

1 UNITED STATES DISTRICT COURT
2 MIDDLE DISTRICT OF FLORIDA
3 ORLANDO DIVISION
4

5 OMEGA PATENTS, LLC,)

6 Plaintiff,)

7 v.)

8 CALAMP CORP.,)

9 Defendant.)
10)
11)

Case Number
6:13-CV-1950

12 THURSDAY, FEBRUARY 18, 2016, 9:05 A.M.
13 CIVIL JURY TRIAL - VOLUME III (DAY 3)
14 BEFORE THE HONORABLE PAUL G. BYRON, AND A JURY
15 UNITED STATES DISTRICT JUDGE
16 ORLANDO, FLORIDA

17 COUNSEL FOR PLAINTIFF:
18 Brian Gilchrist, Esq.
19 Ryan Santurri, Esq.

20 COUNSEL FOR DEFENDANT:
21 Joel Kauth, Esq.
22 Eugene Chong, Esq.
23 Carrie Wozniak, Esq.
24 Charles Halloran, Esq.

25 *Proceedings recorded by mechanical stenography
Transcript produced by computer transcription*

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1 P R O C E E D I N G S

2 (Jury not present.)

3 DEPUTY CLERK: The matter of Omega Patents,
4 LLC versus CalAmp Corporation, case number
5 6:13-CV-1950-Orlando-40DAB. For the plaintiff, please.

6 MR. GILCHRIST: Brian Gilchrist and Ryan
7 Santurri for the plaintiff.

8 THE COURT: Good morning.

9 MR. GILCHRIST: Good morning.

10 MR. KAUTH: Joel Kauth, Eugene Chong, Carrie
11 Ann Wozniak, and Charles Halloran for the defendant.

12 THE COURT: Good morning.

13 All right. Do we have anything to take up
14 before we call the jury in?

15 MR. SANTURRI: No, Your Honor.

16 THE COURT: Very good.

17 Let's have the jury, please.

18 (Jury present.)

19 The record should reflect the jury is present,
20 the plaintiff and defendant as well.

21 Good morning, ladies and gentlemen.

22 THE JURY: Good morning.

23 THE COURT: I hope you had a pleasant evening
24 last night. I need to ask you again if any of you have
25 discussed the case with each other or with anyone else

1 or conducted any independent research? If so, please
2 raise your hand. There are no positive responses, so
3 we're ready to go. We will continue with the deposition
4 of Mr. Hergesheimer, when you're ready.

5 (Video deposition of Peter Hergesheimer continues
6 from 9:41 a.m. to 10:53 a.m.)

7 THE COURT: All right. That concludes the
8 playing of this deposition. It's now almost 11:00.
9 It's actually about ten minutes before 11:00. Let's
10 take our morning break until 11:00, and we will push
11 through until lunch after that. So we will be in recess
12 for just a short while.

13 (Jury exits.)

14 The record should reflect the jury has
15 withdrawn. All right. I'm jumping ahead just a little
16 bit, folks. But in terms of when we get to the point
17 where I will be advising the members of the jury on the
18 construction of various claims is there any opposition
19 to me providing each member of the jury a copy of 2.1,
20 which is the instruction on those claims rather than
21 have them write down the definition, something they can
22 refer to as they go?

23 MR. SANTURRI: No objection from the
24 plaintiff, Your Honor.

25 MR. KAUTH: No objection.

1 THE COURT: All right. We'll have copies
2 made. Very good --

3 MR. SANTURRI: Your Honor?

4 THE COURT: Yes, sir.

5 MR. SANTURRI: For time purposes, we have
6 another video. It's about 50 minutes. So when they
7 come back, we figured could play that. It would take us
8 about to lunch.

9 THE COURT: That's perfect.

10 MR. SANTURRI: And I will be calling Mr.
11 McAlexander, our liability expert, thereafter. So we
12 expect first thing this afternoon would be these
13 definitions and then that testimony.

14 THE COURT: Very good, thank you.

15 All right. Thank you. We're in recess.

16 (Recess from 10:55 a.m. to 11:08 a.m.)

17 THE COURT: The record should reflect the jury
18 is absent, and the parties are present.

19 You will have provided to you, if you don't
20 have it already, the instruction on the claim
21 construction. The one that's going to go to the jury is
22 exactly what 2.1 is with the 2.1 taken out, so they
23 don't see it as a jury instruction, they just see it as
24 an instruction, and they'll each have a copy at the
25 appropriate time.

1 All right. Is there anything to take up
2 before we get started?

3 MR. SANTURRI: Just briefly, I think, Your
4 Honor. There was an objection to a portion of the
5 designation that the Court struck. What was left after
6 the Court sustained the objection was part of an answer
7 from a question that got stricken.

8 THE COURT: Oh.

9 MR. SANTURRI: And so, I think we had our
10 videographer not leave in the answer, and we wanted to
11 get clarification from the Court on whether the Court
12 had intended for that.

13 THE COURT: It doesn't sound like I did.

14 MR. SANTURRI: Well, that was my assumption,
15 but --

16 MR. KAUTH: I just wanted to clarify that that
17 was correct.

18 THE COURT: All right. Can you direct me to
19 the question and answer and I'll let you know what on
20 earth I was thinking when I --

21 MR. SANTURRI: Do you want a copy, Your Honor?

22 THE COURT: That will be great, thank you.

23 Okay. All right. So what portion of the
24 deposition are we referring to? This is
25 Mr. Hergesheimer's deposition of April 22nd, 2015.

1 We're at pages 41 through 44.

2 MR. KAUTH: I believe the original designation
3 was page 42, lines 4 through 19. And the order
4 reflected that lines -- or page 42, lines 4 through 9,
5 the objection would be sustained.

6 THE COURT: All right. It was 4 through 19,
7 and I had sustained as to 4 through 9.

8 (Pause in proceedings.)

9 And the portion that's been allowed is 12
10 through 19?

11 MR. SANTURRI: Well, that's the question.

12 What was played was 12 through 19. And the
13 question is were we supposed to also play 10 and 11?

14 THE COURT: I see.

15 Well, let me ask you this while we're all here
16 together. What's the preference of the parties? Is it
17 to have 10 and 11 played for completeness or does it
18 matter? Because it seems to me that the question -- let
19 me just put this in the record.

20 The question starting at line 4 on page 42
21 was, quote, based on your experience and education,
22 would you -- would you agree that the ability of the
23 LMU-3000 to query devices on the bus and receive
24 response is performing control function with those
25 devices? At lines 8 and 9 there's an objection, outside

1 the scope of the designation. The witness goes on to
2 answer starting at line 10: I wouldn't call it a
3 control function. It's a query process. The next
4 question then starts at line 13: How would you define a
5 control function? And then the witness goes on to
6 define the control function.

7 I see your point. The witness has previously
8 said that I wouldn't necessarily call it a control
9 function. I'd call it query process. And the way it
10 seems right now, that distinction is left out.

11 What was the objection to the line and page
12 designation? It strikes me that I may have just either
13 transcribed it incorrectly when I went through the
14 process of writing the order.

15 MR. SANTURRI: I believe that it called for
16 expert opinion testimony.

17 MR. KAUTH: Yeah. Calls for legal and expert
18 opinions, relevance, calls for speculation.

19 THE COURT: I see.

20 MR. SANTURRI: Because I think the original
21 question was more in the context of --

22 THE COURT: Right, based on his education,
23 training and experience. That's where my ruling would
24 have been based upon is that the question, as phrased at
25 42, lines 4 through 8, is predicating it upon his

1 experience so it's an expert -- presumably an expert
2 opinion. The response of the witness just defining his
3 interpretation of control function is his lay witness
4 testimony regarding that, although he's an educated lay
5 witness, and that's why I sustained as to the first
6 part. But I see the point that -- that lines 10 and 11
7 clarify his answer at 12 through 19 to some extent.

8 Now here's my concern. If we read to the jury
9 lines 10 and 11, they're going to have a hard time
10 understanding the reference that that's relating to.
11 If they simply hear, I wouldn't call it a control
12 function. It's a query process. They need to hear
13 something before that to understand that we're talking
14 about the LMU-3000.

15 The balance of the question, as it's currently
16 read, includes at lines 18 and 19 the witness saying, I
17 wouldn't interpret control function that way. It's not
18 how I view the control process, but okay. So he's
19 leaving in some of his doubt.

20 All right. So the request is what, the
21 defense would like to have what read that wasn't read?

22 MR. KAUTH: We would like to have -- I think
23 for context -- probably 10 through 19, just to give them
24 the whole bit of that portion.

25 THE COURT: Now, how do we accomplish that

1 since we played this portion or can we? Would you
2 propose to read page 42, lines 10 through 19?

3 MR. KAUTH: That's what I would propose,
4 Your Honor.

5 THE COURT: Is there any objection to doing
6 that?

7 MR. SANTURRI: No. I guess, the question is
8 how do we start with him explaining the control
9 function.

10 THE COURT: I think what could happen in this
11 situation is the parties -- one of the parties -- or I
12 could read it if you'd like -- simply say to the jury
13 that Mr. Hergesheimer testified regarding the ability of
14 the LMU-3000 to query devices on the bus and receive
15 responses in performing a control function and his
16 answer is the following, and read 10 through 19, if you
17 prefer to do that.

18 I don't know if they will make much sense of
19 this. And, quite frankly, in light of lines 18 and 19,
20 I don't know that it's necessarily to further elaborate
21 on the witness concluding that he doesn't consider it a
22 control function, he considers it a query process since
23 he's already left at lines 18 and 19 some question in
24 his mind about the distinction.

25 MR. KAUTH: I think the distinction in 18 and

1 19 is about the control function and I think for our
2 case it's important that he considers it a query.

3 THE COURT: All right. I understand your
4 point. All right. One way we could do this is I could
5 simply say to the jury -- they don't need to understand
6 the mechanics of how we're getting here -- that there's
7 an additional piece of testimony from Mr. Hergesheimer
8 that we'd like to offer for your consideration. It is
9 as follows.

10 And from page 4 through -- page 42, lines 4
11 through 10 -- or 4 through 7, rather, to just read:
12 Would you agree the ability of the LMU-3000 to query
13 devices on the bus and receive responses to perform a
14 control function of those devices and then you read 10
15 through 19 as opposed to based upon your experience,
16 education, training, and so forth. Is that acceptable?

17 MR. SANTURRI: That's fine, Your Honor.

18 MR. KAUTH: Yes, Your Honor.

19 THE COURT: Who would like to read that?

20 MR. SANTURRI: I can read that.

21 THE COURT: All right. So just let them know
22 that there's additional testimony you would like them to
23 consider. It's from Mr. Hergesheimer's deposition. The
24 question is, and you'll pick up at line 5, read to line
25 7; pick up at line 10, read to line 19.

1 MR. SANTURRI: And I assume we don't need to
2 do a back and forth or --

3 THE COURT: No, just read it. Just read it to
4 them.

5 MR. SANTURRI: All right.

6 THE COURT: Just let me know when you're
7 ready. There's no hurry.

8 MR. SANTURRI: Your Honor, we're ready
9 whenever the Court is.

10 THE COURT: All right. Thank you very much.
11 Would you call the jury, please.

12 (Jury present.)

13 The record should reflect the jury has
14 returned, and the parties are present.

15 Ladies and gentlemen, Mr. Santurri, at this
16 time for the plaintiff, will read an additional
17 selection from the witness's testimony,
18 Mr. Hergesheimer, who you heard from in the last video
19 deposition. When you're ready, sir.

20 MR. SANTURRI:

21 "Question: Would you agree that the ability
22 of the LMU-3000 to query devices on the bus and receive
23 response is performing a control function of those
24 devices?

25 "Answer: I wouldn't call it a control

1 function. It's a query process.

2 "Question: Okay. How do you define a control
3 function?

4 "Answer: A control would be to manipulate
5 something to -- to cause some type of action.

6 "Question: Well, isn't it causing a device to
7 respond causing an action?

8 "Answer: I suppose it could be interpreted
9 that way. It's not how I kind of view the control
10 process, but okay."

11 THE COURT: Thank you very much.

12 When you're ready, your next witness, please.

13 MR. SANTURRI: Your Honor, Omega will call
14 Jeffrey Eiberger by deposition.

15 THE COURT: Thank you very much.

16 (Video deposition of Jeffrey Eiberger played from
17 11:20 a.m. to 12:09 p.m.)

18 THE COURT: Thank you very much.

19 That concludes the depositions. It's now
20 roughly five minutes after 12. Was one hour adequate
21 for lunch yesterday? Was that all right? Very good.
22 Then, we'll come back today at five minutes after 1:00.
23 We'll be in recess until five after 1:00. Thank you.

24 (Jury exits.)

25 /////

1 The record should reflect the jury has
2 withdrawn. The parties are present. We're in recess
3 until about five after 1:00. Thank you.

4 (Lunch recess 12:10 p.m. to 1:15 p.m.)

5 THE COURT: Is there anything to take up
6 before we call the next witness?

7 MR. SANTURRI: Not from plaintiff, Your Honor.

8 MR. KAUTH: Nothing from defendant.

9 THE COURT: All right. Can we have the jury,
10 please. And I will start by reading the claims
11 construction before the witness is called.

12 DEPUTY CLERK: Does that mean I will hand this
13 out?

14 THE COURT: Yes, once they get seated.

15 DEPUTY CLERK: Okay.

16 (Jury present.)

17 The record should reflect the jury has
18 returned, and the parties are present.

19 Ladies and gentlemen, we're going to give you
20 a handout at this point in time. It's going to be
21 entitled, Claim Construction for the Case. And once you
22 all have a copy, I'll read it to you and explain to you
23 what this is, and then we'll have the witness following
24 this instruction.

25 (Deputy clerk distributes copies to jury.)

1 All right. Typically with instructions that
2 are given during the course of the trial, I just give
3 them to you verbally, but to save you from having to try
4 to copy all of this down as I give it to, you will have
5 copies to work with. And I'll read this so it will be
6 in the record. It's entitled, Claim Construction for
7 the Case.

8 It is my job as judge to provide to you the
9 meaning of any claim language that must be interpreted.
10 You must accept the meanings I give you and use them
11 when you decide whether any claim has been infringed and
12 whether any claim is invalid. I will now tell you the
13 meanings of the following words and groups of words for
14 the patent claims. For any words in the claim for which
15 I have not provided you with a definition, you should
16 apply their plain and ordinary meaning.

17 Claim term: Transmitter.

18 Court's construction: Radio frequency
19 transmitter.

20 Claim term: Receiver.

21 Construction: Radio frequency receiver.

22 Claim term: Controller.

23 Court's construction: Electronic circuitry
24 that performs one or more control functions.

25 Claim term: Data communication bus.

1 Court's construction: Wired connection for
2 communication of digital messages among vehicle devices
3 with each message including one or more device
4 addresses.

5 Claim term: Multi-vehicle compatible
6 controller.

7 Court's construction: Electronic circuitry
8 that performs one or more control functions and can
9 operate with one or more vehicle.

10 Claim term: Command signal.

11 Court's construction: Signal generated on the
12 data communications bus for operating a vehicle device.

13 Claim term: Device codes.

14 Court's construction: Signal from a vehicle
15 device.

16 Claim term: Enabling data.

17 Court's construction: Data related to at
18 least one corresponding vehicle device code for use by
19 said multi-vehicle compatible controller.

20 Claim term: Programming instructions.

21 Court's construction: Code which instructs
22 the controller to perform an operation.

23 We'll mark my copy as the next's Court's
24 Exhibit. Do you have it already?

25 DEPUTY CLERK: 8.

1 THE COURT: Great. That's Court's 8.

2 All right. With that, we are ready for the
3 next witness for the plaintiff.

4 MR. SANTURRI: Omega calls Joseph McAlexander.

5 THE COURT: Thank you.

6 DEPUTY CLERK: Sir, if you would please step
7 to the witness box and remain standing. Please raise
8 your right hand. Do you solemnly swear, under penalty
9 of perjury, to tell the truth, the whole truth, and
10 nothing but the truth, so help you God?

11 THE WITNESS: I do.

12 DEPUTY CLERK: Please take a seat.

13 Sir, if you would please state your name for
14 the record, spelling your last name.

15 THE WITNESS: Joseph Colby McAlexander, III.
16 Last name is spelled M-c-A-l-e-x-a-n-d-e-r.

17 DEPUTY CLERK: Thank you.

18 THE WITNESS: You're welcome.

19 THE COURT: Thank you. You may proceed.

20 MR. SANTURRI: Good afternoon,
21 Mr. McAlexander.

22 THE WITNESS: Good afternoon, sir.

23 THE COURT: Good afternoon.

24 /////

25 /////

1 JOSEPH C. McALEXANDER, III, PLAINTIFF'S WITNESS, SWORN

2 DIRECT EXAMINATION

3 BY MR. SANTURRI:

4 Q Can you give the jury the benefit of your
5 background? Actually, let's just start with your current
6 occupation. Can you tell them by whom you are currently
7 employed?

8 A Yes. I have my own company. It's a professional
9 engineering company by the name of McAlexander Sound,
10 Incorporated. It's located in Richardson, Texas about
11 20 miles north of Dallas. I'm the president of that
12 company.

13 Q And what's the business of McAlexander Sound?

14 A It started in 1988 when I founded the company
15 specifically around audio and video, developed
16 designing, implementing, constructing systems that are
17 involved with communication using audio and video.
18 And over the last 14 years, it has also been involved
19 directly in consulting with the electronics and
20 electromechanical industry, focusing on patents and
21 trade secrets, and also design consultation as well.

22 Q And have you been retained as an expert witness in
23 this case?

24 A Yes, I have.

25 Q By whom?

1 A I have been retained by Omega Patents.

2 Q And how are you compensated for your time?

3 A I'm compensated on a per hour basis based upon the
4 time I spend consulting.

5 Q Is your compensation at all based on the opinions
6 that you provide in this case?

7 A No. I'm retained specifically to look at the facts
8 and provide a non-biased opinion.

9 Q And can you give the jury the background of your
10 education, starting with college?

11 A I have a Bachelor of Science degree in electrical
12 engineering from North Carolina State University.

13 Q While you were at North Carolina State did you teach
14 any courses?

15 A No, I did not.

16 Q After graduation, what did you do?

17 A After graduation, I joined the United States Army.
18 I went through a four-year ROTC, so I joined as a second
19 lieutenant and stayed in the military for three years
20 finishing as a captain. And I had two primary
21 assignments, one, running the New England Air Defense
22 Command for the Nike Hercules nuclear program. And then
23 I spent one year in Korea as the signal battalion
24 commander operating a particular battery and handling
25 all of its signaling communication, both wired and

1 wireless.

2 Q After the military, what did you do?

3 A 1972, I joined Texas Instruments as a design
4 engineer working in integrated circuit design. And I
5 stayed with Texas Instruments for 14 years through 1986
6 in various capacities of design and management and also
7 running operations in their facility in Singapore for
8 quality and engineering, and then finishing my career at
9 TI in 1984 to 1986 as a manager for the quality and the
10 training operation for what's called a wafer fabrication
11 assembly process. It's where the integrated circuits
12 are actually fabricated.

13 Q And what did you do after Texas Instruments?

14 A Became vice president of technology for a company
15 in Richardson, Texas by the name of EPI Technologies and
16 provided technology services to the electronic industry,
17 specifically major clients like Allied Signal, military
18 organizations, Sandia National Laboratories and others,
19 testing and evaluating electrically and from an
20 environmental standpoint various components that go into
21 systems, including satellite communication.

22 Q And where did you go on to next?

23 A I then, around 1992, joined a company also in
24 Richardson, Texas by the name of Cochran Consulting.
25 And at that point, I headed up their consulting activity

1 focusing primarily on patents and that started my
2 career, part of my career, working as a testifying
3 expert.

4 Q All right, sir. Let's talk more specifically about
5 the experience that you have that's related to the issues
6 that we have in this case. Do you have any experience
7 in microcircuits or microcircuitry?

8 A Yes. I have experience both in the design, the
9 literal design, of the integrated circuits that go into
10 microcircuits, as well as the testing and incorporation
11 of those circuits in systems, including everything from
12 small appliances to large main frame computers.

13 Q And how long have you worked in that technology
14 field?

15 A The technology field totally, I've worked 43 years.

16 Q And do you have any memberships to professional
17 organizations that also help with your experience for
18 this case?

19 A I am a member of the IEEE, which is the primary
20 electronics society for electrical engineers.

21 Q And have you -- as part of your past work have you
22 consulted for or worked specifically on data bus systems?

23 A Yes, I have.

24 Q And can you give the jury a couple examples of your
25 work in data bus systems?

1 A I've worked on data bus systems from a number of
2 different ways. One, I was hired a number of years ago,
3 probably about 10 or 11 years ago, by Toyota as what is
4 called their 30(b)(6) witness. And that means that I
5 had the responsibility for evaluating a number of their
6 suppliers. I believe at that point it was six different
7 suppliers, in evaluating the system components and
8 designs that they were providing to Toyota for their
9 data bus systems.

10 And at that point in time, since the designs were
11 all proprietary, Toyota themselves were not even
12 privileged to know what the suppliers were providing in
13 terms of the design components, so they hired me to go
14 in and actually evaluate and understand the technology
15 and to provide input for them in several cases.

16 Q Any other relevant experience that you want to tell
17 the jury about in the context of data bus systems?

18 A Well, I've also provided expertise in looking at
19 various data bus systems that involve wireless and wire
20 communication to some of the internal data buses,
21 particularly the audio/video portions of the data bus
22 systems in vehicles. And I have appeared and testified
23 in probably about 12 different cases involving that
24 alone.

25 I also participated this last year in looking at the

1 data bus management system within vehicles that
2 specifically addressed speed and torque and looking at
3 various aspects of how that information is analyzed, how
4 it is captured, and how it is provided to the bus and
5 how the determinations of some governing systems within
6 vehicles are done, so performed that as well.

7 Q Are you also an inventor yourself?

8 A Yes. I currently have 31 patents to my name.

9 Q And do any of those -- the technology for any of
10 those patents relate to the technology you're going to
11 talk about today?

12 A Yes. A number of the patents are directly devoted
13 to the design of memory integrated circuits that are
14 then used in some of the control systems that are part
15 of this case, specifically addressing storage
16 mechanisms. And in that design, the designs always not
17 only design what's the internal parts of a component,
18 like a memory device, but also how it's had to interface
19 and interact with the control. So I have performed
20 that, and I have patents in that area.

21 Q I also have a number of patents, I believe it's
22 around 14, that specifically are directed to GPS
23 location, determination, looking at advancement and
24 looking at how movement occurs. And I have -- as I said,
25 I've developed systems with that and I've worked those

1 patents in with the military, with C&N, in particular,
2 and several trucking companies for fleet management.

3 I also have two patents, as I recall, on what's
4 called MEMS. It's the accelerometer that was mentioned
5 in some of the testimony earlier today and -- yesterday
6 actually, which are used to determine the acceleration
7 or the degree to which movement occurs. The particular
8 inventions I used were in airbag deployment vehicles so
9 that if there was a pending crash then the accelerometer
10 would change position and then deploy the airbags
11 accordingly.

12 Q All right, sir. Have you participated in the
13 preparation of patent applications?

14 A Yes, I have.

15 Q And have you been involved in the prosecution of
16 patent applications with the PTO?

17 A Yes, I have.

18 Q Are you a patent attorney or a patent agent?

19 A No, I am not. I'm a professional engineer.

20 Q All right, sir.

21 MR. SANTURRI: Your Honor, at this time we
22 tender Mr. McAlexander as an expert on the issues of the
23 technology at issue, validity, and infringement.

24 THE COURT: Any objection?

25 MR. KAUTH: No objection, Your Honor.

1 THE COURT: He'll be so qualified.

2 BY MR. SANTURRI:

3 Q All right, sir. Let's move specifically to the area
4 of inquiry that you worked on for this case. Can you
5 start by explaining to the jury what you were asked to
6 do?

7 A Yes. I was asked to do two things. One --
8 primarily two objectives. One is a number of documents
9 and deposition transcripts and opinions and responses to
10 interrogatories were provided in this case. I was asked
11 to review those, including the patents that are at issue
12 in this matter, as well as the file history, as the file
13 wrappers that are associated with those patents, to
14 basically come to an understanding technically of what
15 the merits of the case were, what the facts were, and
16 then provide an opinion as to infringement or
17 non-infringement of the products that have been accused.
18 So this also involved analyzing and looking at the
19 actual products themselves, photographs of the products
20 and schematics associated with them. And the second
21 aspect, which will be covered later, would be responsive
22 to any arguments or positions that might be taken by the
23 opposing party with regard to the validity of the
24 patent.

25 Q All right, sir. Let's start by having you walk

1 through one of the patents at issue today. We'll start
2 with Joint Exhibit 1, the '876 patent. You should have
3 a copy there in front of you, and I'll put a copy up on
4 the screen for the jury. You can start by explaining to
5 the jury what we're looking at here on the first page of
6 the '876 patent.

7 THE COURT: Would you identify the Joint
8 Exhibit, that's the '876, please, for the record?

9 MR. SANTURRI: Yes, Your Honor, Joint Exhibit
10 1.

11 A So Joint Exhibit 1 is the face page or the title
12 page of the U.S. patent 6,346,876. I believe we agreed
13 that we'll refer to that as the '876 patent.

14 BY MR. SANTURRI:

15 Q All right, sir. And if you can help us orient the
16 jury a little bit at what we're looking at. I'm going
17 to start with this section in the right -- top right-hand
18 corner on the first page of Joint Exhibit 1. Can you
19 tell us what we're looking at there?

20 A Yes. On the title page, the upper right corner is
21 reserved for identification of the patent number and the
22 date in which the patent was issued, which was February
23 the 12th, 2002.

24 Q All right, sir. I'm going to scroll down some,
25 still on the first page of Joint Exhibit 1. And we have

1 an explanation of what's called Related U.S. Application
2 Data. Can you tell us what that is?

3 A Yes. Patents are filed -- as you can see, on line
4 22 above the red line, this one is filed May 31st of
5 2000. But it is filed with a relationship to some prior
6 patents and applications that were filed. And so, you
7 can see in this line that's marked number 63, it states
8 that the '876 patent is a continuation-in-part of an
9 application that now is patent number '147, 6,275,147.
10 And that patent is a continuation of another
11 application, which is now issued as patent number
12 6,011,460. And that '460 patent is a
13 continuation-in-part of a further application that now
14 is patent number 5,719,551. So what this says is
15 there's a relationship between this patent being filed
16 and predecessor patents.

17 Q And can you explain to the jury briefly what a
18 continuation application means?

19 A A continuation application means that the original
20 application is almost mirrored in the new application.
21 In other words, the diagrams are the same. The written
22 description is the same. The only really distinctive
23 feature in a continuation patent is the claim or new
24 claims. What is shown here in line 63 are what's called
25 continuation-in-part or CIP applications. A CIP or

1 continuation-in-part application, preserves much of what
2 was in the original, but it also may add other
3 additional factors in terms of what was produced as the
4 new patent.

5 Q All right, sir. Moving down slightly -- I'm still
6 on the first page -- we have a section called References
7 Cited that I think carries over to the second page.

8 Can you explain to the jury what that section provides?

9 A Yes. This is a list of the references that were
10 considered by the Patent Office, some of which were
11 provided by the patent agent on behalf of the inventor
12 and some of which were actually cited and provided by
13 the Patent Office themselves. So this provides a list
14 of those references that were part of the file history
15 that were reviewed and considered by the Patent Office.

16 Q All right, sir. Now, when you were provided with
17 the task of providing your opinions in this case, can
18 you walk the jury through how you approached analyzing
19 each patent, like the '876 that we have right here?

20 A Yes. As the video that I know the Court was able to
21 allow the jury to see early on went through the
22 different parts of a specification of a patent. And so
23 I don't want to repeat what was already put forward, but
24 I just would perhaps just present how I walk through a
25 patent to understand what it is all about.

1 I start at the title page. It's the front page of
2 the patent. And from this, I gain insight not only as
3 to the patent number and the date in which the patent
4 issued and who the inventor was, but from the title,
5 which is on line 54, I get at least an insight as to
6 which the patent might be addressing. And then, when I
7 follow down into the Abstract, the Abstract gives a
8 synopsis overview of what the inventor is seeing as part
9 of this invention, and so I read that.

10 The next thing that I do is I notice that it shows
11 right under the Abstract that there are 51 claims at the
12 back of this patent, the actual invention, and that
13 there are eight drawing sheets. So what I will do now
14 is I will turn to the drawing sheets and begin to, from
15 a top level, get ahold of an understanding of what the
16 patent is directing its attention to.

17 And you will notice -- for instance, we'll start
18 with Figure 1, as I walk through this patent, I will
19 notice that the patent is directed to having a
20 multi-vehicle compatible controller, which has a
21 reference number 25, which is shown here. And that
22 cooperates in conjunction with a transmitter and a
23 receiver, which is shown at 31 and 32. And it also has
24 communication to a bus, which is called a vehicle data
25 communication bus attached to which are various vehicle

1 devices.

2 So that gives me a general understanding of what the
3 patent is directed to. It's basically a controller --
4 it's a controlled system that has a controller that
5 communicates across a bus to other vehicle devices and
6 has an ability to transmit and receive information
7 outside of itself.

8 So then, moving down to Figure 2, I noticed that the
9 next several figures, which are Figures 2 and 3, as I
10 recall, you will notice that it's similar to what was in
11 Figure 1. The major distinction is here, the arrow is
12 pointing down from the bus interface drive to the bus.
13 And so you will see in Figures 2 and 3 that that is
14 directed to the information transfer that's taking place
15 from the vehicle, the multi-vehicle compatible
16 controller, to the bus so it defines its direction.

17 If you look at Figure 3, this is the command signal
18 table once again sending code out. So this is basically
19 how the vehicle device identifies code that goes out to
20 the bus.

21 If we look at Figure 4, Figure 4 now, see that the
22 arrow is reversed. So now, the description that we'll
23 look at later in the patent is now talking about -- is
24 going to refer to data being communicated from the bus
25 back to the controller.

1 And if we'll look at Figure 5, we will see that it's
2 reading. When a controller transmits something to the
3 bus, that's called writing or command. And when it
4 receives something back from the bus it's called
5 reading. And so, this is the read command.

6 All right. Let's go to the next one. This is also
7 a read code. And so once again, if I look at Figures 4,
8 5, and 6, these are all discussing information coming
9 from the bus back to the control unit.

10 Now, moving down to Figure 7. Figure 7 is another
11 embodiment of the illustration of the ways in which the
12 invention can operate. In this case, you will see that
13 -- what is called a multi-vehicle compatible adaptor.
14 What is inside the adaptor -- the CPU, the signal
15 memory, and the bus interface -- is very similar to what
16 we talked about on the first figure, which is the bus
17 multi-vehicle compatible controller. The distinction
18 here is in Figure 7, they're taking the multi-vehicle
19 compatible controller and putting it in a housing 70,
20 putting it all as one unit.

21 So by going through the title page and then the
22 figures, I begin to get an understanding of what the
23 patent is about. The next thing I do when I go through
24 my process is I go directly back to the back of the
25 patent, which is where the claims are found.

1 Q Mr. McAlexander, before we go there, you used the
2 term a moment ago, embodiment, that's kind of unique to
3 the patent world. Can you explain the meaning of the
4 term embodiment?

5 A Generally, it means an illustration. I have a
6 number of patents, and I've written a number of patents
7 myself. And the Patent Office requires that you have to
8 show at least one way in which the invention can be
9 implemented. Obviously, it's impossible to show every
10 way in a certain number of pages, but you have to at
11 least show one way. And so having an illustration, or
12 what's called an embodiment in the patent lingo, that is
13 basically a way in which the inventor says the invention
14 can be used.

15 Q Is it possible to have multiple different
16 embodiments described in a single patent?

17 A Yes. You can have multiple embodiments in a single
18 patent. If you look at the -- for instance, the first
19 several figures that are directed to information going
20 from a controller to the bus, that can set up a set of
21 patented inventions. Receiving or reading information
22 back from the bus can be another set of patents -- of
23 patented claimed inventions. Having combinations of the
24 two or looking across the figures and seeing things.
25 There are a number of ways in which more than one

1 embodiment can be illustrated.

2 Q All right, sir. You mentioned that next you
3 typically go to the claim. So let me head down to page
4 16 of Joint 1. We're at column 11. All right, sir.
5 Can you start by explaining to the jury the type of
6 claim that we have in Claim 1 of the '876 patent?

7 A Yes. The type of claim that has been addressed
8 earlier in the testimony, this is called an independent
9 claim. I think, in fact, in the opening this was
10 addressed. Claim 1 is an independent claim, which means
11 it stands on its own. And in order to find
12 infringement, I have to look at what is required by the
13 claim and have to find that everything that's required
14 by the claim is found in the infringing product.
15 So Claim 1 is a stand-alone independent claim.

16 As compared, for instance, to Claim 3, Claim 3 would
17 be an example as a dependent claim. A dependent claim
18 depends from another claim. For instance, Claim 3 says
19 a control system, according to Claim 1, which means in
20 order to practice Claim 3, to find infringement of
21 Claim 3, I have to find that the product that's accused
22 includes everything that's in Claim 1, plus the
23 additional factors that are required in Claim 3.
24 So that's the different types between independent and
25 dependent claims.

1 And there's another way to look at this, too.
2 I'll call it the categories. There are apparatus claims
3 and there are method claims. Method claims define the
4 steps by which something is performed. An apparatus
5 claim is directed to the structure. As you will see in
6 Claim 1 and Claim 3, both of these are directed to a
7 control system, in other words, the structure, so
8 they're apparatus claims.

9 Q All right, sir. Now, once you've taken a look at
10 the figures and the claims, what do you typically do
11 next in your process?

12 A Well, now, the next thing I do in the process is I
13 look at the claim itself before I go back and review the
14 specification, and I note that if we look, for instance,
15 at Claim 1, Claim 1 starts a control system and then
16 ends at around line 48 with the word vehicles with a
17 period. Each claim is an independent sentence.
18 So, Claim 1 is a single sentence that starts with a
19 control and ends with vehicles.

20 Also, there's two ways to look at the claim.
21 The claim is divided into two components. One is called
22 the preamble, which is the first part, and the second
23 part is called the body. And the body of the claim
24 defines the elements that are required for the claimed
25 invention. The preamble generally sets forth the

1 environment within which the invention will operate.

2 So there's two different parts of the claim, the
3 preamble and the body.

4 So in the body of the claim, what is required is a
5 transmitter, a receiver, a multi-vehicle compatible
6 controller, and then there's a requirement for something
7 that the controller does. So generally, that's an
8 overview of what we'll be looking for in terms of any
9 infringing product.

10 Now that I have an understanding of what the claimed
11 invention is, then I go back and look at the
12 specification, the written part of the specification,
13 to get some flesh or meat to figure out exactly how the
14 inventor saw his invention being used.

15 Q All right, sir. If you want to walk us through the
16 portions of the written description that you would go to
17 next after you've taken a look at the claim themselves.

18 A Which -- can I just have a little ref-- what page is
19 this?

20 Q This is page 11. I'm at column 1 --

21 A Okay.

22 Q -- of the '876 patent, Joint 1.

23 A All right. On this particular page at column 1, the
24 patent has been introduced first by indicating what the
25 Field of the Invention is. This, again, sets forth an

1 environment. The field is to a remote control system
2 and related methods for vehicles. So it's a remote
3 control system.

4 It is followed in the next section by what is called
5 the Background of the Invention. And in this particular
6 section, the inventor sets forth his understanding of
7 what the state of the art is at the time, what the
8 concerns were at the time or what was not being able to
9 be accomplished.

10 And once that is established then he sets forth in
11 the next section, which begins at the bottom of column
12 2, and he begins what's called a Summary of the
13 Invention. Here, he sets forth some of the aspects of
14 his invention. Again, the claims at the back define the
15 invention, but this, the summary, just summarizes
16 certain aspects of the invention.

17 And then, we notice, for instance, if you will look
18 column 4, around line 10, notice that it says that the
19 multi-vehicle compatible controller may in some
20 embodiments also be for reading signals on the data
21 communications bus. This reading function may also have
22 multi-vehicle compatibility. So it's set forth in the
23 summary prior to this that part of the aspects would be
24 writing to the bus and there are other aspects of the
25 invention which would be reading from the bus.

1 And then we drop down at the bottom of column 4.
2 The inventor sets forth what he calls a Brief
3 Description of the Drawings. And so the different
4 drawings that I looked at earlier with the Court, this
5 is a sentence that describes what each of the figures
6 are about.

7 And then, lastly, we move at the top of column
8 5. And this is where the inventor sets forth a Detailed
9 Description of the Preferred Embodiments. So this is
10 where he will now go through Figures 1 all the way
11 through the last figure, which is Figure 8. And he will
12 with written description describe what the figures are,
13 what they do, how they're conformed, how they cooperate
14 with each other and, in some instances, exactly how they
15 perform their operation.

16 Q I see in that section we have bolded numbers in the
17 text. Can you explain to the jury what that refers to?

18 A Yes. For instance, if we look at line 25, it refers
19 to Figure 1. And then it gives us a number, for
20 instance, 25, that's related to what's called the
21 multi-vehicle compatible controller. So if we could
22 maybe go back and look at Figure 1.

23 And in Figure 1, you will see the reference number
24 25 here that refers to this box. And the box is labeled
25 Multi-Vehicle Compatible Controller. So the bolded

1 numbers within the written text are numbers that are
2 associated with particular aspects of the figures and
3 are sometimes referred to as reference numbers.

4 Q All right, sir. You mentioned that after you take
5 a look at the claims, you look back up into the written
6 specification to try to find further description for
7 those claims. And you pointed out the transmitter,
8 receiver, and controller, I think, were three elements
9 that you pointed out in Claim 1 of this patent?

10 A Yes, that's correct.

11 Q Could you -- do you want to direct me to a section
12 where we have a little bit of a description about each
13 of those aspects of Claim 1?

14 A If you will look at column 5, beginning, for
15 instance, line 35, in that paragraph this introduces the
16 transmitter 31 and the receiver 32. So those are
17 identified. There's a number of different places in the
18 specification, it's directed to that. The multi-vehicle
19 compatible controller, 25, is identified in a number of
20 different locations as well, so those are the three
21 primary components.

22 Q All right, sir. And are there any portions of this
23 specification that are important for the specific issues
24 that we're going to go over today? For example, in this
25 case with this particular patent with the command

1 signals, can you take us to a couple of important
2 sections of the spec to understand that a little better?
3 A Well, I would point to probably the entire
4 specification. But we can look, for instance, at column
5 6, which is right across from where we are at around
6 line 52. It says, "The multi-vehicle compatible
7 controller..." looking at this section down "...25 also
8 illustratively includes a bus interface 41 cooperating
9 with the CPU 36 to perform at least one of reading
10 signals from the data communications bus 30 or
11 generating signals on the data bus."

12 So this goes to the aspect of the micro-controller
13 or the multi-vehicle compatible controller through its
14 bus interface generating information to a bus, sending
15 code to the bus, or receiving code back from the bus.

16 Q All right, sir. Now, we've walked through it with
17 the '876 patent. For purposes of your analysis, did you
18 go through each of the four patents that we're going to
19 talk about today in the same way?

20 A Yes, I did.

21 Q Did you also take a look at the file histories for
22 the patents that we have at issue?

23 A Yes. For each one of the patents at issue, I looked
24 at the file histories.

25 Q And what was your purpose of review of the file

1 histories?

2 A One of the purposes of my review of the file history
3 is to review the interchange of information and
4 communication that occurred between the patent
5 agent/owner and the Patent Office itself to make sure
6 that my understanding of reading the claims in light of
7 the specification was consistent with what was described
8 or communicated between the Patent Office and the patent
9 owner, look at it for consistency and also for an
10 understanding of the process by which the patent went
11 from filing to issuance.

12 Q All right, sir. Now, can you explain to the jury
13 what the person of ordinary skill in the art is in the
14 patent world?

15 A In the patent world -- the Court, for instance, has
16 provided to the jury now the claim construction, the
17 terms that the Court has defined for us. Those terms I
18 have to adopt. And I do adopt them. And for all of my
19 analyses, it will be done with a view of understanding
20 and consistency with the Court's claim construction.

21 There are two aspects. Claim construction, as I
22 understand from a technical viewpoint, has to be -- the
23 interpretation must be through the ideas of what's
24 called the person of ordinary skill in the art.

25 It's a hypothetical person, but it's a person that

1 one believes would be the type of person that when
2 reading this particular patent specification that he
3 would be the kind -- he or she would be the kind of
4 person that this patent would inform him of what the
5 invention is and how to practice the invention.

6 So I've defined that person as a person who has at
7 least a bachelor of science degree in a field such as
8 electrical engineering or automotive engineering,
9 something of that nature so that with an electrical and
10 system aspect to his educational/academic training, and
11 then a person who has several years involved in
12 telematics.

13 Telematics is basically real time communication of
14 event-related information, wirelessly or wired, but
15 particularly wireless. And the telematics aspect of it,
16 several years can be involved in understanding
17 protocols, data bus management, control system theory,
18 wireless and wired communication, and basically those
19 kinds of topics, so several years of experience in that
20 related area and an academic degree.

21 Q All right, sir. And once you familiarized yourself
22 with the patents at issue did you move on to study the
23 products that are accused of infringement in this case?

24 A Yes, I did.

25 Q And I have a --

1 MR. SANTURRI: If we can shift to the Elmo,
2 madam clerk.

3 BY MR. SANTURRI:

4 Q I have a list you prepared of generally the types of
5 information you looked at in this case. Can you explain
6 to the jury how you went about getting yourself
7 familiarized with the CalAmp devices in this case?

8 A Well, as I mentioned earlier, there are a number of
9 different documents that have been produced in this
10 case, both by the plaintiff and the defendant. So I
11 reviewed the documents that were produced, also went
12 online, did some individual web search analysis for
13 products that were available and out there, looked at
14 data sheets, particularly product specifications on the
15 accused products, photographs that were taken of the
16 internal schematic or representation of the products, as
17 well as the schematics themselves.

18 A schematic is an electrical diagram of the actual
19 way in which the components are interrelated and
20 interconnected together electrically. And then
21 additional product documentation that CalAmp provided,
22 as well as testimony, such as what has been heard for
23 the last two days here.

24 Q And, sir, I have a list of the folks for whom you
25 read their deposition testimony. Does this look like

1 the list of folks you read in order to form your opinions
2 about the products at issue?

3 A Yes. I believe we've heard testimony that was
4 played by video deposition here in the last two days of
5 Pete Hergesheimer, Jeffrey Eiberger, and Gallin Chen.
6 This is some of the deposition testimony of persons that
7 I did review.

8 Q All right, sir. Once you reviewed both the claims
9 and the accused products, were you able to formulate
10 opinions as it relates to this case?

11 A I was by following the two-step process for a
12 finding of infringement. My understanding is first the
13 claims have to be properly construed. The Court has
14 provided that information. And then, I take those
15 as-construed claim terms so that the claims that I'm
16 looking at now have been properly understood, and then I
17 apply them to the alleged products and find a
18 determination as to whether or not each and every
19 element that is required by each claim is found in those
20 products. That's the process that I undertook.

21 Q All right, sir. And did you reach any opinions as
22 to the infringement of the accused products?

23 A Yes, I did.

24 Q All right. And were you able to determine whether
25 each of the accused products infringes the asserted

1 patents in this case?

2 A Yes, I was able to.

3 Q And what was your conclusion?

4 A My conclusion was for the four patents that are at
5 issue in this particular case and for each of the claims
6 that have been asserted that the accused products
7 infringe each of those claims.

8 Q All right, sir. Let's delve into that a little more
9 deeply, and I want to start with an overview slide.
10 Can you explain to the jury what the demonstrative that
11 we have on the Elmo is showing them?

12 A Yes. This is one of the demonstratives that I had
13 reviewed during my analysis. This shows an overall
14 system, a wireless communication system. The messaging
15 unit, the CalAmp messaging unit, is shown at the far
16 right. It shows a wireless communication capability
17 back to an LMU manager or server. And basically, this
18 allows back-in applications that are shown here to run
19 on the server in such a way that data can be analyzed
20 when it is transmitted from the CalAmp messaging unit.
21 And it also provides through the PULS system the ability
22 to download every firmware software that will be loaded
23 as firmware in the LMUs.

24 Q All right, sir. And for the purposes of today,
25 this is the product that we're talking about, right,

1 this CalAmp LMU?

2 A That is correct.

3 MR. SANTURRI: Actually, madam clerk, can I
4 have the laptop back?

5 BY MR. SANTURRI:

6 Q All right, sir. I'm going to pull up Plaintiff's
7 Exhibit 1, which is in evidence. Is this one of the
8 documents you reviewed for purposes of your analysis?

9 A Yes. This was specifically directed to the 3000.

10 Q And how did you use this document in your analysis?

11 A I used it first as an overview, as an understanding
12 of the LMU products. This particular one is the
13 LMU-3000. And so within this particular brief, it
14 identifies some of the features that are incorporated in
15 the LMU. It's a specification, if you will, that
16 informs the public on what the LMU does.

17 Q If I can direct your attention to the second page
18 of Plaintiff's Exhibit 1. Is there any data on this
19 market material that was helpful in forming your
20 opinions?

21 A One is in the first column under the specifications
22 for General. It indicates communication modes. This
23 would be the wireless communications, such as cellular
24 CDMA. There's also indication that it provides location
25 technology using GPS. And then, it goes through some

1 analysis with regard to the cellular communication
2 itself looking at the various operating bandwidths, as
3 well as the different technologies that are required for
4 the protocol. So these are a few of the areas.

5 I also noticed that Key Features is that it shows
6 OBD-II interface. This is the on-board diagnostic II
7 interface, so it says that it's compatible with that.
8 And it also further identifies the packet-based cell
9 communication here and shows that there is an internal
10 GPS antenna. There's an internal cellular antenna.
11 So it's a stand-alone LMU-3000. It's self-contained in
12 terms of a wireless module, as well as a GPS module.
13 Those I get just out of looking at this data sheet.

14 Q All right, sir, I'm going to invite your attention
15 to Plaintiff's Exhibit 60. And, in particular, can you
16 help us understand how one installs the accused products
17 in a vehicle?

18 A Well, what is shown on this particular presentation
19 slide is it's entitled, Where is it Located? And the
20 two circles are identified as general location of the
21 OBD-II port. The systems that are designed in the cars
22 have communication data bus and vehicle data buses.
23 And so periodically, under the hood, as well as under
24 the dashboard there are ports that you can connect to
25 for either after market or for testing diagnostics.

1 And this shows that there are some locations there for
2 ports that can access for the OBD-II and, therefore, can
3 send and receive information off of the data bus.

4 Q All right, sir. Now, you also looked at more
5 specific electrical schematics, right?

6 A Yes, I did.

7 Q And what was the purpose of your review of those
8 documents?

9 A The electrical schematics are the fundamental aspect
10 of the actual electrical design within each of these
11 systems. So by looking at the electrical schematics and
12 understanding that, I can not only see what the major
13 components are, I can see the actual products that are
14 used, in other words, the name brand that's used. I can
15 understand from the data sheets what those particular
16 components are. And then, it also provides in the
17 schematics an electrical connection map. So I can tell
18 exactly what is connected to what. And, therefore, I
19 can reach some understanding as to how these various
20 components in the physical system cooperate with each
21 other.

22 Q All right. I'm going to put on the monitor
23 Plaintiff's Exhibit 11, which is in evidence. Is this
24 one of the electrical schematics you looked at, sir?

25 A Yes, it is.

1 Q All right. Now I think we heard Mr. Hergesheimer
2 discuss earlier in deposition testimony that there are
3 three different boards that make up this LMU-3000.

4 Can you walk the jury through localizing each of those
5 boards using Plaintiff's Exhibit 11?

6 A Well, there's three different aspects that are
7 located on the boards in the system. There is an LMU
8 board that includes both the management unit controller
9 and the wireless. There's also a second board that
10 handles the GPS. And a third board that handles the
11 OCD, the diagnostic board that communicates to the bus
12 itself, so these are the three separate boards.

13 Q All right. Can you provide me with the Bates label,
14 and we'll go to Exhibit 11 where the LMU board is shown
15 in more detail.

16 A Sure. Go to the Bates label 714.

17 Q All right, sir. And is there a specific portion of
18 this that I can blow up so the jury can actually see this
19 document?

20 A Yes. You can blow up the center. We can start with
21 that.

22 Q All right, sir. What are we looking at in the
23 center of page 4 of Plaintiff's 11?

24 A This is one of the micro controller chips, an
25 integrated circuit trip that performs the functions of a

1 microcontroller and it's defined in the specification as
2 their microcontroller. It's labeled at STM-32F. This
3 is a 32-bit microcontroller manufactured by ST
4 Microelectronics. If you look inside, you'll find it
5 uses what's called an arm core. And this is where all
6 of the process and the primary brains, as Mr. Flick had
7 described, this is one of the primary brains of the
8 entire system of the CalAmp 3000.

9 And this provides the basically network
10 communication and control both to the wireless
11 transmitter receiver for communication cellular -- can't
12 even pronounce it -- by cell phone. It also provides
13 the connectivity to the GPS module on a separate board
14 and also to the on-board diagnostic board on a third
15 board.

16 Q All right, sir. There are lots of red lines
17 extending from all four sides of this STM-32F
18 microcontroller. Can you explain to the jury what those
19 red lines signify?

20 A The red lines signify wiring connectivity,
21 electrical connectivity between a particular electrical
22 pin or input or output on the board, or on the chip,
23 that then is conveyed to some other portion of the chip.

24 As an example, we'll notice that there's one here
25 that you might be able to see. It's called VDD. This

1 is a power input. Then, you will see things labeled
2 like, for instance, PC, PA. There's a PC on the other
3 side. These are called ports. Basically, they're the
4 A-ports, the B-ports along the top, and the C-ports.
5 Ports represent input/output interfaces to this
6 particular controller device. The electrical lines, the
7 red lines that connect to those, go to some other part
8 of the board.

9 Q All right, sir. Now, on this particular page of
10 Plaintiff's 11, can you show us how this ST
11 microcontroller communicates with the transmitter and
12 receiver in the LMU-3000?

13 A And by transmitter and receiver, this would be the
14 wireless communication. It's called a transceiver,
15 which is located on the same physical board as the --
16 as this particular STM chip. And if you can go, for
17 instance, over to the right of this diagram. And
18 specifically if we look in this area, these are wires
19 that are coming off of the -- I'll wait until you
20 finish.

21 Q Too far?

22 A These are wires coming off of the controller and
23 then they communicate through PB-10 and 11. This
24 particular section is the receiver and the transmitter.
25 RX is receiver and TX is transmitter. And then, if we

1 look at -- back up one drawing to 713, Bates number 713.

2 You see on the left side here, this is where those
3 connections, PB-10 and 11 for the receive and transmit,
4 transmit/receive, that's where they come into this
5 particular module. And if we just track over a little
6 bit to the right, you will notice that it goes into
7 another device. And this, the output of that device,
8 which is here called RF-out, if you will track it a
9 little bit further, this goes to the antenna.

10 And so this is the communication, then, on the same
11 board from the STM multi-vehicle controller, that is one
12 of the controllers, and it communicates here to the
13 wireless module for communication using CDMA or other
14 technology through the cell phone network.

15 Q All right, sir. Now, I notice on Plaintiff's 11
16 there's already some handwriting on this document.
17 Do you know where that's from?

18 A As I recall, this was part of the deposition for
19 Mr. Hardee and that he wrote that information on there.

20 Q And Mr. Hardee is an employee of CalAmp?

21 A That's correct.

22 Q All right. So you showed us how the LMU
23 microcontroller connects to the radio. Does it have
24 other -- are there other portions of -- other boards
25 that it connects to as well?

1 A Yes. If we go back to 714. And in the upper right
2 corner, in the upper right corner coming out of the
3 micro controller are some lines here that you will
4 notice are GPS. And so the upper two lines here are
5 labeled as GPS transmit and GPS receive. So these
6 lines, if we'll now look at the GPS board, they
7 interconnect to that particular module.

8 Q And can you direct me to a page within Plaintiff's
9 11 for the GPS module?

10 A Look at Bates number 716. And in particular --
11 yeah, you're -- this area here, if you can enlarge that
12 some. So here, we have the GPS transmit and receive
13 lines that I showed coming out of the control module.
14 They then go from that board to this board, and then
15 this connects into the GPS module. And it's done
16 through a particular connector that connects -- this
17 rectangle that shows six pins, that's an electrical
18 connector that connects the two boards together. And
19 then, if we track over to the left, this is the antenna,
20 then, that provides the communication. So this is the
21 interconnection, then, between the controller and the
22 GPS board.

23 Q All right, sir. Does the LMU microcontroller also
24 connect to the OBD controller?

25 A Yes, it does.

1 Q All right. I'm back on page 714, page 4 of
2 Plaintiff's 11, can you direct me to the section that
3 helps us there?

4 A Sure, bottom right corner just above the legend,
5 and enlarge this just a little bit more. So we see two
6 lines that come from the microcontroller and they're
7 labeled as PA-23, but specifically they're labeled as
8 OBD. So these particular lines go to another connector,
9 the J-1 connector. It's another 6-pin connector. And
10 they, then, are connected from there to the OBD board.

11 Q Do we find that on Bates label 730?

12 A It's on two different ones. 730, it's in the lower
13 left corner. So this is where it comes into that board
14 from that connector. And this particular electrical
15 diagram on this sheet talks about the power supply
16 connection.

17 If we go to the next sheet, which is Bates label
18 731. On this sheet we now find -- can you go from the
19 top? That's good. What we find on this sheet is -- the
20 number of connections on this particular portion of the
21 controller is fairly large. So what the engineer has
22 done in the diagram is he has taken that component and
23 he has divided it into five different instantiations and
24 shown the connections to it. But basically, this is the
25 on-board diagnostic controller that performs the

1 interface to the data bus.

2 Q So what Mr. Hardee labeled as U17-A through E,
3 that's all one component; is that right?

4 A That's the one that he labeled -- yes, that's
5 correct. That's all one component. And then he has
6 also identified, which I agree with, the memory, storage
7 memory that's located on that particular board, which is
8 5 and 7, which are these. And he has also identified
9 what he's labeled as -- yeah, he's called it the
10 microprocessor OBD layer. And then in the bottom
11 section that are provided the interfaces for the
12 different types of bus structures.

13 So on this type of a CalAmp 3000 unit, it provides
14 for this controller -- these controllers to have access
15 to multiple bus types labeled as ISO -- for instance,
16 ISO-K CAN, which is the standard since about 2008.
17 The J1850 PULS with modulated bus which Ford used and
18 the J1850 VPW that GM used. So there are a number of
19 different bus architectures that are comprehended for
20 communication by this CalAmp 3000 device.

21 Q All right, sir. In addition to the components that
22 you've listed, are there also places where we can see
23 what we heard in some of the deposition testimony as a
24 serial port on this device?

25 A Yes, there are.

1 Q Can we visualize that at 714?

2 A That's correct. That's where it's at.

3 Q Okay. Where is that at on 714?

4 A That is shown on the right side in the middle,
5 labeled as J-2.

6 Q All right, sir. Now, in addition to looking at the
7 electrical schematics, did you also take a look at the
8 internal photographs of, in this case, the LMU-3000?

9 A Yes, I did.

10 Q Going to pull up Plaintiff's Exhibit 3, which is
11 already in evidence. Can you explain to the jury what
12 we see on Plaintiff's Exhibit 3?

13 A Plaintiff's Exhibit 3 is sometimes referred to as
14 the LMU board for the 3000. And the component that is
15 in the middle, the black square component, that's that
16 STM 32-bit microcontroller. So this is the 32-bit
17 microcontroller here. Secondly, if we look up above it
18 on the same board, this larger area that is covered is
19 the RF wireless communicator for the cell phone. So
20 this board includes -- as shown in the diagram of the
21 schematic that we already went through, the photograph
22 affirms what the schematic had said.

23 Q We also have a component and it's on the right
24 corner called a serial flash. Can you explain to the
25 jury what that is?

1 A Yes. That is this component here. That is labeled
2 -- that was labeled by Hergesheimer. And I agree with
3 him that is a flash device. It is a memory device.
4 It is a type of memory. It's a non-volatile memory.
5 Once you put firmware into it, it stays even if you turn
6 power off.

7 Q And on the other side we have what was labeled as a
8 serial port?

9 A That is correct. And if you remember on the
10 schematic, I identified that that serial port was J-2.
11 There is the number on the performance board. So
12 there's a one-to-one correspondence with what was stated
13 in the schematic as it has been instantiated on the
14 actual board.

15 Q All right, sir. I'm going to pull up Plaintiff's 4
16 in evidence. Can you explain to the jury what we see at
17 Plaintiff's 4?

18 A This is the second board in which the schematic that
19 we discussed earlier about the GPS, that schematic is
20 located on this board. And so, you will see a number of
21 components that are shown here. But this module here,
22 it's covered, is the GPS receiver module.

23 Q And does this GPS receiver module talk to the LMU
24 board that we just looked at?

25 A Yes. That is connected through the connector, which

1 is shown here. So that board will actually connect and
2 sit in conjunction with the LMU board.

3 Q All right, sir. I'm going to put up Plaintiff's
4 Exhibit --

5 A In fact, can we go back to that for just a second?

6 Q Yes, sir.

7 A Just wanted to indicate that I mentioned this is the
8 connector. It's called J-3, which is what was shown on
9 the schematic.

10 Q All right, sir. Now, I have Plaintiff's Exhibit 5
11 in evidence. Can you explain to the jury what we're
12 looking at here?

13 A Yes. This is the OBD board, the on-board diagnostic
14 board. And you will see a number of things. For
15 instance, this. There actually is a cover that is over
16 top of that. When you remove the cover, this strap goes
17 between these points, provides some additional support.
18 Most RF modules are required to be covered so that they
19 don't interfere with other surrounding aspects of an
20 electronics system. But this is the OBD board, which I
21 have shown previously. It's connected back to the LMU
22 board. And over here, has been labeled by Hergesheimer
23 the OBD interconnect. And this basically is the
24 interface that goes to the actual vehicle bus.

25 Q And in the center there we have U14. Did we talk

1 about that on the schematics?

2 A Yes. That's the U14 chip in which is the
3 microcontroller. It's actually an array. It's a logic
4 array that provides the control functions for generating
5 and receiving information to and from the vehicle data
6 bus.

7 Q All right, sir. Now you pointed out the OBD
8 interconnect we have shown at Plaintiff's 5. If I can
9 pull up Plaintiff's 60 again for a moment, can you
10 explain what we're looking at, at page 5 of Plaintiff's
11 60?

12 A This is the connector or connection point that plugs
13 into the bus, vehicle data bus.

14 Q So this port is what would accept the metal
15 terminals that we saw on the prior exhibit?

16 A Correct.

17 Q Plaintiff's 5?

18 A Correct.

19 Q All right, sir. Now, this just covered the
20 LMU-3000. Can you remind the jury the relationship
21 between the LMU-3000 and the VPOD?

22 A Yes. The OBD board, the on-board diagnostic board
23 that's part of the LMU-3000, that has been represented
24 in deposition as testimony that the LMU-3000 OBD board
25 is then pulled out, put into a separate -- as a separate

1 component and in separate housing and then can be used
2 with other vehicle LMUs that do not have the on-board
3 diagnostic capability and, particularly, I believe it
4 was the LMU 2600 and 240, I believe.

5 These are different device families that when you
6 take those families that have a GPS and a wireless
7 capability and you integrate that with the on-board
8 diagnostic board, then you have additional systems that
9 cooperate with some additional features, provide the
10 same capability as the LMU-3000, just in a different
11 framework.

12 Q All right, sir. I have Plaintiff's Exhibit 5 up
13 again. That was the OBD board of the LMU-3000?

14 A Yes, that's correct.

15 Q And is it fair to say that the board we have here
16 for the LMU-3000 is basically the board that's contained
17 within the VPOD?

18 A Correct.

19 Q Now, can you explain to the jury the difference
20 between the LMU-3000 and the LMU-3030?

21 A The construct of the LMU-3030 is very similar to
22 what is in the LMU-3000. The primary, primary
23 difference is that on the OBD board that the component
24 that was an array, a logic array that was used to
25 provide the control aspect for driving and receiving the

1 data bus, information to and from the data bus, was
2 substituted by another STM 32-bit microcontroller.

3 So basically, the microcontroller that was
4 used in the 3000 LMU is the same microcontroller that's
5 in the 3030 LMU. But they've also put that same
6 microcontroller on the OBD board, and so now they have
7 consistency in terms of programming, formats and
8 storage.

9 Q For our purposes today, is there any difference in
10 the features or functionality of the LMU-3000 and 3030?

11 A No. If I went back and looked at a similar set of
12 schematics on the LMU-3030, I could point to the exact
13 same areas, the same kind of components, same kind of
14 connectivity. The primary difference is the fact that
15 this U14 has been replaced with an STM microcontroller.

16 Q All right, sir. And VPOD2, can you explain to the
17 jury what that is?

18 A VPOD2 is the OBD board from the 3030 that is, then,
19 put into a separate housing as used with other LMU type
20 products that do not have the OBD capability and,
21 therefore, render them in the same way as practicing
22 what I find to be the inventions that are from these
23 four patents.

24 Q All right, sir. The last product that I have on my
25 list is the 3050. Do you recall the explanation from

1 CalAmp as to the difference between the 3030 and the
2 3050?

3 A I understand that the difference is, as I recall
4 from the deposition testimony, was that it was basically
5 configured, it was provisioned for use in Europe,
6 particularly the UK. But other than the provisioning
7 to make it compatible with other rules over in the UK,
8 they're the same. I understand the provisioning was
9 done in the U.S.

10 Q And for our purposes today, do the 3030 and 3050
11 basically provide identical structure and functionality?

12 A That is correct.

13 Q Okay.

14 MR. SANTURRI: Madam clerk, may I have the
15 Elmo? Thank you.

16 BY MR. SANTURRI:

17 Q All right, sir. I want to have you walk the jury
18 through each of the claims that you looked at for
19 infringement and talk us through the process of how you
20 determined that each of the claims that as asserted today
21 is infringed. So I have a blow-up of the language from
22 each of the asserted claims. And let's go ahead and
23 start with the '876 patent, Claim 1.

24 I know we went through this briefly before when you
25 discussed generally how you approached taking a look at

1 the patents. I want to have you go ahead and focus on
2 the specific language and walk us through how you found
3 each element of Claim 1 of the '876 patent in each of
4 the accused products. So if we can start with the first
5 portion of Claim 1, you called that the preamble; is
6 that right?

7 A Yes, that's correct.

8 Q And for our purposes today, does the preamble act
9 as a limitation?

10 A No, it does not.

11 Q Next we have the transmitter and receiver for
12 receiving signals from said transmitter. Can you explain
13 to the jury -- well, first of all, did you find that
14 starting with the LMU-3000?

15 A Yes, I did.

16 Q All right. And can you explain to the jury where
17 you found that element within the LMU-3000?

18 A The transmitter and receiver for receiving signals
19 from the transmitter, I wanted to identify that. It's a
20 combination of the receiver/transmitter that's a part of
21 the LMU-3000, which I identified as the wireless module
22 to allow cell phone type communication using CDMA or
23 other types of protocol. So that is one.

24 The other one is, is when you transmit, you're
25 transmitting to something. And so the server receives

1 that information. It also transmits information back.
2 So you basically have a transmitter/receiver that's in
3 the LMU-3000. You also have a transmitter receiver
4 that's associated with a server that receives and
5 communicates with it.

6 Q And does CalAmp provide -- well, are these devices
7 able to communicate with servers at CalAmp, for example,
8 the LMU-3000?

9 A Yes.

10 Q And so you found the element of the transmitter and
11 receiver to be located in each of the CalAmp accused
12 products?

13 A That is correct.

14 Q All right, sir. The next element that we have in
15 Claim 1 of the '876 patent, we can break it up and go to
16 specific portions of this. So let's start with the
17 multi-vehicle compatible controller at the vehicle.
18 Did you find that element?

19 A Yes, I did.

20 Q All right. And where did you find that at?

21 A I found that element in the LMU-3000 and also, of
22 course, in the LMU-3030. So comments I make on the 3000
23 I've already discussed what the similarities are to the
24 others, so I'll just focus on the 3000 here.

25 The multi-vehicle compatible controller is a

1 combination of the STM 32-bit microcontroller that's on
2 the LMU board. There is also, in combination with the
3 OBD controller on the OBD board that I identified
4 earlier, and I am also including in this what I call the
5 bus transceiver that actually connects the OBD
6 controller to the bus and that actually -- excuse me --
7 the bus transceiver actually provides the protocol
8 necessary for encoding information going to the vehicle
9 bus and decoding the information coming back from the
10 bus. So it's a combination of those three together
11 provide the multi-vehicle compatible controller part of
12 the LMU-3000.

13 Q And it may be helpful to sort of back up for a
14 second here and just make sure that I get everything that
15 you say. We have the transmitter and receiver that we
16 assigned to this cell radio module, right?

17 A Yes, in combination with the one located at CalAmp's
18 server.

19 Q Okay. And then for the multi-vehicle compatible
20 controller, was a portion of what we see in Exhibit 3
21 representative of that multi-vehicle compatible
22 controller?

23 A That's this 32-bit STM microcontroller.

24 Q And do we also see part of the multi-vehicle
25 compatible controller in Plaintiff's Exhibit 5?

1 A That is correct. This is the OBD board. This is
2 that logic array that provides the control function in
3 cooperation with the bus interface device that does the
4 translation to and from a bus.

5 Q All right, sir. So we have our multi-vehicle
6 compatible controller. Now, the next portion is that
7 the controller cooperates with the transmitter and
8 receiver. How did you determine that that occurs?

9 A I showed on the schematics where the
10 interconnectivity between the boards, the electrical
11 interconnectivity for wires coming out of the STM 32-bit
12 microcontroller, how they connect to the wireless
13 receiver transmitter on the same board and how they also
14 interconnect through contact connectors to the OBD board
15 and show where they actually interconnect into the array
16 aspect, logic array, of the OBD board.

17 Q All right, sir. Now, the next portion of the claim
18 is the multi-vehicle compatible controller generating at
19 least one set of command signals on the data
20 communications bus for the at least one vehicle device.
21 So let me start with the easy part there, the vehicle
22 device, what did you determine that to be?

23 A The vehicle device can be any of a number of
24 different components that are communicating over the
25 vehicle data bus, particularly in this particular

1 instance, I would refer to the control device or the
2 device that's called the engine control unit, sometimes
3 the engine control module, ECM or ECU.

4 Q And what's the purpose of the engine control unit?

5 A The engine control unit basically provides the
6 interface to other types of devices that manage the
7 engine. It can be looking at transmission speed. It
8 can look at engine components, basically either a lot of
9 centers that are built into the engine of the
10 transmission, fluids, that type of thing. And so the
11 ECM is basically the primary interface for all of those
12 centers. There's others, for instance, the body control
13 module is another one that handles communication to door
14 locks and other things of that nature, so -- and there's
15 a third one that handles the instrument cluster.

16 Q All right, sir. If you can -- backing up within
17 that same portion of the claim, this claim requires that
18 the multi-vehicle compatible controller generate at least
19 one set of command signals. Did you find the LMU-3000
20 to do that?

21 A Yes. There was a number of representations in
22 deposition testimony about communication to the bus.
23 Secondly, go back and look at the schematic that I
24 identified and I showed that there was a number of
25 interfaces to the J1850PWM, as well as J1850VPW, and

1 also to the CAN bus. So they have the interfaces, and
2 it's up to the particular OBD interface to provide the
3 selectivity to the type of bus and then the
4 communication across that bus.

5 Q All right, sir. The next portion of our claim is
6 that at least one set of command signals comprising at
7 least one working command signal and one -- at least one
8 non-working command signal for a given vehicle to thereby
9 provide command capability with a plurality of different
10 vehicles. So let me go back up. Did you find that the
11 LMU-3000 is able to generate at least one working
12 command signal?

13 A Yes.

14 Q All right, sir. And how do you determine that?

15 A Well, it is a controller that is able to communicate
16 with a number of different buses. That's proven by the
17 electrical schematic that shows it has connections that
18 can go to any one of a number of different buses.

19 Number two, even since I think it's 2008 where it's
20 been mandated that the vehicles use the CAN type bus
21 architecture, there's two types of CAN bus architecture.
22 And so the information in the schematics certainly
23 relate to that. So it does have the capability
24 structurally of communicating to multiple different bus
25 architectures.

1 Now, a working command signal is a command signal
2 that is sent out by the microcontroller, by the
3 multi-vehicle compatible controller, to identify whether
4 or not the signal, the command signal that is being
5 generated, can be actually received and understood by
6 some component on the bus. If it is a command signal
7 that is understood by a component on the bus, then
8 necessarily that is a working command signal.

9 Q What's an example of a non-working command signal?

10 A When you first start up the vehicle and, in
11 particular, with this, you install the multi-vehicle
12 compatible controller system. This control system, at
13 that point, does not have operator knowledge of what the
14 bus is in that particular vehicle. So it will send out
15 a sequence of commands in order to discover what that
16 bus is. It's called a bus discovery process.

17 And so if it sends out a command, for instance,
18 assuming that it is a J1850-PWM and it gets back no
19 response, then that's a non-working command. It sent
20 out a command, but it got no response. So that sets up
21 a sequence of commands that are generated by the control
22 system to determine or discover what the bus is, some of
23 which will not work, because it receives no response and
24 at least one of which will work, which is a working
25 command.

1 Q All right, sir. While we're talking about the
2 command signals, let me put up for you a portion of
3 Plaintiff's 60. This is a CalAmp presentation that
4 we've already looked at a little bit during your
5 testimony. Is this vehicle detection or vehicle
6 discovery process basically the idea of the working and
7 non-working command signals you were referring to?

8 A Yes. In my opinion, this corresponds to that.
9 You can see, for instance, it says the process is called
10 vehicle discovery. You insert the device. The vehicle
11 is off. You run the ignition for a certain period of
12 time to complete it. And it is during this process that
13 these commands are sent out to attempt to get a match to
14 understand what is actually happening and then discover
15 what bus it is.

16 Q All right. Staying with Plaintiff's 60 on the next
17 page of that presentation, we have the ignition on and
18 this process here, is that basically the idea of sending
19 out working and non-working command signals to determine
20 the bus that it's on?

21 A In my opinion, yes. This step one, technically it's
22 providing information out to the bus and looking for a
23 response. And if it gets a response, such as read VIN,
24 if it gets a response then it knows it's a working
25 command signal. If it doesn't get a response, then it's

1 non-working.

2 Q And the start V-bus accumulators, do you remember
3 what that indicates?

4 A Yes. That was talked about extensively during the
5 deposition testimony that was played here today,
6 especially. The accumulators are temporary storage
7 areas and a memory or controller. They both have them.
8 And the accumulator basically is accumulating
9 information that's coming back from the bus. So if it
10 sends out a command that works and it gets a response,
11 such as a VIN number, then the VIN number comes back and
12 it's accumulated. The information that comes back is
13 stored.

14 Q All right, sir. So we have at least one working and
15 non-working set of command signals?

16 A Yes.

17 Q Is there anything else needed to meet the element
18 of this claim that we haven't covered?

19 A No. Because each one of the elements that are shown
20 in the body of the claim have identified its location
21 and what actual structure supports this requirement,
22 and so the combination of all of these elements that
23 are shown in the body then meet the requirements for a
24 control system of the preamble and, therefore, the
25 CalAmp -- LMU-3000 does, in fact, contain and I found

1 every one of these components.

2 Q And with those elements met, just for completeness,
3 we can confirm that this is a control system for a
4 vehicle with a data communication bus as described,
5 right?

6 A Yes, 'cause the claim control system is defined by
7 the elements of the claim, and that I have shown to be
8 in existence in the CalAmp 3000, correspondingly in the
9 3030 and the VPOD and VPOD2.

10 Q All right. Now before we leave this claim, I do
11 want to go back to the Court's claim construction.
12 Earlier, you talked about how the Court had defined
13 certain of these terms and that your opinions conformed
14 to the Court's construction. Do you have the
15 constructions up there with you?

16 A I believe I do.

17 Q If not, I can put them up on the screen for you.

18 A Yes, I do. I have it. I have it.

19 Q Okay. So I think for purposes of this claim,
20 the Court construed transmitter and receiver as radio
21 frequency transmitter and receiver. The transmitter and
22 receiver that we discussed -- let me back up. Can you
23 explain what a radio frequency transmitter and receiver
24 means?

25 A Yes. We'll take each one separately. A radio

1 frequency transmitter says that it uses an antenna that
2 you propagate electromagnetic waves across and then they
3 propagate out from the antenna, they emit from the
4 antenna. It's just like sending a radio signal from a
5 radio station. Cell phones to cell towers is radio
6 frequency. Paging is radio frequency. Basically, it's
7 a transmitter that transmits information across a
8 wireless network.

9 Q All right, sir. Also defined is a controller and a
10 multi-vehicle compatible controller. And the
11 multi-vehicle compatible controller is defined as
12 electronic circuitry that performs one or more control
13 functions and can operate more than one vehicle. So
14 first of all, is the controller that you've identified
15 electronic circuitry?

16 A Yes. The controller that I identified for the
17 multi-vehicle compatible controller, I indicated the STM
18 32-bit device on the board, indicated the array device
19 on the BOD [sic] board that conforms to the BOD
20 criteria, as well as the interface chip. So that system
21 is the multi-vehicle compatible controller and it does
22 meet the criteria of electronic circuitry, which it is,
23 and it performs one or more control functions, which it
24 does, such as sending out information on the bus
25 expecting and receiving responses.

1 Q How did -- one of ordinary skill in the art at the
2 time that this was filed, can you explain how one of
3 ordinary skill in the art would understand a control
4 function?

5 A Yes. If you look at any implementation, the
6 question is what is the device. Well, the device that's
7 performing this is, by definition and by data sheet and
8 by representation by the manufacturer, a
9 microcontroller. It is a controller, unquestionable.
10 Number two, a control function are the functions that
11 the controller would perform.

12 If part of the control functions are, in some cases
13 actually sending out a mandate, a command that is a
14 mandate, you must perform something; or, for instance,
15 if it's connected directly to a siren and it has an
16 event, a trigger, and it looks at the conditions and
17 then says there has to be a response, I've got to sound
18 a siren, that is something that is a mandate. It has to
19 do it. That is a type of command.

20 Another type of command or control function is
21 sending out information to see if you do get a response.
22 It's called broadcast. In the RF world, in the wireless
23 world, these are part of the structural ways in which
24 communication occurs from a controller.

25 Secondly, when you look at controller within the

1 construct of this particular type of a system, which is
2 a bus -- a vehicular bus system, the vehicular bus
3 system -- and I'll use, for example, the CAN bus system
4 which, as I said, has been mandated throughout the U.S.
5 since 2008, the CAN bus system, what does it mean?
6 Controller. It's a control -- it's a controller. It's
7 an area network, and it's a controller. So it
8 understands that it's a control system.

9 How does it work? You cannot have multiple
10 different messages on the same set of wires at the exact
11 precise time. There has to be some bus arbitration as
12 to who's controlling the bus and who is not. And so,
13 there are mechanisms and ways in which the CAN bus
14 system architecture has been designed such that there is
15 one and only one unit that is a part of -- that's
16 connected to that bus that's allowed to control the bus,
17 to have access to the bus for the purposes of sending
18 information or receiving it.

19 And so in some cases, we refer to that in the
20 electronic world as master and slave. Who is the
21 master? Who is the slave? The master is the
22 controller. The slave is the recipient. And if
23 information is being generated to a bus that, by
24 definition, is the master, the one who is generating the
25 bus is the master, and he is the controller.

1 So performing control functions in an electronic
2 world is basically controlling the bus, sending
3 information on the bus. And that could be done in terms
4 of sending out information, expecting responses.
5 Sometimes we refer to it as a query.

6 Q All right, sir. If we can move on to Claim 3 and
7 remind the jury, again, this is a dependent claim, so
8 what does Claim 3 require?

9 A Claim 3, being a dependent claim, requires all of
10 what has been defined and required in Claim 1. And in
11 addition, it adds an additional limitation. And that's
12 after the "wherein" word. It says, a control system,
13 according to Claim 1, wherein, said multi-vehicle
14 compatible controller generates command signals
15 sequentially.

16 Q And did you determine whether the LMU-3000 and the
17 other accused devices send out command signals
18 sequentially?

19 A Yes, I did.

20 Q And does it?

21 A Yes. As I showed in the electrical schematics and
22 have just mentioned the fact that you can have multiple
23 sets of information on the same wire at the same
24 position at the same time, it has to, by definition, on
25 a CAN bus system, or the architecture that's used in

1 these vehicle bus systems, send them out sequentially.
2 It has to be done sequentially. It's necessary to be
3 done so. And information that I obtained by listening
4 to the deposition transcript -- reading the deposition
5 transcript, reading or hearing the verbal testimony,
6 even today, confirms the fact that the controller does
7 generate the command signals sequentially.

8 Q All right, sir. Claim 4 requires that the
9 multi-vehicle compatible controller generates command
10 signals each representing digitally coded information.
11 Did you find that to be met by the CalAmp accused
12 products?

13 A Yes. Each of the bus types of architecture require
14 digital protocol. Protocol is the communication
15 standard that is used. And each one of these require
16 digital implementation -- digitally coded information,
17 as far as the way in which they're implemented.

18 Q All right, sir. Claim 5 requires that the
19 multi-vehicle compatible controller comprises a memory
20 for storing data related to at least one set of command
21 signals. Did we talk about any memory found in the LMU
22 products today?

23 A Yes, I did. In fact, I think I -- I know I pointed
24 it out on the OBD board. There's also memory that's
25 associated with the STM microcontroller on the flash

1 memory that's located also on the LMU board.

2 Q All right. So you found that -- this element to be
3 met in each of the accused products?

4 A Yes, I did.

5 Q All right, sir. In Claim 12, we have a further
6 limitation that a multi-vehicle compatible controller
7 stores a set of device codes for a given vehicle device
8 for a plurality of different vehicles. Did you find that
9 aspect of this claim to be met by the accused products?

10 A Yes, I did.

11 Q And did you also find that the multi-vehicle
12 compatible controller is for reading a device code from
13 the data communication case bus and for determining a
14 match between a read device code and the stored device
15 codes to thereby provide reading compatibility with a
16 plurality of different vehicles?

17 A Yes, I did. One of the unique aspects of this type
18 of a system is the fact that you send out a sequence of
19 codes, and only the code which is understood by some
20 downstream vehicle device on the vehicle bus is going to
21 respond. And so, it's called a working command. When
22 you get that working signal provides a response, that's
23 a match.

24 Q And in the case of the LMU products, when does that
25 -- well, first of all, when is that device code read?

1 A Well, the device code for a particular bus
2 architecture is sent out by the OBD device through its
3 interface. And it's sent out in a particular code
4 format that only a particular bus architecture can
5 comprehend. And so, if there is a response that comes
6 back it's ready additionally by that OBD controller and
7 then passed on to the LMU. And the LMU chip, the STM
8 device, makes the final determination.

9 Q And did we hear testimony from Mr. Chen
10 acknowledging that the LMU devices are able to perform
11 this process of reading the device codes from the bus
12 and matching them with look-up tables?

13 A My opinion is, in hearing his testimony, the answer
14 is yes. I think there's some -- I can recall some
15 discussion with regard to whether or not, in fact, these
16 devices are controllers and whether or not, in fact,
17 it's a command signal. But I think I've already gone
18 through this analysis, and I've provided information to
19 the jury already that my opinion is that it is a
20 controller for the reasons I stated, and it is
21 multi-vehicle compatible, because it does send out a
22 sequence of different codes and it does receive -- if it
23 has a corresponding code that is returned, then we know
24 that there is a match, by definition, because the bus
25 responded.

1 Q And once that response is received by the LMU
2 device, the LMU device is able to match what it reads
3 off the bus to what is stored internally?

4 A Yes. Once it provides that -- once it receives that
5 read information back from the bus, then it knows that
6 it has a response that's compatible with what -- with
7 the type of message it sent out and, therefore, it now
8 has -- the LMU-3000 now has the information that needs
9 to then configure the system so that it will now operate
10 as if it is that particular type of bus system that
11 it's talking to.

12 Q All right, sir. Claim 14 indicates that our
13 transmitter is a central station transmitter and the
14 receiver is at the vehicle. Do you see that?

15 A Yes. In fact, we had looked earlier at a diagram
16 that showed the LMU communicating wirelessly to the
17 CalAmp servers.

18 Q Is this the diagram you're referring to, sir?

19 A That's correct.

20 Q And so here's our LMU, and then are you referring to
21 the servers on this side?

22 A Yes, that's correct.

23 Q Would you view this as being a central station,
24 essentially?

25 A Yes, I would.

1 Q Now, Claim 14 is with the transmission of data from
2 the central station or the servers to the vehicle; is
3 that right?

4 A Again, it's Claim 14 you're reading?

5 Q Yes, sir.

6 A Yeah. Here, as I mentioned earlier, there's a
7 transmitter receiver on the LMU-3000, 3030 or VPOD
8 connectivity with the other LMUs. And there's also a
9 transmitter receiver on the server side. And so, you
10 transmit from one, you receive on the other, and vice
11 versa.

12 Q And so, did you also find Claim 16 to be met?

13 A For the same reason, yes.

14 Q All right. And just before we move away from this
15 to try to create a bit of a summary for us, as we go
16 through all these claims and products, did you find that
17 each of Claims 1, 3 through 5, 12, 14 and 16 of the '876
18 patent were found in the LMU-3000 or met by the LMU-3000?

19 A Yes. That's consistent with the testimony I just
20 offered.

21 Q And what about for the 3030 and 3050?

22 A 3030 and 3050 is identical to the 3000 for the ways
23 in which its operates and the components. The only
24 distinction is on that the OBD board, they replaced one
25 of the devices with another ST 32-bit microcontroller.

1 So yes, it would comply to 3030 and 3050 as well for
2 each of those claims.

3 Q All right, sir. And does the VPOD also infringe
4 based on your analysis?

5 A Yeah. Well, the VPOD itself has no substantial use
6 other than connecting to the specific LMUs that have GPS
7 and wireless capability. And so the combination of the
8 VPOD with the other LMUs that have been defined, yes,
9 they also will infringe each one of these claims of the
10 '876.

11 Q And you understood from the testimony we heard that
12 the VPOD only works with other CalAmp LMUs, correct?

13 A That's correct.

14 Q So CalAmp necessarily is providing the other
15 components, the cellular and GPS that aren't found within
16 the housing of the VPOD?

17 A That's correct. And as I said, as I recall, I
18 believe the numbers are 2600 and 4200.

19 Q All right, sir. And did you also find the VPOD2 to
20 infringe under the same explanation as with the VPOD?

21 A Yes, that's correct.

22 Q All right, sir.

23 MR. SANTURRI: Your Honor, would you like --

24 THE COURT: Let's take a break at this point.

25 Looks like we're at a good breaking point. It's now

1 about five minutes before three. We'll come back at
2 roughly ten after three and pick up where we left off at
3 this time, with patent '885.

4 (Jury exits.)

5 We're in recess until roughly ten after three.

6 (Recess 2:56 p.m. to 3:12 p.m.)

7 The record should reflect the jury is absent.

8 The parties are present. Let me just take up a
9 scheduling issue. If we anticipate the case going to
10 the jury on Monday, we should do a charge conference
11 tomorrow night at, say, 4:00 something like that, let
12 the jury go early and discuss the jury instructions
13 tomorrow.

14 If we think the case is going Tuesday, we can
15 do the charge conference Monday night or if we're
16 essentially done with evidence at some point on Monday,
17 we can let them go early and do it then. I just want to
18 work out a time that's the most efficient for everyone's
19 travel and witnesses coming back and forth, and so
20 forth. So I want to tell the jury before they leave
21 today what they're doing tomorrow, so if you could help
22 me understand where you think we are. How much longer
23 do you think you have in the plaintiff's case,
24 Mr. Santurri?

25 MR. SANTURRI: We should be done -- well,

1 we'll be done sometime mid-day tomorrow is what I would
2 expect.

3 THE COURT: Okay.

4 MR. SANTURRI: Maybe late tomorrow.

5 THE COURT: And then the defense, how long do
6 you think you will need?

7 MR. KAUTH: A day and a half to two days.
8 I think Tuesday is most likely.

9 THE COURT: Tuesday does seem more likely.

10 So why don't we do this. We'll push the
11 charge conference over to Monday sometime, give us a
12 chance to reflect on some of those issues. One of the
13 issues in the charge conference we can talk about more
14 later is the viability of anticipation as to patent
15 '278. '989 is gone.

16 And I have reviewed the order on motion for
17 summary judgment and please review that, because my
18 denial of summary judgment on '278 was my conclusion
19 that the anticipation defense was not raised pursuant to
20 Mr. Andrews having testified that he was not considering
21 anticipation and then his declaration came after close
22 of discovery. If there's something different, point me
23 to it in the record so I can look at it over the
24 weekend. All right?

25 All right. Let's have the jury come back,

1 please. So for planning purposes, we'll go until five
2 today.

3 (Jury present.)

4 The record should reflect the jury has
5 returned and we are continuing with the direct
6 examination of plaintiff's expert witness when you're
7 ready.

8 MR. SANTURRI: Thank you, Your Honor.

9 DIRECT EXAMINATION (Continues.)

10 BY MR. SANTURRI:

11 Q All right. Mr. McAlexander, I'd like to turn your
12 attention to the '885 patent. And if we can do the same
13 process, I think it may move a little more quickly,
14 because we're going to see some of the same elements
15 again. So if we start out, did you determine that the
16 CalAmp accused products are, in fact, control systems
17 for a vehicle comprising a data communication bus and at
18 least one vehicle device connected thereto?

19 A Yes, because each of the elements which follow that
20 preamble are found in the accused product.

21 Q All right, sir. And the first element is
22 transmitter and receiver for receiving signals from the
23 transmitter. Did you find that in the CalAmp accused
24 products?

25 A Yes. I identified this also in the '876 claim

1 chart, which we went through and this is word for word
2 the same. So the identification of the transceiver on
3 the CalAmp device, as well as the transmitter receiver
4 part of the network server system.

5 Q And I don't think we discussed it with respect to
6 the last claims, but not only did you walk us through
7 where physically it's at in these devices, but you were
8 here for the deposition testimony of Mr. Hergesheimer
9 and Mr. Chen that confirmed that this element is present,
10 correct?

11 A Yes, that is correct.

12 Q All right, sir. The next element we have here is a
13 multi-vehicle compatible controller cooperating with the
14 transmitter and receiver. And did we find that in the
15 '876 patent?

16 A Yes. I already identified that the units that were
17 used, it's the STM device on the LMU, it's a combination
18 with the controller that's part of the on-board display
19 -- the OBD device, on-board diagnostic device, as well
20 as the interface.

21 Q All right. And before we move on, I realize we may
22 have kind of skipped over a little bit and perhaps not
23 provided enough explanation on the whole idea of
24 multi-vehicle. Now, you've talked about a couple of the
25 different bus types. Can you explain sort of the concept

1 of multi-vehicle to the jury?

2 A Yes. In the -- prior to this invention, the --
3 there were different bus architectures, and so one would
4 design a particular type of control system that would be
5 dedicated to that type of bus architecture. So, in
6 essence, you had operator knowledge of what you're
7 designing for and you design for it.

8 Here, this invention is developing and designing and
9 having in place one control system that could have
10 multiple uses. It could be used with any of a number of
11 different types of bus systems. And it has the
12 mechanism by which it sends out a series of signals,
13 device codes, and receives responses back and can
14 determine whether or not there is a particular match.
15 In other words, it can go between different bus systems
16 and communicate over them. All it has to do is first
17 send out the types of query necessary to get a response.
18 Based on that, determine the type of bus and then
19 configure accordingly.

20 Q We've talked about some different bus types, the
21 CAN bus, the ISO, the J1850. Is it common for different
22 manufacturers to use different bus types?

23 A It has been and is still today, but with a few
24 caveats. In the past, before, there was standardization
25 since about 2008 around the CAN bus system for U.S.-made

1 vehicles. There were different techniques. And, for
2 instance, I mentioned the J1850 PULS with modulator, PWM
3 bus. That ran at a certain frequency. I think it was
4 about 10.4 and -- 10.4 kilobits per second, and that
5 particular one was adopted by Ford.

6 So they had a certain communication or protocol that
7 a system, a component, a controller would have to work
8 with it. But if you put that over into the J1850VPW,
9 variable PULS width modulation, it would not cooperate.
10 It would not work.

11 So there were different bus architectures that were
12 appropriated by different manufacturers and sometimes
13 different models within manufacturers. But what this
14 invention contemplates is having a system that can go in
15 without any prior knowledge of what that system bus
16 architecture is, discover what that is and then
17 configure accordingly.

18 Q Now, in different vehicles with the same bus, for
19 example, multi-vehicles with the same CAN bus, is it
20 possible that even amongst those vehicles the codes that
21 are used on the bus are going to be different?

22 A Yes. In fact, even within the CAN there are two
23 different specs that define the CAN. There's a CAN 11
24 and a CAN 29. And so there's a different architecture,
25 a different communication that's appropriate in each one

1 of those.

2 Q And with even a single bus, even with a single type
3 of CAN bus, do different manufacturers or even different
4 models use different codes to perform the same
5 operations?

6 A That is correct, they do. Sometimes a VIN number or
7 the model number of the car is very important to be able
8 to tailor the specific code to that particular type of
9 model device so, yes. Even within the CAN structure,
10 even if a manufacturer uses, for instance, the CAN
11 29-bit type, different models may use different
12 features. And they may -- for instance, the luxury
13 models would certainly use a different set of features
14 or some additional features than would not even be
15 recognized by the lower-end models.

16 Q All right, sir. Coming back to Claim 1 of the '885,
17 we left off at storing a set of device codes for a given
18 vehicle device for a plurality of different vehicles.
19 Did you find that the LMU -- the CalAmp LMU products at
20 issue in this case can store -- sorry -- store device
21 codes?

22 A I didn't mean for it to be contagious. Yes, it
23 does. In fact, this was confirmed by the deposition
24 testimony as well.

25 Q All right. And I think we covered this with respect

1 to one of the dependent claims previously. But did you
2 also find that the accused CalAmp devices read device
3 codes and determine a match between read device codes and
4 stored device codes?

5 A Yes. I mentioned it goes through a sequence of
6 commands that sends signals out for a particular type of
7 bus. And then when a response comes back then obviously
8 it's reading that information from the bus. And if it
9 does receive a response, then a match has occurred.

10 Q All right, sir. Having gone through the rest of
11 that element, can you confirm that this final element of
12 Claim 1 in the '885 is met by the CalAmp accused
13 products?

14 A Yes. Because of the way in which it operates to
15 send out a sequence of codes, it does provide a
16 compatibility with a plurality of two or more different
17 vehicles.

18 Q All right, sir. Claim 2 of the '885 adds a memory
19 for stored device codes. Were you able to identify that?

20 A Yes. I did identify that. And I indicated earlier
21 where memories were located on both the LMU board as
22 well as the BOD [sic] board.

23 Q Did we also -- the OBD board?

24 A Yes.

25 Q And did we also hear deposition testimony confirming

1 that?

2 A Yes. And as I even look through the schematics of
3 Hardee, it also identified where the memories are
4 located.

5 Q All right, sir. Claim 3 of the '885, the
6 multi-vehicle compatible controller comprises a processor
7 cooperating with said memory for determining a match
8 between the read device code and the stored device codes.
9 Do you see that?

10 A Yes.

11 Q Did you determine whether that element's met by the
12 CalAmp accused devices?

13 A Yes. The process -- the LMU processor itself
14 cooperates with the memory and makes that assessment,
15 makes that determination.

16 Q All right, sir. Claims 12 and 14 are like claims
17 that we covered in the '876 where a central station acts
18 as either the transmitter or receiver. Did you find that
19 the CalAmp accused products meet Claims 12 and 14 of the
20 '885?

21 A Yes. I also addressed this one when I was dealing
22 with the claims on the '876, both the transmitter and
23 receiver at the central station, as well as one on the
24 LMU device, so Claims 12 and 14 are both practiced.

25 Q All right, sir. We summarized that chart. Let me

1 go back to my slide here and confirm that you found
2 Claims 1 through 3, 12 and 14 of the '885 patent were
3 infringed by the LMU-3000?

4 A That is correct.

5 Q And by the 3030 and 3050?

6 A For the same reasons I discussed before, yes.

7 Q And by the VPOD with -- in combination with other
8 CalAmp products?

9 A In combination with the other LMU products, yes.

10 Q And the VPOD2 for the same reasons?

11 A That's correct.

12 Q All right, sir. We're going to move on to the '727
13 patent. And I'm going to have you work us through this
14 claim 'cause we have some different language than what
15 we looked at previously.

16 Claim 1 is for a speed-exceeded-notification device
17 for a vehicle of a type comprising a vehicle data
18 communications bus extending throughout the vehicle, and
19 at least one vehicle device generating data related to
20 vehicle speed on the vehicle data communications bus.
21 Did you find that that -- Claim 1 to be infringed and
22 that the accused products are, in fact, the speed
23 exceeded notification device?

24 A I did find that the products are -- the products
25 that are accused do infringe. And with respect to this

1 first block, which is the preamble, once again, I
2 determined that technically it was not a limiting
3 preamble. It's addressing a speed exceeded notification
4 device. It sets the environment for which it can
5 operate in. But the measure of what is required is
6 defined by the body of the claim, which is the wireless
7 communication device and the controller.

8 Q All right, sir. You did -- were you able to
9 determine whether there was a wireless communication
10 device in the accused products?

11 A Yes. It's the same cell RF transmitter receiver
12 that I identified before.

13 Q All right. And the next element is a controller to
14 be coupled to the vehicle data communications bus for
15 reading the data related to vehicle speed from the
16 vehicle data communications bus. Did you find that to be
17 present in the CalAmp accused products?

18 A Yes. And I'm pointing here to the same controller
19 that I had identified in the previous two patents,
20 specifically the LMU controller, the STM 32-bit
21 microcontroller, as well as the controller that's
22 operative on the OBD board, in combination with the bus
23 transceiver.

24 Q And did we hear from at least Mr. Eiberger and
25 perhaps Mr. Hergesheimer confirming that the accused

1 products, in fact, collect or read data from the bus on
2 vehicle speed?

3 A Yes, that is confirmed.

4 Q All right, sir. And then, do the CalAmp accused
5 products also determine when a vehicle speed exceeds a
6 speed threshold for a first time period, and based
7 thereon cooperate with the wireless communications device
8 to send a speed exceeded notification?

9 A Yes. That was also affirmed by the deposition
10 testimony.

11 Q And was that the deposition testimony of
12 Mr. Eiberger?

13 A That is correct. He affirmed that there were speed
14 thresholds that were defined and scripts could be
15 written in order to make that determination, but the
16 structure and the function, the capability, is built
17 into the controller.

18 Q So have we met every aspect of the last element of
19 Claim 1?

20 A In my opinion, yes.

21 Q All right, sir. Claim 10 requires that the remote
22 vehicle speed exceeded notification comprises a speed of
23 a vehicle. We heard testimony that the vehicle speed is
24 reported by the accused products as part of event
25 reports?

1 A That is correct. It is one of the parameters that
2 is accumulated.

3 Q All right, sir. And Claim 11 relates to the speed
4 exceeded notification also comprising vehicle position.
5 And did we hear from Mr. Eiberger that the event reports
6 included the latitude and longitude position of the
7 vehicle?

8 A That is correct. And I had defined earlier a
9 document, PX-23, that recited and specified these
10 particular parameters, including speed, as well as
11 latitude/longitude.

12 Q So based on your analysis can we confirm that
13 Claim 1, 10 and 11 of the '727 are infringed?

14 A In my opinion, yes, they are infringed.

15 Q And that was for the 3000. For the 3030, it's the
16 same conclusion?

17 A That is correct for the same reasons I described
18 before.

19 Q And the VPOD in combination with the LMUs from
20 CalAmp?

21 A That is correct.

22 Q And the VPOD2 in combination with LMUs from CalAmp?

23 A That is also correct.

24 Q All right, sir. Here we have the last of the
25 asserted patents that we're going to go through today.

1 So let's start with Claim 1 of the '278 patent. Did you
2 confirm that Claim 1 was infringed by the CalAmp accused
3 products?

4 A Yes. Going through the same analysis and taking the
5 properly construed claims and applying them to the
6 devices, I concluded Claim 1 is infringed by the CalAmp
7 products.

8 Q All right, sir. The first element that we have here
9 is the vehicle position determining device. Can you
10 explain what that is?

11 A That is the GPS component.

12 Q And we had that confirmed in deposition testimony?

13 A Confirmed in deposition. And I also affirmed where
14 it was located on the boards, as well as in the
15 schematic.

16 Q All right, sir. And we have a wireless
17 communication device again. Is that still met for the
18 purposes of this claim?

19 A Yes. That's the receiver transmitter.

20 Q And we have a multi-vehicle compatible controller
21 for cooperating with the vehicle position determining
22 device and the wireless communication device to send them
23 vehicle position information. Were you able to confirm
24 that the LMU accused products meet that element?

25 A Yes. And when I went through the description of the

1 schematics, I showed where the electrical
2 interconnectivity occurs between the controller, one
3 part of the controller, as well as to the GPS module and
4 also to the wireless module.

5 Q And those were the red lines that you circled and we
6 labeled for the communication between the GPS and the
7 LMU?

8 A Yes, sir, that's correct.

9 Q All right, sir. The next element is multi-vehicle
10 compatible controller to be coupled to the vehicle data
11 bus for communication thereover with at least one vehicle
12 device using at least one corresponding vehicle device
13 code from among a plurality thereof for different
14 vehicles. Did you find this element to be met?

15 A Yes. The one vehicle device that I identified was
16 the ECU or ECM. And the data bus connects between the
17 controller, and that particular device is confirmed.
18 And communication for generating data or commands
19 signals to the bus and for receiving or reading back
20 information from the bus, I've already discussed as
21 well.

22 Q And it's that information reading from the bus,
23 those device codes that we're talking about here?

24 A That is correct. There are certain -- the system is
25 digital, and the digital information and instructions

1 are encoded. And they are encoded in a way in which
2 there must be an encoding to go to the bus and a
3 decoding to receive the information back from the bus.
4 These are device codes.

5 Q And I think we've already talked about the fact that
6 these devices are designed for different vehicles?

7 A Yes, that's correct.

8 Q Going back to the controller coupled to the data
9 bus, that was through that port that we looked at, the
10 picture of and the metal interface; is that right?

11 A That is -- the one you're referring to is the
12 picture that I showed on the OBD board that had the
13 fingers that stuck out to the right. And that basically
14 is an interface chip that connects to those particular
15 connection points, and they plug into the plug
16 receptacle part of the vehicle data bus.

17 Q All right. We covered everything in this element?

18 A That is correct.

19 Q All right, sir. Finally, we have a downloading
20 interface for permitting downloading of enabling data
21 related to at least one corresponding vehicle device code
22 for use by said multi-vehicle compatible controller.
23 Were you able to locate that downloading interface?

24 A Yes, I identified two. One is the serial port that
25 I identified when I went through the schematic, and I

1 also showed on the LMU board where that is located.

2 And I also identified the wireless transceiver, which is
3 also used for downloading. So it can be either wired or
4 wireless in terms of downloading downloading.

5 Q Now, the Court has defined enabling data as data
6 related to at least one corresponding vehicle device code
7 for use by the controller. Did you determine that the
8 enabling data, as defined by the Court, can be downloaded
9 by the -- to the OBD units from CalAmp?

10 A Yes, both through the serial port and also
11 wirelessly, and they can be updated as well.

12 Q And we heard that from Mr. Hergesheimer and
13 Mr. Eiberger, right?

14 A As I recall from both, yes.

15 Q All right, sir. Claim 2 relates to the downloading
16 interface comprising a wired signal downloading
17 interface. Did you find that?

18 A Yes. This is the serial port.

19 Q Claim 3 depends on Claim 2, which also depends upon
20 Claim 1 and requires that the wired signal downloading
21 interface is a connector for temporary connection.
22 Did you find that?

23 A Yes. The wired interface has a connector associated
24 with it so that you can plug in some external device to
25 it.

1 Q And I believe we heard about provisioning the
2 devices and loading scripts on to them using that serial
3 port; is that right?

4 A That is correct, yes.

5 Q All right, sir. Claim 4 recites or requires a
6 downloading interface that is wireless. Did we already
7 discuss that?

8 A That is the RF transceiver, and it also is affirmed
9 by the deposition testimony.

10 Q And I think CalAmp refers to that as over the air or
11 OTA?

12 A It's over-the-air provisioning.

13 Q Okay.

14 A And let me just say it's beyond just provisioning,
15 because also they have the ability over the air to
16 download the software, the firmware, that they operate
17 based upon. They also have the ability to load
18 additional scripts for provisioning.

19 Q All right, sir. And 5 makes that wireless
20 downloading interface temporary. Is that consistent
21 with how the CalAmp accused products are designed?

22 A Yes. It uses standard wireless communication
23 protocols, so it is temporary. It's not a permanent
24 connection.

25 Q All right. And Claim 6 requires that the -- at

1 least one vehicle code is for reading at least one
2 vehicle device. Did you confirm that to be true?

3 A Yes. And I have identified that device as the ECM
4 or the ECU. It's similar to what I described in the
5 previous patent.

6 Q All right, sir. Claim 8 adds the limitation that
7 the downloading interface permits downloading of at least
8 one programming instruction for the multi-vehicle
9 compatible controller, and the programming instruction
10 has been defined by the Court as code which instructs
11 the controller to perform an operation. Did you find
12 Claim 8 to be met by the CalAmp products?

13 A Yes. This is performed when the -- using the PULS
14 system to download information, as well as can be
15 firmware, can be scripts, but there are programming
16 instructions that are downloaded as a result of that
17 connection.

18 Q All right, sir. Claim 11 requires that the device
19 uses GPS. We found that, correct?

20 A That is correct. That's the GPS module.

21 Q Claim 12 recites that there's a housing containing
22 the vehicle position determining device, the wireless
23 communication device, and the multi-compatible
24 controller, as well as the downloading interface.
25 Did you find that?

1 A Yes, to housing.

2 Q Claim 13 comprises a vehicle data bus extending
3 throughout the vehicle. Actually, I should back up.
4 This is the preamble, so let me back up and just confirm
5 that for Claim 13, did you find that to be infringed?

6 A Yes. Claim 13 is another independent claim.

7 Q All right. The first element is a wireless position
8 determining device. I think we already talked about
9 that?

10 A That's the GPS module that was found.

11 Q The wireless communication device?

12 A That's the RF transceiver that's found.

13 Q The multi-vehicle compatible controller for
14 cooperating with the position determining device and the
15 wireless communication device?

16 A And this is the same controller set that I have
17 identified in the previous claims.

18 Q The controllers coupled to the bus for communication
19 with at least one vehicle device using corresponding
20 vehicle device codes for a plurality of vehicles, have
21 we already found that?

22 A Yes. This is the controller that -- coupled through
23 the transceiver interface.

24 Q All right. And then, we have a downloading
25 interface for permitting the downloading of enabling

1 data. Did we talk about that in Claim 1?

2 A That is correct, the same as Claim 1.

3 Q All right. And then, the last element in this
4 particular claim is that the downloading interface is a
5 temporary connection to a downloading device. Did we
6 find that?

7 A This would be the serial port, yes.

8 Q And Claim 14 requires that the -- at least one
9 vehicle code is for reading from at least one vehicle
10 device? I think we already confirmed that?

11 A That is correct. Again, looking at the ECU is that
12 vehicle device.

13 Q Claim 16, downloading interface for permitting
14 downloading of at least one programming instruction.
15 I think we had a similar element to that in one of the
16 other claims --

17 A That's correct, Claim 1.

18 Q All right, sir. Moving on to Claim 18,
19 multi-vehicle compatible tracking unit for a vehicle
20 comprising the vehicle data bus extending throughout the
21 vehicle. Did you find Claim 18 to be infringed?

22 A Yes. Again, the preamble sets the environment.
23 The elements that are required follow in the body of the
24 claim.

25 Q All right. And we're already talked about a vehicle

1 positioning determining device?

2 A The same answer as in the previous claims, as well
3 as the wireless communication RF device.

4 Q And the controller for cooperating with the GPS and
5 the wireless communication device?

6 A The same set of units that I identified previously.

7 Q And the controllers coupled to the bus for
8 communication with the vehicle device?

9 A That is correct. And it uses the corresponding
10 vehicle device code from among the plurality of thereof
11 for different vehicles, the same as what we found in the
12 previous claim.

13 Q All right. And again, we have the downloading
14 interface for permitting downloading of enabling data.
15 I think we talked about that before?

16 A Yes, the same answer it's found.

17 Q The downloading interface is a wireless receiver
18 for temporary connection. Did we find that?

19 A That's correct. That's used in the RF transceiver.

20 Q And the multi-vehicle compatible tracking unit that
21 has at least one vehicle code, I think we talked about
22 that earlier?

23 A That is correct.

24 Q And finally, we have Claim 21 where the interface
25 is for permitting downloading of at least one programming

1 instruction. We talked about that already?

2 A Yes. I've already defined that previously.

3 Q All right, sir. We've gone through and completed
4 this chart. Would you say that this chart that we've
5 worked on together over the past hour or so accurately
6 reflects your opinions as to infringement as to the
7 asserted claims?

8 A Yes, it does.

9 MR. SANTURRI: Your Honor, I'd move for
10 admission of our chart here as Plaintiff's Exhibit 162.

11 THE COURT: Any objection?

12 MR. KAUTH: No objection, Your Honor.

13 THE COURT: It will be admitted.

14 BY MR. SANTURRI:

15 Q All right, sir, just to summarize where we've gone
16 through with the '278, can you confirm that all the
17 claims of the '278 were met by the LMU-3000?

18 A Yes, that's correct.

19 Q And how about for the LMU-3030?

20 A Yes, that's correct.

21 MR. SANTURRI: One moment.

22 (Pause in proceedings.)

23 BY MR. SANTURRI:

24 Q Before we do the VPOD, if I can bring you back to
25 Claim 12. We talked about the multi-vehicle compatible

1 tracking unit with the housing containing the vehicle
2 position determining device, communication device, and
3 the multi-vehicle compatible controller and downloading
4 interface. Would that claim, Claim 12 of the '278, be
5 infringed by the VPOD and VPOD2?

6 A Claim 12 requires a limitation that comprises a
7 housing that contains the vehicle position determining
8 device, the wireless communication device and the
9 compatible controller, and said downloading interface.
10 Part of the compatible controller is found on the OBD
11 board, which is in a separate -- it would be in the
12 VPOD. And so, it would not be in the same housing,
13 per se, as the other positioning devices.

14 Q All right. So with our summary chart, can we --
15 can you confirm that all the claims of the '278, except
16 Claim 12, are infringed by the VPOD?

17 A Yes, I confirm that.

18 Q And is the answer the same for the VPOD2?

19 A The same is true for the VPOD2.

20 Q All right, sir. We have our summary chart here.
21 And does our summary chart that we worked on accurately
22 reflect your opinions as to infringement in this case?

23 A Yes. It accurately summarizes my opinions as to
24 infringement of each of the claims of the four patents
25 in this case.

1 Q All right, sir.

2 MR. SANTURRI: Your Honor, I'd move for
3 admission of this summary of infringed claims as
4 Plaintiff's 163.

5 THE COURT: Any objection?

6 MR. KAUTH: No objection, Your Honor.

7 THE COURT: 163 is admitted.

8 BY MR. SANTURRI:

9 Q All right, sir. Before we wrap up here, I want to
10 go back to one issue that we talked about before.
11 And I'll put back up the Claim 1 of the '876 just for
12 reference. And I just want to direct your attention to
13 the controller and the idea of performing control
14 functions. We've heard some testimony that some sort
15 of physical change is required to qualify as a control
16 function. Do you agree with that contention?

17 A No. That actually belies control system theory.

18 Q And can you explain that a little bit more?

19 A Well, in some cases you may have an actual event
20 that occurs and has a physical change. For instance,
21 you can have a sensor that has a physical change.
22 That creates an event. You could change the RPM of the
23 engine and that creates a physical change. You could
24 have a system that detects that speed has exceeded a
25 threshold and because it's gone over the amount for some

1 period of time, you could actually enact some code that
2 would eventually force govern, if you will, that speed
3 to come back down within the range of which it's
4 allowed. There are physical changes that you can evoke,
5 but the fact that there is a physical change is
6 something that can be an output or an outcropping from a
7 control function, but it is not necessary for a control
8 function to be performed.

9 Q And looking back through the lens of one of ordinary
10 skill in the art at the time of these patents, would one
11 of ordinary skill in the art view a control function as
12 necessarily requiring some sort of physical or observable
13 change?

14 A Well, the question is physical how and observable
15 to who? If you're asking is it observable by the naked
16 eye, not always. Control systems and computers operate
17 and do a lot of transactions and constructions and
18 control the bus and control the writing to certain
19 devices and the reading from devices. These are all
20 control functions that are performed in a system.

21 Are they physically apparent to the naked eye? No.
22 Does it require for it to be? No. Is there something
23 that is caused to happen as a result of that particular
24 function? Yes. There is something that's called a
25 response. You send out a request, you get a response.

1 Send out a command, you get a response. And the
2 response may or may not evoke a particular operating
3 physical change to some component downstream. It may or
4 may not.

5 Q All right, sir. And in your opinion, did the CalAmp
6 accused products have any substantial non-infringing use
7 as it relates to the bus?

8 A No. And the testimony that I've heard that was
9 played for the jury, I think, affirmed that. These are
10 the designs. The CalAmp products are designed for a
11 particular purpose, and there's no substantial
12 non-infringing use. There's no substantial other use.

13 MR. SANTURRI: Your Honor, I don't have any
14 further questions.

15 THE COURT: All right. Thank you very much.

16 Cross examination.

17 MR. CHONG: Madam clerk, if we could have the
18 defense table. Thank you.

19 CROSS EXAMINATION

20 BY MR. KAUTH:

21 Q Good afternoon, sir.

22 A Good afternoon.

23 Q Earlier you mentioned that you've been an expert
24 witness for quite some time. Have you testified
25 previously for Omega Patents, the plaintiff in this case?

1 A Yes, I have.

2 Q On how many occasions?

3 A I believe the actual testimony, in terms of court,
4 was one previous case.

5 Q And did you consult for them on other cases?

6 A Yes, I have.

7 Q And how many total was that?

8 A I have consulted with them probably on perhaps four
9 other cases.

10 Q And have you ever testified in the past on Omega's
11 behalf relating to any of the patents in this lawsuit?

12 A I believe, yes, in the DEI case.

13 Q And do you recall which one of those -- or which of
14 the patents in suit that would have included?

15 A As I recall, the '885.

16 Q And in your opinion, is there anything in your
17 previous testimony that's inconsistent with the testimony
18 you've given in this case relating to the '885 patent?

19 A I don't believe there's anything inconsistent.

20 Q Let's go back to your experience. I know you
21 mentioned some automotive experience with Toyota?

22 A Yes, sir.

23 Q Was that actually working on products or was that
24 reviewing schematics about the products?

25 A It was actually both. I was reviewing schematics

1 and also the products themselves. [sic]

2 Q Okay. And you mentioned another engagement, I
3 believe, that had related to vehicle bus and I think you
4 said AV applications?

5 A That is correct. It's AV applications of both wired
6 and wireless audio and video applications that are
7 communicated either using the USB type port arrangement
8 and/or a bluetooth type arrangement into part of the
9 database structure that handles the -- that coordinates
10 with the dashboard of a vehicle.

11 Q And was that for designing products or was that in
12 your capacity as a testifying witness?

13 A It was in the capacity of doing an evaluation on
14 systems to determine whether or not certain inventions
15 were found. There was an investigation prior to any
16 case, as well as cooperating as a testifying expert in
17 those matters.

18 Q Okay. And I believe earlier you testified that one
19 of the vehicle devices you pointed out was either the
20 ECU or the ECM, the engine control unit or the engine
21 control module; is that right?

22 A I did identify that. It's also in my report.

23 Q And in your capacity in this previous case dealing
24 with the vehicle bus and the AV applications, do those
25 applications communicate with the ECM or the ECU?

1 A Those particular ones communicated with the modules
2 that are associated with the body control module, not
3 the engine control module for that particular set of
4 cases.

5 Q Okay.

6 MR. KAUTH: If you could put up Joint Exhibit
7 1.

8 BY MR. KAUTH:

9 Q I'd like you to take a look at what's been marked
10 Joint Exhibit 1.

11 MR. KAUTH: May I approach, Your Honor?

12 THE COURT: Yes, you may.

13 (Counsel assists witness.)

14 A I think I have it here.

15 BY MR. KAUTH:

16 Q It will be on the screen as well.

17 A Okay.

18 Q And you talked briefly about the cover page.
19 And I believe you discussed the data under Related U.S.
20 Application Data. Do you recall that?

21 A Yes, I do.

22 Q And you mentioned a continuation-in-part.

23 A Correct.

24 Q Have you investigated all of the patents that are
25 listed in the Related U.S. Application Data block on

1 this first patent, the '876 patent?

2 A In the past I did, yes.

3 Q How about for your engagement on this case?

4 A I investigated the file history that's associated
5 with the '876. I don't believe in this case that I went
6 back and re-reviewed the additional ones that are a part
7 of the CIP structure.

8 Q Okay.

9 A I did it previously. I don't recall doing it again.

10 Q Did you, in your investigation, determine whether
11 there were any changes in the application that led to
12 the '876 patent from the application number 09/382,245,
13 the most previous application in the line?

14 A I don't have recollection, as I sit here, having
15 gone back to decide or look at what is different between
16 those two. I did do a comparison between the '876 and
17 '885 and confirm that they are one and the same in terms
18 of diagrams and specification.

19 Q Are there any changes in the specification between
20 the two?

21 A Between which two?

22 Q '876 and '885?

23 A There are some word changes, yes, nothing
24 substantive.

25 Q And do you recall if between '885 and this

1 application 09/382,245, were all the figures changed?

2 A I don't -- as I sit here, I don't recall. Do you
3 have it here with you?

4 Q I can probably find it for you later.

5 A I'd be more than happy to respond, if I had it in
6 front of me.

7 Q Let's turn to Figure 2 of the '876 patent. And you
8 mentioned there was significance of which direction the
9 arrows were pointing from the vehicle bus. Do you recall
10 that?

11 A Yes, I do.

12 Q And I believe you said that when the arrows were
13 pointing downward, that was writing onto the bus; is that
14 correct?

15 A Yes. In fact, it describes in the column 4, a brief
16 description of the drawing, it says Figure 2 -- that's
17 one we're referencing, correct?

18 Q Correct.

19 A All right. It says, "Figure 2 is a more detailed
20 schematic block diagram of an embodiment of the
21 multi-vehicle compatible controller illustrating the
22 command signal generation in accordance with the
23 invention," so that's generation of commands that's
24 shown in Figure 2, in parenthesis, drive, so it's
25 driving the bus.

1 Q All right. And those commands are going to things
2 like the alarm indicator 44a, the door lock actuator 44b
3 and the remote engine start device 44c, and the engine
4 maintenance controller 45a, correct?

5 A By way of example, it's going to vehicle devices,
6 some of which are shown here that you just recited, yes.

7 Q And if we could flip to Figure 4, I believe that was
8 one where the arrows pointed upward?

9 A Yes, that's correct.

10 Q And can you remind me what you said that meant when
11 the arrows were pointing upward, as far as -- was it
12 writing or reading on --

13 A This one, this is reading. In fact, it says that
14 in Figure 4 under the bus interface, it says,
15 parenthesis, read. So it's reading from the bus.

16 Q And in this picture, are the vehicle devices shown
17 writing onto the bus?

18 A Yes, they are. They're showing responses. One or
19 more of them can respond based upon the information that
20 is being requested.

21 Q Let me jump back out for a minute. Are you aware of
22 an organization called the SAE or the Society of
23 Automotive Engineers?

24 A Yes.

25 Q Have you ever been a member of that organization?

1 A No, I have not.

2 Q Are you familiar with their publications and
3 standards?

4 A Yes.

5 Q In the system described in Figure 4, would the
6 writing on to the bus by the vehicle devices, would that
7 be under a standard specified by the SAE?

8 A Well, the SAE has a number of different standards,
9 and different bus architectures have different
10 standards. And that establishes the physical and the
11 data link layer communication on that bus, not what
12 happens in terms of how it gets to the bus or how it --
13 but it's what is on the bus.

14 Q And is the format of those messages specified in an
15 SAE standard?

16 A Yeah. Each particular type of bus architecture
17 would come under a different SAE standard, such as the
18 J1850PWM or V-W or the CAN bus standard.

19 Q You mentioned CAN a couple of times, and I believe
20 you said that in 2008 that became mandatory in the
21 United States; is that correct?

22 A As I recall, that was the right day -- right year.
23 I understand it was not everyone conformed on that day,
24 but that was when it was mandated and I think there was
25 some -- several years later that others, especially some

1 of the trucks were years later, 2011 as I recall, but
2 2008 was when it was mandated to begin the conversion.

3 Q Do you have an opinion on if I were to purchase a
4 light-duty vehicle today, something under 8,500 pounds
5 in the United States, would it then have a CAN bus inside
6 of it?

7 A It's supposed to be under a CAN architecture, yes.

8 Q And do you know if they use either a CAN 11 or CAN
9 29-bit under that standard?

10 A Under the standard they can use either, as I recall,
11 but there has to be a CAN protocol that is used. And
12 there is slight differences and different features that
13 are available, dependent upon which architecture you
14 choose.

15 Q And the CAN 29-bit format or protocol is simply an
16 extended version of the 11-bit; isn't that right?

17 A I'm not sure I would characterize it as simple, but
18 it is an extended version, and there are other features
19 that can be done.

20 Q So is a CAN 11-bit message compatible on both of
21 those, on both a CAN 11 and a CAN 29-bit?

22 A As I recall, most of the commands that were used
23 were backward compatible, so the answer is yes. Some,
24 but not all.

25 Q You mentioned when you were talking briefly about

1 the different parts of the patent's embodiments and that
2 there were various embodiments, but you had to have at
3 least one; is that correct?

4 A Yes, that's correct.

5 Q Can you have an embodiment shown in a patent that's
6 not claimed at the end?

7 A Yes. That's part of where you get with continuation
8 patents. Sometimes you will go back with a continuation
9 patent that's filed after the other one was filed and
10 begin to claim other embodiments of the invention.
11 Not all embodiments have to be described in the claim.

12 Q So you can save some for later and claim then in a
13 later continuation?

14 A Or you can claim them in other claims, either within
15 that particular patent or in later patents.

16 Q And you also talked about the difference between the
17 independent claims and dependent claims. And you
18 mentioned that the dependent claim had to have everything
19 that was in the independent claim; is that correct?

20 A Yes, that's correct.

21 Q So in doing an infringement analysis, if you
22 determine that a device does not infringe an independent
23 claim, is it possible for that device to infringe a
24 claim that depends from that independent claim?

25 A No. All of the elements have to be found in the

1 independent claim to be practiced or present, and then
2 and only then can you kick in a dependent claim.

3 Q In your previous testimony, you mentioned a person
4 of ordinary skill several times, and I think you were
5 asked to determine just a few minutes ago what control
6 function would mean to a person of ordinary skill in the
7 art at the time of the filing. So for the '876 patent
8 is that the 2000 date that was on the face page?

9 A I believe between the sets of patents there was, as
10 of 1996 for the two '876, '885, and I believe it's 2000
11 -- 2000 for the '727 and '278. But the level of skill
12 in the art, whether it's 1996 or 2000, would be the
13 same.

14 Q So what's the filing date of the '876 patent?

15 A The '876 filing date is May 31st, 2000. That's
16 found right here.

17 Q And the 1996 date you mentioned, where did that come
18 from?

19 A The 1996 date is here. That's basically looking
20 back at the patent, the parent patent, which is the
21 '551.

22 Q And I believe you mentioned earlier that if a patent
23 is a continuation-in-part, there's new matter added, and
24 that's what differentiates it from a straight
25 continuation; is that correct?

1 A Generally speaking that's correct, yes.

2 Q And in this chain that you see in the Related U.S.
3 Application Data box, is each of those patents a
4 continuation-in-part of the previous one?

5 A It is.

6 Q So new matter was added along the way?

7 A That's a fair characterization, yes.

8 Q And you've submitted an expert report in this case;
9 is that right?

10 A Yes, I have.

11 Q And in your expert report, you didn't provide any
12 opinion regarding the priority date to which the '876
13 patent is entitled, did you?

14 A That's correct. I was not requested to do so.

15 Q And is that true for the '885 patent as well?

16 A Yes.

17 Q And the '278 and '727 patents?

18 A That's correct.

19 Q Have you ever previously provided an opinion on the
20 priority date to which any of the patents in suit are
21 entitled?

22 A I recall us talking about this at my deposition.
23 And I believe that we had discussed the '885.

24 Q And after your deposition, did you look and see if
25 you had actually provided an opinion on priority for the

1 '885 patent previously?

2 A No. In fact, as you recall, the information you
3 provided was redacted information. It was not complete.
4 And I could not offer an opinion. I had no other
5 information to look at.

6 Q You didn't still have a copy of your report?

7 A No.

8 Q Another thing you mentioned today was the different
9 parts of the claim, the preamble?

10 A Yes.

11 Q And I believe in all four patents that you looked at
12 with counsel, you found that the preamble was not
13 limiting?

14 A Yes, that is a correct statement.

15 Q Did you set out the standards for whether a preamble
16 is limiting in your expert report?

17 A I would have to go back and look at my expert
18 report. I established the fact that the preamble is a
19 -- it sets the environment. I did not set -- I don't
20 believe I set forth anything about it limiting -- on its
21 face, it's not limiting.

22 Q In your expert report did you say that if a preamble
23 gets antecedent basis or provides antecedent basis to the
24 body of the claim that it's, therefore, limiting?

25 A That's not correct. If it has antecedent basis the

1 question is does it breathe life into the claim, and I
2 found that it does not.

3 Q And is that true for all four of the patents in
4 suit?

5 A That is correct.

6 Q I'd like you to take a look -- we'll put up
7 Plaintiff's 11, which was a diagram you testified on
8 earlier. Is that still in your stack? We'll put it on
9 the screen as well.

10 A The schematics? Yes.

11 Q And if you'd turn your attention to the page marked
12 731 in the lower right-hand corner.

13 A All right.

14 Q And could you remind me. I recall you mentioned
15 that something was a diagnostics board. Can you point
16 that out on the diagram again?

17 A Um --

18 Q If I'm on the right page.

19 A Well, you're on the right page. The name is
20 on-board diagnostic. It's OBD. That's just the -- it's
21 called an OBD board by CalAmp.

22 Q Okay. And I believe in your testimony earlier, you
23 referred to it as a diagnostic board?

24 A It is, because it provides -- it's a diagnostic type
25 interface, but in itself does not -- it's not limited to

1 diagnostics, per se, because it performs a function of
2 interfacing to the OBD-II bus.

3 Q Can you expand a little bit on what you mean when
4 you said -- I think you said a diagnostic type interface?

5 A Well, sometimes you can use interfaces to perform
6 diagnostic type work. Basically, you can provide
7 information across a bus and determine certain features
8 or factors of the devices that are associated with the
9 bus. This is done by -- this can be done using tools
10 that, for instance, are done with inspection. You can
11 take it to an inspection station, they'll plug something
12 in that's external to the vehicle and run some
13 diagnostics, some tests. Diagnostic basically can be
14 equated to test.

15 Q And I believe in your testimony before there were a
16 couple terms floating out there, and I'd like to try and
17 narrow down what they are. You mentioned a command.
18 Was that a signal that's written onto the bus? Is that
19 correct?

20 A A command signal eventually finds its way to the
21 bus. The language is really used -- normal usage is
22 called, "it generates the bus."

23 Q And do you recall what the definition of a command
24 signal is for the purpose of this case?

25 A Rather than remembering, I'll read it. Command

1 signal is defined by the Court as, "A signal generated
2 on the data communication bus for operating a vehicle
3 device."

4 Q Okay. So one type of signal I can generate onto the
5 bus is a command signal. Are there other types of
6 signals you can generate onto the bus other than command
7 signals?

8 A You can generate a response signal.

9 Q And would that be the upward arrows we saw in
10 Figure 4 coming from the vehicle devices?

11 A Well, the upward arrows coming from the vehicle
12 devices, in the context of the way the description was
13 written, those were responses. But you can also use the
14 other devices on the bus as generators of commands as
15 well. It just depends. But the way they were described
16 and the way the embodiments were envisioned, it's
17 generating the bus from the controller, multi-vehicle
18 compatible controller, and elicited in the responses
19 from the other vehicle devices.

20 Q I believe you also used the term "messages" earlier
21 in your testimony. Is a message the same as a command?

22 A A message is a format of a command. You can --

23 Q Can you explain that one a little more for me?

24 A Sure. I don't want us to get tongue-tied on words.
25 The command literally is a set of code that is provided

1 as a part of a signal. It's an encoded signal. And
2 that is sent out and is received by components that it's
3 directed to. The components then receive that
4 information and they respond accordingly.

5 So that's -- it's a command signal to generate the
6 bus. And then that generation on the bus, that
7 downstream device will elicit a response. It may be a
8 response back across the bus or it may be a response to
9 control something downstream from that other device.

10 Q And the SAE actually defines those types of messages
11 on the bus, doesn't it?

12 A The SAE that we're talking about for the bus
13 architecture, that is confined to the bus. It's the
14 protocol of communication on that bus. A simple
15 example: It's like taking two cans with the string
16 between them. And we know that if we talk, it will
17 vibrate the string, and you can hear at the other end.
18 The SAE standards defines the protocol on that string,
19 the vibration on the string. It doesn't define how you
20 talk or what language you use nor does it define how you
21 receive and the language you interpret it. It only
22 defines the architecture of the bus.

23 Q But it does classify what you can say into the can,
24 doesn't it? You have either requests or responses?

25 A It does have a set of criteria that you can use that

1 you have to comply with or you can use subsets of it,
2 but whatever you use has to be in compliance with the
3 particular architecture and the protocol.

4 Q Are you familiar with an SAE 2178 that says you can
5 either message or you can either request responses?

6 A Yes.

7 Q And the requests are further broken down into
8 commands and queries?

9 A I don't recall that. Do you have the patent here
10 or that SAE in front of you?

11 Q I could -- this might refresh your recollection.

12 MR. KAUTH: May I approach, Your Honor?

13 THE COURT: Yes, you may.

14 (Pause in proceedings.)

15 A Okay, I see that. It just says, request, that is,
16 commands (load or modify) or queries for data. And then
17 it says, responses, that is, reports or acknowledgments.

18 Um --

19 BY MR. KAUTH:

20 Q So do you understand that to mean that commands are
21 either loading or modifying something onto the bus and
22 then there's something else called a query?

23 A I don't see that. The word is "or" not "and."
24 It's not requests, but not commands and queries. It's
25 commands or queries. And --

1 Q Correct. So a request can be one of two things,
2 either a command or a query, right?

3 A Well, I'd have to read through the rest of the
4 document to define it your way. Because when I see the
5 "or", it can be two separate things or it can be two
6 different ways of talking about the same thing.

7 Q And in your experience, have you ever come across
8 this section before?

9 A I don't recall reading this particular one. But
10 when I look at the definitions of terms and I look at
11 it, it is -- it has to be consistent with the teaching
12 of the specification, because we're construing the claim
13 terms in light of the specification, not in light of an
14 SAE document. So here --

15 Q Do you think one of ordinary skill in the art in the
16 year 2000 would have been aware of that SAE document?

17 A I think one of skill in the art would be aware of
18 SAE documents. Whether he had familiarity with this
19 particular one or not, that remains to be seen. His
20 particular discipline may not know all the documents,
21 but he certainly has an awareness of SAE documents and
22 certainly knows how he can get ahold of the documents,
23 if it's necessary for his implementation.

24 Q For patent purposes, is a person of ordinary skill
25 in the art deemed to be aware of all prior art

1 references?

2 A He's deemed to be aware of the fact that all
3 references are available to him. It doesn't mean he has
4 to have intimate knowledge of it.

5 Q And when interpreting the patent, do you interpret
6 the claims in light of the specification as it would be
7 viewed by one of ordinary skill in the art at the time?

8 A You interpret the claims. First of all, I think it
9 turns on the claim. The claim defines its own scope.
10 Then, my understanding is that the claim is read in
11 light of or in view of the specification. So there has
12 to be some consistency between the two. And so the term
13 I use, it's internally consistent.

14 Q Let's turn back up to Joint Exhibit 1, back to the
15 '876 patent and take a look at Claim 1.

16 A Okay. Are we finished with the speci--

17 Q We're finished.

18 A Okay.

19 Q Let's focus in on the quite long element that begins
20 with a multi-vehicle compatible controller. And I
21 believe you said the multi-vehicle compatible controller
22 was a combination of the OBD board and the LMU board and
23 something else that's escaping me?

24 A No. None of what you said is correct. What I said,
25 it's a combination of the STM microcontroller on the LMU

1 board in combination with the -- with the particular
2 controller that is on the OBD board in combination with
3 the OBD interface chip.

4 Q And what about the multi-vehicle compatible part?
5 You spoke briefly before about multi-vehicle, but I
6 noticed when having that discussion you didn't mention
7 the Court's claim construction of multi-vehicle
8 compatible controller.

9 A As I recall, I mentioned early on in my testimony
10 that I adopted the Court's claim construction, so yes I
11 did.

12 Q Do you recall the difference between the Court's
13 construction of controller and multi-vehicle compatible
14 controller?

15 A The construction for controller, according to the
16 Court's memo, is electronic circuitry that performs one
17 or more control functions. Multi-vehicle compatible
18 controller is electronic circuitry that performs one or
19 more control functions -- in other words, a controller
20 -- and can operate with more than one vehicle.

21 Q And what's your understanding of "...and can operate
22 with more than one vehicle"?

23 A It's compatible with more than one vehicle. More
24 than one vehicle, I think it's plural, which is two or
25 more, so it's more than one vehicle. It's compatible

1 with that. It can operate with it. It can communicate
2 with it.

3 Q So any two vehicles?

4 A If I looked at the definition that the Court
5 provided the answer is it's with more than one vehicle,
6 so it's two vehicles.

7 Q Okay.

8 A Just with that definition --

9 Q And that's the definition that controls in this
10 case, right?

11 A And one must use that definition back within the
12 context of the claim, not as stand-alone.

13 Q If we turn our attention back to the claim language,
14 after as we get past multi-vehicle compatible controller
15 and at the vehicle, it says it's cooperating with said
16 transmitter and receiver. What does cooperating mean in
17 that context?

18 A Well --

19 Q Or what did you interpret it to mean for your
20 purposes of your infringement analysis?

21 A Well, what I interpreted for my infringement
22 analysis is, is look at it from the opposite. If it
23 doesn't cooperate, then that means there's no
24 communication between the two. They're not cooperating
25 together. They're not communicating together to achieve

1 something.

2 Q So they would need power to communicate with each
3 other, wouldn't they?

4 A They would be what?

5 Q They would need power?

6 A No.

7 Q So --

8 A I can -- there's power that's going to the light in
9 this courtroom. And there's power going to the light in
10 another courtroom, I would hope. That doesn't mean that
11 this light system and that light system in the
12 courtrooms are cooperating together. They're different.
13 They're independent.

14 Q If you could turn to the side there and pick up one
15 of those LMU devices for me.

16 A Sure.

17 Q And can you tell me which exhibit that one is?

18 A This one is Exhibit 11, which is the 3000.

19 Q Okay. And I think you testified that in that
20 LMU-3000, there is a multi-vehicle compatible controller,
21 and it's cooperating with the transmitter and receiver;
22 is that correct?

23 A Yeah, that's correct. That's correct.

24 Q Is it your opinion that right now the controller and
25 the transmitter and the receiver are cooperating with

1 each other or would they need to be powered up to do
2 that?

3 A I'm reading the claim. Just one second.

4 [Reads silently.]

5 Based on the claim language, it says, the structure
6 of the control system has a transmitter and a receiver.
7 It has a multi-vehicle compatible controller. That the
8 vehicle, in cooperating with the transmitter and the
9 receiver generate -- it says, multi-vehicle compatible
10 controller generate at least one set of command signals.

11 Well, in an operation it's going to generate at
12 least one set of command signals. That's its intended
13 purpose. That's its only purpose. Right now it has no
14 purpose other than sitting here. But it's intended
15 purpose only has one purpose, and that's for cooperation
16 in the system with a vehicle and in cooperating and
17 connecting to a data bus, a vehicle data bus.

18 And so in that kind of a context, the controller is
19 not only electrically tethered to or connecting to the
20 transmitter and receiver, but it actually, based on the
21 firmware and when it operates, it necessarily has to
22 cooperate with a transmitter and receiver, because it's
23 connected to them for performing that function.

24 Q But the claim doesn't say connected or coupled or
25 tethered, right? It says cooperating?

1 A Well, it says the word cooperating. It means that
2 the function that is performed, what it is doing is
3 cooperating with. It's utilizing the transmitter and
4 the receiver, and it does.

5 Q When in use?

6 A In use, definitely it does.

7 Q But sitting there, it doesn't?

8 A It has only one intended purpose, and that is for
9 that use.

10 Q I understand your opinion on its intended purpose,
11 but what's its current operation right now?

12 A Well, I think it's current operation, it's just
13 sitting here and it's an infringing product, if it's on
14 sale, if it's for use. I have heard testimony the last
15 two days where CalAmp employees had indicated that they
16 tested the device, so it is an infringing product.

17 Q So in the past you've heard testimony it was used,
18 you think it'll be used in the future, but right now
19 it's not actually cooperating?

20 A Well, in terms of is it cooperating while it is
21 sitting here, I'd say all of the structure for its use
22 is there. All of the structure is there. It's the only
23 intended use for its sale. Is it sitting here
24 cooperating right now? No.

25 Q So we can't ignore any language like that? If they

1 wanted it to have a purpose right now, they could have
2 said configured for, electrically coupled to, something
3 like that, but they chose cooperating, right?

4 A Well, the word in the claim is cooperating.

5 Q The next clause after that says, said multi-vehicle
6 compatible controller generating at least one set of
7 command signals on the data communications bus.

8 And I've got a similar question for you now. It can't
9 actually generate a signal without power, correct?

10 A It has all the structure and the firmware to do
11 exactly what that says. And when it is plugged in, when
12 it is used, then in use it is definitely cooperating.
13 It is definitely generating.

14 Q So in your opinion, when it did that bus discovery,
15 I think you called it, then it was generating the
16 command signals?

17 A That is correct, definitely does. And just to
18 qualify, even sitting -- as here, it is sold. As sold,
19 it is -- it is an infringing device when it's used.
20 And when it is sold by CalAmp to a customer, they are
21 inducing that customer to use it.

22 Q But that's not direct infringement, correct?

23 A That's called indirect infringement.

24 Q And did you include that in your report?

25 A Yes.

1 Q Did you identify any CalAmp customers you believe to
2 infringe?

3 A I did not -- I was not asked to identify the
4 customers, no. I think there was another expert that is
5 going to talk about that.

6 Q So you speculated that there was a customer out
7 there that would actually use it?

8 A No, I didn't speculate. There's deposition
9 testimony that says it was used.

10 Q The bus discovery process that you spoke about
11 earlier where it sent the different bus protocol
12 messages, is that in compliance with J1978, the SAE
13 standard?

14 A I'm not sure what you mean by "...in compliance
15 with." The J1978 standard defines scan tools.

16 Q And in that standard, does it --

17 A The messages are done in accordance with what is
18 shown as parameter IDs of J1979. I don't know if that's
19 one you mentioned -- meant, but that's the one that it
20 conforms to.

21 Q And J1979 defines the message format for each of
22 those different messages?

23 A It defines the different formats for the PID
24 instructions, for the PID information.

25 Q Do you have your expert report up there? If we

1 could turn to that, to your Exhibit A, please?

2 A Exhibit A? Okay.

3 Q I believe that's Plaintiff's 105. And if you could
4 turn to Exhibit A, page -- I'm sorry. I misspoke.
5 Exhibit 104.

6 A And for clarification, it's the '876 patent?

7 Q Correct. And can you tell me where in that exhibit
8 you go through the bus discovery protocol. Is that
9 what's on page A-5?

10 A I show a chart on mine. It's A-8.

11 Q Let's step back to A-5 before we get to A-8.

12 A All right.

13 Q And beneath a picture of what I believe is at the
14 OBD board I'm looking at?

15 A Yes, that's correct.

16 Q And the text below that, is that describing the bus
17 discovery procedure?

18 A Yes.

19 Q And as we get down there, it starts listing a series
20 of messages, and the first one is CAN 11-bit 7DF.
21 What's the 7DF mean?

22 A That would be in accordance with the PID's. And
23 it's a specific instruction specifically to address the
24 -- I'm trying to recall exactly which one that one is.
25 I think it's speed for this particular one.

1 Q And is the 7DF, is that a hexadecimal value?

2 A It's -- in this case, 7DF, each digit represents
3 four bits, so it's a 12-bit set of information. Yeah,
4 7DF is hexadecimal. In binary, it would be 7, 13, 15.

5 Q And is this my mode 1 PID zero message that I put
6 onto the bus?

7 A That's correct. Mode 1 being the real time mode.

8 Q And that's -- is it addressed to the ECU or ECM,
9 the engine control unit?

10 A That's correct.

11 Q And you mentioned that since 2008, CAN bus has been
12 mandated, I believe, for passenger vehicles in the
13 United States; is that correct?

14 A As I recall, correct, yes.

15 Q So in this case, if we had a CAN vehicle with an
16 11-bit bus, would it send all of these messages that are
17 shown in your chart?

18 A Say that again. If we already knew what the bus
19 was? Is that what you're asking?

20 Q If I went out and I bought a vehicle today, my
21 understanding is it would have to have a CAN bus in it.
22 And let's say I got lucky and it had an 11-bit CAN bus
23 in it. If we plugged the LMU into it now, your chart
24 says it has, I think, six different messages it sends
25 out. I'd like to know in those circumstances which

1 messages would it send out?

2 A Well, it will start in a sequence, and it will send
3 out a message one at a time. And if it gets a response,
4 then it will stop sending further messag-- there's no
5 need for the further messages. But in the information
6 that I saw, it would indicate that it's going to send
7 out all series of this information. The results are
8 going to be either a non-accumulator event or an
9 accumulator event. And then, at the end of that time,
10 once it sends out the sequence of bits, it will then go
11 back and do a determination or discovery as to which one
12 matched.

13 Q Earlier, I thought you said if you got any response
14 back you had a match?

15 A Well, if you do have a response back, you have a
16 match. The question is when is the determination made.
17 If you send out a series of information, then you
18 evaluate the information, and whichever one responds
19 back is the match.

20 Q And you had testified earlier, I believe, that these
21 messages are sent out sequentially?

22 A That's correct.

23 Q So are you saying now if I send out the first
24 message and I get a response, I'll send out the other
25 five messages anyway?

1 A You send out the messages and you accumulate the
2 response, then you look at the result of the messages
3 trafficked and determine which one has a match.

4 Q So your opinion is regardless of bus type that
5 you're on, all six messages will be sent?

6 A That's my understanding, that is correct. And I
7 think in Hergesheimer's testimony, he even looked at the
8 particular sequence that I had identified in my report
9 and indicated that he was not familiar with whether it
10 was that exact sequence, but he affirmed the fact that
11 it was a sequence.

12 Q And are you familiar with the order that the CalAmp
13 devices send the messages?

14 A I believe that was defined in my report, yes.

15 Q And is it the order shown in your chart, Exhibit A,
16 in the page we're looking at, A-5?

17 A Let's look at A-8, page A-8. Unfortunately, I
18 cannot read it in my report. Can we enlarge that?

19 Q And what are we looking at in Exhibit A-8?

20 A It's a statement as to the way in which the
21 sequencing of operations occurs.

22 Q And did you create that chart?

23 A No, I did not. It was provided to me.

24 Q Do you know who created that chart?

25 A I do not know the name of the individual. I do know

1 that it was a company that is in the automotive activity
2 and it was done, performed, and was provided to counsel.
3 Counsel provided it to me. I cannot --

4 Q Do you have any details as to when or how it was
5 created?

6 A No, sir, I do not. All I know is that it's been
7 affirmed through the deposition testimony as -- couldn't
8 affirm that it occurred exactly in that precise order,
9 but there was a sequence and it did address each one of
10 those. That's been confirmed by the deposition.

11 Q So you call Mr. Hergesheimer testify that there was
12 a sequence, but he didn't know if this was correct?

13 A Didn't know that it was exactly the same, but he
14 confirmed that it was a sequence. So there is a
15 sequence. And the sequence is you send out a particular
16 message, command, and you get a response or don't get a
17 response. And then at the end, you look at it and see
18 what was accumulated and what was not. And that way you
19 determine, you discover which bus architecture's
20 present.

21 Q So for purposes of your report, you deem this to be
22 correct, even though you're not sure how it was created?

23 A I deem it to be correct and especially as affirmed
24 by the deposition testimony.

25 Q That there was some sequence?

1 A That there is a sequence and if, as I recall -- yes,
2 that is correct.

3 Q Just because Mr. Hergesheimer testified there was
4 some sequence doesn't mean it was this sequence, does it?

5 A No. It does not mean that it was this sequence.
6 It means that there is a sequence. There are messages
7 that are sent out in the form of command signals and
8 then there is a discovery process to determine which one
9 matched and where there wasn't a match and that's part
10 of the discovery process. There's other documents that
11 I also looked at and reviewed as part of the
12 presentation document. I don't remember the exact
13 exhibit number that I presented earlier. There are
14 pages in there that also show a sequence of going out
15 and looking at the various bus architecture.

16 Q Can you step me through how this sequence works,
17 and the jury, so they can understand the triangles,
18 diamonds, and other shapes?

19 A A little bit larger.

20 Q Let's see if we can zoom in sort of on one column at
21 a time to get that as big as possible. We'll try and
22 scroll with you, so --

23 A All right.

24 Q Where do we start?

25 A Main thing is as long as the jury can see it.

1 During a power-up sequence, it goes to a learning
2 phase. And first of all, it assesses do I already know
3 what the bus is. If it says no, then I will go to the
4 right, and I will go through a sequence of steps. The
5 first one shown here is sending out the message format,
6 the one we talked about, 7DF, looking for a response
7 based upon a CAN 11. And if you'll go down just
8 slightly. You wait for a response. If you get a
9 positive response, you will notice -- a little bit lower
10 -- you accumulate that response. It goes into a
11 storage.

12 Q So now I know what type of bus I'm on?

13 A No. Now you know that you have a response, and the
14 response goes into an accumulator for further discovery,
15 for further analysis. All it does is if it receives
16 information, it stores the information. And then, you
17 will notice whether it got a positive response or not --
18 both lines, if you go back up, go to the next sequence.

19 So it sends out a message. If there's a response,
20 it stores it. And then, it goes to the next and the
21 next and the next. And so, it sequentially goes through
22 the various messages that are generated to the bus.
23 And then at the end, it does an analysis to determine
24 which one or more of those storage registers actually
25 has information, and then it knows.

1 Q And where is it storing the information? Where is
2 that shown on this chart?

3 A If you can scroll down slightly, there. Save.
4 Save means store.

5 Q Can you tell me where that means it's being stored?

6 A Being stored in memory.

7 Q And then, we go through all six?

8 A Yes.

9 Q And then, what happens after the last one?

10 A Scroll over to the right. You will notice after
11 the last one, if you will notice the lines going from
12 the right over to the left, just follow those two lines.

13 Q All right. Can we scroll back to that one following
14 those lines?

15 A And so now you will say is there a learned net type.
16 Well, yes, I have information it's stored. I've got
17 information now that I can say I have accumulated that
18 it's there and registered, so I don't need to go back
19 and re-generate the sequence of messages again.

20 So since I do have a type that's been identified --
21 I don't know what it is yet, but it is a type -- then
22 I'll go down to the -- it says go to learned net type,
23 and that goes down to the bottom. And now, you go
24 through and evaluate the information that is stored and
25 you set bits dependent upon which type actually had a

1 response, and that's the way you learn.

2 Q And as we go down farther so it looks like there's
3 a rectangle for each bus type and then the CAN bus is
4 collapsed together there; is that correct?

5 A That is correct, because there's two CAN buses,
6 11 and 29 bit.

7 Q Do you recall having a discussion about this at your
8 deposition? Let me ask you a better question.

9 A I was going to say I don't recall. I mean, that was
10 up to you asking the questions, and I don't recall.

11 Q If you sent one message and didn't send anymore, is
12 it your opinion that the device would still infringe if
13 it only sent one message, just with respect to the '876
14 patent?

15 A Well, with respect to the '876 patent, the '876
16 patent has the limitation of sending a working and a
17 non-working. It says, generating at least one set of
18 command signals on the data communication bus.

19 So generating, delivering signals to the bus. At
20 least one set of command signals comprising at least one
21 working command signal and at least one non-working
22 signal. So -- command signal.

23 So to measure up to the claim requirement, the whole
24 purpose is a multi-vehicle compatible controller that
25 can generate a series or a sequence of generated

1 commands and determine whether there is a response.

2 And so, you're generating some commands that will
3 get a response and some that will not, so that goes into
4 what I described earlier is the working and the
5 non-working command.

6 Q So there's got to be at least two command signals
7 to satisfy that claim?

8 A It's one set of command signals that require a
9 working signal and a non-working signal.

10 Q And if I have one set of command signals comprising
11 at least one working command signal and at least one
12 non-working command signal, don't I have at least two
13 signals?

14 A Those are two separate signals, yes.

15 Q Okay.

16 A They're sent sequentially as I talked about before.

17 Q So if a CalAmp device only sent a single signal, it
18 couldn't infringe Claim 1?

19 A If it only sent a single signal, then it can only --
20 it would either have to have operator knowledge of
21 exactly what the bus was so it sent that signal and/or
22 it would only be compatible with one device or one type
23 of bus architecture. So what is arranged here for this
24 claimed invention is the fact that you can have a
25 controller designed to work and be compatible with

1 multiple vehicle devices and that's why you send out
2 different signals to see which one matches.

3 Q These days, if I only send out a CAN signal wouldn't
4 I be compatible with an awful lot of vehicles?

5 A Sure, you would. But you don't know if it's CAN 11
6 or CAN 29.

7 Q Don't those actually become one in your chart?
8 They collapse down together since the 11-bit's compatible
9 with both? If I send a CAN 11-bit signal, it will work
10 with either one?

11 A Well, if you notice in the chart, they only collapse
12 down to one after a determination, a discovery, is made,
13 and that's after the claimed invention.

14 Q Do you know what the split is among 11-bit and
15 29-bit?

16 A Yeah. One's 11-bit and one's 29-bit, difference in
17 construction length.

18 Q So, I believe we've established that since 2008,
19 all of the passenger vehicles in the U.S. had to have
20 CAN bus for new vehicles, and that's either going to be
21 11-bit or 29-bit, correct?

22 A That is correct.

23 Q So if I picked either one, 11 or 29-bit, it's still
24 going to be compatible with an awful lot of vehicles?

25 A Well, sure. I mean, you make a pre-determined

1 selection of one, there's going to be some vehicles that
2 it will work with and some that it will not. Doesn't
3 change the fact it's a multi-vehicle compatible
4 controller that is structured to send out multiple
5 sequences so that it can determine which bus
6 architecture it really is.

7 Q And in your opinion, if I had the pre-determined
8 controller, I only want it to send the CAN 11-bit signal,
9 is that still a multi-vehicle compatible controller?

10 A In your hypothetical, I'm assuming that's what
11 you're proposing?

12 Q That is a hypothetical.

13 A All right. In your hypothetical, if you have a
14 controller that only has the ability to send out the
15 11-bit CAN, that's not a multi-vehicle compatible
16 controller, if that's its only capability.

17 Q And why isn't it multi-vehicle compatible?

18 A If you're trying to draw a -- I see where you're
19 going. You're trying to take the claim term that the
20 Court has properly construed, put it back in this claim
21 and say, hey, listen, the claim is not directed to
22 vehicles having different buses. It can just be a
23 single bus type and you have multiple vehicles and that
24 is inconsistent with the claim in view of the
25 specification.

1 Q So I shouldn't follow the Court's construction that
2 simply says more than one vehicle?

3 A No. You follow the Court's claim construction, but
4 you put the claim construction back into the claim and
5 you read the claim in its entirety, which is a
6 multi-vehicle compatible controller. You can't
7 eliminate that portion of the limitation just because
8 you put a particular claim term back in.

9 Q But you just told me that if I had a CAN 11-bit
10 controller, it would be compatible with multiple
11 vehicles, probably half the ones made since 2008?

12 A Well, if you have a device that only can issue one
13 type of command structure, which is compatible with just
14 the CAN 11, then I believe that that can control many,
15 many devices that are compatible with CAN 11, but that
16 is not -- that, to me, is not consistent with where the
17 invention is directed and that is that you've got
18 potentially different data bus structures. You're not
19 aware of what that data bus structure may be.

20 Now, you can flip a coin. You might be hit or miss
21 and say this is what I'm going to do and what I'm going
22 to rely on. That's fine. Except if you happen to be in
23 a vehicle in which it doesn't have that kind of a bus
24 architecture, you're out of luck.

25 So I understand you're trying to limit it -- I

1 believe I understand you're trying to limit it to just
2 two vehicles. It doesn't matter whether they have
3 different structures or not. And I think it's
4 inconsistent with what the claimed invention is directed
5 to.

6 Q Can you point me to something in the patent that
7 makes you believe that it needs to be multiple buses and
8 not multiple vehicles? The claim language says multiple
9 vehicles.

10 A Sure.

11 Q The claim construction says more than one vehicle,
12 but you seem to be saying we have to have more than one
13 bus; is that accurate?

14 A Well, I think it's consistent with the claim, but
15 I'll direct your attention to a number of places, but
16 let's just focus on column 3. Column 3 in the Summary
17 of the Invention, which I talked about earlier. Column
18 3, beginning at line 5, you will see that it begins, the
19 description and features and advantage in accordance
20 with the invention, it says, "...are provided by a
21 vehicle control system including a transmitter and a
22 receiver for receiving signals from the transmitter and
23 a multi-vehicle compatible controller cooperating with
24 the transmitter and receiver."

25 Now, the key is the multi-vehicle compatible

1 controller preferably generates at least one set of
2 command signals on the data communications bus for the
3 at least one vehicle device.

4 So you have to take it in context. The vehicle
5 device that's there is already set up within the control
6 system of the -- within the vehicular bus architecture
7 system. And that vehicle device is already compatible
8 with that bus architecture, and it only responds with
9 that kind of a bus architecture.

10 So when you look at this claim and you put it in the
11 context of what the invention is describing, it said,
12 look, you have two different scenarios prior to this.
13 One scenario is everything is hard wired. And so you
14 only have one unit that can cooperate with one type of
15 architecture, hands down, you're dead.

16 Q When you say every -- let me interrupt for a second.
17 When you say everything is hard wired, do you mean the
18 vehicle devices?

19 A That means the vehicle devices are hard wired by
20 each having a -- in fact, Mr. Flick had described that.
21 You have different devices that have a unique wire back
22 to the controller so the controller's set up to uniquely
23 talk to each one over separate wires. There is not a
24 common bus system.

25 Q But in 1996, wasn't the bus already mandated in the

1 U.S.?

2 A 1996 was a bus architecture, but I'm still saying
3 that was one of the background of the invention. That's
4 what the state of the art was. Then you get into the
5 data bus system. And so, you then are left with data
6 bus architecture that Chrysler used a different bus
7 architecture than Ford and GM. Even though GM used the
8 J1850, they used a different standard than the Ford that
9 used the J1850, two totally different standards. So you
10 can have a control system that cooperates with any one
11 of those device bus systems by itself, but it could not
12 operate on another bus.

13 So this invention is directed to having a
14 multi-vehicle compatible controller within a control
15 system that is able to have one unit design one way
16 conforming to one set of electrical capability. And you
17 can put that in any one of the vehicles, and it can
18 figure out which bus it's on and configure accordingly.
19 That's the invention.

20 Q So let's say I'm in a Chrysler. I believe back in
21 1996, that would have been a CAN bus. Wasn't this
22 invention actually directed to --

23 A Chrysler was a 9141-2 bus ISO, at that time.

24 Q And isn't that a CAN flavor?

25 A There's some similarities, but they're different.

1 Q Okay. Let's go with ISO 9141-2.

2 A Okay.

3 Q Isn't the invention actually disclosed here saying
4 if I'm on that bus, I can have multiple device codes for
5 different varieties of Chrysler vehicles so I can send
6 the door unlock code for a Cherokee, a Grand Cherokee,
7 a minivan, whatever it is?

8 A Well, once you're configured for it, yes, you can.

9 Q But aren't those all separate device codes or --
10 I'm sorry -- command signals?

11 A Well, each one -- once you are configured and you
12 know what the bus is and you discover the bus, then
13 obviously you're going to be able to communicate to that
14 bus and provide the functions and the controls that are
15 necessary to cooperate with any of a number of devices
16 on that bus, but that's once you already learned it.

17 Q So you're saying it's obvious to be able to
18 communicate with vehicle devices on different vehicles
19 as long as they share the same bus?

20 A I'm not sure -- because different vehicles can't
21 share the same bus. I'm not sure if I'm -- I'm not
22 hearing your question right.

23 Q I mean, share the bus same protocol. All the
24 Chryslers back then had a 9141-2, right?

25 A That's correct. And so, you could design a system

1 that would specifically work with a Chrysler bus system,
2 and it would work with a Chrysler bus system, but it
3 would not work on Ford and GM.

4 Q Right, so let's just stick with Chrysler. If I have
5 that system, it's designed to work on the 9141-2, not all
6 Chryslers require the same command signals to, say,
7 unlock the doors, do they?

8 A No. Different models may have different ways in
9 which they cooperate using the commands that are
10 available within that architecture.

11 Q And wasn't this patent actually directed to being
12 able to have all those different command signals already
13 being on the Chrysler bus and send the right command
14 signal to unlock the doors for the particular vehicle
15 you're in?

16 A Well, that is part of the system it's able to do
17 that. Once you've discovered the bus then certainly
18 you're configured or provisioned in such a way that you
19 can then respond to the devices on the bus.

20 Q If you could turn to Figure 3 of the '876 patent,
21 Joint Exhibit 1.

22 A Okay.

23 Q Doesn't that figure describe a set of command
24 signals? It says, Command Signals Table. And you would
25 choose -- keep sending them until the desired activity

1 happened?

2 A Yes.

3 Q And this is after you've already discovered what bus
4 you're on?

5 A This is after, yes.

6 Q Can you point me anywhere in the patent where it
7 talks about bus discovery?

8 A It doesn't use the word discovery, as I recall.

9 Q Well, just the procedure of sending out the
10 different signals till you find the right bus, where is
11 that in the patent?

12 A A number of places. For instance, if you look at
13 column 7. I think you're referring to, what, Figure 3?

14 Q Yes.

15 A So if you look at column 7, beginning around line 8,
16 it now refers now additionally to Figures 2 and 3, so
17 this is the column that is directed to Figure 3. And if
18 you go down a little further around line 43, it says,
19 "In accordance with this aspect of the invention, the
20 multi-vehicle compatible controller 25 prime preferably
21 generates at least one set of command signals on a data
22 communications bus 30 for the at least one vehicle
23 device. The at least one set of command signals
24 preferably comprises at least one working command signal
25 and at least one non-working command signal."

1 Well, if you already know what the bus is then the
2 only thing you're going to generate is working command
3 signals. So this says that you're generating a set of
4 command signals that work and don't work.

5 Q So you're saying every Chrysler door lock command
6 signal would be the same?

7 A I'm not saying anything. I'm reading the claim.
8 The claim requires a set of control signals, command
9 signals which --

10 Q Right. But I could be on a bus and send both
11 working and non-working, couldn't I? Let me step you
12 through it. Let's say we're on that same Chrysler bus.
13 I've already discovered the bus. I've got my table of
14 command signals. And I'm going to keep sending my entire
15 library of Chrysler door lock command signals until the
16 door locks, because there's more than one command signal
17 for unlocking the doors. I think we heard testimony
18 from that earlier.

19 A I'm not sure why you would want to do that. These
20 are smart systems. When they figure out what the bus is
21 and they define it with a VIN number or whatever, you
22 know what the model is and so, therefore, you are
23 configured to operate with working signals thereafter.
24 Why in the world would you send a non-working signal
25 when you already know what the bus is?

1 This is a process that you don't know what the bus
2 is and you're sending working and non-working signals to
3 determine what that bus is. The subsequent result of
4 that is I now know the bus. I now know the
5 architecture. Now what I'll be sending is configured
6 working signals.

7 Q But just because you know the bus doesn't mean you
8 know the door lock signal, does it? They're different
9 among different Chrysler models, aren't they?

10 A When you get a response back -- we're looking at
11 real time, you'll get a response back such as the VIN,
12 then you know exactly what the model is. You know
13 exactly what the signals are.

14 Q We're not talking VIN here. We're talking we're on
15 the bus and we want to send -- 'cause this doesn't
16 mention the VIN. What this has is a table of command
17 signals, and it says you send the right one until the
18 vehicle device operates?

19 A Right. But what you're doing is giving a real-life
20 hypothetical example of sending out because different
21 Chrysler products have. You're giving a real-life
22 example. What I'm saying is once you've discovered what
23 that particular device or that model is, you're going to
24 send out working signals. You're not going to waste
25 time on the bus controlling the business and sending out

1 non-trafficable information. You're going to understand
2 what that bus is. That's the whole purpose of this
3 intent, of this invention.

4 Q Isn't that exactly what table 3 shows, though, is
5 you send out all those command signals and it says only
6 the one that is the correct one will have an operation,
7 so then you have working and non-working?

8 A That's the whole purpose of sending out information
9 like this when you don't know what the bus is so you can
10 look at the response, and when you get a response you
11 now know.

12 Q Let's take a look back at Figure 3. Don't I keep
13 sending codes for different vehicle types? There's no
14 mention of bus types in Figure 3 is there?

15 A Well, what it's defining in Figure 3 is that there
16 is a command signal table, and you have different codes
17 that are associated with different vehicle devices --

18 Q So let's say what --

19 A -- and different vehicle types.

20 Q Pick a device for a vehicle device in it.

21 A All right, pick one.

22 Q Door locks.

23 A All right.

24 Q And then I have on the left column there, it looks
25 like vehicle one, two, all the way through N, so an

1 unknown number of vehicles.

2 A All right.

3 Q Don't I go through that table and just keep sending
4 them until I get the door to lock?

5 A You can't.

6 Q Isn't that what's disclosed in this patent?

7 A That is an illustration of what can be done in the
8 patent, yes, it's basically send out commands and
9 looking for a response.

10 Q But I can't find anything in the patent that tells
11 me about sending different bus codes, bus protocols, the
12 different mode 1 PID zero messages that we talked about
13 earlier.

14 A I'm not sure where you're going with that.

15 A command signal on a data bus, that's a digital data
16 bus is going to be code.

17 Q Well, where I'm going with that is I can see the
18 patent talking about command signal tables and kind of
19 doing the brute force method. You keep sending codes
20 until something happens, and then you know you're on the
21 right set of devices. You know I'm on a Ford Taurus.

22 A Right, which is exactly what the LMU-3000 and 3030
23 do. They send out a sequence of codes, and then they
24 determine which one is responsive.

25 Q But I don't see anything in here about picking a bus

1 type. In fact, if we look at -- if you could turn your
2 attention to column 8, beginning at about line 30 of the
3 patent, doesn't it say the command signals you send out
4 have to be bus compatible?

5 A Which line again on column 8 so we can --

6 Q I'm sorry, line 30.

7 A Thank you. I just want to make sure the jury had it
8 in front of them.

9 Q Thank you.

10 A In the statement that you are looking at is -- at
11 line 30 is, "The actual coded signals would be
12 compatible with the particular data communications bus
13 30..."

14 Q Correct.

15 A Right. But you can't take that in a vacuum. Look
16 at the paragraph above it. The paragraph above it,
17 "...the multi-vehicle compatible controller...",
18 beginning about line 24 says, "Of course, only one of
19 those codes would be a working code, and the other codes
20 would cause no vehicle function to be performed."

21 So the context, if you're on the right bus then the
22 code is going to be compatible. If you're not on the
23 right bus, it will not be compatible. That's the whole
24 process of having a multi-vehicle compatible controller
25 that's sending out working and non-working codes to

1 determine what is the appropriate response from the
2 device. If it gets an appropriate response from the
3 device, then it knows it has the right bus architecture.

4 Q But just because you do know the bus type doesn't
5 mean you know the proper vehicle device code, do you,
6 without doing extra steps? We're talking about in the
7 world of the '876 patent.

8 A Well, in the world of the '876 patent, and even in
9 the world of vehicle data buses, the bus is nothing more
10 than a set of wires that connect devices together. The
11 bus does not respond. The bus is the path through which
12 devices respond.

13 So when you send out commands, the commands are
14 using the pathway of the bus to another device. And if
15 that other device understands the command and responds
16 back across that bus, then you have a linkage that says
17 the protocol that I'm using consistent with that bus,
18 got a response. Therefore, I now know what the bus is,
19 and I can appropriately configure according to that.
20 That's the claim. That's the invention.

21 Q So if we look at the top of column 8, it's talking
22 about sending multiple control -- I'm sorry -- command
23 signals.

24 A Yes.

25 Q But it's not talking about doing it for different

1 bus types. It's talking about doing it to find the
2 right command signal.

3 A Well, sir, that's what working and non-working is.
4 If you have a non-working command, then the protocol,
5 the communication language you're using, the device
6 that's sitting on that bus can't comprehend it, cannot
7 understand it, so that's a non-working command signal.

8 Q So in this patent, they're sending out codes until
9 one works -- unlock the door, unlock the door. And when
10 the door finally unlocks, then they know they sent the
11 right command signal; is that correct?

12 A They're sending out command signals to a device,
13 to one or more devices and seeing when they can get a
14 response. And the response is not that the door is
15 unlocked. The response is that I have a device that
16 understood the command to unlock the device and sends a
17 response back to you, so the thrust is communication
18 across the bus.

19 Q I've got to look at what's actually disclosed in the
20 patent. It says, "The multi-vehicle compatible
21 controller 25 may sequentially generate the different
22 command signals (working and non-working) for an
23 intended vehicle device.

24 A That's correct.

25 Q So this is not for different bus types, different

1 vehicles? This is for one specific vehicle device, I'm
2 going to send working and non-working command signals,
3 right?

4 A Yes. And please understand, you're trying to
5 conflate these things 'cause one vehicle device -- you
6 can take a device, such as the engine control unit, and
7 you can put it on different bus architectures. The
8 protocol for communicating to that is going to be
9 different because it's under a different bus
10 architecture. So even if I had the exact same ECM,
11 exact same engine control module on two different buses,
12 I can send out a code to query that particular device.
13 And it will only operate and only respond if it is
14 consistent with the protocol for the bus in which it is
15 substantiated.

16 THE COURT: All right, gentlemen. That's a
17 convenient breaking point for the evening. We will
18 recess for the evening tonight. We'll pick up tomorrow
19 morning at 9:00 a.m.

20 Ladies and gentlemen of the jury, please
21 refrain from discussing the case with anyone else, even
22 amongst yourselves, and do not engage in any independent
23 research, and I will look forward to seeing you tomorrow
24 morning at 9:00 a.m. Thank you very much.

25 (Jury exits.)

1 The jury has withdrawn. The parties are
2 present.

3 All right. Everyone is doing wonderfully with
4 their pace. Please don't talk over each other. You're
5 not really doing that Mr. McAlexander, but you are a
6 bit, counsel, that when the witness is almost done
7 answering you start the next question. I know when I
8 was practicing, I did that all the time, so I'm not --
9 certainly not offended, but please be careful, because
10 our court reporter is going to start throwing objects at
11 you, if you keep it up.

12 MR. KAUTH: I understand, Your Honor.

13 THE COURT: Very good. See you all in the
14 morning. Have a good night.

15 THE WITNESS: Thank you, Your Honor.

16 (Adjourned at 5:10 p.m.)

17 - - - - -

18 Reporter's Certification

19 I certify that the foregoing is a correct transcript
20 from the record of proceedings in the above matter.

21 s/Koretta Stanford

22 _____
23 Official Court Reporter
24 United States District Court
25 Middle District of Florida

Date: April 12, 2016