UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GARMIN INTERNATIONAL, INC. ET AL.
Petitioner

v.

Patent of CUOZZO SPEED TECHNOLOGIES LLC
Patent Owner

Case IPR2012-00001
Patent 6,778,074

PETITIONER'S OPPOSITION TO PATENT OWNER'S MOTION TO AMEND

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I. The Proposed Substitute Claims Improperly Enlarge the Scope of the Original Claims and Introduce New Matter

Cuozzo proposes substitute claims 21–23 for original claims 10, 14, and 17.[1] The Board should reject the substitute claims because they improperly enlarge the scope of the original claims and introduce new subject matter not previously disclosed in the '074 Patent. *See* 37 C.F.R. § 42.221(a)(2)(i–ii); 35 U.S.C. §§ 132(a), 112.

A. Claims 21 and 22 Improperly Enlarge and Lack Support

The Board's construction of "integrally attached" precludes a single electronic display that operates as a speedometer and a colored display. Cuozzo attempts to circumvent the Board's construction by reciting in claim 21 that the speedometer comprises an LCD, and the colored display is *the* LCD. (Paper 32 at 4) (emphasis added.) Cuozzo subtly suggests that the subject matter of dependent claims 12 and 18 have merely been merged into prior independent claim 10. (Paper 32 at 4, 7.) But substitute claim 21, contrary to original claim 10, purports to encompass a single LCD that is itself both the speedometer and the colored display. Because such an embodiment would not have infringed the original claims as construed by the Board, Cuozzo's substitute claims improperly enlarge the scope of the original claims. *See* 37 C.F.R. § 42.221(a)(2)(i–ii); 35 U.S.C. § 132(a);

[1] It is unclear if Cuozzo has canceled original claims 10, 14, and 17 or is arguing in the alternative for the patentability of claims 21–23. (*See* Paper 31 at 2, ¶¶ 1, 3.)

Quantum Corp. v. Rodime, PLC, 65 F.3d 1577, 1580 (Fed. Cir. 1995) (amended or new claim is enlarged if it includes any subject matter that would not have infringed original patent; claim is broader than original claims if it is broader in *any* respect, even if narrower in other respects).

Additionally, as discussed in Garmin's Reply, there is no written-description support in the '074 Patent for an electronic embodiment in which the speedometer and the colored display are merged into a single LCD display. Further, Cuozzo's own expert, Dr. Morris, contends such an embodiment is merely "*implied*" by the '074 Patent and it would be "natural" for one skilled in the art to create such a system, because there is no such actual disclosure in the patent. (Ex. 2002 at ¶¶ 28–29 (emphasis added); *see also* Ex. 1021 at 17, tr. 65:14–68:16.) This is insufficient under the law. *See Tronzo v. Biomet, Inc.*, 156 F.3d 1154, 1159 (Fed. Cir. 1998) ("In order for a disclosure to be inherent, . . . the missing descriptive matter must necessarily be present in the . . . specification such that one skilled in the art would recognize such a disclosure."); *New Railhead Mfg., L.L.C. v. Vermeer Mfg. Co.*, 298 F.3d 1290, 1295 (Fed. Cir. 2002). Because written-description support does not exist, the Board should reject the substitute claims.

B. Claim 23 Improperly Enlarges and Lacks Support

Substitute claim 23 also attempts to enlarge the scope of the claims and add new subject matter. The plain language of original claims 1 and 10 makes clear

that it is the separate colored display—not the speedometer itself (or a graphical speedometer shown on an LCD)—that is adjusted to perform the act of continuously updating the delineation of which speed readings (*plural*) violate the speed limit. However, to support its infringement argument, Cuozzo needs claim 23 to cover changing the color of a current speed reading (*e.g.*, 46 mph) when the speed limit (*e.g.*, 45 mph) is exceeded. By reciting in claim 23 that the display controller adjusts the LCD "to show speed readings in a first color or colored region *when the vehicle's present speed exceeds the speed limit*," Cuozzo improperly attempts to enlarge its claims to cover the speed turning red once it exceeds the speed limit. That is, displaying a single speed reading in red once the speed reading exceeds the speed limit would not have infringed the original claims, and as such, substitute claim 23 improperly enlarges the scope of the original claims.

Cuozzo's own expert admitted in his deposition that claim 10 would not cover the subject matter Cuozzo now seeks to add in claim 23:

> Q. When you read the language in Claim 10, "to continuously update the delineation of which speed readings are in violation of the speed limit," do you read that as covering a system which only adjusts the colored display after the speed limit is exceeded?
>
> A. …[T]his seems to clearly indicate that the display controller adjusts a colored display, so it is at all times showing the range of appropriate speed limits; so this claim requires, strongly requires,

> that the relation between your current speed and the permissible speeds is evident all the time. So the embodiment I was suggesting in which you simply, in which you simply abruptly change the letters from white, or the numbers from white to red, wouldn't be called for here. That would be something different. You could rescue that implementation by slowly changing the colors of the numbers, but that's a somewhat strange way to do things.
>
> . . .
>
> Q. So an abrupt change to red isn't what this claim language in Claim 10 is describing?
>
> A. Right.

(Ex. 1021 at 19–20, tr. 76:6–77:25.)

The '074 Patent's express disclosure and its prosecution history further support that it is the speed readings (*plural*) that are delineated—and not simply changing a single speed reading to red once the vehicle's speed exceeds the speed limit. In particular, the '074 Patent discloses that the colored filter continuously rotates to delineate the speed readings exceeding the speed limit. ('074 Patent, Fig. 2, 5:35–39.) The primary meaning of the term "delineate" is "to indicate or represent by drawn or painted lines" or "to mark the outline of," which is not the same as changing the speedometer speed reading once the speed limit is exceeded. (Ex. 1022, Definition of "Delineate".)

Further, the '074 Patent discloses adjusting the colored display by "rotating [the] red filter disc 54 to the appropriate degree," such that "speeds above the legal

speed limit are displayed in red 50 while the legal speeds are displayed in white 52." ('074 Patent, 5:35–39; Fig. 2.) The relied-upon Fig. 2 refers to the respective vehicle speeds displayed on a "white speedometer *region*" and a "red speedometer *region*." ('074 Patent, Fig. 2, Boxes 50, 52 (emphases added).) Displaying a *region* of speeds above the speed limit is not equivalent to changing a single speed reading to red once the vehicle's speed exceeds the speed limit.

The '074 Patent also emphasizes at least 13 times that the display of "the present invention" must show how the speed limit and the current speed *relate to each other*. (*See* '074 Patent at 3:66–4:28.) *See Honeywell Int'l, Inc. v. ITT Indus., Inc.*, 452 F.3d 1312, 1318 (Fed. Cir. 2006) (public entitled to take patentee's word for what "the invention" is). The file history also confirms this. (*See* Ex. 1013 at 6–7 ("*the present invention* provides an integrated display allowing the driver to immediately ascertain both his speed and its relation to the prevailing speed limit" and "*the present invention* continuously updates the visual warnings provided to the driver regarding the prevailing speed limit in response to the vehicle's location *regardless of the vehicle's speed*.") (emphases added).) Displaying a single speed reading in red when the speed exceeds the speed limit does not let the driver "immediately ascertain" both his speed *and* its relation to the prevailing speed limit. Claim 23, therefore, improperly enlarges and adds new matter.

II. Garmin's Citation of Nagoshi and Vaughn Are Directly Responsive to New Issues Arising from the Proposed Substitute Claims

The opponent of a motion to amend "may respond to new issues arising from proposed substitute claims including evidence responsive to the amendment." Office Patent Trial Practice Guide, Fed. Reg. Vol. 77, No. 157, p. 48767, col. 2, (citing 35 U.S.C. §§ 316(a), 326(a). Accordingly, Garmin proposes rejections based on two new references: JP Patent Application No. H03-229080 to Nagoshi (Ex. 1016) and U.S. Patent No. 5,485,161 to Vaughn (Ex. 1018).

Because the critical date of Cuozzo's '074 Patent is March 18, 2001, both Nagoshi (published March 19, 1993) and Vaughn (issued January 16, 1996) are § 102(b) art. Vaughn was cited by the Examiner but not relied upon as a basis for a rejection during original examination of the '074 Patent.

Garmin proposes a rejection in view of Nagoshi for teaching displaying the speed limit on an LCD, as generally claimed in claim 21. Additionally, Garmin submits Vaughn for teaching the amended claim limitations in claims 21 and 22 directed to the GPS determining the vehicle's present location, speed, and speed limit (claim 21) and performing a comparison of the current speed to the speed limit (claim 22). Garmin also submits both Nagoshi and Vaughn for teaching the speedometer and colored display comprising or being the LCD (claim 21).

Garmin originally advanced Aumayer to teach the general concept of indicating, on a speedometer, the speed limit of a road section for which the

vehicle is currently traveling (Paper 1 at 34–37) and Awada to teach a GPS determining the speed limit (Paper 1 at 37–38). Although Garmin submits in its Reply that Cuozzo's attempt to swear behind Aumayer and Awada (Paper 31 at 13–21) is ineffective, Nagoshi and Vaughn nonetheless teach the limitations collectively relied upon in Aumayer and Awada.

Cuozzo also asserts that Aumayer does not teach the limitations of substitute claim 23 generally directed to continuously adjusting the LCD to show speed readings in a first color or colored region. In particular, Cuozzo asserts that Aumayer's colored tick mark indicating the speed limit shows only speed readings below and above the speed limit. (Paper 32 at 15.) Although Garmin strongly disagrees with this contention, Nagoshi teaches claim 23's features in any event.

III. Substitute Claims 21–23 Are Obvious Over Nagoshi in View of Vaughn

Nagoshi teaches a speedometer dial with a concentric band of LEDs surrounding the speed readings. The LED region surrounding speed readings below the speed limit are lit in green, and the LED region surrounding speed readings above the speed limit are lit in red.[2] Nagoshi achieves the advantage

[2] German Patent No. DE 199 01 808 B4 to Werner also teaches a concentric region of LEDs surrounding the speed readings on a speedometer to indicate the "permissible speed range." (Ex. 1020 at 4, ¶ 8 ("The permissible speed range can be identified also by light emitting diodes lit in green color, while the region above

argued by Cuozzo for allowance of the '074 Patent during original examination: "allow[ing] the driver to immediately ascertain both his speed *and its relation to the prevailing speed limit*." (Ex. 1013 at 6 (emphasis added).) A driver viewing the colored LED regions of Nagoshi would know the speed limit and its relation to the vehicle's present speed.

Claim 21	***Obvious Over Nagoshi (Ex. 1016) in View of Vaughn (Ex. 1018)***
A speed limit indicator comprising	Nagoshi discloses a "vehicle speed limit warning device." (*See* Title, ¶ 0006.)
A global positioning system receiver determining a vehicle's present location, a vehicle's present speed and a speed limit at the vehicle's present location;	Nagoshi discloses a "vehicle location computation means 3 computing the location coordinates of the current location of the vehicle." (Nagoshi, ¶ 0006.) The "vehicle location computation means may be configured by employing GPS . . . ." (¶ 0019.) Nagoshi does not expressly disclose that the GPS determines a vehicle's present speed and the speed limit. However, in related art, Vaughn teaches such. In more detail, Vaughn discloses a system that uses GPS and map matching to determine the maximum posted speed limit at the vehicle's present location. (Vaughn, 1:63–67; 2:14–17; 4:24–25.) A GPS computer 47 includes a GPS microprocessor 52, GPS memory unit 50, and local database processing facility 42 ("DB facility 42"). (Fig. 2 (see reference numeral 47 for GPS computer enclosing, via broken line, the DB facility 42 and other components); 2:50–52

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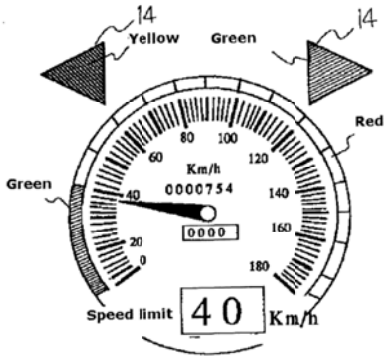
the permissible speed limit is highlighted by red light emitting diodes.").) Garmin thus submits that substitute claims 21–23 are also obvious over Werner in view of Vaughn, with the teachings of Werner replacing the teachings of Nagoshi in the claims charts provided herein.

	(describing the DB facility being hardwired to the GPS computer); 7:25–27.) The DB facility 42 "may be implemented by using GPS memory unit 50 and GPS microprocessor 52." (8:9–10.) "A GPS navigation computer [47] determines location and speed of the vehicle . . . ." (2:14–15; 7:58–59.) The location and speed, as determined by the GPS computer, are "transmitted to the database processing facility." (2:58–60.) "The local database facility 42 provides the map information including location, speed of the vehicle and the maximum posted speed to the GPS computer 47 . . . ." (8:52–55.) Note further that the GPS computer inputs the speed limit from a map database, which includes the DB facility 42. (2:15–16, 47–50.) One of ordinary skill in the art ("OSA") would have had a credible reason to combine Vaughn's teaching of a GPS that determines the vehicle's speed and the speed limit for the vehicle's present location with Nagoshi's vehicle speed limit warning device. First, Nagoshi contemplates use of a GPS to determine the vehicle location. Nagoshi also determines speed limit via receiver 6 comprising beacons on the road. (Nagoshi, ¶ 0010.) Having the Nagoshi GPS also determine speed and speed limit, as taught by Vaughn, "gain[s] the commonly understood benefits of . . . decreased size, increased reliability, simplified operation, and reduced cost." *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007). For example, instead of using beacons on the road, Vaughn teaches the GPS having a map database that includes the speed limit information. Such a modification of Nagoshi's GPS to include speed and speed limit is well within the knowledge of an OSA so as to simplify operation (use of a local database as compared to road beacons) and reduce costs (not having to place the road beacons). Moreover, as expressly taught by Vaughn (7:30–32), one of OSA

	would easily recognize that a GPS can determine speed (*i.e.*, "instantaneous velocity") due to the GPS tracking the vehicle's location and time and would have a credible reason for modifying Nagoshi's GPS to simplify operation of the GPS and not have to obtain the vehicle speed from other components, such as the vehicle's speedometer.
A display controller connected to said global positioning system receiver, wherein said display controller adjusts a colored display in response to signals indicative of the speed limit at the vehicle's present location from said global positioning system receiver to continuously update the delineation of which speed readings determined by the global positioning system receiver are in violation of the speed limit at the vehicle's present location; and	Nagoshi discloses a microcomputer 12 that operates to receive speed limit information and send to a display apparatus 13, such that the "display apparatus 13 displays the speed limit information acquired from said microcomputer 12." (¶¶ 0014–0015.) Nagoshi further discloses a colored display for displaying the speed readings in green or red depending on whether the speed reading is below or above a speed limit. (¶ 0016.) Nagoshi teaches that the speed limit information can be both alphanumerically displayed as part of the speedometer, and further that "the driver is informed of the speed limit of the road currently being driven by the display green LEDs of the velocities below the speed limit on the outer side of the speedometer and the velocities above the speed limit in red." (¶ 0016; Fig. 5.) Thus, as shown in Fig. 5 below, for speeds below the speed limit of 40 km/h, a concentric region of LEDs surrounding the speed denoting markings of 40 km/h and below are colored green, and a region of LEDs surrounding the speed denoting markings above 40 km/h are colored red. Figure 5  Thus, Nagoshi discloses adjusting a colored display, namely the green and red LEDs, in response to the speed limit at the vehicle's present location. Garmin

	notes that in ¶ 0016, Nagoshi references Fig. 4, which does not show the green region below 40 km/h shaded, as it is in Fig. 5. One of OSA would understand that the teaching of ¶ 0016 in combination with Fig. 5 illustrates that any speeds below 40 km/h are in green, and any speeds above 40 km/h are in red, with 40 km/h being the speed limit. Nagoshi does not explicitly disclose that its microcomputer 12 or display apparatus 13 is connected to the GPS receiver, as claimed. However, Vaughn discloses a "display 12[, which] is connected to the GPS computer 47 and to the engine computer 15. Accordingly, the location, current speed of the vehicle and the maximum posted speed is displayed on the electronic map." (Vaughn, 9:20–23.) The display 12 of Vaughn is an LCD and is an "interface between the user, the GPS receiver, and the database processing facility." (9:12–16.) As noted above for the previous limitation, Vaughn's GPS determines the current location, the vehicle speed, and the speed limit. It would have been obvious to one of OSA to take the teachings of Vaughn of connecting the GPS to the display, *i.e.*, the LCD, and displaying the maximum posted speed, current speed, and location on the electronic map and combine these teachings with Nagoshi. Nagoshi teaches a display apparatus 13, which displays speed limit information (Nagoshi, ¶ 0015), and a GPS (¶ 0019). One of OSA would have a credible rationale to connect the Vaughn GPS to the Nagoshi display apparatus 13 to display the speed limit, speed, and location determined by the GPS, as taught by Vaughn. Such would have allowed information, as determined by the GPS, to be displayed on the same display screen, which is already taught by Nagoshi in Fig. 5.
a speedometer integrally attached to said colored display,	Nagoshi discloses a "speedometer" (¶ 0016; Figs. 4–5) and a colored display comprising a series of green and red LEDs, as discussed above, "on the outer side of the

	speedometer." (¶ 0016). To the extent one of OSA would appreciate the disclosure of separate LEDs to be attached to but still retain an identity distinct from (*i.e.*, not on a single electronic display with) the speedometer, then the Board's construction is satisfied. To the extent one of OSA would consider the LEDs to be part of a single electronic display that is also itself the speedometer, then Nagoshi discloses a speedometer "joined or combined to work as a complete unit" with the colored LEDs, per Cuozzo's construction. Similarly, Vaughn discloses displaying the vehicle's current speed and maximum posted speed limit; and Vaughn further discloses that the display can be LEDs, LCD, or CRT video screens. (Vaughn, 9:10–17.)
wherein the speedometer comprises a liquid crystal display	Nagoshi discloses a display apparatus that comprises LEDs. (¶ 0016). Nagoshi further states "[o]ne example of the form of the display is represented in the elevated view of the speedometer in FIG. 4." *Id*. Therefore, one of OSA would understand that Nagoshi's speedometer, which is displayed on display apparatus, comprises an LCD. Similarly and as noted above, Vaughn expressly discloses displaying the current vehicle speed on a display 12 comprising an LCD. (9:14–17).
wherein the colored display is the liquid crystal display.	As illustrated in Fig. 5 of Nagoshi, the colored display of the green and red LEDs is illustrated on the display apparatus 13. (*See also* ¶¶ 0015–16.) As noted above, one of OSA would understand the green and red LEDs to be part of an LCD. Similarly and as noted above, Vaughn discloses a display 12 that is an LCD. (9:14–17). To the extent Nagoshi does not expressly disclose an LCD, Vaughn's teaching of an LCD for displaying the speed readings and speed limit information, combined with Nagoshi's teaching of colored LEDs indicating speeds below and above a legal speed limit, would have been obvious to one of OSA. This is because use of an LCD as an electronic display that can display colors is well known to one of OSA.

Claim 22	***Obvious Over Nagoshi (Ex. 1016) in View of Vaughn (Ex. 1018)***
The speed limit indicator as defined in claim 21, wherein said global positioning system receiver compares the vehicle's present speed and the speed limit.	Nagoshi and Vaughn teach each of the limitations recited in claim 21, as set forth above. Nagoshi discloses, either expressly or inherently, comparing the vehicle's present speed and the speed limit. In particular, Nagoshi teaches that "when the driven speed of the vehicle exceeds the speed limit, instead of displaying the speed limit on the speedometer, the driver can be informed thereof by the sounding of a warning buzzer . . . ." (¶ 0018). Nagoshi's system would not know when to warn the driver if some comparison of the vehicle speed to the speed limit was not otherwise made. Vaughn also discloses comparison of the speed to the speed limit: "The GPS computer or an engine computer perform the comparison between the vehicle speed and the maximum posted speed . . . ." (Vaughn, Abstract)
Claim 23	***Obvious Over Nagoshi (Ex. 1016) in View of Vaughn (Ex. 1018)***
The speed limit indicator as defined in claim 21, wherein the display controller continuously adjusts the liquid crystal display to show speed readings in a first color or colored region when the vehicle's present speed exceeds the speed limit at the vehicle's present location and a color or colored region different from the first color when the vehicle's present speed is less	Nagoshi and Vaughn teach each of the limitations recited in claim 21, as set forth above. In Fig. 5 of Nagoshi, a concentric band of green and red LEDs surrounds the speed reading markings on the speedometer (compare shading for the region identified as "green" to the lack of shading for the region identified as "red"). As the speed limit changes, the LED colors will change accordingly. Thus, the display apparatus 13 of Nagoshi continuously adjusts the LEDs (or colored region of LEDs) of the LCD to show speed readings in a first color, namely red, when the vehicle's speed exceeds the speed limit at the vehicle's location, as claimed in claim 23. Further, a second color different from the first color, namely green, is used when the vehicle's speed is less than the speed limit at the vehicle's location. To the extent Nagoshi does not expressly disclose an LCD, it would

than the speed limit at the vehicle's present location.	have been obvious to combine Vaughn's teaching of an LCD, as set forth above.

IV. Claims 21–23 Are Also Obvious in View of Garmin's Original References Combined with Vaughn and Nagoshi

Applying Cuozzo's construction of "integrally attached" that includes a single electronic display, Garmin submits that claims 21–22, in view of Vaughn, are also obvious over Aumayer and Tegethoff. Regarding claim 21, both Aumayer and Tegethoff teach a display controller that adjusts a colored display of an LCD, namely the red tick mark that identifies the speed limit in relation to the speed readings of the speedometer also displayed on the LCD. (Paper 1 at 35, 38–39.) Regarding claims 21 and 22 relative to the recited GPS and functions, Vaughn teaches a GPS that determines the vehicle's speed, location, and the speed limit (claim 21) and that compares the vehicle's present speed to the speed limit (claim 22), as described in the above claims chart. One of OSA would have had a credible rationale to combine the teachings of Aumayer and Vaughn or Tegethoff and Vaughn to simplify operation of the Aumayer GPS and modernize the element for navigation of Tegethoff so as to not have to obtain the vehicle speed from other components, such as the vehicle's speedometer.

Claim 23 is obvious over both Aumayer, Vaughn, and Nagoshi and Tegethoff, Vaughn, and Nagoshi. Nagoshi discloses the speed readings in a first color or colored region, namely the concentric regions of green and red LEDs

surrounding the speed readings. One of OSA would have had a credible rationale to combine Nagoshi with Aumayer/Vaughn or Tegethoff/Vaughn so that "connections between different driving parameters can be clarified to the driver in a very clear and intuitively comprehensible manner … ." (Ex. 1003 at 3, col. 1.) Moreover, modifying Aumayer's or Tegethoff's LCD to include a red/green concentric region surrounding the speed readings does not otherwise prevent the continued marking of the speed limit with the red tick mark.

Applying the Board's construction of "integrally attached" that excludes a single electronic display, claims 21–22 are also obvious over both Aumayer and Tegethoff in view of Vaughn, Evans, and Wendt. As set forth in Garmin's Reply, it would have been obvious to one of OSA to mount a rotatable pointer, as taught by Evans and Wendt, to the Aumayer/Tegethoff LCD. It would also have been obvious to modify the Aumayer/Tegethoff LCD and speed-limit-alert devices to include the teachings of a GPS that determines speed, vehicle location, and speed limit, as taught by Vaughn and as discussed above for Cuozzo's proffered construction.

V. Conclusion

In view of the above, Garmin requests that the Board reject substitute claims 21–23 and find them unpatentable.

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CERTIFICATE OF SERVICE

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