

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the *Inter Partes* Review of:

Trial Number: To Be Assigned

U.S. Patent No. 6,778,074

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Issued: August 17, 2004

Attorney Docket No.: 1559.327

Inventor(s): Cuzzo, Giuseppe A.

Assignee: Cuzzo Speed Technologies LLC

Title: SPEED LIMIT INDICATOR AND METHOD FOR DISPLAYING
SPEED AND THE RELEVANT
SPEED LIMIT Panel: To Be Assigned

Mail Stop *Inter Partes* Review
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PETITION FOR *INTER PARTES* REVIEW UNDER 37 C.F.R. § 42.100

TABLE OF CONTENTS

I. MANDATORY NOTICES UNDER 37 C.F.R. § 42.8(a)(1)1

 A. Real Party-In-Interest Under 37 C.F.R. § 42.8(b)(1).....1

 B. Related Matters Under 37 C.F.R. § 42.8(b)(2)1

 C. Lead and Back-Up Counsel Under 37 C.F.R. § 42.8(b)(3)2

 D. Service Information Under 37 C.F.R. § 42.8(b)(4).....2

II. PAYMENT OF FEES UNDER 37 C.F.R. § 42.1033

III. REQUIREMENTS FOR INTER PARTES REVIEW UNDER 37 C.F.R. §§ 42.1043

 A. Grounds for Standing Under 37 C.F.R. § 42.104(a).....3

 B. Identification of Challenge Under 37 C.F.R. § 42.104(b) and Relief Requested4

 1. Claims for Which Inter Partes Review Is Requested Under 37
 C.F.R. § 42.104(b)(1)4

 2. The Specific Art and Statutory Ground(s) on Which the Challenge Is
 Based Under 37 C.F.R. § 42.104(b)(2)4

 3. How the Challenged Claim(s) Are to Be Construed Under 37 C.F.R. §
 42.104(b)(3)6

 4. How the Construed Claim(s) Are Unpatentable Under 37 C.F.R. §
 42.104(b)(4)7

 5. Supporting Evidence Under 37 C.F.R. § 42.104(b)(5)7

IV. SUMMARY OF THE '074 PATENT8

 A. Description of the Alleged Invention of the '074 Patent8

 B. Summary of the Prosecution History of the '074 Patent9

V. THERE IS A REASONABLE LIKELIHOOD THAT AT LEAST ONE CLAIM OF THE
'074 PATENT IS UNPATENTABLE UNDER 37 C.F.R. § 42.104(b)(4)11

 A. Identification of the References as Prior Art11

 B. Summary of Invalidity Arguments13

VI.	DETAILED EXPLANATION UNDER 37 C.F.R. §§ 42.104(b)	16
A.	Claim 1 (Independent)	16
B.	Claim 2 (Dependent)	24
C.	Claim 3 (Dependent)	25
D.	Claim 4 (Dependent)	27
E.	Claim 5 (Dependent)	28
F.	Claim 6 (Dependent)	29
G.	Claim 7 (Dependent)	30
H.	Claim 8 (Dependent)	31
I.	Claim 9 (Dependent)	33
J.	Claim 10 (Independent)	34
K.	Claim 11 (Dependent)	41
L.	Claim 12 (Dependent)	43
M.	Claim 13 (Dependent)	44
N.	Claim 14 (Dependent)	45
O.	Claim 15 (Dependent)	48
P.	Claim 16 (Dependent)	49
Q.	Claim 17 (Dependent)	50
R.	Claim 18 (Dependent)	52
S.	Claim 19 (Dependent)	53
T.	Claim 20 (Independent)	54
VII.	CONCLUSION	60

On behalf of Garmin International, Inc. (“Garmin”) and in accordance with 35 U.S.C. § 311 and 37 C.F.R. § 42.100, *inter partes* review is respectfully requested for claims 1-20 of U.S. Patent No. 6,778,074 (“the ’074 Patent”).

I. MANDATORY NOTICES UNDER 37 C.F.R. § 42.8(a)(1)

As set forth below and pursuant to 37 C.F.R. § 42.8(a)(1), the following mandatory notices are provided as part of this Petition.

A. Real Party-In-Interest Under 37 C.F.R. § 42.8(b)(1)

Garmin International, Inc. and Garmin USA, Inc. are the real parties-in-interest for Petitioner.

B. Related Matters Under 37 C.F.R. § 42.8(b)(2)

The ’074 Patent is presently the subject of a patent infringement lawsuit brought by the assignee, Cuozzo Speed Technologies LLC, against Garmin International, Inc. and Garmin USA, Inc. and captioned *Cuozzo Speed Technologies LLC v. Garmin International Inc. et al.*, USDC District of New Jersey, Case No.: 2:12-cv-03623-CCC-JAD. Petitioner also identifies the following judicial proceedings that may affect, or be affected by, a decision in this proceeding: (1) *Cuozzo Speed Technologies LLC v. General Motors Company*, USDC District of New Jersey, Case No.: 2:12-cv-03624-CCC-JAD; (2) *Cuozzo*

Speed Technologies LLC v. JVC Americas Corporation, USDC District of New Jersey, Case No.: 2:12-cv-03625-CCC-JAD; and (3) *Cuozzo Speed Technologies LLC v. TomTom, Inc. et al.*, USDC District of New Jersey, Case No.: 2:12-cv-03626-CCC-JAD.

C. Lead and Back-Up Counsel Under 37 C.F.R. § 42.8(b)(3)

Pursuant to 37 C.F.R. §§ 42.8(b)(3) and 42.10(a), Petitioner provides the following designation of counsel.

Lead Counsel	Back-Up Counsel
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Pursuant to 37 C.F.R. § 42.10(b), a Power of Attorney accompanies this Petition.

D. Service Information Under 37 C.F.R. § 42.8(b)(4)

Service information for lead and back-up counsel is provided in the designation of lead and back-up counsel, above. Service of any documents via

hand-delivery may be made at the postal mailing address of the respective lead or back-up counsel designated above.

II. PAYMENT OF FEES UNDER 37 C.F.R. § 42.103

The undersigned authorizes the Office to charge \$27,200.00 to Deposit Account No. 19-0522 for the fee set forth in 37 C.F.R. § 42.15(a) for this Petition for *Inter Partes* Review. Twenty claims are being reviewed, so no excess claim fees are required. The undersigned further authorizes payment for any additional fees that might be due in connection with this Petition to be charged to the above-referenced Deposit Account.

III. REQUIREMENTS FOR *INTER PARTES* REVIEW UNDER 37 C.F.R. §§ 42.104

As set forth below and pursuant to 37 C.F.R. § 42.104, each requirement for *inter partes* review of the '074 Patent is satisfied.

A. Grounds for Standing Under 37 C.F.R. § 42.104(a)

Petitioner hereby certifies that the '074 Patent is available for *inter partes* review and that the Petitioner is not barred or estopped from requesting *inter partes* review challenging the claims of the '074 Patent on the grounds identified herein. More particularly, Petitioner certifies that: (1) Petitioner is not the owner of the '074 Patent; (2) Petitioner has not filed a civil action challenging the validity of a

claim of the '074 Patent; (3) this Petition is filed less than one year after the date on which the Petitioner, the Petitioner's real party-in-interest, or a privy of the Petitioner was served with a complaint alleging infringement of the '074 Patent; (4) the estoppel provisions of 35 U.S.C. § 315(e)(1) do not prohibit this *inter partes* review; and (5) this petition is filed after the later of (a) the date that is nine months after the date of the grant of the '074 Patent or (b) the date of termination of any post-grant review of the '074 Patent.

B. Identification of Challenge Under 37 C.F.R. § 42.104(b) and Relief Requested

The precise relief requested by Petitioner is that claims 1-20 of the '074 Patent are found unpatentable.

1. Claims for Which *Inter Partes* Review Is Requested Under 37 C.F.R. § 42.104(b)(1)

Petitioner requests *inter partes* review of claims 1-20 of U.S. Patent No. 6,778,074.

2. The Specific Art and Statutory Ground(s) on Which the Challenge Is Based Under 37 C.F.R. § 42.104(b)(2)

Inter partes review of the '074 Patent is requested in view of the following references: (1) U.S. Patent No. 6,633,811 to Aumayer ("Aumayer"); (2) DE 197 55 470 A1 to Tegethoff ("Tegethoff"); (3) U.S. Patent No. 5,375,043 to Tokunaga

(“Tokunaga”); (4) JP H07-182598 to Hamamura (“Hamamura”); (5) U.S. Patent No. 3,980,041 to Evans (“Evans”); (6) U.S. Patent No. 6,515,596 to Awada (“Awada”); and (7) U.S. Patent No. 2,711,153 to Wendt (“Wendt”).

Each of the patents listed above is prior art to the ’074 Patent under 35 U.S.C. §§ 102(a), (b), and/or (e), as established in Section V(A), below.

Claim No.	Proposed Statutory Rejections for the ’074 Patent
1	Claim 1 is anticipated under § 102(e) by Aumayer
1	Claim 1 is anticipated under § 102(b) by Tegethoff
1	Claim 1 is anticipated under § 102(b) by Tokunaga
2	Claim 2 is anticipated under § 102(e) by Aumayer
2	Claim 2 is anticipated under § 102(b) by Tegethoff
3	Claim 3 is obvious under § 103(a) over Aumayer in view of Evans
3	Claim 3 is obvious under § 103(a) over Tegethoff in view of Evans
4	Claim 4 is obvious under § 103(a) over Aumayer in view of Evans
4	Claim 4 is obvious under § 103(a) over Tegethoff in view of Evans
5	Claim 5 is obvious under § 103(a) over Aumayer in view of Evans
5	Claim 5 is obvious under § 103(a) over Tegethoff in view of Evans
6	Claim 6 is anticipated under § 102(e) by Aumayer
6	Claim 6 is anticipated under § 102(b) by Tegethoff
7	Claim 7 is anticipated under § 102(e) by Aumayer
7	Claim 7 is anticipated under § 102(b) by Tegethoff
8	Claim 8 is anticipated under § 102(e) by Aumayer
8	Claim 8 is obvious under § 103(a) over Tegethoff in view of Awada
9	Claim 9 is anticipated under § 102(e) by Aumayer
9	Claim 9 is obvious under § 103(a) over Tegethoff in view of Awada
10	Claim 10 is anticipated under § 102(e) by Aumayer
10	Claim 10 is obvious under § 103(a) over Tegethoff in view of Awada
10	Claim 10 is obvious under § 103(a) over Tokunaga in view of Hamamura
11	Claim 11 is anticipated under § 102(e) by Aumayer

Claim No.	Proposed Statutory Rejections for the '074 Patent
11	Claim 11 is obvious under § 103(a) over Tegethoff in view of Awada
12	Claim 12 is anticipated under § 102(e) by Aumayer
12	Claim 12 is obvious under § 103(a) over Tegethoff in view of Awada
13	Claim 13 is anticipated under § 102(e) by Aumayer
13	Claim 13 obvious under § 103(a) over Tegethoff in view of Awada
14	Claim 14 is obvious under § 103(a) over Aumayer in view of Evans
14	Claim 14 is obvious under § 103(a) over Tegethoff in view of Awada and further in view of Evans
15	Claim 15 is obvious under § 103(a) over Aumayer in view of Evans
15	Claim 15 is obvious under § 103(a) over Tegethoff in view of Awada and further in view of Evans
16	Claim 16 is obvious under § 103(a) over Aumayer in view of Evans
16	Claim 16 obvious under § 103(a) over Tegethoff in view of Awada and further in view of Evans
17	Claim 17 is obvious under § 103(a) over Aumayer in view of Evans and further in view of Wendt
17	Claim 17 is obvious under § 103(a) over Tegethoff in view of Awada and further in view of Evans and further in view of Wendt
18	Claim 18 is anticipated under § 102(e) by Aumayer
18	Claim 18 is obvious under § 103(a) over Tegethoff in view of Awada
19	Claim 19 is anticipated under § 102(e) by Aumayer
19	Claim 19 obvious under § 103(a) over Tegethoff in view of Awada
20	Claim 20 is anticipated under § 102(e) by Aumayer
20	Claim 20 obvious under § 103(a) over Tegethoff in view of Awada
20	Claim 20 obvious under § 103(a) over Tokunaga in view of Hamamura

3. *How the Challenged Claim(s) Are to Be Construed Under 37 C.F.R. § 42.104(b)(3)*

A claim subject to *inter partes* review receives the “broadest reasonable construction in light of the specification of the patent in which it appears.” 42

C.F.R. § 42.100(b). The Patent Owner has taken a very broad view of the meaning of the claims based upon the allegations set forth in its complaint against the products of the real parties in interest here. (See, Ex. 1014, pp. 8-9). The “broadest reasonable construction” of the challenged claims must be consistent with the allegations set forth in Patent Owner’s civil complaint. Petitioner submits, for the purposes of the IPR only, that the claim terms are presumed to take on their ordinary and customary meaning that the term would have to one of ordinary skill in the art in view of Patent Owner’s civil complaint and the Specification of the ’074 Patent.

4. How the Construed Claim(s) Are Unpatentable Under 37 C.F.R. § 42.104(b)(4)

An explanation of how construed claims 1-20 of the ’074 Patent are unpatentable under the statutory grounds identified above, including the identification of where each element of the claim is found in the prior art patents or printed publications, is provided in Section VI, below, in the form of claims charts.

5. Supporting Evidence Under 37 C.F.R. § 42.104(b)(5)

The exhibit numbers of the supporting evidence relied upon to support the challenge and the relevance of the evidence to the challenge raised, including identifying specific portions of the evidence that support the challenge, are

provided in Section VI, below, in the form of claim charts. An Appendix of Exhibits identifying the exhibits is also attached. Pursuant to 37 C.F.R. § 42.63(b), Exhibits 1004 and 1008 are Affidavits of Joyce Chen attesting to the accuracy of the translations of Exhibits 1002 and 1006.

IV. SUMMARY OF THE '074 PATENT

A. Description of the Alleged Invention of the '074 Patent

The '074 Patent discloses a speed limit indicator for determining the speed of a vehicle, the speed limit corresponding to the vehicle's current location, and displaying the speed and speed limit to the driver. ('074 Patent, Abstract). A speedometer 12 mounted on a dashboard 26 displays the speed limit 10. (Col. 5, ll. 6-9). The speedometer 12 has a backplate 14, speed denoting markings 16 painted on the backplate 14, a needle 20 rotatably mounted in the center of backplate 14, and "a colored display 18 made of a red plastic filter." (Col. 5, ll. 9-11).

To obtain speed limit information, uploading unit 38 "uploads current data to a regional speed limit database 40." (Col. 5, ll. 25-26). A global positioning receiver 22 determines the vehicle location and "identifies the relevant speed limit from the database for that location." (Col. 5, ll. 27-29). The GPS receiver "compares the vehicle's speed and the relevant speed limit 44, and uses a tone

generator 46 to generate a tone in the event that the vehicle's speed exceeds the relevant speed limit." (Col. 5, ll. 29-33).

The colored display 8 is adjusted via a control unit "so that the speeds above the legal speed limit are displayed in red 50 while the legal speeds are displayed in white 52. This is accomplished by the control unit rotating the red filter disc 54 to the appropriate degree." (Col. 5, ll. 35-39). Thus, the red-colored filter 18 rotates according to the uploaded speed limit information. The '074 Patent further briefly states that "the colored display herein described could also take the form of a liquid crystal display." (Col. 6, ll. 12-14).

B. Summary of the Prosecution History of the '074 Patent

The '074 Patent was filed March 18, 2002, and issued August 17, 2004, with 20 claims, of which claims 1, 10, and 20 are independent. The '074 Patent as filed included claims 1-20, of which claims 1, 11, and 20 were independent.

A non-final Office Action was mailed on October 3, 2003, and rejected claims 1-3, 7-14, 18, 19, and 20 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,515,696 to Awada ("Awada"); claims 3, 4, 7, 14, 15, and 18 under 35 U.S.C. § 103(a) as being obvious over Awada; and claims 5, 6, 16, and

17 under 35 U.S.C. § 103(a) as being obvious over Awada in view of U.S. Patent No. 4,935,850 to Smith, Jr. (“Smith”).

Responsive to the non-final Office Action, an Amendment was filed on November 9, 2003, that contained a formatting error. On January 9, 2004, a supplemental amendment (the “Corrected Amendment”) was filed that amended claims 1, 3-12, and 14-20, canceled claims 2 and 13, and added claims 21 and 22. (Ex. 1013, pp. 2-5). The Patent Owner argued that amended independent claim 1 was not anticipated by Awada because:

Awada (6,515,596) lacks a speedometer integrally attached to the speed limit display (column 2, lines 40-42 and Figs. 1 and 4-6). The vehicle’s driver is forced to look *in two separate locations* and then mentally compare the speed limit with his vehicle’s speed *to determine how close he is to speeding* if he is not already doing so sufficiently to activate the light and/or tone. This significant complexity could be distracting to the driver, thereby increasing the risk of an accident. In contrast, the present invention provides an *integrated display allowing the driver to immediately ascertain* both his speed and *its relation to the prevailing speed limit*.

Id. at p. 6. (emphasis added). Thus, the Patent Owner overcame Awada by arguing that the speed limit and the current speed were displayed in close

proximity or relation to each other so the driver does not have to look in two different places on the dashboard and further so the driver can see how close he is to speeding (i.e., the relative difference between the speed and the speed limit).

The Patent Owner further commented on the independent adjustment of the colored display with respect to the speedometer. In arguing over Smith, the Patent Owner noted that Smith's interrupter plate "rotates in conjunction with the speedometer needle axis," whereas "the colored display of the present invention adjusts independently of the speedometer by rotation of a colored filter by the display controller." *Id.* at p. 7.

A Notice of Allowance dated February 18, 2004, was mailed in response to the Corrected Amendment and identified claims 1, 3-12, and 14-22 as allowable. No comments on allowance were provided by the Examiner. The '074 Patent issued on August 17, 2004.

V. THERE IS A REASONABLE LIKELIHOOD THAT AT LEAST ONE CLAIM OF THE '074 PATENT IS UNPATENTABLE UNDER 37 C.F.R. § 42.104(b)(4)

A. Identification of the References as Prior Art

U.S. Patent No. 6,633,811 to Aumayer was filed October 19, 2000, and issued October 14, 2003. Aumayer claims priority to German Patent Application

No. 199 50 156, filed October 19, 1999. Therefore, Aumayer is prior art to the '074 Patent under 35 U.S.C. § 102(e).

German Patent No. DE 197 55470 A1 to Tegethoff was filed December 3, 1997, and issued September 24, 1998. Therefore, Tegethoff is prior art to the '074 Patent under 35 U.S.C. § 102(b).

U.S. Patent No. 5,375,043 to Tokunaga was filed July 6, 1992, and issued December 20, 1994. Tokunaga claims priority to Japanese Patent Application No. 4-218815 filed July 27, 1992. Therefore, Tokunaga is prior art to the '074 Patent under 35 U.S.C. § 102(b).

Japanese Patent Application Publication No. H07-182598 to Hamamura was filed March 9, 1994, and published July 21, 1995. Therefore, Hamamura is prior art to the '074 Patent under 35 U.S.C. § 102(b).

U.S. Patent No. 3,980,041 to Evans was filed October 22, 1974, and issued September 14, 1976. Therefore, Evans is prior art to the '074 Patent under 35 U.S.C. § 102(b).

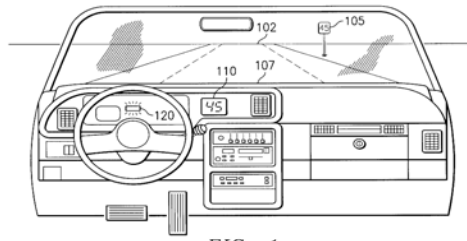
U.S. Patent No. 2,711,153 to Wendt was filed September 11, 1951, and issued June 21, 1955. Therefore, Wendt is prior art to the '074 Patent under 35 U.S.C. § 102(b).

None of Aumayer, Tegethoff, Tokunaga, Hamamura, Evans, or Wendt was of record during prosecution of the '074 Patent, and none was relied upon in any rejection of the claims.

U.S. Patent No. 6,515,596 to Awada was filed March 8, 2001, and issued February 4, 2003. Therefore, Awada is prior art to the '074 Patent under 35 U.S.C. § 102(e). Awada was cited during prosecution of the '074 Patent and was relied upon as a basis for a rejection.

B. Summary of Invalidity Arguments

Vehicle speedometers with speed limit alerts have been known for decades. Some of these speedometers even used GPS to determine the relevant speed limit. This prior art was not before the Patent office during examination of the '074 Patent. The key feature that resulted in allowance of the '074 Patent is displaying vehicle speed in close physical proximity to the speed limit corresponding to the vehicle's current location—i.e., a vehicle speedometer that can display a speed limit indicator. (See, Ex. 1013, pp. 6-7). The prior art Awada reference (Ex. 1010) cited during prosecution disclosed determining the speed limit corresponding to the vehicle's location and displaying the speed limit on the *dashboard* of the vehicle, as shown in the below Fig. 1 from Awada:



The cited prior art allegedly did not disclose, however, displaying vehicle speed in close physical proximity to the speed limit so that the driver can “immediately ascertain both his speed and its relation to the prevailing speed limit.” (Ex. 1013, p. 6).

Petitioner cites herein several prior art references that teach displaying the speed limit and the vehicle’s current speed in close physical proximity to each other. Notably, several of the prior art references provide a pointer or tick mark on the speedometer scale that specifically identifies the speed limit for the vehicle’s current location. For example, Aumayer (Ex. 1001) and Tegethoff (Ex. 1003) both teach a red-colored tick mark on the speedometer scale that identifies the speed limit for the vehicle’s current location as determined by a GPS (Aumayer) or an element for navigation (Tegethoff). Evans (Ex. 1009) discloses a red-colored filter very similar to the colored display of the ’074 Patent for identifying a speed limit. Wendt (Ex. 1011) teaches a speedometer with a speed limit indicator in the form of a rotating needle that may be manually set to the relevant speed limit. Thus,

speedometers that can denote the speed limit in close proximity to the current speed of the vehicle, so that the driver can immediately ascertain his or her speed and its relation to the speed limit, have been well known in the art for many years.

The prior art cited herein identifies and solves the same problem allegedly solved by the alleged invention of the '074 Patent. For example, Tegethoff notes that its LCD speedometer, which illuminates red when the speed limit is exceeded, allows “connections between different driving parameters [to be] clarified to the driver in a very clear and intuitively comprehensible manner.” (Ex. 1003, p. 3, col. 1). For speed limit indicators presented by the LCD speedometer, “[t]he driver does not hereby need to make any abstraction effort (reading two separate instruments).” (Ex. 1003, p. 9, col. 1). Evans, which teaches a red-colored filter attached to the speedometer to identify the speed limit, states that “[t]he driver only need glance at the dial while driving, with the indicator in place on the dial, and tell whether the speed limit is being exceeded or not, i.e. whether the speedometer needle is in or out of the warning area of the dial, as defined by the indicator plate. Sharp, accurate and swift reference to the dial can thus be made” (Ex. 1009, col. 2, ll. 9-16). This is exactly the reasoning argued by the Patent Owner for obtaining allowance of the '074 Patent.

VI. DETAILED EXPLANATION UNDER 37 C.F.R. §§ 42.104(b)

A. Claim 1 (Independent)

<i>Claim 1</i>	<i>Anticipated By Aumayer (Ex. 1001)</i>
<p>A speed limit indicator comprising:</p>	<p>Aumayer discloses a “speed display device 101.” (Col. 5, l. 19). “[S]peed limits at the current location [of the vehicle] may be displayed on the speed scale itself by highlighting an appropriate scale mark or producing a scale mark of a different length or color.” (Abstract).</p>
<p>a colored display to delineate which speed readings are in violation of the speed limit at a vehicle's current location;</p>	<p>Aumayer generally discloses “at least one maximum speed [being] displayed in the display device, which is the speed limit for a particular type of street or road” (Col. 5, ll. 1-4). In particular, Aumayer discloses a speed display device 101 including a speedometer. (See, Fig. 2a; col. 5, ll. 19-20). The display device 101 includes a first scale 103 with scale values 104 and first scale marks 106. (Col. 5, ll. 20-22). The display device also includes a “second scale mark 107, which displays the maximum speed.” (Col. 5, l. 25-30). “A first maximum speed or speed limit symbol 105 is also displayed on the display device 101. A driver of the vehicle is informed of the speed limit of 50 km/hr both by the second scale mark 107 and by a first speed limit symbol 105.” (Col. 5, ll. 37-41).</p> <div data-bbox="711 1318 1201 1585" data-label="Figure"> </div> <p>Aumayer further discloses highlighting the speed limit: “A second scale mark 107 is especially emphasized by making it longer and wider than the first scale marks 106. Furthermore for that purpose the scale mark 107 can be in a different color, for example red, yellow or orange, from the color of</p>

	<p>the scale marks 106, which e.g. can be white, as the sole emphasizing means or as a highlighting means.” (Col. 5, ll. 25-31).</p> <p>Aumayer discloses that the speed limit indicated by the second scale mark 107 is specific to a particular location for the vehicle: “Finally the region in which the vehicle is located is determined from the position of the vehicle located on the digital map in a region-determining step 13. Then the particular physical units for speed values and speed limits for that region are retrieved or otherwise obtained.” (Col. 4, ll. 48-53; see also, col. 2, ll. 18-21; col. 7, ll. 21-26; col. 4, ll. 42-44: “[A] GPS locating device and/or a composition navigate device determines the geographic position of the vehicle”).</p> <p>Thus, Aumayer’s colored second scale mark 107 is a colored display, namely a red-colored tick mark on the speedometer scale, that delineates speed readings in violation of the speed limit at a vehicle’s current location, i.e., all speeds after the second scale mark 107 on the speedometer scale are in violation of the speed limit.</p>
<p>a speedometer integrally attached to said colored display;</p>	<p>Aumayer discloses the “speed display device 101 in a motor vehicle including a speedometer is shown in Fig. 2a.” (Col. 5, ll. 19-20; see also, Fig. 2a). Fig. 3 of Aumayer discloses the hardware associated with the speed display device 101. In Fig. 3, a display device 211 includes a “display medium, for example a display screen provided by a liquid crystal display device, a plasma screen or a cathode ray tube. The embodiments with the display screen permit a very simple change of the display by means of the method according to the invention, since the display device 211 only needs to show a different image in the display screen.” (Col. 7, ll. 34-37).</p> <p>Because the display device 211 is, for example, an LCD</p>

	<p>screen that displays both the speedometer and the colored second scale mark 107, the speedometer is integrally attached to the colored display, namely the colored second scale mark 107.¹</p> <p>Additionally, Aumayer notes that mechanical elements may also be used for the display device 211: “Furthermore it is also possible to use a commercial combined apparatus with mechanical display elements for the display device 211. The control of the pointer 102 must then be adjusted to the suitable physical units shown in the physical unit indicator 108. The physical units are shown in a small display device or by a characteristic illuminated symbol field in the primary display device. For example, a speed limit can be made visible by background lighting in a different color at the scale mark associated with the corresponding speed limit.” (Col. 7, ll. 42-51).</p>
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¹ Petitioner submits that applying the broadest reasonable construction, an “integrally attached” speedometer and colored display are satisfied by Aumayer’s LCD displaying the red-colored tick mark and speedometer on the same LCD screen. This construction is consistent with the Patent Owner’s allegation set forth in Exhibit 1014 that Petitioner’s accused infringing product of an LCD display includes an integrally attached speedometer and colored display. Petitioner submits, however, that the broadest reasonable construction for purposes of this IPR is not necessarily the actual construction required by *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*).

	<p>Because Aumayer discloses a mechanical speedometer attached to a background display device that uses colored background lighting to indicate the speed limit, Aumayer discloses a speedometer integrally attached to the colored display.</p>
<p>and a display controller connected to said colored display, wherein said display controller adjusts said colored display independently of said speedometer to continuously update the delineation of which speed readings are in violation of the speed limit at a vehicle's present location.</p>	<p>Aumayer discloses that “[t]he display device 211 comprises a display controller and a display medium” (Col. 7, ll. 34-35). A main processor 203 “determines the data, which are relevant for the speed display device, by means of vehicle sensors 206,” including vehicle speed. (Col. 7, ll. 12-15). Thus, vehicle sensor 206 determines the speed of the vehicle. The main processor 203 also determines the speed limit corresponding to the vehicle’s location. (Col. 7, ll. 21-25).</p> <p>Aumayer further discloses that the display controller, namely a display processor 209, adjusts the colored display, namely the second scale mark 107: “These data are input to the display processor 209, which especially controls the display device 211. When a change of the display occurs, an acoustic warning is generated by means of the loud speaker 212. The display device 211 now may show a changed speed scale, changed scale values, changed physical units as well as additional warning symbols and/or speed limit symbols. . . . The embodiments with the display screen permit a very simple change of the display by means of the method according to the invention, since the display device 211 only needs to show a different image in the display screen.” (Col. 7, ll. 27-33, 37-41). See also, column 2, lines 4-6, providing a step of the disclosed method: “displaying automatically on a display device at least one of an actual current speed of the vehicle and allowed speed limits”</p> <p>Aumayer thus changes its LCD screen of Fig. 2a to update with the current speed and the speed limit corresponding to the vehicle’s location, as indicated by the second scale mark</p>

	<p>107. The control of the colored display, namely the second scale mark 107, is independent of the updating of the speed, “since the display device 211 only needs to show a different image in the display screen,” as noted above. The red-colored second scale mark 107 presented on the speedometer scale of Fig. 2a delineates “which speed readings are in violation of the speed limit at a vehicle’s present location,” as claimed in the ’074 Patent.</p>
<p><i>Claim 1</i></p>	<p><i>Anticipated By Tegethoff (Ex. 1002)</i></p>
<p>A speed limit indicator comprising:</p>	<p>Tegethoff discloses a display system 1 for displaying a variety of vehicle information, including a maximum permissible speed. (See, p. 5, col. 2: “Fig. 2 shows a display according to the invention for the current speed of the vehicle as well as additional information.”).</p>
<p>a colored display to delineate which speed readings are in violation of the speed limit at a vehicle's current location;</p>	<p>Tegethoff teaches that its display system includes “a screen 37 and an image generating computer 33, which is connected to information-providing elements 31 as well as an on-board computer 32.” (P. 4, col. 2).</p> <p>Tegethoff teaches displaying a mark on the screen 37 that indicates the speed limit corresponding to the vehicle’s location: “A mark for indicating a currently permissible maximum speed 5 shows a permissible maximum speed <i>for the road section where the car is currently located</i>. This maximum speed can either be set manually or according to an element for navigation and a database with traffic control information or by an element for receiving transmitters outside the vehicle for traffic control.” (P. 6, col. 1; see also, Fig. 2 and tick mark 5 at approximately 110 km/h) (emphasis added). As illustrated in Fig. 2, the mark 5 is displayed on a conventional speedometer scale.</p> <p>Tegethoff further teaches that the mark for indicating the speed limit can be colored red: “Thus, for example, warnings that require immediate action or represent a critical technical or legislative limit, can appear in the color red (e.g., a</p>

	<p>maximum speed or the part of the braking distance or stopping distance that exceeds the distance to the vehicle ahead).” (P. 7, col. 1; see also, Fig. 2).</p> <p>Tegethoff thus teaches a colored display, namely the red-colored tick mark 5 on the speedometer scale. The tick mark delineates the speed readings in violation of the speed limit, namely those readings after the tick mark. Moreover, the tick mark is changed corresponding to the vehicle’s location, as described above.</p>
<p>a speedometer integrally attached to said colored display;</p>	<p>Tegethoff teaches that the information-providing element is, among other elements, an element for measuring speed, and further, that “Fig. 2 shows a display according the invention for the current speed of the vehicle as well as additional information.” (P. 5, col. 2). In more detail, Tegethoff’s invention allows for “free programmability of the screen” for “representation of primary drive information, such as the speed of a vehicle, that is a marked change compared to traditional instruments, (e.g., the superposition of digital numbers instead of analog pointer instruments to display speed).” (P. 2, col. 1). As stated in Tegethoff, “[t]he object of the present invention is to create a display system that has the good readability of analog pointer instruments and, moreover, in an easily understandable manner provides additional information that facilitates the safe and economical operation of the vehicle.” (P. 2, col. 2).</p> <p>Thus, Tegethoff discloses a digital speedometer, as illustrated in Fig. 2, that is displayed as a mechanical, analog speedometer with a speedometer scale and pointer. As noted by Tegethoff, “[t]he representation of the screen 37 covered in Fig. 1 comprises a round instrument 34 composed of a scale and pointer which is designed based on analog pointer instruments and in its basic form cannot be distinguished outwardly from purely mechanical devices.” (P. 4, col. 1).</p>

	<p>The colored display of Tegethoff, namely the colored tick mark 5 to indicate a maximum permissible speed, is integrally attached to the speedometer because the screen 37 displays both the speedometer and the colored tick mark 5.</p>
<p>and a display controller connected to said colored display, wherein said display controller adjusts said colored display independently of said speedometer to continuously update the delineation of which speed readings are in violation of the speed limit at a vehicle's present location.</p>	<p>Tegethoff discloses a display controller comprising an image generating computer 33 that can be “programmed completely freely” to display “the representation on the screen, such as pointers [and] markings and scales” (P. 5, cols. 1-2). Because image generating computer is connected to the screen 37 (see also, p. 4, col. 2), the image generating computer is connected to and controls the colored display comprising the colored tick mark. As such, the image generating computer instructs the screen 37 to display the colored display of the tick mark 5.</p> <p>Tegethoff further discloses that the display controller, namely the image generating computer, can adjust the colored tick mark 5 independently of the speedometer: “By means of a control device, not shown in further detail here, switched by an operator and/or according to the information-providing instruments 31, respectively at least the image of the scale, of the pointer, of the marking or other information can be changed on the screen 37, which is designed, for example, as a high-resolution LCD display and renders possible multicolored images.” (P. 5, col. 1).</p> <p>Thus, the image generating computer 33 of Tegethoff can continuously update the location of the colored tick mark 5 on the LCD screen 37 and independently of the reading on the speedometer scale to delineate speed readings in violation of the speed limit. Tegethoff specifically identifies the advantages and the desirability of being able to display various types of information, such as the current speed and the maximum permissible speed: “This makes it possible to display known instruments composed of pointer and scale in connection with the embodiments of the markings described</p>

	above. This also makes it possible <i>to display connections between different parameters particularly easily.</i> ” (P. 3, col. 2, ¶ 1) (emphasis added).
<i>Claim 1</i>	<i>Anticipated By Tokunaga (Ex. 1005)</i>
A speed limit indicator comprising:	Tokunaga discloses a lighting unit for use in “a speedometer for motor vehicles.” (Col. 4, ll. 62-67). As discussed below, the lighting unit is operable to change color when the vehicle speed exceeds a legal speed limit.
a colored display to delineate which speed readings are in violation of the speed limit at a vehicle's current location;	Tokunaga discloses a light guide plate 1 “suitable for use as a backlight for a liquid crystal display (LCD) panel on a portable electronic device” and having a plurality of light emitting diodes 2a to 2d (hereinafter referred to as LED’s), respectively, serving as light sources.” (Col. 2, ll. 37-45). As discussed below, the lighting unit is colored red when a vehicle exceeds a speed limit.
a speedometer integrally attached to said colored display;	Tokunaga discloses that its “lighting unit is incorporated into the game machine so as to illuminate the liquid crystal display 9.” (Col. 3, ll. 66-68). Tokunaga further discloses that in lieu of a gaming device, the “present lighting unit has various other applications to, for example display surfaces of a speedometer for motor vehicles” (Col. 4, ll. 65-67). Thus, the lighting unit is integrally attached to the speedometer.
and a display controller connected to said colored display,	Tokunaga discloses a “means of controlling the illumination of the lighting unit, more specifically, a means of controlling the action of the LED’s serving as light sources of the lighting unit, which includes a central processing unit (CPU) 11, a judgment circuit 12, a memory 13, a color decision circuit 14, and an on/off control circuit 15.” (Col. 4, ll. 1-7). Thus, Tokunaga discloses a display controller, namely the disclosed CPU, which is connected to the colored display, namely the lighting unit.
wherein said display controller adjusts said	Tokunaga further discloses that the lighting unit changes to the color red when the vehicle speed exceeds a legal speed limit: “[T]he application to the speedometer would allow the

<p>colored display independently of said speedometer to continuously update the delineation of which speed readings are in violation of the speed limit at a vehicle's present location.</p>	<p>color of a display light for the speedometer to change from blue which has been lit so far to red if the vehicle speed exceeds a legal speed limit.” (Col. 5, ll. 1-5). Thus, the display controller, namely the CPU, adjusts the colored display, namely the lighting unit integrally attached to the speedometer, when the speed limit is exceeded. Such adjustment of the lighting unit to the color red delineates the speed readings in violation of the speed limit, and such adjustment is independent of the speed measured by the speedometer.</p>
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B. Claim 2 (Dependent)

<i>Claim 2</i>	<i>Anticipated By Aumayer (Ex. 1001)</i>
<p>The speed limit indicator as defined in claim 1,</p>	<p>Aumayer teaches each of the limitations recited in independent claim 1.</p>
<p>wherein said colored display is a liquid crystal display.</p>	<p>Aumayer discloses that the display device 211 includes a “display medium, for example a display screen provided by a liquid crystal display device, a plasma screen or a cathode ray tube.” (Col. 7, ll. 34-37). The second scale mark 107 is displayed on the LCD.</p>
<i>Claim 2</i>	<i>Anticipated By Tegethoff (Ex. 1003)</i>
<p>The speed limit indicator as defined in claim 1,</p>	<p>Tegethoff teaches each of the limitations recited in independent claim 1.</p>
<p>wherein said colored display is a liquid crystal display.</p>	<p>Tegethoff teaches that its screen 37 for displaying the current speed and the maximum permissible speed is an LCD screen: “By means of a control device, not shown in further detail here, switched by an operator and/or according to the information-providing instruments 31, respectively at least the image of the scale, of the pointer, of the marking or other information can be changed on the screen 37, which is</p>

	designed, for example, as a high-resolution LCD display and renders possible multicolored images.” (P. 5, col. 1).
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C. Claim 3 (Dependent)

<i>Claim 3</i>	<i>Obvious Over Aumayer (Ex. 1001) in View of Evans (Ex.1009)</i>
The speed limit indicator as defined in claim 1,	Aumayer teaches each of the limitations recited in independent claim 1.
wherein said colored display is a colored filter.	<p>Although Aumayer teaches a red-colored scale mark comprising a colored display, the scale mark is arguably not a colored filter. However, Evans, in analogous art, discloses a “speed warning indicator” for attachment to the front face of a speedometer. (Col. 3, ll. 13-15). The indicator is a plate 12 bearing colored indicia 36, such that when the plate is attached to the speedometer face, “the indicial color (red) of plate 12 appears to be on a portion of dial 30 [of the speedometer] when viewed through cover 24.” (Col. 3, ll. 29-31).</p> <p>“Plate 12 is positioned on dial 30 so that only the portion of the dial which contains numbers representing speeds in excess of the speed limit to be warned against is overlaid by plate 12, for example, speeds in excess of 55 mph, as shown in Fig. 3.” (Col. 3, 32-36).</p> <div data-bbox="777 1409 1154 1612" data-label="Image"> </div> <p><i>Fig. 3</i></p> <p>It would have been obvious to one of ordinary skill in the art to combine the colored plate of Evans with Aumayer to “instantly determine if the speed limit is or is not being exceeded,” and further to achieve “a safety device of</p>

	<p>considerable utility.” (Evans, col. 3, ll. 50-54). Evans further notes the desirability of such a feature: “The driver only need glance at the dial while driving, with the indicator in place on the dial, and tell whether the speed limit is being exceeded or not, i.e. whether the speedometer needle is in or out of the warning area of the dial, as defined by the indicator plate. Sharp, accurate and swift reference to the dial can thus be made, with a lasting visual impression on the driver.” (Col. 2, ll. 9-15).</p>
<p><i>Claim 3</i></p>	<p><i>Obvious Over Tegethoff (Ex. 1003) in View of Evans (Ex. 1009)</i></p>
<p>The speed limit indicator as defined in claim 1,</p>	<p>Tegethoff teaches each of the limitations recited in independent claim 1.</p>
<p>wherein said colored display is a colored filter.</p>	<p>Although Tegethoff teaches a red-colored tick mark 5 comprising a colored display, the tick mark is arguably not a colored filter. However, Evans, in analogous art, discloses a “speed warning indicator” for attachment to the front face of a speedometer. (Col. 3, ll. 13-15). The indicator is a plate 12 bearing colored indicia 36, such that when the plate is attached to the speedometer face, “the indicial color (red) of plate 12 appears to be on a portion of dial 30 [of the speedometer] when viewed through cover 24.” (Col. 3, ll. 29-31).</p> <p>“Plate 12 is positioned on dial 30 so that only the portion of the dial which contains numbers representing speeds in excess of the speed limit to be warned against is overlaid by plate 12, for example, speeds in excess of 55 mph, as shown in Fig. 3.” (Col. 3, 32-36).</p> <p>It would have been obvious to one of ordinary skill in the art to combine the colored plate of Evans with Tegethoff to “instantly determine if the speed limit is or is not being exceeded,” and further to achieve “a safety device of considerable utility.” (Evans, col. 3, ll. 50-54). Evans further</p>

	<p>notes the desirability of such a feature: “The driver only need glance at the dial while driving, with the indicator in place on the dial, and tell whether the speed limit is being exceeded or not, i.e. whether the speedometer needle is in or out of the warning area of the dial, as defined by the indicator plate. Sharp, accurate and swift reference to the dial can thus be made, with a lasting visual impression on the driver.” (Col. 2, ll. 9-15).</p>
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D. Claim 4 (Dependent)

<i>Claim 4</i>	<i>Obvious Over Aumayer (Ex. 1001) in View of Evans (Ex. 1009)</i>
<p>The speed limit indicator as defined in claim 1,</p>	<p>Aumayer teaches each of the limitations recited in independent claim 1.</p>
<p>wherein said speedometer comprises: a needle; an axle having opposing ends with one end attached to said needle; and a speedometer cable having opposing ends with one end attached to said axle.</p>	<p>Aumayer discloses a speedometer comprising a needle, axle, and speedometer cable. (See, Aumayer, Fig. 2a). However, Evans also discloses such. Referring to Fig. 3, Evans discloses a needle 28 and an axle to which the needle is connected at one end. (See, Fig. 3; col. 3, ll. 22-25). It is well known in the art that a speedometer axle is connected to cabling that controls the speedometer display.</p> <p>It would have been obvious to one of ordinary skill in the art to combine the mechanical speedometer of Evans with the LCD display of Aumayer “to use a commercial combined apparatus with mechanical display elements of the display device 211.” (Aumayer, Col. 7, ll. 42-44).</p>
<i>Claim 4</i>	<i>Obvious Over Tegethoff (Ex. 1003) in View of Evans (Ex. 1009)</i>
<p>The speed limit indicator as defined in claim 1,</p>	<p>Tegethoff teaches each of the limitations recited in independent claim 1.</p>
<p>wherein said</p>	<p>Tegethoff discloses a speedometer comprising a needle, axle,</p>

<p>speedometer comprises: a needle; an axle having opposing ends with one end attached to said needle; and a speedometer cable having opposing ends with one end attached to said axle.</p>	<p>and speedometer cable. (See, Tegethoff, Fig. 2). However, Evans also discloses such. Referring to Fig. 3, Evans discloses a needle 28 and an axle to which the needle is connected at one end. (See, Fig. 3; col. 3, ll. 22-25). It is well known in the art that a speedometer axle is connected to cabling that controls the speedometer display.</p> <p>It would have been obvious to one of ordinary skill in the art to combine the mechanical speedometer of Evans with the LCD display of Tegethoff because “connections between different driving parameters can be clarified to the driver in a very clear and intuitively comprehensible manner” (Tegethoff, p. 3, col. 1).</p>
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E. Claim 5 (Dependent)

<i>Claim 5</i>	<i>Obvious Over Aumayer (Ex. 1001) in View of Evans (Ex. 1009)</i>
<p>The speed limit indicator as defined in claim 4,</p>	<p>The combination of Aumayer and Evans teaches each of the limitations recited in claims 1 and 4.</p>
<p>wherein said speedometer further comprises: a backplate; plurality of speed denoting markings affixed to said backplate; and a housing enclosing said backplate.</p>	<p>Aumayer discloses a speedometer comprising a backplate, speed denoting markings, and a housing. (See, Aumayer, Fig. 2a). However, Evans also discloses such. Referring to Figs. 3 and 4, Evans discloses a speedometer 25 having a casing 26. (Col. 3, ll. 22-23). A rear, interior face or backplate of the casing includes a plurality of speed denoting markings (i.e., the scale and numbers illustrated in Fig. 3).</p>
<i>Claim 5</i>	<i>Obvious Over Tegethoff (Ex. 1003) in View of Evans (Ex. 1009)</i>
<p>The speed limit indicator as defined in claim 4,</p>	<p>The combination of Tegethoff and Evans teaches each of the limitations recited in claims 1 and 4.</p>

<p>wherein said speedometer further comprises: a backplate; plurality of speed denoting markings affixed to said backplate; and a housing enclosing said backplate.</p>	<p>Tegethoff discloses a speedometer comprising a backplate, speed denoting markings, and a housing. (See, Tegethoff, Fig. 2). However, Evans also discloses such. Referring to Figs. 3 and 4, Evans discloses a speedometer 25 having a casing 26. (Col. 3, ll. 22-23). A rear, interior face or backplate of the casing includes a plurality of speed denoting markings (i.e., the scale and numbers illustrated in Fig. 3).</p>
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F. Claim 6 (Dependent)

<i>Claim 6</i>	<i>Anticipated By Aumayer (Ex. 1001)</i>
<p>The speed limit indicator as defined in claim 1,</p>	<p>Aumayer teaches each of the limitations recited in independent claim 1.</p>
<p>wherein said speedometer comprises a liquid crystal display.</p>	<p>Aumayer discloses that the display device 211 includes a “display medium, for example a display screen provided by a liquid crystal display device, a plasma screen or a cathode ray tube.” (Col. 7, ll. 34-37).</p>
<i>Claim 6</i>	<i>Anticipated By Tegethoff (Ex. 1003)</i>
<p>The speed limit indicator as defined in claim 1,</p>	<p>Tegethoff teaches each of the limitations recited in independent claim 1.</p>
<p>wherein said speedometer comprises a liquid crystal display.</p>	<p>Tegethoff discloses an LCD screen: “By means of a control device, not shown in further detail here, switched by an operator and/or according to the information-providing instruments 31, respectively at least the image of the scale, of the pointer, of the marking or other information can be changed on the screen 37, which is designed, for example, as a high-resolution LCD display and renders possible multicolored images.” (P. 5, col. 1).</p> <p>Tegethoff further teaches that its LCD screen 37 displays the</p>

	<p>speedometer pointer (i.e., needle) and speedometer scale: “Fig. 2 shows a display according to the invention for the current speed of the vehicle as well as additional information. The pointer for speed measurement 2 shows a current speed 39 of the vehicle on the scale for speed measurement 29.” (P. 5, col. 2). See also, page 4, column 2, discussing that the LCD screen displays scale and pointer so that it is indistinguishable from a conventional analog or mechanical instrument: “The representation of the screen 37 covered in Fig. 1 comprises a round instrument 34 composed of a scale and pointer which is designed based on analog pointer instruments and in its basic form cannot be distinguished outwardly from purely mechanical devices.”</p>
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G. Claim 7 (Dependent)

<i>Claim 7</i>	<i>Anticipated By Aumayer (Ex. 1001)</i>
The speed limit indicator as defined in claim 1,	Aumayer teaches each of the limitations recited in independent claim 1.
further comprising: an electrically conductive wire having opposing ends with one end connected to said display controller; and a speed limit locating device connected to said opposing end of said wire.	As illustrated in Fig. 3 of Aumayer, the display device 211 is connected to the display processor 209, which is in turn connected to the locating device 201 including the GPS 202. Each of the display device 211, display processor 209, and locating device 201 is an electronic component, and the electronic components are connected via electrically conductive wire, as is well known in the art.
<i>Claim 7</i>	<i>Anticipated By Tegethoff (Ex. 1003)</i>
The speed limit indicator as	Tegethoff teaches each of the limitations recited in independent claim 1.

defined in claim 1,	
further comprising: an electrically conductive wire having opposing ends with one end connected to said display controller; and a speed limit locating device connected to said opposing end of said wire.	<p>Tegethoff discloses an LCD “screen 37 and an image generating computer 33, which is connected to information-providing elements 31 as well as an on-board computer 33.” (P. 4, col. 2). As noted above, the image generating computer 33 is the display controller.</p> <p>Tegethoff further discloses that the maximum permissible speed can be set “according to an element for navigation and a database with traffic control information or by an element for receiving transmitters outside the vehicle for traffic control.” (P. 6, col. 1). Tegethoff further discloses that its information-providing element includes elements for “receiving transmitters for traffic control external to the vehicle.” (P. 3, col. 2). Therefore, Tegethoff’s speed locating device for determining the maximum permissible speed is an information-providing element that is connected to the image generating computer 33, as noted above.</p> <p>Each of the LCD screen 37, image generating computer 33, and information-providing elements 31 is an electronic component, and the electronic components are connected via electrically conductive wire, as is well known in the art.</p>

H. Claim 8 (Dependent)

<i>Claim 8</i>	<i>Anticipated By Aumayer (Ex. 1001)</i>
The speed limit indicator as defined in claim 7,	Aumayer teaches each of the limitations recited in claims 1 and 6.
wherein said speed limit locating device comprises: a global positioning receiver; and	Aumayer discloses a “vehicle locating device 201,” which “comprises a vehicle position determining device 202,” and the position determining device is described as a GPS. (Col. 6, ll. 53-58; col. 7, ll. 2-5).

<p>a database of locations and their corresponding speed limits which is accessible by said display controller.</p>	<p>A memory 207 in Aumayer stores “speed limit data,” which can be updated “by means of a data carrier or storage medium, such as a CD.” (Col. 7, ll. 54-58). The data carrier “would store actual information regarding the latest allowed speed limits in various regions, including the physical units for the speed limit values.” (Col. 7, ll. 59-62).</p>
<p><i>Claim 8</i></p>	<p><i>Obvious Over Tegethoff (Ex. 1003) in View of Awada (Ex. 1010)</i></p>
<p>The speed limit indicator as defined in claim 7,</p>	<p>Tegethoff teaches each of the limitations recited in claims 1 and 7.</p>
<p>wherein said speed limit locating device comprises: a global positioning receiver; and</p>	<p>Tegethoff teaches that the maximum permissible speed for a vehicle’s location is determined according to an “element for navigation” or an “element for receiving transmitters outside the vehicle for traffic control.” (P. 6, col. 1). However, Tegethoff does not specifically teach that its element for navigation is a global positioning receiver.</p> <p>Awada, in analogous art, discloses “[a] method and apparatus for reporting a posted speed limit to the driver of a vehicle.” (Abstract). “The position of the vehicle is determined using a GPS receiver or triangulation of cellular telephone signals.” <i>Id.</i>; see also, col. 3, ll. 8-15. Awada further discloses that “[t]he processor receives the speed limit information and instructs a display within the interior of the vehicle to display the speed limit for the roadway on which the vehicle is traveling.” (Col. 3, ll. 30-35).</p> <p>It would have been obvious to one of ordinary skill in the art to combine the element for navigation, as taught by Tegethoff, with the GPS receiver of Awada to “allow[] anyone with a GPS receiver to identify his or her location on the earth’s surface with a high degree of accuracy.” (Awada, col. 2, ll. 63-65).</p>
<p>a database of</p>	<p>As noted above, Tegethoff displays the maximum</p>

<p>locations and their corresponding speed limits which is accessible by said display controller.</p>	<p>permissible speed corresponding to the location of the vehicle. Additionally, Tegethoff discloses that the “maximum speed can either be set manually or according to an element for navigation and <i>a database with traffic control information.</i>” (P. 6, col. 1) (emphasis added). Therefore, Tegethoff discloses a database of locations and their corresponding speed limits.</p> <p>Awada also discloses a database having “numerical speed limit” information. (Col. 3, ll. 10-11). “The database may be located within the vehicle 200 and stored in a memory or on a storage device such as a CD-ROM, which may be periodically updated by the vehicle’s operator or owner.” (Col. 3, ll. 11-15; see also, col. 3, ll. 16-35).</p> <p>A display controller, namely a processor within the vehicle, “receives the speed limit information and instructs a display within the interior of the vehicle to display the speed limit for the roadway on which the vehicle is traveling.” (Col. 3, ll. 30-35).</p>
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I. Claim 9 (Dependent)

<i>Claim 9</i>	<i>Anticipated By Aumayer (Ex. 1001)</i>
The speed limit indicator as defined in claim 1,	Aumayer teaches each of the limitations recited in independent claim 1.
wherein said display controller further comprises a tone generator.	Aumayer discloses a tone generator: “If the highlighted or emphasized speed as shown in FIGS. 2a to 2d is exceeded, thus an optical and/or acoustic warning can be generated for the driver” (Col. 6, ll. 48-51).
<i>Claim 9</i>	<i>Obvious Over Tegethoff (Ex. 1003) in View of Awada (Ex. 1010)</i>
The speed limit indicator as defined in claim 1,	Tegethoff teaches each of the limitations recited in independent claim 1.

<p>wherein said display controller further comprises a tone generator.</p>	<p>Tegethoff does not teach a tone generator. However, Awada, in analogous art, teaches implementing a warning signal, including an audible alarm, when the speed limit is exceeded: “In still another embodiment of the invention, a warning chime is played through a speaker or through the earpiece of the driver’s cellular telephone, if the vehicle exceeds the posted speed limit.” (Col. 1, ll. 53-56; see also, col. 4, ll. 36-42; col. 5, ll. 53-54, referring to a “warning tone” being provided to the driver).</p> <p>It would have been obvious to one of ordinary skill in the art to modify the speed limit indicator of Tegethoff to include a tone generator, namely an audible warning, to disseminate to a vehicle operation “various types of position-dependent information, including traffic notices, warning signals, and other information that needs to be transmitted to a vehicle operator.” (Awada, col. 5, ll. 55-59).</p>
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J. Claim 10 (Independent)

<i>Claim 10</i>	<i>Anticipated By Aumayer (Ex. 1001)</i>
<p>A speed limit indicator comprising:</p>	<p>Aumayer discloses a “speed display device 101.” (Col. 5, l. 19). “[S]peed limits at the current location [of the vehicle] may be displayed on the speed scale itself by highlighting an appropriate scale mark or producing a scale mark of a different length or color.” (Abstract).</p>
<p>a global positioning system receiver;</p>	<p>Aumayer discloses a “vehicle locating device 201,” which “comprises a vehicle position determining device 202,” and the position determining device “calculates the current geographic position of the vehicle from the data provided by the GPS satellites, which the locating device 201 receives via the first radio antenna 204.” (Col. 6, ll. 53-58; col. 7, ll. 2-5; Fig. 3).</p>
<p>a display controller connected to said</p>	<p>Aumayer discloses that “[t]he display device 211 comprises a display controller and a display medium” (Col. 7, ll. 34-35). A main processor 203 “determines the data, which</p>

<p>global positioning system receiver, wherein said display controller adjusts a colored display in response to signals from said global positioning system receiver to continuously update the delineation of which speed readings are in violation of the speed limit at a vehicle's present location;</p>	<p>are relevant for the speed display device, by means of vehicle sensors 206,” including vehicle speed. (Col. 7, ll. 12-15).</p> <p>As illustrated in Fig. 3 of Aumayer, the display device 211 is connected to the display processor 209, which is in turn connected to the locating device 201, including the GPS 202. Aumayer discloses the display device 101 (identified as reference numeral 211 in Fig. 3) includes a first scale 103 with scale values 104 and first scale marks 106. (Col. 5, ll. 20-22). The display device also includes a “second scale mark 107, which displays the maximum speed.” (Col. 5, l. 25-30). The second scale mark is colored red. (Col. 5, ll. 27-31).</p> <p>Aumayer further discloses that the display controller, namely the display processor 209, adjusts the colored display, namely a second scale mark 107: “These data are input to the display processor 209, which especially controls the display device 211. When a change of the display occurs, an acoustic warning is generated by means of the loud speaker 212. The display device 211 now may show a changed speed scale, changed scale values, changed physical units as well as additional warning symbols and/or speed limit symbols. . . . The embodiments with the display screen permit a very simple change of the display by means of the method according to the invention, since the display device 211 only needs to show a different image in the display screen.” (Col. 7, ll. 27-33, 37-41). See also, column 2, lines 4-6, providing a step of the disclosed method: “displaying automatically on a display device at least one of an actual current speed of the vehicle and allowed speed limits”</p> <p>Aumayer thus changes its LCD screen of Fig. 2a to update with the current speed and the speed limit corresponding to the vehicle’s location, as indicated by the second scale mark</p>
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	<p>107. The control of the colored display, namely the second scale mark 107, is independent of the updating of the speed, “since the display device 211 only needs to show a different image in the display screen,” as noted above. The red-colored second scale mark 107 presented on the speedometer scale of Fig. 2a delineates “which speed readings are in violation of the speed limit at a vehicle’s present location,” as claimed in the ’074 Patent.</p>
<p>and a speedometer integrally attached to said colored display.</p>	<p>Aumayer discloses the “speed display device 101 in a motor vehicle including a speedometer is shown in Fig. 2a.” (Col. 5, ll. 19-20; see also, Fig. 2a). Fig. 3 of Aumayer discloses the hardware associated with the speed display device 101. In Fig. 3, a display device 211 includes a “display medium, for example a display screen provided by a liquid crystal display device, a plasma screen or a cathode ray tube.” (Col. 7, ll. 34-37).</p> <p>Because the display device 211 is, for example, an LCD screen that displays both the speedometer and the colored second scale mark 107, the speedometer is integrally attached to the colored display, namely the colored second scale mark 107.</p> <p>Additionally, Aumayer notes that mechanical elements may also be used for the display device 211: “Furthermore it is also possible to use a commercial combined apparatus with mechanical display elements for the display device 211. The control of the pointer 102 must then be adjusted to the suitable physical units shown in the physical unit indicator 108. The physical units are shown in a small display device or by a characteristic illuminated symbol field in the primary display device. For example, a speed limit can be made visible by background lighting in a different color at the scale mark associated with the corresponding speed limit.” (Col. 7, ll. 42-51).</p>

	<p>Because Aumayer discloses a mechanical speedometer attached to a background display device that uses colored background lighting to indicate the speed limit, Aumayer discloses a speedometer integrally attached to the colored display.</p>
Claim 10	<i>Obvious Over Tegethoff (Ex. 1003) in View of Awada (Ex. 1010)</i>
A speed limit indicator comprising:	<p>Tegethoff discloses a display system 1 for displaying a variety of vehicle information, including a maximum permissible speed. (See, p. 5, col. 2: “Fig. 2 shows a display according to the invention for the current speed of the vehicle as well as additional information.”).</p>
a global positioning system receiver;	<p>Tegethoff teaches that the maximum permissible speed for a vehicle’s location is determined according to an “element for navigation” or an “element for receiving transmitters outside the vehicle for traffic control.” (P. 6, col. 1). However, Tegethoff does not specifically teach that its element for navigation is a global positioning receiver.</p> <p>Awada, in analogous art, discloses “[a] method and apparatus for reporting a posted speed limit to the driver of a vehicle.” (Abstract). “The position of the vehicle is determined using a GPS receiver or triangulation of cellular telephone signals.” <i>Id.</i>; see also, col. 3, ll. 8-15. Awada further discloses that “[t]he processor receives the speed limit information and instructs a display within the interior of the vehicle to display the speed limit for the roadway on which the vehicle is traveling.” (Col. 3, ll. 30-35).</p> <p>It would have been obvious to one of ordinary skill in the art to combine the element for navigation, as taught by Tegethoff, with the GPS receiver of Awada to “allow[] anyone with a GPS receiver to identify his or her location on the earth’s surface with a high degree of accuracy.” (Awada, col. 2, ll. 63-65).</p>
a display	<p>Tegethoff teaches that its display system includes “a screen</p>

<p>controller connected to said global positioning system receiver,</p>	<p>37 and an image generating computer 33, which is connected to information-providing elements 31 as well as an on-board computer 32.” (P. 4, col. 2). The image generating computer is a display controller that can be “programmed completely freely” to display “the representation on the screen, such as pointers [and] markings and scales” (P. 5, cols. 1-2).</p> <p>Tegethoff further discloses that the maximum permissible speed can be set “according to an element for navigation and a database with traffic control information or by an element for receiving transmitters outside the vehicle for traffic control.” (P. 6, col. 1). Tegethoff further discloses that its information-providing element includes elements for “receiving transmitters for traffic control external to the vehicle.” (P. 3, col. 2). Therefore, Tegethoff’s speed locating device for determining the maximum permissible speed is an information-providing element that is connected to the image generating computer 33, as noted above.</p> <p>As noted above, it would have been obvious to specifically use a GPS, as provided in Awada, as the element for navigation disclosed in Tegethoff, such that the GPS receiver would be connected to the display controller, namely the image generating computer 33 of Tegethoff.</p>
<p>wherein said display controller adjusts a colored display in response to signals from said global positioning system receiver to continuously update the delineation of which speed</p>	<p>Tegethoff teaches displaying a mark on the screen 37 that indicates the speed limit corresponding to the vehicle’s location: “A mark for indicating a currently permissible maximum speed 5 shows a permissible maximum speed <i>for the road section where the car is currently located</i>. This maximum speed can either be set manually or according to the element for navigation and a database with traffic control information or by an element for receiving transmitters outside the vehicle for traffic control.” (P. 6, col. 1; see also, Fig. 2 and tick mark 5 at approximately 110 km/h) (emphasis added). As illustrated in Fig. 2, the mark 5 is displayed on a conventional speedometer scale.</p>

<p>readings are in violation of the speed limit at a vehicle's present location;</p>	<p>Tegethoff further teaches that the mark for indicating the speed limit can be colored red: “Thus, for example, warnings that require immediate action or represent a critical technical or legislative limit, can appear in the color red (e.g., a maximum speed or the part of the braking distance or stopping distance that exceeds the distance to the vehicle ahead).” (P. 7, col. 1; see also, Fig. 2).</p> <p>Tegethoff thus teaches a colored display, namely the red-colored tick mark on the speedometer scale. The tick mark delineates the speed readings in violation of the speed limit, namely those readings after the tick mark. Moreover, the tick mark is changed corresponding to the vehicle’s location, as described above.</p>
<p>and a speedometer integrally attached to said colored display.</p>	<p>Tegethoff teaches that the information-providing element is, among other elements, an element for measuring speed, and further, that “Fig. 2 shows a display according the invention for the current speed of the vehicle as well as additional information.” (P. 5, col. 2). In more detail, Tegethoff’s invention allows for “free programmability of the screen” for “representation of primary drive information, such as the speed of a vehicle, that is a marked change compared to traditional instruments, (e.g., the superposition of digital numbers instead of analog pointer instruments to display speed).” (P. 2, col. 1). As stated in Tegethoff, “[t]he object of the present invention is to create a display system that has the good readability of analog pointer instruments and, moreover, in an easily understandable manner provides additional information that facilitates the safe and economical operation of the vehicle.” (P. 2, col. 2).</p> <p>Thus, Tegethoff discloses a digital speedometer, as illustrated in Fig. 2, that is displayed as a mechanical, analog speedometer with a speedometer scale and pointer. As noted by Tegethoff, “[t]he representation of the screen 37 covered</p>

	<p>in Fig. 1 comprises a round instrument 34 composed of a scale and pointer which is designed based on analog pointer instruments and in its basic form cannot be distinguished outwardly from purely mechanical devices.” (P. 4, col. 1).</p> <p>The colored display of Tegethoff, namely the colored tick mark 5 to indicate a maximum permissible speed, is integrally attached to the speedometer because the screen 37 displays both the speedometer and the colored tick mark 5.</p>
<i>Claim 10</i>	<i>Obvious Over Tokunaga (Ex. 1005) in View of Hamamura (Ex. 1007)</i>
A speed limit indicator comprising:	Tokunaga discloses a lighting unit for use in “a speedometer for motor vehicles.” (Col. 4, ll. 62-67). As discussed below, the lighting unit is operable to change color when the vehicle speed exceeds a legal speed limit.
a global positioning system receiver;	<p>Tokunaga does not disclose determining the vehicle’s location with a GPS receiver. Hamamura, in analogous art, discloses a navigation device 1 provided with “a vehicle position detection means 5 consisting of a receiver for receiving electric waves from an artificial navigation satellite (GPS satellite) 4 and a GPS computer for detecting the vehicle position based on the abovementioned electric waves.” (P. 4, ¶ 0011).</p> <p>It would have been obvious to one of ordinary skill in the art to modify Tokunaga to determine the vehicle’s location with the GPS receiver of Hamamura so that “[a] driver can confirm a safe speed by looking at the screen by virtue of the abovementioned display and thereby find the relationship between the current vehicle speed displayed on a speed meter and the abovementioned safe speed.” (Hamamura, p. 4, ¶ 0015).</p>
a display controller connected to said global positioning	Tokunaga discloses a “means of controlling the illumination of the lighting unit, more specifically, a means of controlling the action of the LED’s serving as light sources of the lighting unit, which includes a central processing unit (CPU)

<p>system receiver, wherein said display controller adjusts a colored display in response to signals from said global positioning system receiver to continuously update the delineation of which speed readings are in violation of the speed limit at a vehicle's present location;</p>	<p>11, a judgment circuit 12, a memory 13, a color decision circuit 14, and an on/off control circuit 15.” (Col. 4, ll. 1-7). Thus, Tokunaga discloses a display controller, namely the disclosed CPU, which is connected to the colored display, namely the lighting unit.</p> <p>Tokunaga does not expressly disclose that its CPU is connected to a GPS receiver. However, Hamamura discloses “a safe speed decision means 7 as a processing means of retrieving the vehicle position detected by the abovementioned vehicle position detection means 5 on the map read from the external storage device 6 and deciding a safe running speed at the position on the map.” (P. 4, ¶ 0011).</p> <p>Tokunaga further discloses the lighting unit, which is controlled by the CUP of Tokunaga, is attached to a speedometer and is colored red when the vehicle speed exceeds a legal speed limit: “[T]he application to the speedometer would allow the color of a display light for the speedometer to change from blue which has been lit so far to red if the vehicle speed exceeds a legal speed limit.” (Col. 5, ll. 1-5). Thus, the lighting unit continuously updates the driver by being lit red to delineate the speed readings in violation the speed limit. As further taught by Hamamura, the vehicle’s present location is determined by a GPS.</p>
<p>and a speedometer integrally attached to said colored display.</p>	<p>Tokunaga discloses that its “lighting unit is incorporated into the game machine so as to illuminate the liquid crystal display 9.” (Col. 3, ll. 66-68). Tokunaga further discloses that in lieu of a gaming device, the “present lighting unit has various other applications to, for example display surfaces of a speedometer for motor vehicles” (Col. 4, ll. 65-67). Thus, the lighting unit is integrally attached to the speedometer.</p>

K. Claim 11 (Dependent)

<i>Claim 11</i>	<i>Anticipated By Aumayer (Ex. 1001)</i>
The speed limit indicator as defined in claim 10,	Aumayer teaches each of the limitations recited in independent claim 10.
wherein said global positioning system receiver further comprises a database of locations and their corresponding speed limits.	A memory 207 in Aumayer stores “speed limit data,” which can be updated “by means of a data carrier or storage medium, such as a CD.” (Col. 7, ll. 54-58). The data carrier “would store actual information regarding the latest allowed speed limits in various regions, including the physical units for the speed limit values.” (Col. 7, ll. 59-62). See also, column 7, lines 5-11, which discusses that the region or area having the predetermined speed limits is “determined from the geographic position of the vehicle” and a digital map “correlates respective geographic positions with corresponding regions or areas and is stored in the memory 207.”
<i>Claim 11</i>	<i>Obvious Over Tegethoff (Ex. 1003) in View of Awada (Ex. 1010)</i>
The speed limit indicator as defined in claim 10,	The combination of Tegethoff and Awada teach each of the limitations recited in independent claim 10.
wherein said global positioning system receiver further comprises a database of locations and their corresponding speed limits.	<p>As noted above, Tegethoff displays the maximum permissible speed corresponding to the location of the vehicle. Additionally, Tegethoff discloses that the “maximum speed can either be set manually or according to an element for navigation and <i>a database with traffic control information.</i>” (P. 6, col. 1) (emphasis added). Therefore, Tegethoff discloses a database of locations and their corresponding speed limits.</p> <p>Additionally, Awada discloses a database having “numerical speed limit” information. (Col. 3, ll. 10-11). “The database may be located within the vehicle 200 and stored in a memory</p>

	<p>or on a storage device such as a CD-ROM, which may be periodically updated by the vehicle’s operator or owner.” (Col. 3, ll. 11-15; see also, col. 3, ll. 16-35).</p> <p>A display controller, namely a processor within the vehicle, “receives the speed limit information and instructs a display within the interior of the vehicle to display the speed limit for the roadway on which the vehicle is traveling.” (Col. 3, ll. 30-35).</p>
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L. Claim 12 (Dependent)

<i>Claim 12</i>	<i>Anticipated By Aumayer (Ex. 1001)</i>
The speed limit indicator as defined in claim 10,	Aumayer teaches each of the limitations recited in independent claim 10.
wherein said colored display is a liquid crystal display.	Aumayer discloses that the display device 211 includes a “display medium, for example a display screen provided by a liquid crystal display device, a plasma screen or a cathode ray tube.” (Col. 7, ll. 34-37). The second scale mark 107 is displayed on the LCD.
<i>Claim 12</i>	<i>Obvious Over Tegethoff (Ex. 1003) in View of Awada (Ex. 1010)</i>
The speed limit indicator as defined in claim 10,	The combination of Tegethoff and Awada teach each of the limitations recited in independent claim 10.
wherein said colored display is a liquid crystal display.	Tegethoff teaches that its screen 37 for displaying the current speed and the maximum permissible speed is an LCD screen: “By means of a control device, not shown in further detail here, switched by an operator and/or according to the information-providing instruments 31, respectively at least the image of the scale, of the pointer, of the marking or other information can be changed on the screen 37, which is

	designed, for example, as a high-resolution LCD display and renders possible multicolored images.” (P. 5, col. 1).
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M. Claim 13 (Dependent)

<i>Claim 13</i>	<i>Anticipated By Aumayer (Ex. 1001)</i>
The speed limit indicator as defined in claim 12,	Aumayer teaches each of the limitations recited in claims 10 and 12.
wherein said display controller adjusts said liquid crystal display independently of said speedometer to continuously update the delineation of which speed readings are in violation of the speed limit at a vehicle's present location.	<p>Aumayer further discloses that the display controller, namely the display processor 209, adjusts the display device 211 independently of the speedometer: “These data are input to the display processor 209, which especially controls the display device 211. When a change of the display occurs, an acoustic warning is generated by means of the loud speaker 212. The display device 211 now may show a changed speed scale, changed scale values, changed physical units as well as additional warning symbols and/or speed limit symbols. . . . The embodiments with the display screen permit a very simple change of the display by means of the method according to the invention, since the display device 211 only needs to show a different image in the display screen.” (Col. 7, ll. 27-33, 37-41). See also, column 2, lines 4-6, providing a step of the disclosed method: “displaying automatically on a display device at least one of an actual current speed of the vehicle and allowed speed limits”</p> <p>Additionally, Aumayer notes that in embodiments with “mechanical display elements for the display device 211 . . . a speed limit can be made visible by background lighting in a different color at the scale mark associated with the corresponding speed limit.” (Col. 7, ll. 43-51). Thus, when a mechanical speedometer is employed, the colored background lighting can indicate the speed limit.</p>
<i>Claim 13</i>	<i>Obvious Over Tegethoff (Ex. 1003) in</i>

<i>View of Awada (Ex. 1010)</i>	
<p>The speed limit indicator as defined in claim 12,</p>	<p>The combination of Tegethoff and Awada teaches each of the limitations recited in claims 10 and 11.</p>
<p>wherein said display controller adjusts said liquid crystal display independently of said speedometer to continuously update the delineation of which speed readings are in violation of the speed limit at a vehicle's present location.</p>	<p>Tegethoff further discloses that the display controller, namely the image generating computer, can adjust the colored tick mark 5 independently of the speedometer: “By means of a control device, not shown in further detail here, switched by an operator and/or according to the information-providing instruments 31, respectively at least the image of the scale, of the pointer, of the marking or other information can be changed on the screen 37, which is designed, for example, as a high-resolution LCD display and renders possible multicolored images.” (P. 5, col. 1).</p> <p>Thus, the image generating computer 33 of Tegethoff can continuously update the location of the colored tick mark 5 on the LCD screen 37 and independently of the reading on the speedometer scale to delineate speed readings in violation of the speed limit. Tegethoff specifically identifies the advantages and the desirability of being able to display various types of information, such as the current speed and the maximum permissible speed: “This makes it possible to display known instruments composed of pointer and scale in connection with the embodiments of the markings described above. This also makes it possible <i>to display connections between different parameters particularly easily</i>. Moreover, it is advantageous to connect the display system to an on-board computer, which in turn is connected to the information-providing elements, since this makes it possible to display calculated values, such as mean values, for example, with the aid of markings.” (P. 3, col. 2, ¶ 1) (emphasis added).</p>

N. Claim 14 (Dependent)

Claim 14	Obvious Over Aumayer (Ex. 1001) in View of Evans (Ex. 1009)
<p>The speed limit indicator as defined in claim 10,</p>	<p>Aumayer teaches each of the limitations recited in independent claim 10.</p>
<p>wherein said colored display is a colored filter.</p>	<p>Although Aumayer teaches a red-colored scale mark comprising a colored display, the scale mark is arguably not a colored filter. However, Evans in analogous art, discloses a “speed warning indicator” for attachment to the front face of a speedometer. (Col. 3, ll. 13-15). The indicator is a plate 12 bearing colored indicia 36, such that when the plate is attached to the speedometer face, “the indicial color (red) of plate 12 appears to be on a portion of dial 30 [of the speedometer] when viewed through cover 24.” (Col. 3, ll. 29-31).</p> <p>“Plate 12 is positioned on dial 30 so that only the portion of the dial which contains numbers representing speeds in excess of the speed limit to be warned against is overlaid by plate 12, for example, speeds in excess of 55 mph, as shown in Fig. 3.” (Col. 3, 32-36).</p> <div data-bbox="776 1234 1140 1444" data-label="Image"> </div> <p>Fig. 3</p> <p>It would have been obvious to one of ordinary skill in the art to combine the colored plate of Evans with Aumayer to “instantly determine if the speed limit is or is not being exceeded,” and further to achieve “a safety device of considerable utility.” (Evans, col. 3, ll. 50-54). Evans further notes the desirability of such a feature: “The driver only need glance at the dial while driving, with the indicator in place on the dial, and tell whether the speed limit is being exceeded or</p>

	<p>not, i.e. whether the speedometer needle is in or out of the warning area of the dial, as defined by the indicator plate. Sharp, accurate and swift reference to the dial can thus be made, with a lasting visual impression on the driver.” (Col. 2, ll. 9-15).</p>
<p>Claim 14</p>	<p><i>Obvious Over Tegethoff (Ex. 1003) in View of Awada (Ex. 1010) and Further in View of Evans (Ex. 1009)</i></p>
<p>The speed limit indicator as defined in claim 10,</p>	<p>The combination of Tegethoff and Awada teaches each of the limitations recited in independent claim 10.</p>
<p>wherein said colored display is a colored filter.</p>	<p>Although Tegethoff teaches a red-colored tick mark 5 comprising a colored display, the tick mark is arguably not a colored filter. However, Evans, in analogous art, discloses a “speed warning indicator” for attachment to the front face of a speedometer. (Col. 3, ll. 13-15). The indicator is a plate 12 bearing colored indicia 36, such that when the plate is attached to the speedometer face, “the indicial color (red) of plate 12 appears to be on a portion of dial 30 [of the speedometer] when viewed through cover 24.” (Col. 3, ll. 29-31).</p> <p>“Plate 12 is positioned on dial 30 so that only the portion of the dial which contains numbers representing speeds in excess of the speed limit to be warned against is overlaid by plate 12, for example, speeds in excess of 55 mph, as shown in Fig. 3.” (Col. 3, 32-36).</p> <p>It would have been obvious to one of ordinary skill in the art to combine the colored plate of Evans with Tegethoff to “instantly determine if the speed limit is or is not being exceeded,” and further to achieve “a safety device of considerable utility.” (Evans, col. 3, ll. 50-54). Evans further notes the desirability of such a feature: “The driver only need glance at the dial while driving, with the indicator in place on the dial, and tell whether the speed limit is being exceeded or</p>

	not, i.e. whether the speedometer needle is in or out of the warning area of the dial, as defined by the indicator plate. Sharp, accurate and swift reference to the dial can thus be made, with a lasting visual impression on the driver.” (Col. 2, ll. 9-15).
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O. Claim 15 (Dependent)

<i>Claim 15</i>	<i>Obvious Over Aumayer (Ex. 1001) in View of Evans (Ex. 1009)</i>
The speed limit indicator as defined in claim 14,	The combination of Aumayer and Evans teaches each of the limitations recited in claims 10 and 14.
wherein said speedometer comprises: a needle; an axle having opposing ends with one end attached to said needle; and a speedometer cable having opposing ends with one end attached to said axle.	As noted above for claim 4, Aumayer discloses a speedometer comprising a needle, axle, and speedometer cable. However, Evans also discloses such. Referring to Fig. 3, Evans discloses a needle 28 and an axle to which the needle is connected at one end. (See, Fig. 3; col. 3, ll. 22-25). It is well known in the art that a speedometer axle is connected to cabling that controls the speedometer display.
<i>Claim 15</i>	<i>Obvious Over Tegethoff (Ex. 1003) in View of Awada (Ex. 1010) and Further in View of Evans (Ex. 1009)</i>
The speed limit indicator as defined in claim 14,	The combination of Tegethoff, Awada, and Evans teaches each of the limitations recited in claims 10 and 14.
wherein said speedometer comprises: a needle; an axle having opposing ends with one end attached to said needle; and a speedometer cable having opposing ends with one end attached to said axle.	Tegethoff discloses a speedometer comprising a needle, axle, and speedometer cable. (See, Tegethoff, Fig. 2). However, Evans also discloses such. Referring to Fig. 3, Evans discloses a needle 28 and an axle to which the needle is connected at one end. (See, Fig. 3; col. 3, ll. 22-25). It is well known in the art that a speedometer axle is connected to cabling that controls the speedometer display.

	<p>It would have been obvious to one of ordinary skill in the art to combine the mechanical speedometer of Evans with the LCD display of Tegethoff because “connections between different driving parameters can be clarified to the driver in a very clear and intuitively comprehensible manner . . .” (Tegethoff, p. 3, col. 1).</p>
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P. Claim 16 (Dependent)

<i>Claim 16</i>	<i>Obvious Over Aumayer (Ex. 1001) in View of Evans (Ex. 1009)</i>
<p>The seed [sic] limit indicator as defined in claim 15,</p>	<p>The combination of Aumayer and Evans teaches each of the limitations recited in claims 10 and 14-15.</p>
<p>wherein said speedometer further comprises: a backplate; a plurality of speed denoting markings affixed to said backplate; and a housing enclosing said backplate.</p>	<p>As noted above for claim 5, Aumayer discloses a speedometer comprising a backplate, speed denoting markings, and a housing. However, Evans also discloses such. Referring to Figs. 3 and 4, Evans discloses a speedometer 25 having a casing 26. (Col. 3, ll. 22-23). A rear, interior face or backplate of the casing includes a plurality of speed denoting markings (i.e., the scale and numbers illustrated in Fig. 3).</p>
<i>Claim 16</i>	<i>Obvious Over Tegethoff (Ex. 1003) in View of Awada (Ex. 1010) and Further in View of Evans (Ex. 1009)</i>
<p>The seed [sic] limit indicator as defined in claim 15,</p>	<p>The combination of Tegethoff, Awada, and Evans teaches each of the limitations recited in claims 10 and 14-15.</p>
<p>wherein said speedometer further comprises:</p>	<p>Tegethoff discloses a speedometer comprising a backplate, speed denoting markings, and a housing. (See, Tegethoff, Fig. 2). However, Evans also discloses such. Referring to Figs. 3</p>

<p>a backplate; a plurality of speed denoting markings affixed to said backplate; and a housing enclosing said backplate.</p>	<p>and 4, Evans discloses a speedometer 25 having a casing 26. (Col. 3, ll. 22-23). A rear, interior face or backplate of the casing includes a plurality of speed denoting markings (i.e., the scale and numbers illustrated in Fig. 3).</p>
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Q. Claim 17 (Dependent)

<p><i>Claim 17</i></p>	<p><i>Obvious Over Aumayer (Ex. 1001) in View of Evans (Ex. 1009) and Further in View of Wendt (Ex. 1011)</i></p>
<p>The speed limit indicator as defined in claim 14,</p>	<p>The combination of Aumayer and Evans teaches each of the limitations recited in claims 10 and 14.</p>
<p>wherein said display controller rotates said colored filter independently of said speedometer to continuously update the delineation of which speed readings are in violation of the speed limit at a vehicle's present location.</p>	<p>The second scale mark 107 of Aumayer rotates around the speedometer scale based on the speed limit for the vehicle's location, as discussed above for claim 10. (Compare, Figs. 2a-2d, which illustrate the second scale mark at a different speed location on the speedometer scale). Thus, Aumayer teaches rotating its colored display, namely the second scale mark, to continuously update the delineation of speed readings in violation of the speed limit.</p> <p>Aumayer does not disclose rotation of a colored filter. However, it would have been obvious to one of ordinary skill in the art to combine the colored filter of Evans with Aumayer and to rotate Evans's colored filter in lieu of rotation of the second scale mark in Aumayer about the speedometer scale.</p> <p>Additionally, rotation of a speed indicating element about a speedometer scale is well known. In particular, Wendt discloses a pointer 16 that can be rotated to a speed limit, as showing in Fig. 1. (Col. 3, ll. 17-22). It would have been</p>

	<p>obvious to one of ordinary skill in the art to replace the pointer 16 of Wendt with the colored filter of Evans, and to further modify Aumayer to rotate the colored filter in lieu of rotation of the second scale mark in Aumayer about the speedometer scale. One of ordinary skill in the art would have been motivated to make such a combination “to be a constant reminder and used in correlation with the moving pointer of the speedometer to indicate a point beyond which the speedometer needle should not be moved.” (Wendt, col. 1, ll. 29-32).</p>
<p><i>Claim 17</i></p>	<p><i>Obvious Over Tegethoff (Ex. 1003) in View of Awada (Ex. 1010) and Further in View of Evans (Ex. 1009) and Further in View of Wendt (Ex. 1011)</i></p>
<p>The speed limit indicator as defined in claim 14,</p>	<p>The combination of Tegethoff, Awada, and Evans teaches each of the limitations recited in claims 10 and 14.</p>
<p>wherein said display controller rotates said colored filter independently of said speedometer to continuously update the delineation of which speed readings are in violation of the speed limit at a vehicle's present location.</p>	<p>The red-colored tick mark 5 of Tegethoff rotates around the speedometer scale based on the speed limit for the vehicle’s location, as discussed above for claim 10. Thus, Aumayer teaches rotating its colored display, namely the red-colored tick mark 5, to continuously update the delineation of speed readings in violation of the speed limit.</p> <p>Tegethoff does not disclose rotation of a colored filter. However, it would have been obvious to one of ordinary skill in the art to combine the colored filter of Evans with Tegethoff and to rotate Evans’s colored filter in lieu of rotation of the red-colored tick mark 5 in Tegethoff about the speedometer scale.</p> <p>Additionally, rotation of a speed indicating element about a speedometer scale is well known. In particular, Wendt discloses a pointer 16 that can be rotated to a speed limit, as showing in Fig. 1. (Col. 3, ll. 17-22). It would have been obvious to one of ordinary skill in the art to replace the</p>

	<p>pointer 16 of Wendt with the colored filter of Evans, and to further modify Tegethoff to rotate the colored filter in lieu of rotation of the red-colored tick mark 5 in Tegethoff about the speedometer scale. One of ordinary skill in the art would have been motivated to make such a combination “to be a constant reminder and used in correlation with the moving pointer of the speedometer to indicate a point beyond which the speedometer needle should not be moved.” (Wendt, col. 1, ll. 29-32).</p>
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R. Claim 18 (Dependent)

<i>Claim 18</i>	<i>Anticipated By Aumayer (Ex. 1001)</i>
<p>The speed limit indicator as defined in claim 10,</p>	<p>Aumayer teaches each of the limitations recited in independent claim 10.</p>
<p>wherein said speedometer comprises a liquid crystal display.</p>	<p>Aumayer discloses that the display device 211 includes a “display medium, for example a display screen provided by a liquid crystal display device, a plasma screen or a cathode ray tube.” (Col. 7, ll. 34-37).</p>
<i>Claim 18</i>	<i>Obvious Over Tegethoff (Ex. 1003) in View of Awada (Ex. 1010)</i>
<p>The speed limit indicator as defined in claim 10,</p>	<p>The combination of Tegethoff and Awada teaches each of the limitations recited in independent claim 10.</p>
<p>wherein said speedometer comprises a liquid crystal display.</p>	<p>Tegethoff discloses an LCD screen: “By means of a control device, not shown in further detail here, switched by an operator and/or according to the information-providing instruments 31, respectively at least the image of the scale, of the pointer, of the marking or other information can be changed on the screen 37, which is designed, for example, as a high-resolution LCD display and renders possible multicolored images.” (P. 5, col. 1).</p>

	<p>Tegethoff further teaches that its LCD screen 37 displays the speedometer pointer (i.e., needle) and speedometer scale: “Fig. 2 shows a display according to the invention for the current speed of the vehicle as well as additional information. The pointer for speed measurement 2 shows a current speed 39 of the vehicle on the scale for speed measurement 29.” (P. 5, col. 2). See also, page 4, column 2, discussing that the LCD screen displays scale and pointer so that it is indistinguishable from a conventional analog or mechanical instrument: “The representation of the screen 37 covered in Fig. 1 comprises a round instrument 34 composed of a scale and pointer which is designed based on analog pointer instruments and in its basic form cannot be distinguished outwardly from purely mechanical devices.”</p>
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S. Claim 19 (Dependent)

<i>Claim 19</i>	<i>Anticipated By Aumayer (Ex. 1001)</i>
The speed limit indicator as defined in claim 10,	Aumayer teaches each of the limitations recited in independent claim 10.
wherein said display controller further comprises a tone generator.	Aumayer discloses a tone generator: “If the highlighted or emphasized speed as shown in FIGS. 2a to 2d is exceeded, thus an optical and/or acoustic warning can be generated for the driver” (Col. 6, ll. 48-51).
<i>Claim 19</i>	<i>Obvious Over Tegethoff (Ex. 1003) in View of Awada (Ex. 1010)</i>
The speed limit indicator as defined in claim 10,	The combination of Tegethoff and Awada teaches each of the limitations recited in independent claim 10.
wherein said display controller	Tegethoff does not teach a tone generator. However, Awada, in analogous art, teaches implementing a warning signal,

<p>further comprises a tone generator.</p>	<p>including an audible alarm, when the speed limit is exceeded: “In still another embodiment of the invention, a warning chime is played through a speaker or through the earpiece of the driver’s cellular telephone, if the vehicle exceeds the posted speed limit.” (Col. 1, ll. 53-56; see also, col. 4, ll. 36-42; col. 5, ll. 53-54, referring to a “warning tone” being provided to the driver).</p> <p>It would have been obvious to one of ordinary skill in the art to modify the speed limit indicator of Tegethoff to include a tone generator, namely an audible warning, to disseminate to a vehicle operation “various types of position-dependent information, including traffic notices, warning signals, and other information that needs to be transmitted to a vehicle operator.” (Awada, col. 5, ll. 55-59).</p>
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T. Claim 20 (Independent)

<i>Claim 20</i>	<i>Anticipated By Aumayer (Ex. 1001)</i>
<p>A method of determining speed, the relevant speed limit, and displaying same, which comprises the steps of:</p>	<p>Aumayer is directed to “a method of automatically adjusting vehicle speed values displayed in a vehicle according to vehicle location.” (Col. 1, ll. 56-60). This method broadly includes the steps of determining vehicle position and displaying an actual current speed of the vehicle and allowed speed limits. (Col. 1, l. 61 – col. 2, l. 8).</p>
<p>uploading current information to regional speed limit database;</p>	<p>Aumayer states that embodiments of its method “advantageously include updating the speed limit data stored in the vehicle” (Col. 2, ll. 54-56). In more detail, a memory 207 in Aumayer stores “speed limit data,” which can be updated by a “radio connection” or “by means of a data carrier or storage medium, such as a CD.” (Col. 7, ll. 54-58). The data carrier “would store actual information regarding the latest allowed speed limits in various regions, including the physical units for the speed limit values.” (Col. 7, ll. 59-62).</p>

determining vehicle location and speed;	Aumayer discloses determining vehicle location using GPS: “a GPS locating device and/or a composition navigate device determines the geographic position of the vehicle in a first position-determining step 11, e.g. from GPS satellite signals.” (Col. 4, ll. 42-45). Aumayer further discloses determining vehicle speed: “The main processor 203 now determines the data, which are relevant for the speed display device, by means of vehicle sensor 206. For example, besides the actual vehicle speed, whether or not a trailer is attached, whether or not fog lights are lit and whether or not chains are being used are also relevant data.” (Col. 7, ll. 12-17).
obtaining speed limit for said vehicle location from said database;	Aumayer discloses obtaining speed limit information for the vehicle location: “Furthermore the main processor 203 determines the speed limits for the individual classes of streets and roads in the region in which the vehicle is located” (Col. 7, ll. 21-24).
comparing vehicle speed to said speed limit;	Aumayer discloses generating an acoustic warning if the highlighted speed limit is exceeded: “If the highlighted or emphasized speed as shown in FIGS. 2a to 2d is exceeded, thus an optical and/or acoustic warning can be generated for the driver” (Col. 6, ll. 48-51). An acoustic warning dependent upon exceeding the highlighted speed limit could not be accomplished without comparing the vehicle speed to the speed limit.
generating tone if said vehicle speed exceeds said speed limit;	Aumayer discloses a tone generator: “If the highlighted or emphasized speed as shown in FIGS. 2a to 2d is exceeded, thus an optical and/or acoustic warning can be generated for the driver” (Col. 6, ll. 48-51).
sending speed limit to display control unit;	Aumayer discloses certain data, including speed limit data, is “input to the display processor 209, which especially controls the display device 211.” (Col. 7, ll. 21-29).
and modifying the limit indicator as defined in claim 1 to reflect which	Aumayer modifies the speed limit indicator as defined in claim 1 (see claim 1, above, for the teachings of Aumayer corresponding to claim 1). In particular, the speed limit as identified on the second scale mark 107 is modified based on

speeds are below said speed limit and which speeds exceed said speed limit.	the speed limit at the vehicle’s location. (Compare, Figs. 2a-2d, which illustrate the second scale mark at a different speed location on the speedometer scale). The second scale mark 107 reflects speeds below and above the set speed limit.
<i>Claim 20</i>	<i>Obvious Over Tegethoff (Ex. 1003) in View of Awada (Ex. 1010)</i>
A method of determining speed, the relevant speed limit, and displaying same, which comprises the steps of:	Tegethoff discloses a display system 1 for displaying a variety of vehicle information, including the current speed and a maximum permissible speed. (See, p. 5, col. 2: “Fig. 2 shows a display according to the invention for the current speed of the vehicle as well as additional information.”).
uploading current information to regional speed limit database;	As discussed in more detail below, Tegethoff displays the maximum permissible speed corresponding to the location of the vehicle. Additionally, Tegethoff discloses that the “maximum speed can either be set manually or according to an element for navigation and <i>a database with traffic control information.</i> ” (P. 6, col. 1) (emphasis added). Therefore, Tegethoff discloses a database of locations and their corresponding speed limits.
determining vehicle location and speed;	<p>Tegethoff further discloses determining the current vehicle speed: “In principle, the information-providing elements³¹ [sic] can be embodied as any desired elements, for example, as elements for measuring speed” (P. 5, col. 1; see also, p. 5, col. 2: “Fig. 2 shows a display according to the invention for the current speed of the vehicle as well as additional information.”).</p> <p>Additionally, Tegethoff discloses determining the vehicle location via an element for navigation. In particular, vehicle location must be determined to determine the permissible maximum speed 5 “for the road section where the car is currently located.” (P. 6, col. 1). Thus, Tegethoff discloses determining vehicle location.</p>

<p>obtaining speed limit for said vehicle location from said database;</p>	<p>Tegethoff discloses that the permissible maximum speed 5 is “for the road section where the car is currently located,” and the “maximum speed can either be set manually or according to an element for navigation and <i>a database with traffic control information.</i>” (P. 6, col. 1) (emphasis added). Therefore, Tegethoff discloses obtaining the speed limit for the vehicle location from the database.</p>
<p>comparing vehicle speed to said speed limit;</p>	<p>Tegethoff does not expressly disclose comparing the vehicle speed to the speed limit. However, Awada in analogous art, teaches comparing the vehicle speed to the speed limit: “A comparison of the speed limit information with the vehicle’s actual rate of speed can be made so as to activate the warning light 120 or other warning mechanism when the vehicle exceeds the speed limit by a predetermined amount” (Col. 2, ll. 42-46).</p> <p>It would have been obvious to one of ordinary skill in the art to modify the speed limit indicator of Tegethoff to compare the speed limit and current vehicle speed information, as taught by Awada, to disseminate to a vehicle operation “various types of position-dependent information, including traffic notices, warning signals, and other information that needs to be transmitted to a vehicle operator.” (Awada, col. 5, ll. 55-59).</p>
<p>generating tone if said vehicle speed exceeds said speed limit;</p>	<p>Tegethoff does not disclose a tone generator. However, Awada teaches implementing a warning signal, including an audible alarm, when the speed limit is exceeded: “In still another embodiment of the invention, a warning chime is played through a speaker or through the earpiece of the driver’s cellular telephone, if the vehicle exceeds the posted speed limit.” (Col. 1, ll. 53-56; see also, col. 4, ll. 36-42; col. 5, ll. 53-54, referring to a “warning tone” being provided to the driver).</p> <p>As noted immediately above, the warning signal is implemented “when the vehicle exceeds the speed limit by a</p>

	predetermined amount.” (Awada, col. 2, ll. 45-46).
sending speed limit to display control unit;	Tegethoff discloses that a mark 5 indicating the permissible maximum speed is displayed on the speedometer scale: “A mark for indicating a currently permissible maximum speed 5 shows a permissible maximum speed for the road section where the car is currently located.” (P. 6, col. 1). The mark 5 is further displayed in red: “Thus, for example, warnings that require immediate action or represent a critical technical or legislative limit, can appear in the color red (e.g., a maximum speed or the part of the braking distance or stopping distance that exceeds the distance to the vehicle ahead).” (P. 7, col. 1).
and modifying the limit indicator as defined in claim 1 to reflect which speeds are below said speed limit and which speeds exceed said speed limit.	Tegethoff teaches the speed limit indicator as defined in claim (see claim 1, above, for the teachings of Tegethoff corresponding to claim 1). Tegethoff thus teaches a colored display, namely the red-colored tick mark 5 on the speedometer scale. The tick mark delineates the speed readings in violation of the speed limit, namely those readings after the tick mark. Moreover, the tick mark is modified corresponding to the vehicle’s location, as described above.
<i>Claim 20</i>	<i>Obvious Over Tokunaga (Ex. 1005) in View of Hamamura (Ex. 1007)</i>
A method of determining speed, the relevant speed limit, and displaying same, which comprises the steps of:	Hamamura discloses determining the speed of a vehicle, a safe speed for the vehicle, which includes determining the speed limit for the vehicle corresponding to the vehicle’s location, and displaying the safe speed and the current speed to the driver of the vehicle. (Abstract). Hamamura discloses determining “not only the level of the difference between the vehicle speed and the speed limit but even the fact that the vehicle speed has exceeded the speed limit by a prescribed level or more as well until an alarm is given” (P. 3, ¶ 0004).
uploading current information to regional speed	Hamamura discloses “using a navigation device comprising a map information storage device that stores a safe speed decided by referring to a speed limit, a road shape and the

<p>limit database;</p>	<p>like of each road or a navigation device comprising a processing means of assuming a safe speed based on a conventional map information storage device in which speed limits, etc. are stored” (P. 3, ¶ 0008; see also, p. 4, ¶ 0012, further describing storing safe speed information). See also, p. 3, ¶ 0003: “the vehicle speed controller is inputted with information about a vehicle position and a speed limit at the vehicle position transmitted from the abovementioned navigation system”</p>
<p>determining vehicle location and speed;</p>	<p>Hamamura discloses determining the vehicle location using a GPS: “The navigation device 1 is provided with: a vehicle position detection means 5 consisting of a receiver for receiving electric waves from an artificial navigation satellite (GPS satellite) 4 and a GPS computer for detecting the vehicle position based on the abovementioned electric waves.” (P. 4, ¶ 0011). Hamamura further discloses a vehicle speed detection means for determining the vehicle speed. (P. 3, ¶ 0003; p. 4, ¶ 0011).</p>
<p>obtaining speed limit for said vehicle location from said database;</p>	<p>Hamamura discloses determining a safe speed for a vehicle location comprising the speed limit and information regarding the road conditions for the vehicle location: “a safe speed at a vehicle position is retrieved.” (P. 3, ¶ 0009; see also, p. 3, ¶ 0003).</p>
<p>comparing vehicle speed to said speed limit; generating tone if said vehicle speed exceeds said speed limit;</p>	<p>Hamamura discloses that the vehicle speed controller “compares this vehicle speed with the abovementioned speed limit and if the vehicle exceeds by a prescribed speed or more . . . gives an alarm to a driver by means of sounds or display with an alarm means.” (P. 3, ¶ 0003).</p>
<p>sending speed limit to display control unit;</p>	<p>Hamamura discloses an LCD for display the safe speed decided by the safe speed decision means. (P. 4, ¶ 0011; see also, p. 4, ¶ 0015).</p>
<p>and modifying the limit indicator as defined in claim 1</p>	<p>Hamamura discloses that the safe speed is displayed, and the safe speed is dependent on the vehicle location, so Hamamura modifies the displayed safe speed to reflect</p>

to reflect which speeds are below said speed limit and which speeds exceed said speed limit.	speeds below and in excess of the speed limit. It would have been obvious to one of ordinary skill in the art to modify the speed limit indicator of Tokunaga as set forth above by Hamamura so that “[a] driver can confirm a safe speed by looking at the screen by virtue of the abovementioned display and thereby find the relationship between the current vehicle speed displayed on a speed meter and the abovementioned safe speed.” (Hamamura, p. 4, ¶ 0015).
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VII. CONCLUSION

For the forgoing reasons, *inter partes* review of claims 1-20 of U.S. Patent No. 6,778,074 is respectfully requested.

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(Trial No. _____) ATTORNEYS FOR PETITIONER

Petition for *Inter Partes* Review of U.S. Patent No. 6,778,074
Filed September 16, 2012

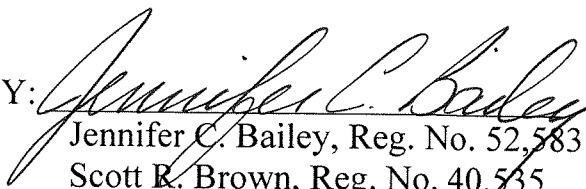
CERTIFICATE OF SERVICE ON PATENT OWNER
UNDER 37 C.F.R. § 42.105(a)

Pursuant to 37 C.F.R. §§ 42.8(e) and 42.105(b), the undersigned certifies that on the 15th day of September 2012, a complete and entire copy of this Petition for *Inter Partes* Review and all supporting exhibits were provided via Federal Express, postage prepaid, to the Patent Owner by serving the correspondence address of record for the '074 Patent:

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