

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMCAST CABLE COMMUNICATIONS, LLC,

Petitioner,

V.

ENTROPIC COMMUNICATIONS, LLC,

Patent Owner.

Case IPR2024-00446

Patent 8,223,775

REMOTE DEPOSITION OF SAMUEL H. RUSS, Ph.D.

FRIDAY, MARCH 7, 2025

9:04 A.M. EST

REPORTED BY CINDY A. HAYDEN, RMR, CRR

APPEARANCES OF COUNSEL

(All appearances via Zoom Videoconference)

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PREVIOUSLY MARKED EXHIBITS

6

	NUMBER	DESCRIPTION	PAGE
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	EXHIBIT	United States Patent	8
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8 1001 US 8,223,775 B2, dated 7/17/12

9	EXHIBIT	United States Patent	10
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1005 Application Publication
US 2002/0006137 A1, dated
1/17/02

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	EXHIBIT	United States Patent	42
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12 1007 Application Publication
US 2002/0091861 A1, dated
7/11/02

14	EXHIBIT	Second Declaration of	9
	2008	Samuel H. Russ, Ph.D.	

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

2 * * *

3 SAMUEL H. RUSS, Ph.D.,

4 having been first duly sworn, was examined and
5 testified as follows:

6 * * *

7 EXAMINATION

8 BY MR. LASKER:

9 Q. All right. Good morning, Dr. Russ. My
10 name is Simon Lasker from the law firm Banner and
11 Witcoff, representing the petitioner, Comcast Cable
12 Communications, LLC.

13 Please state your name and address for
14 the record.

15 A. My name is Samuel Hardie Russ.
16 Hardie is spelled H-A-R-D-I-E. And my address is
17 13712 Tom Gaston Road, G-A-S-T-O-N, Mobile, Alabama
18 36695.

19 Q. All right. And you are currently in
20 Mobile, Alabama; is that correct?

21 A. That is correct.

22 Q. And you're in your personal residence?

23 A. No. I'm at a hotel conference room
24 with counsel.

25 Q. Okay. So is anyone else in the room

1 with you other than counsel?

2 A. No.

3 Q. Okay. So you understand that we are
4 here today to question you on your declaration in
5 support of Entropic's patent owner's response in
6 the inter partes review IPR of US Patent
7 8,223,779 -- 775. I'm sorry. The case number for
8 this proceeding or this IPR of the '775 patent is
9 IPR 2024-00446

10 If I refer to this proceeding or this
11 IPR or this case, will you understand that I'm
12 referring to IPR 2024-00446?

13 A. Yes.

14 Q. And I believe you've been deposed
15 before, Dr. Russ; is that correct?

16 A. Yes.

17 Q. All right. So I'll -- I'll keep the
18 reminders brief. But I'll be asking questions
19 today. You'll be providing answers. If you can
20 wait until I finish my questions, and I'll try to
21 wait until you finish your answers to speak, I
22 think everybody will be happier with -- with both
23 of us.

24 A. Okay.

25 Q. If you don't understand a question,

1 please don't hesitate to ask me to repeat it or
2 clarify.

3 A. All right.

4 Q. During the course of the deposition,
5 your attorney may raise some objections. Unless
6 she instructs you to not answer, you still need to
7 answer my questions.

8 We'll take breaks during the
9 deposition. If at any time you need to take a
10 break, just let me know, and we'll try to take one.
11 If there is a pending question, please answer the
12 question before we proceed to a break.

13 All right. Dr. Russ, how many times
14 have you been deposed before?

15 A. I would estimate roughly 40 or 50
16 times. I mean -- you know, I mean, 40 to 50 times.

17 Q. Is there anything that would prevent
18 you from providing truthful and accurate testimony
19 today?

20 A. Not that I'm aware of.

21 Q. Unless you tell me otherwise, you agree
22 that it's fair to assume you heard and understood
23 my questions?

24 A. Yes.

25 Q. You agree to provide verbal answers and

1 not answer my questions by merely shaking or
2 nodding your head? Is that all right?

3 A. Yes.

4 Q. You understand that you are not to
5 discuss the case with your attorney until the
6 deposition is over; is that correct?

7 A. Correct. I understand.

8 Q. What did you do to prepare for this
9 deposition today, Dr. Russ?

10 A. I reviewed the reports in the matter,
11 my declaration, the petition. I reviewed the
12 references. And I met with counsel.

13 Q. Okay. When did you meet with counsel?

14 A. The past two days. Yesterday and the
15 day before.

16 Q. All right. How long would you estimate
17 you met with counsel for?

18 A. I would say five or six hours each day.

19 Q. Okay. And as we previously discussed,
20 you have copies of the papers and exhibits with you
21 that you'll be referencing today, and that's great.

22 Do you have any handwriting or
23 highlighting on those -- on any of those references
24 or documents?

25 A. No, I do not.

1 Q. Okay. Fantastic.

2 So I'd like to introduce some papers
3 just up front so we can get that out of the way, if
4 that's all right with you.

5 A. Sure.

6 (EXHIBIT 1001, United States Patent
7 US 8,223,775 B2, dated 7/17/12, was previously
8 marked for identification.)

9 BY MR. LASKER:

10 Q. I'd like to refer you to Patent Number
11 8,223,775. That would be Exhibit 1001 in this
12 proceeding.

13 Do you have that in front of you?

14 A. Yes, I do.

15 Q. Do you recognize Exhibit 1001?

16 A. Yes. That's what we've been calling
17 the '775 patent.

18 Q. Excellent.

19 And if I refer to the '775 patent
20 during this deposition, will you -- you -- will you
21 understand that I'm referring to US Patent Number
22 8,223,775, which is Exhibit 1001 in this
23 proceeding?

24 A. Yes.

25 Q. Okay. Do you see that the document has

1 been marked as Comcast Exhibit 1001 on the bottom
2 right of the first page?

3 A. Yes.

4 Q. Does the document before you appear to
5 be a true and complete copy of the '775 patent?

6 A. Yes, it does.

7 Q. Thank you.

8 (EXHIBIT 2008, Second Declaration of
9 Samuel H. Russ, Ph.D., was previously marked for
10 identification.)

11 BY MR. LASKER:

12 Q. I'd like to draw your attention now to
13 Exhibit 2008, which is the -- your declaration in
14 support of patent owner's response. Do you have a
15 copy of Exhibit 2008 in front of you?

16 A. I do.

17 Q. Do you recognize it?

18 A. Yes.

19 Q. Is Exhibit 2008 before you a true and
20 correct copy of the expert declaration you
21 submitted with regard to the '775 patent?

22 A. Yes.

23 Q. If I refer to "your declaration" or
24 "the declaration" during this deposition, will you
25 understand I'm referring -- referring to

1 Exhibit 2008 in this proceeding?

2 A. Yes.

3 (EXHIBIT 1005, United States Patent
4 Application Publication US 2002/0006137 A1, dated
5 1/17/02, was previously marked for identification.)
6 BY MR. LASKER:

7 Q. I'd like to refer you now to
8 Exhibit 1005. That's US Publication 2002/00613
9 [sic]. Do you have Exhibit 1005 in front of you?

10 A. Yes.

11 Q. Do you recognize --

12 A. I'm sorry. To be clear for the record,
13 I believe it's 0006137. But, yes, I have that in
14 front of me.

15 Q. Yes, you are correct. It is
16 2002/006137. I apologize if I got that wrong.
17 Thank you.

18 A. Not a big deal.

19 Q. Do you recognize that document,
20 Exhibit 1005?

21 A. Yes. That is what we have been calling
22 the Rabenko reference.

23 Q. Okay. And if I refer to "Rabenko"
24 during this deposition during -- will you
25 understand that I'm referring to Exhibit 1005?

1 A. Yes.

2 Q. All right. Do you see that it has been
3 marked as Comcast Exhibit 1005 on the bottom right
4 of the first page?

5 A. Yes.

6 Q. Okay. So, Dr. Russ, how did you become
7 involved in this case?

8 A. Let's see. I was retained by counsel
9 pretty early on and then -- retained by K&L Gates
10 pretty early on. Later, as part of the same
11 matter, the IPRs, I believe, were filed. And
12 different attorneys that were working on the IPRs
13 brought me in on the various IPRs, including this
14 one.

15 Q. And do you remember when -- when you
16 were brought in on the IPRs?

17 A. I was -- my recollection is, I was
18 brought in on this one sometime last year.

19 Q. Do you have any more specificity
20 than -- than that?

21 A. Early to mid-2024 --

22 Q. Okay.

23 A. -- is my offhand recollection.

24 Q. And have you ever worked with Entropic
25 before this case?

1 A. No.

2 Q. Were you familiar with Entropic before
3 this case?

4 A. Yes. You know, we developed multiroom
5 DVR at Scientific-Atlanta. So I was familiar with
6 Entropic with regard -- for example, to the MoCA
7 standard. So I -- I would say Entropic was a known
8 vendor to the cable industry even when I was at
9 Scientific-Atlanta.

10 Q. Okay. Have you ever worked with
11 Lowenstein & Weatherwax law firm before this case?

12 A. No.

13 Q. Around how many cases would you say
14 that you have served as an expert for?

15 A. 30 or 40. I mean, it's listed in my
16 CV.

17 Q. And -- and that's current?

18 A. I'm sorry. I didn't understand your
19 question.

20 Q. The CV that we have attached to the
21 declaration is current?

22 A. It -- it's pretty current. I mean,
23 there may be one or two cases since then, but
24 it's -- it's close to current, yes. It was
25 certainly current as of the time I added it to my

1 report.

2 Q. Okay. Have you ever served as an
3 expert in an IPR proceeding for a petitioner
4 before?

5 A. Yes. Many times.

6 Q. Have you ever declined to be an expert
7 in any case?

8 A. Yes. A few times. Yes.

9 Q. Do you remember the technology area
10 that were involved in those cases?

11 A. I don't. I don't remember.

12 Q. Okay. Did you review the subject
13 patents before you were retained as an expert in
14 this case?

15 A. I don't remember. I mean, probably.
16 I -- I don't remember specifically.

17 Q. Is it your --

18 A. I'm sorry. Generally speaking, yes,
19 I -- I imagine -- and I don't have a specific
20 recollection -- that they sent me the patents first
21 before I was retained. That's -- that's the --
22 that's the normal flow for my expert work.

23 Q. Okay. And approximately how many hours
24 did you work on your declaration before signing it?

25 A. A few dozen hours. I mean -- I mean,

1 dozens -- excuse me -- dozens of hours. Maybe --
2 maybe a hundred, around -- somewhere in that range.

3 Q. Okay. And did you discuss your
4 declaration with anyone other than counsel?

5 A. No.

6 Q. Does the time you spent preparing your
7 declaration include reading the '775 patent?

8 A. Yes.

9 Q. Does it include the prosecution
10 history -- reading the prosecution history of the
11 '775 patent?

12 A. Yes.

13 Q. Does the time you spent preparing for
14 your declaration include reading the petition?

15 A. Yes.

16 Q. Does it include reading Exhibit 1002,
17 which is Dr. Kiaei's declaration in support of --
18 of the petition?

19 A. Yes.

20 Q. Does the time you spent preparing
21 your -- for your declaration include reading the
22 references relied on in the petition?

23 A. Yes.

24 Q. Okay. For purposes of today's
25 deposition, do you understand the phrase "POSITA"

1 to mean a person of ordinary skill in the art at
2 the time of the invention of the '775 patent?

3 A. Yes.

4 Q. Do you also understand that the time of
5 the invention of the '775 patent is the filing date
6 of the '775 patent?

7 A. Yes.

8 MS. WOO: Objection. Form.

9 BY MR. LASKER:

10 Q. Do you understand that we are talking
11 about a POSITA on September 30th, 2003?

12 MS. WOO: Objection. Form.

13 THE WITNESS: Well, you know, I'm not
14 an attorney. I don't necessarily know the legal
15 standards here. But -- but generally, the 2003
16 time frame, yes, is my understanding.

17 BY MR. LASKER:

18 Q. Do you understand that the filing date
19 of the '775 patent on the face of the '775 patent
20 is September 30th, 20 -- 2003?

21 A. Yes.

22 Q. Okay. Referring to Paragraph 17 of
23 your declaration -- do you mind turning to
24 Paragraph 17.

25 A. Okay. I'm there now.

1 Q. Okay. At Paragraph 17 of your
2 declaration, it's true that -- isn't it true that
3 you accept Dr. Kiaei's proposed qualification of a
4 POSITA?

5 A. I apologize. I turned to Page 17
6 instead of Paragraph 17.

7 Yes, that is correct. For the purposes
8 of the declaration, I accept -- excuse me, my
9 typo -- Dr. Kiaei's proposed qualifications of a
10 POSITA.

11 Q. I'm sorry. Could you -- could you
12 repeat that?

13 A. For the purposes of this declaration, I
14 accept Dr. Kiaei's proposed qualifications of a
15 POSITA.

16 Q. Okay.

17 A. I'm reading from Paragraph 17. And to
18 be clear, I was correcting the typo. I called him
19 "Mr.," and I should have called him "Dr."

20 Q. Understood.

21 Does your opinion as to the
22 qualifications for a POSITA for the '775 patent
23 change for today's deposition?

24 A. No.

25 Q. Okay. Now, I'd like to talk a little

1 bit about your educational background and work
2 experience.

3 A. Okay.

4 Q. Your CV, as you mentioned before, is
5 attached to the declaration. You can feel free to
6 refer to it as needed, though.

7 A. Okay.

8 Q. Do you mind providing your educational
9 background starting after high school.

10 A. I graduated with a bachelor's of
11 electrical engineering from the Georgia Institute
12 of Technology, better known as "Georgia Tech," in
13 1986. And I received a Ph.D. from Georgia Tech in
14 electrical engineering in 1991.

15 Q. Okay. Did you write a thesis as a part
16 of your Ph.D. from Georgia Tech?

17 A. Yes, I did.

18 Q. And what was your thesis on?

19 A. It was on the application of
20 information theory to computer architecture.

21 Q. Was your thesis on a particular
22 architecture for computers?

23 A. It -- it was -- it was on a custom
24 chipset that we were developing at Georgia Tech.
25 That was the primary example in the dissertation.

1 Q. Was the custom chip for a specific
2 application?

3 A. It was. And, now, outside the subject
4 of my dissertation, but we were building this
5 chipset. We were working with the government on
6 strategic defense. And so this chipset was
7 going -- was designed as part of the strategic
8 defense initiative.

9 Q. Okay. And what did you do after
10 completing your Ph.D.?

11 A. I went to work for a start-up company
12 that was doing machine vision where we designed,
13 built and sold machine vision equipment.

14 Q. Is that Dickerson Vision?

15 A. Yes.

16 Q. And what did you do at Dickerson Vision
17 Technologies?

18 A. I was a field applications engineer. I
19 wrote the user interface software. I wrote machine
20 vision software and then managed the development of
21 the manufacturing plant.

22 Q. And what did you do after leaving
23 Dickerson Vision?

24 A. I went to work for Mississippi State
25 University in 1994.

1 Q. And you stayed with Mississippi State
2 for how long?

3 A. Five years.

4 Q. And what did you do after leaving
5 Mississippi State?

6 A. I went to work for IVI Checkmate in
7 Roswell, Georgia.

8 Q. And what did you do at IVI Checkmate?

9 A. Managed the hardware design of
10 point-of-sale retail terminals, which are, you
11 know, the touchscreen operated terminals use --
12 that you would use with a credit card, for example.

13 Q. Sure.

14 What did you do after you left
15 IVI Checkmate?

16 A. I went to work for Scientific-Atlanta
17 from 2000 to 2007.

18 Q. And what did you work on when you were
19 at Scientific-Atlanta?

20 A. I was originally hired to explore new
21 technologies, and so I started by exploring home
22 networking as a technology. We did a -- let's see.
23 Then I transitioned to be a set-top box manager --
24 let me -- let me be more clear.

25 I was -- I transferred to be the

1 manager of a group that was designing set-top box
2 hardware. And, also, I led a cross-functional team
3 to improve DVR reliability.

4 Q. And did you do all those at the same
5 time, or was it progressing from one position to
6 another position?

7 A. Well, let's see. I explored home
8 networking technology first. Then I became a
9 set-top box engineering manager. And I did the
10 DVR -- DVR reliability work at the same time as
11 set-top box manager.

12 Q. Okay. So how many models of set-top
13 boxes did you work on at your time at
14 Scientific-Atlanta?

15 A. Let's see. My recollection is four.

16 Q. Do you recall which models those were?

17 A. The Explorer 4200, the Explorer 8300, a
18 set-top box that was sold as the Explorer 1840, and
19 then a fourth box called the Comcast RNG that was
20 in development when I left the company.

21 Q. And the set-top boxes that you've
22 listed, the 4200, the 8300, the 1840, are those in
23 sequential order?

24 MS. WOO: Objection. Form.

25 THE WITNESS: Yes.

1 BY MR. LASKER:

2 Q. So the Scientif -- the Explorer 4200
3 preceded the -- the Explorer 8300?

4 A. Yes.

5 Q. And when a new set-top box was
6 released, would that replace the previous model?

7 MS. WOO: Objection. Form.

8 THE WITNESS: I would say gradually
9 over time, generally. So, you know -- and we had
10 no control over when the actual transition, you
11 know, to mass production occurred for a new model.

12 BY MR. LASKER:

13 Q. And were they selling different model
14 set-top boxes at the same time?

15 MS. WOO: Objection. Form.

16 THE WITNESS: Yes, they were. Let me
17 be clear. I believe they were. Again, I didn't
18 have visibility into what was actually being
19 produced and sold.

20 BY MR. LASKER:

21 Q. So what did you have visibility -- if
22 you didn't have what was -- visibility as to what
23 was being produced and sold, what did you have
24 visibility as to in terms of production?

25 MS. WOO: Objection. Form.

1 THE WITNESS: We would release a
2 set-top to mass production and then move on to the
3 next set-top. And -- and when the company decided
4 to actually start producing that set-top was a
5 decision made by other people in the company.

6 BY MR. LASKER:

7 Q. And who are the customers of these
8 set-top boxes, Scientific -- who are
9 Scientific-Atlanta's customers of the set-top
10 boxes?

11 A. Cable companies. Most of our customers
12 were large cable customers, but -- but our -- our
13 customers were cable companies.

14 Q. Okay. Approximately what time frame
15 were you working on the Explorer 4200?

16 A. Mostly the 2002 time frame.

17 Q. And approximately -- approximately what
18 time frame were you working on the Explorer 8300?

19 A. 2003, 2004 is my recollection.

20 Q. And did the Explorer 8300 replace the
21 Explorer 8200?

22 MS. WOO: Objection. Form.

23 BY MR. LASKER:

24 Q. I'm sorry. Yeah. Let me repeat that.

25 Did the Explorer 8300 replace the

1 Explorer 4200?

2 MS. WOO: Objection. Form.

3 THE WITNESS: No. It was a completely
4 different type of set-top box. The 8300 was a DVR
5 box. The 4200 was a non-DVR box. And so they were
6 not -- one did not replace the other.

7 BY MR. LASKER:

8 Q. Was that the only difference between
9 the Explorer 8300 and the Explorer 4200, or were
10 there other differences between them?

11 A. I mean, the -- let's see. The 8300
12 could also do high-definition television. The 4200
13 model that I developed could not. I think other
14 than that, those -- those would be the biggest
15 differences.

16 Q. Did the Explorer 4200 have a cable
17 modem?

18 A. It was -- let me put it this way: It
19 was able to do DOCSIS. I don't know -- I guess you
20 could call that a cable -- if you call that a cable
21 modem, that's a cable modem. But it -- it could do
22 DOCSIS.

23 Q. And when you worked on the
24 Explorer 4200, would you agree that entire
25 Explorer 4200 could be replaced at a customer

1 premise -- premises?

2 MS. WOO: Objection. Form. Scope.

3 THE WITNESS: I mean, the 4200 was sold
4 as a single thing. So, yeah, there was no way to
5 take it apart and replace part of it. It was
6 certainly not designed to be worked on inside
7 somebody's home.

8 BY MR. LASKER:

9 Q. Would -- in somebody's home, would they
10 have been able to remove an old 4200 and replace it
11 with a new 4200?

12 A. I mean, a technician would be able to
13 do that, yes.

14 Q. Would you agree that components of the
15 Explorer 4200 would be able to be changed?

16 MS. WOO: Objection. Form.

17 THE WITNESS: Only at a repair facility
18 with highly trained technicians.

19 BY MR. LASKER:

20 Q. Now, you previously mentioned that the
21 Explorer 4200 was DOCSIS-compliant. Do you recall
22 what version of DOCSIS?

23 A. My offhand recollection is DOCSIS 1.1,
24 but it was something like that.

25 Q. And was the Explorer 4200 only

1 compliant with one version of DOCSIS?

2 MS. WOO: Objection. Form.

3 THE WITNESS: As far as I know, yes.

4 BY MR. LASKER:

5 Q. Did the Explorer 4200 have --

6 A. I'm sorry. I -- I really -- I'm sorry.

7 I really thought about that question, and I

8 apologize for interrupting. My honest --

9 Q. No worries.

10 A. The -- the -- having thought about it,
11 the most accurate answer is: I don't know. We
12 built it at a moment in time where there was one
13 DOCSIS standard that was dominant, and we wrote it
14 to the DOCSIS standard. I don't know if it was
15 capable of doing a different version of DOCSIS or
16 not.

17 Q. Okay. Do you know if it was able to
18 receive upgrades for a new DOCSIS standard?

19 MS. WOO: Objection. Form.

20 THE WITNESS: I mean, it was not
21 designed for that. So I don't -- I don't know if
22 it could or not.

23 BY MR. LASKER:

24 Q. Was the Explorer 4200 able to receive
25 and execute software upgrades generally?

1 A. Yes. It would receive -- you know,
2 the -- the entire software would get replaced with
3 a new version. But, yes, it could receive software
4 upgrades.

5 Q. And did the Explorer 4200 also have
6 home networking capabilities?

7 MS. WOO: Objection. Form.

8 THE WITNESS: The 4200 that was shipped
9 to the field had home networking. The home
10 networking was removed before the product went to
11 mass production.

12 BY MR. LASKER:

13 Q. Was -- so when you developed the 4200
14 before it was shipped, did you develop it to
15 include home networking capabilities?

16 A. Yes.

17 Q. Okay. When you were working at
18 Scientific-Atlanta, let's say around the time you
19 were working on the Explorer 4200, do you
20 understand that -- is it true that cable modems
21 were often released before a standard was
22 completed?

23 MS. WOO: Objection. Form. Scope.

24 THE WITNESS: To my knowledge -- I
25 mean, I didn't work in the cable modem group. But

1 as far as I know, they -- they only released it
2 when the standard was fully developed.

3 BY MR. LASKER:

4 Q. Okay. What did you do after leaving
5 Scientific-Atlanta, which at that point might have
6 been Cisco?

7 A. Yeah, I -- right. We were acquired by
8 Cisco in like 2005. I left in 2007 and went to
9 work for the University of South Alabama here in
10 Mobile.

11 Q. And are you currently still at the
12 University of South Alabama?

13 A. Yes, I am.

14 Q. Do you teach any courses now at -- at
15 the University of South Alabama?

16 A. Yes. I generally teach two classes and
17 a lab each semester and am doing so this semester.

18 Q. And what classes and labs do you
19 teach currently at the University of Alabama --
20 South Alabama?

21 A. The microprocessors class. I teach an
22 embedded systems class. And I'm teaching,
23 actually, two labs, the embedded system lab and the
24 microprocessor lab.

25 Q. And what does the microprocessor lab

1 cover?

2 A. The microprocessor lab is about
3 building -- adding, you know, hardware capability
4 to a microcontroller to do embedded things, like
5 make motors turn and operate a sonar and things
6 like that.

7 MR. LASKER: Okay. I -- I think we
8 could take a quick ten-minute break --

9 THE WITNESS: Okay.

10 MR. LASKER: -- to gather ourselves,
11 and then we'll come back and resume, if that's all
12 right.

13 THE WITNESS: Okay.

14 MS. WOO: Sounds good.

15 MR. LASKER: So it's now 9:33. Let's
16 resume at 9:43.

17 * * *

18 (Whereupon, there was a recess in the
19 proceedings from 9:33 a.m. to 9:44 a.m.)

20 * * *

21 BY MR. LASKER:

22 Q. Okay. Back on the record.

23 Dr. Russ, I want to talk a little bit
24 more about a POSITA, if that's okay. Isn't it true
25 that a POSITA carries general knowledge of the art

1 beyond the specific prior art?

2 MS. WOO: Objection. Scope.

3 THE WITNESS: Yeah. I mean -- let's
4 see. For example, in this matter, the definition
5 that we're operating under is somebody with a
6 degree in a certain discipline with three to four
7 years' experience with the design and/or
8 implementation of cable modems within network-based
9 content delivery systems.

10 So they would have a knowledge of that
11 and --

12 BY MR. LASKER:

13 Q. And so -- I'm sorry.

14 A. And so it would not be limited -- yeah,
15 I apologize. It would not be limited to the
16 specific references.

17 Q. Okay. So -- so you would agree that a
18 POSITA comes into a reference -- a POSITA reads a
19 reference and carries general knowledge of the art
20 beyond that -- what the teachings of that specific
21 reference?

22 MS. WOO: Objection. Form.

23 THE WITNESS: Well, I guess the way
24 that I would put it is: The POSITA's experience
25 and knowledge is the background through which

1 somebody would read a reference -- through which
2 this POSITA would read the reference.

3 And -- and it's done that way, right?

4 So, in other words, it's not that, like, some
5 random person's looking -- at a bus stop is reading
6 the reference. The person reading the reference
7 is -- is this person that we've defined here in
8 Paragraph 16 of my report.

9 BY MR. LASKER:

10 Q. Okay. And does that person, the
11 POSITA, reading the reference have any general
12 knowledge beyond the other -- beyond the person
13 that you said generally at the bus stop?

14 MS. WOO: Objection. Form.

15 THE WITNESS: Yes, because this person
16 has a degree and three to four years of experience.

17 BY MR. LASKER:

18 Q. So, for example, you mentioned before
19 that the Explorer 4200, the parts -- some of the
20 components could be replaceable. Now --

21 A. To be clear, I meant if they're broken,
22 a skilled repair technician could -- could replace
23 it with an exact duplicate.

24 Q. Okay. And is that something that a
25 POSITA at the time of the invention would

1 understand, that the -- that components on the
2 4200 -- Explorer 4200 would be replaceable?

3 MS. WOO: Objection. Form.

4 THE WITNESS: They would understand
5 that components on a 4200 are repairable, yes. If
6 by "replaceable" you mean "repairable," yes. And
7 by "repairable," I mean replacing it with this
8 exact duplicate, yes.

9 BY MR. LASKER:

10 Q. And you mentioned before that the
11 Explorer 4200 would be able to receive and execute
12 software updates. Is that something that a POSITA
13 would have understood at the time of the invention
14 of the '775 patent as well?

15 MS. WOO: Objection. Form.

16 THE WITNESS: Yes.

17 BY MR. LASKER:

18 Q. Isn't it true that an obviousness
19 analysis involves comparing a claim to the prior
20 art to determine whether the claimed invention
21 would have been obvious to a person of ordinary
22 skill in the art at the time of the invention in
23 view of the prior art and in light of the general
24 knowledge in the art as a whole?

25 A. It sounds like you're reading from

1 something. Also, I'm not an attorney. But that --
2 that generally comports with my understanding of
3 obviousness. And to be clear, the legal standards
4 are listed in -- in -- towards the end of my
5 report.

6 Q. I would like you -- can I -- I would
7 like to turn your attention to Paragraph 23 of your
8 declaration.

9 A. Okay.

10 Q. Do you mind reading Paragraph 23.

11 A. Okay. I've read the paragraph.

12 Q. And Paragraph 23 says -- and tell me if
13 I'm wrong -- I understand that an obviousness
14 analysis involves comparing a claim to the prior
15 art to determine whether the claimed invention
16 would have been obvious to a person of ordinary
17 skill in the art at the time of the invention in
18 view of the prior art and in light of the general
19 knowledge in the art as a whole. Is that correct?

20 A. Yes. Those are the words in my report
21 in Paragraph 23, yes.

22 Q. Paragraph 23 further states: I also
23 understand that obviousness is ultimately a legal
24 conclusion based on underlying facts of four
25 general types, all of which must be considered:

1 (1) the scope and content of the prior art; (2) the
2 level of ordinary skill in the art; (3) the
3 differences between the claimed invention and the
4 prior art; and (4) any objective indicia of
5 nonobviousness, including any praise of the
6 invention. Is that correct?

7 A. Yes, those are the words in my report
8 in Paragraph 23.

9 Q. Isn't it true that your declaration
10 includes no objective evidence of nonobviousness?

11 MS. WOO: Objection. Form.

12 THE WITNESS: I -- not that I recall at
13 the moment. I mean, it's a big report. But I
14 don't -- I don't recall that it does at the moment.

15 BY MR. LASKER:

16 Q. Are you -- are you saying that you
17 don't recall whether your declaration addresses
18 secondary -- or addresses objective indicia of
19 nonobviousness or not?

20 MS. WOO: Objection. Form.

21 THE WITNESS: My offhand recollection
22 is that it did not.

23 BY MR. LASKER:

24 Q. Okay. I would like to bring your
25 attention to the '775 patent that's Exhibit 1001.

1 A. Okay.

2 Q. Dr. Russ, isn't it true that Figure 2
3 is an illustrative figure of the claims?

4 MS. WOO: Objection. Form.

5 THE WITNESS: "Illustrative figure of
6 the claims" sounds like a legal term. But I think,
7 generally, Figure 2 comports with the claims.

8 BY MR. LASKER:

9 Q. Is it your understanding that the
10 claims require Figure 2?

11 MS. WOO: Objection. Form. Scope.

12 THE WITNESS: No.

13 BY MR. LASKER:

14 Q. So the question is: Do you understand
15 Figure 2 to be an illustration or illustrative?

16 A. Figure 2 is an illustration. It's a
17 drawing. It's described in more detail in the
18 specification. And there are certainly aspects of
19 Figure 2 that -- that line up with the claims.

20 And I explained this, for example, in
21 Paragraph 64 of my report: Thus, the exemplary
22 Figure 2 and its corresponding written description
23 unmistakably disclose a CME on a separate circuit
24 from a DNE and, indeed, implemented on separate
25 processors 110 and 120.

1 And so there's certainly a harmony
2 between Figure 2 and ultimately what becomes the
3 claim language.

4 Q. And is it your opinion that the claim
5 language requires all of Figure 2?

6 MS. WOO: Objection. Form. Scope.

7 THE WITNESS: No.

8 BY MR. LASKER:

9 Q. I'm sorry. Let me repeat that.

10 Do you -- is it your understanding that
11 Claim 18 requires all of the features of Figure 2?

12 MS. WOO: Objection. Form. Scope.

13 THE WITNESS: No.

14 BY MR. LASKER:

15 Q. Isn't it true, Dr. Russ, that the '775
16 patent does not support a single processor for the
17 cable modem engine?

18 MS. WOO: Objection. Form. Scope.

19 THE WITNESS: Sounds like you're asking
20 me about a written description argument, which I --
21 is not something I've issued an opinion on and
22 which is not normally considered in IPR matters.

23 BY MR. LASKER:

24 Q. I'm -- I'm asking you about your
25 understanding of the '775 patent about which you've

1 opined in depth. The question is whether or not
2 it's your understanding the '775 patent supports a
3 single processor for the cable modem engine.

4 MS. WOO: Objection. Form. Scope.

5 THE WITNESS: Well, I -- I guess I'm
6 confused by your question, Counselor, because my --
7 my charter in this was to analyze the petition and
8 the report of Dr. Kiaei and respond to that. And I
9 don't recall where either the petition or
10 Dr. Kiaei's report alleges that there's a lack of
11 written description.

12 And so I -- I haven't made any
13 statements about written description because I --
14 again, I'm responding -- I'm not aware of an
15 allegation of lack of written description; and,
16 therefore, I have not responded to any.

17 BY MR. LASKER:

18 Q. I'd like to direct your attention to
19 Paragraph 63 of your declaration.

20 A. Okay.

21 Q. And reading from Paragraph 63, it says:
22 In the Figure 2 embodiment of the '775 patent, the
23 CME and the DNE are implemented in separate
24 processors 110 and 120, respectively.

25 Do you see that?

1 A. I do.

2 Q. Is it your position that Cable Modem
3 Engine 110 in the '775 patent is limited to a
4 single processor?

5 MS. WOO: Objection. Form. Scope.

6 THE WITNESS: The claim language of
7 Claim 18 says: a cable modem engine implemented in
8 a circuit -- let me start over.

9 A cable modem engine implemented in a
10 second circuit that includes at least one
11 processor.

12 So the structure of the claim makes
13 clear that the cable modem engine has at least one
14 processor and -- the claim says what it says.

15 BY MR. LASKER:

16 Q. So is it your position that the cable
17 modem engine is limited to a single processor?

18 MS. WOO: Objection. Form. Scope.

19 THE WITNESS: I guess I'm confused
20 because I -- I thought I answered that question.
21 It -- the claim language expressly says that it
22 includes at least one processor.

23 So my opinion is that the "cable modem
24 engine implemented in a second circuit that
25 includes at least one processor" means that the

1 cable modem engine implemented in a second circuit
2 includes at least one processor.

3 BY MR. LASKER:

4 Q. And is it your opinion that the data
5 networking engine in 120 in the '775 patent is
6 limited to a single processor?

7 MS. WOO: Objection. Form. Scope.

8 THE WITNESS: Claim 18 literally
9 recites: a data networking engine implemented in a
10 first circuit that includes at least one processor.

11 And so the structure of the claim makes
12 clear that the claimed data networking engine
13 includes at least one processor.

14 BY MR. LASKER:

15 Q. Okay. While we're on the '775 patent,
16 isn't it true, Dr. Russ, that the '775 patent does
17 not define the term "circuit"?

18 MS. WOO: Objection. Form. Scope.

19 THE WITNESS: Let's see. The -- the
20 structure of the claim certainly teaches us
21 something about the circuit.

22 It says that it is, for example, a data
23 networking engine implemented in a first circuit
24 that includes at least one processor. It also
25 says: a cable modem engine implemented in a second

1 circuit that includes at least one processor.

2 And so, in the claim, the circuit is
3 something that includes at least one processor.

4 BY MR. LASKER:

5 Q. And concerning Claim 18's recitation of
6 a first circuit and a second circuit, did you base
7 your opinion on a definition of "circuit"?

8 MS. WOO: Objection. Form. Scope.

9 THE WITNESS: Well, once again, I -- my
10 role was to analyze the petition and the
11 declaration of Dr. Kiaei. And my opinions as to
12 what they identify as circuits is found roughly at
13 Pages 27 through 40 of my report. And so that's
14 where I explain my opinions about the so-called
15 circuit.

16 BY MR. LASKER:

17 Q. And your opinion concerning the
18 petition and Dr. Kiaei addresses the term
19 "circuit," does it not?

20 A. It addresses their application of the
21 word "circuit" to the prior art.

22 Q. So in your -- in your -- your opinion
23 is -- does not -- does not address any definition
24 of "circuit"?

25 MS. WOO: Objection. Form.

1 THE WITNESS: It addresses the fact --
2 I should say, my opinion is that their
3 identification of a circuit is incorrect for the
4 reasons explained in my report.

5 BY MR. LASKER:

6 Q. So you must have had a definition -- in
7 order to assert that their definition is incorrect
8 or that their position is incorrect, you must have
9 been working with a definition of "circuit," were
10 you not?

11 MS. WOO: Objection. Form.

12 THE WITNESS: I mean, I -- I know their
13 application of the term is wrong. I did not need
14 to form an opinion -- any additional opinion as to
15 what the term means.

16 I certainly know how the term is
17 applied in the structure of the claim, and I
18 certainly know how they applied the term. And I
19 explained in this report why their application of
20 "circuit" is incorrect.

21 BY MR. LASKER:

22 Q. Looking at Figure 2 of the '775 patent,
23 in your opinion, Element 110 is a second circuit;
24 is that correct?

25 A. Reading from Paragraph 64 of my report:

1 Thus, the exemplary Figure 2 and its corresponding
2 written description unmistakably discloses a CME on
3 a separate circuit from a DNE and, indeed,
4 implemented on separate processors 110 and 120.

5 And in the language of the claims, that
6 means that the CME is a second circuit, yes.

7 Q. And isn't it true, looking at Figure 2
8 of the '775 patent, that the second circuit is
9 comprised of Components 112, 152, 154, and 200
10 through 228?

11 A. Let's see.

12 MS. WOO: Objection. Form.

13 THE WITNESS: Let's see. The rectangle
14 labeled 110 includes at least 112, 152, 154, 200,
15 and a bunch of other numbers.

16 BY MR. LASKER:

17 Q. And I'm sorry. What -- are those bunch
18 of numbers -- the question is whether or not the
19 second circuit is comprised of Components 112, 152,
20 154, and 200 through 228. If you would like, you
21 could read out the numbers.

22 MS. WOO: Objection. Form. Scope.

23 THE WITNESS: Well, as I sit here right
24 now, I see 200, 210, 212, 226, 202, 204, 206, 208,
25 220, 228, 222, and 224.

1 (EXHIBIT 1007, United States Patent
2 Application Publication US 2002/0091861 A1, dated
3 7/11/02, was previously marked for identification.)

4 BY MR. LASKER:

5 Q. All right, Dr. Russ. I'd like to turn
6 your attention to Exhibit 1007.

7 A. Okay. I do not have that exhibit in
8 front of me. Which exhibit is that?

9 Q. That's what we referred to as
10 Kim US Publication 2002/0091861.

11 A. Okay.

12 Q. If you don't have it, I could put it up
13 on the screen.

14 A. I mean, with your permission, I might
15 have a copy of it on my computer. Or would you
16 rather put it up on the screen? I -- you know,
17 it -- obviously, it's up to you. I don't want
18 to -- whichever you prefer. If you want to put it
19 on the screen, that's fine.

20 Q. I will try to put it up on the screen.

21 A. Great.

22 MS. WOO: Would it be easier to drop a
23 clean copy into the chat? That way, the reporter
24 has it also.

25 THE WITNESS: Oh, yeah, that.

1 MR. LASKER: Yeah, we have just dropped
2 it into the chat. So that will be fine if --

3 THE WITNESS: Okay. Good. And you
4 said Exhibit 1007, right?

5 BY MR. LASKER:

6 Q. That is correct.

7 A. Okay. I'm downloading it now.

8 Okay. I have accessed the file on my
9 computer that I downloaded from chat.

10 Q. And this -- if I refer to the exhibit
11 that you downloaded, Exhibit 1007, as "Kim," would
12 you understand that I'm referring to Exhibit 1007?

13 A. Yes.

14 Q. And can you please turn to Paragraph 26
15 of Kim.

16 A. I'm getting there now. Okay. I have
17 Paragraph 26 up now.

18 Q. Do you see about two-thirds of the way
19 down the line starts with "The"? The modular home
20 gateway system has a small-sized and economical
21 structure by making the HomePNA controller and the
22 ADSL controller as a modular-type controller having
23 a PCMCIA interface.

24 Do you see that?

25 A. Yes, I see those words.

1 Q. And so, in your understanding, in Kim
2 the ADSL controller is modular; is that correct?

3 MS. WOO: Objection. Form. Scope.

4 THE WITNESS: Yes.

5 BY MR. LASKER:

6 Q. And in Kim, the HomePNA controller is
7 also modular; is that correct?

8 A. Yes.

9 Q. And can you please turn to Paragraph 8
10 of Kim.

11 A. Just a second. Okay.

12 Q. And do you see where it says: It is
13 another object of the present invention to provide
14 a modular-type home gateway system for improving
15 the performance of HomePNA controllers -- of
16 HomePNA controller or ADSL controller by
17 maintaining the system controller of home gateway
18 and replacing either a modular-type HomePNA
19 controller or a modular-type ADSL controller,
20 thereby improving the total performance of the home
21 gateway.

22 Do you see that?

23 A. Yes. That is Paragraph 8 of Kim.

24 Q. And so, in Kim the ADSL controller can
25 be replaced without replacing the HomePNA

1 controller; is that correct?

2 MS. WOO: Objection. Form. Scope.

3 THE WITNESS: I -- I believe that's
4 correct, yes.

5 BY MR. LASKER:

6 Q. And also in Kim, the HomePNA controller
7 can be replaced without replacing the ADSL
8 controller; is that correct?

9 MS. WOO: Objection. Form. Scope.

10 THE WITNESS: The -- the -- yeah, that
11 hardware module can be replaced, yes.

12 MR. LASKER: Okay. Let's take a break,
13 and let's go off the record, if that's all right.
14 We'll take another ten-minute break. It's now
15 10:11, and we'll come back at 10:21.

16 THE WITNESS: All right.

17 MS. WOO: Sure.

18 * * *

19 (Whereupon, there was a recess in the
20 proceedings from 10:11 a.m. to 10:21 a.m.)

21 * * *

22 BY MR. LASKER:

23 Q. All right, Dr. Russ. I would like to
24 draw your attention again to Figure 2 --
25 Figure 1 -- I'm sorry -- of the '775 patent. Do

1 you have Figure 1 of the '775 patent in front of
2 you?

3 A. I do now, yes.

4 Q. Do you see -- do you see "DOCSIS
5 Controller (ARM Number 1)," Reference Number 116?

6 A. Yes.

7 Q. Do you see "DOCSIS MAC Processor
8 (ARM Number 2)," Reference Number 114?

9 A. Yes.

10 Q. Isn't it true that Figure 1 of the '775
11 patent shows an example of cable modem engine that
12 includes at least two processors?

13 MS. WOO: Objection. Form. Scope.

14 THE WITNESS: I mean, it depends on --
15 depends on how you define "processor," but it has
16 two ARM cores, yes.

17 BY MR. LASKER:

18 Q. Is your -- is it your opinion that ARM
19 cores are not processors?

20 MS. WOO: Objection. Form. Scope.

21 THE WITNESS: ARM cores are CPUs. I'm
22 just simply making the point that "processor" is a
23 broadly defined term. You know, for example, it
24 talks about a MAC processor. And Figure 2
25 describes the entire Rectangle 110 as a processor.

1 But I don't know that that means it's a single CPU.

2 It's just -- it's using the word "processor." So

3 it has two ARM cores.

4 BY MR. LASKER:

5 Q. It has two ARM cores, and you -- and
6 you just said that the ARM cores are CPUs; is that
7 correct? Can you --

8 A. Yeah. I guess to be completely clear,
9 an ARM core includes a CPU, yes.

10 Q. Okay. Can you take a look at the '775
11 patent, Column 2, Line 44.

12 A. Okay.

13 Q. Do you mind reading starting from
14 "Figure 2."

15 A. Figure 2 is a functional block diagram
16 implementing the cable modem architecture of
17 Figure 1.

18 Q. Okay. Thank you, Dr. Russ.

19 In your declaration -- that's
20 Exhibit 2008 -- you opine extensively about the
21 Data Over Cable Service Interface Specification
22 (DOCSIS); is that correct?

23 A. Well, the way I would word it is, I
24 discuss the DOCSIS specification at length, yes.

25 Q. And DOCSIS is a standard for data

1 transmission that enables IP traffic; isn't that
2 correct?

3 MS. WOO: Objection. Form. Scope.

4 THE WITNESS: Among other things, yes.

5 BY MR. LASKER:

6 Q. And IP data that's transmitted in a
7 DOCSIS network via the DOCSIS specification would
8 be in the form of packets; isn't that correct?

9 MS. WOO: Objection. Form. Scope.

10 THE WITNESS: IP traffic is in the form
11 of packets. So if DOCSIS is being used for IP,
12 then, yes, it would be in the form of packets.

13 BY MR. LASKER:

14 Q. And IP packets transmitted, for
15 example, in a DOCSIS network are digital; is that
16 correct?

17 MS. WOO: Objection. Form. Scope.

18 THE WITNESS: Yes.

19 BY MR. LASKER:

20 Q. And a POSITA would have understood that
21 digital data packets can be compressed and
22 decompressed; isn't that correct?

23 MS. WOO: Objection. Form. Scope.

24 THE WITNESS: Well, the way I would say
25 it is that the payload of those packets can be

1 compressed and decompressed, yes.

2 BY MR. LASKER:

3 Q. And in a network in which the data is
4 transmitted as packets, a POSITA would have
5 understood that the data can be packetized and
6 depacketized; is that correct?

7 MS. WOO: Objection. Form. Scope.

8 THE WITNESS: Yes. My recollection, an
9 IP net -- yes. Excuse me. Yes.

10 BY MR. LASKER:

11 Q. And isn't it true, Dr. Russ, that
12 traditional POTS signals -- that's "plain old
13 telephone signals" -- are analog?

14 MS. WOO: Objection. Form. Scope.

15 THE WITNESS: Yes. Yes. The interface
16 over a POTS connection is analog. For example,
17 voice is analog.

18 BY MR. LASKER:

19 Q. And in a traditional end-to-end POTS
20 system, the signal would be analog; isn't that
21 correct?

22 MS. WOO: Objection. Form. Scope.

23 THE WITNESS: I mean, not necessarily.
24 I mean, digital transport came into POTS networks
25 in the 1960s.

1 BY MR. LASKER:

2 Q. And the POTS signal itself would be an
3 analog signal; is that correct?

4 MS. WOO: Objection. Form. Scope.

5 THE WITNESS: The way that I would put
6 it would be: The signal going to and from the
7 physical telephone would be analog, yes.

8 BY MR. LASKER:

9 Q. Is it your position that POTS signals
10 can be other than analog?

11 MS. WOO: Objection. Form. Scope.

12 THE WITNESS: Are you talking about the
13 phone network in general, or are you talking about
14 the data -- excuse me -- the signal going in and
15 out of a physical telephone? Your -- your use of
16 "POTS" is ambiguous. That's why I'm asking.

17 BY MR. LASKER:

18 Q. Okay. So let me try to clarify.

19 In a traditional POTS telephone system,
20 they would use twisted -- a wire pair; is that
21 correct?

22 MS. WOO: Objection. Form. Scope.

23 THE WITNESS: Yes.

24 BY MR. LASKER:

25 Q. And the signal on the wire pair, would

1 those -- those would be analog signals; is that
2 correct?

3 A. In a POTS network, yes. Or I should
4 say: In a network that exclusively did POTS, yes.

5 Q. And so in a network that exclusively
6 did POTS and exclusively dealt with the analog POTS
7 waveform, isn't it true that the analog waveforms
8 are not compressed or decompressed?

9 MS. WOO: Objection. Form. Scope.

10 THE WITNESS: I would say the analog
11 waveform going to the telephone, for example, is in
12 an uncompressed format.

13 BY MR. LASKER:

14 Q. Okay. And in a system that uses
15 end-to-end analog POTS as we discussed -- it's POTS
16 only -- is the signal compressed anywhere in the --
17 is the analog signal compressed anywhere in such
18 system?

19 MS. WOO: Objection. Form. Scope.

20 THE WITNESS: I -- I would have to look
21 at the system. Again, the Bell system started
22 sneaking digital transport in in the 1960s.

23 BY MR. LASKER:

24 Q. Okay. But we're discussing analog
25 signals. So if it's analog signals end to end --

1 A. Well --

2 Q. -- could the -- could it -- okay. I'm
3 sorry.

4 A. Well, in -- in -- sorry. I know -- end
5 to end includes the entire network, and so it's
6 possible that network could contain digital
7 elements.

8 Q. So let me ask you this: Can the analog
9 signal, wherever it is, the analog signal in a POTS
10 network, can that be compressed and decompressed?

11 MS. WOO: Objection. Form. Scope.

12 THE WITNESS: Yes.

13 BY MR. LASKER:

14 Q. The analog signal can be compressed and
15 decompressed in its analog form?

16 MS. WOO: Objection. Form. Scope.

17 THE WITNESS: In the context of POTS,
18 it could be converted to digital and compressed,
19 for example, and then on the other end,
20 decompressed and converted back to analog.

21 BY MR. LASKER:

22 Q. I'm asking about the analog signal
23 itself.

24 A. Yeah, yeah. That's what I was
25 answering. The analog signal is capable of being

1 compressed, yes, after being --

2 Q. Okay. So it would have to be converted
3 to digital to be compressed; is that correct?

4 MS. WOO: Objection. Form. Scope.

5 THE WITNESS: In the context of POTS,
6 yes.

7 BY MR. LASKER:

8 Q. And in the context of POTS, isn't it
9 true that the analog waveform itself is not
10 packetized and depacketized?

11 MS. WOO: Objection. Form. Scope.

12 THE WITNESS: I believe that's correct,
13 yes.

14 MR. LASKER: Okay. I'd like to briefly
15 go off the record for five minutes. We'll come
16 back at 10:37.

17 * * *

18 (Whereupon, there was a recess in the
19 proceedings from 10:32 a.m. to 10:36 a.m.)

20 * * *

21 BY MR. LASKER:

22 Q. Dr. Russ, how would you describe the
23 process of preparing for your declaration?

24 MS. WOO: I'll just caution Dr. Russ
25 not to reveal anything that's privileged, but go

1 ahead and answer.

2 THE WITNESS: And I'm -- I'm sorry. I
3 want to make sure I understand the question. You
4 mean preparing the declaration or preparing for the
5 deposition? I believe you said "declaration"?

6 BY MR. LASKER:

7 Q. Yeah, the -- the question was about
8 preparing for the declaration.

9 A. Okay. The declaration was prepared in
10 concert with counsel. Counsel and I discussed
11 various theories of where -- where we thought that
12 the -- either the Kiaei report or the petition were
13 incorrect. We kind of sorted through that and kind
14 of chose what we thought were our -- you know, kind
15 of -- kind of prioritized what we wanted to put in
16 there.

17 And then I worked in concert with
18 counsel to draft the report. You know, counsel had
19 to tie the report to the petition. So there's, you
20 know, some coupling there that -- that obviously
21 had to occur.

22 Counsel obviously drafted the
23 boilerplate section on legal principles. But I
24 worked with counsel to draft the report. And
25 certainly every word in this report is mine, and I

1 agree with it, and I signed my name to it.

2 Q. And who did most of the writing for
3 your declaration?

4 A. I feel like I did a lot of the writing
5 for the substantive technical part. I mean,
6 obviously, counsel wrote the legal boilerplate, for
7 example.

8 Q. And what percentage of the declaration
9 would you say did you write?

10 A. Of the -- of the substantive technical
11 part, I would say some overwhelming percentage.

12 Q. I'm sorry. Could you repeat that?

13 A. Of the substantive technical part, some
14 overwhelming percentage.

15 Q. Is it accurate to say that there are
16 portions prepared by Entropic's counsel that you
17 did not edit?

18 A. Yes. For example, the legal
19 boilerplate. And I'm sorry. I call it the
20 "boilerplate." The legal principles.

21 Q. And how many versions of your
22 declaration did you review?

23 A. I don't know.

24 Q. Did you review the entire declaration
25 before signing it?

1 A. Multiple times, absolutely, yes.

2 Q. Were there any changes made by
3 Entropic's counsel to the declaration after you
4 signed, that you know of?

5 A. I'm -- I'm not aware of any changes.
6 Now, I'm aware of some typographical errors.
7 But -- but I'm not aware of any changes, no.

8 Q. What type of -- the typographical
9 errors, did they -- you noticed -- I'm sorry.

10 The question was: Were there any
11 changes made by Entropic's counsel to the
12 declaration after you signed it?

13 A. As far as I know, no.

14 Q. Now, you've mentioned that you're aware
15 that you've found some typographical errors. For
16 example, today we noticed "Mr. Kiaei" versus
17 "Dr. Kiaei." Are there any other errors that
18 you've -- that you're aware of in the declaration?

19 A. Yes. And let me see if I can find it.
20 I admittedly discovered this, you know,
21 yesterday. But there's, like, a "not" missing
22 from a sentence. Yeah. The last sentence of
23 Paragraph 90 of my report. And let me know when
24 you're there.

25 Q. Uh-huh. Okay. Yeah, I have

1 Paragraph 90 open.

2 A. Thus, petitioner's combination only
3 includes a DNE that can be upgraded from the CME
4 and not a CME configured to enable upgrades to its
5 software in a manner independent of upgrades to the
6 DNE.

7 The comma and not a CME. And I -- I
8 just left out the word "not."

9 But my opinion is that the petitioner's
10 combination has a DNE that can be upgraded but not
11 a CME that can -- that is configured to enable
12 upgrades.

13 And -- and I think the rest of the
14 report makes that clear, you know. But leaving out
15 a "not" is a substantive typo.

16 Q. Okay. Are there -- are you aware of
17 any other typos?

18 A. Not at the moment.

19 Q. And would any of the typos affect your
20 opinion?

21 A. I -- I don't know. I mean, as --
22 there's -- nothing else struck me as, like,
23 anything that would affect my opinion that I'm
24 aware of at the moment.

25 Q. Okay. Well, we can only ask you about

1 what you know of, right?

2 A. Right. Right.

3 Q. Has any court or the Patent Trial and
4 Appeal Board, PTAB, found you to lack credibility?

5 A. Not to my knowledge.

6 Q. Has any court or the PTAB found that
7 you have given inconsistent testimony?

8 A. As far as I know, no.

9 Q. Has any court or PTAB determined that
10 your testimony should not be given weight?

11 A. I don't think so.

12 Q. Has your expertise ever been challenged
13 in any court or PTAB proceeding?

14 A. As far as I know, no.

15 Q. And did you discuss this case with your
16 counsel during any of the breaks today?

17 A. Definitely not.

18 MR. LASKER: Okay. Thank you for your
19 time, Dr. Russ. We have no further questions.

20 MS. WOO: Can we take a five-minute
21 break while we --

22 MR. LASKER: Yeah, absolutely.

23 * * *

24 (Whereupon, there was a recess in the
25 proceedings from 10:42 a.m. to 10:47 a.m.)

1 * * *

2 MS. WOO: We have no questions.

3 THE WITNESS: Okay.

4 THE REPORTER: Okay. Just real
5 quickly, Ms. Woo, did you want a copy of the
6 transcript?

7 MS. WOO: No, I don't think
8 so.

9 (WHEREUPON, the deposition was
10 concluded at 10:47 a.m.)

11 (The witness reserves the right to read
12 and sign this transcript.)

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1 DEPOSITION ERRATA SHEET

2

3 Our Assignment No: 1286086

4 Case Caption: Comcast Cable Communications, LLC v.

5 Entropic Communications, LLC

6

7 DECLARATION UNDER PENALTY OF PERJURY

8 I declare under penalty of perjury that I

9 have read the entire transcript of my Deposition

10 taken in the captioned matter or the same has been

11 read to me, and the same is true and accurate, save

12 and except for changes and/or corrections, if any,

13 as indicated by me on the DEPOSITION ERRATA SHEET

14 hereof, with the understanding that I offer these

15 changes as if still under oath.

16 Sign on the _____ day of

17 _____, 20 __.

18

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SAMUEL H. RUSS, Ph.D.

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25

1 CERTIFICATE OF REPORTER
2

3 I, Cindy A. Hayden, Registered Merit
4 Reporter and Notary Public for the State of North
5 Carolina at Large, do hereby certify that the
6 foregoing transcript is a true, accurate, and
7 complete record.

8 I further certify that I am neither
9 related to nor counsel for any party to the cause
10 pending or interested in the events thereof.

11 Witness my hand, I have hereunto
12 affixed my official seal this 11th day of March,
13 2025, at Charlotte, Cabarrus County, North
14 Carolina.

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24 _____ *Cindy A. Hayden* _____

Cindy A. Hayden, RMR, CRR

My Commission expires

25 April 7, 2027



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