U.S DISTRICT COURT
MIDDLE DISTRICT OF FLORIDA

PLAINTIFF'S EXHIBIT

Exhibit No.: PL 104

Case No. 6:13-cv-1950-Orl-40DAB

OMEGA PATENTS, LLC
vs.
CALAMP CORP.

Date Identified: FEB 17 2016

Date Admitted: FEB 17 2016

CONFIDENTIAL INFORMATION
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EXPERT REPORT OF JOSEPH C. MCALEXANDE REGARDING INFRINGEMENT OF U.S. PATENT NU 6,346,876; 6,737,989; 6,756,885 B1; 7,671,727; and 8,03

OMEGA PATENTS, L.L.C.

v.

CALAMP CORP.

IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF FLORIDA
ORLANDO DIVISION

(Civil Action No. 6:13-cv-1950-Orl-31DAB)

April 15, 2015

6:13-01950
Omega v.
Calamp

Exhibit
PL 104

Geotab Exhibit 1065
Geotab v. Omega

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IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF FLORIDA
ORLANDO DIVISION

OMEGA PATENTS, L.L.C.,	
Plaintiff,	
v.	**Case No. 6:05-CV-1113-ORL-22-DAB**
CALAMP CORP.,	**INJUNCTIVE RELIEF REQUESTED**
Defendant.	**JURY TRIAL REQUESTED**

EXPERT REPORT OF JOSEPH C. McALEXANDER III REGARDING INFRINGEMENT OF U.S. PATENT NUMBERS: 6,346,876; 6,737,989; 6,756,885 B1; 7,671,727; and 8,032,278

1 INTRODUCTION

1. I have been retained by Allen, Dyer, Doppelt, Milbrath & Gilchrist, P.A., counsel for the Plaintiff Omega Patents L.L.C. (hereinafter referred to as "Omega"), to determine whether or not any basis in fact exists for the assertion by Omega that products manufactured, sold, offered for sale in, or imported to, the United States by Calamp Corp. (hereinafter referred to as "Calamp"), incorporate structures and/or methods which are the same as, or are equivalent to, the corresponding elements claimed in U.S. Patent Numbers:

1) 6,346,876 (hereinafter referred to as "the '876 Patent"),
2) 6,737,989 (hereinafter referred to as "the '989 Patent"),
3) 6,756,885 B1 (hereinafter referred to as "the '885 Patent"),
4) 7,671,727 (hereinafter referred to as "the '727 Patent"), and
5) 8,032,278 (hereinafter referred to as "the '278 Patent"),

each assigned to Omega. I have been specifically directed to investigate the structure and operation of the Calamp LMU-3000 and LMU-3030 products,[1] review produced documents (inclusive of schematics, manuals, and other supporting materials), publicly accessible material such as the Calamp website, and deposition testimony.

2. I understand that Omega has recently learned of two Calamp databus interfaces referred to as the vPod and vPod 2. As I understand from limited documentation, the vPod uses the same databus technology as used in the LMU-3000, while the vPod 2 uses the technology from the LMU-3030. I understand that both the vPod and vPod 2 connect to a non-databus LMU product, such as the LMU-26x0, 27x0, 42x0, and 45x0 devices, and provide the same databus functionality as provided by the LMU-3000 and LMU-3030. To the extent this information accurately describes the operation and functionality of the vPod and vPod 2 devices, my opinions as to the LMU-3000 and LMU-3030 apply similarly to the use of, respectively, the vPod and vPod 2 when used in conjunction with a compatible Calamp LMU tracking device.

---

[1] The LMU-3000 and LMU-3030 are advertised as having similar functionality and features described herein. Thus, references throughout this expert report and the attached claim charts to the LMU-3000 are intended to apply equally to the LMU-3030. I have also been told that Calamp sells an LMU-3050, which is simply a branded European version of the 3030, but essentially the same product. Accordingly, my opinions on the LMU-3030 would apply equally to the LMU-3050.

3. Thus, this report contains opinions I formed with respect to the subject matter of this proceeding. I specifically reserve the right to formulate and offer additional opinions based on any additional information or discovery that may be provided or derived, and I likewise reserve the right to supplement my opinions based on future Court rulings, expert opinions disclosed by Calamp, agreements between the parties, and additional evidence submitted by either party either prior to or at trial (including, but not limited to, discovery regarding any of Calamp's former and current products and systems).

4. The opinions I formed, regarding infringement by the Calamp LMU-3000 and LMU-3030 products and systems of the asserted claims of the Patents-in-suit, are introduced below in **Section 7** and covered in more detail in the attached Detailed Expert Report on Infringement of the '876 Patent (**Exhibit A**), the '989 Patent (**Exhibit B**), the '885 Patent (**Exhibit C**), the '727 Patent (**Exhibit D**), and the '278 Patent (**Exhibit E**). Each of the five Attachments, Exhibits A-E, summarizes, in claim chart format, my findings of infringement of the respective patent on a claim element-by-element basis. Specifically, I looked to the claims in each of the patents from the perspective of a person of ordinary skill in the art to which the claimed inventions were directed. Consistent with that view toward the claims, I determined that the Calamp LMU-3000 and LMU-3030 products and systems do in fact infringe claims of all five Patents-in-suit. Specifically, the Calamp LMU-3000 and LMU-3030 products investigated to-date can be grouped as follows and cross-referenced according to the patents practiced (*See* Table 1 below):

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Calamp Products	'876 Patent	'989 Patent	'885 Patent	'727 Patent	'278 Patent
LMU-3000	☑	☑	☑	☑	☑
LMU-3030	☑	☑	☑	☑	☑

Table 1

5. Further, I have concluded that at least the patent claims identified in Table 2 below are infringed by one or more of the Calamp LMU-3000 and LMU-3030 products. Refer to the attached claim chart for each of the Patents-in-suit where I develop the claim element-by-element comparison to each respective Calamp LMU-3000 and LMU-3030 product. Claims practiced are:

Patents-in-suit	Asserted Claims
6,346,876	1, 3-5, 12, 14 and 16
6,737,989	23, 31, 32, 34 and 35
6,756,885 Bl	1-3, 12 and 14
7,671,727	1, 10, 11, 19 and 25
8,032,278	1-6, 8, 11-14, 16, 18, 19 and 21

Table 2

6. **Section 7** provides further support for this conclusion; and the basis for my opinions of infringement is defined in **Section 6**. **Section 7** also details my defense positions related to the validity of each of the Patents-in-suit, each asserted claim of which is valid. The references I have reviewed and considered are addressed in **Section 5** and identified in **Exhibit F**, also attached to this report.

7. I anticipate being called to provide expert testimony before the District Court regarding my opinions formed resulting from my investigation of these five patents and the Calamp LMU-3000 and LMU-3030 products and systems, as well as other Calamp products and systems that function in the same manner.

2 QUALIFICATIONS

8. My name is Joseph C. McAlexander III, President of McAlexander Sound, Inc., located at 101 W. Renner Rd., Richardson, TX 75082. I am over eighteen years of age and I would be competent to testify as to the matters set forth herein if I am called upon to do so.

9. I am a technical expert in the subject matter areas relevant to this complaint, including design and testing of circuits and systems that require electrical cabling and mechanical connectors. In forming my opinions, I rely on my knowledge and experience in the fields relevant to this complaint. I further rely on documents and information referenced in this report. I am qualified to reach the opinions and conclusions stated in this report.

10. I am a Registered Professional Engineer (#79454) in the State of Texas and hold a Bachelor of Science degree in Electrical Engineering from North Carolina State University. I have been associated with the integrated circuit and electronics industry as a designer and consultant for the past 42 years and am a named inventor on 31 U.S. patents and a number of foreign patents.

11. My skills and experience are in areas of circuit design and analysis, device fabrication and assembly, testing, marketing, control system design and analysis, manufacturing

operations, software development, management, and respective areas of quality, reliability, and defect/failure analysis. Specifically, I have:

> designed memories, including Dynamic Random Access Memories (DRAMs), Static Random Access Memories (SRAMs), Charge Coupled Devices (CCDs), Shift Registers (SRs), and functional circuits including I/O buffers for address and data, decoders, clocks, sense amplifiers, fault tolerant (incorporating both non-volatile EPROM and random access memory components), parallel-to-serial data paths for video applications, level shifters, converters, pumps, and logic, as well as wireless communication systems and MEMs;
>
> managed operations including engineering, training, and quality assurance for device fabrication, assembly, test, analysis, and reliability assessment, as well as manufacturing control, each of which involved both volatile and non-volatile memory; testing, analysis, and control involved use of mechanical calibration and measuring equipment, including optical, scanning e-beam, IR, capacitive, and laser using phase contrast and Fast Fourier Transform (FFT) for High Aspect Ratio Inspection (HARI) applications;
>
> taught courses in solid-state device physics, integrated circuit design, integrated circuit fabrication, and statistical control;
>
> provided expert services, investigating both process and design technologies of various devices (microprocessor and controller, volatile and non-volatile memory, programmable logic, card, tag, module, mixed signal, custom, and other), systems (PC and peripheral, computer, control, laser measurement, switch, architecture, software, and other), and consumer products (medical, TV, telephone, VCR, facsimile, copier, lighting, game, vehicle, and other); and
>
> designed and managed development, testing, and evaluation of memory devices and systems incorporating such devices, including simulation of operation. I have also had experience in programming, erasing, and wearout of electrically programmable and erasable non-volatile memories used for program and data storage.

12. Additionally, I have evaluated and provided expert services related to communication and control systems including communication protocol, data transport, query and reporting operations and methods, and wiring harness configuration. During the timeframe of 2000 - 2003, I was retained by Toyota as an expert to review multiple supplier, electronic system configuration and compliance to manufacturer automotive design specifications and to represent my findings on behalf of Toyota as Toyota's representative in a patent litigation matter. And in 2008 – 2009, I was retained by DCS as an expert in a contract dispute matter involving electrical cable and connector assembly and inspection. A more detailed account of my work experience and other qualifications is listed in my Curriculum Vitae attached as **Exhibit G** to this Report.

3 OTHER CASES

13. A list of other recent cases, in which I have testified as an expert at trial or by deposition, is attached as **Exhibit G** to this report.

4 COMPENSATION

14. Compensation to McAlexander Sound, Inc. ("McASI") for services I provide is described in **Exhibit H** to this report. My compensation, and that of McASI, is not contingent upon the outcome of this litigation.

5 REVIEW AND USE OF DOCUMENTS, DEPOSITIONS, OTHER MATERIALS

15. I have reviewed and considered, in the preparation of this report, documents produced by Calamp and Omega, the '876, '989, '885, '727, and '278 Patents along with corresponding prosecution histories and cited references, website information, product specifications and

manuals, assembly and electrical drawings, deposition transcripts including exhibits thereto, various pleadings and responses to discovery requests. Additionally, I have reviewed information generally available to, and relied upon by, persons of ordinary skill in the art including technical dictionaries, technical reference materials, and well-known principles of system design, system and chip architecture, and communication protocol. Documents and other information reviewed and considered are referenced in this report, in the attached infringement contentions, **Exhibits A-E**, and further listed in **Exhibit F** attached to this report.

16. I anticipate using some of the above referenced documents and information, or other information and material that may be produced during the course of this proceeding (such as by deposition testimony), as well as representative charts, graphs, schematics, systems, animations and models that will be based on those documents, information, and material, to support and to explain my testimony before the District Court regarding Calamp systems/products that incorporate claimed structures of the '876, '989, '885, '727, and '278 Patents assigned to Omega. Discovery in this action is ongoing. Therefore, I reserve the right to supplement this report to address any information obtained, or position taken, as discovery continues.

6 BASIS OF OPINIONS FORMED

17. In preparing this report, I reviewed and considered documents and other materials addressed in **Section 5** above and detailed in **Exhibit F**, attached. I also relied on my education, experience, and knowledge of basic engineering practices in the industry as well as my understanding of the applicable legal principals described below. My opinions are based in part on study of those documents and materials and findings resulting from that study.

18. I analyzed specific design documents, such as schematics and drawings, and deposition testimony associated with the Calamp LMU-3000 and LMU-3030 products. I confirmed the presence of the required structures to practice each of the claims-at-issue in the '876, '989, '885, '727, and '278 Patents as identified above. In so doing, I compared each claim element of the respective claim to the corresponding structure in the Calamp LMU-3000 and LMU-3030 products.

6.1 Level of skill

19. I expect to offer testimony regarding the level of ordinary skill in the art relevant to the aforementioned patents. I understand that factors such as the education level of those working in the field, sophistication of the technology, types of problems encountered in the art, prior art solutions to those problems, and the speed at which innovations are made may help establish the level of skill in the art.

6.2 Legal Standard for Claim Construction

20. I understand that the determination of infringement or non-infringement is a two-step process. I understand that the first step in determining infringement is to properly construe the claims to determine claim scope and meaning. I understand that as of this time the District Court has issued a Memorandum Opinion.[2] I reserve the right to revise my opinions subject to the District Court issuance of any additional or revised claim construction provided by this District

[2] Memorandum Order dated Feb. 20, 2015

Court. To the extent that the Court has not construed a claim limitation, I applied the plain and ordinary meaning that one skilled in the art would understand.

21. I have been instructed by Omega's counsel on the law regarding claim construction and patent claims, and understand that a patent may include two types of claims, independent claims and dependent claims. An independent claim stands alone and includes only the limitations it recites. A dependent claim can depend from an independent claim or another dependent claim. I understand that a dependent claim includes all the limitations that it recites in addition to all of the limitations recited in the claim(s) from which it depends.

22. I have been instructed by counsel that claim construction is for the Court to decide as a matter of law. Claim terms should be given their ordinary and customary meaning within the context of the patent in which the terms are used, *i.e.*, the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention in light of what the patent teaches.

23. I understand that, to determine how a person of ordinary skill would understand a claim term, one should look to those sources available that show what a person of skill in the art would have understood disputed claim language to mean. Such sources include the words of the claims themselves, the remainder of the patent's specification, the prosecution history of the patent (all considered "intrinsic" evidence), and "extrinsic" evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.

24. I understand that, in construing a claim term, one looks primarily to the intrinsic patent evidence. I understand that extrinsic evidence, which is evidence external to the patent and the

prosecution history, may also be useful in interpreting patent claims when the intrinsic evidence itself is insufficient.

25. I understand that words or terms should be given their ordinary and accepted meaning unless it appears that the inventors were using them to mean something else. In making this determination, however, of paramount importance are the claims, the patent specification, and the prosecution history. Additionally, the specification and prosecution history must be consulted to confirm whether the patentee has acted as his/her own lexicographer (*i.e.*, provided special meaning to any disputed terms), or intentionally disclaimed, disavowed, or surrendered any claim scope.

26. The claims of a patent define the scope of the rights conferred by the patent. The claims particularly point out and distinctly claim the subject matter from which the patentee regards as his/her invention. Because the patentee is required to define precisely what he/she claims his/her invention(s) is/are, construction of claims in a manner different from the plain import of the terms used consistent with the specification is improper. Accordingly, a claim construction analysis must begin and remain centered on the claim language itself.

27. Additionally, the context in which a term is used in the Asserted Claim can be highly instructive. Likewise, other claims of the patent in question, both asserted and not asserted, can inform the meaning of a claim term. For example, because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims. Differences among claims can also be a useful guide in understanding the meaning of particular claim terms.

28. The claims of a patent define the purported invention. The purpose of claim construction is to understand how one skilled in the art would have understood the claim terms at the time of the purported invention.

29. I understand that a person of ordinary skill in the art is deemed to read a claim term not only in the context of the particular claim in which the disputed term appears, but also in the context of the entire patent, including the specification. For this reason, the words of the claim must be interpreted in view of the entire specification. The specification is the primary basis for construing the claims and provides a safeguard such that correct constructions closely align with the specification. Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim as set forth in the patent itself.

30. The role of the specification is to describe and enable the invention. In turn, the claims cannot be of broader scope than the invention that is set forth in the specification. Care must be taken lest word-by-word definition, removed from the context of the patent, leads to an overall result that departs significantly from the patented invention.

31. I understand that claim terms must be construed in a manner consistent with the context of the intrinsic record. In addition to consulting the specification, one should also consider the patent's prosecution history, if available. The prosecution file history provides evidence of how both the Patent Office and the inventors understood the terms of the patent, particularly in light of what was known in the prior art. Further, where the specification describes a claim term

broadly, arguments and amendments made during prosecution may require a more narrow interpretation.

32. I understand that, while intrinsic evidence is of primary importance, extrinsic evidence, *e.g.*, all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises, can also be considered. For example, technical dictionaries may help one better understand the underlying technology and the way in which one of skill in the art might use the claim terms. Extrinsic evidence should not be considered, however, divorced from the context of the intrinsic evidence. Evidence beyond the patent specification, prosecution history, and other claims in the patent should not be relied upon unless the claim language is ambiguous in light of these intrinsic sources. Furthermore, while extrinsic evidence can shed useful light on the relevant art, it is less significant than the intrinsic record in determining the legally operative meaning of claim language.

33. I understand that in general, a term or phrase found in the introductory words of the claim, the preamble of the claim, should be construed as a limitation if it recites essential structure or steps, or is necessary to give life, meaning, and vitality to the claim. Conversely, a preamble term or phrase is not limiting where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention. In making this distinction, one should review the entire patent to gain an understanding of what the inventors claimed they actually invented and intended to encompass by the claims.

34. I understand that language in the preamble limits claim scope (i) if dependence on a preamble phrase for antecedent basis indicates a reliance on both the preamble and claim body to define the claimed invention; (ii) if reference to the preamble is necessary to understand limitations or terms in the claim body; or (iii) if the preamble recites additional structure or steps that the specification identifies as important.

35. Other considerations I made, detailed below, help one to achieve a proper interpretation of the claims.

6.3 Infringement

36. I understand that the second step in the determination process for infringement is to compare the properly construed claim(s) to the accused device or process. I understand that this query is to cover both direct infringement and indirect infringement. I understand that an assertion of infringement must meet the preponderance of evidence standard, which means that it is more likely to be true than not true.

6.3.1 Direct Infringement under 35 U.S.C. § 271(a)

37. It is my understanding under 35 U.S.C. § 271(a) that "whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States, or imports into the United States any patented invention during the term of the patent therefor, infringes the patent." To infringe a claim, then, an accused apparatus must embody every element of the asserted patent claim, either literally or by an equivalent.

38. I understand that an accused structure literally infringes a claim if each and every element of that claim, as properly construed, is literally found respectively in the accused.

39. I also understand that a customer who "puts the system as a whole into service, *i.e.*, controls the system and obtains benefit from it" is a direct infringer even if the customer does not physically possess or own elements of the system.

40. I understand that every limitation is essential and that the absence of any one limitation avoids infringement. Finally, it is my understanding that, to infringe a dependent claim, the accused product must include each and every limitation of all claims from which it depends.

41. I also understand that, alternatively, a structure may be found to infringe under the doctrine of equivalents. It is my understanding that in order to meet an element of a claim under the doctrine of equivalents, the differences between the accused structure and the corresponding structure of the claim element must be insubstantial. In assessing infringement under the doctrine of equivalents, the goal is to assess whether a person of ordinary skill in the art would consider the differences between the claimed limitation and the element in the accused product to be more than "insubstantial."

42. Whether or not there are more than insubstantial differences is measured in several different ways. One test of this is whether the element in the accused structure or method, when compared to the element in the claim, is found to perform substantially the same function in substantially the same way to achieve substantially the same result, as does the element in the claim. As to the timing of the analysis for an insubstantial difference, an equivalent structure under the doctrine of equivalents can embrace technology developed after the issuance of the patent and before the time of infringement, referred to as an "after arising equivalent."

43. It is also my understanding that there are several restrictions on application of the doctrine of equivalents. First, the range of equivalents cannot be so broad as to encompass the prior art. Second, the doctrine of prosecution history estoppel precludes a patentee from reclaiming through equivalents subject matter that was relinquished based on statements or amendments during prosecution. Finally, the "all elements" rule prevents the doctrine of equivalents from eliminating an element in its entirety.

44. I understand that every limitation is essential and that the absence of any one limitation avoids infringement.

45. My infringement opinions are consistent with these understandings. Each opinion is consistent with the asserted claim language as understood by one of ordinary skill in the art at the time of the invention.

6.3.2 Indirect Infringement under 35 U.S.C. § 271(b) and § 271(c)

46. I also understand that an accused party may indirectly infringe if that party induces or contributes to infringement. I also understand that to prove indirect infringement there must be direct infringement.

47. I further understand that, under 35 U.S.C. § 271(b), an accused party may be found liable for indirect infringement by inducement if that party actively induces infringement of a patent. I understand that a specific intent to induce infringement must be shown. I understand that either direct or circumstantial evidence of intent to induce infringement is sufficient. For induced

infringement, the plaintiff must show that the inducing party intended to cause the acts that constitute direct infringement, and that the inducing party knew that at the time of the patent.[3] In addition, the Supreme Court held in *Global-Tech* that "induced infringement under § 271(b) requires knowledge that the induced acts constitute patent infringement." I further understand that a defendant's good faith belief in a patent's invalidity may negate the specific intent required for a finding of induced infringement.[4]

48. Under 35 U.S.C. § 271(c), an accused party may be found liable for indirect, contributory infringement if that party offers to sell or sells within, or imports into, the United States a component for use in practicing a patented process in a patented apparatus or method, wherein the component constitutes a material part of the invention. As I understand, bearing on a determination of contributory infringement is whether the alleged infringing party knows the same to be especially made or especially adapted for use in an infringement of the patent, and that the component is not a staple article or commodity of commerce suitable for substantially non-infringing use.

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[3] *See* Global-Tech Appliances, Inc. v. SEB S.A., 131 S. Ct. 2060, 2065 (2011).

[4] *See DSU Medical Corp. v. JMS Co., Ltd.*, 471 F.3d 1293, 1304-06 (Fed. Cir. 2006) (holding that "inducement requires evidence of culpable conduct, directed to encouraging another's infringement, not merely that the inducer had knowledge of the direct infringer's activities"; *see also Gen-Probe Inc. v. Becton Dickinson & Co.*, Case No. 09-cv-2319-BEN (NLS), at 22 (S.D. Cal. Sept. 28, 2012) (relying on *DSU Medical* and holding that because "invalid claims cannot give rise to liability for infringement," an opinion of invalidity raises a triable fact regarding whether a defendant had the specific intent required for induced infringement); *Vnus Med. Techs, Inc. v. Diomed Holdings, Inc.*, 2007 U.S. Dist. LEXIS 76499, at *4-6 (N.D. Cal. October 2, 2007) (relying on *DSU Medical* and holding that that a defendant's good faith belief in a patent's invalidity was sufficient to create a triable fact regarding whether the defendant had the requisite specific intent for a finding of induced infringement)).

49. My infringement opinions are consistent with each of these above understandings. Each opinion is consistent with the asserted claim language as understood by one of ordinary skill in the art at the time of the invention.

7 OPINIONS TO BE EXPRESSED

7.1 General Background of the Technology and Invention of the '876, '989, '885, '727, and '278 Patents

50. If asked, I expect to provide a tutorial concerning the general background, operation, architecture, and design of various components and systems associated with vehicular control, including start, sense, and control operations. Here within **Section 7** for each of the Patents-in-suit will provide some general information on the technology background leading up to the respective invention disclosure, respective to each of the Patents-in-suit section.

7.2 Patent Infringement

7.2.1 Process Used to Determine Infringement

51. I expect to testify concerning the process I undertook in arriving at the opinions expressed herein. I understand that the first step in performing an infringement analysis is to determine the meaning and scope of the asserted patent claims from the perspective of the person of ordinary skill in the art at the time of the invention, without reference to any accused devices. My analysis is guided by this determination; terms requiring construction are identified in the claim charts of **Exhibits A-E**.

52. I familiarized myself with the general subject matter to which each of the '876, '989, '885, '727, and '278 Patents was respectively directed. This was accomplished by reading the patent

specification including the face page, the Background of the Invention, and the Summary of the Invention, along with reviewing the various drawings included in the patent and descriptions thereof.

53. I next turned to the claims, initially reviewing each claim, relevant claim terms, and the limitations defining the claimed inventions. I then turned to the specification of the respective patent, reading each of the asserted claims in light of the specification, determining first if the specification provided any special meaning to any claim term and second, confirming that the specification provided adequate support (enablement and an adequate written description of the inventions as claimed) for each claim as construed.

54. Since claim terms have not been specifically defined by the Court in this instance, I gave the claim terms their ordinary meaning as understood by those skilled in the art. I also reviewed the prosecution history of each of the Patents-in-suit.

55. Having completed the above process, my opinions regarding infringement by the Calamp accused LMU-3000 and LMU-3030 systems/products of the respective claims-at-issue of the '876, '989, '885, '727, and '278 Patents are discussed below and in **Exhibits A, B, C, D, and E**, respectively.

7.2.2 Claim Scope

56. I also expect to testify about the scope of the claims of the respective '876, '989, '885, '727, and '278 Patents as understood by those of ordinary skill in the art. I expect to testify that the scope of the asserted claims of the '876, '989, '885, '727, and '278 Patents is not limited to the disclosed embodiments.

7.2.3 U.S. Patent Number 6,346,876

57. The '876 Patent issued February 12, 2002, having been filed at the USPTO on May 31, 2000, as a CIP of U.S. Patent 6,275,147, filed August 25, 1999, which is a CIP of U.S. Patent 6,011,460, filed February 13, 1998, which is a CIP of U.S. Patent 5,719,551, filed on August 22, 1996. The '876 Patent is generally directed to the field of vehicle control systems. More particularly, the '876 Patent introduces a new method and apparatus to provide wireless transmission to and reception from a plurality of vehicles, each having a communications bus internal to the vehicle, such that commands can be sent to one of the plurality of vehicles. The '876 Patent has 51 claims, including 27 apparatus claims, 2 of which are independent claims (claims 1 and 18), and 24 method claims, 2 of which are independent claims (claims 28 and 42).

7.2.3.1 General Background of the Technology and Invention of the '876 Patent

58. The '876 Patent is entitled "MULTI-VEHICLE COMPATIBLE CONTROL SYSTEM GENERATING COMMAND SIGNALS ON A DATA BUS AND ASSOCIATED METHODS." As stated in the '876 Patent specification:[5]

> **This application is related to the field of control systems and, more particularly, to a remote control system and related methods for vehicles.**

[5] *See* '876 Patent, 1:16-18.

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59. According to the '876 Patent, the majority of vehicle security systems need to hardwired to individual vehicle devices:[6]

> Unfortunately, the majority of vehicle security systems need to be directly connected by wires to individual vehicle devices, such as the vehicle horn or door switches of the vehicle. In other words, a conventional vehicle security system is hardwired to various vehicle components, typically by splicing into vehicle wiring harnesses or via interposing T-harnesses and connectors. The number of electrical

60. The '876 Patent provides a structure and a method that overcomes the problems of prior art, including wireless communication with a plurality of vehicles, multiple signals or codes that identify a given vehicle in the plurality of vehicles, and a controller generating commands on the communications bus in the identified vehicle such that operating commands can be given to that vehicle:[7]

[6] *See* '876 Patent, 1:53-59.
[7] *See* '876 Patent, 3:5-22.

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> This and other objects, features and advantages in accordance with the invention are provided by a vehicle control system including a transmitter and a receiver for receiving signals from the transmitter, and a multi-vehicle compatible controller cooperating with the transmitter and receiver. The multi-vehicle compatible controller preferably generates at least one set of command signals on the data communications bus for the at least one vehicle device. The at least one set of command signals preferably comprises at least one working command signal and at least one non-working command signal for a given vehicle to thereby provide compatibility with a plurality of different vehicles. In other words, multiple signals or codes can be generated on the data communications bus, and only that code for the given vehicle and device will cause an operation or response from the vehicle device. Such an arrangement provides for a relatively simple and straightforward approach to interface with a vehicle having a data communications bus.

61. The '876 Patent specification concludes with 51 claims.[8]

7.2.3.2 Prosecution History of the '876 Patent

62. An Office Action dated Dec. 20, 2000 rejected claims 1-51. Claims 1-9, 12-13, 18-30 and 33-51 were rejected under 35 U.S.C. 103(a) as unpatentable over DiCroce (5,838,255). Claims 14, 16 and 31 were rejected under 35 U.S.C. 103(a) as unpatentable over DiCroce (5,838,255) in view of Simms (5,808,564). Claims 15, 17 and 32 were rejected under 35 U.S.C. 103(a) as unpatentable over DiCroce (5,838,255) in view of Grossheim (4,794,368). All claims

[8] *See* '876 Patent, 11:32 - 16:9.

of the '867 Patent were rejected as double patenting over claims 10 of copending Application No. 09/583,333.[9]

63. A Terminal Disclaimer dated Jan. 29, 2001 was filed in response to the Office Action dated Dec. 20, 2000 to obviate the double patenting rejection over a copending patent application.[10]

64. An Office Action dated Apr. 16, 2001 rejected claims 1-51. Claims1-11, 13, 18-26, 28-30, 33-40 and 42-50 were rejected under 35 U.S.C. 103(a) as unpatentable over Dery et al. (5,673,017). Claims 12, 27, 41 and 51 were rejected under 35 U.S.C. 103(a) as unpatentable over Dery et al. (5,673,017) in view of DiCroce (5,838,255). Claims 14, 16 and 31 were rejected under 35 U.S.C. 103(a) as unpatentable over Dery et al. (5,673,017) in view of Simms (5,808,564). Claims 15, 17 and 32 were rejected under 35 U.S.C. 103(a) as unpatentable over Dery et al. (5,673,017) in view of Grossheim (4,794,368).[11]

65. A Response dated Jun. 15, 2001 responded to the Office Action of Apr. 16, 2001 and remarked all claims of the Application were patentable over the art brought against it in that Office Action. Applicant requested that all claims of the Application be allowed.[12]

66. A Notice of Allowance dated Aug. 15, 2001 allowed claims 1-51.[13]

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[9] *See* Office Action dated Dec. 20, 2000, OMEGA_CAL005367 – OMEGA_CAL005375.
[10] Terminal Disclaimer dated Jan. 29, 2001, OMEGA_CAL006122 - OMEGA_CAL006123.
[11] Office Action dated Apr. 16, 2001, OMEGA_CAL006126 - OMEGA_CAL006134.
[12] Response dated Jun. 15, 2001, CAL006189 - OMEGA_CAL006193.
[13] Notice of Allowance dated Aug. 15, 2001, CAL006195 - OMEGA_CAL006198.

67. A Certificate of Correction dated Aug. 15, 2001 filed new drawings with changes under 37 CFR 1.85 incorporated therein.[14]

7.2.3.3 Findings Relating to Calamp Products in View of the '876 Patent

68. Refer to **Exhibit A**. **Exhibit A** includes my findings related to infringement by Calamp systems/products of the claims-at-issue, inclusive of a claim chart which identifies the infringing structures or steps on a claim element-by-element basis.

7.2.4 U.S. Patent Number 6,737,989

69. The '989 Patent issued May 18, 2004, having been filed at the USPTO ON March 25, 2002, as a CIP of U.S. Patent 6,512,465, filed on May 17, 2001. Associated Provisional Applications are:

> **Provisional application No. 60/264,811, filed on Jan. 29, 2001, provisional application No. 60/258,005, filed on Dec. 22, 2000, provisional application No. 60/251,552, filed on Dec. 6, 2000, provisional application No. 60/252,125, filed on Nov. 20, 2000, provisional application No. 60/246,463, filed on Nov. 7, 2000, provisional application No. 60/236, 890, filed on Sep. 29, 2000, provisional application No. 60/222,777, filed on Aug. 3, 2000, and provisional application No. 60/205,178, filed on May 17, 2000.**

70. The '989 Patent is generally directed to the field of vehicle location systems. More particularly, the '989 Patent introduces a new method and apparatus to provide vehicle location

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[14] Certificate of Correction dated Aug. 15, 2001, OMEGA_CAL005562 – OMEGACAL005563.

information to a monitoring station via a wireless communications device coupled to a controller coupled to a vehicle position determining device. The '989 Patent has 48 claims, including 35 apparatus claims, 3 of which are independent claims (claims 1, 12 and 23), and 13 method claims, 1 of which is an independent claim (claim 36).

7.2.4.1 General Background of the Technology and Invention of the '989 Patent

71. The '989 Patent is entitled "VEHICLE TRACKER INCLUDING VARIABLE FREQUENCY TRANSMISSION AND RELATED METHODS." As stated in the '989 Patent specification:[15]

> **The present invention relates to the field of vehicle devices, and, more particularly, to a tracking and alerting system for a vehicle.**

72. According to the '989 Patent, the majority of vehicle tracking systems are limited by the difficulties and reliability of hardware installation, and by geographic limitations on the area in which the vehicle can be tracked:[16]

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[15] *See* '989 Patent, 1:20-22.
[16] *See* '989 Patent, 2:6-34.

> Many conventional vehicle tracking units include many input and output connections. Accordingly, such units may be difficult to install in a vehicle. This is especially so since the space available to access and connect to vehicle wires is likely to be restricted. Accordingly, errors in the initial installation may occur. Accurate diagnosis of any such errors may be time consuming and add further to the installation costs. Maintenance of an installed system may also be complicated if each connection must be individually checked and rechecked.
>
> One application for which vehicle tracking units are presently being used is as electronic tethers. For example, a vehicle tracking unit may be used for determining whether vehicles have been removed from a car dealership's lot. In such applications, the vehicle tracking units are typically programmed with a predetermined area, which is sometimes referred to as a "G.O. fence," and if the vehicle travels outside thereof it is considered stolen. Yet, this approach may be problematic because the predetermined area is typically defined to be overly large because false alarms may otherwise result during test drives. If the predetermined area becomes too large, this may delay response times.
>
> Furthermore, such predetermined areas are typically defined by one or more rectangular boundaries. An example of one such vehicle tracking system using rectangular boundaries is disclosed in U.S. Pat. No. 6,313,791 to Klanke. However, such rectangular boundaries may potentially be cumbersome to properly define and program.

73. The '989 Patent provides a system that overcomes the problems of prior art, including a wireless communications device cooperating with a controller and a vehicle position determining device to send vehicle position information to a monitoring station:[17]

[17] *See* '989 Patent, 2:37-52.

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> In view of the foregoing background, it is therefore an object of the present invention to provide a vehicle tracking unit which may be relatively easily programmed and used for determining whether a vehicle has been removed from a predetermined area.
>
> This and other objects, features, and advantages in accordance with the present invention are provided by a tracking unit for a vehicle which may include a vehicle position determining device, a wireless communications device, and a controller cooperating with the wireless communications device and the vehicle position determining device to determine and send vehicle position information to a monitoring station. The controller may store a user selected reference location and send the vehicle position information based upon the vehicle moving beyond a radial threshold distance from the user selected reference location.

74. The '989 Patent specification concludes with 48 claims.[18]

7.2.4.2 Prosecution History of the '989 Patent

75. An Office Action dated July 27, 2003, allowed claims 1-7, 9-45 and 47-49. Claims 8 and 46 were objected to due to formalities. The Examiner said that claim 8 contained the exact same subject matter as claim 5 and that claim 46 depended from claim 47 and required to be corrected appropriately.[19]

76. An Amendment dated Sep. 3, 2003, canceled claim 8 and amended claim 46 in response to the Office Action dated July 27, 2003, issued by the Examiner. Applicant requested a Notice of Allowance.[20]

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[18] *See* '989 Patent, 43:24 - 46:46.
[19] *See* Prosecution History of the '989 Patent, Office Action dated July 27, 2003.
[20] *See* Prosecution History of the '989 Patent, Amendment dated Sep. 3, 2003.

77. A Notice of Allowance dated Jan. 25, 2004, allowed claims 1-7 and 9-49.[21]

7.2.4.3 Findings Relating to Calamp Products in View of the '989 Patent

78. Refer to **Exhibit B**. **Exhibit B** includes my findings related to infringement by Calamp systems/products of the claims-at-issue, inclusive of a claim chart which identifies the infringing structures or steps on a claim element-by-element basis.

7.2.5 U.S. Patent Number 6,756,885 B1

79. The '885 Patent issued June 29, 2004, having been filed at the USPTO on May 31, 2000, as a CIP of U.S. Patent Number 6,275,147, filed August 25, 1999, as a CIP of U.S. Patent Number 6,011,460, filed August 22, 1996, which is a CIP of U.S. Patent Number 5,719,551, filed August 22, 1996. The '885 Patent is generally directed to the field of vehicle security systems. More particularly, the '885 Patent introduces a new method and apparatus to provide a security system, operating in conjunction with a vehicle data communications bus, to adapt a control system for a vehicle to be compatible with a number of different vehicles. The '885 Patent has 19 claims, including 14 apparatus claims, 2 of which are independent (claims 1 and 9), and 5 method claims, 1 of which is independent (claim 15).

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[21] *See* Prosecution History of the '989 Patent, Notice of Allowance dated Jan. 25, 2004.

7.2.5.1 General Background of the Technology and Invention of the '885 Patent

80. The '885 Patent is entitled "MULTI-VEHICLE COMPATIBLE CONTROL SYSTEM FOR READING FROM A DATA BUS AND ASSOCIATED METHODS." As stated in the '885 Patent specification:[22]

> This application is related to the field of control systems and, more particularly, to a remote control system and related methods for vehicles.

81. According to the '885 Patent, the majority of vehicle security systems are hardwired to various vehicle devices:[23]

> Unfortunately, the majority of vehicle security systems need to be directly connected by wires to individual vehicle devices, such as the vehicle horn or door switches of the vehicle. In other words, a conventional vehicle security system is hardwired to various vehicle components, typically by splicing into vehicle wiring harnesses or via interposing T-harnesses and connectors. The number of electrical

82. The '885 Patent further discusses the problem associated with this current market of vehicles that are essentially hard wired. As discussed in the '885 Patent,[24]

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[22] *See* '885 Patent, 1:16-18.
[23] *See* '885 Patent, 1:53-59.
[24] *See* '885 Patent, 2:54-63.

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Unfortunately, conventional vehicle control systems, such as aftermarket vehicle security systems, are for hardwired connection to vehicle devices and are not readily adaptable to a vehicle including a data communications bus. Moreover, a vehicle security system if adapted for a communications bus and devices for one particular model, model year, and manufacturer, may not be compatible with any other models, model years, or manufacturers. Other systems for the control of vehicle functions may also suffer from such shortcomings.

83. In accordance with features described by the '885 Patent, a remedy is provided that overcame the problems associated with the prior art, including a new method and structure to interface with a communications data bus using a multi-vehicle compatible controller that determines if a match exists between a stored code and the code of a read device. The specification of the '885 Patent provides detailed description of embodiments and accompanying drawings clearly setting forth preferred implementations and various features associated with those implementations.[25] The '885 Patent specification concludes with 44 claims.[26]

7.2.5.2 Prosecution History of the '885 Patent

84. An Office Action dated Dec. 14, 2000 rejected claims 1-8 and 11-44 and objected to claims 9 and 10. Claims 1-8, 11, 16-26, 32-38 and 40-44 were rejected under 35 U.S.C. 103(a) as being unpatentable over DeCroce (5,838,255). Claims 12, 14 and 27 were rejected under 35 U.S.C. 103(a) as being unpatentable over DeCroce (5,838,255) in view of Simms (5,808,564).

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[25] *See* '885 Patent, 4:57 – 11:11.
[26] *See* '885 Patent, 11:12 – 14:31.

Claims 13, 29-31 and 39 were rejected under 35 U.S.C. 103(a) as being unpatentable over DeCroce (5,838,255) in view of Grossheim (4,794,368). Claims 9 and 10 were rejected as being dependent upon a rejected base claim but would be allowed if rewritten as independent claims that included all limitations of the base claim.[27]

85. An Amendment dated Feb. 1, 2001 contained and IDS and the Applicant requested a Notice of Allowance.[28]

86. An Office Action dated Apr. 4, 2001 rejected claims 1-8 and 11-44 and objected to claims 9 and 10. Claims 1-8, 11, 16-26, 32-38 and 40-44 were rejected under 35 U.S.C 102(e) as anticipated by Dery et al. (5,673,017). Claims 12, 14 and 27 were rejected under 35 U.S.C 103(a) as unpatentable over Dery et al. (5,673,017) in view of Simms (5,808,564). Claims 13, 15, 28-31 and 39 were rejected under 35 U.S.C 103(a) as unpatentable over Dery et al. (5,673,017) in view of Grossheim (4,794,368). Claims 9 and 10 were rejected as being dependent upon a rejected base claim but would be allowed if rewritten as independent claims that included all limitations of the base claim.[29]

87. A Response dated Apr. 30, 2001 responded to the Office Action of Apr. 4, 2001 and remarked all claims of the Application were patentable over the art brought against it in that Office Action. Applicant requested that all claims of the Application be allowed.[30]

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[27] Office Action dated Dec. 14, 2000, OMEGA_CAL002995 - OMEGA_CAL003001.
[28] Amendment dated Feb. 1, 2001, OMEGA_CAL003004 - OMEGA_CAL003007.
[29] Office Action dated Apr. 4, 2001, OMEGA_CAL003014 - OMEGA_CAL003021.
[30] Response dated Apr. 30, 2001, OMEGA_CAL003023 - OMEGA_CAL003027.

88. An Office Action dated Jun. 27, 2001 rejected claims 1-8 and 11-44 and objected to claims 9 and 10. Claims 1-8, 11, 16-26, 32-38 and 40-44 were rejected under 35 U.S.C 102(e) as anticipated by Dery et al. (5,673,017). Claims 12, 14 and 27 were rejected under 35 U.S.C 103(a) as unpatentable over Dery et al. (5,673,017) in view of Simms (5,808,564). Claims 13, 15, 28-31 and 39 were rejected under 35 U.S.C 103(a) as unpatentable over Dery et al. (5,673,017) in view of Grossheim (4,794,368).[31]

89. A Board of Patent Appeals and Interferences Docketing Notice dated Jan. 3, 2002, reversed the Examiner's rejections of claims 1-8, 11, 16-26, 32-38 and 40-44 and also reversed the rejections of claims 12-15, 27-31 and 39.[32]

90. A Notice of Allowance dated Mar. 5, 2004 allowed claims 1-44.[33]

7.2.5.3 Findings Relating to Calamp Products in View of the '885 Patent

91. Refer to **Exhibit C**. **Exhibit C** includes my findings related to infringement by Calamp systems/products of the claims-at-issue, inclusive of a claim chart which identifies the infringing structures or steps on a claim element-by-element basis.

7.2.6 U.S. Patent Number 7,671,727

92. The '727 Patent issued March 2, 2010, having been filed at the USPTO ON August 24, 2007, as a CIP of application No. 11/076,259, filed on March 9, 2005, as a continuation of U.S.

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[31] Office Action dated Jun. 27, 2001, OMEGA_CAL003030 - OMEGA_CAL003038.
[32] Board of Patent Appeals and Interferences Docketing Notice dated Jan. 3, 2002, OMEGA_CAL003074 - OMEGA_CAL003079.
[33] Notice of Allowance dated Mar. 5, 2004, OMEGA_CAL003082 - OMEGA_CAL003084.

Patent 7,149,623, filed March 7, 2003, which is a continuation of U.S. Patent 6,606,561, filed on May 17, 2001. Associated Provisional Applications are:

> Provisional application No. 60/264,811, filed on Jan. 29, 2001, provisional application No. 60/258,005, filed on Dec. 22, 2000, provisional application No. 60/251,552, filed on Dec. 6, 2000, provisional application No. 60/252,125, filed on Nov. 20, 2000, provisional application No. 60/236,890, filed on Sep. 29, 2000, provisional application No. 60/246,463, filed on Nov. 7, 2000, provisional application No. 60/222,777, filed on Aug. 3, 2000, provisional application No. 60/205,178, filed on May 17, 2000.

93. The '727 Patent is generally directed to the field of vehicle speed monitoring systems. More particularly, the '727 Patent introduces a new method and apparatus to provide vehicle speed data whereby a controller coupled to a data communications bus in the vehicle receives vehicle speed data via the data communications bus, determines when a vehicle speed exceeds a speed threshold, and may wirelessly transmit vehicle speed information. The '727 Patent has 25 claims, including 18 apparatus claims, 2 of which are independent claims (claims 1 and 13), and 7 method claims, 1 of which is an independent claim (claim 19).

7.2.6.1 General Background of the Technology and Invention of the '727 Patent

94. The '727 Patent is entitled "SPEED EXCEEDED NOTIFICATION DEVICE FOR VEHICLE HAVING A DATA BUS AND ASSOCIATED METHODS." As stated in the specification:[34]

> **The present invention relates to the field of vehicle devices, and, more particularly, to a vehicle speed exceeded notification device, and related methods.**

95. According to the '727 Patent, vehicle speed notification systems according to the prior art may require a remote monitoring station to receive a speed notification and send a speed exceeded alert, e.g. via telephone:[35]

[34] *See* '727 Patent, 1:23-25.
[35] *See* '727 Patent, 2:12-33.

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> Another significant advance in vehicle tracking relates to speed exceeded notifications and is disclosed in U.S. Pat. No. 6,888,495 to Flick and assigned to the assignee of the present invention. The patent discloses a tracking system controller being switchable to be in an armed mode for cooperating with a vehicle position determining device and a wireless communications device to generate, and send a speeding alert message based upon the vehicle exceeding a speed threshold for longer than a predetermined time indicative of aggressive driving of the vehicle. A monitoring station may generate a series of speeding alert message notifications for a user based upon receiving the speeding alert message from the vehicle tracking unit. The monitoring station may cancel any remaining speeding alert message notifications of the series based upon a cancellation command response from an entity already having received the speeding alert message notification. Accordingly, if the user may be reached at different telephone numbers or different users are desirably notified of the alert, then unnecessary notifications are avoided. Of course, other approaches for using a vehicle tracker to influence/monitor a vehicle regarding excessive speed may also be desirable.

96. The '727 Patent provides a structure and a method that overcomes the problems of prior art, including providing a speed exceeded notification device coupled to the data communications bus in the vehicle, where the speed exceeded notification device may be used in the vehicle:[36]

[36] *See* '727 Patent, 2:37-45.

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> In view of the foregoing background, it is therefore an object of the present invention to provide a speed exceeded notification device which may be readily used in a vehicle including a data communications bus and related methods.
>
> This and other objects, features, and advantages in accordance with the present invention are provided by a speed exceeded notification device to be installed in a vehicle of a type comprising a vehicle data communications bus extending throughout the vehicle. The vehicle may have at least one

97. The '727 Patent specification concludes with 25 claims.[37]

7.2.6.2 Prosecution History of the '727 Patent

98. An Office Action dated Sep. 29, 2009 rejected claims 1-25. Claims 1-17 and 19-25 were rejected under 35 U.S.C. 101 as double patented from claims 1-23 of copending Application No. 11/844,703. Claims 1 and 18 were rejected under 35 U.S.C. 101 as double patented from claims 12, 15 and 17 of copending Application No. 11/844,648.[38]

99. A Terminal Disclaimer to obviate double patenting rejection over copending patent application was filed.[39]

100. A Notice of Allowance allowed claims 1-25.[40]

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[37] *See* '727 Patent, 7:4 - 8:63.
[38] Office Action dated Sep. 29, 2009, OMEGA_CAL002849 - OMEGA_CAL002852.
[39] Terminal Disclaimer, OMEGA_CAL002842 - OMEGA_CAL002843.
[40] Notice of Allowance, OMEGA_CAL002836.

7.2.6.3 Findings Relating to Calamp Products in View of the '727 Patent

101. Refer to **Exhibit D**. **Exhibit D** includes my findings related to infringement by Calamp systems/products of the claims-at-issue, inclusive of a claim chart which identifies the infringing structures or steps on a claim element-by-element basis.

7.2.7 U.S. Patent Number 8,032,278

102. The '278 Patent issued October 4, 2011, having been filed at the USPTO ON July 3, 2007, as a CIP of U.S. Patent 7,720,597, filed March 9, 2005, which is a CIP of U.S. Patent 7,149,623, filed March 7, 2003, which is a continuation of U.S. Patent 6,606,561, filed on May 17, 2001. Associated Provisional Applications are:

> Provisional application No. 60/264,811, filed on Jan. 29, 2001, provisional application No. 60/258,005, filed on Dec. 22, 2000, provisional application No. 60/251,552, filed on Dec. 6, 2000, provisional application No. 60/252,125, filed on Nov. 20, 2000, provisional application No. 60/236,890, filed on Sep. 29, 2000, provisional application No. 60/246,463, filed on Nov. 7, 2000, provisional application No. 60/222,777. filed on Aug. 3, 2000, provisional application No. 60/205,178, filed on May 17, 2000.

103. The '278 Patent is generally directed at the field of vehicle tracking systems. More particularly, the '278 Patent introduces a new method and apparatus to wirelessly provide vehicle tracking information via a controller receiving vehicle position in formation from a vehicle position determining device coupled to the controller, and where the controller transmits vehicle

position information via a wireless communications device coupled to the controller. The '278 Patent has 22 apparatus claims, 3 of which are independent claims (claims 1, 13 and 18).

7.2.7.1 General Background of the Technology and Invention of the '278 Patent

104. The '278 Patent is entitled "VEHICLE TRACKING UNIT WITH DOWNLOADABLE CODES AND ASSOCIATED METHODS." As stated in the '278 Patent specification:[41]

> The present invention relates to the field of vehicle devices, and, more particularly, to a tracking system for vehicles, and related methods.

105. According to the '278 Patent, many vehicles equipped with security systems may be incompatible with vehicle tracking systems, and, additionally, the complexity of installation of tracking systems in vehicles with security systems may increase system costs:[42]

> There are, of course, a number of vehicles which come from the manufacturer with some form of security system already installed. In addition, a number of vehicles are also equipped with aftermarket security systems. Many conventional vehicle tracking units may not be readily installed in vehicles, particularly those vehicles already including a vehicle security system. In addition, complexity of installation may significantly increase the system costs.

106. The '278 Patent provides a structure that overcomes the problems of prior art, including a controller coupled to a data communications bus in the vehicle, a vehicle position determining

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[41] *See* '278 Patent, 1:24-26.
[42] *See* '278 Patent, 2:9-16.

device coupled to the controller, and a wireless communications device to send vehicle position information:[43]

> In view of the foregoing background, it is therefore an object of the present invention to provide a multi-vehicle compatible tracking unit which may be used to control operable vehicle devices, and/or read information therefrom via the vehicle data communications bus and related methods.
>
> This and other objects, features, and advantages in accordance with the present invention are provided by a multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle. The multi-vehicle compatible tracking unit may include a vehicle position determining device, a wireless communications device, and a multi-vehicle compatible controller for cooperating with the vehicle position determining device and the wireless communications device to send vehicle position information.

107. The '278 Patent specification concludes with 22 claims.[44]

7.2.7.2 Prosecution History of the '278 Patent

108. An Office Action objected to claims 13, 18 and 24-27. An Election of claims 1-22 and 23-30, which was submitted by the Examiner.[45]

109. An Amendment withdrew from claims 23-30.[46]

110. An Office Action dated Jun. 22, 2010 rejected claims 1-22. Claims 1-21 were rejected under 35 U.S.C. 103(a) as unpatentable over Brinkmeyer et al. (US Pat. 5,940,007).[47]

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[43] *See* '278 Patent, 2:45-58.
[44] *See* '278 Patent, 25:63 - 28:30.
[45] Office Action, OMEGA_CAL000906 - OMEGA_CAL000909.
[46] Amendment, OMEGA_CAL000891 - OMEGA_CAL000900.

111. An Amendment dated Oct. 22, 2012 argued the rejection and requested a Notice for Allowance.[48]

112. An Office Action dated Jan. 5, 2011 rejected claims 1-22. Claims 1-21 were rejected under 35 U.S.C. 103(a) as unpatentable over Monroe (US Pat. 6,253,064 B1) in view of Brinkmeyer et al. (US Pat. 5,940,007).[49]

113. An Amendment argued the rejection and requested a Notice for Allowance.[50]

114. A Notice of Allowance allowed claims 1-22.[51]

7.2.7.3 Findings Relating to Calamp Products in View of the '278 Patent

115. Refer to **Exhibit E**. **Exhibit E** includes my findings related to infringement by Calamp systems/products of the claims-at-issue, inclusive of a claim chart which identifies the infringing structures on a claim element-by-element basis.

7.2.8 Person of Ordinary Skill in the Art

116. A person of ordinary skill in the art in that field would have at least an undergraduate degree in electrical engineering, automotive engineering, or an equivalent engineering discipline, and several years' experience in designing, manufacturing, installing and/or working on or with telematics systems such as those used in vehicles. Alternatively, additional years of practical

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[47] Office Action dated Jun. 22, 2010, OMEGA_CAL000881 - OMEGA_CAL000886.
[48] Amendment dated Oct. 22, 2012, OMEGA_CAL000863 - OMEGA_CAL000871.
[49] Office Action dated Jan. 5, 2011, OMEGA_CAL000853 - OMEGA_CAL000858.
[50] Amendment, OMEGA_CAL000836 - OMEGA_CAL000847.
[51] Notice of Allowance, OMEGA_CAL000826.

experience may replace the engineering degree, or completion of post-graduate engineering studies may reduce the years of practical experience necessary.

7.2.9 Claim Construction

117. It is my understanding that the Court has issued a Memorandum Opinion as of the date of this report. In accordance with that Opinion, I have adopted the claim construction provided below in Table 4.

Claim Terms	Court's Construction
Transmitter	Radio frequency transmitter.
Receiver	Radio frequency receiver.
Data communication bus/ vehicle data communications bus/ vehicle data bus	Wired connection for communication of digital messages among vehicle devices, with each message including one or more device addresses.
Vehicle device	Plain meaning
Command signal	Signal generated on the data communications bus for operating a vehicle device.
Device codes	Signal from a vehicle device.
Function	Plain meaning
Remote vehicle speed exceeded notification	Plain meaning

Claim Terms	Court's Construction
Downloading interface	Plain meaning
Enabling data	Data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.
Programming instructions	Code which instructs the controller to perform an operation.

Table 4

7.2.10 Infringement Determination

118. In addition to testimony before the District Court regarding my opinions resulting from investigation of the Calamp systems/products, I expect to provide rebuttal testimony as required.

119. I have concluded, and expect to testify, that Calamp makes, uses, sells, offers for sale in, and/or imports into, the United States products/systems which comprise all of the structures of the respective asserted claims of the Patents-in-suit as shown below. The Calamp LMU-3000 and LMU-3030 products/systems are further designed to be used by Calamp's customers in an infringing manner. The specific, accused products, reproduced from Table 1 above, are shown below in Table 3:

Calamp Products	'876 Patent	'989 Patent	'885 Patent	'727 Patent	'278 Patent
LMU-3000	☑	☑	☑	☑	☑
LMU-3030	☑	☑	☑	☑	☑

Table 3

120. My opinions as to which structures or steps in the Calamp LMU-3000 and LMU-3030 products meet the various elements of each claim of the respective '876, '989, '885, '727, and '278 Patents are set forth in the claim charts attached in **Exhibits A-E** to this report. In preparing these claim charts and other supporting materials, I have identified structures that literally or equivalently meet the elements of the respective claims, unless stated otherwise in the respective claim chart. It should be understood that, in my opinion, if I have concluded that a structure literally meets the limitations of a claim element, I also believe that there are no substantial differences between the accused structures and those required by the claimed inventions.

121. In some instances, I understand Calamp may contend that one or more of its systems/products does not literally meet the requirements of a claim element. As applicable, I provide in the claim charts reasons for these claim elements being met both literally and equivalently, when properly construed. However, I reserve the right to further supplement my opinions as to equivalence after reviewing the response of Calamp's expert, the production of any further discovery, deposition testimony, and the outcome of any other ruling of the District Court.

122. Further, I understand that Calamp may contend that it does not directly infringe one or more of the asserted claims. In particular, Calamp may contend that certain system components sold by Calamp are sold as separate products. I understand that Calamp does in fact sell these other system components, such as a remote start system or alarm system, that are associated with the accused Calamp devices. In my opinion, accused Calamp LMU-3000 and LMU-3030 products contribute to infringement. Each of the accused Calamp LMU-3000 and LMU-3030

products is a material part of the claimed inventions and is especially adapted for use in practicing the claimed inventions, and has no substantial non-infringing use. Further, Calamp induces infringement by offering to sell and by selling the accused Calamp LMU-3000 and LMU-3030 products. Each of the accused Calamp LMU-3000 and LMU-3030 products contains essential structures or steps which are a substantial portion of the claimed invention.

8 EXHIBITS TO BE USED AS SUMMARY OF OR SUPPORT FOR OPINIONS

The following exhibits may be used as a summary of or support for my opinions:

1) The Patents-in-suit;
2) Respective Prosecution Histories and references cited of the Patents-in-suit;
3) Charts, diagrams or animations illustrating the subject matter of the Patents-in-suit and the structure and function of various embodiments of the inventions described in the Patents-in-suit;
4) Charts, diagrams or animations illustrating the configuration of prior art devices as they are used in typical applications and the differences between the Patents-in-suit and the prior art;
5) Charts, diagrams, animations, and physical Calamp systems illustrating the structure and function of the Calamp accused systems/products;
6) All references, opinions, and charts in this expert report, in any other report or reports I provide in this lawsuit, and in the expert reports submitted by the defendant.

9 CONCLUDING REMARKS

123. I understand that a finding of the Court regarding claim construction, or receipt of any additional information, may require me to amend or supplement my opinions. I will do so in a timely manner should a response to that additional information or claim construction be warranted.

Dated: April 15, 2015

Joseph C. McAlexander III

Attachments:

Exhibit A - **U.S. Patent Number 6,346,876 Infringement Chart**

Exhibit B - **U.S. Patent Number 6,737,989 Infringement Chart**

Exhibit C - **U.S. Patent Number 6,756,885 B1 Infringement Chart**

Exhibit D - **U.S. Patent Number 7,671,727 Infringement Chart**

Exhibit E - **U.S. Patent Number 8,032,278 Infringement Chart**

Exhibit F - **Documents Considered**

Exhibit G - **Curriculum Vitae / Other Cases**

Exhibit H - **Compensation**

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EXHIBIT A

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U.S. PATENT 6,346,876	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[1]
1. A control system for a vehicle comprising a data communications bus and at least one vehicle device connected to the data communications bus, the control system comprising:	The LMU-3000 is part of a control system for a vehicle comprising a data communications bus and at least one vehicle device connected to the data communications bus.
a transmitter and a receiver for receiving signals from said transmitter; and	The LMU-3000 uses a transmitter and a receiver for receiving signals from said transmitter. The LMU-3000 includes a cellular module that allows transmission to and reception from a central station.

[1] The LMU-3000 and LMU-3030 are advertised as having the same functionality and features described herein. Thus, references throughout these claim charts to the LMU-3000 are intended to apply equally to the LMU-3030.

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U.S. PATENT 6,346,876	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[1]
	 (See PX3.)

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U.S. PATENT 6,346,876	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[1]
a multi-vehicle compatible controller at the vehicle and cooperating with said transmitter and receiver, said multi-vehicle compatible controller generating at least one set of command signals on the data communications bus for the at least one vehicle device, the at least one set of command signals comprising at least one working command signal and at least one non-working command signal for a given vehicle to thereby provide command compatibility with a plurality of different vehicles.	The LMU-3000 includes a multi-vehicle compatible controller at the vehicle and cooperating with the transmitter and receiver, the multi-vehicle compatible controller generating at least one set of command signals on the data communications bus for the at least one vehicle device, the at least one set of command signals comprising at least one working command signal and at least one non-working command signal for a given vehicle to thereby provide command compatibility with a plurality of different vehicles. The vehicle device is the vehicle's engine control module (ECM). The LMU-3000 includes a multivehicle compatible controller that cooperates with the cellular module. The components of the multi-vehicle compatible controller include the following: LMU controller STM32F103REY6 is U5 (Hardee 36:23-37:4; PX 11.) OBD controller EP3C16M164I7N is U14 (Hardee 41:23-42:5; PX 11.) Can bus transceiver U11 (Hardee 42:11-42:15; PX 11.) The multi-vehicle compatible controller cooperates with the transmitter and receiver using PA3 OBD Transmit and PA2 OBD Receive and PB10 (to radio) and PB11 (from radio). (Hardee 40:14-41:9, 44:16-45:14; PX 3; PX 11.)

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U.S. PATENT 6,346,876	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[1]
	 The LMU-3000 includes a CAN bus transceiver, product MCP2551I, U11 (PX 5):

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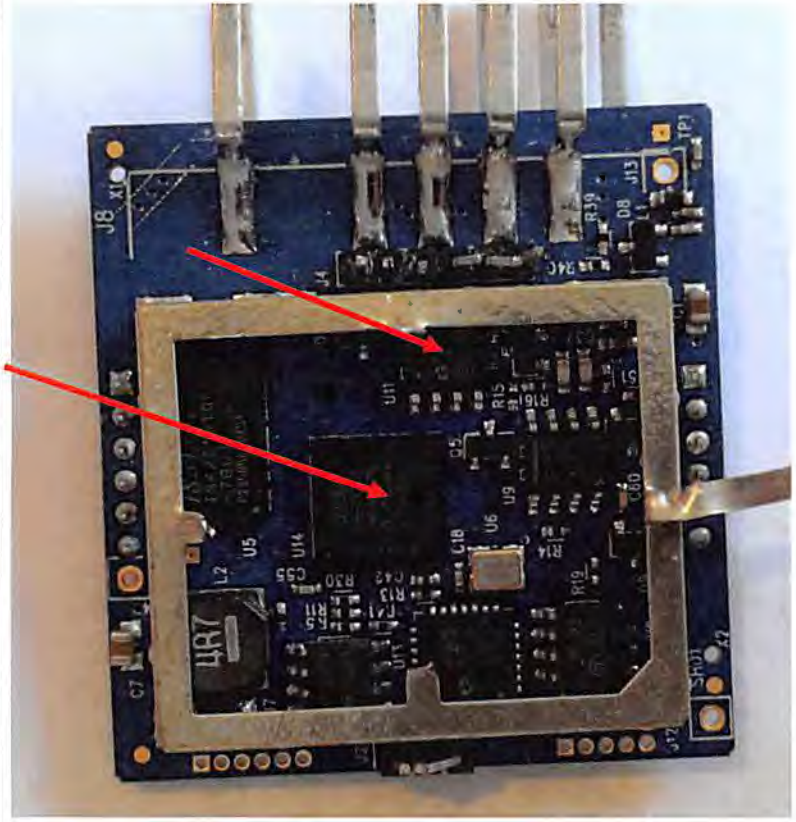
U.S. PATENT 6,346,876	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[1]
	 On initial installation, the multi-vehicle compatible controller generates a sequence of working and non-working command signals to determine command compatibility of different vehicles, including CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message. (PX 13.)

U.S. PATENT 6,346,876	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[1]
3. A control system according to claim 1 wherein said multi-vehicle compatible controller generates command signals sequentially.	The LMU-3000 includes a multi-vehicle compatible controller generates command signals sequentially, using the following sequence: CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message. (PX 13.)
4. A control system according to claim 1 wherein said multi-vehicle compatible controller generates command signals each representing digitally coded information.	The LMU-3000 includes a multi-vehicle compatible controller generates command signals each representing digitally coded information, using the following messages: CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message. (PX 13.)
5. A control system according to claim 1 wherein said multi-vehicle compatible controller comprises a memory for storing data relating to the at least one set of command signals.	The LMU-3000 includes a multi-vehicle compatible controller comprising a memory for storing data relating to the at least one set of command signals, including the following messages: CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message. After configuration, the memory also stores data relating to the learned vehicle. (PX 13.) Memory on OBD layer U5 IS42S16100E-7BLI and U7 EPCS16S18N, as well as in OBD controller EP3C16M16417N is U14 (Hardee 41:23-42:5, 42:16-42:20; PX 11.)

U.S. PATENT 6,346,876	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[1]
12. A control system according to claim 1 wherein said multi-vehicle compatible controller is further for storing a set of device codes for a given vehicle device for a plurality of different vehicles, for reading a device code from the data communications bus, and for determining a match between a read device code and the stored device codes to thereby provide reading compatibility with a plurality of different vehicles.	The LMU-3000 includes a multi-vehicle compatible controller that is further for storing a set of device codes for a given vehicle device for a plurality of different vehicles, for reading a device code from the data communications bus, and for determining a match between a read device code and the stored device codes to thereby provide reading compatibility with a plurality of different vehicles. The LMU-3000 stores messages for CAN, J1850 and K Line buses, reads the messages transmitted from a vehicle device on the bus, and matches the read message to the stored message to provide compatibility with different vehicles. These messages include the CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message. (PX 13.)

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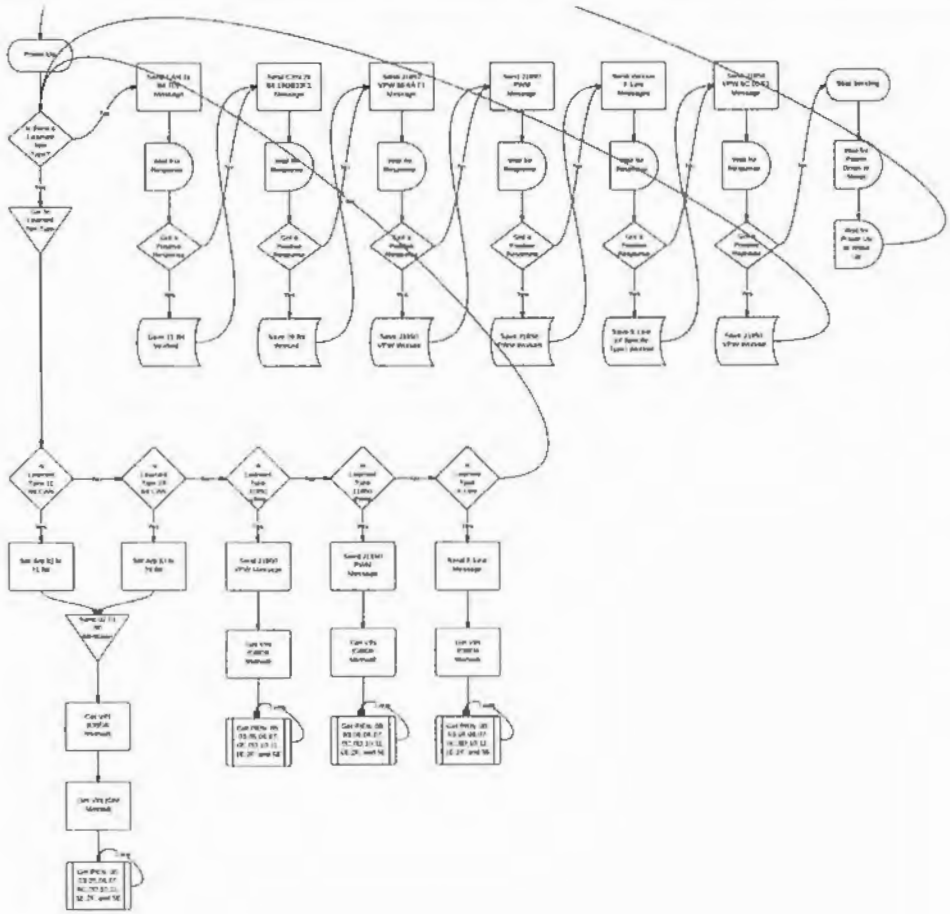
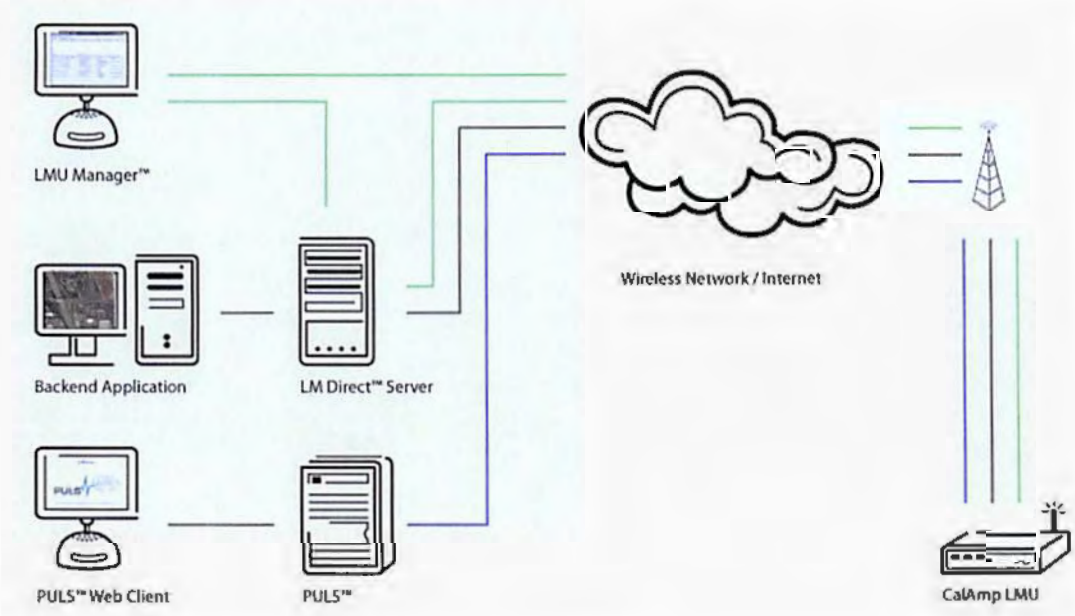
U.S. PATENT 6,346,876	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[1]
	
	Additionally, the LMU-3030 conducts a second round of bus interrogation to provide

U.S. PATENT 6,346,876	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[1]
	additional multi-vehicle compatibility. In particular, the LMU-3030 reads the VIN, sends the VIN to a remote server, then receives make, manufacturer, and year data. (PX 21, CALAMP8334.) Based on the make, manufacturer, and year data, the LMU uses the appropriate stored device codes within the Calamp LMU-3030. The Calamp LMU-3030 determines a match and provides reading capability with a plurality of different vehicles. (PX 21, CALAMP8334-35.)
14. A control system according to claim 1 wherein said transmitter comprises at least a central station transmitter; and wherein said receiver is at the vehicle.	The LMU-3000 includes a cellular module that allows communication between the device and a central station. 

U.S. PATENT 6,346,876	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[1]
	PULS WIKI Hardware Installation Guide, Section 2.1
16. A control system according to claim 1 wherein said receiver comprises at least a central station transmitter; and wherein said transmitter is at the vehicle.	The LMU-3000 includes a cellular module that allows communication between the device and a central station. See claim 15.

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EXHIBIT B

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U.S. PATENT 6,737,989	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[2]
23. A tracking unit for a vehicle comprising:	The LMU-3000 is a tracking unit for a vehicle.
a vehicle position determining device, a wireless communication device, and a controller cooperating with said wireless communications device and said vehicle position determining device to determine and send vehicle position information to a monitoring station;	The LMU-3000 is a vehicle position determining device:

[2] The LMU-3000 and LMU-3030 are advertised as having the same functionality and features described herein. Thus, references throughout these claim charts to the LMU-3000 are intended to apply equally to the LMU-3030.

U.S. PATENT 6,737,989	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[2]
	(PX 4.) a wireless communication device, and a controller cooperating with said wireless communications device and said vehicle position determining device to determine and send vehicle position information to a monitoring station. Depicted below is the wireless communication device and controller (red arrow).

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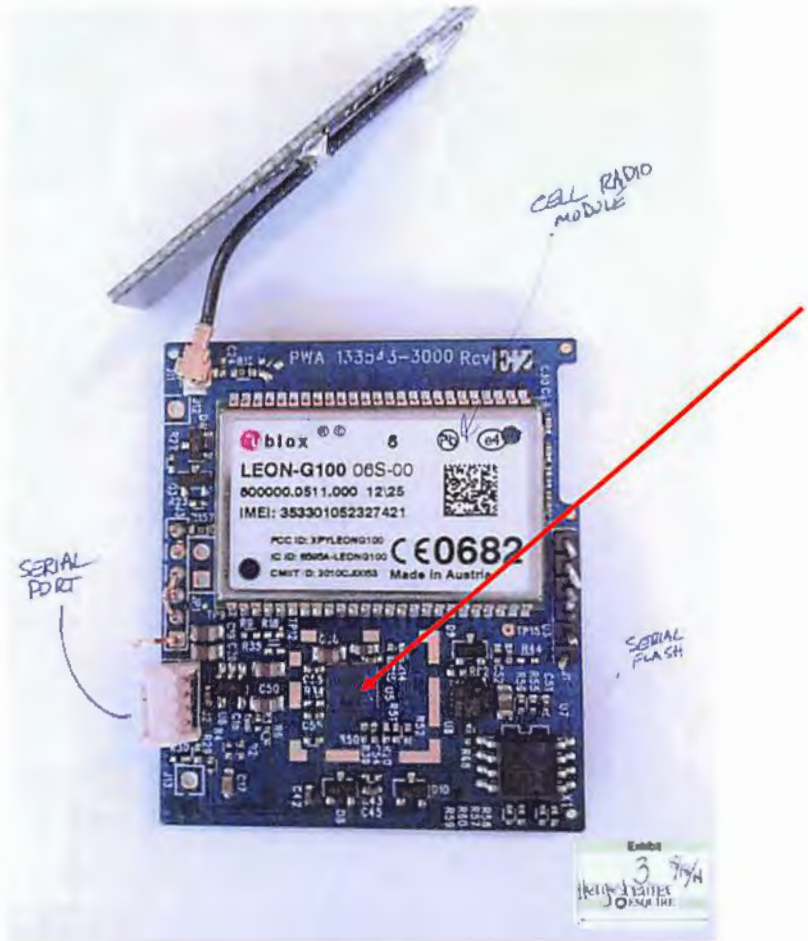
U.S. PATENT 6,737,989	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[2]
	 LMU controller STM32F103REY6 is U5 (Hardee 36:23-37:4; PX 11; PX3.)

U.S. PATENT 6,737,989	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[2]
	The controller cooperates with wireless communication device using PB10 (to radio) and PB11 (from radio). (Hardee 40:14-41:9, 44:16-45:14; PX 11.)
said controller storing a user selected reference location;	The LMU-3000 includes a controller storing a user selected reference location. (Hergesheimer, 123:11-123:18.)
said controller also sending the vehicle position information based upon the vehicle moving beyond a radial threshold distance from the user selected reference location.	The LMU-3000 includes a controller also sending the vehicle position information based upon the vehicle moving beyond a radial threshold distance from the user selected reference location. Event Reports from the LMU-3000 necessarily send vehicle position information including, among other data, time, latitude, longitude, altitude, speed and heading. (PX23/CALAMP0000536; Eiberger, 43:15-44:8.) PX 8-PEG Programming Guide (v1.0.0), p. 26(section 3.8.2.1) sets forth the Parameter IDs and how geofences are set:

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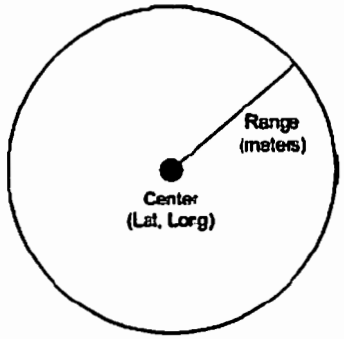
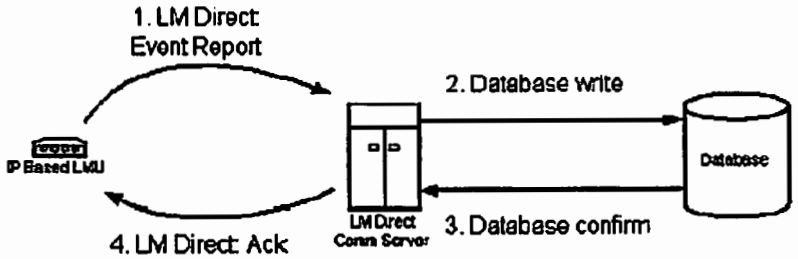
U.S. PATENT 6,737,989	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[2]
	 Point Zone Type = 1 3-4 Point Zone Definition Calamp's LMU Manager guides customers through setting up geofencing by allowing customers to set a geofence zone using the "Zones" tab in LMU Manager, then setting up an input trigger for zone entry/zone exit, and programming the LMU-3000 to send an Event Report.  (PX 6, LM Direct Reference Guide v.8.6.c.2 p. 45. See also Hergesheimer, 122:1-123:18.)

U.S. PATENT 6,737,989	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[2]
	Calamp has confirmed that LMU-3000/3030s have been configured to use radial geofencing. (PX16, Attachment A; Eiberger, 81:12-84:21.)
31. The vehicle tracking unit according to claim 23 wherein said controller comprises at least one memory for storing the user selected reference location and vehicle position information therein.	The LMU-3000 includes at least one memory for storing the user selected reference location and vehicle position information therein.

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U.S. PATENT 6,737,989	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[2]
	 The serial flash, U7 (W25Q32BV) stores the user selected reference location and vehicle position information. (Hergesheimer, 122:10-123:1; PX 3.)

CONFIDENTIAL INFORMATION
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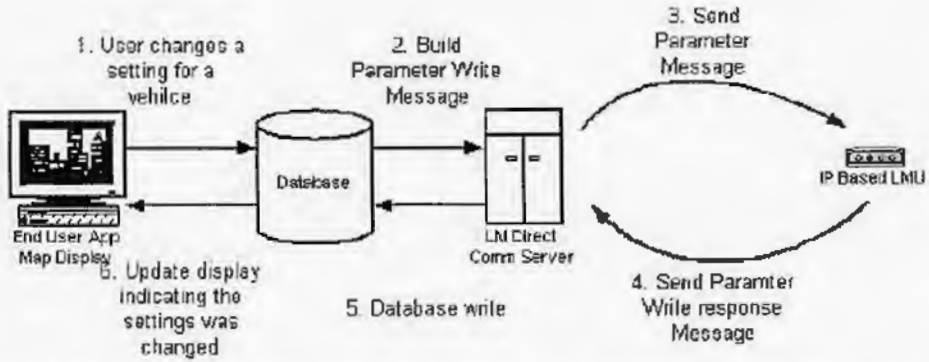
U.S. PATENT 6,737,989	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[2]
32. The vehicle tracking unit according to claim 23 wherein said controller sets the user selected reference location based upon at least one signal provided by the monitoring station.	The LMU-3000 includes a controller that sets the user selected reference location based upon at least one signal provided by the monitoring station. The user can use LMU Manager to set the user selected reference location and send it to the LMU-3000 via a monitoring station.  (PX 6-LM Direct Reference Guide v.8.6.c.2 p. 55; Hergesheimer 123:11-123:13.)
34. The vehicle tracking unit according to claim 32 wherein the at least one signal includes the user selected reference location.	The LMU-3000 according to claim 32 that includes at least the user selected reference location. (Hergesheimer 123:11-123:13.)
35. The vehicle tracking unit according to claim 23 wherein said vehicle position determining device comprises a Global Positioning System (GPS) device.	The LMU-3000 includes a Global Positioning System (GPS) device. (PX4.)

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U.S. PATENT 6,737,989	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[2]

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

EXHIBIT C

U.S. PATENT 6,756,885	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[3]
1. A control system for a vehicle comprising a data communications bus and at least one vehicle device connected thereto, the control system comprising:	The LMU-3000 is a control system for a vehicle comprising a data communications bus and at least one vehicle device connected thereto.
a transmitter and a receiver for receiving signals from said transmitter; and	The LMU-3000 has a transmitter and a receiver for receiving signals from said transmitter. The LMU-3000 includes a cellular module that allows transmission to and reception from a central station. Below is the cellular module that comprises a transmitter and receiver (PX 3).

[3] The LMU-3000 and LMU-3030 are advertised as having the same functionality and features described herein. Thus, references throughout these claim charts to the LMU-3000 are intended to apply equally to the LMU-3030.

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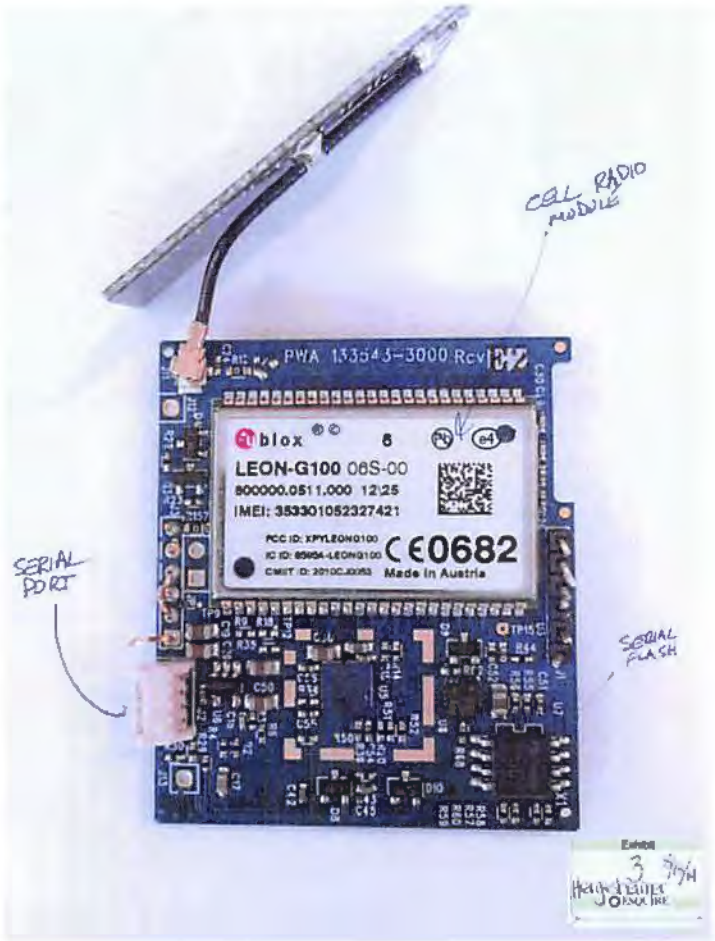
U.S. PATENT 6,756,885	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[3]
	

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ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 6,756,885	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[3]
a multi-vehicle compatible controller cooperating with said transmitter and said receiver and for storing a set of device codes for a given vehicle device for a plurality of different vehicles, for reading a device code from the data communications bus, and for determining a match between a read device code and the stored device codes to thereby provide compatibility with a plurality of different vehicles.	The LMU-3000 includes a multi-vehicle compatible controller cooperating with said transmitter and said receiver and for storing a set of device codes for a given vehicle device for a plurality of different vehicles, for reading a device code from the data communications bus, and for determining a match between a read device code and the stored device codes to thereby provide compatibility with a plurality of different vehicles. The given vehicle device is the ECM. The components of the multi-vehicle compatible controller include the following: LMU controller STM32F103REY6 is U5 (Hardee 36:23-37:4; PX 11.) OBD controller EP3C16M164I7N is U14 (Hardee 41:23-42:5; PX 11.) Can bus transceiver U11 (Hardee 42:11-42:15; PX 11.) The multi-vehicle compatible controller cooperates with the transmitter and receiver using PA3 OBD Transmit and PA2 OBD Receive and PB10 (to radio) and PB11 (from radio). (Hardee 40:14-41:9, 44:16-45:14; PX 3; PX 11.)

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U.S. PATENT 6,756,885	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[3]
	 The LMU-3000 includes a CAN bus transceiver, product MCP2551I, U11 (PX 5):

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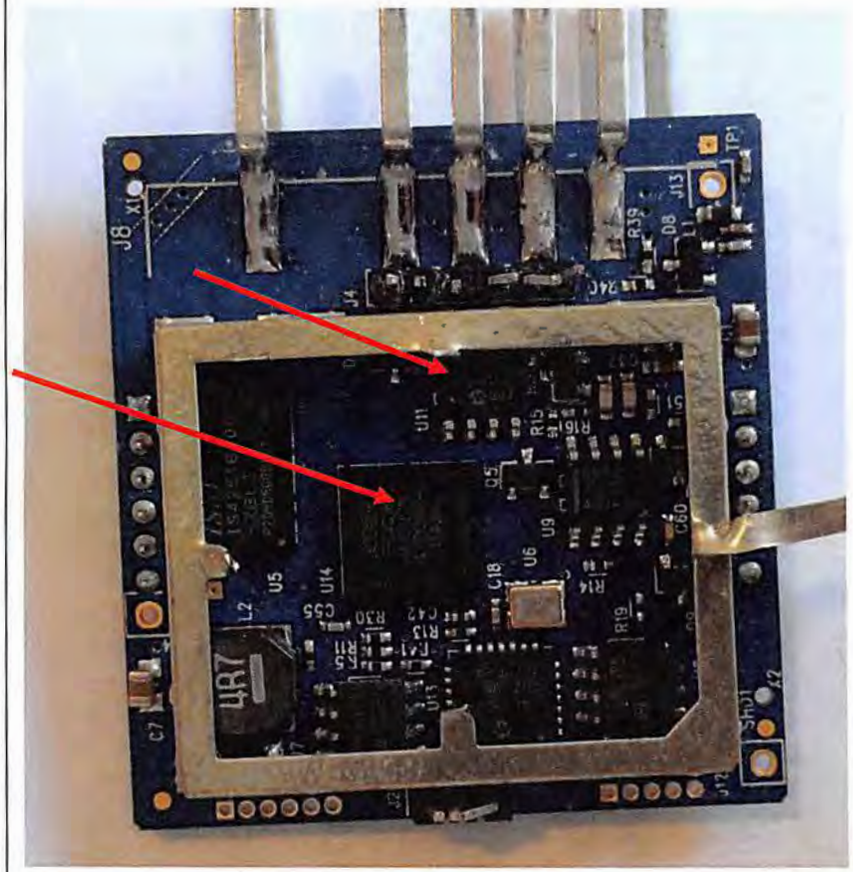
U.S. PATENT 6,756,885	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[3]
	 The LMU-3000 stores messages for CAN, J1850 and K Line buses, reads the messages transmitted from a vehicle device on the bus, and matches the read message to the stored message to provide compatibility with a plurality of different vehicles (PX 13).

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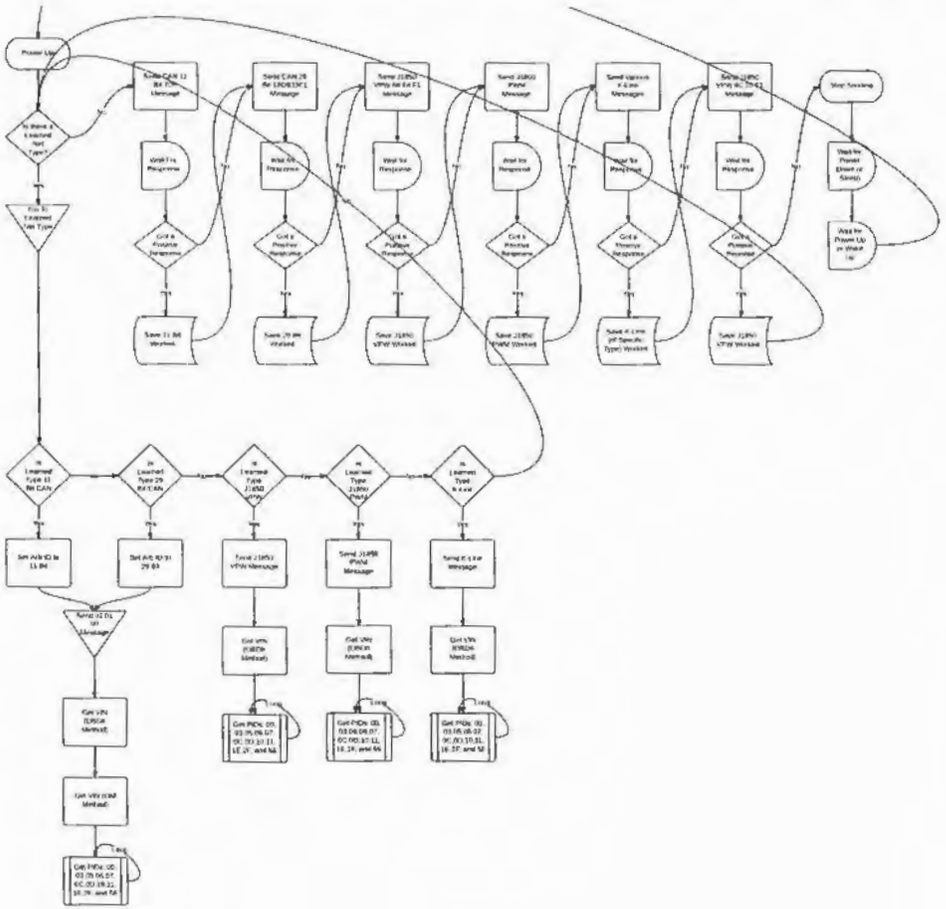
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 6,756,885	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[3]
	

U.S. PATENT 6,756,885	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[3]
	Additionally, the LMU-3030 conducts a second round of bus interrogation to provide additional multi-vehicle compatibility. In particular, the LMU-3030 reads the VIN, sends the VIN to a remote server, then receives make, manufacturer, and year data. (PX 21, CALAMP8334.) Based on the make, manufacturer, and year data, the LMU uses the appropriate stored device codes within the Calamp LMU-3030. The Calamp LMU-3030 determines a match and provides reading capability with a plurality of different vehicles. (PX 21, CALAMP8334-35.)
2. A control system according to claim 1 wherein said multi-vehicle compatible controller comprises a memory for the stored device codes.	The LMU-3000 includes a multi-vehicle compatible controller comprises a memory for the stored device codes. The LMU-3000 includes a memory for storing device codes, including the following messages: CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message. After configuration, the memory also stores data relating to the learned vehicle. Memory on OBD layer U5 IS42S16100E-7BLI and U7 EPCS16S18N, as well as in OBD controller EP3C16M164I7N is U14 (Hardee 41:23-42:5, 42:16-42:20; PX 11.)
3. A control system according to claim 2 wherein said multi-vehicle compatible controller comprises a processor cooperating with said memory for determining the match between the read device code and the stored device codes.	The LMU-3000 includes a multi-vehicle compatible controller comprises a processor cooperating with said memory for determining the match between the read device code and the stored device codes. See Claim 2.

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 6,756,885	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[3]
12. A control system according to claim 1 wherein said transmitter comprises at least a central station transmitter; and wherein said receiver is at the vehicle.	The LMU-3000 includes a cellular module that allows communication between the device and a central station. (PX 3)

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

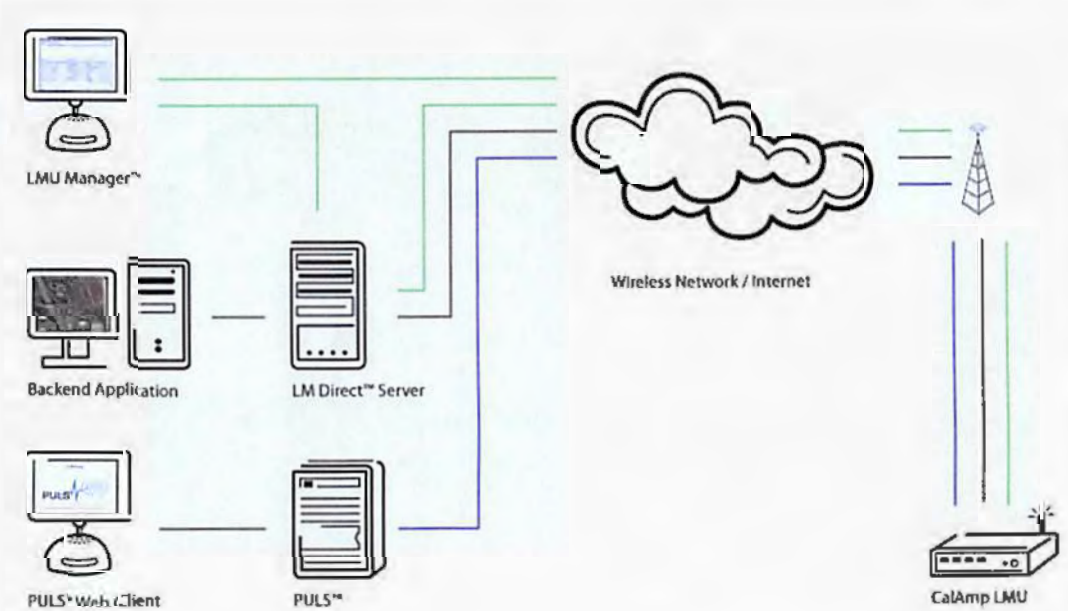
U.S. PATENT 6,756,885	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[3]
	 PULS WIKI Hardware Installation Guide, Section 2.1
14. A control system according to claim 1 wherein said receiver comprises at least a central station transmitter; and wherein said transmitter is at the vehicle.	The LMU-3000 includes a cellular module that allows communication between the device and a central station. See Claim 12.

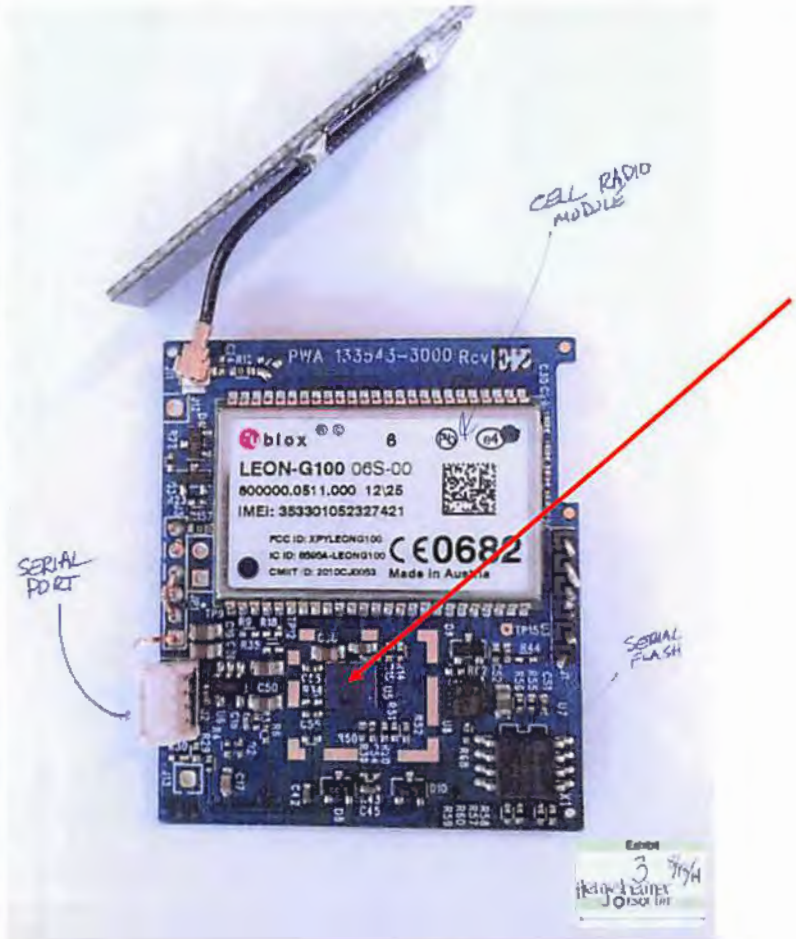
EXHIBIT D

Case 6:13-cv-01950-PGB-DCI Document 145-85 Filed 02/25/16 Page 80 of 156 PageID 12886

U.S. PATENT 7,671,727	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[4]
1. A speed exceeded notification device for a vehicle of a type comprising a vehicle data communications bus extending throughout the vehicle, and at least one vehicle device generating data related to vehicle speed on the vehicle data communications bus, the speed exceeded notification device comprising:	The LMU-3000 is a speed exceeded notification device for a vehicle of a type comprising a vehicle data communications bus extending throughout the vehicle, and at least one vehicle device generating data related to vehicle speed on the vehicle data communications bus.
a wireless communications device; and	The LMU-3000 includes a wireless communications device. The LMU-3000 includes a cellular module. Depicted below is the wireless communication device and controller (red arrow).

[4] The LMU-3000 and LMU-3030 are advertised as having the same functionality and features described herein. Thus, references throughout these claim charts to the LMU-3000 are intended to apply equally to the LMU-3030.

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

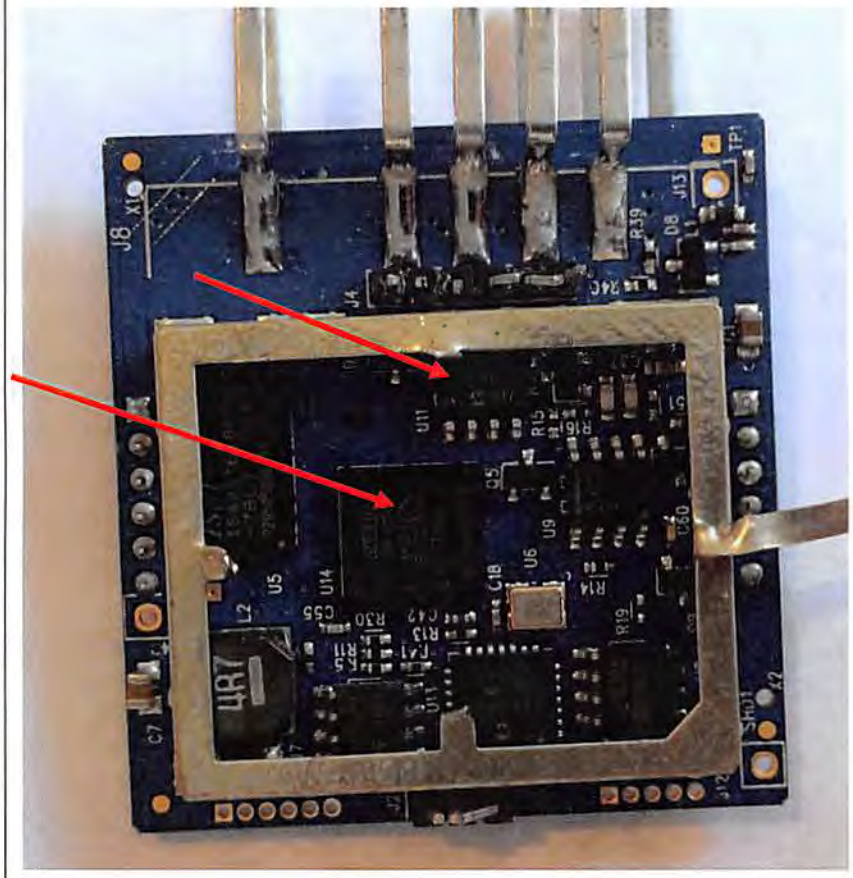
U.S. PATENT 7,671,727	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[4]
	 (PX 3)

U.S. PATENT 7,671,727	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[4]
a controller to be coupled to the vehicle data communications bus for reading the data related to vehicle speed from the vehicle data communications bus, and determining when a vehicle speed exceeds a speed threshold for a first time period and based thereon cooperating with said wireless communications device to send a remote vehicle speed exceeded notification.	The LMU-3000 includes a controller to be coupled to the vehicle data communications bus for reading the data related to vehicle speed from the vehicle data communications bus, and determining when a vehicle speed exceeds a speed threshold for a first time period and based thereon cooperating with said wireless communications device to send a remote vehicle speed exceeded notification. The controller includes: LMU controller STM32F103REY6 is U5 (Hardee 36:23-37:4; PX 11.) OBD controller EP3C16M164I7N is U14 (Hardee 41:23-42:5; PX 11.) Can bus transceiver U11 (Hardee 42:11-42:15; PX 11.)

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 7,671,727	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[4]

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 7,671,727	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[4]
	 (See PX 3, PX 5.)

U.S. PATENT 7,671,727	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[4]
	Using the PEG scripting capability of the LMU-3000, bus speed can be stored in an accumulator to generate an event report when the accumulator exceeds a defined threshold. (Eiberger, 55:16-24, 58:3-61:7, 75:5-78:2, 88:11-16.) Event Reports from the LMU-3000 necessarily send vehicle position information including, among other data, time, latitude, longitude, altitude, speed and heading. (PX23/CALAMP0000536; Eiberger, 43:15-44:8.)

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 7,671,727	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[4]

15 0

Options Header (optional)	...
...	...
Message Header	...
...	...
Update Time (msByte)	Update Time
Update Time	Update Time (lsByte)
Time of Fix (msByte)	Time of Fix
Time of Fix	Time of Fix (lsByte)
Latitude (msByte)	Latitude
Latitude	Latitude(lsByte)
Longitude (msByte)	Longitude
Longitude	Longitude (lsByte)
Altitude (msByte)	Altitude
Altitude	Altitude(lsByte)
Speed (msByte)	Speed
Speed	Speed (lsByte)
Heading (msByte)	Heading (lsByte)
Satellites	Fix Status
Carrier (msByte)	Carrier (lsByte)
RSSI (msByte)	RSSI (lsByte)
Comm State	HDOP
Inputs	Unit Status
Event Index	Event Code
Accums	spare
Accum List(msByte)	Accum List
Accum List	Accum List(lsByte)
...	...

Event Report Message Format

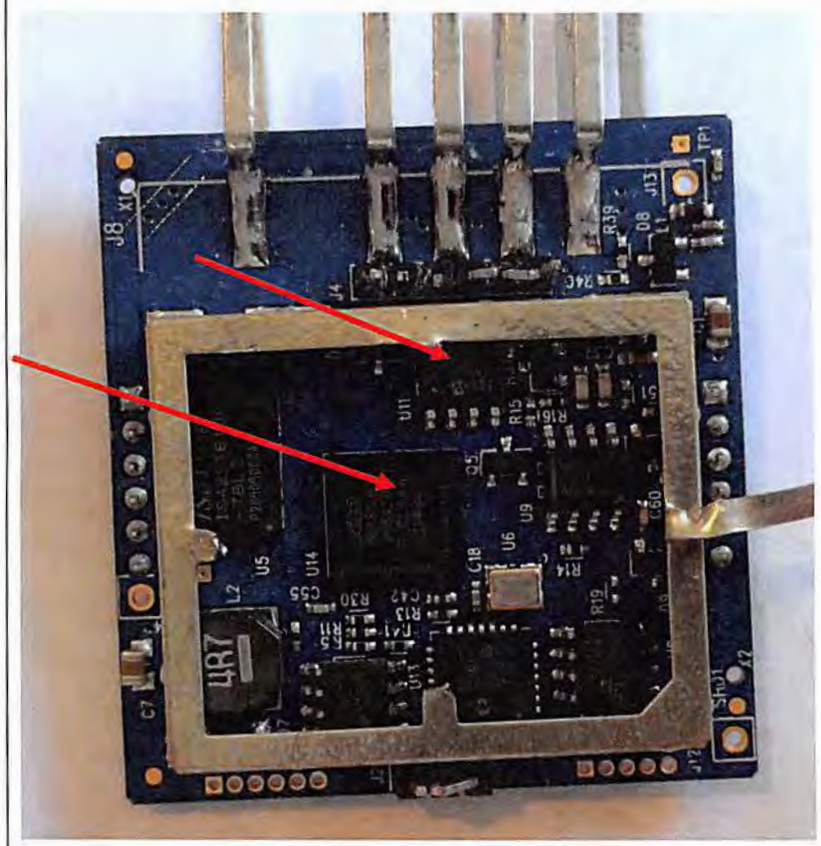
(PX 23, CALAMP0000536.)

U.S. PATENT 7,671,727	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[4]
10. The speed exceeded notification device according to claim 1 wherein the remote vehicle speed exceeded notification further comprises a speed of the vehicle.	The LMU-3000 is a speed exceeded notification device according to claim 1 wherein the remote vehicle speed exceeded notification further comprises a speed of the vehicle. See Claim 1.
11. The speed exceeded notification device according to claim 1 wherein the remote vehicle speed exceeded notification further comprises a vehicle position.	The LMU-3000 is a speed exceeded notification device according to claim 1 wherein the remote vehicle speed exceeded notification further comprises a vehicle position. See Claim 1.
19. A method for speed exceeded notification in a vehicle of a type comprising a vehicle data communications bus extending throughout the vehicle, and at least one vehicle device generating data related to vehicle speed on the vehicle data communications bus, the method comprising:	The LMU-3000 provides a method for speed exceeded notification in a vehicle of a type comprising a vehicle data communications bus extending throughout the vehicle, and at least one vehicle device generating data related to vehicle speed on the vehicle data communications bus.
using a controller coupled to the vehicle data communications bus for reading the data related to vehicle speed from the vehicle data communications bus, and	The LMU-3000 provides using a controller coupled to the vehicle data communications bus for reading the data related to vehicle speed from the vehicle data communications bus. The controller includes: LMU controller STM32F103REY6 is U5 (Hardee 36:23-37:4; PX 11.) OBD controller EP3C16M164I7N is U14 (Hardee 41:23-42:5; PX 11.)

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 7,671,727	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[4]
	Can bus transceiver U11 (Hardee 42:11-42:15; PX 11.)

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 7,671,727	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[4]
	 (See PX 3, PX 5.) The LMU-3000 can read the data related to vehicle speed from the vehicle data communications bus. (Eiberger, 75:5-76:21.)

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 7,671,727	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[4]
	Event Reports from the LMU-3000 necessarily send vehicle position information including, among other data, time, latitude, longitude, altitude, speed and heading. (PX23/CALAMP0000536; Eiberger, 43:15-44:8.)

15 0

Options Header (optional)	...
...	...
Message Header	...
...	...
Update Time (msByte)	Update Time
Update Time	Update Time (lsByte)
Time of Fix (msByte)	Time of Fix
Time of Fix	Time of Fix (lsByte)
Latitude (msByte)	Latitude
Latitude	Latitude(lsByte)
Longitude (msByte)	Longitude
Longitude	Longitude (lsByte)
Altitude (msByte)	Altitude
Altitude	Altitude(lsByte)
Speed (msByte)	Speed
Speed	Speed (lsByte)
Heading (msByte)	Heading (lsByte)
Satellites	Fix Status
Carrier (msByte)	Carrier (lsByte)
RSSI (msByte)	RSSI (lsByte)
Comm State	HDOP
Inputs	Unit Status
Event Index	Event Code
Accums	spare
Accum List(msByte)	Accum List
Accum List	Accum List(lsByte)
...	...

Event Report Message Format

(PX 23, CALAMP0000536.)

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 7,671,727	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[4]
determining when a vehicle speed exceeds a speed threshold for a first time period and based thereon cooperating with a wireless communications device to send a remote vehicle speed exceeded notification.	The LMU-3000 determines when a vehicle speed exceeds a speed threshold for a first time period and based thereon cooperating with a wireless communications device to send a remote vehicle speed exceeded notification.. Using the PEG scripting capability of the LMU-3000, bus speed can be stored in an accumulator to generate an event report when the accumulator exceeds a defined threshold. (Eiberger, 55:16-24, 58:3-61:7, 75:5-78:2, 88:11-16.)
25. The method according to claim 19 wherein the remote vehicle speed exceeded notification further comprises at least one of an identity of the vehicle, a speed of the vehicle, a vehicle position, and a time the vehicle exceeded the speed threshold.	The LMU-3000 provides the remote vehicle speed exceeded notification further comprises at least one of an identity of the vehicle, a speed of the vehicle, a vehicle position, and a time the vehicle exceeded the speed threshold. See Claim 19.

EXHIBIT E

Case 6:13-cv-01950-PGB-DCI Document 145-85 Filed 02/25/16 Page 93 of 156 PageID 12899

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
1. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible tracking unit comprising:	The LMU-3000 is a multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle.
a vehicle position determining device;	The LMU-3000 includes a vehicle position determining device. The LMU-3000 includes a GPS module.

[5] The LMU-3000 and LMU-3030 are advertised as having the same functionality and features described herein. Thus, references throughout these claim charts to the LMU-3000 are intended to apply equally to the LMU-3030.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	 (PX 4.)
a wireless communications device;	The LMU-3000 includes a wireless communications device. The LMU-3000 includes a cellular module that allows transmission to and reception from a central station. Depicted below is the wireless communication device and controller (red arrow).

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	 (PX 3.) LMU controller STM32F103REY6 is U5 (Hardee 36:23-37:4; PX 11.)

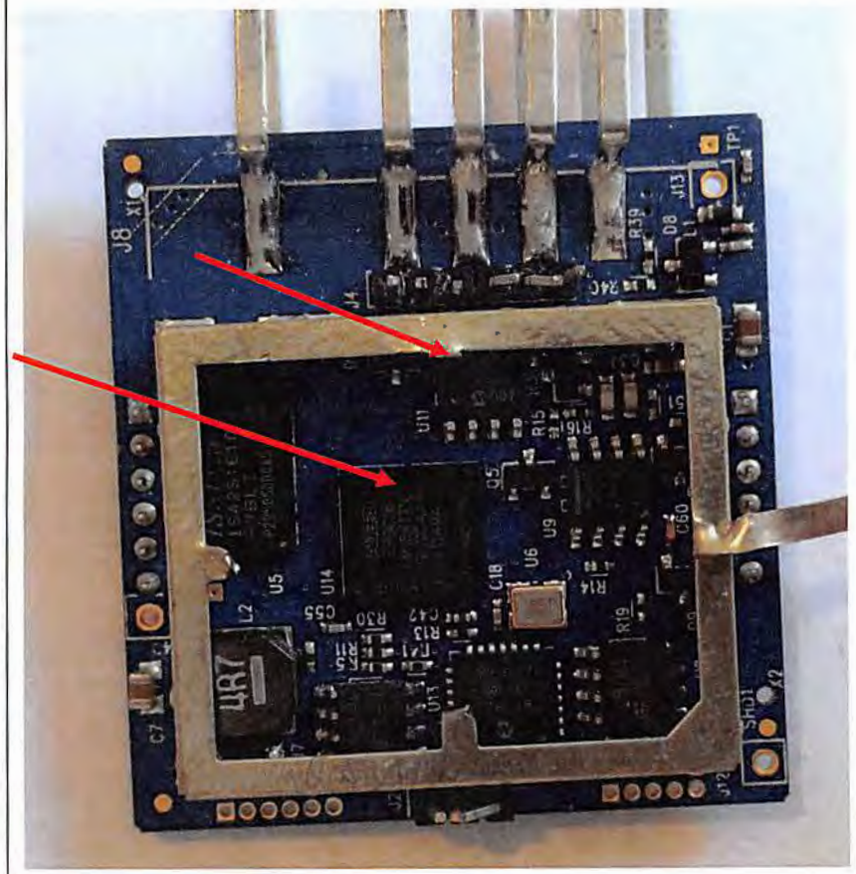
CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	The LMU-3000 includes a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information. The components of the multi-vehicle compatible controller include the following: LMU controller STM32F103REY6 is U5 (Hardee 36:23-37:4; PX 11.) OBD controller EP3C16M164I7N is U14 (Hardee 41:23-42:5; PX 11.) Can bus transceiver U11 (Hardee 42:11-42:15; PX 11.) The multi-vehicle compatible controller cooperates with the transmitter and receiver using PA3 OBD Transmit and PA2 OBD Receive and PB10 (to radio) and PB11 (from radio). (Hardee 40:14-41:9, 44:16-45:14; PX 11.)

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	 The LMU-3000 includes a CAN bus transceiver, product MCP2551I, U11:

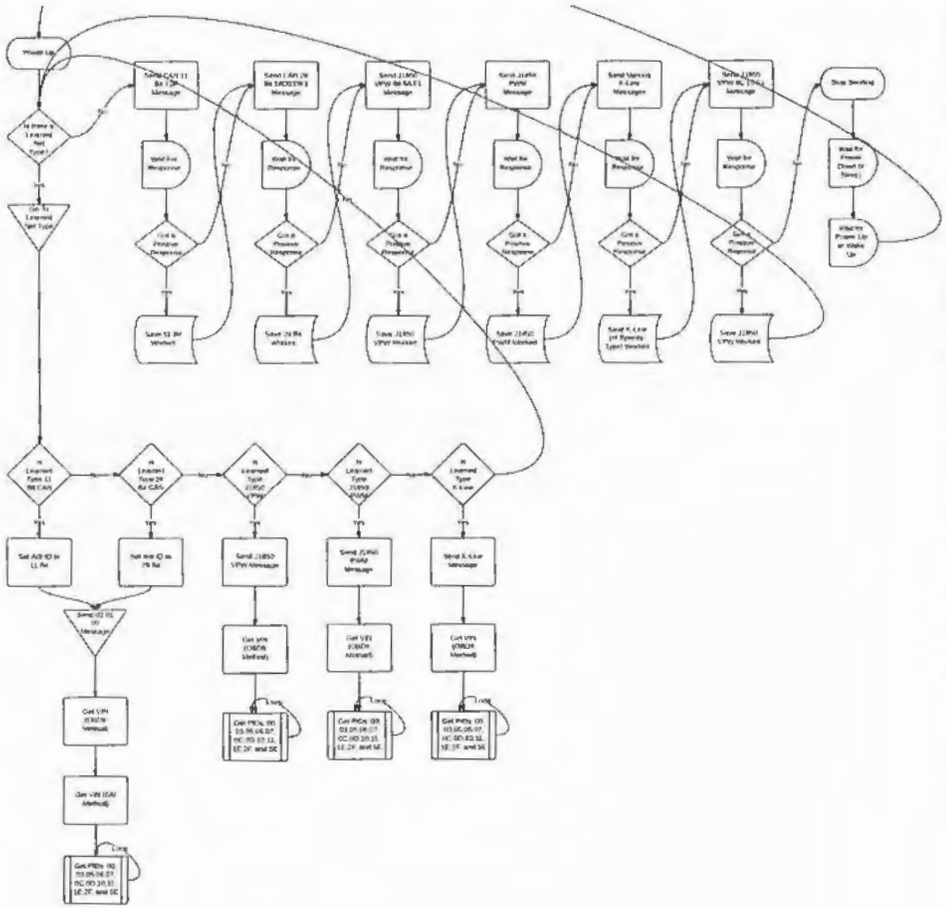
CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	 (See PX 3, PX5.)

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and	The LMU-3000 includes a said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. The at least one vehicle device is the vehicle's ECM. On initial installation, the multi-vehicle compatible controller generates a sequence of device codes to determine compatibility with different vehicles, including CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message. (PX 13.)

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	Additionally, the LMU-3030 conducts a second round of bus interrogation to provide additional multi-vehicle compatibility, by reading the VIN, sending the VIN to a remote server, then receives make, manufacturer, and year data to provide compatibility for multiple vehicle bus parameters. (PX 21, CALAMP8334-5.)
a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.	The LMU-3000 includes a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller. The LMU-3000 can be configured using a serial port or over the air using PULS, which can upload firmware or scripts with programming instructions or enabling data to the LMU device. (Eiberger 25:5-16, 32:20-33:1; Hergesheimer, 47:14-48:7, 104:18-104:24.)

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	 (PX 3.)

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
2. The multi-vehicle compatible tracking unit according to claim 1 wherein said downloading interface comprises a wired signal downloading interface.	The LMU-3000 includes a wired signal downloading interface. The LMU-3000 can be configured using a serial port or over the air using PULS, which can upload firmware or scripts with programming instructions or enabling data to the LMU device. (Eiberger 25:5-16, 32:20-33:1; Hergesheimer, 47:14-48:7, 104:18-104:24.)
3. The multi-vehicle compatible tracking unit according to claim 2 wherein said wired signal downloading interface comprises a connector for temporary connection to a downloading device.	The LMU-3000 includes a wired signal downloading interface comprises a connector for temporary connection to a downloading device. See Claim 2.
4. The multi-vehicle compatible tracking unit according to claim 1 wherein said downloading interface comprises a wireless signal downloading interface.	The LMU-3000 includes a downloading interface comprising a wireless signal downloading interface. See Claim 2.
5. The multi-vehicle compatible tracking unit according to claim 4 wherein said wireless signal downloading interface comprises a wireless receiver for temporary connection to a downloading device.	The LMU-3000 includes a wireless signal downloading interface that comprises a wireless receiver for temporary connection to a downloading device. See claim 2.

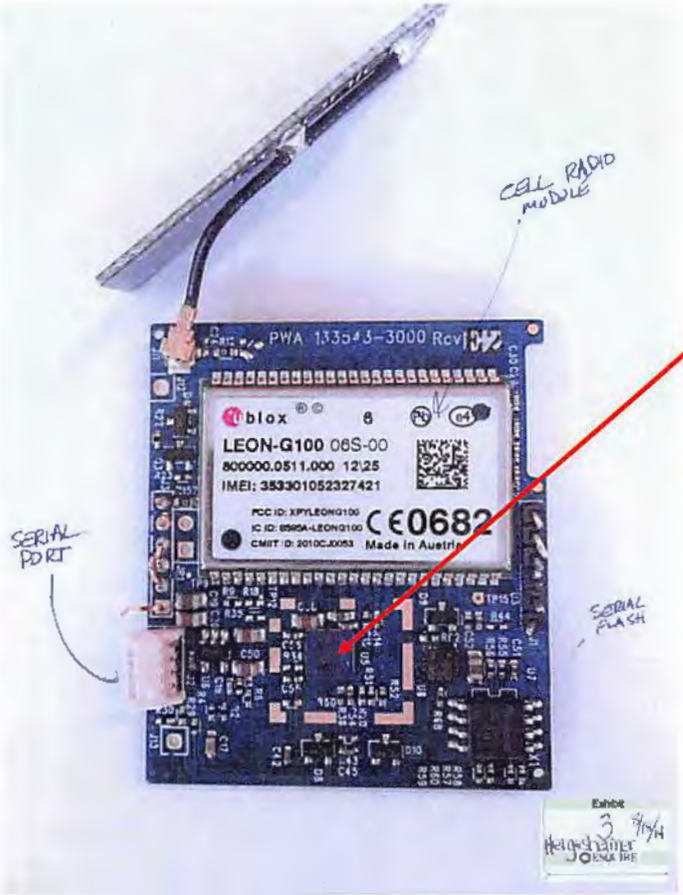
U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
6. The multi-vehicle compatible tracking unit according to claim 1 wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device.	The LMU-3000 is a multi-vehicle compatible tracking unit wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device. On initial installation, the multi-vehicle compatible controller generates a sequence of device codes to determine compatibility with different vehicles, including CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message, which control and direct the at least one vehicle device to send a vehicle code that is read by the LMU-3000. (PX 13.)
8. The multi-vehicle compatible tracking unit according to claim 1 wherein said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller.	The LMU-3000 includes a downloading interface for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller. The LMU-3000 can be configured using a serial port or over the air using PULS, which can upload firmware or scripts with programming instructions or enabling data to the LMU device. (Eiberger 25:5-16, 32:20-33:1; Hergesheimer, 47:14-48:7, 104:18-104:24.)
11. The multi-vehicle compatible tracking unit according to claim 1 wherein said wireless position determining device comprises a Global Positioning System (GPS) receiver.	The LMU-3000 includes a GPS module.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	 (PX 4.)
12. The multi-vehicle compatible tracking unit according to claim 1 further comprising a housing containing said vehicle position determining device, said wireless communications device, said multi-vehicle compatible controller, and said	The LMU-3000 includes a housing containing said vehicle position determining device, said wireless communications device, said multi-vehicle compatible controller, and said downloading interface.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
downloading interface.	
13. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible vehicle tracking unit comprising:	The LMU-3000 is a multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle.
a vehicle position determining device;	The LMU-3000 includes a vehicle position determining device. The LMU-3000 includes a GPS module.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	 (PX 4.)
a wireless communications device;	The LMU-3000 includes a wireless communications device. The LMU-3000 includes a cellular module that allows transmission to and reception from a central station. Depicted below is the wireless communication device and controller (red arrow).

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

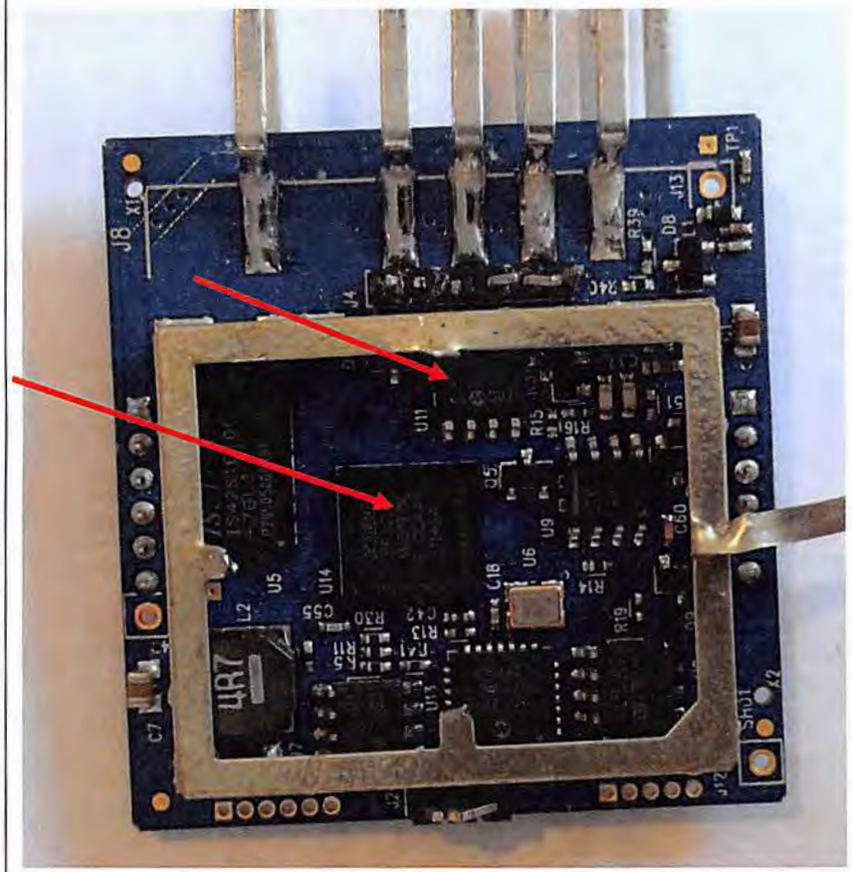
U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	 (PX 3.)

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	LMU controller STM32F103REY6 is U5 (Hardee 36:23-37:4; PX 11.)
a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	The LMU-3000 includes a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information. The components of the multi-vehicle compatible controller include the following: LMU controller STM32F103REY6 is U5 (Hardee 36:23-37:4; PX 11.) OBD controller EP3C16M164I7N is U14 (Hardee 41:23-42:5; PX 11.) Can bus transceiver U11 (Hardee 42:11-42:15; PX 11.) The multi-vehicle compatible controller cooperates with the transmitter and receiver using PA3 OBD Transmit and PA2 OBD Receive and PB10 (to radio) and PB11 (from radio). (Hardee 40:14-41:9, 44:16-45:14; PX 3; PX 11.)

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	 The LMU-3000 includes a CAN bus transceiver, product MCP2551I, U11 (PX 5):

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and	The LMU-3000 includes a said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. The at least one vehicle device is the vehicle's ECM. On initial installation, the multi-vehicle compatible controller generates a sequence of device codes to determine compatibility with different vehicles, including CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message. (PX 13.) Additionally, the LMU-3030 conducts a second round of bus interrogation to provide additional multi-vehicle compatibility, by reading the VIN, sending the VIN to a remote server, then receives make, manufacturer, and year data to provide compatibility for multiple vehicle bus parameters. (PX 21, CALAMP8334-5.)
a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller;	The LMU-3000 includes a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

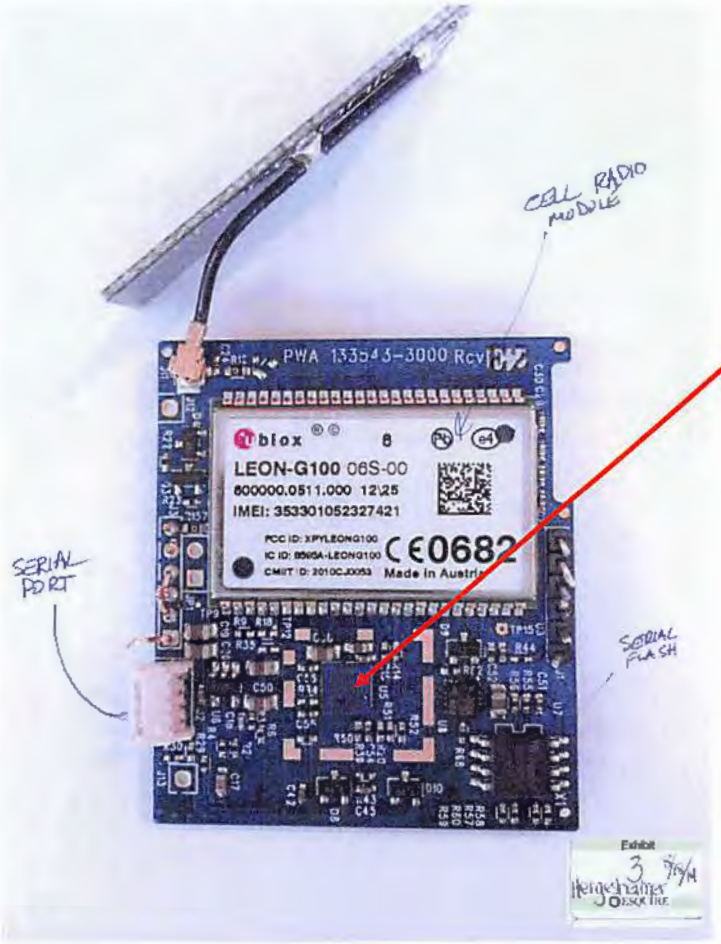
U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	 (PX 3.)

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
said downloading interface comprising a connector for temporary connection to a downloading device.	The LMU-3000 includes a wired signal downloading interface for a temporary connection to a downloading device. The LMU-3000 can be configured using a serial port or over the air using PULS, which can upload firmware or scripts with programming instructions or enabling data to the LMU device. (Eiberger 25:5-16, 32:20-33:1; Hergesheimer, 47:14-48:7, 104:18-104:24.)
14. The multi-vehicle compatible tracking unit according to claim 13 wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device.	The LMU-3000 is a multi-vehicle compatible tracking unit wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device. On initial installation, the multi-vehicle compatible controller generates a sequence of device codes to determine compatibility with different vehicles, including CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message, which control and direct the at least one vehicle device to send a vehicle code that is read by the LMU-3000. (PX 13.)
16. The multi-vehicle compatible tracking unit according to claim 13 wherein said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller.	The LMU-3000 includes a downloading interface for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller. The LMU-3000 includes a serial interface that can be used for downloading of enabling data. The LMU-3000 can also be configured over the air using PULS, which can upload firmware or scripts. (Eiberger 25:5-16, 32:20-33:1.)
18. A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible vehicle tracking unit comprising:	The LMU-3000 is a multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle.

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
a vehicle position determining device;	The LMU-3000 includes a vehicle position determining device. The LMU-3000 includes a GPS module. (PX 4.)

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

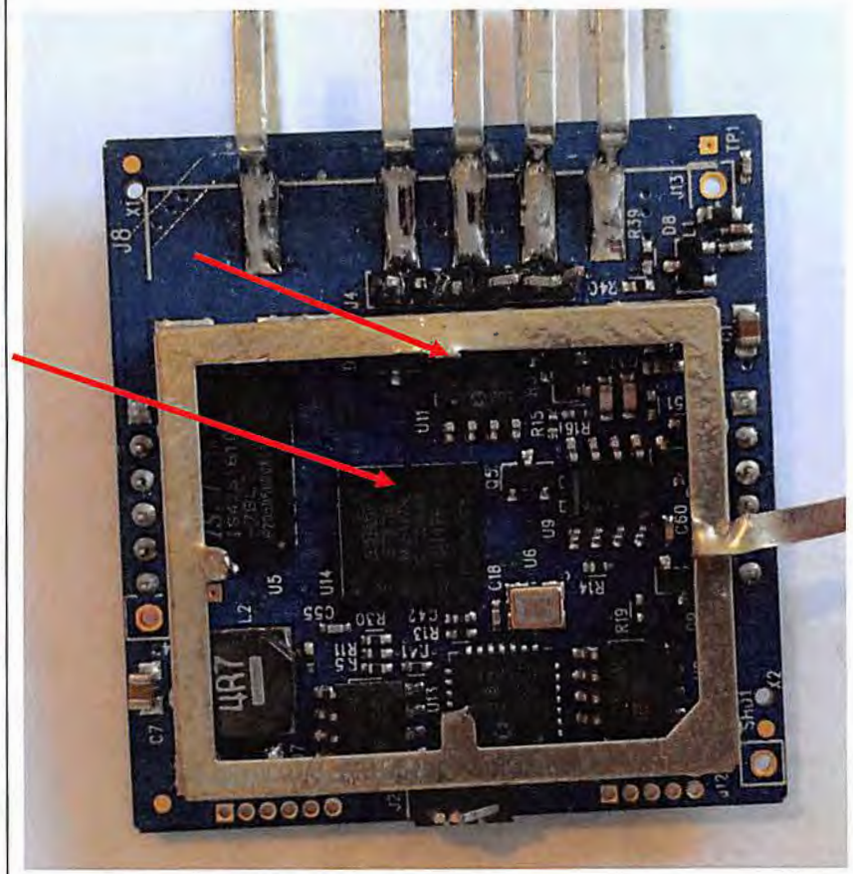
U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
a wireless communications device;	The LMU-3000 includes a wireless communications device. The LMU-3000 includes a cellular module that allows transmission to and reception from a central station. Depicted below is the wireless communication device and controller (red arrow).

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	 (PX 3.)

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	LMU controller STM32F103REY6 is U5 (Hardee 36:23-37:4; PX 11.)
a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information;	The LMU-3000 includes a multi-vehicle compatible controller for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information. The components of the multi-vehicle compatible controller include the following: LMU controller STM32F103REY6 is U5 (Hardee 36:23-37:4; PX 11.) OBD controller EP3C16M164I7N is U14 (Hardee 41:23-42:5; PX 11.) Can bus transceiver U11 (Hardee 42:11-42:15; PX 11.) The multi-vehicle compatible controller cooperates with the transmitter and receiver using PA3 OBD Transmit and PA2 OBD Receive and PB10 (to radio) and PB11 (from radio). (Hardee 40:14-41:9, 44:16-45:14; PX 11.)

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	 The LMU-3000 includes a CAN bus transceiver, product MCP2551I, U11:

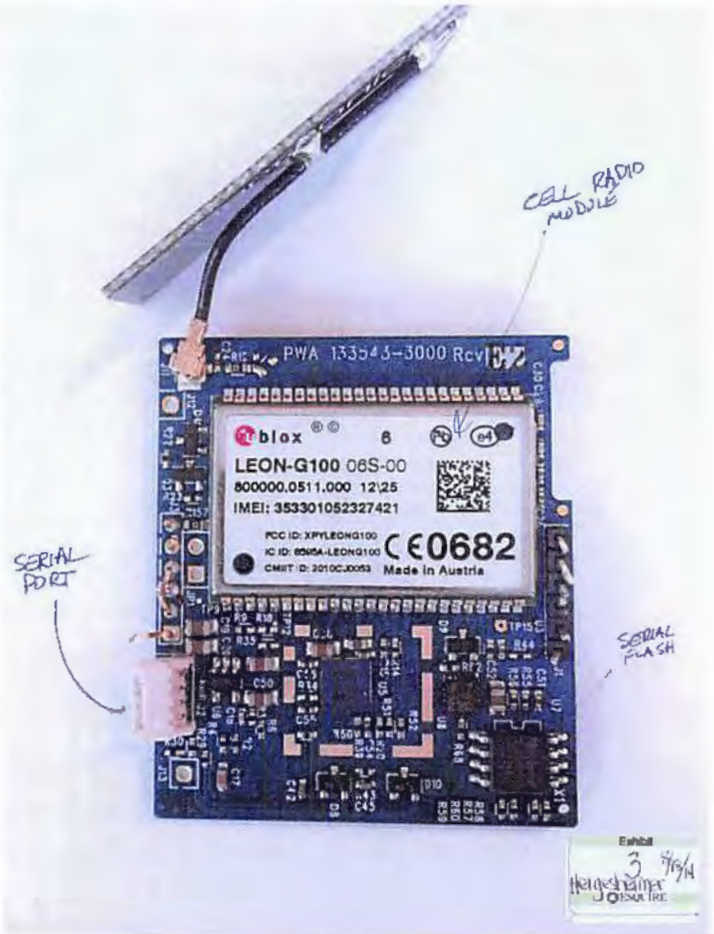
CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	 (See PX3, PX5.)

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and	The LMU-3000 includes a said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles. The at least one vehicle device is the vehicle's ECM. On initial installation, the multi-vehicle compatible controller generates a sequence of device codes to determine compatibility with different vehicles, including CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message. Additionally, the LMU-3030 conducts a second round of bus interrogation to provide additional multi-vehicle compatibility, by reading the VIN, sending the VIN to a remote server, then receives make, manufacturer, and year data to provide compatibility for multiple vehicle bus parameters. (PX 21, CALAMP8334-5.)
a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller;	The LMU-3000 includes a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller. The LMU-3000 uses its cell radio module as a downloading interface for over the air downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.

CONFIDENTIAL INFORMATION
ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
	 (PX 3.)

U.S. PATENT 8,032,278	
OMEGA PATENT CLAIMS	LMU-3000/LMU-3030[5]
said downloading interface comprising a wireless receiver for temporary connection to a downloading device.	The LMU-3000 includes a downloading interface that comprises a wireless receiver for temporary connection to a downloading device. The LMU-3000 can be configured using a serial port or over the air using PULS, which can upload firmware or scripts with programming instructions or enabling data to the LMU device. (Eiberger 25:5-16, 32:20-33:1; Hergesheimer, 47:14-48:7, 104:18-104:24.)
19. The multi-vehicle compatible tracking unit according to claim 18 wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device.	The LMU-3000 is a multi-vehicle compatible tracking unit wherein the corresponding at least one vehicle code is for reading from the at least one vehicle device. On initial installation, the multi-vehicle compatible controller generates a sequence of device codes to determine compatibility with different vehicles, including CAN 11 Bit 7DF message, CAN 29 Bit 18DB33F1 message, J1850 VPW 68 6A F1 message, J1850 PWM message, K-Line messages and J1850 VPW 6C 10 F1 message, which control and direct the at least one vehicle device to send a vehicle code that is read by the LMU-3000.
21. The multi-vehicle compatible tracking unit according to claim 18 wherein said downloading interface is also for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller.	The LMU-3000 includes a downloading interface for permitting downloading of at least one programming instruction for said multi-vehicle compatible controller. The LMU-3000 can be configured using a serial port or over the air using PULS, which can upload firmware or scripts with programming instructions or enabling data to the LMU device. (Eiberger 25:5-16, 32:20-33:1; Hergesheimer, 47:14-48:7, 104:18-104:24.)

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ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

Exhibit F

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ATTORNEYS EYES ONLY PURSUANT TO PROTECTIVE ORDER

MATERIALS CONSIDERED

The following materials were considered. Any other materials identified in the main body or in the Attachments to this expert report are also included.

1) Complaint submitted Dec. 20, 2013 and Exhibits
2) Memorandum Order filed Feb. 20, 2015
3) USPN 6,737,989 and Prosecution History
4) USPN 6,346,876 and Prosecution History
5) USPN 7,671,727 and Prosecution History
6) USPN 8,032,278 and Prosecution History
7) USPN 6,756,885 and Prosecution History
8) Jeffrey L. Eiberger Deposition 03-12-2015 and Exhibits thereto
9) Stephen Hall Deposition 03-11-2015 and Exhibits thereto
10) Radhakarishnan Ramachandran Deposition 08-19-2014 and Exhibits thereto
11) Pete Hergesheimer Deposition 08-18-2014 and Exhibits thereto
12) James Hardee Deposition 08-19-2014 and Exhibits thereto
13) CALAMP0010656-CALAMP0010673
14) CalAmp's Supplemental Invalidity Contentions and Exhibits (Claim Charts)

EXHIBIT G

PROFESSIONAL SUMMARY

Currently a Registered Professional Engineer (#79454) and recognized as an inventor on 31 US and a number of foreign patents, I am President of McAlexander Sound, Inc., and the Managing Director of McAlexander Sound Pte Ltd. I have focused my expertise to support a number of clients in product, process, and operations analysis and investigation. Thirty-nine years of experience in microcircuit and semiconductor technologies has developed my skills in areas of circuit design and analysis, device fabrication and assembly, testing, marketing, control system design and analysis, manufacturing operations and respective areas of quality, reliability, and defect / failure analysis. I am, among others, a Manager with QM Partners, LP, supporting clients in IP management, and the President and CEO of MDFHoldings, Inc., an IP holding company currently engaged in the field of GPS Tracking. I have:

- designed Dynamic Random Access Memories (DRAMs), Static Random Access Memories (SRAMs), Charge Coupled Devices (CCDs), Shift Registers (SRs), and functional circuits including I/O buffers for address and data, decoders, clocks, sense amplifiers, fault tolerant, parallel-to-serial data paths for video applications, level shifters, converters, pumps, and logic, as well as wireless communication systems and MEMs applications;

- managed operations including engineering, software programming, training, and quality assurance for device fabrication, assembly, test, analysis, and reliability assessment, as well as manufacturing control (testing, analysis, and control involved use of mechanical calibration and measuring equipment, including optical, scanning e-beam, IR, capacitive, and laser using phase contrast and FFT for HARI applications); managed software program development departments for assembly manufacturing, process control, and testing;

- taught courses in solid state device physics, integrated circuit design, integrated circuit fabrication, and statistical control;

- provided expert services, investigating both process and design technologies of various devices (microprocessor and controller, memory, programmable logic, card, tag, module, mixed signal, custom, and other), systems (PC and peripheral, computer, control, laser measurement, switch, architecture, software, and other), and consumer products (medical, TV, telephone, VCR, facsimile, copier, lighting, game, and other); and

- provided nuclear radiation hardness testing services for military and space clients.

From 1986-1990, I was Executive Vice President of EPI Technologies, Inc., prior to joining the staff at Cochran Consulting, Inc. where I served as senior managing consultant from 1991-2002. From 1972 to 1986, I was employed by Texas Instruments Incorporated - two years as the Quality and Reliability Manager for the 256K DRAM wafer fabrication facility, three years as the Engineering/QRA Manager for the TI Singapore test and assembly operation, and nine years in semiconductor design and product engineering management functions.

EXPERIENCE PROFILE (continued)

2006-present **QM Partners, L.P.** – Texas
Manager

- Management of development, licensing, prosecution and exploitation of intellectual property.

2006-present **Guardian Technologies, LLC** – Texas
Manager

- IP holding and licensing company.

2006-present **Appropriate Holdings, LLC** – Delaware
Manager

- IP holding company.

2005-present **McAlexander Sound Pte Ltd** - Singapore
Managing Director

- System, Product, and Process investigation, expert witness services for protection of intellectual property;
- Patent portfolio development and valuation;
- Contract consultation.

2002-present **MDFHoldings, Inc.** – Las Vegas, NV
CEO

- IP holding and licensing company.

1996-2010 **RMC Management, LLP** - Plano, TX
Partner

- Asset management.

EXPERIENCE PROFILE (continued)

1988-present **McAlexander Sound, Inc. (McASI)** - Plano, TX
President

o System, Product, and Process investigation, expert witness services for protection of intellectual property;

o Patent portfolio development and valuation;

o Product liability and insurance claim investigation, expert witness services for matters involving such claims;

o Quality Systems consulting and engineering;

o Radiation Hardness Testing Technical Representative;

o Technical Advisor in High Aspect Ratio and Surface Contour Measurement using Direct-to-Digital Holography.

1991-2002 **Cochran Consulting, Inc. (CCI)** - Richardson, TX
Managing Consultant

o System, Product, and Process investigation, expert witness services for protection of intellectual property;

o Design, process, and product reliability;

o Defect and failure analysis.

1986-Nov'90 **EPI Technologies, Inc.** - Richardson, TX
Executive Vice President and Company Officer

o Managed Advanced Technology Div., QA, and Engineering, including software program development;

o Developed strategic, space/energy market growth plans;

o Negotiated the acquisition of a radiation company;

o Designed and managed physical analysis, radiation effects, and environmental stress laboratories, including optical and e-beam measurement;

EXPERIENCE PROFILE (continued)

o Achieved > 30% annual revenue growth and profitability for each laboratory the first 12 months;

o Product and Process investigation services for protection of intellectual property.

1972 – 1986 **Texas Instruments, Inc.** - Dallas/Houston, TX; Singapore

'84 - '86 **Quality/Reliability Assurance Manager, TI Dallas** Advanced DRAM semiconductor wafer fabrication facility

o Developed/implemented on-line, computerized SPC software tools for dimensioning analysis and control and pattern recognition;

o Coordinated people development, design-of-experiments;

o Managed chemical and physical analysis laboratories;

o Implemented control systems to assure product, process, material, equipment, and facility compliance, including Cost of Quality analysis.

'82 - '84 **Quality/Reliability Assurance and Engineering Manager, TI Singapore** assembly/test facility

o Developed, implemented, and operated an effective Quality/Reliability Assurance program for assembly processing including optical pattern recognition for equipment registration;

o Supervised 225 people for 7 day/week operation, including QRA, Computer Systems software development, and Training;

o Trained engineers in Solid State Physics, device fabrication, and statistical process control.

EXPERIENCE PROFILE (continued)

'81 - '82 **Engineering Operations Manager, TI Houston**

o Managed DRAM memory product cost center;

o Responsible for division test software generation, product assembly and test quality / yield, cost reduction and quality improvement;

o Provided technical customer interface for marketing;

o Coordinated TI Singapore engineering test/assembly.

'79 - '81 **Product Engineering Manager, TI Houston**

o Responsible for yield improvement, technical customer interface, quality improvement, design evaluation, and device characterization for DRAM and CCD products;

o Developed device specifications and test software.

'72 - '79 **Design Section Manager / Engineer, TI Houston**

o Responsible for design and development, process compatibility, production introduction of Dynamic Ram products;

o Activities included electrical and physical layout, SPICE model simulation, test program generation, and product implementation for MOS Dynamic Ram products.

1969 - 1972 **U. S. Army** - Coventry, Rhode Island; Seoul, Korea
Captain, Air Defense Artillery

o Served one year as Communications Officer in Korea;

o Served two years as Tactical Officer, New England Defense.

ORGANIZATIONS, PUBLICATIONS, EDUCATION

PROFESSIONAL ORGANIZATIONS AND AWARDS

1 - Institute of Electrical and Electronics Engineers, Inc. (IEEE), Senior Member. Societies: Computer, Electron Devices, Solid State Circuits

2 – Licensing Executives Society (LES)

3 – National Society of Professional Engineers

4 – Texas Board of Professional Engineers, Registered License #79454

5 – Society of Flight Test Engineers

5 - 2000/2001 Nationwide Register's Who's Who in Executives and Businesses

6 - 1996/1997 Strathmore's Who's Who Registry of Business Leaders

PUBLICATIONS

1- NUS Proceedings of Engineering Convention '83, Aug '83, pgs. 139-142, The Memory Challenge.

2- Archives of Biochemistry and Biophysics, Dec'81, Vol. 212, No. 2, Equilibrium Constants under Physiological Conditions for the Reactions of D-3-Phosphoglycerate Dehydrogenase and L-Phosphoserine Aminotransferase.

3- International Electron Devices Meeting, Dec '79, pgs. 355-357, Sub 100ns 16K x 1 MOS Dynamic RAM Using a Grounded Substrate.

EDUCATION PROFILE

1980 - 1985	Taught Solid State Device Physics, Semiconductor Processing, and Circuit Design Techniques
	Taught Statistical Quality Control methods
	Effectiveness Training and Japanese Manufacturing Techniques, Participative Problem Solving courses
1975 - 1976	1.5 years Graduate study in Neural Science, the University of Texas Graduate School of Biomedical Science
1965 - 1969	BSEE, North Carolina State University

PATENTS (US-31 Foreign-8)

4,239,993	(1980) High Performance Dynamic Sense Amplifier with Active Loads
4,280,070	(1981) Balanced Input Buffer Circuit for Semiconductor Memory
4,288,706	(1981) Noise Immunity in Input Buffer Circuit for Semiconductor Memory
4,370,575	(1983) High Performance Dynamic Sense Amplifier with Active Loads
4,418,293	(1983) High Performance Dynamic Sense Amplifier with Multiple Column Outputs
4,533,843	(1985) High Performance Dynamic Sense Amplifier with Voltage Boost for Row Address Lines
4,543,500	(1985) High Performance Dynamic Sense Amplifier Voltage Boost for Row Address Lines
4,543,501	(1985) High Performance Dynamic Sense Amplifier with Dual Channel Grounding Transistor
4,748,349	(1988) High Performance Dynamic Sense Amplifier with Voltage Boost for Row Address Lines
6,172,640 B1	(2001) Pet Locator
6,236,358 B1	(2001) Mobile Object Locator
6,421,001 B1	(2002) Object Locator
6,441,778 B1	(2002) Pet Locator
6,480,147 B2	(2002) Portable Position Determining Device
6,518,919 B1	(2003) Mobile Object Locator
6,771,213 B2	(2004) Object Locator
59,171 B2	(2005) Mobile Object Locator

PATENTS (continued)

7,113,126 B2	(2006) Portable Positioning Determining Device
7,179,674 B2	(2007) Bi-Directional Released-Beam Sensor
7,209,075 B2	(2007) Mobile Object Locator
7,324,044 B2	(2008) Object Locator
7,336,227 B2	(2008) Portable Position Determining Device
7,340,260 B2	(2008) System and Method for Tracking the Location of Multiple Mobile Radio Transceiver Units
7,353,706 B2	(2008) Weighted Released-Beam Sensor
7,397,097 B2	(2008) Integrated Released Beam Layer Structure Fabricated in Trenches and Manufacturing Method Thereof
7,564,405 B2	(2009) Object Locator
7,657,265 B2	(2010) System and Method for Tracking the Location of Multiple Mobile Radio Transceiver Units
7,760,137 B2	(2010) Portable Positioning Determining Device
7,764,228 B2	(2010) Portable Positioning Determining Device
7,989,906 B2	(2011) Bi-Directional released-Beam Sensor
8,334,775 B2	(2012) RFID-Based Asset Security and Tracking System, Apparatus and Method
JP 55-053640 B4	(1980) Defect Resistant Semiconductor Memory Cell
JP 59-044720 B4	(1984) Semiconductor High Speed Read/Write Memory Unit
DE2935121 C2	(1980) Clock Voltage Generator for Semiconductor Memory with Reduced Power Dissipation
DE3043651 A1	(1981) Clock Voltage Generator for Semiconductor Memory with Reduced Power Dissipation
GB2032211 B2	(1980) High Performance Dynamic MOS Read/Write Memory

PATENTS (continued)

EP 1 557 058 B1	(2011) System and method for tracking the location of multiple mobile radio transceiver units [States: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR]
EP 1 676 809 B1	(2010) Weighted released-beam sensor [States: DE FR GB IT]
EP 1 676 810 B1	(2010) Bi-directional released-beam sensor [States: DE FR GB IT]

CASES

Cases over at least the past 5 years, either active or closed, in which I have signed a Protective Order, have testified as an expert either at a trial, hearing, or deposition, or have submitted statements / opinions, are:

CASE[1]	CASE NUMBER	LOCATION	YEAR	TYPE[2]
Micron* v. Rambus (*firm: Weil Gotshal)	00-792-RRM	Wilmington, DE	2000-2009	P,t
(Patents related to RDRAM, synchronous clocks applied against SDRAMs)				
Rambus v. Samsung* (*firm: Weil Gotshal)	C 05-02298 WDB C 05-02398 RMW	San Jose, CA	2005 - 2009	P
(Patents related to RDRAM, synchronous clocks applied against SDRAMs)				
Rambus v. Samsung* (*firm: Weil Gotshal)	C 05 00334 EDL C 05 00334 RMW	San Francisco, CA	2005 - 2009	P
(Patents related to RDRAM, synchronous clocks applied against SDRAMs)				
Rambus v. Micron* (*firm: Weil Gotshal)	C 06-00244 RMW	San Jose, CA	2006 - 2009	P,t
(Patents related to RDRAM, synchronous clocks applied against SDRAMs)				
FormFactor v. Phicom* (*firm: Mitchell Silberberg)	05-6062-HO	Oregon	2005 - 2009	P
(Patents related to probe cards)				
Mosaid v. Micron* (*firm: Kirkland & Ellis)	2:06-CV-302-DF	ED, TX	2006 - 2009	P, t
(Patents related to memory devices)				
Fenner* v. Microsoft et al (*firm: Fulbright & Jaworski)	6:07-CV-08 (LED)	Tyler, TX	2007 - 2009	P, t
(Patent related to joystick interface to low voltage port)				
Agere v. Samsung* (*firm: Quinn Emanuel)	2-06-CV-185 (TJW-CE)	ED, TX	2007 - 2010	P
(Patent License Dispute)				

[1] * = Client

[2] P = Patent; C = Contract; TS = Trade Secret, AT = Antitrust; CA = Class Action; t = testified

Cases (continued)

CASE[1]	CASE NUMBER	LOCATION	YEAR	TYPE[2]
DESA* v. EML (*firm: Fitch Even)	8-04-0160	MD TN, Nashville	2008 - 2009	P
(Patent related to lighting)				
DCS* v. McData (*firm: Haynes Boone)	3:06-CV-812-L	ND TX, Dallas	2008 - 2009	C, t
(Breach of Contract)				
Bennett Marine v. Lenco* (*firm: Malen Haley)	04-cv-60326-KAM	SD FL, Ft Laud.	2008-2009	P, t
(Patent related to Automated Boat Trim Retraction)				
Samsung* v. ON Semi (*firm: Kirkland & Ellis)	07-CV-449 (JJF)	DE	2008-2009	P
(Patents related to circuits and process)				
FormFactor v. Phicom* (*firm: Finnegan, Henderson, F G & D)	337-TA-621	ITC	2008 - 2009	P, t
(Patents related to probe cards)				
Orica* v. Austin Powder (*firm: McDermott Will	CV-07-3337-AHM	CD CA,	2008 - 2010	P
(Patents related to blasting electronic controls)				
AMS* v. Crane & Seaga (*firm: Davidson Berquist	3:03-CV88-JPB, 3:08-CV-97-JPB and 3:04-CV-80,75,48	ND WVA	2008-2012	P, t
(Patents related to vending machines)				
Myriad v. Alltech, Inc.* (*firm: Duane Morris)	1:08-CV-00253-SS	WD TX, Austin	2008 - 2010	TS, t
(Trade Secret & © related to software)				
SciCo* v. Boston Scientific (*firm: Jeffer Mangel)	9:07-CV-00076-RHC	ED TX, Lufkin	2008 - 2009	P, t
(Patent related to catheters)				

Cases (continued)

CASE[1]	CASE NUMBER	LOCATION	YEAR	TYPE[2]
Renishaw* v. TESA (*firm: Oliff & Berridge)	1:2008-cv-03485	ND IL, Eastern Div	2008 - 2009	P
(Patents related to manufacturing probes)				
Rambus v. Micron* (*firm: Quinn Emanuel)	04-431105	SCCA, San Fran	2008 - 2011	AT, t
(Antitrust claims)				
Harris* v. FedEx (*firm: Allen Dyer)	6:07-CV-1819-Orl-28KRS	MD FL, Orlando	2008 - 2010	P, t
(Patents related to ground based wireless communication)				
Omega* v. Lear (*firm: Allen Dyer)	6:07-CV-1422-Orl-31DAB	MD FL, Orlando	2008- 2011	P, t
(Patents related to vehicle alert and remote start)				
Arbitron* v. Int'l Demographics (*firm: Dickstein Shapiro)	2;06-cv-434(TJW)	ED TX, Marshall	2008 - 2009	P
(Patents related to measuring program audiences)				
LSI-Agere v. NSC* (*firm: Weil Gotshal)	337-TA-648	ITC	2008- 2009	P
(Patents related to IC process and structure)				
Affinity Labs* v. BMW (*firm: Duane Morris)	9:08-CV-00164	ED TX, Lufkin	2008 - 2010	P,t
(Patents related to portable audio player)				
Affinity Labs* v. Dice (*firm: Duane Morris)	9:08-CV-00163	ED TX, Lufkin	2008 - 2010	P
(Patents related to portable audio player)				
Affinity Labs* v. Alpine (*firm: Duane Morris)	9:08-CV-00171	ED TX, Lufkin	2008 - 2010	P, t
(Patents related to portable audio player)				

Cases (continued)

CASE[1]	CASE NUMBER	LOCATION	YEAR	TYPE[2]
Affinity Labs* v. Apple (*firm: Duane Morris)	9:09-CV-00047	ED TX, Lufkin ND CA, Oakland	2008 – 2009 2010 - 2011	P,t
(Patents related to portable audio player)				
Fast Memory Erase v. Spansion* (*firm: Morrison Foerster)	3:08-CV-0977-M	ND TX, Dallas	2008 - 2011	P
(Patents related to memory source erase)				
Rambus v. nVidia* et al. (*firm: Fish & Richardson)	337-TA-2637	ITC	2008 - 2011	P
(Patents related to memory controllers)				
ITT* v. Celco et al. (*firm: Davidson Berquist)	09-190-JJF	DE	2009 - 2012	P
(Patent related to GPS position determination)				
Hitachi v. LGE* (*firm: Fish & Richardson)	2:07-CV-155-CE	ED TX, Marshall	2009	P
(Patents related to plasma displays)				
e-Digital v. Samsung* (*firm: Kirkland & Ellis)	2:08-cv-93	ED TX, Marshall	2009	P
(Patents related to handheld recording device)				
Sandisk v. LSI Corp* (*firm: Thompson & Knight)	3:2009-CV-02737-WHA	ND CA	2009	P
(Patents related to video decompression)				
TQP v. ING* (*firm: Duane Morris)	2:08-cv-00471-TJW-CE	ED TX, Marshall	2009 - 2011	P
(Patents related to encrypted data transmission)				
TAOS* v. Intersil (*firm: Munck Carter)	4:08-CV-451	ED TX, Sherman	2009 -	P
(Patent related to optical detector)				

Cases (continued)

CASE[1]	CASE NUMBER	LOCATION	YEAR	TYPE[2]
Avocent* v. The United States (Rose) (*firm: Davidson Berquist	08-69C	US Court of Federal Claims	2009 - 2011	P, t
(Patents related to video and data transmission, KVM control and OSD)				
GSM v. Non Typical* (*firm: Fee Smith Sharp & Vitullo)	6:07-CV-0177 LED	ED TX, Tyler	2009 - 2010	P,t
(False Advertising and Patents related to sports surveillance cameras)				
Arbitron* v. Kiefl (*firm: Dickson Shapiro)	1:09-CV-04013-PAC SD	NY, New York	2009 - 2010	P
(Patents related portable people meters)				
Guardian* v. RadioShack (*firm: Munck Carter)	3:2009-cv-00649	ND TX, Dallas	2009 - 2011	P
(Patent related to security and surveillance)				
Commil* v. Cisco/Aruba (*firm: Sayles Werbner)	3:07-CV-341	ED TX, Marshall	2009 - 2011	P, t
(Patent related to wireless communication protocol)				
Auburn* v. IBM (*firm: Fish & Richardson)	3 09-CV-694-WHA	MD AL, Montgomery	2009 - 2011	P
(Patent related to Reliability Testing of integrated circuits)				
ON Semi v. Hynix* et al (*firm: Quinn Emanuel)	6:09-CV-00390 LED	ED TX, Tyler	2009 - 2011	P
(Patents related to integrated circuits)				
Minerva* v. Motorola et al (*firm: Russ August)	2:07-CV-00229 CE	ED TX, Marshall	2009 - 2010	P
(Patents related to mobile entertainment)				
Minerva* v. Apple (*firm: Russ August)	2:07-CV-00019 TJW	ED TX, Marshall	2009 - 2010	P
(Patents related to mobile entertainment)				

Cases (continued)

CASE[1]	CASE NUMBER	LOCATION	YEAR	TYPE[2]
Wacoh* v. ADI et al. (*firm: Clearman Prebeg)	2:09-CV-10119	MI	2010-2011	P
(Patent related to Testing Sensor)				
SynQuor v. Power One* (*firm: Fish & Richardson)	2;07-cv-497	ED TX, Marshall	2010	P, t
(Patents related to Power Converters)				
Freescale v. Respondents* (*firm: McDermott Will & Emery)	337-TA-709	ITC	2010 - 2011	P, t
(Patent related to Termination)				
Freescale v. Panasonic et al. (Funai*) (*firm: McDermott Will & Emery)	1:10-CV-00138-LY	WD TX	2010 - 2011	P
(Patent related to Termination)				
PACT v. Xilinx* (*firm: Kirkland & Ellis)	2:07-CV-563	ED TX, Marshall	2010 - 2012	P, t
(Patents related to Programmable Data Processing)				
Opti Inc. v. SIS & Via* (*firm: Buether Joe & Carpenter)	2:10-CV-279	ED TX, Marshall	2010 - 2013	P,t
(Patents related to Cache Memory Snooping)				
Avocent* v. Raritan (*firm: Davidson Berquist)	10-CV-6100	SD NY	2010 - 2012	P
(Patents related to KVM Switching)				
Key Energy v. Forbes* (*firm: Kennedy Clark & Williams)	2:08-CV-346	ED TX, Marshall	2010 - 2011	P, t
(Patents related to Remote Access Data Capture)				

Cases (continued)

CASE[1]	CASE NUMBER	LOCATION	YEAR	TYPE[2]
Sandisk v. Kingston* (*firm: Fish & Richardson)	10-CV-243	WD WI	2010 - 2011	P
(Patents related to Flash Memory)				
Richtek Technology v. uPI* (*firm: Haynes & Boone)	C09-05679 WHA	ND CA, SF	2010 - 2013	P
(Patents related to dc-dc Power Controllers)				
Princeton* v. Canon (*firm: Duane Morris)	2:10-CV-00029-TJW	ED TX, Marshall	2010 -	P
(Patent related to video compression)				
Spansion v. Samsung* (*firm: Kirkland & Ellis)	08-855 (SLR)	DE	2011	P
(Patents related to Integrated Circuits)				
Samsung* v. Spansion (V) (*firm: Fish & Richardson)	1:10CV881	(LO/JFA) ED VA, Alex.	2011	P
(Patents related to Integrated Circuits)				
The Chamberlain Group* v. Decko et al. (*firm: Fitch Even)	1:10-CV-07843	ND IL, ED	2011 - 2012	P
(Patents related to garage door opener control systems)				
Asia Optical v. Laser Technology* (*firm: Hogan Lovells)	10-CV-251-JJF	DE	2011	P
(Patents related to laser distance mearsurement)				
CEATS* v. Continental Airlines et al. (*firm: McDermott Will & Emery)	6:10-CV-120 LED	ED TX, Tyler	2011 - 2012	P, t
(Patent related to interactive seating selection)				
Lutron v. Crestron* (*firm: Quinn Emanuel)	2:09-cv-707	CD UT	2011 - 2012	P
(Patents related to electronic control systems)				

Cases (continued)

CASE[1]	CASE NUMBER	LOCATION	YEAR	TYPE[2]
Princeton* v. Ricoh (*firm: Trop, Pruner & Hu)	2:11-CV-39	ED TX, Marshall	2011	P
(Patents related to video compression)				
Freescale v. Respondents* (*firm: McDermott Will & Emery)	337-TA-786	ITC	2011	P
(Patent related to Termination)				
Alcohol Monitoring* v. BI (*firm: Latrop & Gage) DME-CBS	11-cv-00301-DME-CBS	CO	2011 -	P
(Patent related to alcohol monitoring)				
T-Netix, Inc.* v. Pinnacle Public Services, LLC (*firm: Gruber Hurst)	2:09-CV-00333-CE	ED TX, Marshall	2011 - 2012	P
(Patents related to penal institution telephone communication control)				
TattleTale* v. Calfee (*firm: Cooper & Elliott)	2:10-CV-226	SD OH, Columbus	2011 - 2012	P
(Patents related to portable alarm systems)				
Cypress* v. GSI et al (*firm: Morrision & Foerster)	337-TA-792	ITC	2011 - 2012	P, t
(Patents related to memory operation, architecture, and layout)				
Infineon* v. Atmel (*firm:Kirkland & Ellis)	1:11-cv-00307	DE	2011 -	P
(Patents related to IC circuits and process)				
Cherdak v. Rack Room* (*firm: Lathrop & Gage)	1:11-CV-169 LO/JFA	ED of VA	2011 - 2012	P
(Patents related to IC timing device for athletic shoes)				

Cases (continued)

CASE[1]	CASE NUMBER	LOCATION	YEAR	TYPE[2]
DRAM Mem Tech v. Etron* et al (*firm: Dickstein Shapiro)	8:11-CV-000332-DOC-SS	CD of CA	2011-2012	P
(Patents related to IC memory technology)				
Richtek Technology v. uPI Semi.* et al (*firm: Haynes and Boone)	337-TA-698	ITC	2011 - 2012	P, t
(Patents related to DC-DC Controllers)				
Solid State Storage v. STEC* (*firm: Akin Gump)	2:11-CV-391	ED TX, Marshall	2011 -	P
(Patents related to Memory and Memory Control)				
ParkerVision* v.Qualcomm (*firm: Allen,Dyer,McKool)	3:11-CV-719-J-37	MD FL, J.ville	2011 - 2012	P
(Patents related to Signal Down-Converting and Translation)				
Monolithic Power Systems* v. Silergy (*firm: Fish & Richardson)	CV-10-01533 CAS (AGR)	CD CA	2011	P
(Patents related to power supply boost)				
Oracle v. Micron* (*firm: Gibson Dunn)	CV10-4340	ND CA, San Jose	2011 - 2012	C
(Conspiracy, Agreement Compliance)				
Grail* v. Mitsubishi et al. (*firm: Niro Haller & Niro)	1-07-CV-098590	SC CA, Santa Clara	2011 - 2012	TS, t
(Improper disclosure and use of Trade Secrets)				
Grail* v. Renesas (*firm: Niro Haller &Niro)	C 11-03847	ND CA, San Fran	2011 -	P
(Patent related to inductive coupled memory)				
Round Rock v. ASUS* (*firm: Perkins Coie)	11-978-MSG	DE	2012 -	P
(Patents related to die termination control and memory communication)				

Cases (continued)

CASE[1]	CASE NUMBER	LOCATION	YEAR	TYPE[2]
Intellectual Ventures v. Hynix* (*firm: Quinn Emanuel)	1:10-cv-01066-UNA	DE	2012	P
(Patents related to die memory access and control)				
Omega* v. Skypatrol et al.(*firm: Allen Dyer)	11-24201-Civ-Moore/Torres	SD FL, Miami	2012 - 2013	P
(Patents related to vehicular tracking)				
Creative* v. Nintendo (*firm: Barnes & Thornburg)	2:10-cv-2735-AHM-VBK	CD CA, Western	2012	P
(Patents related to ROM memory array design)				
Beacon v. Honda* et al. (*firm: Fish & Richardson)	337-TA-814	ITC	2012	P
(Patents related to navigation)				
AVM* v. Intel (*firm: Goldstein; Boies)	10-610-RK	DE	2012 – 2013	P
(Patent related to dynamic logic circuits)				
Modec v. Floatec* (*firm: Duane Morris)	2011-68931	Harris County, TX	2012 - 2013	TS
(Trade Secrets and Confidential Information)				
Cian* v. Aeroflex (*firm: Skiermont)	3:11-cv-3349	ND TX, Dallas	2012	P
(Patent related to PC Compatible Modular Based Diagnostic System)				
Cian* v. Agilent (*firm: Skiermont)	3:11-cv-3351	ND TX, Dallas	2012	P
(Patent related to PC Compatible Modular Based Diagnostic System)				
Cian* v. National Instruments (*firm: Skiermont)	3:11-cv-3353	ND TX, Dallas	2012 -	P
(Patent related to PC Compatible Modular Based Diagnostic System)				

Cases (continued)

CASE[1]	CASE NUMBER	LOCATION	YEAR	TYPE[2]
Cian* v. Pickering (*firm: Skiermont)	3:11-cv-3354	ND TX, Dallas	2012	P
(Patent related to PC Compatible Modular Based Diagnostic System)				
Cian* v. Spirent (*firm: Skiermont)	3:11-cv-3356	ND TX, Dallas	2012	P
(Patent related to PC Compatible Modular Based Diagnostic System)				
Internet Machines v. PLX* (*firm: Baker & McKenzie)	6:11-cv-00250-MHS	ED TX, Tyler	2012 -	P
(Patent re. PCI express switch)				
TPL v. Dell et al.*[3] (*firm: Hogan Lovells)	337-TA-841	ITC	2012 - 2013	P,t
(Patents related to Memory Interface Ports)				
Wacoh* v. Kionix, Inc. (*firm: Clearman Prebeg))	3:12-cv-00530	New York	2012 - 2013	P
(Patents related to inclinometer/accelerometer)				
Solid State Storage v. Fusion* (*firm: Baker Botts)	2:11-CV-391	ED TX, Marshall	2013	P
(Patents related to Memory and Memory Control)				
Smart Modular Technologies* v. Netlist (*firm: Schwegman)	2:12-CV-02319-MCE-EFB	ED CA	2012 -	P
(Memory Modules)				
NXP v. RIM* (*firm: Fish & Richardson)	6:12-cv-498-ACC-GJK	MD FL, Orlando	2013 -	P
(Mask pattern density)				

[3] Additional Respondents: Seiko Epson (Kirkland & Ellis), HP (Kenyon & Kenyon), Brother (Banner Witcoff), Kingston (S J Christine Yang), Fujitsu (Morrison Foerster), HiTi Digital (Eastwind Consultants), Canon (Jones Day), Acer (K L Gates), Newegg/Rosewill (Web Law)

Cases (continued)

CASE[1]	CASE NUMBER	LOCATION	YEAR	TYPE[2]
Kangaroo Media* v. Immersion Entertainment (*firm: Kenyon & Kenyon)	2:12-cv-00382-JFC	WD PA	2012 -	P
(Audio/Video Entertainment System patent)				
Nokia* v. HTC (*firm: Desmarais)	337-TA-847	ITC	2012 - 2013	P,t
(Signal transmission and attentuation)				
LendingTree* v. Zillow et al. (*firm: Sheppard Mullin)	3:10-CV-00439	WD NC, Charlotte	2013 -	P
(Patents related to internet lending institution access and selection)				
Floatec* v. Magnuson (*firm: Duane Morris)	2011-54420	61st Judicial District, Harris County, TX	2012 - 2014	TS
(Misappropriation and Misuse)				
Affinity* v. Clear Channel (*firm: Duane Morris)	1:12-CV-00205-LY	WD TX, Austin	2013 -	P,t
(Patent related to broadcast content)				
Synopsys* v. Mentor Graphics (*firm: Sidley Austin)	3:12-cv-06467-MMC	ND CA	2013 -	P
(Patents related to logic circuit description and synthesis)				
Affinity* v. Ford (*firm: Robins Kaplan ...)	1:12-cv-00580	EDTX, Beaumont	2013 -	P
(Patents related to portable audio player)				
Affinity* v. GM (*firm: Robins Kaplan ...)	1:12-cv-00582	EDTX, Beaumont	2013 -	P
(Patents related to portable audio player)				
Nokia* v. HTC (*firm: Desmarais)	337-TA-885	ITC	2013 -	P
(Patents related to portable electronic device housing)				

Cases (continued)

CASE[1]	CASE NUMBER	LOCATION	YEAR	TYPE[2]
Rothbaum v. Samsung Telecom America LLC* (*firm: Choate Hall & Stewart)	11-10509 (MLW)	DMA	2013 -	CL
(Class Action)				
LendingTree* v. Zillow et al. (*firm: Sheppard Mullin)	3:10-CV-00439 FDW-DCK	WDNC, Charlotte	2013 -	P
(On-Line Mortgage Loan Transactions)				
Secure Axcess* v. Nintendo (*firm: Klemchcuk Kubasta)	2:13-CV-00032	ED TX, Marshall	2013 -	P
(patents related to dual screen display)				
Fenner* v. CELLCO (*firm: Loewinsohn)	6:11-cv-348	ED TX, Tyler	2013	P
(patent related to telecommunication)				
Profectus v. Huawei, … Samsung* (*firm: Fish & Richardson)	6:11-cv-00474-MHS	ED TX, Tyler	2014 -	P
(patent related to digital picture frames)				
Galitski v. Samsung* (*firm: Lynn Tillotson Pinker & Cox)	3:12-CV-4782-D	ND TX, Dallas	2014 -	CL
(Class Action)				
Chrysler* v. Norman IP Holdings (*firm: Dickstein Shapiro)	PETITION FOR IPR - U.S. PATENT NO. 5,502,689	USPTO	2014 -	P
(Patent related to IC clock generation)				

Cases (continued)

CASE[1]	CASE NUMBER	LOCATION	YEAR	TYPE[2]
Allure Energy* v. Nest Labs (*firm: Dickinson Wright)	9:13-CV-00102-RC	ED TX, Lufkin	2014 -	p
(Smart Thermostat)				
Affinity* v. Ford (*firm: Robins Kaplan ...)	WA:13-CV-363	WD TX, Waco	2014 -	P
(Patents related to wireless media connectivity)				
Affinity* v. GM (*firm: Robins Kaplan ...)	WA:13-CV-370	WD TX, Waco	2014 -	P
(Patents related to wireless media connectivity)				
Affinity* v. Volvo (*firm: Robins Kaplan ...)	WA:13-CV-366	WD TX, Waco	2014 -	P
(Patents related to wireless media connectivity)				
Affinity* v. Honda (*firm: Robins Kaplan ...)	WA:13-CV-367	WD TX, Waco	2014 -	P
(Patents related to wireless media connectivity)				
Affinity* v. Nissan (*firm: Robins Kaplan ...)	WA:13-CV-369	WD TX, Waco	2014 -	P
(Patents related to wireless media connectivity)				
Affinity* v. Jaguar (*firm: Robins Kaplan ...)	WA:13-CV-368	WD TX, Waco	2014 -	P
(Patents related to wireless media connectivity)				
Affinity* v. Toyota (*firm: Robins Kaplan ...)	WA:13-CV-365	WD TX, Waco	2014 -	P
(Patents related to wireless media connectivity)				
Trover* v. Tyco (*firm: McDole Williams)	2:13-cv-0052	ED TX, Marshall	2014 -	P
(Patents related to Security Cameras)				
Radiall* v. Glenair (*firm: Oliff)	2:14-CV-00822-ODW	CDCA	2014 -	P
(Patent related to electrical connector)				

Cases (continued)

CASE[1]	CASE NUMBER	LOCATION	YEAR	TYPE[2]
LunarEye* v. Independent Witness (*firm: Prebeg Faucett Abbott)	9:05-CV-00188-RC)	EDTX, Lufkin	2014 -	P
(Patent related to trigger location telemetry)				
AMS* v. Soberkink (*firm: Lathrop & Gage)	IPR013-00577	USPTO PTAB	2014 -	P
(Patent related to sobriety monitoring)				
Infineon v. Volterra* (*firm: Weil Gotshal)	3:11-cv-06239-MMC	NDCA	2014 -	P
(Patents related to IC packaging)				
Volterra* v Primarion (*firm: Weil Gotshal)	CV-08-5129 (RS)	NDCA	2014 -	P
(Patents related to IC packaging)				
Infineon v. Volterra* (*firm: Weil Gotshal)	2:13-cv-684	EDTX, Marshall	2014 -	P
(Patents related to IC packaging)				
AMS* Reexam (*firm: Lathrop & Gage)	SN: 95/001,609	USPTO	2014 -	P
(Patent related to alcohol event monitoring)				
Triune Systems* v. Active-Semi (*firm: Farrow-Gillespie & Heath LLC)	296-03209-2013	Collin County	2014 -	TS
(Covenant not to compete)				
La Crosse* v. Ambient (*firm: Banner & Witcoff)	13-cv-833	WD WI	2014 -	P
(Patents related to weather detectors)				

Cases (continued)

CASE[1]	CASE NUMBER	LOCATION	YEAR	TYPE[2]
Progressive Semiconductor Solutions v. Marvell Scemiconductor* (*firm: Fish & Richardson)	*Inter Partes* review petition re. 6,473,349	USPTO	2014 -	P
(Patent related to sense amplifiers for memory)				
Anderson v. Samsung* (*firm: Lynn Tillotson Pinker & Cox)	SACV-13-01028	CD CA, SD	2014 -	CL
(Class Action)				
Netlist v. Diablo* (*firm: McDermott Will & Emery)	4:13-cv-05962-YGR	ND CA, Oakland	2014 -	TS
(Technology related to Misappropriation of Trade Secret)				
Netlist v. Diablo* (*firm: McDermott Will & Emery)	4:13-cv-05889-YGR	ND CA	2014 -	P
(Patents related to DIMM DDR3 SDRAM load reduction and rank multiplication)				
Spherix* v. Uniden (*firm: Skiermont Puckett)	3 :13-cv-03496-M	ND TX, Dallas	2014 -	P
(Patents related to cordless phones)				
Spherix* v. VTech (*firm: Skiermont Puckett)	3 :13-cv-03494-M	ND TX, Dallas	2014 -	P
(Patents related to cordless phones)				
Securus* v. Global (*firm: Gruber)	3:13-CV-03009-K	ND TX	2014 -	P
(Patents related to telecom systems)				
Global v. Securus* (*firm: Gruber)	3:14-CV-0829-K	ND TX	2014 -	P
(Patents related to telecom systems)				
Samsung* v. NVIDIA (*firm: Kirkland & Ellis)	337-TA-941	ITC	2015 -	P
(Patents related to ICs and systems)				

OTHER CLIENTS

I have worked with other clients in various areas of my expertise, include "system, product, and process investigation," "patent valuation," "product liability and insurance claim investigation," "quality systems consulting and engineering," and "IP licensing." This work generally relates to patents, and may involve analysis of products either defensively or offensively. In no case does any of the work involve design of circuits, processes, or systems.

Certain of these clients are not to be revealed because of client confidentiality agreements, unless the Court requires such disclosure and confidentiality provisions are provided to protect such disclosure. Clients may retain services preparatory to filing a suit or even name me as an expert in a number of these possible or pending cases. However, these cases have not progressed as yet to deposition, or even to protective order signing, so it would be inappropriate to reveal these clients at this time.

Non-confidentially, I have represented a radiation effects testing company, ICS Radiation Technology. Further, I have worked with investment companies, such as Hatcreek Partners, reviewing potential investment opportunities, and have participated as a technical advisor to nLine Corporation, a company that developed a product for semiconductor wafer inspection using holographic High Aspect Ratio Inspection (HARI) technology.

These and other non-confidentially related companies are:

ICS Radiation Technology
- Consulting work related to nuclear radiation effects testing.

Creative Management Consultants (CMC)
- Consulting work related to Internet services, such as access service to clients and web site hosting services; providing business co-op services and internet product purchasing sites.

Hatcreek Partners
- Hatcreek Partners is an investment firm. I served as a technical advisor in reviewing the technology of investment opportunities.

nLine Corporation
- Member of Technical Advisory Board
- nLine Corp.'s business related to semiconductor holographic High Aspect Ratio Inspection (HARI) technology.

Texas Instruments
- Patent evaluation and application consulting.

OTHER CLIENTS (continued)

McAlexander Sound Pte Ltd
- Managing Director
- engineering consulting for Singapore based companies

Spirit Song Youth Equestrian Academy / Spirit Song Holdings
- CEO
- Equine Psychotherapy Program for abused / traumatized youth

Bethel Cannon Group / Bethel Cannon Holdings
- Partner
- Counseling / Event / Retreat Center / Hunting Lodge

Casualty Consulting Group of America
- Partner
- Assessment of structural damage caused by extreme weather events

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<end>

EXHIBIT H

COMPENSATION

I have been retained by Allen, Dyer, Doppelt, Milbrath & Gilchrist, P.A., counsel for the Plaintiff Omega Patents L.L.C. ("Omega"), through McAlexander Sound, Inc. (McASI), at the rate of $495.00 per hour for my time that is associated with investigating, reporting, testifying, and other work related to this case. I do not, nor does McASI, derive any compensation contingent upon the outcome in this case.