

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC

Petitioner

v.

GAMBA GROUP HOLDINGS LLC,

Patent Owner

U.S. Patent No. 9,772,193

Case No.: IPR2026-00156

PETITION FOR INTER PARTES REVIEW

OF CLAIMS 12, 13, and 15-18

OF U.S. PATENT NO. 9,772,193 UNDER 35 U.S.C. §§ 311-319

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I. INTRODUCTION

This *Inter Partes* Review petition challenges claims 12, 13, and 15-18 of U.S. Patent No. 9,772,193 (the '193 patent). This petition and the accompanying declaration demonstrate a very strong case, with **two independent §102 grounds**.

The patent owner engaged in shenanigans before the Office and introduced claims twelve years after its priority documents that completely contradict its specification. This resulted in the '193 patent claiming exactly that which it disparaged numerous times: GPS-based location services.

II. MANDATORY NOTICES

A. Real Party-in-Interest

Pursuant to 37 C.F.R. § 42.8(b)(1), Petitioner certifies that Google LLC is the real party-in-interest, and further certifies that no other party exercised control or could exercise control over Google's participation in this proceeding, the filing of this petition, or the conduct of any ensuing trial.¹ In fact, no third party was even aware of this proceeding until after it was filed.

¹ Google LLC is a subsidiary of XXVI Holdings Inc., which is a subsidiary of Alphabet Inc. XXVI Holdings Inc. and Alphabet Inc. are not real parties-in-interest to this proceeding.

B. The Patent Owner

The '193 Patent is assigned to Gamba Group Holdings LLC ("Gamba"), with a security interest held by Piccadilly Patent Funding LLC. EX1014.

C. Related Matters

The '193 Patent is one of a large family of patents, many of which are identified on the face of the application that became the '193 patent.

CROSS REFERNECE TO RELATED APPLICATIONS

[0001] This application is:

A) is a Divisional Application of U.S. Patent Application Ser. No. 15/397,685 filed on January 03, 2017,

which is a Divisional Application of U.S. Patent Application Ser. No. 15/237,727 filed on August 16, 2016 (now US Patent 9,420,423 on January 03, 2017),

which is a Divisional Application of U.S. Patent Application Ser. No. 15/086,028 filed on March 30, 2016 (now US Patent 9,420,423 on August 16, 2016),

which is a Divisional Application of U.S. Patent Application Ser. No. 14/285,406 filed on May 22, 2014 (currently pending),

which is a Divisional Application of U.S. Patent Application Ser. No. 14/285,332 filed on May 22, 2014 (now US Patent 9,491,584 on November 08, 2016),

which is a Divisional Application of U.S. Patent Application Ser. No. 14/285,273 filed on May 22, 2014, (now US Patent 9,204,257 on December 01, 2015),

which is a Divisional Application of U.S. Patent Application Ser. No. 14/285,209 filed on May 22, 2014, (now US Patent 9,204,251 on December 01, 2015),

which is a Divisional Application of U.S. Patent Application Ser. No. 12/930,735 filed on January 14, 2011 (now US Patent 9,020,687 on April 28, 2015),

which is a Divisional Application of U.S. Patent Application Ser. No. 11/396,843 filed on April 03, 2006 (now US Patent 7,899,583 on March 01, 2011),

which is a Non-Provisional U.S. Patent Application claiming the benefit of U.S. Provisional Patent Application Ser. No. 60/670,097 filed on April 12, 2005 (now expired);

B) is a Divisional Application of U.S. Patent Application Ser. No. 15/397,685 filed on January 03, 2017,

which is a Divisional Application of U.S. Patent Application Ser. No. 15/237,727 filed on August 16, 2016 (now US Patent 9,420,423 on January 03, 2017),

which is a Divisional Application of U.S. Patent Application Ser. No. 15/086,028 filed on March 30, 2016 (Scheduled to issue as US Patent 9,420,423 on August 16, 2016),

which is a Divisional Application of U.S. Patent Application Ser. No. 14/285,406 filed on May 22, 2014 (currently pending),

which is a Divisional Application of U.S. Patent Application Ser. No. 14/285,332 filed on May 22, 2014 (now US Patent 9,491,584 on November 08, 2016),

which is a Divisional Application of U.S. Patent Application Ser. No. 14/285,273 filed on May 22, 2014, (now US Patent 9,204,257 on December 01, 2015),

which is a Divisional Application of U.S. Patent Application Ser. No. 14/285,209 filed on May 22, 2014, (now US Patent 9,204,251 on December 01, 2015),

which is a Divisional Application of pending U.S. Patent Application Ser. No. 13/135,421 filed on July 05, 2011 (now US Patent 9,374,673 on June 21, 2016),

which is a Divisional Application of pending U.S. Patent Application Ser. No. 12/932,811 filed on March 07, 2011 (now US Patent 8,941,485 on January 27, 2015),

which is a Divisional Application of pending U.S. Patent Application Ser. No. 12/069,899 filed on February 13, 2008 (issued as US Patent 7,924,149 on April 12, 2011),

which is a Divisional Application of pending U.S. Patent Application Ser. No. 11/472,706 filed on June 22, 2006 (now US Patent 8,896,485 on November 25, 2014),

which is a Divisional Application of pending U.S. Patent Application Ser. No. 11/429,864 filed on May 08, 2006 (now US Patent 8,836,580 on September 16, 2014),

which is a Non-Provisional U.S. Patent Application claiming the benefit of U.S. Provisional Patent Application Ser. No. 60/678,947 filed on May 09, 2005 (now expired), and

C) is a Divisional Application of U.S. Patent Application Ser. No. 15/397,685 filed on January 03, 2017,

which is a Divisional Application of U.S. Patent Application Ser. No. 15/237,727 filed on August 16, 2016 (now US Patent 9,420,423 on January 03, 2017),

which is a Divisional Application of U.S. Patent Application Ser. No. 15/086,028 filed on March 30, 2016 (Scheduled to issue as US Patent 9,420,423 on August 16, 2016),

which is a Divisional Application of U.S. Patent Application Ser. No. 14/285,406 filed on May 22, 2014 (currently pending),

which is a Divisional Application of U.S. Patent Application Ser. No. 14/285,332 filed on May 22, 2014 (now US Patent 9,491,584 on November 08, 2016),

which is a Divisional Application of U.S. Patent Application Ser. No. 14/285,273 filed on May 22, 2014, (now US Patent 9,204,257 on December 01, 2015),

which is a Divisional Application of U.S. Patent Application Ser. No. 14/285,209 filed on May 22, 2014, (now US Patent 9,204,251 on December 01, 2015),

a Divisional Application of pending U.S. Patent Application Ser. No. 12/587,042 filed on October 01, 2009 (now US Patent 8,866,876 on October 21, 2014),

which is a Divisional Application of pending U.S. Patent Application Ser. No. 11/429,864 filed on May 08, 2006 (now US Patent 8,836,580 on September 16, 2014),

which is a Non-Provisional U.S. Patent Application claiming the benefit of U.S. Provisional Patent Application Ser. No. 60/678,947 filed on May 09, 2005 (now expired).

EX1013, pp. 104-106.

The only related matter of which Petitioner is aware is *Gamba Group Holdings LLC, v. Samsung Electronics Co., LTD., and Samsung Electronics America, Inc.*, EDTX-2-25-cv-00438 (April 25, 2025). That case involves the '193 patent as well as U.S. Pat. No. 9,674,684 (of which the '193 patent is a divisional (app. No. 15/397,685 priority chain A)) and U.S. Pat. No. 9,961,507 (which is a

divisional of the '193 patent). Petitioner is not a party to that case, but Patent Owner's '193 patent infringement allegations against Samsung partially involve Petitioner's products.

D. Identification of Lead and Back-up Counsel

Pursuant to 37 C.F.R. § 42.8(b)(3), Petitioner provides the following designation of counsel: Lead counsel is Michael L. Kiklis (Reg. No. 38,939) and back-up counsel is Andrew S. Baluch (Reg. No. 57,503).

E. Service Information

Petitioner consents to service via email. Pursuant to 37 C.F.R. § 42.8(b)(4), papers concerning this matter should be served on the following:

Address:	Michael L. Kiklis
	Kiklis Law Firm, PLLC
	1800 Diagonal Rd., Suite 600
	Alexandria, VA 22314
	Email: mike@kiklislaw.com
	Phone: (703) 647-6205
	Fax: 703-647-6009

III. PAYMENT OF FEES

Petitioner concurrently electronically submits the required fees for this Petition.

IV. REQUIREMENTS FOR *INTER PARTES* REVIEW

As set forth below and pursuant to 37 C.F.R. § 42.104, each requirement for *inter partes* review of the '193 Patent is satisfied.

A. Grounds for Standing

Petitioner certifies pursuant to 37 C.F.R. § 42.104(a) that the '193 Patent is available for *inter partes* review and that Petitioner is not barred or estopped from requesting *inter partes* review challenging the patent claims on the grounds identified herein.

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

Petitioner requests *inter partes* review and cancellation of '193 patent claims 12, 13, and 15-18 as anticipated under 35 U.S.C. § 102 and obvious under 35 U.S.C. § 103. The '193 patent's earliest priority document is a provisional dated April 12, 2005. Petitioner contests that this provisional adequately supports all claims. Nevertheless, for the purposes of this proceeding only, Petitioner will assume this date is the earliest priority date.

C. The Specific Art on Which the Challenge is based

Petitioner relies upon the following patent and patent publications:

Exhibit 1003 — US 2002/0082025 (“Baese”), published June 27, 2002, more than one year before the '193 patent's earliest priority date. Baese constitutes prior art under at least 35 U.S.C. § 102(b).

Exhibit 1004 — US 2003/0055560 (“Phillips”), published on March 20, 2003, more than one year before the ’193 patent’s earliest priority date. Phillips constitutes prior art under at least 35 U.S.C. §102(b).

Exhibit 1005 — U.S. Pat. No. 6,081,229 (“Soliman”), issued June 27, 2000, more than one year before the ’193 patent’s earliest priority date. Soliman constitutes prior art under at least 35 U.S.C. §102(b).

D. The Specific Grounds on which the Challenge is Based

Petitioner respectfully requests cancellation of claims 12, 13, and 15-18 of the ’193 patent based on the following grounds:

1. Claims 12, 13, and 15-18 are anticipated under 35 U.S.C. §102 in view of Baese.
2. Claims 12, 13, and 15-18 are rendered obvious under 35 U.S.C. §103 in view of Baese.
3. Claims 12, 13, and 15-18 are anticipated under 35 U.S.C. §102 in view of Phillips.
4. Claims 12, 13, and 15-18 are rendered obvious under 35 U.S.C. §103 in view of Phillips.
5. Claims 12, 13, and 15-18 are rendered obvious under 35 U.S.C. §103 in view of Phillips and Soliman.

V. DECLARATION EVIDENCE

This Petition is supported by the declaration of Thomas La Porta, Ph.D. EX1006. This petition's analysis is based on and supported by Dr. La Porta's declaration.

Dr. La Porta is the Director of the School of Electrical Engineering and Computer Science at Penn State University. He holds a Ph.D. in electrical engineering from Columbia University and has worked on communications systems since 1986. He is an inventor or co-inventor on at least 39 U.S. patents. EX1006, §III, Appendix A.

VI. THE '193 PATENT

A. State of the Technology at the Time of the Alleged Invention

The '193 patent is generally directed to wireless, location-based services. Specifically, it claims assisting a user in finding where they parked their car.

Wireless localization techniques and location-based applications were well-known by 2005, the '193 patent's earliest possible priority date. Several companies and research groups were using what were called active badges to track employees to provide services like forwarding phone calls to the room in which a person was located or to provide access to the nearest equipment, like printers. EX1007, EX1008. Others utilized systems in which beacons deployed in infrastructure such as building walls, could be received by mobile devices. The

mobile devices could determine their location with the assistance of maps provided by a map server. EX1009. There were also many efforts to provide location-based services indoors and outdoors to help with navigation, provide traffic warnings and locate vehicles. EX1010, EX1011, EX1012. It was recognized that there were many techniques and technologies that could be used to determine locations, including using beacons transmitting radio frequencies (like Bluetooth and other low power radio technologies), or using GPS, Assisted GPS, Indoor GPS using pseudo-satellites, and signal processing techniques. EX1010.

Additionally, the problem of a person forgetting where they parked their car, undoubtedly, dates back many decades to the mass production and utilization of automobiles. In fact, helping someone locate a parked car using Bluetooth communication between the car and a mobile phone was envisioned as an early application of Bluetooth (EX1015, p. 41), which involved providing navigation to the car on a map on the mobile device. EX1006, §VI(A).

B. Summary of the '193 Patent

The challenged claims' literal scope includes using GPS to determine the parking space where a user parked their car to help them find their car later (known as return to parking or "RTP"). Claim 15 requires GPS to determine the vehicle's location. Therefore, claim 12's literal scope must include the single embodiment of using GPS by itself to determine the exact parking space location of the vehicle.

12. A method of utilizing a Bluetooth transceiver for conveying desired information, the method comprising steps of:

employing the Bluetooth transceiver integrated within a vehicle, the Bluetooth transceiver configured to transmit a Bluetooth signal detectable by a Bluetooth circuit of a mobile device located within a communication range of the respective Bluetooth transceiver;

registering an exact parking space location of the vehicle on the mobile device using information provided by the Bluetooth transceiver; and

subsequently using the mobile device to provide navigation to the parking space location where the vehicle is parked.

EX1001, cl. 12.

15. The method as recited in claim 12, further comprising a step of:

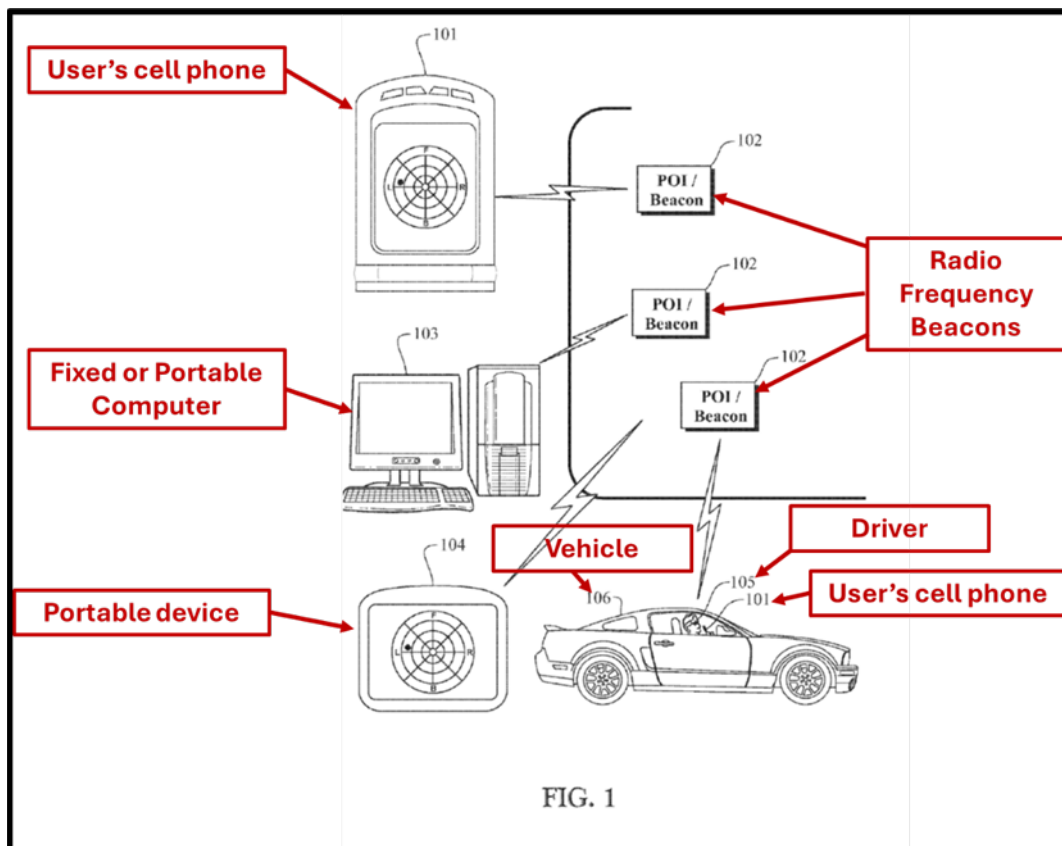
employing a Global Positioning System (GPS) to register the location of the exact parking space location of the vehicle.

EX1001, cl. 15.

The '193 patent incorporates by reference U.S. Pat. No. 7,899,583 (describing it as a parent patent). EX1001, 22:56-61. However, the specifications of both the '193 and '583 patents completely contradict the claimed embodiment. The '193 patent purports to describe installing a Bluetooth and/or Wi-Fi enabled radio frequency (RF) beacon within a vehicle to direct a user to where they parked their car, referred to as RTP, but the patent lacks any meaningful detail. The '193

patent describes RTP as one possible application by using Bluetooth or Wi-Fi beacons. EX1001, Abstract.

The '193 patent's abstract refers to navigation using GPS to direct a user from their current location to their vehicle, but this is the only place in either the '193 patent or '583 patent that even mentions using GPS for any type of location-based services, like determining the location of a user's car (relevant to the challenged claims, discussed above). Instead, the '193 patent and '583 patent disparage GPS in numerous places and, instead, disclose using a RF beacon system to provide location information to mobile devices for location-based services. EX1001, 2:39-43. This beacon system is depicted in Fig. 1:



EX1004, Fig. 1 (annotations added); see also, 62:12-45 (“vehicle/car 106 that can be equipped with RF Bluetooth”). **NOTE:** All annotations and emphasis in the Figures and quotes herein have been added, unless stated otherwise.

The '193 patent identifies many limitations with GPS, several appearing in a section entitled, “View of Global Positioning System (GPS) Limitations.”

EX1001, 3:23; see also 3:24-4:10. The first limitation includes the time taken to receive positioning data. EX1001, 3:29-33. The second limitation includes the need to receive satellite signals which are not available indoors or in many urban areas. EX1001, 3:34-42; see also 2:48-53, 2:62-3:2, 3:5-8, 18:5-12. The third limitation is **limited accuracy**:

A third limitation of the Global Positioning System (GPS) is ***limited accuracy***. The civilian version of the Global Positioning System (GPS) signal includes limited accuracy by design. ***While knowing a position of an individual to within an accuracy of 50 to 200 feet anywhere on the planet is a major technological feat. This accuracy may not be sufficient to provide a location and/or navigation to a user in a store, a mall, to a vacant or available parking space (each space measures about 10 feet), and the like.***

EX1001, 3:43-56 (emphasis added); see also 4:40-45, 9:37-42 (system accurate to within 10 feet “significantly better than” GPS and can work where GPS cannot), 10:6-13, 10:21-25 (GPS “cannot guide user closer than 50-200 feet, and only in open places”), 16:41-49 (beacon provides precise location “without using

...GPS”), 25:14-27 (GPS inaccurate), 30:36-44, 29:56-65, 36:11-25 (GPS accurate to within 100-200 feet), 44:14-23, 54:4-6.

Thus, the ’193 patent thoroughly and emphatically states that it uses RF beacons, does not use GPS, and in fact, discourages using GPS. EX1001, 4:66-5:3, 5:24-32, 5:33-42, 5:43-48, 7:66-8:4 (beacons replace GPS satellites), 8:53-67, 10:6-13 (system works where GPS cannot), 10:26-31 (GPS does not work inside parking garage), 9:63-67 (system navigates indoors without GPS), 11:54-57 (system provides navigation where GPS might not work), 12:1-13 (GPS mapping is not available for indoor applications), 12:29-40 (typical application is to guide a pedestrian within an environment, such as a mall or parking facility, where GPS is insufficient), 16:12-24 (instead of using GPS, “the system uses beacon signals”), 16:50-58 (navigation method provides reliable system where GPS is unreliable), 17:57:62 (GPS inadequate solution), 20:63-65 (GPS does not work indoors), 25:5-8 (most prior art uses GPS), 28:46-48, 29:31-33, 30:36-44, 29:50-55, 29:56-65, 33:16-33, 34:41-43, 33:49-63, 34:65-35:3, 36:55-67, 42:28-32, 44:14-23 (disclosed technology does not need GPS), 51:61-52:3 (without assistance from GPS), 56:47-56 (navigation indoors without GPS), 63:25-28, 66:52-61, 67:57-68:9, 70:30-50.

Additionally, the ’193 patent states:

The main object of the present invention is to provide the indoor guide navigation and a special application for indoor use ***without the need for any Global Positioning System (GPS) communication.***

EX1001, 55:62-65.

Each of the series of exemplary applications provides a location determining solution and navigation in an environment that is not conducive for the Global Positioning System (GPS), such as within a mall, a store, *a parking garage*, and any other indoor location.

EX1001, 70:63-67.

The '583 patent likewise thoroughly and emphatically states that it uses RF beacons, does not use GPS, and in fact, discourages using GPS. EX1002, Abstract (“parking information will be received directly from RF sensors”), 1:21-2:30, 4:55-5:30, 6:1-5 (most prior art uses GPS), 5:55-64 (“without using a GPS system”), 8:54-58 (system more accurate than GPS and can work inside building whereas GPS cannot), 9:61-65 (navigation without GPS), 9:51-55, 10:58-61, 11:42-48, 13:34-37. Indeed, the '583 patent claims “determining a current position of a vehicle based on known positions of the wireless parking sensors” and “without an aid of a global positioning satellite system.” EX1002, cls. 7, 12. Additionally, the '583 patent states:

Our sensor net, and sensor tags in an indoor/outdoor navigation situation, *replace the satellite in the GPS based system* to calculate and locate the “user” track.

EX1002, 7:63-67.

The system eases navigation to a parking space, *without a navigation map or GPS*.

EX1002, 9:19-20.

Our parking detection method is unique. *We base our system on RF sensor tags with interface to Bluetooth enabled devices. This feature allows detection inside a building where GPS cannot work, as well as outside*, with the capability to guide the driver to within 10 feet of the destination (*i.e. a parking space*), significantly better than any other navigation and GPS based systems on the market.

EX1002, 9:33-39.

One problem with In-Car navigation and or GPS mapping is that they cannot guide the user to closer then [sic] 50-200 feet, and only in open places, whereas our solution can provide accurate directions to within 6 to 10 feet, and to pinpoint the right parking space.

EX1002, 9:46-50.

The '193 patent also disparages GPS because GPS mapping services are inadequate: limited in detail, not up to date, cannot be changed dynamically, and do not provide indoor-facility maps. EX1001, 3:65-68, 4:1-3, 3:65-4:9, 25:27-37. The '193 patent concludes that all existing navigation systems are GPS based and thus suffer from these limitations. EX1001, 3:57-60. To overcome GPS drawbacks, the '193 patent's "*RF tags or beacons would replace the function of the satellites in a Global Positioning System (GPS) based system....*" EX1001,

7:65-8:4. The '193 patent explains how they work. EX1001, 4:10-39, 5:43-48, 6:39-43, 26:63-27:28.

One application the '193 patent proposes (among the many it describes, such as indoor mall navigation) is the barely described RTP application. Once the user parks their car, they may save its location on their mobile device. EX1001, 29:34-41. The user may then navigate back to their car using the overlay map for navigation. The '193 patent and the '583 patent do not describe how RTP works other than to say that it can be done using the existing system. EX1001, 9:52-54, 12:56-58, 23:38-39, 29:34-41, 30:12-13; EX1002, 8:64-67, 10:41-46, 13:47-52. The following quotes are the most detailed description of RTP; they show that the RTP application does not use GPS, but instead uses the RF beacon-based system:

Moreover, the navigation system can solve a Return to Parking (RTP) problem, where the Return to Parking application can aid a user in a scenario where the user forget [sic] where he/she parked his/her car. The Return to Parking feature has an option to save the location on a "cellular telephone parking detector" application that will make it easy to locate the user's parked car.

EX1001, 11:32-38.

Moreover, the navigation system can solve the Return to Parking (RTP) problem, where many users might forget where they parked their car. The system has an option to save the location on the cellular telephone, which would employ a parking detector application. The parking

detector application provides directions to the user to the location of their parked car, which will make it easy to locate their parked car.

EX1001, 29:34-41; see also 11:27-31.

The '193 patent does not disclose using GPS to locate points of interest, parking spots, or the location of the user's vehicle other than in the '193 patent's abstract where GPS can be used to navigate a user back to their car. But GPS is not used to determine the parking space of that car; the concept of using GPS to determine the car's parking space location is nowhere described by either the '193 patent or the '583 patent.

The '583 patent describes a parking and detection system method to guide people around urban environments to find empty parking spaces. EX1002, Abstract. The focus is on indoor and crowded urban environments where GPS does not work. EX1002, Abstract. As with the '193 patent, the '583 patent relies on small RF devices to transmit unique identifiers that identify a location. In the '583 patent, these beacons are coupled with sensors to determine empty parking spots. EX1002, Abstract.

Based on the above, a POSA would understand that the '193 and '583 patent specifications do not describe the claimed embodiment of the challenged claims. EX1006, §VI(B).

C. The Accuracy of the Claimed Embodiment

Both the '193 and '583 patents allege that its system is accurate to within 10 feet (EX1001, 9:37-42, 10:8-13, 10:21-25; EX1002, 8:54-56, 9:33-39, 9:46-50), while stating that GPS is highly inaccurate, *e.g.*, 50-200 feet (EX1001, 3:43-56, 10:21-25; EX1002, 2:1-7, 9:46-50 ("6 to 10 feet")); see also §VI(B) above. The literal scope of the claims, however, covers GPS to determine the user's vehicle's parking location. As a result, the claimed embodiment cannot have an accuracy of 10 feet and the claims cannot require so. The '193 and '583 patents admit that the claimed embodiment is much less accurate. EX1006, §VI(C). Nevertheless, as discussed below, Baese, Phillips, and Soliman are each accurate to within 6-10 feet of the parking space.

D. Prosecution History of the '193 Patent

The '193 patent claims that which its specification completely contradicts. See §VI(B). The patent owner added GPS-based RTP claims twelve years after its priority documents, and those claims issued without receiving a single rejection, only a notice of allowance. EX1013, pp. 20-29. The Examiner's reasons for allowance shed no light on the instant case. Petitioner presents two, independent anticipation grounds using art not considered by the Examiner. EX1006, §VI(D).

The patent owner engaged in shenanigans before the Office. For example, the patent owner represented to the Office that the '193 patent resulted from a long

line of divisionals, thereby adding no new matter. EX1013, pp. 55-62. But, that is not correct. A cursory comparison between the **14-page** '583 patent (EX1002), filed in 2006, to the **54-page** '193 patent (EX1001), filed in 2017, shows the patent owner added lots of new matter over 11 years. Indeed, the GPS-based RTP claims lack any support in the '583 patent (or the '193 patent) instead appearing for the first time when the '193 patent was filed. This prevented the Office from performing a thorough, accurate, date-based examination as well as an AIA first-inventor-to-file examination. EX1013, p. 62 (patent owner not informing the Office that the effective filing date for its GPS-based RTP claims post-date the AIA in its application data sheet). The Board should not reward the patent owner for its shenanigans, but should instead institute this case and cancel the challenged claims.

VII. PERSON OF ORDINARY SKILL IN THE ART

A POSA at the time of the alleged invention was a person having a minimum of an undergraduate degree (or equivalent) in computer science, computer engineering, electrical engineering or a related field, with knowledge of data communications and location-based systems, and at least two years of professional work experience in those fields. See EX1006, §V.

VIII. CLAIM CONSTRUCTION (37 C.F.R. § 42.104(B)(3))

The challenged claims contain simple, well-known concepts. As such, no claim terms require a formal construction for evaluation of this petition. Instead, Petitioner applies the ordinary and customary meaning for all claim terms.

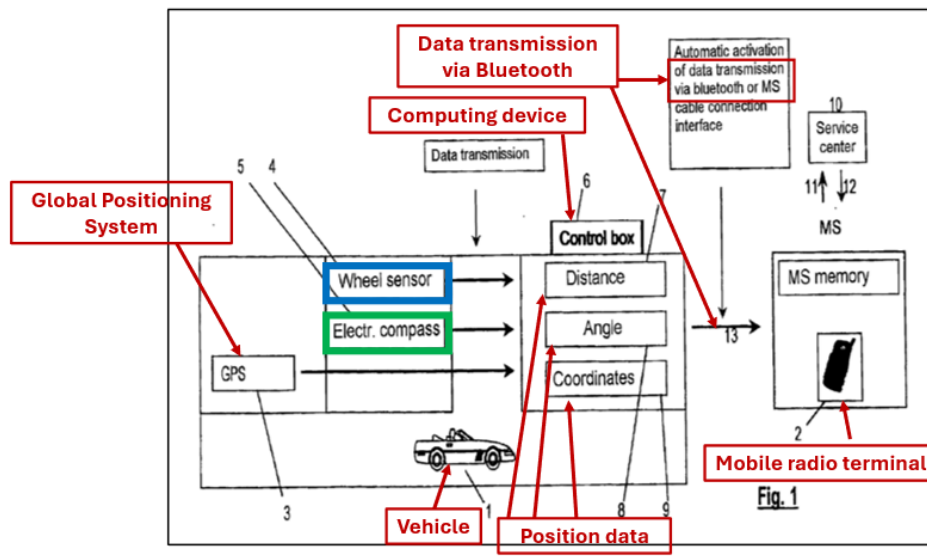
EX1006, §IV(A). Petitioner however addressed above the accuracy with which the claimed embodiment determines an “exact parking space location of the vehicle.” See §VI(C). That discussion is relevant to the understanding of that term.

IX. Overview of Prior Art

A. Baese - US 2002/0082025 (EX1003)

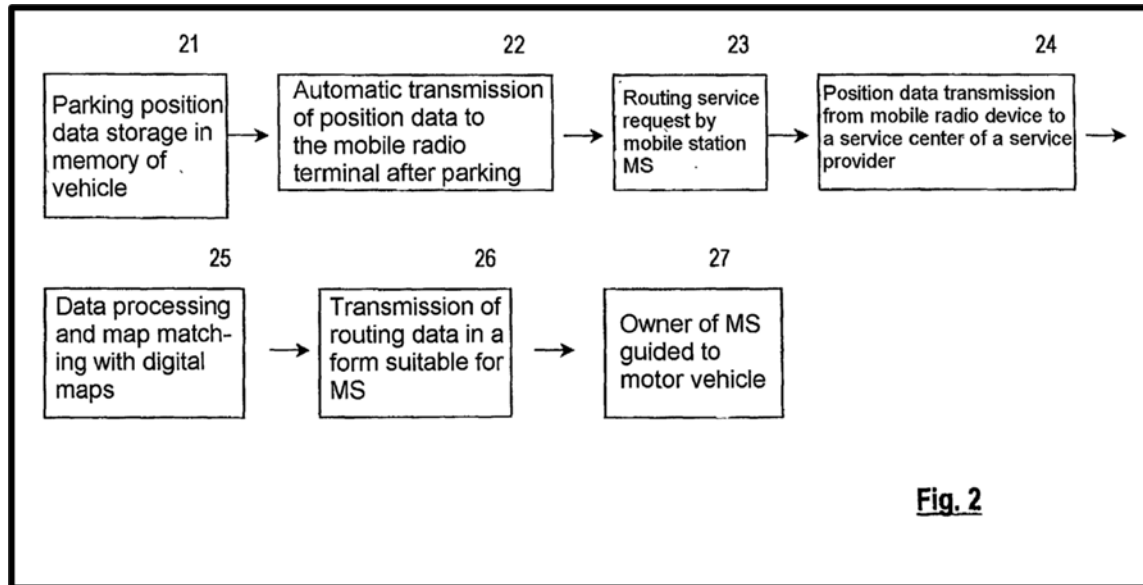
Baese discloses the RTP application: locating a vehicle and displaying both the vehicle’s location and directions to reach the vehicle on a mobile device (which Baese calls a mobile radio terminal). EX1003, Abstract. This allows a vehicle owner to locate their vehicle in a crowded parking lot or multi-story parking garage. EX1003, ¶0001.

Fig. 1 depicts Baese’s operational environment, using GPS 3 and other technologies, like wheel sensor 4 (in **blue**) and electric compass 5 (in **green**), to determine the precise location of vehicle 1.



EX1003, Fig. 1.

Baese's overall process is described relative to Fig. 2:



EX1003, Fig. 2.

The vehicle's location is determined by the vehicle using a position determining device mounted in the vehicle. EX1003, ¶0004; Fig. 2, step 21. This

device is equipped with a transmitter and receiver. EX1003, ¶0004. The location may be identified using GPS. EX1003, ¶0008. The location information may be supplemented to increase accuracy by using GPS in combination with wheel sensors that count tire rotations or an electronic compass. EX1003, ¶¶0008-0012; Fig. 2, step 21. The location data may include 3D information in cases of parking decks. EX1003, ¶0009.

The position data determined by the vehicle is then transmitted to the mobile radio terminal. EX1003, ¶¶0002, 0010, 0012; Fig. 2, step 22. This information may be transmitted using Bluetooth. EX1003, ¶0003.

When the user wants to locate their vehicle, they push a button on their mobile radio terminal (a mobile device) or give a command to their mobile radio terminal. EX1003, ¶00012; Fig. 2, step 23. Later, the mobile terminal displays the location of the vehicle and provides directions to help the user navigate back to their car. EX1003, ¶00012, Abstract, ¶0001; Fig. 2, step 27. The mobile terminal may store maps of the roads, town, or parking garages. EX1003, ¶0008; EX1006, §VII(A).

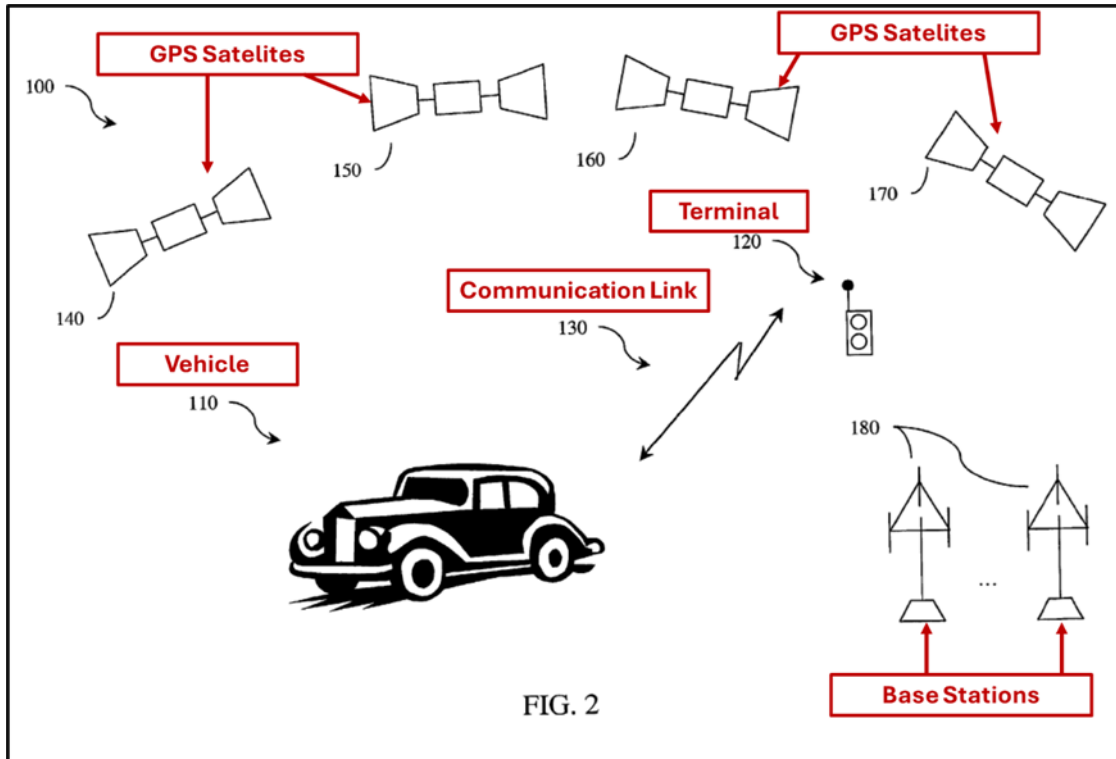
B. Phillips - US 2003/0055560 (EX1004)

Phillips also discloses the RTP application by assisting a user in navigating back to their parked car. In Phillips, the user has a mobile terminal (*e.g.*, mobile

phone) on which its current location in relation to the vehicle is displayed.

EX1004, ¶¶0008, 0011.

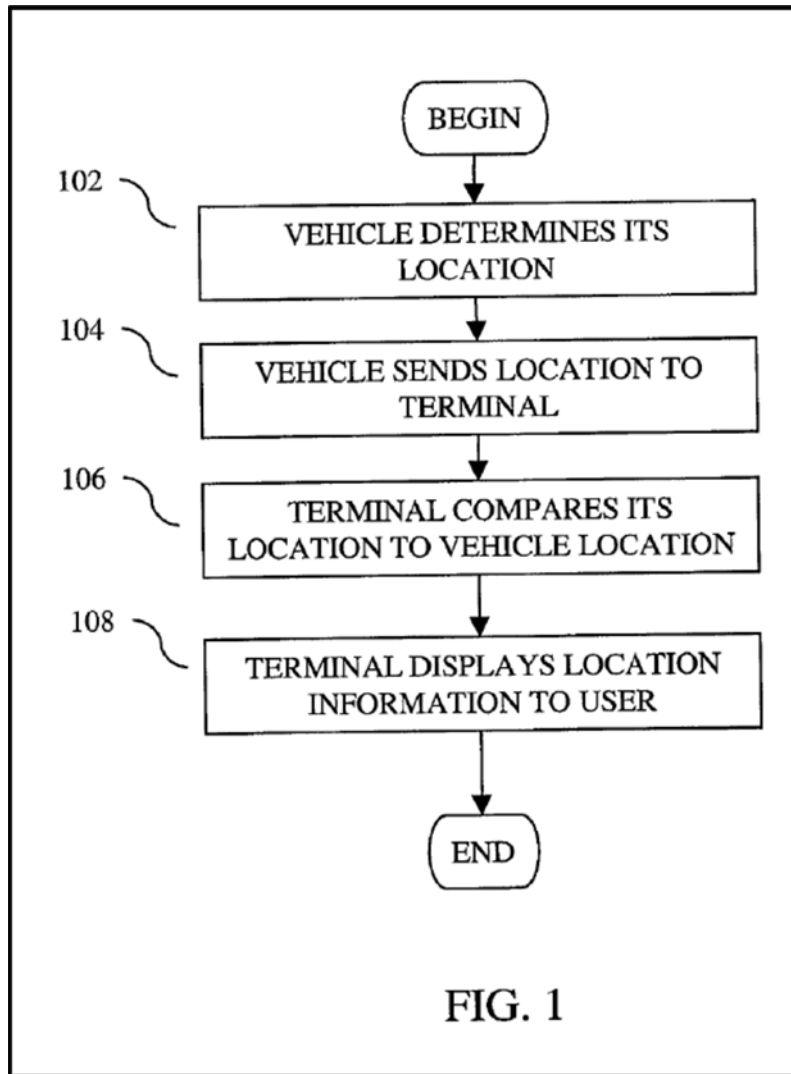
Fig 2. depicts the Phillips operational environment:



EX1004, Fig. 2.

The terminal's display may include a distance indicator showing the distance in feet between the terminal and the vehicle. It may also show the difference in altitude between the terminal and the vehicle in elevated parking garages. The system may also display a map on the terminal with the locations of the terminal and vehicle overlaid on the map. EX1004, ¶0012.

This process is shown in Fig. 1:



EX1004, Fig. 1.

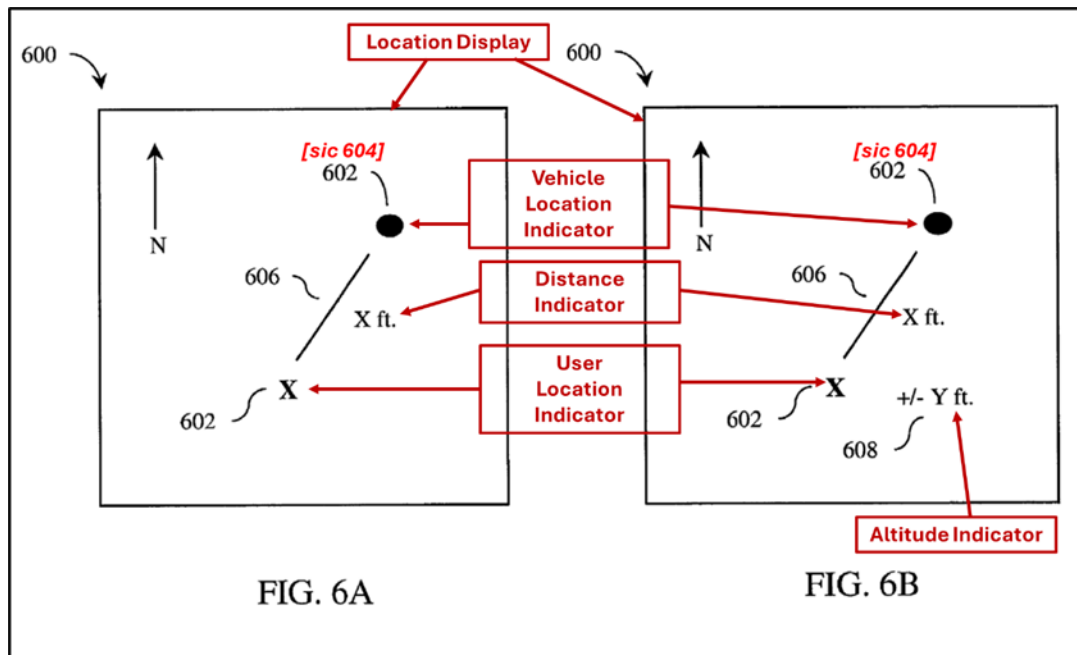
In Phillips, the vehicle is configured to determine its location after an event, such as being shut off. EX1004, ¶¶0028, 0039; Fig. 1, step 102. The location may be determined using GPS (EX1004, ¶0035, Fig 2), or using improvements to GPS. EX1004, ¶0043.

The vehicle is equipped with a transmitter by which it transmits its location to the user's terminal over a wireless link such as Bluetooth. EX1004, ¶¶0029, 0034, 0039, 0045, 0051, 0070; Fig 1, step 104; Fig 2; Fig. 3.

The terminal is equipped with a position location processor. This processor analyzes the signals received from the vehicle and also determines the location of the terminal. EX1004, ¶¶0056, 0067; Fig 4. It may store the vehicle's location in its memory. EX1004, ¶0057.

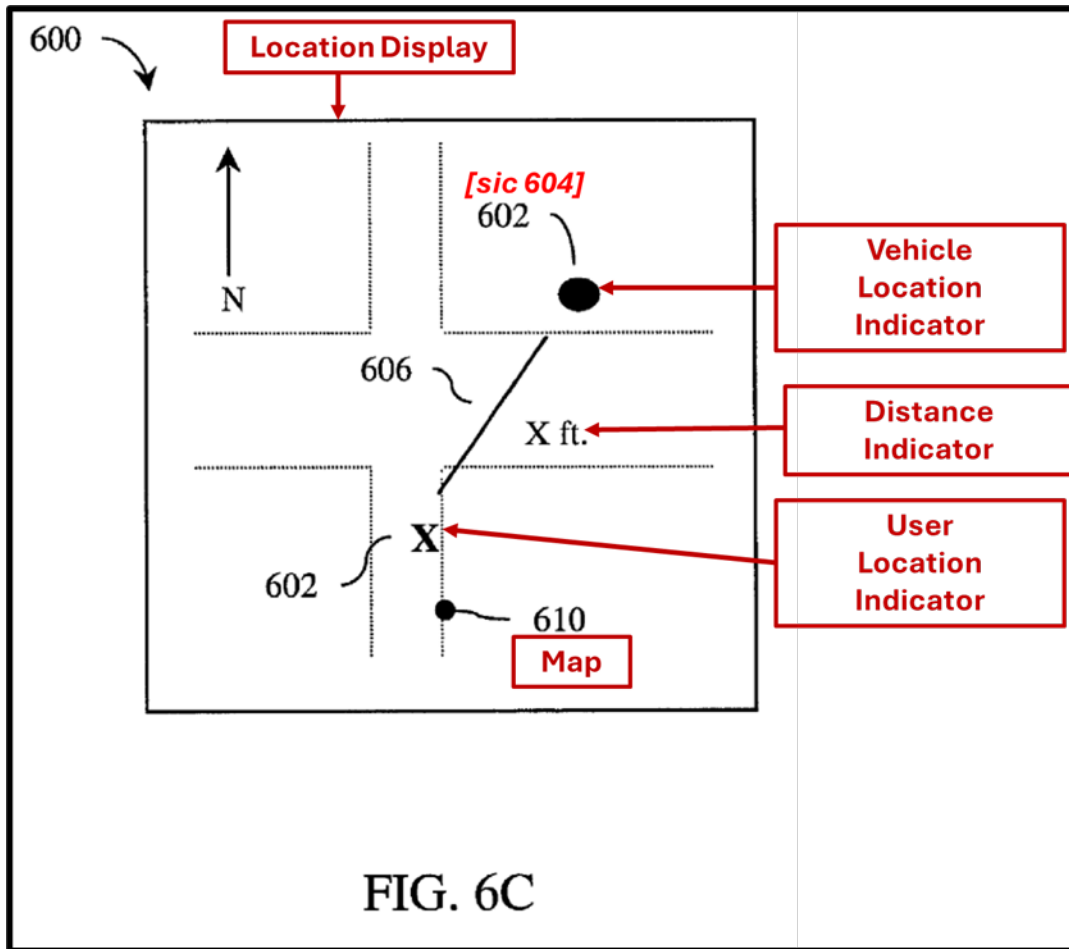
When the user wants to locate their vehicle, they may hit a button on the terminal. The terminal then determines its own location and compares it to the location of the vehicle that it has stored. EX1004, ¶¶0072, 0030; Fig 1, step 106.

Once the terminal has determined this difference, it displays this information to the user. EX1004, Fig 1, step 108; ¶¶0031, 0034, 0058. To help the user navigate back to their vehicle, the display may indicate the vehicle's location as a dot and the mobile terminal's location as an "X" with a line between them indicating the distance in feet. EX1004, ¶0074. Further, it may display the difference in altitude for elevated parking decks. EX1004, ¶0075. Figs. 6A and 6B show these displays:



EX1004, Fig. 6A, 6B.

Also, the mobile device may overlay the vehicle's location onto a map, as shown in Fig. 6C:



EX1004, Fig 6C, ¶0076.

The map may be of a parking lot or mall. EX1004, ¶0076. The navigation may be assisted by GPS and even provide directional instructions to the user.

EX1004, ¶¶0077-82; Figs. 7A, 7B; EX1006, §VII(B).

C. Soliman – U.S. Pat. No. 6,081,229 (EX1005)

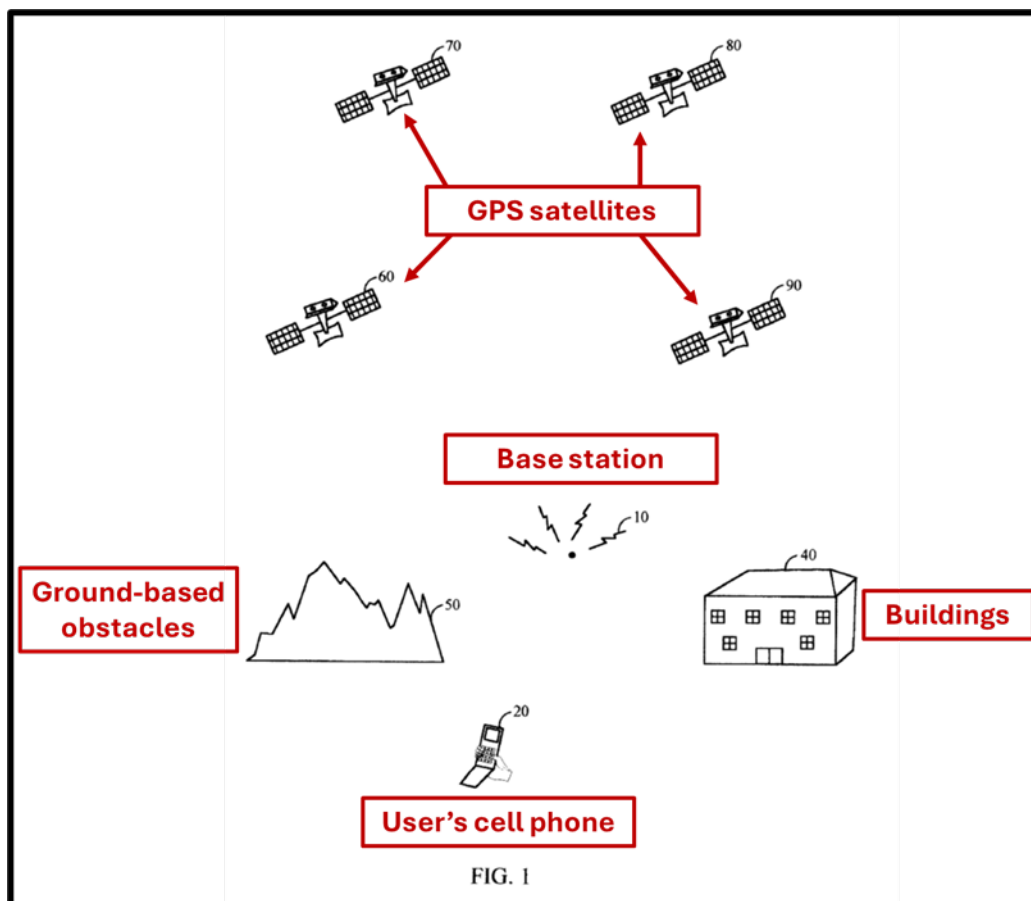
Soliman operates in dense urban environments in which line-of-sight to four GPS satellites is not possible, which is a typical requirement of GPS applications to determine their position. EX1005, 4:51-61. Soliman discloses a GPS-based

system that provides **a precise location** by merging GPS position location and wireless communication technologies:

The inventive system *merges GPS position location and wireless communication technologies to achieve a precise position location in dense urban and other environments when line-of-sight to the satellites is somewhat obscured.*

EX1005, Abstract.

Fig. 1 depicts Soliman's system operating in a dense urban environment with buildings 40 and ground-based obstacles 50:



EX1005, Fig. 1.

The system includes both cellular base stations 10 and wireless unit 20 (the user's cell phone) in a GPS environment having several GPS satellites, 60, 70, 80, 90. EX1005, 4:38-42.

To help the wireless unit locate satellites, Soliman discloses a method by which a base station transmits aiding information to the wireless unit. This aiding information is used by the wireless unit to locate the satellite signals. EX1005, Abstract, 2:37-49, 1:52-54.

Soliman's system can work with either two or three GPS satellites, rather than the typical four. EX1005, 4:51-61. The satellite signals are augmented with a signal between the wireless unit and the base station, which is a cellular base station, like a CDMA base station. EX1005, 2:19-36, 4:51-61, 9:13-16, Abstract; EX1006 §VII(C).

D. Motivation to Combine Phillips and Soliman

Phillips states that "various aspects of the present disclosure may be configured to allow the position of a mobile unit to [be] identified using a minimum number of GPS satellites," and then cites Soliman and incorporates it by reference. EX1004, ¶0043 ("Further methods useful in the present disclosure include [Soliman] ... incorporated by reference as though fully set forth herein."). A POSA would therefore be led to use Soliman for the location of the vehicle's parking space because it can do so using a minimum number of satellites, which is

highly desirable given satellite availability, urban obstacles, weather, and other difficulties. Additionally, Soliman merges GPS position location and wireless communication technologies “to achieve a precise position location in dense urban and other environments when line-of-sight to the satellites is somewhat obscured.” EX1005, Abstract. And, Soliman can desirably use signals from only two GPS satellites. EX1005, Abstract. A POSA would be motivated to use Soliman’s location-determination system/method with Phillips to achieve precise position location in a dense urban environment or otherwise where line-of-sight to satellites is obscured. EX1006, §VII(D).

X. BAESE ANTICIPATION

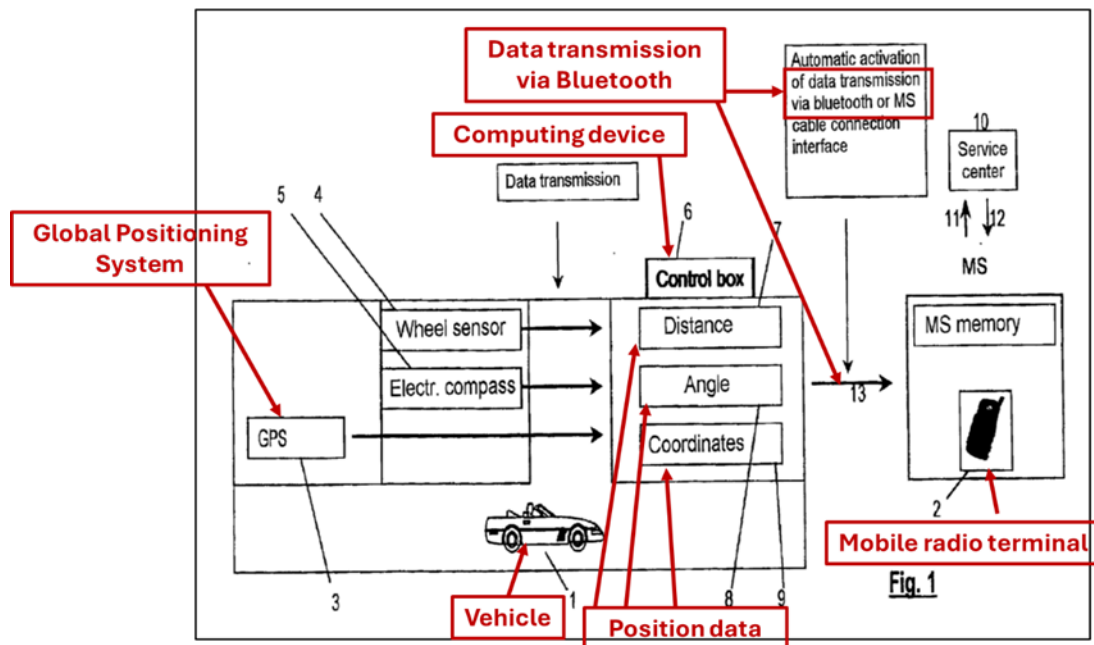
This section demonstrates how Baese anticipates the ’193 patent on a limitation-by-limitation basis. See §IX(A) above. The following invalidity analysis is based on Dr. La Porta’s declaration, corresponding on an element-by-element basis. EX1006, §§VII(A), VIII.

A. Claim 12:

1. Claim 12(a): A method of utilizing a Bluetooth transceiver for conveying desired information, the method comprising steps of:

In Fig. 1 below, vehicle 1 communicates via link 13 to mobile radio terminal 2 (*e.g.*, a mobile phone) using Bluetooth. Because vehicle 1 communicates using Bluetooth, it must have a Bluetooth transceiver. In other words, a POSA would

understand that the Bluetooth transceiver is necessarily present in vehicle 1. Otherwise, vehicle 1 could not communicate using Bluetooth. A POSA recognizes that devices enabled with Bluetooth communicate after establishing a wireless connection via a handshake and, thus, necessarily contain both a transmitter and receiver. Bluetooth chips contain transceivers for this purpose. EX1015. Moreover, the Bluetooth transceiver communicates desired information, specifically, the location of the vehicle.



EX1003, Fig. 1.

Vehicle 1 uses GPS 3 to obtain its location:

If Satellite reception is possible, *vehicle position data can be generated at the vehicle by means of a Satellite navigation System or global positioning System (GPS) 3.*

EX1003, ¶0008.

Vehicle 1 then communicates that location to mobile radio terminal 2 using Bluetooth:

Data based on the position data 7, 8, 9 determined by the computing device 6 (in the vehicle 1 or in a Service center which is not shown) are transferred to a mobile radio terminal 2. This can be carried out, for example, by means of a bluetooth transmission or a mobile radio transmission or by a line-bound interface of the mobile radio terminal 2. The data transferred to the mobile radio terminal 2 can contain, for example, the absolute position or relative position (relating to the mobile radio terminal 2) of the vehicle 1.

EX1003, ¶0010.

Baese discusses the communication from vehicle 1 to mobile radio terminal 2 in many places. See *e.g.*, EX1003, Abstract; ¶¶0002, 0003.

Baese explains that vehicle 1 can also determine its location using Bluetooth beacons (“Bluetooth transmitter/receiver devices”) just like the ’193 patent.

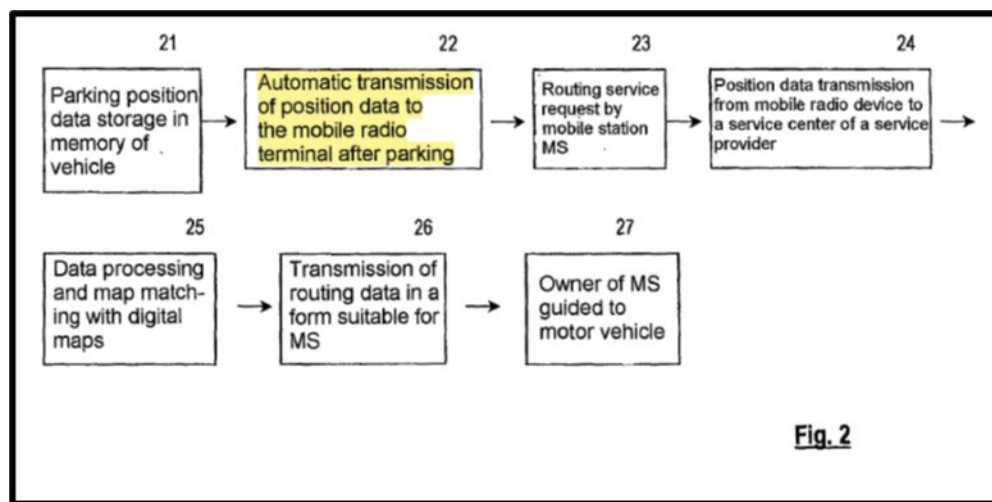
Therefore, a Bluetooth transceiver is necessarily present in vehicle 1:

In screened regions (*e.g.*, regions in which there is no mobile radio reception, GPS reception, etc.) it is possible to generate indoor position data, the position data of the vehicle within the Screened Structure, using permanently installed beacons, such as, for example, ***bluetooth transmitter/receiver devices***. In this way, the position of the motor vehicle can be determined, even within screened regions, both at the

motor vehicle end during the determination of its position and at a mobile radio terminal when the owner of the vehicle is searching for the motor vehicle.

EX1003, ¶0011.

Baese Fig. 2 also shows that the vehicle obtains its location (step 21) and then transmits that location to the mobile radio terminal (step 22):



EX1003, Fig. 2.

Baese explains Fig. 2's data transfer step as follows:

In step 22, the parking position data are transferred automatically from a vehicle-end transmitter device (for example a mobile radio mounted on the vehicle) directly to a predefined mobile radio terminal (for example the mobile radio terminal of the owner of the vehicle having a predefined telephone number which is stored at the vehicle end).

EX1003, ¶0012.

2. Claim 12(b): employing the Bluetooth transceiver integrated within a vehicle, the Bluetooth transceiver configured to transmit a Bluetooth signal detectable by a Bluetooth circuit of a mobile device located within a communication range of the respective Bluetooth transceiver;

See claim 12(a).

Baese Fig. 1 shows vehicle 1 communicating via link 13 to mobile radio terminal 2 (“mobile device”), and Baese explains that this communication uses Bluetooth. EX1003, ¶0010. Therefore, a Bluetooth transceiver is necessarily present and integrated in vehicle 1. For this communication to occur, a Bluetooth circuit must necessarily be present in the mobile radio terminal 2 so that it can detect, receive, and handle the Bluetooth communication. EX1015. The fact that vehicle 1 can communicate to mobile radio terminal 2 using Bluetooth shows that the mobile radio terminal is located within the communication range of the vehicle’s Bluetooth transceiver. Otherwise, they could not communicate. Mobile radio terminal 2 can have a telephone number (¶0012) and is depicted in Fig. 1 as a mobile phone. A POSA would therefore understand that mobile radio terminal 2 may be a mobile phone (“mobile device”).

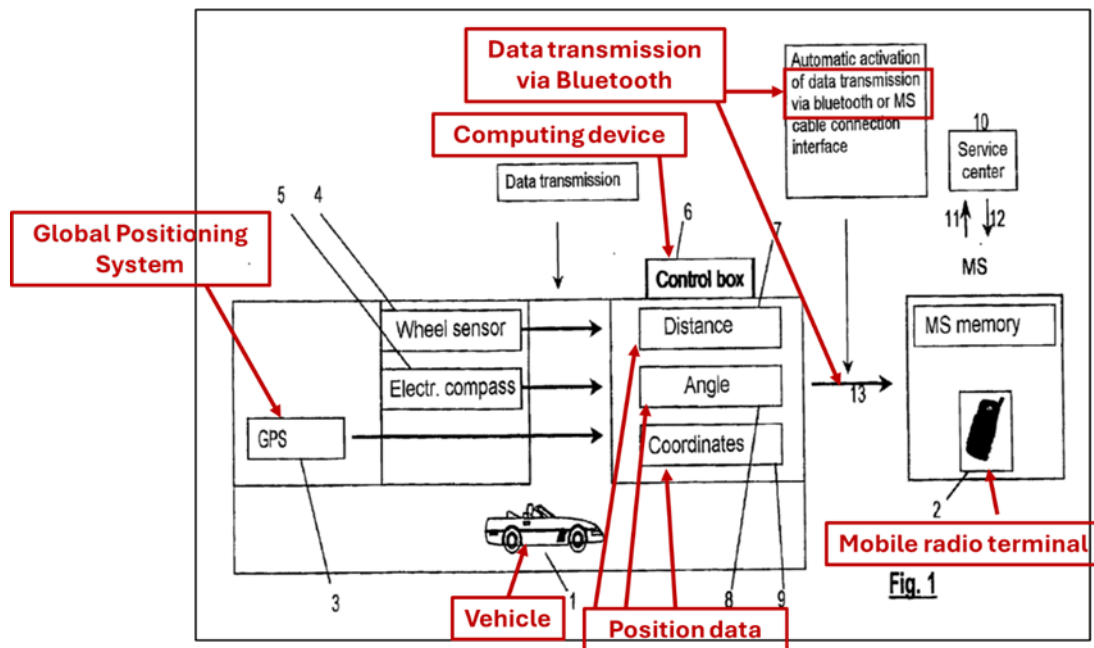
Baese’s Bluetooth transceiver is mounted (“integrated”) within vehicle 1:

In step 22, the parking position data are transferred automatically from *a vehicle-end transmitter device* (for example *a mobile radio mounted on the vehicle*) directly to a predefined mobile radio terminal (for

example the mobile radio terminal of the owner of the vehicle having a predefined telephone number which is stored at the vehicle end).

EX1003, ¶0012.

Fig. 1 is provided below with annotations.



EX1003, Fig. 1.

Vehicle 1 obtains its location via a satellite navigation system or GPS:

If Satellite reception is possible, *vehicle position data can be generated at the vehicle by means of a Satellite navigation System or global positioning System (GPS) 3.*

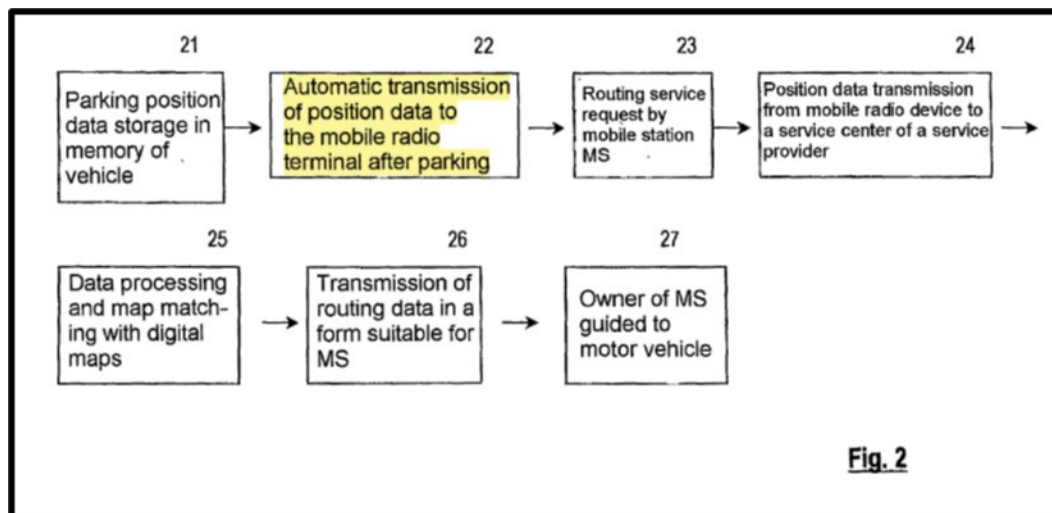
EX1003, ¶0008.

This location takes the form of data and is communicated from vehicle 1 to the mobile radio terminal 2 using Bluetooth:

Data based on the position data 7, 8, 9 determined by the computing device 6 (in the vehicle 1 or in a Service center which is not shown) are transferred to a mobile radio terminal 2. This can be carried out, for example, by means of a bluetooth transmission or a mobile radio transmission or by a line-bound interface of the mobile radio terminal 2. The data transferred to the mobile radio terminal 2 can contain, for example, the absolute position or relative position (relating to the mobile radio terminal 2) of the vehicle 1.

EX1003, ¶0010.

Baese Fig. 2 is a flowchart explaining the steps performed by Fig. 1, including the communication between vehicle 1 and mobile radio terminal 2 via Bluetooth communication 13.



EX1003, Fig. 2.

Baese explains Fig. 2's flowchart as including this communication step 22:

In step 22, the parking position data are transferred automatically from a vehicle-end transmitter device (for example a mobile radio

mounted on the vehicle) directly to a predefined mobile radio terminal (for example the mobile radio terminal of the owner of the vehicle having a predefined telephone number which is stored at the vehicle end).

EX1003, ¶0012.

Baese explains the communication from vehicle 1 to mobile radio terminal 2, explains that it occurs via Bluetooth, and explains why it is transferred. A POSA would therefore understand that a Bluetooth circuit is necessarily present in mobile radio terminal 2:

The *data transfer from the vehicle to a mobile radio terminal* can be carried out, in particular, by mobile radio (for example GPRS, SMS, USSD etc.), *bluetooth* or via a cable interface at the mobile radio terminal.

EX1003, ¶0003; see also ¶0012, Abstract.

Baese explains that vehicle 1 can determine its location using Bluetooth beacons (“Bluetooth transmitter/receiver devices”). Therefore, a Bluetooth transceiver is necessarily present in vehicle 1 and a Bluetooth circuit is necessarily present in mobile radio terminal 2:

In screened regions (*e.g.*, regions in which there is no mobile radio reception, GPS reception, etc.) it is possible to generate indoor position data, the position data of the vehicle within the screened structure, using permanently installed beacons, such as, for example, *bluetooth*

transmitter/receiver devices. In this way, the position of the motor vehicle can be determined, even within screened regions, both at the motor vehicle end during the determination of its position and *at a mobile radio terminal when the owner of the vehicle is searching for the motor vehicle.*

EX1003, ¶0011.

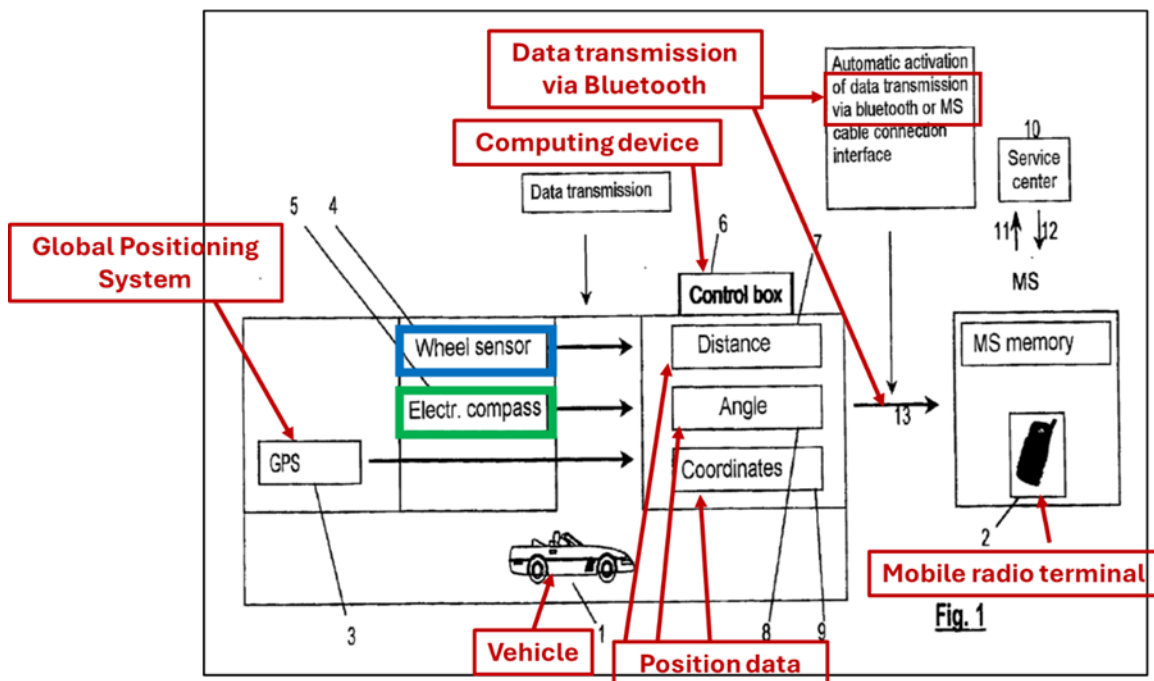
3. Claim 12(c): registering an exact parking space location of the vehicle on the mobile device using information provided by the Bluetooth transceiver; and

Baese's vehicle location method helps a vehicle owner locate their vehicle easily and efficiently using their mobile device "within a crowded parking lot, or within a multi-story parking garage." EX1003, ¶0001. It is therefore highly accurate, thereby determining "an exact parking space location of the vehicle" ("information") which is sent from the vehicle to the mobile device (explained above – claims 12(a) and (b)) for storing ("registering"). A POSA would recognize that Baese is accurate to within 6-10 feet of the parking space, just like the '193 patent alleges.

The invention relates to a method and a device for locating a vehicle. In many instances it is necessary for a vehicle owner to locate his or her vehicle *within a crowded parking lot, or within a multi-story parking garage.* In such cases, it is desirable that the vehicle owner is provided with a mechanism for locating his or her vehicle. *The object of the present invention is to make it possible for the vehicle owner to locate a vehicle easily and efficiently using mobile radio terminal.*

EX1003, ¶0001.

Baese Fig. 1 shows vehicle 1 obtaining its location via GPS 3. But Fig. 1 and ¶0008 describe combining additional methods, like using vehicle-end locating systems, such as a wheel sensor 4 (highlighted in blue), which measures distances traveled, and a direction sensor, such as an electric compass (highlighted in green). Baese can locate either the two-dimensional or three-dimensional vehicle position using position data (distance 7, angle 8, and coordinates 9). In fact, in ¶0011, Baese explains how the vehicle's location can be obtained using Bluetooth beacons just like the '193 patent. A POSA would recognize that these methods identify the “exact parking space location of the vehicle.” First, Fig. 1 is reproduced below with annotations.



EX1003, Fig. 1.

Baese discloses using not only a satellite navigation system or GPS to find the vehicle's location, but also a **wheel sensor** and **electronic compass** and explains how it optimizes position-determining precision:

FIG. 1 shows a vehicle 1 which is to be located according to the present invention. The location of the vehicle is to be provided to the vehicle owner via a mobile radio terminal 2. *If satellite reception is possible, vehicle position data can be generated at the vehicle by means of a satellite navigation system or global positioning system (GPS) 3.* Alternatively, or in addition to GPS position data, *the vehicle position may be determined by means of vehicle end autonomous locating systems, such as, for example by means of a wheel sensor 4 which measures distances traveled by means of rotations of the wheels (corresponding to an odometer), and by means of a direction sensor, for example, an electric compass 5 (or for example by measuring clocking of the steering wheel).* The *two-dimensional or three-dimensional position of a vehicle* may be determined from this raw data by a computing device 6 (in the vehicle or a server which receives position data from the vehicle). *Distance data 7 determined by wheel sensors 4, angle data determined by an electric compass, etc., and coordinate data 9 determined by a satellite navigation system 3 can all be used for this purpose.* Moreover, data from digital maps of roads, towns, multistory parking garages, and the like, which may be present in the computing device 6, can be used to superimpose (map matching) position data 7, 8, 9 on possible locations of the vehicle, thus *allowing position-determining precision to be optimized.*

EX1003, ¶0008.

Again, Baese explains how the vehicle can determine its location:

The determining of position data in the vehicle is preferably carried out by means of *a satellite navigation system such as a global positioning System (GPS) or by means of distance sensors (odometers) and direction-of-travel sensors (in particular an electronic compass).*

EX1003, ¶0003.

Baese can identify the vehicle's location uni-dimensionally, two-dimensionally, or the highly accurate three-dimensionally (direction, distance, and story, level of the parking garage) by using a precise satellite navigation system:

The position data can be determined uni-dimensionally (for example as direction information), two-dimensionally (as information relating to direction and distance) or three-dimensionally (as information relating to direction and distance and story/level). *Three-dimensional determining of data may be appropriate, for example, in a multistory car park with a plurality of levels.* Three-dimensional determining of position data may be carried out by means of *a precise satellite navigation system or, for example, by means of an inclination sensor with an evaluation device which can determine positive and negative gradients (and resulting stories) which the vehicle traveled on in a multistory car park etc.*

EX1003, ¶0009.

Baese can determine either the vehicle's absolute position or the position relative to the mobile radio terminal:

Data based on the position data 7, 8, 9 determined by the computing device 6 (in the vehicle 1 or in a service center which is not shown) are transferred to a mobile radio terminal 2. This can be carried out, for example, by means of a bluetooth transmission or a mobile radio transmission or by a line-bound interface of the mobile radio terminal 2. ***The data transferred to the mobile radio terminal 2 can contain, for example, the absolute position or relative position (relating to the mobile radio terminal 2) of the vehicle 1.*** The position of the vehicle relative to the mobile radio may be displayed, for example, as an arrow on the display of the mobile radio terminal. Alternatively, or in addition, additional directional instructions (direction, story information etc.) may also be displayed.

EX1003, ¶0010.

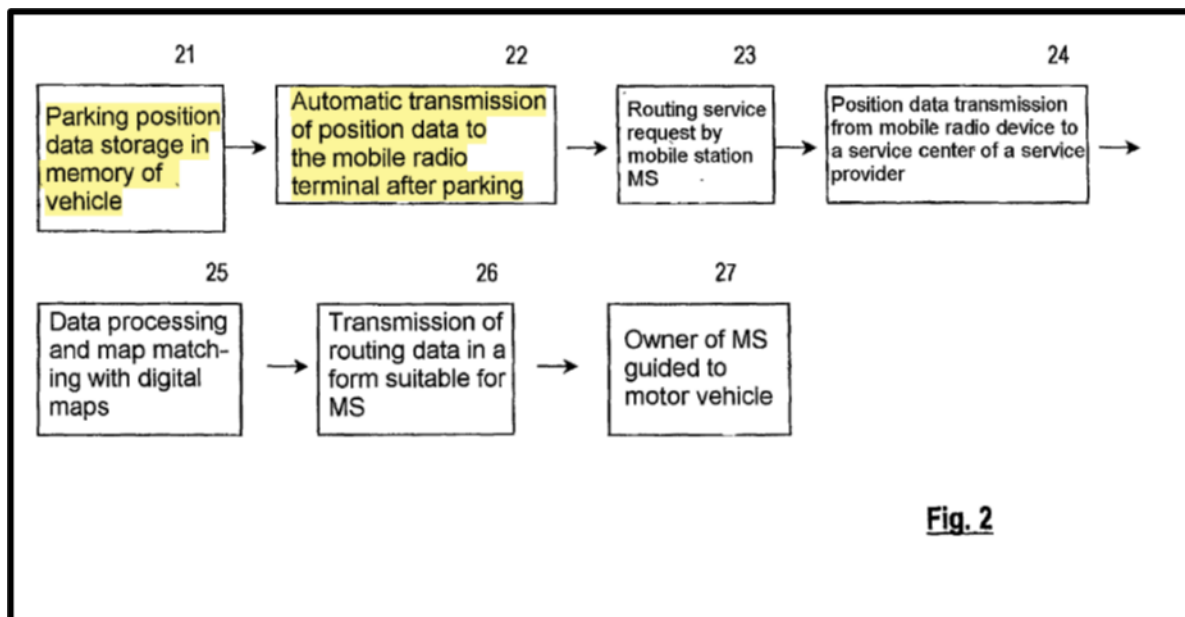
Just like the '193 patent, Baese can even use Bluetooth beacons (i.e., transceivers) to determine the vehicle's location:

In screened regions (e.g., regions in which there is no mobile radio reception, GPS reception, etc.) it is possible ***to generate indoor position data, the position data of the vehicle within the screened structure, using permanently installed beacons, such as, for example, bluetooth transmitter/receiver devices.*** In this way, the position of the motor vehicle can be determined, even within screened regions, both at the motor vehicle end during the determination of its position and at a

mobile radio terminal when the owner of the vehicle is searching for the motor vehicle.

EX1003, ¶0011.

Fig. 2 shows that after vehicle 1 determines its location (step 21), it sends that location to the mobile radio terminal 2 (step 22), where it is stored (the claimed “registering”). The location must be stored (“registered”) because the mobile radio terminal 2 sends that position data to a service center in step 24.



EX1003, Fig. 2.

Baese explains how the vehicle’s Bluetooth transceiver transfers the vehicle’s position data to the mobile radio terminal 2, where it is stored. Then, “the position of the vehicle may be displayed in a particular parking spot on a street, or a parking space within a multistory parking garage” which constitutes the claimed “exact parking space location.”

The vehicle position data which represent the current position of the parked vehicle are determined in accordance with one of the alternatives specified above. In step 22, the parking position data are transferred automatically from a vehicle-end transmitter device (for example a mobile radio mounted on the vehicle) directly to a predefined mobile radio terminal (for example the mobile radio terminal of the owner of the vehicle having a predefined telephone number which is stored at the vehicle end). If the vehicle owner activates a search function on his mobile radio terminal 2 for searching for his or her vehicle 1, for example, by pressing certain keys on the mobile radio terminal, or by voice input or some other input mechanism, a location determining service is activated at step 23. For this purpose, in step 24, the parking position data are transferred from the mobile radio terminal 2 to a service provider 10. The service provider 10 is contacted through a service center operated by the service provider, wherein contact information regarding the service center such as the telephone number, address, and the like are stored in the mobile radio terminal 2. In step 25, the position data 7-9 (see FIG. 1), which have been transferred from the mobile radio terminal 2 to a service provider is superimposed on data present at the service center.

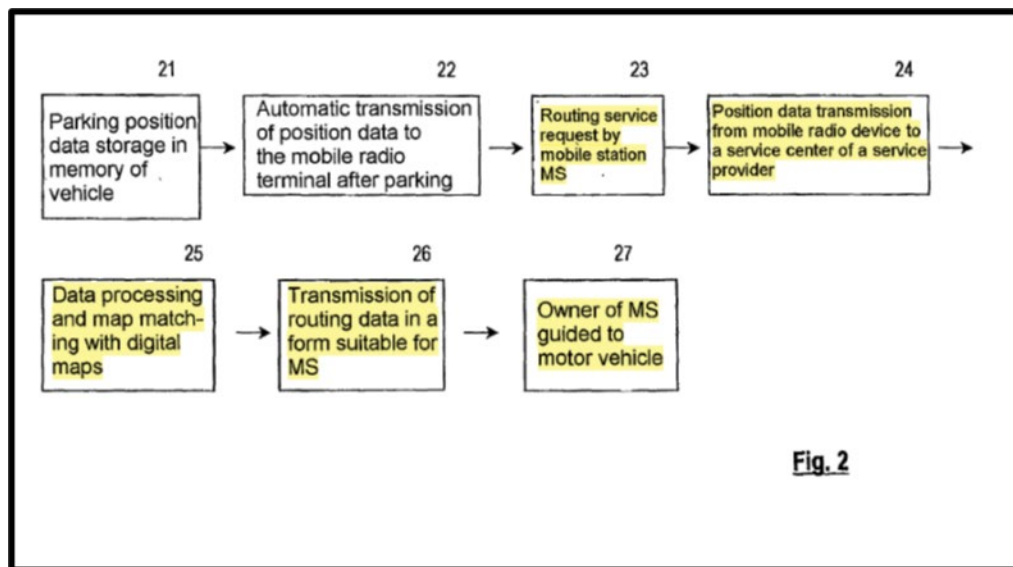
EX1003, ¶0012.

Baese again describes the mobile radio terminal 2 storing the vehicle's position data. EX1003, Abstract (“determining position data which are transferred to a mobile radio terminal”); see also, ¶¶0002, 0012 (e.g., “For this purpose, in step

24, the parking position data are transferred from the mobile radio terminal 2 to a service provider 10.”).

4. Claim 12(d): subsequently using the mobile device to provide navigation to the parking space location where the vehicle is parked.

Baese Fig. 2, steps 24-27, show how maps and directions are generated and used by the mobile radio terminal (“MS”) to guide its user to their vehicle (the claimed “navigation”):



EX1003, Fig. 2.

Baese explains how maps and directions are generated and used by the mobile radio terminal’s user to navigate back to the vehicle’s parking location.

If the vehicle owner activates a search function on his mobile radio terminal 2 for searching for his or her vehicle 1, for example, by pressing certain keys on the mobile radio terminal, or by voice input or some other input mechanism, a location determining service is

activated at step 23. For this purpose, in step 24, the parking position data are transferred from the mobile radio terminal 2 to a service provider 10. The service provider 10 is contacted through a service center operated by the service provider, wherein contact information regarding the service center such as the telephone number, address, and the like are stored in the mobile radio terminal 2. In step 25, the position data 7-9 (see FIG. 1), which have been transferred from the mobile radio terminal 2 to a service provider is superimposed on data present at the service center. The data at the service center may include data such as road maps, town maps, building plans (of multistory parking garages etc.) so that the vehicle may be located within the context of a specific map. For example, the position of the vehicle may be displayed in a particular parking spot on a street, or a parking space within a multistory parking garage, and so forth. Data from the vehicle position data and the map data stored at the service center are calculated and transmitted back to the terminal 2. This data may comprise one or more specific directional instructions such as, for example, "turn left at next crossroads," "first door on right," etc., which are displayed or audibly delivered at the mobile radio terminal 2. Alternatively, data transmitted back to the mobile radio terminal may comprise locational data to be further processed at the terminal 2. The data which are based on the position data 7-9 and are generated by the service center (route instructions, position information etc.) are transferred in a suitable form (text, graphics, speech in the form of short messages USSD, WML, XML etc.) from the service center 10 to the mobile radio terminal 2 (by mobile radio or by bluetooth, etc.) so that route instructions may be displayed.

Suitable data are issued to the user of the terminal 2 by means of the mobile radio terminal in visual/audible form. For example, the instructions may be delivered audibly via mobile radio terminal's loudspeaker or may be displayed visually on an LCD or the like. The data include, for example, direction (by means of an arrow on the display of the terminal 2 etc.), distance (on the display), directional instructions (next door right, two stories up and then to left), and the like.

EX1003, ¶0012; see also ¶0004, Abstract (mobile radio terminal “display route instructions to the vehicle”); ¶¶0001-0003,

The data transferred to the mobile radio terminal 2 can contain, for example, *the absolute position or relative position (relating to the mobile radio terminal 2) of the vehicle 1. The position of the vehicle relative to the mobile radio may be displayed, for example, as an arrow on the display of the mobile radio terminal. Alternatively, or in addition, additional directional instructions (direction, story information etc.) may also be displayed.*

EX1003, ¶0010.

B. Claim 13:

- 1. Claim 13(a): The method as recited in claim 12, further comprising a step of:**

See claim 12.

2. Claim 13(b): displaying on a display of the mobile device, a map between a current location of the mobile device and the exact parking space location of the vehicle.

See claim 12(d).

See also EX1003, Fig. 2; Abstract; ¶¶0001, 0002, 0003, 0010 (*e.g.*, “The position of the vehicle relative to the mobile radio may be displayed, for example, as an arrow on the display of the mobile radio terminal”), 0012 (disclosing displaying a map and route instructions between the current location of the mobile radio terminal and the vehicle).

Baese explains how it displays a map between the mobile radio terminal and the vehicle’s exact parking space location relative to Fig. 2. Baese provides step-by-step guidance which demonstrates that the mobile radio terminal’s current position and the exact parking space location of the vehicle is displayed on the mobile radio terminal. EX1003, ¶0012.

C. Claim 15:

1. Claim 15(a): The method as recited in claim 12, further comprising a step of:

See claim 12.

2. Claim 15(b): employing a Global Positioning System (GPS) to register the location of the exact parking space location of the vehicle.

See claim 12(c).

Vehicle 1’s position may be determined in whole or in part by GPS:

The determining of position data in the vehicle is preferably carried out by means of a *satellite navigation system such as a global positioning System (GPS)* or by means of distance sensors (odometers) and direction-of-travel sensors (in particular an electronic compass).

EX1003, ¶0003.

Three-dimensional determining of position data may be carried out by means of a *precise satellite navigation system* or, for example, *by means of an inclination sensor with an evaluation device which can determine positive and negative gradients (and resulting stories) which the vehicle traveled on in a multistory car park etc.*

EX1003, ¶0009.

In ¶0008, Baese explains how “*in addition to GPS position data*” the system may use distance and direction and optimizes “position-determining precision.” A POSA would therefore understand that Baese is highly accurate. EX1003, ¶0008.

D. Claim 16:

1. Claim 16(a): The method as recited in claim 12, further comprising steps of:

See claim 12.

2. Claim 16(b): employing a Global Positioning System (GPS) to register a location of the vehicle; and

See claim 12(c) and 15(b).

- 3. Claim 16(c): subsequently using the registered location of the vehicle to provide navigation to the parking space location where the vehicle is parked.**

See claim 12(d) and 13(b).

E. Claim 17:

- 1. Claim 17(a): The method as recited in claim 12, further comprising steps of:**

See claim 12.

- 2. Claim 17(b): employing a Global Positioning System (GPS) to register a location of the vehicle; and**

See claim 12(c) and 15(b).

- 3. Claim 17(c): displaying on a display of the mobile device, a map between a current location of the mobile device and the registered location of the vehicle.**

See claims 12(d) and 13(b).

F. Claim 18:

- 1. Claim 18(a): The method as recited in claim 12, further comprising steps of:**

See claim 12.

- 2. Claim 18(b): employing a Global Positioning System (GPS) to register a location of the vehicle;**

See claims 12(c) and 15(b).

- 3. Claim 18(c): displaying on a display of the mobile device, a map between a current location of the mobile device and the registered location of the vehicle; and**

See claims 12(d) and 13(b).

4. Claim 18(d): providing navigation from the current location of the mobile device and the registered location of the vehicle.

See claims 12(d) and 13(b).

XI. BAESE – OBVIOUSNESS

Petitioner relies on its anticipation evidence to also show obviousness. See §§IX(A), X; EX1006, §§VII(A), VIII, IX. To the extent that any showing is lacking in §X, it would be obvious to a POSA.

Baese discloses transmitting the vehicle's location information to the mobile radio terminal. See §X. A POSA would understand that the vehicle necessarily has a Bluetooth transceiver. Nevertheless, even if the vehicle did not have Bluetooth receive functionality, a POSA would be motivated to add Bluetooth receive functionality to the vehicle for data reliability purposes leading to more robust communications. For example, a POSA would recognize that the data transmission might be received by the mobile radio terminal with detectable errors (i.e., error detection). With receive functionality at the vehicle, the mobile radio terminal could desirably and necessarily request retransmission. A POSA would recognize that such modifications would have a reasonable expectation of success because such technology and modifications are well known and routinely implemented.

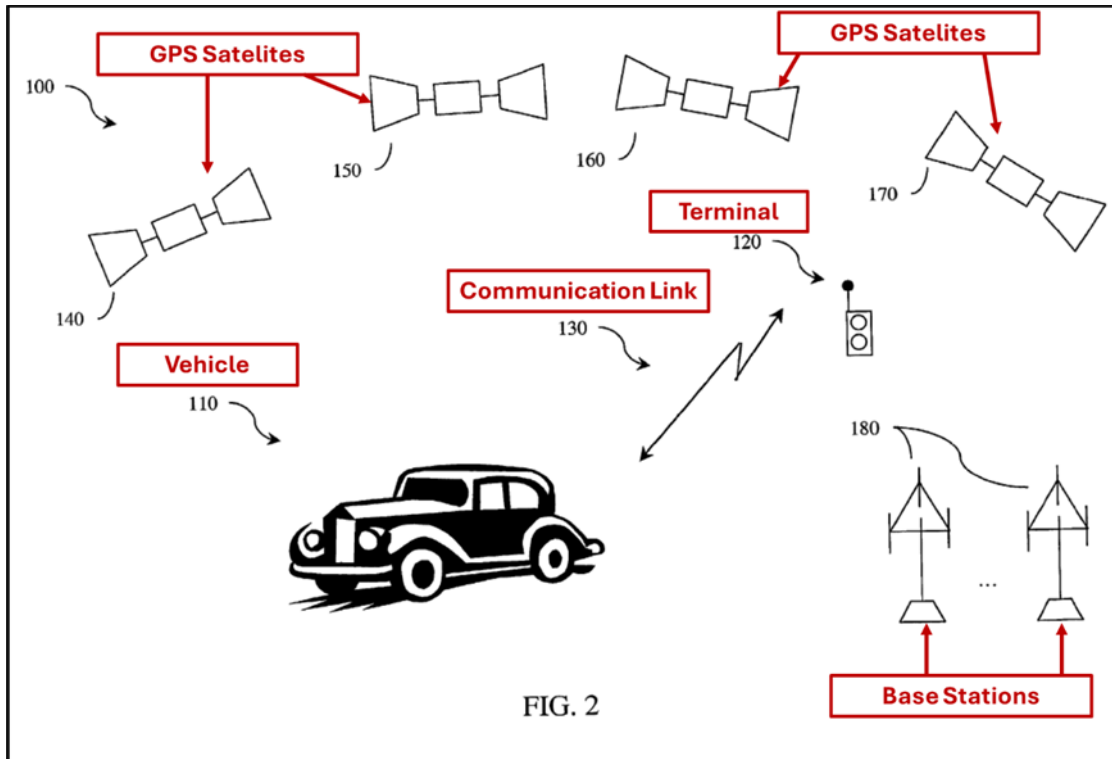
XII. PHILLIPS – ANTICIPATION

This section demonstrates how Phillips anticipates the '193 patent on a limitation-by-limitation basis. See §IX(B) above. The following invalidity analysis is based on Dr. La Porta's declaration, corresponding on an element-by-element basis. EX1006, §§VII(B), X.

A. Claim 12:

1. Claim 12(a): A method of utilizing a Bluetooth transceiver for conveying desired information, the method comprising steps of:

Phillips Fig. 2 depicts a vehicle 110 communicating via communication link 130 to a terminal 120 (a cell phone ¶0070). As explained elsewhere, the communication link 130 is a Bluetooth link (¶0045). A POSA would therefore recognize that a Bluetooth transceiver is necessarily present in vehicle 110, particularly since communication link 130 is represented as bidirectional. Also, a POSA recognizes that devices enabled with Bluetooth communicate after establishing a wireless connection via a handshake which requires bi-directional communication. The vehicle 110 obtains its location (*e.g.*, using GPS satellites 140, 150, 160, 170) and conveys that information ("desired information") via communication link 130 to terminal 120. An annotated version of Fig. 2 is shown below.



EX1004, Fig. 2.

Phillips explains how the location of the vehicle is transmitted via link 130 to terminal 120.

In one aspect of the present disclosure, the system 100 is configured to determine the location of both the vehicle 110 and the terminal 120. *When activated by a user, the system 100 may be configured to provide the location of the vehicle 110 to the terminal 120 through the link 130.* The terminal 120 is then configured to display vehicle location information and aid the user in locating their vehicle.

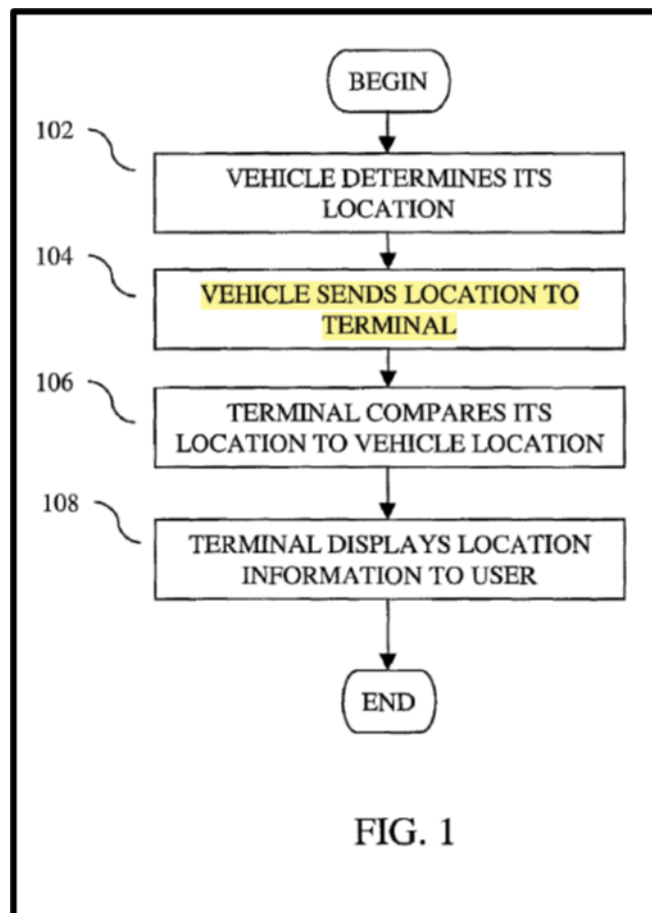
EX1004, ¶0034.

Fig. 2's communication link 130 is a Bluetooth link:

In one aspect of the disclosed system, the communication module 312 may be configured to provide communication *according to the Bluetooth protocols*. Thus, *the communication link 130 of FIG. 2 may comprise a Bluetooth link*.

EX1004, ¶0045.

Fig. 1 shows the vehicle 110 sending its location to terminal 120 in step 104.



EX1004, Fig. 1.

Phillips explains how vehicle 110 obtains its location and transmits it to terminal 120, and then terminal 120 uses that desired information:

The process of FIG. 1 begins in act 102, *where a vehicle configured in accordance with one aspect of the present disclosure determines its location.*

EX1004, ¶0028.

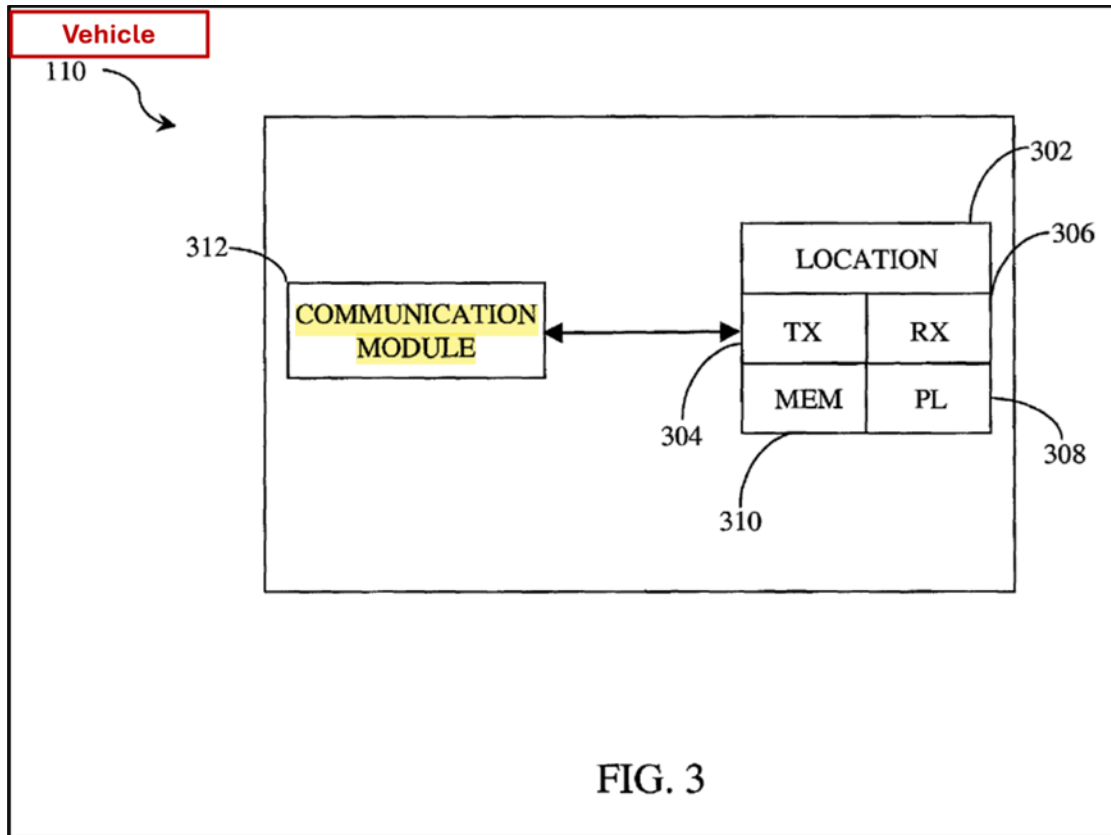
Then, in act 104, the vehicle will provide its location information to a terminal configured in accordance with the present invention. In one aspect of the present disclosure, *the location information is transmitted over a wireless communication link. It is contemplated that a wide variety of communication protocols may be suitable for use, such as Bluetooth®.* Furthermore, various aspects of the present disclosure may utilize cellular communication standards, such CDMA.

EX1004, ¶0029; see also ¶¶0008, 0030-0031.

One aspect of the disclosed method comprises: *determining, by a position location server, a vehicle's location; sending, by the position location server, the vehicle's location to the terminal;* comparing, by the terminal, the location of the terminal to the vehicle's location; and displaying, by the terminal, location information enabling the user to locate the vehicle.

EX1004, ¶0009, see also ¶00010.

Fig 3 shows vehicle 110 in more detail, with a communication module 312 for communicating with terminal 120 (¶0044). Because communication link 130 is Bluetooth (¶0045), communication module 312 constitutes the claimed Bluetooth transceiver.



EX1004, Fig. 3 (annotation and emphasis added).

Phillips explains that the communication module communicates with terminal 120 and that communication uses a Bluetooth link.

The vehicle 110 of FIG. 3 may further include a communication module for providing communications with the terminal 120. The communications module may also be operatively coupled to the location module 302.

EX1004, ¶0044.

A vehicle configured in accordance with the present disclosure may determine its current location, and send its current location to a terminal (e.g., cellular phone) configured according to the present

invention, preferably via a Bluetooth signal. The vehicle may periodically (e.g., every 5 seconds) transmit this information to terminals registered to receive this service, or it may transmit the information to such terminals at the time the car's engine is shut off, or alternatively it may transmit this information to a terminal only upon a request/poll by the terminal.

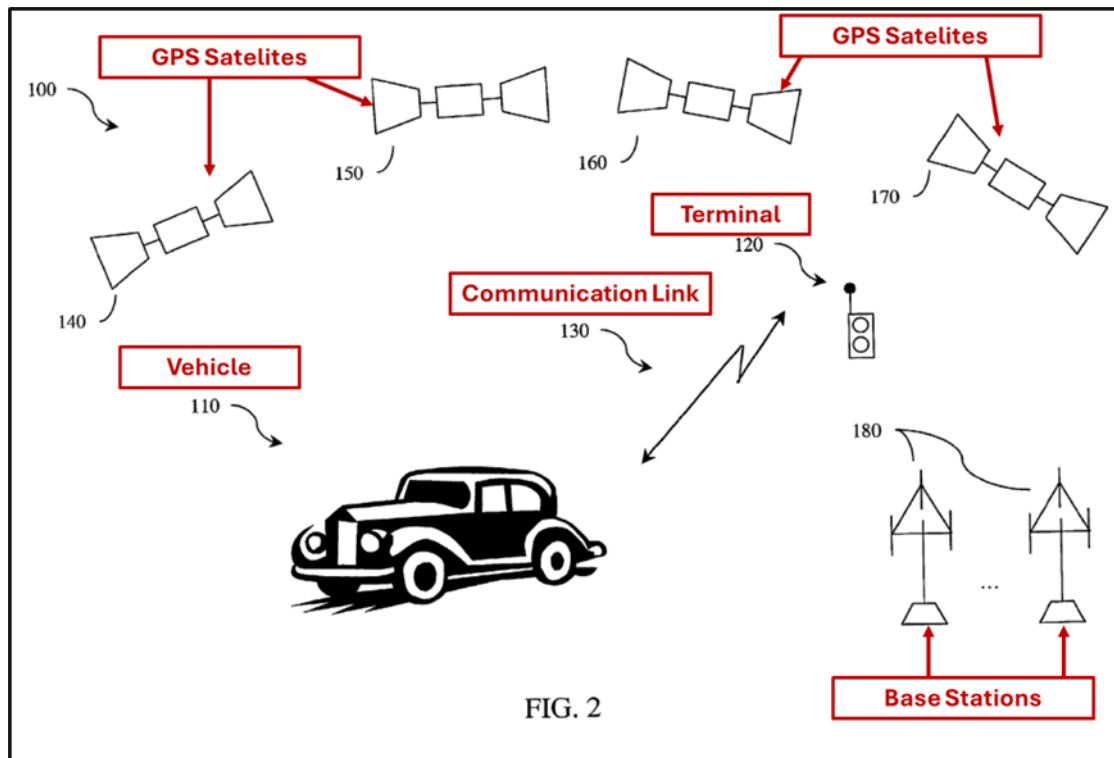
EX1004, ¶0070.

2. Claim 12(b): employing the Bluetooth transceiver integrated within a vehicle, the Bluetooth transceiver configured to transmit a Bluetooth signal detectable by a Bluetooth circuit of a mobile device located within a communication range of the respective Bluetooth transceiver;

See claim 12(a) for an explanation of how the vehicle has a Bluetooth transceiver that communicates with terminal 120 using Bluetooth. Since communication between vehicle 110 and terminal 120 occurs via Bluetooth, a Bluetooth circuit is necessarily present in terminal 120 and terminal 120 is within communication range of the vehicle's Bluetooth transceiver. Otherwise, vehicle 110 and terminal 120 could not communicate. EX1015.

Phillips Fig. 2 depicts a vehicle 110 communicating via communication link 130 to a terminal 120 (a cell phone ¶0070 - "mobile device"). As explained elsewhere, the communication link 130 is a Bluetooth link (¶0045). A POSA would therefore recognize that a Bluetooth transceiver is necessarily present and integrated in vehicle 110. Fig. 2 depicts that the Bluetooth transceiver is integrated

in the vehicle as no component needed for communication is depicted outside the vehicle. The vehicle 110 obtains its location (e.g., using GPS satellites 140, 150, 160, 170) and conveys that information via communication link 130 to terminal 120. An annotated version of Fig. 2 is shown below.



EX1004, Fig. 2.

Vehicle 110 communicates with terminal 120 via communication link 130.

The system 100 of FIG. 2 includes a vehicle 110 configured to communicate with terminal 120 over *a communication link 130*. In one aspect of the present disclosure, the system 100 is configured to determine the location of both the vehicle 110 and the terminal 120. *When activated by a user, the system 100 may be configured to provide the location of the vehicle 110 to the terminal 120 through*

the link 130. The terminal 120 is then configured to display vehicle location information and aid the user in locating their vehicle.

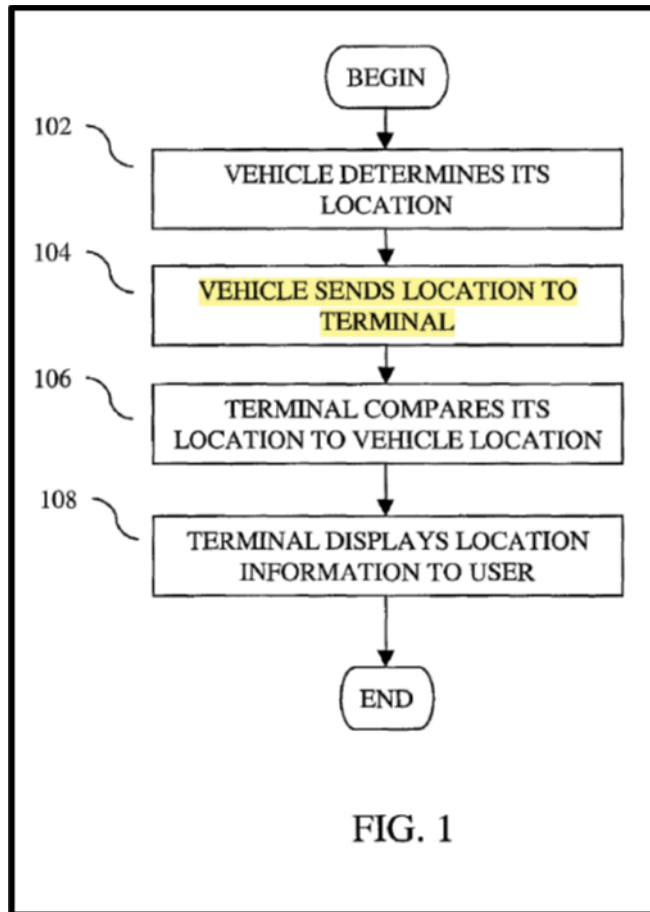
EX1004, ¶0034.

Fig. 2's communication link 130 is a Bluetooth link:

In one aspect of the disclosed system, the communication module 312 may be configured to provide communication according to the ***Bluetooth protocols. Thus, the communication link 130 of FIG. 2 may comprise a Bluetooth link.***

EX1004, ¶0045.

Phillips Fig. 1 shows vehicle 110 sending its location information to terminal 120.



EX1004, Fig. 1.

Phillips explains how the communication between vehicle 110 and terminal 120 occurs over Bluetooth and how it is triggered:

The process of FIG. 1 begins in act 102, where a *vehicle configured in accordance with one aspect of the present disclosure determines its location. This act may be triggered by any number of events, such as the vehicle being shut off, or a user activating a button or other switching means.*

EX1004, ¶0028.

Then, in act 104, the vehicle will provide its location information to a terminal configured in accordance with the present invention. In one aspect of the present disclosure, *the location information is transmitted over a wireless communication link. It is contemplated that a wide variety of communication protocols may be suitable for use, such as Bluetooth®.* Furthermore, various aspects of the present disclosure may utilize cellular communication standards, such CDMA.

EX1004, ¶0029.

Phillips Fig. 3 shows vehicle 110 in more detail. It shows communication module 312 which, as Phillips explains, is used to communicate with terminal 120 using Bluetooth. Communication module 110 (the claimed Bluetooth transceiver) is integrated within the vehicle as shown by Fig. 3 because none of communication module 312 is shown outside of vehicle 110, and because Phillips expressly discloses an embodiment where communication module 312 is “operatively coupled to the location module 302” within the vehicle. EX1004, ¶0044.

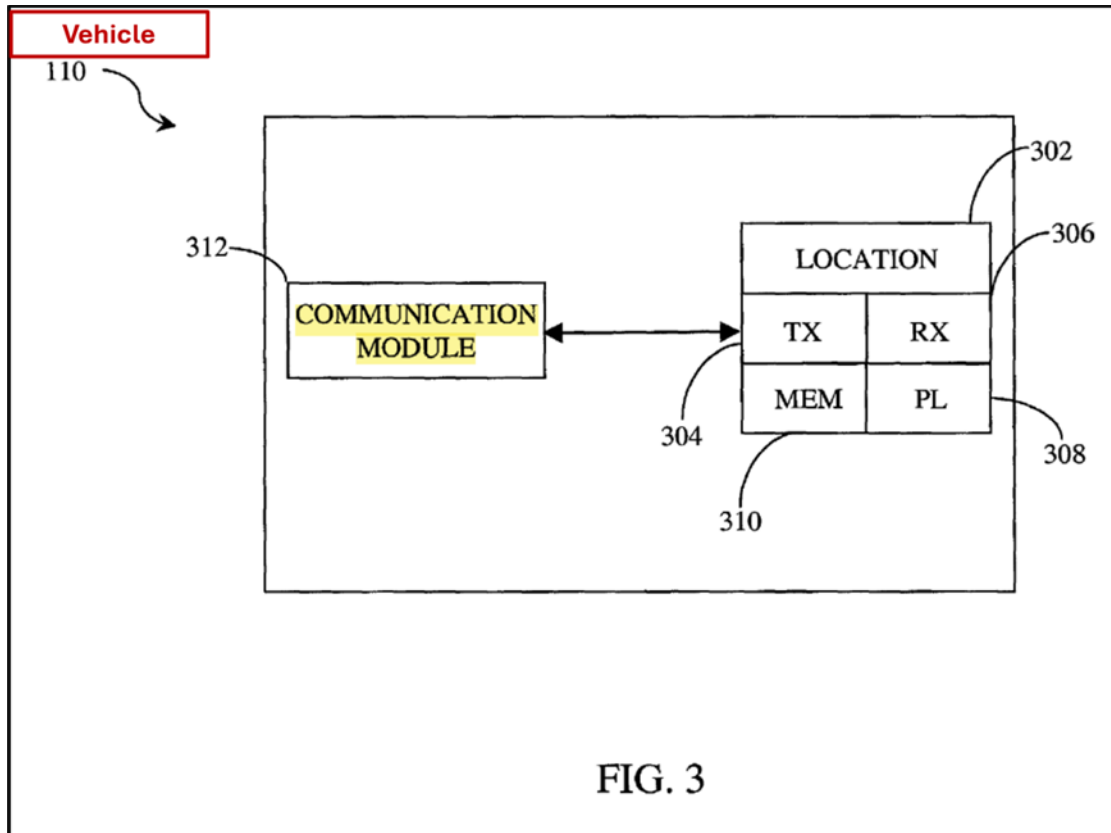


FIG. 3

EX1004, Fig. 3 (annotation and emphasis added).

Phillips explains the vehicle's communication module 312:

*The vehicle 110 of FIG. 3 may further include a communication module for providing communications with the terminal 120. The communications module may also be **operatively coupled to the location module 302.***

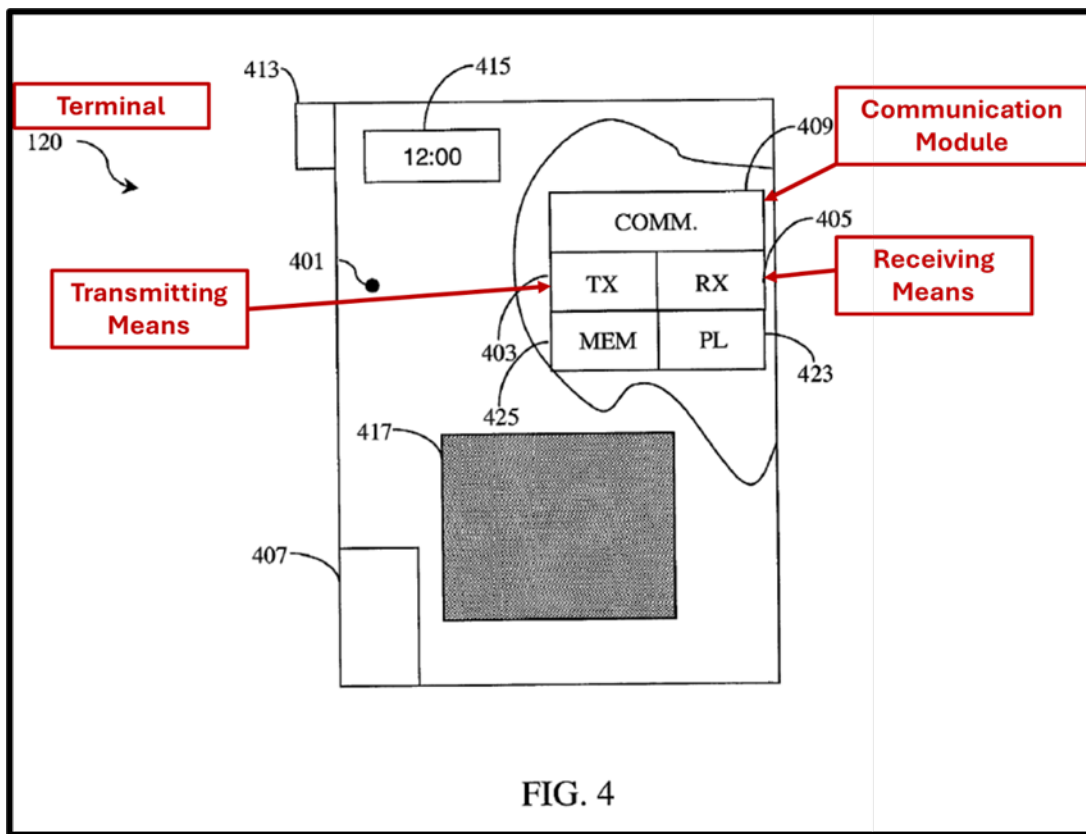
EX1004, ¶0044; see also ¶¶0046, 0048.

*When configured to provide Bluetooth connectivity, the communication module 312 may further include a radio unit, a link control unit, and a support unit for providing link management and host terminal interface functions. When so configured, **the vehicle***

110 may communicate with the terminal 120 up to a distance of 100 m in an unobstructed area such as a parking lot.

EX1004, ¶0047.

Phillips Fig. 4 depicts terminal 120 in greater detail, with a communication module 409, transmitting means 403 and receiving means 405. Phillips also describes that terminal 120 communicates using Bluetooth, and therefore terminal 120 necessarily has a Bluetooth circuit, which is communication module 409.



EX1004, Fig. 4.

Phillips explains terminal 120's communication module 409:

Terminal 120 further includes *transmitting means (TX) 403 and receiving means (RX) 405*. TX 403 and RX 405 are shown operatively disposed within enclosure 401 in FIG. 4.

EX1004, ¶0051.

The terminal 120 may also include *a communication module 409 for providing Bluetooth connectivity* if desired. The communication module 409 may be configured substantially as shown and described above for the communication module 312.

EX1004, ¶0059.

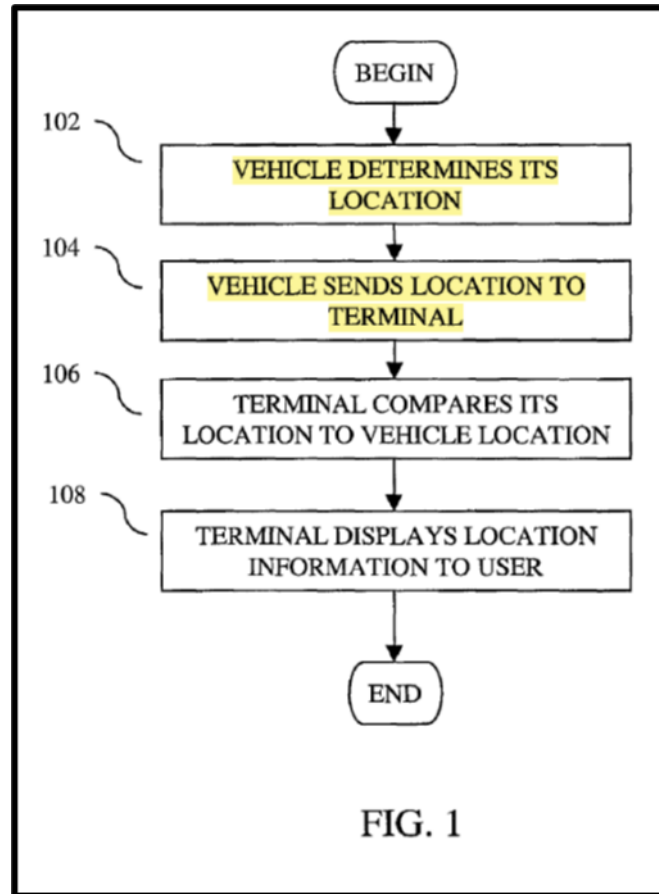
A vehicle configured in accordance with the present disclosure may determine its current location, and *send its current location to a terminal (e.g., cellular phone) configured according to the present invention, preferably via a Bluetooth signal*.

EX1004, ¶0070.

3. Claim 12(c): registering an exact parking space location of the vehicle on the mobile device using information provided by the Bluetooth transceiver; and

In Fig. 1 below and the quotes that follow, Phillips explains that vehicle 110 determines its “exact parking space location” and sends it to terminal 120 (“mobile device”). A POSA would recognize that Phillips is accurate to within 6-10 feet of the parking space, just like the ’193 patent alleges. The exact parking space location is then stored (“registered”) in the terminal’s memory. EX1004, Fig. 4, 425; Fig. 5, 520; ¶¶0057, 0067 (e.g., “coordinates stored in memory 520. The

coordinates may comprise the location of the vehicle 110.”), 0072 (e.g., “cached location of vehicle”); see also claim 12(d).



EX1004, Fig. 1.

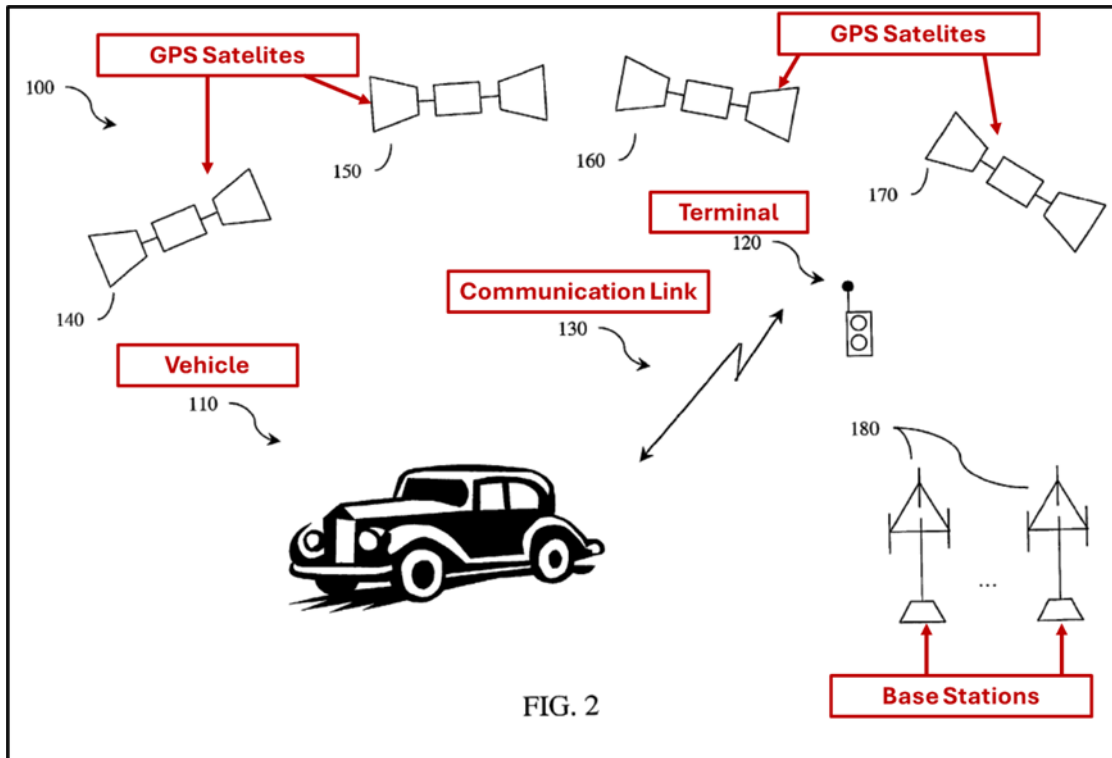
The process of FIG. 1 begins in act 102, where *a vehicle configured in accordance with one aspect of the present disclosure determines its location*. This act may be triggered by any number of events, such as the vehicle being shut off, or a user activating a button or other switching means. Various methods and structure for determining the vehicle's location will be discussed below.

EX1004, ¶0028.

Then, in act 104, the vehicle will provide its location information to a terminal configured in accordance with the present invention. In one aspect of the present disclosure, the location information is transmitted over a wireless communication link. It is contemplated that a wide variety of communication protocols may be suitable for use, *such as Bluetooth®*. Furthermore, various aspects of the present disclosure may utilize cellular communication standards, such CDMA. Further communication methods and structure will be discussed in more detail below.

EX1004, ¶0029 (emphasis added); see also ¶0070.

Phillips Fig. 2 below and the quotes that follow explain how the system uses GPS to determine the location of vehicle 110.



EX1004, Fig. 2.

The system 100 of FIG. 2 includes a vehicle 110 configured to communicate with terminal 120 over *a communication link 130*. In one aspect of the present disclosure, *the system 100 is configured to determine the location of both the vehicle 110 and the terminal 120. When activated by a user, the system 100 may be configured to provide the location of the vehicle 110 to the terminal 120 through the link 130*. The terminal 120 is then configured to display vehicle location information and aid the user in locating their vehicle.

EX1004, ¶0034.

The system 100 of FIG. 2 may be disposed in a GPS (Global Positioning System) environment having several GPS satellites, of which four are shown (140, 150, 160, and 170). Such GPS environments are well known. See for example Hofmann-Wellenhof, B., et al., GPS Theory and Practice, Second Edition, New York, N.Y.: Springer-Verlag Wien, 1993.

EX1004, ¶0035.

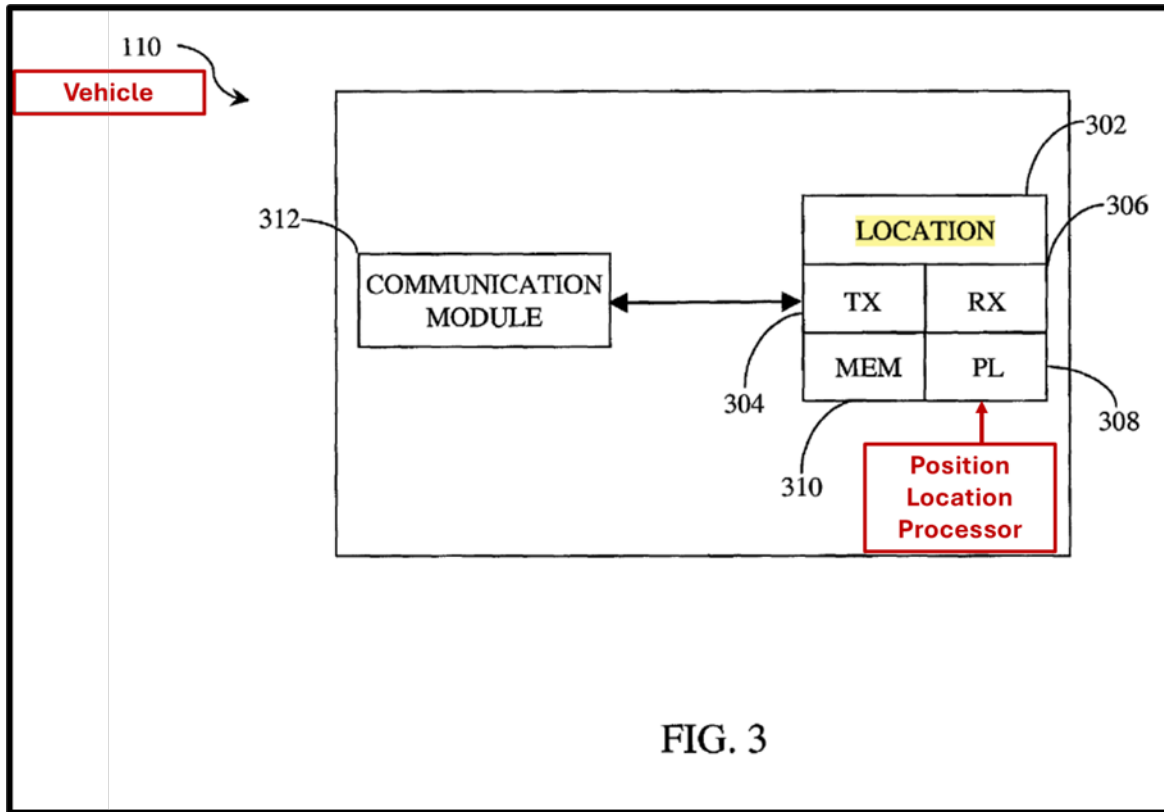


FIG. 3

EX1004, Fig. 3 (annotations and emphasis added).

The location module 302 includes a position location processor that analyzes signals received and determines the vehicle's location.

The vehicle 110 may include a *location module 302 for determining the location of the vehicle*. The location module 302 may also include transmitting means (TX) 304 and receiving means (RX) 306. The location module may be operatively disposed within the vehicle 110 at any convenient location.

EX1004, ¶0039.

The location module 302 may further include a position location processor 308. The position location processor 308 is configured to analyze signals received from a position location system through the

receiver and determine the location of the vehicle. The location module 302 may further include *memory 310 for storing the vehicle's location information.*

EX1004, ¶0040.

Location processor 308 may use many different position location techniques, including GPS either alone or in combination with other methods:

It is contemplated that location processor 308 may be configured to use any position location techniques known in the art.

EX1004, ¶0041.

For example, *methods for performing position location on a strictly CDMA terrestrial system with no satellites required are known in the art.* Such methods useful in the present application are disclosed in U.S. Pat. Nos. 5,646,632 and 5,900,838 to Khan, et al., in U.S. Pat. No. 6,134,228 to Cedervall, and in U.S. Pat. No. 6,034,635 to Gilhousen, all assigned to the assignee of the present disclosure and *incorporated by reference as through fully set forth herein.*

EX1004, ¶0042.

Furthermore, *various aspects of the present disclosure may be configured to allow the position of a mobile unit to identified using a minimum number of GPS satellites. It is contemplated that any GPS-based location system known in the art may be used in the present disclosure, such as gpsOne.* Further methods useful in the present disclosure include U.S. Pat. Nos. 6,081,229, 6,166,685, and 6,188,354 B1 to Soliman, et al.; 6,134,483 to Vayanos et al.; and 6,058,338 to

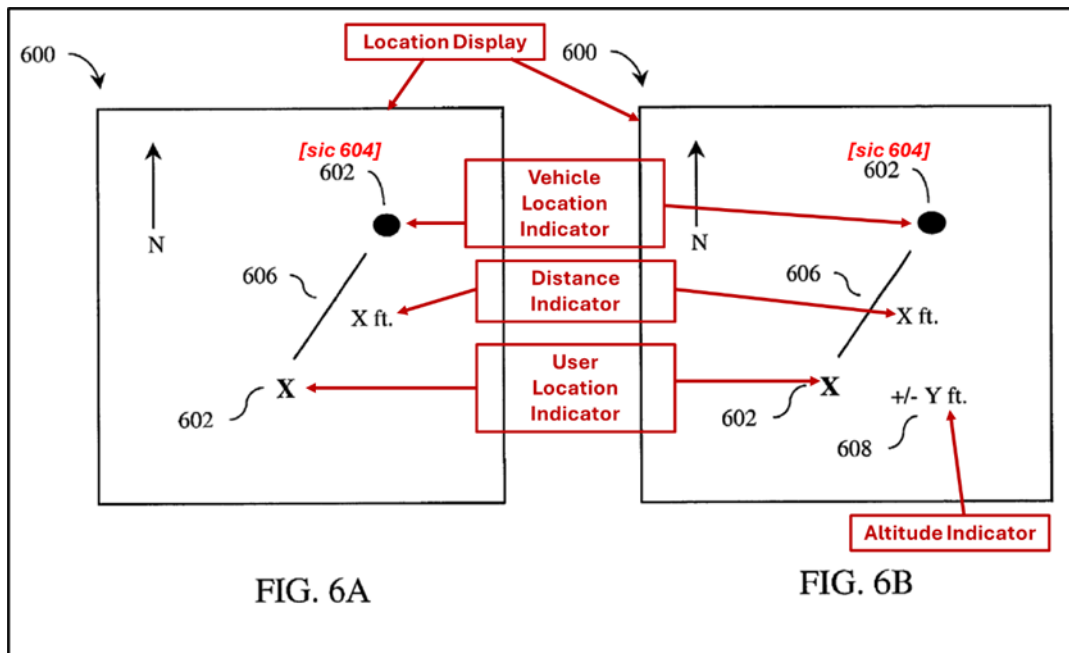
Agashe et al., all assigned to the assignee of the present disclosure and *incorporated by reference as through fully set forth herein.*

EX1004, ¶0043.

As will be appreciated by those of ordinary skill in the art, *by having the vehicle communicate directly with the phone, the phone does not have to bring up a call to determine its current location.* However, in one embodiment, the terminal could request the current location of the vehicle via a cellular link at any time. In such an embodiment, *the terminal may request the location either directly from the car*, or from a position location server that is able to determine the location of the car. *The position location server may be a gpsOne server*, or it could be a server that tracks a vehicle's location by a network-based solution.

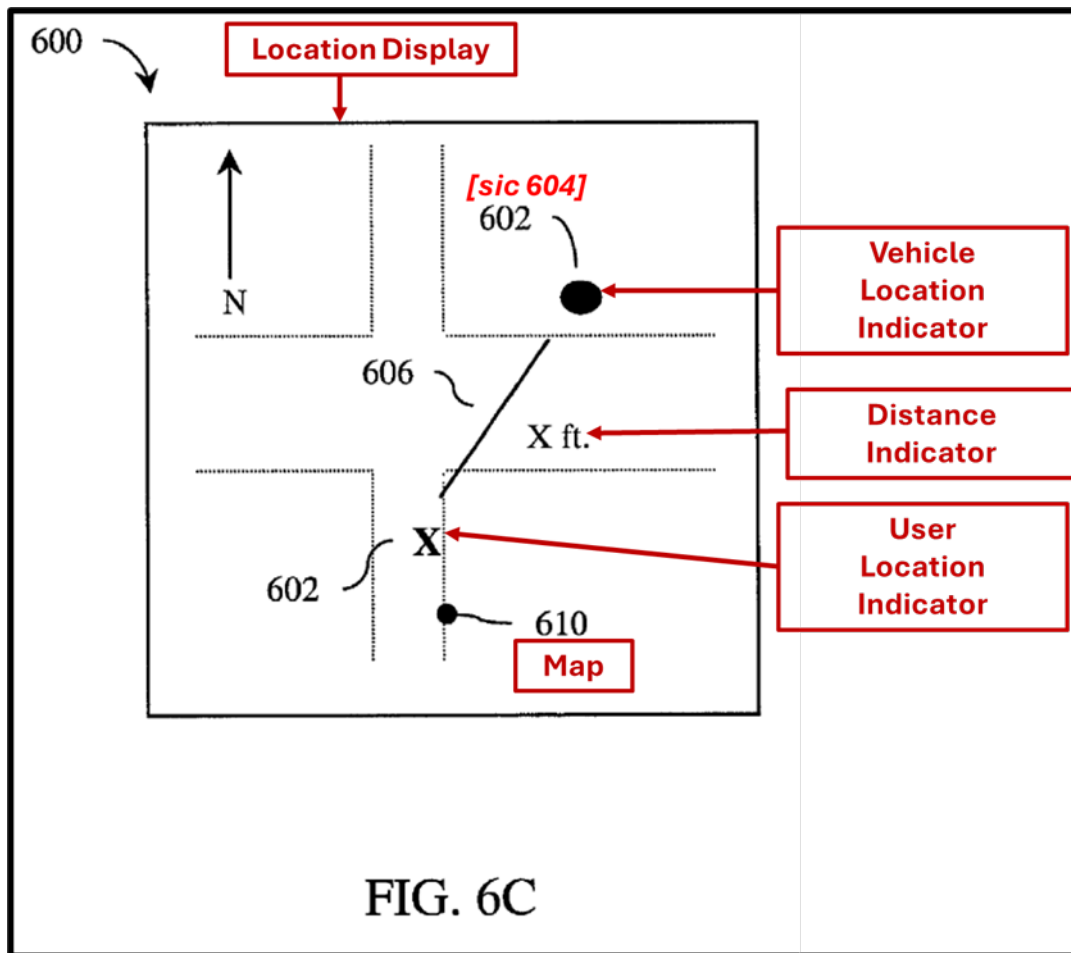
EX1004, ¶0071.

Phillips Figs. 6A, 6B, 6C, 7A, and 7B show the “exact parking space location of the vehicle.” Figs. 6A and 6B display the exact vehicle location as a dot (●), known as the vehicle location indicator, and display a distance indicator 606 that shows the distance in feet between the user 602 (indicated as an “X”) as well as the direction. Therefore, a POSA would recognize that Phillips is highly accurate in determining the vehicle’s exact parking space location. In Fig. 6B, Phillips provides an altitude indicator to indicate the level in a parking garage that the car is on. EX1004, ¶¶0074, 0075.



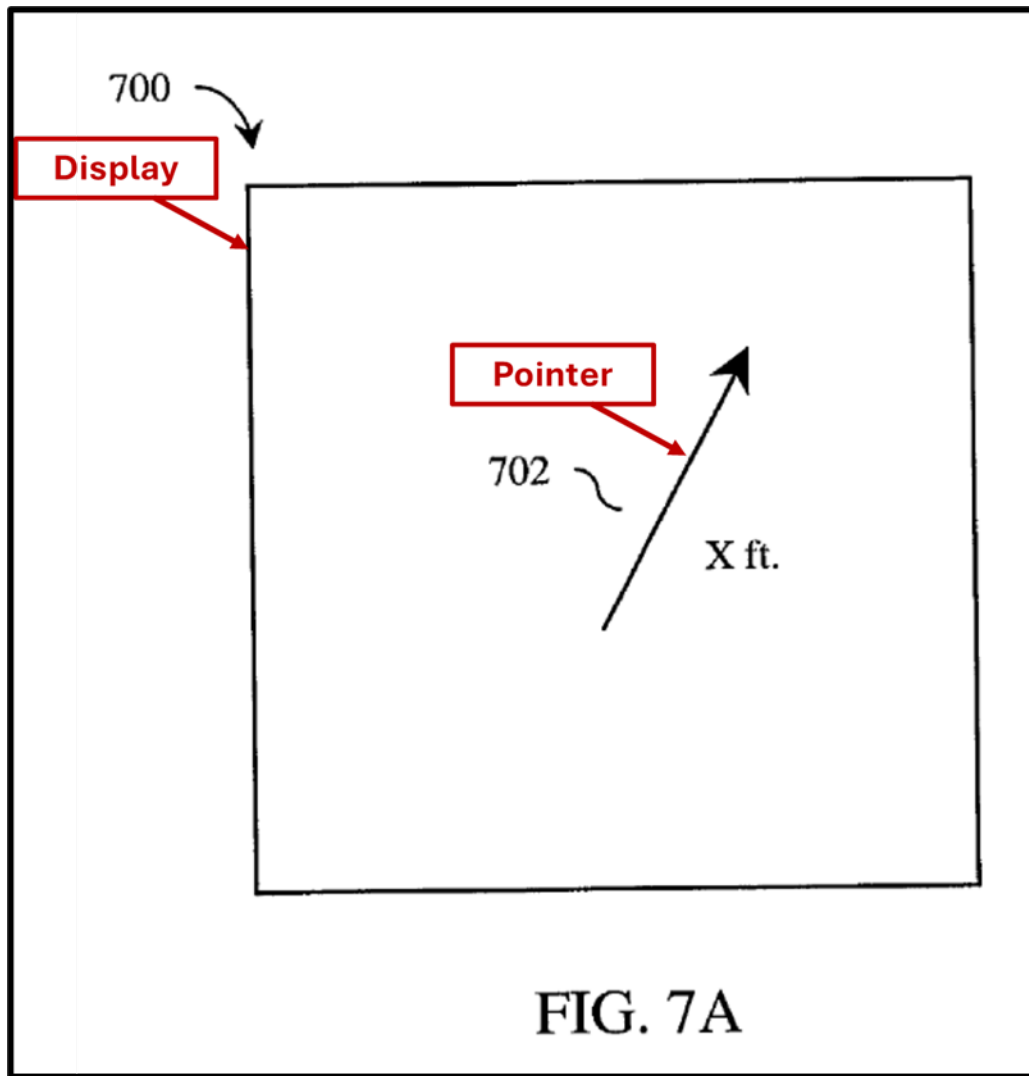
EX1004, Figs. 6A, 6B.

Fig. 6C shows the vehicle in its specific (exact) parking space. EX1004,
¶0076.



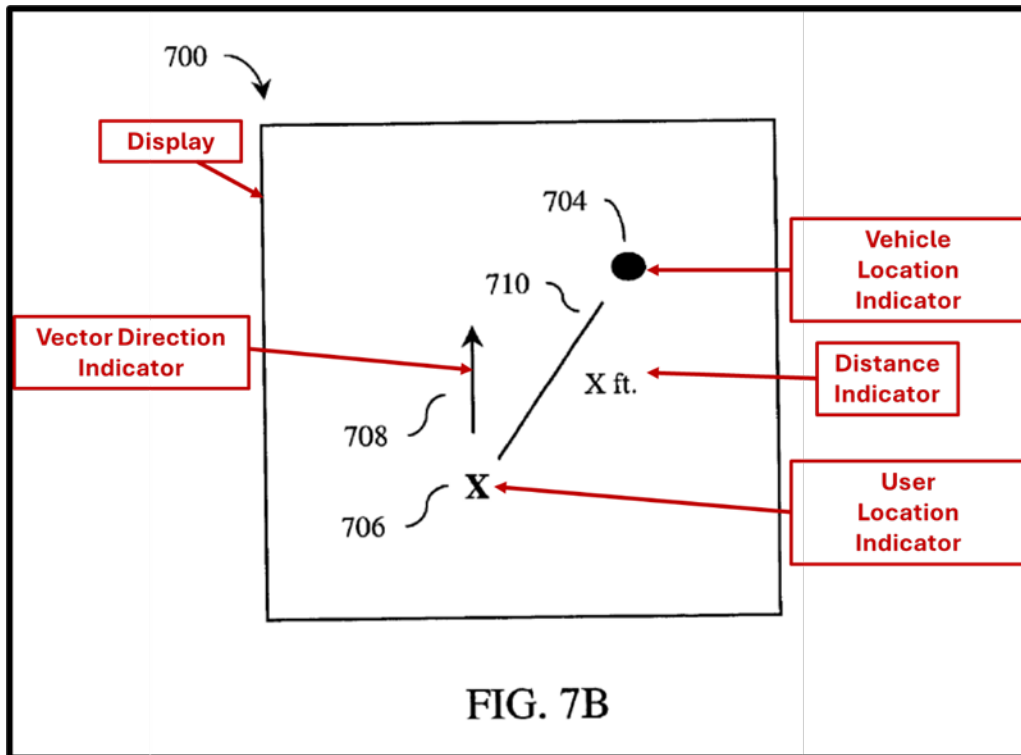
EX1004, Fig. 6C.

Fig. 7A shows pointer 702 to direct a user to their vehicle. EX1004,
 ¶¶0077-0081.



EX1004, Fig. 7A.

Fig. 7B depicts vehicle location indicator 704, a user location indicator 706, a distance indicator 710 (distance between user and vehicle), and a vector direction indicator 708 to show the user in which direction they are walking. EX1004, ¶0082. Phillips therefore determines the exact parking space location of vehicle 110.

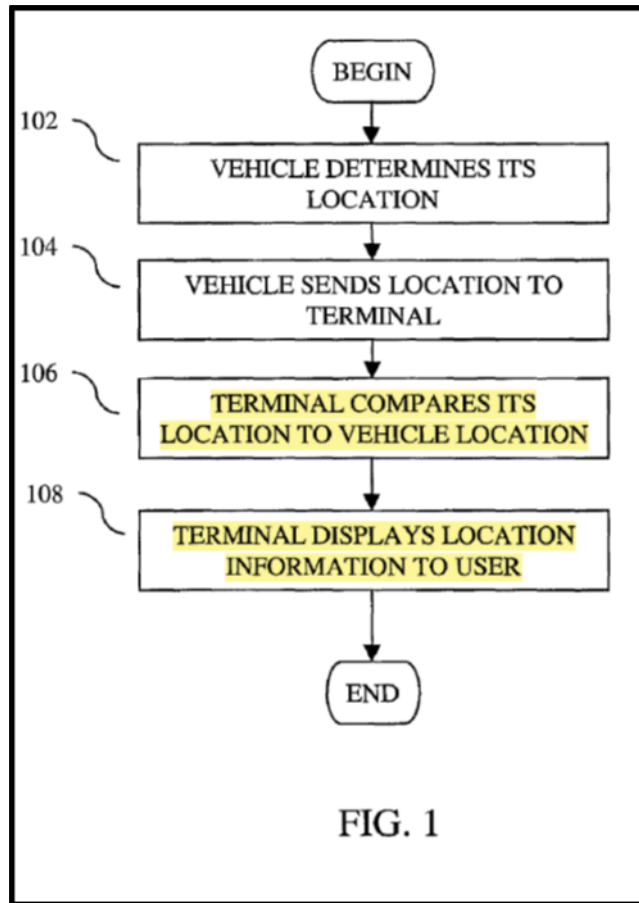


EX1004, Fig. 7B.

4. Claim 12(d): subsequently using the mobile device to provide navigation to the parking space location where the vehicle is parked.

See claim 12(c).

In Fig. 1 below and the quotes that follow, Phillips explains how terminal 120 (the claimed “mobile device”) provides the user with navigation to the vehicle’s parking location. Terminal 120 compares its location to the vehicle location (step 106) and then displays navigation to the user (step 108).



EX1004, Fig. 1.

Then, in act 106, *the terminal will determine its own location, and compare its location against the location of the vehicle previously received*. It is contemplated that a terminal configured in accordance with the present disclosure may employ a wide variety of position location techniques, as will be described more fully below.

EX1004, ¶0030.

Having determined the difference in location between the terminal and the vehicle, the terminal may then display location information enabling the user to locate their vehicle in act 108. EX1004, ¶0031.

In any of the above embodiments, *the determination of the current location of the phone may involve a connection to a server, such as the PDE in gpsONE.* Alternatively, *the current location may be determined without the connection to a server, such as in a pure GPS solution as described above.*

EX1004, ¶0083.

Furthermore, *various aspects of the present disclosure may be configured to allow the position of a mobile unit to identified using a minimum number of GPS satellites. It is contemplated that any GPS-based location system known in the art may be used in the present disclosure, such as gpsOne.* Further methods useful in the present disclosure include U.S. Pat. Nos. 6,081,229, 6,166,685, and 6,188,354 B1 to Soliman, et al.; 6,134,483 to Vayanos et al.; and 6,058,338 to Agashe et al., all assigned to the assignee of the present disclosure and incorporated by reference as through fully set forth herein.

EX1004, ¶0043.

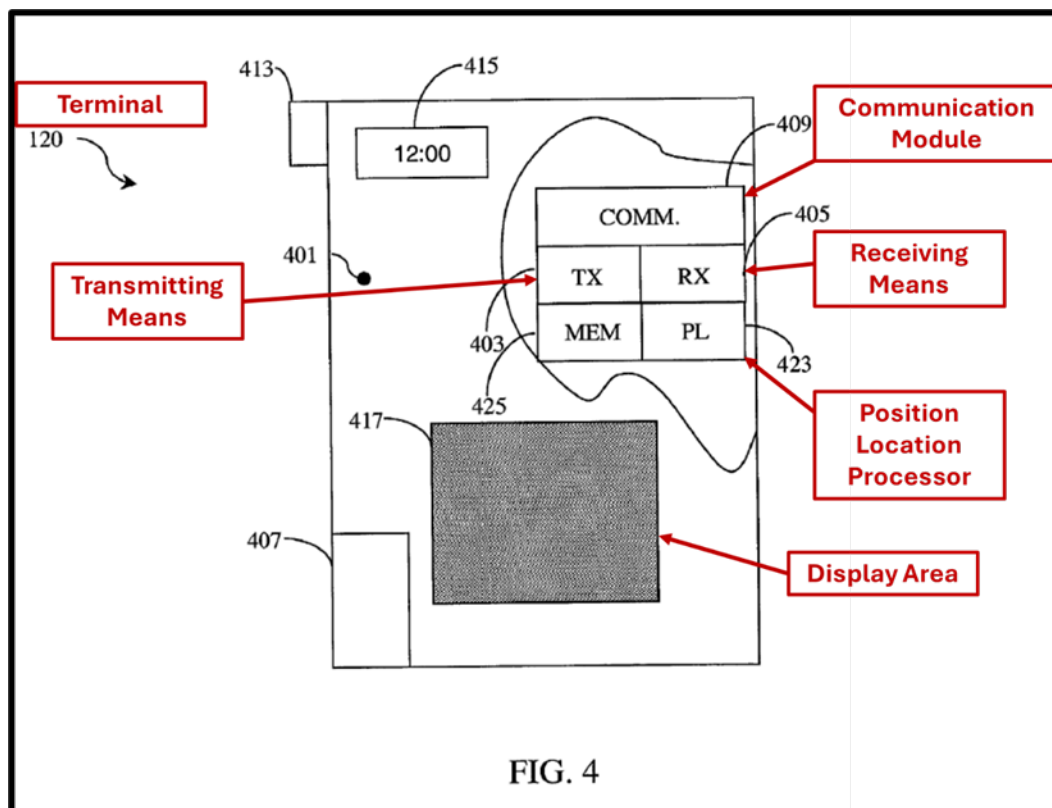
When a user realizes that they don't know where their car is, the user may hit a button on their phone. *When so activated, the phone may first determine the user's current location. The phone may then compare the user's location to that of the vehicle. For example, the phone may compare the latitude and longitude to that of the vehicle.* In one embodiment the phone may use a cached location of the vehicle. In an alternative embodiment the phone will bring up a cellular link to request the current location of the vehicle.

EX1004, ¶0072.

The phone may then display a map which displays the user's location and the vehicle location.

EX1004, ¶0073 (emphasis added); see also ¶¶0008-00012.

Fig. 4 depicts terminal 120 with a position location processor 423 which determines the terminal's location and a display area 417 for providing navigation to the user.



EX1004, Fig. 4.

The following quotes explain position location processor 423 as well as display area 417:

Terminal 120 may further include *a position location processor 423. The position location processor 423 is configured to analyze signals*

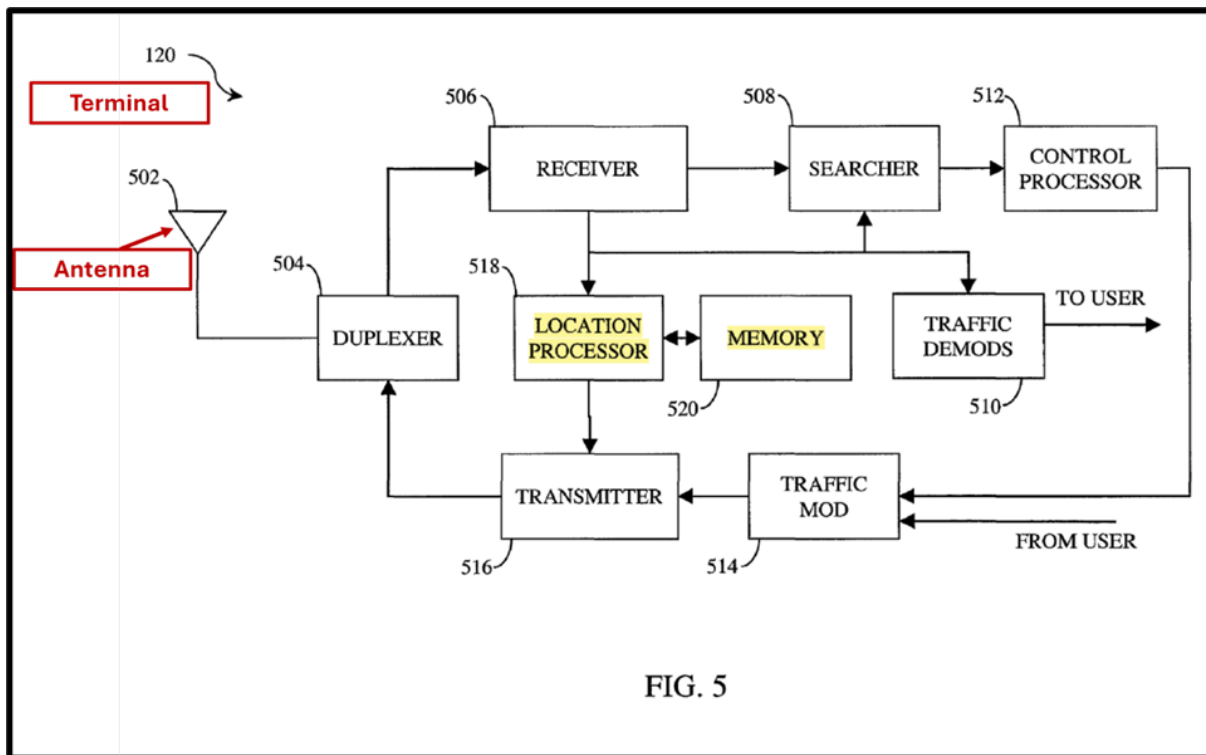
received from the system through the receiver and determine the location of the mobile unit.

EX1004, ¶0056.

Terminal 120 may also include a display area 417 for providing location information to a user. It is contemplated that the display area 417 may comprise any display means known in the art, such as liquid crystal displays and the like. Display area 417 may comprise a color or two-tone display.

EX1004, ¶0058.

Fig. 5 depicts terminal 120 in detail showing location processor 518 (highlighted) and memory 520 (highlighted), which stores the vehicle's location (¶0067).



EX1004, Fig. 5 (annotations and highlighting added).

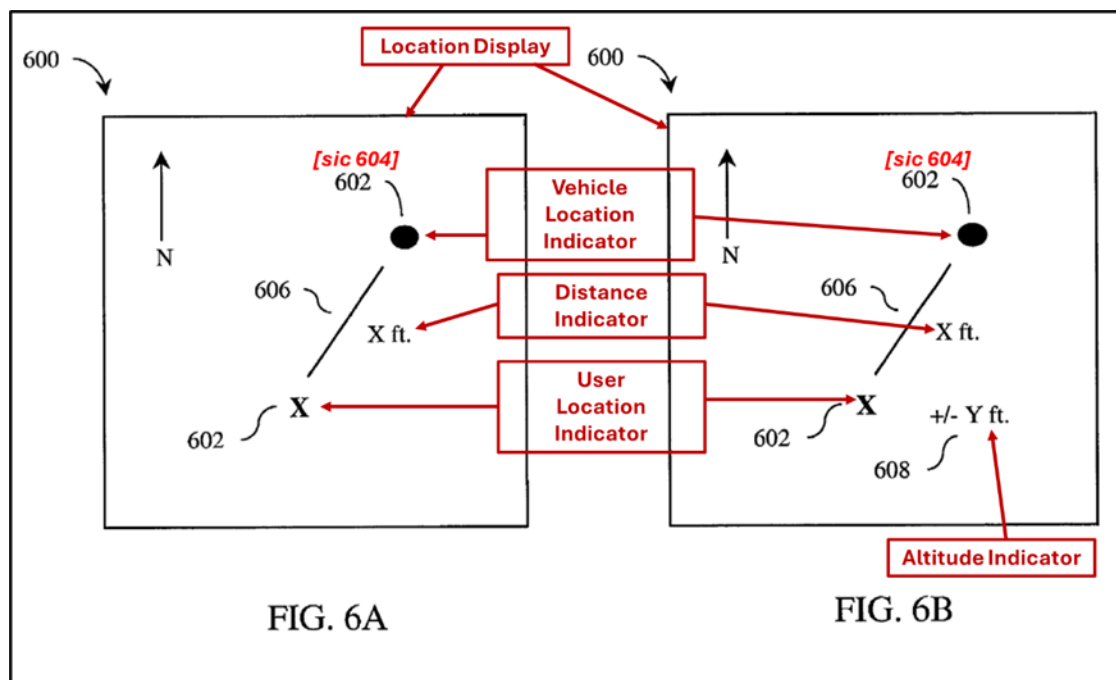
Antenna 502 is bi-directional and receives both CDMA and GPS signals.

EX1004, ¶¶0062-0066. Phillips explains that terminal 120 uses location processor 518 to determine its location and compares that location to the set of coordinates of the vehicle previously stored in its memory 520.

The terminal 120 may further include *a location processor 518 for determining the location of the mobile unit and for comparing the location of the terminal 120 to a set of coordinates stored in memory 520. The coordinates may comprise the location of the vehicle 110.*

EX1004, ¶0067.

Figs. 6A and 6B and the quotes that follow explain how terminal 120 provides the user with navigation to where their vehicle is parked.



EX1004, Figs. 6A, 6B.

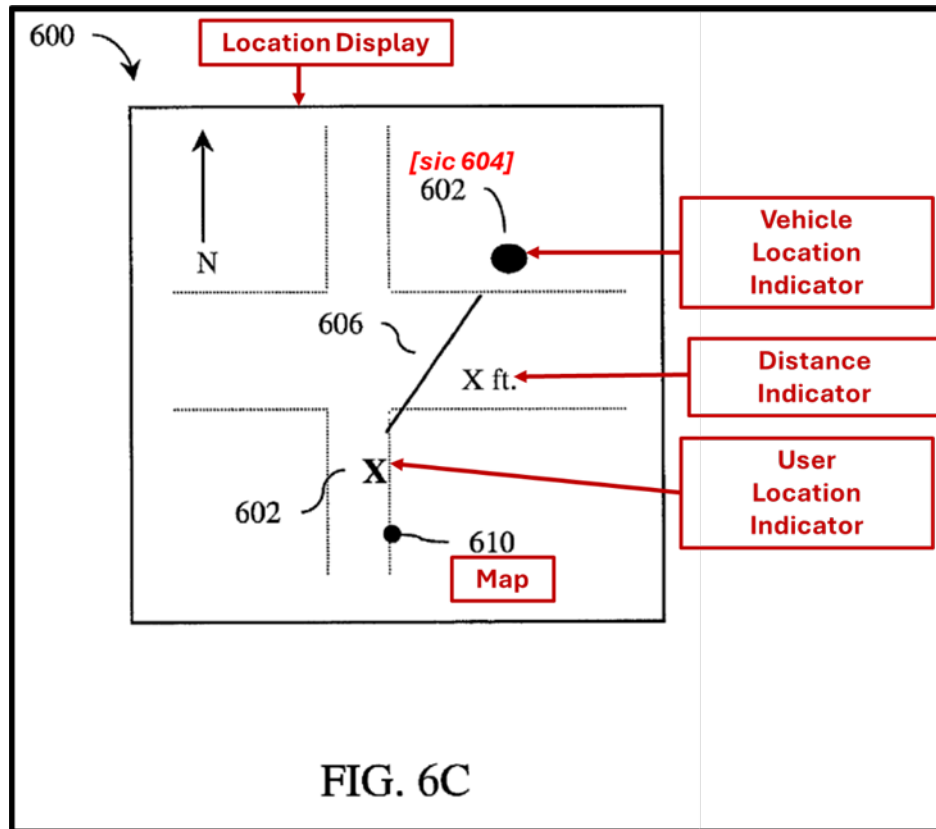
Referring now to FIG. 6A, a diagram of a location display 600 is shown. *The display 600 may include a user location indicator 602 and a vehicle location indicator 604 that may be displayed as dots, or any other suitable character. Display 600 may further include a distance indicator 606 appearing as a line between the user and vehicle location indicators 602 and 604, and may further include a numeric indicator for displaying the distance needed to travel by the user to reach their vehicle.* The distance may be displayed in any desired units, such as metric or English units. The display 600 may be aligned such that North is oriented towards the top of the phone.

EX1004, ¶0074.

Additionally, *if the user's vehicle is located at a different altitude or height, as in the case of a parking structure, a separate altitude indicator 608 may appear on the display 600 showing the distance that the user must travel either up or down to be on the same floor as their car.* Such an embodiment is shown in FIG. 6B.

EX1004, ¶0075.

Fig. 6C overlays a map onto the user's and vehicle's location.

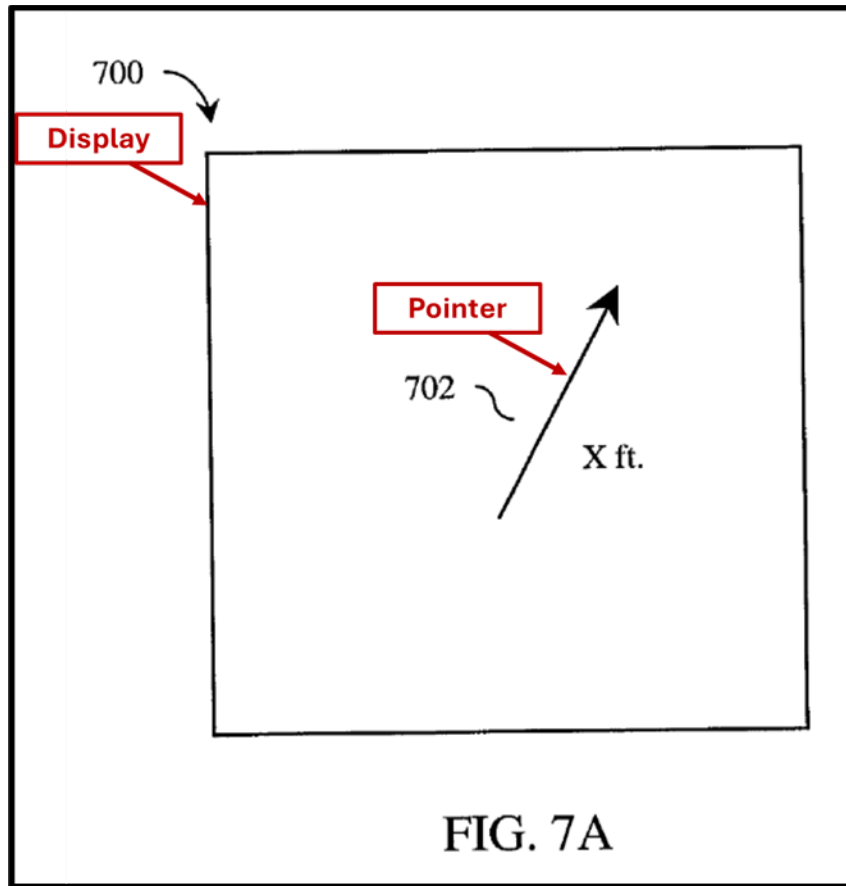


EX1004, Fig. 6C.

To make the disclosed system more useable, it is contemplated that *a map 610 may be overlaid on the display 600, as shown in FIG. 6C. For example, maps of the parking lot or the mall may be overlaid atop of the user and vehicle location indicators 602 and 604 to aid the navigation of the user.* It is contemplated that if the map 610 is of a high enough quality, the line 606 may be removed from the display 600. It is contemplated that any mapping protocols known in the art may be utilized.

EX1004, ¶0076.

In Fig. 7A and the quotes that follow, the terminal displays the direction and distance that the user needs to walk to get to their vehicle.



EX1004, Fig. 7A.

Referring now to FIG. 7A a further aspect of a disclosed system is shown. FIG. 7A includes a display 700 and a pointer 702. In this embodiment, *the pointer 702 is configured to direct the user to their vehicle. This embodiment provides the advantage that the user does not need to know which direction is North. Furthermore, the phone does not need to overlay a map.*

EX1004, ¶0077.

In the embodiment of FIG. 7A, *the user may begin to walk in any direction after activating the disclosed system. While user is walking,*

the direction the user is walking in may be determined via the use of the position location techniques referenced above.

EX1004, ¶0078.

In one aspect of the present disclosure, *the phone's position is continuously tracked via multi-fix position location techniques known in the art over a period of time (e.g., seconds). The phone or a server with which the phone is communicating may compare the change location over these various location fixes to determine the direction that the phone is traveling.* In one embodiment, it may be possible to determine the direction that the phone is traveling in with a single fix, because the measurements of a single fix take place over a period of time rather than in a single instant.

EX1004, ¶0079.

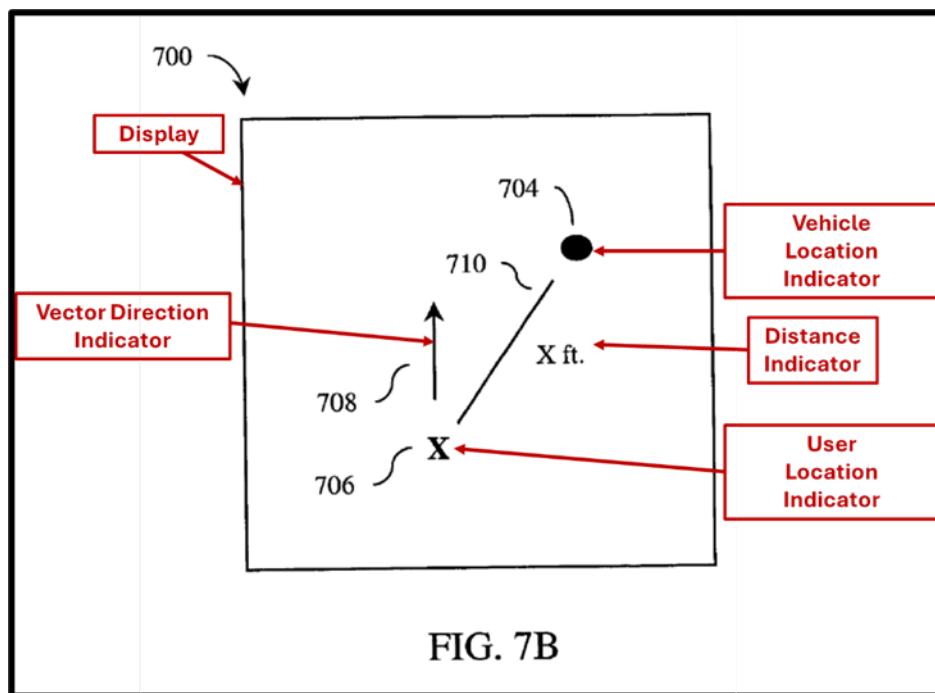
Once the direction of travel is determined, a vector pointer 702 may be displayed on display 700, indicating both the direction and distance need to arrive at the vehicle.

EX1004, ¶0080.

Thus, in the embodiment of FIG. 7A, *the vector pointer will be displayed in relation to the direction of travel, and not in the orientation of the phone. Thus, the disclosed system will guide the user to their vehicle in relation to the direction in which a user is walking.*

EX1004, ¶0081.

Fig. 7B depicts a vector direction indicator 708 showing the user in which direction they are walking.



EX1004, ¶7B.

Phillips explains vector direction indicator 708:

FIG. 7B shows yet a further disclosed aspect. In the embodiment of FIG. 7B *the display 700 may include a vehicle location indicator 704 and a user location indicator 706. The display 700 may further include a vector direction indicator for indicating which direction the user is traveling. The display 700 may further include a distance indicator 710 that indicates the distance and direction from the user to their vehicle.* The display 700 may update at a predetermined refresh rate, every 3-5 seconds, for example, to account for the new path taken by the user. For example, when the user turns and/or gets closer to the car, the display 700 may refresh to show the user's progress.

EX1004, ¶0082.

B. Claim 13:

- 1. Claim 13(a): The method as recited in claim 12, further comprising a step of:**

See claim 12.

- 2. Claim 13(b): displaying on a display of the mobile device, a map between a current location of the mobile device and the exact parking space location of the vehicle.**

See claim 12(c) and (d).

C. Claim 15:

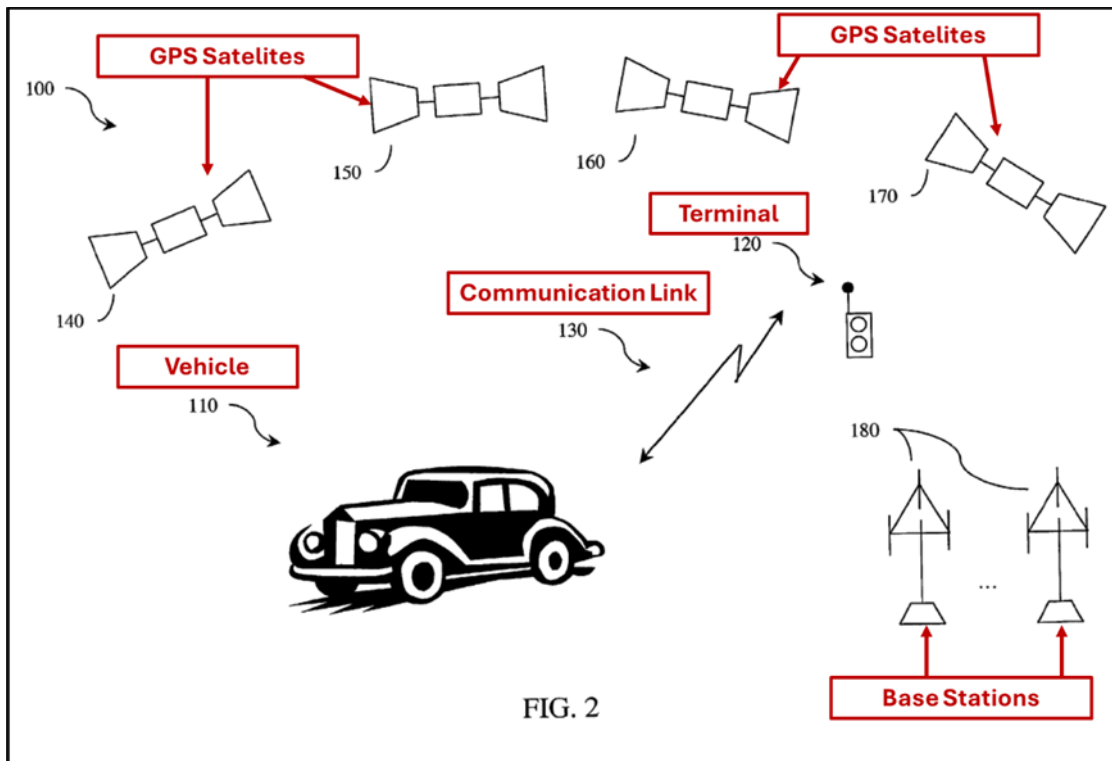
- 1. Claim 15(a): The method as recited in claim 12, further comprising a step of:**

See claim 12.

- 2. Claim 15(b): employing a Global Positioning System (GPS) to register the location of the exact parking space location of the vehicle.**

See claim 12(c).

Phillips Fig. 2 and the quotes that follow show how the system uses GPS to determine the location of vehicle 110. See also EX1004, ¶0014.



EX1004, Fig. 2.

The system 100 of FIG. 2 may be disposed in a GPS (Global Positioning System) environment having several GPS satellites, of which four are shown (140, 150, 160, and 170). Such GPS environments are well known. See for example Hofmann-Wellenhof, B., et al., GPS Theory and Practice, Second Edition, New York, N.Y.: Springer-Verlag Wien, 1993.

EX1004, ¶0035.

Furthermore, various aspects of the present disclosure may be configured to allow the position of a mobile unit to identified using a minimum number of GPS satellites. It is contemplated that any GPS-based location system known in the art may be used in the present disclosure, such as gpsOne. Further methods useful in the present

disclosure include U.S. Pat. Nos. 6,081,229, 6,166,685, and 6,188,354 Bl to Soliman, et al.; 6,134,483 to Vayanos et al.; and 6,058,338 to Agashe et al., all assigned to the assignee of the present disclosure and *incorporated by reference as through fully set forth herein.*

EX1004, ¶0043.

D. Claim 16:

- 1. Claim 16(a): The method as recited in claim 12, further comprising steps of:**

See claim 12.

- 2. Claim 16(b): employing a Global Positioning System (GPS) to register a location of the vehicle; and**

See claims 12(c) and 15(b).

- 3. Claim 16(c): subsequently using the registered location of the vehicle to provide navigation to the parking space location where the vehicle is parked.**

See claim 12(c) and (d).

E. Claim 17:

- 1. Claim 17(a): The method as recited in claim 12, further comprising steps of:**

See claim 12.

- 2. Claim 17(b): employing a Global Positioning System (GPS) to register a location of the vehicle; and**

See claims 12(c) and 15(b).

3. **Claim 17(c): displaying on a display of the mobile device, a map between a current location of the mobile device and the registered location of the vehicle.**

See claims 12(c) and (d).

F. Claim 18:

1. **Claim 18(a): The method as recited in claim 12, further comprising steps of:**

See claim 12.

2. **Claim 18(b): employing a Global Positioning System (GPS) to register a location of the vehicle;**

See claims 12(c) and 15(b).

3. **Claim 18(c): displaying on a display of the mobile device, a map between a current location of the mobile device and the registered location of the vehicle; and**

See claim 12(c) and (d).

4. **Claim 18(d): providing navigation from the current location of the mobile device and the registered location of the vehicle.**

See claim 12(c) and (d).

XIII. PHILLIPS – OBVIOUSNESS

Petitioner relies on its anticipation evidence to also show obviousness. See §§IX(B), XII above and EX1006, §§VII(B), X, XI.

To the extent any element is lacking in §XII above, it would be obvious to a POSA.

XIV. PHILLIPS AND SOLIMAN – OBVIOUSNESS

See §§IX(B), (C), (D) and §§XII, XIII; see also EX1006, §§VII(B), (C), (D), X, XI, and §XII.

Petitioner relies on the analysis in §§XII and XIII for all claim elements, except that herein, Petitioner relies on Soliman for its disclosure of determining the “exact parking space location of the vehicle.”

Phillips states that “various aspects of the present disclosure may be configured to allow the position of a mobile unit to [be] identified using a minimum number of GPS satellites,” and then both cites Soliman and incorporates it by reference. EX1004, ¶0043. This would lead a POSA to use Soliman’s method for determining the location of the vehicle. Also, a POSA would recognize and be motivated to combine Soliman with Phillips as an alternative method of determining claim 12(c)’s “exact parking space location of the vehicle” and the GPS limitations of claims 15(b), 16(b), 17(b), and 18(b) because Soliman provides a highly accurate (“precise”) location determination in an urban environment:

The inventive system merges GPS position location and wireless communication technologies to achieve *a precise position location in dense urban and other environments when line-of-sight to the satellites is somewhat obscured.*

EX1005, Abstract.

Soliman does so by using either two or three satellites where the signals from the satellites are augmented with a signal between the wireless unit and the base station. EX1005, Abstract, Fig. 1, 2:20-49, 4:38-42, 4:51-61, 9:13-16. A POSA would recognize that Soliman is accurate to within 6-10 feet of the parking space, just like the '193 patent alleges.

A POSA would recognize that using Soloman in Phillips as described would have a reasonable expectation of success because Soloman would be readily usable in Phillips and is amply described. Moreover, both Phillips and Soloman are assigned to a common assignee (Qualcomm) that recognized the desirability of making this combination and even suggested it. EX1004, ¶0043.

XV. CONCLUSION

Petitioner has established a reasonable likelihood of prevailing with respect to at least one claim and respectfully requests that the PTAB institute an *inter partes* review and cancel the challenged claims.

Respectfully Submitted,

Dated: December 31, 2025

Michael L. Kiklis

Michael L. Kiklis
Reg. No. 38,939
Attorney for Petitioner
Google LLC

PETITIONER’S EXHIBIT LIST

December 31, 2025

EX1001	U.S. Patent No. 9,420,193
EX1002	U.S. Patent No. 7,899,583
EX1003	Baese (US 2002/0082025)
EX1004	Phillips (US 2003/0055560)
EX1005	Soliman (U.S. Patent No. 6,081,229)
EX1006	Declaration of Thomas La Porta, Ph.D.
EX1007	<i>The Active Badge Location System</i> , Want, et al., ACM Transactions on Information Systems, Vol. 10, No. 1, January 1992.
EX1008	<i>A New Location Technique for the Active Office</i> , Ward, et al., IEEE Personal Communications, October, 1997
EX1009	<i>The Cricket Location-Support System</i> , Priyantha, et al., ACM, 2000.
EX1010	<i>A Taxonomy of Indoor and Outdoor Positioning Techniques for Mobile Location Services</i> , Zeimpekis, et al., ACM, 2003.
EX1011	<i>Evolution of Mobile Location-based Services</i> , Rao and Minakakis, Communications of the ACM, Vol. 46, No. 12, December, 2003.
EX1012	<i>Survey of Location Based Wireless Services</i> , Mohapatra, et al., IEEE, 2005.
EX1013	File history of ’193 patent.
EX1014	’193 patent assignment showing security interest held by Piccadilly Patent Funding LLC (March 25, 2025).

EX1015	<i>Discovering Bluetooth</i> , Miller, Sybex Inc., 2001.
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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that the foregoing document, excluding the portions exempted under 37 C.F.R. § 42.24(a)(1), contains 13,470 words, which is under the limit of 14,000 words set by 37 C.F.R. § 42.24(a)(1)(i).

Respectfully Submitted,

Dated: December 31, 2025

Michael L. Kiklis

Michael L. Kiklis
Reg. No. 38,939
Attorney for Petitioner
Google LLC

CERTIFICATE OF SERVICE

The undersigned certifies service pursuant to 37 C.F.R. §§ 42.6(e) and 42.105(b) on the Patent Owner by Express Mail of a copy of this Petition for Inter Partes Review and supporting materials, including all exhibits and Petitioner's Exhibit List, at the correspondence address of record for the '193 Patent as well as lead litigation counsel in *Gamba Group Holdings LLC, v. Samsung Electronics Co., LTD., and Samsung Electronics America, Inc.*, EDTX-2-25-cv-00438 (April 25, 2025):

Allen D Hertz, P.A.
12784 Tulipwood Circle
Boca Raton, FL 33428

Jayme Partridge
Brown Rudnick LLP
609 Main Street, Suite 3550
Houston, TX 77002

Respectfully Submitted,

Dated: December 31, 2025

Michael L. Kiklis_____

Michael L. Kiklis
Reg. No. 38,939
Attorney for Petitioner
Google LLC