that word messages may be used as alternates to the advanced warning traffic signs. *Id.* at 16–17 (citing Ex. 1035, 2C-22; Ex. 1046 ¶¶ 26–27). Petitioner further argues “[a] skilled artisan would have also understood that while Arnold teaches blanking a screen, it would have been obvious to modify the alternate screen to display an iconic road sign without and instead of the associated word message.” *Id.* at 17 (citing

Ex. 1046 ¶¶ 26–27). According to Petitioner, a skilled artisan would have understood that displaying a sign and providing an audio message may be necessary in certain geographical locations where the road is hazardous, has increased accidents, or is subject to pedestrians or emergency vehicles crossing it. *Id.* (citing Ex. 1046 ¶ 29). Petitioner additionally argues that advanced warning traffic signs, which lack text, were known and used to provide additional emphasis for an upcoming stop, yield, or traffic signal and that modifying Arnold’s in-vehicle blanking system to display an iconic road sign and provide an audio message would have been nothing more than the use of a known technique and simple substitution of known element disclosed in Arnold for another that would obtain predictable results. *Id.* at 17–18 (citing Ex. 1035, 2C-22; Ex. 1046 ¶¶ 29–31).

In response, Patent Owner contends Petitioner, in its Reply, seeks to shoehorn the MUTCD into its obviousness analysis under the guise of knowledge of the ordinary artisan. Sur-reply 17. Patent Owner also contends that the primary objective of Arnold’s in-vehicle blanking system is to blank the screen at certain speeds to comply with federal and other regulations and that modifying Arnold’s disclosure as Petitioner proposes is flatly inconsistent with this objective. *Id.* at 18 (citing Ex. 1036, 1–2).

We agree with Patent Owner that Petitioner improperly introduces a new theory of obviousness in its Reply by relying on the MUTCD to provide a teaching of advanced warning traffic signs that are used to provide additional emphasis for an upcoming stop, yield, or traffic signal.

According to our rules, a reply may only respond to arguments raised in the corresponding patent owner response. 37 C.F.R. § 42.23(b). In our

Consolidated Trial Practice Guide,¹⁶ we explain that a “[p]etitioner may not submit new evidence or argument in [a] reply that it could have presented earlier, e.g., [] to make out a prima facie case of unpatentability.” CTPG 73 (citing *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1077–78 (Fed. Cir. 2015)). Our Consolidated Trial Practice Guide further explains that “[r]espond,” in the context of 37 C.F.R. § 42.23(b), does not mean proceed in a new direction with a new approach as compared to the positions taken in a prior filing,” and that “[w]hile replies and sur-replies can help crystalize issues for decision, a reply or sur-reply that raises a new issue or belatedly presents evidence may not be considered.” *Id.* at 74. “In most cases, the Board is capable of identifying new issues or belatedly presented evidence when weighing the evidence at the close of trial, and disregarding any new issues or belatedly presented evidence that exceeds the proper scope of reply or sur-reply.” *Id.* at 80. The Board has regularly shown this capability. *See Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369–70 (Fed. Cir. 2016) (the Board refusing to consider reply brief arguments advocating a “new theory” of unpatentability in accordance with 37 C.F.R. § 42.23(b)).

In its Petition, Petitioner proposes to modify Arnold’s in-vehicle blanking system to suppress the textual component of a displayed road sign to reduce the level of distraction to the driver (Pet. 30 (citing Ex. 1003 ¶ 208)), whereas, in its Reply, Petitioner, for the first time, argues the MUTCD teaches advanced warning traffic signs, which lack text, and

¹⁶ Patent Trial and Appeal Board Consolidated Trial Practice Guide (Nov. 2019), available at <https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf> (“CTPG”).

proposes to modify Arnold’s in-vehicle blanking system to display an iconic road sign and provide an audio message (Reply 17–18 (citing Ex. 1046 ¶¶ 26–27, 29)). The arguments in Petitioner’s Reply impermissibly present a new theory of obviousness, which we will not consider.

Considering Petitioner’s original obviousness arguments, we are not persuaded that the subject matter of claim 15 would have been obvious over Arnold. As Patent Owner correctly avers, Arnold simply discloses blanking a visual display showing road signs in favor of providing an audio output; Arnold does not disclose different types of visual display formats, such as a text display and an iconic presentation, much less converting one type of visual display format to another. PO Resp. 28 (citing Ex. 1003 ¶ 162; Ex. 1036, 8), 30. Even if we agree with Petitioner that an ordinary artisan would have understood that road signs include both iconic and textual information, Petitioner still fails to demonstrate that it was known to suppress the textual component of a displayed road sign or otherwise convert a display of the road sign with both iconic and textual information to a display of the road sign with only iconic information. Pet. 30 (citing Ex. 1003 ¶ 208).

As Petitioner has not shown the recited step of claim 15 was known, we are not persuaded the claimed subject matter would have been obvious. Petitioner has not shown, by a preponderance of the evidence, that the subject matter of claim 15 would have been obvious over Arnold.

7. *Claim 20*

Claim 20 depends from independent claim 1 and recites that the method further comprises the step of “downloading data, software, operating system or add new application.” Ex. 1001, 24:13–15. For the recited step of

claim 20, Petitioner argues Arnold discloses transmitting messages from remote system 300 to message receiving antenna 202 of travel guide system 200 located within a vehicle. Pet. 30–34 (citing Ex. 1003 ¶¶ 211–212; Ex. 1036, 4–5, Figs. 2–4). According to Petitioner, “[a]n ordinary artisan would have understood the transmitted data is received and *downloaded* by system 200.” *Id.* at 34 (citing Ex. 1003 ¶¶ 213–215).

Patent Owner contends Arnold does not disclose downloading as recited in claim 20. PO Resp. 32–35. Patent Owner’s argument is premised on its proposed construction of the claim term “downloading” as receiving computer-based information based on a request. *Id.* Applying its construction of “downloading,” Patent Owner argues Arnold’s system 300 continually transmits the same simple message regardless of devices are listening and has no way of receiving information requests associated with the initiation of a download operation. PO Resp. 33 (citing Ex. 2027 ¶ 71). Per Patent Owner, “[t]he system in Arnold is known as a basic pre-Internet ‘broadcast’ type system which constantly ‘broadcasts out’ messages over a radio frequency” and “[o]rdinary artisans would not consider information provided by such a broadcast-type transmission systems to be a ‘download.’” *Id.* at 33–34 (citing Ex. 2027 ¶ 71). Patent Owner also argues allowing for the display a message stored in memory does not disclose downloading at least because there is no associated request. *Id.* at 34 (citing Ex. 2027 ¶ 71).

Petitioner replies that Arnold discloses the recited downloading even under Patent Owner’s proposed construction. Reply 18–19 (citing Ex. 1046 ¶¶ 35–38). According to Petitioner, absent a request, system 300 would not know what sign data to send to travel guide system 200 and would need to

unnecessarily transfer large amounts of data non-stop, and a skilled artisan would not have understood system 300 to operate in this manner. *Id.* at 18–19 (citing Ex. 1046 ¶¶ 37–38).

Patent Owner responds that, contrary to Petitioner’s argument, a person of ordinary skill in the art would not have understood that travel guide system 200 transmits a request. Sur-reply 12. In particular, Patent Owner argues that travel guide system 200 has no transmitter to send a request and that system 300 has no receiver for receiving a request. *Id.*

As set forth above in section III.C.3, we do not adopt Patent Owner’s proposed construction of “downloading” as receiving computer-based information based on a request. Rather, we construe “downloading” as transmitting from a central computer to a remote computer. Under our construction, we are persuaded Arnold’s discloses the recited downloading. As Petitioner correctly argues, Arnold discloses transmitting messages from remote system 300 to travel guide system 200 located within a vehicle. Pet. 30–34 (citing Ex. 1003 ¶¶ 211–212; Ex. 1036, 4–5, Figs. 2–4).

After considering the parties’ arguments and evidence, Petitioner has persuaded us that Arnold discloses the recited step of claim 20. Petitioner has shown, by a preponderance of the evidence, that the subject matter of claim 20 would have been obvious over Arnold.

E. OBVIOUSNESS BASED ON HARDOUIN—CLAIMS 1–4, 10, 14, 16, 17, 19–21, AND 31

Petitioner challenges claims 1–4, 10, 14, 16, 17, 19–21, and 31 under 35 U.S.C. § 103(a), contending the claimed subject matter would have been obvious in view of Hardouin and the knowledge of an ordinary artisan. Pet. 34–74; Reply 19–25. Patent Owner argues the claims are patentable

over Hardouin and the knowledge of an ordinary artisan. PO Resp. 35–58; Sur-reply 19–24.

We begin our analysis of this asserted ground of unpatentability with an overview of Hardouin. We then turn to the parties’ contentions for each of the claims.

1. Hardouin

Hardouin issued as U.S. Patent No. 6,311,078 B1 on October 30, 2001, from U.S. Application No. 09/196,542, which was filed on November 20, 1998. Ex. 1027, codes (21), (22), (45). There is no dispute that Hardouin is prior art. *See generally* PO Resp.

Hardouin is titled “Automatic Shutoff for Wireless Endpoints in Motion.” Ex. 1027, code (54). Hardouin “relates generally to wireless switching systems, and, in particular, to control of a wireless telephone.” *Id.* at 1:5–6.

According to Hardouin, “[s]tudies have indicated that talking on a wireless telephone while driving increases the risk of an accident,” and “[p]art of the increased risk is attributed to drivers being distracted by a wireless telephone ringing.” Ex. 1027, 1:10–13. To mitigate this increased risk, Hardouin discloses “an apparatus and method in which a wireless telephone does not generate an alerting signal for an incoming call if the speed at which the wireless phone is moving exceeds a predefined speed.” *Id.* at 1:25–29. “Advantageously, if an alerting signal is not generated for an incoming call, the wireless telephone transmits an audio message back to the calling party informing them that they have contacted the wireless telephone and may leave either a voice or data message.” *Id.* at 1:29–34. “Further, the wireless telephone can inhibit the origination of calls from the wireless

telephone if the speed of the wireless telephone exceeds the predefined speed.” *Id.* at 1:38–41.

Hardouin’s Figure 1, reproduced below, shows a wireless telephone.

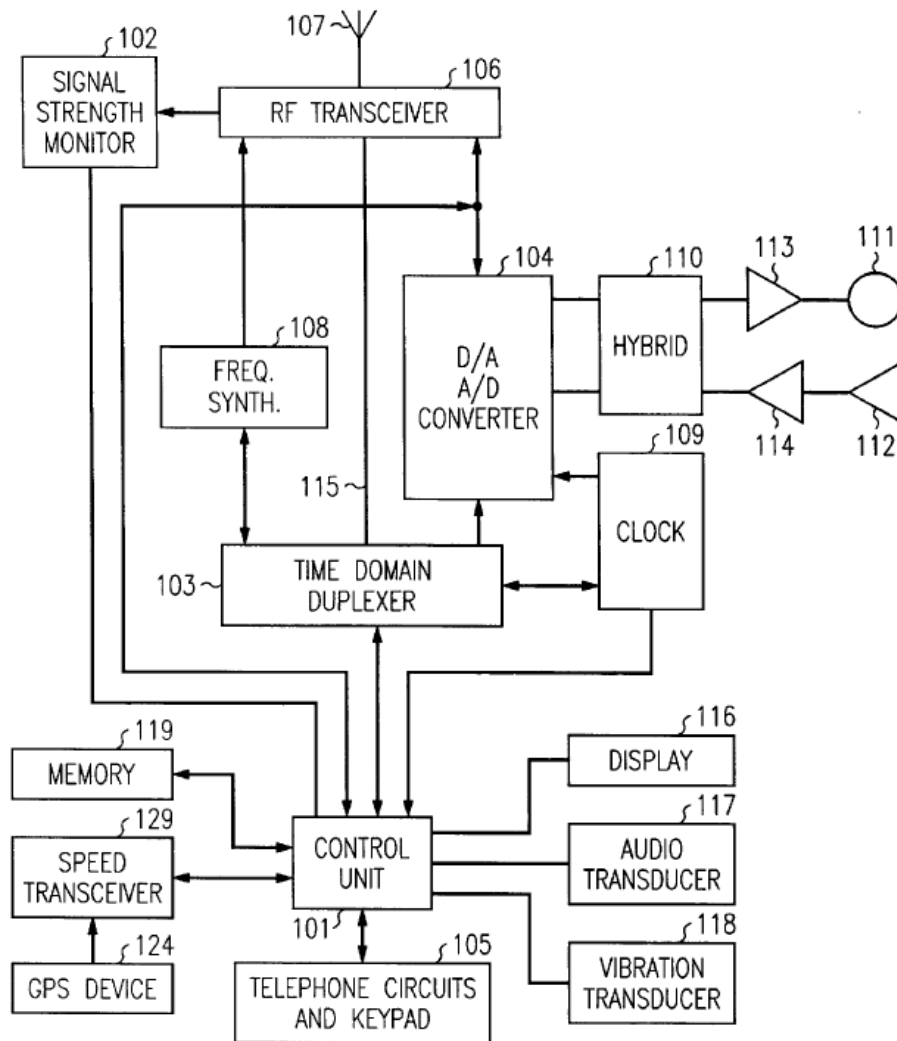


FIG. 1

Figure 1 is a block diagram illustrating a wireless telephone.

Ex. 2027, 1:50–51. As shown in Figure 1, the wireless telephone includes, *inter alia*, control unit 101, GPS device 124, and speed transceiver 129.

“Speed transceiver 129 is designed to receive information that is used by

[the] control unit to calculate the speed at which the wireless terminal is traveling.” *Id.* at 1:67–2:3. According to Hardouin:

Control unit 101 is responsive to the changing position information from the GPS device to determine the speed at which the wireless telephone is moving. One skilled in the art can readily see that in the case of a wireless telephone that is designed to be connected to an automobile, that speed transceiver 129 could be receiving information from the speedometer of the automobile.

Id. at 2:8–15. “If control unit 101 determines that the speed is above a predefined amount, it does not alert the user of the wireless telephone via audio transducer 117 or vibration transducer 118.” *Id.* at 2:17–20. “Rather, control unit 101 transmits a voice message to the caller defining that the call is not being answered because the user is presently driving.” *Id.* at 2:20–22.

The steps performed by control unit 101 of the wireless telephone are shown in Figure 2, reproduced below.

FIG. 2

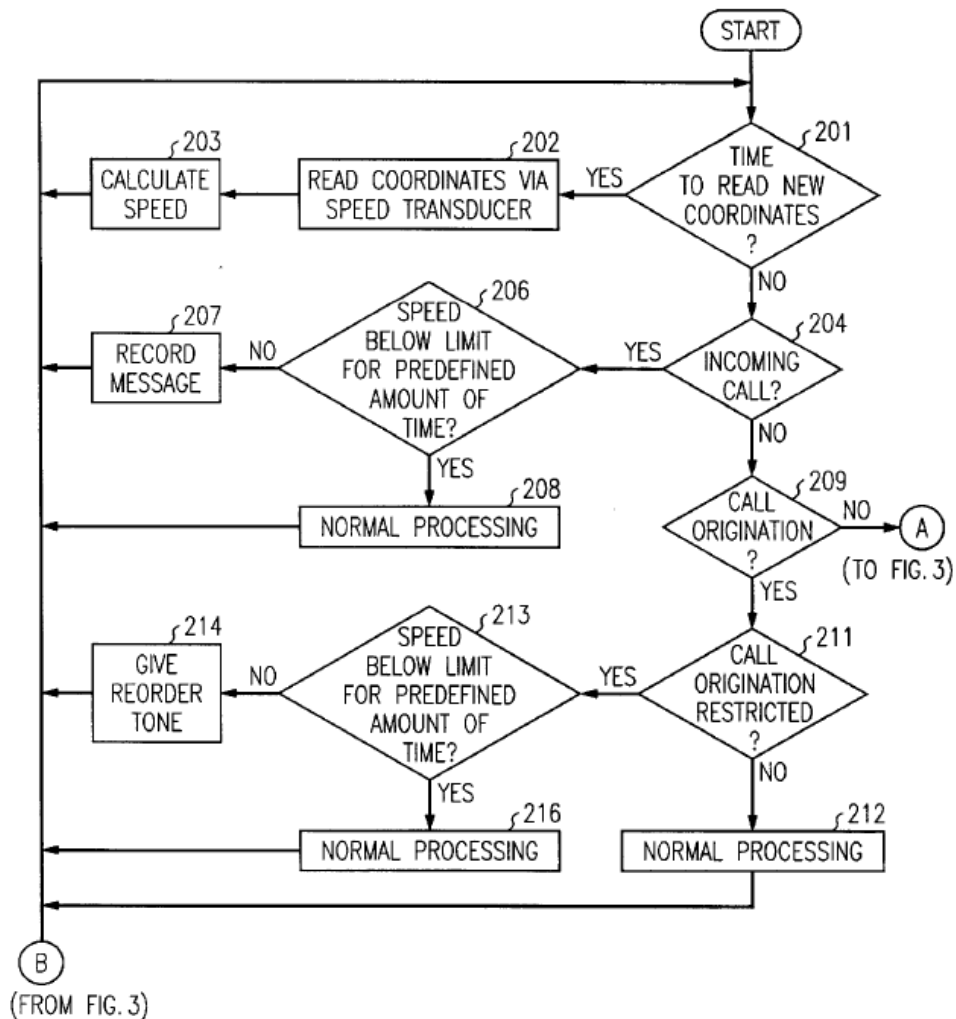


Figure 2 is a flow chart illustrating the steps performed by a wireless telephone. Ex. 1027, 1:52–53. In block 201, control unit 101 determines whether it is time to read new coordinates, and if so, speed transducer 129 reads coordinates from GPS device 124 in block 202. *Id.* at 2:41–47. Control unit 101 then, in block 203, calculates the speed based on the distance between new and old coordinates. *Id.* at 2:47–48. If it is not time to read new coordinates, control unit 101 determines, in block 204, whether an incoming call is being received. *Id.* at 2:52–54. If an incoming call is

being received, control unit 101, in block 206, determines whether the present speed is below a limit for a predefined amount of time. *Id.* at 2:54–56. If the speed is not below the limit, the caller is instructed to leave a message in block 207; otherwise normal call processing occurs in block 208. *Id.* at 2:56–65. If, at block 204, it was determined that no call is being received, then control unit 101 determines, in block 209, whether the wireless telephone user is attempting to make a call. *Id.* at 2:66–3:3. If the user is making a call, and call origination is restricted at speeds above the limit, as determined in block 211, then control unit 101 determines, in block 213, whether the present speed is below the limit for the predefined amount of time. *Id.* at 3:4–11. If the speed is not below the limit, “block 214 gives the user of the wireless telephone reorder tone before returning control back to decision block 201”; otherwise, normal call processing occurs in block 216. *Id.* at 3:11–15.

2. *Independent Claim 1*

Petitioner maps each element of independent claim 1 to Hardouin’s disclosure. Pet. 35–50 (citing Ex. 1001, 4:40–45, 5:44–51, 6:13–17, claim 14; Ex. 1003 ¶¶ 217–229, 231–234, 236–241, 243–246, 248–249; Ex. 1027, 1:10–29, 1:38–43, 1:50–51, 1:64–65, 2:4–22, 2:30–32, 2:41–65, 4:4–9, 4:13–15, Abstract, claims 1, 2, Figs. 1–2). For a disclosure of the recited method for controlling a telematic device, Petitioner relies on Hardouin’s wireless telephone system, which inhibits the wireless telephone’s alert signal and the origination of calls from the wireless phone when the speed of the phone exceeds a predefined speed. *Id.* In particular, Petitioner relies on Hardouin’s wireless telephone, alert signal, and inhibited alert signal for disclosing the recited telematic device, output having an

original format, and output having a format different than the original format, respectively. *Id.*

Patent Owner makes two arguments against Petitioner’s contentions for independent claim 1.¹⁷ PO Resp. 35–50. First, Patent Owner argues Hardouin’s inhibited alert signal does not disclose the recited output in a format different from the original format. *Id.* at 35–47. Second, Patent Owner argues Hardouin’s wireless telephone does not disclose the recited telematic device. *Id.* at 47–49.

We begin with Patent Owner’s argument that Hardouin’s wireless telephone does not disclose the recited telematic device, as it is similar to the argument Patent Owner raises with respect Arnold’s travel guide system, which we address above in section III.D.2. Patent Owner’s argument that Hardouin’s wireless telephone does not disclose the recited telematic device is premised on its proposed construction of the claim term “telematic device” as a multifunction device integrating together at least the features of information, communication, computing, and entertainment technologies, which necessarily includes an audio and visual output. PO Resp. 47–50. Applying its construction of “telematic device,” Patent Owner argues that Hardouin’s wireless telephone is not a telematic device because it is “a limited function telephone that is described as having only *audio and tactile outputs* and a basic display for confirming keypad inputs . . . with no connection to any other automobile systems.” *Id.* at 48 (citing Ex. 1027,

¹⁷ Patent Owner specifically references claim elements 1.0 and 1.4 in making its arguments against Petitioner’s contentions for independent claim 1. PO Resp. 38–50. For claim element 1.4, Patent Owner references its arguments for claim element 1.0. *Id.* at 50 (citing Ex. 2027 ¶¶ 102–103).

1:63–65, Fig. 1; Ex. 2027 ¶ 98). According to Patent Owner, Hardouin does not describe the wireless phone as having visual outputs for alerting a user. *Id.* (citing Ex. 2027 ¶ 98). Patent Owner also argues that Petitioner provides insufficient explanation as to why Hardouin’s wireless telephone discloses the recited telematic device and applies the wrong meaning of the claim term. *Id.* at 48–49 (citing Pet. 36; Ex. 1003 ¶¶ 217–220; Ex. 2027 ¶¶ 99–101). Per Patent Owner, Petitioner’s only explanation as to why Hardouin’s wireless telephone discloses the recited telematics is a reference to the Specification’s description of a telephone in a vehicle being a type of telematic device, and Patent Owner faults Petitioner for failing to compare Hardouin’s wireless telephone with the telephone described in the Specification. *Id.*

In its Reply, Petitioner maintains that Hardouin discloses a wireless telephone, which the Specification describes as an example of a telematic device. Reply 19 (citing Ex. 1001, 17:14–20; Ex. 1027, 1:57–2:3). Petitioner also argues that Hardouin’s wireless telephone discloses the recited telematic device even under Patent Owner’s proposed construction because Hardouin’s wireless phone includes GPS device 124 and is thus a multifunction device that can make and receive phone calls and utilize GPS coordinates. *Id.* (citing Ex. 1027, 2:4–51, Fig. 1).

In its Sur-reply, Patent Owner contends that Hardouin’s wireless phone does not disclose the recited telematic device under its construction of “telematic device” as a multifunction telematic device that integrates together the features of information, communication, computing, and entertainment technologies because Petitioner has not shown that Hardouin’s wireless phone employs entertainment technologies. Sur-reply 19.

Additionally, Patent Owner reiterates its argument that Hardouin’s wireless telephone is a single function device. *Id.*

As set forth above in section III.C.1, we do not adopt Patent Owner’s proposed construction of “telematic device.” Rather, we construe “telematic device” as a telecommunications and informatics device. Under our construction, we are persuaded Hardouin’s wireless telephone discloses the recited telematic device.

As an initial matter, we agree with Petitioner that the ’170 patent describes a telephone in a vehicle, such as Hardouin’s wireless telephone, as a telematic device. Pet. 36 (citing Ex. 1001, 6:13–17). Throughout it, the Specification describes a telephone as a telematic device. Ex. 1001, 1:29–35, 1:36–40, 5:38–51, 6:13–17, 6:56–64, 7:37–49, 7:60–62, 8:21–24, 9:18–30, 13:3–13, 13:19–23, 14:37–41, 15:65–16:3, 16:39–51, 16:64–17:2, 17:51–21, 18:29–34, 22:16–23. For example, the Specification describes “[t]he outputs from microprocessor 20 include control signals as shown by the following blocks: block 41, effective to *disable the telephone or other telematics* from making outgoing calls; block 42, effective to *disable the telephone or other telematics* from receiving incoming calls and from actuating the ringing signal” *Id.* at 13:3–13 (emphasis added).

That notwithstanding, Petitioner correctly argues that Hardouin’s wireless phone includes a GPS device 124 that receives location coordinates. Pet. 30 (citing Ex. 1027, 1:50–51, Fig. 1); Reply 19 (citing Ex. 1027, 2:4–51, Fig. 1). Both Mr. Andrews and Mr. Peck testify that GPS systems were known to be telematic devices. Ex. 1003 ¶ 62; Ex. 2027 ¶ 30 (citing Ex. 2024). In addition to having GPS capabilities, Mr. Andrews testifies that mobile phones in 1990’s, such as Hardouin’s wireless phone, were

known to have 2G capabilities. To wit, Mr. Andrews testifies that 2G cellular services emerged around 1991, which is years before Hardouin's November 20, 1998, filing date, and that 2G services included short-messages services and the ability to access primitive web pages with a mobile phone via the Wireless Access Protocol (WAP). Ex. 1003 ¶ 92 (citing Ex. 1017, 20, 25, 305–306); Ex. 1027, code (22).

In view of the foregoing, we are persuaded Hardouin's wireless telephone is a telecommunications and informatics device. Thus, we are persuaded that Hardouin's wireless telephone discloses the recited telematic device.

We next consider Patent Owner's argument that Hardouin's inhibited alert signal does not disclose the recited output in a format different from the original format. Patent Owner contends preventing any input or output whatsoever is not the same as modifying the functional output of a multifunction telematic device to provide a more limited functional output that reduces distractions, as described in the '170 patent. PO Resp. 35–36 (citing Ex. 1001, 19:24–35; Ex. 2027 ¶ 73). Patent Owner further contends that “completely turning OFF the input and output of a mobile phone (*i.e.*, no output at all) is fundamentally different than providing a modified output as claimed (in a different format) that is either functional or informational in nature” because “‘no output’ has no associated format.” *Id.* at 36 (citing Ex. 2027 ¶ 74). Patent Owner also contends Hardouin discloses completely turning OFF all outputs and inputs such that the phone is rendered substantially non-functional. *Id.* at 36–37 (citing Ex. 1027, 2:18–23, 3:1–15; Ex. 2027 ¶ 77). Patent Owner additionally contends that a telematic device in a preferred embodiment of the '170 patent includes an audio-visual user

interface which provides visual indicators of restricted output and that dependent claims 12–15 all specify modifying functional features to different output formats. *Id.* at 37–38 (citing Ex. 1001, 14:51–54, claims 12–15; Ex. 2027 ¶¶ 78–80).

With specific reference to claim element 1.0, Patent Owner asserts the Specification describes the telematic device’s output is changed from a first, more functional format, to a second format that is more restricted but not completely non-functional. PO Resp. 39–40 (citing Ex. 1001, 18:3–7, 20:41–59, 21:60–22:6, claims 12–15; Ex. 2027 ¶¶ 82–83). Patent Owner also asserts Hardouin does not disclose an alternative functional output. *Id.* at 40–41 (citing Ex. 1027, 2:17–20; Ex. 2027 ¶ 84). Patent Owner maintains that “[t]he absence [of] output can’t possibly teach the presence of a modified different output.” *Id.* at 41 (citing Ex. 2027 ¶ 85). Patent Owner further asserts that completely muting the output does not teach changing the volume because muting the output is disabling the output, not changing it. *Id.* at 41–44 (citing Pet. 37; Ex. 1003 ¶¶ 226–229; Ex. 1027, 2:17–20; Ex. 2027 ¶¶ 86–90). Additionally, Patent Owner reiterates that dependent claims 12–15 all specify different functional output formats and asserts that claim 14, which recites the step of providing said at least one output to the driver in a different format includes muting the telematic device, does not preclude the alteration of presentation of other outputs such as display outputs. *Id.* at 45–46 (citing Ex. 1001, 23:50–65, claims 12–15; Ex. 2027 ¶¶ 91–92). Patent Owner also reiterates that Hardouin discloses completely disabling the input and output of the phone and lacks a visual component, which the recited different output format requires. *Id.* at 46–47 (citing

Ex. 1027, 1:13–16, 1:36–41, 2:26–29, 2:56–59, Abstract; Ex. 2027 ¶¶ 93–94).

In its Reply, Petitioner argues the intrinsic record, particularly claim 14, makes clear that the recited output in a different format includes muting the telematic device. Reply 19–21 (citing Ex. 1001, claims 1, 14). According to Petitioner, under the doctrine of claim differentiation, claim 14 states that muting the telematic device provides the at least one output to the driver in a different format as recited in independent claim 1. *Id.* at 20–21. Petitioner also argues Mr. Peck provides no meaningful testimony beyond the attorney arguments presented in Patent Owner’s Preliminary Response (Paper 6, “Prelim Resp.”) and instead virtually parrots the attorney arguments in the Preliminary Response, which the Board already considered in the Decision granting institution. *Id.* at 22–25 (citing Prelim. Resp. 6; Ex. 1048; Ex. 2027 ¶ 73).

In its Sur-reply, Patent Owner contends that independent claim 1 requires the same output be used as the basis for alternate output formats, whereas Petitioner relies on two completely different outputs, namely an alert signal and the absence of an alert signal. Sur-reply 20; *see also id.* at 21 (citing Ex. 1001, 20:38–42, Figs. 3–4) (“[B]ecause substantially the same output is specified as creating both the ‘original format’ and ‘different format’ outputs in elements specified in claim 1 originate from the same or similar information, and that output is presented as alternate versions of the same output that are ‘rearranged,’ ‘repackaged’ or ‘recast’ into the claimed ‘different format’ that is usually somewhat more restricted or simplified so that it is less distracting.”). Patent Owner also contends the Specification does not describe muted output as a different format. *Id.* at 20–21 (citing

Ex. 1001, 8:5–10, 13:2–13, 13:36–37, 14:21–27, 14:39–41, 14:51–54, Figs. 3–4, boxes 53–54; Ex. 2025; Ex. 2027 ¶ 61). Patent Owner further contends an alert signal and a disabled alert signal are two different outputs, lack a common point of origin, and do not contain similar information. *Id.* at 22. In response to Petitioner’s claim differentiation argument, Patent Owner contends that “disabling a phone and muting a telematic device as described in the [’170 patent] are substantially different from one another, so there is no meaningful application of the claim differentiation doctrine” and that “the scope of claim 1 will always be broader than any one feature from claim 14 and thus cannot be invalidated by only one feature.” *Id.* at 23–24. In response to Petitioner’s argument regarding Mr. Peck’s testimony, Patent Owner contends that any concerns regarding Mr. Peck’s testimony could have been addressed in a deposition and that Mr. Peck’s opinions are consistent with certain arguments of lead counsel, who qualifies as a person of ordinary skill in the art. *Id.* at 24.

Beginning with Mr. Peck’s testimony, our rules prescribe the standard by which we weigh testimony. Pursuant to 37 C.F.R. § 42.65(a), “(e)xpert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.” We weigh Mr. Peck’s testimony according to this standard.

Turning to whether Petitioner has shown that Hardouin’s inhibited alert signal discloses the recited output in a format different from the original format, we agree with Petitioner that claim 14 informs as to the scope of the output in a different format recited in independent claim 1. Claim 14 depends from independent claim 1 and recites that the step of

providing said at least one output to the driver in a different format includes muting the telematic device. Ex. 1001, 23:55–61.

Although Patent Owner acknowledges that the step of providing said at least one output to the driver in a different format as recited in independent claim 1 is broad enough to encompass muting the telematic device as recited in claim 14, Patent Owner maintains that there can be no meaningful application of the doctrine of claim differentiation because disabling a phone and muting a telematic device are substantially different. Sur-reply 23. Patent Owner ostensibly contends that a telematic device necessarily includes multiple functional output formats, as shown by the Specification and claims 12–15, and that, with multiple functional output formats, muting the telematic device is not disabling the telematic device. PO Resp. 35–38, 45–47. We disagree with Patent Owner for at least two reasons. First, Patent Owner’s argument is based on its proposed construction of “telematic device” as a multifunction device integrating together at least the features of information, communication, computing, and entertainment technologies, which necessarily includes an audio and visual output. As set forth above in section III.C.1, we do not adopt Patent Owner’s proposed construction of “telematic device.” Second, inhibiting the alert signal does not disable Hardouin’s wireless telephone. To the contrary, Hardouin discloses that, when the speed is above a predetermined amount, control unit 101 does not alert the user and instead transmits a voice message to the caller defining that the call is not being answered because the user is presently driving. Ex. 1027, 2:17–21.

In view of the foregoing, we are persuaded that Hardouin discloses the recited output in a different format. In view of claim 14, the step of

providing said at least one output to the driver in a different format includes muting the telematic device. Petitioner correctly argues that Hardouin discloses inhibiting the wireless telephone's alert signal when the speed of the phone exceeds a predefined speed. Pet. 37 (citing Ex. 1027, 4:13–15), 45–46 (citing Ex. 1027, 2:17–22, 2:52–59). There is no dispute that inhibiting the wireless telephone's alert signal is muting the telephone. Thus, Petitioner has persuaded us that Hardouin's inhibited alert signal discloses the recited output in a different format.

After considering the parties' arguments and evidence, Petitioner has persuaded us that Hardouin discloses every element of independent claim 1. Specifically, we are persuaded that Hardouin's wireless telephone system, which inhibits the wireless telephone's alert signal when the speed of the phone exceeds a predefined speed, discloses the recited method for controlling a telematic device. Petitioner has shown, by a preponderance of the evidence, that the subject matter of independent claim 1 would have been obvious over Hardouin.

3. *Independent Claim 31*

Independent claim 31 is similar to independent claim 1 and likewise recites a method for controlling a telematic device in a vehicle operated by a driver. *Compare* Ex. 1001, 22:55–23:6, *with id.* at 25:4–18. However, instead of a telematic device with an output having an original format and a format different than the original format and preventing and providing output in the different formats based on the movement of the telematic device relative to a threshold as recited in independent claim 1, independent claim 31 recites a telematic device with an original input interface and an alternative input interface and changing the input interface based on the

movement of the telematic device relative to a threshold. *Id.* at 22:55–23:6, 25:4–18.

Petitioner maps each element of independent claim 31 to Hardouin’s disclosure. Pet. 63–74 (citing Ex. 1001, 6:13–17, 9:18–22, 13:3–6; Ex. 1003 ¶¶ 231–234, 236–237, 309–324, 326–334, 336–338; Ex. 1027, 1:10–21, 1:38–43, 1:64–65, 2:29–38, 2:66–3:15, Abstract, claim 1, Figs. 1–2; Ex. 1037, 4:4–14). For a disclosure of the recited method for controlling a telematic device, Petitioner relies on Hardouin’s wireless telephone system, which inhibits the origination of calls from the wireless phone when the speed of the phone exceeds a predefined speed. *Id.* In particular, Petitioner relies on Hardouin’s wireless telephone, fully-enabled keypad, and disabled or partially-disabled keypad for disclosing the recited telematic device, original input interface, and alternative input interface, respectively. *Id.*

Patent Owner claims independent claim 31 is patentable over Hardouin for the same reasons as independent claim 1. PO Resp. 50–51 (citing Ex. 2027 ¶ 105); *see also id.* at 55–57 (citing Pet. 64; Ex. 1001, 1:16–24; Ex. 1003 ¶¶ 46–47, 309–312; Ex. 1027, 1:63–65, Abstract, Fig. 1; Ex. 2027 ¶¶ 117–123) (reiterating the argument for independent claim 1 that Hardouin’s wireless telephone does not disclose the recited telematic device). We address Patent Owner’s arguments for independent claim 1 in section III.E.2 above.

Patent Owner additionally contends Hardouin does not disclose the recited alternative input interface.¹⁸ PO Resp. 51–58. Patent Owner argues

¹⁸ Patent Owner specifically references claim elements 31.0 and 31.4 in contending that Hardouin does not disclose the recited alternative input interface. PO Resp. 51–58. For claim element 31.4, Patent Owner

the recited telematic device necessarily includes a multifunction input/output screen. *Id.* at 51–52 (citing Ex. 1001, 1:16–24, 3:29–34, 13:9–15, 14:19–27, 17:15–17, 18:25–34; Ex. 2027 ¶¶ 107–109). Patent Owner also argues the multifunction input/output screen must provide a visual output in both original and different formats that are at least partially functional. *Id.* at 52–54 (citing Ex. 1001, 14:39–54, 18:3–7, 20:33–59, 21:60–22:6, claim 27; Ex. 2027 ¶¶ 110–114). Patent Owner further argues that Petitioner does not point to any portion of Hardouin disclosing a visual input interface. *Id.* at 54 (citing Pet. 64–65; Ex. 1003 ¶¶ 314–315; Ex. 2027 ¶ 115). Patent Owner additionally argues that “a keypad as an input interface is immutable - it is always the same physical keypad and cannot be changed to *alternative input interface different than the original input interface* by simply disabling it” and that “once fully disabled, the keypad fails to be an input interface at all because it is simply incapable of any input (or output) function at this point, nor does it provide any information to a user.” *Id.* (citing Ex. 2027 ¶ 116).

In its Reply, Petitioner argues that the alternative input interface recited in claim 31 and the different output format recited in independent claim 1 should be construed to have the same meaning because Patent Owner indicates they are related and similar in scope. Reply 22 (citing PO Resp. 2–3, 50–51).

In its Sur-reply, Patent Owner reiterates its argument that the original and alternative input interfaces recited in independent claim 31 are functional. Sur-reply 21. Patent Owner also argues “some form of

references its arguments for claim element 31.0. *Id.* at 57–58 (citing Ex. 2027 ¶¶ 124–125).

alternative input interface must be present to have some sort of format.” *Id.* at 22.

We disagree with Patent Owner’s contention that Hardouin does not disclose the recited alternative input interface because it lacks a visual input interface. This argument is based on Patent Owner’s proposed construction of “telematic device” as a multifunction device integrating together at least the features of information, communication, computing, and entertainment technologies, which necessarily includes an audio and visual output. As set forth above in section III.C.1, we do not adopt Patent Owner’s proposed construction of “telematic device.”

We also disagree with Patent Owner that Hardouin’s keypad cannot provide different input interfaces. Although a keypad may not physically change, changing the functions associated with the keys thereon provides different input interfaces. *See* Ex. 1027, 1:64–65 (disclosing the keypad as part of the basic user interface); Ex. 1003 ¶¶ 319, 323 (Mr. Andrews testifying that Hardouin’s keypad buttons would be operational to allow a driver to make a call when the speed of the vehicle is below a predefined speed and that Hardouin’s keypad buttons would not be operational to allow a driver to make a call when the speed of the vehicle is above a predefined speed).

Moreover, Patent Owner’s argument that the input interfaces must be at least partially functional and not disabled is beyond the scope of the claim. Independent claim 31 simply recites an original input interface and an alternative input interface, without any further description thereof. Ex. 1001, 25:4–18.

After considering the parties arguments and evidence, we are persuaded that Hardouin's disabled keypad discloses the recited alternative input interface. We agree with Mr. Andrews that the Specification does not describe an original input interface or an alternative input interface. Ex. 1003 ¶ 314. The Specification does describe disabling the telephone, and thereby preventing a driver from making and receiving calls, when certain conditions are present, including the vehicle traveling over a predetermined high velocity. Ex. 1001, 3:18–20, 13:3–6, 14:42–54; Figs. 2–3. Like the Specification, Hardouin discloses preventing a driver from being able to originate a call when the speed of the wireless telephone exceeds a predefined speed. Ex. 1027, 1:38–43, 2:30–38, 2:66–3:15, claim 1, Fig. 2. Hardouin also discloses a keypad is part of the basic user interface of the wireless telephone. *Id.* at 1:64–65, Fig. 1. We find credible Mr. Andrews's un rebutted testimony that an ordinary artisan would have understood Hardouin's keypad as an input allowing operation of the telephone. Ex. 1003 ¶ 313. We also find credible Mr. Andrews's un rebutted testimony that Hardouin discloses the keypad buttons would be operational to allow a driver to make a call when the speed of the vehicle is below a predefined speed and that Hardouin further discloses the keypad buttons do not allow a driver to make a call when the speed of the vehicle is above a predefined speed. *Id.* ¶¶ 319, 323. As Hardouin discloses a keypad is an input interface that enables different operations of the telephone depending on the speed of the vehicle, Petitioner has persuaded us that Hardouin discloses an input interface having an original input interface and an alternative input interface, as recited in independent claim 31.

In view of the foregoing, Petitioner has persuaded us that Hardouin discloses every element of independent claim 31. Specifically, we are persuaded that Hardouin's wireless telephone system, which inhibits the origination of calls from the wireless phone when the speed of the phone exceeds a predefined speed, discloses the recited method for controlling a telematic device. Petitioner has shown, by a preponderance of the evidence, that the subject matter of independent claim 31 would have been obvious over Hardouin.

4. *Claims 2–4, 10, 14, 16, 17, and 19–21*

For claim 2, which recites preventing an attempted input or output in response to a sensed condition being outside of a threshold and permitting access to the input or communication of the output after the sensed condition is within the threshold, Petitioner argues Hardouin discloses preventing a user from playing messages on a wireless telephone and using the wireless telephone's keypad to originate a call when the speed of the wireless telephone is above a predefined speed. Ex. 1001, 23:7–14; Pet. 50–55 (citing Ex. 1003 ¶¶ 253–261; Ex. 1027, 1:38–43, 1:62–65, 2:30–32, 2:39–3:33, claim 1, Figs. 1–3).

Claim 3 depends from claim 2 and recites that the method further includes the step of “delaying access to a prevented input or communication of a prevented output from the telematic device for a predetermined period after the movement of the telematics device is below the threshold limit.” Ex. 1001, 23:15–19. For the step recited in claim 3, Petitioner argues that Hardouin's wireless telephone system allows normal processing of the wireless telephone if the wireless telephone is travelling below a predefined

speed threshold for a predefined amount of time. Pet. 56–57 (citing Ex. 1003 ¶¶ 264–265; Ex. 1027, 2:33–39, 3:16–33, claim 1, Fig. 2).

Claim 4 depends from claim 2 and recites that the method further includes the step of “enabling an output detectable by the driver of the vehicle, and said output provides information to the driver as to a driving modification that can be made to re-enable the suppressed input or output.” Ex. 1001, 23:20–24. For the step of claim 4, Petitioner argues Hardouin’s wireless telephone system enables a reorder tone when accessing stored messages while the speed of the wireless telephone is above a threshold for a predetermined amount of time and will permit access to the messages once the speed is below the threshold for a predetermined amount of time. Pet. 57 (citing Ex. 1003 ¶¶ 269–270; Ex. 1027, 3:16–33, Fig. 3). According to Petitioner, “this tone would be *an output that provides information* indicating to the driver that they should slow down and drive below the limit (*i.e.*, threshold) speed for a predetermined amount of time to listen to the stored messages.” *Id.* at 58 (citing Ex. 1003 ¶ 271).

For claim 10, which recites providing the driver a signal that the movement of the telematic device is at or above a threshold, Petitioner relies on Hardouin’s reorder tone. Ex. 1001, 23:43–45; Pet. 58–59 (citing Ex. 1003 ¶¶ 254–258, 274–275; Ex. 1027, 3:16–33, Fig. 3)

For claim 14, which recites that the step of providing said at least one output to the driver in a different format comprises selecting at least one from the group consisting of, *inter alia*, changing the volume, changing the tactile feedback, and muting the telematic device, Petitioner argues Hardouin discloses inhibiting the alert signal if the detected speed had not been equal to or less than the predefined speed. Ex. 1001, 23:55–61; Pet. 59 (citing

Ex. 1027, 4:13–15, 2:17–20). According to Petitioner, “[a]n ordinary artisan would have understood when the wireless device is travelling above a predefined speed, Hardouin will: (1) *change the volume* of the ‘audio transducer’; (2) *mute the volume* of the ‘audio transducer’ and/or (3) inhibit (*change*) the ‘vibration transducer’ from providing a *tactile feedback* of an incoming call.” Pet. 59 (citing Ex. 1003 ¶¶ 226–229, 278–279).

Claim 16 depends from independent claim 1 and recites that the step of permitting the driver to access said input or providing said output to said driver only when the movement of the telematics device is below the threshold is “delayed for a period of time.” Ex. 1001, 23:66–24:2. For claim 16, Petitioner relies on its arguments for claim 3. Pet. 60 (citing Ex. 1003 ¶¶ 264–265, 282–285).

Claim 17 depends from independent claim 1 and recites that the step of permitting the driver to access said input or providing said output to said driver only when the movement of the telematics device is below the threshold comprises “a driver initiated action.” Ex. 1001, 24:3–7. For claim 17, Petitioner argues Hardouin’s wireless telephone system prevents a driver from being able to operate the wireless telephone’s keypad to originate a call when the speed of the wireless telephone exceeds a predefined speed. Pet. 60 (citing Ex. 1027, 2:66–3:15, claim 1). Per Petitioner, “Hardouin therefore teaches *a driver initiated action* (e.g., slowing the vehicle down below the threshold speed for a pre-determined amount of time) permitting access to the *input* (keypad) to originate a phone call.” *Id.* (citing Ex. 1003 ¶¶ 287–288).

Claim 19 depends from independent claim 1 and recites that the method further comprises the step of “transmitting data remotely.”

Ex. 1001, 24:11–12. For the step recited in claim 19, Petitioner argues Hardouin’s wireless telephone system transmits an audio message back to the calling party, which informs the party to leave a message, when the wireless telephone is traveling above a predefined speed. Pet. 61 (citing Ex. 1003 ¶¶ 292–295; Ex. 1027, 1:29–34, 2:4–5, 2:22–24).

For claim 20, which recites that the step of downloading data, software, operating system, or new application, Hardouin’s wireless telephone system prompts a caller to leave a message and records and stores the message in memory 119. Ex. 1001, 24:13–15; Pet. 62 (citing Ex. 1027, 2:24–26, 2:59–62). According to Petitioner:

An ordinary artisan would have understood the data provided by the caller would be downloaded by the telephone and made available to the driver when the vehicle speed is below the predefined speed threshold. The downloaded message would be received as *data* that is downloaded and then stored into Hardouin’s memory.

Pet. 62 (citing Ex. 1003 ¶¶ 298–301).

Claim 21 depends from independent claim 1 and recites that the method further comprises the step of “making data available to a remote party.” Ex. 1001, 24:16–17. For the recited step of claim 21, Petitioner argues Hardouin’s wireless telephone system transmits an audio message back to the calling party, which informs the party to leave a message, when the wireless telephone is traveling above a predefined speed. Pet. 62–63 (citing Ex. 1003 ¶¶ 304–307; Ex. 1027, 1:29–34, 2:4–5, 2:17–33).

Patent Owner does not present arguments for claims 2–4, 10, 14, 16, 17, and 19–21 apart from its arguments for independent claim 1. *See, e.g.*, PO Resp. 50 (arguing “[d]ependent claims 2-4, 10, 14[,] 16-17, [and] 19-21 are therefore patentable for at least the same reasons [as independent

claim 1], and no further discussion of additional reasons for patentability is deemed necessary at this time”). We address Patent Owner’s arguments for independent claim 1 above in section III.E.2.

After considering the parties’ arguments and evidence, Petitioner has persuaded us that Hardouin’s wireless telephone system discloses the steps recited in claims 2–4, 10, 14, 16, 17, and 19–21. Petitioner has shown, by a preponderance of the evidence, that the subject matter of claims 2–4, 10, 14, 16, 17, and 19–21 would have been obvious over Hardouin.

F. OBVIOUSNESS BASED ON HARDOUIN AND TRAUNER—CLAIM 13

Petitioner challenges claim 13 under 35 U.S.C. § 103(a), contending the claimed subject matter would have been obvious in view of Hardouin, Trauner, and the knowledge of an ordinary artisan. Pet. 74–77; Reply 25. Patent Owner argues claim 13 is patentable over Hardouin and Trauner for the same reason independent claim 1 is patentable over Hardouin. PO Resp. 58; Sur-reply 24.

As we discuss Hardouin above in section III.E.1, we begin our analysis of this asserted ground of unpatentability with an overview of Trauner. We then turn to the parties’ contentions for claim 13.

1. *Trauner*

Trauner is the June 13, 2002, publication of U.S. Application No. 09/735,825, filed on December 12, 2000. Ex. 1029, codes (21), (22), (43). There is no dispute that Trauner is prior art. *See generally* PO Resp.

Trauner is titled “Automatic Display Control System.” Ex. 1029, code (54). Trauner relates to “a vehicular information and display system whose function is dependent on the state of the vehicle” and more particularly relates such a system that “activates the display only when the

vehicle is stopped or moving at a velocity below a minimum that can be imposed by law.” *Id.* ¶ 2.

Trauner’s system is shown in Figure 1, reproduced below:

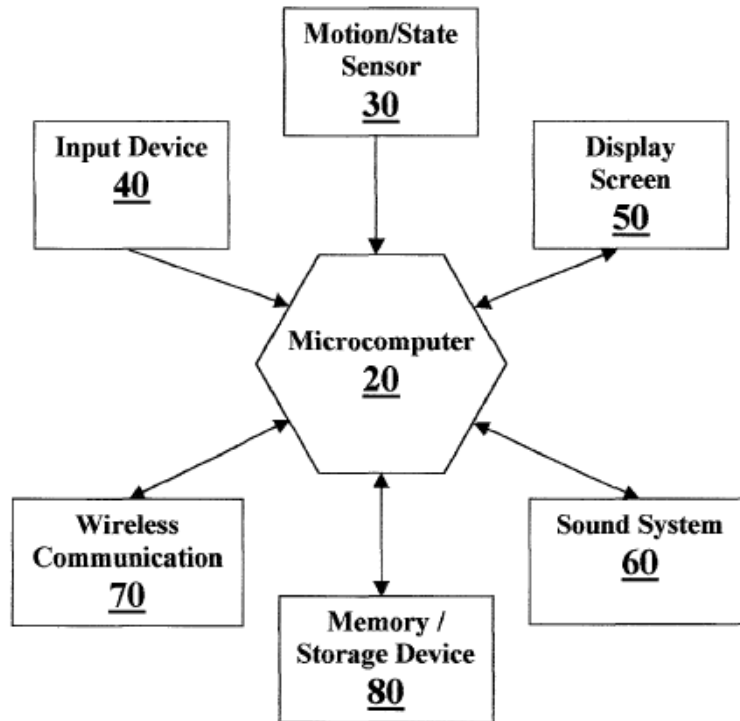


Figure 1

Figure 1 is a block diagram showing the key components of the system. Ex. 1029 ¶ 10. As shown in Figure 1, the system includes microprocessor 20 that controls system operation, vehicle state/motion sensor 30, input device 40 such as a keyboard, display screen 50, sound system 60, wireless communications device 70 that allows the system to communicate with cell phones and Internet providers, and memory 80. *Id.* ¶¶ 7, 12, 16.

According to Trauner, when the vehicle is in motion, the keyboard and display are inhibited to prevent the driver from being distracted while

driving. Ex. 1029 ¶ 7. Trauner also teaches that voice synthesizing software and speakers allow screen-blank-hidden data to be read aloud. *Id.* ¶ 17.

2. *Claim 13*

Claim 13 depends from independent claim 1 and recites that the method further comprises the step of “having an incoming text based message read.” Ex. 1001, 23:53–54. For the recited step of claim 13, Petitioner argues both Hardouin and Trauner disclose a vehicular telephone system that improves driver safety by suppressing telephone calls when the vehicle is traveling above a predefined speed. Pet. 75 (citing Ex. 1027, 1:10–22; Ex. 1029, Abstract). Petitioner further argues both Hardouin and Trauner disclose a telephone that is disabled when a driver attempts to operate the telephone above the speed threshold. *Id.* (citing Ex. 1003 ¶¶ 341–342; Ex. 1029 ¶¶ 17–18). Petitioner also argues that Trauner teaches reading aloud text based messages like e-mail and weather information and that Hardouin discloses a caller can leave the caller’s telephone number when the telephone’s operation has been disabled due to the vehicle travelling above the predefined speed. *Id.* at 75–76 (citing Ex. 1027, 2:24–33; Ex. 1029 ¶ 17).

According to Petitioner, it would have been obvious to combine the teachings of Hardouin and Trauner so that text based messages such as the caller’s telephone number could be read to the driver when the telephone operation is disabled. Pet. 76 (citing Ex. 1003 ¶¶ 343–345). Petitioner argues an ordinary artisan would have been motivated to combine the teachings of Hardouin and Trauner to reduce the risk of distracted drivers. *Id.* at 76–77 (citing Ex. 1003 ¶¶ 346–349; Ex. 1026, 5:41–49).

Patent Owner does not present arguments for claim 13 apart from its arguments for independent claim 1 with respect to Hardouin. PO Resp. 58; Sur-reply 24. We address Patent Owner's arguments for independent claim 1 above in section III.E.2.

After considering the parties' arguments and evidence, Petitioner has persuaded us that the recited step of claim 13 is found in its proposed combination of Hardouin and Trauner, and Petitioner has provided persuasive reasoning as to why a person of ordinary skill in the art would have combined the teachings of Hardouin and Trauner to result in the subject matter of claim 13. Petitioner has shown, by a preponderance of the evidence, that the subject matter of claim 13 would have been obvious over Hardouin and Trauner.

G. OBVIOUSNESS BASED ON HARDOUIN AND KRÜGER—CLAIM 4

Petitioner challenges claim 4 under 35 U.S.C. § 103(a), contending the claimed subject matter would have been obvious in view of Hardouin, Krüger, and the knowledge of an ordinary artisan. Pet. 77–80; Reply 25. Patent Owner argues claim 4 is patentable over Hardouin and Krüger for the same reason independent claim 1 is patentable over Hardouin. PO Resp. 59; Sur-reply 24.

As we discuss Hardouin above in section III.E.1, we begin our analysis of this asserted ground of unpatentability with an overview of Krüger. We then turn to the parties' contentions for claim 4.

3. *Krüger*

Krüger issued as U.S. Patent No. 7,711,355 B1 on May 4, 2010, from U.S. Application No. 09/621,085, filed on July 21, 2000. Ex. 1026,

Figure 1 is a diagram of a motor vehicle. Ex. 1026, 2:3, 2:11. As shown in Figure 1, motor vehicle 10 includes decision unit 15 and three operable devices: car phone 11, car radio 12, and navigation system 13. *Id.* at 2:11–16, 2:19. Decision unit 15 is connected to sensors 17.1, 17.2 via wires 16.1, 16.2. *Id.* at 2:19–20. Sensor 17.1 determines the speed of vehicle 10, and sensor 17.2 determines whether the brakes have been activated. *Id.* at 2:21–23. Decision unit 15 is also connected to car phone 11 via data line 19.1 and to car radio 12 via data line 19.2. *Id.* at 2:37–39.

Krüger discloses an Example 1 where sensor 17.1 continuously transmits vehicle speed values to decision unit 15, which functions as a threshold switch. Ex. 1026, 2:48–51.

If the threshold switch is provided with speed values from sensor 17.1 that are over the speed of 130 km/h that is considered dangerous, then a signal is triggered and is transmitted on the data lines 19.1, 19.2. This signal then blocks the operation of the operating panel 14 on the car radio 12 and prevents telephone calls from being made in the vehicle 10 and from being received in the vehicle 10.

Id. at 2:51–57. According to Example 1 of Krüger, “[i]f the telephone function of the car phone 12 or the operability of the car radio 11 is suspended due to the current vehicle speed, the driver can be optically or acoustically informed of this state at the same time the signal is transmitted on the data lines 19.1, 19.2.” *Id.* at 3:3–7.

4. Claim 4

For claim 4, which recites the step of enabling an output providing information to the driver as to a driving modification that can re-enable the suppressed input or output, Petitioner argues both Hardouin and Krüger disclose a vehicular telephone system that suppresses telephone calls when

the vehicle is traveling above a predefined speed. Ex. 1001, 23:20–24; Pet. 78 (citing Ex. 1026, Abstract). Petitioner further argues both Hardouin and Krüger disclose notifying a driver when the operation of a device is disabled. *Id.* Petitioner also argues that Krüger teaches expressly informing a driver that the vehicle speed needs to be reduced to operate the telephone. Pet. 78 (citing Ex. 1026, 3:3–20). According to Petitioner, an ordinary artisan would have been motivated to modify Hardouin to include Krüger’s teaching of expressly informing a driver that the vehicle speed needs to be reduced to operate the telephone to prevent distraction and improve safety. *Id.* at 78–80 (citing Ex. 1003 ¶¶ 352–356; Ex. 1027, 2:66–3:33, Fig. 2).

Patent Owner does not present arguments for claim 4 apart from its arguments for independent claim 1 with respect to Hardouin. PO Resp. 59; Sur-reply 24. We address Patent Owner’s arguments for independent claim 1 above in section III.E.2.

After considering the parties’ arguments and evidence, Petitioner has persuaded us that the recited step of claim 4 is found in its proposed combination of Hardouin and Krüger, and Petitioner has provided persuasive reasoning as to why a person of ordinary skill in the art would have combined the teachings of Hardouin and Krüger to result in the subject matter of claim 4. Petitioner has shown, by a preponderance of the evidence, that the subject matter of claim 4 would have been obvious over Hardouin and Krüger.

IV. PETITIONER’S MOTION TO EXCLUDE

Petitioner moves to exclude Exhibits 2030–2032. Mot. 1. Exhibit 2030 is page 5 of U.S. Provisional Patent Application No. 60/336,293. Exhibit 2031 is a Supplemental Declaration of John Peck,

and Exhibit 2032 is U.S. Patent No. 8,301,108 B2 (“the ’108 patent”). Patent Owner filed these exhibits on October 11, 2022, with its Sur-reply. Petitioner timely objected to the exhibits on October 12, 2022. Paper 18. Petitioner asserts that it requested Patent Owner withdraw the exhibits on the same day, which Patent Owner declined to do. Ex. 1050, 1. Patent Owner, ultimately, maintained the Sur-reply and exhibits as filed. Mot. 1.

Petitioner requests that we exclude Exhibits 2030–2032 because they are new evidence other than deposition transcripts of the cross-examination of a reply witness, and are prohibited under 37 C.F.R. § 42.23(b), as explained in our Consolidated Trial Practice Guide. Mot. 1. Patent Owner opposes the Motion, asserting that it submitted Exhibits 2030–2032 not as new evidence, but as rebuttal evidence to what it deemed to be new arguments raised in Petitioner’s Reply. Opp. 1.

Petitioner is correct that our rules, as explained in our Consolidated Trial Practice Guide, prohibit submitting new evidence (without authorization) with a sur-reply other than deposition transcripts of the cross-examination of a reply witness. *See* 37 C.F.R. § 42.23(b); CTPG 73–74. The Consolidated Trial Practice Guide explains:

Sur-replies to principal briefs (i.e., to a reply to a patent owner response or to a reply to an opposition to a motion to amend) normally will be authorized by the scheduling order entered at institution. *The sur-reply may not be accompanied by new evidence other than deposition transcripts of the cross-examination of any reply witness.* Sur-replies should only respond to arguments made in reply briefs, comment on reply declaration testimony, or point to cross-examination testimony. As noted above, a sur-reply may address the institution decision if necessary to respond to the petitioner’s reply. This sur-reply practice essentially replaces the previous practice of filing observations on cross-examination testimony.

Generally, a reply or sur-reply may only respond to arguments raised in the preceding brief. 37 C.F.R. § 42.23, except as noted above. “Respond,” in the context of 37 C.F.R. § 42.23(b), does not mean proceed in a new direction with a new approach as compared to the positions taken in a prior filing. While replies and sur-replies can help crystalize issues for decision, a reply or sur-reply that raises a new issue or belatedly presents evidence may not be considered. The Board is not required to attempt to sort proper from improper portions of the reply or sur-reply.

CTPG 73–74 (emphasis added).

Patent Owner asserts that the ’108 patent (Ex. 2032) shares a specification with the ’170 patent and that many of the claims from the ’108 patent were included in the record as Exhibit 2017 (infringement contentions from district court litigation). Opp. 2. Patent Owner maintains the ’108 patent is not new evidence but was “added . . . for the Board’s convenience.” *Id.* We find unpersuasive Patent Owner’s assertion that Exhibit 2032 is not new. The evidence was not newly discovered (based on Patent Owner’s assertion), yet the exhibit was not made of record prior to Patent Owner filing it with its Sur-reply. It was submitted with the Sur-reply as new evidence. Also, Patent Owner argues that Exhibit 2031 is submitted to demonstrate new arguments by Petitioner to which it responds. *Id.* at 3–5.

Patent Owner does not contend nor do we find that Exhibits 2030–2032 are deposition transcripts of the cross-examination of any reply witness. Moreover, a supplemental declaration by an expert witness is not a proper way to identify or object to what a party perceives to be “new arguments” in a reply. *See* CTPG 73–75. Thus, the exhibits were improperly submitted, without authorization, and in violation of our rules and guidance.

Our rules and Consolidated Trial Practice Guide are clear on this prohibition. And, the Consolidated Trial Practice Guide explains: “[w]here a party believes it has a basis to request relief on a ground not identified in the rules, the party should contact the Board and arrange for a conference call with the Board and opposing party to discuss the requested relief with the judge handling the proceeding.” CTPG 75. Thus, the Board identifies appropriate ways for a party to address matters that it considers to be beyond the specific procedures outlined in the rules. Merely submitting new evidence was not authorized by Board rules or guidance and Patent Owner did not seek authorization to file the new evidence.

The facts warrant excluding Exhibits 2030–2032 and we *grant* the Motion. *See* CTPG 81.

V. CONCLUSION

Petitioner has proven, by a preponderance of the evidence, that claims 1–4, 6, 10, 12–14, 16, 17, 19–21, and 31 are unpatentable, but has not proven, by a preponderance of the evidence, that claim 15 is unpatentable.¹⁹ Our final decision is summarized as follows:

¹⁹ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

Claims	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 2, 6, 10, 12–15, 20	103(a)	Arnold	1, 2, 6, 10, 12–14, 20	15
1–4, 10, 14, 16, 17, 19–21, 31	103(a)	Hardouin	1–4, 10, 14, 16, 17, 19–21, 31	
13	103(a)	Hardouin, Trauner	13	
4	103(a)	Hardouin, Krüger	4	
Overall Outcome			1–4, 6, 10, 12–14, 16, 17, 19–21, 31	15

Further, we grant Petitioner’s Motion to Exclude for the reasons set forth above.

VI. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that Petitioner has proved by a preponderance of the evidence that claims 1–4, 6, 10, 12–14, 16, 17, and 19–21 of the ’170 patent are unpatentable;

FURTHER ORDERED that Petitioner has not proved by a preponderance of the evidence that claim 15 of the ’170 patent is unpatentable;

FURTHER ORDERED that, because this is a Final Written Decision, 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; and

FURTHER ORDERED that Petitioner’s Motion to Exclude is *granted*.

IPR2021-01446
Patent 9,047,170 B2

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