

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FORD MOTOR COMPANY, JAGUAR LAND ROVER NORTH AMERICA
LLC, SUBARU OF AMERICA INC., TOYOTA MOTOR NORTH AMERICA,
INC., and VOLVO CARS OF NORTH AMERICA LLC,
Petitioner,

v.

CRUISE CONTROL TECHNOLOGIES LLC,
Patent Owner.

Case IPR2014-00291
Patent 6,324,463

Before JOSIAH C. COCKS, HYUN J. JUNG, and GEORGE R. HOSKINS,
Administrative Patent Judges.

COCKS, *Administrative Patent Judge.*

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

I. INTRODUCTION

Ford Motor Company et al. (“Petitioner”), filed an amended petition (Paper 6, “Pet.”) requesting an *inter partes* review of claims 1–5, 12–16, 18, 19, 21, 25–31, and 34–36 of U.S. Patent 6,324,463 (“the ’463 patent”). Cruise Control Technologies LLC (“Patent Owner”), filed a Patent Owner Preliminary Response. Paper 7. The panel determined that the information presented in the Petition demonstrated a reasonable likelihood that Petitioner would prevail in challenging claims 1–5, 12–16, 18, 19, 21, 25–31, and 34–36 as unpatentable. Paper 11 (“Decision”). The panel instituted an *inter partes* review on the following grounds: (1) claims 1–3, 5, 12–14, 18, 19, 25–27, 29–31, and 34–36 under 35 U.S.C. § 102 as anticipated by Prometheus¹; (2) claims 3, 5, 12, 15, 16, 21, and 28 under 35 U.S.C. § 103 as unpatentable over Prometheus and Narita²; and (3) claim 4 under 35 U.S.C. § 103 as unpatentable over Prometheus and Celsior³.

After institution of trial, Patent Owner filed a Patent Owner Response (Paper 21, “PO Resp.”). Petitioner filed a Reply (Paper 29, “Pet. Reply”). An oral hearing was conducted on March 25, 2015. A transcript of the oral hearing is included in the record. Paper 42 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6(c). This decision is a final written decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73 as to the patentability of claims 1–5, 12–16, 18, 19, 21, 25–31, and 34–36. For the reasons discussed below, Petitioner has demonstrated by a preponderance of the evidence that claims 1–5, 12–16, 18, 19, 21, 25–31, and 34–36 are unpatentable.

¹ Autonomous Intelligent Cruise Control (AICC), Prometheus dated April 1991 (Ex. 1003).

² JP 8-192663 dated September 1995 (Ex. 1004) (English translation, Ex. 1006).

³ Toyota Celsior Owner’s Manual dated July 1997 (Ex. 1007) (English translation, Ex. 1009).

A. Related Matters

Petitioner has identified several related district court proceedings involving the '463 patent. See Pet. 3–4; Paper 5, at 2–4. The '463 patent is also the subject of four other requests for *inter partes* review (IPR2014-00279, IPR2014-00280, IPR2014-00281, and IPR2014-00289). Final decisions in those proceedings are being entered concurrently with this final decision.

B. The '463 Patent (Ex. 1001)

The '463 patent discloses cruise control systems for use in a human operated vehicle. Ex. 1001, Abst. Figures 1 and 2 of the '463 patent are shown below:

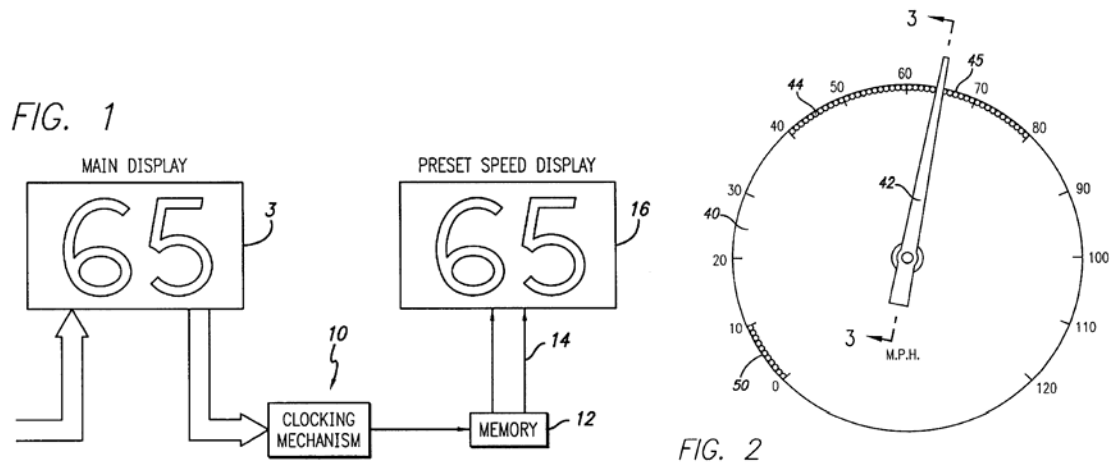


Figure 1 illustrates a digital speed display, while Figure 2 illustrates an analog speedometer. *Id.* at 3:8–13. In Figure 1, main speed display 3 shows the current speed at which the vehicle is operating. *Id.* at 3:49–53. When a cruise control set button (not shown in Figure 1) is pressed, the vehicle speed is stored in digital memory 12 as a preset speed. *Id.* at 3:53–60. Second speed display 16 shows that preset speed. *Id.* Figure 2's analog speedometer 40 incorporates several LED assemblies 45. *Id.* at 4:19–26. Each LED assembly 45 has an LED and a detector. *Id.* at 4:29–30. When a cruise control set button (not shown in Figure 2) is pressed, all of the detectors are activated, and all of the LEDs

momentarily light up. *Id.* at 4:48–51. The back of needle 42 reflects the light of the lit LEDs behind the needle, and that reflected light is detected by the detector of the LED assembly disposed at the location of needle 42. *Id.* at 4:51–57. The LED of that assembly is then activated and remains lit to indicate the speed at which cruise control was engaged. *Id.* at 4:57–64.

C. Illustrative Claims

Claims 1, 2, 6, 12, 13, 18, 21, 25, 26, and 34 are independent. Claims 1 and 12 are illustrative and are reproduced below:

1. A cruise control system for vehicle having a human operator, comprising:
 - a speed controller that automatically maintains the vehicle speed at a preset speed;
 - an enable switch associated with said controller for enabling the system;
 - a set speed input in communication with said controller for manually setting the speed of the vehicle at said preset speed, thereby engaging the system;
 - a memory which stores information indicative of said preset speed; and
 - a feedback system for communicating said information in said memory to the operator of the vehicle.

12. A method for visually communicating to the human operator of a vehicle having a cruise control system a cruising speed at which the vehicle is set, comprising:
 - determining the speed at which the vehicle is travelling;
 - activating the cruise control system at a desired cruising speed;
 - displaying a symbol indicative of the speed at which the cruise control system is activated;
 - maintaining the activated cruise control speed symbol upon temporary acceleration or deceleration of the vehicle;
 - removing said symbol when the cruise control system is deactivated or a new cruising speed is selected.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, a claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears. See 37 C.F.R. § 42.100(b) (2013); *In re Cuozzo Speed Techs., LLC*, 778 F.3d 1271, 1279–83 (Fed. Cir. 2015). Under that construction, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire patent disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

In instituting trial with respect to the '463 patent, we determined that all terms of the involved claims should be given their ordinary and customary meaning in the context of the disclosure of that patent. We made that meaning explicit for certain claim terms/phrases. Neither party challenges any aspect of our claim constructions. Based on the entire record presented during trial, we discern no reason to alter our claim constructions in connection with this Final Written Decision. For reference, the claim constructions that we made explicit are reproduced in the table below:

Claim Term or Phrase	Claim Construction
“engaging the system” (claim 1) and “engaging the cruise control system” (claim 21)	“[W]e construe ‘engaging the system’ in claim 1 and ‘engaging the cruise control system’ in claim 21 to mean ‘operating the cruise control system to automatically control the vehicle at the preset speed.’ Decision 9.
“enabling” (claims 1 and 2) and “enabled” (claims 2 and 4)	“‘[E]nabling the system’ in claim 1 and ‘enabling . . . the controller’ in claim 2 mean ‘a “system on” state for the cruise control system.’ This construction also applies to the descriptor ‘enabled’ in claims 2 and 4.” <i>Id.</i> at 10.

Claim Term or Phrase	Claim Construction
“indicating to the operator the unset status of the preset speed” (claim 15) and “displaying a symbol indicative of an unset state of the preset speed” (claim 21)	“‘[U]nset status’ and ‘unset state’ in these two claim limitations . . . mean ‘a state or status in which there is no preset speed for the cruise control system.’” <i>Id.</i>
“activating the cruise control system” (claims 12 and 15) and “deactivated” (claims 12, 13, and 21)	We “construe ‘activating the cruise control system’ in claim 15 to mean turning on the cruise system, and “deactivated” in claims 13 to mean that cruise control system is turned off.” <i>Id.</i> at 11. “We . . . construe activating / activated in claim 12 the same as in the other claims of the ’463 patent.” <i>Id.</i> at 12.

B. Grounds of Unpatentability

As noted above, there are three grounds of unpatentability involved in this *inter partes* review proceeding: (1) claims 1–3, 5, 12–14, 18, 19, 25–27, 29–31, and 34–36 under 35 U.S.C. § 102 as anticipated by Prometheus; (2) claims 3, 5, 12, 15, 16, 21, and 28 under 35 U.S.C. § 103 as unpatentable over Prometheus and Narita; and (3) claim 4 under 35 U.S.C. § 103 as unpatentable over Prometheus and Celsior.

1. Prometheus as Prior Art

As an initial matter, Patent Owner challenges Prometheus’s status as prior art. In that regard, Patent Owner disputes that all the content of Prometheus has a publication date of April 19, 1991, which was the publication date offered by the Petitioner as to that document. PO Resp. 3. Patent Owner also contends that Petitioner “has not provided any declaration testimony to indicate the source of [Prometheus] (or any of the documents therein) or when, if ever, it was

disseminated to the public.” *Id.* at 3. On that basis, Patent Owner requests that the Board deny all grounds in this proceeding that involve Prometheus.

Petitioner responds that the only portions of Prometheus on which the Petitioner relies are those designated pages 104–111⁴, and that each of those pages is dated April 19, 1991 and includes a Copyright notice of 1991. Pet. Reply 1. Petitioner also cites to various Board Decisions finding that the presence of a Copyright date or notice was sufficient to provide *prima facie* evidence of public availability of an underlying document. *Id.* at 1–2. Petitioner concludes that Patent Owner has “proffered no evidence contradicting the *prima facie* publication date” of the portions of Prometheus on which Petitioner relies. *Id.* at 2. Petitioner’s Declarant, Mr. David McNamara, also testifies that Prometheus was published in 1991, and that the “PROMETHEUS Project” was a “large scale research and development (R&D) project from 1987 to 1995” involving various European automotive manufacturers, and focused on improving vehicle speed controls and warnings including aspects designated “Autonomous Intelligent Cruise Control” (“AICC”). Ex. 1010 ¶¶ 43, 44.

We are cognizant that Petitioner’s grounds of unpatentability rely solely on pages designated 104–111 in Prometheus. Those pages include a title “OBJET: SCENARIO DU MMI-AICC,” and are described as a document that explains “the controls of Renault’s AICC vehicle and what type of information receives the driver from the AICC system.” Ex. 1003, 104, 105. As noted by Petitioner, each of the noted pages bears the markings “Copyright © 1991 Régie National des Usines Renault” and “19/4/91.” In that respect, we understand the pages to be

⁴ Citations herein to page numbers in Prometheus refer to the consecutive page numbering 1 through 122 added by Petitioner on each page of Exhibit 1003, in the extreme lower right hand corner.

dated April 19, 1991, and include a copyright notice of 1991. In similar circumstances, such indicators have been regarded as sufficient to establish a threshold showing that a document was a printed publication as of the date of the copyright notice. *See International Business Machines Corporation v. Intellectual Ventures II LLC*, IPR2014-00681, Paper 11 (October 30, 2014) at 13–14; *see also FLIR Systems, Inc. v. Leak Surveys, Inc.*, IPR2014-00411, Paper 9 (September 5, 2014) at 18–19 (“On the record before us, we are persuaded that the Copyright notice prima facie establishes a prior art date of 2002”). The inference that a copyright notice bearing the symbol “©” provides some evidence of a date of publication finds support in the understanding that such markings generally indicate the “first year of publication.” *See* Joseph S. Dubin, *The Universal Copyright Convention*, 42 Cal. L. Rev. 89, 103 (1954).

Here, in instituting trial in this *inter partes* review proceeding, the panel was satisfied that a threshold showing had been made that the pertinent pages of Prometheus were printed publications as of the date of the 1991 copyright notice, well before any effective filing date of the ’463 patent. Although Patent Owner discounts Petitioner’s reliance on Prometheus as a whole because of the lack of “any declaration testimony to indicate the source of Exhibit 1003 (or any of the documents therein) or when, if ever, it was disseminated to the public” (PO Resp. 3), Patent Owner offers no rebuttal vis-à-vis the printed copyright notice on the relevant pages of Prometheus. It is not the case that a pre-requisite for establishing the publication date of a document is the presence of declaration testimony in the record.

Moreover, although Patent Owner postulates that dates attributed to Prometheus, or portions thereof, are, perhaps, simply “printing dates” divorced from actual publication, Patent Owner points to no content of the record supporting

that theory. In that respect, Patent Owner does not provide any underlying explanation as to why a printed copyright notice would tend to only demonstrate a printing date.

Furthermore, regarding Patent Owner’s argument that Petitioner “has not provided any declaration testimony to indicate the source of [Prometheus] (or any of the documents therein) or when, if ever, it was disseminated to the public” (PO Resp. 3), Petitioner’s declarant avers “the PROMETHEUS Project . . . was a large scale research and development (R&D) project from 1987 to 1996 . . . was sponsored and funded by . . . an intergovernmental organization for pan-European research and development funding and coordination that involved leading European automotive manufacturers which included . . . Renault” and that a “key goal was to improve safety and mobility by enhancing speed control as well as many other electronic control/warning systems on cars and trucks.” Ex. 1010 ¶ 44. The portion of Prometheus relied upon by Petitioner indicates it was copyrighted by “Régie National des Usines Renault.” Ex. 1003 at 104. Thus, Petitioner provides declaration testimony that the source of Prometheus is the Prometheus Project, which included Renault.

Also, our reviewing court has explained that a reference is “publicly accessible” upon a satisfactory showing that: (1) the “document has been disseminated”; or (2) “otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate it and recognize and comprehend therefrom the essentials of the claimed invention without need of further research or experimentation.” *Bruckelmyer v. Ground Heaters, Inc.*, 445 F.3d 1374, 1378 (Fed. Cir. 2006) (quoting *In re Wyer*, 655 F.2d 221, 226 (CCPA 1981)). Petitioner provides declaration testimony that an intergovernmental organization funded and

coordinated research and development with the goal of improving safety of cars and trucks. Ex. 1010 ¶ 44. Patent Owner does not respond with any evidence that the intergovernmental organization did not make its research and development available to persons of ordinary skill in the relevant art. Moreover, we see no reason why such an intergovernmental organization would impede access to research to improve the safety of cars and trucks. We, thus, determine that Petitioner satisfactorily shows that Prometheus was “otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate it and recognize and comprehend therefrom the essentials of the claimed invention without need of further research or experimentation.”

In reviewing the evidence before us, we discern the following: (1) the pertinent pages of Prometheus are dated and printed with a copyright notice; (2) the date of the copyright notice is well before the filing date of the patent application that became the ’463 patent; (3) a copyright notice generally is regarded as indicating a date of first publication; (4) similar circumstances have prompted panels in other *inter partes* review proceedings to conclude that a threshold showing of publication has been established; and (5) Mr. McNamara testifies that Prometheus was published in 1991, and he explains that “AICC” systems, such as that referenced at pages 104–111 of Prometheus as a part of Renault’s system, were part of a collaboration between various European automotive manufacturers.

Accordingly, in view of the above, we remain satisfied that Petitioner established a threshold showing that the involved content of Prometheus (i.e. pages 104–111) was published as of the copyright notice date of 1991, well before any effective filing date of the ’463 patent. We do not discern that the totality of the

record before us suggests that the threshold showing of publication of at least pages 104–111 of Prometheus has been displaced. We do not determine, based on this record, that Prometheus should be discounted as not constituting prior art to the '463 patent under 35 U.S.C. § 102.

2. Anticipation by Prometheus

Anticipation is established only when a single prior art reference discloses all elements of the claimed invention. *In re Spada*, 911 F.2d 705, 708 (Fed. Cir. 1990). Here, Petitioner contends that Prometheus discloses all the features required by 1–3, 5, 12–14, 18, 19, 25–27, 29–31, and 34–36 and, thus, anticipates those claims under 35 U.S.C. § 102.

a. Overview of Prometheus

The first page of Prometheus designates its disclosed content as being directed to “Autonomous Intelligent Cruise Control (AICC).” Ex. 1003, 1. Figure 3 appears on page 110 of Prometheus, and is reproduced below:

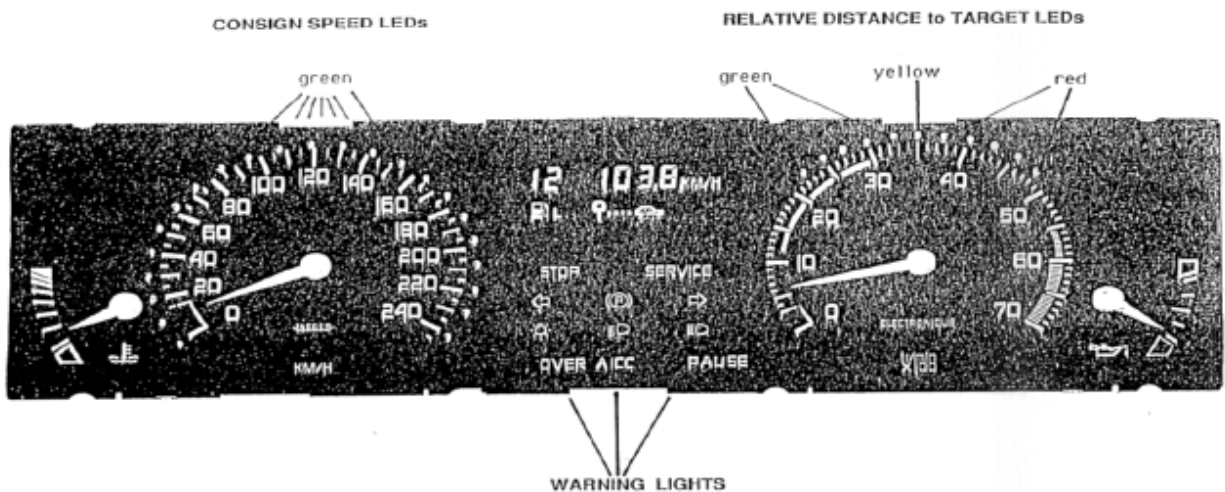


FIGURE 3: AICC VEHICLE'S DASHBOARD

Figure 3 above depicts an image of a vehicle's dashboard that incorporates an AICC system. See Ex. 1003, 107. As is apparent from Figure 3, the left side of

the Figure presents a speedometer that indicates the speed of the vehicle. The Figure also describes that there are “CONSIGN SPEED LEDs” as a part of the speedometer. Prometheus explains that “consign speed is the speed selected by the driver to maintain the vehicle.” *Id.* at 105. That “consign speed” is displayed to the vehicle’s operator via the consign speed LEDs, which, in Figure 3, are expressed as being “green.” *See id.* at 110; *see also id.* at Figure 4 (“All LEDS under consign speed corresponding LED are ON.”) Prometheus also explains that its AICC system includes two modes of “regulation”: “speed” regulation, and “distance” regulation. *Id.* at 105–106. Prometheus further describes the following:

To activate the regulation, the driver has to press on the ACTIVATE button, and immediately the system starts the regulation, as well in speed if there is not a detected target, as in distance if there is at least one. To deactivate the regulation and take control of the vehicle, the driver has two possibilities: the DEACTIVATE button or the BRAKE PEDAL. In both cases the driver stops the regulation and the consign speed is memorized by the system. If the driver wants to take up the regulation, he can act in two ways: press on the ACTIVATE button so the system starts again the regulation with the vehicle speed as consign speed, or press on the RESUME button and the system starts again the regulation with the memorized speed as consign speed.

Id. Thus, Prometheus discloses that a “consign speed” is memorized by the system and may be resumed by the vehicle after certain actions are taken by the vehicle’s operator. Further, as discussed above, that memorized consign speed is displayed to the vehicle’s operator by virtue of the consign speed LEDs associated with the speedometer. *See id.* at 108; *see also id.* at Figure 4.

b. Claim 1

Claim 1 of the ’463 patent is drawn to a cruise control system. The Petition lays out where Petitioner believes all the features of claim 1 are found in

Prometheus. Pet. 18–20.⁵ As set forth in its Patent Owner Response, Patent Owner is of the view that Prometheus lacks disclosure of three elements of claim 1. To that end, Patent Owner contends that Prometheus does not disclose: (1) a “speed controller that automatically maintains the vehicle speed at a preset speed”; (2) a “memory which stores information indicative of said preset speed;” and (3) a “feedback system for communicating said information in said memory to the operator of the vehicle.” PO Resp. 5

i. Speed controller feature

In accounting for the speed controller of claim 1, the Petition refers to disclosure at page 105 of Prometheus describing the activation of a system to regulate the vehicle speed as the “consign speed,” which is selected by the driver as the vehicle’s speed. Pet. 18–19. Patent Owner discounts the noted statement of Prometheus, arguing that none of that disclosure “expressly refers to the structural requirement of ‘a speed controller.’” PO Resp. 5.

We do not agree with Patent Owner’s argument. Although Prometheus may not make express referral to a “speed controller,” it is clear from the context of Prometheus’s disclosure that the “system” is operable to regulate or control a vehicle’s speed, and, thus, the system necessarily includes some component as a part of the system to accomplish that regulation or control. Indeed, it is not apparent why the system, itself, would not constitute a speed controller. We share Petitioner’s view that Prometheus’s disclosure satisfies the requirement of the “speed controller” called for in claim 1. See Pet. Reply 4.

⁵ As noted during oral argument, the references in the Petition to page “2” of Prometheus are typographical errors, and should instead be read as references to page 105 of the document. See Tr. 36.

ii. Memory feature

The Petition emphasizes Prometheus's disclosure that its speed regulation system describes that the consign speed is "memorized by the system," and reasons that the system, therefore, includes a memory for storing the speed information. Pet. 19 (quoting Prometheus at p. 105). Patent Owner generally contends that there is some "structural difference" between the claimed "memory" and the memorization capability of Prometheus's system. See PO Resp. 5–6.

We are not persuaded that Patent Owner's position is correct. That Prometheus's system functions to memorize the consign speed means that the system, if not itself a memory, is equipped suitably with a component to perform that memorization operation. Patent Owner does not explain why that component is not understood readily as a "memory." Based on the record before us, we are satisfied that a skilled artisan would have understood that Prometheus's system includes a memory as required by claim 1.

iii. Feedback system feature

The Petition cites the following portions of Prometheus's disclosure as constituting the required feedback system of claim 1:

The “user has always to be informed about the system state (see fig. 2), consign speed All this information will be showed at the dashboard (fig. 3).” (*Id.* at 108; Fig. 3 (excerpted below).)

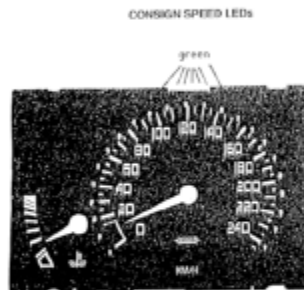


Figure 4 discloses that “[a]ll LEDs under consign speed corresponding LED are ON (last one also)” (state 3):

3.....“AICC” warning light is ON
All LEDs under consign speed corresponding LED are ON (last one also)

Pet. 20. In that respect, the Petitioner points to the arrangement of LEDs in Prometheus that are illuminated and located under the designated consign speed as forming a system for providing feedback of that consign speed to a vehicle operator. Patent Owner argues that the LEDs depicted in Prometheus’s Figure 3 are arranged generally at intervals of “10 km/h,” and, apparently, theorizes that such intervals are of insufficient precision such that “an operator would have no way of knowing the actual consign speed.” PO Resp. 5–7.

Patent Owner’s argument is misplaced. Even were we to assume, *arguendo*, that Prometheus’s LED display does not convey some speed regarded as the “actual consign speed,” that is not what is required by claim 1. Rather, the claim simply calls for the feedback system to communicate information “indicative of said preset speed.” Information may be indicative of the preset speed but not constitute the “actual” speed. In attempting to explain its position, Patent Owner offers the following scenario: “[f]or example, if the consign speed was 42 km/h, Prometheus does not explain whether the 40 km/h or 50 km/h LED will be lit, and,

in any event, neither is indicative of the consign speed, which is between the two values.” PO Resp. 7. Thus, Patent Owner discredits a possible LED lighting scheme in Prometheus as inadequate to present “indicative” information of the consign speed (i.e. when the consign speed is 42 km/h), yet also recognizes that the same scheme would convey that the consign speed is between two particular values (i.e. 40 km/h and 50 km/h). In our view, a display arrangement that conveys a speed within a range between two distinct and identifiable values is an arrangement that provides information “indicative” of that speed. That view is supported by the declaration testimony of Petitioner’s expert, David McNamara. *See* Ex. 1010 ¶ 48 (“One of ordinary skill in the art would understand that the consign speed using LEDs to indicate discrete speed intervals.”)

Accordingly, we are not persuaded that Prometheus fails to incorporate the feedback system required by claim 1 of the ’463 patent.

iv. Conclusion – Claim 1

We have considered the record at hand, including the Petition, its supporting documentation, and Patent Owner’s Response. We conclude that a preponderance of the evidence supports a conclusion that claim 1 of the ’463 patent is anticipated by Prometheus.

c. Claims 2 and 3

Claim 2 is independent and is drawn to a cruise control system. Claim 3 depends from claim 2 and adds the feature of a “digital display” as a part of the feedback system. Like claim 1, claim 2 includes features pertaining to a “speed controller,” a “memory,” and a “feedback system.” Patent Owner argues that Prometheus does not anticipate claim 2 for the same reasons that it offered for claim 1. PO Resp. 8. Patent Owner does not present any arguments as to claim 3.

As discussed above, we are not persuaded that Prometheus fails to disclose the above-noted features of claim 1. We are also not so persuaded with respect to claims 2 or 3.⁶ We have considered the entirety of the record, and conclude that a preponderance of the evidence supports a conclusion that claims 2 and 3 of the '463 patent are anticipated by Prometheus.

d. Claim 5

Claim 5 depends from claim 3 and adds the feature “wherein the digital display displays information indicative of the selected cruising speed of the vehicle.” The Petition identifies the speedometer assembly, and its LED arrangement, depicted in Figure 3 of Prometheus as constituting a digital display. Pet. 23.

Patent Owner disputes that Prometheus accounts for the requirements of claim 5, arguing the following:

[T]he LEDs do not indicate the selected cruising speed, because they are arranged at varying intervals around the speedometer dial. Further, the LEDs, by themselves, do not display information indicative of the selected cruising speed. As Petitioner’s declarant notes, each LED “has only two states, i.e., an on state or an off state.” Ex. 1010, ¶ 48. Accordingly, the only “information” an LED can display is light, and light, by itself, does not provide “information indicative of the selected cruising speed of the vehicle.”

PO Resp. 8–9. Thus, with respect to claim 5, Patent Owner contends that the on and off states of the LEDs do not convey the requisite speed information, and instead only communicate “light” as information. Patent Owner’s contention, however, is not persuasive. Whether the LEDs “by themselves” display the

⁶ The Petition, with recourse to Mr. McNamara’s testimony, articulates the position that “‘the Renault dashboard display, as disclosed in Prometheus, uses LEDs with a speedometer as a digital display. (See [Ex. 1010 at ¶ 48].)’” Pet. 23–24.

pertinent information in their emission of “light” is not the correct inquiry. Rather, the appropriate evaluation is whether the LEDs in the context of their collective capacity as a display communicate the pertinent information. In that respect, the LEDs are understood as forming an arrangement in which multiple LEDs operate in concert to convey information concerning a vehicle’s speed based on various illumination patterns. *See, e.g., Ex. 1003, 110–111.*

We have considered Patent Owner’s arguments, but in view of the entirety of the record, we determine that Prometheus’s disclosure is sufficient to account for the requirements of claim 5, and conclude that a preponderance of the evidence supports a conclusion that claim 5 is anticipated by Prometheus.

e. Claim 12

Claim 12 is independent, and is drawn to a “method for visually communicating to the human operator of a vehicle having a cruise control system a cruising speed at which the vehicle is set.” Claim 12 contains five steps, including steps of determining the speed a vehicle is traveling, and activating a cruise control system at a desired cruising speed. Claim 12 also requires the following steps:

- displaying a symbol indicative of the speed at which the cruise control system is activated;
- maintaining the activated cruise control speed symbol upon temporary acceleration or deceleration of the vehicle;
- removing said symbol when the cruise control system is deactivated or a new cruising speed is selected.

Petitioner contends that all of the steps required by claim 12 are found in Prometheus. Pet. 24–26. Patent Owner disputes that the above-quoted steps directed to “displaying” and “maintaining” are satisfied by Prometheus, but does not challenge that the “removing” step is present. *See PO Resp. 9–10.* We focus

on whether the “displaying” step, the “maintaining” step, and the unchallenged “removing” step, are disclosed in Prometheus.

i. The “displaying” step

With respect to the “displaying” step of claim 12, Patent Owner argues the following:

The Petitioner’s allegation that all of the LEDs under the consign speed corresponding LED that are ON meet this claim limitation (Pet. at 24) is incorrect for at least two reasons. First, as explained above, the consign corresponding speed LED in Prometheus is not “indicative of the speed at which the cruise control system is activated,” because, given the arrangement of the LEDs as shown in Figure 3, an operator would have no way of knowing the actual consign speed.

Second, Petitioner alleges that the limitation “activating the cruise control system at a desired cruising speed” is met by the “ON/OFF switch” of Prometheus. Pet. at 24. When the ON/OFF switch is turned on, the “[m]emorized consign speed corresponding LED is ON.” Ex. 1003 (state 2). However, the memorized consign corresponding LED indicates a previously set consign speed, not “the speed at which the cruise control system is **activated**.”

PO Resp. 9–10.

As discussed above, we do not agree that Prometheus’s arrangement of LEDs fails to provide information “indicative” of the consign speed.

Furthermore, we are not persuaded that the Petition does not explain sufficiently how Prometheus discloses the display of the speed at which the cruise control system is activated. The Petition relies on Prometheus’s description of “state 3” as accounting for the displaying aspects of claim 12. Pet. 24. That “state 3” is designated in Prometheus as follows:

“AICC” warning light is ON
All LEDs under consign speed corresponding LED are ON (last one also)

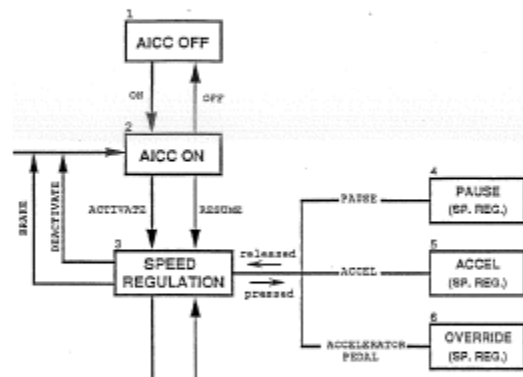
Ex. 1003, 111. More particularly, state 3 provides that when the AICC system has been switched on, and thus the cruise control system in Prometheus has been activated, all of the LEDs under the consign speed are illuminated. Those LEDs are understood reasonably as displaying a symbol indicative of the speed at which the cruise control system was activated, i.e., turned on, in Prometheus. We are not persuaded by Patent Owner that the “displaying” step of claim 12 somehow differentiates the claim from the disclosure of Prometheus.

ii. The “maintaining” step

With respect to the “maintaining” step, the Petition presents the following:

The “user has always to be informed about the system state (see fig. 2), consign speed . . . All this information will be showed at the dashboard (fig. 3).” (*Id.* at 108; *see*, Fig. 3 (*above*).)

Figure 2 and 4 discloses that (1) “[a]ll LEDs under consign speed corresponding LED are ON (last one also)” after the accelerator pedal is pressed (state 6) and (2) the “[m]emorized consign speed corresponding LED is ON” after braking (state 2):



2.....“AICC” warning light is ON
Memorized consign speed corresponding LED is ON

6.....“AICC” warning light is ON
“OVER” warning light is ON
All LEDs under consign speed corresponding LED are ON (last one also)

(*See also* McNamara Declaration (Ex. 1010), at ¶¶ 47-57 (“Prometheus also teaches a dashboard display to continuously inform the driver about the system state and the consign speed.”).)

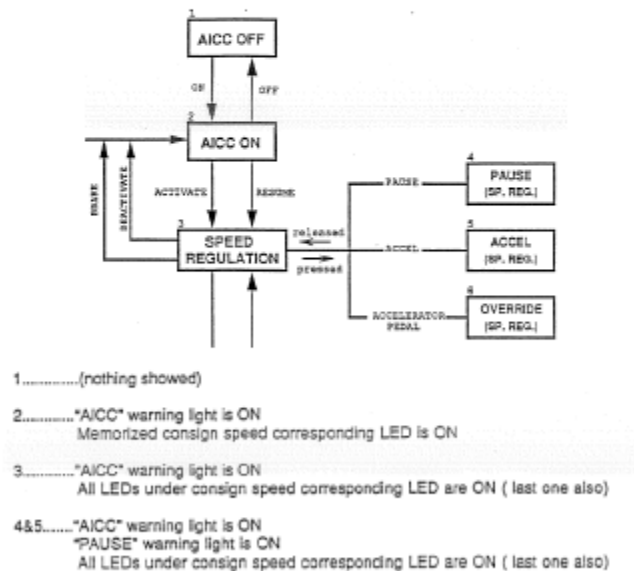
Pet. 25. Thus, Petitioner, in its Petition, relies on Prometheus’s disclosure that once acceleration has occurred and the vehicle speed has surpassed the consign speed (state 6), the LEDs located under the consign speed, including the last one, are illuminated. The “last one” of the LEDs is understood reasonably as a symbol that has been maintained upon temporary acceleration of the vehicle. In similar fashion, once the vehicle has decelerated through depression of a brake pedal (state 2), the LED of the memorized consign speed, i.e., the “last one” noted, for

instance, in state 6, remains on or illuminated and constitutes a symbol maintained after temporary deceleration of the vehicle.

iii. The “removing” step

With respect to the “removing” step of claim 12, the Petition represents the following in conjunction with that feature’s disclosure in Prometheus:

Figures 2 and 4 disclose that “[a]ll LEDs under consign speed corresponding LED are ON (last one also)” (state 3) until (1) the driver selects a new consign speed by pressing the ACCEL button or the PAUSE button while the system is in speed regulation (states 4 & 5), (2) the driver selects a new consign speed by pressing the ACTIVATE button while the speed regulation is stopped (state 2), or (3) the driver switches off the ON/OFF switch (state 1):



(See also McNamara Declaration (Ex. 1010), at ¶¶ 45-57.)

Pet. 26. Thus, Petitioner contends that Prometheus’s disclosure accounts for the “removal” step as it’s system permits the selection of a new consign speed by pressing the “ACCEL” button causing a new LED illumination pattern

corresponding to the new desired consign speed in lieu of the prior illumination pattern. As noted above, in its Patent Owner Response, Patent Owner does not challenge the above-quoted representations, and we do not discern that they are in error.

iv. Conclusion – Claim 12

Having considered the respective positions of the parties, we are persuaded that the Petitioner has shown, by a preponderance of the evidence, that Prometheus anticipates claim 12.

f. Claim 13

Claim 13 is independent, and is directed to a “method for indicating to a human operator of a vehicle having a cruise control system a preset speed for which the cruise control system is set.” One step of that method reads “displaying to the operator a symbol indicative of the preset speed.”

Petitioner lays out in its Petition where all of the features of claim 13, including the above-noted “displaying” step, are found in Prometheus. Pet. 27–29. In particular, Petitioner contends that Prometheus’s disclosure that “[a]ll LEDs under consign speed corresponding LED are ON (last one also)” accounts for a symbol indicating a preset speed. Pet. 27; *see* Ex. 1003, 110. We agree that the illumination of particular LEDs correspond to a selected consign speed, and that the consign speed constitutes a “preset” speed.

Although Patent Owner argues that Prometheus does not disclose the “displaying” step in question, the basis for that argument is presented as follows: “the consign corresponding speed LED in Prometheus is not ‘indicative of the speed at which the cruise control system is activated,’ because, given the arrangement of the LEDs as shown in Figure 3, an operator would have no way of

knowing the actual consign speed.” PO Resp. 11. We observe that claim 13 has no requirement that it is information indicative of a speed at which the system is “activated” that must be displayed. Instead, the speed in question is the “preset” speed, and Prometheus’s displayed consign speed is understood readily as a preset speed. To the extent that Petitioner did intend to refer to “preset speed” in its argument, similar to our discussion above at section II.B.2.b.iii., we observe that the pertinent claims do not require that the “actual” preset speed must be displayed. Rather, the claims only generally require the display of information “indicative” of a particular speed, and we conclude that Prometheus satisfies that requirement.

We conclude that a preponderance of the evidence supports a conclusion that claim 13 of the ’463 patent is anticipated by Prometheus.

g. Claims 14, 18, and 25

Claim 14 depends from claim 13. Claims 18 and 25 are independent, and are directed to methods “for indicating to a human operator of a vehicle having a cruise control system a present speed for which the cruise control system is set.”

The Petition makes detailed reference to Prometheus as to where that reference discloses all the features of claims 14, 18, and 25. Pet. 29–33. Patent Owner generally contends that various features required by those claims are absent from Prometheus, but, in doing so, relies on arguments that we already have found unpersuasive, as discussed above. For instance, Patent Owner contends that Prometheus’s arrangement of LEDs do not account for “a symbol indicative of the preset speed” because “an operator would have no way of knowing the actual consign speed.” PO Resp. 11–13. Once again, as we discerned above, the claims in question do not require that the “actual” preset speed must be displayed, and instead only generally require the display of information “indicative” of a particular speed.

Patent Owner also contends that Prometheus generally lacks disclosure of a “memory device.” *Id.* at 13. As set forth above, we do not agree (*see* section II.B.2.b.ii. *supra*).

In considering the record, including the Petition, Patent Owner’s Response, and Petitioner’s Reply, we determine that claims 14, 18, and 25 have been shown to be anticipated by Prometheus by a preponderance of evidence.

h. Claim 19

Claim 19 depends from claim 18. Claim 19 adds the following feature:

wherein the symbol indicative of the preset speed displayed at the time after braking and during which time the vehicle is not being maintained at substantially the preset speed, is distinguishable by the operator from the symbol indicative of the preset speed while the vehicle is being maintained at substantially the preset speed.

Patent Owner argues the following with respect to claim 19:

The Petition alleges that Prometheus meets this claim limitation by showing only the consign speed corresponding LED ON after braking and showing the consign speed corresponding LED and all LEDs under it ON while the system is in speed regulation. Pet. at 33. However, the consign speed corresponding LED is ON in both situations. Thus, the consign speed corresponding LED is not a “symbol indicative of the preset speed” that can [be] used by the operator to distinguish between a time after braking and while maintaining the vehicle at the preset speed.

PO Resp. 14. Petitioner makes reference to Prometheus’s Figures 2 and 4, and states 2 and 3, noting that after braking the “[m]emorized consign speed corresponding LED is ON’ after braking, (state 2), whereas ‘[a]ll LEDS under consign speed corresponding LED are ON (last one also)’ while the system is in speed regulation (state 3).” Pet. 33. That is, Petitioner maintains that the display formed by the arrangement of LEDs has one appearance after braking, i.e., when

the memorized consign speed corresponding LED is illuminated, as compared to when all LEDs are illuminated during speed regulation. In that respect, although the consign speed corresponding LED may be “ON” in each of the noted states, the different illumination patterns provided by the collection of LEDs would provide for an operator to distinguish between them.

In considering the record before us, we are persuaded that a preponderance of evidence demonstrates that claim 19 is anticipated by Prometheus.

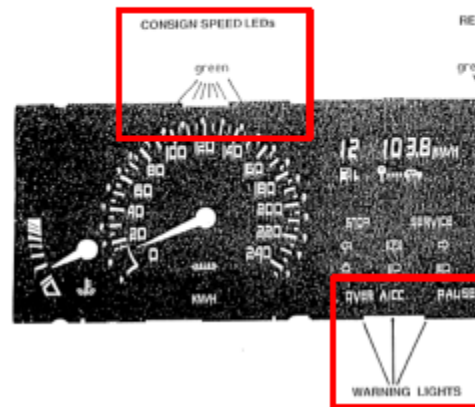
i. Claims 26 and 34

Claims 26 and 34 are independent. Similar to claim 1, claim 26 is directed to a “cruise control system for a variable speed vehicle controlled by a human operator.” Claim 34 is drawn to a method that includes providing a cruise control device having features similar to those set out in claim 26. As with claim 1, claim 26 and claim 34 call for features involving a “speed controller” and a “memory device.” Although Patent Owner contends that those features are absent from Prometheus (PO Resp. 15, 17), for the same reasons discussed above in connection with claim 1, we disagree.

Claims 26 and 34, however, also introduce a feature directed to a “second visual display apparatus” displaying visual information indicative of an operation status of the speed controller, and visual information indicative of the preset speed.

In accounting for that requirement, the Petition includes the following:

Figure 3 discloses consign speed LEDs and warning lights that indicate the operation status of the speed controller and the consign speed:



Pet. 36. Thus, Petitioner points to Prometheus’s consign speed LEDs arrangement and its disclosure of warning lights as constituting the required second visual display apparatus. That visual display apparatus formed by those LEDs and lights is presented as being “second” to the “first” visual display apparatus formed by the “speedometer and a speedometer needle” of Prometheus’s Figure 3. Pet. 35–36. As discussed above, we agree that the consign speed LEDs display information that is indicative of the preset speed. We also are persuaded that the noted “WARNING LIGHTS” provide information indicative of an operation status of a vehicle. For example, the warning lights are understood readily as conveying information concerning the acceleration of the vehicle. See Ex. 1003, 109–110.

Patent Owner disputes that Prometheus discloses the required “second visual display apparatus,” arguing that “the consign speed LEDs and the warning lights [are] two distinct sets of structures, not a ‘visual display apparatus.’” PO Resp. 16. Even if we are to assume, however, that the consign speed LEDs and the warning lights are, indeed, “two distinct sets of structures,” Patent Owner does not explain why those structures cannot be regarded as collectively constituting a “visual display apparatus.” Patent Owner does not articulate why a visual display

apparatus may not be composed of multiple display structures. To that end, we do not discern why the various illumination mechanisms disclosed and shown, for instance, in the reproduction of Prometheus's Figure 3 above, are not regarded reasonably as together forming a visual display apparatus.

We have considered the record before us and are persuaded that Petitioner has shown by a preponderance of evidence that claims 26 and 34 are anticipated by Prometheus.

j. Claims 35 and 36

Claim 35 depends from claim 24, and claim 36 depends from claim 25. The Petition sets forth in detail where Petitioner believes that Prometheus discloses the features added by claims 35 and 36. Pet. 40–42. Patent Owner does not dispute Petitioner's challenge to claims 35 and 36. We also do not discern error in the Petition vis-à-vis Prometheus's disclosure of the features added by claims 35 and 36. Thus, Petitioner has presented persuasive evidence and argument as to how Prometheus accounts for claims 35 and 26, and Patent Owner has not articulated any reason for the patentability of those claims.

We are persuaded that Petitioner has shown by a preponderance of evidence that claims 35 and 36 are anticipated by Prometheus.

3. Obviousness over Prometheus and Narita

Petitioner, via its Petition, proposes that claims 3, 5, 12, 15, 16, 21, and 28 are unpatentable over Prometheus taken with Narita. Pet. 42–54. Narita is a document describing an invention titled "Vehicle Speed Automatic Control Device." Ex. 1006, 1. Narita describes the scope of its invention as:

A vehicle speed automatic control device, comprising an actuator that drives a throttle valve; a controller that sends a command to the actuator according to a difference between an actual vehicle speed and

a stored vehicle speed; and a stored vehicle speed display unit that indicates the stored vehicle speed; wherein the vehicle speed automatic control device is provided with a signal line that cancels the corresponding stored vehicle speed display when the stored vehicle speed and the controller is cleared.

Id.

a. Claims 3, 5, and 12

As discussed above, we are persuaded that Prometheus discloses all the features required by claims 3, 5, and 12. Narita is offered as an alternative teaching with regard to those claims concerning a “digital display” (claims 3 and 5) and the step of “removing” a symbol upon deactivation of the cruise control system or upon selection of a new cruising speed (claim 12). Pet. 42–48.

Patent Owner does not dispute that Narita discloses the above-noted features of claims 3, 5, and 12. Instead, Patent Owner simply maintains that Narita does not overcome deficiencies Patent Owner had alleged with respect to Prometheus. PO Resp. 18–19. For the reasons set forth above, we are not persuaded that Prometheus has the deficiencies alleged.

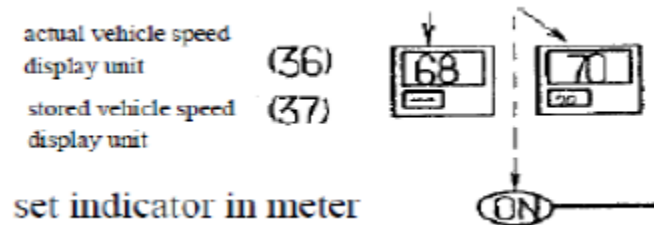
In reviewing the Petition, we also are persuaded that Petitioner has shown by a preponderance of evidence that claims 3, 5, and 12 would have been obvious in view of Prometheus and Narita.

b. Claims 15, 16, 21, and 28

Claim 21 is independent, and claims 15, 16, and 28 ultimately depend from one of independent claims 13 or 26. Claim 21 and those dependent claims include features directed to displaying signals or indicators to an operator that convey “the unset status of the preset speed” (claims 15 and 21) in the form of a “visual symbol” (claim 16) or “symbol” (claim 21). Claim 28 similarly adds that the

visual information indicative of the preset speed is in the form of a “digital numerical indicator.”

Petitioner contends that the features added by claims 15, 16, 21, and 28, even if absent from Prometheus, are disclosed in Narita. An excerpted portion of Narita’s Figure 5 is reproduced in the Petition and is also reproduced below:



Pet. 44. The excerpted Figure above depicts actual vehicle speed display unit 36 and stored vehicle speed display unit 37. Petitioner contends the following with respect to that excerpted Figure:

Figure 5 of Narita (excerpted [above]) teaches a digital stored vehicle speed display unit that changes display after the stored speed is set. Narita discloses that the digital stored vehicle speed display unit displays a series of dashes (“--”) after power to the control device is turned on but before the set switch is turned on; as illustrated, the digital stored vehicle speed display unit displays the stored speed (“70”) after the set switch is turned on. ([Ex. 1006,] 5 & Fig. 5.)

Pet. 43. In support of that above-noted assessment of Narita’s disclosure, Petitioner also points to the declaration testimony of Mr. McNamara. Pet. 46–54 (citing Ex. 1010 ¶¶ 65–72). Petitioner further contends, with recourse to Mr. McNamara’s testimony, that a person of ordinary skill in the art would have had adequate reason to combine the teachings of Prometheus and Narita. *Id.* at 53–54.⁷

⁷ “[A] PHOSITA would have been motivated to modify the cruise control system and the display information of Prometheus with the digital display of Narita since it would have enabled Prometheus to similarly provide visual feedback information

In its Patent Owner Response, Patent Owner does not dispute that Narita discloses the features of claims 15, 16, 21, and 28 that are represented by the Petitioner to be absent from Prometheus. Rather, Patent Owner argues that alleged deficiencies in Prometheus demonstrate that those claims are not rendered unpatentable over Prometheus and Narita. *See* PO Resp. 19–20. As discussed above, we do not share Patent Owner’s view that Prometheus has the deficiencies asserted.

With respect to claims 15, 16, 21, and 28, we are persuaded by the Petition that Narita discloses the pertinent content of those claims for which Narita has been offered. More specifically, we are persuaded that the reference discloses a system or process for displaying “the unset status of the preset speed” (claims 15 and 21), constituting a “visual symbol” (claim 16), “symbol” (claim 21), or “digital numerical indicator” (claim 28). We also are persuaded that the record conveys that there is adequate reason to combine the teachings of Prometheus and Narita, and that the Petitioner has explained adequately the underlying basis for that reasoning. *See, e.g.*, Pet. 53–54; *see also In re Kahn*, 441 F.3d 977, 987 (“[T]here must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”)

We have considered the record before us and are persuaded that the Petitioner, via its Petition, has shown by a preponderance of evidence that claims 15, 16, 21, and 28 are unpatentable over Prometheus and Narita.

for a vehicle equipped with such digital displays, which were widely in use at the time. (*See* McNamara Declaration (Ex. 1010), at ¶ 68) . . . a PHOSITA would have been motivated to combine the cruise control system and the display information of Prometheus with the ‘newly stored vehicle speed’ or ‘unset status of the preset speed’ of Narita since it would have enabled Prometheus to provide an additional form of visual feedback information to the vehicle operator. (*See* McNamara Declaration (Ex. 1010), at ¶ 69.)

4. Obviousness over Prometheus and Celsior

Petitioner contends that claim 4 is unpatentable based on the teachings of Prometheus and Celsior. Claim 4 ultimately depends from claim 2 and adds a feature directed to a display for conveying a signal to an operator. In particular, claim 4 requires that a “digital display” operate to display a “predetermined signal when the controller is initially enabled to indicate a state of the controller.”

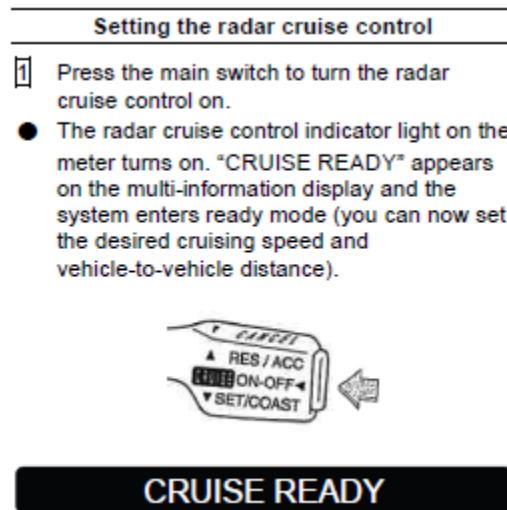
Petitioner characterizes Celsior’s disclosure as follows:

Celsior discloses a cruise control system for vehicles that automatically maintains the vehicle speed at a set cruise control speed and a combination of different indicators and visual symbols that informs the vehicle operator of the operating status of the cruise control system. (Celsior (Ex. 1009), at 130–134.)

Pet. 55.

Patent Owner does not challenge Petitioner’s assessment of Celsior’s disclosure, or contend that the reference is inadequate to account for the features added by claim 4. Instead, Patent Owner argues that alleged deficiencies in Prometheus with respect to claim 2 demonstrate that those claims are not rendered unpatentable over Prometheus and Celsior. *See* PO Resp. 20. As discussed above, we do not agree that Prometheus has the deficiencies alleged.

In reviewing Celsior, we are persuaded that Petitioner’s assessment of Celsior’s disclosure is accurate. In connection with claim 4 of the ’463 patent, Petitioner directs our attention to a figure found on page 133 of the reference, which is reproduced below:



The Figure above depicts instructions for setting the radar cruise control. We are persuaded by Petitioner's contention that Celsior discloses the limitation added by claim 4. When the main switch is pressed to turn the radar control system on, the phrase "CRUISE READY" appears in the multi-information display. See Ex. 1009, 133. In that regard, we are persuaded that the displayed indication of "CRUISE READY" constitutes a digital display of a predetermined signal, which signifies the state of the controller when it is enabled initially. We also are persuaded by Petitioner's contention that a person of ordinary skill would have been motivated by Celsior's disclosure to modify the Prometheus cruise control system to include that feature. See Pet. 56–57 (citing Ex. 1010 ¶ 80).

Accordingly, we are persuaded that Petitioner has shown by a preponderance of evidence that claim 4 is unpatentable over Prometheus and Celsior.

III. CONCLUSION

For the foregoing reasons, we conclude that Petitioner has shown, by a preponderance of the evidence, that:

- A. Claims 1–3, 5, 12–14, 18, 19, 25–27, 29–31, and 34–36 are unpatentable under 35 U.S.C. § 102 as anticipated by Prometheus;

B. Claims 3, 5, 12, 15, 16, 21, and 28 are unpatentable under 35 U.S.C. § 103 as obvious over Prometheus and Narita; and

C. Claim 4 is unpatentable under 35 U.S.C. § 103 as obvious over Prometheus and Celsior.

IV. ORDER

For the foregoing reasons, it is:

ORDERED that, based on the record of this proceeding, claims 1–5, 12–16, 18, 19, 21, 25–31, and 34–36 of the '463 patent are unpatentable; and

FURTHER ORDERED that, because this is a final 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 (2014).

PETITIONER:

William H. Mandir
John F. Rabena
SUGHRUE MION PLLC
wmandir@sughrue.com
jrabena@sughrue.com

Matthew D. Satchwell
DLA PIPER LLP (US)
matthew.satchwell@dlapiper.com

Matthew J. Moore
LATHAM & WATKINS LLP
matthew.moore@lw.com

Eric A. Buresh
ERISE IP, P.A.
Eric.buresh@eriseip.com

PATENT OWNER:

John R. Kasha
Kelly L. Kasha
KASHA LAW LLC
john.kasha@kashalaw.com
kelly.kasha@kashalaw.com