

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 FRIDAY, FEBRUARY 19, 2016, 9:05 A.M.
13 CIVIL JURY TRIAL - VOLUME IV (DAY 4)
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:
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22 Eugene Chong, Esq.
23 Carrie Wozniak, Esq.
24 Charles Halloran, Esq.

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

I N D E X

JOSEPH C. McALEXANDER, III:

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

2 (Jury not present.)

3 THE COURT: Good morning.

4 COUNSEL: Good morning.

5 DEPUTY CLERK: This is the matter of Omega
6 Patents versus CalAmp corp, case number
7 6:13-CV-1950-Orlando-40DAB. For the plaintiff, please.

8 MR. GILCHRIST: Brian Gilchrist and Ryan
9 Santurri.

10 DEPUTY CLERK: And for defense.

11 MR. KAUTH: Joel Kauth, Eugene Chong, Carrie
12 Ann Wozniak, and Charles Halloran.

13 DEPUTY CLERK: Thank you.

14 THE COURT: All right, good morning.

15 Are we ready to get started?

16 MR. KAUTH: Yes, Your Honor.

17 THE COURT: All right. Let's have the jury.

18 (Jury present.)

19 The record should reflect the jury is present.
20 The parties are present. We have the witness,
21 Mr. McAlexander, in the witness stand.

22 Good morning ladies and gentlemen.

23 THE JURY: Good morning.

24 THE COURT: I hope you had a good evening last
25 night. I need to inquire again whether anyone has

1 discussed the case with anyone else or amongst
2 yourselves or conducted any independent research.
3 If you have, please raise your hand. There are no
4 affirmative responses. We are ready to go.

5 Counsel, Mr. Kauth, when you're ready.

6 MR. KAUTH: Thank you, Your Honor.

7 CROSS EXAMINATION (Continued.)

8 BY MR. KAUTH:

9 Q Good morning, Mr. McAlexander.

10 A Good morning, sir.

11 Q I'd like to pick up our discussion. And we're going
12 to start with Plaintiff's Exhibit number 104. If you
13 could turn to Exhibit A at the back of that. It's your
14 report. I think you've got the notebook version.

15 A Exhibit A?

16 Q Yes.

17 A Yes, sir.

18 Q And if you could turn to the -- page A-5 that
19 discusses the bus discovery queries there at the bottom.

20 A Yes, I have it.

21 Q You mentioned the flow charts that I believe is also
22 included in this exhibit a few pages later. Did you have
23 any other basis for determining what message or messages
24 the CalAmp device sent upon start-up?

25 A As I recall, there was a presentation that was

1 presented that was produced as one of the documents, and
2 it indicated a sequence of information that was used.

3 Q And did it indicate these specific six messages as
4 well?

5 A I believe in some instances, yes. Maybe not in all.

6 Q If you could turn three pages back to the page
7 marked A-8. Bear with me while we make sure we get a
8 piece up so the jury can see this. Now we discussed the
9 flow chart a little bit yesterday, and I believe you
10 said you did not create that chart; is that correct?

11 A Yes, that's correct, I did not.

12 Q Do you know what type of device was used to create
13 this chart, meaning which CalAmp device was it connected
14 to?

15 A The 3000s, I recall.

16 Q And do you know any specifics about the device or
17 how it was created, how this flow chart came about other
18 than it was an LMU-3000?

19 A I'm not sure what you mean in your question.

20 I understand that the testing was performed, a testing
21 operation up in Michigan.

22 Q And how did they perform that testing operation?

23 A Um --

24 Q Is there any equipment involved is what I'm trying
25 to ask you?

1 A Well, there was equipment involved, but I was not
2 present, so I cannot attest to what that equipment was.

3 Q And was testing done on the LMU-3030 as well?

4 A I do not recall.

5 Q This flow chart, though, only applies to the
6 LMU-3000?

7 A It applies to a 3000, but the testimony indicates
8 that this is -- even though there was not a verification
9 that it operates in this exact sequence, there was at
10 least affirmation that a sequence like this is used in
11 both products.

12 Q But you haven't independently verified the steps of
13 this flow chart, correct?

14 A I have independently verified, based upon the
15 produced documents by CalAmp that a sequence does take
16 place for the discovery process. But independently
17 testing, the answer is no.

18 Q And in your opinion, did the testimony from CalAmp
19 confirm that the device sends all six messages and stores
20 into memory and doesn't actually send the messages one
21 at a time, waiting in between each message?

22 A It does send each message one at a time, so I'm not
23 sure how --

24 Q In your testimony yesterday, I believe you said even
25 if it got a positive response, it would continue sending

1 the messages so that in any instance all six messages
2 were sent; is that correct?

3 A In my understanding, the decision as to whether it
4 got a response or not is done after the sequence of
5 messages are sent.

6 Q So that's a yes?

7 A It does the sequence of sending of command signals
8 and receiving on the read aspect of the bus, receiving
9 the information, then it performs the discovery or
10 evaluation part.

11 Q But you didn't independently evaluate that if you
12 sent the message type that corresponded to the bus the
13 LMU was currently attached to that it would not send any
14 further messages; is that correct?

15 A I have represented what is in this chart. And as
16 affirmed by the deposition testimony from CalAmp's
17 witnesses, as well as the presentation of the documents
18 that indicate that such a process is performed.

19 Q But no one actually testified that it would send all
20 six messages, even if a positive response was received;
21 isn't that correct?

22 A As I recall the testimony, the testimony was they
23 could not affirm that exactly this sequence was
24 performed, but this was a sequence that was performed,
25 so I believe that affirmed it.

1 Q When Mr. Hergesheimer said he wasn't really familiar
2 with this, but he knew there was a sequence involved,
3 that's what you're basing your reliance on?

4 A That's correct.

5 Q And since he used the word sequence, you're assuming
6 that meant all six messages, no matter what?

7 A What I understood was that there is a sequence that
8 is performed during the discovery process and that there
9 is, based upon that sequence of information, messages
10 that are sent that based upon the response from those
11 messages the one in which does, in fact, correlate with
12 the bus requires -- then resolves a discovery match.

13 Q Are you familiar with the SAE J1978 standard?

14 A That is the standard for scan tools.

15 Q And do you know if that standard for scan tools
16 includes the steps of bus discovery?

17 A I believe that it includes several steps in the bus
18 discovery process, as I recall, in combination with
19 1979.

20 Q And in the J1978 specification, it says that it
21 sends a first message and waits for a response and if it
22 gets a response it doesn't send the next message; isn't
23 that correct?

24 A As I recall, in J1978, it establishes a sequence
25 that's done for each type of bus, specifies the message

1 to be sent. Your statement as to it waits for that one
2 before it gets to the next one, I'm not so sure that is
3 correct. I believe it states the type of messages and
4 steps that are sent dependent upon the bus that's
5 attempted to be discovered.

6 Q All right. I'd like to turn your attention back to
7 the '876 patent, which I believe is Joint Exhibit 1.
8 And if you could turn your attention to Column 8, and
9 we'll put that up on the screen as well. And at the top
10 of Column 8, that first sentence, can you read the very
11 first sentence at the top of Column 8?

12 A Beginning on line 1, it reads, "The multi-vehicle
13 compatible controller 25' may sequentially generate the
14 different command signals (working and non-working) for
15 an intended vehicle device.

16 Q So would those signals all be compatible with the
17 same bus, in your opinion?

18 A No. Not required that they be compatible.

19 Q And when you see, "...for an intended vehicle
20 device," how do you interpret that?

21 A Well, when you take the multi-vehicle compatible
22 controller system, you group -- you incorporate that
23 into a vehicle for the purpose of determining what the
24 vehicle bus architecture is so that it could properly
25 communicate that that's the intended vehicle. So you

1 take this system and you put it into one vehicle, one
2 intended vehicle, and discover what its bus is. You can
3 take that exact same multi-vehicle compatible controller
4 and put it into a different intended vehicle device and
5 discover it.

6 Q All right. Well --

7 A A vehicle -- excuse me -- a different intended
8 vehicle that has a different device, and you can
9 discover it.

10 Q If you could scroll down a little bit in that column
11 to the paragraph beginning at around line 30. And that
12 first sentence, can you read the first sentence there
13 beginning at line 30?

14 A Yes. "The actual coded signals would be compatible
15 with the particular data communications bus 30 as will
16 be appreciated by those skilled in the art."

17 Q And if you go down, I think it's two sentences,
18 there's a sentence that begins with, "For example..."
19 And would that sentence -- well, go ahead and read that
20 sentence.

21 A Sure. "For example, for an unlock of all vehicle
22 doors to be commanded in a 1995 Jeep Grand Cherokee, the
23 code may be 03868004. For a 2000 Jeep Grand Cherokee,
24 the code may be 0422A00400."

25 Q And would those codes be operating on the same type

1 of bus, since they're both Jeeps?

2 A This would be directed to a command to unlock the
3 vehicle doors for different vehicles, and there would be
4 a separate bus in each vehicle so, therefore, there'd be
5 a separate device on those separate buses.

6 Q And I believe yesterday you told me for Chrysler,
7 and I believe Jeep's a Chrysler product, it would be an
8 ISO 9141-2 bus; is that correct?

9 A That is correct.

10 Q So just to clarify, for the 1995 Jeep, it would have
11 an ISO 9141-2 bus inside of it as would the 2000 Jeep in
12 this example?

13 A That's correct. And in both instances, you may have
14 different devices that are connected to the bus.

15 Q And so even though they're both Jeeps, it takes two
16 different door lock codes? I can't just use the same
17 door unlock code for every Jeep or door unlock command
18 signal?

19 A It's the way that code was designed.

20 Q So if I sent these two command signals listed in the
21 patent on a 2000 Jeep, only one of them would unlock the
22 door, correct?

23 A That is correct. So once you discover the
24 particular architecture for a particular vehicle then
25 you will send the appropriate codes. That's what it

1 says.

2 Q So the 1995 Jeep command signal would be a
3 non-working command signal, and the 2000 Jeep signal
4 would be a working command signal?

5 A Well, once you've done the bus discovery, then you'd
6 know by sending the code, both working and non-working,
7 and once you discover what that is then from that point
8 forward then the actual coded signals would be
9 compatible, because you know what the bus is at that
10 point.

11 Q But this doesn't discuss actually finding the bus
12 out, does it?

13 A Well, that's in the preceding paragraph, which says
14 that you can have -- it says in quotes on page -- on
15 line 24 -- "Of course, only one of the codes would be a
16 working code. The other code would cause no vehicle
17 function to be performed." So you have a discovery
18 process that identifies what the bus architecture is,
19 what codes work. And then from that point on you would
20 certainly, at that point, set up and configure the
21 system for the appropriate codes.

22 Q If that's the case, then what's illustrated in
23 Table 3 where they send multiple device codes -- Table 3
24 -- I'm sorry, it's in Figure 3 where they send multiple
25 device command signals while they're on -- connected to

1 a single vehicle?

2 A Well, this is -- any time you have a multi-vehicle
3 compatible controller system, as invested by Mr. Flick,
4 you put that particular type of a control system into a
5 vehicle, you have an intended vehicle. You're trying to
6 discover that vehicle. And so at that --

7 Q This intended vehicle device, I believe, when it's--

8 THE COURT: Mr. Kauth, please don't speak over
9 the witness. Let him finish his answer.

10 MR. KAUTH: I apologize, sir.

11 A When you are discovering that single device, you
12 will be putting out different types of codes. Because
13 at that particular point in time, you don't know what
14 the vehicle is and you don't know what the particular
15 bus architecture is. You don't know what devices are
16 attached to the bus. So, this provides a command
17 signals table that you can go sequentially through and
18 send out the different codes to make a discovery
19 process. Once you have a discovery process, then you
20 know which vehicle and you know which codes to send from
21 that point forward. And that's described in column 8
22 exactly where we were, beginning back up at line 11
23 which you did not read.

24 BY MR. KAUTH:

25 Q And the part you read, beginning at line 1, though,

1 said you're sending all these signals for an intended
2 vehicle device, correct?

3 A Yes. Because in the discovery process, you are
4 going to install the system and you're going to power up
5 the system and you're going to go through a sequence of
6 sending out codes for an intended device, and it's only
7 if you get a response that you know that that intended
8 device with that code is operative as a working code.
9 And if the code that you send out is not a working code,
10 then that intended device is not going to respond.

11 Q So let's look at the part you mentioned. I believe
12 it was beginning at line 11 there in column 8.

13 A Yes. That's where it begins the discussion
14 specifically addressing Figure 3.

15 Q And could you read me that first sentence beginning
16 at line 11, please?

17 A Sure. "Referring now more specifically to the
18 diagram of Figure 3, the operation of the multi-vehicle
19 compatible controller 25' is further described."

20 Q And if you could read the next one as well, please.

21 A "The controller 25' may operate by arranging in the
22 command signals memory 40a a common table 50 as shown."

23 Q And is that the common table that is shown in
24 Figure 3?

25 A Yes.

1 Q And then, if you could read the next sentence,
2 we'll see what happens next.

3 A "The CPU 36 upon determining that an action needs to
4 be performed, such as unlocking the driver's door, for
5 example, would identify the appropriate column from the
6 table 50 from among the columns labeled 'vehicle device
7 A' to 'vehicle device Z'."

8 Q So you pick the vehicle device which in this case I
9 believe it said was door locks, and then you send
10 multiple codes until you get a response that the door
11 lock's activated? Is that correct?

12 A Well, you do that during the discovery process.
13 Once you do discover it, then if there's an action that
14 needs to be performed, such as unlocking the door, then
15 you will send the appropriate code, assuming that you
16 already know what the vehicle is.

17 Q The parts you just read, I think, starting at line
18 11 though, didn't talk about a bus discovery process.
19 They talked about sending codes for unlocking the doors,
20 didn't they?

21 A Well, that is what is discussed there. But if you
22 read in the context of the paragraph, line 24 says,
23 "Of course, only one of the codes would be a working
24 code, and the other codes would cause no vehicle
25 function to be performed." So, I mean, you have a

1 two-step process. One is to discover what the bus is
2 and the device and if you can send the appropriate
3 codes. And that process, you don't have any operator
4 understanding of what it is. Once you do know, then,
5 certainly you can pick from that common table the
6 appropriate codes to then act upon the particular
7 instruction that's required.

8 Q So in your understanding you would determine the bus
9 first, and then knowing the bus you're on you would
10 always send the appropriate code for the vehicle device;
11 is that fair?

12 A I hope so. I mean that's the intended purpose is to
13 discover what the bus and devices are so you can then
14 align the controller to communicate with the devices on
15 that bus with the appropriate code.

16 Q And in your understanding of the patent, then, would
17 you ever, on a bus, send codes compatible with that bus
18 that were working and non-working? Let me simplify that.
19 Would you ever have a command signal that was bus
20 compatible, but not a working command signal?

21 A Well, if you -- compatible might be the right word,
22 because you don't want to have collisions on the bus.
23 And the discovery process is one in which you don't know
24 so, therefore, there will be working and non-working
25 codes essentially sent until you determine what that bus

1 architecture and the device on the bus is.

2 Once you have the appropriate response, then you can
3 configure or provision the system in order to operate
4 and at that point, one would hope, would send working
5 codes only. If one did send a non-working code, it
6 certainly would get no response.

7 Now, the patent doesn't go -- the claimed invention
8 doesn't talk to that. If you want to add some other
9 non-working codes after you've done the discovery, if
10 nothing's preempting one to do that, it's just a waste
11 of time.

12 Q But when we look at the paragraph there, beginning
13 at line 11, the example they give is door locks, correct?

14 A That is the example they give, right.

15 Q And so looking at that example and using door locks,
16 would you ever send a working and a non-working door lock
17 command signal?

18 A Yes.

19 Q Even if you knew what bus you were on?

20 A If you knew what bus it's on then it would be more
21 prudent to send only working codes at that point
22 forward.

23 Q But the example here where it relates back to Table
24 3 and looking at Vehicle Device A, B, or C, and Code 1
25 through N, that's actually for sending working and

1 non-working command signals on the bus, correct, for the
2 unlocking doors, for example?

3 A I believe you're getting the facts a little bit
4 stretched. Figure 3 shows that you have different types
5 of vehicles. And even within a vehicle, one, you have
6 different devices, like Device A, B, up to Z. So each
7 vehicle may have different devices. Each vehicle would
8 have -- for instance, vehicle 1 would have a particular
9 type of bus structure and would have different devices
10 on that bus structure. So the chart is basically giving
11 you a matrix of the possible codes that could be used
12 for different vehicle instantiation, so you've got a
13 common table from which you can draw signals.

14 Now, during the discovery process, you would send
15 out, for instance, Code 1A, associated with Vehicle 1,
16 assuming that -- making a presumption that that is the
17 particular structure. And if you get a response during
18 the sequence that confirms it, then you know what the
19 vehicle is. You know what the bus is. Therefore, you
20 have codes that are associated with that. But until you
21 know that, you will be sending out some codes from the
22 table that will be working, some of which are
23 non-working.

24 Q And in the example in the patent that I think we
25 started with this morning, the two different codes for

1 a '95 Jeep Cherokee and a 2000 Jeep Cherokee, those could
2 be both on the same bus; one would be a working code and
3 one would be a non-working code if you were in a 2000
4 Jeep Cherokee, correct?

5 A If I understood your question correctly, you
6 indicated that you had two different vehicles, two
7 different styles, two different models. They certainly
8 are not going to have the same bus. It's a different
9 bus. It may be the same bus type, but it's a different
10 bus.

11 And if it's in a particular model vehicle, it's
12 going to have one type of unlock door code. And if it's
13 in a different vehicle that has a different unlock or
14 lock code, then it's going to use that. So, you know,
15 that's part of the discovery process is to determine
16 what is there and what is on the bus.

17 Q Now, we've gone through a lot of examples. The
18 patent seems to like the door lock example a lot.
19 Other than what we've read here in column 8, is there
20 anything in the patent that you found that talks about
21 discovering different bus types?

22 A It's hard to parse any one portion when the entire
23 direction of the patent is directed to the fact that you
24 have different architectures and different device types
25 on buses, and it's intended to, rather than having the

1 previous process where you had a controller that was
2 dedicated to a particular type of operator understood
3 bus concept, this is a multi-vehicle compatible
4 controller that's able to make that discovery and,
5 therefore, you have one type of unit, one design, one
6 product that is sold that can be installed and utilized
7 across a number of different platforms. That's what the
8 entire patent is directed to.

9 Q And let's stick with the example the patent itself
10 gives. If I had a device that would work in both a '95
11 Jeep Grand Cherokee and a 2000 Jeep Grand Cherokee,
12 would that be a multi-vehicle compatible device?

13 A Well, the multi-vehicle compatible device is defined
14 by the claims. You would look at each claim and
15 identify what that invention is. And then, if that
16 particular claimed invention, if the elements of that
17 claim that's required for that multi-vehicle compatible
18 device are present, then it is such a device regardless
19 of which Jeep Cherokee it is located in.

20 Q So I'm not sure -- was that a yes or a no?

21 A I believe I qualified and answered your question.

22 Q A qualified yes?

23 A Well, the determination is not where it is located.
24 Determination is what it is based upon the claimed
25 invention. If it is a multi-vehicle compatible

1 controller, by claimed definition, then it is, no matter
2 which vehicle it's put in.

3 Q So let's use the multi-vehicle compatible controller
4 out of Claim 1.

5 A Okay.

6 Q And if that controller would operate in both the
7 1995 Jeep Cherokee listed in the patent and the 2000
8 Jeep Cherokee listed in the patent, would that be a
9 multi-vehicle compatible controller?

10 A By definition, if it meets the elements of the
11 claim, it therefore is a multi-vehicle compatible
12 controller, then it is one, regardless of which vehicle
13 it's in.

14 Q And so, to make that multi-vehicle compatible
15 controller work in both the '95 Jeep Cherokee and the
16 2000 Jeep Cherokee, I would need to have the device
17 codes for both those vehicles, correct? I'm sorry,
18 the command signals for both those vehicles?

19 A If it was to work in both of those, the answer is
20 yes. But if the multi-vehicle compatible controller is
21 one in which it is able to discover and, according to
22 the claim element, by sending working and non-working
23 codes. And if it happens to not have the code for a
24 particular vehicle that is put in working with that
25 device, it doesn't change the fact that it's a

1 multi-vehicle compatible controller. It just happens to
2 be deficient. It wasn't designed to have all the codes
3 from all the vehicles.

4 Q We didn't get back to my question before on is there
5 anything else in the patent that shows the selection from
6 different buses. There's a lot of examples of different
7 device codes. I think there's door lock. There's alarm
8 settings. There's remote starting the engine. That
9 table in Figure 3 shows Vehicle Device A, Vehicle Device
10 B, Vehicle Device C. There's nothing that has bus A,
11 bus B, bus C, is there?

12 A Well, each vehicle that the product is installed in
13 is going to be a bus. And so by definition, you have
14 different vehicles with different buses. The purpose of
15 the invention is being able to take a particular
16 structured apparatus and you can install the product and
17 be able to discover what that bus architecture is,
18 discover what's a working code with a device and what is
19 not. So you've answered your own question. The whole
20 spec does describe that and gives several examples for
21 how that's performed.

22 Q If we could go back to Table 3. So those columns,
23 device code A, device code B -- I'm sorry -- Vehicle
24 Device A, Vehicle Device B, Vehicle Device Z across the
25 top, those would all be in the same vehicle, correct?

1 A In the table -- I may not understand your question
2 fully. In this Table 3, you have command signal tables
3 for different devices. So a command for Device A, let's
4 call it a door lock/unlock, that particular device may
5 have different codes depending upon the vehicle. So
6 there is a multi-dimensional matrix here of different
7 codes for a similar kind of device located in different
8 vehicles.

9 And so this is a map that is available as a common
10 table from which codes can be drawn and sent out over
11 the bus to determine whether or not there is or is not a
12 match. And if there is an understanding of what the
13 device is and what the code is, the vehicle is, then
14 clearly you have the makeup of being able to know, once
15 you have defined the vehicle, to be able to identify the
16 exact codes that would work for the particular vehicle
17 devices.

18 Q And as we go across the columns to the right, you
19 mentioned, I think in your example, Vehicle Device A
20 would be the door locks. Vehicle Device B would be
21 another vehicle device in the same vehicle as those door
22 locks of Vehicle Device A, correct?

23 A Well, Vehicle Device B is shown in this
24 two-dimensional table as a type of device that's located
25 potentially within a vehicle. It may be the type of

1 device that's in a different vehicle up to -- in
2 vehicles. And so it is a type of device, but the code
3 in which it operates could be different but between
4 different vehicles.

5 Q My question is as we go across the table, let's pick
6 that first line, Vehicle 1, Code 1A, Code 1B, Code 1Z,
7 those are all command signals for the same vehicle,
8 correct?

9 A That is correct.

10 Q Let's go back to --

11 A And let me qualify.

12 Q Go ahead.

13 A Those are all codes for the same vehicle. Now when
14 they are sent, they can be command signals when they are
15 propagated or generated to the bus.

16 Q And when you say codes, can you explain that a
17 little more for me, how the codes get to be command
18 signals?

19 A Yes. A code is representative of the type of binary
20 information that when communicated to a device the
21 device understands that to perform some kind of a
22 function. It could be a response function. It could be
23 an action function, different functions. The codes are,
24 therefore, stored in a table.

25 The codes are then -- let's say the vehicle has

1 already been discovered. You already know the bus. You
2 already know the devices on the bus. Then, if the need
3 is to activate a certain device or to get a response
4 from a certain device, then you know the exact code from
5 the table that would work with that, so you access the
6 memory that stores the information in the table.
7 You locate the particular code that's associated with
8 that. You retrieve the code from memory, which is
9 called a read operation. The CPU that is within the
10 controller then takes that information, identifies what
11 the instruction was in terms of what to do with it.
12 And then it generates that by providing it to the bus,
13 generates the bus with that code.

14 And when you do that, you package it. You package
15 the code within the construct of what the communication
16 protocol is for that bus. In essence, you are encoding
17 the data into or the code into that protocol. That is a
18 signal. The command signal is kind of the envelope of
19 what is propagated including the code that's a part of
20 it.

21 Q Okay. So if I simplify it, they are codes while
22 they're sitting in the table, but when you kind of wrap
23 them up in the proper format and generate them on to the
24 bus, that's when they become your command signals?

25 A I believe that's correct, yes.

1 Q And is your understanding of this table that it's
2 sort of an iterative process, meaning that if I were in
3 Vehicle N and I wanted to unlock the door, and we're
4 going to call that Vehicle Device A, I would send Code
5 1A, Code 2A until I got to the operating code; is that
6 correct?

7 A No. The command table is a database. It's a table.
8 It has values in it. Now if you are in the discovery
9 process, you don't know which vehicle you are in. You
10 don't know what the bus is. You don't know what the
11 devices are. Then, yes, you would send out a sequence
12 of codes, some of which would work. At least one of
13 which would work. The others would not. And that is
14 your discovery process.

15 Now once you have identified what the discovery bus
16 architecture is, you know the devices that are on that
17 bus then. Then you basically can now, from that point
18 forward, just select the codes that are associated with
19 that vehicle.

20 Q And when we read that portion, the first three lines
21 in column 8, it said, "The multi-vehicle compatible
22 controller 25' may sequentially generate the different
23 command signals (working and non-working) for an intended
24 vehicle device." So in your opinion, what's that
25 intended vehicle device? It's not the door locks the

1 patent keeps talking about?

2 A Well, that is a type of vehicle device. There are
3 many types. And that could be one; could be another.
4 So you send out a code -- you certainly, from a code
5 table, know which code is associated with a type of
6 device. So if you are sending out a code associated
7 with a type of device, that is your intended device,
8 then you will determine whether or not that code works
9 or doesn't work, and that's going to be based upon
10 whether it has correctly aligned with the right vehicle.

11 Q And turning back to column 8 here, line 30, that
12 first highlighted line, "The actual coded signals would
13 be compatible with the particular data communications bus
14 as will be appreciated by those skilled in the art."
15 Is that reference to actual coded signals? Is that
16 referring to command signals?

17 A Well, when the code is included in a signal, the
18 coded signal, when it is generated that would be a
19 command signal.

20 Q So a command signal would be compatible with the bus
21 it's sent on, correct?

22 A Well, a command signal would be compatible with the
23 bus that it's sent on if it already knows the bus.
24 Again, if it's in the discovery process, you don't know.
25 The command signal may or may not. It's going to have

1 working codes and non-working codes. But if once you
2 have identified it, you discovered it, then the command
3 signals that are sent out should follow the prescription
4 as outlined by the code table to utilize the appropriate
5 codes. And I can't guarantee that all systems are a
6 hundred percent efficient. They may still send out
7 codes that don't work. But, you know, that's up to the
8 designer of the system. It's certainly not an efficient
9 way to do it.

10 Q So in our '95 and 2000 Jeep Cherokee, that might not
11 be efficient, but it would send a working command signal
12 and a non-working command signal, and they would both be
13 bus compatible coded signals, correct?

14 A Well, again, are you talking about prior to
15 discovery or after discovery?

16 Q I'm just using the example in the patent where they
17 say you're sending out multiple codes for an intended
18 vehicle device and they give you the example of two door
19 lock codes, so the patent doesn't specify in here that
20 there's any bus discovery?

21 A It starts at column 8, line 1, "The multi-vehicle
22 compatible controller 25' may sequentially generate
23 different command signals (working and non-working) for
24 an intended device." So you can have a bus architecture
25 that does that, it sends out command signals, some of

1 which work, some of which do not. That is a -- you
2 know, during the discovery process that's exactly what
3 the claimed invention is directed to.

4 Now, once you have discovery, then an efficient
5 system is going to then align the codes to make sure
6 that what it sends out are correct. But again, I can't
7 get into the heads of all designers. They may still not
8 have made their design as efficient as it should be, and
9 they're just wasting their time and wasting bus time,
10 but that's beyond the claim.

11 Q So the claim wouldn't cover sort of the brute force
12 method of Table 3 where you send out multiple codes to
13 unlock the doors until one works?

14 A Well, understand this is an apparatus claim.
15 You keep going back to it wouldn't do it this way.
16 It's a method -- it's not a method claim. It's an
17 apparatus claim. It has a transmitter. It has a
18 receiver. It has a multi-vehicle compatible controller
19 at the vehicle. It cooperates with a transmitter and
20 receiver, which we talked about yesterday, and it
21 generates command signals. And they have to -- at least
22 the one set of command signals has to include working
23 and non-working. That's the claim.

24 Q And the system shown in Table 3, that wouldn't fall
25 within that claim? You couldn't have hardware that

1 operated in that way?

2 A You say the system in Figure 3. Figure 3 is a
3 table, it's not a system. Figure 3 is a table of codes.

4 Q And the system that's described in the patent that
5 refers back to Table 3, I guess mainly starting in
6 column 8 there that says, well, pick an intended vehicle
7 device and send signals and there'll be non-working
8 signals and one will actually work, would that be covered
9 by -- could that be hardware that's covered by Claim 1?

10 A It could be.

11 Q In your analysis of the CalAmp devices, was there
12 only one working command signal?

13 A "...was there only one working command signal?"
14 In the CalAmp devices, the ones that I evaluated, like
15 the 3000, there is a specific parameter identification
16 that is sent during the discovery process. And at least
17 one of those would work and others would not work.
18 It depends on the particular bus architecture of the
19 particular vehicle being discovered.

20 Q So most likely one working signal and multiple
21 non-working command signals?

22 A It's likely, yes.

23 Q And the working command signal, I assume, would be
24 bus compatible?

25 A Yes.

1 Q And the non-working command signals would not be
2 bus compatible; is that correct?

3 A Well, it depends. In some models, it may be. It
4 depends on the signals sent. But the one sent out to
5 discover is one that would fit within what you just
6 said. If it works, then it's a proper discovery. If it
7 doesn't, it doesn't.

8 Q So let's -- we're going to jump back to Plaintiff's
9 104, back to page A-5 of your chart with the list of
10 signals so we can be a little more specific here.

11 Just below the picture there it says, "On initial
12 installation, the multi-vehicle compatible controller
13 generates a sequence of working and non-working command
14 signals to determine command compatibility of different
15 vehicles....," and it goes on to list the series of
16 messages, I believe they're called.

17 Can you step me through, in your opinion, which ones
18 of those are working and non-working command signals
19 that satisfy the claim limitation?

20 A Well, each one of them may be a working and each one
21 of them may be a non-working. It depends on the
22 architecture. For instance, if the discovery is that it
23 is a CAN 11 bus, then the 7DF message that's sent out
24 would be sent out as a -- and that would be included --
25 that would be defined as a working command signal.

1 And the others would then be non-working, because they
2 do not align with the particular architecture. In a
3 different system, for instance, if it was a J1850 PWM
4 message that was sent out, then if the architecture was
5 a J1850 PWM, then that would be the working code and the
6 CAN 11 bit 7DF would not be.

7 Q And in your last example, then, the non-working
8 command signals, would those be compatible with that
9 particular vehicle data bus in which it's installed?

10 A You have codes that would be compatible with a bus
11 and codes that are not compatible with a bus. That's
12 their discovery process. You're sending out working and
13 non-working codes. You're sending out codes at least
14 one of which would work and others would not work.
15 That's the discovery process.

16 Q And you identified, I believe, the J1850 code in
17 your example would be the working command signal
18 non-working example, correct?

19 A In the example where the device was associated with
20 it, it was a J1850, yes.

21 Q And in that example the remainder of the codes that
22 I believe you told me would be the non-working command
23 signals, would those be compatible with the bus as that
24 phrase is used in the patent?

25 A Would they be compatible with the bus? I would

1 anticipate not.

2 Q Do you have any concern that the patent says the
3 actual coded signals would be compatible with the
4 particular data communications bus as will be appreciated
5 by those skilled in the art if the non-working command
6 signals are not compatible?

7 A Well, again, you're -- excuse me -- didn't mean to
8 overstep you.

9 Q Go ahead.

10 A You're conflating things. We're talking about a
11 discovery process. And once discovered, you're talking
12 about a system that now the controller knows what the
13 bus is so that it's going to send out working only at
14 that point which, if it's efficient, that's what it
15 should do. So there is a point in time where all the
16 codes that are sent out would be compatible. And in an
17 efficiently designed system, once the bus is discovered
18 and you understand what the devices are, then you're
19 going to send out compatible codes. But in the
20 discovery process, you don't know what the bus is.
21 You don't know what the devices are and you're sending
22 out codes, some of which work, called working codes,
23 some of which don't, called non-working codes. And in
24 those cases, they may not be compatible with the bus
25 during the discovery process.

1 Q So this sentence in the patent about coded signals
2 being compatible only applies at certain times?

3 A Well, clearly. It applies if you're sending out
4 the codes that are associated with that bus and device,
5 they're compatible. In the discovery process, they may
6 or may not depending upon whether or not you're sending
7 out codes that are consistent with the devices that are
8 associated with that particular type of bus.

9 Q Now, I believe you mentioned that in an inefficient
10 system, you might already know the bus type and send out
11 working and non-working command signals and you said you
12 couldn't get in the head of those designers to make it
13 more efficient. Is that accurate?

14 A That's true. I mean if they want to practice the
15 invention and yet go beyond that and do something that
16 I consider not practical, that's their privilege to do
17 so.

18 Q And the patent, in fact, gives a few examples of
19 that inefficient type approach, doesn't it?

20 A There are inefficiencies. It's understood that
21 there are, yes.

22 Q And in those type of systems where you know what
23 bus you're on and you're sending these working and
24 non-working command signals, both the working and the
25 non-working command signal are compatible with the bus

1 in that instance, correct?

2 A You may have instances in which codes are compatible
3 with a bus, but they do not have a particular device
4 type that corresponds with that. So you may have code
5 that's compatible to the bus, but there's no device in
6 which it can talk to, so I can certainly see that as a
7 possibility.

8 Q So they both -- our Jeep Cherokee example, they'd
9 both be bus compatible, but only one of those codes would
10 work if I own a 2000 Jeep Cherokee?

11 A I can see that as an option that could happen, yes.

12 Q Let's move forward in your report to your discussion
13 of Claim 12. It's on page A-7 of Exhibit A to
14 Plaintiff's 104. And if you could look at about the
15 third line of the claim, there's a further description
16 of the controller, "...multi-vehicle compatible
17 controller is further for storing a set of device codes
18 for a given vehicle device for a plurality of different
19 vehicles." In your infringement analysis, what meaning
20 did you give to that phrase?

21 A The multi-vehicle compatible controller is the one
22 that is defined as required by Claim 1. And there's a
23 further limitation now that was not required by Claim 1,
24 and that is for storing a set of device codes for a
25 given vehicle device for a plurality of different

1 vehicles.

2 So that, I mean, I think it's self-explanatory.

3 You've got, for instance, a table or database. You've
4 got a set of codes that are stored. And these device
5 codes correspond to a particular type of device that's
6 on a bus. And that particular bus -- that particular
7 device on that bus in one vehicle may be a same type of
8 device on a different vehicle with a different
9 architecture. So you have device codes associated with
10 a device dependent upon which vehicle it is residing.

11 Q When we go to the right column of your chart, it
12 talks about the LMU storing messages for different buses,
13 reads the message, and then it says it "...matches the
14 read messages to the stored message to provide
15 compatibility with different vehicles." When you've got
16 the stored message in that line, what were you referring
17 to?

18 A Well, this would be the code that's associated with
19 a particular vehicle device. And when you get a
20 response back through the accumulator, you get a
21 response back and you can determine whether or not you
22 did, in fact, get a response or not. And if you did,
23 then you know that the code that you sent out that was
24 assembled and sent out as a part of the command signal,
25 that did in fact get a response, so then you have

1 compatibility.

2 Q So I believe in your example the vehicle device is
3 the ECU or ECM, correct?

4 A Correct.

5 Q And specifically, what is my stored message?
6 You've got a list of messages include the CAN 11 bit and
7 it goes through all those, but it says that you're
8 matching the read message to the stored message, so I
9 just want to know specifically what is that? Can you
10 identify the stored message that you determined to
11 exist?

12 A Well, when you are sending out a -- when you're
13 through the interface, through the BOD [sic] card,
14 you're sending out the code. You're generating the
15 command signal to the bus for a particular device type
16 that's going to be consistent with the discovery process
17 for the CAN 11 or the other buses, so there's a specific
18 message that's sent out. And it's retained there,
19 'cause you know what you've sent out. Now what you're
20 trying to do is look at the response that comes back to
21 determine whether it corresponds to a particular message
22 that's sent out, and that is basically defined by the
23 discovery process.

24 Q So the stored message would be the six messages
25 identified in the box on the right?

1 A Yes. They can be that.

2 Q Now, I noticed on the box on the right, you have
3 matching read messages to stored messages. And is a
4 message -- when you're using message in that box, is
5 that the SAE understanding of message, that it can be a
6 request or a response, a command or a query? Can you
7 specify what you mean by message there?

8 A Well, the message includes the content of the code
9 that has been transmitted as a part of the command
10 signal that goes out over the bus to attempt to identify
11 whether or not a device will respond to it or not.

12 Q So message is command signal there or the part of
13 the command signal?

14 A It's part of it, yes.

15 Q When I looked on the left of the claim, though,
16 they don't use the term message. They use the term
17 device code, don't they?

18 A Yes. The device code is included in the message.

19 Q And the Court's given a definition of device code,
20 correct?

21 A Yes.

22 Q Is that a signal from a vehicle device?

23 A Device codes is identified as signal from a vehicle
24 device.

25 Q So you're saying the device code here is part of the

1 query message or the bus discovery process; is that
2 accurate?

3 A The device code is -- the device code is defined by
4 the Court as a signal from a vehicle device, and so yes.

5 Q And what vehicle device is that device code from?
6 The parts of the messages that you identified in there?

7 A Well, these device codes that are stored are the
8 ones that -- where it says in the claim, Claim 12, the
9 "...multi-vehicle compatible controller is further for
10 storing a set of device codes for a given vehicle."
11 So this is the table of all of the different device
12 codes that are associated with a particular type of
13 vehicle device associated with different vehicles.

14 Q And --

15 A And then -- and then the part that you haven't
16 highlighted, it says in Claim 12 is "...for reading a
17 device code which is a signal from a device from the
18 data communications bus," and so that device code that
19 is being read is the device code that is a signal from
20 the vehicle device.

21 Q So is the set of device codes for a given vehicle
22 device for a -- having trouble with that -- a plurality
23 of different vehicles not a signal from the vehicle
24 device?

25 A Say that again.

1 Q Gladly.

2 A I just want to hear you say "plurality" again.

3 Q So I think you just testified that reading a device
4 code from the data communications bus, that would be the
5 signal that comes back in response from the query
6 message, correct?

7 A Correct.

8 Q And so, I'm asking is the set of device codes for a
9 given vehicle device for a plurality of different
10 vehicles that's referenced earlier also a signal from a
11 vehicle device?

12 A These device codes -- this is a set of device codes.
13 So these would be the codes that would be corresponding
14 to that which it would expect from that would be --
15 would generate a response from the particular vehicle
16 device which then would send a code which is a signal
17 from the vehicle device back, so there would be a
18 correspondence to it.

19 Q Notwithstanding the correspondence, doesn't the
20 definition we're using in this case require that the
21 device code be a signal from the vehicle device?

22 A That is a correct statement. And if you really want
23 to put this into the context of the application as
24 entered into, this multi-vehicle compatible controller,
25 such as the LMU-3000 that is connected to the bus

1 through the connector, that is also a vehicle device.
2 It happens to fall within the context of a vehicle
3 device because that is a device that communicates across
4 the bus and creates master and slave context. So it is
5 a device code from a given device.

6 But in the context of the claim, you have a table,
7 you have a database, you have a construct of different
8 codes associated with different devices, and you also
9 have the ability to send those codes from that device to
10 the bus, generating the bus, and then you get response
11 codes from a particular device, in fact, if it does
12 respond. And so, then, that would be a code also from a
13 signal from a device, from a vehicle device.

14 Q Do you recall in your deposition you told me that
15 the controller, the LMU controller, could be a device
16 code, but for purposes of this claim it was not the
17 device code you're relying on? I'm sorry, vehicle
18 device.

19 A Yeah. Let's say that again, please.

20 Q Yes, please. I believe in your deposition you told
21 me that while the LMU could be considered to be a vehicle
22 device, for purposes of the claim it was not the vehicle
23 device that you were identifying; is that correct?

24 A That is correct. It's consistent with what I just
25 said.

1 Q So I'm still not sure, though, if we've established
2 that this set of device codes for a given vehicle device
3 for a plurality of different vehicles are actually
4 signals from a vehicle device.

5 A Well, these particular device codes that are part of
6 the table, part of the stored matrix, are not codes that
7 have as yet been received from a vehicle device. These
8 are codes that are associated with the vehicle device
9 that would command a response, and then the response is
10 reading a device code from the data communication bus,
11 and that is from the given vehicle device.

12 Q So we'd sort of suspend the definition for the first
13 clause there, because the second reading one is actually
14 the signal from the device code -- I'm sorry -- the
15 vehicle device?

16 A Well, in this particular claim, the device code
17 that's coming from the vehicle device certainly is a
18 signal from that device. The ones that are stored are
19 device codes that correspond to those, may or may not
20 correspond, depending upon whether it's a working or
21 non-working, but it does correspond to that.

22 Q Maybe if we go to the specifics, I'll understand
23 better. So I believe you told me the message as listed
24 at the bottom of the box on the right side there, the
25 CAN 11 bit 7DF message and the rest of those, that

1 portions of those are what comprise the set of device
2 codes for a given vehicle device for a plurality of
3 different vehicles; is that correct?

4 A That's correct. And the context is not device
5 codes, but a set of device codes.

6 Q So it's the set of those six that you have listed
7 there?

8 A In this instance, yes.

9 Q And specifically, what portion -- let's just pick
10 the CAN 11 bit 7DF message. What portion of that message
11 makes up part of the set of device codes?

12 A Well, these include the 7DF, that hexadecimal 7DF.

13 Q And was that an address value? Tell me what the 7DF
14 is.

15 A Well, it's a data -- it's a data value.

16 Q Is it a hexadecimal number?

17 A Yes. As I mentioned yesterday, in decimal it would
18 be 713 F -- 71315.

19 Q And what does that correspond to?

20 A I believe yesterday we discussed that. That happens
21 to be, according to the protocol for the CAN 11 bit,
22 that is the information that is to be sent out during
23 the discovery process.

24 Q And then, when we step to the reading a device code
25 from the data communications bus, let's assume we got a

1 response on CAN 11 bit, what would be the content of that
2 read device code from the data communications bus?

3 A I don't have in front of me what that is, so I can't
4 be specific. It would be a code that shows a response
5 from that particular device which indicates that there
6 is a match; that, in fact, that the code that was sent
7 out is able to communicate with that particular device.
8 Therefore, when you get the device code back as a
9 response, then you know you have a match.

10 Q And in that last part of the clause -- I'm sorry --
11 the element, "...and for determining a match between a
12 read device code and the stored device codes to thereby
13 provide reading compatibility with a plurality of
14 different vehicles."

15 A Yes.

16 Q Is that what you said, if you get a response back
17 then you've determined there's a match?

18 A Yes. Because in the architecture of these systems,
19 if you do not get a response back, then it means that
20 the content of the message that you're sending out is
21 not understood by any of the devices on the bus. And
22 so, you will not get any response. If you do get a
23 response back, then it means at least that one device
24 has understood the message and is able to acknowledge
25 the receipt of that message.

1 Q And does the controller actually determine the
2 match?

3 A The multi-vehicle compatible controller?

4 Q Correct.

5 A Yes.

6 Q And how does it determine that?

7 A It gets a response back. If it has a value that has
8 been stored on the read information, it detects whether
9 or not there is a change of state, change of value
10 that's in that stored location. If there has been no
11 change, then it knows it got no response. If there is a
12 change, in other words, it has content, then it knows it
13 has a response.

14 Q So if a match is any response, doesn't that sort of
15 eliminate that last clause?

16 A What do you mean, if a match is any response?

17 Q Well, if any response that you get back constitutes
18 a match, in your opinion, haven't we eliminated the
19 function of having to determine a match?

20 A No. The determination is done by the controller.
21 It evaluates. It looks at the different storage
22 locations to determine whether or not there has been a
23 return value or not. And based upon whether there is or
24 is not, you have a determination. The determination is
25 that you did have a match. You got a response.

1 Q So in your opinion, if you get anything back,
2 there's a match. If you get nothing back, there's no
3 match?

4 A Well, you have to understand -- yes. The
5 architecture of these systems, each device has a
6 specific code that only it understands. And so none of
7 the other devices on that bus are going to comprehend
8 that code. If there is a device that comprehends it,
9 then you have a match.

10 Q All right. Let's move down a little bit more.
11 We're going to go to Claim 14. And on the right-hand
12 side, you have got a diagram that has got a couple
13 different CalAmp items. Can you tell me what that
14 diagram is depicting once you get there? And this is --
15 I'm sorry -- page A-9 of Plaintiff's Exhibit 104.

16 A Claim 14 is also dependent from Claim 1, so this
17 adds the additional limitation that the transmitter
18 comprises at least a central station transmitter and
19 wherein the receiver is at the vehicle.

20 What I'm showing in the diagram is a system that
21 includes the CalAmp LMU on the bottom right corner of
22 the diagram that has the capability through its wireless
23 module to communicate wirelessly through a cell tower
24 back to a particular terminal server, which is a CalAmp
25 server. And so under this condition, the system

1 cooperates in a way that the CalAmp LMU can transmit
2 information to the server, and the server can transmit
3 information to the CalAmp device itself, the CalAmp LMU.

4 And in this particular instance, Claim 14 says the
5 central station has a transmitter. Well, clearly it's
6 wirelessly connectible to the LMU. So it does -- it is
7 capable of transmitting and does transmit to the LMU.
8 This is done specifically in the -- it can be done, for
9 instance, in the provisioning part, and the receiver is
10 at the vehicle.

11 Well, if the server and the LMU are together working
12 as a system, then when a transmission is made from the
13 server, then the CalAmp receiver is going to be the
14 particular element that receives it, so -- and I have
15 pointed to the fact that the LMU does, in fact, have a
16 transceiver.

17 Q And in this diagram, which part is the central
18 station transmitter?

19 A It would be the server.

20 Q Which one of those? Is that the LM direct server?

21 A LM direct server under some conditions and the PULS
22 in others. If you're provisioning, it would come from
23 the PULS.

24 Q Let's flip a little further back in this exhibit.

25 Let's go to page C-1. And this is --

1 A C-1?

2 Q Correct. I believe it's Exhibit C to your report,
3 a discussion of the '885 patent?

4 A Okay.

5 Q We spoke previously about the different device
6 codes, the plurality that I couldn't pronounce. Is your
7 analysis for Claim 1 of the '885 patent regarding those
8 device codes the same as it was for those device codes
9 in Claim 12 of the '876 patent?

10 A Yes.

11 Q All right. Let's turn to the '727 patent, and
12 that's going to be Joint Exhibit 4, I believe.

13 All right. And in Joint Exhibit 4 -- I'm sorry --
14 in the '727 patent, it's your opinion that the speed
15 exceeded notification device is the LMU-3000 or 3030,
16 correct?

17 A Yes.

18 Q And when we look at -- if you want to turn to Claim
19 1 -- zoom that in a little bit -- there's an element,
20 "...at least one vehicle device generating data related
21 to vehicle speed on the vehicle data communications bus."
22 Now in your analysis, what part of the LMU satisfied that
23 requirement?

24 A Well, the engine control module will be a device on
25 the bus that would generate that back to the bus.

1 It would then be received by the device.

2 Q And if we go down a couple lines, there is, "...a
3 controller to be coupled to the vehicle data
4 communications bus." And I believe you said that that
5 was a combination of several elements within the LMU;
6 is that correct?

7 A That's correct.

8 Q And does that controller perform one or more control
9 functions?

10 A Yes.

11 Q And what are the one or more control functions that
12 it's performing?

13 A The one or more control functions, there are a
14 number. It performs control functions with regard to
15 sending command signals to various other devices that
16 are on the bus, on a particular bus. They could have
17 anything relating to the engine control module with
18 regard to transmission of an engine. It could be
19 generating signals for diagnosing the information.
20 It could be information in terms of engine speed,
21 torque, other parameters that are listed and provided
22 by the consumer.

23 Q And for your analysis for this claim, did you pick
24 any particular function you thought satisfied that
25 limitation?

1 A Speed.

2 Q So that's speed from the vehicle data bus?

3 A Yes.

4 Q And I believe you said that Mr. Eiberger and
5 Mr. Hergesheimer had testified regarding obtaining speed
6 from the vehicle bus; is that correct?

7 A Yes, they did.

8 Q And what was your understanding of how that speed
9 was obtained from the vehicle bus in the CalAmp devices?

10 A It was read from the bus.

11 Q And was that using the speed above threshold
12 function that's provided by CalAmp?

13 A I'm not sure what you mean.

14 Q When you say the speed was read from the bus --
15 well, let me back up. Are you familiar with the speed
16 above threshold and speed below threshold functions in
17 the CalAmp devices?

18 A Yes, I am.

19 Q And do you know what type of speed those functions
20 utilize?

21 A They use the speed of the vehicle.

22 Q And do you know where they obtained that speed of
23 the vehicle?

24 A It depends on the script.

25 Q So your understanding is that you can script the

1 speed above function -- I'm sorry -- speed above
2 threshold function to obtain speed from different places?

3 A You're asking two questions in one. Let me try to
4 parse it. There's a difference between obtaining speed
5 and a speed threshold function. It can receive speed
6 from several different places. It can receive a speed
7 reading through the GPS system. It can also receive a
8 speed reading via the bus. The claim requires receiving
9 or reading the data related to vehicle speed from the
10 vehicle data communication bus and the controller is
11 able to do that and does do that.

12 Q And in your analysis of this claim, you told me that
13 -- well, let's go back to the threshold here.

14 A Okay.

15 Q If we go to the last clause it says, determining
16 when a vehicle speed exceeds a speed threshold for a
17 first time period and based thereon cooperating with
18 said wireless communication device to send a remote
19 vehicle speed exceeded notification.

20 So let's start with that first part, determining
21 when a vehicle speed exceeds a speed threshold for a
22 first time period. In your analysis of this claim, were
23 you relying on the speed above threshold provided in the
24 CalAmp LMUs?

25 A Yes.

1 Q Do you recall that both Mr. Eiberger and -- well,
2 let's start with Mr. Eiberger. Do you recall that
3 Mr. Eiberger testified that the speed above threshold
4 obtained speed data from the GPS?

5 A Yes, I do.

6 Q And so how is that speed data from the GPS data
7 related to speed from the vehicle data communications
8 bus?

9 A Well, there's two aspects. One is that there was
10 testimony -- I think Eiberger had confirmed that a
11 certain percentage of the scripts that they wrote
12 actually did retrieve speed from a bus, so that's number
13 one. So hands down, there are certain devices that
14 actually do use the speed from the bus. Number two,
15 let's take the example where the speed factor that is
16 used in the determination is from the GPS module and not
17 read from the bus. That is a probable fact of the way
18 some of these systems are arranged.

19 So if we look at reading the claim, it says,
20 "...reading the data related to vehicle speed from the
21 bus..." Does the controller do that? The answer is
22 yes, it does read speed related from the bus.

23 "...determining when a vehicle speed exceeds
24 a...", not "the" speed threshold, but "a" speed
25 threshold, and it's "a" vehicle speed. So there is no

1 antecedent to that that requires it to be the speed that
2 is read from the bus. There are two separate operations
3 that this controller -- it's not coupled to the data
4 communication. It's a controller to be coupled 'cause
5 that's what it can do.

6 And when the controller to be coupled, some of the
7 operations that it can perform are for reading the data
8 from the bus related to the speed, which it does, it can
9 also be for determining when a vehicle speed exceeds a
10 speed threshold, but it doesn't require, based upon the
11 way the claim is constructed, that the vehicle speed is
12 the one that has to be the one read from a bus.

13 Q So obtaining -- in your opinion, obtaining speed
14 from the GPS would satisfy this claim limitation,
15 assuming all the other --

16 A Well, all limitations of the claim have to be met.
17 And if the product, which it does read data related to
18 vehicle speed from the vehicle data communications bus,
19 when a controller to be coupled for reading, does it do
20 that? Can it do that? Yes it can.

21 Does it also have the function that's substantiated
22 in the way in which it operates for determining when a
23 vehicle speed exceeds a speed threshold for a first time
24 period and based upon that cooperating with the wireless
25 system? Yes, it does do that, too.

1 Q And is your understanding in the LMU devices that
2 the GPS speed is not obtained from the bus?

3 A My understanding is the GPS speed is not obtained
4 from the bus.

5 Q It comes from the OBD side -- I'm sorry -- the LMU
6 side of the board?

7 A It comes from the GPS board to the LMU board.

8 Q And that's in the LMU layer and not in the OBD
9 layer?

10 A It's not in the OBD layer. It is a part of the GPS
11 layer that's then connected to the LMU board. If you
12 want to call that part of the LMU layer itself as
13 opposed to OBD, yes.

14 Q Because there's really just -- CalAmp just describes
15 this as having two layers, doesn't it, the OBD layer and
16 the LMU layer?

17 A They do. They do describe that in some of the
18 information. And they basically take the two boards,
19 the LMU and the GPS board, and put them together, in
20 quotes, the LMU layer.

21 Q And so you understand that the function that CalAmp
22 provides for obtaining speed and setting a threshold,
23 the speed above threshold function, that that doesn't
24 obtain speed from the bus, correct?

25 A If it uses the speed from the GPS for it, the answer

1 is it does not receive that speed that is used in the
2 determination from the bus. If the script is written as
3 Mr. Eiberger had stated some are where speed is obtained
4 from the bus, then that's a different story. But in
5 each case regardless, the controller to be coupled for
6 reading the data related to vehicle speed from the data
7 communication bus, it does perform that. And it also
8 has a determining operation in which a vehicle speed is
9 matched or determined whether it exceeds a speed
10 threshold.

11 Q So I believe Mr. Eiberger testified about he
12 gathered scripts, five percent of the users he thought
13 it was, and that they used speed from the vehicle data
14 bus for something, but he said he would have to eyeball
15 the scripts to determine if they were actually using it
16 for thresholds; is that correct?

17 A You've paraphrased that correctly.

18 Q And just to make -- let me make sure I understand
19 your opinion. You're saying that even if the threshold
20 function in an LMU is obtaining speed from the GPS, the
21 fact that it might obtain speed from the vehicle bus not
22 associated with that threshold, it would still infringe
23 Claim 1?

24 A My opinion based on the reading of Claim 1, the
25 answer is yes. The determining step does not relate to

1 where the vehicle speed factor is obtained from.

2 If there are two operations that the controller is
3 capable of performing, one of which is reading data
4 related to speed from the bus and another operation is
5 determining whether or not a speed exceeds a threshold.

6 Q Let's see if we can parse that out a little bit.
7 When we go up to the clause, "...reading the data related
8 to vehicle speed," what's your understanding of vehicle
9 speed there? Is that just a sort of generic reference
10 to speed or is it current speed or are there any
11 limitations on that?

12 A Well, it's not reading speed. It's reading data
13 related to speed. The system depends on a particular
14 implementation. Some actually read the RPMs from a
15 transmission and then they have to do the gear-up ratio
16 factors and loss factors in order to get a set of
17 information that's related to the vehicle speed, and
18 that is the information that's then propagated across
19 the bus, and so that would be data related to the speed.
20 You read that data that's related to the speed.

21 Q And when we step down to the next one,
22 "...determining when a vehicle speed," that's, in your
23 opinion, speed from the bus GPS anywhere speed might be
24 obtained?

25 A Based on the way this is constructed in the claim,

1 I don't think it -- it does not limit it to being, for
2 instance, the speed that is read from the bus. It's
3 just determining when a speed, a vehicle speed, exceeds
4 a speed threshold.

5 Q Are you aware of the Omega device, the GPS 2000?

6 A I know of it, yes.

7 Q And were you here for the testimony about it earlier
8 this week?

9 A Yes.

10 Q Do you recall testimony that the GPS 2000 could do
11 speed thresholds?

12 A Yes.

13 Q And that that was obtaining speed from the GPS unit
14 in that device, I believe; is that correct?

15 A In the 2000, if it is not associated with the VPOD,
16 then it only can get it from the GPS.

17 Q I'm sorry. I think we might be talking about
18 different things. I'm talking about the Omega product,
19 the GPS 2000.

20 A Okay, excuse me.

21 Q Do you recall that product?

22 A Yes.

23 Q And could it obtain speed from the GPS unit in it?

24 A I believe it could, yes.

25 Q And could you set up a speed threshold in that unit?

1 A You could.

2 Q And could it determine when a vehicle speed exceeds
3 a speed threshold for a first time period?

4 A As I recall, yes.

5 Q And you know that that unit was on sale, I believe,
6 as early as 2001, correct?

7 A I believe that it was, yes.

8 Q And is that more than six years before the '727
9 patent?

10 A That portion of it, yes.

11 Q And do you think that would anticipate this patent,
12 if there was a publicly available device that could read
13 speed off the GPS?

14 A One would have to look at the entirety of the claim
15 to determine that, and I don't believe the entirety of
16 the claim was met at that early a date.

17 Q Because the GPS 2000 didn't have the bus connection?

18 A It did not, as I recall. But again, do you have
19 some documents to put in front of me, because it's --
20 you're taxing my memory on all of those factors.

21 Q This is just based on the testimony this week.
22 I don't have any documents.

23 A Yeah. I mean, I think what you represent so far is
24 correct.

25 Q If we step down to Claim 2 in column 7 here on the

1 '727 patent it says, a speed exceeded notification,
2 according to Claim 1, wherein said controller is also
3 for determining when the vehicle speed exceeds the speed
4 threshold. So you mentioned antecedent basis before,
5 I believe. Can you explain a little bit about what
6 antecedent basis is in a patent claim?

7 A Antecedent basis in a patent claim means that when
8 a particular claim term or phrase is used that if it has
9 been used before and you want to refer to that specific
10 reference where it was first introduced, then as I
11 understand in the claim language, rather than using the
12 word the Article A, you will use the words "the" or
13 "said". And if you use "the" or "said", then it refers
14 back to the prior instantiation or representation of
15 that particular term.

16 Q Thank you for that explanation. If we go to Claim
17 2, I believe it's the third line where it says, the
18 vehicle speed. Do you know where the antecedent basis
19 is for the vehicle speed in Claim 2?

20 MR. SANTURRI: Your Honor, I'm going to go
21 ahead and object to this. We're talking about
22 antecedent basis for claims that aren't asserted in the
23 case. I'm not really sure how this has anything to do
24 with --

25 THE COURT: All right. Can you help us with

1 the relevance of this? If it's not an asserted claim,
2 what's the point?

3 MR. KAUTH: It's the point to determine
4 whether the claim before those are actually two
5 different speed references or, in fact, they're all
6 referring to the same speed that must be obtained from
7 the vehicle bus, Your Honor.

8 THE COURT: All right. I'll allow it.

9 A The antecedent basis for the vehicle speed, it says,
10 the vehicle speed exceeds the speed threshold for a
11 second time period, so it would refer to the determining
12 step. And it would be the "a vehicle speed" that was
13 previously looked at for exceeding a threshold for the
14 first time, and you would be looking at that vehicle
15 speed, whether it exceeds the vehicle speed for a second
16 time.

17 BY MR. KAUTH:

18 Q It couldn't refer to the "a vehicle speed" in the
19 last clause of Claim 1 where it says, determining when a
20 vehicle speed exceeds a speed threshold?

21 A I believe in the context of the way the claims are
22 written, the one that I've identified is the one that it
23 refers to.

24 Q But it could refer to the other one?

25 A If the other one was actually -- if the other one

1 across the bus was used as the vehicle speed for the
2 first time period determination, then the answer is yes,
3 could be.

4 Q And if we look back in Claim 1, after you determine
5 when a vehicle speed exceeds a speed threshold for a
6 first time period -- well, let's stick with first time
7 period. What's your understanding of what that means as
8 you construed these claims?

9 A Well, the first time period indicates a particular
10 segment or portion of time. It doesn't have to be any
11 particular specific time that can be defined by the
12 person that implements this invention to identify a
13 first time period.

14 For instance, speed is generated based upon a
15 sampling technique. You do not take the first value,
16 because sometimes you may have an error. So what you do
17 since it's an analog function, analog -- you will take a
18 value and you will take a number of samples over a
19 particular period of time, and then you will create a
20 code based upon that to determine what the speed is
21 during that period of time, and then that is the code
22 that is used.

23 Now, in order to ensure that there is not some
24 issues with relating to the way in which you have
25 defined it, for instance, you may have a vehicle which

1 is passing another vehicle and it may be for some number
2 of seconds has exceeded the limit, the threshold that's
3 been set -- let's say it's 70 miles an hour -- there
4 will be some given first time period to see does it
5 exceed that or not so that you at least allow some
6 flexibility for whether the person is passing or not.
7 That could be one example.

8 Going downhill, especially if you're an 18-wheeler,
9 there may be a period of time where you have exceeded a
10 given threshold that's been defined by the software,
11 because you have -- you haven't got it broke -- the
12 braking is not working right.

13 So certainly, if it goes for a length of time that
14 is beyond what was determined, then that would set a
15 flag it exceeded threshold. But if the driver is able
16 to recover and not exceed the threshold for a length of
17 time that's defined, then it would not set a flag.
18 So it's a first time period. That can be defined by the
19 vehicle and by the fleet.

20 Q And did you use the debounce feature on the LMUs to
21 satisfy this requirement?

22 A No.

23 Q What did you use to satisfy the first time period
24 requirement in your analysis?

25 A Well, the debounce is trying to overcome an error

1 issue, make sure you don't have an interference.

2 So this is a first time period is basically the
3 threshold calculation is going to be made and a
4 determination will be made for a period of time, a first
5 time period. And the first time period can be anything
6 from zero to whatever is defined by the script.

7 Q And did you identify any script that defined a first
8 time period?

9 A All scripts are going to have a first time period.
10 There's always going to be for a first time period.

11 Q And what's your basis for that assertion?

12 A The basis for that assertion is we live in the real
13 world and controllers evaluate information and they
14 evaluate it at a particular current time. It's based
15 upon a sampling technique over a period of time, so
16 there is necessarily a given first period of time.

17 Q But that's not based on any CalAmp documentation?

18 A That's based upon the control system theory and
19 based upon the way the STM 32 F device works.

20 THE COURT: All right. Let's take a break
21 here, gentlemen. It's now 10:35. We'll come back at
22 10:50. We'll be in recess until 10:50.

23 (Jury exits.)

24 The record should reflect the jury has
25 withdrawn. We're in recess until 10:50.

1 (Recess from 10:35 a.m. to 10:57 a.m.)

2 THE COURT: All right.

3 Are we ready to continue?

4 MR. KAUTH: Yes, Your Honor.

5 THE COURT: Let's have the jury, please.

6 (Jury present.)

7 The record should reflect the jury has
8 returned, the witness is in the box, and we're
9 continuing with cross examination when you're ready.

10 MR. KAUTH: Thank you, Your Honor.

11 BY MR. KAUTH:

12 Q Let's pick up with the '727 patent. I believe when
13 we left off we were talking about the last clause there,
14 "determining when a vehicle speed exceeds a speed
15 threshold for a first time period."

16 Let's move on to the next one, "...based thereon
17 cooperating with said wireless communications device to
18 send a remote vehicle speed exceeded notification."
19 What did you interpret that clause to mean?

20 A Well, the controller to be coupled to the vehicle
21 data communication bus and the coupler -- excuse me --
22 and the speed exceeded notification device says there's
23 an operation of determining whether the speed exceeds
24 the threshold and then it says, "...and based thereon
25 cooperating with the wireless communication device to

1 send a remote vehicle speed exceeded notification."

2 So that would be -- in terms of an implementation
3 would be processing a set of instructions that would
4 transfer the information through communication with the
5 wireless communication device so that it would send the
6 notification.

7 Q In what do you assert satisfies that portion of the
8 claim in the CalAmp devices?

9 A First of all, it's the LMU, the ST microcontroller
10 portion that cooperates with, in conjunction with the
11 wireless communication device, which is the receiver
12 transmitter module, and it sends a remote speed-exceeded
13 notification. And that would be attributed -- an
14 example I think I used in my claim chart was the event
15 reports. The event reports is what is sent. And event
16 reports include the information, including the speed.

17 Q And are event reports sent periodically?

18 A They are sent periodically or they can be set up to
19 be repetitive or a certain period basis. There are
20 different ways in which they can be programmed in terms
21 of the delivery schedule.

22 Q And did you interpret the language, based thereon,
23 to require that the speed-exceeded notification be sent
24 as a result of determining when a vehicle speed exceeds
25 a speed threshold for a first time period?

1 A It says, based thereon. That would be based on the
2 determining operation, determining whether a threshold
3 has been exceeded, based thereon. That's what I base it
4 on.

5 Q So the report has to be sent as a result of the
6 vehicle exceeding the speed threshold; is that correct?

7 A It says that -- the predicate is a speed threshold
8 has been exceeded for a first time period based on that
9 fact. It says there's a further operation that the
10 controller is capable of performing, and that's
11 cooperating with a wireless communication device to send
12 a remote vehicle speed-exceeded notification. There's
13 not a time element in terms of exactly when it is sent,
14 but what is sent is based upon that.

15 Q So I believe in your language you said it had to be
16 based upon the fact of there was a determining when a
17 vehicle speed exceeded a speed threshold for a first time
18 period?

19 A That's correct. So one of the factors that would be
20 included -- the event report may have other factors in
21 it as well. In fact, some of the dependent claims add
22 in other factors, but there at least has to be a basis
23 so it goes back to that threshold being crossed.

24 Q So if the event report is just set up to be sent
25 out every hour and doesn't check to see whether there

1 has been a determination that a vehicle speed exceeded
2 a speed threshold, would that not qualify as the speed
3 exceeded notification in this case?

4 A I believe that the claim language has several
5 functions that the controller performs, operations the
6 controller is able to perform, one of which is that it
7 is able to read data from the bus. Another is that it
8 can determine the vehicle speed whether or not it
9 exceeds a threshold. And it also has the ability to
10 operate in a way which it cooperates with a
11 communication device to send a remote vehicle
12 speed-exceeded notification. So I cannot say that an
13 event report that is, let's say, scheduled to be sent
14 every hour is not based upon that. It can be easily
15 based upon that.

16 Q Explain to me how an event report that's scheduled
17 to be sent out every hour, regardless of any speed
18 threshold, is based upon determining when a vehicle
19 speed exceeds a speed threshold?

20 A Well, if there are provisions where the report is
21 not sent, if the threshold has not been exceeded, then
22 it's certainly not based upon. And sometimes speed
23 reports are generated more frequently dependent upon
24 whether the threshold has been exceeded or whether it
25 has been exceeded over multiple periods of time.

1 Q So the trigger for sending the report has to somehow
2 be related back to exceeding the speed threshold,
3 correct?

4 A You used the word trigger. That's not in the claim.
5 There are functions that the controller performs, one of
6 which is determining whether a threshold crossing has
7 occurred and another is cooperating with a
8 communications device to send a remote vehicle
9 speed-exceeded notification.

10 So the mechanism here is that there would be a speed
11 notification event that's an event that has occurred and
12 that would cause the notification to be sent, but that
13 doesn't mean that it necessarily has to be sent
14 immediately. It can be sent later.

15 Q But it has to have some relation to the event you
16 mentioned?

17 A Well, I would think there is a relationship, yes.

18 Q But if it's a -- go ahead.

19 A Well, if it is a report that is sent out and shows
20 that there is no speed threshold that's been crossed,
21 then that is not a speed-exceeded notification.
22 If there is information in that report where the speed
23 has been exceeded, then I would label that as a speed
24 exceeded notification.

25 Q So the report would have to identify that there was

1 a speed exceeded to constitute a speed-exceeded
2 notification?

3 A Well, the report would indicate that there is a
4 speed exceeded as part of being notification.

5 Q So an event report that just was hourly sending out
6 the speed but didn't note that there was a speed
7 exceeded wouldn't be a speed-exceeded notification?

8 A I believe that there is -- there has to be at
9 least a based upon. You cannot avoid that particular
10 language. So the event report would have some
11 parameter, some basis upon which there's an indication
12 that speed has been exceeded.

13 Q And what did you identify in the CalAmp LMU-3000
14 that satisfied that portion of the claim?

15 A I identified the vehicle position information report
16 as the event report and then that message. There are a
17 number of different identifiable factors that are
18 provided in that, including the location and the speed
19 and also the direction.

20 Q That report doesn't actually include a
21 speed-exceeded notification, does it?

22 A It has a speed.

23 Q But I think you just told me that it had to have a
24 note that it had exceeded a speed?

25 A Well, it didn't say it had to have a note that

1 exceeded a speed. That's your words. I said it had to
2 be an event report which is sent out and there is an
3 understanding that a speed increase has been achieved --
4 a speed threshold has been exceeded. And the server
5 that would receive this on the other side of the
6 wireless communication network would then be able to see
7 that and compare that to previous data to determine
8 whether or not there's some action that needs to be
9 taken, but that's up at the server level.

10 Q Would the report need to show me what the threshold
11 was?

12 A No.

13 Q Would it need to let me know I exceeded a threshold?

14 A It would not need to show that, because it was
15 provisioned by the server that is sending the
16 information back to. There's already been a provision,
17 so there's been an understanding from the CalAmp server
18 as to what the provision for that particular vehicle is.
19 So, it can review this information that comes back and
20 compare that to the specific thresholds that have been
21 set. What is set in the vehicle is understood and known
22 by the server.

23 Q And the event report that you relied on, is that
24 event report only sent upon a threshold speed being
25 exceeded?

1 A I think it is sent for other reasons as well.

2 Q Is it sent on a periodic schedule or what causes it
3 to be sent?

4 A That's as it's been provisioned based on the
5 instructions. They are downloaded from the server.

6 Q Are you aware of any CalAmp device that has been
7 scripted? I believe Mr. Eiberger testified that you had
8 to set up accumulators and do a lot of things, but after
9 all of that are you aware of any CalAmp device that's
10 been scripted to then, after determining when a vehicle
11 speed exceeds a speed threshold for a first time period
12 based thereon cooperating with said wireless
13 communications device to send a remote vehicle speed
14 exceeded notification?

15 A I'm trying to understand your question. This is
16 part of the way in which the controller is set up to
17 operate. And as I recall -- I don't have it in front of
18 me. As I recall, testimony was certainly affirmed --
19 affirmed that position that there were thresholds.
20 We heard that in testimony yesterday, as I recall.
21 And so when the threshold is exceeded, that is a defined
22 parameter. There is a way of reporting that. It's
23 usually an event report from the LMU back to the server
24 through the wireless connection.

25 Q So based on the testimony you heard that you could

1 set up a speed threshold using GPS speed and the fact
2 that the LMU might obtain bus speed for other purposes
3 and the fact that someone could program it to send a
4 report upon certain triggers or events, you've
5 determined that the LMU infringes Claim 1?

6 A I've determined that the LMU infringes Claim 1, the
7 3000 and 3030 and the others based upon each one of
8 these elements being present, each one of the
9 limitations being present in the device.

10 Q But you don't have an example of this actually
11 happening? You're relying on the capability of someone
12 programming it to do this; is that correct?

13 A Well, if you go back and look at the claim, the
14 claim is a controller to be coupled, and it's for
15 reading, it's for determining and for cooperating.
16 That's the way in which it was set up to operate. It
17 doesn't mean it has to be doing it in order to
18 accomplish the claim.

19 Q Doesn't it actually have to send the report, though?
20 There's no "for" in front of the "based thereon
21 cooperating" language.

22 A It's based upon for -- you're determining -- it's
23 for determining for a first time and for a first time
24 period, and based upon cooperating. So cooperating is
25 intended before the determining language and it's to be

1 coupled for determining.

2 Q And have you ever identified any device that's been
3 scripted to do what's in Claim 1?

4 A I believe the deposition testimony says that it
5 does.

6 Q Didn't the deposition testimony say that it was
7 possible, but Mr. Eiberger was not aware of anyone
8 actually doing that?

9 A His testimony was with regard to getting the speed
10 determination off of the bus and using that in the
11 calculation.

12 Q And remind me again what you're relying on, that
13 if it wasn't that testimony.

14 A Well, I'm relying on that testimony. That's the
15 testimony that said that his understanding is there's a
16 small percentage that use -- there is a percentage that
17 uses the speed off the bus for that calculation. But he
18 said he'd have to go back and look at the script even
19 more. He mentioned that. But he said the majority of
20 the units were programmed in such a way that that speed
21 threshold calculation was determined based upon the GPS
22 speed, so that is a factor. We've already talked about
23 that. But that's confirmation that such a threshold
24 calculation is made, and a notification is sent based
25 upon that.

1 Q But he didn't testify about a notification being
2 sent based thereon, did he?

3 A I believe the testimony was that this was done.
4 But the only issue he had was the fact that the speed
5 used in the determination was, in most instances, not
6 from a bus.

7 MR. KAUTH: All right. Let's turn to Joint
8 Exhibit 5, the '278 patent, and let's go down to Claim 1
9 of that patent. And we're going to skip to the second
10 clause of Claim 1, I believe, if you could blow that up,
11 please.

12 BY MR. KAUTH:

13 Q Let's go to the element with a multi-vehicle
14 compatible controller for cooperating with said vehicle
15 position determining device and said wireless
16 communication device to send vehicle position
17 information. Now that's the same controller you
18 identified previously, correct?

19 A Correct.

20 Q And when we get to the next limitation, said
21 multi-vehicle compatible controller to be coupled to the
22 vehicle data bus for communication thereover with at
23 least one vehicle device using at least one corresponding
24 vehicle device code from among a plurality thereof for
25 different vehicles.

1 Let's step through that. What's the vehicle device
2 that you've identified for that claim limitation?

3 A The engine control module or unit, the ECU.

4 Q Okay. And after the vehicle device, it says, using
5 at least one corresponding vehicle device code from among
6 a plurality thereof for different vehicles. What did
7 you identify for that portion of the claim?

8 A The one that you're working with is the element,
9 said multi-vehicle compatible controller -- was that
10 your question?

11 Q Yes.

12 A Okay.

13 Q And specifically, the corresponding -- at least one
14 corresponding vehicle device code from among a plurality
15 thereof for different vehicles.

16 A Well, I was referring there to the codes that are
17 sent that I have already discussed with regard to the
18 previous patents that are code specific to vehicle
19 devices that are associated with different bus
20 architectures.

21 Q And when you say the codes that are sent, sent by
22 what?

23 A Sent by the -- well, they're sent by the
24 multi-vehicle compatible controller.

25 Q Don't device codes have to be signals from a vehicle

1 device?

2 A Here we go again. It is a vehicle device, but these
3 are codes that are stored in the -- associated with the
4 multi-vehicle compatible controller that correspond to
5 different kinds of vehicle devices that would be or
6 could be associated with different device architecture.

7 So the controller is going to be coupled to the
8 vehicle data bus for communication thereover with at
9 least one vehicle device. So it's attempting to
10 communicate to a vehicle device on that bus with at
11 least one vehicle device using at least one
12 corresponding vehicle device code. So it's a device
13 code that corresponds to that vehicle from among a
14 plurality of different vehicles.

15 Q And specifically in your analysis, what did you
16 identify as one or more of -- at least one corresponding
17 vehicle device code?

18 A These are the same codes that I had indicated when
19 we looked at a similar chart on the '885 and the '876
20 patent and these, in particular, are the ones that are
21 the codes that are included in the messages like the 7DF
22 on the CAN 11 bus.

23 Q Is the 7DF a query that's sent by the controller on
24 to the bus?

25 A The 7DF is a message. It is a code that's embedded

1 as part of a message and part of a command signal to a
2 bus generated by the controller.

3 Q And so, what portion of that is the signal from a
4 vehicle device? Because I believe you testified that
5 for the purposes of the claims, the vehicle device was
6 not the LMU?

7 A Well, the -- it's not that the -- it is not the
8 claimed vehicle device. The claimed vehicle device is
9 the one that the multi-vehicle compatible controller is
10 attempting to make communication with. That doesn't
11 change the fact that in the system the controller is
12 also a vehicle device. But it is not the vehicle device
13 of the claim.

14 Q Otherwise it would be communicating with itself,
15 correct?

16 A It might do that, too, periodically. But no, that
17 would not be in the context of what the claim is
18 describing.

19 Q So for this device code from among a plurality
20 thereof for different vehicles, is that coming from a
21 vehicle device other than the LMU?

22 A We have already gone through this. The LMU has the
23 storage of the device codes that are associated with
24 multiple devices across multiple vehicles. That's the
25 entirety -- that's all the codes -- some of which,

1 according to the other claims we talked about, are
2 working and some are non-working. It depends upon
3 whether there is, in fact, a match within a particular
4 device it's attempting to communicate to. That is the
5 control code store. And so, it will utilize those codes
6 selectively and sequentially to attempt to communicate
7 with a device. And once again, when that device it's
8 attempting to communicate with is the device that is
9 associated with that code then there will be a response,
10 and you have a match.

11 Q So you mentioned we talked about these codes
12 previously with respect to working and non-working
13 command signals?

14 A Correct.

15 Q So are you telling me the command signals that we
16 talked about in the '876 patent, those same items,
17 these six messages you list also satisfy the device code
18 limitation in this claim?

19 A Well, the device codes in this claim would be
20 included in a signal that is generated from that device.
21 The propagation, the driving of the bus, is a signal.
22 The signal has code embedded in it. The entirety of the
23 code with its start of frame, end of frame, identifier,
24 and all the other parameters that go into that
25 multi-byte message, that is a command signal.

1 Q So if we look at here, I think the first message you
2 had, the CAN message, if that's the command signal that's
3 sent, I believe that's the mode 1 PID zero, are you
4 saying the device code is the response back to that in
5 this claim?

6 A Well, let's clarify. The mode 1 PID zero, it's
7 actually 0-D for the speed. Zero defines a category of
8 numbers. But that would be a message that is sent out,
9 that's correct.

10 Q And have you identified anything other than that
11 message to satisfy this device code limitation?

12 A Well, once the discovery has occurred there will be
13 a number of different messages that can be sent out, but
14 it only requires sending at least one corresponding
15 code.

16 Q But your analysis doesn't take into account anything
17 after discovery, you only disclose the discovery process
18 and said that that infringed?

19 A Well, the discovery process does practice the
20 claimed invention. Once the discovery process is
21 learned, then you will have codes that are sent out that
22 will be matching codes, because now you know what the
23 bus is and you know what the devices are.

24 Q Can you specifically just identify one of those
25 codes that satisfies this limitation?

1 A That satisfies --

2 Q At least one corresponding vehicle device code from
3 among a plurality thereof for different vehicles?

4 A I've just identified in page E-7 in my chart.
5 The 7DF for the CAN 11 bit, the 18DB 33 F1 for the CAN
6 29, and a list of others for each one of the types of
7 buses.

8 Q And those are the identical messages that you
9 identify as satisfying the command signal limitation,
10 aren't they?

11 A That's correct. They're intended as part of the
12 command signal that's generated.

13 Q So they're both command signals and device codes?

14 A Again, command signal by the Court's construction
15 is a signal generated on the data communication bus for
16 operating a vehicle device. Now within that command
17 signal is a structure, and that structure is going to
18 have certain voltage conditions. For instance, it's a
19 zero and 3.3 volt signal or a zero and a five volt
20 signal, depending upon the CAN bus instantiation, so
21 there's voltage criteria.

22 There's timing criteria. For instance, if it's a
23 PULS with modulated bus architecture, then it's going to
24 change the way in which it presents that and how long it
25 holds the bits. There are going to be -- it's going to

1 be a packetized type system so you're going to have
2 different bits in different positions within the packet
3 conveying different pieces of information, some of which
4 are called headers, the start of the frame, the end of
5 the frame would also be one of them.

6 There is a segment in the CAN bus architecture for
7 an 11-bit identifier or a 29-bit identifier. And when
8 you look at those together, they can be either extended
9 or not extended. There are multiple different ways that
10 you can do that. All of that is part of the command
11 signal. Within the command signal you actually have the
12 data which is the code.

13 Q The device code, you mean?

14 A Yes.

15 Q So within the command signal, I have that identical
16 device code that I'm going to receive back from the ECU?

17 A You're not going to receive back the code that you
18 sent. I mean, why would you want to do that? You're
19 going to receive a response that indicates that, yes, I
20 acknowledge that I am here, I can understand you, I can
21 communicate with you, I am the device you're looking
22 for, and it'll send back a response.

23 Q But in your analysis, you told me the same six
24 command signals are also the device codes. You didn't
25 tell me it was the responses to those command signals,

1 and your report doesn't identify any responses to
2 command signals.

3 A I am not sure what you're saying. The whole
4 architecture set up -- and I did this in my report and
5 we did this in deposition -- that the command signals
6 are sent out looking for a response, and it's based upon
7 the response. It's the table that I showed -- it's the
8 diagram that I showed in my report that indicated that
9 responses were received or not received, and then they
10 were evaluated to determine which one matched so that
11 you would understand which one of these devices actually
12 matched according to the code that was sent out.

13 Q Let's start with one of the messages, the CAN 11 bit
14 7DF message.

15 A Okay.

16 Q You've told me earlier that that was the command
17 signal for the '876 patent, correct?

18 A That is a message and a code content that's included
19 in the command signal that is sent, that is correct.

20 Q And is that a query or a command under the SAE
21 nomenclature?

22 A Well, if you're going by that particular SAE that
23 says command or query -- I think we went through that
24 yesterday -- it's my understanding it is a command.
25 The reason it is a command is because in this type of

1 architecture there's a bus arbitration. The bus
2 arbitration is determined by priority. And the priority
3 is determined by the specifics in the message content
4 of the command signal that is sent. And when the bus
5 is delivered over to -- under the command of a
6 particular element, in this case, the multi-vehicle
7 compatible controller, it then operates as a controller,
8 as a master, and it sends messages out and commands, and
9 those are command signals.

10 Q Those aren't queries for data under the SAE --

11 A Regardless whether you call it a query, it is under
12 the claimed invention as supported by the specification,
13 a command signal.

14 Q And do you recall that the -- if we go back to the
15 '876 patent, since we're talking about command signals
16 again, that the '876 patent differentiates between
17 signals that cause an operation or signals that cause a
18 response?

19 A Signals that cause an operation versus signals that
20 cause a response?

21 Q Correct.

22 A That is an operation. And then, you do have signals
23 that are responsive to it. But when you send out a
24 message to a particular unit and that unit responds to
25 you, responds to that command, then you know that you

1 have an association, you have a communication, and that
2 is an operation.

3 Sometimes operations are -- for instance, I can send
4 out a command signal to a memory and say, I want this
5 particular piece of information. The response is it
6 sends the information back. It doesn't do anything
7 other than -- it doesn't do anything physically other
8 than physically sending back the response that I'm
9 looking for, and that's an operation.

10 Q And do you know why the patent would list operation
11 or response as a response to a signal?

12 A Well, do you want to identify what you're referring
13 to?

14 Q Let me go back to my original question before we
15 leave that, and we'll come back to this one.

16 A All right.

17 Q So you've identified the CAN 11 bit 7DF message,
18 that's your command signal?

19 A That's one, yes.

20 Q And all I see in here for your device code in '278,
21 Claim 1, if we're just looking at the first one is also
22 the CAN 11 bit 7DF message; is that correct?

23 A It's not the only one. I listed others.

24 Q The other five messages as well?

25 A Yes.

1 Q I'm trying to keep it simple and focus just on the
2 CAN message here.

3 A All right. Then with the CAN message, there is a
4 message and that is the content that I identified.

5 Q And that's the signal from a vehicle device using
6 the Court's definition of device code, correct?

7 A Again, don't conflate this. It is a signal that --
8 that signal that comes from the multi-vehicle compatible
9 controller is a signal that comprises the code from its
10 code store that corresponds to different devices, and it
11 is definitely associated with that device, and it's
12 sending one out that it knows or expects that if that
13 device is located on the bus and is a part of that bus
14 architecture, then there will be a response from that
15 device. It's a code that is associated with that
16 device.

17 Q But aren't we bound by the definition in the patent
18 language that we need to have a device code and that's a
19 code from a vehicle -- a signal from a vehicle device?

20 A The claim says -- this again is the '278, Claim 1,
21 which is what we are talking about, is that -- can you
22 scroll down a little bit -- up a little bit so we can
23 see the rest of the claim? It says, a multi-vehicle
24 compatible controller to be coupled --

25 MR. KAUTH: Let's stick on the right column.

1 BY MR. KAUTH:

2 Q Sorry about that.

3 A Are we there?

4 Q We're there.

5 A Okay. Said multi-vehicle compatible controller to
6 be coupled to the vehicle data bus for communicating
7 thereover with at least one vehicle device. Then the
8 phrase, using at least one corresponding vehicle device
9 code. So the code that it uses is a corresponding
10 vehicle device code. It corresponds to that particular
11 vehicle device.

12 Q And when it says -- so it's a vehicle device code
13 that corresponds to the at least one vehicle device,
14 correct?

15 A That's right. In other words, it's a code that the
16 vehicle device can understand.

17 Q And here, our device is the ECU, I believe you said?

18 A That's correct.

19 Q So this is a device code -- a corresponding vehicle
20 device code that corresponds to the ECU?

21 A That's right. And part of the codes -- part of the
22 code system that a device operates under is based upon
23 the codes received and the codes sent. So this is a
24 device code that corresponds to one vehicle device.

25 Q But it still has to be a signal from the ECU under

1 the Court's definition?

2 A This is at least one corresponding vehicle device
3 code.

4 Q So --

5 A And it's a corresponding vehicle device code.
6 And it corresponds to a code that the one device,
7 vehicle device, would comprehend and understand from
8 among the plurality vehicles. I mean, the entire
9 essence of the specification that supports this claim is
10 that there is a code store from which you can
11 selectively sequentially generate codes that will be
12 packaged in a message and in a command signal format
13 sent to a vehicle device, and the one that understands
14 it is going to respond. That's the essence of the
15 invention.

16 Q And a corresponding vehicle device code, though, is
17 still a device code, isn't it?

18 A It is a device code that is from the code store that
19 is associated with various vehicle devices that is
20 located on the LMU.

21 Q Isn't that also a command signal?

22 A The command signal is what is sent. What is stored
23 is the code. You don't store a command signal. You
24 store a code. You package the code into a signal, and
25 you generate by driving that signal to the bus.

1 Q So that stored coded signal is now coming from the
2 ECU, and it's a signal from the ECU?

3 A I hope so.

4 Q How did it get to the ECU?

5 A It's provisioned there. It's stated there. It's
6 part of the table. I'm sorry. How did it get to the
7 ECU?

8 Q Yes.

9 A It is generated by the vehicle controller from its
10 code store packaged and sent as a message to a command
11 signal to the ECU.

12 Q And so now the command signal went from the
13 controller to the ECU --

14 A I hope so.

15 Q -- and we're waiting for a corresponding device code
16 back from the ECU? It's not that 7DF message, I assume,
17 'cause that was a command signal. So what's our device
18 code that comes back from the ECU?

19 A You're doing a very good job of confusing the claim.
20 The multi-vehicle compatible controller uses at least
21 one corresponding device code from among a plurality of
22 the different vehicles. That's the code that it uses.

23 So I mean, the code itself that's drawn from the
24 LMU store, which is the multi-vehicle compatible
25 controller, it is going to draw from that store of codes

1 that are associated with various vehicles and send that
2 information to the vehicle device.

3 And if the vehicle device understands that
4 communication, understands that code, then it will
5 respond. And when it responds, that information will be
6 returned to the bus in the read instruction format and
7 the multi-vehicle compatible controller is going to
8 receive that information and then make determinations
9 based upon that.

10 Q So is that store of codes filled with signals from
11 a vehicle device to follow the Court's definition of
12 device code?

13 A Can you point to me where in the Court's definition
14 that we're talking about the store as being the signal?

15 Q You told me there was a store of codes, and that's
16 what we're talking about --

17 A Correct.

18 Q -- in Claim 1, but I'm just looking at the language
19 of Claim 1 that requires it to be a device code which has
20 been construed as a signal from a vehicle device.

21 So I'm trying to figure out if it's really the store of
22 codes, well, then those must be signals from a vehicle
23 device to qualify as device codes, correct?

24 A To qualify as a device code, according to this
25 claim, is that -- it says, using at least one

1 corresponding vehicle device code, its corresponding
2 vehicle device code. So it corresponds to the vehicle
3 device. It's a code that corresponds to that vehicle
4 device. And when that is -- and that's what it's
5 referring to.

6 Now if you're trying to point to the fact that
7 somehow this is a code -- I mean, it communicates with
8 the codes that it has to another vehicle device that has
9 its own embedded codes. And so the communication occurs
10 when there's an understanding.

11 Q I guess I'm not understanding whether you're
12 applying the Court's device code definition to the
13 corresponding vehicle device code in this claim.

14 A Well, with regard to the claim construction that the
15 Court has provided that I've adopted, the definition
16 that he has ascribed to device codes is signal from a
17 vehicle device. Now the device codes that are part of
18 the code store for the compatible controller, again, it
19 is a vehicle device. It's not the vehicle device that's
20 on the other end of the bus that the controller is
21 communicating to, but it is still a vehicle device.
22 So even the codes that are there are code signals from a
23 vehicle device. But it is not from the vehicle device
24 that it is communicating to. It is itself sending that
25 code.

1 Q So we have two different vehicle devices that you're
2 using in this claim?

3 A No. The fact that the -- the fact that the signal
4 that is coming from the multi-vehicle compatible
5 controller is also a signal from, in quotes, another
6 vehicle device, it's just a fact. It's not required by
7 the claim, but it is a signal from a vehicle device.
8 But in this case, this vehicle device that we're talking
9 about is the controller that's communicating with
10 another vehicle device.

11 Q So would it be accurate for me to say that it's a
12 corresponding, and instead of vehicle device code, I
13 would say signal from the LMU?

14 A It's communicating with at least one vehicle device,
15 using at least one corresponding vehicle device code,
16 so there is communication. It's communicating to the
17 device. The device is communicating to it.

18 Q But you told me when we use vehicle device in the
19 section corresponding vehicle device code, that vehicle
20 device for those purposes is the controller, not the ECU,
21 correct?

22 A Again, it's a corresponding device code. And the
23 fact that the device at the other end -- that is that
24 the controller is communicating with -- communicates
25 with it, understands it, you've got a match, then it is

1 a corresponding device code.

2 Q I understand that's your position. I think this is
3 a simple question. In the clause, corresponding vehicle
4 device code, when we apply the Court's definition that
5 that device code has to be a signal from a vehicle
6 device, in that clause, corresponding vehicle device
7 code, what vehicle device are you relying on so that it
8 satisfies the Court's definition?

9 A Well, it is a corresponding vehicle device code.
10 It's a code that corresponds to a vehicle device. And
11 that code that is stored by the controller that is
12 communicated to the vehicle device does correspond to
13 that vehicle device. If it doesn't, there's no
14 response. If it does, there's communication.

15 Q Can you identify that vehicle device for me?

16 A The ECU.

17 Q But I thought a minute ago you told me that it
18 didn't satisfy the device code definition because it
19 really had to come from the controller instead of the
20 ECU?

21 A I really have no idea where you're going with that.
22 There's a device in the claim. The claim is applied for
23 the vehicle device to the ECU. That's the one I've
24 called out. I've called it out on every one of these
25 patents. It's exactly the same one every time. And in

1 the ECU, there are different ECUs for different
2 vehicles. There are different ECUs for different
3 models, in some cases. And there are different bus
4 architectures.

5 And so, there is a code store that's located within
6 the multi-vehicle compatible controller -- in this case
7 the LMU -- that has a plurality of codes, some of which
8 would apply to one ECU, but not another.

9 And so, the controller will pull from its code store
10 and sequentially send out the codes that I have
11 identified to determine whether or not there is a
12 corresponding vehicle device that will understand and
13 communicate with it. That's the operation. That's the
14 way I've represented it on every patent and every claim.

15 Q So if I understand correctly, the corresponding
16 vehicle device code would be a signal from the code store
17 you mentioned?

18 A Again, there is no signal in the code store.
19 It's code to the store --

20 Q Let me try again.

21 A Please do.

22 Q It would be a code from the code store?

23 A The code that is then lifted from the code store
24 packaged as a message and sent as a command signal, yes.

25 Q So that's not the actual CAN 11 bit 7DF message?

1 It's something different?

2 A That is the message.

3 Q Is the CAN 11 bit 7DF message the code that's in the
4 code store?

5 A Yes.

6 Q And so, that code that's in the code store is an
7 example of the at least one corresponding vehicle device
8 code?

9 A Yes.

10 Q And that CAN 11 bit 7DF message, though, is not a
11 signal from the ECU, is it?

12 A Well, no. The claim doesn't require it to be from
13 the ECU. In fact, states otherwise.

14 Q So it's a signal from the controller?

15 A True. Correct.

16 Q Just like a command signal?

17 A Well, a signal coming from the controller across
18 the bus to the ECU is a command signal, yes.

19 Q So haven't we now equated command signals and device
20 codes and ignored the Court's construction?

21 A No. You're ignoring everything I've said for three
22 times now, and I've said it three times this morning.
23 There is a code store. The code is embedded. It's
24 encoded into a message, according to the bus protocol.
25 And that bus protocol for the -- for instance, in a CAN

1 11 bit, the 11 bit identifies the identifier, the
2 identification is an 11 bit portion of that message.

3 There is a start-up frame message. There are other
4 bits that indicate when -- the end of the frame. It's
5 an 8-byte message of the data is comprised in certain
6 portions of that message. And the 7DF is part of the
7 code that's incorporated in that.

8 So you take the code from the store, you embed it
9 into a message according to the specific bus format
10 protocol, and you send that out as a command signal
11 using the appropriate timing and using the appropriate
12 synchronization with the device downstream and using the
13 fact that you are setting a dominant or a recessive bit
14 to determine -- help in priority. And there is a lot of
15 things that go into that message that all together are
16 constructed as a command signal, but the code is a part
17 of the command signal. It's embedded in it.

18 Q Okay. I think we've established, then, what's
19 stored in your code store is this CAN 11 bit 7DF message?

20 A Correct.

21 Q And that's what you're using to satisfy the
22 corresponding vehicle device code portion of that claim?

23 A Correct.

24 Q Let's move on to the next clause, a downloading
25 interface.

1 A Okay.

2 Q Well, let me back up. One thing I forgot, the
3 plurality. This vehicle device code, the 7DF message or
4 code has to be from among a plurality thereof of
5 different vehicles. How did you interpret that?

6 A That, again, goes back to what we discussed several
7 times, which is the codes that are stored on the LMU
8 that are associated with different vehicles and
9 different device types on those vehicles. It's the
10 plurality of codes that's associated with a compilation
11 of different vehicles and bus architectures.

12 Q All right. Now we can move on to downloading
13 interface. For permitting downloading of enabling data
14 related to the at least one corresponding vehicle device
15 code for use by said multi-vehicle compatible controller.
16 So let's start. What's the downloading interface?

17 A There are two downloading interfaces that are
18 provided in the LMU. One is the serial port which I
19 identified during my direct. And the other one is the
20 over-the-air that's used with the PULS system.

21 Q How about on the VPOD and the VPOD2, is there a
22 downloading interface?

23 A Through the wireless, yes.

24 Q Does the VPOD or VPOD2 have its own independent
25 wireless?

1 A The VPOD/VPOD2 is -- again, is the OBD board that
2 with cabling, for instance, here, and that is cabled --
3 connected to other LMUs that do not have an OBD
4 connectivity. And so the VPOD is in conjunction with
5 those other LMUs, such as the 26. I think it's the 26
6 or the 42.

7 Q Okay. So you rely on --

8 A It's a combination.

9 Q Base LMU for the --

10 A Correct.

11 Q And then the next part of that is for permitting
12 downloading of enabling data related to at least one
13 corresponding vehicle device code for use by said
14 multi-vehicle compatible controller.

15 A Correct.

16 Q Can you identify for me what the -- start with the
17 LMU-3000, what's the enabling data related to the at
18 least one corresponding vehicle device code?

19 A Well, that would be embedded in the programming
20 instructions that would be downloaded, the provision
21 device to communicate across different bus architectures
22 with different devices.

23 So as a part of the instruction, you have codes that
24 are stored. You would download the codes. So you have
25 codes that are a part of the table. Some would refer to

1 it as a database, but it's in a table. And so, these
2 codes provide the plurality of different ways in which
3 you can use code to correspond and to communicate to
4 different devices. But you have to have programming
5 instructions to access that code. So part of the
6 enabling is the program instructions that establishes
7 the access, the identification, the retrieval, and the
8 packaging of that information. That's all part of the
9 enabling.

10 Q So it's firmware or script; is that correct?

11 A Yes. In fact, this would be operating firmware.

12 Q And how do those relate to the corresponding vehicle
13 device code?

14 A Well, the claim requires downloading of enabling
15 data related to the at least, so the enabling data, for
16 instance, is part of the programming instructions that
17 allows you to gain access, allows you to package it,
18 allows you to compare. These are part of the
19 programming instructions that enable the use of that
20 data.

21 Q Doesn't the '278 have a claim that separately calls
22 up programming instructions, like Claim 8?

23 A Let's see. Claim 8 is downloading interfaces also
24 for permitting downloading of at least one program
25 instruction -- programming instruction.

1 Q So would you read, then, a programming instruction
2 is something different than the enabling data identified
3 in Claim 1?

4 A The downloading of enabling data is based upon the
5 programming instruction. When you carry out a program
6 instruction to access the device code that's in the
7 store, that is basically read, read from a certain
8 location, that's the enabling portion of the
9 instruction. Claim 8 just says, you know, you have
10 that, but Claim 8 says it's also for permitting
11 downloading of at least one programming instruction.
12 And clearly, there are lots of programming instructions
13 built into the firmware.

14 Q But when we read Claim 8 and incorporate independent
15 Claim 1, doesn't the programming instruction have to be
16 different than enabling data? Don't the claim terms have
17 to mean different things?

18 A Well, like I said, there are lots of program
19 instructions. There is certain program instructions
20 that deal with the enabling for the access of the device
21 code and the use of the device code and there are lots
22 of other program instructions, such as program
23 instructions for how to cooperate with the wireless
24 interface for the RF communication, program instructions
25 for cooperation in retrieving and exercising the GPS,

1 program instructions for communication and coordination
2 with the BOD board [sic]. There are lots of program
3 instructions. And so Claim 8 just says find one, and
4 there are plenty. And that's not necessarily -- and in
5 fact, I can show different ones for the cooperation of
6 these wireless GPS and BOD that are distinctly different
7 from the enabling data for access or use of the
8 corresponding code.

9 Q But doesn't enabling data have to mean something
10 other than programming instruction based on the claim?

11 A There are certain programming instructions that are
12 directed to enabling data. There are other program
13 instructions that are, therefore, establishing
14 communication across different internal or external
15 buses. There are a lot of different program
16 instructions, one or more of which is related to the
17 enabling of data. Claim 8 says there are others.

18 Q So, in your opinion, to satisfy Claim 1 it could be
19 a programming instruction, even though that's separately
20 called out in Claim 8, as something other than enabling
21 data?

22 A Yeah. Because in a programming instruction, some of
23 the instructions include data. The program instructions
24 basically capture information of data out of registers.

25 Q And what does enabling data mean in Claim 1?

1 A For instance, configuration data that allows you,
2 when you operate an instruction based upon a certain
3 configuration, then it will retrieve certain data --
4 certain codes, excuse me.

5 Q And does the enabling data have to be related to
6 anything to satisfy Claim 1?

7 A The claim requires the enabling data related to at
8 least one corresponding vehicle device code.

9 Q So in the example you gave previously, if we stick
10 of our CAN 11 bit 7DF message, the enabling data would
11 relate to that corresponding device code?

12 A Yes.

13 Q And what did you identify that CalAmp downloads
14 through the downloading interface that relates to the
15 7DF in code?

16 A Well, I indicated that either through the serial
17 port and/or through the PULS, over the air, firmware is
18 downloaded. And that firmware would include the
19 enabling data portion of that. There would be other
20 parts of the firmware that are other program
21 instructions that are not related to the enabling data.

22 Q So when it says, enabling data related --

23 MR. KAUTH: Can you scroll back up to claim 1,
24 please.

25 BY MR. KAUTH:

1 Q When it says, enabling data related to the at least
2 one corresponding vehicle device code, are you saying
3 that could be the actual CAN 11 bit 7DF code?

4 A No. Because this is enabling data related to the
5 code, not the code.

6 Q That was my understanding as well, so --

7 A Good.

8 Q -- what does it download that's not the code, but
9 that is related to the at least one corresponding vehicle
10 device code?

11 A Well, let's set the record straight. One of the
12 things it does download is the code.

13 Q Does that satisfy that limitation?

14 A No. The code is downloaded. The code is
15 provisioned. That code is present. That is the code
16 store. Then, there is in addition to the code there is
17 firmware that's associated with, related to that device
18 code for the purpose of enabling it. Enabling it can
19 take on many different forms. One of the forms is being
20 able to access it, to be able to address a specific code
21 associated with specific vehicles, to be able to
22 retrieve that information and to enable its use for
23 providing it across the bus to send it across the OBD as
24 an OBD-II interface, so -- but the enabling data is not
25 the same as the code. The enabling data corresponds to

1 the code.

2 Q And in your opinion, would the enabling data that's
3 downloaded need to go to the OBD layer of the LMU or to
4 the LMU layer or does it matter?

5 A Yes, yes, and no to your three questions. It can be
6 LMU --

7 Q Let split those out.

8 A -- it can be OBD, but it doesn't necessarily have
9 to.

10 Q All right. We're going to jump back briefly to the
11 '876 patent, Joint Exhibit 1, and if you could direct
12 your attention to column 3. And at about line 12 there's
13 a sentence that begins, "The at least one set of command
14 signals..." and continues on through the end of the
15 paragraph there. Would you read that one, please?

16 A You say beginning at line 20?

17 Q Beginning at line 12.

18 A Line 12.

19 Q And we've highlighted it on the monitor there.

20 A Okay. I'll read what's highlighted, then.

21 "The at least one set of command signals preferably
22 comprises at least one working command signal and at
23 least one non-working command signal for a given vehicle
24 to thereby provide compatibility with a plurality of
25 different vehicles. In other words, multiple signals or

1 codes can be generated on the data communications bus,
2 and only that code for the given vehicle and device will
3 cause an operation or response from the vehicle device.
4 Such an arrangement provides for a relatively simple and
5 straightforward approach to interface with a vehicle
6 having a data communications bus."

7 Q And I'd like to direct your attention to next to the
8 last sentence concluded with that a device would
9 "...cause an operation or response from the vehicle
10 device." And that's the distinction I was asking you
11 about earlier, that the patent notes that you will have
12 working and non-working command signals and that, in
13 other words, multiple signals or codes can be generated
14 on the data communications bus and only that code for the
15 given vehicle and device will cause an operation or
16 response from the vehicle device.

17 A Okay.

18 Q Do you see any significance to the fact that they
19 broke out operations from responses?

20 A Yes, I do.

21 Q Please tell me what you see.

22 A Well, every response depends upon an operation.
23 You cannot have a response without an operation. But
24 you can have operations without responses. So the mere
25 fact that, for instance, if I send out a code that a

1 device understands, a vehicle device, the vehicle device
2 is going to first bring that code in. It's going to
3 evaluate that code. It's going to activate -- in this
4 case, it's the STM device. It's going to activate
5 arithmetic logic unit in the armed core that's embedded
6 in the 32F device. It's going to operate on that.

7 And based upon the operation and the instructions
8 that have been downloaded, it's going to determine
9 whether a response is required or not. There's always
10 going to be an operation. In some cases, there may be
11 in addition a response. So, it's proper to break them
12 out. It will cause an operation or a response. And in
13 some cases, the operation doesn't have response. In
14 some cases, they do.

15 Q Can a command cause an operation?

16 A Yes.

17 Q Can a command cause a response?

18 A It can cause both. It can cause an operation that
19 includes a response.

20 Q Can a query cause an operation?

21 A In some message formats a query, it can be comprised
22 as a command signal that also has a response, yes.
23 It requires an operation. Every query is not hard wired
24 into these controllers. It is a query. It's a
25 statement. This is a signal that is sent as a command.

1 And if it requires a response, then one is granted.

2 Q And are some of these queries defined in a standard
3 and others are manufacturer-specific?

4 A There are queries that are included in standards.
5 There are also such that a manufacturer can define,
6 certainly.

7 Q So if I wanted to query for engine temperature,
8 that's going to probably be one of my standard ones?

9 A If I send out a query signal -- if I send out a
10 query which, again, is a command signal that is sent out
11 to a device, then that signal that's going to be
12 received by the device requesting temperature, it's
13 going to require an operation. An operation is that
14 it's going to have to read and understand what that
15 temperature is and then, as a part of it, is to return
16 a value, which is a response.

17 Q And does the SAE define a series of queries, like
18 the mode 1 PID zero message?

19 A The J19-- I think it's the -- yeah, 19, making sure
20 I have the right numbers. The J1979 defines the PID,
21 the P-I-D messages, the parameter IDs. And then,
22 others, such as the 1978 shows how you use those in a
23 particular segment.

24 Q And then manufacturers can add on their own
25 specific, like if I want the true odometer reading,

1 correct?

2 A There are provisions for that. And that's part of
3 some of the extensions that are available.

4 Q And the SAE actually classifies those into commands
5 or queries, doesn't it?

6 A Remember, we went through that a couple days ago.
7 And I said the order does not necessarily indicate that
8 just because someone outside defines it as a query that
9 it's not a command signal.

10 Q Are you aware that the header bytes actually
11 indicate whether something's a command or a query?

12 A There are header bytes that define a command that
13 does not require a response and commands that do require
14 a response, and some of the commands that do require a
15 response, sometimes they're referred to as a query.

16 Q And so, when the SAE says that a request is either
17 a command or a query, you don't buy that designation?

18 A Well, you didn't say -- I don't believe the standard
19 said accept. I think it said -- I think it's what we
20 read yesterday was command signals are queries. And I'm
21 saying "or." The disjunction of the "or" does not
22 necessarily mean that they're different. It could be
23 different names that are the same thing.

24 MR. KAUTH: All right. I have nothing
25 further, Your Honor.

1 THE COURT: All right. Thank you very much.
2 We're a few minutes before noon, but let's
3 take our lunch break now and come back and have any
4 redirect examination that you may have. It's five
5 minutes before 12. We'll be back at 1:00. Enjoy your
6 lunch.

7 (Jury exits.)

8 All right. Thank you very much. The jury has
9 withdrawn, and we are in recess. Enjoy your lunch.

10 (Lunch recess.)

11 All right. Is there anything to take up
12 before we call the jury?

13 MR. KAUTH: No, Your Honor.

14 THE COURT: Very good.

15 Could we have the jury, please.

16 (Jury present.)

17 The record should reflect the jury has
18 returned, and the parties are present. We have
19 Mr. McAlexander in the witness box. We're on redirect
20 examination. When you're ready.

21 MR. SANTURRI: Thank you, Your Honor.

22 REDIRECT EXAMINATION

23 BY MR. SANTURRI:

24 Q Mr. McAlexander, can you refresh the jury's
25 recollection of what an embodiment is in the context of

1 the patents?

2 A Yes. An embodiment is an illustration. And as I
3 mentioned yesterday, a person that provides a patent
4 application for an invention, the patent description has
5 to at least include one illustration, one embodiment,
6 one way in which the patented invention can be
7 implemented, so it's an illustration. It's an example.

8 Q And is it common for applications to have multiple
9 embodiments?

10 A Yes, quite common.

11 Q And when you go about the process of analyzing
12 claims, do you have to grab each of those embodiments
13 and fit them into a particular claim?

14 A No, just the contrary. You can take the claim --
15 each claim, certainly you go back and look into the
16 patent to see how that claim is practiced or illustrated
17 in the patent, but you're not required, in fact, you're
18 preempted from -- I'm preempted from taking what is an
19 embodiment and reading that into the claim. The reverse
20 is not true.

21 Q All right, sir. So we heard hours of testimony
22 about door locks over the past two days. Is there
23 anything in the asserted claims or the Court's
24 construction of the claims that requires door locks to
25 be part of the claim?

1 A No, nothing at all.

2 Q And is there anything in the claims that will
3 require the jury to consider whether door locks are
4 operated or not, as part of infringement analysis?

5 A No, not a consideration.

6 Q If I can invite your attention to Figure 3 of Joint
7 1. This is from the '876 patent. And we saw this a
8 good bit today and yesterday. And you talked about this
9 Vehicle Device A. And one of the examples that many of
10 the questions related to is if you considered that to be
11 a door lock, right?

12 A That was one of the questions, yes.

13 Q Are there other devices that are contemplated by the
14 patent rather than a door lock that could also take the
15 place of Vehicle Device A?

16 A Yes. There are a number of different ones that are
17 contemplated, including the ECU, the engine control
18 unit.

19 Q And if you can refer to the spec -- and I can pull
20 it up if you need me -- is there a portion of the spec
21 that explains that vehicle devices include, specifically,
22 an engine controller as one of the options?

23 A There are. I'm looking for it now.

24 Q I may be able to help us here, the bottom of column
25 6.

1 A That's where I'm at. I'm just looking for the
2 words. Oh, for instance, it identifies at line 63:
3 For simplicity of explanation, these devices are
4 schematically illustrated by the two blocks 44, 45,
5 respectively labeled "vehicle devices" (sensors,
6 actuators, etc.) and "vehicle controllers (engine
7 controller, transmission controller, etc.)"

8 Q The next sentence goes on to the next page, column
9 7. "In other words...", up at the top here, vehicle
10 devices include both simple devices and more complicated
11 devices. Do you see that?

12 A Yes, I do at the top of column 7.

13 Q Does that suggest to you that vehicle devices
14 include a number of things? Yes, door locks are one of
15 many, but engine controllers are also included?

16 A Well, engine controllers are also included. It's
17 shown at the bottom of column 6. But the vehicle
18 devices are devices that communicate across the bus.
19 And they can be controllers that control any of a number
20 of other things or they can be the actual sensors or the
21 actual device itself that operates something.

22 Q And if rather than talking about door locks, which
23 the jury doesn't have to consider for their infringement
24 analysis, if we talk about the engine control unit, like
25 what the CalAmp device communicates with, and if we have

1 Vehicle Device A as the engine control unit, does the
2 CalAmp device operate under exactly the circumstances as
3 are illustrated in Figure 3 here?

4 A It does. But for the same reason, I would not
5 import a restriction. For instance, door lock has to be
6 what's in the claim. I would say engine control unit
7 also doesn't have to be in the claim. That is an
8 example of a way in which it can be instantiated.

9 But when I go look at an infringing product, alleged
10 infringing product, and I find that it has an engine
11 control module or unit that is associated with a bus
12 structure, then the corollary is quite clear. I can
13 read it on that ECU in much the same way I could read it
14 on an ECU in the patent.

15 Q In this case with respect to these accused products,
16 the ECU is, in fact, the device referenced in many of
17 the claims?

18 A It is the device that I have identified in many of
19 the claims, yes.

20 Q As communicating with the CalAmp devices?

21 A That is correct.

22 Q All right, sir. Now, we also heard a lot about SAE
23 standards and standardized buses and the J1850 and 1978,
24 a number of different standards. Is there anything in
25 the claims or the Court's construction of the claims that

1 somehow requires that in order to infringe any of these
2 claims a device must follow SAE standards?

3 A No.

4 Q So whether or not the CalAmp device follows SAE
5 standards is irrelevant for purposes of infringement;
6 is that right?

7 A That's correct. For purposes of infringement, it's
8 taking the claim and the words of the claim and
9 determining whether or not an accused product practices
10 or embodies all of the elements that are required by
11 that claim.

12 Q And we also had a good bit of discussion of flow
13 charts and the specific messages and the order of those
14 messages. Do you recall that?

15 A Yes, I do.

16 Q Is there anything in the claims that requires a
17 specific order or a specific organization for the --
18 which signals are sent out in order to determine whether
19 any of the claims are infringed in this case?

20 A No. In fact, if you take an alleged accused product
21 and evaluate that and it has an order, then as long as
22 the elements of the claim are met then you can read that
23 claim on that particular product. If the product that
24 one reads that claim on changes the order, it makes no
25 difference in terms of the claim. The claim doesn't

1 define a precise order other than sending out working
2 and non-working signals and getting a response and
3 comparing that response.

4 Q All right, sir. During your cross, you also talked
5 some about specific customers and whether specific
6 customers had performed the speed exceedances or speed
7 thresholds. Do you recall that testimony?

8 A I do.

9 Q And I believe you were asked whether you knew of any
10 customers who had actually done that and you referenced
11 Mr. Eiberger's testimony?

12 A I did.

13 Q I don't know if you had the benefit of this exhibit
14 at the time, but Plaintiff's Exhibit 16, do you recall
15 the interrogatory responses provided by CalAmp?

16 MR. KAUTH: Objection, Your Honor.

17 THE COURT: The objection?

18 MR. KAUTH: Outside of the scope of the
19 expert's report.

20 THE COURT: The interrogatory's in evidence
21 without objection at Plaintiff's Exhibit 16. It would
22 seem to me this is fair rebuttal based on the matter
23 brought up in cross, so I'll overrule the objection.

24 BY MR. SANTURRI:

25 Q Do you recall reviewing the exhibits to Mr. Hall's

1 deposition which included this list of customers?

2 A Yes, I do.

3 Q And as you understood the testimony that the jury's
4 heard thus far, did this list of customers include
5 customers for whom CalAmp had loaded speed scripts for
6 bus speed and speed thresholds on the units?

7 A That's my understanding. That's what I recall, yes.

8 Q That's found at Plaintiff's Exhibit 16?

9 A Correct.

10 Q All right, sir. Now I recall, I think yesterday at
11 the end of your testimony or your cross, counsel asked
12 you whether the CalAmp products infringed when you're
13 holding them in your hand. Do you recall that?

14 A Yes, I do.

15 Q And I don't know if you were here for the
16 preliminary instructions, but the preliminary
17 instructions explained that to infringe you have to make,
18 use, sell, or offer for sale product. Do you understand
19 that to be the case?

20 A Yes, I do.

21 Q And does CalAmp sell these accused products?

22 A Yes, they do.

23 Q And was it necessary for your analysis to try to
24 determine whether the accused products infringe when
25 they're sitting in your hand in the witness box?

1 A No, it was not.

2 MR. SANTURRI: Your Honor, I don't have any
3 further questions.

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

5 Mr. McAlexander, you're excused, sir.

6 Thank you very much.

7 THE WITNESS: Thank you very much, sir.

8 THE COURT: You're welcome.

9 Your next witness, please.

10 MR. SANTURRI: Your Honor, we'll be playing
11 the deposition of Steven Hall. And if the Court will
12 give me just a moment, I'll get that cued up.

13 THE COURT: Let's give Mr. McAlexander a
14 chance to collect his papers as well.

15 MR. SANTURRI: Madam Clerk, if you can switch
16 to my laptop. May I proceed, Your Honor?

17 THE COURT: Yes, you may.

18 (Video deposition of Steven Hall played from 1:19
19 p.m. to 2:33 p.m.)

20 Thank you. That concludes the deposition.

21 Your next witness.

22 MR. SANTURRI: I will be calling Christian
23 Tregillis. I'm going to need to move my laptop back and
24 set that up.

25 THE COURT: All right. That's fine.