

**In The Matter Of:**

*APPLE, INC.*

*v.*

*SIGHTSOUND TECHNOLOGIES, LLC*

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*DAVID MICHAEL SCHWARTZ - Vol. 1*

*December 9, 2013*

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**MERRILL CORPORATION**

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE, INC.,

Petitioner,

v.

Case No. CBM2013-00020

Patent No. 5,191,573

SIGHTSOUND TECHNOLOGIES, LLC,

Patent Owner.

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DEPOSITION OF DAVID MICHAEL SCHWARTZ

VOLUME I, PAGES 1 THROUGH 127

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MONDAY, DECEMBER 9, 2013

SACRAMENTO, CALIFORNIA

Reported by:

DEBBIE MAYER, CSR 9654, RPR CRR CRP CLR

File no. 2001-454288



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A P P E A R A N C E S

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1 I N D E X

2	Witness:	Page
3	DAVID MICHAEL SCHWARTZ, VOL. I	
4	EXAMINATION BY MR. MARSH	7

5  
6  
7

8 U N A N S W E R E D Q U E S T I O N S

9		Page	Line
10	Q. In undertaking your work for the	18	6
11	District Court litigation, have you looked		
12	at any of the materials relating to the		
13	iTunes Music Store?		
14	Q. Have you ever had an opinion that U.S.	72	24
15	Patent 5,191,573 is valid or invalid?		
16	Q. Have you ever had an opinion with	73	8
17	respect to the validity of 5,191,573 that		
18	is not related to this current litigation		
19	but was related to prior litigation?		

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18  
19  
20  
21  
22  
23  
24  
25

E X H I B I T S

Patent Owner's:	Page
Exhibit 1      Declaration of David M. Schwartz	11
in Support of Petition for	
Covered Business Method Patent	
Review, etc, previously Apple	
Exhibit 1133.	
Exhibit 2      Declaration of David M. Schwartz	11
in Support of Petition for	
Covered Business Method Patent	
Review, etc, previously Apple	
Exhibit 1335.	
Exhibit 3      Certified Copy of Deposition of	20
David M. Schwartz, Thursday,	
February 1, 2001.	
Exhibit 4      Color photos of previous Apple	48
Exhibits 1117 and 1320	
(two pages).	
Exhibit 1106      (Previously marked exhibit.)	30
Exhibit 1107      (Previously marked exhibit.)	85
Exhibit 1108      (Previously marked exhibit.)	94
Exhibit 1112      (Previously marked exhibit.)	43
Exhibit 1113      (Previously marked exhibit.)	63
Exhibit 1116      (Previously marked exhibit.)	107

1	Exhibit 1118	(Previously marked exhibit.)	76
2	Exhibit 1131	(Previously marked exhibit.)	112
3	Exhibit 1140	(Previously marked exhibit.)	117
4	Exhibit 1309	(Previously marked exhibit.)	30
5	Exhibit 1310	(Previously marked exhibit.)	85
6	Exhibit 1311	(Previously marked exhibit.)	94
7	Exhibit 1315	(Previously marked exhibit.)	43
8	Exhibit 1319	(Previously marked exhibit.)	107
9	Exhibit 1323	(Previously marked exhibit.)	76
10	Exhibit 1333	(Previously marked exhibit.)	112
11	Exhibit 1342	(Previously marked exhibit.)	117
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25	///		

1 (Monday, 12-9-2013, 9:04 a.m. - 2:37 p.m.)

2 (Witness sworn.)

3 EXAMINATION

4 BY MR. MARSH:

5 Q. Mr. Schwartz, what is your full name?

6 A. David Michael Schwartz.

7 Q. And do you currently have a business address?

8 A. Yes, my home address.

9 Q. What is that home address?

10 A. 4913 Sir Edwards Court, Fair Oaks, California,  
11 95628.

12 Q. Have you been previously deposed?

13 A. Yes.

14 Q. How many times?

15 A. I haven't kept track. It's more than a dozen  
16 and probably less than 24.

17 Q. Do you understand the oath you've taken here is  
18 the same as in a court of law?

19 A. Yes.

20 Q. You're familiar with the deposition proceeding,  
21 even how many depositions you've participated in?

22 A. I am.

23 Q. You understand you can review the transcript,  
24 but we can comment on any changes you make?

25 A. Yes.



1 Q. I understand you've been ill lately, is that  
2 correct?

3 A. That's correct.

4 Q. Is there any reason in your mind that you  
5 cannot give complete and accurate testimony today?

6 A. No.

7 Q. You're originally from the Pittsburgh area, is  
8 that correct?

9 A. Correct.

10 Q. When did you last live there?

11 A. Late 1972 or early 1973.

12 Q. Are you currently employed?

13 A. Yes.

14 Q. Who is your current employer?

15 A. Madsen, M-A-D-S-E-N, comma, K-N-E-P-P-E-R-S,  
16 and Associates, Inc.

17 Q. What is their business?

18 A. Consulting.

19 Q. What area do they consult?

20 A. Generally to do with the built environment,  
21 both architecture and engineering and civil works,  
22 buildings, bridges, sewers, roads, apartment buildings,  
23 anything.

24 Q. Prior to working for Madsen -- how long have  
25 you been working for Madsen?

1 A. Full-time, since 2007; and most of my time in  
2 2006.

3 Q. Are you aware that SightSound filed a lawsuit  
4 against Apple in the Western District of Pennsylvania?

5 A. Yes.

6 Q. When did you learn about that lawsuit?

7 A. Perhaps a year ago. I'm not sure I can  
8 remember the exact date I heard about it.

9 Q. Approximately when would that be?

10 A. In the fall of 2012 or late summer of 2012, I  
11 think.

12 Q. Did you perform any work for Apple relating to  
13 that lawsuit pending in the Western District of  
14 Pennsylvania?

15 A. I did.

16 Q. What was that work?

17 MR. BATCHELDER: I caution the witness on  
18 privilege grounds. I don't want you to speak to the  
19 substance of any consulting work that you've done for  
20 Apple in connection with the litigation. You should be  
21 free though to testify about the work you've done in  
22 connection with these Patent Office proceedings.

23 THE WITNESS: Okay.

24 BY MR. MARSH:

25 Q. When were you first approached with respect to

1 the participating in the -- in the lawsuit pending in  
2 the Western District of Pennsylvania?

3 A. I did not have that date at my fingertips. It  
4 seems to me it was over a year ago.

5 Q. Have you testified in the -- have you provided  
6 any testimony in the Western District of Pennsylvania or  
7 in the lawsuit between SightSound and Apple?

8 A. Not to the best of my recollection, no.

9 Q. Have you been asked to provide any such  
10 testimony?

11 A. No.

12 Q. Did you provide any documents or materials to  
13 Apple in relationship to the Western District of  
14 Pennsylvania litigation?

15 MR. BATCHELDER: Again I'll object on privilege  
16 grounds. He can testify to any exchanges or provision  
17 of documents in these PTO proceedings, but I instruct  
18 you not to answer questions about interchanges or  
19 exchanges or communications in connection with the  
20 litigation.

21 THE WITNESS: Okay.

22 BY MR. MARSH:

23 Q. Did you provide any documents to Apple's  
24 counsel in these proceedings?

25 A. I did.

1 Q. Are all the documents you provided to Apple  
2 referenced in your declaration?

3 A. I believe so. I'd have to read them item by  
4 item to be sure, but I think so.

5 Q. Okay. Let's -- let's go to Exhibit 1133.

6 A. 1133?

7 Q. I'll give you a copy.

8 A. I don't think it's in this book. There's no  
9 1131 in this book.

10 Q. It's okay, I'll give you one. It's your  
11 Declaration.

12 (Deposition Exhibit 1 marked.)

13 (Reporter clarification.)

14 BY MR. MARSH:

15 Q. What is this document?

16 A. What is it?

17 Q. Yes?

18 A. The Statement of Facts about the business I  
19 started, that's known as CompuSonics.

20 Q. Is it the Declaration you prepared in the  
21 current CBM matter?

22 A. Yes.

23 (Deposition Exhibit 2 marked.)

24 Q. It appears Exhibit 1133, and I'm about to give  
25 you the other Exhibit 1335, are identical; is that

1 correct?

2 A. I don't know. It looks like the same document  
3 to me.

4 MR. BATCHELDER: I'll just note for the record  
5 the cover page does refer to different paths.

6 BY MR. MARSH:

7 Q. With the exception of the cover page in  
8 Exhibit 1133 and 1335, are they identical?

9 MR. BATCHELDER: Objection to form.

10 A. Well, I haven't compared them word for word.  
11 But flipping through it, looking at the pages and the  
12 general headings, it appears to be the same document.

13 BY MR. MARSH:

14 Q. When did you first begin writing these  
15 declarations -- when did you first begin writing  
16 Exhibit 1133 and Exhibit 1335?

17 A. I really don't remember.

18 Q. How did you select the material for inclusion  
19 in these Declarations?

20 A. As material that I thought was illustrative of  
21 the scope and depth of the CompuSonics system. Without  
22 being too redundant, trying to find enough exhibits to  
23 cover all aspects of this system.

24 Q. In paragraph 5 of your Declaration 1133 and  
25 your Declaration 1335, you list a number of exhibits;

1 are these the only documents related to the CompuSonics  
2 system you provided counsel?

3 A. Yes --

4 Q. Do you have any other documents --

5 A. -- no, excuse me. Let me continue that answer,  
6 because some of these other paragraphs are for other  
7 exhibits that I provided that aren't listed in 5.

8 MR. MARSH: Can I just go off the record for  
9 one second?

10 (Off the record at 09:15:07)

11 (Back on the record at 9:15:08)

12 (Record read.)

13 A. That's what I was trying to say is the exhibits  
14 are not all listed by number in one paragraph, so you'll  
15 find numerous other exhibits as we go through this that  
16 are documents that I also provided, I believe. Not all  
17 of them, but some of them.

18 BY MR. MARSH:

19 Q. Did you provide any documents that are not --  
20 that are not included as an exhibit with respect to  
21 either Exhibit 1133 and 1335?

22 MR. BATCHELDER: Objection to form.

23 A. Well, as I understand your question, you want  
24 to know if this is a subset of all of the CompuSonics  
25 information I have in my possession that I may have

1 turned over to my client, or is this the some of every  
2 possible reference or illustration of CompuSonics'  
3 various features. And the answer to that is this is not  
4 a comprehensive list. There are many other publications  
5 and videos that relate to the same matter that were  
6 provided but have not been referenced here.

7 BY MR. MARSH:

8 Q. Did you provide any of those materials to  
9 counsel in preparing your Declaration?

10 A. Yes.

11 Q. How did you select which materials you used for  
12 inclusion in your Declaration?

13 A. I tried to choose materials that are  
14 illustrative of the features and scope of the system  
15 without being overly redundant, so I tried to get enough  
16 good exhibits to make the point but not overkill.

17 Q. In the materials you did not include in your  
18 Declarations, Exhibits 1133 and 1335, those materials  
19 were not necessary to show the public features of the  
20 CompuSonics system; is that correct?

21 A. No. The CompuSonics system was described many  
22 times in different ways to different audiences during  
23 the period we were promoting it. So I'm not sure what  
24 else I can say on that.

25 Q. What were the materials you looked at but did

1 not reference in preparing your Declarations?

2 MR. BATCHELDER: Objection to form.

3 A. I don't know -- you're asking me to try and  
4 remember everything I threw to the cutting room floor,  
5 the outtakes, redundant material, and frankly I did not  
6 memorize that discarded material. I was done with it in  
7 my mind, so I can't give you a list. It's possible I  
8 can think of examples from that set if it would be  
9 useful.

10 BY MR. MARSH:

11 Q. For the material you discarded, that material  
12 was not -- that was duplicative of the material you have  
13 recited in your Declarations?

14 A. Yes.

15 Q. Have you spoken to anyone other than counsel  
16 for Apple regarding the lawsuit pending in the Western  
17 District of Pennsylvania?

18 A. Have I talked to anyone? Oh, yes, I did.

19 Q. Who have you discussed the litigation with,  
20 beyond counsel?

21 A. The only discussion of the litigation was the  
22 name of the case. I did not discuss any legal aspects  
23 or any details of the matter to the technical associates  
24 that I was discussing the actual products and features  
25 of CompuSonics with. We were not discussing litigation.



1 Q. What were the names of the people you discussed  
2 the technical features of the CompuSonics system with?

3 A. I'm not sure I gave you a comprehensive list of  
4 everybody I talked to, but the key names that spring to  
5 mind are my ex-partner, so to speak, John Stautner,  
6 S-T-A-U-T-N-E-R, Gary Schwede, S-C-H-W-E-D-E,  
7 Peter Roos, R-O-O-S, Matt Sohn, S-O-H-N, Bill Gage,  
8 G-A-G-E, and probably some others that I'm just not  
9 recalling at the moment.

10 Q. Was any of Mr. Stautner, Mr. Schwede, Mr. Roos,  
11 Mr. Sohn, or Mr. Gage, employed by Madsen?

12 A. No.

13 Q. To your knowledge, were any of Mr. Stautner,  
14 Mr. Schwede, Mr. Roos, Mr. Sohn, or Mr. Gage retained by  
15 counsel, Apple's counsel, in this matter?

16 A. I have no knowledge of that.

17 Q. When did you first learn that Apple had  
18 initiated a proceeding to have SightSound's patents  
19 reviewed in the Patent Office as covered business  
20 matters?

21 A. I don't recall. Sometime within the past year.

22 Q. How did you learn of this?

23 A. Through a telephone call from Lauren Robinson.

24 Q. Are you currently being paid by Apple for  
25 providing testimony?

1 A. No.

2 Q. Have you ever been paid by Apple or Apple's  
3 counsel for providing testimony or assistance in the  
4 Patent Office proceedings?

5 A. No.

6 Q. Are your expenses being paid for participating  
7 today?

8 A. I hadn't thought to bill for mileage. I wasn't  
9 planning on it.

10 Q. Aside from your work for Apple and Apple's  
11 counsel in relation to the District Court litigation and  
12 the current proceedings, have you ever performed any  
13 other work for Apple?

14 A. I performed work for other Apple law firms.

15 Q. Can you provide the names of those matters?

16 A. I don't know if I can remember the names of the  
17 cases. I can remember the names of some of the law  
18 firms. Wilson Sonsoni; Weil, W-E-I-L. There are others  
19 that are not springing to mind.

20 Q. Outside of being engaged in this case, are you  
21 acquainted with any of the lawyers representing Apple in  
22 this litigation?

23 A. No.

24 Q. Have you ever used the iTunes Music Store?

25 A. Yes.

1 Q. In completing your work for this CBM matter,  
2 have you looked at materials related to the iTunes Music  
3 Store?

4 A. Other than what's on Apple's own Web site for  
5 iTunes, no.

6 Q. In undertaking your work for the District Court  
7 litigation, have you looked at any of the materials  
8 relating to the iTunes Music Store?

9 MR. BATCHELDER: Objection on privileged  
10 grounds again. Instruct the witness not to answer. The  
11 objection is directed to work in this litigation but  
12 he's welcome to testify about his work in these Patent  
13 Office proceedings.

14 THE WITNESS: Okay.

15 BY MR. MARSH:

16 Q. How much time did you spend preparing for this  
17 deposition?

18 A. I hadn't added up in my head until you just  
19 asked me, so give me a moment. It might total 12 hours  
20 over a period of time.

21 Q. Did you meet with anybody in person during that  
22 preparation?

23 A. I don't think so.

24 MR. BATCHELDER: To be clear, I think he's  
25 included counsel.

1 THE WITNESS: Oh.

2 MR. MARSH: Thank you.

3 A. Okay. I think including clients, yes.

4 BY MR. MARSH:

5 Q. How long did you meet in person with counsel?

6 A. Not very long. Maybe an hour.

7 Q. When did you meet counsel?

8 A. At counsel's offices in Palo Alto.

9 Q. When did you meet counsel?

10 A. I don't recall the date.

11 MR. BATCHELDER: If I could, I don't mean to  
12 interfere, but I just want to help the witness to  
13 understand what I believe the intent of the question is,  
14 which is to include deposition preparation meetings,  
15 including any meetings that we had yesterday.

16 THE WITNESS: Oh, oh.

17 A. Including current work. Sorry. We had about a  
18 6-hour meeting yesterday.

19 BY MR. MARSH:

20 Q. Where was the meeting yesterday?

21 A. At the Hilton Garden Inn in Folsom, California.

22 Q. I'm aware that you provided deposition  
23 testimony in a prior lawsuit involving SightSound and  
24 N2K; do you recall doing that?

25 A. I do.

1 Q. Is it correct you were deposed on February 1,  
2 2001?

3 A. Yes.

4 Q. Passing you a copy of the transcript from your  
5 deposition --

6 (Deposition Exhibit 3 marked.)

7 THE REPORTER: I'm ready. Thank you.

8 BY MR. MARSH:

9 Q. -- were you paid for your testimony in the N2K  
10 litigation?

11 A. Without consulting my own business's books and  
12 records back from 2001, I can't say for sure. But my  
13 practice, I believe at the time, would be -- would have  
14 been to bill for deposition or courtroom time at a  
15 higher rate than my regular consulting hourly rate.

16 Q. After you gave your deposition in the N2K  
17 deposition, did you read the transcript?

18 A. No.

19 Q. Do you remember the last time you reviewed the  
20 transcript?

21 A. Yeah. That would be yesterday. I was given a  
22 copy of it in a much smaller format, harder to read,  
23 yesterday afternoon. And I spent a little more time  
24 last night trying to read it. But I recall -- I recall  
25 a lot of it.

1 Q. Did anything strike you as inaccurate when you  
2 last read this transcript?

3 MR. BATCHELDER: Objection to form.

4 A. I'm not sure exactly what the question is  
5 looking for. I understand the question, but I'm not  
6 sure if you want -- want me to think if there's  
7 something in here that jumped out as incorrect? Is that  
8 the question?

9 BY MR. MARSH:

10 Q. Did anything strike you as incorrect when you  
11 reviewed the transcript yesterday?

12 A. I didn't --

13 MR. BATCHELDER: Objection to form.

14 A. -- I couldn't review it to that level of  
15 detail. I scanned through it looking for the topics  
16 that were discussed. And so the answer is I did not  
17 read the whole transcript yesterday.

18 BY MR. MARSH:

19 Q. In your review of the transcript yesterday, did  
20 anything strike you as inaccurate?

21 MR. BATCHELDER: Objection to form.

22 A. No.

23 BY MR. MARSH:

24 Q. Is there any reason you believed testimony you  
25 gave in 2001 would have been inaccurate?

1 A. No.

2 Q. Have you ever served as an expert in a case  
3 involving digital, audio, or video?

4 A. Yes.

5 Q. What was that case, or cases?

6 A. Without having my business files in front of  
7 me, it's difficult to remember which law firm is  
8 attached to which case. But this has been going on for  
9 many years, probably since 1999. So I just can't -- I  
10 don't have a list memorized.

11 Q. Do you have any examples -- do you know of any  
12 examples?

13 A. A few years ago, there was a case that I'm not  
14 sure what the parties were besides Apple, and this was  
15 handled by Weil Gotshal, the law firm in Palo Alto. So  
16 it was their big case. I believe it settled in 2007.  
17 And I provided a video deposition in that case and  
18 consultant services.

19 Q. What was the mission of CompuSonics?

20 A. Its mission was to return profits to  
21 shareholders. It was a publicly owned company.

22 Q. What products did CompuSonics sell?

23 A. A range of hardware and software products,  
24 including professional digital audio equipment,  
25 workstations, broadcast service, recorder/players,

1 consumer disc recorders. There are a lot of concepts  
2 that CompuSonics came up with and promoted that we never  
3 got any revenue for. We certainly talked about  
4 everything and promoted it, but only certain ideas  
5 generated money.

6 Q. You listed a professional product; what was  
7 that professional product?

8 A. It was a group of products that we collectively  
9 called DSP 2000, so there would be a 2002, 2004, 2000  
10 whatever.

11 Q. Your testimony also listed that there was a  
12 broadcast service recorder; what was that?

13 A. We had two models, at least in that field. I  
14 recall the DSP 1200 and the DSP 1500.

15 Q. Do you recall any other model in that field?

16 A. There was one, I just can't remember what we  
17 called it. It was one based on the optical disc drive  
18 but for broadcast use, broadcast style outputs, but I  
19 can't remember what the model number was called.

20 Q. Now you mentioned a third category of products,  
21 the consumer disc recorders; what were those recorders  
22 called?

23 A. Most of them were known as DSP 1000s, and there  
24 are a few variations on that basic model, but the name  
25 stuck for most of the iterations, DSP 1000.



1 Q. Is it correct to say that the professional  
2 model had the prefix of 2000 or the series 2000 and  
3 something?

4 A. That would be professional grade equipment,  
5 yes.

6 Q. When was the first sale of a professional 2000  
7 series model?

8 A. You know, actually I have a copy of the payment  
9 check in my scrap book, but I can't remember if that  
10 sale was made in late 1983 or sometime in 1984.

11 Q. Do you recollect who it was made to?

12 A. I can see him in my mind's eye. His studio was  
13 in Burbank. Name's not coming to mind. I can see the  
14 people, I can see the studio, but I can't remember the  
15 name of the client.

16 Q. Do you recollect how many professional DSP  
17 machines were sold?

18 A. I don't recall exact number. Perhaps several  
19 dozen.

20 Q. Were any professional machines sold to a  
21 consumer?

22 MR. BATCHELDER: Well, objection to form.

23 A. Anyone who buys something is a consumer of  
24 someone's, so we didn't mind selling a DSP 2002 to an  
25 amateur musician who just wanted high-end gear. We

1 didn't qualify consumers by their shopping category.

2 BY MR. MARSH:

3 Q. Was a DSP 2000 series ever sold to a home user?

4 A. Yes, for a home studio use.

5 Q. How many broadcast service recorder machines  
6 were sold?

7 A. I don't recall an exact number. Perhaps 50.

8 Q. Who were the broadcast service recorder  
9 machines sold to?

10 A. Mostly radio stations and a few television  
11 stations.

12 Q. Do you recollect when the first sales were  
13 made?

14 A. I believe that would be 1987, that particular  
15 model.

16 Q. In your testimony you referred to a "consumer  
17 disc recorder"; do you recollect when the first consumer  
18 disc recorder was sold?

19 A. I think we actually got money for the first one  
20 in late 1986, and delivered them in 1987.

21 Q. Do you recollect who you sold the consumer disc  
22 recorder to?

23 A. Typically, we sold to high-end audio dealers,  
24 retailers.

25 Q. Was your sales distribution limited to sales of

1 the -- for the consumer disc recorders, limited to  
2 through retailers?

3 A. As I recall, yes.

4 Q. So you do not recall making any direct sales of  
5 the consumer disc recorders to anybody other than  
6 retailers?

7 A. Well, now that you bring it up, I remember one  
8 person; there might have been more. A classical music  
9 producer from Mexico, Mexico City, contacted us. We had  
10 no dealer in Mexico. So we sold him his DSP 1000 direct  
11 from the factory.

12 MR. MARSH: I'm sensitive. Do you want to take  
13 a break? How are you doing?

14 THE WITNESS: I'm thinking I'm okay. If I  
15 become incoherent, let me know.

16 MR. MARSH: I'm sure your counsel will help on  
17 that one. Okay, I'll keep going a little bit longer.

18 BY MR. MARSH:

19 Q. You referred to three categories of products  
20 for CompuSonics: The professional broadcast service  
21 recorder, the professional recorder, the broadcast  
22 service recorder, and the consumer recorder; are there  
23 any other categories of CompuSonics products?

24 A. There are.

25 Q. What are those products?



1 Q. When did it go out of business?

2 A. I believe its last sale was probably in 1990.

3 Q. When CompuSonics was in business, did you refer  
4 to the term "CompuSonics system"?

5 A. Yes, yes.

6 Q. How did you refer to the term "CompuSonics  
7 system"?

8 A. That was the generic for any combination of our  
9 software, our hardware, other peoples' hardware, other  
10 peoples' software, other networks. It depended on which  
11 CompuSonics system we were trying to sell to a specific  
12 audience.

13 Q. In Exhibit -- Apple Exhibit 1133, paragraph 4,  
14 what I previously gave to you --

15 A. Yes. Paragraph 4?

16 Q. Yes. -- you quote the phrase -- is it correct  
17 that you quote the phrase "the CompuSonics system"?

18 A. Yes.

19 Q. Is it correct that you do not capitalize the  
20 term "system"?

21 A. In this document, it's not capitalized. I  
22 don't know that if you went through all of our marketing  
23 materials from that era, you'd find it's sometimes  
24 capitalized.

25 Q. Why did you choose not to capitalize it in this

1 document?

2 A. Because I think this is the more generic,  
3 broader way to state it, that the system is lower case.  
4 It's not a specific, unique system, that it's a system  
5 in a loose sense. Different components are related.

6 Q. In your recollection, is there any single  
7 document that describes the CompuSonics system?

8 A. I think we could point to a number of different  
9 applications for the CompuSonics system that disclose  
10 one variation or another.

11 Q. I'd like to re-ask the question: Is there any  
12 single document that captures all of the aspects of the  
13 CompuSonics system?

14 MR. BATCHELDER: Objection to form.

15 A. There might be a magazine article that  
16 interviewed with me where I touched on all of the  
17 various configurations and thoughts on CompuSonics  
18 systems at the point of that interview, but I don't know  
19 that I could put my finger on that specific magazine  
20 right this second.

21 BY MR. MARSH:

22 Q. Is it correct that the magazine you refer to is  
23 not an exhibit you used in preparation for your  
24 Declaration?

25 A. I don't know that I know that for sure. I

1 don't have an answer for that really.

2 MR. MARSH: I'd like to give you exhibit --  
3 Apple Exhibit 1106, and also Apple Exhibit 1309.

4 (Exhibit 1106 previously marked.)

5 (Exhibit 1309 previously marked.)

6 MR. MARSH: Counsel, would you like a copy, or  
7 are you good?

8 MR. BATCHELDER: 1309, I'm not sure I got one.

9 BY MR. MARSH:

10 Q. Is Apple Exhibit 1309 and Apple Exhibit 1106  
11 identical?

12 A. I think so.

13 MR. BATCHELDER: Objection to form.

14 BY MR. MARSH:

15 Q. Is Exhibit 1106 and Exhibit 1309 the exhibit  
16 you refer to in your Declarations?

17 A. Yes.

18 Q. What is the exhibit?

19 A. Well, either 1309 or 1106.

20 (Reporter clarification.)

21 BY MR. MARSH:

22 Q. Is this a complete description of the  
23 CompuSonics system? Is Exhibit -- sorry, let me  
24 rephrase that.

25 Is Apple Exhibit 1106 a complete description of

1 the CompuSonics system?

2 MR. BATCHELDER: Objection to form.

3 A. No.

4 BY MR. MARSH:

5 Q. What is missing from Apple Exhibit 1106 and  
6 Apple Exhibit 1309 that would make it a complete  
7 description of the CompuSonics system?

8 MR. BATCHELDER: Objection to form.

9 A. Well, this describes a specific CompuSonics  
10 system that was built and tested. The CompuSonics  
11 system is a more generic term. So this is one of  
12 various flavors of systems.

13 BY MR. MARSH:

14 Q. What features of a CompuSonics system does this  
15 disclose?

16 MR. BATCHELDER: Objection to form.

17 A. Well, that the CompuSonics system allows  
18 whoever might want to, to set up an electronic record  
19 store, both from the distribution end and the consumer's  
20 end. So this is specifically about what we used to call  
21 "telerecording" and the commercialization of  
22 telerecording with AT&T.

23 BY MR. MARSH:

24 Q. Now, do exhibits 1106 and Exhibit 1309 describe  
25 the "Electronic Record Store" as you've been using the



1 term?

2 A. This is not a totally inclusive definition.  
3 It's one way I've described it, and I think I've  
4 described it similarly in other articles or interviews.

5 Q. In what other articles or interviews have you  
6 described the Electronic Record Store?

7 A. Well, I think several of these exhibits. Let  
8 me flip through it. Do you want me to flip through and  
9 find another one?

10 Q. For the moment, do you recall any?

11 A. I think so.

12 Q. Which ones do you recall?

13 A. I'm looking for it. Well, there's another --  
14 another reference to it in Exhibit 1108.

15 Q. Let's get back to Exhibit -- we will get back  
16 to Exhibit 1108, but are there any others beyond 1108  
17 and 1106 that refer to the Electronic Music Store  
18 concept as you've used the term?

19 MR. BATCHELDER: Objection to form.

20 A. There's other -- there are other exhibits that  
21 do, yes, relate to that type of CompuSonics system we  
22 were discussing for telerecording.

23 BY MR. MARSH:

24 Q. Let's turn back to Exhibit 11 -- Apple  
25 Exhibit 1106 and Apple Exhibit 1309.

1 A. Okay.

2 Q. When did you first see this article?

3 A. I imagine soon after it was published.

4 Q. Did you review it prior to it being published?

5 A. No.

6 Q. Did you have conversations with the author  
7 prior to it being published?

8 A. I don't recall.

9 Q. Was the author of the article present at the  
10 demonstration you referred to in this article?

11 A. He might have been. I did not take names of  
12 everyone who attended.

13 Q. Did the author speak with anyone at  
14 CompuSonics?

15 A. I don't know.

16 Q. Did the author speak with you?

17 A. I imagine he did, but I just don't recall the  
18 specific interview.

19 Q. You referred to this article as an example of  
20 an electronic record store; did CompuSonics ever sell  
21 digital music?

22 A. No.

23 Q. Did CompuSonics ever complete a sale via  
24 telerecording?

25 A. No.

1 Q. Exhibit 1106 and Exhibit 1309 discuss an  
2 "album master"; what is that?

3 A. These days, it's a data file of all of the  
4 16-bit audio that comprises a compact disc.

5 Q. What was it at the date of publication of the  
6 article?

7 A. I think some of the record companies stored the  
8 data on digital tape which would have been a different  
9 format. It was a transition period in this technology.

10 Q. Does Apple Exhibit 1309 and Apple Exhibit 1106  
11 provide for the transmission of the album master from a  
12 music software dealer to a retailer?

13 A. I'm going to have to sit here and read this  
14 article to answer that question. It's kind of difficult  
15 to say.

16 MR. BATCHELDER: Objection to form.  
17 (Perusing documents.)

18 THE WITNESS: Now I've forgotten the question,  
19 but I think I've read the article.

20 MR. MARSH: Would you read back the question,  
21 please.

22 (Record read.)

23 A. Yes.

24 BY MR. MARSH:

25 Q. What is a "music software dealer"?



1 BY MR. MARSH:

2 Q. Does Exhibit 1106 or Exhibit 1309 describe any  
3 particular payment provision?

4 MR. BATCHELDER: Objection to form.

5 A. Well, this -- we have a reference to credit  
6 cards and using the phone lines to get authorization.

7 BY MR. MARSH:

8 Q. Does Apple Exhibit 1106 and Apple Exhibit 1309  
9 describe who the consumer would contact to purchase over  
10 the phone line?

11 MR. BATCHELDER: Objection to form.

12 A. I think it's pretty thoroughly implied in this  
13 article that the consumers are, you know, everybody, the  
14 general public, and the retailers are the equivalent of  
15 record stores. We would probably call them "content  
16 aggregators" today.

17 BY MR. MARSH:

18 Q. Is there any explicit statement of who the  
19 consumer would contact to make their purchase over the  
20 phone line?

21 MR. BATCHELDER: Objection to form.

22 A. I think the article says the consumer, you  
23 know, John Doe, could pick up his phone and call the  
24 retailer, retailer being the record store, whether it's  
25 purely an electronic record store or not, and buy the

1 content using a credit card, in this case.

2 BY MR. MARSH:

3 Q. Is that the only payment step provided, in your  
4 opinion, in Apple Exhibit 1106 and Apple Exhibit 1309?

5 MR. BATCHELDER: Objection to form.

6 A. No, I think there's another step that was  
7 discussed, which is that distribution from the -- from  
8 the music software dealer. There's a layer there that  
9 gets paid. So there's a, you know, a wholesale and  
10 retail margin in this vague model that's disclosed in  
11 this article.

12 BY MR. MARSH:

13 Q. Is there an explicit statement within the  
14 article of that payment step?

15 MR. BATCHELDER: Objection to form.

16 A. There's a reference; it says:

17 "Use their credit card to charge  
18 purchases over phone lines."

19 That's pretty clear. That's a method.

20 BY MR. MARSH:

21 Q. Did you previously testify that that statement  
22 was with respect to, in your opinion, consumers charging  
23 their credit card lines -- funding the retailer?

24 A. I think that's consistent, isn't it?

25 Q. In Exhibit 1106 and Exhibit 1309, what does the

1 consumer purchase?

2 MR. BATCHELDER: Objection to form.

3 A. A consumer is purchasing a right to download a  
4 digital image of an audio or music or video file, paying  
5 for content.

6 BY MR. MARSH:

7 Q. Is it correct the article states:

8 "The final step would involve the  
9 CompuSonics consumer digital audio  
10 recorder/player (which has yet to see  
11 production), which would record the  
12 transmission onto a five-and-a-quarter-inch  
13 super floppy disc"; is that correct?

14 A. Correct.

15 Q. Is the five-and-a-quarter-inch super floppy  
16 disc what the consumer would purchase?

17 A. Well, they have to get their disc somewhere.  
18 Floppy discs aren't free. There are a number of  
19 manufacturers of discs that worked as super floppies.  
20 We didn't have any specific recommendation as to which  
21 brand.

22 MR. BATCHELDER: Off the record for just a  
23 moment?

24 MR. MARSH: Sure.

25 (Off the record at 10:15:09)

1 (Back on the record at 10:19:48)

2 BY MR. MARSH:

3 Q. Do you understand you're still under oath?

4 A. I do.

5 Q. Is it correct that Exhibit 1106 and  
6 Exhibit 1309 describe the consumer having a  
7 five-and-a-quarter super floppy disc?

8 MR. BATCHELDER: Objection to form.

9 A. That was the DSP 1000 in its first incarnation.  
10 It used a floppy disc.

11 BY MR. MARSH:

12 Q. Is it correct that the DSP 1000 was the  
13 consumer model?

14 MR. BATCHELDER: Objection to form.

15 A. That's generally how we referred to the DSP  
16 1000 series, as "consumer products, high-end audio."

17 BY MR. MARSH:

18 Q. Does Exhibit 1106 and Exhibit 1309 describe the  
19 recording onto anything other than a  
20 five-and-a-quarter-inch super floppy disc?

21 MR. BATCHELDER: Objection to form.

22 A. That's the only storage medium referenced in  
23 this article. There are other articles  
24 contemporaneously with this one, in the same year, that  
25 would expand on some of these concepts.



1 BY MR. MARSH:

2 Q. Is it correct that the Electronic Record Store  
3 as put forward by Exhibit 1106 and Exhibit 1309 uses a  
4 five-and-a-quarter-inch super floppy disc for storage?

5 MR. BATCHELDER: Objection to form.

6 A. I didn't read that. I thought the retailers  
7 had the data on hard drive. This is not thoroughly  
8 described in this article, the point of which was the  
9 article of the link between CompuSonics and AT&T as the  
10 focus of it. The actual technology is given fairly  
11 short shrift in this particular reference.

12 BY MR. MARSH:

13 Q. Does the article describe what type of memory  
14 the retailer has --

15 MR. BATCHELDER: Objection to form.

16 BY MR. MARSH:

17 Q. -- that's within Exhibit 1106 and Exhibit 1309?

18 A. Well, the mention there is for hard disc  
19 equipment, the previous sentence, so I think with the  
20 data file and a hard disc.

21 (Pause in the proceedings.)

22 Q. At the time of this article, CompuSonics had  
23 not sold, apologies, the DSP 1000 to consumers; is that  
24 correct?

25 A. Correct.

1 Q. Did CompuSonics ever sell a DSP 1000 that  
2 utilized a super floppy for storage?

3 A. No.

4 Q. Did CompuSonics ever sell a DSP 1000 that  
5 utilized hard disc for storage?

6 A. Yes. We referred to that as the "DSP 1800."

7 Q. Was the DSP 1800 a consumer model?

8 MR. BATCHELDER: Objection to form.

9 A. Yes. High-end -- high-end audiophile type  
10 consumers.

11 BY MR. MARSH:

12 Q. When did CompuSonics sell a DSP 1800? When did  
13 it first sell a DSP 1800?

14 A. Late in 1987 or early 1988, I imagine.

15 Q. Do you recollect exactly when CompuSonics sold  
16 a DSP 1800?

17 A. No, I don't.

18 Q. Was the super floppy disc referred to in  
19 Exhibit 1106 and Exhibit 1309 intended to replace CDs,  
20 tapes, and vinyl records?

21 A. To replace part of those markets, not a hundred  
22 percent replacement, just to take market share from  
23 those products.

24 Q. How much of these could a super floppy disc  
25 store?



1 DSP 1000 or the DSP 2000, or any of the DSP 1000 series  
2 or any of the DSP 2000 series, whether a DSP machine was  
3 utilized to provide a payment?

4 A. I don't believe so. Not that I recall today.

5 Q. Do you have a DSP 1000?

6 A. Personally?

7 Q. Yes?

8 A. I think I probably have one that is in pieces,  
9 but I may have all the pieces.

10 Q. Do you have a DSP 2000?

11 A. Yes.

12 Q. Does your DSP 2000 still work?

13 A. I believe so.

14 (Pause in the proceedings.)

15 MR. MARSH: I'm going to give you another pair  
16 of exhibits, Exhibit 1112, which is also referred to as  
17 Exhibit 1315.

18 (Exhibit 1112 previously marked.)

19 (Exhibit 1315 previously marked.)

20 BY MR. MARSH:

21 Q. Do you recognize this Exhibit? Do you  
22 recognize Apple Exhibit 1112 and Apple Exhibit 1315?

23 A. Yes.

24 Q. What is this exhibit?

25 A. I believe, in my set of documents, it's

1 Exhibit 1112.

2 Q. You're correct. Exhibit 1112 and Exhibit 1315,  
3 do you recognize these exhibits?

4 A. Yes.

5 Q. Are they identical?

6 A. Yes.

7 Q. What are Exhibits 1112 and Exhibit 1315?

8 A. A diagrammatic representation of one type of  
9 CompuSonics system, and that type is the digital audio  
10 telecommunications system.

11 Q. When did you use this slide?

12 A. The first time was probably one of the National  
13 Association of Broadcaster trade shows or one of the  
14 other big exhibits from the Consumer Electronics Show in  
15 1985.

16 Q. Did you present this slide as part of the  
17 presentations at those meetings?

18 A. I did, yes.

19 Q. When did you present the slide?

20 A. In most of our trade show booths, we had a  
21 video display or a computer screen display of a slide  
22 show running all the time. So we had visuals to go with  
23 our discussions with people who visited the booth. And  
24 this would be one of the typical slides, you know, that  
25 would be on screen for perhaps 30 seconds before the

1 next slide.

2 Q. Do you recall --

3 (Pause in the proceedings.)

4 Q. -- do you recall when the meetings you referred  
5 to were?

6 A. I don't recall. There are specific dates. But  
7 in that one year we probably did at least four of those  
8 types of events.

9 Q. Did you present this slide as part of the  
10 Stanford lecture in 1987?

11 A. I'm pretty sure I did.

12 Q. Do you recollect at what point in the lecture  
13 you presented the slide?

14 A. In the discussion of electronic music store or  
15 telerecording.

16 Q. As far as you can recollect, you only presented  
17 this slide at the meetings you've just described to us?

18 A. But there were other meetings as well during  
19 that year; I'm just not sure I can recall all the names  
20 of them.

21 Q. What features of the CompuSonics system does  
22 Exhibit 1112 and 1315 disclose?

23 MR. BATCHELDER: Objection to form.

24 A. Well, this shows the proposed implementation of  
25 one method of doing remote recording. We called it

1 "telerecording," how to supply it, how to receive it.

2 BY MR. MARSH:

3 Q. Did you create this slide?

4 A. I did. I don't mean to claim I was the artist.  
5 I gave a sketch of this slide to the electronic artist  
6 who produced this image.

7 Q. And the slide was just used in certain  
8 presentations, is that correct?

9 A. It was probably used in at least 80 percent of  
10 our presentations. I think it's one of our better  
11 slides.

12 Q. Who showed this diagram to the public?

13 A. At the trade shows that were open to the  
14 public, many members of the public, for example Comdex  
15 in Las Vegas. C-O-M-D-E-X. That's open to the public.  
16 And so this slide was certainly seen there.

17 Q. Who showed this diagram to the public?

18 A. CompuSonics staff, including myself.

19 Q. Is there any indication in this diagram,  
20 Exhibit 1112 and Exhibit 1315, of how the signals would  
21 be stored?

22 A. There's implied storage in several steps here,  
23 implied computers being involved. Computers depend on  
24 storage. So there's no word that says "storage" here,  
25 but it's pretty strongly implied, at least the AT&T

1 equipment and the CompuSonics machines have storage of  
2 one sort or another. It says "DSP 2002," which had a  
3 minimum storage of 140 megabytes at that time, so that  
4 defines it right there.

5 Q. What storage did the AT&T equipment have?

6 A. It had several different types of solid state  
7 memory; it had nonvolatile memory and also a writable  
8 memory. But I couldn't give you the specific numbers of  
9 the, you know, chips that they used to build it or how  
10 much memory capacity it actually had.

11 Q. Does Exhibit 1112 and Exhibit 1315 require that  
12 two DSP 2002 devices be used?

13 MR. BATCHELDER: Objection to form.

14 A. I think for the simplicity of symmetry, we  
15 chose to show it this way, but there are other slides  
16 where we clearly show DSP 2000 and something at the head  
17 of the chain, and the DSP 1000 at the consumer end of  
18 the chain, instead of another 2002.

19 BY MR. MARSH:

20 Q. Did you provide any of those slides with  
21 respect to your declaration?

22 A. I thought I did. Let me look through here and  
23 find them for you. Give me a moment.

24 (Perusing documents.)

25 A. So, 1117.



1 MR. MARSH: Let's introduce Exhibit 1117.  
2 Passing a CompuSonics exhibit, Apple Exhibit 1117, to  
3 the court reporter --

4 (Deposition Exhibit 4 marked.)

5 MR. MARSH: -- and also Exhibit 1320.

6 BY MR. MARSH:

7 Q. You referred to Exhibit 1117, which was the  
8 counterpart of Exhibit 1320, as describing a CompuSonics  
9 system that -- as disclosing a CompuSonics system that  
10 didn't set forth a 2 -- DSP 2002; is that correct?

11 A. There's no reference to the DSP 2002  
12 specifically in this diagram.

13 Q. Is there any reference to a DSP machine?

14 A. Not explicitly. But all of our CompuSonics  
15 audio equipment, recorders, 2000s, were considered audio  
16 engineering equipment. So that would be the top box,  
17 the red box in this diagram. And the database would be  
18 stored on the hard drive of the 2000. So you see the  
19 major components of DSP 2000 here; they simply aren't  
20 labeled from the hardware point of view. This is sort  
21 of a software view of the system.

22 Q. Is there any reference to DSP hardware in  
23 Exhibit 1117 and Exhibit 1320?

24 MR. BATCHELDER: Objection to form.

25 A. Everywhere you see red in this diagram is

1 someplace that CompuSonics is making money or content's  
2 being transferred. So we're involved in the equipment  
3 at the dial-up electronic record store where we have  
4 equipment there. We also have home digital recorders  
5 that actually go in the home at the end to record the  
6 data.

7 BY MR. MARSH:

8 Q. Does Exhibit 1117 or Exhibit 1315 use the term  
9 "DSP"?

10 A. No.

11 Q. Does Exhibit 1117 or Exhibit 1320 set forth a  
12 payment step?

13 A. Well, there are three references to people  
14 selling the content at the bottom of this chart:  
15 A cable TV station sells the content, a retailer can  
16 sell the content, and the Electronic Record Store can  
17 sell the content directly down to somebody's home. So  
18 those are -- I mean nobody's giving away content, so  
19 somebody's paying for it at each step of this thing.

20 Q. Is there any explicit statement in either  
21 Exhibit 1117 or Exhibit 1320?

22 A. I think it's understood that retailers sell  
23 things. That's the definition of a retailer. And  
24 record stores sell things. That's the definition of a  
25 selling function. So the fact that the word "sales"

1 doesn't appear here is kind of irrelevant.

2 MR. MARSH: Okay, I think we've been going  
3 about an hour. Take a break.

4 (Off the record at 10:47:21)

5 (Back on the record at 10:56:47)

6 MR. MARSH: Whenever you're ready, I'm good to  
7 go.

8 THE WITNESS: Okay.

9 BY MR. MARSH:

10 Q. You understand you're still under oath?

11 A. I do.

12 Q. Okay. I'd like to go back to Exhibit 1112,  
13 Exhibit 1315.

14 A. Which one is this? That one, okay, back to  
15 that one, okay.

16 Q. That one, just for the record, that's  
17 Exhibit 1112.

18 Is there any indication in Exhibit 1112/  
19 Exhibit 1315 of how audio or video signals would be  
20 stored?

21 A. Yes. This shows DSP 2002s, CompuSonics  
22 machines, as the core of each side of the transceiver  
23 here, and the minimum storage capacity of a 2002 is the  
24 largest hard drive available that year. So that  
25 storage. And I believe AT&T equipment also had a

1 different -- a different form of non-rotating memory  
2 storage.

3 Q. Did the DSP 2002 have other types of storage?

4 A. They had a super floppy disc drive.

5 Q. Is there any indication with respect to either  
6 Exhibit 1112 and Exhibit 1315 that the audio or video  
7 signal would be recorded -- would not be recorded on the  
8 super floppy disc?

9 A. Well, it could be, and it was in some cases and  
10 demonstrated as a feature.

11 Q. Is there any indication in this diagram of  
12 how -- of which of the memories and audio or video  
13 signal would be stored?

14 A. Well, the signal is -- once the signal is  
15 digitized, after the A to DD to A step, and the CPU has  
16 it, it's going to be, to some extent, in main memory,  
17 RAM, and also on the operating system's hard drive;  
18 that's just the way these machines worked, two different  
19 memories working together, under the control of the CPU,  
20 workstation-style.

21 Q. Does this diagram indicate any payment was  
22 made? Does Exhibit 1112 or Exhibit 1315 indicate that  
23 any payment was made?

24 A. It doesn't specifically say a payment was made.  
25 There's a means to do so shown.

1 Q. What is that means?

2 A. The telephones, the analog telephone lines  
3 connecting the two sides of this system. The wavy line  
4 in green with little icons of telephones at each end.

5 Q. Is that the only way payment could have been  
6 made with this system?

7 A. No. AT&T was proposing to be the payment  
8 collector as well as the data transmitter in the  
9 telerecording system. They wanted both jobs. And they  
10 would be, in one version, adding these services to your  
11 phone bill. That was their business model. So AT&T  
12 certainly had that in mind as a means of making money.

13 Q. Did AT&T, with respect to Exhibit 1112 and  
14 Exhibit 1315, envision an authorization code for  
15 payment?

16 A. I don't know they needed any explaining at the  
17 time that you could have two people talking on the  
18 telephone, one reading out a credit card number and the  
19 other person typing into the ordering system on the  
20 receiving computer. That's -- that was so commonplace  
21 at the time this drawing was made, I'm not sure anybody  
22 needed to label that use of the phone line.

23 Q. Is it correct that you previously testified  
24 that AT&T tried to charge for audio or digital  
25 transmission on a customer's or consumer's

1 telephone bill?

2 A. I have testified to that prior.

3 Q. Is Exhibit 1112 and Exhibit 1315 intended to  
4 show or illustrate the CompuSonics transmission of  
5 signals from New York to Chicago?

6 A. Yes. It shows the system pretty well.

7 Q. When did that demonstration take place?

8 A. I believe in August of 1985, or thereabouts.

9 Q. Is it correct that CompuSonics was in control  
10 of this demonstration?

11 A. Yes, with assistance from AT&T staff.

12 Q. Was CompuSonics personnel -- or were  
13 CompuSonics personnel in control of the two DSP 2002  
14 devices that are illustrated on Apple Exhibit 1112 and  
15 Apple Exhibit 1315?

16 A. Yes. Both 2002s.

17 Q. Was CompuSonics personnel in control of the two  
18 telephones set forth in Exhibit 1112 and Exhibit 1315?

19 A. Yes.

20 Q. Was Mr. Sohn a CompuSonics employee operating  
21 the DSP 2002 in Chicago?

22 A. Yes.

23 Q. Is it correct that the machines were set up and  
24 tested for several hours before the demonstration?

25 A. Yes.

1 Q. What activities were undertaken during setup?

2 A. The testing was to test the reliability of the  
3 bandwidth of the digital phone line, the AccuNet system,  
4 because we had a certain amount of capability to fix  
5 errors as they occurred as long as the errors weren't  
6 too big. So we were looking at quality of transmission,  
7 basically, monitoring it. It was a setup process.  
8 Tweaking it.

9 Q. The signals were first transmitted from  
10 New York to Chicago, is that right?

11 A. As I sit here today, I can't remember who sent  
12 which file first in which particular demo.

13 Q. Do you recollect what file was sent from either  
14 Chicago to New York, or New York to Chicago?

15 A. Well, from Chicago, they actually transmitted  
16 live radio off of the air through the system, as well as  
17 playing back a prerecorded classical, or actually a big  
18 band number that I had on the hard drive in New York  
19 which I sent to Chicago.

20 Q. Is it correct that from Chicago to New York  
21 they transmitted live radio, and from New York to  
22 Chicago they transmitted a prerecorded classical or  
23 actually a big band number?

24 A. Was that a question?

25 Q. Yes.

1 A. Yes, that's my recollection.

2 Q. Were any other audio or video files transmitted  
3 in these -- in the demonstration that Exhibit 1112 and  
4 Exhibit 1315 allegedly depict?

5 A. I believe there were additional files, because  
6 we kept the connection open after the formal part of the  
7 press conference so that reporters could get up close to  
8 the machine and see what I was doing and try and  
9 understand the process. We kept going for a while after  
10 the initial presentation. I don't know if it was an  
11 hour, but it was a substantial period with a number of  
12 different kinds of music.

13 Q. Is it correct that a script file was written in  
14 advance so the receiving computer requested a specific  
15 predetermined file?

16 A. Yes. We did use a script, scripts at both ends  
17 to make sure we didn't keystroke-error during a public  
18 performance, so to speak. That's a lot of characters to  
19 type without making a typo.

20 Q. Is it correct that you didn't have to search  
21 for a file name during this demonstration?

22 A. We just said we did search, my previous answer  
23 to the previous question, unless I misspoke.

24 Q. Your previous answer was:

25 "Yes, we did use a script, scripts at



1 both ends to make sure we didn't keystroke  
2 error during a public performance, so to  
3 speak. That's a lot of characters to type  
4 without making a typo."

5 The following question was: "Is it  
6 correct that you didn't have to search for  
7 a file name during this demonstration?"

8 "We just said we did search, my previous  
9 answer to my previous question, unless I  
10 misspoke."

11 Did you search, or did you key in the file  
12 name?

13 A. Our "sound file system," that's what we called  
14 it, "CompuSonics sound file system," filed music by how  
15 the user named the file in the first place, so that when  
16 the user of the system wanted a specific audio recording  
17 or sound effect, they'd interact with the screen and the  
18 keyboard to search for the content they wanted to hear.  
19 That was part of the CompuSonics sound file software.

20 Q. For the demonstration that Apple Exhibit 1112  
21 and Apple Exhibit 1315 purports to depict, didn't you  
22 pre-program in the file name into the DSP?

23 A. To start the entire process, yes. But as soon  
24 as Matt and Hines and Sohn had more than one file --  
25 (Reporter clarification.)







1 Q. Are customers' checks the usual manner in which  
2 CompuSonics was paid?

3 A. That's my recollection.

4 Q. Do you have any recollection of CompuSonics  
5 being paid by credit card?

6 A. Oh. I do. And also I recall that our foreign  
7 transactions had to be made electronically, completely,  
8 through some banking system where we got charged for  
9 each transaction each way, like wiring money. It was an  
10 all-electronic system. So I'm pretty sure all of our  
11 foreign dealer, foreign direct sales, were -- there was  
12 no paper involved. It was normally mainly transfers at  
13 various points in the banking system.

14 Q. Were your foreign sales of DSP machines -- were  
15 the foreign sales --

16 A. Yes.

17 Q. -- DSP machines?

18 A. Yes.

19 Q. Did you sell any audio or video content to  
20 owners of foreign DSP machines?

21 A. I don't know.

22 Q. Did you --

23 A. It's possible.

24 Q. -- did you transmit, electronically, any audio  
25 or video content to owners of foreign DSP machines?



1 to those tests, there was somewhere between  
2 Massachusetts, like Boston, our office in Cambridge, and  
3 AT&T in New Jersey, but it may have been a different  
4 AT&T facility in New Jersey. This was all during the  
5 development of the DATI.

6 Q. Were these other transmissions public?

7 A. There were no public witnesses to those. But  
8 AT&T and CompuSonics jointly published a press release  
9 about it at one point, I don't know if it was after the  
10 third or fourth test proved that this was going to work.

11 Q. Is it correct that none of the other tests that  
12 you referred to were carried out in public?

13 A. Correct.

14 Q. Beyond the press release that you have just  
15 referred to, is there any other documentation you're  
16 relying on in your Declaration to suggest or provide  
17 that these were public tests?

18 A. In one of my letters to shareholders of  
19 CompuSonics, and there were thousands, I think I  
20 specifically mentioned where we were with the  
21 telerecording business concept, the CompuSonics system  
22 for telerecording, because we'd spent a lot of time and  
23 effort on it and the shareholders wanted to know what we  
24 were getting out of it.

25 Q. Were your letters to the shareholders

1 reflective of the fact these were ongoing experiments,  
2 or ongoing tests?

3 A. I think I said that to the shareholders. I  
4 believe the letters were produced as exhibits, like  
5 1113.

6 MR. MARSH: Just for the sake of the court  
7 reporter, I'm going to hand you Exhibit 1113 which we'll  
8 get back to you, potentially, later, but just so she has  
9 a copy.

10 (Exhibit 1113 previously marked.)

11 (Pause in the proceedings.)

12 MR. MARSH: We'll hold that for the moment.  
13 I'll locate it at the break.

14 BY MR. MARSH:

15 Q. If you would like to go back to Exhibit 1117,  
16 this is the same 1117 and the same 1320 that you saw  
17 previously?

18 A. Yes.

19 Q. What is Exhibit 1117/1320?

20 A. It's a slide that we used at our typical slide  
21 show presentation showing how the content is created and  
22 distributed, and the different steps in the process, and  
23 the different possible end destinations.

24 Q. Was Exhibit 1117 and Exhibit 1320 only prepared  
25 as a slide for a slide show?





1 basically joint venture with, like RCA. I forget the  
2 name of their lab. But it split off with the Sarnoff  
3 Lab people, S-A-R-N-O-F F, Sarnoff Labs. They had some  
4 organization that did joint development. So we were  
5 after a deal with them. So they saw it.

6 I was actively pitching it to foreign  
7 corporations involved in digital audio and digital  
8 video, so this is one of the slides they used to pitch  
9 Siemens in Europe, and several other European companies  
10 that are escaping me -- Phillips. So it was part of  
11 our -- part of our promotional package.

12 Q. Do you know any specific U.S. company that used  
13 this specific Exhibit, Apple Exhibit 1112, or Apple  
14 Exhibit 1320, in your presentation? It's the --

15 A. I just answered that I thought whatever the  
16 company is that used to be RCA Sarnoff Labs, whatever  
17 that company name is, those people. Also Texas  
18 Instruments. We pitched Motorola. And we pitched  
19 Sun Microsystems for some reason mainly trying to sell  
20 them our software, slightly different purpose. It  
21 seemed like we were always doing demonstrations of this  
22 thing for either private business or a press conference  
23 or a promotional tour.

24 Q. For your presentations to RCA Sarnoff Labs, did  
25 you specifically use the slide depicted in Apple

1 Exhibit 1117 or Apple Exhibit 1320?

2 A. Yes, to the best of my recollection. It's one  
3 of my standard slides. I don't see all of my slides. I  
4 think for the sake of revenue, we didn't copy every  
5 slide we have for promoting CompuSonics systems of one  
6 sort or another. They're all similar, contain these  
7 components.

8 Q. Could a similar slide to Exhibit 1117 be used  
9 at the companies you mentioned, including, without  
10 limitations, RCA Sarnoff Labs?

11 A. It's possible.

12 Q. Is it possible that a similar but not identical  
13 slide was used or at the presentations you have just  
14 provided -- you've just discussed?

15 A. Well, I do remember this specific slide  
16 associated with certain shows that I presented in  
17 certain cities, so I'm sure this one was used, the one  
18 we're looking at here. And the variation on it would  
19 only be how it was label, I think, whether it was  
20 hardware centric or software centric.

21 Q. Do you know of a specific show or presentation  
22 that this specific slide was actually used in?

23 A. I'm sure I used it at my NAB presentation. I  
24 used it in my Audio Engineering Society presentation,  
25 and probably others.

1 Q. Why are you sure you used this slide and not  
2 another slide at those presentations?

3 A. Because this is the one that I come back to the  
4 most. It's my recollection. Now, I'm not the only  
5 person at CompuSonics who did these presentations, you  
6 know, at the trade shows and different industry  
7 organizations, so I can't be sure that John Stautner's  
8 version of this is identical to my version of this.

9 Q. What CompuSonics products does Exhibit 1112 --  
10 1117, sorry, and Exhibit 1320 reference?

11 A. Well, we were hoping to sell package-type  
12 equipment like the DSP 2000 series machines at the top  
13 to audio engineering, and possibly also to the IT  
14 department, if the company we were selling to had an IT  
15 department, so that the audio engineering and editing on  
16 the CompuSonics machines was separated from the storage  
17 functions for database use by the IT department. So  
18 this could represent two sales at the top as opposed to  
19 one sale.

20 Then down here at the local phone company, they  
21 need one of our machines to store the data and to have  
22 the searchable database for local redistribution, so  
23 there's a third sale for us. And the cable TV station  
24 will need a decoder of our data format which they could  
25 use a DSP 1500 or whatever model to do. So there's a

1 sale to the cable TV station.

2 We have a sale of DSP 2000 series to the  
3 retailers so they can make copies onto floppies or other  
4 memories and sell the copies, or there's a virtual  
5 store, a totally electronic process for buying of  
6 content and delivering it to the home.

7 Q. For the cable companies, is it correct there's  
8 no local memory on the cable box?

9 A. Every cable box back to the beginning of time  
10 pretty much had some solid state memory.

11 Q. Back in 1987, 1988, what memory was on the  
12 cable box?

13 A. Memory that would remember your user ID or your  
14 account number, memory of which cable frequencies you  
15 were allowed to access. Those basic functions were  
16 stored on the box.

17 Q. Who owned the cable box back in 1987, '88?

18 A. I used to have to buy mine, in fact I think I  
19 still have to buy the thing from Comcast -- yeah, the  
20 modem is on lease, but we had to buy the box.

21 Q. Could you plug in a coaxial cable into a  
22 DSP 1000?

23 (Reporter clarification.)

24 A. Only with an adapter for the type of connector.  
25 You have to install an adapter. But there are places

1 where a coax signal, two audio channels basically, could  
2 get into the machine, but the connectors are totally  
3 different.

4 Q. Of the DSP 1000s that were sold, could you plug  
5 a coaxial cable into those directly?

6 A. Without an adapter? No.

7 Q. Could one connect a DSP to a set-top cable box  
8 in 1987, 1988?

9 A. Yes. That's exactly the period that RS232 was  
10 so popular, connecting the parts of these systems.

11 Q. In 1988, was cable mostly transmitted in  
12 analog?

13 A. Yes, to my knowledge.

14 Q. Did the RCA cables in a table setup --  
15 (Reporter clarification.)

16 A. I didn't understand that.

17 Q. Did the RCA socket/cables receive an analog or  
18 digital signal in 1987, '88?

19 A. Typically, analog signal.

20 Q. How did, in 1987, '88, cable companies  
21 typically invoice customers?

22 A. In my case, by mail.

23 Q. How do cable companies, now, invoice customers?

24 A. Mine's now electronic. It has been for some  
25 time.

1 Q. How were cable company invoices typically paid  
2 in the period of 1987 to '88?

3 A. I don't know. I've never studied that  
4 distribution.

5 Q. How did you typically pay your cable company  
6 invoice in 1987/88?

7 A. Typically, I would mail them a check. But  
8 sometimes when I realized I'd missed a deadline and  
9 didn't want to be charged for being late, I'd call them  
10 up and authorize a credit card transaction to cover.

11 Q. In the period of 1987/88 or before, could you  
12 order a specific program via your cable company?

13 A. I seem to remember being able to do that in  
14 that timeframe. I think so.

15 Q. How would you do that?

16 A. I'm not sure I can recall all the details of  
17 the old pay-per-view system, the one they used for  
18 boxing matches. I just remember it existed, and I used  
19 it, but I can't remember the details of it.

20 Q. Do you recollect whether the payment for that  
21 would appear on your monthly invoice?

22 A. I don't recall. It may have been a different  
23 payment channel entirely just for the boxing matches.  
24 Mainly you call -- call the 800 number and take on the  
25 transaction.

1 Q. Do you recall whether a credit card was  
2 provided when you did that?

3 A. In the telephonic transaction, I bought things  
4 like that, yes, that's been over the phone.

5 Q. Is that the case when you bought things from  
6 your cable company?

7 A. On the pay-per-view side of that period, I  
8 think so.

9 MR. MARSH: I think now is probably a good  
10 break. Take a lunch break?

11 (Off the record at 11:43:59)

12 (Lunch recess)

13 (Back on the record at 12:44:57)

14 -o0o-

15 BY MR. MARSH:

16 Q. You understand you're still under oath?

17 A. I do.

18 Q. Did you discuss anything relating to this case  
19 with counsel during the break?

20 A. No.

21 Q. Did you review U.S. Patent 5,191,573 in  
22 preparation for this deposition?

23 A. I may have skimmed through it. I didn't read  
24 it in detail, no.

25 Q. Did you review U.S. Patent 5,191,573 in



1 preparation for your Declaration?

2 A. Same thing. I don't know if I read it word for  
3 word. But I have read it word for word in the past, so  
4 it's a matter of refreshing my memory.

5 Q. Do you have any opinion as to whether U.S.  
6 Patent 5,191,573 is valid?

7 MR. BATCHELDER: Objection to form.

8 A. Well, you know, I have not been asked to form  
9 any opinions in this case. I'm brought here as a fact  
10 witness, so I'm not sure how to answer that. I haven't  
11 given it any consideration whatsoever.

12 BY MR. MARSH:

13 Q. Is it correct that you have no opinion whether  
14 U.S. Patent 5,191,573 is valid or invalid?

15 MR. BATCHELDER: Objection to form.

16 A. I don't have an opinion at the present time,  
17 no.

18 BY MR. MARSH:

19 Q. Do you have an opinion whether U.S. Patent  
20 5,966,440 is valid or invalid?

21 MR. BATCHELDER: Objection to form.

22 A. Not at this time.

23 BY MR. MARSH:

24 Q. Have you ever had an opinion that U.S. Patent  
25 5,191,573 is valid or invalid?

1 MR. BATCHELDER: Object to form, and I also  
2 instruct the witness not to answer to the extent that if  
3 you formed any opinion in connection with the litigation  
4 as opposed to your preparation for this deposition, you  
5 should not testify as to any such opinion.

6 THE WITNESS: Okay. No comment.

7 BY MR. MARSH:

8 Q. Have you ever had an opinion with respect to  
9 the validity of 5,191,573 that is not related to this  
10 current litigation but was related to prior litigation?

11 MR. BATCHELDER: Same objection, same  
12 instruction.

13 MR. MARSH: What is the privilege you're  
14 asserting here?

15 MR. BATCHELDER: If it was litigation-related  
16 work, it's not the province of this proceeding.

17 BY MR. MARSH:

18 Q. If it's not privileged, you should answer.

19 Have you ever formed an opinion, let's explore  
20 this, with respect to 5,191,573?

21 A. I may have had one in the past and I don't  
22 recall it until I go back and read the patent again and  
23 refresh my memory about what I'd seen before and said  
24 before. So at this time, I do not have an opinion.

25 Q. With respect to 5,966,440, have you ever had an

1 opinion with respect to the validity or invalidity of  
2 the patent?

3 MR. BATCHELDER: Same objection, same  
4 instruction.

5 A. I just don't know without doing some more  
6 research.

7 BY MR. MARSH:

8 Q. Prior to being contacted by Apple's counsel,  
9 had you formed an opinion with respect to U.S. Patent  
10 5,191,573?

11 A. I would have to look at it to refresh my  
12 memory. I can't identify it by number like that in my  
13 head. Is it one of our -- our exhibits?

14 Q. Your Declaration -- let's turn you to Apple  
15 Exhibit 1133.

16 A. 1133? Well, I don't have 1133. Maybe you  
17 handed to me earlier --

18 MR. BATCHELDER: He handed it to you earlier.  
19 It's your Declaration.

20 A. Oh, my Declaration. I have it as a different  
21 number -- I have it as no number. Okay, got it in front  
22 of me.

23 BY MR. MARSH:

24 Q. Okay. With respect to the patent listed on the  
25 face of your Declaration, U.S. Patent 5,191,573 --

1 A. Yes.

2 Q. -- did you form an opinion of its validity or  
3 invalidity prior to being contacted by Apple's counsel?

4 A. I don't recall. I would have to research it  
5 and look at some of my records from previous cases and  
6 try and figure that out.

7 Q. With respect to U.S. Patent 5,966,440, do you  
8 have an opinion as to its validity or invalidity prior  
9 to being contacted by Apple's counsel in this matter?

10 A. As I sit here today, I just don't know. I  
11 would have to go through business records and files to  
12 figure out what I'd ever said, if anything, about that  
13 patent.

14 Q. As of today, is it correct to say that you do  
15 not have an opinion on the validity of 5,191,573?

16 A. Correct.

17 Q. As of today, is it correct to say you don't  
18 have an opinion with respect to the validity or  
19 invalidity of U.S. Patent --

20 A. That's not exactly what I said.

21 Q. Let me finish the question --

22 A. I'm sorry.

23 Q. -- then you can correct me if I've said  
24 something that was incorrect in that respect.

25 As of today, is it correct to say you don't

1 have an opinion as to the validity or invalidity of  
2 U.S. Patent 5,966,440, that you recollect?

3 A. Correct.

4 MR. MARSH: I'd like to give you Apple  
5 Exhibit 1118 and Apple Exhibit 1323.

6 (Exhibit 1118 previously marked.)

7 (Exhibit 1323 previously marked.)

8 MR. MARSH: Do you need a copy?

9 MR. BATCHELDER: Yes.

10 THE WITNESS: Want me to hand this to the court  
11 reporter?

12 MR. MARSH: I'll give the court reporter a  
13 copy.

14 MR. BATCHELDER: Which is which?

15 MR. MARSH: On the bottom is an exhibit number.

16 MR. BATCHELDER: Thanks.

17 MR. MARSH: Yeah.

18 BY MR. MARSH:

19 Q. Is Exhibit 1118 the same as Exhibit 1323?

20 (Reporter clarification.)

21 MR. MARSH: Sure.

22 BY MR. MARSH:

23 Q. Is Exhibit 1118, sorry, and Exhibit 1323 the  
24 same, as far as you can tell?

25 A. Yes.

1 Q. What is Exhibit 1118 and Exhibit 1323?

2 A. It's a U.S. Patent that was issued to myself in  
3 1987, an audio and video digital recording and playback  
4 system.

5 Q. Does the system disclosed in this patent  
6 disclose the CompuSonics system?

7 A. It discloses a CompuSonics system, one of many  
8 flavors.

9 Q. Does the system disclosed in Exhibit 1118,  
10 1323, disclose the complete version of a CompuSonics  
11 system?

12 A. In the broader sense, no.

13 Q. What features of the CompuSonics system does  
14 Exhibit 1118, 1323 not disclose?

15 MR. BATCHELDER: Objection to form.

16 A. I'm not sure it discloses editing capabilities  
17 at all which was a big part of our business. I'm  
18 looking to see if it does. I don't believe it -- no.  
19 I'll see if it mentions it in the text, but I think it's  
20 completely missing.

21 (Perusing documents.)

22 A. No. No editing. So this is missing a huge,  
23 huge chunk of the system, general system.

24 BY MR. MARSH:

25 Q. Do you recall why it excludes the editing

1 system?

2 A. No, I don't. Well, I recall, general-wide,  
3 none of the things I asked to get patented even got  
4 applied for many times, which would apply to anything  
5 that isn't covered for me in patents today, and that is  
6 because of my attorney Jerry Berkstresser at Shumaker &  
7 Mattare, J-E-R-R-Y, B-E-R-K-S-T-R-E-S-S-E-R, of the firm  
8 Shumaker and M-A-T-T-A-R-E. We'd give Jerry all of our  
9 new stuff, like every month or so, because we're coming  
10 up with new twists and new features of software and  
11 hardware pretty fast this period. We'd present it to  
12 Jerry, say patent this, patent this, patent this, give  
13 us protection on the IP, and many times he'd just turn  
14 around and say, "This is stuff that was done by IBM in  
15 1952, you can't patent that." He'd just throw it back  
16 at me and refuse to do it. And I figured since he was a  
17 patent attorney, he knew what he was about and knew his  
18 business, so I didn't try and contradict him or find  
19 another opinion.

20 BY MR. MARSH:

21 Q. Do you remember providing your patent attorney  
22 details of the editing system with respect to the  
23 CompuSonics system?

24 A. We gave him two -- more than two versions of  
25 the editing system on disc because you can file,

1     apparently, with the copyright office the actual  
2     software. We gave him the editing software for the  
3     DSP 2002 -- that's editing and database, the sound file  
4     system that has editing capability -- and we gave him  
5     the mini editor that Len Kane wrote for the DSP 1000,  
6     also usable in the DSP 1500. But it was totally  
7     different code basically because of the architecture of  
8     the two machines being different. So that's why we gave  
9     it to the copyright office twice.

10        Q. Do you remember any other feature of the  
11     CompuSonics system that you disclosed to him that you  
12     did not include?

13        A. Let me look and see if telerecording is in  
14     here. It's the other big chunk.  
15     (Perusing documents.)

16        A. No. It looks like we also, for some reason,  
17     left out telerecording. And I think that's another one  
18     where Jerry laughed at me, wouldn't -- didn't consider  
19     it patentable.

20        Q. Are there any other features of the CompuSonics  
21     systems that was left out of the -- out of U.S. Patent  
22     4,682,248, Exhibits 1118, 1323?

23        A. You know, there might be, but I'd have to take  
24     a -- do a word-for-word analysis of this patent and take  
25     notes to see if something turns up. So I have not done



1 that analysis.

2 Q. What other features would you have expected  
3 your patent attorney to have included in U.S. Patent  
4 4,682,248?

5 A. The telerecording and its hardware interface  
6 that went with it, the DATI, and the software that made  
7 it work. That might all be rolled into one patent or  
8 might be two different things. That's a whole  
9 telerecording aspect which might be more than one patent  
10 in my view.

11 Then there's our editing system in two  
12 different flavors, the one for video, for TV stations,  
13 where the time code was synchronized with SMPTE, which  
14 is the Society of Motion Picture and Television  
15 Engineers. Because of that software to talk to the  
16 video time-code machines, our digital audio can stay in  
17 perfect frame-by-frame synchronization with the video  
18 which is very, very important for broadcasters, but that  
19 was a different flavor of software packages than the one  
20 mainly for radio stations or editors. That is to say,  
21 nobody got all of the software for every function on  
22 every machine.

23 Q. Did any of the CompuSonics machines have  
24 software for payment?

25 A. They had --

1 MR. BATCHELDER: Objection to form.

2 A. -- they had the standard, what used to be  
3 called "dumb terminal" or ASCII terminal, A-S-C-I-I, all  
4 caps. All computers and transaction systems for credit  
5 card processing at the super market or wherever used to  
6 be dumb terminal or ASCII terminal-based, and both --  
7 every one of our DSPs knew RS232 ASCII. It had  
8 attachable keyboards. So you're in business if you have  
9 a channel, you know, a modem and an RS232 port, and you  
10 can type, you know, type in credit card numbers and file  
11 numbers, you're in business. That was the electronic  
12 end of the system.

13 Q. Did any of the DSP machines that you sold have  
14 the capability not as a dumb terminal, but internal to  
15 it, to process credit card payments?

16 A. No prerecorded scripts or means to expedite  
17 that. It would all be long-hand type, typed in by the  
18 operator.

19 Q. What would the operator have to type?

20 A. Customer information, unless it was already on  
21 file, customer's account number, balance, do they  
22 qualify for the transaction. Then when they do the  
23 transaction what the payment form was going to be, what  
24 file number did they order, when does it have to be  
25 delivered, what is the basic information that has to be

1 transferred.

2 Q. Would the preloaded software be capable of then  
3 sending that information in a way that would be  
4 recognized by a potential seller?

5 A. I'm referring to a standard DSP 2002 plain  
6 vanilla machine, basic workstation with audio  
7 capabilities. Is that what we're talking about?

8 Q. We can start with the DSP 2002 plain vanilla.

9 A. Okay. That was perfectly suited to electronic  
10 transactions of all types, and it was used that way both  
11 with its parallel port and with its serial port, and  
12 with a custom port we eventually developed to talk to  
13 only Sony equipment because Sony has to have their own  
14 standard.

15 Q. Did the DSP 1000 have the same capability?

16 A. It had the same capability except we never did  
17 an interface to Sony's method of communicating.

18 Q. Getting back to Exhibit 1118, 1323, using U.S.  
19 Patent 4,682,248 as a template, could you build a  
20 DSP 2002?

21 A. You could build one version of it. It would be  
22 missing some software --

23 Q. What would it be --

24 A. -- and an adapter.

25 Q. What software would it be missing?



1 BY MR. MARSH:

2 Q. Do you have a copy of that patent with you?

3 A. I don't know that I do. I think it's in here.

4 Q. Do you recall its patent number?

5 A. I'm sorry, I don't. If you search by my name  
6 at the USPTO Web site, you'll get a full list of all my  
7 patents and numbers with their summaries. I just don't  
8 have that with me.

9 Q. Beyond the editing feature and the  
10 telerecording feature that you have mentioned, are there  
11 any other features missing from U.S. Patent 4,682,248 of  
12 the CompuSonics system?

13 MR. BATCHELDER: Objection to form.

14 A. Well, with respect to the DSP 1000, we had  
15 front panel controls, an actual interface for a front  
16 panel controller, and I don't believe the front panel is  
17 considered in this patent. I don't see it in any of the  
18 diagrams, so I don't think it exists, unless you  
19 attached an optional computer. Figure 8A shows optional  
20 computer, I/O, so that's kind of a wild card. If you  
21 attached a computer, then of course you had all the  
22 facilities of the computer plus the audio. So --

23 BY MR. MARSH:

24 Q. I'd like to give you a copy if you don't have  
25 it, Exhibit 1107, and its parallel Exhibit 1310.

1 (Exhibit 1107 previously marked.)

2 (Exhibit 1310 previously marked.)

3 MR. BATCHELDER: That's the number of the  
4 parallel Exhibit? 1310.

5 BY MR. MARSH:

6 Q. Are Exhibits 1107 and 1310 identical?

7 MR. BATCHELDER: Objection to form.

8 (Perusing documents.)

9 MR. MARSH: I think there's a question pending.  
10 Would you like to read it back?

11 A. Oh, I'm sorry. They are identical, yes.

12 BY MR. MARSH:

13 Q. Does Exhibit 1107, 1310 disclose all of the  
14 features of the CompuSonics system?

15 A. No.

16 Q. What features of the CompuSonics system does  
17 Exhibit 1107, 1310 disclose?

18 MR. BATCHELDER: Objection to form.

19 A. Which ones does it disclose, or does not?

20 BY MR. MARSH:

21 Q. Does?

22 A. It discloses how to use an independent IBM PC  
23 or a Mac computer in conjunction with the DSP equipment  
24 to extend its capabilities. It includes a super floppy  
25 disc drive. Talks about editing using the computer's

1 keyboard and mixing. And it talks about our electronic  
2 music store in terms of potential electronic  
3 distribution of music, and talks about the built-in  
4 communication device that it receives via existing  
5 telephone line. It's not a complete system, but it  
6 describes a workable machine.

7 Q. What features of the CompuSonics system does it  
8 not disclose?

9 MR. BATCHELDER: Objection to form.

10 A. The CompuSonics systems, as we shipped them,  
11 all had an editor built in. You did not have to use a  
12 Mac or a PC to do editing, although you could.

13 BY MR. MARSH:

14 Q. Is it correct the CompuSonics system did not  
15 need to include a PC?

16 A. We actually offered at one point pre-configured  
17 PCs with our PC Sonic software already loaded and the  
18 correct audio card to support 16-bit digital audio. So  
19 we actually were selling some re-labeled IBM PC class  
20 equipment, re-labeled CompuSonics.

21 Q. When were you reselling pre-configured PCs with  
22 your PC Sonic software already loaded?

23 A. I believe that was 1987. I couldn't tell you  
24 what month.

25 Q. Who did you sell those PC -- pre-configured PCs

1 with your PC Sonic software to?

2 A. The only customer -- I was not in sales. Even  
3 though I promoted the product, people didn't typically  
4 make a sales deal with me. We had a salesman, or  
5 several. But I do recall one that sticks in my mind  
6 because we were selling to a South American broadcasting  
7 company, I think the biggest South American broadcasting  
8 company which is called Telemundo, so I did see those  
9 orders. And they bought the pre-configured machines.

10 Q. Do you know what they used those machines for?

11 A. Yes, because I visited them, although I can't  
12 say I understood everything they were telling me. They  
13 seemed to be mostly used as a random access commercial  
14 digital carousel, so that the TV station which has a  
15 bank of commercials to broadcast, plays them digitally  
16 off of the CompuSonics equipment. And the head end, in  
17 the control room, is the PC with PC Sonics to control --  
18 select, go through the database, find the commercial,  
19 then play it.

20 Q. And the application you've just described with  
21 respect to the Mexican TV station --

22 A. Excuse me. I believe it's based in Rio de  
23 Janeiro.

24 Q. -- the TV station, is it correct that they did  
25 not use the reconfigured PCs to sell digital audio or



1 video?

2 A. I don't know exactly what entirely they did  
3 with them. I only know that one application I saw when  
4 I visited them. They could have been doing many things,  
5 I just don't know.

6 Q. Is it correct you're unaware whether they sold  
7 digital audio or video using those reconfigured PCs?

8 A. I simply don't know.

9 Q. With respect to Exhibit 1107 and Exhibit 1110  
10 [sic], did you speak to the reporter who wrote the  
11 story?

12 A. I might have, I don't recall. I spoke to  
13 dozens of reporters.

14 Q. Do you recall if someone else at CompuSonics  
15 spoke to this reporter?

16 A. I -- I wouldn't know unless John Stautner or  
17 Tom Haggard (phonetic), one of my other guys, told me.  
18 They didn't necessarily tell me every time somebody  
19 called them up.

20 MR. BATCHELDER: You mentioned "1110" in your  
21 last answer; did you mean 1310?

22 MR. MARSH: I meant 1310. Thank you for the  
23 correction.

24 BY MR. MARSH:

25 Q. Does this article -- the article in Apple

1 Exhibit 110/1310 list the date the prototype of the DSP  
2 1000 was first shown at a Consumer Electronics Show?

3 MR. BATCHELDER: Objection to form.

4 A. Well, there may well have been other  
5 announcements prior to this of the fact that we were  
6 going to be at the CES show in June 1984; I'm pretty  
7 sure we pre-announced it many months before this.

8 BY MR. MARSH:

9 Q. Was the Consumer Electronics Show mentioned in  
10 Apple Exhibit 1107, Apple Exhibit 1310, the first time  
11 that the DSP 1000 was shown?

12 A. It was the first time it was shown publicly.  
13 We had some semi-private showings through our local  
14 Audio Engineering Society chapter in Cambridge,  
15 Massachusetts, and perhaps another engineers society,  
16 but those were for society members only.

17 Q. Is it correct to refer to the DSP 1000 as a  
18 "digital/audio disc player"?

19 A. It's one way to, yes.

20 Q. Does the Apple Exhibit 1107/1310 correctly list  
21 the same price of the DSP 1000?

22 A. Well, that was the price that we fantasized  
23 about in June of 1984.

24 Q. What was the price of the DSP 1000 when it was  
25 first sold?

1 A. \$5000.

2 Q. When was it first sold?

3 A. I believe late 1986. I'm not sure if we  
4 delivered it in '86. I think we did. But it might have  
5 been early 1987.

6 Q. Is it correct that the DSP 1000 uses a 3.3  
7 megabyte floppy drive?

8 A. No. That was not technically successful for  
9 us. We had to ultimately reject it and switch to the  
10 Magnito-Optical Disc, usually D-I-S-C in this case.  
11 (Reporter clarification.)

12 Q. Is the Magnito-Optical Disc a removable disc?

13 A. Yes, it is, and erasable. Well, I take it --  
14 erasable in its later versions that we shipped. The  
15 first ones only had a writable disc. We couldn't erase  
16 anything. But the discs were removable in any case.

17 Q. When did you first ship the modified DS1000 --

18 A. With the erasable drive?

19 Q. No, with the non-erasable drive?

20 A. I believe that was December of 1986, but I -- I  
21 know that's what we were aiming to do. I can't remember  
22 if we achieved that or not.

23 Q. When did you first ship the modified DS 1000  
24 with the erasable optical Magnito drive --

25 A. DSP 1000.

1 Q. -- DSP 1000?

2 A. I think in about June of 1987. Sometime in the  
3 summer.

4 Q. Who did you ship that to?

5 A. The first one?

6 Q. Yes?

7 A. I'm not sure I remember because I think there  
8 were five first ones made as a batch, and John Stautner  
9 took his one way and I took mine another. So I don't  
10 know who actually got it into a store, an audio store  
11 first, me or John. I'd like to think I did, but I don't  
12 know.

13 Q. Do you recollect when the first DSP 1000 with  
14 the erasable drive was sold to a consumer?

15 A. I think the one that I'd stocked with the audio  
16 dealer in Denver, Colorado was sold pretty quickly,  
17 because I know the guy bought the unit. He tried to buy  
18 it directly from me at a discount because he knew me,  
19 and I said no, we really can't do that, you have to buy  
20 it from the retailer, and so he did.

21 Q. Does Exhibit 1107/Exhibit 1310 provide how  
22 payment for a musical audio concept would be  
23 transmitted?

24 A. Doesn't say. It does say that the same manner  
25 is already in use for other digital information, so we

1 could get a look at what the state of the art for  
2 same manner, at that period of time, was on a PC, and I  
3 think we would find that PCs had connections to networks  
4 and telephone lines.

5 Q. Exhibit 1107/1310 states that the CompuSonics  
6 system has a "built-in communications device"; what is  
7 that device?

8 A. There actually are two on the 1000. There's an  
9 RS232 C standard serial port, and then there's a 16-bit  
10 line parallel port, bidirectional. This is for digital  
11 data we're talking about.

12 Q. Does Exhibit 1107/1310 discuss transmission of  
13 data from the CompuSonics DSP 1000 machine?

14 A. It does say so. The audio can be routed  
15 digitally through the IBM PC from the CompuSonics  
16 machine, which is perfectly true.

17 Q. Does it discuss any other transmission from the  
18 DPS [sic] 1000 machine?

19 A. The DSP 1000 machine.

20 Q. Sorry.

21 A. It just refers to a general direction for  
22 communications to a telephone line.

23 Q. Where does it refer to that?

24 A. Last sentence.

25 Q. Could you read the last sentence, please.

1           A.    "The CompuSonics system has a built-in  
2       communications device that receives information via an  
3       existing phone line."

4           Q.    Does the last sentence say that a CompuSonics  
5       system can send information via an existing phone line?

6           A.    It doesn't say that.  But the fact is the  
7       hardware is built and supported in software for  
8       bidirectional communications.  And that is how we used  
9       it.

10          Q.    Does Apple Exhibit 1107/1310 discuss the  
11       CompuSonics system providing information as opposed to  
12       receiving information via an existing phone line?

13          A.    It doesn't say that directly, but it says it  
14       hooks up to an IBM PC, which would be assumed to be  
15       connected to some phone line or network, so you can  
16       route the data that way.

17          Q.    Does Exhibit 1107/1310 describe the IBM PC as  
18       being hooked up to a phone line?

19          A.    It does not.  But as you know, many were.  
20       (Pause in the proceedings.)

21               MR. MARSH:  Do you need to take a break?

22               THE WITNESS:  Well --

23               MR. MARSH:  He's looking a little bit in pain.

24               THE WITNESS:  I'd rather keep going, power  
25       through as far as I can.

1 MR. MARSH: Okay, I'm going to give you Apple  
2 Exhibit 1108 and its counterpart, Apple Exhibit 113 --  
3 1311.

4 (Exhibit 1108 previously marked.)

5 (Exhibit 1311 previously marked.)

6 MR. BATCHELDER: 1311?

7 MR. MARSH: Yes.

8 THE WITNESS: Do you recall, Jim, which number  
9 that is in the Apple exhibits?

10 MR. BATCHELDER: It's the first number he gave  
11 which is 1108.

12 MR. MARSH: Let me know when you're ready.

13 THE WITNESS: I'm ready.

14 BY MR. MARSH:

15 Q. Is Apple Exhibit 1108 the same as Apple  
16 Exhibit 1311?

17 A. Yes.

18 Q. Does Apple Exhibit 1108 and Apple Exhibit 1311  
19 describe the whole CompuSonics system?

20 A. No.

21 Q. What features of the CompuSonics system does  
22 Apple Exhibit 1108/1311 not disclose?

23 A. Well, if you scan through it, refresh my  
24 memory --

25 MR. BATCHELDER: Objection to form. Before you

1 answer, objection, form.

2 A. -- sorry.

3 (Perusing documents.)

4 A. I don't see the editing feature mentioned at  
5 all in here. It has telerecording, data storage, and  
6 electronic music store capability, but no editing.

7 BY MR. MARSH:

8 Q. Any other features beyond editing of the  
9 CompuSonics system not disclosed by Exhibit 1108/1311?

10 MR. BATCHELDER: Objection.

11 A. Well, I'm going to answer your question as a  
12 subset of the CompuSonics system. We're talking about  
13 the home unit, lower-priced, DSP 1000 series unit here.

14 BY MR. MARSH:

15 Q. Is it correct the home unit is the consumer  
16 unit?

17 A. Correct.

18 Q. If you look at page 4 of Exhibit 1108/  
19 Exhibit 1133 -- 1311, at the bottom of the middle column  
20 there appears to be some text missing. Do you know what  
21 that text is?

22 A. Text missing?

23 Q. Yes.

24 MR. BATCHELDER: Where are you looking counsel,  
25 I'm sorry?



1 A. I don't see any text missing on mine.

2 MR. MARSH: There's some text missing.

3 A. I can read you the last paragraph if you like.

4 MR. MARSH: I can read the last sentence if it  
5 helps in mine.

6 THE WITNESS: Okay.

7 BY MR. MARSH:

8 Q. I'll read:

9 "This will change, but because of the  
10 political and economic issues, SUR,"  
11 and then my copy has no more text.

12 A. We must not be reading the same thing, "SUR"?  
13 Oh. Well, looks like it's cut off on mine as well. It  
14 doesn't follow to the next sentence.

15 Q. Do you recollect -- do you have any knowledge  
16 what the text might say?

17 A. No. I don't remember.

18 Q. On page 4, column 2, second paragraph, let's  
19 check again the exhibit number, right page, the article  
20 page. The article says:

21 "Further, these recordings will be  
22 stored on five-and-a-quarter-inch floppy  
23 discs, the same as those used on almost all  
24 home computers."

25 Is this a correct description of the CompuSonics

1 home-based system?

2 A. It's a correct description of an early proposed  
3 embodiment of such a system.

4 Q. Does Exhibit 1108/1311 disclose any other  
5 embodiment of the home system?

6 MR. BATCHELDER: Objection to form.

7 A. I guess they're talking about one home system  
8 and features for it and pricing. I don't see multiple  
9 products here.

10 BY MR. MARSH:

11 Q. Is it correct that for the one home system it  
12 features, the recordings will be stored on a  
13 five-and-a-quarter-inch floppy disc?

14 A. At that point in time that was our demonstrable  
15 unit, using a five-and-a-quarter-inch, what we called  
16 "super floppy."

17 Q. The article also states that:

18 "An additional feature of the DSP 1000  
19 is that it will have an interface for the  
20 IBM PC that will enable the user to  
21 manipulate the digital data stored on the  
22 floppy discs."

23 Is that a correct characterization of the DSP 1000?

24 A. It is.

25 Q. What manipulations of the digital data was

1 intended?

2 A. Mainly cutting and splicing, so if you're  
3 making your own recordings of your own music, you can  
4 edit out the flubbed notes and substitute in the correct  
5 notes.

6 Q. Was the ability to edit a key an attribute of  
7 the DSP 1000?

8 MR. BATCHELDER: Objection to form.

9 A. Well, it was important to some clients and  
10 completely irrelevant to other customers.

11 BY MR. MARSH:

12 Q. Is it true that consumers made recordings  
13 themselves with the DSP 1000?

14 A. I believe so. I've heard so.

15 Q. Does the music store concept include the  
16 possibility that the customer could go to a record store  
17 and either bring or purchase a blank floppy disc?

18 MR. BATCHELDER: Objection to form.

19 A. That was part of the original concept, yes.

20 BY MR. MARSH:

21 Q. Is it correct that process would entail the  
22 record store obtaining the signals from the record  
23 company?

24 A. Not necessarily. Record stores frequently deal  
25 with content aggregators or distributors at a retail

1 level, not directly with the record company.

2 Q. Is that true as of 1987 and 1988?

3 A. Yes. It has changed, of course, with the  
4 digital age.

5 Q. Would that electronic record store end with the  
6 consumer receiving a disc that contained the desired  
7 signals at the end of the process?

8 A. Not necessarily. Our main concept for the  
9 Electronic Record Store was to download via the AT&T  
10 AccuNet system directly to the home, so the consumer  
11 didn't have to get in their car and go anywhere.

12 Q. Was the AT&T AccuNet system at the time, in  
13 1987/1988, attached to every home?

14 A. It was not.

15 Q. Was it used in any home?

16 A. Yes. Some -- some people had it. And I should  
17 add, every new phone line that was going in at the time  
18 that the phone company was running, every new line was  
19 AccuNet capable, or whenever they replaced an older  
20 line.

21 MR. MARSH: Okay, I think this would be good.  
22 Let's take a break.

23 (Off the record at 13:37:26)

24 (Back on the record at 13:45:28)

25 MR. MARSH: Okay, can I give you Exhibit 1114

1 and Exhibit 1317.

2 MR. BATCHELDER: 1317?

3 THE WITNESS: Yeah, they're the same. Are we  
4 going to call him Matt or are we going to call him  
5 Hines?

6 MR. MARSH: Let's identify the exhibits, then  
7 we can choose a name.

8 (Reporter clarification.)

9 BY MR. MARSH:

10 Q. I've just handed you Exhibit 1114 and  
11 Exhibit 1317, is that correct?

12 A. Yes. They're identical.

13 MR. BATCHELDER: I suggest referring to  
14 Mr. Sohn as "Mr. Sohn."

15 THE WITNESS: Yeah, let's just use "Mr. Sohn."

16 BY MR. MARSH:

17 Q. Who authored the Exhibits 1115 and 1318 -- I'm  
18 sorry, I apologize, 1114 and 1317?

19 MR. BATCHELDER: Who authored them?

20 BY MR. MARSH:

21 Q. Authored, sorry.

22 A. Mr. Sohn authored it, although we had some  
23 material in here that I wrote that he copied or  
24 paraphrased.

25 Q. What is Apple Exhibit 1114 and 1317?





1 Exhibit 1114, Exhibit 1317, describe a payment step from  
2 a customer or consumer, to anyone?

3 MR. BATCHELDER: Objection to form.

4 A. Yes. It refers to paying royalties to the  
5 recording company for each copy sold. And since each  
6 copy of a recording can be accounted for by the  
7 computers that run the databases, the piracy problem may  
8 also be reduced.

9 (Reporter clarification.)

10 BY MR. MARSH:

11 Q. Who pays the record companies?

12 A. Well, the money ultimately comes from the end  
13 consumer, and different parties to the transaction take  
14 slices of it.

15 Q. In Exhibit 1114/1317, who exactly pays the  
16 record company?

17 A. Well, this says the record manufacturer paying  
18 royalties to the recording company for each copy sold.  
19 Most manufacturers are the recording company in a sense.  
20 So the payment's collected at the next stage, and the  
21 record or recording goes to wholesale or retail. The  
22 point is, somebody has to pay, and there is a royalty to  
23 pay. And it depends on the business model who's going  
24 to be paying most of it.

25 Q. Does Exhibit 1114 /1317 contemplate multiple



1 different business models?

2 A. I think it's silent on that. It just gives an  
3 example without stating that it's an exclusive example  
4 or unique example.

5 Q. In your opinion, are there multiple ways that a  
6 content owner may be paid for content?

7 MR. BATCHELDER: Objection to form.

8 A. Well, I don't know about multiple ways. There  
9 are multiple sources of money for the content owner.

10 BY MR. MARSH:

11 Q. Could you describe those sources of payment for  
12 the content owner?

13 A. The ultimate listener in the home or car can  
14 pay through a subscription, like the satellite TV or  
15 satellite radio systems, or the local radio station can  
16 make that deal and pay for the royalties, the content,  
17 at the radio station point. Then they rebroadcast it  
18 over the air and it's free to consumers with the  
19 exception of all the commercials the consumers have to  
20 listen to, to pay for the money the radio station paid  
21 the content owners.

22 Q. Are there any other levels of the content  
23 owners for content supplies being paid?

24 MR. BATCHELDER: Objection to form.

25 A. There's the -- well, there's the case where

1 music is being pushed for promotional purposes, and in  
2 that case the company that's making the promotion,  
3 whatever the promotion is, pays the content owner, but  
4 there are no further costs passed onto the consumers or  
5 people who are listening to the content or watching the  
6 content. And there are probably other business models,  
7 I'm just not -- they're just not looping to mind at the  
8 moment.

9 Q. What is the business model that is contemplated  
10 by Exhibit 1114/1317?

11 MR. BATCHELDER: Objection to form.

12 A. I don't think this is specific enough, this  
13 document, to compose a business model. This is a very  
14 general statement about concept and potential.

15 BY MR. MARSH:

16 Q. I think I've already given you Exhibit 1106, is  
17 that correct?

18 A. I believe so. Yes, I have it.

19 Q. With respect to Exhibit 1106 and 13 --  
20 Exhibit 1309, what is the business model, payment  
21 business model, that is contemplated by that exhibit?

22 MR. BATCHELDER: Objection to form.

23 A. Well, it's not completely laid out. It wasn't  
24 our business model, it wasn't a CompuSonics business  
25 model, it was AT&T's business model, and I'm not sure

1 it's disclosed fully to me because they regarded a lot  
2 of it as proprietary. So I know something about it but  
3 not every detail about it.

4 BY MR. MARSH:

5 Q. Is it correct that the business model set forth  
6 in 1106, Exhibit 1106, and Exhibit 1309, is not the  
7 CompuSonics business model?

8 MR. BATCHELDER: Objection to form.

9 A. Well, CompuSonics is a corporation, had its own  
10 business model and means of attempting to increase  
11 shareholder value, for itself. We did not have a  
12 business model that we sold to anyone else.

13 BY MR. MARSH:

14 Q. Is it correct that the CompuSonics system's  
15 business model did not include revenue from the sale of  
16 audio or video files?

17 A. CompuSonics as a corporation, that's correct.

18 Q. Is it correct that the CompuSonics system and  
19 associated business model did not include revenue from  
20 the sale of audio or video files?

21 A. I answered that. True.

22 Q. I think I previously supplied you  
23 Exhibit 1107/1310, is that correct?

24 A. Correct.

25 Q. With respect to Exhibit 1107 -- actually,

1 sorry, let's stop there for the moment. I'm going to go  
2 somewhere else.

3 I'm going to give you Exhibit 1116 and 1319.

4 (Exhibit 1116 previously marked.)

5 (Exhibit 1319 previously marked.)

6 BY MR. MARSH:

7 Q. Is Apple Exhibit 1116 the same as Apple  
8 Exhibit 1319, except for the exhibit numbers?

9 A. Correct.

10 Q. What is -- sorry. What is Apple Exhibit 1116  
11 and Apple Exhibit 1319?

12 A. It's a piece of promotional literature put out  
13 by our video group to try and encourage these new  
14 markets for the new technology to engage and buy some of  
15 this equipment.

16 Q. Does Exhibit 1116 and Exhibit 1319 disclose the  
17 full CompuSonics system?

18 A. Let me see.

19 (Perusing documents.)

20 (Reporter clarification.)

21 A. This looks like it discloses most if not all of  
22 the features of the CompuSonics system, including  
23 features that never shipped.

24 Q. Is there any feature with respect to the  
25 CompuSonics system that you could recollect is not

1 disclosed by Exhibit 1116/1319?

2 MR. BATCHELDER: Objection to form.

3 A. Well, yes, there's that whole application, the  
4 music mastering in conjunction with Sony equipment where  
5 we made that interface with Sony professional equipment,  
6 and that's missing in here; it's not mentioned at all.

7 BY MR. MARSH:

8 Q. Were there any other features that are missing  
9 from the CompuSonics system as described in Exhibit 1116  
10 and 1319?

11 MR. BATCHELDER: Objection to form.

12 A. Well, these were used mainly professionally.  
13 So this "home video recorder editor," really, it turned  
14 out to be more of a professional video recorder editor,  
15 not a home product.

16 BY MR. MARSH:

17 Q. When you describe the "home video recorder  
18 editor," is that an additional feature that was not  
19 shipped rather than a feature that was missing from the  
20 CompuSonics system?

21 A. Except for trade show use and demonstrations, I  
22 don't think we ever shipped that video editing software  
23 commercially.

24 Q. With the exception of the interface with the  
25 Sony professional system, does Exhibit 1116 and

1 Exhibit 1319 disclose the full CompuSonics system?

2 MR. BATCHELDER: Objection to form.

3 A. Well, inasmuch as I can tell without starting  
4 to compare documents, one to another, to see what  
5 feature might be missing, it's hard to tell what isn't  
6 here because it isn't here.

7 BY MR. MARSH:

8 Q. In your professional opinion as the -- in your  
9 opinion, you are currently unaware of any feature that  
10 is missing from Exhibit 1116 and 1319 that was present  
11 in the CompuSonics system?

12 MR. BATCHELDER: Objection to form.

13 A. Well, the idea of front panel control of all  
14 these functions is not discussed either, it occurs to  
15 me, and the front panel control software was a big part  
16 of what we did. I have to continue to think about it to  
17 come up with all the missing pieces.

18 BY MR. MARSH:

19 Q. Are there any documents that would help you  
20 confirm that Apple Exhibit 1116 and Apple Exhibit 1319  
21 are not a description of the CompuSonics system, the  
22 whole CompuSonics system, with the exception of the  
23 front panel and with the exception of the Sony  
24 interface?

25 MR. BATCHELDER: Objection to form.



1 stores you could simply call up and talk to a human  
2 being and give them your credit card number and tell  
3 them what item you wanted them to ship. That was very  
4 common.

5 Less common, but when I purchased software in  
6 that time period for the IBM PC, or the Mac, what we'd  
7 do is purchase it online -- it wasn't online, it was on  
8 the predecessor to the Internet which were like bulletin  
9 boards, BB, BB-whatevers. These bulletin boards had  
10 areas where you could get content or software, programs  
11 for your computer and download it through your modem for  
12 your own computer. And that was done through the  
13 modems. That was a typed transaction where you would  
14 type in the information in the forms that they had. And  
15 that's the only means I can think of at the moment.

16 Q. With respect to the consumer and Exhibit 1116  
17 and 1319, what memory for music video distribution or  
18 video distribution was intended or disclosed?

19 MR. BATCHELDER: Objection to form. These are  
20 not descriptions of these documents.

21 THE WITNESS: Which document?

22 MR. BATCHELDER: 1116.

23 THE WITNESS: It's the ones --

24 A. The machines had both -- most of our machines  
25 at that time for this music video distribution scheme



1 had both hard drives and optical drives. The early  
2 optical drives were write-only and not erasable. Then  
3 later they became erasable.

4 (Pause in the proceedings.)

5 MR. MARSH: I'm going to give you a copy of  
6 Apple Exhibit 1131 --

7 (Exhibit 1131 previously marked.)

8 MR. MARSH: -- and a copy of Apple  
9 Exhibit 1333.

10 (Exhibit 1333 previously marked.)

11 BY MR. MARSH:

12 Q. Is Apple Exhibit 1333 and Apple Exhibit 1131  
13 the same?

14 A. They are.

15 Q. What is Apple Exhibit 1131 and Apple  
16 Exhibit 1333?

17 A. It's a photograph of one of the first two  
18 DSP 1000 prototypes shown to the public.

19 Q. Which was this photograph shown to the public?

20 A. The public probably first got a chance to see  
21 it at the Consumer Electronics Show in Chicago. That  
22 would be June 1984, I guess.

23 Q. Did the machine show -- the specific machine  
24 shown in Exhibit 1333 and Exhibit 1131, was it ever --  
25 did it ever contain software coded to buy remotely?

1 (Reporter clarification.)

2 A. There were no specific scripts in it, but it  
3 had the interface to use a keyboard and a PC or a dumb  
4 terminal to communicate to other systems.

5 Q. It appears that Apple Exhibit 1333 and Apple  
6 Exhibit 1131 have a series of buttons on the front of  
7 the machine, is that correct?

8 A. Correct.

9 Q. What are those buttons?

10 A. Well, some of them are for controlling editing,  
11 cutting and splicing, pasting-type editing. One of them  
12 says "telerecording" on it for telerecording function;  
13 says "record," "play," "pause," "forward," "reverse,"  
14 the usual tape kind of controls, and there's an input  
15 level control for the signal coming into the machine as  
16 well. So there are a couple of meters, LED, signal  
17 level meters on the right side of the front of the  
18 machine, and the text display is that scrolling display  
19 in the middle of the front of the machine which gave you  
20 feedback about the keys you were pressing.

21 Q. Is the machine that is pictured in Exhibit 1333  
22 and Exhibit 1131 the CompuSonics DSP 1000?

23 A. Yes. One of the early incarnations.

24 Q. What features of the CompuSonics system does  
25 Exhibit 1131, 1333 disclose?



1 me. They're certainly in the database of CompuSonics  
2 images somewhere.

3 Q. Where is the database of CompuSonics images?

4 A. I have most of them on my computer at home. I  
5 think -- I would hope they would all have been provided  
6 to my client at some point in time.

7 Q. Who is your client?

8 A. These people right here, Jim Batchelder and  
9 Lauren Robinson. This picture is specifically of the  
10 machine that is now in the Computer Museum in San Jose,  
11 California.

12 Q. Was the machine in Apple Exhibit 1333 and Apple  
13 Exhibit 1131 ever sold?

14 A. No.

15 Q. Did the machine set forth in Apple Exhibit 1333  
16 and Apple Exhibit 1133 [sic] ever contain a database of  
17 video or music files?

18 MR. BATCHELDER: I think you misspoke in your  
19 numbering.

20 MR. MARSH: Apologies. I've done that.

21 BY MR. MARSH:

22 Q. Apple Exhibit 1333 and Apple Exhibit 1131? Did  
23 the machines set forth in Apple Exhibit 1333 and Apple  
24 Exhibit 1131 ever contain a database of either video or  
25 music files?

1 A. Yes.

2 Q. What was the database of music or audio files  
3 recorded on?

4 A. Well, we used different music and different  
5 cuts that we borrowed from CDs for our trade show, you  
6 know, exhibits. So we had different play lists,  
7 different sets. We could select them randomly or  
8 program the playback, much as you can do today on audio  
9 devices. And the video example that stands out the most  
10 to me is the Consumer Electronics Show in Chicago in, I  
11 want to say 1985, but it might have been early '86 where  
12 we had the DSP 1000 or slightly different, a gray one, a  
13 similar one, playing a video review of the King Tut  
14 exhibit which was then popular, with music, video plus  
15 music.

16 Q. Were those files recorded on the floppy disc?

17 A. Yes, they were. And in the King Tut exhibit,  
18 the slides were mostly pictures of the exhibit elements,  
19 singly. They're pictures of the exhibit elements  
20 singly.

21 (Reporter clarification.)

22 Q. In the sample you provided, the King Tut  
23 exhibit, were the King Tut exhibit video and/or audio  
24 files transmitted to the DSP 1000 by a party that was  
25 not CompuSonics?

1 A. No.

2 Q. In the example you provided, the King Tut  
3 exhibit, were the King Tut exhibit videos and/or audio  
4 files transmitted from a connected PC?

5 A. At one point they may have been on a PC or a  
6 Mac, very possibly, because we exchanged digital data  
7 among machines in our office.

8 Q. In the examples you provided, including the  
9 King Tut exhibit, were the videos and/or audio files  
10 transmitted and payment received from a party that was  
11 not CompuSonics?

12 MR. BATCHELDER: Objection to form.

13 A. I believe we paid for the slides, to get them,  
14 from the Museum of Natural History or whoever was  
15 selling that slide set. There was paid content there.  
16 I think we got them as physical slides, hard two-inch-  
17 by-two-inch squares.

18 MR. MARSH: I'm going to give you Apple  
19 Exhibit 1140 and the corresponding Apple Exhibit 1342.

20 (Exhibit 1140 previously marked.)

21 (Exhibit 1342 previously marked.)

22 THE WITNESS: Yes.

23 MR. MARSH: Do you need copies?

24 MR. BATCHELDER: No, thanks.

25 ///

1 BY MR. MARSH:

2 Q. Is Apple Exhibit 1140 and Apple Exhibit 1342  
3 the same?

4 A. Yes, they are.

5 Q. What features of the CompuSonics system are not  
6 disclosed by Apple Exhibit 1140 and 1342?

7 A. Well, I can't be comprehensive. Telling you  
8 what's not in front of me is not a task I'm prepared to  
9 do, really, without additional research. So I can give  
10 you a -- having said that, give you an idea of some of  
11 the things that might be missing that strike me off the  
12 top of my head.

13 Q. Go ahead.

14 A. I don't believe this mentions anything about  
15 editing audio. I don't see anything about editing. Of  
16 course that's one of our big, big deals. It's big on  
17 telerecording.

18 Q. What features of the CompuSonics system does  
19 Exhibit 1140 and Exhibit 1342 disclose?

20 MR. BATCHELDER: Objection to form.

21 A. It discloses how the CompuSonics hardware  
22 interfaced with AT&T's system and the intent of what  
23 we're trying to do here with telerecording and making  
24 music directly available digitally.

25 ///

1 BY MR. MARSH:

2 Q. Did you speak to a reporter from BME prior to  
3 this article being published?

4 A. I probably did though I don't recall the  
5 specific conversation.

6 Q. Do you believe this is an accurate article?

7 MR. BATCHELDER: Objection to form.

8 A. Well, it's more or less accurate for the time  
9 it was written. Our technology was an evolving, moving  
10 target, so it changed virtually every couple of months  
11 in this period.

12 BY MR. MARSH:

13 Q. At the time that Exhibit 1140, 1342 was  
14 published, does it fairly reflect -- is it an  
15 accurate -- a fair reflection of the CompuSonics system?

16 A. It's a fair reflection of parts of the system.  
17 It's not very comprehensive. You know. It talks about  
18 certain aspects of it, but it's not a complete  
19 description of the complete system.

20 Q. On page 2 of the exhibit, in the right-hand  
21 column, it states:

22 "The live audio of WLS radio was sent to  
23 Chicago to a CompuSonics DSP 2002 by AT&T's  
24 AccuNet switch 56 and recorded onto floppy  
25 disc. Later, recorded stereo music was





1 as a demonstration of software featuring  
2 the company's CSX digital audio, including  
3 a telephone interface unit and California  
4 microwave flex tie unit."

5 Is that an accurate reflection of what the article says?

6 A. Yes. This article was written before we named  
7 the -- or renamed the DATI, DATS, at about this time.

8 Q. Is it an accurate description of the  
9 CompuSonics system?

10 A. For this -- in this particular configuration of  
11 the system, yes.

12 Q. Is it an accurate description of the  
13 CompuSonics system used for the Chicago to New York  
14 transmission?

15 A. Well, there are a few other parts involved that  
16 aren't mentioned here. For example, the analog  
17 telephone line, which is the wavy line on the diagram,  
18 wavy green line in a previous exhibit, that's not  
19 discussed. The actual physical process for finding the  
20 file and sending the file is not discussed, using that  
21 dumb terminal interface that you can see in the picture.  
22 The keyboard's in my lap and the screen is on top of the  
23 DSP 2002.

24 Q. Was an interface circuit board necessary to  
25 make the demonstration work?

1 A. Yes. That was Mr. Sohn's circuit.

2 Q. Was software of a high-speed digital  
3 transmission of the audio signals necessary to make  
4 the demonstration work?

5 A. Yes.

6 Q. Was software featuring the company's CSX  
7 digital audio necessary for making the demonstration  
8 work?

9 A. Yes.

10 Q. Was a telephone interface unit necessary for  
11 making the demonstration work?

12 A. Yes.

13 Q. Was a California microwave flex tie unit  
14 necessary for making the demonstration work?

15 A. Yes.

16 Q. Were all of those pieces of equipment, the  
17 interface circuit board, software for high-speed digital  
18 transmission of audio signals, the software featuring  
19 the company's CompuSonics CSX digital audio, and  
20 telephone interface unit, California microwave flex tie  
21 unit, provided by CompuSonics?

22 A. Well, we acquired them one way or the other,  
23 yes.

24 Q. Did CompuSonics sell all of these components to  
25 consumers?







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CERTIFICATE OF DEPONENT

I, the undersigned, declare, under the penalty of perjury, that I have read the foregoing transcript, and I have made any corrections, additions, or deletions as I deemed necessary. The foregoing is a true and correct transcript of my testimony contained therein.

Dated: \_\_\_\_\_ Signed at: \_\_\_\_\_  
(City, State)

BY: \_\_\_\_\_  
DAVID MICHAEL SCHWARTZ

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CERTIFICATE OF REPORTER

I, DEBORAH MAYER, CSR No. 9654, Certified  
Shorthand Reporter, attest:

That the foregoing proceedings were taken  
before me at the time and place therein set forth, at  
which time the witness was put under oath by me;

That the testimony of the witness, the  
questions propounded, and all objections and statements  
made at the time of the examination were recorded  
stenographically by me and were thereafter transcribed;

That the foregoing is a true and correct  
transcript of my shorthand notes so taken.

I further attest that I am not a relative or  
employee of any attorney of the parties, nor am I  
financially interested in this matter.

I declare, under the penalty of perjury of the  
laws of the State of California, that the foregoing is  
true and correct.

ss: December 16, 2013.

\_\_\_\_\_  
DEBORAH MAYER, RPR CRR CRP CLR  
C.S.R LICENSE NO. 9654  
FOR THE STATE OF CALIFORNIA

///



A			
<b>ability</b> 42:13 98:6	<b>additions</b> 126:5	114:18	<b>Apple</b> 1:4 3:13 5:7,12,17 9:4
<b>able</b> 70:13	<b>address</b> 7:7,8,9	<b>American</b> 87:6,7	9:12,20 10:7,13 11:1
<b>access</b> 68:15 87:13	<b>adjourned</b> 125:4	<b>amount</b> 54:4	15:16 16:17,24 17:2
<b>accomplished</b> 110:14	<b>ads</b> 114:25	<b>analog</b> 52:2 69:12,17,19 121:16	17:10,13,14,21 22:14
<b>account</b> 68:14 81:21	<b>advance</b> 55:14	<b>analysis</b> 79:24 80:1	28:13 30:3,3,10,10
<b>accounted</b> 103:6	<b>AES</b> 101:4	<b>and/or</b> 116:23 117:3,9	30:25 31:5,6 32:24
<b>AccuNet</b> 54:3 99:10,12,19 119:24 124:16	<b>afternoon</b> 20:23	<b>announced</b> 61:20	32:25 34:10,10 36:8
<b>accurate</b> 8:5 119:6,8,15 121:5,8 121:12	<b>age</b> 99:4	<b>announcements</b> 89:5	36:8 37:4,4 43:22,22
<b>achieved</b> 90:22	<b>aggregators</b> 36:16 98:25	<b>answer</b> 10:18 13:5 14:3 18:10 21:16 30:1 34:14	48:2 53:14,15 56:20
<b>acquainted</b> 17:21	<b>agreement</b> 124:20	<b>anybody</b> 18:21 26:5 52:21 123:14	56:21 57:7,7,24,24
<b>acquired</b> 122:22	<b>ahead</b> 27:23 118:13	<b>answered</b> 65:15 106:21	65:13,13,25 66:1
<b>actively</b> 65:6	<b>aiming</b> 90:21 120:21	<b>application</b> 87:20 88:3 108:3	74:14 76:4,5 88:25
<b>activities</b> 54:1	<b>air</b> 54:16 104:18	<b>applications</b> 29:9	89:10,10,20 93:10
<b>actual</b> 15:24 40:10 79:1 84:15 121:19	<b>album</b> 34:2,11 102:9	<b>Apple's</b> 10:23 16:15 17:2,10 18:4 74:8 75:3,9	94:1,2,9,15,15,18,18
<b>adapter</b> 68:24,25 69:6 82:24	<b>allegedly</b> 55:4 57:23 58:7	<b>apology</b> 40:23 115:20	94:22 100:25 107:7,7
<b>add</b> 99:17	<b>allowed</b> 68:15	<b>apologize</b> 100:18	107:10,11 109:20,20
<b>added</b> 18:18 110:6	<b>allows</b> 31:17	<b>apparently</b> 79:1	110:4,4,10,10 112:6
<b>adding</b> 52:10	<b>all-electronic</b> 60:10	<b>APPEAL</b> 1:2	112:8,12,12,15,15
<b>addition</b> 59:4	<b>alternatives</b> 64:1	<b>appear</b> 50:1 70:21	113:5,5 114:13,13,22
<b>additional</b> 55:5 97:18 108:18 118:9	<b>Alto</b> 3:18 19:8 22:15	<b>appeared</b> 2:5	114:22 115:12,12,15
	<b>amateur</b> 24:25	<b>appears</b> 11:24 12:12 95:20 113:5	115:16,22,22,23,23
	<b>America</b>		117:18,19 118:2,2,6

<p>3:4  <b>arrive</b>          61:2  <b>art</b>          92:1  <b>article</b>          29:15 33:2,9,10,19          34:6,14,19 36:13,22          37:11,14 38:7 39:23          40:8,9,13,22 88:25          88:25 96:19,20 97:17          101:20 119:3,6 121:5          121:6 123:18  <b>articles</b>          32:4,5 39:23  <b>artist</b>          46:4,5  <b>ASCII</b>          81:3,6,7  <b>Aside</b>          17:10  <b>asked</b>          10:9 18:19 42:19 72:8          78:3  <b>asking</b>          15:3  <b>aspect</b>          58:21 80:9  <b>aspects</b>          12:23 15:22 29:12          119:18  <b>asserting</b>          73:14  <b>assistance</b>          17:3 53:11  <b>associated</b>          66:16 106:19  <b>associates</b>          8:16 15:23 123:16  <b>Association</b>          44:13  <b>assumed</b>          93:14  <b>attachable</b>          81:8</p>	<p><b>attached</b>          22:8 84:19,21 99:13  <b>attempted</b>          123:1  <b>attempting</b>          106:10  <b>attended</b>          33:12  <b>attest</b>          127:4,14  <b>attorney</b>          3:6 78:6,17,21 80:3          127:15  <b>attribute</b>          98:6  <b>AT&amp;T</b>          31:22 40:9 46:25 47:5          50:25 52:7,11,13,24          53:11 62:3,4,8 64:16          64:16,18,23 99:9,12          124:16  <b>AT&amp;T's</b>          105:25 118:22 119:23  <b>audience</b>          28:12  <b>audiences</b>          14:22  <b>audio</b>          22:3,24 25:23 34:4          35:2 38:4,9 39:16          44:9 48:15,15 50:19          51:6,12 52:24 55:2          56:16 57:3,13,15          58:2,7 59:3,5,7 60:19          60:24 61:5,9,18 65:7          66:24 67:13,15 69:1          77:3 80:16 82:6          84:22 86:18,18 87:25          88:7 89:14 91:10,15          91:22 92:14 101:1,11          106:16,20 110:5          116:2,8,23 117:3,9          118:15 119:22          120:18,20,21,25          121:2 122:3,7,18,19</p>	<p><b>audiophile</b>          41:9  <b>August</b>          53:8  <b>Austria</b>          123:7  <b>author</b>          33:6,9,13,16 102:1  <b>authored</b>          100:17,19,21,22  <b>authorization</b>          36:6 52:14  <b>authorize</b>          61:7 70:10  <b>available</b>          50:24 110:16 118:24          123:13  <b>Avenue</b>          3:17  <b>aware</b>          9:3 19:22 42:24 58:17  <b>A-S-C-I-I</b>          81:3  <b>a.m</b>          2:2 7:1</p> <hr/> <p style="text-align: center;"><b>B</b></p> <hr/> <p><b>B</b>          5:1  <b>Baby</b>          64:16,18  <b>back</b>          13:11 20:12 27:12          32:15,15,24 34:20          39:1 42:20 50:5,12          50:14 54:17 61:23          63:8,15 67:3 68:9,11          68:17 71:13 73:22          78:15 82:18 85:10          99:24 120:2  <b>balance</b>          81:21  <b>ball</b>          124:19  <b>band</b></p>	<p>54:18,23  <b>bandwidth</b>          54:3  <b>bank</b>          87:15  <b>banking</b>          60:8,13  <b>based</b>          23:17 87:22  <b>basic</b>          23:24 68:15 81:25          82:6  <b>basically</b>          54:7 65:1 69:1 79:7  <b>batch</b>          91:8  <b>Batchelder</b>          3:15 9:17 10:15 12:4,9          13:22 15:2 18:9,24          19:11 21:3,13,21          24:22 29:14 30:8,13          31:2,8,16 32:19          34:16 35:11,20 36:4          36:11,21 37:5,15          38:2,22 39:8,14,21          40:5,15 41:8 45:23          47:13 48:24 57:25          61:19 64:19 72:7,15          72:21 73:1,11,15          74:3,18 76:9,14,16          77:15 81:1 83:6,14          83:17 84:13 85:3,7          85:18 86:9 88:20          89:3 94:6,10,25          95:10,24 97:6 98:8          98:18 100:2,13,19          101:9 102:21 103:3          104:7,24 105:11,22          106:8 108:2,11 109:2          109:12,25 110:12          111:19,22 114:24          115:8,18 117:12,24          118:20 119:7 124:24  <b>BB</b>          111:9</p>
--	--	---	--

<p><b>BB-whatevers</b> 111:9</p> <p><b>beginning</b> 68:9</p> <p><b>behalf</b> 59:15</p> <p><b>believe</b> 11:3 13:16 19:13 20:13 22:16 25:14 28:2 42:11,15 43:4 43:13,25 50:25 53:8 55:5 63:4 77:18 83:22,24 84:16 86:23 87:22 90:3,20 98:14 105:18 117:13 118:14 119:6 123:12</p> <p><b>believed</b> 21:24</p> <p><b>Bell</b> 61:24</p> <p><b>Bells</b> 64:16,18</p> <p><b>Berkstresser</b> 78:6</p> <p><b>best</b> 10:8 66:2</p> <p><b>better</b> 46:10</p> <p><b>beyond</b> 15:20 32:16 62:14 84:9 95:8</p> <p><b>bidirectional</b> 92:10 93:8</p> <p><b>big</b> 22:16 44:14 54:6,17 54:23 77:17 79:14 101:3 109:15 118:16 118:16,16</p> <p><b>biggest</b> 87:7</p> <p><b>bill</b> 16:7 17:8 20:14 52:11 53:1 110:6,7</p> <p><b>bit</b> 26:17 93:23</p>	<p><b>blank</b> 98:17</p> <p><b>BME</b> 119:2</p> <p><b>board</b> 1:2 120:23 121:24 122:17</p> <p><b>boards</b> 111:9,9</p> <p><b>Bob</b> 59:2,13,14,17,20</p> <p><b>book</b> 11:8,9 24:9</p> <p><b>bookkeeper</b> 42:19</p> <p><b>bookkeeping</b> 58:21 59:23</p> <p><b>books</b> 20:11</p> <p><b>booth</b> 44:23</p> <p><b>booths</b> 44:20</p> <p><b>borrowed</b> 116:5</p> <p><b>Boston</b> 62:2</p> <p><b>bottom</b> 49:14 76:15 95:19</p> <p><b>bought</b> 71:3,5 87:9 91:17</p> <p><b>box</b> 48:16,17 68:8,9,12,16 68:17,20 69:7</p> <p><b>boxing</b> 70:18,23</p> <p><b>boy</b> 64:14</p> <p><b>brand</b> 38:21</p> <p><b>break</b> 26:13 50:3 63:13 71:10,10,19 93:21 99:22 124:4 125:2,3</p> <p><b>bridges</b></p>	<p>8:22</p> <p><b>bring</b> 26:7 98:17</p> <p><b>broadcast</b> 22:25 23:12,18,18 25:5,8 26:20,21 87:15 102:7 120:14 124:3</p> <p><b>Broadcaster</b> 44:13</p> <p><b>broadcasters</b> 80:18</p> <p><b>broadcasting</b> 87:6,7</p> <p><b>broader</b> 29:3 77:12</p> <p><b>brought</b> 72:9 114:25</p> <p><b>build</b> 47:9 82:19,21 83:5,7</p> <p><b>buildings</b> 8:22,22</p> <p><b>built</b> 8:20 31:10 86:11 93:7</p> <p><b>built-in</b> 86:3 92:6 93:1</p> <p><b>bulletin</b> 111:8,9</p> <p><b>Burbank</b> 24:13</p> <p><b>business</b> 2:9 5:6,11 7:7 8:17 11:18 16:19 22:6 28:1,3 35:4,12,17,18 35:24 52:11 62:21 64:15 65:22 75:11 77:17 78:18 81:8,11 103:23 104:1 105:6,9 105:13,20,21,24,24 105:25 106:5,7,10,12 106:15,19</p> <p><b>businesses</b> 64:9,12</p> <p><b>business's</b> 20:11</p>	<p><b>buttons</b> 113:6,9</p> <p><b>buy</b> 36:25 68:18,19,20 91:17,19 107:14 112:25 123:14 124:13</p> <p><b>buying</b> 68:5</p> <p><b>buys</b> 24:23 35:4</p> <p><b>by-two-inch</b> 117:17</p> <p><b>B-E-R-K-S-T-R-E-...</b> 78:7</p> <hr/> <p style="text-align: center;"><b>C</b></p> <hr/> <p><b>C</b> 3:1 92:9</p> <p><b>CA</b> 3:18</p> <p><b>cable</b> 49:15 67:23 68:1,7,8,9 68:12,14,17,21 69:5 69:7,11,20,23 70:1,5 70:12 71:6 102:8 110:6,6 124:17,18</p> <p><b>cables</b> 69:14</p> <p><b>California</b> 1:17 2:3,5,10 7:10 19:21 59:3 115:11 121:3 122:13,20 127:18,23</p> <p><b>call</b> 16:23 31:20 36:15,23 70:9,24,24 100:4,4 102:7 111:1</p> <p><b>called</b> 2:10 23:9,17,19,22 27:3 45:25 56:13 81:3 87:8 88:19 97:15</p> <p><b>Cambridge</b> 62:2 89:14</p>
---	---	---	--

<p><b>Campus</b> 2:3 <b>capabilities</b> 77:16 82:7 85:24 <b>capability</b> 54:4 79:4 81:14 82:15 82:16 95:6 <b>capable</b> 82:2 99:19 <b>capacity</b> 47:10 50:23 <b>capitalize</b> 28:19,25 <b>capitalized</b> 28:21,24 <b>caps</b> 81:4 <b>captures</b> 29:12 <b>car</b> 99:11 104:13 <b>card</b> 37:1,17,23 52:18 60:5 70:10 71:1 81:5,10 81:15 84:20 86:18 111:2 <b>cards</b> 36:6 <b>carousel</b> 87:14 <b>carried</b> 59:15 62:12 <b>case</b> 1:6 15:22 17:20 22:2,5 22:8,13,16,17 29:3 35:21 37:1 69:22 71:5,18 72:9 90:10 90:16 104:25 105:2 <b>cases</b> 17:17 22:5 51:9 75:5 <b>categories</b> 26:19,23 <b>category</b> 23:20 25:1 <b>caution</b></p>	<p>9:17 <b>CBM</b> 11:21 18:1 <b>CBM2013-00020</b> 1:6 <b>CD</b> 42:9 58:15 <b>CDs</b> 41:19 116:5 <b>centric</b> 66:20,20 <b>certain</b> 23:4 46:7 54:4 66:16 66:17 119:18 <b>certainly</b> 23:3 46:16 52:12 115:1 <b>CERTIFICATE</b> 126:1 127:1 <b>Certified</b> 2:4 5:14 127:3 <b>CES</b> 89:6 <b>chain</b> 35:22,23,24 47:17,18 <b>chance</b> 112:20 <b>change</b> 96:9 <b>changed</b> 99:3 119:10 124:11 <b>changes</b> 7:24 <b>channel</b> 58:12 70:23 81:9 <b>channels</b> 69:1 <b>chapter</b> 89:14 <b>characterization</b> 97:23 <b>characters</b> 55:18 56:3 <b>charge</b> 37:17 52:24</p>	<p><b>charged</b> 60:8 70:9 <b>charging</b> 37:22 <b>chart</b> 49:14 102:6 <b>check</b> 24:9 70:7 96:19 <b>checks</b> 59:24 60:1 <b>Chicago</b> 53:5,21 54:10,14,14 54:15,19,20,22 58:8 58:9 112:21 116:10 119:23 120:7 121:13 <b>Chicago/New</b> 61:15 <b>chips</b> 47:9 <b>choose</b> 14:13 28:25 100:7 <b>chose</b> 47:15 <b>chunk</b> 77:23 79:14 <b>circuit</b> 120:23 121:24 122:1 122:17 <b>cities</b> 66:17 <b>City</b> 26:9 126:8 <b>civil</b> 8:21 <b>claim</b> 46:4 <b>clarification</b> 11:13 30:20 56:25 68:23 69:15 76:20 90:11 100:8 101:6,22 103:9 107:20 113:1 116:21 <b>class</b> 86:19 <b>classical</b></p>	<p>26:8 54:17,22 <b>clear</b> 18:24 37:19 <b>clearly</b> 47:16 <b>client</b> 14:1 24:15 115:6,7 <b>clients</b> 19:3 98:9 <b>clip</b> 57:3 <b>close</b> 55:7 <b>CLR</b> 1:24 127:22 <b>coax</b> 69:1 <b>coaxial</b> 68:21 69:5 124:17 <b>code</b> 52:14 79:7 80:13 <b>coded</b> 112:25 <b>colleagues</b> 102:1 <b>collected</b> 103:20 <b>collectively</b> 23:8 <b>collector</b> 52:8 <b>Color</b> 5:17 <b>Colorado</b> 91:16 <b>column</b> 95:19 96:18 119:21 <b>combination</b> 28:8 <b>Comcast</b> 68:19 <b>Comdex</b> 46:14 <b>come</b> 27:22 67:3 109:17</p>
--	---	--	--

<p><b>comes</b> 103:12</p> <p><b>coming</b> 24:13 78:9 113:15</p> <p><b>comma</b> 8:15</p> <p><b>comment</b> 7:24 73:6</p> <p><b>commercial</b> 87:13,18</p> <p><b>commercialization</b> 31:21</p> <p><b>commercially</b> 108:23</p> <p><b>commercials</b> 87:15 104:19</p> <p><b>common</b> 111:4,5</p> <p><b>commonplace</b> 52:20</p> <p><b>Commons</b> 2:3</p> <p><b>communicate</b> 113:4</p> <p><b>communicating</b> 82:17</p> <p><b>communication</b> 86:4</p> <p><b>communications</b> 10:19 92:6,22 93:2,8</p> <p><b>compact</b> 34:4</p> <p><b>companies</b> 34:7 65:9 66:9 68:7 69:20,23 103:11 123:22 124:19</p> <p><b>company</b> 22:21 27:25 35:10 42:22 59:23 65:12,16 65:17 67:14,20 70:1 70:5,12 71:6 87:7,8 98:23 99:1,18 103:5 103:16,18,19 105:2</p> <p><b>company's</b> 120:20 121:2 122:6,19</p>	<p><b>compare</b> 109:4</p> <p><b>compared</b> 12:10</p> <p><b>compatible</b> 124:10</p> <p><b>complete</b> 8:5 30:22,25 31:6 33:23 77:10 86:5 119:18,19 123:2,3,6 123:9,11</p> <p><b>completely</b> 60:7 77:20 98:10 105:23</p> <p><b>completing</b> 18:1</p> <p><b>complex</b> 27:21</p> <p><b>components</b> 29:5 48:19 66:7 122:24</p> <p><b>compose</b> 105:13</p> <p><b>comprehensive</b> 14:4 16:3 118:7 119:17</p> <p><b>comprises</b> 34:4</p> <p><b>CompuSonics</b> 11:19 12:21 13:1,24 14:2,20,21 15:25 16:2 22:19,22 23:2 26:20,23 27:17,19 28:3,4,6,11,17 29:7,9 29:13,17 30:23 31:1 31:7,9,10,14,17 32:21 33:14,20,23 38:9 40:9,22 41:1,4 41:12,15 42:10,12,20 42:25 44:9 45:21 46:18 47:1 48:2,8,9 48:14 49:1 50:21 53:4,9,12,13,17,20 56:14,19 58:7 60:2,4 61:16,18 62:8,19,21</p>	<p>66:5 67:5,9,16 77:6,7 77:10,13 78:23 79:11 79:20 80:23 84:12 85:14,16 86:7,10,14 86:20 87:16 88:14 92:5,13,15 93:1,4,11 94:19,21 95:9,12 96:25 101:7 102:2 105:24 106:7,9,14,17 106:18 107:17,22,25 108:9,20 109:1,11,21 109:22 113:22,24 115:1,3 116:25 117:11 118:5,18,21 119:15,23 120:18,21 121:9,13 122:19,21 122:24 124:1,9</p> <p><b>computer</b> 44:21 52:20 55:14 59:4 64:4 84:19,20 84:21,22 85:23 111:11,12 115:4,10 120:20</p> <p><b>computers</b> 46:23,23 81:4 96:24 103:7</p> <p><b>computer's</b> 85:25</p> <p><b>concept</b> 32:18 62:21 91:22 98:15,19 99:8 105:14</p> <p><b>concepts</b> 23:1 39:25</p> <p><b>conclusions</b> 101:24</p> <p><b>conference</b> 55:7 65:22 120:9</p> <p><b>conferences</b> 64:9</p> <p><b>configuration</b> 121:10</p> <p><b>configurations</b> 29:17</p> <p><b>confirm</b> 109:20</p>	<p><b>conjunction</b> 85:23 108:4</p> <p><b>connect</b> 69:7</p> <p><b>connected</b> 93:15 101:13 117:4</p> <p><b>connector</b> 68:24</p> <p><b>connecters</b> 69:2</p> <p><b>connecting</b> 52:3 69:10</p> <p><b>connection</b> 9:20,22 10:19 55:6 73:3</p> <p><b>connections</b> 92:3</p> <p><b>consider</b> 79:18</p> <p><b>consideration</b> 72:11</p> <p><b>considered</b> 48:15 84:17</p> <p><b>consistent</b> 37:24</p> <p><b>consists</b> 120:19</p> <p><b>consult</b> 8:19</p> <p><b>consultant</b> 22:18</p> <p><b>consulting</b> 8:18 9:19 20:11,15</p> <p><b>consumer</b> 23:1,21 24:21,23 25:16,17,21 26:1,5 26:22 36:9,19,22 38:1,3,9,16 39:6,13 39:16 41:7 42:24 44:14 47:17 89:2,9 91:14 95:15 99:6,10 103:2,13 110:6,15 111:16 112:21 116:10 124:4</p> <p><b>consumers</b></p>
--	--	--	---

<p>25:1 36:13 37:22 40:23 41:10 98:12 104:18,19 105:4 122:25 123:13,23 124:12</p> <p><b>consumer's</b> 31:19 52:25 110:6</p> <p><b>contact</b> 36:9,19</p> <p><b>contacted</b> 26:9 74:8 75:3,9</p> <p><b>contain</b> 66:6 112:25 115:16,24</p> <p><b>contained</b> 99:6 126:7</p> <p><b>containing</b> 57:10</p> <p><b>contemplate</b> 103:25</p> <p><b>contemplated</b> 105:9,21</p> <p><b>contemporaneously</b> 39:24</p> <p><b>content</b> 35:1 36:15 37:1 38:5 49:14,15,16,17,18 56:18 58:12,14,17,25 59:6,17 60:19,25 63:21 68:6 98:25 104:6,6,9,12,16,21 104:22,23 105:3,5,6 110:15 111:10 117:15</p> <p><b>content's</b> 49:1</p> <p><b>continue</b> 13:5 109:16</p> <p><b>contradict</b> 78:18</p> <p><b>control</b> 51:19 53:9,13,17 87:17,17 109:13,15 113:15</p> <p><b>controller</b> 84:16</p>	<p><b>controlling</b> 113:10</p> <p><b>controls</b> 84:15 113:14</p> <p><b>convention</b> 101:2</p> <p><b>conversation</b> 119:5</p> <p><b>conversations</b> 33:6</p> <p><b>copied</b> 58:15 100:23</p> <p><b>copies</b> 68:3,4 117:23</p> <p><b>copy</b> 5:14 11:7 20:4,22 24:8 30:6 58:16 63:9 66:4 76:8,13 83:17 84:2 84:24 96:11 103:5,6 103:18 112:5,8 120:14</p> <p><b>copyright</b> 35:1 79:1,9 120:14</p> <p><b>core</b> 50:22</p> <p><b>corporation</b> 102:2 106:9,17</p> <p><b>corporations</b> 65:7</p> <p><b>correct</b> 8:2,3,8,9 12:1 14:20 20:1 24:1 28:16,19 29:22 38:7,13,14 39:5,12 40:2,24,25 44:2 46:8 48:10 52:23 53:9,23 54:20 55:13,20 56:6 58:24 61:11 62:11,13 64:10 64:11 68:7 72:13 75:14,16,17,23,25 76:3 86:14,18 87:24 88:6 89:17 90:6 95:15,17 96:25 97:2 97:11,23 98:4,21 100:11 102:14</p>	<p>105:17 106:5,14,17 106:18,23,24 107:9 113:7,8 120:6 124:13 124:14 126:7 127:12 127:19</p> <p><b>correction</b> 88:23</p> <p><b>corrections</b> 126:5</p> <p><b>correctly</b> 89:20 120:4 124:7</p> <p><b>corresponding</b> 117:19</p> <p><b>cost</b> 42:4 110:5</p> <p><b>costs</b> 105:4</p> <p><b>counsel</b> 10:24 13:2 14:9 15:15 15:20 16:15,15 17:3 17:11 18:25 19:5,7,9 26:16 30:6 71:19 74:8 75:3,9 95:24</p> <p><b>counsel's</b> 19:8</p> <p><b>counterpart</b> 48:8 94:2</p> <p><b>couple</b> 113:16 119:10</p> <p><b>course</b> 64:15 84:21 99:3 114:1 118:16</p> <p><b>court</b> 2:10 4:11 7:10,18 17:11 18:6 48:3 63:6 76:10,12</p> <p><b>courtroom</b> 20:14</p> <p><b>cover</b> 12:5,7,23 70:10</p> <p><b>covered</b> 5:6,11 16:19 78:5</p> <p><b>co-marketing</b> 124:20</p> <p><b>CPU</b></p>	<p>51:15,19</p> <p><b>create</b> 46:3</p> <p><b>created</b> 61:9 63:21</p> <p><b>credit</b> 36:5 37:1,17,23 52:18 60:5 70:10 71:1 81:4 81:10,15 111:2</p> <p><b>criteria</b> 42:14</p> <p><b>CRP</b> 1:24 127:22</p> <p><b>CRR</b> 1:24 127:22</p> <p><b>CSR</b> 1:24 127:3</p> <p><b>CSX</b> 121:2 122:6,19</p> <p><b>current</b> 4:18 8:14 11:21 17:12 19:17 73:10</p> <p><b>currently</b> 7:7 8:12 16:24 109:9</p> <p><b>custom</b> 82:12</p> <p><b>customer</b> 57:20 59:24 81:20 87:2 98:16 103:2</p> <p><b>customers</b> 27:2 58:19 59:2 60:1 69:21,23 98:10</p> <p><b>customer's</b> 52:25 81:21</p> <p><b>cut</b> 96:13</p> <p><b>cuts</b> 116:5</p> <p><b>cutting</b> 15:4 98:2 113:11</p> <p><b>C-O-M-D-E-X</b> 46:15</p> <p><b>C.S.R</b> 127:23</p>
---	--	---	--

<b>D</b>			
<b>D</b>	<b>deadline</b>	68:6	31:24 36:2,9 39:6,18
4:1,8	70:8	<b>demo</b>	40:13 57:23 93:17
<b>damage</b>	<b>deal</b>	54:12	94:19 102:12 103:1
61:3	35:13 65:5 87:4 98:24	<b>demonstrable</b>	104:11 108:17
<b>damaged</b>	104:16	97:14	110:11 124:22
61:2	<b>dealer</b>	<b>demonstrated</b>	<b>described</b>
<b>data</b>	26:10 34:12,25 35:7,9	51:10	14:21 32:3,4,6 35:17
34:3,8 40:7,20 49:6	37:8 60:11 91:16	<b>demonstrating</b>	35:18 40:8 45:17
52:8 58:22 67:21,24	<b>dealers</b>	27:7	87:20 102:25 108:9
83:2 92:11,13 93:16	25:23 42:23	<b>demonstration</b>	<b>describes</b>
95:5 97:21,25 117:6	<b>deals</b>	33:10 53:7,10,24 55:3	29:7 31:9 35:21 86:6
<b>database</b>	118:16	55:21 56:7,20 58:6,6	<b>describing</b>
48:17 57:11 67:17,22	<b>Debbie</b>	61:16 120:7 121:1,25	48:8
79:3 87:18 102:5	1:24 2:4	122:4,7,11,14	<b>description</b>
115:1,3,16,24 116:2	<b>DEBORAH</b>	<b>demonstrations</b>	30:22,25 31:7 96:25
<b>databases</b>	127:3,22	61:17 65:21 108:21	97:2 102:16,24
103:7	<b>December</b>	<b>Denver</b>	109:21 119:19 120:6
<b>date</b>	1:16 2:2 90:20 127:21	91:16	121:8,12
9:8 10:3 19:10 34:5	<b>decks</b>	<b>department</b>	<b>descriptions</b>
89:1	114:5	67:14,15,17	111:20
<b>Dated</b>	<b>declaration</b>	<b>depend</b>	<b>designing</b>
126:8	5:4,9 11:2,11,20 12:24	35:12 46:23	27:7
<b>dates</b>	12:25 14:9,12 29:24	<b>depended</b>	<b>desired</b>
45:6	47:21 62:16 64:8	28:10	99:6
<b>DATI</b>	72:1 74:14,19,20,25	<b>depends</b>	<b>destinations</b>
62:5 80:6 121:7	<b>declarations</b>	103:23	63:23
<b>DATS</b>	12:15,19 14:18 15:1	<b>depict</b>	<b>detail</b>
121:7	15:13 30:16	55:4 56:21	21:15 71:24 106:3
<b>David</b>	<b>declare</b>	<b>depicted</b>	<b>details</b>
1:13 2:7 3:5 4:3 5:4,9	126:3 127:17	57:23,24 65:25	15:23 70:16,19 78:22
5:15 7:6 83:17	<b>decoder</b>	<b>DEPONENT</b>	<b>developed</b>
126:11	67:24	126:1	82:12
<b>david_marshall@apor...</b>	<b>deemed</b>	<b>deposed</b>	<b>development</b>
3:10	126:6	7:12 20:1	62:5 65:4
<b>day</b>	<b>defines</b>	<b>deposition</b>	<b>device</b>
42:20 125:4	47:4	1:13 5:14 7:20 11:12	86:4 92:6,7 93:2
<b>days</b>	<b>definition</b>	11:23 18:17 19:14,22	<b>devices</b>
34:3	32:2 49:23,24	20:5,6,14,16,17	47:12 53:14 116:9
<b>DC</b>	<b>degradation</b>	22:17 48:4 71:22	<b>diagnosis</b>
3:8	120:3	73:4	27:22
<b>DD</b>	<b>deletions</b>	<b>depositions</b>	<b>diagram</b>
51:15	126:5	7:21	46:12,17,19 48:12,17
<b>de</b>	<b>delivered</b>	<b>depth</b>	48:25 51:11,21
87:22	25:20 81:25 90:4	12:21	121:17
	<b>delivering</b>	<b>describe</b>	<b>diagrammatic</b>

44:8	123:22	<b>discussion</b>	<b>DPS</b>
<b>diagrams</b>	<b>disc</b>	15:21 45:14 101:12	92:18
84:18	23:1,17,21 25:17,18	<b>discussions</b>	<b>drawing</b>
<b>dial-up</b>	25:21 26:1,5 34:4	44:23	52:21
49:3	38:13,16,17 39:7,10	<b>disc-based</b>	<b>drive</b>
<b>difference</b>	39:20 40:4,18,20	124:2,5	23:17 40:7 48:18
35:5	41:5,18,24 42:4,10	<b>display</b>	50:24 51:4,17 54:18
<b>different</b>	51:4,8 57:4 78:25	44:21,21 113:18,18	57:5 85:25 90:7,18
12:5 14:22,22 29:5,8	85:25 89:18 90:10,12	<b>distributed</b>	90:19,24 91:14 114:9
34:8 47:6 51:1,1,18	90:12,15 97:13 98:17	63:22 101:4	114:12
55:12 62:3 63:22,23	99:6 116:16 119:25	<b>distribution</b>	<b>drives</b>
65:20 67:6 69:3	120:2,10,12 123:24	25:25 31:19 37:7 70:4	61:5 112:1,1,2
70:22 74:20 79:7,8	<b>discarded</b>	86:3 102:11 111:17	<b>DS</b>
80:8,12,19 103:13	15:6,11	111:18,25	90:23
104:1 110:16,20,25	<b>disclose</b>	<b>distributors</b>	<b>DSP</b>
116:4,4,6,7,12	29:9 31:15 45:22 77:6	98:25	23:9,14,14,23,25
<b>difficult</b>	77:10,14 85:13,17,19	<b>District</b>	24:16,24 25:3 26:10
22:7 34:14	86:8 94:22 97:4	4:11 9:4,13 10:2,6,13	39:9,12,15 40:23
<b>digital</b>	101:8 107:16 109:1	15:17 17:11 18:6	41:1,4,6,7,12,13,16
22:3,24 33:21 34:8	113:25 118:19	<b>document</b>	42:8,13,17,17 43:1,1
38:4,9 44:9 49:4	<b>disclosed</b>	11:15 12:2,12 28:21	43:1,2,2,5,10,12 47:2
52:24 54:3 58:15	37:10 77:5,9 79:11	29:1,7,12 105:13	47:12,16,17 48:10,11
65:7,7 69:18 77:3	83:12 95:9 106:1	111:21	48:13,19,22 49:9
80:16 86:18 87:14,25	108:1 111:18 118:6	<b>documentation</b>	50:21 51:3 53:13,21
88:7 91:25 92:10	<b>discloses</b>	62:15	56:22 57:9,13,17
97:21,25 99:4 102:4	77:7,16 85:22 107:21	<b>documents</b>	58:18,25 60:14,17,20
110:15 117:6 120:18	118:21	10:12,17,23 11:1 13:1	60:25 67:12,25 68:2
120:24 121:2 122:2,7	<b>disclosing</b>	13:4,16,19 34:17	68:22 69:4,7 79:3,5,6
122:17,19 124:2	48:9	43:25 47:24 77:21	81:13 82:5,8,15,20
<b>digitally</b>	<b>discount</b>	79:15 85:8 95:3	83:5,12,12 84:14
87:15 92:15 118:24	91:18	107:19 109:4,19	85:23 89:1,11,17,21
124:16	<b>discs</b>	111:20	89:24 90:6,25 91:1
<b>digital/audio</b>	38:18,19 90:16 96:23	<b>Doe</b>	91:13 92:13,19 95:13
89:18	97:22 124:9	36:23	97:18,23 98:7,13
<b>digitized</b>	<b>discuss</b>	<b>doing</b>	112:18 113:22 114:5
51:15	15:22 34:1 71:18	19:24 26:13 45:25	114:7,9,11,11 116:12
<b>direct</b>	92:12,17 93:10	55:8 65:21 74:5 88:4	116:24 119:23
26:4,10 60:11	<b>discussed</b>	<b>Douglas</b>	120:20 121:23 124:6
<b>directed</b>	15:19 16:1 21:16 37:7	59:2,14,17,20	124:10,13
18:11	42:25 66:14 109:14	<b>download</b>	<b>DSPs</b>
<b>direction</b>	121:19,20	38:3 99:9 111:11	58:20 81:7
92:21	<b>discusses</b>	<b>dozen</b>	<b>DS1000</b>
<b>directly</b>	101:10	7:15 24:19	90:17
49:17 69:5 91:18	<b>discussing</b>	<b>dozens</b>	<b>duly</b>
93:13 99:1,10 118:24	15:24,25 32:22	88:13	2:11



<p><b>dumb</b> 81:3,6,14 113:3 121:21</p> <p><b>duplicative</b> 15:12</p> <p><b>D-I-S-C</b> 90:10</p> <hr/> <p style="text-align: center;"><b>E</b></p> <hr/> <p><b>E</b> 3:1,1 4:1,8,8,8 5:1</p> <p><b>earlier</b> 74:17,18 83:21</p> <p><b>early</b> 8:11 41:14 90:5 97:2 112:1 113:23 116:11</p> <p><b>East</b> 3:18</p> <p><b>economic</b> 96:10</p> <p><b>edit</b> 98:4,6</p> <p><b>editing</b> 67:15 77:16,22,25 78:22,25 79:2,3,4 80:11 83:8,22 84:9 85:25 86:12 95:4,6,8 101:11,12 108:22 113:10,11 114:1 118:15,15</p> <p><b>editor</b> 79:5 86:11 108:13,14 108:18</p> <p><b>editors</b> 80:20</p> <p><b>Edwards</b> 2:9 7:10</p> <p><b>effect</b> 56:17</p> <p><b>effects</b> 59:7</p> <p><b>effort</b> 27:7 62:23</p> <p><b>either</b> 13:21 30:19 49:20</p>	<p>51:5 54:13 64:17 65:22 83:12 98:17 109:14 115:24 120:10</p> <p><b>electronic</b> 27:3,6 31:18,25 32:6 32:17 33:20 36:25 40:2 42:21 45:14 46:5 49:3,16 68:5 69:24 81:11 82:9 86:1,2 95:6 99:5,9 101:13,19 102:18,19 102:25 110:22,23</p> <p><b>electronically</b> 59:11 60:7,24</p> <p><b>Electronics</b> 44:14 89:2,9 112:21 116:10</p> <p><b>elements</b> 116:18,19</p> <p><b>embodiment</b> 97:3,5</p> <p><b>employed</b> 8:12 16:11</p> <p><b>employee</b> 53:20 127:15</p> <p><b>employer</b> 8:14</p> <p><b>enable</b> 97:20</p> <p><b>encourage</b> 107:13</p> <p><b>ends</b> 55:16 56:1</p> <p><b>engage</b> 107:14</p> <p><b>engaged</b> 17:20</p> <p><b>engineering</b> 8:21 48:16 66:24 67:13,15 89:14 101:1</p> <p><b>engineers</b> 80:15 89:15</p> <p><b>entail</b> 98:21</p>	<p><b>entire</b> 56:23</p> <p><b>entirely</b> 70:23 88:2</p> <p><b>entitled</b> 101:24</p> <p><b>environment</b> 8:20</p> <p><b>envision</b> 52:14</p> <p><b>equipment</b> 22:24 24:4 27:4,7 40:19 42:23 47:1,5 48:15,16 49:2,4 50:25 58:1 59:4 67:12 82:13 85:23 86:20 87:16 107:15 108:4,5 122:16</p> <p><b>equipped</b> 120:22</p> <p><b>equivalent</b> 36:14</p> <p><b>era</b> 28:23</p> <p><b>erasable</b> 90:13,14,18,24 91:14 112:2,3</p> <p><b>erase</b> 90:15</p> <p><b>error</b> 56:2</p> <p><b>errors</b> 54:5,5</p> <p><b>escaping</b> 65:10</p> <p><b>ESQ</b> 3:15,16</p> <p><b>Europe</b> 65:9 114:18</p> <p><b>European</b> 65:9</p> <p><b>event</b> 120:9</p> <p><b>events</b> 45:8 64:10</p>	<p><b>eventually</b> 82:12</p> <p><b>everybody</b> 16:4 36:13</p> <p><b>evolving</b> 119:9</p> <p><b>exact</b> 9:8 24:18 25:7 27:22 42:5 123:5</p> <p><b>exactly</b> 21:4 41:15 69:9 75:20 88:2 101:18 103:15</p> <p><b>examination</b> 4:4 7:3 127:10</p> <p><b>examined</b> 2:12</p> <p><b>example</b> 33:19 46:14 104:3,3,4 114:21 116:9 117:2 121:16</p> <p><b>examples</b> 15:8 22:11,12 117:8</p> <p><b>exception</b> 12:7 104:19 108:24 109:22,23</p> <p><b>exchanged</b> 117:6</p> <p><b>exchanges</b> 10:16,19</p> <p><b>excludes</b> 77:25</p> <p><b>exclusive</b> 104:3</p> <p><b>excuse</b> 13:5 87:22</p> <p><b>exhibit</b> 5:4,8,9,13,14,17,20,20 5:21,21,22,22,23,23 5:24,24,25,25 6:1,1,2 6:2,3,3,4,4,5,5,6,6,7 6:7,8,8,9,9,10,10,11 6:11 11:5,12,23,24 11:25 12:8,16,16 13:20,21 20:6 28:13 28:13 29:23 30:2,3,3</p>
--	--	---	---

30:4,5,10,10,15,15 30:15,18,23,25 31:5 31:6,24 32:14,15,16 32:24,25,25 34:1,1 34:10,10 35:6,6,18 35:19 36:2,2,8,8 37:4 37:4,25,25 39:5,6,18 39:18 40:3,3,17,17 41:19,19 43:16,17,18 43:19,21,22,22,24 44:1,2,2,7 45:22 46:20,20 47:11,11 48:1,2,2,4,5,7,8,23 48:23 49:8,8,11,11 49:21,21 50:12,13,17 50:18,19 51:6,6,22 51:22 52:13,14 53:3 53:3,14,15,18,18 55:3,4 56:20,21 57:7 57:7,24,24 63:7,10 63:15,19,24,24 64:5 64:6 65:13,13,14 66:1,1,8 67:9,10 74:15 76:5,5,6,7,15 76:19,19,23,23 77:1 77:1,9,14 82:18 83:4 84:25,25 85:1,2,4,13 85:17 88:9,9 89:1,10 89:10,20 91:21 92:5 92:12 93:10,17 94:2 94:2,4,5,15,16,18,18 94:22 95:9,18,19 96:19 97:4 99:25 100:1,10,11,25 101:8 101:15,19 102:16 103:1,1,15,25 105:10 105:16,19,20,21 106:6,6,23,25 107:3 107:4,5,7,8,8,10,11 107:16,16 108:1,9,25 109:1,10,20,20 110:4 110:4,10,10 111:16 112:6,7,9,10,12,12 112:15,16,24,24 113:5,6,21,22,25	114:13,13,22,22 115:12,13,15,16,22 115:22,23,24 116:14 116:17,18,19,23,23 117:3,3,9,19,19,20 117:21 118:2,2,6,19 118:19 119:13,20 120:17 121:18 124:22,22 <b>exhibits</b> 5:18 12:22,25 13:7,13 13:15 14:16,18 31:24 32:7,20 43:16 44:3,7 44:14 63:4 74:13 79:22 83:4 85:6 94:9 100:6,17 116:6 <b>exist</b> 102:6 <b>existed</b> 70:18 <b>existing</b> 86:4 93:3,5,12 <b>exists</b> 84:18 <b>expand</b> 39:25 <b>expanding</b> 102:3 <b>expected</b> 80:2 <b>expedite</b> 81:16 <b>expenses</b> 17:6 <b>experimental</b> 61:16 <b>experiments</b> 63:1 <b>expert</b> 22:2 <b>explaining</b> 52:16 <b>explicit</b> 36:18 37:13 49:20 <b>explicitly</b>	48:14 <b>explore</b> 73:19 <b>extend</b> 85:24 <b>extent</b> 51:16 58:20 61:13 73:2 <b>ex-partner</b> 16:5 <b>eye</b> 24:12 <hr/> <b>F</b> <hr/> <b>F</b> 65:3 <b>face</b> 74:25 <b>facilities</b> 84:22 <b>facility</b> 59:8 61:10 62:4 <b>fact</b> 49:25 63:1 68:18 72:9 89:5 93:6 120:10,16 <b>factory</b> 26:11 <b>Facts</b> 11:18 <b>fair</b> 2:10 7:10 119:15,16 <b>fairly</b> 40:10 119:14 <b>fall</b> 9:10 <b>familiar</b> 7:20 <b>fantasized</b> 89:22 <b>far</b> 45:16 76:24 93:25 <b>fast</b> 78:11 <b>favor</b> 59:13	<b>favorites</b> 114:4 <b>feature</b> 51:10 79:10 84:9,10 95:4 97:18 107:24 108:18,19 109:5,9 <b>features</b> 14:3,14,19 15:24 16:2 31:14 45:21 77:13 78:10 79:20 80:2 83:8,11 84:11 85:14 85:16 86:7 94:21 95:8 97:8,12 101:7 107:22,23 108:8 113:24 118:5,18 <b>featuring</b> 121:1 122:6,18 <b>February</b> 5:16 20:1 <b>feedback</b> 113:20 <b>field</b> 23:13,15 <b>figure</b> 75:6,12 84:19 <b>figured</b> 78:16 <b>file</b> 1:25 34:3 35:2 38:4 40:20 54:12,13 55:13 55:15,21 56:7,11,13 56:14,15,19,22,24 57:5,6,8,11,13,14,18 58:7,15 78:25 79:3 81:10,21,24 121:20 121:20 <b>filed</b> 9:3 56:14 <b>files</b> 22:6 55:2,5 57:15 59:10,10,10 61:4,5,8 61:8,12,18 75:11 106:16,20 115:17,25 116:2,16,24 117:4,9 <b>final</b>
--	---	---	--

<p>38:8  <b>financial</b>                      58:22  <b>financially</b>                      27:17,20 127:16  <b>find</b>                      12:22 13:15 28:23                      32:9 47:23 78:18                      87:18 92:3  <b>finding</b>                      121:19  <b>finger</b>                      29:19  <b>finger tips</b>                      10:3  <b>finish</b>                      64:21 75:21  <b>firm</b>                      22:7,15 78:7  <b>firms</b>                      17:14,18  <b>first</b>                      2:11 9:25 12:14,15                      16:17 24:6 25:12,17                      25:19 33:2 39:9                      41:13 44:12 54:9,12                      56:15 61:8 89:2,10                      89:12,25 90:2,15,17                      90:23 91:5,8,11,13                      94:10 102:10 112:17                      112:20 124:13  <b>five</b>                      91:8  <b>five-and-a-quarter</b>                      39:7  <b>five-and-a-quarter-i...</b>                      38:12,15 39:20 40:4                      96:22 97:13,15  <b>fix</b>                      54:4  <b>flavor</b>                      80:19  <b>flavors</b>                      31:12 77:8 80:12  <b>flex</b></p>	<p>121:4 122:13,20  <b>flip</b>                      32:8,8  <b>flipping</b>                      12:11  <b>floor</b>                      3:17 15:4  <b>floppies</b>                      38:19 68:3  <b>floppy</b>                      38:13,15,18 39:7,10                      39:20 40:4 41:2,18                      41:24 42:4 51:4,8                      85:24 90:7 96:22                      97:13,16,22 98:17                      114:12 116:16                      119:24 120:2,10                      123:24 124:2,5,9  <b>flubbed</b>                      98:4  <b>focus</b>                      40:10  <b>follow</b>                      96:14  <b>following</b>                      56:5  <b>Folsom</b>                      19:21  <b>Forbes</b>                      114:16  <b>force</b>                      125:2  <b>foregoing</b>                      126:4,6 127:5,12,18  <b>foreign</b>                      60:6,11,11,14,15,20                      60:25 65:6 114:18                      123:16  <b>forget</b>                      65:1  <b>forgotten</b>                      34:18  <b>form</b>                      12:9 13:22 15:2 21:3                      21:13,21 24:22 29:14</p>	<p>30:13 31:2,8,16                      32:19 34:16 35:11,20                      36:4,11,21 37:5,15                      38:2 39:8,14,21 40:5                      40:15 41:8 45:23                      47:13 48:24 51:1                      57:25 61:19 72:7,8                      72:15,21 73:1 75:2                      77:15 81:1,23 83:6                      83:14 84:13 85:7,18                      86:9 89:3 94:25 95:1                      97:6 98:8,18 101:5,9                      102:21 103:3 104:7                      104:24 105:11,22                      106:8 108:2,11 109:2                      109:12,25 110:12                      111:19 114:24                      117:12 118:20 119:7                      124:24  <b>formal</b>                      55:6 120:9  <b>format</b>                      20:22 34:9 67:24  <b>formed</b>                      73:3,19 74:9  <b>forms</b>                      110:20 111:14  <b>forth</b>                      2:13 48:10 49:11                      53:18 61:24 106:5                      115:15,23 127:6  <b>forward</b>                      40:3 113:13  <b>four</b>                      45:7  <b>fourth</b>                      62:10  <b>frame-by-frame</b>                      80:17  <b>frankly</b>                      15:5  <b>free</b>                      9:21 38:18 104:18  <b>frequencies</b>                      68:14</p>	<p><b>frequently</b>                      98:24  <b>front</b>                      22:6 74:21 84:15,15                      84:16 109:13,15,23                      113:6,17,19 118:8  <b>full</b>                      7:5 84:6 107:17 109:1  <b>fully</b>                      27:24 106:1  <b>Full-time</b>                      9:1  <b>function</b>                      49:25 80:21 113:12  <b>functions</b>                      67:17 68:15 109:14  <b>fundamental</b>                      57:10  <b>funding</b>                      37:23  <b>further</b>                      96:21 105:4 124:21                      127:14  <b>future</b>                      101:24</p> <hr/> <p style="text-align: center;"><b>G</b></p> <hr/> <p><b>Gage</b>                      16:7,11,14  <b>Garden</b>                      19:21  <b>Gary</b>                      16:6  <b>gear</b>                      24:25  <b>general</b>                      12:12 35:21 36:14                      77:23 92:21 105:14  <b>generally</b>                      8:20 39:15  <b>general-wide</b>                      78:2  <b>generated</b>                      23:5  <b>generic</b></p>
--	--	--	---

<p>28:8 29:2 31:11  <b>getting</b>          62:24 82:18  <b>give</b>          8:5 11:7,10,24 15:7          18:19 30:2 43:15          47:8,23 76:4,12 78:8          78:12 84:24 94:1          99:25 107:3 111:2          112:5 117:18 118:9          118:10  <b>given</b>          20:21 40:10 72:11          105:16  <b>gives</b>          104:2  <b>giving</b>          49:18  <b>go</b>          11:5 13:8,15 28:1          44:22 49:5 50:7,12          63:15 73:22 75:11          87:18 98:16 99:11          102:10 107:1 118:13  <b>goes</b>          102:12 103:21  <b>going</b>          22:8 26:17 34:13          35:13 43:15 50:2          51:16 55:9 57:20          58:11 62:10 63:7          81:23 89:6 93:24          94:1 95:11 99:17          100:4,4 103:23 107:1          107:3 112:5 117:18          123:17 125:1  <b>good</b>          14:16 30:7 50:6 59:2          71:9 99:21 124:1  <b>Gotshal</b>          22:15  <b>grade</b>          24:4  <b>graphic</b>          64:4</p>	<p><b>gray</b>          3:14 116:12  <b>great</b>          102:2  <b>green</b>          52:4 121:18  <b>grounds</b>          9:18 10:16 18:10  <b>group</b>          23:8 107:13  <b>guess</b>          97:7 112:22  <b>guy</b>          91:17  <b>guys</b>          88:17  <b>G-A-G-E</b>          16:8</p> <hr/> <p style="text-align: center;"><b>H</b></p> <hr/> <p><b>H</b>          5:1  <b>Haggard</b>          88:17  <b>hand</b>          63:7 76:10  <b>handed</b>          74:17,18 100:10  <b>handful</b>          114:11  <b>handled</b>          22:15  <b>happens</b>          123:25  <b>hard</b>          40:7,18,20 41:5 48:18          50:24 51:17 54:18          57:5 61:5 109:5          112:1 114:9,12,20          117:16 120:12  <b>hardcopy</b>          101:4  <b>harder</b>          20:22  <b>hardware</b></p>	<p>22:23 28:9,9 48:20,22          66:20 78:11 80:5          93:7 101:13 118:21  <b>head</b>          18:18 47:16 74:13          87:16 118:12  <b>headings</b>          12:12  <b>hear</b>          56:18  <b>heard</b>          9:8 98:14  <b>heavily</b>          64:16  <b>help</b>          19:12 26:16 109:19  <b>helps</b>          96:5  <b>hereinafter</b>          2:13  <b>higher</b>          20:15  <b>high-end</b>          24:25 25:23 39:16          41:9,9  <b>high-speed</b>          120:24 122:2,17  <b>Hilton</b>          19:21  <b>Hines</b>          56:24 57:1 100:5  <b>History</b>          117:14  <b>hold</b>          63:12  <b>holder</b>          120:14  <b>home</b>          7:8,9 25:3,4 42:8 49:4          49:5,17 68:6 95:13          95:15 96:24 97:5,7          97:11 99:10,13,15          104:13 108:13,15,17          115:4 123:23  <b>home-based</b></p>	<p>97:1  <b>hooked</b>          93:18  <b>hooks</b>          93:14  <b>hope</b>          115:5 120:16  <b>hoping</b>          67:11  <b>hour</b>          19:6 50:3 55:11  <b>hourly</b>          20:15  <b>hours</b>          18:19 53:24  <b>huge</b>          77:22,23  <b>human</b>          111:1  <b>hundred</b>          41:21</p> <hr/> <p style="text-align: center;"><b>I</b></p> <hr/> <p><b>IBM</b>          78:14 85:22 86:19          92:15 93:14,17 97:20          111:6  <b>icons</b>          52:4  <b>ID</b>          68:13  <b>idea</b>          109:13 114:19 118:10  <b>ideas</b>          23:4  <b>identical</b>          11:25 12:8 30:11 44:5          66:12 67:8 85:6,11          100:12  <b>identify</b>          74:12 100:6  <b>ill</b>          8:1  <b>illustrate</b>          53:4</p>
---	---	--	---

<b>illustrated</b> 53:14	117:8 121:2	<b>intend</b> 124:9	<b>invoice</b> 59:14 61:11 69:21,23 70:6,21
<b>illustration</b> 14:2	<b>inclusion</b> 12:18 14:12	<b>intended</b> 41:19 53:3 98:1 111:18 114:5,7	<b>invoiced</b> 59:18
<b>illustrative</b> 12:20 14:14	<b>inclusive</b> 32:2	<b>intent</b> 19:13 118:22	<b>invoices</b> 59:21 70:1
<b>image</b> 38:4 46:6	<b>incoherent</b> 26:15	<b>interact</b> 56:17	<b>involve</b> 38:8
<b>images</b> 115:2,3	<b>incorrect</b> 21:7,10 75:24	<b>interchanges</b> 10:18	<b>involved</b> 46:23 49:2 60:12 65:7 121:15
<b>imagine</b> 33:3,17 41:14 102:4	<b>increase</b> 106:10	<b>interested</b> 127:16	<b>involving</b> 19:23 22:3
<b>immediate</b> 102:9	<b>independent</b> 85:22	<b>interface</b> 80:5 82:17 84:15 97:19 108:5,24 109:24 113:3 120:23 121:3,21,24 122:10 122:17,20	<b>IP</b> 78:13
<b>immediately</b> 61:3 102:8	<b>indicate</b> 51:21,22	<b>interfaced</b> 118:22	<b>irrelevant</b> 50:1 98:10
<b>implement</b> 27:5	<b>indication</b> 46:19 50:18 51:5,11	<b>interfere</b> 19:12	<b>issued</b> 77:2
<b>implementation</b> 42:11 45:24	<b>industry</b> 64:10,25 67:6 120:22	<b>interject</b> 83:19	<b>issues</b> 96:10
<b>implied</b> 36:12 46:22,23,25	<b>information</b> 13:25 42:18 81:20,25 82:3 91:25 93:2,5,11 93:12 111:14	<b>internal</b> 81:14	<b>item</b> 11:3,4 57:5 111:3
<b>important</b> 80:18 98:9	<b>infrastructure</b> 27:23	<b>Internet</b> 111:8	<b>iterations</b> 23:25
<b>impression</b> 83:16	<b>inherent</b> 57:11 58:14	<b>interpret</b> 58:11	<b>iTunes</b> 4:13 17:24 18:2,5,8
<b>inaccurate</b> 21:1,20,25	<b>initial</b> 55:10	<b>interruption</b> 27:9	<b>Iwai</b> 123:7
<b>inasmuch</b> 109:3	<b>initiated</b> 16:18	<b>interview</b> 29:18 33:18	<b>I-W-A-I</b> 123:8
<b>incarnation</b> 39:9	<b>Inn</b> 19:21	<b>interviewed</b> 29:16	<b>I/O</b> 84:20
<b>incarnations</b> 113:23	<b>input</b> 113:14	<b>interviews</b> 32:4,5	<hr/> <b>J</b> <hr/>
<b>include</b> 14:17 19:14 79:12 86:15 98:15 106:15 106:19	<b>install</b> 68:25	<b>introduce</b> 48:1	<b>JAMES</b> 3:15
<b>included</b> 13:20 18:25 80:3	<b>installed</b> 27:5	<b>invalid</b> 4:15 72:14,20,25	<b>james.batchelder@...</b> 3:20
<b>includes</b> 85:24	<b>instruct</b> 10:17 18:10 73:2	<b>invalidity</b> 74:1 75:3,8,19 76:1	<b>Janeiro</b> 87:23
<b>including</b> 19:3,15,17 22:24 46:18 66:9 107:22	<b>instruction</b> 73:12 74:4		<b>Japan</b> 123:8
	<b>Instruments</b> 65:18		<b>Jerry</b>

<p>78:6,8,12 79:18  <b>Jersey</b>          61:24,25 62:3,4  <b>Jim</b>          94:8 115:8  <b>jobs</b>          52:9  <b>John</b>          16:5 36:23 67:7 88:16          91:8,11  <b>joint</b>          65:1,4  <b>jointly</b>          62:8  <b>Jose</b>          115:10  <b>jumped</b>          21:7  <b>June</b>          89:6,23 91:2 112:22  <b>J-E-R-R-Y</b>          78:7</p> <hr/> <p style="text-align: center;"><b>K</b></p> <hr/> <p><b>Kane</b>          79:5  <b>keep</b>          26:17 93:24  <b>kept</b>          7:15 55:6,9  <b>key</b>          16:4 56:11 98:6  <b>keyboard</b>          56:18 86:1 113:3  <b>keyboards</b>          81:8  <b>keyboard's</b>          121:22  <b>keys</b>          113:20  <b>keystroke</b>          56:1  <b>keystroke-error</b>          55:17  <b>kind</b></p>	<p>34:14 50:1 84:20          113:14 114:19  <b>kinds</b>          55:12  <b>King</b>          116:13,17,22,23 117:2          117:3,9  <b>knew</b>          78:17,17 81:7 91:18  <b>know</b>          12:2 13:24 15:3 17:16          22:11 24:8 26:15          28:22 29:18,25,25          33:15 36:13,23 37:9          42:1 44:24 47:9          52:16 55:10 58:22          59:11,22,22,25 60:21          62:9,23 64:3,14,17          65:12 66:21 67:6          70:3 72:2,8 74:5          75:10 79:23 81:9,10          84:3 87:10 88:2,3,5,8          88:16 90:21 91:10,12          91:17 93:19 94:12          95:20 104:8 106:2          110:1,21 116:6          119:17 120:16 123:2          123:3,4,9  <b>knowledge</b>          16:13,16 69:13 96:15  <b>known</b>          11:19 23:23  <b>K-N-E-P-P-E-R-S</b>          8:15</p> <hr/> <p style="text-align: center;"><b>L</b></p> <hr/> <p><b>lab</b>          65:2,3  <b>label</b>          52:22 66:19  <b>labeled</b>          48:20  <b>Labs</b>          61:24 65:3,16,24          66:10</p>	<p><b>laid</b>          105:23  <b>Land's</b>          110:25  <b>language</b>          114:18  <b>lap</b>          121:22  <b>large</b>          102:4  <b>largest</b>          50:24  <b>Las</b>          46:15  <b>late</b>          8:11 9:10 24:10 25:20          41:14 70:9 90:3  <b>lately</b>          8:1  <b>latest</b>          102:5,5  <b>laughed</b>          79:18  <b>Lauren</b>          3:16 16:23 115:9  <b>lauren.robinson@r...</b>          3:21  <b>law</b>          3:6 7:18 17:14,17 22:7          22:15  <b>laws</b>          127:18  <b>lawsuit</b>          9:3,6,13 10:1,7 15:16          19:23  <b>lawyers</b>          17:21  <b>layer</b>          37:8  <b>learn</b>          9:6 16:17,22  <b>lease</b>          68:20  <b>lecture</b>          45:10,12 64:2</p>	<p><b>lectures</b>          64:9  <b>LED</b>          113:16  <b>left</b>          79:17,21  <b>legal</b>          15:22  <b>Len</b>          79:5  <b>letters</b>          62:18,25 63:4  <b>let's</b>          11:5,5 32:15,24 48:1          73:19 74:14 96:18          99:22 100:6,15 107:1  <b>level</b>          21:14 99:1 113:15,17  <b>levels</b>          104:22  <b>license</b>          58:15 127:23  <b>limitations</b>          66:10  <b>limited</b>          25:25 26:1  <b>line</b>          4:9 36:10,20 52:3,22          54:3 86:5 92:10,22          93:3,5,12,15,18          99:17,18,20 121:17          121:17,18  <b>lines</b>          36:6 37:18,23 52:2          92:4 120:1  <b>link</b>          40:9  <b>list</b>          12:25 14:4 15:7 16:3          22:10 84:6 89:1,20          114:3,4,4  <b>listed</b>          13:7,14 23:6,11 74:24  <b>listen</b>          104:20</p>
---	---	--	---

<p><b>listener</b> 104:13</p> <p><b>listening</b> 105:5</p> <p><b>lists</b> 116:6</p> <p><b>literature</b> 107:12</p> <p><b>litigation</b> 4:11,18,19 9:20 10:14 10:20 15:19,21,25 17:11,22 18:7,11 20:10 73:3,10,10</p> <p><b>litigation-related</b> 73:15</p> <p><b>little</b> 20:23 26:17 52:4 93:23</p> <p><b>live</b> 8:10 54:16,21 57:3 119:22</p> <p><b>LLC</b> 1:8 3:3</p> <p><b>LLP</b> 3:4,14</p> <p><b>loaded</b> 86:17,22</p> <p><b>local</b> 67:20,22 68:8 89:13 104:15</p> <p><b>locate</b> 63:13</p> <p><b>location</b> 120:15</p> <p><b>long</b> 8:24 19:5,6 54:5</p> <p><b>longer</b> 26:17</p> <p><b>long-hand</b> 81:17</p> <p><b>look</b> 47:22 74:11 75:5 79:13 92:1 95:18</p> <p><b>looked</b> 4:11 14:25 18:2,7</p>	<p><b>looking</b> 12:11 21:5,15 32:13 54:6 66:18 77:18 93:23 95:24 101:10</p> <p><b>looks</b> 12:2 79:16 96:13 107:21</p> <p><b>looping</b> 105:7</p> <p><b>loose</b> 29:5</p> <p><b>lot</b> 20:25 23:1 27:6 55:18 56:3 62:22 64:23 106:1 114:19</p> <p><b>lower</b> 29:3</p> <p><b>lower-priced</b> 95:13</p> <p><b>lunch</b> 71:10,12</p> <hr/> <p style="text-align: center;"><b>M</b></p> <hr/> <p><b>M</b> 5:4,9,15</p> <p><b>Mac</b> 85:23 86:12 111:6 117:6</p> <p><b>machine</b> 43:2 48:13 55:8 57:12 58:18,25 61:6 69:2 80:22 82:6 83:5 86:6 92:13,16,18,19 112:23,23 113:7,15 113:18,19,21 115:10 115:12,15</p> <p><b>machines</b> 24:17,20 25:5,9 42:25 47:1 50:22 51:18 53:23 58:23 60:14,17 60:20,25 61:1 67:12 67:16,21 79:8 80:16 80:23 81:13 87:9,10 111:24,24 115:23 117:7</p>	<p><b>Madsen</b> 8:15,24,25 16:11</p> <p><b>magazine</b> 29:15,19,22 114:16,16 114:17</p> <p><b>magazines</b> 114:15,18</p> <p><b>Magnito</b> 90:24</p> <p><b>Magnito-Optical</b> 90:10,12</p> <p><b>mail</b> 69:22 70:7</p> <p><b>main</b> 51:16 99:8</p> <p><b>major</b> 48:19 124:18</p> <p><b>making</b> 26:4 49:1 52:12 55:19 56:4 98:3 105:2 118:23 122:7,11,14</p> <p><b>Manhattan</b> 61:25</p> <p><b>manipulate</b> 97:21</p> <p><b>manipulations</b> 97:25</p> <p><b>manner</b> 60:1 91:24 92:2</p> <p><b>manufacturer</b> 103:17</p> <p><b>manufacturers</b> 38:19 103:19</p> <p><b>margin</b> 37:10</p> <p><b>marked</b> 5:20,21,22,23,24,25 6:1,2,3,4,5,6,7,8,9,10 6:11 11:12,23 20:6 30:4,5 43:18,19 48:4 63:10 76:6,7 85:1,2 94:4,5 107:4,5 112:7 112:10 117:20,21</p> <p><b>market</b> 41:22 81:5 102:3</p>	<p>124:3</p> <p><b>marketing</b> 28:22</p> <p><b>marketplace</b> 124:5</p> <p><b>markets</b> 41:21 107:14</p> <p><b>MARSH</b> 3:5 4:4 7:4 9:24 10:22 11:14 12:6,13 13:8 13:18 14:7 15:10 18:15 19:2,4,19 20:8 21:9,18,23 25:2 26:12,16,18 27:10,14 29:21 30:2,6,9,14,21 31:4,13,23 32:23 34:20,24 35:16 36:1 36:7,17 37:2,12,20 38:6,24 39:2,11,17 40:1,12,16 41:11 43:15,20 46:2 47:19 48:1,5,6 49:7 50:2,6 50:9 58:5 63:6,12,14 64:21 71:9,15 72:12 72:18,23 73:7,13,17 74:7,23 76:4,8,12,15 76:17,18,21,22 77:24 78:20 83:10,20 84:1 84:23 85:5,9,12,20 86:13 88:22,24 89:8 93:21,23 94:1,7,12 94:14 95:7,14 96:2,4 96:7 97:10 98:11,20 99:21,25 100:6,9,16 100:20 101:17 102:23 103:10 104:10 105:15 106:4 106:13 107:6 108:7 108:16 109:7,18 110:3,18 112:5,8,11 115:20,21 117:18,23 118:1 119:1,12 125:1</p> <p><b>Massachusetts</b> 62:2 89:15</p> <p><b>master</b></p>
--	--	---	--

34:2,11	90:7	17:8	68:20 81:9 111:11
<b>mastering</b>	<b>megabytes</b>	<b>mind</b>	<b>modems</b>
108:4	47:3	8:4 15:7 16:5 17:19	111:13
<b>matches</b>	<b>members</b>	24:13,24 52:12 87:5	<b>modified</b>
70:18,23	46:14 89:16 101:4	105:7	90:17,23
<b>material</b>	<b>memories</b>	<b>mind's</b>	<b>moment</b>
12:18,20 15:5,6,11,11	51:12,19 68:4	24:12	16:9 18:19 32:10
15:12 100:23	<b>memorize</b>	<b>mine</b>	38:23 47:23 63:12
<b>materials</b>	15:6	68:18 91:9 96:1,5,13	105:8 107:1 111:15
4:12 10:12 14:8,11,13	<b>memorized</b>	<b>Mine's</b>	<b>Monday</b>
14:17,18,25 18:2,7	22:10	69:24	1:16 2:2 7:1
28:23	<b>memory</b>	<b>mini</b>	<b>money</b>
<b>Matt</b>	40:13 47:7,7,8,10 51:1	79:5	23:5 25:19 27:2 35:14
16:7 56:24 57:1 100:4	51:16 68:8,10,11,13	<b>minimum</b>	35:25 49:1 52:12
<b>Mattare</b>	68:14 72:4 73:23	47:3 50:23	60:9 103:12 104:9,20
78:7	74:12 94:24 111:17	<b>minus</b>	<b>monitoring</b>
<b>matter</b>	<b>mention</b>	83:7	54:7
11:21 14:5 15:23	40:18 64:8	<b>minutes</b>	<b>month</b>
16:15 18:1 72:4 75:9	<b>mentioned</b>	42:1	78:9 86:24
83:3 127:16	23:20 62:20 66:9	<b>missed</b>	<b>monthly</b>
<b>matters</b>	84:10 88:20 89:9	70:8	70:21
16:20 17:15	95:4 108:6 121:16	<b>missing</b>	<b>months</b>
<b>Mayer</b>	<b>mentions</b>	31:5 77:20,22 82:22	89:7 119:10
1:24 2:4 127:3,22	77:19 118:14	82:25 83:1,2,3,11	<b>Motion</b>
<b>mean</b>	<b>meters</b>	84:11 95:20,22 96:1	80:14
19:11 46:4 49:18	113:16,17	96:2 101:11 108:6,8	<b>Motorola</b>
88:21	<b>method</b>	108:19 109:5,10,17	65:18
<b>means</b>	5:6,11 37:19 45:25	118:11	<b>moving</b>
42:21 51:25 52:1,12	82:17	<b>mission</b>	119:9
59:6,25 81:16 106:10	<b>methodology</b>	22:19,20	<b>multiple</b>
110:16 111:15	124:23	<b>misspoke</b>	97:8 103:25 104:5,8,9
<b>meant</b>	<b>Mexican</b>	55:23 56:10 115:18	<b>Museum</b>
88:22	87:21	<b>mixing</b>	115:10 117:14
<b>mechanism</b>	<b>Mexico</b>	86:1	<b>music</b>
110:14	26:9,9,10	<b>model</b>	4:13 17:24 18:2,8 26:8
<b>medium</b>	<b>Michael</b>	23:15,19,24 24:2,7	27:3 32:17 33:21
39:22	1:13 2:7 4:3 7:6	25:15 35:13,17,18	34:12,25 35:7,9 37:8
<b>meet</b>	126:11	37:10 39:13 41:7	38:4 42:23 45:14
18:21 19:5,7,9	<b>Microsystems</b>	52:11 67:25 103:23	55:12 56:14 59:9,10
<b>meeting</b>	65:19	105:9,13,20,21,24,25	86:2,3 95:6 98:3,15
19:18,20 124:21	<b>microwave</b>	105:25 106:5,7,10,12	101:13,19 102:3,5,6
<b>meetings</b>	121:4 122:13,20	106:15,19	102:7,17,24,25 105:1
19:14,15 44:17 45:4	<b>middle</b>	<b>models</b>	108:4 111:17,25
45:17,18 124:19	95:19 113:19	23:13 104:1 105:6	115:17,25 116:2,4,14
<b>megabyte</b>	<b>mileage</b>	<b>modem</b>	116:15 118:24



<p>119:25 123:21  <b>musical</b>                  91:22  <b>musician</b>                  24:25  <b>M-A-D-S-E-N</b>                  8:15  <b>M-A-T-T-A-R-E</b>                  78:8</p> <hr/> <p style="text-align: center;"><b>N</b></p> <hr/> <p><b>N</b>                  3:1,16 4:1,8,8,8  <b>NAB</b>                  66:23  <b>name</b>                  7:5 15:22 23:24 24:15                  55:21 56:7,12,22                  57:6 65:2,17 84:5                  100:7  <b>named</b>                  56:15 121:6  <b>names</b>                  16:1,4 17:15,16,17                  33:11 45:19  <b>Name's</b>                  24:13  <b>National</b>                  44:12  <b>Natural</b>                  117:14  <b>necessarily</b>                  88:18 98:24 99:8  <b>necessary</b>                  14:19 121:24 122:3,7                  122:10,14 126:6  <b>need</b>                  27:5 67:21,24 76:8                  86:15 93:21 117:23                  123:24  <b>needed</b>                  52:16,22 59:8  <b>network</b>                  42:21 93:15  <b>networks</b></p>	<p>28:10 92:3 102:8  <b>never</b>                  23:2 59:23 70:3 82:16                  107:23 124:18  <b>new</b>                  53:5 54:10,14,14,18                  54:20,21 58:8,9                  61:15,24,25 62:3,4                  78:9,10,10 99:17,18                  101:2 102:9 107:13                  107:14 120:7 121:13                  123:20  <b>news</b>                  124:1  <b>Newsweek</b>                  114:16  <b>nice</b>                  124:19  <b>night</b>                  20:24  <b>Nissho</b>                  123:7  <b>nobody's</b>                  49:18  <b>nonvolatile</b>                  47:7  <b>non-erasable</b>                  90:19  <b>non-rotating</b>                  51:1  <b>normally</b>                  60:12  <b>Northridge</b>                  59:2,3,9  <b>note</b>                  12:4  <b>noted</b>                  125:5  <b>notes</b>                  79:25 98:4,5 127:13  <b>Notice</b>                  2:1  <b>noticeable</b>                  120:2  <b>number</b></p>	<p>12:25 13:14 23:19                  24:18 25:7 29:8                  38:18 42:5 52:18                  54:18,23 55:11 68:14                  70:24 74:12,21,21                  76:15 81:21,24 84:4                  85:3 94:8,10 96:19                  110:16 111:2 123:5  <b>numbering</b>                  115:19  <b>numbers</b>                  47:8 81:10,11 84:7                  107:8  <b>numerous</b>                  13:15 58:1  <b>NW</b>                  3:7  <b>N2K</b>                  19:24 20:9,16</p> <hr/> <p style="text-align: center;"><b>O</b></p> <hr/> <p><b>O</b>                  4:8  <b>Oaks</b>                  2:10 7:10  <b>oath</b>                  7:17 27:15 39:3 50:10                  71:16 127:7  <b>object</b>                  10:15 73:1 102:21  <b>objection</b>                  12:9 13:22 15:2 18:9                  18:11 21:3,13,21                  24:22 29:14 30:13                  31:2,8,16 32:19                  34:16 35:11,20 36:4                  36:11,21 37:5,15                  38:2 39:8,14,21 40:5                  40:15 41:8 45:23                  47:13 48:24 57:25                  61:19 72:7,15,21                  73:11 74:3 77:15                  81:1 83:6,14 84:13                  85:7,18 86:9 89:3                  94:25 95:1,10 97:6</p>	<p>98:8,18 101:9 103:3                  104:7,24 105:11,22                  106:8 108:2,11 109:2                  109:12,25 110:12                  111:19 114:24                  117:12 118:20 119:7                  124:24  <b>objections</b>                  127:9  <b>obtaining</b>                  98:22  <b>occurred</b>                  54:5 61:21  <b>occurs</b>                  109:14  <b>offered</b>                  86:16 123:14  <b>office</b>                  1:1 9:22 16:19 17:4                  18:13 61:24 62:2                  79:1,9 117:7  <b>offices</b>                  19:8  <b>oh</b>                  15:18 19:1,16,16 60:6                  64:14,21 74:20 85:11                  96:13 114:15  <b>okay</b>                  9:23 10:21 11:5,10                  18:14 19:3 26:14,17                  27:13 33:1 50:2,8,12                  50:14,15 73:6 74:21                  74:24 82:9 94:1 96:6                  99:21,25 125:1  <b>old</b>                  70:17  <b>older</b>                  99:19  <b>once</b>                  51:14  <b>ones</b>                  32:12 85:19 90:15                  91:8 110:22 111:23  <b>ongoing</b>                  63:1,2</p>
--	--	---	--

<p><b>online</b> 111:7,7</p> <p><b>open</b> 46:13,15 55:6</p> <p><b>operating</b> 51:17 53:20</p> <p><b>operations</b> 61:23</p> <p><b>operator</b> 81:18,19</p> <p><b>opinion</b> 4:14,16 27:19 37:4,22 42:17 72:5,13,16,19 72:24 73:3,5,8,19,24 74:1,9 75:2,8,15,18 76:1 78:19 104:5 109:8,9</p> <p><b>opinions</b> 72:9</p> <p><b>opposed</b> 58:12 67:18 73:4 93:11 125:2</p> <p><b>optical</b> 23:17 42:10 90:24 112:1,2</p> <p><b>option</b> 124:17</p> <p><b>optional</b> 84:19,19 120:23</p> <p><b>order</b> 70:12 81:24 110:24</p> <p><b>ordering</b> 52:19</p> <p><b>orders</b> 87:9</p> <p><b>organization</b> 65:4</p> <p><b>organizations</b> 67:7</p> <p><b>original</b> 59:6 98:19 101:20,23</p> <p><b>originally</b> 8:7 58:16</p> <p><b>outlook</b> 101:25</p>	<p><b>outputs</b> 23:18</p> <p><b>Outside</b> 17:20</p> <p><b>outtakes</b> 15:5</p> <p><b>overkill</b> 14:16</p> <p><b>overly</b> 14:15</p> <p><b>owned</b> 22:21 68:17</p> <p><b>owner</b> 1:9 2:11 3:3 35:1 104:6,9,12 105:3</p> <p><b>owners</b> 60:20,25 104:21,23</p> <p><b>Owner's</b> 5:3</p> <p><b>o0o</b> 71:14 125:6</p> <hr/> <p style="text-align: center;"><b>P</b></p> <hr/> <p><b>P</b> 3:1,1</p> <p><b>package</b> 65:11</p> <p><b>packages</b> 80:19</p> <p><b>package-type</b> 67:11</p> <p><b>pad</b> 110:24</p> <p><b>page</b> 4:2,9 5:3 12:5,7 95:18 96:18,19,20 101:15 101:15,19,20,23 102:25 119:20 120:17</p> <p><b>pages</b> 1:14 5:19 12:11</p> <p><b>paid</b> 16:24 17:2,6 20:9 37:9 42:21 58:13,17,24 59:12,17,25 60:2,5</p>	<p>70:1 104:6,20,23 117:13,15</p> <p><b>pain</b> 93:23</p> <p><b>pair</b> 43:15</p> <p><b>Palo</b> 3:18 19:8 22:15</p> <p><b>panel</b> 84:15,16,16 109:13,15 109:23</p> <p><b>paper</b> 60:12</p> <p><b>paragraph</b> 12:24 13:14 28:13,15 96:3,18 101:23,24,25 102:15,15</p> <p><b>paragraphs</b> 13:6</p> <p><b>parallel</b> 82:11 84:25 85:4 92:10</p> <p><b>paraphrased</b> 100:24</p> <p><b>part</b> 41:21 44:16 45:9 55:6 56:19 57:12 61:13 65:10,11 77:17 98:19 101:14 109:15 120:8</p> <p><b>participated</b> 7:21</p> <p><b>participating</b> 10:1 17:6</p> <p><b>particular</b> 25:14 35:13 36:3 40:11 54:12 121:10</p> <p><b>parties</b> 22:14 103:13 127:15</p> <p><b>partners</b> 64:25</p> <p><b>partnership</b> 64:15</p> <p><b>parts</b> 69:10 119:16 121:15</p> <p><b>party</b></p>	<p>116:24 117:10</p> <p><b>passed</b> 105:4</p> <p><b>Passing</b> 20:4 48:2</p> <p><b>pasting-type</b> 113:11</p> <p><b>patent</b> 1:1,2,7,9 2:11 3:3 4:15 5:3,6,11 9:22 16:19 17:4 18:12 71:21,25 72:6,14,19,24 73:22 74:2,9,24,25 75:7,13 75:19 76:2 77:2,5 78:12,12,12,15,17,21 79:21,24 80:3,3,7,9 82:19 83:13,16,21 84:2,4,11,17</p> <p><b>patentable</b> 79:19</p> <p><b>patented</b> 78:3</p> <p><b>patents</b> 16:18 78:5 84:7</p> <p><b>paths</b> 12:5</p> <p><b>pause</b> 40:21 42:7 43:14 45:3 63:11 93:20 112:4 113:13</p> <p><b>pay</b> 35:9 59:20 70:5 103:22,23 104:14,16 104:20</p> <p><b>paying</b> 38:4 49:19 103:4,17 103:24</p> <p><b>payment</b> 24:8 35:18 36:3 37:3 37:14 42:14,18 43:3 49:12 51:21,23,24 52:5,7,15 57:22 58:9 58:11,12 61:7 70:20 70:23 80:24 81:23 91:22 103:1 104:11</p>
---	--	--	--

<p>105:20 110:8,11 117:10 124:23</p> <p><b>payments</b> 81:15</p> <p><b>payment's</b> 103:20</p> <p><b>pays</b> 103:11,15 105:3</p> <p><b>pay-per-view</b> 70:17 71:7</p> <p><b>PC</b> 85:22 86:12,15,17,19 86:22,25 87:1,17,17 92:2,15 93:14,17 97:20 111:6 113:3 117:4,5</p> <p><b>PCs</b> 86:17,21,25 87:25 88:7 92:3</p> <p><b>penalty</b> 126:3 127:17</p> <p><b>pending</b> 9:13 10:1 15:16 85:9</p> <p><b>Pennsylvania</b> 9:4,14 10:2,6,14 15:17</p> <p><b>people</b> 16:1 24:14 27:4 44:23 49:13 52:17 58:3 59:24 65:3,17 87:3 99:16 105:5 115:8</p> <p><b>peoples</b> 28:9,10</p> <p><b>percent</b> 41:22 46:9</p> <p><b>perfect</b> 80:17</p> <p><b>perfectly</b> 82:9 92:16</p> <p><b>perform</b> 9:12</p> <p><b>performance</b> 55:18 56:2</p> <p><b>performed</b> 17:12,14</p> <p><b>period</b></p>	<p>14:23 18:20 34:9 42:3 55:11 69:9 70:2,11 71:7 78:11 92:2 111:6 119:11</p> <p><b>perjury</b> 126:4 127:17</p> <p><b>permission</b> 120:13</p> <p><b>person</b> 18:21 19:5 26:8 52:19 67:5</p> <p><b>personally</b> 2:5 43:6</p> <p><b>personnel</b> 53:12,13,17</p> <p><b>Perusing</b> 34:17 47:24 77:21 79:15 85:8 95:3 107:19</p> <p><b>Peter</b> 16:7</p> <p><b>Petition</b> 5:5,10</p> <p><b>Petitioner</b> 1:5 3:13</p> <p><b>Phillips</b> 65:10</p> <p><b>phone</b> 36:6,10,20,23 37:18 52:11,22 54:3 67:20 71:4 93:3,5,12,15,18 99:17,18 102:6 120:1 123:23</p> <p><b>phonetic</b> 88:17</p> <p><b>photograph</b> 112:17,19</p> <p><b>photos</b> 5:17</p> <p><b>phrase</b> 28:16,17</p> <p><b>physical</b> 117:16 121:19</p> <p><b>Ph.D</b> 3:5</p>	<p><b>pick</b> 36:23</p> <p><b>picture</b> 80:14 114:22 115:9 121:21</p> <p><b>pictured</b> 113:21</p> <p><b>pictures</b> 116:18,19</p> <p><b>piece</b> 107:12</p> <p><b>pieces</b> 43:8,9 109:17 122:16</p> <p><b>pipeline</b> 102:11</p> <p><b>piracy</b> 103:7</p> <p><b>pitch</b> 65:8</p> <p><b>pitched</b> 64:24 65:18,18</p> <p><b>pitching</b> 65:6</p> <p><b>Pittsburgh</b> 8:7</p> <p><b>place</b> 2:9 53:7 56:15 127:6</p> <p><b>places</b> 68:25 114:15</p> <p><b>plain</b> 82:5,8</p> <p><b>planning</b> 17:9</p> <p><b>play</b> 87:19 113:13 114:3 116:6 124:19</p> <p><b>playback</b> 77:3 114:2,2 116:8</p> <p><b>played</b> 120:1</p> <p><b>player</b> 42:9 89:18</p> <p><b>playing</b> 54:17 116:13</p> <p><b>plays</b></p>	<p>87:15</p> <p><b>please</b> 34:21 64:21 92:25</p> <p><b>plug</b> 68:21 69:4</p> <p><b>plugged</b> 42:8</p> <p><b>plus</b> 84:22 116:14</p> <p><b>point</b> 14:16 29:8,18 35:23 40:8 45:12 48:20 62:9 86:16 97:14 101:18 103:22 104:17 115:6 117:5</p> <p><b>points</b> 60:13</p> <p><b>political</b> 96:10</p> <p><b>popular</b> 69:10 114:17 116:14</p> <p><b>port</b> 81:9 82:11,11,12 92:9 92:10</p> <p><b>PORTER</b> 3:4</p> <p><b>ports</b> 42:16</p> <p><b>possession</b> 13:25</p> <p><b>possibility</b> 98:16</p> <p><b>possible</b> 14:2 15:7 60:23 63:23 66:11,12 110:9</p> <p><b>possibly</b> 67:13 117:6</p> <p><b>potential</b> 64:25 82:4 86:2 102:2 105:14</p> <p><b>potentially</b> 63:8</p> <p><b>power</b> 93:24</p> <p><b>practice</b></p>
---	--	---	---

<p>20:13  <b>predecessor</b>                  111:8  <b>predetermined</b>                  55:15  <b>prefix</b>                  24:2  <b>preloaded</b>                  82:2  <b>preparation</b>                  18:22 19:14 29:23                  71:22 72:1 73:4  <b>prepared</b>                  11:20 63:24 118:8  <b>preparing</b>                  14:9 15:1 18:16  <b>prerecorded</b>                  54:17,22 61:4 81:16  <b>present</b>                  33:9 44:16,19 45:9                  64:13 72:16 78:11                  109:10  <b>presentation</b>                  55:10 63:21 64:2                  65:14 66:21,23,24                  101:1  <b>presentations</b>                  44:17 46:8,10 64:12                  65:24 66:13 67:2,5  <b>presented</b>                  45:13,16 64:9,17                  66:16 101:3  <b>press</b>                  55:7 62:8,14 65:22                  114:20 120:9  <b>pressing</b>                  113:20  <b>pretty</b>                  36:12 37:19 45:11                  46:25 53:6 59:2,3                  60:10 68:10 78:11                  89:6 91:16  <b>previous</b>                  5:17 40:19 55:22,23                  55:24 56:8,9 75:5</p>	<p>121:18  <b>previously</b>                  5:7,12,20,21,22,23,24                  5:25 6:1,2,3,4,5,6,7,8                  6:9,10,11 7:12 28:14                  30:4,5 37:21 43:18                  43:19 52:23 63:10,17                  76:6,7 85:1,2 94:4,5                  106:22 107:4,5 112:7                  112:10 117:20,21  <b>pre-announced</b>                  89:7  <b>pre-configured</b>                  86:16,21,25 87:9  <b>pre-program</b>                  56:22  <b>price</b>                  89:21,22,24  <b>pricing</b>                  97:8  <b>principal</b>                  2:9  <b>prior</b>                  4:19 8:24 19:23 33:4,7                  53:2 61:25 73:10                  74:8 75:3,8 89:5                  119:2  <b>private</b>                  65:22  <b>privilege</b>                  9:18 10:15 73:13  <b>privileged</b>                  18:9 73:18  <b>probably</b>                  7:16 16:8 22:9 27:1                  28:2 36:15 42:19                  43:8 44:12 45:7 46:9                  61:1 66:25 71:9                  105:6 112:20 119:4  <b>problem</b>                  103:7  <b>proceed</b>                  124:21  <b>proceeding</b>                  7:20 16:18 73:16</p>	<p><b>proceedings</b>                  9:22 10:17,24 17:4,12                  18:13 40:21 42:7                  43:14 45:3 63:11                  93:20 112:4 125:4                  127:5  <b>process</b>                  54:7 55:9 56:23 63:22                  68:5 81:15 98:21                  99:7 121:19  <b>processing</b>                  81:5  <b>produced</b>                  46:6 63:4  <b>producer</b>                  26:9  <b>product</b>                  23:6,7 27:1 87:3                  108:15  <b>production</b>                  38:11 58:2  <b>products</b>                  15:24 22:22,23 23:8                  23:20 26:19,23,25                  39:16 41:23 67:9                  97:9  <b>professional</b>                  22:24 23:6,7 24:1,4,6                  24:16,20 26:20,21                  58:2 108:5,14,25                  109:8  <b>professionally</b>                  108:12  <b>profits</b>                  22:20  <b>program</b>                  64:24 70:12 116:8  <b>programs</b>                  111:10  <b>promoted</b>                  23:2,4 87:3  <b>promoting</b>                  14:23 27:2 66:5  <b>promotion</b>                  105:2,3</p>	<p><b>promotional</b>                  65:11,23 105:1 107:12  <b>proposed</b>                  45:24 97:2  <b>proposing</b>                  52:7  <b>propounded</b>                  127:9  <b>proprietary</b>                  106:2  <b>protection</b>                  78:13  <b>prototype</b>                  89:1  <b>prototypes</b>                  112:18  <b>proved</b>                  62:10  <b>provide</b>                  10:9,12,23 13:19 14:8                  17:15 34:11 35:7                  43:3 47:20 59:5                  62:16 91:21 114:21  <b>provided</b>                  10:5 11:1 13:2,7,16                  14:6 19:22 22:17                  37:3 58:9 61:4 66:14                  71:2 115:5 116:22                  117:2,8 122:21  <b>providing</b>                  16:25 17:3 78:21                  93:11  <b>province</b>                  73:16  <b>provision</b>                  10:16 36:3  <b>PTO</b>                  10:17  <b>public</b>                  14:19 36:14 46:12,14                  46:14,15,17 55:17                  56:2 61:21 62:6,7,12                  62:17 112:18,19,20  <b>publication</b>                  34:5</p>
---	---	--	--

<p><b>publications</b> 14:4</p> <p><b>publicly</b> 22:21 89:12</p> <p><b>published</b> 33:3,4,7 62:8 114:14 114:23 119:3,14</p> <p><b>purchase</b> 36:9,19 38:1,16 98:17 110:14,20 111:7</p> <p><b>purchased</b> 111:5</p> <p><b>purchases</b> 37:18</p> <p><b>purchasing</b> 38:3 110:15,23</p> <p><b>purely</b> 36:25</p> <p><b>purports</b> 56:21</p> <p><b>purpose</b> 27:8 65:20 123:4</p> <p><b>purposes</b> 57:15 105:1</p> <p><b>pursuant</b> 2:1</p> <p><b>pushed</b> 105:1 114:20</p> <p><b>put</b> 29:19 40:3 102:14 107:12 127:7</p> <p><b>p.m</b> 2:2 7:1 125:5</p> <hr/> <p style="text-align: center;"><b>Q</b></p> <hr/> <p><b>qualify</b> 25:1 81:22</p> <p><b>quality</b> 54:6</p> <p><b>question</b> 13:23 19:13 21:4,5,8 29:11 34:14,18,20 35:7 54:24 55:23 56:5,9 58:4,11 75:21 85:9 95:11 102:22</p>	<p><b>questions</b> 10:18 127:9</p> <p><b>quickly</b> 61:6 91:16</p> <p><b>quote</b> 28:16,17</p> <hr/> <p style="text-align: center;"><b>R</b></p> <hr/> <p><b>R</b> 3:1,5,15 4:8</p> <p><b>radio</b> 25:10 54:16,21 57:3 80:20 104:15,15,17 104:20 119:22 120:13 123:22</p> <p><b>RAM</b> 51:17</p> <p><b>random</b> 87:13</p> <p><b>randomly</b> 116:7</p> <p><b>range</b> 22:23</p> <p><b>rate</b> 20:15,15</p> <p><b>RCA</b> 65:1,16,24 66:10 69:14,17</p> <p><b>read</b> 11:3 13:12 20:17,22 20:24 21:2,17 34:13 34:19,20,22 40:6 71:23 72:2,3 73:22 85:10 92:25 96:3,4,8 120:4 123:17 124:7 126:4</p> <p><b>readily</b> 123:13</p> <p><b>reading</b> 52:18 96:12 102:15</p> <p><b>ready</b> 20:7 50:6 94:12,13 102:9</p> <p><b>realized</b> 27:24 70:8</p>	<p><b>really</b> 12:17 30:1 91:19 108:13 118:9</p> <p><b>reason</b> 8:4 21:24 65:19 79:16</p> <p><b>rebroadcast</b> 104:17</p> <p><b>recall</b> 16:21 19:10,24 20:24 20:24 23:14,15 24:18 25:7 26:3,4 32:10,12 33:8,17 42:5 43:4 45:2,4,6,19 60:6 70:16,22 71:1 73:22 75:4 77:25 78:2 84:4 87:5 88:12,14 94:8 119:4</p> <p><b>recalling</b> 16:9</p> <p><b>receive</b> 46:1 69:17</p> <p><b>received</b> 117:10</p> <p><b>receives</b> 86:4 93:2</p> <p><b>receiving</b> 52:20 55:14 61:23 93:12 99:6</p> <p><b>recess</b> 71:12</p> <p><b>recited</b> 15:13</p> <p><b>recognize</b> 43:21,22 44:3</p> <p><b>recognized</b> 82:4</p> <p><b>recollect</b> 24:11,16 25:12,17,21 41:15 45:12,16 54:13 70:20 76:2 91:13 96:15 107:25</p> <p><b>recollection</b> 10:8 29:6 55:1 60:3,4 66:2 67:4</p> <p><b>recommendation</b> 38:20</p>	<p><b>reconfigured</b> 87:25 88:7</p> <p><b>record</b> 12:4 13:8,10,11,12 27:6,11,12 31:18,25 32:6 33:20 34:7,22 35:9 36:15,24,25 38:11,22,25 39:1 40:2 49:3,5,16,24 50:4,5,16 71:11,13 98:16,22,22,24 99:1 99:5,9,23,24 102:17 102:18,19,25 103:11 103:16,17,21 113:13 125:3</p> <p><b>recorded</b> 51:7,7 57:4 59:7 116:3 116:16 119:24,25 127:10</p> <p><b>recorder</b> 23:12 25:5,8,17,18,22 26:21,21,22,22 108:13,14,17 124:2</p> <p><b>recorders</b> 23:1,21,21 26:1,5 48:15 49:4</p> <p><b>recorder/player</b> 38:10</p> <p><b>recorder/players</b> 22:25</p> <p><b>recording</b> 39:19 42:9 45:25 56:16 77:3 103:5,6 103:18,19,21 114:2 120:22 123:21</p> <p><b>recordings</b> 61:5,9 96:21 97:12 98:3,12 123:25 124:15</p> <p><b>records</b> 20:12 41:20 75:5,11</p> <p><b>red</b> 48:17,25</p> <p><b>Redcliffe</b></p>
--	---	--	--

<p>61:25  <b>redistribution</b>          67:22  <b>reduced</b>          103:8  <b>redundant</b>          12:22 14:15 15:5  <b>refer</b>          12:5 28:3,6 29:22          30:16 32:17 64:3          89:17 92:23 110:20  <b>reference</b>          14:2 15:1 32:14 36:5          37:16 40:11 48:11,13          48:22 67:10 83:22          101:14,18  <b>referenced</b>          11:2 14:6 39:22  <b>references</b>          49:13  <b>referred</b>          25:16 26:19 33:10,19          39:15 41:6,18 43:16          45:4 48:7 62:12,15          102:17  <b>referring</b>          57:2 64:6 82:5 100:13  <b>refers</b>          92:21 103:4  <b>reflect</b>          119:14  <b>reflection</b>          119:15,16 121:5  <b>reflective</b>          63:1  <b>refresh</b>          73:23 74:11 94:23  <b>refreshing</b>          72:4  <b>refuse</b>          78:16  <b>regarded</b>          106:1  <b>regarding</b>          15:16</p>	<p><b>regular</b>          20:15  <b>reject</b>          90:9  <b>relate</b>          14:5 32:21  <b>related</b>          4:18,19 13:1 18:2 29:5          73:9,10  <b>relating</b>          4:12 9:12 18:8 71:18  <b>relation</b>          17:11  <b>relationship</b>          10:13  <b>relative</b>          127:14  <b>release</b>          62:8,14 102:8  <b>reliability</b>          54:2  <b>relying</b>          62:16  <b>remember</b>          9:8 12:17 15:4 17:16          17:17 20:19 22:7          23:16,19 24:9,14          26:7 54:11 64:14          66:15 68:13 70:13,18          70:19 78:21 79:10          83:23 90:21 91:7          96:17 110:21,22,23  <b>REMEMBERED</b>          2:1  <b>remote</b>          45:25 120:15  <b>remotely</b>          112:25  <b>removable</b>          90:12,16  <b>renamed</b>          121:7  <b>renumbered</b>          101:16  <b>rephrase</b></p>	<p>30:24  <b>replace</b>          41:19,21 114:5,7          124:10  <b>replaced</b>          99:19  <b>replacement</b>          41:22  <b>reported</b>          1:23 61:3  <b>reporter</b>          2:4 11:13 20:7 27:9          30:20 48:3 56:25          63:7 68:23 69:15          76:11,12,20 88:10,15          90:11 100:8 101:6,22          103:9 107:20 113:1          116:21 119:2 127:1,4  <b>reporters</b>          55:7 88:13  <b>represent</b>          67:18  <b>representation</b>          44:8  <b>representing</b>          17:21  <b>request</b>          59:6  <b>requested</b>          55:14  <b>require</b>          47:11  <b>research</b>          74:6 75:4 110:2 118:9  <b>reselling</b>          86:21  <b>respect</b>          4:17 9:25 13:20 37:22          47:21 51:5 52:13          57:22 73:8,20,25          74:1,9,24 75:7,18,24          78:22 83:4 84:14          87:21 88:9 105:19          106:25 107:24          111:16</p>	<p><b>retail</b>          35:5 37:10 98:25          103:21  <b>retailer</b>          34:12 35:3,4 36:24,24          37:23 40:14 49:15,23          91:20  <b>retailers</b>          25:24 26:2,6 36:14          40:6 49:22 68:3  <b>retained</b>          16:14  <b>return</b>          22:20  <b>revenue</b>          23:3 66:4 106:15,19  <b>reverse</b>          113:13  <b>review</b>          5:7,12 7:23 21:14,19          33:4 71:21,25 116:13  <b>reviewed</b>          16:19 20:19 21:11  <b>revolutionary</b>          114:19  <b>re-ask</b>          29:11  <b>re-labeled</b>          86:19,20  <b>re-reading</b>          83:15  <b>right</b>          29:20 38:3 47:4 54:10          96:19 113:17 115:8  <b>right-hand</b>          119:20  <b>Rio</b>          87:22  <b>Road</b>          2:3  <b>roads</b>          8:22  <b>Robinson</b>          3:16 16:23 115:9  <b>rolled</b></p>
---	--	---	--

<p>80:7  <b>Rolling</b>                  114:16  <b>room</b>                  15:4 87:17  <b>Roos</b>                  16:7,10,14  <b>ROPES</b>                  3:14  <b>route</b>                  93:16  <b>routed</b>                  92:14  <b>royalties</b>                  103:4,18 104:16  <b>royalty</b>                  102:13 103:22  <b>RPR</b>                  1:24 127:22  <b>RS232</b>                  69:9 81:7,9 92:9  <b>run</b>                  103:7  <b>running</b>                  44:22 99:18  <b>R-O-O-S</b>                  16:7</p> <hr/> <p style="text-align: center;"><b>S</b></p> <hr/> <p><b>S</b>                  3:1 4:8,8,8 5:1  <b>Sacramento</b>                  1:17 2:3  <b>sake</b>                  63:6 66:4  <b>sale</b>                  24:6,10 28:2 33:23                  67:19,23 68:1,2                  102:10 106:15,20  <b>sales</b>                  25:12,25,25 26:4                  49:25 60:11,14,15                  67:18 87:2,4  <b>salesman</b>                  87:4</p>	<p><b>sample</b>                  116:22  <b>San</b>                  115:10  <b>Sarnoff</b>                  65:2,3,16,24 66:10  <b>satellite</b>                  104:14,15  <b>save</b>                  123:18  <b>saw</b>                  63:16 65:5 88:3  <b>says</b>                  36:22 37:16 46:24                  47:2 93:13 96:20                  103:17 110:13                  113:12,13 120:17                  121:5  <b>scan</b>                  94:23  <b>scanned</b>                  21:15  <b>scanning</b>                  83:2  <b>scheme</b>                  111:25  <b>schemes</b>                  110:8  <b>Schwartz</b>                  1:13 2:7 4:3 5:4,9,15                  7:5,6 126:11  <b>Schwede</b>                  16:6,10,14  <b>Science</b>                  114:17  <b>scope</b>                  12:21 14:14  <b>scrap</b>                  24:9  <b>screen</b>                  44:21,25 56:17 101:3                  121:22  <b>script</b>                  55:13,16,25  <b>scripts</b></p>	<p>55:16,25 81:16 113:2  <b>scrolling</b>                  113:18  <b>search</b>                  55:20,22 56:6,8,11,18                  57:6 84:5  <b>searchable</b>                  67:22  <b>searched</b>                  57:8  <b>second</b>                  13:9 29:20 96:18  <b>seconds</b>                  44:25  <b>section</b>                  101:24 123:18  <b>see</b>                  24:12,13,14 33:2                  38:10 48:18,25 55:8                  61:2 66:3 77:18,19                  79:13,25 84:17 87:8                  95:4 96:1 97:8 101:5                  102:2 107:18 109:4                  110:13 112:20                  118:15 121:21  <b>seen</b>                  46:16 59:24 73:23  <b>select</b>                  12:18 14:11 87:18                  116:7  <b>selections</b>                  114:4  <b>sell</b>                  22:22 27:4,8 28:11                  33:20 41:1,4,12,13                  49:16,17,22,24 58:1                  60:19 65:19 67:11                  68:4 86:25 87:25                  122:24 123:1  <b>seller</b>                  82:4  <b>selling</b>                  24:24 49:14,25 61:14                  64:23 67:14 86:19                  87:6 117:15</p>	<p><b>sells</b>                  35:5 49:15  <b>semi-private</b>                  89:13  <b>send</b>                  93:5  <b>sending</b>                  61:23,23 82:3 121:20  <b>sense</b>                  29:5 77:12 103:19  <b>sensitive</b>                  26:12  <b>sent</b>                  54:11,13,19 57:4 59:9                  59:11 119:22 120:1                  123:21 124:15  <b>sentence</b>                  40:19 92:24,25 93:4                  96:4,14  <b>sentences</b>                  123:17  <b>separated</b>                  67:16  <b>sequencing</b>                  114:2  <b>serial</b>                  42:15 82:11 92:9  <b>series</b>                  24:2,7 25:3 39:16 43:1                  43:2 61:22 67:12                  68:2 95:13 113:6  <b>served</b>                  22:2  <b>service</b>                  22:25 23:12 25:5,8                  26:20,22  <b>services</b>                  22:18 52:10 102:7  <b>set</b>                  2:13 15:8 31:18 43:25                  48:10 49:11 53:18,23                  106:5 115:15,23                  117:15 127:6  <b>sets</b>                  116:7</p>
---	---	---	--

<p><b>settled</b> 22:16</p> <p><b>setup</b> 54:1,7 69:14</p> <p><b>set-top</b> 69:7</p> <p><b>sewers</b> 8:22</p> <p><b>share</b> 41:22</p> <p><b>shareholder</b> 106:11</p> <p><b>shareholders</b> 22:21 62:18,23,25 63:3</p> <p><b>ship</b> 57:13,17 90:17,23 91:4 111:3</p> <p><b>shipments</b> 57:23</p> <p><b>shipped</b> 57:10 86:10 90:14 107:23 108:19,22</p> <p><b>shipper</b> 61:4</p> <p><b>shipping</b> 61:3</p> <p><b>shopping</b> 25:1 110:23</p> <p><b>short</b> 40:11</p> <p><b>shorthand</b> 2:4 127:4,13</p> <p><b>show</b> 14:19 44:14,20,22 47:15,16 53:4 57:8 63:21,25 64:2 66:21 89:2,6,9 108:21 112:21,23 116:5,10</p> <p><b>showed</b> 46:12,17</p> <p><b>showing</b> 59:24 63:21</p> <p><b>showings</b> 89:13</p>	<p><b>shown</b> 51:25 89:2,11,12 112:18,19,24</p> <p><b>shows</b> 44:13 45:24 46:13 50:21 53:6 57:9,21 66:16 67:6 84:19 101:12</p> <p><b>shrift</b> 40:11</p> <p><b>Shumaker</b> 78:6,8</p> <p><b>sic</b> 88:10 92:18 115:16</p> <p><b>side</b> 50:22 64:15 71:7 113:17</p> <p><b>sides</b> 52:3</p> <p><b>Siemens</b> 65:9 123:7</p> <p><b>SightSound</b> 1:8 3:3 9:3 10:7 19:23</p> <p><b>SightSound's</b> 16:18</p> <p><b>sign</b> 124:20</p> <p><b>signal</b> 51:7,13,14,14 69:1,18 69:19 113:15,16</p> <p><b>signals</b> 46:20 50:19 53:5 54:9 98:22 99:7 110:5 120:25 122:3,18</p> <p><b>Signed</b> 126:8</p> <p><b>silent</b> 104:2</p> <p><b>similar</b> 66:6,8,12 116:13</p> <p><b>similarly</b> 32:4</p> <p><b>simplicity</b> 47:14</p> <p><b>simply</b></p>	<p>48:19 88:8 111:1</p> <p><b>single</b> 29:6,12 42:1,2</p> <p><b>singly</b> 116:19,20</p> <p><b>Sir</b> 2:9 7:10</p> <p><b>sit</b> 34:13 54:11 75:10 110:1</p> <p><b>site</b> 18:4 84:6</p> <p><b>sketch</b> 46:5</p> <p><b>skimmed</b> 71:23</p> <p><b>slices</b> 103:14</p> <p><b>slide</b> 44:11,16,19,21 45:1,9 45:13,17 46:3,5,7,16 63:20,20,25,25 64:2 64:2,3 65:25 66:5,8 66:13,15,22 67:1,2 117:15</p> <p><b>slides</b> 44:24 46:11 47:15,20 65:8 66:3,3 101:3 116:18 117:13,16</p> <p><b>slightly</b> 65:20 116:12</p> <p><b>smaller</b> 20:22</p> <p><b>SMPTE</b> 80:13</p> <p><b>society</b> 66:24 80:14 89:14,15 89:16 101:1</p> <p><b>socket/cables</b> 69:17</p> <p><b>software</b> 22:23 28:9,10 34:12 34:25 35:7,9 37:8 48:21 56:19 57:10 59:5,5 65:20 66:20</p>	<p>78:10 79:2,2 80:6,15 80:19,21,24 82:2,22 82:25 83:1,2,3,8,9 86:17,22 87:1 93:7 108:22 109:15 111:5 111:10 112:25 120:24 121:1 122:2,6 122:17,18</p> <p><b>Sohn</b> 16:7,11,14 53:20 56:24 57:1,2,8 100:14,14,15,22</p> <p><b>Sohn's</b> 122:1</p> <p><b>sold</b> 24:17,20 25:3,6,9,18 25:21,23 26:10 40:23 41:15 59:4 69:4 81:13 88:6 89:25 90:2 91:14,16 103:5 103:18 106:12 115:13 123:3,6,10</p> <p><b>sole</b> 102:16</p> <p><b>solid</b> 47:6 68:10</p> <p><b>somebody</b> 88:18 103:22</p> <p><b>somebody's</b> 49:17,19</p> <p><b>someone's</b> 24:24</p> <p><b>someplace</b> 49:1</p> <p><b>Sonic</b> 86:17,22 87:1</p> <p><b>Sonics</b> 87:17</p> <p><b>Sonsoni</b> 17:18</p> <p><b>Sony</b> 82:13,13 108:4,5,25 109:23</p> <p><b>Sony's</b> 82:17</p>
--	--	---	--



<p><b>soon</b> 33:3 56:23 57:2,4</p> <p><b>sorry</b> 19:17 30:23 64:22 67:10 75:22 76:23 84:5 85:11 92:20 95:2,25 100:18,21 107:1,10</p> <p><b>sort</b> 47:2 48:20 66:6</p> <p><b>sound</b> 56:13,14,17,19 57:5,6 57:11 59:7,10 61:4 79:3</p> <p><b>sources</b> 104:9,11</p> <p><b>South</b> 87:6,7 114:18</p> <p><b>speak</b> 9:18 16:5 33:13,16 55:18 56:3 88:10 119:2</p> <p><b>specific</b> 28:11 29:4,19 31:9 33:18 38:20 45:6 47:8 55:14 56:16 59:7 65:12,13 66:15 66:21,22 70:12 105:12 110:11 112:23 113:2 114:21 119:5</p> <p><b>specifically</b> 31:20 48:12 51:24 58:23 62:20 65:25 115:9</p> <p><b>spend</b> 18:16</p> <p><b>spent</b> 20:23 27:1,6 62:22</p> <p><b>splicing</b> 98:2 113:11</p> <p><b>splitted</b> 65:2</p> <p><b>spoke</b> 88:12,15</p>	<p><b>spoken</b> 15:15</p> <p><b>spring</b> 16:4</p> <p><b>springing</b> 17:19</p> <p><b>squares</b> 117:17</p> <p><b>ss</b> 127:21</p> <p><b>staff</b> 46:18 53:11</p> <p><b>stage</b> 35:24 103:20</p> <p><b>standard</b> 66:3 81:2 82:5,14 92:9</p> <p><b>stands</b> 116:9</p> <p><b>Stanford</b> 45:10</p> <p><b>start</b> 35:7 56:23 82:8 120:9</p> <p><b>started</b> 11:19</p> <p><b>starting</b> 109:3</p> <p><b>state</b> 2:5 29:3 47:6 68:10 92:1 126:8 127:18,23</p> <p><b>statement</b> 11:18 36:18 37:13,21 49:20 105:14</p> <p><b>statements</b> 127:9</p> <p><b>states</b> 1:1 38:7 92:5 97:17 119:21 123:10</p> <p><b>stating</b> 104:3</p> <p><b>station</b> 49:15 67:23 68:1 87:14,21,24 104:15 104:17,20 120:13</p> <p><b>stations</b> 25:10,11 80:12,20</p>	<p>123:22</p> <p><b>stats</b> 120:18</p> <p><b>Stautner</b> 16:5,10,13 88:16 91:8</p> <p><b>Stautner's</b> 67:7</p> <p><b>stay</b> 80:16</p> <p><b>stenographically</b> 127:11</p> <p><b>step</b> 37:3,6,14 38:8 49:12 49:19 51:15 103:1</p> <p><b>steps</b> 46:22 63:22</p> <p><b>stereo</b> 42:9 119:25</p> <p><b>sticks</b> 87:5</p> <p><b>stocked</b> 91:15</p> <p><b>Stone</b> 114:16</p> <p><b>stop</b> 107:1</p> <p><b>stopped</b> 64:22</p> <p><b>storage</b> 39:22 40:4 41:2,5 46:22,24,24 47:1,3,5 50:23,25 51:2,3 67:16 95:5</p> <p><b>store</b> 4:13 17:24 18:3,8 27:3 31:19,25 32:6,17 33:20 36:24,25 40:2 41:25 45:14 49:3,16 67:21 68:5 86:2 91:10,10 95:6 98:15 98:16,22 99:5,9 101:14,19 102:17,18 102:19,25</p> <p><b>stored</b> 34:7 46:21 48:18</p>	<p>50:20 51:13 68:16 96:22 97:12,21</p> <p><b>stores</b> 27:6 36:15 49:24 98:24 111:1</p> <p><b>story</b> 88:11</p> <p><b>Street</b> 3:7</p> <p><b>strike</b> 21:1,10,20 118:11</p> <p><b>strongly</b> 46:25</p> <p><b>stuck</b> 23:25</p> <p><b>studied</b> 70:3</p> <p><b>studio</b> 24:12,14 25:4</p> <p><b>stuff</b> 78:9,14</p> <p><b>style</b> 23:18</p> <p><b>subscription</b> 104:14</p> <p><b>subset</b> 13:24 95:12</p> <p><b>substance</b> 9:19</p> <p><b>substantial</b> 55:11</p> <p><b>substitute</b> 98:4</p> <p><b>succeed</b> 27:20</p> <p><b>successes</b> 102:6</p> <p><b>successful</b> 27:17 90:8</p> <p><b>suggest</b> 62:16 100:13</p> <p><b>suited</b> 82:9</p> <p><b>summaries</b> 84:7</p>
---	--	---	--

<p><b>summer</b> 9:10 91:3</p> <p><b>Sun</b> 65:19</p> <p><b>super</b> 38:13,15,19 39:7,20 40:4 41:2,18,24 42:4 51:4,8 81:5 85:24 97:16</p> <p><b>supplied</b> 106:22</p> <p><b>supplies</b> 104:23</p> <p><b>supply</b> 46:1</p> <p><b>support</b> 5:5,10 27:24 86:18</p> <p><b>supported</b> 93:7</p> <p><b>suppose</b> 35:12 110:9</p> <p><b>SUR</b> 96:10,12</p> <p><b>sure</b> 9:7 11:4 14:23 16:3 20:12 21:4,6 22:14 26:16 27:21 29:25 30:8 38:24 45:11,19 52:21 55:17 56:1 57:1,19 58:3,19 59:3 60:10 61:6 64:1 66:17,23 67:1,7 70:16 72:10 76:21 77:16 83:16 89:7 90:3 91:7 101:21 105:25</p> <p><b>switch</b> 90:9 119:24</p> <p><b>sworn</b> 7:2</p> <p><b>sworn/affirmed</b> 2:12</p> <p><b>symmetry</b> 47:14</p> <p><b>synchronization</b></p>	<p>80:17</p> <p><b>synchronized</b> 80:13</p> <p><b>system</b> 12:21,23 13:2 14:14 14:20,21 16:2 28:4,7 28:11,17,20 29:3,4,4 29:7,9,13 30:23 31:1 31:7,10,11,14,17 32:21 42:10,12 44:9 44:10 45:21 48:9,9 48:21 52:3,6,9,19 53:6 54:3,16 56:13 56:14,16 57:6,11 60:8,10,13 61:14 62:21 70:17 77:4,5,6 77:7,9,11,13,23,23 78:1,22,23,25 79:4 79:11 80:11 81:12 84:12 85:14,16 86:5 86:7,14 92:6 93:1,5 93:11 94:19,21 95:9 95:12 97:1,3,5,7,11 99:10,12 101:7 102:13 106:18 107:17,22,25 108:9 108:20,25 109:1,11 109:21,22 110:11 113:24 118:5,18,22 119:15,16,19 120:19 121:9,11,13 124:12</p> <p><b>systems</b> 27:4,5 29:18 31:12 66:5 69:10 79:21 81:4 86:10 104:15 113:4 123:3,3,6,9,11</p> <p><b>system's</b> 51:17 106:14</p> <p><b>S-A-R-N-O-F</b> 65:3</p> <p><b>S-C-H-W-E-D-E</b> 16:6</p> <p><b>S-O-H-N</b> 16:7 57:1</p> <p><b>S-T-A-U-T-N-E-R</b></p>	<p>16:6</p> <hr/> <p style="text-align: center;"><b>T</b></p> <hr/> <p><b>T</b> 4:8 5:1</p> <p><b>table</b> 69:14</p> <p><b>take</b> 26:12 27:10 33:11 41:22 50:3 53:7 70:24 71:10 79:23,24 90:13 93:21 99:22 103:13 125:3</p> <p><b>taken</b> 7:17 127:5,13</p> <p><b>takers</b> 123:15,15</p> <p><b>talk</b> 80:15 82:12 111:1</p> <p><b>talked</b> 15:18 16:4 23:3</p> <p><b>talking</b> 52:17 82:7 92:11 95:12 97:7</p> <p><b>talks</b> 85:25 86:1,3 119:17</p> <p><b>tape</b> 34:8 113:14 114:5 123:24</p> <p><b>tapes</b> 41:20 124:10</p> <p><b>target</b> 119:10</p> <p><b>task</b> 118:8</p> <p><b>technical</b> 15:23 16:2</p> <p><b>technically</b> 90:8</p> <p><b>TECHNOLOGIES</b> 1:8 3:3</p> <p><b>technology</b> 27:23 34:9 40:10 102:4 107:14 119:9</p> <p><b>telecommunications</b></p>	<p>44:10</p> <p><b>Telemundo</b> 87:8</p> <p><b>telephone</b> 16:23 52:2,18 53:1 86:5 92:4,22 110:24 121:3,17 122:10,20</p> <p><b>telephones</b> 52:2,4 53:18</p> <p><b>telephone's</b> 110:24</p> <p><b>telephonic</b> 71:3</p> <p><b>telerecording</b> 31:21,22 32:22 33:24 45:15 46:1 52:9 62:21,22 79:13,17 80:5,9 83:1,8,22 84:10 95:5 102:12 113:12,12 114:1 118:17,23 123:11</p> <p><b>television</b> 25:10 80:14</p> <p><b>tell</b> 76:24 86:23 88:18 109:3,5 111:2</p> <p><b>telling</b> 87:12 118:7</p> <p><b>template</b> 82:19</p> <p><b>ten</b> 27:10</p> <p><b>term</b> 28:4,6,20 31:11 32:1 32:18 49:8</p> <p><b>terminal</b> 81:3,3,6,14 113:4 121:21</p> <p><b>terminal-based</b> 81:6</p> <p><b>terms</b> 86:2</p> <p><b>test</b> 54:2 57:15 58:6 61:6 62:10</p>
---	--	--	--

<b>tested</b> 31:10 53:24 61:2,8	66:4,19 68:18 70:14 71:8,9 77:19 79:17 84:3,18 85:9 87:7 90:4 91:2,7,11,15 92:3 99:21 101:10 104:2 105:12,16 106:22 108:22 109:16 111:15 114:10,25 115:5,18 117:16 124:25	<b>timeframe</b> 70:14 110:17,19,25 124:11	111:13
<b>testified</b> 2:12 10:5 52:23 53:2		<b>times</b> 7:14 14:22 58:2 78:4 78:13 114:15	<b>transactions</b> 42:22 60:7 82:10
<b>testify</b> 9:21 10:16 18:12 37:21 73:5		<b>time-code</b> 80:16	<b>transceiver</b> 50:22 61:22
<b>testimony</b> 8:5 10:6,10 16:25 17:3 19:23 20:9 21:24 23:11 25:16 126:7 127:8	<b>thinking</b> 26:14 59:1	<b>today</b> 8:5 17:7 36:16 43:4 54:11 75:10,14,17,25 78:5 110:1 116:8	<b>transcribed</b> 127:11
<b>testing</b> 54:2	<b>third</b> 23:20 62:10 67:23 101:23,25	<b>Tokyo</b> 123:8	<b>transcript</b> 7:23 20:4,17,20 21:2 21:11,17,19 126:4,7 127:13
<b>tests</b> 62:1,11,17 63:2	<b>thoroughly</b> 36:12 40:7	<b>told</b> 88:17	<b>transferred</b> 49:2 82:1
<b>Texas</b> 65:17	<b>thought</b> 12:20 17:8 40:6 47:22 65:15	<b>Tom</b> 88:17	<b>transfers</b> 60:12
<b>text</b> 77:19 95:20,21,22 96:1,2,11,16 113:18	<b>thoughts</b> 29:17	<b>top</b> 48:16 67:12,18 118:12 121:22	<b>transition</b> 34:9
<b>thank</b> 19:2 20:7 83:18 88:22	<b>thousands</b> 62:19	<b>topic</b> 27:21	<b>transmission</b> 34:11 35:10 38:12 52:25 53:4 54:6 58:17,25 61:12,17,18 92:12,17 120:19,25 121:14 122:3,18
<b>thanks</b> 76:16 117:24	<b>three</b> 26:19 42:1 49:13	<b>topics</b> 21:15	<b>transmissions</b> 58:14 62:6
<b>thereabouts</b> 53:8	<b>threw</b> 15:4	<b>top-40</b> 42:2	<b>transmit</b> 42:14,18 58:22 60:24 120:15
<b>they'd</b> 42:20 56:17	<b>throw</b> 78:15	<b>total</b> 18:19	<b>transmitted</b> 54:9,15,21,22 55:2 58:8 69:11 91:23 116:24 117:4,10
<b>thing</b> 49:19 65:22 68:19 72:2 96:12	<b>Thursday</b> 5:15	<b>totally</b> 32:2 68:5 69:2 79:6	<b>transmitter</b> 52:8
<b>things</b> 49:23,24 71:3,5 78:3 80:8 88:4 118:11	<b>tie</b> 121:4 122:13,20	<b>touched</b> 29:16	<b>TRIAL</b> 1:2
<b>think</b> 9:11 11:4,8 15:8 18:23 18:24 19:3 21:6 25:19 29:2,8 30:12 32:3,7,11 34:7,19 35:14,23 36:12,22 37:6,24 40:19 42:19 43:8 46:10 47:14 49:22 50:2 61:20 62:19 63:3 64:19	<b>time</b> 9:1 18:16,20 20:13,14 20:19,23 27:6,23 40:22 44:12,22 47:3 52:17,21 62:22 68:9 69:25 72:16,22 73:24 80:13 88:18 89:10,12 92:2 97:14 99:12,17 111:6,25 115:6 119:8 119:13 121:7 123:20 125:1,5 127:6,7,10	<b>tour</b> 65:23	<b>tried</b> 14:13,15 52:24 91:17
		<b>track</b> 7:15	<b>true</b> 92:16 98:12 99:2 106:21 126:6 127:12 127:19
		<b>trade</b> 44:13,20 46:13 57:20 67:6 108:21 116:5	<b>try</b> 15:3 55:8 75:6 78:18 107:13
		<b>TRADEMARK</b> 1:1	
		<b>transaction</b> 60:9 70:10,25 71:3 81:4,22,23 103:13	

<b>trying</b> 12:22 13:13 20:24 27:2,7 28:11 65:19 118:23 124:4	59:14,18,19,20 69:19 69:21 70:1,5,7 87:3	<b>use</b> 23:18 25:4 37:17 44:11 49:8 52:22 55:16,25 59:8 65:25 67:17,25 85:22 86:11 87:25 91:25 100:15 108:21 113:3 120:10 124:3	4:17 73:9 74:1 75:2,8 75:15,18 76:1
<b>turn</b> 32:24 74:14 78:13	<b>typing</b> 52:19	44:11 49:8 52:22 55:16,25 59:8 65:25 67:17,25 85:22 86:11 87:25 91:25 100:15 108:21 113:3 120:10 124:3	<b>value</b> 61:14 106:11
<b>turned</b> 14:1 35:24 108:13	<b>typo</b> 55:19 56:4		<b>vanilla</b> 82:6,8
<b>turns</b> 79:25	<hr/> <b>U</b> <hr/>	<b>users</b> 58:23 123:1,2	<b>variation</b> 29:10 66:18
<b>Tut</b> 116:13,17,22,23 117:2 117:3,9	<b>U</b> 4:8,8	<b>user-owned</b> 58:16	<b>variations</b> 23:24
<b>TV</b> 49:15 67:23 68:1 80:12 87:14,21,24 104:14	<b>ultimate</b> 104:13	<b>user</b> 25:3 56:15,16 68:13 97:20	<b>various</b> 14:3 29:17 31:12 60:13
<b>Tweaking</b> 54:8	<b>ultimately</b> 90:9 103:12	<b>uses</b> 40:3 90:6	<b>VCR</b> 114:7
<b>twice</b> 79:9	<b>um</b> 64:16	<b>USPTO</b> 84:6	<b>Vegas</b> 46:15
<b>twists</b> 78:10	<b>unaware</b> 58:24 59:1 88:6 109:9	<b>usual</b> 60:1 113:14	<b>venture</b> 65:1
<b>two</b> 5:19 23:13 47:12 51:18 52:3,17 53:13 53:17 67:18 69:1 78:24,24 79:8 80:8 80:11 83:7 92:8 112:17 123:4	<b>Undercapitalized</b> 27:24	<b>usually</b> 90:10	<b>version</b> 52:10 67:8,8 77:10 82:21 83:7 114:8,10
<b>two-inch</b> 117:16	<b>undersigned</b> 126:3	<b>utilized</b> 41:2,5 42:24 43:3	<b>versions</b> 78:24 90:14
<b>type</b> 32:21 40:13 41:9 42:2 44:8,9 55:19 56:3 68:24 81:10,10,17,19 111:14	<b>understand</b> 7:17,23 8:1 13:23 19:13 21:5 27:15 39:3 50:10 55:9 69:16 71:16	<b>utilizing</b> 58:18,25	<b>vice</b> 58:8,10
<b>typed</b> 81:17 111:13	<b>understood</b> 49:22 87:12	<b>U.S.</b> 4:14 65:12 71:21,25 72:5,14,19,24 74:9 74:25 75:7,19 76:2 77:2 79:21 80:3 82:18 83:13 84:11	<b>video</b> 22:3,17 35:2 38:4 44:21 50:19 51:6,12 55:2 57:14,17 58:2,7 60:19,25 61:18 65:8 77:3 80:12,16,17 88:1,7 102:7 106:16 106:20 107:13 108:13,14,17,22 110:5 111:17,18,25 114:8 115:17,24 116:9,13,14,23
<b>types</b> 45:8 47:6 51:3 82:10	<b>undertaken</b> 54:1		<b>videos</b> 14:5 117:3,9
<b>typical</b> 44:24 63:20	<b>undertaking</b> 4:10 18:6	<hr/> <b>V</b> <hr/>	<b>Vienna</b> 123:7
<b>typically</b> 25:23 42:1,3 57:15	<b>unique</b> 29:4 104:4	<b>v</b> 1:6	<b>view</b>
	<b>unit</b> 91:17 95:13,13,15,16 97:15 121:3,4 122:10 122:13,20,21	<b>vague</b> 37:10	
	<b>United</b> 1:1 123:10	<b>valid</b> 4:15 58:16 72:6,14,20 72:25	
	<b>University</b> 3:17	<b>validity</b>	
	<b>usable</b> 79:6		

<p>48:20,21 80:10  <b>vinyl</b>                      41:20 123:25 124:10  <b>virtual</b>                      68:4  <b>virtually</b>                      119:10  <b>visited</b>                      44:23 87:11 88:4  <b>visualizes</b>                      123:20  <b>visuals</b>                      44:22  <b>VOL</b>                      4:3  <b>VOLUME</b>                      1:14</p> <hr/> <p style="text-align: center;"><b>W</b></p> <hr/> <p><b>W</b>                      4:8  <b>want</b>                      9:18 13:23 19:12 21:6                      21:6 26:12 31:18                      32:8 61:24 70:9                      76:10 102:14 116:11  <b>wanted</b>                      24:25 27:4 52:9 56:16                      56:18 59:8 62:23                      64:25 111:3 123:14  <b>Washington</b>                      3:8  <b>wasn't</b>                      17:8 59:22 105:23,24                      111:7  <b>watching</b>                      105:5  <b>wavy</b>                      52:3 121:17,18  <b>way</b>                      27:1 29:3 32:3 35:15                      42:23 47:15 51:18                      52:5 60:9 82:3,10                      89:19 91:9 93:16                      122:22 125:3</p>	<p><b>ways</b>                      14:22 104:5,8  <b>Web</b>                      18:4 84:6  <b>Weil</b>                      17:18 22:15  <b>welcome</b>                      18:12  <b>went</b>                      28:22 64:16 80:6  <b>weren't</b>                      54:5  <b>Western</b>                      9:4,13 10:2,6,13 15:16  <b>we'll</b>                      63:7,12  <b>we're</b>                      49:2 57:2 66:18 78:9                      82:7 92:11 95:12                      118:23  <b>we've</b>                      42:25 50:2 64:6  <b>whatsoever</b>                      72:11  <b>wholesale</b>                      35:4 37:9 103:21  <b>wholesaler/retailer/...</b>                      35:22  <b>wild</b>                      84:20  <b>Wilson</b>                      17:18  <b>wiring</b>                      60:9  <b>witness</b>                      2:10 4:2 7:2 9:17,23                      10:21 18:10,14 19:1                      19:12,16 26:14 27:13                      34:18 50:8 64:22                      72:10 73:2,6 76:10                      83:19 93:22,24 94:8                      94:13 96:6 100:3,15                      111:21,23 117:22                      127:7,8  <b>witnesses</b></p>	<p>62:7  <b>WLS</b>                      119:22  <b>word</b>                      12:10,10 46:24 49:25                      72:2,3,3,3  <b>word-for-word</b>                      79:24 83:15  <b>work</b>                      4:10 9:12,16,19,21                      17:10,13,14 18:1,6                      18:11,12 19:17 43:12                      59:14,18 62:10 73:16                      80:7 121:25 122:4,8                      122:11,14 124:12  <b>workable</b>                      86:6  <b>worked</b>                      38:19 51:18  <b>working</b>                      8:24,25 51:19  <b>works</b>                      8:21  <b>workstation</b>                      82:6  <b>workstations</b>                      22:25  <b>workstation-like</b>                      58:21  <b>workstation-style</b>                      51:20  <b>worldwide</b>                      114:17  <b>wouldn't</b>                      79:18 88:16 124:20  <b>writable</b>                      47:7 90:15  <b>write-only</b>                      112:2  <b>writing</b>                      12:14,15  <b>written</b>                      55:13 119:9 121:6  <b>wrote</b>                      79:5 88:10 100:23</p>	<p>101:15  <b>W-E-I-L</b>                      17:18</p> <hr/> <p style="text-align: center;"><b>X</b></p> <hr/> <p><b>X</b>                      4:1 5:1</p> <hr/> <p style="text-align: center;"><b>Y</b></p> <hr/> <p><b>yeah</b>                      20:21 68:19 76:17                      100:3,15  <b>year</b>                      9:7 10:4 16:21 39:24                      45:7,19 50:24  <b>years</b>                      22:9,13  <b>yesterday</b>                      19:15,18,20 20:21,23                      21:11,17,19  <b>York</b>                      53:5 54:10,14,14,18                      54:20,21 58:8,9                      61:15 101:2 120:7                      121:13  <b>York/Chicago</b>                      61:15</p> <hr/> <p style="text-align: center;"><b>\$</b></p> <hr/> <p><b>\$5</b>                      42:6  <b>\$5000</b>                      90:1</p> <hr/> <p style="text-align: center;"><b>0</b></p> <hr/> <p><b>09:15:07</b>                      13:10  <b>09:42:13</b>                      27:11  <b>09:50:44</b>                      27:12</p> <hr/> <p style="text-align: center;"><b>1</b></p> <hr/> <p><b>1</b>                      1:14 5:4,16 11:12 20:1  <b>10</b></p>
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<p>101:15,20,23  <b>10-key</b>                  110:24  <b>10:15:09</b>                  38:25  <b>10:19:48</b>                  39:1  <b>10:47:21</b>                  50:4  <b>10:56:47</b>                  50:5  <b>1000</b>                  23:25 26:10 39:9,12                  39:16 40:23 41:1,4                  42:8,13,17 43:1,1,5                  47:17 68:22 79:5                  82:15 83:5,12 84:14                  89:2,11,17,21,24                  90:6,23,25 91:1,13                  92:8,13,18,19 95:13                  97:18,23 98:7,13                  112:18 113:22 114:5                  114:7,9,11 116:12,24                  124:6,10,13  <b>1000s</b>                  23:23 69:4  <b>107</b>                  5:25 6:8  <b>11</b>                  5:4,9 32:24 101:15,19                  102:25  <b>11:43:59</b>                  71:11  <b>110/1310</b>                  89:1  <b>1106</b>                  5:20 30:3,4,10,15,19                  30:25 31:5,24 32:17                  32:25 34:1,10 35:6                  35:18 36:2,8 37:4,25                  39:5,18 40:3,17                  41:19 105:16,19                  106:6,6  <b>1107</b>                  5:21 84:25 85:1,6,13</p>	<p>85:17 88:9 89:10                  106:25  <b>1107/Exhibit</b>                  91:21  <b>1107/1310</b>                  89:20 92:5,12 93:10                  93:17 106:23  <b>1108</b>                  5:22 32:14,16,16 94:2                  94:4,11,15,18 95:18  <b>1108/1311</b>                  94:22 95:9 97:4  <b>1110</b>                  88:9,20  <b>1112</b>                  5:23 43:16,18,22 44:1                  44:2,7 45:22 46:20                  47:11 50:12,17,18                  51:6,22 52:13 53:3                  53:14,18 55:3 56:20                  57:7,24 64:6 65:13                  67:9  <b>1113</b>                  5:24 63:5,7,10  <b>1114</b>                  99:25 100:10,18,25                  101:8 102:16 103:1                  103:25  <b>1114/1317</b>                  103:15 105:10  <b>1115</b>                  100:17  <b>1116</b>                  5:25 107:3,4,7,10,16                  108:9,25 109:10,20                  110:4,10 111:16,22  <b>1116/1319</b>                  108:1  <b>1117</b>                  5:18 47:25 48:1,2,7,23                  49:8,11,21 63:15,16                  63:24 66:1,8 67:10  <b>1117/1320</b>                  63:19  <b>1118</b></p>	<p>6:1 76:5,6,19,23 77:1                  77:9,14 79:22 82:18                  83:4  <b>112</b>                  6:2,10  <b>113</b>                  94:2  <b>1131</b>                  6:2 11:9 112:6,7,12,15                  112:24 113:6,22,25                  114:13,22 115:13,22                  115:24  <b>1133</b>                  5:8 11:5,6,24 12:8,16                  12:24 13:21 14:18                  28:13 74:15,16,16                  95:19 115:16  <b>1140</b>                  6:3 117:19,20 118:2,6                  118:19 119:13                  124:22  <b>117</b>                  6:3,11  <b>12</b>                  18:19  <b>12th</b>                  3:7  <b>12-9-2013</b>                  7:1  <b>12:44:57</b>                  71:13  <b>1200</b>                  23:14  <b>127</b>                  1:14  <b>13</b>                  105:19  <b>13:37:26</b>                  99:23  <b>13:45:28</b>                  99:24  <b>1309</b>                  6:4 30:3,5,8,10,15,19                  31:6,24 32:25 34:1                  34:10 35:6,19 36:2,8</p>	<p>37:4,25 39:6,18 40:3                  40:17 41:19 105:20                  106:6  <b>1310</b>                  6:5 84:25 85:2,4,6,13                  85:17 88:21,22 89:10                  91:21  <b>1311</b>                  6:6 94:3,5,6,16,18                  95:19  <b>1315</b>                  6:7 43:17,19,22 44:2,7                  45:22 46:20 47:11                  49:8 50:13,19 51:6                  51:22 52:14 53:3,15                  53:18 55:4 56:21                  57:7,24 64:5  <b>1317</b>                  100:1,2,11,18,25                  101:8 102:16 103:1                  103:25  <b>1318</b>                  100:17  <b>1319</b>                  6:8 107:3,5,8,11,16                  108:10 109:1,10,20                  110:4,10 111:17  <b>1320</b>                  5:18 48:5,8,23 49:11                  49:21 63:16,24 65:14                  66:1 67:10  <b>1323</b>                  6:9 76:5,7,19,23 77:1                  77:10,14 79:22 82:18                  83:4  <b>1333</b>                  6:10 112:9,10,12,16                  112:24 113:5,21,25                  114:13,22 115:12,15                  115:22,23  <b>1335</b>                  5:13 11:25 12:8,16,25                  13:21 14:18  <b>1342</b>                  6:11 117:19,21 118:2</p>
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118:6,19 119:13 124:22 <b>140</b> 47:3 <b>1500</b> 23:14 67:25 79:6 <b>16</b> 127:21 <b>16-bit</b> 34:4 86:18 92:9 <b>18</b> 4:10 <b>1800</b> 41:6,7,12,13,16 114:11 <b>1900</b> 3:17 <b>1952</b> 78:15 <b>1972</b> 8:11 <b>1973</b> 8:11 <b>1983</b> 24:10 <b>1984</b> 24:10 83:24 89:6,23 101:2 112:22 <b>1985</b> 44:15 53:8 116:11 <b>1986</b> 25:20 90:3,20 <b>1987</b> 25:14,20 41:14 45:10 68:11,17 69:8,18,20 70:2 77:3 86:23 90:5 91:2 99:2 <b>1987/1988</b> 99:13 <b>1987/88</b> 42:3 70:6,11 <b>1988</b> 41:14 68:11 69:8,11 99:2 110:19 <b>1990</b>	28:2 <b>1999</b> 22:9 <hr/> <b>2</b> <hr/> <b>2</b> 5:9 11:23 48:10 96:18 119:20 <b>2:37</b> 2:2 7:1 125:5 <b>20</b> 5:14 <b>2000</b> 23:9,9 24:2,2,6 25:3 42:17 43:1,2,10,12 47:16 48:18,19 67:12 68:2 83:12 <b>2000s</b> 48:15 <b>20004-1206</b> 3:8 <b>2001</b> 5:16 20:2,12 21:25 <b>2001-454288</b> 1:25 <b>2002</b> 23:9 24:24 47:2,12,18 48:10,11 50:23 51:3 53:13,21 57:9,13,17 79:3 82:5,8,20 119:23 120:20 121:23 <b>2002s</b> 50:21 53:16 <b>2004</b> 23:9 <b>2006</b> 9:2 <b>2007</b> 9:1 22:16 <b>2012</b> 9:10,10 <b>2013</b> 1:16 2:2 127:21 <b>202</b>	3:9 <b>24</b> 4:14 7:16 <hr/> <b>3</b> <hr/> <b>3</b> 5:14 20:6 120:17 <b>3.3</b> 90:6 <b>30</b> 5:20 6:4 44:25 <hr/> <b>4</b> <hr/> <b>4</b> 5:17 28:13,15 48:4 95:18 96:18 <b>4,682,248</b> 79:22 80:4 82:19 83:13 84:11 <b>43</b> 5:23 6:7 <b>48</b> 5:17 <b>4913</b> 2:9 7:10 <hr/> <b>5</b> <hr/> <b>5</b> 12:24 13:7 <b>5,191,573</b> 1:7 4:15,17 71:21,25 72:6,14,25 73:9,20 74:10,25 75:15 <b>5,966,440</b> 72:20 73:25 75:7 76:2 <b>50</b> 25:7 <b>555</b> 3:7 <b>56</b> 119:24 <hr/> <b>6</b> <hr/> <b>6</b> 4:10 <b>6th</b>	3:17 <b>6-hour</b> 19:18 <b>617-4000</b> 3:19 <b>63</b> 5:24 <b>650</b> 3:19 <hr/> <b>7</b> <hr/> <b>7</b> 4:4 <b>72</b> 4:14 <b>73</b> 4:16 <b>76</b> 6:1,9 <b>76th</b> 101:2 <b>777</b> 2:3 <hr/> <b>8</b> <hr/> <b>8</b> 4:16 <b>8A</b> 84:19 <b>80</b> 46:9 <b>800</b> 70:24 <b>83</b> 83:24 <b>85</b> 5:21 6:5 <b>86</b> 90:4 116:11 <b>88</b> 68:17 69:18,20 70:2 <hr/> <b>9</b> <hr/> <b>9</b> 1:16 2:2 <b>9:04</b>
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2:2 7:1 <b>9:15:08</b> 13:11 <b>94</b> 5:22 6:6 <b>942-5068</b> 3:9 <b>94303-2284</b> 3:18 <b>95628</b> 2:10 7:11 <b>95825</b> 2:3 <b>9654</b> 1:24 127:3,23			
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# EXHIBIT 1

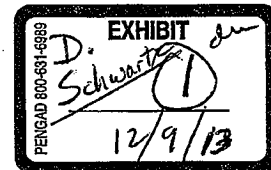
**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Inventor: Hair	§	Attorney Docket No.:
United States Patent No.: 5,191,573	§	104677-5005-802
Formerly Application No.: 586,391	§	Customer No. 28120
Issue Date: March 2, 1993	§	
Filing Date: September 18, 1990	§	Petitioner: Apple Inc.
Former Group Art Unit: 369	§	
Former Examiner: Hoa Nguyen	§	

For: Method for Transmitting a Desired Digital Video or Audio Signal

MAIL STOP PATENT BOARD  
Patent Trial and Appeal Board  
United States Patent and Trademark Office  
Post Office Box 1450  
Alexandria, Virginia 22313-1450

**DECLARATION OF DAVID M. SCHWARTZ IN SUPPORT OF  
PETITION FOR COVERED BUSINESS METHOD PATENT REVIEW OF  
UNITED STATES PATENT NO. 5,191,573  
PURSUANT TO 35 U.S.C. § 321, 37 C.F.R. § 42.304**



I, David M. Schwartz, declare as follows:

1. I founded CompuSonics Corp. in 1982, originally as CompuSound, Inc. The company name was changed to CompuSonics in 1984. I served as the President of CompuSonics Corp. from 1982 until 1989. I co-founded CompuSonics Video Corp. in 1986. I will refer here to CompuSonics Corp. and CompuSonics Video Corp. as "CompuSonics."

2. I provide this Declaration in connection with the above-identified Covered Business Method Patent Review proceeding that is being requested at the United States Patent and Trademark Office by Apple Inc. under 35 U.S.C. § 321, 37 C.F.R. § 42.304. Unless otherwise stated, the facts stated in this Declaration are based on my personal knowledge.

3. I am being compensated by Apple Inc. for time spent in connection with factual research/investigation at a rate of \$400/hr. This compensation is not in any way contingent on the outcome of this proceeding.

4. While at CompuSonics, I and others developed what I refer to here as "the CompuSonics system." The CompuSonics system, among other technologies, included digital recorder/players, which CompuSonics referred to as DSPs. DSP stood for Digital Signal Processors. Among other functionality, including playback of stored digital data, these digital recorder/players could download digital data from a remote source to a local disk. We called this technology "Telerecording."

5. Each of Exhibits 1106, 1107, 1108, 1112, 1113, 1114, 1115, 1116, 1117, 1118, 1119, 1120, 1131, and 1140 is a public disclosure of features of the CompuSonics system, as outlined below. These exhibits individually and collectively describe functionality and application of the CompuSonics system.

6. Exhibit 1106 hereto, "Joint Telerecording Push: CompuSonics, AT&T Link," *Billboard* (Oct. 5, 1985), is a public disclosure of features of the CompuSonics system.

7. Exhibit 1107 hereto, David Needle, "From the News Desk: Audio/digital interface for the IBM PC?," *InfoWorld*, vol. 6, no. 23, p. 9, June 4, 1984, is a public disclosure of features of the CompuSonics system.

8. Exhibit 1108 hereto, Larry Israelite, "Home Computing: Scenarios for Success," *Billboard*, Dec. 15, 1984, is a public disclosure of features of the CompuSonics system.

9. Exhibit 1112 hereto is a true and correct copy of a diagram, entitled that I created illustrating CompuSonics' telerecording technology, dated 1985 and entitled "CompuSonics Digital Audio Telecommunication System." This diagram was shown to the public via presentation at businesses, conferences, lectures, and industry events. Page numbers and an exhibit label have been added to this document but no other alterations have been made. Exhibit 1112 is a public disclosure of features of the CompuSonics system.

10. Exhibit 1113 hereto is a true and correct copy of a letter dated July 16, 1984, authored by and sent to the Shareholders of CompuSonics by me, David M. Schwartz. This document bears identification numbers at the bottom right corner of each page. Page numbers and an exhibit label have been added to this document but no other alterations, other than the aforementioned numbers, have been made. Exhibit 1113 is a public disclosure of features of the CompuSonics system.

11. Exhibit 1114 hereto, Hyun Heinz Sohn, "A High Speed Telecommunications Interface for Digital Audio Transmission and Reception," presented at the 76th AES Convention, October 8-11, 1984, is a public disclosure of features of the CompuSonics system. Mr. Sohn was an employee of CompuSonics, and I supervised his preparation of this paper.

12. Exhibit 1115 hereto is a true and correct copy of a letter dated October 10, 1985, authored by and sent to the Shareholders of CompuSonics by me, David M. Schwartz. This document bears identification numbers at the bottom right corner of each page. Page numbers and an exhibit label have been added to this document but no other alterations, other than the aforementioned numbers, have been made. Exhibit 1115 is a public disclosure of features of the CompuSonics system.

13. Exhibit 1116 hereto is a true and correct copy of a document entitled, "CompuSonics Video Application Notes," copyrighted 1986 by CompuSonics. I recognize this document as CompuSonics marketing materials that were distributed

and made publically available by CompuSonics to current and potential customers and current and potential shareholders in 1986 and 1987. This document bears identification numbers at the bottom right corner of each page. Page numbers and an exhibit label have been added to this document but no other alterations, other than the aforementioned numbers, have been made. Exhibit 1116 is a public disclosure of features of the CompuSonics system.

14. Exhibit 1117 hereto is a true and correct copy of a diagram, entitled "Digital Audio Software Production/Distribution," which I created. This diagram was shown to the public via presentation at businesses, conferences, lectures, and industry events. As one example, I presented this diagram during a lecture at Stanford University in 1987 with John Stautner, excerpts of which are referenced in this Declaration as Exhibit 1120. Page numbers and an exhibit label have been added to this document but no other alterations have been made. Exhibit 1117 is a public disclosure of features of the CompuSonics system.

15. Exhibit 1120, Parts 1-11, hereto is a true and correct copy of excerpts from a video of a lecture that I gave at Stanford University in 1987 with John Stautner. I prepared the excerpts in this Exhibit, Parts 1-10, from the complete video recording of the aforementioned lecture, which I can make available to the United States Patent & Trademark Office upon request. The excerpt in this Exhibit, Part 11, has been prepared at my request. I can make the complete video recording of the

aforementioned lecture available to the United States Patent & Trademark Office upon request. Exhibit 1120 is a public disclosure of features of the CompuSonics system.

16. Exhibit 1118 hereto, United States Patent No. 4,682,248 ("Schwartz Patent"), is a patent filed on September 17, 1985, issued on July 21, 1987, and entitled, "Audio and Video Digital Recording and Playback System." I am the named inventor of this patent. Exhibit 1118 is a public disclosure of features of the CompuSonics system.

17. Exhibit 1119 hereto, "The Search for the Digital Recorder," *Fortune*, Nov. 12, 1984, is a public disclosure of features of the CompuSonics system.

18. Exhibit 1131 hereto is a photo of a CompuSonics digital recorder/player.

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Covered Business Method Patent Review  
United States Patent No. 5,191,573

19. Exhibit 1140 hereto, *New Telerecording Method for Audio*, Broadcast Management/Engineering, Oct. 1985, is a public disclosure of features of the CompuSonics system.

20. I make this declaration of my own personal knowledge. If called to testify as to the truth of the matters stated herein, I could and would testify competently.

21. I declare under penalty of perjury that the foregoing is true and correct.  
Executed this 5th day of May, 2013, at Fair Oaks, CA.

A handwritten signature in black ink, appearing to read "David M. Schwartz", is written over a horizontal line. The signature is stylized and somewhat abstract.

David M. Schwartz



# EXHIBIT 2

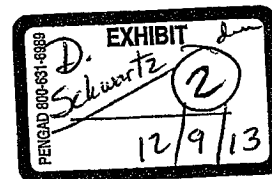
**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Inventor: Hair	§	Attorney Docket No.:
United States Patent No.: 5,966,440	§	104677-5006-804
Formerly Application No.: 08/471,964	§	Customer No. 28120
Issue Date: October 12, 1999	§	
Filing Date: June 6, 1995	§	Petitioner: Apple, Inc.
Former Group Art Unit: 380	§	
Former Examiner: Hoa T. Nguyen	§	

For: Method for Transmitting a Desired Digital Video or Audio Signal

MAIL STOP PATENT BOARD  
Patent Trial and Appeal Board  
United States Patent and Trademark Office  
Post Office Box 1450  
Alexandria, Virginia 22313-1450

**DECLARATION OF DAVID M. SCHWARTZ IN SUPPORT OF  
PETITION FOR COVERED BUSINESS METHOD PATENT REVIEW OF  
UNITED STATES PATENT NO. 5,966,440  
PURSUANT TO 35 U.S.C. § 321, 37 C.F.R. § 42.304**



I, David M. Schwartz, declare as follows:

1. I founded CompuSonics Corp. in 1982, originally as CompuSound, Inc. The company name was changed to CompuSonics in 1984. I served as the President of CompuSonics Corp. from 1982 until 1989. I co-founded CompuSonics Video Corp. in 1986. I will refer here to CompuSonics Corp. and CompuSonics Video Corp. as "CompuSonics."

2. I provide this Declaration in connection with the above-identified Covered Business Method Patent Review proceeding that is being requested at the United States Patent and Trademark Office by Apple Inc. under 35 U.S.C. § 321, 37 C.F.R. § 42.304. Unless otherwise stated, the facts stated in this Declaration are based on my personal knowledge.

3. I am being compensated by Apple Inc. for time spent in connection with factual research/investigation at a rate of \$400/hr. This compensation is not in any way contingent on the outcome of this proceeding.

4. While at CompuSonics, I and others developed what I refer to here as "the CompuSonics system." The CompuSonics system, among other technologies, included digital recorder/players, which CompuSonics referred to as DSPs. DSP stood for Digital Signal Processors. Among other functionality, including playback of stored digital data, these digital recorder/players could download digital data from a remote source to a local disk. We called this technology "Telerecording."

5. Each of Exhibits 1309, 1310, 1311, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1323, 1324, 1333, and 1342 is a public disclosure of features of the CompuSonics system, as outlined below. These exhibits individually and collectively describe functionality and application of the CompuSonics system.

6. Exhibit 1309 hereto, "Joint Telerecording Push: CompuSonics, AT&T Link," *Billboard* (Oct. 5, 1985), is a public disclosure of features of the CompuSonics system.

7. Exhibit 1310 hereto, David Needle, "From the News Desk: Audio/digital interface for the IBM PC?," *InfoWorld*, vol. 6, no. 23, p. 9, June 4, 1984, is a public disclosure of features of the CompuSonics system.

8. Exhibit 1311 hereto, Larry Israelite, "Home Computing: Scenarios for Success," *Billboard*, Dec. 15, 1984, is a public disclosure of features of the CompuSonics system.

9. Exhibit 1315 hereto is a true and correct copy of a diagram, entitled that I created illustrating CompuSonics' telerecording technology, dated 1985 and entitled "CompuSonics Digital Audio Telecommunication System." This diagram was shown to the public via presentation at businesses, conferences, lectures, and industry events. Page numbers and an exhibit label have been added to this document but no other alterations have been made. Exhibit 1315 is a public disclosure of features of the CompuSonics system.

10. Exhibit 1316 hereto is a true and correct copy of a letter dated July 16, 1984 authored by and sent to the Shareholders of CompuSonics by me, David M. Schwartz. This document bears identification numbers at the bottom right corner of each page. Page numbers and an exhibit label have been added to this document but no other alterations, other than the aforementioned numbers, have been made. Exhibit 1316 is a public disclosure of features of the CompuSonics system.

11. Exhibit 1317 hereto, Hyun Heinz Sohn, "A High Speed Telecommunications Interface for Digital Audio Transmission and Reception," presented at the 76th AES Convention, October 8-11, 1984, is a public disclosure of features of the CompuSonics system. Mr. Sohn was an employee of CompuSonics, and I supervised his preparation of this paper.

12. Exhibit 1318 hereto is a true and correct copy of a letter dated October 10, 1985 authored by and sent to the Shareholders of CompuSonics by me, David M. Schwartz. This document bears identification numbers at the bottom right corner of each page. Page numbers and an exhibit label have been added to this document but no other alterations, other than the aforementioned numbers, have been made. Exhibit 1318 is a public disclosure of features of the CompuSonics system.

13. Exhibit 1319 hereto is a true and correct copy of a document entitled, "CompuSonics Video Application Notes," copyrighted 1986 by CompuSonics. I recognize this document as CompuSonics marketing materials that were distributed

and made publically available by CompuSonics to current and potential customers and current and potential shareholders in 1986 and 1987. This document bears identification numbers at the bottom right corner of each page. Page numbers and an exhibit label have been added to this document but no other alterations, other than the aforementioned numbers, have been made. Exhibit 1319 is a public disclosure of features of the CompuSonics system.

14. Exhibit 1320 hereto is a true and correct copy of a diagram, entitled "Digital Audio Software Production/Distribution," which I created. This diagram was shown to the public via presentation at businesses, conferences, lectures, and industry events. As one example, I presented this diagram during a lecture at Stanford University in 1987 with John Stautner, excerpts of which are referenced in this Declaration as Exhibit 1321. Page numbers and an exhibit label have been added to this document but no other alterations have been made. Exhibit 1320 is a public disclosure of features of the CompuSonics system.

15. Exhibit 1321, Parts 1-11, hereto is a true and correct copy of excerpts from a video of a lecture that I gave at Stanford University in 1987 with John Stautner. I prepared the excerpts in this Exhibit, Parts 1-10, from the complete video recording of the aforementioned lecture, which I can make available to the United States Patent & Trademark Office upon request. The excerpt in this Exhibit, Part 11, has been prepared at my request. I can make the complete video recording of the

aforementioned lecture available to the United States Patent & Trademark Office upon request. Exhibit 1321 is a public disclosure of features of the CompuSonics system.

16. Exhibit 1323 hereto, United States Patent No. 4,682,248 ("Schwartz Patent"), is a patent filed on September 17, 1985, issued on July 21, 1987, and entitled, "Audio and Video Digital Recording and Playback System." I am the named inventor of this patent. Exhibit 1323 is a public disclosure of features of the CompuSonics system.

17. Exhibit 1324 hereto, "The Search for the Digital Recorder," *Fortune*, Nov. 12, 1984, is a public disclosure of features of the CompuSonics system.

18. Exhibit 1333 hereto is a photo of a CompuSonics digital recorder/player.

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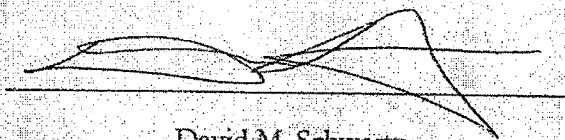
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19. Exhibit 1342 hereto, *New Telerecording Method for Audio*, Broadcast Management/Engineering, Oct. 1985, is a public disclosure of features of the CompuSonic system.

20. I make this declaration of my own personal knowledge. If called to testify as to the truth of the matters stated herein, I could and would testify competently.

21. I declare under penalty of perjury that the foregoing is true and correct.

Executed this 5th day of May, 2013, at Fair Oaks, CA.

A handwritten signature in black ink, appearing to read "David M. Schwartz", is written over a horizontal line. The signature is stylized and somewhat cursive.

David M. Schwartz



# EXHIBIT 3

IN THE UNITED STATES DISTRICT COURT  
IN AND FOR THE WESTERN DISTRICT OF PENNSYLVANIA

SIGHTSOUND.COM INCORPORATED,  
a Pennsylvania corporation,

Plaintiff,

vs.

CIVIL ACTION NO. 98-0118

N2K, INC., a Delaware  
corporation, CDNOW, INC.,  
a Pennsylvania corporation,  
and CDNOW ONLINE, INC., a  
Pennsylvania corporation

EXHIBITS BOUND SEPARATELY

Defendants.

**CERTIFIED COPY**

DEPOSITION OF DAVID M. SCHWARTZ

Thursday, February 1, 2001

VOLUME I

Pages 1 to 210

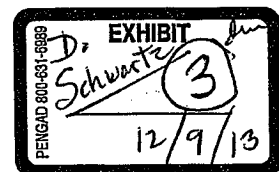
REPORTED BY: FRANCES ANN WEINROB, RMR, CRP 8, CSR 4029

CERTIFIED REALTIME REPORTER



GROSSMAN & COTTER  
CERTIFIED COURT REPORTERS

2421 Park Boulevard, Suite A-200 Palo Alto, California 94306  
Phone 650.324.1181 Fax 650.324.4609



A P P E A R A N C E S

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FOR THE PLAINTIFF:

KENYON & KENYON

BY: BRIAN S. MUDGE, ESQ.

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1           A P P E A R A N C E S (Continued) <sup>3</sup>

2

3           FOR THE DEFENDANTS CDNOW, INC. AND CDNOW ONLINE,  
4           INC.:

5

          WILSON, SONSINI, GOODRICH & ROSATI

6

          BY: DAVID BERL, ESQ.

7

          (650) 320-4925 direct

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          MONICA MUCCHETTI, ESQ. (AS NOTED)

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18

19           ALSO PRESENT:

20

          CHRISTOPHER J. REESE

21

          ANSEL SCHWARTZ

22

23

24

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A P P E A R A N C E S (Continued) <sup>4</sup>

ALSO PRESENT (Continued):

DAN MOTTAZ VIDEO PRODUCTIONS, LLC  
BY: JOSH PORTER, VIDEOGRAPHER  
402 Dewey Boulevard  
San Francisco, California 94116  
(415) 731-1300 main  
(415) 731-0824 fax

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EXAMINATION BY:	PAGE
Mr. Berl	10
Mr. Mudge	150

DEPOSITION EXHIBITS:

1	Copy, preliminary specification sheet, 26	
	"CompuSonics DSP-1000 Digital Disk	
	Recorder/Player"	
	CDN026281	
2	Copy, application notes, "DSP 1000	29
	Digital Audio Disk Recorder"	
	CDN026489-490	
3	Copy, "DSP 1000 Audio Computer Owners	63
	Guide"	
	CDN025708-767	
4	Copy, 9/1/86 article from Electronic	64
	Engineering Times, "Optical-Disk-	
	Based Digital Audio System Premieres"	
	CDN026284	

DAVID M. SCHWARTZ

1		I N D E X	6
2		DEPOSITION EXHIBITS	PAGE
3	5	Copy, front and back of postcard,	66
4		"The DSP 1000 Audio Computer"	
5		CDN026285	
6			
7	6	Copy, AES preprint, "Specifications	69
8		and Implementation of a Computer	
9		Audio Console for Digital Mixing	
10		and Recording," by David M. Schwartz	
11		CDN025778-786	
12			
13	7	Copy, AES preprint, "A High Speed	72
14		Telecommunications Interface for	
15		Digital Audio Transmission and	
16		Reception," by Hyun Heinz Sohn	
17		CDN025772-777	
18			
19	8	Videotape depicting a lecture given	82
20		by David M. Schwartz	
21		CDN026253	
22			
23	9	Copy, excerpt from April 1985 PC	101
24		World magazine, "Hi-Fi Floppy"	
25		CDN026305-312	

1	I N D E X		7
2	DEPOSITION EXHIBITS		PAGE
3	10	Copy, "CompuSonics DSP 2002 Version	106
4		1.00 Preliminary User Manual, August	
5		28, 1985"	
6		CDN025668-707                      Confidential	
7			
8	11	Copy, 5/21/85 Shareholder letter from	110
9		David M. Schwartz	
10		CDN026261-262	
11			
12	12	Copy, 10/10/85 Shareholder letter	112
13		from David M. Schwartz	
14		CDN026382-383	
15			
16	13	Copy, paper "Toward Electronic	123
17		Delivery of Music: Sending and	
18		Receiving High Fidelity Digital Music"	
19		CDN025867-873	
20			
21	14	Copy, 6/8/84 article from Pro Sound	141
22		News, "CompuSonics Bows Totally	
23		Digital"	
24		CDN026271	
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I N D E X

DEPOSITION EXHIBITS	PAGE
15 Copy, "Pay Per Listen Cable Audio System" CDN026379	205
16 Copy, download from DIALOG(R) File headed with 12/29/86 Forbes article, "High-fidelity heaven" CDN027168-170	206

1 BE IT REMEMBERED that, pursuant to  
2 notice, and on Thursday, February 1, 2001, commencing  
3 at the hour of 9:20 a.m. thereof, at 601 California  
4 Avenue, Conference Room Baylands 2B, Palo Alto,  
5 California, before me, FRANCES A. WEINROB, a  
6 Registered Merit Reporter, Certified Realtime  
7 Reporter, Certified Realtime Professional, and a  
8 Certified Shorthand Reporter, there personally  
09:20:12 9 appeared DAVID M. SCHWARTZ.

09:20:13 10 THE VIDEOGRAPHER: Good morning.

09:20:14 11 This marks the beginning of Videotape 1 in  
09:20:18 12 the deposition of David Schwartz in the matter of  
09:20:21 13 SightSound.Com Incorporated versus N2K, et al., in  
09:20:28 14 the U.S. District Court, Western District of  
09:20:31 15 Pennsylvania, Civil Action No. 98-0118.

09:20:36 16 Today's date is February 1st, 2001, and the  
09:20:40 17 time is 9:20 a.m. The location of this deposition is  
09:20:43 18 601 California Avenue, Palo Alto, California.

09:20:48 19 The deposition was noticed by attorneys for  
09:20:50 20 the defendant and the videotape is being produced on  
09:20:52 21 behalf of the same.

09:20:54 22 The video operator is Josh Porter, a  
09:20:56 23 California Notary Public for the County of San  
09:20:59 24 Francisco, employed by Dan Mottaz Video Productions,  
09:21:01 25 402 Dewey Boulevard, San Francisco, California 94116.

DAVID M. SCHWARTZ

09:21:12 1 The court reporter today is Fran Weinrob of 10  
09:21:14 2 Grossman & Cotter.  
09:21:16 3 Would counsel present please identify  
09:21:18 4 themselves and state whom they represent.  
09:21:23 5 MR. MUDGE: I'm Brian Mudge with Kenyon &  
09:21:26 6 Kenyon, representing plaintiff SightSound.  
09:21:29 7 MR. ZEINEDDIN: My name's Paul Zeineddin. I  
09:21:31 8 am with Kenyon & Kenyon, representing SightSound.  
09:21:34 9 MR. REESE: My name is Christopher Reese.  
09:21:36 10 I'm general counsel at SightSound.  
09:21:38 11 MR. SCHWARTZ: Ansel Schwartz,  
09:21:39 12 self-practitioner representing SightSound.Com.  
09:21:44 13 MR. BERL: David Berl, Wilson, Sonsini,  
09:21:45 14 Goodrich & Rosati, representing defendants CDNOW and  
09:21:49 15 CDNOW Online.  
09:21:52 16 THE VIDEOGRAPHER: If there are no  
09:21:52 17 stipulations, will the court reporter please  
09:21:54 18 administer the oath.  
19 DAVID M. SCHWARTZ,  
20 called as a witness by the defendants, and who, being  
21 first duly administered the oath, was thereupon  
22 examined and testified as hereinafter set forth.  
23 EXAMINATION BY MR. BERL  
09:22:12 24 Q. Hello, Mr. Schwartz, my name, as you know,  
09:22:15 25 is David Berl. I represent CDNOW and CDNOW Online in

GROSSMAN & COTTER

09:22:20 1 this case.

09:22:21 2            Could you state your full name for the

09:22:22 3 record and spell your last name.

09:22:24 4        A.     David Michael Schwartz, S-C-H-W-A-R-T-Z.

09:22:32 5        Q.     Mr. Schwartz, have you ever lived in

09:22:33 6 Pennsylvania?

09:22:35 7        A.     Yes, I was born in Pittsburgh, Pennsylvania,

09:22:39 8 1948.

09:22:40 9        Q.     How long did you live there?

09:22:41 10       A.     I lived there until 1973.

09:22:45 11       Q.     So did you go to high school there?

09:22:48 12       A.     Yes. I did all my education through college

09:22:52 13 in Pittsburgh.

09:22:53 14       Q.     What high school did you go to?

09:22:56 15       A.     Taylor Alderdice High School in Squirrel

09:22:59 16 Hill.

09:23:00 17       Q.     Is that outside of Pittsburgh?

09:23:01 18       A.     No, it's in the city.

09:23:03 19       Q.     And do you still have family in Pittsburgh?

09:23:05 20       A.     No, no family in Pittsburgh.

09:23:10 21       Q.     Could you state your work and home

09:23:11 22 residences.

09:23:12 23       A.     Presently my home address is 21 Madera

09:23:17 24 Avenue, San Carlos, California. My work address is

09:23:21 25 1313 Laurel Street, San Carlos, California.

09:23:27 1 Q. Do you have any current addresses in  
09:23:29 2 Pennsylvania?  
09:23:30 3 A. No, I do not.  
09:23:31 4 Q. Have you ever testified in a case before?  
09:23:33 5 A. Yes, I have.  
09:23:35 6 Q. And what case was that?  
09:23:37 7 A. I don't recall the name. It was the State  
09:23:40 8 of Kansas. It was a criminal case involving an oil  
09:23:47 9 drilling company in the State of Kansas.  
09:23:51 10 Q. And what was your role in that case?  
09:23:53 11 A. I was an engineer working for a company that  
09:23:57 12 owned some of the oil wells that were involved in the  
09:24:01 13 case.  
09:24:03 14 Q. And you actually testified in court?  
09:24:05 15 A. Yes, I did.  
09:24:07 16 Q. And have you ever testified in another case?  
09:24:10 17 A. Not to the best of my recollection.  
09:24:11 18 Q. Have you ever been deposed before?  
09:24:15 19 A. Yes, I have, but I can't remember the name  
09:24:19 20 of the case.  
09:24:21 21 Q. Do you know about how long ago it was?  
09:24:24 22 A. 25 years ago maybe.  
09:24:26 23 Q. And what did the case involve? Generally  
09:24:31 24 speaking.  
09:24:35 25 A. I don't know if I could even remember.

09:24:38 1 Q. Do you know what your role was, in what  
09:24:40 2 capacity you were testifying?

09:24:41 3 A. I was not any kind of an expert witness, I  
09:24:44 4 just happened to be a witness to something, and I  
09:24:48 5 can't even remember if it was a civil or criminal  
09:24:50 6 case. Too long ago.

09:24:53 7 Q. Do you remember where it was?

09:24:54 8 A. In Pittsburgh, Pennsylvania, I believe.

09:24:58 9 Q. Just since it's been a long time, I'm going  
09:25:01 10 to go through some ground rules with you about the  
09:25:03 11 deposition process.

09:25:04 12 First of all, the oath you just took has the  
09:25:06 13 same effect that an oath you would take in court has.  
09:25:09 14 That is, you have to tell the truth and the whole  
09:25:12 15 truth as you would in court.

09:25:14 16 I noticed you have a box of Kleenexes. Are  
09:25:18 17 you feeling okay?

09:25:19 18 A. I feel pretty good. I do have what's left  
09:25:21 19 of a cold.

09:25:23 20 Q. Are you taking any drugs?

09:25:25 21 A. I took two aspirin before I came here.

09:25:28 22 Q. Do you feel well enough to remember  
09:25:31 23 everything today?

09:25:33 24 A. I don't think my cold has affected my  
09:25:35 25 memory.

09:25:36 1 Q. Is there any other reason that you don't  
09:25:45 2 think you can go forward and testify today?

09:25:45 3 A. No, I'm fine. I may have to use a Kleenex  
09:25:45 4 occasionally.

09:25:45 5 Q. Some of the things we're going to be talking  
09:25:46 6 about today go way back, so you may not be able to  
09:25:49 7 remember everything, I would guess. If that's the  
09:25:51 8 case, you can simply say you don't remember  
09:25:53 9 something. There's nothing wrong with that, and you  
09:25:56 10 can give your best recollection of the events as you  
09:25:58 11 remember them.

09:26:00 12 Also, the court reporter, as you see, can't  
09:26:01 13 pick up any physical gestures. So if the answer to a  
09:26:04 14 question is yes, you'll have to say yes instead of  
09:26:07 15 nodding your head yes or nodding your head no.  
09:26:11 16 Instead, just say no.

09:26:13 17 I'm going to ask some questions here in the  
09:26:15 18 morning and, we'll see, it might go through lunch and  
09:26:18 19 a little after that, and then SightSound will be able  
09:26:21 20 to ask you questions as well, and we'll go as long as  
09:26:24 21 it takes. Hopefully we'll be done by the end of the  
09:26:27 22 day.

09:26:28 23 What is the highest degree you've earned?

09:26:31 24 A. A professional degree in architecture,  
09:26:34 25 bachelor of architecture from Carnegie Melon

09:26:39 1 University in Pittsburgh, Pennsylvania in 1972. 15

09:26:43 2 Q. Where are you currently employed?

09:26:46 3 A. I'm the founder and CEO of ImaginOn, a

09:26:50 4 publicly traded technology company in San Carlos,

09:26:54 5 California.

09:26:55 6 Q. What does ImaginOn do?

09:26:58 7 A. Software for Internet -- for networks,

09:27:00 8 Internet and intranet networks. Media software

09:27:03 9 primarily. Video processing and audio processing,

09:27:07 10 and also webpage processing.

09:27:11 11 Q. Is ImaginOn involved in transmitting digital

09:27:15 12 audio signals over the Internet?

09:27:18 13 A. To the extent that they accompany video,

09:27:20 14 yes.

09:27:22 15 Q. And are they involved in transmitting any

09:27:24 16 digital audio signals over a network other than the

09:27:28 17 Internet?

09:27:28 18 A. Intranets, which is the same -- using the

09:27:31 19 same protocol that's used on the Internet, but in a

09:27:35 20 local area network.

09:27:36 21 Q. And how long have you been employed at

09:27:38 22 ImaginOn?

09:27:39 23 A. Well, I started the company, incorporated it

09:27:42 24 in the spring of 1996. So I received my first

09:27:47 25 paycheck probably in July or August of 1996.



09:27:52 1 Q. And let's go back a little farther. After 16  
 09:27:55 2 university, what was the first full-time job that you  
 09:27:58 3 had?  
 09:28:03 4 A. I was working -- I went to work for one of  
 09:28:07 5 my former professors who had a start-up company. I  
 09:28:12 6 can't remember the full name of the company.  
 09:28:13 7 Something-Environmental Research, Incorporated.  
 09:28:16 8 Q. And what was your title there, if you  
 09:28:18 9 remember?  
 09:28:20 10 A. Engineer, software engineer.  
 09:28:23 11 Q. And did that job involve the transmission of  
 09:28:26 12 any digital audio signals?  
 09:28:28 13 A. Not at all. It was design of advanced  
 09:28:35 14 prefabricated structures for buildings.  
 09:28:40 15 Q. Okay. And what was the next job you held?  
 09:28:44 16 Actually, let's go back. When did you hold that job,  
 09:28:47 17 for how long?  
 09:28:50 18 A. Oh, we started that -- started working for  
 09:28:54 19 Tony in 1972 and worked for him through 1974. About  
 09:29:01 20 two years.  
 09:29:03 21 Q. And where did you go after that?  
 09:29:06 22 A. I started a company with another -- a friend  
 09:29:09 23 of mine who also worked for Tony. We split off and  
 09:29:12 24 formed our own company in Pittsburgh and then very  
 09:29:16 25 quickly moved into Boston in 1974.

DAVID M. SCHWARTZ

09:29:18 1 Q. Do you remember the name of that company? 17

09:29:21 2 A. Sure. GNS, three initials, Inc.

09:29:27 3 Q. What did GNS stand for?

09:29:32 4 A. I think it had several meanings, but we

09:29:35 5 mainly called it Great Natural Structures.

09:29:39 6 Q. And what did that job involve?

09:29:42 7 A. We designed environmentally friendly

09:29:45 8 prefabricated high-tech structures.

09:29:50 9 Q. And when you say "structures," what do you

09:29:51 10 mean by that?

09:29:52 11 A. Well, they were things -- I think now it's

09:29:56 12 called panelized construction in the industry. Where

09:30:00 13 you can put buildings together, like you would a toy,

09:30:03 14 out of big pieces, and those included solar energy

09:30:07 15 pieces so the building would generate a substantial

09:30:10 16 part of its own heat or power.

09:30:12 17 Q. And how long were you at GNS?

09:30:14 18 A. Till about 1978.

09:30:20 19 Q. And where did you go after that?

09:30:22 20 A. I was recruited by a solar energy design

09:30:26 21 company in Washington, D.C., and they set up a

09:30:32 22 subsidiary called Energy Design and Analysis Company,

09:30:38 23 EDAC, in Washington.

09:30:40 24 Q. Do you remember your title there?

09:30:45 25 A. Director of engineering services, I believe.

GROSSMAN & COTTER

09:30:47 1 Q. And what were your responsibilities?

09:30:50 2 A. Writing software, preparing proposals to

09:30:52 3 the -- mainly to the federal government for various

09:30:56 4 energy conservation projects for the Department of

09:30:59 5 Energy, Department of Defense. I think it was called

09:31:03 6 HUD, Housing and Urban Development, at that time.

09:31:07 7 Q. And did the software you wrote there involve

09:31:18 8 in any way the transmission of digital audio signals?

09:31:18 9 A. No, it did not.

09:31:18 10 Q. And how long were you there?

09:31:20 11 A. Oh, till 1980 -- or through 1980.

09:31:25 12 Q. Where did you go after that?

09:31:27 13 A. In 1980, I moved to Denver, Colorado to work

09:31:34 14 for a related firm. I'm not sure, it may even have

09:31:40 15 been called Energy Design and Analysis Company in

09:31:41 16 Denver. Same ownership.

09:31:48 17 Q. What was your role there?

09:31:50 18 A. Again, software and a systems design,

09:31:53 19 project proposals.

09:31:54 20 Q. So it was the same job essentially in a

09:31:56 21 different place?

09:31:57 22 A. Essentially the same job in Denver, right.

09:32:00 23 Q. And how long did you stay there?

09:32:01 24 A. Till nineteen -- I want to say 1983.

09:32:08 25 Q. And where did you go in 1983?

09:32:13 1 A. In 1983, I started a company called  
 09:32:19 2 CompuSound, Inc., out of my house or condominium in  
 09:32:28 3 Denver.  
 09:32:29 4 Q. And what was the goal of CompuSound, Inc.?  
 09:32:35 5 A. To design, build and manufacture and sell  
 09:32:38 6 digital audio equipment.  
 09:32:47 7 Q. And how long were you at CompuSound?  
 09:32:51 8 A. Well, I resigned, although there was not  
 09:32:53 9 really anybody to resign to, I resigned in 1989.  
 09:32:58 10 Q. And was the company called CompuSound, Inc.,  
 09:33:01 11 the entire time from 1983 to 1989?  
 09:33:03 12 A. No. Early on, and I couldn't give you the  
 09:33:06 13 exact date, I think it was 1984, middle of '84, we  
 09:33:12 14 had to change the name because there was a firm in  
 09:33:16 15 Southern California that owned the name CompuSound in  
 09:33:20 16 conjunction I think with a loud speaker system, and  
 09:33:25 17 they informed us that they objected to our  
 09:33:27 18 registration of it as a corporate name, so we changed  
 09:33:31 19 the name to CompuSonics.  
 09:33:35 20 Q. And was it called CompuSonics still at the  
 09:33:38 21 time that you resigned in 1989?  
 09:33:41 22 A. Yes, it was.  
 09:33:42 23 Q. And what was the reason for your  
 09:33:44 24 resignation?  
 09:33:46 25 A. Well, the company did not have enough

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09:33:48 1 business to support itself, and I could not find

09:33:53 2 other sources of funding to keep it going, so I had

09:33:58 3 to get a real job.

09:33:59 4 Q. And what real job did you get?

09:34:02 5 A. Well, I worked -- I had several consulting

09:34:05 6 contracts, so you could say I worked as an

09:34:09 7 independent consultant. I did consulting work, not

09:34:14 8 just digital audio related, but digital signal

09:34:18 9 processing, which is the technology that our software

09:34:22 10 embodied. So I worked -- I did contracts for Tandy

09:34:31 11 Corporation, for Atari Corporation, for Seagate.

09:34:40 12 Q. And when you say "contracts," what do you

09:34:42 13 mean by that?

09:34:44 14 A. Well, they're consulting contracts, where a

09:34:47 15 company has a specific problem and they say, can you

09:34:50 16 solve this problem or write this piece of software

09:34:52 17 and tell us how much money you want, and then I would

09:34:55 18 give them a bid and we would sign a letter agreement,

09:34:57 19 and then within a certain period of time, I'd produce

09:35:00 20 either the software or a report or what it was they

09:35:05 21 had asked me to perform.

09:35:07 22 Q. And how long did you work as an independent

09:35:09 23 consultant?

09:35:11 24 A. Not very long. About six months. And then

09:35:14 25 one of the companies I was consulting for said,

09:35:19 1 basically, we think we could save some money if we 21  
09:35:22 2 hired you full-time.  
09:35:23 3 Q. And what company was that?  
09:35:24 4 A. That was StarSignal in Campbell, California.  
09:35:34 5 Q. How long did you work at StarSignal?  
09:35:36 6 A. About a year.  
09:35:38 7 Q. In about 1990 --  
09:35:39 8 A. Yes.  
09:35:40 9 Q. -- is that where we are? And what was your  
09:35:42 10 title at StarSignal?  
09:35:45 11 A. I'm pretty sure I was one of the VPs of  
09:35:48 12 engineering, but that was a big title over what was  
09:35:51 13 basically an engineering job.  
09:35:54 14 Q. And what were you engineering?  
09:35:58 15 A. The digital signal processing system for the  
09:36:01 16 first color facsimile machine. Image processing.  
09:36:09 17 Q. And you stayed there one year, you said?  
09:36:11 18 A. Yes.  
09:36:12 19 Q. And where did you go after that?  
09:36:14 20 A. I went to work for Tandy Corporation. The  
09:36:17 21 Tandy research and -- R&D center, research and  
09:36:28 22 development center, in San José, California.  
09:36:30 23 Q. And what was your role there?  
09:36:32 24 A. I headed the software engineering group. It  
09:36:35 25 would be too grand to call it a department.

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Q. And in that job, were you involved with the transmission of digital audio signals?

A. Well, to some extent. They were only transmitted locally. The main purpose of the work there was to develop the first erasable compact disk recorder -- erasable disk for compact disk, you know, players, recorders.

Q. And was that endeavor successful?

A. From a technical point of view, it was successful. We produced working machines, finished machines, and working devices. They were not marketed at that time.

Q. How long did you stay at Tandy?

A. Till I think June 1992.

Q. And where did you go in June of 1992?

A. To Atari Corporation.

Q. And what were you doing at Atari?

A. I'm trying to remember my exact title.

I believe I started as a senior engineer group leader for the digital audio -- two digital audio projects. One, the digital audio for the Atari Falcon computer, 68040-based computer, and at the same time designing the digital -- the audio digital signal processing circuit for the Jaguar video game system.

09:38:05 1 Q. And did that involve the transmission of  
09:38:06 2 digital audio signals?  
09:38:08 3 A. Locally. You know, from here to there  
09:38:10 4 around the building and from one machine to another.  
09:38:13 5 Q. Okay, but not outside of Atari?  
09:38:15 6 A. No.  
09:38:16 7 Q. And how long did you stay at Atari?  
09:38:19 8 A. Till the company basically ceased operations  
09:38:24 9 in the summer of 1996.  
09:38:28 10 Q. And in the summer of 1996, where did you go?  
09:38:31 11 A. Well, that overlaps with the start of my  
09:38:34 12 present company, with ImaginOn. I started the  
09:38:37 13 company with the permission of management of Atari.  
09:38:42 14 Q. And you're still at ImaginOn?  
09:38:44 15 A. Yes.  
09:38:45 16 Q. Okay, now I'd like to circle back many jobs  
09:38:48 17 ago to CompuSound. What was the corporate mission  
09:38:52 18 originally of CompuSound?  
09:38:57 19 A. Well, to make money for the shareholders.  
09:39:00 20 Okay? That was the basic mission, but we were going  
09:39:04 21 to do that with two types of product. One, a  
09:39:07 22 professional-level digital audio workstation and,  
09:39:12 23 two, a consumer digital audio recorder, player,  
09:39:17 24 editor.  
09:39:19 25 Q. And did you make a professional-level



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digital audio system?

A. The workstation? Yes, we did. We were the first -- to the best of my knowledge, we were the first company to commercialize such a device.

Q. And what did you call that device?

A. The DSP 2000 series. There was the 2002, 2004 and so on, depending on how many audio channels it could process in parallel.

Q. And did you ever make the consumer device that you spoke of?

A. Yes, we did. We started building it in prototype form almost immediately. The first prototype -- I built the first prototype personally in 1983, and it went through a series of prototypes up until the first batch of commercial units were produced in either late 1985 or early 1986.

Q. And who came up with the idea of making a consumer device for digital audio signal transmission?

MR. MUDGE: I'm going to object to the question. I think it mischaracterizes his testimony.

BY MR. BERL:

Q. Who came up with the idea of making a consumer device for digital signal processing?

A. Well, I'm going to take some credit for

09:40:47 1 being, if not the first, among the very first people  
09:40:50 2 to do that.

09:40:51 3 Digital signal processing, up until the time  
09:40:55 4 myself and a few other people in the industry started  
09:40:57 5 working with it, was purely the domain of the defense  
09:41:02 6 industry, really, the Navy in particular. The U.S.  
09:41:06 7 Navy had a very large effort in digital signal  
09:41:11 8 processing for audio for detecting submarines, you  
09:41:15 9 know, for coastal defense and processing signals to  
09:41:19 10 determine whether the hydrophones, the microphones  
09:41:22 11 underwater, were picking up, you know, whales or  
09:41:26 12 dolphins or submarines.

09:41:29 13 Q. What do you mean when you say "digital  
09:41:31 14 signal processing"?

09:41:33 15 A. Well, then I have to describe what an analog  
09:41:36 16 signal is. There are generally two classes of  
09:41:38 17 signals.

09:41:39 18 In layman's terms, an analog signal is the  
09:41:43 19 wiggly line you see on ER on the scope, on the screen  
09:41:46 20 when you're watching some patient's heart fail and it  
09:41:49 21 goes beep, beep, beep, beep, and the line goes across  
09:41:52 22 the screen, and then it goes flat and the person's  
09:41:55 23 dead. That's the analog representation of a signal,  
09:41:58 24 a wiggly line going across some screen someplace.

09:42:03 25 A digital signal is a series of numbers that

09:42:06 1 actually measures the -- represents the position of  
 09:42:09 2 that wiggly line in an x/y dimension. So it's a  
 09:42:14 3 graph. You could say you plot the points that make  
 09:42:17 4 up that line. So that's a digital signal.

09:42:20 5 And when we say digital signal processing,  
 09:42:31 6 it means to take that data, that set of numbers, and  
 09:42:31 7 do something with it.

09:42:31 8 Q. And I'd like to go back to that consumer  
 09:42:33 9 device. What did you call it?

09:42:35 10 A. The DSP 1000.

09:42:38 11 Q. And "DSP" stands for?

09:42:40 12 A. Well, we started saying digital signal  
 09:42:43 13 processor, then too many people said "What?" So we  
 09:42:46 14 said digital sound processor, and it was never -- I'm  
 09:42:50 15 not sure if it was clear completely to the press  
 09:42:52 16 which one it was.

09:42:56 17 MR. BERL: Okay. I'm now going to have this  
 09:43:00 18 marked Exhibit 1.

09:43:05 19 (WHEREUPON, DEPOSITION EXHIBIT 1 WAS MARKED  
 09:43:22 20 FOR IDENTIFICATION.)

09:43:22 21 BY MR. BERL:

09:43:22 22 Q. Are you familiar with Exhibit 1?

09:43:26 23 A. Yes, I am.

09:43:28 24 Q. Do you know who wrote Exhibit 1?

09:43:35 25 A. Well, I probably wrote the first draft of

09:43:37 1 it, and then our advertising agency, whoever they <sup>27</sup>  
09:43:42 2 were at the time -- I do remember who they were at  
09:43:47 3 the time -- Leber Katz Partners in New York City,  
09:43:50 4 they probably turned it into English.  
09:43:55 5 Q. And looking at Exhibit 1, which bears the  
09:43:59 6 number 26281 at the bottom, if I could direct your  
09:44:04 7 attention to the top, there are three bulleted lines.  
09:44:09 8 Could you read those to yourself for a second.  
09:44:14 9 A. Yes.  
09:44:15 10 Q. And could you read the first line out loud.  
09:44:18 11 A. "In-home digital quality stereo  
09:44:20 12 recording from any source."  
09:44:22 13 Q. And can you tell me what you meant by that?  
09:44:31 14 A. What it says, it means it acts like a tape  
09:44:35 15 deck, like a cassette deck. You plug a couple of  
09:44:39 16 wires into it from your radio or a microphone, and  
09:44:42 17 you record a radio show or copy an LP record onto  
09:44:49 18 this machine. It's a recording deck.  
09:44:53 19 The "any source" refers to whatever audio  
09:44:55 20 source you happen to have at hand.  
09:44:59 21 Q. And can you read the second bulleted line.  
09:45:01 22 A. "Digital recording from remote  
09:45:03 23 databases: 'telerecording.'".  
09:45:10 24 Q. And what did you mean by that?  
09:45:13 25 A. Well, I don't know if we invented this term.

09:45:16 1 We never claimed to have invented this term, but

09:45:19 2 maybe we did or maybe our advertising agency did.

09:45:25 3           Telerecording means to take digital audio

09:45:31 4 data from some place outside of your home and record

09:45:36 5 it onto your local disk drive.

09:45:41 6           Q.     And now directing your attention to the

09:45:43 7 bottom of the page, are you familiar with what is

09:45:47 8 pictured there?

09:45:49 9           A.     The picture?

09:45:50 10          Q.     Yes.

09:45:51 11          A.     That's probably the second or third

09:45:53 12 prototype of the DSP 1000.

09:45:58 13          Q.     And how do you know it's the second or third

09:46:01 14 prototype?

09:46:01 15          A.     The first two were pretty ugly. This is one

09:46:05 16 of the finished-looking ones.

09:46:09 17          Q.     And by "finished," what do you mean?

09:46:13 18          A.     It doesn't look like it was built in my

09:46:15 19 kitchen.

09:46:16 20          Q.     Okay. Do you know when this document was

09:46:19 21 produced?

09:46:22 22          A.     Well, it says "Copyright 1984" at the

09:46:25 23 bottom, so I'm pretty sure it was produced in 1984.

09:46:30 24          Q.     Does that comport with your memory of when

09:46:32 25 the second or third prototype of the DSP 1000 --

09:46:37 1 A. Yes, it does. 1984 sounds about right.

09:46:41 2 MR. BERL: Now, if I could have this marked  
09:46:43 3 as Exhibit 2.

09:46:45 4 (WHEREUPON, DEPOSITION EXHIBIT 2 WAS MARKED  
09:46:57 5 FOR IDENTIFICATION.)

09:46:57 6 MR. BERL: You'll want to hold on to  
09:46:59 7 Exhibit 2. We'll be using it quite a bit throughout  
09:47:02 8 the morning.

09:47:05 9 Q. Do you recognize this document?

09:47:07 10 A. Yes, I do.

09:47:09 11 Q. And what do you recognize it as?

09:47:14 12 A. A document that we produced for our  
09:47:17 13 salespeople and for the dealers who would sell the  
09:47:22 14 DSP 1000.

09:47:24 15 Q. Do you know who produced it for the dealers,  
09:47:27 16 when you say "we"?

09:47:29 17 A. Well, again, I probably myself or one of my  
09:47:36 18 vice-presidents drafted this, and then our ad agency  
09:47:43 19 or PR agency, again, tried to make it into English.

09:47:48 20 Q. All right. And looking still at Exhibit 2,  
09:47:52 21 which is numbered 26489 through 26490, can you tell  
09:47:59 22 when this was produced?

09:48:03 23 A. It says "Copyright 1986" at the second page.  
09:48:08 24 I believe that's -- it seems to me it was done  
09:48:12 25 earlier, but maybe this particular version was

09:48:14 1 printed in 1986.

09:48:15 2 Q. And why do you think it might have been done  
09:48:17 3 earlier?

09:48:19 4 A. Well, because we had -- this diagram didn't  
09:48:24 5 really change. It's a diagram of this machine, the  
09:48:30 6 Exhibit 1 machine, which is dated 1984.

09:48:36 7 Q. And if I could go through that diagram with  
09:48:39 8 you, the diagram on 26489 labeled "DSP 1000 System  
09:48:45 9 Diagram."

09:48:46 10 A. Yes.

09:48:47 11 Q. Why don't we start on the upper left. When  
09:48:50 12 it says "Audio In," what does "Audio In" mean?

09:48:54 13 A. Well, that represents a wiggly line, like  
09:48:56 14 the one I referred to on the medical monitor when  
09:48:59 15 you're watching a patient's heartbeat on a TV show,  
09:49:11 16 the wiggly line representing the sound of the  
09:49:11 17 patient's heart. That's audio.

09:49:11 18 It could be music. Presumably it's music or  
09:49:11 19 voice in this case. So that's the audio signal in.

09:49:13 20 Q. Where would that audio come from?

09:49:18 21 A. Well, most people, frankly, copied LP  
09:49:24 22 records or compact disks. So the audio in was the  
09:49:28 23 output from a compact disk player or a record player,  
09:49:32 24 LP record player.

09:49:33 25 Q. And how was an LP record player or compact

09:49:35 1 disk player connected to the DSP 1000?

09:49:40 2 A. Through copper wires terminated in what are  
09:49:44 3 referred to as RCA jacks.

09:49:47 4 Q. And now looking at the top box labeled  
09:49:50 5 "Analog Section, A-to-D/D-to-A," can you tell me what  
09:49:55 6 you meant by that?

09:49:56 7 A. That's the part of the circuitry that  
09:49:58 8 converts the analog signal into digital data, into  
09:50:03 9 numbers. And the other part of that section does the  
09:50:07 10 output, which takes the digital numbers, the D, and  
09:50:11 11 turns them back into analog, an analog signal, a  
09:50:15 12 wiggly line that you can listen to, that you can  
09:50:18 13 amplify and call music. That's the audio out, coming  
09:50:21 14 out of that box.

09:50:23 15 Q. And what do the arrows on this chart  
09:50:26 16 represent?

09:50:27 17 A. The direction of data flow.

09:50:31 18 Once you're inside a digital audio machine,  
09:50:33 19 or it's really a computer, everything is numbers, is  
09:50:36 20 data. We'll just call it data.

09:50:41 21 Q. And so the two-sided arrows, what does that  
09:50:45 22 mean exactly?

09:50:46 23 A. That means that the data flow could be to or  
09:50:49 24 from that box, that part of the circuitry.

09:50:53 25 Q. Now, turning your attention to the second



09:50:55 1 box labeled "FIFO Buffer," what is the FIFO buffer? 32

09:51:01 2 A. It's a digital memory. FIFO stands for

09:51:05 3 first in/first out. I think we just could have

09:51:09 4 called it buffer. "First in" means the data that

09:51:12 5 goes into the buffer first, comes out of the buffer

09:51:16 6 first. So first in/first out, as opposed to first

09:51:21 7 in/last out, which is, you know, a FILO or last

09:51:24 8 in/last out.

09:51:25 9 There's different ways to organize digital

09:51:28 10 memories by, in this case, which way the data is

09:51:31 11 flowing and who's first and who's last. So this type

09:51:34 12 of buffer is a FIFO buffer.

09:51:35 13 Q. And what role does a buffer play in this

09:51:38 14 system?

09:51:39 15 A. Well, the flow of data after its converted

09:51:44 16 from the analog world into digital data is quite

09:51:47 17 rapid and it's continuous. You can't stop it.

09:51:52 18 Otherwise, you'd get discontinuities in the music or

09:51:55 19 in the voice signal.

09:51:57 20 So you need some way to temporarily store it

09:51:59 21 in a memory before you do anything else with it to

09:52:02 22 take up -- to account for the fact that the rest of

09:52:05 23 the computer is not particularly continuous. It has

09:52:10 24 a bursty behavior. In other words, data is processed

09:52:14 25 in lumps, in groups or blocks, and so you have to

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09:52:17 1 accumulate a block of data in a buffer and then pass

09:52:20 2 it along to the processor to be processed as a group.

09:52:25 3 So it's like the waiting room. The FIFO

09:52:27 4 buffer is like the waiting room for the data. It

09:52:30 5 accumulates data.

09:52:32 6 Q. So what data goes into the FIFO buffer from

09:52:35 7 the analog-to-digital/digital-to-analog section?

09:52:40 8 A. What represents the music or the audio

09:52:42 9 signal. Numbers that represent that signal.

09:52:46 10 Q. So is it a digital or analog signal?

09:52:49 11 A. It's digital data.

09:52:51 12 Q. And what comes out of the FIFO buffer?

09:52:54 13 A. Digital data. It's all digital. In this

09:52:57 14 case, 16 bit digital words, we call them.

09:53:03 15 Q. And turning your attention to the next box

09:53:05 16 labeled "Dual TMS 320 Signal Processors," what does

09:53:11 17 that box represent?

09:53:13 18 A. That's the part of the circuit that takes

09:53:16 19 the data and manipulates it. That's part of the

09:53:20 20 processing. Probably one of the more significant

09:53:23 21 parts of the signal processing.

09:53:26 22 TMS 320s -- or the TMS 320 is a Texas

09:53:32 23 Instruments signal processing chip. It's still in

09:53:34 24 production today. Probably the most common signal

09:53:38 25 processor, most popular chip for this purpose ever

09:53:41 1 made.

09:53:42 2 There are two of them in that box.

09:53:44 3 Q. And how does it process the signal?

09:53:47 4 A. Well, it can process the signal --

09:53:51 5 They're programmable devices, meaning you

09:53:53 6 load software into them and they do whatever the

09:53:55 7 commands of the software are.

09:53:58 8 Most of the time in this machine, the

09:53:59 9 commands were -- well, two things. Check for errors,

09:54:04 10 and that's a minor function. And the most important

09:54:10 11 function is to analyze the data and try and compress

09:54:19 12 it to make it smaller. That's the process, the two

09:54:19 13 processes that were going on.

09:54:21 14 Q. And why did you need to check for errors?

09:54:24 15 A. Well, because digital errors, if they're

09:54:26 16 stored and then played back, sound terrible and can

09:54:31 17 actually damage your loud speakers.

09:54:35 18 Q. And do you remember how the TMS 320 checked

09:54:39 19 for errors?

09:54:41 20 A. We used a simple checksum; that is, every

09:54:45 21 group of every block of data got a number that

09:54:50 22 represented --

09:54:51 23 If you added all the numbers together in the

09:54:54 24 block, you got another number called the checksum,

09:54:57 25 and that checksum is stored separately from the --

09:55:01 1 apart from the actual music or audio data.

09:55:04 2 Q. And what is the purpose of the checksum?

09:55:06 3 A. Well, if the checksum doesn't compute when

09:55:08 4 you look to verify it, you know that that block of

09:55:12 5 data is corrupt. You know there's been an error.

09:55:16 6 Q. And who programmed the TMS 320?

09:55:21 7 A. You mean who the employees of CompuSonics

09:55:25 8 were at that time who did the work?

09:55:28 9 Q. Yes.

09:55:29 10 A. I remember some of the names, but not all of

09:55:32 11 the names.

09:55:33 12 The most outstanding engineer in the

09:55:34 13 group -- well, I shouldn't say that. There were a

09:55:40 14 couple of outstanding engineers; John Stautner,

09:55:45 15 Thomas Hegg.

09:55:46 16 Q. Could you spell "Stautner"?

09:55:47 17 A. S-T-A-U-T-N-E-R. John Paul Stautner.

09:55:53 18 And Thomas Hegg, H-E-G-G.

09:56:02 19 And I can't remember David's last name.

09:56:06 20 Horowitz, David Horowitz.

09:56:11 21 Those are the three that pop to mind right

09:56:14 22 away.

09:56:16 23 Q. And around what time period did this

09:56:18 24 programming occur?

09:56:24 25 A. Well, we started -- I actually started

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09:56:26 1 paying that group to program for this project while  
09:56:28 2 they were still students at MIT, so they were still  
09:56:31 3 graduate students in the master's program in computer  
09:56:35 4 science in 1983.

09:56:39 5           And what I had to do is pay the  
09:56:43 6 Massachusetts Institute of Technology a grant, and  
09:56:45 7 then they worked under the grant money to work on  
09:56:48 8 this.

09:56:49 9           Q.    And when was this programming for the  
09:56:50 10 TMS 320 completed?

09:56:56 11           A.    Well, software is never completed. Let me  
09:56:58 12 just say for the record that you have one revision  
09:57:00 13 after another.

09:57:01 14           You could say when did it first work well  
09:57:04 15 enough to do something with it, that would be 1984.

09:57:08 16           Q.    And when you say "well enough to do  
09:57:10 17 something with it," for what purpose did it work in  
09:57:13 18 1984?

09:57:14 19           A.    Good enough to sell it to somebody  
09:57:16 20 commercially. Serviceable enough to be commercial.

09:57:25 21           Q.    You identified two reasons for the TMS 320  
09:57:28 22 as it was programmed in the DSP 1000, the first was  
09:57:32 23 to check for errors and the second was to compress  
09:57:35 24 the signal. Why did you need to compress the signal?

09:57:41 25           A.    Well, there are a number of reasons, and I

09:57:45	1	don't know if we even want to go through all of the	37
09:57:47	2	reasons today, but the primary reasons were to save	
09:57:51	3	space on the disk drive, storage space, and the	
09:57:55	4	second reason was to minimize the amount of data that	
09:57:57	5	had to flow through the wires. That's referred to as	
09:58:00	6	the bandwidth.	
09:58:02	7	Q. And what wires are you talking about?	
09:58:05	8	A. The wires in the circuit. The wires in the	
09:58:07	9	circuitry.	
09:58:10	10	Q. And what would have happened --	
09:58:12	11	A. And, I'm sorry, the wires inside the machine	
09:58:16	12	and the circuitry, and also in the case of	
09:58:17	13	telerecording, the wires external to the machine.	
09:58:22	14	Q. What would have happened if you had not	
09:58:23	15	compressed the signal?	
09:58:28	16	A. Well, in the first versions of the DSP 1000,	
09:58:31	17	we could not have recorded the signal to the disk	
09:58:37	18	drive. The disk drive -- we couldn't have squeezed	
09:58:40	19	the data through the wires. The bandwidth was not	
09:58:42	20	there. The disk drive was not capable of recording	
09:58:46	21	full bandwidth digital audio.	
09:58:50	22	That was the primary initial reason.	
09:58:53	23	Q. And what were a few other reasons, if you	
09:58:55	24	remember?	
09:58:56	25	A. Well, the other reason was we were trying to	

09:58:59 1 build a system that could transmit audio over  
09:59:01 2 telephone wires, and the best telephone wires in that  
09:59:06 3 day, in 1983-'84, were capable of roughly 56,000 bits  
09:59:15 4 per second, as opposed to digital audio that was  
09:59:18 5 1,400,000 bits per second.

09:59:23 6 Q. So what would have occurred if you had not  
09:59:26 7 compressed the signal?

09:59:31 8 A. Well, in practical terms, it would have  
09:59:33 9 taken an awfully long time to transmit one song over  
09:59:42 10 a telephone wire.

09:59:42 11 Q. And if you could estimate, how long would it  
09:59:42 12 have taken?

09:59:43 13 A. Well, all day and all night to send one  
09:59:47 14 song, for example.

09:59:50 15 Q. Now, these three engineers that you named,  
09:59:53 16 were they the only three engineers who worked on  
09:59:55 17 programming the TMS 320?

09:59:58 18 A. No, they were not.

09:59:59 19 Q. And do you remember around how many more  
10:00:01 20 there were?

10:00:03 21 A. Well, they weren't all working at once. You  
10:00:06 22 know, engineers came and went. Not everybody who  
10:00:08 23 started with the company in 1983 or '84 continued  
10:00:12 24 through 1989. So the total number of engineers who  
10:00:18 25 wrote some code for those chips? Six or seven.

10:00:29 1 Q. And to get it what you called in working  
 10:00:30 2 order well enough to sell, how many engineering man  
 10:00:34 3 years did it take to program the TMS 320,  
 10:00:37 4 approximately?

10:00:43 5 MR. MUDGE: I'm going to object. The  
 10:00:44 6 question's vague.

10:00:46 7 MR. BERL: You can answer.

10:00:49 8 THE WITNESS: That's difficult to estimate.  
 10:00:51 9 Maybe two or three man years.

10 BY MR. BERL:

10:00:56 11 Q. And what role did you play, if any, in  
 10:00:58 12 writing the software for the TMS 320?

10:01:01 13 A. I wrote what was called or what we still  
 10:01:03 14 call in the industry pseudo-code. Pseudo-code is a  
 10:01:09 15 representation of the actual software in terms that  
 10:01:14 16 another engineer can actually take those terms and  
 10:01:16 17 write the executable code.

10:01:20 18 Q. And was there only one compression algorithm  
 10:01:23 19 that the TMS 320 used? In the DSP 1000.

10:01:30 20 A. There's a group of algorithms that all work  
 10:01:32 21 together, and they -- together, if you used them all  
 10:01:40 22 together, you would get more compression than if you  
 10:01:41 23 used one of them alone.

10:01:44 24 Q. And do you remember the name of any of those  
 10:01:46 25 algorithms?



10:01:47 1 A. I forget their nicknames. We had working  
10:01:50 2 nicknames for them, but commercially we just called  
10:01:53 3 them CSX2, CSX4 and CSX8.

10:01:59 4 Q. And what were the differences between those  
10:02:01 5 three algorithms?

10:02:02 6 A. CSX2, and there are actually two versions of  
10:02:07 7 CSX2 to complicate matters, was the highest quality,  
10:02:12 8 least processing. It did the least damage to the  
10:02:15 9 audio signal. In one case, it was completely  
10:02:19 10 lossless, meaning it didn't damage the audio signal  
10:02:22 11 whatsoever. It was called perfect reconstruction of  
10:02:27 12 the signal.

10:02:28 13 The commercial version of -- first  
10:02:30 14 commercial version of CSX2 was in fact the lossless  
10:02:35 15 version for professional use. The second version of  
10:02:38 16 CSX2 was somewhat slightly lossy; that is, it wasn't  
10:02:43 17 perfect.

10:02:44 18 CSX4 used more software to compress the  
10:02:48 19 signal further and damaged its quality a little more,  
10:02:53 20 and CXS8 turned what was a pristine digital audio  
10:02:59 21 compact disk signal into something that sounded like  
10:03:01 22 AM radio.

10:03:05 23 Q. And how is, in the art of compression, how  
10:03:07 24 is the amount of compression that one achieves  
10:03:10 25 measured?

10:03:11 1

MR. MUDGE: Object. Lacks foundation.

10:03:16 2

THE WITNESS: We measure it by the ratio of

10:03:19 3

source data rate to output data rate.

10:03:23 4

BY MR. BERL:

10:03:24 5

Q. And if you remember, what was that ratio for

10:03:28 6

those three algorithms?

10:03:31 7

A. Well, roughly, the numbers represent the

10:03:33 8

ratio. CSX2 would cut the data rate by half. CSX4

10:03:39 9

would cut it -- divide by four, and CSX8 would divide

10:03:44 10

by eight.

10:03:46 11

In actual implementation, CSX8 divided far

10:03:50 12

more than that. It actually divided -- I'd have to

10:03:55 13

get out a calculator to give you the exact number,

10:03:58 14

but it took a 1.4 million bit per second signal and

10:04:02 15

turned it into 56,000 bits per second. So we would

10:04:05 16

have to get out a calculator to figure the ratio.

10:04:09 17

Q. And to recap, what went in, looking at this

10:04:11 18

arrow that goes from the FIFO buffer to the TMS 320,

10:04:16 19

what would go into the TMS 320 from the FIFO buffer?

10:04:21 20

A. 16 bit long digital audio -- 16 bit long

10:04:25 21

words, data words, that represented what we call

10:04:29 22

samples of the analog signal. It's a digital signal

10:04:33 23

which represents the analog signal.

10:04:38 24

Q. And was it compressed at all before it went

10:04:40 25

into the TMS 320?

10:04:43 1 A. No, not at all.

10:04:44 2 Q. And what came out of the TMS 320?

10:04:50 3 A. Well, we're going down the diagram

10:04:52 4 vertically.

10:04:53 5 Q. Yes, going down the diagram.

10:04:55 6 A. Going down the diagram, the 320s produced a

10:04:58 7 smaller -- they took a large group or block of data

10:05:00 8 from the FIFO buffer, squeezed it down to a much

10:05:04 9 smaller block of data, and then put it in the random

10:05:08 10 access memory, the main memory of the computer.

10:05:18 11 Q. Was the signal that came out of the TMS 320,

10:05:21 12 was that stored permanently in the random access

10:05:24 13 memory?

10:05:26 14 A. Generally not. It could be. It could be,

10:05:32 15 but it wasn't permanently. It stayed there for a

10:05:36 16 while until the CPU, the central processing unit,

10:05:41 17 picked it up and moved it over to the disk drive.

10:05:45 18 Q. And by "CPU," are you referring to the box

10:05:48 19 labeled "MC 68000 CPU"?

10:05:52 20 A. Yes, that's a Motorola microprocessor called

10:05:55 21 the 68000.

10:06:01 22 Q. And when you say it directs the signal from

10:06:05 23 the RAM, what do you mean by that?

10:06:08 24 A. Well, the 320s were programmed simply to

10:06:11 25 crunch data. To fetch it from the buffer, you know,

10:06:13 1 get the waiting data, process it and dispose of it  
10:06:16 2 into the RAM. So they were -- the 320s had a limited  
10:06:21 3 range of movement. Grab data from one box and put it  
10:06:24 4 in another, basically.

10:06:31 5 Q. And where did it go next after it was in the  
10:06:33 6 RAM?

10:06:34 7 A. The 68000, the microprocessor, under  
10:06:37 8 software control, would initiate what's called a DMA,  
10:06:40 9 direct memory access, cycle. Pass control of the  
10:06:45 10 data transfer to the DMA chip. It's actually a  
10:06:49 11 separate processing chip called a DMA controller.

10:06:51 12 The DMA controller would then sequentially  
10:06:54 13 read the digital audio data out of RAM, the  
10:06:57 14 compressed data, and pass it through another chip  
10:07:01 15 called the SCSI port to the disk drive.

10:07:04 16 Q. Now, you said the 68000 works under software  
10:07:08 17 direction.

10:07:09 18 A. Yes.

10:07:10 19 Q. Who wrote that software?

10:07:13 20 A. Again, I wrote the first pseudo-code for  
10:07:17 21 that, but the actual first working version -- working  
10:07:20 22 version of software for the 68000 was written by John  
10:07:25 23 Stautner.

10:07:28 24 Q. And when did that process of writing that  
10:07:29 25 software begin?

10:07:33 1 A. Well, John was still a graduate student at  
10:07:37 2 MIT, I believe, in 1983.

10:07:39 3 Q. And when did you have that software in  
10:07:41 4 working order?

10:07:44 5 A. The first version of that software function  
10:07:50 6 was for the DSP 2000 prototypes that we built in  
10:07:54 7 early 1984.

10:07:55 8 (At this time, Monica Mucchetti entered the  
10:07:56 9 deposition room)

10:07:57 10 BY MR. BERL:

10:07:57 11 Q. And when did you have that software working  
10:07:59 12 inside a DSP 1000?

10:08:03 13 A. I think the second prototype of the DSP 1000  
10:08:07 14 had it working, again, in late 1984 or very early  
10:08:13 15 1985.

10:08:18 16 Q. And you said that the 68000 CPU directs the  
10:08:22 17 data from the RAM to the DMA controller.

10:08:25 18 A. Yes.

10:08:26 19 Q. What does that mean?

10:08:29 20 A. Well, the reason for a --

10:08:31 21 The reason for a direct memory access  
10:08:33 22 controller, that's what DMA stands for, is it's a  
10:08:37 23 specialized chip that knows how to -- given a  
10:08:40 24 starting address in memory and an amount of data,  
10:08:47 25 those two numbers, and control, you pass control to

10:08:50 1 it -- it knows how to then go to memory, find that  
10:08:54 2 address and take that quantity of data from  
10:08:56 3 sequential addresses and send it somewhere.

10:09:00 4 And that off loads or that relieves the  
10:09:03 5 68000 of having to do what's a very tedious,  
10:09:06 6 simpleminded job of just moving data from one place  
10:09:09 7 to another.

10:09:11 8 Q. And the data that was on the RAM, what form  
10:09:14 9 was that data in?

10:09:16 10 A. Compressed, blocks of compressed digital  
10:09:20 11 audio.

10:09:23 12 Q. And after the DMA controller transferred it,  
10:09:28 13 where did it go?

10:09:31 14 A. It went through another chip, which we call  
10:09:34 15 here a SCSI port. SCSI standing for small computer  
10:09:38 16 standard interface, pronounced "skuzzy." It's still  
10:09:42 17 in computers today.

10:09:45 18 That chip is the interface chip between a  
10:09:48 19 computer and a standard peripheral, a standard disk  
10:09:52 20 drive, that understands the SCSI protocol, which  
10:09:57 21 could be a disk drive or a scanner or a printer, you  
10:10:01 22 know, or whatever.

10:10:02 23 Q. And what was it?

10:10:03 24 A. In this case, a disk drive.

10:10:05 25 Q. Do you remember what kind of disk drive it

10:10:06 1 was?

10:10:07 2 A. It depended on which prototype. Through the  
10:10:11 3 prototypes, it changed. And when it eventually got  
10:10:15 4 into production, the disk drive was a recordable  
10:10:20 5 optical disk in one case, and a cartridge form of  
10:10:24 6 floppy disk drive in another case.

10:10:27 7 Q. And as the data traveled through from the  
10:10:30 8 RAM to the disk, what form was it in?

10:10:35 9 A. Compressed digital data.

10:10:40 10 Q. And did that data represent something? Now  
10:10:43 11 moving back to the "Audio In." Was there any  
10:10:48 12 relationship between the data that was stored on the  
10:10:52 13 disk and the audio that was put into the DSP 1000?

10:10:58 14 A. What we put onto the disk drive eventually  
10:11:01 15 was two types of data; the compressed digital words  
10:11:05 16 that represented the original musical signal, the  
10:11:09 17 analog signal, and some header information, some text  
10:11:18 18 information about the file. You know, about -- well,  
10:11:18 19 there's two levels of that.

10:11:19 20 There's header information on each little  
10:11:20 21 block that says something about what's in the block,  
10:11:22 22 and then on the entire file, like the song, you know,  
10:11:26 23 the recording, there's additional data. These are  
10:11:29 24 non-musical forms of data.

10:11:32 25 Q. And why did you need a header for each

10:11:35 1

block?

10:11:39 2

A. Well, the header had to contain at a minimum

10:11:41 3

the checksum, you know, the error correction

10:11:44 4

information, and also the type of algorithm -- a

10:11:46 5

notice to the signal processor as to what kind of

10:11:50 6

algorithm was used to create the block, because we

10:11:52 7

had various different algorithms.

10:11:54 8

Q. And those were the algorithms that you

10:11:58 9

discussed earlier?

10:11:59 10

A. Yes.

10:11:59 11

Q. And what else did the header include?

10:12:02 12

A. Well, we had some extra fields, you know,

10:12:05 13

extra space in the header that was -- it varied in

10:12:09 14

use from time to time.

10:12:11 15

There were kind of scratch pad areas, and I

10:12:13 16

don't know that we ever standardized those extra

10:12:16 17

fields. They were just spares in case we needed

10:12:18 18

them. From time to time we needed them for different

10:12:21 19

things.

10:12:21 20

Q. And do you remember anything that you used

10:12:23 21

them for?

10:12:29 22

A. I think for the -- I just don't remember.

10:12:31 23

You'd have to ask one of the engineers who actually

10:12:34 24

programmed the 320s.

10:12:37 25

Q. And those would be the engineers that you



10:12:39 1 discussed earlier?

10:12:40 2 A. Yes.

10:12:41 3 Q. Now, I see another arrow or several other

10:12:45 4 arrows coming from the MC 68000, and one goes to the

10:12:55 5 serial port.

10:12:56 6 A. Yes.

10:12:57 7 Q. What does that arrow represent?

10:12:58 8 A. It's a bidirectional arrow so that control

10:13:02 9 data, or any data in fact, could be obtained into the

10:13:05 10 system through a standard serial port, also called

10:13:09 11 RS-232, which is a standard form of serial

10:13:13 12 transmission of digital data.

10:13:16 13 We used that port generally to connect to a

10:13:18 14 PC, either an IBM PC or an Apple Macintosh type of

10:13:24 15 PC.

10:13:27 16 Q. And who would be -- who would use the PC?

10:13:32 17 A. Well, the only use we put it to commercially

10:13:36 18 as part of the product was for editing music, editing

10:13:41 19 the recordings. The editing interface --

10:13:43 20 We wrote additional software for editing

10:13:46 21 that lived on a PC or a Mac. I'm trying to remember

10:13:50 22 what we called it. We had a name for the editing

10:13:53 23 program. Oh, for Mac it was called MacSonics, I

10:13:57 24 think. Something like that for the Mac.

10:14:03 25 Q. And recapitulating once again, what form was

10:14:07 1

the signal in as it went from the RAM --

10:14:16 2

(Reporter interruption.)

10:14:16 3

BY MR. BERL:

10:14:17 4

Q. What form was the signal in as it went

10:14:21 5

through the line of arrows from the RAM to the

10:14:25 6

MC 68000 to the serial port to the PC?

10:14:30 7

MR. MUDGE: I'm going to object to the

10:14:32 8

question. The question lacks foundation and I think

10:14:34 9

misstates his prior testimony.

10:14:36 10

MR. BERL: You can answer.

10:14:38 11

THE WITNESS: It's digital data, and

10:14:40 12

everywhere in the machine it was generally 16 bit

10:14:44 13

wide data.

10:14:45 14

Although some of the peripherals, in

10:14:47 15

particular the DMA controller, the serial port and

10:14:52 16

the parallel port, were 8 bit wide data, you know,

10:14:59 17

byte wide data, just because the peripheral chips

10:15:02 18

made by Motorola for the 68000 happened to be byte

10:15:07 19

wide as opposed to word wide.

10:15:10 20

BY MR. BERL:

10:15:10 21

Q. And what is the difference between byte wide

10:15:13 22

and word wide?

10:15:13 23

A. Word wide is 16 bits makes one word, and

10:15:18 24

byte wide is 8 bits makes one word.

10:15:23 25

Q. And so what part of this system governed the

10:15:27 1 transfer from the 16 bit to the 8 bit?

10:15:32 2 A. The 68000. The central processing unit was  
10:15:35 3 generally -- I guess the best way to describe it is  
10:15:38 4 the overall controller of the entire system. The  
10:15:41 5 highest level control in this system is the 68000, so  
10:15:44 6 it managed all processes.

10:15:48 7 Q. So when the data went through the serial  
10:15:53 8 port, was it in 16 bit form or 8 bit form?

10:15:58 9 A. It was turned into bytes between the 68000  
10:16:04 10 and the peripheral device chip, you know, the serial  
10:16:09 11 port circuit. It went from 16 bits to 8 bits as part  
10:16:13 12 of that circuitry, and then it came out serially, you  
10:16:17 13 know, as a serial stream of bits.

10:16:19 14 So talking about bytes or words doesn't mean  
10:16:21 15 anything in a serial form.

10:16:24 16 Q. And what governed that transfer from the  
10:16:26 17 16 bit to the 8 bit?

10:16:29 18 A. The central processing unit, the Motorola  
10:16:31 19 68000.

10:16:33 20 Q. Did you have to program it to do that?

10:16:35 21 A. Yes, nothing happens in this diagram without  
10:16:45 22 software. Software controls everything.

10:16:45 23 Q. And who programmed that software?

10:16:45 24 A. John wrote a lot of it, I think Peter Roos  
10:16:51 25 wrote some of that. I don't remember the names of

10:16:53 1 all the engineers who were involved in writing all of  
10:16:56 2 the code.

10:16:58 3 Q. And when you say that the data came out  
10:17:00 4 serially from the serial port to the PC, what do you  
10:17:03 5 mean by that?

10:17:04 6 A. One bit after another, like a train.

10:17:09 7 Q. And so what ultimately landed on the PC  
10:17:14 8 that's represented in this diagram?

10:17:15 9 A. Well, the PC also has a serial port. So the  
10:17:18 10 serial data would come in on a couple of wires in the  
10:17:21 11 serial port, and the serial port in the PC would turn  
10:17:24 12 it back into typically bytes, 8 bit wide words.

10:17:30 13 Q. And what is the relationship, if any,  
10:17:32 14 between the data that ultimately winds its way to the  
10:17:36 15 PC and the audio signal coming in at the top left?

10:17:46 16 A. Generally speaking, we never trans --  
10:17:48 17 We didn't, as a matter of course, transfer  
10:17:51 18 audio data on the serial port. We did occasionally  
10:17:55 19 for some purposes. But, generally speaking, the  
10:17:58 20 audio data went to the disk drive through the channel  
10:18:02 21 that we discussed earlier; and only controlled data,  
10:18:05 22 or editing commands, or information about the audio  
10:18:09 23 signal, like how big it was, would be transferred to  
10:18:12 24 the PC so that it could be edited properly.

10:18:15 25 Q. Could you give some examples of control

10:18:17 1 data?

10:18:19 2 A. Oh, sure. Where your position is in music.  
10:18:23 3 You know, how many seconds and samples you are from  
10:18:26 4 the beginning of a song. That's a position pointer.

10:18:29 5 An amplitude information would be how loud  
10:18:33 6 is the music at that particular block, you know, that  
10:18:37 7 particular point in the music.

10:18:41 8 Non-audio data was sent there, like the name  
10:18:43 9 of the artist, you know, or the name of the edit.

10:18:46 10 Edits were named as well, because if you had a song  
10:18:49 11 that you were editing, you had to, like you do on a  
10:18:53 12 PC, name your file so that you could identify one  
10:18:56 13 version of the edited material from another version.

10:18:58 14 You know, like I Want to Hold Your Hand edit 1, I  
10:19:03 15 Want to Hold Your Hand edit 2. You had to name them  
10:19:08 16 on and on and on, and that data would have to be  
10:19:10 17 moved back and forth, the naming data would have to  
10:19:12 18 be moved back and forth to the PC.

10:19:15 19 Q. And one more thing to explain for me before  
10:19:17 20 we take a break. The bottom box here, it says "ROM,"  
10:19:22 21 and it has an arrow pointing up to the 68000. Can  
10:19:26 22 you explain what that means?

10:19:27 23 A. ROM means read-only memory, and that's where  
10:19:33 24 all of the software that runs in this machine is  
10:19:36 25 stored when the power is off.

10:19:39 1 The ROM is a non-volatile memory, meaning it  
 10:19:44 2 doesn't need electricity to store the data. Some  
 10:19:47 3 people refer to it as "burning" the data into the  
 10:19:50 4 memory of the ROM because it's recorded there  
 10:19:52 5 permanently.

10:19:54 6 Q. And what data was stored on the ROM?

10:19:57 7 A. All of the programs for all of the processes  
 10:20:00 8 that took place in this computer. The programs,  
 10:20:06 9 information, copyright information about the  
 10:20:08 10 programs.

10:20:12 11 MR. BERL: Okay. Why don't we take our  
 10:20:14 12 first break here.

10:20:16 13 THE WITNESS: Sure.

10:20:16 14 THE VIDEOGRAPHER: Time is 10:20 a.m. We  
 10:20:18 15 are going off the record.

10:33:40 16 (Recess: 10:20 a.m. to 10:33 a.m.)

10:33:40 17 THE VIDEOGRAPHER: Back on the record. The  
 10:33:42 18 time is 10:33 a.m.

10:33:44 19 BY MR. BERL:

10:33:45 20 Q. Okay, Mr. Schwartz, when we left off we were  
 10:33:47 21 going through the diagram of Exhibit 2 on  
 10:33:50 22 Page No. 26489. There's a box there that says, on  
 10:33:56 23 the left-hand side, "20 key pad," with an arrow  
 10:34:00 24 pointing into MC 68000. Can you describe what "20  
 10:34:05 25 key pad" means?

10:34:07 1 A. That's the capacity of the controller chip  
10:34:09 2 that connects to the front panel. There's a front  
10:34:12 3 panel with buttons on it on the machine, kind of like  
10:34:16 4 the picture on Exhibit 1, and those buttons are  
10:34:18 5 decoded by a chip called a keypad decoder, and it can  
10:34:23 6 handle 20 keys.

10:34:24 7 Q. And what would people do with the keypad?

10:34:30 8 A. Well, start music playing, start a recording  
10:34:33 9 recording, pause. Start --  
10:34:40 10 Change sources for recording, you know, from  
10:34:43 11 analog inputs to digital inputs, for example.  
10:34:48 12 Do some simple editing. You know, designate  
10:34:52 13 parts of the music they didn't want to hear, for  
10:34:56 14 example. That sort of editing.  
10:34:58 15 Make what are called playlists so that you  
10:35:00 16 could have like a party, a disk that would play back  
10:35:02 17 a specific sequence of songs as a list. That sort of  
10:35:08 18 thing.

10:35:09 19 Q. And how many of those 20 keys did you use,  
10:35:12 20 approximately?

10:35:14 21 A. Oh, you know, I don't remember exactly. I  
10:35:17 22 could turn to Exhibit 1 and count the buttons.

10:35:25 23 Q. That's on Page 26281?

10:35:28 24 A. Looks like 19.

10:35:30 25 Q. And so would that be 19 --

10:35:32 1 A. No, 18. 18, but that counts power, which  
 10:35:35 2 didn't count, so 17 on that machine.

10:35:41 3 Q. Would that represent 17 different functions  
 10:35:44 4 that a consumer would be able to initiate?

10:35:48 5 A. There are actually more, because it's a  
 10:35:51 6 soft -- they're soft keys, so they can change  
 10:35:54 7 their --

10:35:54 8 On Exhibit 1, you can't see it, but if you  
 10:35:57 9 look at a later model or a production model of the  
 10:36:01 10 DSP 1000 or look at its owner's manual, you'll see  
 10:36:05 11 that the keys are soft. There are actually only  
 10:36:07 12 maybe half a dozen physical keys, and they change  
 10:36:10 13 their names as you use them.

10:36:12 14 So they reprogram and display new functions  
 10:36:15 15 as you use them.

10:36:20 16 Q. And what would happen when someone pushed a  
 10:36:23 17 button inside the computer?

10:36:27 18 A. Well, the buttons related to different parts  
 10:36:29 19 of the software. So the button that said "Start" or  
 10:36:33 20 "Play," connected to the part of the software that  
 10:36:36 21 would queue up a sound file, start a whole process  
 10:36:41 22 that would queue data, get data from the disk drive,  
 10:36:43 23 put it in memory, send it to the signal processors to  
 10:36:48 24 be decoded, get the first blocks ready in the output  
 10:36:52 25 buffer, the FIFO buffer, and then when all of that



10:36:54 1 was done internally, the music would start playing.

10:36:59 2 Q. So let's go through that process a little

10:37:01 3 more slowly. Assume I want to play Kenny Loggins,

10:37:07 4 and I push "Play." What exactly would happen?

10:37:11 5 A. Well, you're assuming in that statement that

10:37:13 6 Kenny Loggins is the name of the song on the display.

10:37:18 7 Q. Yes.

10:37:18 8 A. If it's not, you would have had to push

10:37:20 9 another button to move along on the disk to find that

10:37:23 10 song first and then push "Play."

10:37:24 11 Q. And that functionality is on the keypad --

10:37:27 12 A. Yes.

10:37:27 13 Q. -- to find it? And after I found Kenny

10:37:30 14 Loggins and pushed "Play," what would happen?

10:37:34 15 A. That would tell the control program in the

10:37:37 16 central processing unit to go and locate that file on

10:37:42 17 the disk drive, find that file, start getting the

10:37:48 18 data from that file -- well, it would have to --

10:37:52 19 The CPU has to initialize the DMA controller

10:37:55 20 after it locates the file.

10:37:58 21 Q. Why don't we stop there. How does the CPU

10:38:02 22 locate the file on the disk?

10:38:04 23 A. Well, there's a directory structure on the

10:38:07 24 disk that when the machine is powered up, that

10:38:11 25 directory structure is read off of the disk and into

10:38:15 1 random access memory, so that it's easily accessible  
10:38:19 2 quickly. It's scratch-pad memory, so it's stored  
10:38:25 3 there.

10:38:26 4 There's a directory structure with all of  
10:38:29 5 the songs, all of the edits, the information about  
10:38:31 6 how they were edited, the playlists, if there are  
10:38:34 7 playlists stored about particular sequences of songs  
10:38:41 8 somebody might want to play. That all gets loaded  
10:38:43 9 into RAM when the power button's turned on, if  
10:38:48 10 there's a disk in the drive.

10:38:49 11 We're assuming that somebody has a disk  
10:38:51 12 inserted.

10:38:52 13 Q. And after it finds the song that the  
10:38:53 14 consumer requests to be played, what does the CPU do?

10:38:59 15 A. It starts fetching -- or gives commands to  
10:39:01 16 the various parts of the circuitry to fetch the data  
10:39:04 17 from the disk drive, send that data -- make the data  
10:39:08 18 available to the signal processors, tell the signal  
10:39:13 19 processors that the data is there and they can start  
10:39:16 20 working.

10:39:16 21 Then the signal processors decompress the  
10:39:19 22 compressed audio data and send it out to the FIFO  
10:39:22 23 buffer, which as soon as it's full, automatically  
10:39:27 24 starts the D-to-A process to actually convert the  
10:39:30 25 digital data back into analog signals that you could

10:39:33 1 listen to as music.

10:39:37 2 Q. So on the way out, so to speak, as the song  
10:39:40 3 is being played, as the data hits the TMS 320 signal  
10:39:47 4 processor, what form is the data in?

10:39:49 5 A. It's in compressed digital form.

10:39:51 6 Q. And when it leaves the TMS 320, what form is  
10:39:57 7 it in?

10:39:58 8 A. Uncompressed 16 bit samples, very much like  
10:40:01 9 the samples on a compact disk player.

10:40:03 10 Q. Is the error correction capability that you  
10:40:05 11 talked about earlier in the TMS 320, does that occur  
10:40:08 12 as a song is being played as well?

10:40:11 13 A. Well, I'm going to correct your statement.  
10:40:13 14 It's not so much error correction as error detection  
10:40:18 15 that goes on.

10:40:18 16 If there's an error detected, as I recall,  
10:40:22 17 what we did -- and you would have to ask the  
10:40:24 18 engineers who wrote the code to see what exactly they  
10:40:35 19 did, but as I recall, if a bad block was detected,  
10:40:35 20 what we did is threw it away and took the block  
10:40:38 21 before it and the block after it and stitched them  
10:40:41 22 together so that that little piece of incorrect data  
10:40:44 23 was never used.

10:40:46 24 Q. And when you say "stitched together," what  
10:40:48 25 is it you mean?

10:40:50 1 A. Well, you don't want a gap in the music. So  
10:40:54 2 there may be a physical gap in memory, you know,  
10:40:57 3 where that piece of data has been marked as bad, and  
10:41:01 4 so the 320s would have to actually move one block in  
10:41:07 5 memory and copy over where the bad block was --  
10:41:12 6 that's the stitching together process -- so that when  
10:41:13 7 the data leaves the FIFO, it's continuous, and the  
10:41:17 8 song actually gets shorter by a tiny fraction of a  
10:41:20 9 second in that case.

10:41:22 10 Q. And the FIFO buffer, what role does it play  
10:41:26 11 as the song is played?

10:41:29 12 A. It's a place for the data to become  
10:41:31 13 continuous as it comes out of the signal processors  
10:41:35 14 in chunks. It has to be stacked up, queued up as a  
10:41:39 15 continuous stream so that the music is played  
10:41:41 16 continuously. But, remember, it's processed in  
10:41:45 17 blocks, chunkwise, chunk by chunk, so it's not  
10:41:49 18 continuous.

10:41:50 19 Q. And then when the data leaves the FIFO  
10:41:54 20 buffer, what form is it in at that point?

10:41:56 21 A. 16 bit linear digital audio samples.

10:42:02 22 Q. And if I'd like to play it, what happens at  
10:42:05 23 the top box labeled "Analog Section A-to-D/D-to-A"?

10:42:11 24 A. Well, the digital samples, the 16 bit  
10:42:13 25 digital audio words, are turned back into voltages,

10:42:16 1 into what people would call real electricity at that 60  
10:42:21 2 point. You know, continuous voltage. The wiggly  
10:42:23 3 line, again, that you could amplify and listen to.  
10:42:28 4 Q. And, once again, who wrote the software  
10:42:31 5 needed for that functionality to exist? "That  
10:42:37 6 functionality" being the D-to-A conversion in the top  
10:42:41 7 box.  
10:42:42 8 A. The D-to-A conversion is -- you could call  
10:42:46 9 it, I guess, microcode or a state machine. It's part  
10:42:49 10 of the D-to-A converter chip. In this case, it was  
10:42:52 11 made by Burr Brown. So some engineer at Burr Brown  
10:42:55 12 Corporation designed it and wrote whatever little  
10:42:59 13 bits of code it needed to do that job.  
10:43:03 14 Q. And did CompuSound or CompuSonics, depending  
10:43:09 15 on the time, make any modifications to what it bought  
10:43:14 16 from Burr Brown in the top box?  
10:43:16 17 A. None whatsoever.  
10:43:19 18 Q. And when it says "Audio Out," how would the  
10:43:22 19 audio actually come out of the machine?  
10:43:27 20 A. Well, if it's analog audio coming out, in  
10:43:30 21 the case of the DSP 1000, there are what are called  
10:43:34 22 RCA jacks, female RCA jacks, which are identical to  
10:43:39 23 the female RCA jacks on a compact disk player or an  
10:43:42 24 LP record player, or any piece of stereo equipment  
10:43:48 25 made today.

10:43:49 1 Q. And what would that jack connect to?

10:43:53 2 A. A male RCA plug on a wire that then goes  
10:43:58 3 typically to an amplifier.

10:44:03 4 Q. Now, returning back toward the bottom of the  
10:44:06 5 diagram, there's a box on the left that says "LCD."  
10:44:12 6 What does "LCD" mean?

10:44:14 7 A. LCD stands for liquid crystal display, which  
10:44:18 8 is very much like the display on this cell phone. A  
10:44:21 9 little graphical display, liquid crystals under  
10:44:25 10 glass, and it's capable of putting alphanumeric data  
10:44:29 11 in a two-dimensional display, words or little  
10:44:33 12 pictographs, you know, little characters.

10:44:37 13 Q. And who would look at the LCD?

10:44:39 14 A. The user of the machine would need to  
10:44:41 15 look -- well, they don't need to look at the LCD.  
10:44:44 16 They could just push the Play button and play music,  
10:44:47 17 but if they were doing anything like trying to find a  
10:44:50 18 particular song or do some simple editing or create a  
10:44:54 19 playlist, they need to look at the words to know what  
10:44:57 20 they're doing.

10:44:58 21 Q. So other than words of a song, what did the  
10:44:59 22 LCD display?

10:45:05 23 A. Names of the soft functions that were  
10:45:06 24 available at that point in the process. For example,  
10:45:10 25 in an editing process.

10:45:13 1 Q. And what were some of those functions, if  
 10:45:15 2 you remember?

10:45:16 3 A. Oh, we'd have to refer to the user manual,  
 10:45:19 4 but to the best of my recollection, things like the  
 10:45:24 5 punch-in point or the punch-out point. That is, the  
 10:45:28 6 starting point, other than the beginning of a song.

10:45:31 7 If you're trimming a recording -- let's say  
 10:45:34 8 you're making a recording and the first ten seconds  
 10:45:36 9 are just hiss or dead air or noise, and you actually  
 10:45:40 10 want the recording to play back from the start of the  
 10:45:42 11 music, not from the start of the noise. You would  
 10:45:44 12 have to listen, and as you listen and the music  
 10:45:48 13 started, push the button labeled "Punch-In" to  
 10:45:57 14 designate the starting point for playback.

10:45:57 15 Q. And that button labeled "Punch-In," was that  
 10:45:57 16 one of the 20 buttons on the 20 keypad?

10:46:01 17 A. Yes.

10:46:03 18 Q. And what would be shown in that process you  
 10:46:05 19 just described on the LCD?

10:46:08 20 A. Typically the recording time, the running  
 10:46:10 21 time as it's happening, you know, a countdown or  
 10:46:13 22 count-up clock, and a little marker -- a little  
 10:46:16 23 triangle, I think -- some kind of little graphic  
 10:46:19 24 marker above the button that you push to indicate  
 10:46:22 25 that's the button to be pushed.

10:46:26 1 MR. BERL: Okay. I'd now like to mark the  
10:46:29 2 user's manual as Exhibit 3.

10:46:32 3 (WHEREUPON, DEPOSITION EXHIBIT 3 WAS MARKED  
10:47:01 4 FOR IDENTIFICATION.)

10:47:01 5 MR. BERL: If you could just take a look at  
10:47:02 6 the document for a moment. You obviously don't have  
10:47:06 7 to read the whole thing here.

10:47:11 8 Q. Are you familiar with this document?

10:47:12 9 A. Yes, I am.

10:47:16 10 Q. And what do you know it to be?

10:47:18 11 A. This is the owner's guide for the DSP 1000.  
10:47:22 12 It says it was published in 1987.

10:47:29 13 Q. Did you play a role in preparing this?

10:47:31 14 A. Yes, I did.

10:47:32 15 Q. And what role did you play?

10:47:35 16 A. I proofed it, read it for accuracy and made  
10:47:38 17 comments to the author, to the technical writer who  
10:47:42 18 wrote it.

10:47:47 19 Q. And do you know when the text inside was  
10:47:52 20 written? If I could, for example, direct you to the  
10:47:55 21 page labeled 25710 of Exhibit 3, which runs from  
10:48:00 22 Page 25708 to Page 25767.

10:48:12 23 A. Well, this has the copyright 1986 on the  
10:48:16 24 bottom, is when I think it was written. I believe it  
10:48:18 25 was written during 1986.



10:48:22 1 Q. And do you have any reason to think that  
10:48:23 2 that copyright date is not accurate?  
10:48:30 3 A. I believe it's accurate.  
10:48:31 4 Q. Do you know whether this owner's guide was  
10:48:36 5 sent outside of CompuSonics?  
10:48:40 6 A. Yes, it went to every person who purchased a  
10:48:44 7 DSP 1000.  
10:48:46 8 Q. And who generally purchased the DSP 1000?  
10:48:49 9 That is to say, what was the distribution channel  
10:48:52 10 that the DSP 1000 would go through?  
10:48:54 11 A. Well, they were only available at about a  
10:48:56 12 dozen very high-end audio stores, what we call  
10:49:00 13 boutique audio stores. In this area -- well, there  
10:49:06 14 are a number of them in Palo Alto.  
10:49:08 15 These are the stores where amplifiers start  
10:49:10 16 at \$2000, speakers, you know, start at \$1000 each.  
10:49:20 17 MR. BERL: If I can mark this as Exhibit 4.  
10:49:25 18 (WHEREUPON, DEPOSITION EXHIBIT 4 WAS MARKED  
10:49:41 19 FOR IDENTIFICATION.)  
10:49:42 20 MR. BERL: Could you look at Exhibit 4  
10:49:44 21 bearing the document number 26284.  
10:49:48 22 THE WITNESS: Yes.  
10:49:50 23 BY MR. BERL:  
10:49:50 24 Q. Did you in your capacity at CompuSonics  
10:49:54 25 often talk with the media?

10:49:56 1 A. Yes, I did.

10:49:58 2 Q. Do you remember specifically talking to

10:50:01 3 Electronic Engineering Times?

10:50:05 4 A. I talked to them a number of times, I don't

10:50:07 5 remember a specific incident.

10:50:10 6 Q. Do you remember about how many times you

10:50:12 7 talked to them?

10:50:16 8 A. Over the six-year period that CompuSonics,

10:50:20 9 CompuSound was in business, I probably talked to them

10:50:25 10 more than a dozen times.

10:50:27 11 Q. And did you ever talk to them about the

10:50:29 12 DSP 1000?

10:50:30 13 A. Certainly.

10:50:31 14 Q. If you could read the last paragraph of this

10:50:34 15 article entitled "Optical-Disk-Based Digital Audio

10:50:38 16 System Premieres," out loud, starting with "The

10:50:41 17 DSP-1000."

10:50:43 18 A. "The DSP-1000, which will first be

10:50:45 19 sold into the 'luxury, high-end'

10:50:47 20 audiophile markets, is expected to

10:50:50 21 begin production in October, with an

10:50:52 22 initial delivery date to dealers set

10:50:54 23 for November 10, Schwartz said. The

10:50:57 24 suggested retail price will be

10:50:59 25 \$6,995."

10:51:02 1 Q. Now, as you sit here today, do you have any  
10:51:04 2 reason to believe that the author did not transmit  
10:51:07 3 the information you gave him or her about the  
10:51:09 4 CompuSonics DSP 1000 delivery date?

10:51:13 5 MR. MUDGE: I'll object to the question.  
10:51:14 6 Lacks foundation.

10:51:15 7 THE WITNESS: I don't understand the  
10:51:16 8 question. Sorry.

10:51:18 9 BY MR. BERL:

10:51:19 10 Q. Do you have any reason to believe that the  
10:51:21 11 information you transmitted in this quote was not  
10:51:28 12 reproduced correctly or accurately by the author of  
10:51:32 13 this article?

10:51:33 14 MR. MUDGE: Same objection.

10:51:35 15 THE WITNESS: Well, this is an accurate --  
10:51:36 16 it's an accurate statement. I'm sure I made it to  
10:51:39 17 somebody. I don't know if I made -- if Brian  
10:51:42 18 Robinson is who I made it to.

10:51:46 19 BY MR. BERL:

10:51:46 20 Q. So to the best of your knowledge, this is an  
10:51:48 21 accurate statement?

10:51:49 22 A. Yes, it is.

10:51:53 23 MR. BERL: If we can mark this as Exhibit 5.

10:51:57 24 (WHEREUPON, DEPOSITION EXHIBIT 5 WAS MARKED  
10:52:31 25 FOR IDENTIFICATION.)

1 BY MR. BERL:

10:52:32 2 Q. Mr. Schwartz, if we could actually go back

10:52:33 3 for one moment to Exhibit No. 4, the Electronic

10:52:36 4 Engineering Times. What's the date of that article?

10:52:41 5 A. September 1st, 1986.

10:52:51 6 Q. So when the article at the bottom says an

10:52:51 7 initial delivery date to dealers set for November

10:52:51 8 10th, what year does the November 10th refer to?

10:52:55 9 A. 1986.

10:52:58 10 Q. Now if you could look at Exhibit 5 bearing

10:53:01 11 the number 26285. Do you recognize this document?

10:53:09 12 A. Well, I recognize that this is made from

10:53:12 13 a -- I remember the postcard that this was made from.

10:53:16 14 This is just a copy of both sides of the postcard.

10:53:20 15 Q. And who made that postcard?

10:53:23 16 A. I mean, our company did. I mean, we had a

10:53:27 17 printing company make them.

10:53:29 18 Q. And what does the top of this document

10:53:32 19 depict?

10:53:34 20 A. The front of the postcard.

10:53:35 21 Q. And what does the front of the postcard

10:53:38 22 depict?

10:53:39 23 A. A DSP 1000.

10:53:41 24 Q. And the bottom of this document?

10:53:44 25 A. That's the back of the postcard minus the

10:53:46 1

address and a stamp.

10:53:51 2

Q. And do you see at the bottom there's a list

10:53:54 3

of 12 what appear to be addresses?

10:54:03 4

A. Well, it's 13 addresses, and those are the

10:54:06 5

first dealers to actually have DSP 1000s for sale.

10:54:12 6

Q. And so when you referred back a moment ago

10:54:15 7

to high-end retailers, were these the companies to

10:54:20 8

which you were referring?

10:54:21 9

A. Yes.

10:54:22 10

Q. And did you have any contact with these

10:54:23 11

retailers?

10:54:26 12

A. A number of them I visited personally.

10:54:30 13

Q. And for what purpose did you visit them?

10:54:33 14

A. To promote the company's product.

10:54:38 15

Q. Do you have knowledge of whether any of

10:54:40 16

these retailers sold a DSP 1000?

10:54:44 17

A. Well, I know some of them did, if not all of

10:54:47 18

them did.

10:54:49 19

Q. Do you have knowledge of approximately when

10:54:53 20

the DSP 1000s were sold?

10:54:56 21

A. Well, the first one was sold -- I think even

10:55:00 22

before the November 10th date that's mentioned in

10:55:03 23

that article, because we had a couple of people who

10:55:07 24

called the company directly and said they had to have

10:55:10 25

one, and I believe we just sold them direct. You

10:55:14 1 know, before they actually shipped to the store.

10:55:19 2 Q. And do you remember approximately how many  
10:55:21 3 DSP 1000s were produced?

10:55:24 4 A. You know, I don't remember the exact number.  
10:55:25 5 It was less than 100, but I couldn't tell you the  
10:55:28 6 exact number. It's more than 50, less than 100. In  
10:55:32 7 that range.

10:55:34 8 Q. And of those 50 to 100, do you remember  
10:55:37 9 approximately how many were sold?

10:55:41 10 A. They were all sold.

10:55:47 11 Q. Do you have knowledge of approximately how  
10:55:51 12 many were sold before June of 1987?

10:55:59 13 A. Most, if not all of them. We only made one  
10:56:02 14 production run, maybe two smaller production runs,  
10:56:07 15 but we didn't make -- certainly didn't make more than  
10:56:10 16 two production runs of this machine.

10:56:15 17 Q. And was there any difference between the  
10:56:19 18 boxes that came out of the first production run and  
10:56:21 19 the second?

10:56:23 20 A. No.

10:56:28 21 MR. BERL: If I could mark this as  
10:56:29 22 Exhibit 6.

10:56:31 23 (WHEREUPON, DEPOSITION EXHIBIT 6 WAS MARKED  
10:56:43 24 FOR IDENTIFICATION.)

10:56:43 25 MR. BERL: This Exhibit 6 runs from page

10:56:46 1 number 25778 to page number 25786. It's entitled

10:56:55 2 "Specifications and Implementation of a Computer

10:56:57 3 Audio Console for Digital Mixing and Recording."

10:57:19 4 Q. Are you familiar with this document?

10:57:21 5 A. Yes.

10:57:22 6 Q. And how are you familiar with it?

10:57:24 7 A. I wrote it.

10:57:26 8 Q. Do you remember when you wrote it?

10:57:28 9 A. In 1984.

10:57:31 10 Q. What is the Audio Engineering Society?

10:57:35 11 A. It's the largest professional organization

10:57:37 12 of engineers who work with audio.

10:57:42 13 Q. And did you write this paper in connection

10:57:45 14 with your work at CompuSonics?

10:57:49 15 A. Yes, I did. I wrote this paper as one of a

10:57:52 16 group of papers in which CompuSonics introduced its

10:57:57 17 technology to the industry, to the professionals in

10:57:59 18 the audio engineering industry.

10:58:05 19 Q. And did employees of CompuSonics, to your

10:58:07 20 knowledge, often write papers for submission to the

10:58:11 21 Audio Engineering Society?

10:58:14 22 A. Well, they wrote a number of papers. I

10:58:17 23 don't know that I'd characterize it as "often," but.

10:58:20 24 Q. Do you remember approximately how many

10:58:21 25 times?

10:58:27 1 A. I don't -- I don't remember the total.

10:58:28 2 There must be half a dozen papers, something like

10:58:31 3 that.

10:58:32 4 Q. If I could turn your attention now to

10:58:34 5 Page 25784 on the right-hand column.

10:58:41 6 A. 25784.

10:58:45 7 Q. The second to last page -- the third to last

10:58:48 8 page.

10:58:48 9 A. Okay.

10:58:52 10 Q. If you could read the second sentence of the

10:58:54 11 last paragraph aloud.

10:59:03 12 A. Where it starts:

10:59:03 13 "The 1000 incorporates a scrolling

10:59:06 14 LED text display on its front panel.

10:59:09 15 Pre-recorded Audio SuperFloppies

10:59:12 16 contain a text file that holds the

10:59:13 17 liner notes for the album."

10:59:16 18 Q. Okay. Now, looking back at Exhibit 2, this

10:59:19 19 diagram we've been going through --

10:59:24 20 A. Yes.

10:59:26 21 Q. -- where would the LED text display be on

10:59:29 22 this diagram?

10:59:31 23 A. Well, we changed from the early prototypes,

10:59:34 24 as shown in Exhibit 1, which had an LED, light

10:59:39 25 emitting diode, display to LCD, liquid crystal



10:59:47 1 display, for cost reasons. Somewhere between  
 10:59:48 2 whatever prototype, prototype three and four and  
 10:59:51 3 production, we changed display types.  
 10:59:55 4 Q. And did the LED perform a different task  
 10:59:59 5 than the LCD's task that you described before?  
 11:00:04 6 A. No.  
 11:00:07 7 MR. BERL: Now, if I could mark this as  
 11:00:09 8 Exhibit 7.  
 11:00:11 9 THE WITNESS: It was just a lot less  
 11:00:12 10 expensive.  
 11:00:14 11 BY MR. BERL:  
 11:00:14 12 Q. "It" being the LCD?  
 11:00:16 13 A. Yes. It was a cost saving measure.  
 11:00:41 14 (WHEREUPON, DEPOSITION EXHIBIT 7 WAS MARKED  
 11:00:55 15 FOR IDENTIFICATION.)  
 11:00:55 16 BY MR. BERL:  
 11:00:56 17 Q. Do you recognize the document marked as  
 11:00:57 18 Exhibit 7 starting on Page 25772 and going to  
 11:01:02 19 Page 25777?  
 11:01:05 20 A. Yes, I do.  
 11:01:06 21 Q. And what do you recognize it to be?  
 11:01:09 22 A. This is a paper presented to the Audio  
 11:01:10 23 Engineering Society in 1984 by one of CompuSonics'  
 11:01:16 24 engineers, Hyun Heinz Sohn, who we called Heinz, so.  
 11:01:22 25 Q. And what was Mr. Sohn's capacity at

11:01:26 1 CompuSonics?

11:01:27 2 A. He was one of our senior design engineers.

11:01:32 3 Q. Did you attend the Audio Engineering Society  
11:01:35 4 convention of 1984?

11:01:37 5 A. Yes, I did.

11:01:39 6 Q. Do you have knowledge as to whether this  
11:01:41 7 paper was presented at that convention?

11:01:44 8 A. Yes, I sat in the audience and listened to  
11:01:47 9 Heinz present this paper.

11:01:49 10 Q. Do you remember how many people were there  
11:01:51 11 in the audience?

11:01:55 12 A. Hundreds, at least 200, maybe more, maybe  
11:01:58 13 400.

11:02:00 14 Q. Now, if I could direct your attention to  
11:02:02 15 Page 25774 and the diagram on the right side of this  
11:02:07 16 page. Are you familiar with this diagram?

11:02:15 17 A. Yes, I am.

11:02:16 18 Q. And what does this diagram represent?

11:02:18 19 A. This diagram represents the signal path or  
11:02:23 20 data flow path for telerecording.

11:02:30 21 Q. Now, if I could direct your attention just  
11:02:32 22 for one second back to Exhibit 2, the chart we've  
11:02:34 23 been going through.

11:02:36 24 A. Yes.

11:02:38 25 Q. What part of this chart is responsible for

11:02:42 1 the telerecording capability of the DSP 1000?

11:02:49 2 A. Well, the interface, the Accunet interface

11:02:54 3 that Heinz designed, attaches to the parallel port on

11:03:00 4 Exhibit 2.

11:03:02 5 Q. And what is Accunet?

11:03:05 6 A. Accunet's a trademark -- was a trademark of

11:03:10 7 AT&T. Now I don't know who it belongs to.

11:03:12 8 Q. And what does Accunet do, or what is it?

11:03:16 9 A. Accunet was the first switched circuit

11:03:21 10 service for sending digital data, any digital data,

11:03:27 11 anywhere in the telephone system in the United

11:03:29 12 States.

11:03:31 13 Q. And what do you mean by "switched circuit"?

11:03:33 14 A. A switched circuit is one that you can

11:03:36 15 connect from a local premises and go through a

11:03:39 16 digital switch owned by the phone company, and then

11:03:42 17 the data would show up at some other premise, you

11:03:45 18 know, some other place.

11:03:50 19 Q. Now, in the diagram on Page 25774 of

11:03:53 20 Exhibit 7, there's a first line there that says,

11:03:59 21 "Analog Signal Source."

11:04:00 22 A. Yes.

11:04:02 23 Q. Now, what does that correspond to in the

11:04:06 24 diagram in Exhibit 2?

11:04:08 25 A. Well, that's the "Audio In."

11:04:13 1 Q. And going back to Exhibit 7, there's a line  
11:04:17 2 to the right. What does that say?  
11:04:20 3 A. "Analog to Digital Converter."  
11:04:23 4 Q. And does that correspond to anything that's  
11:04:25 5 in Exhibit 2?  
11:04:26 6 A. Yes, that's the top box that says "Analog  
11:04:28 7 Section A-to-D/D-to-A."  
11:04:32 8 Q. And there's an arrow from the analog to  
11:04:34 9 digital converter, once again back in Exhibit 7, to  
11:04:38 10 something called "Host Computer."  
11:04:40 11 A. Yes.  
11:04:40 12 Q. Do you know what "Host Computer" refers to?  
11:04:43 13 A. Host computer refers to everything starting  
11:04:45 14 with the FIFO buffer right down through the rest of  
11:04:49 15 this diagram on Exhibit 2.  
11:04:55 16 Q. Now, there's an arrow from the host computer  
11:04:58 17 to something called the "Digital Audio Transceiver  
11:05:02 18 Interface."  
11:05:03 19 A. That's the digital audio transceiver  
11:05:04 20 interface, we just called it DATI. It was a circuit  
11:05:08 21 that Heinz designed that attaches to the parallel  
11:05:10 22 port of the host computer. Or on Exhibit 2, attaches  
11:05:15 23 to the parallel port of a DSP 1000 or DSP 2000.  
11:05:22 24 Q. And to what else does the DATI connect, if  
11:05:26 25 anything?

11:05:27 1 A. It connects to, at that time, to what was  
 11:05:31 2 called a customer premises equipment, CPE, which is  
 11:05:38 3 something that you leased or purchased from the  
 11:05:40 4 telephone company. A black box.

11:05:46 5 Q. And did this CPE connect to anything else,  
 11:05:52 6 other than the digital audio transceiver interface or  
 11:05:56 7 DATI?

11:05:57 8 A. Well, it was the connection to the Accunet,  
 11:05:59 9 to the digital -- the switched 56 AT&T data service.

11:06:04 10 Q. Now, if we could go through this diagram in  
 11:06:06 11 a little more detail. What was the purpose of the  
 11:06:13 12 digital audio transceiver interface, generally?

11:06:20 13 A. To connect to two digital systems. It  
 11:06:27 14 bridged between a computer, the host computer of some  
 11:06:38 15 sort, or a digital audio computer of some sort, and  
 11:06:38 16 the telephone company's digital circuitry, digital  
 11:06:38 17 transmission system.

11:06:39 18 Q. And was one such host computer the DSP 1000?

11:06:44 19 A. Yes.

11:06:45 20 Q. Absent the digital audio transceiver  
 11:06:50 21 interface, what would have happened to data  
 11:06:54 22 transmitted by the host computer through the parallel  
 11:06:58 23 port?

11:07:01 24 A. Well, it would stop at the parallel port.

11:07:03 25 Q. And why is that?

11:07:04 1 A. Well, the parallel port is just that, a  
11:07:06 2 port. It's a connector on the back of a computer  
11:07:11 3 similar to the printer port on your computer.

11:07:17 4 Q. And to your knowledge, was the digital audio  
11:07:21 5 transceiver interface used in the DSP 1000?

11:07:26 6 MR. MUDGE: Objection to the question. It's  
11:07:27 7 vague, lacks foundation.

11:07:30 8 MR. BERL: You can answer.

11:07:31 9 THE WITNESS: I would suggest you ask Heinz  
11:07:35 10 Sohn himself, because he was responsible for the  
11:07:37 11 testing and everything else of the DATI. I can't  
11:07:42 12 personally remember seeing the DATI attached to any  
11:07:45 13 of our DSP 1000 prototypes.

11:07:49 14 I do remember being told that they were.

11:07:52 15 BY MR. BERL:

11:07:53 16 Q. And by whom were you told?

11:07:55 17 A. Either John Stautner or Heinz Sohn himself.

11:08:03 18 Q. And did both Mr. Stautner and Mr. Sohn  
11:08:08 19 report to you?

11:08:09 20 A. Well, Heinz reported to either Gary Schwede  
11:08:12 21 or to John, depending on the task.

11:08:20 22 Q. And did John and/or Gary report to you?

11:08:23 23 A. They both reported to me.

11:08:26 24 Q. Do you have any reason to believe that the  
11:08:30 25 digital audio transceiver interface was not connected

11:08:34 1 to the DSP 1000, as Mr. Sohn and/or Mr. Stautner told  
11:08:40 2 you?

11:08:41 3 MR. MUDGE: Again, the question is vague,  
11:08:43 4 lacks foundation.

11:08:45 5 THE WITNESS: No. I mean, there's no reason  
11:08:48 6 that it shouldn't have.

11:08:50 7 BY MR. BERL:

11:08:55 8 Q. Assuming that the digital audio transceiver  
11:08:57 9 interface were connected to the DSP 1000, what form  
11:09:03 10 of data was sent through the parallel port?

11:09:09 11 MR. MUDGE: Question lacks foundation.  
11:09:11 12 Objection.

11:09:12 13 THE WITNESS: The form is bytes of digital  
11:09:15 14 audio, in this case digital audio data, 8-bit bytes.

11:09:24 15 And additional data, not just audio. Audio  
11:09:28 16 plus the headers, plus the checksum, plus whatever  
11:09:33 17 overhead.

11:09:34 18 BY MR. BERL:

11:09:35 19 Q. And what was the purpose of this diagram on  
11:09:40 20 25774? In other words, why would one use a digital  
11:09:48 21 audio transceiver interface?

11:09:52 22 A. Well, we were trying to tell the Audio  
11:09:55 23 Engineering Society how we implemented telerecording,  
11:09:59 24 which is this concept of being able to transmit,  
11:10:05 25 purchase or rent digital audio copyrighted material

11:10:11 1 through the telephone system.

11:10:15 2 Q. And if we can go through how that would  
11:10:16 3 work. Where would the signal that you would want to  
11:10:23 4 transmit begin in the host computer? If we could be  
11:10:28 5 on the diagram on Page 26489, Exhibit 2.

11:10:37 6 A. Where would it begin? Typically the data  
11:10:40 7 stored on a disk drive.

11:10:43 8 Q. And if one wanted to send a digital audio  
11:10:47 9 file on the disk drive, how would that occur?

11:10:52 10 A. Well, the user would have to select the file  
11:10:54 11 using the keypad and the LCD to find -- you know, to  
11:10:59 12 see what file it was they were dealing with, and then  
11:11:02 13 push the send key, you know, to transmit it.

11:11:07 14 Q. And was there a send key on the 20 keypad?

11:11:12 15 A. I don't believe there was, because by the  
11:11:15 16 time we got to 1986 or 1987, the period of the  
11:11:20 17 DSP 1000 being commercialized, late '86, early '87,  
11:11:24 18 frankly, we had given up on the commercialization of  
11:11:29 19 telerecording.

11:11:31 20 We would still talk about it as a futures  
11:11:34 21 kind of thing, but even having tried it out and  
11:11:38 22 tested it and actually demonstrated it, we could not  
11:11:40 23 find a commercial market for it. We couldn't sell  
11:11:43 24 it.

11:11:44 25 Q. So let's go back and talk about the testing



11:11:47 1 of it. You had said that the digital audio file  
11:11:53 2 began on the disk drive.  
11:11:56 3 A. Yes.  
11:11:56 4 Q. In what form was that data?  
11:12:00 5 A. Compressed digital format.  
11:12:03 6 Q. And where did that data go?  
11:12:08 7 A. Well, it came from -- through the disk  
11:12:10 8 drive's port, which is that SCSI port, through the  
11:12:13 9 DMA controller, into main memory. Then from main  
11:12:18 10 memory, the CPU would send it out the parallel port.  
11:12:24 11 Q. And in what form was it when it went into  
11:12:26 12 the parallel port?  
11:12:29 13 A. Compressed digital audio data.  
11:12:31 14 Q. And how many bytes?  
11:12:33 15 A. Well, the data rate? For all the tests we  
11:12:36 16 did, there were two data rates; one for realtime  
11:12:39 17 transmissions, and one for non-realtime.  
11:12:43 18 Non-realtime, I believe the data rate was  
11:12:47 19 something on the order of two hundred or 300,000 bits  
11:12:54 20 per second. For realtime transmissions, it was  
11:12:57 21 56,000 bits per second, which was the service rate of  
11:13:00 22 Accunet.  
11:13:01 23 Q. Okay. So going back to the diagram on  
11:13:05 24 Exhibit 7, when you say that the data was sent out to  
11:13:17 25 the parallel port, where is that shown on Exhibit 7?

11:13:18 1 A. Well, there's an assumption -- it may be  
11:13:20 2 discussed in this article.

11:13:23 3 Heinz Sohn was showing slides. You  
11:13:26 4 understand there was a slide show accompanying this.  
11:13:29 5 And I'm sure he can confirm this, but he showed the  
11:13:32 6 backside of a DSP 2000, you know, the back of the  
11:13:35 7 computer, and pointed to the parallel port, and his  
11:13:39 8 box, his DATI box that he had designed.

11:13:42 9 So the host computer, being a 2002 in this  
11:13:45 10 case, the DATI box is attached to the parallel port,  
11:13:50 11 and then the DATI box's cable is attached to the  
11:13:54 12 Accunet interface, the customer premises equipment,  
11:13:58 13 which I think was called Flextie, but don't hold me  
11:14:02 14 to the brand name.

11:14:06 15 Q. And what happened to the data, if anything,  
11:14:09 16 in the digital audio transceiver interface?

11:14:15 17 A. It was not changed in any way, if that's  
11:14:17 18 your question.

11:14:19 19 Q. Why then would one need a digital audio  
11:14:22 20 transceiver interface?

11:14:25 21 A. Because the digital audio computers, as we  
11:14:29 22 designed them, were what we designed, proprietary,  
11:14:32 23 you know, our system was proprietary to us, and its  
11:14:35 24 protocols and its data formats were ours, and the  
11:14:39 25 phone company had their own protocols and data

11:14:42 1 formats for their switched 56 digital transmission  
 11:14:47 2 system, and you needed some bridge to make the  
 11:14:50 3 protocol-to-protocol bridge. You know, so the two  
 11:14:53 4 different systems could send data back and forth to  
 11:14:58 5 each other.

11:15:01 6 Q. And was the digital audio transceiver  
 11:15:03 7 interface only able to send data, or was it able to  
 11:15:08 8 accept as well?

11:15:09 9 A. It was fully bidirectional. It could send  
 11:15:11 10 and receive. It did send and receive.

11:15:17 11 MR. BERL: Okay. I think this might be a  
 11:15:18 12 good time for a five-minute break or so.

11:15:22 13 THE VIDEOGRAPHER: This marks the end of  
 11:15:23 14 Videotape No. 1 in the deposition of David Schwartz.  
 11:15:28 15 Time is 11:15 a.m. We are going off the record.

11:34:28 16 (Recess: 11:15 a.m. to 11:37 a.m.)

11:34:29 17 (WHEREUPON, DEPOSITION EXHIBIT 8 WAS MARKED  
 11:34:35 18 FOR IDENTIFICATION.)

11:34:36 19 (At this point, Monica Mucchetti was absent  
 11:34:39 20 from the deposition room.)

11:37:24 21 THE VIDEOGRAPHER: This marks the beginning  
 11:37:26 22 of Videotape No. 2 in the deposition of David  
 11:37:29 23 Schwartz. The time is 11:37 a.m. We are back on the  
 11:37:34 24 record.

11:37:37 25 MR. BERL: If we could look at what's marked

11:37:39 1 Exhibit 8, a videotape bearing Production No. 26253.

11:38:15 2 Q. Mr. Schwartz, do you remember giving a

11:38:17 3 lecture at Stanford University entitled

11:38:20 4 "Multi-Processor Computers for Digital Audio and

11:38:23 5 Video Recording and Editing"?

11:38:25 6 A. Yes, I do.

11:38:27 7 Q. And would it surprise you if the date of

11:38:30 8 that lecture was February 18th, 1987?

11:38:33 9 MR. MUDGE: Objection. Leading, lacks

11:38:35 10 foundation.

11:38:36 11 MR. BERL: You can answer.

11:38:37 12 THE WITNESS: I remember it being late in

11:38:38 13 1986 or early in 1987. I don't remember the exact

11:38:41 14 date.

11:38:43 15 BY MR. BERL:

11:38:44 16 Q. And how did that lecture come about?

11:38:51 17 A. I had given a previous -- well, I've

11:38:55 18 appeared in public --

11:38:56 19 I'd appeared in public talking about our

11:38:58 20 products, the CompuSonics products, a number of

11:39:01 21 times, and in one of the audiences was a professor or

11:39:07 22 a lecturer or somebody, a teacher at Stanford, I'm

11:39:12 23 not sure of his exact position, named Dennis Allison,

11:39:15 24 who came up to me after a previous speaking

11:39:19 25 engagement and asked me if myself and my associate

11:39:24 1 John Stautner would be willing to speak to his class,  
11:39:29 2 you know, lecture his class -- and he still teaches  
11:39:32 3 this class. I've stayed in touch with Dennis  
11:39:34 4 Allison -- EE380 in the Electrical Engineering  
11:39:38 5 Department of Stanford University, and of course I  
11:39:40 6 said, sure, we'd be glad to spend an hour lecturing.

11:39:43 7 Q. And do you remember what the subject of  
11:39:47 8 EE380 was?

11:39:50 9 A. In general, it's -- Dennis jokingly refers  
11:39:52 10 to it as bleeding edge technology.

11:39:59 11 Q. Do you remember how many students attended  
11:40:01 12 the lecture?

11:40:03 13 A. It was a big lecture hall. Over a 100,  
11:40:08 14 between 100 and 200 students, and it was also  
11:40:12 15 broadcast over Stanford's cable network to the  
11:40:14 16 Stanford community.

11:40:15 17 Q. Do you know whether this class was an  
11:40:17 18 undergraduate or a graduate class?

11:40:21 19 A. It's both, actually. It's open. It's a  
11:40:23 20 seminar series, so it's open to both computer science  
11:40:26 21 and EE.

11:40:29 22 Q. And how did you receive a videotape of this  
11:40:31 23 lecture?

11:40:34 24 A. I asked the audio/video guy, who was  
11:40:38 25 broadcasting it for the campus on cable, I asked him

11:40:41 1 if he taped what he broadcast, and he said of course  
 11:40:45 2 they tape it because they put them in an archive so  
 11:40:47 3 people can watch the tapes in the engineering  
 11:40:55 4 library.  
 11:40:55 5 So I asked him if it would be too much  
 11:40:55 6 trouble to make me a tape, and then of course John  
 11:40:55 7 chimed in and he wanted a tape. So they ended up  
 11:40:58 8 making I think two tapes for us.  
 11:41:00 9 Q. And have you watched that tape since?  
 11:41:02 10 A. I watched the tape probably a month ago  
 11:41:05 11 after you provided a copy of it to me.  
 11:41:09 12 Q. But in between 1987 and a month ago, you  
 11:41:11 13 didn't watch it?  
 11:41:12 14 A. Oh, no.  
 11:41:14 15 MR. BERL: Okay. Hit "Power" on the  
 11:41:24 16 television.  
 11:41:35 17 THE WITNESS: It's on.  
 11:41:46 18 MR. BERL: Can we go off the record?  
 11:41:48 19 THE VIDEOGRAPHER: Yes. Going off the  
 11:41:50 20 record. The time is 11:41 a.m.  
 11:43:40 21 (Discussion held off the record.)  
 11:43:41 22 THE VIDEOGRAPHER: Back on the record. The  
 11:43:41 23 time is 11:43 a.m.  
 11:43:46 24 MR. BERL: Let's now take a look at some of  
 11:43:47 25 that videotape.

11:43:49 1 (Whereupon, Exhibit 8 was played.)

2 BY MR. BERL:

11:43:59 3 Q. First of all, do you recognize that voice?

11:44:02 4 A. Sounds like me 15 years ago, I guess.

11:44:05 5 Q. And do you recognize the picture that's on

11:44:09 6 the screen right now?

11:44:11 7 A. Yes. Yes.

11:44:14 8 Q. And what do you recognize that to be?

11:44:16 9 A. That's the circuit board of the DSP 1000.

11:44:30 10 Q. And those RCA jacks to which you refer on

11:44:33 11 the tape, what was their role?

11:44:36 12 A. That's the audio input and audio output.

11:44:39 13 There are four jacks.

11:44:41 14 Q. And why are there four?

11:44:42 15 A. Stereo in, stereo out.

11:44:45 16 Q. And the other two?

11:44:47 17 A. Well, you need two to get stereo in and then

11:44:50 18 two for stereo out, so that's four.

11:44:54 19 Q. Okay. Those four boxes at which you were

11:45:05 20 pointing, what are those boxes?

11:45:07 21 A. Those are filters.

11:45:09 22 Q. And what is a filter exactly?

11:45:12 23 A. The filter prevents what we call aliasing in

11:45:18 24 the signal.

11:45:20 25 It's required when you're reconstructing

11:45:23 1 digital data into analog data to avoid artifacts, and  
 11:45:27 2 is required on the input to kill any or suppress any  
 11:45:31 3 frequencies that could not be converted that might  
 11:45:34 4 cause errors. And they're part of the analog, what  
 11:45:37 5 we call the analog section of the circuitry.

11:45:42 6 Q. And what is antialiasing?

11:45:45 7 A. It's the process by which you suppress  
 11:45:49 8 aliasing, which is the unpleasant sounding artifacts  
 11:45:55 9 you would hear if there were no filters.

11:46:01 10 Q. And in what form does the data go into the  
 11:46:04 11 filter?

11:46:05 12 A. Analog.

11:46:07 13 Q. And in what form does it come out?

11:46:09 14 A. Analog.

11:46:11 15 Q. And the difference between the signal  
 11:46:13 16 going -- or the data coming in and the data coming  
 11:46:16 17 out is what?

11:46:17 18 A. There's no data there. It's an analog  
 11:46:19 19 continuous waveform going in, analog continuous  
 11:46:23 20 waveform coming out. The only thing that's missing  
 11:46:26 21 is the very high frequency components that might be  
 11:46:29 22 in the signal above, say, 20 kilohertz.

11:46:32 23 MR. BERL: Now, back to the videotape.

24 (Whereupon, Exhibit 8 was played.)

25 BY MR. BERL:



11:46:55 1 Q. Now, what is a phase delay?

11:47:00 2 A. Well, audio signals or an analog signal can  
11:47:03 3 be described as having four quadrants. It looks like  
11:47:06 4 a sine wave, a wiggly line going above and below an  
11:47:10 5 axis, and the four quadrants represent the signal  
11:47:14 6 going up in magnitude, then coming down in magnitude,  
11:47:16 7 then going below zero in approaching its lowest  
11:47:19 8 point, and then coming off its lowest point and going  
11:47:22 9 up to zero again.

11:47:23 10 Those four quadrants of the signal have to  
11:47:26 11 be preserved, the symmetry of the shape. And if you  
11:47:31 12 shift the peak of that waveform to the left or to the  
11:47:36 13 right, that's called a phase error and phase --

11:47:43 14 A phase error, there's some people who claim  
11:47:45 15 they can hear it. But even if you can't hear it,  
11:47:49 16 what would happen is if you had phase error at  
11:47:52 17 20 kilohertz -- and it could be as bad as 180 degrees  
11:47:56 18 out of phase, that is, you shift the waveform over on  
11:48:00 19 that scale enough -- you would actually get  
11:48:03 20 cancellation, and what would happen is your  
11:48:06 21 20 kilohertz signal would be gone.

11:48:08 22 That would be total phase error at that  
11:48:11 23 point.

11:48:12 24 Q. And what would happen if your signal was  
11:48:14 25 gone?

11:48:16 1 A. Well, that's kind of a cardinal crime in  
11:48:18 2 recording. You do not want your signal to go away.  
11:48:21 3 That's what you're recording, and you don't want to  
11:48:23 4 distort it.

11:48:24 5 So less than a 180 degree error at  
11:48:26 6 20 kilohertz causes less than total loss of the  
11:48:29 7 signal, but causes errors or damage to the signal.

11:48:33 8 As I say, some people claim they can hear  
11:48:35 9 this. I think that's debatable.

11:48:38 10 Q. And how does the filter solve the phase  
11:48:50 11 delay problem?

11:48:50 12 A. By very careful analog design with -- I  
11:48:50 13 forget how many operational amplifiers are used in  
11:48:52 14 that filter.

11:48:55 15 Generally, the more poles a filter has, the  
11:48:59 16 less any individual amplifier in the chain will cause  
11:49:03 17 an error.

11:49:06 18 So we can get into a very technical  
11:49:08 19 discussion as to why RIFA designed those filters with  
11:49:11 20 as many amplifiers as they did and how that achieves  
11:49:13 21 low distortion. I don't know that you want to go  
11:49:17 22 there in this.

11:49:19 23 Q. I think none of us do probably.

11:49:26 24 And did CompuSonics do anything to those  
11:49:29 25 boxes that you just showed to modify them?

11:49:34 1 A. None whatsoever. The analog circuit, the  
 11:49:37 2 whole analog section of the DSP 1000 is made up of  
 11:49:39 3 off-the-shelf components in a circuit, a general  
 11:49:44 4 arrangement that we designed, but the arrangement is  
 11:49:47 5 as recommended by the manufacturers of all those  
 11:49:49 6 components.

11:49:50 7 The filters, the digital converters, the  
 11:49:54 8 amplifiers, all of that is -- the layout of the  
 11:50:00 9 circuit may be original but it's not unusual.

11:50:05 10 MR. BERL: Let's go back to the videotape.

11 11 (Whereupon, Exhibit 8 was played.)

12 BY MR. BERL:

11:50:29 13 Q. Now, these A-to-D converters, does that  
 11:50:34 14 correspond to the box so labeled, "A-to-D/D-to-A," on  
 11:50:41 15 Exhibit 2?

11:50:42 16 A. Yes.

11:50:43 17 Q. And you talk about two mono-channels, what  
 11:50:46 18 does that mean?

11:50:47 19 A. Two monophonic channels together compose one  
 11:50:51 20 stereo pair.

11:50:53 21 Q. And how does that work exactly?

11:50:56 22 A. Well, you could save a lot of money by  
 11:50:59 23 having one monophonic channel and then running it at  
 11:51:03 24 double the required frequency, and then splitting it  
 11:51:06 25 into two separate channels to create -- to get your

11:51:10 1 stereo information.

11:51:12 2 But then you'd have the two channels exactly  
11:51:16 3 180 degrees out of phase at 20 kilohertz, which  
11:51:20 4 introduces another problem. So you save a lot of  
11:51:23 5 money, but you introduce a problem.

11:51:25 6 Q. And that problem that you introduce, is that  
11:51:27 7 the problem you had just described?

11:51:29 8 A. Phase error, yes.

9 (Whereupon, Exhibit 8 was played.)

10 BY MR. BERL:

11:51:39 11 Q. Is that one-sample delay the same problem  
11:51:40 12 that you're talking about?

11:51:42 13 A. The one-sample delay at 20 kilohertz means  
11:51:45 14 total cancellation of the signal, yes, at  
11:51:47 15 20 kilohertz.

11:51:49 16 MR. BERL: Let's now go back to the  
11:51:50 17 videotape.

18 (Whereupon, Exhibit 8 was played.)

19 BY MR. BERL:

11:52:03 20 Q. Now, what does a FIFO chip -- chips that  
11:52:07 21 you're talking about, what do they correspond to in  
11:52:09 22 Exhibit 2 on 26489?

11:52:12 23 A. That's the FIFO buffer. That's a buffer  
11:52:13 24 memory, first in/first out. It's implemented in  
11:52:17 25 hardware. Those chips that you see on the tape.

11:52:22 1 Q. And did CompuSonics make those chips?

11:52:24 2 A. No.

11:52:25 3 Q. And did CompuSonics modify the chips?

11:52:27 4 A. No.

11:52:29 5 Q. Do you remember where CompuSonics bought

11:52:30 6 those chips?

11:52:32 7 A. Well, they're made by Mostek, as I just

11:52:35 8 reminded myself from the tape. Bought them from some

11:52:39 9 electronic supplier.

11:52:42 10 MR. BERL: Let's go back to the videotape.

11 11 (Whereupon, Exhibit 8 was played.)

12 BY MR. BERL:

11:53:05 13 Q. Now, the signal processors that you showed,

11:53:10 14 are those the TMS 320 signal processors in Exhibit 2?

11:53:14 15 A. Yes.

11:53:15 16 Q. And you talk about fast RAM in the boxes in

11:53:19 17 the middle on the videotape. What is that exactly?

11:53:21 18 A. That's the scratch-pad working memory for

11:53:23 19 the 320s.

11:53:25 20 Q. And what does that do?

11:53:27 21 A. Well, the 32010s need some memory to work

11:53:32 22 in.

11:53:33 23 Now they don't. In today's -- if you buy a

11:53:36 24 Texas Instruments 320 series processor today, those

11:53:39 25 chips are actually gone. The memory is incorporated

11:53:42 1 in the signal processor itself.

11:53:45 2 But in those days, those were the -- this

11:53:47 3 was the beginning, the first signal processing chips,

11:53:51 4 the memory was external.

11:53:53 5 Q. And, sorry, just for one second, getting

11:53:55 6 back to the FIFO buffers, did those have any kind of

11:53:58 7 storage device?

11:54:02 8 A. FIFOs are memories by definition.

11:54:07 9 MR. BERL: Let's go back to the videotape.

10 (Whereupon, Exhibit 8 was played.)

11 BY MR. BERL:

11:54:25 12 Q. Now, can you explain that process that you

11:54:27 13 just talked about?

11:54:30 14 A. The 32010s, as I previously testified,

11:54:35 15 handled chunks or blocks of data, and the blocks

11:54:39 16 represent a discrete amount of time. In the tape,

11:54:42 17 I'd say 1/100th or 2/100th of a second. That's the

11:54:48 18 duration of the block of audio data.

11:54:51 19 Q. And what process is that data?

11:54:55 20 A. The signal processors operate on that data.

11:55:01 21 MR. BERL: Let's go back to the videotape.

22 (Whereupon, Exhibit 8 was played.)

23 BY MR. BERL:

11:55:28 24 Q. Can you describe in a little more detail,

11:55:31 25 and perhaps in more lay terms, how this 68000 moves

11:55:35 1 the data out?

11:55:39 2 A. I don't know if I can do that in lay terms.

11:55:41 3 The data is sitting in memory next to the  
11:55:43 4 32010s, those little chips that I was pointing to in  
11:55:48 5 the tape. The 68000 has access to those chips, and  
11:55:55 6 it copies the data from the static RAM, those little  
11:56:01 7 chips, to the main memory one word at a time.

11:56:05 8 When it's finished copying, then that memory  
11:56:09 9 can be reused, recycled, for the next block of data.

11:56:13 10 Q. And where is the main memory on the diagram  
11:56:15 11 in Exhibit 2?

11:56:17 12 A. It's called RAM, random access memory, that  
11:56:20 13 block.

11:56:22 14 MR. BERL: Let's go back to the videotape.

15 (Whereupon, Exhibit 8 was played.)

16 BY MR. BERL:

11:56:52 17 Q. At what part of Exhibit 2, if any, does that  
11:56:56 18 segment refer to?

11:56:59 19 A. Well, I pointed to the DMA controller chip  
11:57:01 20 and then I pointed to the SCSI port chip, one after  
11:57:05 21 the other, which is the data path to the disk drive.

11:57:08 22 The disk drive is not visible because it's  
11:57:09 23 been removed off to the side of that thing I'm  
11:57:13 24 pointing -- the circuit board I'm pointing to.

11:57:17 25 Q. Now, is the parallel port shown anywhere on

11:57:22 1 the picture in the screen?

11:57:24 2 A. It is. I don't know if I point to it, but.

11:57:28 3 Q. Would it be possible for you to get up and

11:57:31 4 point to it quickly?

11:57:32 5 A. Sure. The parallel port is right here where

11:57:39 6 I'm pointing. It's attached to the back of the

11:57:42 7 machine, and there are a couple of chips attached to

11:57:45 8 that that constitute the circuitry of the port.

11:57:51 9 Q. Now, in a telerecording mode, could you

11:57:56 10 quickly point to the place where the signal would

11:58:00 11 arrive into a DSP 1000?

11:58:05 12 MR. MUDGE: I'm going to object. The

11:58:06 13 question lacks foundation.

11:58:10 14 THE WITNESS: Okay. Well, in telerecording,

11:58:12 15 you'd have to attach the DATI, you know, Heinz Sohn's

11:58:17 16 box, to the parallel port with a little piece of

11:58:20 17 cable. So it would be sitting out here off the

11:58:21 18 screen.

11:58:22 19 BY MR. BERL:

11:58:23 20 Q. And then?

11:58:23 21 A. Data would come in from the phone system

11:58:26 22 through that box into the parallel port into main

11:58:28 23 memory. From main memory through the DMA controller

11:58:31 24 to the SCSI chip and up to the disk drive.

11:58:41 25 MR. BERL: All right. Thank you very much.



11:58:42 1 If we could go off the record for one moment.

11:58:44 2 THE VIDEOGRAPHER: Time is 11:58 a.m. Going

11:58:47 3 off the record.

12:04:57 4 (Recess: 11:58 a.m. to 12:05 p.m.)

12:05:05 5 THE VIDEOGRAPHER: Back on the record. The

12:05:06 6 time is 12:05 p.m.

12:05:11 7 BY MR. BERL:

12:05:11 8 Q. Do you also remember discussing the

12:05:14 9 telerecording capability of the DSP?

12:05:17 10 A. Yes, I do.

12:05:22 11 MR. BERL: Let's go to the videotape.

12 (Whereupon, Exhibit 8 was played.)

13 BY MR. BERL:

12:08:49 14 Q. Now, you said in that tape that the

12:08:51 15 technology is finished for that capability. What did

12:08:55 16 you mean by that?

12:08:57 17 MR. MUDGE: Well, I'll object to the extent

12:08:58 18 that the statements on this tape speak for

12:09:02 19 themselves.

12:09:03 20 MR. BERL: You can answer.

12:09:04 21 (At this time, Monica Mucchetti entered the

12:09:06 22 deposition room.)

12:09:07 23 THE WITNESS: Okay. What I meant by

12:09:08 24 "finished" is we had spent much time and much money,

12:09:13 25 up to the point of giving this lecture in '86 or '87,

12:09:17 1 in developing the method for what we call  
12:09:21 2 telerecording, and this whole concept of being able  
12:09:24 3 to database music on one of our big machines and sell  
12:09:27 4 it through the phone company or, as I mentioned in  
12:09:31 5 this lecture, through the cable television company to  
12:09:35 6 the home unit and using a credit card, proposing  
12:09:39 7 using a credit card as a mechanism to control the  
12:09:43 8 payment scheme.

12:09:44 9 BY MR. BERL:

12:09:44 10 Q. What would have prevented a consumer from  
12:09:48 11 using your telerecording device and buying digital  
12:09:51 12 audio music?

12:09:53 13 A. It simply wasn't commercialized at that  
12:09:55 14 time. In fact, we gave up on trying to commercialize  
12:09:59 15 it sometime in '86 or '87.

12:10:03 16 Q. When you say it wasn't commercialized, what  
12:10:05 17 do you mean by "it"?

12:10:07 18 A. Telerecording. The whole concept of  
12:10:09 19 selling -- buying and selling and databasing music  
12:10:19 20 libraries for sale on demand.

12:10:19 21 Q. Did you make efforts to commercialize  
12:10:21 22 telerecording?

12:10:23 23 A. We did, made quite an extensive effort  
12:10:28 24 involving AT&T. AT&T's interest, of course, was  
12:10:33 25 selling -- well, gaining another revenue stream for

12:10:35 1 their digital phone system that they were deploying,  
12:10:39 2 other than charging people for telephone calls.

12:10:42 3 They were interested in value-added content  
12:10:44 4 where they could sell other kinds of data, like  
12:10:46 5 music, through the phone network.

12:10:48 6 And so we were the first audio company that  
12:10:52 7 I know of to propose or build equipment that was  
12:10:55 8 capable of both storing the data and sending it  
12:10:59 9 through their system, and receiving it.

12:11:02 10 And so we worked very closely with AT&T's  
12:11:04 11 Holmdel, New Jersey and Red Cliff, New Jersey  
12:11:10 12 laboratories to develop and test the hardware  
12:11:13 13 involved.

12:11:15 14 Q. Was there a music database from which  
12:11:16 15 consumers could have chosen music?

12:11:22 16 A. At that time, a digital database of -- no,  
12:11:27 17 music? Not to my knowledge.

12:11:29 18 Q. And why is that, if you know.

12:11:34 19 A. Well, I have an opinion based on my own  
12:11:36 20 contact with record company executives at that time,  
12:11:40 21 because I was trying to promote this telerecording  
12:11:43 22 concept, for obvious reasons, to sell equipment that  
12:11:47 23 could do it.

12:11:50 24 And the response I got from the record  
12:11:53 25 company executives was hostile, I guess would be the

12:11:57 1 polite way to put it. They were adamantly opposed to  
12:12:02 2 the entire idea, to everything about it.

12:12:05 3 I pitched it as a way to make more money  
12:12:08 4 more efficiently to improve their business model, and  
12:12:16 5 they thought it was an attack on their business  
12:12:19 6 model.

12:12:20 7 Q. If there had been such a database and a  
12:12:26 8 consumer had an AT&T Accunet connection, could the  
12:12:31 9 DSP 1000s that you sold have telerecorded?

12:12:38 10 MR. MUDGE: Well, I'll object that the  
12:12:40 11 question lacks foundation, calls for speculation.

12:12:44 12 THE WITNESS: Well, what we did in 1985, I  
12:12:47 13 think -- late '84, all through '85 -- is build  
12:12:52 14 prototypes of the telerecording system using the  
12:12:58 15 commercial 2002s that we were selling already into  
12:13:01 16 the marketplace.

12:13:03 17 What we did is we simulated a commercial  
12:13:05 18 database of music by putting recordings on the hard  
12:13:08 19 drives -- you know, borrowing copyrighted material  
12:13:12 20 onto the hard drives of the 2002. Because these were  
12:13:16 21 demonstration-only, not commercial projects, we  
12:13:19 22 didn't feel we needed permission from the record  
12:13:21 23 companies to do this.

12:13:23 24 So we built up, you know, hundreds of  
12:13:28 25 megabytes of recordings on the DSP 2002 hard drives

12:13:32 1 and used those to simulate a database, and then used  
 12:13:36 2 a second DSP 2002 to act as the receiver, and did a  
 12:13:42 3 series of tests and, in fact, some public  
 12:13:44 4 demonstrations of how this would work.

12:13:46 5 BY MR. BERL:

12:13:47 6 Q. So is it your testimony that given such a  
 12:13:50 7 database of music and an AT&T Accunet connection,  
 12:13:56 8 that the telerecording capacity existed in the  
 12:14:01 9 DSP 1000?

12:14:03 10 MR. MUDGE: Objection. Mischaracterizes his  
 12:14:05 11 testimony, calls for speculation and is a leading  
 12:14:09 12 question.

12:14:11 13 THE WITNESS: We designed the DSP 1000 to be  
 12:14:14 14 a telerecording receiver, not a sender. It was  
 12:14:18 15 conceived of as the consumer end of the system.

12:14:21 16 So it was designed and fully capable of  
 12:14:23 17 recording, and I'm sure you can depose some of the  
 12:14:25 18 engineers who were involved designing that circuitry  
 12:14:28 19 that you saw and verify what I'm saying.

12:14:33 20 The DSP 1000 was the target. It would  
 12:14:36 21 receive music from the database. We had to  
 12:14:38 22 synthesize, you know, make pretend databases on 2002s  
 12:14:42 23 to perform the actual testing and public  
 12:14:45 24 demonstrations to show the reporters and the press  
 12:14:49 25 and the community, the technical community,

12:14:51 1 engineering community, how this would work if  
 12:14:55 2 somebody would commercialize it. You know, if the  
 12:14:58 3 record companies would get on board, which of course  
 12:15:00 4 they refused to do.

12:15:03 5 MR. BERL: If I could have this marked as  
 12:15:05 6 Exhibit No. 9. It's a reprint of an article from  
 12:15:10 7 PC World bearing the numbers 26305 to 26312.

12:15:18 8 (WHEREUPON, DEPOSITION EXHIBIT 9 WAS MARKED  
 12:15:49 9 FOR IDENTIFICATION.)

12:15:49 10 BY MR. BERL:

12:15:49 11 Q. Have you seen this document before?

12:15:51 12 A. I've seen the original magazine and, yes,  
 12:15:54 13 I've seen copies of this before, yes.

12:15:59 14 Q. And do you remember having a discussion with  
 12:16:01 15 someone at PC World?

12:16:05 16 A. I remember a number of discussions with  
 12:16:07 17 David Renada, one of their senior writers, about our  
 12:16:12 18 work, and he eventually wrote at least one article  
 12:16:15 19 about us, including this one.

12:16:19 20 Q. Could you read from the right-hand column.  
 12:16:24 21 This is the first two sentences of the paragraph  
 12:16:26 22 beginning with "The unit."

12:16:31 23 A. "The unit is also set up to  
 12:16:33 24 'telerecord' from remote data bases  
 12:16:36 25 via modem. This capability yields a

12:16:39 1 glimpse of CompuSonics's assumptions  
12:16:49 2 about the musical future - no such  
12:16:49 3 data bases exist at present."  
12:16:49 4 Q. Is this, as you sit here today, an accurate  
12:16:50 5 statement of what you thought in 1984?  
12:16:55 6 A. Oh, yes, yes.  
12:17:01 7 Q. Or, excuse me, what was the date of that  
12:17:03 8 article?  
12:17:05 9 A. I'm not sure. '84 or '85.  
12:17:08 10 Q. If you could look at 26305, it's not the  
12:17:12 11 greatest copy in the world. The front page.  
12:17:18 12 A. April 1985.  
12:17:25 13 Q. And is it your testimony that the DSP 1000s  
12:17:29 14 that you sold were set up to telerecord from remote  
12:17:34 15 databases?  
12:17:34 16 A. To the best of my knowledge, yes, that's how  
12:17:36 17 we designed them.  
12:17:37 18 Q. And did you advertise that capability?  
12:17:41 19 A. I believe we did advertise that capability.  
12:17:46 20 We would have to find copies of the ads, if you've  
12:17:49 21 managed to locate them, to verify that.  
12:17:53 22 Q. If we could look back for yet another time  
12:17:56 23 at Exhibit 2, that's number 26489. If you could look  
12:18:13 24 at the second bulleted item.  
12:18:16 25 A. Yes.

12:18:17 1 Q. The "High speed Centronics-like full-duplex  
12:18:21 2 parallel port."

12:18:21 3 A. Yes.

12:18:22 4 Q. Is that the part that was used in the  
12:18:26 5 telerecording in the DSP 1000?

12:18:30 6 A. To the best of my knowledge, that is the  
12:18:34 7 DATI, digital audio transceiver port. We just  
12:18:38 8 referred to it in general as a parallel port on here  
12:18:40 9 because by the time this was printed, I think in '86,  
12:18:46 10 we had pretty much given up on the commercialization  
12:18:50 11 of telerecording.

12:18:54 12 Q. And if you could look one time again at  
12:18:56 13 Exhibit 1. That's number 26281. The second bulleted  
12:19:04 14 item.

12:19:07 15 A. "Digital recording from remote data bases:  
12:19:10 16 'telerecording'?"

12:19:15 17 Q. Yes. Was this exhibit sent outside of  
12:19:19 18 CompuSonics, to your knowledge?

12:19:20 19 A. Oh, yes, it was widely circulated. It was  
12:19:22 20 handed out by the thousands at trade shows.

12:19:25 21 Q. And were you present at those trade shows?

12:19:29 22 A. Many of them, yes.

12:19:30 23 Q. So you personally handed some of these out?

12:19:33 24 A. Oh, yeah, hundreds.

12:19:34 25 Q. When you testified a moment ago that you'd



12:19:37 1 given up on commercializing the telerecording, what  
12:19:46 2 do you mean by "commercializing"?

12:19:49 3 A. Making money with the concept or the  
12:19:53 4 features or equipment that would do telerecording,  
12:19:56 5 either the head end or the receivers.

12:20:01 6 Q. So did you sell DSP 1000s that had the  
12:20:06 7 capability to telerecord, despite your testimony that  
12:20:13 8 you were unable to make money off the telerecording  
12:20:15 9 capability?

12:20:16 10 A. Well, it was designed into the circuit. It  
12:20:18 11 was an inherent part of the machine.

12:20:21 12 I believe in some of the later machines, not  
12:20:24 13 the 1000s, but the 1200s, 1500s and 1800s made later  
12:20:29 14 in '87 and '88, we may actually even have removed  
12:20:31 15 some of the chips from the circuit board because they  
12:20:34 16 were wasted money given that, you know, nobody was  
12:20:39 17 going to use that function.

12:20:41 18 Q. And the 50 to 100 DSP 1000s that you had  
12:20:46 19 testified about earlier that had been sold, did those  
12:20:51 20 have the telerecording capability taken out?

12:20:54 21 A. No. Those were fully stuffed circuit  
12:20:57 22 boards. They had the chips in them, all of them.

12:21:01 23 MR. BERL: All right. Thank you, very much,  
12:21:03 24 Mr. Schwartz. I think this is a good time to take a  
12:21:05 25 lunch break.

12:21:07 1

THE VIDEOGRAPHER: The time is 12:21 p.m.

12:21:09 2

We're going off the record.

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(Luncheon recess: 12:21 p.m.)

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1 AFTERNOON SESSION

2 (1:33 p.m.)

13:31:51 3 (WHEREUPON, DEPOSITION EXHIBIT 10 WAS MARKED  
13:31:53 4 FOR IDENTIFICATION.)

13:31:54 5 (At this time, Monica Mucchetti and  
6 Christopher Reese were absent from the  
13:31:56 7 deposition room.)

13:33:48 8 THE VIDEOGRAPHER: We're back on the record.

13:33:49 9 The time is 1:33 p.m.

13:33:56 10 BY MR. BERL:

13:33:57 11 Q. Good afternoon, Mr. Schwartz. Before the  
13:33:59 12 break, you had talked about the CompuSonics 2000.

13:34:05 13 What is the CompuSonics 2000?

13:34:08 14 A. That was the first commercially available  
13:34:10 15 audio computer that CompuSonics Corporation  
13:34:15 16 manufactured and sold.

13:34:16 17 (At this time, Christopher Reese entered the  
13:34:17 18 deposition room.)

13:34:18 19 BY MR. BERL:

13:34:18 20 Q. And what is the CompuSonics 2002?

13:34:21 21 A. Well, I suppose there really wasn't a 2000.  
13:34:25 22 2002 was the smallest model in the 2000  
13:34:28 23 series, "2" standing for two stereo pairs.

13:34:35 24 Q. And when did you first build a prototype of  
13:34:39 25 the 2002?

13:34:43 1 A. Late 1983, I believe.

13:34:47 2 Q. And who was involved in designing and  
13:34:49 3 building the system?

13:34:55 4 A. Myself, my chief scientist, or at that time  
13:35:00 5 a consultant. Before I had staff, really, we had  
13:35:04 6 consultants to the company. Gary Schwede, who was  
13:35:08 7 getting his doctorate from Berkeley at the time.  
13:35:12 8 John Stautner, who was in the master's program at  
13:35:15 9 MIT. Those two primarily, and myself.

13:35:20 10 Q. If you could look at Exhibit 10 which bears  
13:35:25 11 the numbers 25668 through 25707. Are you familiar  
13:35:32 12 with this document?

13:35:33 13 A. Yes, I am.

13:35:42 14 Q. And are you familiar with its contents?

13:35:42 15 A. No, I'm not familiar anymore with it, but I  
13:35:43 16 saw it in the past.

13:35:45 17 Q. What role did you play in its preparation?

13:35:48 18 A. I remember proofing it after it was written  
13:35:51 19 by the tech writer who wrote it.

13:35:54 20 Q. And do you remember who that tech writer  
13:35:55 21 was, by any chance?

13:35:57 22 A. I don't remember the name.

13:36:00 23 Q. And was it a common practice at CompuSonics  
13:36:05 24 to write and publish a user's manual before the  
13:36:08 25 product was ready to sell?

13:36:11 1 A. No. We usually started selling before we  
13:36:14 2 had documentation.

13:36:19 3 Q. And so would it be your testimony then that  
13:36:23 4 this document was prepared after the CompuSonics 2002  
13:36:27 5 was first sold?

13:36:29 6 MR. MUDGE: Objection. I'm sorry.  
13:36:32 7 Objection, leading.

13:36:33 8 MR. BERL: You can answer.

13:36:35 9 THE WITNESS: We sold the first 2002 in  
13:36:38 10 1984. I don't believe it had much in the way of  
13:36:42 11 documentation other than the standard UNIX documents  
13:36:45 12 that come with any UNIX-based computer.

13:36:51 13 BY MR. BERL:

13:36:52 14 Q. Now, if I could direct you to Page 25671.  
13:37:00 15 Near the middle of the page where it says "on-line  
13:37:05 16 database of sound effects and music library," under  
13:37:09 17 "Functions unique to the audio computer," what does  
13:37:12 18 that line mean?

13:37:18 19 A. Sorry, I lost you. Oh, "Functions unique to  
13:37:21 20 the audio computer"?

13:37:22 21 Q. Yes.

13:37:23 22 A. "On-line database of sound effects and music  
13:37:25 23 library"?

13:37:26 24 Q. Yes, what does that mean?

13:37:28 25 A. That means you can fill the hard drive, hard

13:37:31 1 disk drive of the computer with music, sound effects,  
13:37:36 2 voiceovers, whatever, for random access.

13:37:40 3 Q. And what else -- would anything else go with  
13:37:44 4 the music in the hard drive storage?

13:37:47 5 A. Well, yes. The information about the edits,  
13:37:51 6 you know, the editing on the music, the information  
13:37:54 7 about the names of the artists, the titles, what we  
13:37:58 8 call header information and directory and sound file  
13:38:01 9 directory information.

13:38:02 10 Q. And the next line, "off-line digital storage  
13:38:05 11 of sound effects library," how is that different?

13:38:10 12 A. Well, "on-line" means you can access them  
13:38:12 13 instantly with a keystroke and play them.

13:38:16 14 "Off-line" means it's really a library that  
13:38:19 15 you would have to copy to your online to get it -- to  
13:38:26 16 use it instantly. Sort of like backup. Archival  
13:38:31 17 storage, I guess might be a better way of putting it.

13:38:34 18 Q. And the line that says "digital  
13:38:35 19 telecommunications," what does that mean?

13:38:41 20 A. Well, that refers to what we called in the  
13:38:44 21 press materials telerecording.

13:38:47 22 Q. So were those two words or phrases used  
13:38:50 23 interchangeably, that is, digital communications and  
13:38:52 24 telerecording?

13:38:54 25 A. Yes. Well, telerecording was our

13:38:57 1 consumer -- the way we described it to consumers.

13:39:02 2 In the professional environment, this

13:39:04 3 machine is meant for professionals, we used more

13:39:06 4 technical terms like "digital telecommunications."

13:39:10 5 And later on on that page, in the paragraph

13:39:13 6 that starts "The unique audio computer functions," et

13:39:18 7 cetera, "Properly equipped, the computer can use the

13:39:21 8 telephone to transmit data (music) anywhere with no

13:39:24 9 loss of fidelity." That's what we're talking about

13:39:29 10 here.

13:39:29 11 MR. BERL: All right. If you would look at

13:39:31 12 Exhibit 11, which I'll have marked for you.

13:39:39 13 (WHEREUPON, DEPOSITION EXHIBIT 11 WAS MARKED

13:39:49 14 FOR IDENTIFICATION.)

13:39:49 15 THE WITNESS: Thank you.

13:39:53 16 BY MR. BERL:

13:39:53 17 Q. Are you familiar with this document?

13:39:55 18 A. I remember it, yes.

13:39:58 19 Q. And how are you familiar with it?

13:40:00 20 A. Well, it's -- this is a letter I wrote to  
13:40:03 21 the shareholders of CompuSonics Corporation on 31 May  
13:40:08 22 1985.

13:40:10 23 Q. If you could read the first sentence of the  
13:40:12 24 paragraph, about three-quarters of the way down, on  
13:40:14 25 Page 26261, starting with "CompuSonics's," if you

13:40:20 1 could just read the first sentence.

13:40:22 2 A. You mean "The CompuSonics telerecording  
13:40:25 3 system" --

13:40:26 4 Q. No, where it starts "CompuSonics's."

13:40:28 5 A. Marketing efforts?

13:40:29 6 Q. Yes?

13:40:30 7 A. "CompuSonics's marketing efforts  
13:40:31 8 have been rewarded with increasing  
13:40:33 9 sales volume. In my last letter I  
13:40:35 10 mentioned that we were about to  
13:40:36 11 deliver our first production model  
13:40:38 12 DSP-2000 in Hollywood. Over the  
13:40:40 13 past six months we have continued to  
13:40:42 14 make on-time deliveries of ten  
13:40:45 15 machines ordered to date. DSP-2000s  
13:40:48 16 are currently in use for digital  
13:40:51 17 audio recording, editing, signal  
13:40:51 18 analysis, radio broadcast, and  
13:40:53 19 video/film post-production (sound  
13:40:55 20 tracks)."

13:40:58 21 Q. Now, those ten machines that you've sold, do  
13:41:05 22 you remember to whom you sold any of those machines?

13:41:08 23 A. I remember some of the names of the owners  
13:41:10 24 of the companies, because I've personally talked to  
13:41:13 25 them in some cases, and they're apparently well-known



13:41:17 1 people in the audio industry.

13:41:19 2 Q. And would you list some of those that you  
13:41:20 3 can remember?

13:41:21 4 A. Well, Howard Schwartz is easy to remember  
13:41:24 5 because he's a Schwartz, who owns Sound One in New  
13:41:27 6 York City, which is the studio that does all of the  
13:41:36 7 audio for all of Woody Allen's movies. So I remember  
13:41:36 8 Howard quite well.

13:41:36 9 And Bob Lifton, well, he's passed away, but  
13:41:41 10 he was best known as the guy who first did high  
13:41:44 11 quality audio on television for Saturday Night Live,  
13:41:48 12 for live bands on TV.

13:41:52 13 And now I'm blanking out on the guys in  
13:41:55 14 Hollywood. I can see their faces. I can't remember  
13:42:02 15 their names.

13:42:03 16 Q. That's okay. It was a long time ago.

13:42:05 17 A. I'm having a senior moment, sorry.

13:42:08 18 MR. BERL: Now if you would look at  
13:42:12 19 Exhibit 12, which I'll have marked for you.

13:42:18 20 (WHEREUPON, DEPOSITION EXHIBIT 12 WAS MARKED  
13:42:32 21 FOR IDENTIFICATION.)

13:42:32 22 BY MR. BERL:

13:42:33 23 Q. Before we get there, what did the  
13:42:35 24 CompuSonics 2002 look like to consumers?

13:42:41 25 A. A black computer, like the two black boxes,

13:42:46 1 each the size of an IBM PC. And a monitor, you know,  
 13:42:56 2 a keyboard and a display screen.

13:43:00 3 Q. So the description you gave earlier this  
 13:43:02 4 morning regarding what the DSP 1000 looked like, what  
 13:43:08 5 would the difference in appearance be between the  
 13:43:11 6 1000 and the 2002?

13:43:14 7 A. Well, the 1000 had a front panel like any  
 13:43:18 8 consumer electronics home audio equipment or VCR, you  
 13:43:21 9 know, buttons, a display. And then on the back, had  
 13:43:24 10 places to connect the audio and connect peripherals.

13:43:27 11 On the 2002, there was no front panel. The  
 13:43:30 12 black boxes had nothing on the front other than  
 13:43:32 13 lights, and on the back they had the connectors for  
 13:43:35 14 the various peripherals and a connector to the  
 13:43:40 15 display device, to the CRT, and the keyboard.

13:43:45 16 So all the control was through a keyboard  
 13:43:48 17 and a terminal, like any workstation of that vintage.

13:43:54 18 Q. Now, the DATI that we talked about earlier  
 13:43:57 19 in Exhibit 7, was that present also in the DSP 2002?

13:44:03 20 A. Well, the DATI always was and throughout its  
 13:44:06 21 existence always was an external box, a little black  
 13:44:11 22 box that attached to the parallel port.

13:44:16 23 Q. And did a consumer who bought the DSP 2002  
 13:44:20 24 automatically receive that DATI box as well?

13:44:24 25 A. No.

13:44:27 1 MR. MUDGE: I'm going to request I get a  
13:44:28 2 chance to raise objections. I'm going to object to  
13:44:30 3 that question as vague and lacks foundation.

13:44:39 4 THE WITNESS: We only made, I think, 10 or  
13:44:42 5 12 DATI boxes. They were made primarily to promote  
13:44:48 6 what we thought would be a new business, or an  
13:44:50 7 extension of the business, this telerecording thing,  
13:44:53 8 for both the 2002 and the 1000.

13:44:57 9 The idea being that if we could get some  
13:44:59 10 traction commercially with it, then we'd have them  
13:45:02 11 manufactured or commercialized, make those boxes less  
13:45:05 12 expensive. Each of those 10 or 12 that we made  
13:45:09 13 probably cost us over a thousand dollars each at that  
13:45:16 14 time.

15 BY MR. BERL:

13:45:16 16 Q. And did you attempt to sell those 10 or 12  
13:45:17 17 boxes that you made?

13:45:19 18 A. Oh, yes, I did. My salespeople and myself  
13:45:22 19 did, yes.

13:45:23 20 MR. BERL: If you could now take a look at  
13:45:25 21 Exhibit 13, which bears the numbers 26382 to 26383.

13:45:43 22 Excuse me, I misspoke. Exhibit 12, I'm  
13:45:45 23 sorry, which bears the Bates numbers 26382 to 26383.

13:45:51 24 THE WITNESS: Okay.

25 BY MR. BERL:

13:45:52 1 Q. On the second page in the first paragraph --  
13:45:59 2 First of all, did you write this letter?  
13:46:04 3 A. This is another letter to CompuSonics  
13:46:07 4 shareholders written by myself.  
13:46:09 5 Q. And when did you write this?  
13:46:11 6 A. 10th of October 1985.  
13:46:14 7 Q. Now, on that second page in the first  
13:46:16 8 paragraph, you identified Bob Lifton.  
13:46:19 9 A. Yes.  
13:46:21 10 Q. Now, was he one of the people who bought a  
13:46:25 11 DSP 2002?  
13:46:26 12 A. Yes.  
13:46:27 13 Q. And did he buy the DATI box as well?  
13:46:32 14 MR. MUDGE: Objection. These are leading  
13:46:35 15 questions. I really think they are improper  
13:46:38 16 questions.  
13:46:40 17 MR. BERL: You may answer.  
13:46:42 18 THE WITNESS: Bob bought a 2002, and we even  
13:46:48 19 offered to loan him a DATI box, not to even charge  
13:46:51 20 him, for it, but he couldn't make any sense out of  
13:46:56 21 it. He had no reason to have one. He didn't want  
13:47:01 22 it.  
13:47:02 23 BY MR. BERL:  
13:47:02 24 Q. What efforts did you make, if any, to sell  
13:47:05 25 Bob Lifton a DATI box?

13:47:10 1 A. I met with him and sat down and explained it  
13:47:12 2 to him and what it could do and how he could connect  
13:47:16 3 his studio in New York to his studio in Hollywood,  
13:47:20 4 you know, over the phone lines to send files.

13:47:23 5 And his conclusion was it wasn't -- that  
13:47:26 6 Federal Express was doing a better job sending his  
13:47:29 7 digital audio materials to Hollywood than the phone  
13:47:31 8 lines could do.

13:47:34 9 Q. Was Bob Lifton the only person to whom you  
13:47:36 10 tried to sell a DATI box?

13:47:39 11 A. Oh, no, I promoted it to everyone who bought  
13:47:42 12 a 2002. With the same argument, basically, that it  
13:47:50 13 was a good way to move digital audio files long  
13:47:59 14 distances without damage.

13:47:59 15 Q. Now, if you could go back to Exhibit 2, the  
13:48:02 16 diagram with which we've been working all morning,  
13:48:06 17 bearing the number 26489.

13:48:12 18 This diagram is labeled DSP 1000 design  
13:48:16 19 diagram -- or "DSP 1000 System Diagram," excuse me.

13:48:21 20 A. Yes.

13:48:27 21 Q. What differences were there, if any, between  
13:48:32 22 the data flow represented in this diagram and the  
13:48:35 23 data flow in the DSP 2002?

13:48:38 24 MR. MUDGE: Objection. The question is  
13:48:40 25 vague.

13:48:43 1 THE WITNESS: Well, in fact, the data  
13:48:44 2 diagrams -- I believe somewhere in all these  
13:48:47 3 documents about CompuSonics, you'll find another  
13:48:49 4 diagram of the 2000 system, and you'll find it's  
13:48:53 5 virtually identical.

13:48:54 6 In fact, the way we designed the 1000 was to  
13:48:58 7 take a 2000 and shrink it onto one circuit board. So  
13:49:02 8 from a multitude of circuit boards, but in the same  
13:49:05 9 architecture, we shrunk it down onto one circuit  
13:49:10 10 board and renamed it the DSP 1000, and of course it  
13:49:14 11 cost a lot less money to make.

12 BY MR. BERL:

13:49:16 13 Q. And when you say shrink, what do you mean by  
13:49:19 14 that?

13:49:19 15 A. Well, the DSP 2002, the smallest one,  
13:49:22 16 weighed 75 or 80 pounds, and was the size of two IBM  
13:49:27 17 PCs. Plus it needed an external console, you know,  
13:49:33 18 CRT and computer screen and a keyboard. It contained  
13:49:38 19 over a dozen circuit boards, which is big and  
13:49:43 20 expensive.

13:49:45 21 Q. Was the software that you wrote for the 2002  
13:49:49 22 different than the software that was written for the  
13:49:52 23 DSP 1000?

13:49:56 24 A. Oh, somewhat different, but fundamentally  
13:50:00 25 the same in all of its key parts. It was written in

118

13:50:05 1 the same language, a lot of the same exact same code

13:50:08 2 was moved to the DSP 1000.

13:50:10 3 Q. And what were the differences, if you can

13:50:12 4 remember?

13:50:17 5 A. The DSP 1000 had a front panel that needed

13:50:20 6 quite a bit of software to control it, you know, the

13:50:23 7 buttons and the display. None of that existed in the

13:50:26 8 2000. The 2000 simply had a serial connection to a

13:50:32 9 terminal.

13:50:34 10 So there was a lot of new code written for

13:50:36 11 the 1000 pertaining to the front panel, but all the

13:50:39 12 internal data processing code, the signal processing

13:50:43 13 and the data handling parts of the system, were all

13:50:47 14 identical.

13:50:52 15 Q. If you could look at Exhibit 10 once again.

13:50:57 16 That's the DSP 2002 user's manual. On Page 25781 --

13:51:11 17 excuse me, I think I have the page number wrong.

13:51:14 18 Hold on a moment.

13:51:26 19 Excuse me, on Page 25690.

13:51:33 20 A. Okay.

13:51:48 21 Q. As you look at this, what does this page

13:51:55 22 show?

13:51:57 23 A. The edit list directory screen for

13:52:00 24 controlling edit lists.

13:52:04 25 (At this time, Michael Barclay entered the

13:52:06 1 deposition room.)

13:52:06 2 BY MR. BERL:

13:52:07 3 Q. And who controlled those edit lists?

13:52:09 4 A. The operator. The person who was sitting at

13:52:11 5 the workstation at the 2002. This is how they, you

13:52:15 6 know, would control the machine.

13:52:19 7 Q. And now if we can go back for one moment to

13:52:22 8 Exhibit 6, which is entitled "Specifications and

13:52:27 9 Implementation of a Computer Audio Console for

13:52:30 10 Digital Mixing and Recording."

13:52:34 11 A. Okay.

13:52:36 12 Q. On Page 25782.

13:52:46 13 A. Yes.

13:52:47 14 Q. Do you remember what you were describing in

13:52:50 15 this paper?

13:52:54 16 A. This is the architecture of the DSP 2000

13:52:57 17 workstation.

13:52:58 18 Q. And if you could read the first sentence of

13:53:01 19 the paragraph beginning "The primary Data Storage

13:53:04 20 module."

13:53:05 21 A. "The primary Data Storage module

13:53:07 22 contains one SuperFloppy disk drive,

13:53:09 23 the disk drive controller boards and

13:53:11 24 three hard disk drives."

13:53:15 25 Q. And was that a difference between the 2002



13:53:18 1 and the 1000?

13:53:19 2 A. Yes. The 1000 had one disk drive. Early on  
13:53:23 3 it had one SuperFloppy disk drive, and then later it  
13:53:27 4 had one optical disk drive. And then even later on  
13:53:31 5 in the future, it had one hard disk drive.

13:53:34 6 Q. And in the 2002 that you describe in this  
13:53:38 7 paper, what was stored, if anything, in the hard  
13:53:40 8 drives?

13:53:42 9 A. On the 2002?

13:53:43 10 Q. Yes.

13:53:44 11 A. Well, the data, the compressed audio of the  
13:53:47 12 music was stored there. Directory structures about  
13:53:52 13 how the data was stored, files pertaining to how the  
13:53:56 14 music was edited, the edit sequences, the edit  
13:54:00 15 points.

13:54:02 16 Who recorded the music, the recording  
13:54:04 17 engineering information of who did it, who the  
13:54:06 18 artists were, how long the recordings were, who owned  
13:54:10 19 the copyright on the music. Notes. I mean, you  
13:54:16 20 could actually type, you know, liner notes into the  
13:54:19 21 thing and save that on there as well.

13:54:21 22 Q. And how was all this information organized  
13:54:23 23 in the hard drive?

13:54:25 24 A. Well, it's a UNIX computer, so it was stored  
13:54:36 25 in the UNIX file system, which I'd hesitate to get

13:54:36 1 into in this deposition.

13:54:36 2 Q. The sound files themselves, were those sound  
13:54:38 3 files different from the sound files that were stored  
13:54:43 4 in the DSP 1000?

13:54:45 5 A. No.

13:54:54 6 Q. The DATI interface, which we went through at  
13:54:58 7 length this morning in Exhibit 7, did that play a  
13:55:03 8 different role in the 2000 than the 1000?

13:55:07 9 A. No. As I described earlier, it's the black  
13:55:11 10 box that converts one protocol to another protocol so  
13:55:14 11 that data can be transferred between two dissimilar  
13:55:17 12 computer systems; one being owned by the phone  
13:55:20 13 company and the other being the audio computer.

13:55:26 14 Q. Okay. Now, turning your attention for the  
13:55:29 15 last time to Exhibit 12, which was a letter written  
13:55:31 16 on October 10th, 1985 to CompuSonics shareholders.

13:55:41 17 A. Okay.

13:55:47 18 Q. Could you read that paragraph with the  
13:55:50 19 second star.

13:55:52 20 A. "We have signed the Memorandum of  
13:55:55 21 Understanding for Co-Marketing with  
13:55:57 22 AT&T Communications. This is the  
13:55:59 23 direct result of a series of  
13:56:00 24 successful telerecording tests and  
13:56:04 25 demonstrations which culminated in

13:56:05 1 August with New York City to Chicago  
13:56:07 2 and back digital audio  
13:56:09 3 communications between two  
13:56:10 4 CompuSonics DSP-2002s with AT&T  
13:56:14 5 ACCUNET Switched 56 service  
13:56:17 6 providing the channel."  
13:56:20 7 Q. As you sit here today, do you have any  
13:56:20 8 reason to believe that the paragraph you just read is  
13:56:23 9 not accurate?  
13:56:26 10 A. It's completely accurate.  
13:56:30 11 Q. Did you ever personally demonstrate the DSP  
13:56:33 12 2002's capability to transmit sound files?  
13:56:37 13 A. Yes, I did demonstrate it publicly in front  
13:56:43 14 of, you know, reporters and radio and television  
13:56:47 15 crews in New York City, I think it was in the summer  
13:56:52 16 of 1985.  
13:56:54 17 Q. Now, how many demonstrations --  
13:56:57 18 A. I'm sorry, it says right here, August. It  
13:56:59 19 was August in New York City. I was there.  
13:57:03 20 Q. And how many demonstrations of the DSP 2002  
13:57:07 21 did you attend?  
13:57:10 22 A. Two, that I recall. One that summer in New  
13:57:14 23 York, the big one with the press, and then an  
13:57:16 24 earlier --  
13:57:18 25 I don't know if I would call it a

13:57:19 1 demonstration or more of a testing session between --

13:57:24 2 I can't recall if it was Holmdel, New Jersey Bell

13:57:28 3 Labs or Red Cliff, New Jersey Bell Labs. One of

13:57:33 4 those labs and New York City. I was in the lab, the

13:57:37 5 Bell Labs site.

13:57:39 6 MR. BERL: If I could have that marked

13:57:41 7 Exhibit 13, which bears the Bates No. 25867 to 25873.

13:58:14 8 (WHEREUPON, DEPOSITION EXHIBIT 13 WAS MARKED

13:58:18 9 FOR IDENTIFICATION.)

13:58:18 10 BY MR. BERL:

13:58:19 11 Q. Do you recognize this document?

13:58:24 12 A. Yes, I do.

13:58:25 13 Q. And how do you recognize it?

13:58:27 14 A. This was a paper presented by John Stautner

13:58:33 15 at an Audio Engineering Society conference. I

13:58:38 16 believe it was one of the AES conferences in Europe,

13:58:41 17 but I couldn't tell you exactly which one.

13:58:49 18 Q. If I could direct your attention to

13:58:51 19 Page 25872, Page 6 of the document.

13:58:56 20 A. Yes.

13:58:57 21 Q. Under number 5, "Test results."

13:58:59 22 A. Yes.

13:59:00 23 Q. If you could just read that to yourself for

13:59:01 24 a moment.

13:59:18 25 A. Yes.

13:59:20 1 Q. Now, the document appears to describe two  
 13:59:23 2 demonstrations. Are these the demonstrations that  
 13:59:25 3 you were referring to?

13:59:30 4 A. Well, the August one is the demonstration I  
 13:59:32 5 was at where I was the New York -- on the New York  
 13:59:36 6 side.

13:59:38 7 The New Jersey and New York, I was at one of  
 13:59:41 8 those. I'm not sure if it was April or May, I  
 13:59:47 9 couldn't tell you exactly which one.

13:59:49 10 Q. Let's go back to that test between New York  
 13:59:52 11 and New Jersey, the first demonstration. Do you  
 13:59:56 12 remember who was there?

13:59:58 13 A. I don't think I was at the first series of  
 14:00:01 14 tests. The engineers, Heinz Sohn and some of our  
 14:00:07 15 other engineers at the early stage of this project,  
 14:00:11 16 were doing the testing with Bell Labs.

14:00:13 17 I didn't come in till kind of late in the  
 14:00:15 18 process when they told me it was working, you know,  
 14:00:18 19 when -- I didn't want to schlepp down to New Jersey  
 14:00:23 20 for a session where everything wasn't working well,  
 14:00:27 21 so I wasn't at the very first test.

14:00:29 22 Q. And other than Heinz Sohn, do you remember  
 14:00:31 23 any other people who were there, by name?

14:00:36 24 A. I remember other engineers who were  
 14:00:37 25 involved. I don't know if they were there.

14:00:41 1 Q. Who would those engineers be?

14:00:44 2 A. Harry Norris and, I'm sorry, I just -- I can  
14:00:52 3 see the face, but I can't remember the name of the  
14:00:55 4 other engineer who worked with Harry and Heinz.

14:00:58 5 Q. Do you know, did both of those people work  
14:01:00 6 for CompuSonics?

14:01:01 7 A. Yes.

14:01:02 8 Q. Do you know whether anyone who did not work  
14:01:04 9 for CompuSonics was there in April of 1985 for that  
14:01:09 10 test?

14:01:11 11 A. Well, a number of AT&T Bell Labs engineers,  
14:01:14 12 a squad of them. I don't remember any of their  
14:01:17 13 names.

14:01:18 14 Q. Did you play any role in arranging the  
14:01:20 15 demonstration?

14:01:22 16 A. The one in August, the big one with the  
14:01:31 17 press?

14:01:31 18 Q. The one in April for now.

14:01:31 19 A. In April, I know I was involved on the  
14:01:34 20 business side with AT&T, you know, setting up the  
14:01:37 21 whole process, the whole deal.

14:01:41 22 Q. Do you remember with whom you coordinated  
14:01:44 23 that at AT&T?

14:01:45 24 A. I can see the face, I just can't remember  
14:01:47 25 the name.

14:01:53 1 Q. And who told you, if anyone, about what  
14:01:57 2 occurred in the April 1985 test?  
14:01:59 3 A. The ones I did not attend?  
14:02:01 4 Q. Yes.  
14:02:03 5 A. Either Harry or Heinz.  
14:02:09 6 Q. Now, moving to the later test in 1985, the  
14:02:15 7 August of 1985 test, who was present for that test?  
14:02:20 8 A. Okay, well, that wasn't a test. We were  
14:02:23 9 done with testing. That was strictly a dog and pony  
14:02:26 10 show for the press.  
14:02:28 11 The purpose of it from AT&T's point of view  
14:02:30 12 and from our point of view was to show a finished  
14:02:33 13 system. You know, something that would work reliably  
14:02:37 14 where we weren't afraid to have the press there in a  
14:02:39 15 live demonstration.  
14:02:43 16 Q. And who was present at that demonstration  
14:02:45 17 that you remember?  
14:02:48 18 A. Myself. I believe Harry Norris was there.  
14:02:56 19 A couple of other CompuSonics staff people, who I  
14:02:59 20 can't put names -- I just don't recall the names. A  
14:03:03 21 number of AT&T engineers and executives, and a lot of  
14:03:07 22 press people from -- mainly from the New York and New  
14:03:12 23 Jersey area.  
14:03:17 24 Q. To the best of your recollection, how was  
14:03:19 25 the demonstration or the dog and pony show set up?

127

14:03:25 1 A. We had a 2002 in New York, which had been,  
14:03:31 2 you know, pre-wired before I sat down there. It was  
14:03:34 3 all set up, connected to the phone system.  
14:03:38 4 And there was another 2002, which I couldn't  
14:03:41 5 see, of course, in Chicago, which presumably was, you  
14:03:45 6 know, also set up and ready to go.  
14:03:48 7 The setups were done hours before it was  
14:03:50 8 open to the press. So it actually had been tested,  
14:03:53 9 in other words, before we opened the doors.  
14:03:56 10 And in Chicago, I believe Heinz Sohn was on  
14:04:00 11 the Chicago end. He was sitting at the Chicago 2002  
14:04:05 12 and I was sitting at the one in New York City. And  
14:04:09 13 we did a series of demonstrations. I don't know that  
14:04:11 14 I remember all of them.  
14:04:14 15 One demonstration, we sent music that was in  
14:04:17 16 the database of the 2002, on the hard disk of the  
14:04:20 17 2002 in New York. I pushed the send button on the  
14:04:24 18 keyboard and sent it to Heinz's machine in Chicago.  
14:04:30 19 Then he turned around and sent it back to me  
14:04:34 20 in New York, and this was non-realtime, so you didn't  
14:04:38 21 hear it while it was happening. It was a fairly high  
14:04:41 22 fidelity recording.  
14:04:44 23 And then one of the other demonstrations we  
14:04:46 24 did is Heinz turned on a radio in Chicago, a local  
14:04:49 25 radio station that was live, and transmitted it to



14:04:54 1 the 2002 in New York City and we could listen to it  
 14:04:57 2 while I recorded it on the 2002.

14:05:02 3 Q. Now let's go back through what you just said  
 14:05:05 4 in a little more detail. If you could look perhaps  
 14:05:08 5 at Exhibit 11, which is a letter that you'd written  
 14:05:11 6 to shareholders.

14:05:21 7 A. Okay.

14:05:23 8 Q. On May 31st, 1985, bearing the No. 26261, if  
 14:05:33 9 you could look at the paragraph beginning with "The  
 14:05:36 10 CompuSonics telerecording system."

14:05:39 11 A. Yes.

14:05:42 12 Q. Does that document refresh your recollection  
 14:05:44 13 about what was transmitted during the test in April  
 14:05:49 14 of 1985?

14:05:53 15 A. Well, this was one of -- that's one of the  
 14:05:55 16 tests I witnessed at the labs in April or May,  
 14:06:01 17 sometime in the spring of '85, the recording from CD,  
 14:06:08 18 from a CD player, the Glen Miller Orchestra, onto a  
 14:06:12 19 2002.

14:06:13 20 Then it was -- the recording was stopped.  
 14:06:14 21 You know, the tune was recorded. Then we opened up  
 22 the --

14:06:17 23 Then we went and sent the Glen Miller  
 14:06:24 24 Orchestra tune to New York where it was recorded and  
 14:06:28 25 then played back in New York.

14:06:30 1 Q. Were you present for that test?

14:06:33 2 A. At the -- well, one of these, one of the  
 14:06:36 3 Holmdel or Red Cliff tests, I was there when it was  
 14:06:40 4 done.

14:06:40 5 Q. And if we could go through exactly how that  
 14:06:43 6 happened. How did the first 2002, the sending 2002,  
 14:06:50 7 if we could use that phrase, how did that find the  
 14:06:55 8 Glen Miller Orchestra tune?

14:06:58 9 MR. MUDGE: Let me object to the question.  
 14:06:59 10 Lacks foundation, assumes facts not in evidence.

14:07:07 11 THE WITNESS: Okay, well, I think I just  
 14:07:08 12 said how it found it.

14:07:09 13 The Glen Miller recording was on a CD. I  
 14:07:14 14 can't remember whose CD it was. I think one they had  
 14:07:16 15 laying around the lab at AT&T. And there's a CD  
 14:07:27 16 player. The CD player -- the output of the CD player  
 14:07:27 17 was connected to the inputs of the DSP 2002 like a  
 14:07:27 18 tape deck, and the CD was put into play mode, so it's  
 14:07:29 19 playing the Glen Miller tune.

14:07:30 20 On the DSP 2002 on the keyboard, click the  
 14:07:35 21 button that corresponds, I think the R button on the  
 14:07:37 22 keyboard which corresponded to record. And that  
 14:07:40 23 started the recording onto the hard drive.

14:07:43 24 When the recording was over -- and, now, I  
 14:07:47 25 wasn't at the keyboard. This was probably Harry

14:07:50 1 Norris. He typed the name, you know, Glen Miller,  
14:07:53 2 the name of the recording company that owned the CD,  
14:07:58 3 his name as engineer, the date of the recording. He  
14:08:00 4 typed a bunch of information into the database on the  
14:08:03 5 2002, and then it was there. It was in -- you know,  
14:08:06 6 it was a sound file properly tagged and identified on  
14:08:09 7 the hard drive.

14:08:11 8 Q. In what form was that sound file stored?

14:08:15 9 A. Compressed digital data in CSX4 or CSX8  
14:08:20 10 format.

14:08:21 11 Q. And what happened next?

14:08:28 12 A. As I recall, Harry picked --  
14:08:30 13 We had a telephone line, just a regular  
14:08:33 14 voice line set up. So he called the AT&T facility in  
14:08:37 15 Manhattan to verify that -- the name of the engineer  
14:08:44 16 I forget, another CompuSonics engineer had his  
14:08:46 17 machine on and ready and said, okay, we're going to  
14:08:50 18 send a song.

14:08:55 19 So Harry pushed the S key, or whatever the  
14:08:58 20 key was, to send the file, and the engineer in New  
14:09:03 21 York City pushed his record button, and it went  
14:09:06 22 through the AT&T Accunet phone lines, the Switched 56  
14:09:11 23 service, into the computer in New York City.

14:09:16 24 Q. And once it went into that computer, in what  
14:09:19 25 form was the data as it went into the receiving

14:09:24 1 computer?

14:09:24 2 A. Well, it's all digital data, but most of it  
14:09:27 3 is audio and then a tiny fraction of it was the stuff  
14:09:31 4 that Harry typed in in New Jersey, you know, about  
14:09:35 5 Glen Miller Orchestra, Philips Recording, Harry  
14:09:39 6 Norris's name. Whatever else he felt like typing in  
14:09:43 7 with it.

14:09:46 8 Q. And where did that go in the receiving  
14:09:48 9 DSP 2002?

14:09:51 10 A. Into the -- onto the hard drive. Through  
14:09:54 11 this whole system that we've talked about earlier,  
14:09:57 12 you know, through the memory, through the processor  
14:09:59 13 handing the data over to the disk drive controller,  
14:10:02 14 ends up on the disk drive in a directory structure.

14:10:08 15 Q. And at that point, who was in control of the  
14:10:13 16 receiving 2002, if you remember?

14:10:16 17 A. For the life of me, I can't remember the  
14:10:18 18 name of the engineer who was sitting there, but he  
14:10:21 19 controlled that process. He could have stopped it at  
14:10:23 20 any point, paused it.

14:10:27 21 Q. Do you know whether the tune was then  
14:10:29 22 played?

14:10:31 23 A. I'm sure it was.

14:10:33 24 I recall hearing, you know, holding up the  
14:10:36 25 telephone -- Harry held up the telephone and said,

14:10:39 1 hear, listen. And you could hear it playing from New  
14:10:41 2 York over the phone so you could verify that the  
14:10:43 3 music had gotten there.

14:10:45 4 Q. Now, this Accunet connection between the two  
14:10:48 5 computers, how was the connection actually made?

14:10:59 6 A. The sending computer requests -- you know,  
14:11:03 7 sends a request to the system. There's a wire, a  
14:11:09 8 request to send, I think, RTS. Don't hold me to the  
14:11:14 9 name of the signal. There's one wire that's a  
14:11:17 10 request to send. Lifts that wire or raises it to a  
14:11:20 11 1, you know, an on state, and that engages the  
14:11:24 12 customer premise's equipment, the Flextie interface  
14:11:27 13 for the Accunet system, and let's it know that there  
14:11:31 14 is going to be data. And that opens the --

14:11:36 15 Assuming the line isn't busy or tied up or  
14:11:38 16 broken somewhere, it engages the sending side of the  
14:11:44 17 system. And at the receiving side, someone has to  
14:11:47 18 engage the ready to receive, I think it's RTR line  
14:11:51 19 has to be raised to 1, so that the other end knows  
14:11:55 20 that there's going to be data coming.

14:11:57 21 Q. And how does someone engage the ready to  
14:11:59 22 receive line?

14:12:01 23 A. By either pushing a front panel button, if  
14:12:04 24 it were a 1000 machine, but we did all these tests on  
14:12:07 25 a 2000, so you do it on a computer keyboard,

14:12:10 1 basically. You know, click the receive.

14:12:13 2 Q. Other than the data that you've already  
14:12:15 3 talked about, the sound file and the header, was  
14:12:19 4 there any other exchange of data between the two  
14:12:22 5 DSP 2002s in this April 1985 test?

14:12:28 6 A. The data did include checksums, you know,  
14:12:32 7 for error detection. I know that.

14:12:35 8 Q. Are these similar to the checksums about  
14:12:36 9 which you spoke this morning?

14:12:38 10 A. Yes, same thing.

14:12:39 11 Q. And why was the checksum required for the  
14:12:52 12 transmission?

14:12:52 13 A. Well, because if a data block got corrupted  
14:12:52 14 somehow, we didn't want to play it because it would,  
14:12:52 15 you know, sound terrible.

14:12:57 16 Q. Now, moving forward a few months to the  
14:13:00 17 August 1985 demonstration, you had said before that  
14:13:06 18 you were sitting in New York City.

14:13:12 19 Who initiated the contact between the two  
14:13:15 20 computers?

14:13:18 21 A. Well, we traded off, because we were  
14:13:20 22 demonstrating --

14:13:23 23 It was almost a -- it wasn't really a canned  
14:13:26 24 demo, because the reporters were free to ask  
14:13:29 25 questions as we proceeded. So there was a lot of

134

14:13:32 1 this, well, can you do this, or how about doing that,  
14:13:35 2 which is why we did the mixture of prerecorded audio  
14:13:38 3 and live audio. And I don't know --

14:13:41 4 I can't remember who did the first thing,  
14:13:44 5 you know, whether I sent music from New York to  
14:13:48 6 Chicago, or if Heinz sent music from Chicago to New  
14:13:52 7 York. I honestly can't remember who went first, but  
14:13:54 8 we swapped back and forth. You know, we did  
14:13:57 9 transactions both ways.

14:13:58 10 I did not do a live recording, you know,  
14:14:01 11 live New York radio station recording to send to  
14:14:04 12 Heinz. That demonstration only came from Chicago.

14:14:11 13 Q. Do you remember whether the receiving  
14:14:13 14 computer ever requested a specific sound file to be  
14:14:19 15 sent from the sending computer?

14:14:25 16 A. It did, but that was automated. In other  
14:14:29 17 words, the receive key, you know, to start a  
14:14:30 18 reception for this demonstration, engaged what's  
14:14:34 19 called a script file in the UNIX computer. That file  
14:14:38 20 already had the name of the recording it was going to  
14:14:41 21 fetch already typed in.

14:14:44 22 I didn't sit there and type it into the  
14:14:47 23 file. It was already -- the transaction was  
14:14:50 24 precooked, if you know what I mean. It was set up so  
14:14:54 25 I couldn't make a mistake at the keyboard and look

14:14:56 1 like an idiot in front of the press.

14:14:59 2 Q. And in which computer was this script file  
14:15:01 3 engaged?

14:15:02 4 A. We both had them. Heinz had a script file,  
14:15:05 5 several of them, in his computer in Chicago, and I  
14:15:07 6 had some in mine in New York.

14:15:12 7 Q. So how did that work in terms of the  
14:15:14 8 receiving computer initiating the transmission of the  
14:15:21 9 sound file? In other words, if you could just take  
14:15:23 10 me through the process of the receiving computer  
14:15:30 11 requesting the sound file all the way through.

14:15:35 12 A. Well, I would have to -- I would have to  
14:15:39 13 find the script for you in one of these machines and  
14:15:41 14 read it to you, because I don't remember --

14:15:44 15 Frankly, I don't remember every line entry  
14:15:47 16 in those script files. I could only give you a  
14:15:50 17 general idea what was in those files. That was just  
14:15:54 18 too long ago for me to reconstruct that from memory.

14:15:57 19 Q. Okay, so in terms of a general idea, what  
14:15:59 20 would happen?

14:16:00 21 A. A general idea. The name of the --

14:16:02 22 The sound filename that was going to be  
14:16:04 23 fetched from Chicago was in that script. And when  
14:16:07 24 the -- when my request to receive was sent, it sent  
14:16:13 25 that name, which matched a name that was in the



14:16:15 1 computer in Chicago's directory.

14:16:17 2 If it didn't match, there would have been a  
14:16:19 3 failure. You know, we wouldn't have been able to get  
14:16:22 4 the music, because the file wouldn't have been found.  
14:16:26 5 The "file not found" kind of error.

14:16:30 6 Q. Was that request to receive sent over the  
14:16:33 7 same connection as the sound file?

14:16:36 8 A. Yes.

14:16:40 9 Q. Did you ever send a credit card number over  
14:16:44 10 that connection?

14:16:46 11 A. No.

14:16:52 12 Q. Would you have needed to change the DSP 2002  
14:16:55 13 that you were using in order to send a credit card  
14:16:59 14 number?

14:17:02 15 MR. MUDGE: Objection. Calls for  
14:17:02 16 speculation.

14:17:07 17 THE WITNESS: It's just alphanumeric data.  
14:17:09 18 As long as you could type it on a keyboard, whatever  
14:17:11 19 you could type, numbers, letters, whatever, could be  
14:17:15 20 sent back and forth between these machines. They're  
14:17:17 21 computers.

14:17:19 22 BY MR. BERL:

14:17:20 23 Q. Would the computer receiving that data have  
14:17:24 24 been able to store the data?

14:17:27 25 MR. MUDGE: Objection. Vague, calls for

14:17:29 1

speculation.

14:17:31 2

THE WITNESS: Yes, of course.

14:17:35 3

BY MR. BERL:

14:17:36 4

Q. Did the 2002 store such alphanumeric -- did

14:17:42 5

the 2002 store alphanumeric data that it received

14:17:46 6

over the Accunet --

14:17:48 7

A. Yes.

14:17:49 8

Q. -- wire? And what information was that?

14:17:54 9

A. Name of the audio file, the sound file's

14:18:01 10

number. They usually had a number associated with

14:18:04 11

them. Some other information.

14:18:07 12

I think John Stautner would be your best

14:18:11 13

reference for finding exactly what was in that

14:18:14 14

header. I don't remember all of the header fields.

14:18:20 15

Q. Now, while a 2002 was sending during the

14:18:24 16

demonstration, sending a sound file, was it able to

14:18:27 17

perform any other tasks?

14:18:31 18

A. If you wanted to, sure.

14:18:33 19

Q. What would have limited its capacity to

14:18:36 20

perform other tasks?

14:18:39 21

A. The nature of the other tasks. These were

14:18:42 22

very powerful workstations. Sending or receiving one

14:18:47 23

stereo file used less than half of the processing

14:18:59 24

capability of the machine. It could have been, for

14:18:59 25

example, recording another stereo file locally.

14:19:01 1 Most of these machines had four channel, you  
 14:19:03 2 know, quad capability, and these telerecording tests  
 14:19:06 3 were just stereo.

14:19:08 4 Q. So is it your testimony then that while a  
 14:19:12 5 DSP 2002 was transmitting a sound file over Accunet  
 14:19:18 6 in the demonstration in August 1985, it also could  
 14:19:22 7 have recorded a different audio signal?

14:19:27 8 MR. MUDGE: Objection. Leading.

14:19:29 9 THE WITNESS: If we wanted to or saw some  
 14:19:31 10 reason to do that, we could have done that.

14:19:42 11 BY MR. BERL:

14:19:42 12 Q. The 2002s that were used in the August 1985  
 14:19:45 13 demonstration, do you remember whether those machines  
 14:19:49 14 differed in any way from the 2002s that we discussed  
 14:19:54 15 earlier, which you sold to Bob Lifton, among others?

14:19:58 16 A. No, they were totally stock machines.

14:20:08 17 Q. What was the response to the extent that you  
 14:20:11 18 remember from the press that attended the 2002  
 14:20:16 19 demonstration in August of 1985?

14:20:23 20 A. Some of the reporters were enthusiastic and  
 14:20:25 21 in fact wrote articles about it that said this  
 14:20:28 22 indicates the future of how audio will be  
 14:20:32 23 distributed.

14:20:35 24 Other reporters were very cynical and raised  
 14:20:39 25 the issue of whether or not the record companies

14:20:42 1 would ever permit, you know, digital versions of  
14:20:47 2 their property to be flung around on networks.

14:20:53 3 Q. Why did you choose AT&T as your partner to  
14:20:56 4 perform this demonstration?

14:21:04 5 A. Well, because they would. AT&T --

14:21:08 6 As I recall how it started, AT&T engineers  
14:21:15 7 heard one of our presentations at one of the  
14:21:17 8 engineering conferences in 1984 and approached us and  
14:21:21 9 said, you know, your whole idea of sending and  
14:21:26 10 receiving and selling and buying digital audio and  
14:21:29 11 video data over networks is not very farfetched. We  
14:21:33 12 have a network that we call Accunet. Why don't we  
14:21:35 13 show you how that works.

14:21:37 14 So they came to us, because I don't know  
14:21:40 15 that there was anyone else at that time with a  
14:21:42 16 computer that had audio or video ready to plug in.

14:21:50 17 Q. Now if I could turn your attention back one  
14:21:52 18 more time to Exhibit No. 12 with the numbers 26382 to  
14:21:57 19 26383. The second starred paragraph, can you read  
14:22:06 20 the first sentence of that.

14:22:08 21 A. I believe I did earlier.

14:22:09 22 "We have signed the Memorandum of  
14:22:11 23 Understanding for Co-Marketing with  
14:22:12 24 AT&T Communications."

14:22:15 25 Q. What was that memorandum of understanding?

14:22:20 1 A. That's the -- the deal with AT&T, verbally  
 14:22:27 2 to start with, was that if this whole thing worked,  
 14:22:30 3 if we get through the process technically of making  
 14:22:33 4 the whole thing work, and if after demonstrating it  
 14:22:37 5 publicly there seemed to be some business interest in  
 14:22:40 6 commercializing it, we would sign a memorandum of  
 14:22:44 7 understanding to talk about it in our marketing  
 14:22:47 8 materials. Advertising in magazines, you know,  
 14:22:50 9 handouts at trade shows. You know, marketing.

14:22:55 10 We would both -- they would talk about  
 14:22:59 11 CompuSonics' equipment in their marketing materials  
 14:23:01 12 and we would talk about AT&T Accunet in our marketing  
 14:23:04 13 materials, and we would independently and together  
 14:23:07 14 approach businesses that could use this combination  
 14:23:10 15 of hardware and network and software to do some  
 14:23:14 16 business.

14:23:15 17 The idea being we would go to broadcast  
 14:23:17 18 companies and recording studios and try and -- we  
 14:23:23 19 would sell some equipment and they would sell, you  
 14:23:27 20 know, leased metered access. They make money as  
 14:23:31 21 things are transmitted, as data is transmitted.

14:23:35 22 Q. Did you then talk to any music companies in  
 14:23:37 23 furtherance of that memorandum of understanding?

14:23:40 24 A. Yes, I did.

14:23:43 25 MR. BERL: If we could mark this as

14:23:45 1 Exhibit 14.

14:24:05 2 (WHEREUPON, DEPOSITION EXHIBIT 14 WAS MARKED

14:24:25 3 FOR IDENTIFICATION.)

14:24:25 4 BY MR. BERL:

14:24:28 5 Q. Are you familiar with this document?

14:24:34 6 A. More or less, yeah.

14:24:36 7 Q. Do you remember talking to someone from Pro

14:24:40 8 Sound News?

14:24:42 9 A. I talked to a lot of people from Pro Sound

14:24:44 10 News over those years.

14:24:47 11 Q. Do you remember discussing the possible

14:24:49 12 telerecording capacity of the DSP with someone from

14:24:54 13 Pro Sound News?

14:24:55 14 A. I'm sure I did. We were promoting that to

14:24:57 15 anyone who would listen.

14:25:00 16 Q. Now, if I could direct your attention to the

14:25:03 17 paragraph on the left-hand column beginning "New

14:25:08 18 high-speed telephone data lines."

14:25:11 19 A. Yes.

14:25:11 20 Q. If you could read that paragraph.

14:25:13 21 A. "New high-speed telephone data

14:25:14 22 lines, developed by AT&T and

14:25:16 23 expected to begin being installed

14:25:18 24 nationwide this summer, will enable

14:25:20 25 the approximately real-time delivery

14:25:21 1 of software to home users. These  
14:25:24 2 users would record the software with  
14:25:26 3 home units onto blank high-density  
14:25:29 4 floppies, for an access fee to the  
14:25:31 5 data base, said Schwartz. At press  
14:25:33 6 time, he said record companies had  
14:25:35 7 not yet been queried about the new  
14:25:46 8 system, but that talks would begin  
14:25:46 9 shortly."

14:25:46 10 Q. As you sit here today, is that an accurate  
14:25:46 11 statement?

14:25:46 12 A. Yes.

14:25:47 13 Q. Now, it says that record companies had not  
14:25:50 14 yet been queried. Did you ultimately query them  
14:25:54 15 about taking part in this system?

14:25:56 16 A. Oh, yes.

14:25:57 17 Q. And what specifically did you ask them?

14:25:59 18 A. Well, I didn't query them, I lobbied them.  
14:26:04 19 I spent -- not just in the United States, also in  
14:26:06 20 Europe and Japan. And the only way to describe the  
14:26:16 21 response was depressing. They were not receptive to  
14:26:25 22 the concept in any way, shape or form.

14:26:27 23 Q. Do you remember specific people with whom  
14:26:28 24 you spoke in the record business?

14:26:37 25 A. I can't remember specific names.

14:26:39 1 Q. Do you remember specific companies?

14:26:41 2 A. Oh, I remember a few that stand out because  
14:26:43 3 they were so vile, is the only way to characterize  
14:26:51 4 them. There was a guy at BMI in England. There was  
14:27:00 5 another guy at MCA in Hollywood. I mean, these were  
14:27:04 6 all guys. I didn't meet with any female record  
14:27:09 7 company executives.

14:27:12 8 There were a couple who were polite,  
14:27:16 9 generally not.

14:27:18 10 Q. And did any of these people tell you why  
14:27:19 11 they refused to agree?

14:27:25 12 MR. MUDGE: Objection. Vague, lacks  
14:27:27 13 foundation.

14:27:32 14 THE WITNESS: Well, the fellow at BMI kind  
14:27:39 15 of gave me a, well, over-my-dead-body kind of lecture  
14:27:45 16 on why unlock digital data --

14:27:50 17 They didn't want digital data distributed  
14:27:53 18 over telephone lines, why they didn't want it where  
14:27:58 19 people could have it in a digital format that they  
14:28:01 20 could copy.

14:28:02 21 And we had a recording machine, you know,  
14:28:05 22 that -- we were peddling a recorder, a digital  
14:28:09 23 recorder. A digital recorder was not what they  
14:28:12 24 wanted to hear about

14:28:14 25 BY MR. BERL:



14:28:14 1 Q. You discussed earlier how you were unable to  
 14:28:16 2 make telerecording a commercial success. Could you  
 14:28:21 3 go through -- could you go through the reasons why  
 14:28:25 4 you were unable to make it work commercially?

14:28:29 5 A. Well, I think I just did. In order to make  
 14:28:32 6 it commercially viable, it's nice to have the  
 14:28:35 7 recording hardware and a network for distributing the  
 14:28:39 8 data, but fundamentally you need access to the  
 14:28:42 9 content. That means you need the record companies on  
 14:28:44 10 board.

14:28:47 11 And the only record company -- I have to go  
 14:28:50 12 on record saying there was one company, Rounder  
 14:28:54 13 Records in New England, that was amenable to trying  
 14:28:58 14 this out, and I believe we used some of their artists  
 14:29:01 15 in some of our demonstrations.

14:29:05 16 And they're on record in some article,  
 14:29:07 17 somewhere you've got it, you'll find some quote by  
 14:29:09 18 the president of Rounder Records saying that this is  
 14:29:13 19 feasible, someplace.

14:29:15 20 Q. Do you remember approximately at what time  
 14:29:18 21 your discussions with BMI and MCA and Rounder Records  
 14:29:23 22 were?

14:29:26 23 A. Summer of 1985 or fall 1985.

14:29:32 24 Q. Aside from the inability to access content  
 14:29:35 25 that you just talked about, was there any other

14:29:37 1 reason that telerecording was not a commercial  
14:29:40 2 success?

14:29:47 3 A. There is some question as to how much of the  
14:29:49 4 United States was wired, you know, that could  
14:29:52 5 actually receive Accunet quality, you know, digital  
14:29:57 6 connection from the phone company. I mean, that was  
14:30:00 7 an issue. We never got --

14:30:02 8 We asked and never received a definitive  
14:30:06 9 answer from AT&T as to how many points of entry or  
14:30:09 10 how many places could receive Accunet.

14:30:12 11 (At this time, Monica Mucchetti entered the  
14:30:13 12 deposition room.)

14:30:14 13 BY MR. BERL:

14:30:14 14 Q. And aside from the lack of access to the  
14:30:16 15 content and the possible lack of wiring, were there  
14:30:21 16 any other reasons that you can think of why you said  
14:30:26 17 that telerecording was not a commercial success?

14:30:35 18 A. There wasn't any inexpensive consumer  
14:30:38 19 equipment. Our consumer equipment was quite costly.  
14:30:42 20 As you saw, about a \$7,000 recorder. That's very  
14:30:46 21 high-end. There's not that much of a market for  
14:30:48 22 \$7,000 digital recorders.

14:30:51 23 Q. From your perspective, was, aside from the  
14:30:55 24 price, was the CompuSonics system responsible for the  
14:31:03 25 inability to make telerecording a commercial success?

14:31:09 1 MR. MUDGE: Objection. The question's  
 14:31:10 2 vague.

14:31:15 3 THE WITNESS: I don't know exactly how to  
 14:31:16 4 answer that, really. There were a lot of pieces of  
 14:31:19 5 the puzzle missing.

14:31:21 6 MR. BERL: Let me try it again.

14:31:22 7 Q. Was the technology that we've discussed in  
 14:31:24 8 both the CompuSonics 2002 and the CompuSonics 1000,  
 14:31:29 9 was the technology in your mind up to par to make  
 14:31:34 10 telerecording a commercial success?

14:31:37 11 MR. MUDGE: Objection. Question's vague,  
 14:31:38 12 lacks foundation.

14:31:41 13 THE WITNESS: I believe we diligently  
 14:31:43 14 developed and tested and demonstrated a feasible --  
 14:31:47 15 completely feasible system with a major industrial  
 14:31:57 16 partner, AT&T, that made telerecording technically  
 14:31:57 17 completely feasible in 1985.

14:31:59 18 MR. BERL: All right. This is a good time  
 14:32:01 19 for a break. Why don't we take a few minutes.

14:32:03 20 THE VIDEOGRAPHER: This marks the end of  
 14:32:04 21 Videotape No. 2 in the deposition of David Schwartz.  
 14:32:08 22 The time is 2:32 p.m. We're going off the record.

14:41:13 23 (Recess: 2:32 p.m. to 2:42 p.m.)

14:41:13 24 (At this time, Michael Barclay was absent  
 14:41:19 25 from the deposition room.)

14:41:56 1 THE VIDEOGRAPHER: This marks the beginning  
14:41:57 2 of Videotape No. 3 in the deposition of David  
14:42:00 3 Schwartz. The time is 2:42 p.m. We're back on the  
14:42:04 4 record:  
14:42:07 5 BY MR. BERL:  
14:42:07 6 Q. A few more questions, Mr. Schwartz. Was the  
14:42:12 7 DSP 1000, in your mind, a computer?  
14:42:15 8 A. Yes.  
14:42:17 9 Q. And what about the DSP 2000?  
14:42:20 10 A. Also a computer.  
14:42:22 11 Q. Did the DSP 1000 have an integrated circuit?  
14:42:26 12 A. Many of them, yes.  
14:42:28 13 Q. And did the DSP 2002 have an integrated  
14:42:31 14 circuit?  
14:42:32 15 A. Many.  
14:42:33 16 Q. And did the 2002 have a hard drive?  
14:42:37 17 A. Yes.  
14:42:38 18 Q. And did the DSP 1000 have a hard drive?  
14:42:43 19 A. Only the model 1800.  
14:42:46 20 Q. And did the DSP 1000 have a central  
14:42:51 21 processing unit?  
14:42:51 22 A. Yes.  
14:42:53 23 Q. And did the DSP 2002 have a central  
14:42:57 24 processing unit?  
14:42:58 25 A. Yes.

14:43:00 1 Q. Did the 1000 have a device for users to  
14:43:03 2 control it?  
14:43:04 3 A. Yes.  
14:43:05 4 Q. And did the DSP 2002 have a device for users  
14:43:08 5 to control it?  
14:43:09 6 A. Yes.  
14:43:11 7 Q. And did the DSP 1000 have a monitor?  
14:43:19 8 A. It had a built-in monitor, which was the LCD  
14:43:22 9 screen, and the ability to add an external monitor  
14:43:26 10 via an IBM PC connected to the serial port.  
14:43:29 11 Q. And did the DSP 2002 have a monitor?  
14:43:32 12 A. Yes, it was required for operation.  
14:43:36 13 Q. And did the DSP 1000 have the capability to  
14:43:39 14 hook up to speakers?  
14:43:42 15 A. Yes.  
14:43:43 16 Q. And did the DSP 2002 have the capability to  
14:43:46 17 hook up to speakers?  
14:43:47 18 A. Yes.  
14:43:49 19 Q. Why did the DSP 1000 not have a hard drive?  
14:43:53 20 A. Well, one of the DSP 1000 series models did,  
14:43:58 21 the 1800 specifically.  
14:44:00 22 Q. And was it your decision not to put a hard  
14:44:02 23 drive into the original, the DSP 1000?  
14:44:07 24 A. I'd say it was more of a marketing decision  
14:44:10 25 by our VP of marketing, who felt that a removable

14:44:15 1 digital media was more desirable.

14:44:18 2 Q. From an engineering perspective, would it  
14:44:20 3 have been difficult to put a hard drive into the  
14:44:22 4 DSP 1000?

14:44:25 5 A. As I just mentioned, we did.

14:44:28 6 Q. And how long did that take?

14:44:31 7 A. Three minutes.

14:44:35 8 Q. Did you attempt to patent any part of the  
14:44:39 9 DSP 1000 or 2000 technology?

14:44:42 10 A. Yes, we did.

14:44:43 11 Q. And what parts did you attempt to patent?

14:44:46 12 A. Well, you said "attempt." We attempted to  
14:44:49 13 patent everything we did.

14:44:51 14 Our patent attorneys, their attitude was  
14:44:54 15 show us everything you're doing and then we'll charge  
14:44:58 16 you as much money as we possibly can to patent  
14:45:01 17 everything we think we can get a patent on.

14:45:03 18 Q. Okay. And what portions of the technology  
14:45:05 19 did you get a patent on, if any?

14:45:11 20 A. We got several patents. One on the --

14:45:14 21 Well, on the whole device, I think an  
14:45:18 22 apparatus type of patent, on the recording and  
14:45:21 23 playback of digital audio that's been processed and  
14:45:24 24 compressed according to this method, and then a  
14:45:28 25 continuation-in-part that covered some other aspects

14:45:32 1 of the system.

14:45:34 2 Q. Did you consider applying for a patent for

14:45:37 3 digital audio file transmission?

14:45:39 4 A. Yes.

14:45:39 5 Q. And why did you not apply for a patent on

14:45:42 6 that?

14:45:43 7 A. Our patent attorney, Jerry Berkstresser,

14:45:52 8 laughed at that one. He said, you can't patent stuff

14:45:56 9 that other people have already done.

14:46:00 10 MR. BERL: Okay. That's all I have for now.

14:46:02 11 I'll turn you over to SightSound to ask you some

14:46:05 12 questions.

14:46:14 13 MR. MUDGE: Let's go off the record for a

14:46:15 14 second.

14:46:16 15 THE VIDEOGRAPHER: Going off the record.

14:46:17 16 The time is 2:46 p.m.

15:02:18 17 (Recess: 2:46 p.m. to 3:02 p.m.)

15:02:19 18 THE VIDEOGRAPHER: Back on the record. The

15:02:20 19 time is 3:02 p.m.

20 EXAMINATION BY MR. MUDGE

15:02:25 21 Q. Good afternoon, Mr. Schwartz, we met off the

15:02:28 22 record earlier today, but just for the record my name

15:02:30 23 is Brian Mudge representing SightSound. I have a few

15:02:34 24 questions for you this afternoon. We'll hopefully

15:02:37 25 try not to keep you too long. I appreciate your

15:02:39 1 patience throughout this day.

15:02:41 2 In connection with your appearance here as a

15:02:45 3 witness today, have you had any communications with

15:02:50 4 CDNOW or its attorneys?

15:02:52 5 A. "Its attorneys" being Wilson, Sonsini,

15:02:54 6 Goodrich & Rosati?

15:02:55 7 Q. That's correct.

15:02:55 8 A. Yes.

15:02:58 9 Q. Any recollection as to how many such

15:03:00 10 communications you may have had with Wilson, Sonsini

15:03:05 11 attorneys?

15:03:06 12 A. Including telephonic communications?

15:03:08 13 Q. Including any kind of communications,

15:03:10 14 whether they be telephone, e-mail. Any kind of

15:03:18 15 communications. Letters.

15:03:18 16 A. Total over the last couple of months might

15:03:18 17 be ten, counting e-mail.

15:03:23 18 Q. Do you remember the first communication you

15:03:24 19 had with a Wilson, Sonsini attorney in connection

15:03:27 20 with this case?

15:03:28 21 A. Or maybe near the first, yes, I think so.

15:03:31 22 Evan Gourvitz I believe called me. Or called my

15:03:38 23 office.

15:03:40 24 Q. Do you remember approximately when that was?

15:03:41 25 A. I would have to consult my office calendar.



15:03:43 1 Several months ago.

15:03:46 2 Q. Did you speak with him at that time?

15:03:47 3 A. No, I just got a message from my secretary.

15:03:50 4 I called him back.

15:03:52 5 Q. Do you remember approximately when you

15:03:53 6 called him back? Was it in proximity to that

15:03:56 7 message?

15:03:57 8 A. Yes, it was.

15:03:58 9 Q. And did you speak with Mr. Gourvitz at that

15:04:02 10 time?

15:04:03 11 A. Yes.

15:04:04 12 Q. Approximately how long did you speak with

15:04:05 13 Mr. Gourvitz?

15:04:06 14 A. Three minutes, maybe.

15:04:09 15 Q. And can you tell me generally what was the

15:04:11 16 subject matter of that discussion?

15:04:15 17 MR. BERL: I'm actually going to object to

15:04:16 18 that because it covers work product information that

15:04:19 19 is not related to this testimony today.

15:04:22 20 I'm happy to have him answer as long as

15:04:25 21 you'll stipulate that it doesn't constitute a waiver

15:04:27 22 of work product either for this witness or any other

15:04:31 23 witness in the case.

15:04:32 24 MR. MUDGE: Well, I'm not sure how this

15:04:38 25 witness, who's appearing today, how his discussions

15:04:42 1 with anybody would constitute work product at this  
15:04:45 2 point in time.

15:04:49 3 MR. BERL: To the extent that the  
15:04:50 4 discussions include things that were said by  
15:04:53 5 attorneys here who represent CDNOW, that clearly can  
15:04:57 6 be work product information that doesn't relate to  
15:05:00 7 this deposition.

15:05:01 8 MR. MUDGE: Well, it may be work product  
15:05:03 9 information as between Wilson, Sonsini attorneys. If  
15:05:06 10 it's been disclosed to a third-party witness, I'm not  
15:05:09 11 sure how that remains --

15:05:11 12 MR. BERL: At that point he was not a  
15:05:12 13 third-party witness in the case.

15:05:13 14 Once again, I'm happy to have him answer  
15:05:15 15 your questions to the extent that you'll agree that  
15:05:17 16 his answers don't constitute a waiver for work  
15:05:21 17 product privilege, either regarding this witness or  
15:05:23 18 any other witness in the case.

15:05:25 19 MR. MUDGE: I'll stipulate for purposes of  
15:05:27 20 getting the answers from this witness, sure.

15:05:30 21 MR. BERL: Generally speaking as to his  
15:05:31 22 examination?

15:05:32 23 MR. MUDGE: As to his examination today,  
15:05:35 24 yes.

15:05:38 25 Would you like the reporter to read the

15:05:40 1 question back? I'm sure you've forgotten it by now.

15:05:44 2 THE WITNESS: I've forgotten the question

15:05:45 3 and I don't understand the work product business, but

15:05:47 4 go ahead.

5 (Record read as follows:

15:04:09 6 QUESTION: And can you tell me

15:04:10 7 generally what was the subject

15:04:12 8 matter of that discussion?)

15:06:00 9 THE WITNESS: Yes. He wanted to know if I

15:06:02 10 was the David Schwartz that used to be the founder or

15:06:06 11 was the founder of CompuSound and CompuSonics, and

15:06:11 12 the inventor of a particular couple of patents.

15:06:17 13 MR. MUDGE: I didn't mean to cut you off.

15:06:20 14 THE WITNESS: I confirmed that and he asked

15:06:21 15 me if I would mind possibly becoming either a witness

15:06:26 16 or -- either testifying or becoming an expert

15:06:30 17 witness, or exploring the possibility of me being

15:06:35 18 useful to a legal case that WSGR is involved with.

15:06:41 19 BY MR. MUDGE:

15:06:42 20 Q. Did Mr. Gourvitz identify the case at that

15:06:45 21 time to you?

15:06:45 22 A. No, not in that first phone call, no.

15:06:49 23 Q. Did you have subsequent communications with

15:06:51 24 any Wilson, Sonsini attorneys after that call that

15:06:54 25 you just described with Mr. Gourvitz?

15:06:58 1 A. Yes, that led to a meeting here at this  
 15:07:02 2 building.  
 15:07:04 3 Q. Approximately when did that meeting take  
 15:07:06 4 place?  
 15:07:11 5 A. Beginning of December sometime, I think.  
 15:07:16 6 Q. Did you come by yourself, or did you have  
 15:07:18 7 anybody come with you?  
 15:07:19 8 A. I came alone, myself.  
 15:07:23 9 Q. And who was at the meeting with you?  
 15:07:27 10 A. I met with several attorneys who work here,  
 15:07:31 11 Gourvitz. No, I can't remember everybody's names,  
 15:07:35 12 but the fellow who was here earlier in the red tie  
 15:07:38 13 with the white shirt and the black-rim glasses.  
 15:07:42 14 Q. Mr. Barclay?  
 15:07:44 15 A. Thank you. I think this lady right here --  
 15:07:47 16 Q. Ms. Mucchetti?  
 15:07:49 17 A. -- was in the meeting. Evan Gourvitz was in  
 15:07:52 18 the meeting. And I'm not -- I don't remember David  
 15:07:56 19 Berl being there.  
 15:08:01 20 I don't think you were there at the first  
 15:08:04 21 meeting.  
 15:08:04 22 Q. Approximately how long did that meeting  
 15:08:06 23 last?  
 15:08:09 24 A. Less than an hour.  
 15:08:12 25 Q. Did you meet in a conference room?

15:08:14 1 A. Yes, a smaller conference room than this.

15:08:17 2 Q. Did you bring any materials with you to the  
15:08:19 3 meeting?

15:08:23 4 A. No, I did not.

15:08:27 5 Q. Do you recall generally the nature of the  
15:08:28 6 discussion that took place at this meeting?

15:08:32 7 A. Yes. Well, it wasn't much of a discussion.  
15:08:35 8 It was more of an interrogation.

15:08:37 9 The lawyers for this firm wanted to know  
15:08:41 10 what I remembered and what I knew about what  
15:08:44 11 CompuSonics used to do. You know, to what extent I  
15:08:50 12 was still familiar with this stuff.

15:08:55 13 Q. And did the lawyers for Wilson, Sonsini that  
15:08:58 14 you met with ask you specific questions about  
15:09:03 15 downloading audio or video information over  
15:09:07 16 telecommunication lines?

15:09:10 17 MR. BERL: I'd like to restate my objection  
15:09:11 18 here and repeat that we consider the substance of  
15:09:22 19 these communications, to the extent that they fall  
15:09:22 20 outside of the subject matter of the deposition  
15:09:22 21 today, to be covered by work product and, once again,  
15:09:23 22 if you'll allow some kind of stipulation so that this  
15:09:27 23 is not waived, I'll be happy to have him answer.

15:09:44 24 MR. MUDGE: I will stipulate, again, for  
15:09:45 25 purposes of allowing the testimony to come forward

15:09:50 1 today. So to the extent the witness answers today, I  
15:09:53 2 will stipulate that that would not waive whatever  
15:09:56 3 work product --

15:09:59 4 MR. BERL: The testimony he gives throughout  
15:10:00 5 the course of this deposition.

15:10:08 6 MR. MUDGE: That's correct.

15:10:09 7 Would you repeat the question, please.

8 (Record read as follows:

15:08:55 9 QUESTION: And did the lawyers for  
15:08:58 10 Wilson, Sonsini that you met with  
15:09:00 11 ask you specific questions about  
15:09:03 12 downloading audio or video  
15:09:05 13 information over telecommunication  
15:09:08 14 lines?)

15:10:34 15 THE WITNESS: I'm pretty sure they did not  
15:10:36 16 in that meeting, in the first meeting.

15:10:41 17 BY MR. MUDGE:

15:10:41 18 Q. Were there additional meetings that you had  
15:10:43 19 with the lawyers with Wilson, Sonsini?

15:10:47 20 A. Yes.

15:10:48 21 Q. How many such additional meetings took  
15:10:50 22 place?

15:10:56 23 A. I believe only one face-to-face meeting  
15:11:02 24 after that, and that was this week, on Monday. There  
15:11:08 25 could have been one in between, but I don't think so.

15:11:16 1 Q. Going back to the first meeting you referred  
15:11:18 2 to in December, I understand that you were asked  
15:11:25 3 general questions about the nature of the work done  
15:11:28 4 at CompuSonics. At the end of the meeting, did they  
15:11:31 5 ask you to do anything?

15:11:32 6 A. Yes.

15:11:33 7 Q. What did they ask you to do?

15:11:35 8 A. They asked me to -- they asked me to rummage  
15:11:39 9 through my closets and garage to find whatever  
15:11:43 10 documents and stuff from CompuSonics I might still  
15:11:49 11 have in the archives, such as they are.

15:11:55 12 Q. Did they ask you to do anything else other  
15:11:57 13 than look for materials, as you've described?

15:11:59 14 A. Well, that was the first thing they asked me  
15:12:01 15 to do. Then after I found many boxes of stuff, they  
15:12:11 16 asked me to send -- if they could have somebody pick  
15:12:15 17 up some of it, you know, one of the scrapbooks, which  
15:12:21 18 had some specific articles --

15:12:27 19 Well, in one of the telephone conversations  
15:12:29 20 in between, it had come up that they wanted to know  
15:12:31 21 about the telerecording thing and did I have any  
15:12:34 22 documentation of it, you know, of my own in those  
15:12:38 23 boxes or anything about it.

15:12:39 24 And I did find a scrapbook that had some --  
15:12:43 25 I'm not sure it's these articles, but articles that

15:12:45 1 were written about it. And I let their messenger  
 15:12:52 2 pick up one of the scrapbooks, where I'd put little  
 15:12:57 3 yellow sticky flags on the articles that pertained.  
 15:13:01 4 So they had that book, they had that scrapbook.  
 15:13:06 5 Q. Do you remember approximately when they  
 15:13:07 6 picked up the scrapbook from you?  
 15:13:10 7 A. First or second week in December, I think.  
 15:13:13 8 Something like that.  
 15:13:16 9 Q. You mentioned a few minutes ago that you  
 15:13:18 10 also located a couple of boxes, I believe, of  
 15:13:22 11 materials.  
 15:13:22 12 A. Oh, ten boxes of materials. After they  
 15:13:26 13 looked at the --  
 15:13:29 14 Well, ask the question.  
 15:13:33 15 Q. Well, at some point after they had the  
 15:13:34 16 scrapbook, did they ask you to turn over the other  
 15:13:36 17 boxes of materials?  
 15:13:38 18 A. They asked if I would mind going through  
 15:13:39 19 them and finding more stuff, and I said yes, I would  
 15:13:43 20 mind, because I don't have the time to go digging  
 15:13:45 21 through ten dusty boxes of who knows what; disks,  
 15:13:50 22 pictures, you know. I just didn't have the time to  
 15:13:54 23 do it.  
 15:13:55 24 So they said, well, how about we assure you  
 15:13:57 25 we won't lose anything, but we'll just have somebody



15:14:01 1 pick up all of the boxes and bring them to our office  
15:14:03 2 and we'll rummage through them and assure you we  
15:14:06 3 won't lose anything. And I said sure.

15:14:11 4 Q. Approximately when -- strike that.

15:14:13 5 So did they send somebody out to pick up the  
15:14:15 6 other boxes?

15:14:16 7 A. Yes.

15:14:16 8 Q. Approximately when did that take place?

15:14:22 9 A. I'm not sure if that was before the  
15:14:24 10 Christmas break or after. I can't remember exactly  
15:14:27 11 when that was. They had the boxes for several weeks  
15:14:31 12 somewhere, you know, for a two or three week period,  
15:14:36 13 I think.

15:14:38 14 Q. After they picked up the boxes from you, did  
15:14:43 15 they ask you to do anything further in connection  
15:14:46 16 with locating materials?

15:14:50 17 A. They -- and this was fairly recently, maybe  
15:14:53 18 two weeks ago -- they actually sent me a box which  
15:14:58 19 had two binders in it and a videotape. And the  
15:15:00 20 binders had photocopies -- I'm not sure, some of it  
15:15:04 21 was this material -- photocopies of stuff they had  
15:15:07 22 found in the ten boxes, along with a copy of the -- a  
15:15:10 23 videotape from among the videotapes that were in some  
15:15:15 24 of those boxes, and asked me to flip through them and  
15:15:20 25 familiarize -- and refresh my own memory and watch

15:15:23 1 the tape, which I did.

15:15:29 2 Q. Did they return the other materials too, the  
15:15:31 3 other nine boxes or so worth of materials?

15:15:34 4 A. Ten boxes, yes. They're back in my garage,  
15:15:36 5 yes.

15:15:37 6 Q. Did you at any time go back and look at  
15:15:40 7 those materials in your garage to see what else was  
15:15:42 8 there?

15:15:42 9 A. No, no.

15:15:55 10 Q. Now, after the meeting in early December,  
15:15:55 11 were there --

15:15:55 12 You've referred to a couple of  
15:15:55 13 communications in connection with transmitting  
15:15:55 14 materials. Did you have any other telephone  
15:15:57 15 communications, other than -- let me strike the whole  
15:16:02 16 question.

15:16:04 17 After the meeting in December when you came  
15:16:06 18 here and met with the Wilson, Sonsini attorneys, did  
15:16:09 19 you have communications with them, other than the  
15:16:13 20 communications you've just described with respect to  
15:16:15 21 picking up materials from your house and taking them  
15:16:18 22 to the Wilson offices?

15:16:21 23 A. Yes. There was at least one telephone call  
15:16:23 24 where they asked me if I knew where they could find  
15:16:26 25 some of the parties that were mentioned in these

15:16:28 1 documents.

15:16:30 2 Q. Which parties did they ask you about?

15:16:35 3 A. John Stautner, for example, Heinz Sohn, Gary

15:16:41 4 Schwede. The names, you know, that appeared on some

15:16:45 5 of these documents.

15:16:46 6 Q. And what did you tell them about your

15:16:48 7 knowledge of the whereabouts of these individuals?

15:16:52 8 A. Well, I knew where Gary was. I told them

15:16:54 9 where Gary was and where John Stautner was. I had no

15:16:57 10 idea where Heinz was.

15:17:01 11 Q. And do you know where John Stautner is

15:17:02 12 today?

15:17:03 13 A. Yes.

15:17:03 14 Q. Could you tell me?

15:17:04 15 A. Well, I don't know where he is physically at

15:17:06 16 the moment, but I know where he works.

15:17:09 17 Q. Yes. Where is that, please?

15:17:11 18 A. Compaq Computer in Houston, Texas.

15:17:15 19 Q. And Mr. Sohn, you said you know where he is

15:17:17 20 as well?

15:17:18 21 A. No, I don't.

15:17:24 22 Q. Gary Schwede, do you know where he is?

15:17:26 23 A. Yes. Well, I don't know the exact address,

15:17:30 24 but he lives in Palo Alto, California.

15:17:43 25 Q. Now, before your meeting with the Wilson

15:17:50 1 attorneys this past Monday, did you have any other

15:17:52 2 meetings that you can recall between the first

15:17:54 3 meeting in December and this past Monday?

15:17:58 4 A. Just the telephone conversations. Several

15:18:02 5 fairly brief telephone conversations.

15:18:05 6 Q. Did they send you any e-mail communications?

15:18:11 7 A. Only one or two pertaining to when the boxes

15:18:18 8 could be picked up or, you know, somebody had to go

15:18:22 9 to the house and meet them, you know.

15:18:25 10 That was kind of a pain in the neck to

15:18:27 11 schedule. There was some e-mail about that.

15:18:32 12 Q. Did they ask you to give your evaluation of

15:18:38 13 the binders and the tape after they asked you to look

15:18:41 14 at it?

15:18:44 15 A. They didn't ask me for a written evaluation.

15:18:46 16 They asked me to spend time studying the materials,

15:18:51 17 which I did.

15:18:55 18 Q. Did they ask you to provide an oral

15:18:57 19 evaluation in any way about those materials?

15:19:04 20 A. Well, there was no debriefing, a formal

15:19:07 21 debriefing or lengthy description. There were some

15:19:14 22 "what did you think about" kind of things, or "did

15:19:15 23 you think this was on topic," or those sorts of, you

15:19:19 24 know, "are we on the right track" kind of questions.

15:19:23 25 Which I could answer briefly.

15:19:27 1 Q. In your answer you just referred to on topic  
15:19:29 2 or on track. What do you mean by that?

15:19:32 3 A. Well, whether they --

15:19:35 4 It became pretty clear to me that what they  
15:19:37 5 were interested -- these guys were interested in  
15:19:39 6 talking about was the telerecording aspects of what  
15:19:42 7 CompuSonics did and the various, you know, bits and  
15:19:46 8 pieces of that. People who might know about it or  
15:19:53 9 have done something similar in the past before we  
15:19:56 10 did, things like that.

15:19:58 11 Q. And what information were you able to  
15:19:59 12 provide them in connection with their interests about  
15:20:03 13 telerecording?

15:20:05 14 A. Well, I pointed out the names that I knew of  
15:20:09 15 people who had been involved in the field before I  
15:20:13 16 was. You know, prior to 1984. I provided some  
15:20:19 17 names, some of which appear in these various papers  
15:20:23 18 and references and footnotes.

15:20:27 19 Q. Can you recall who those names -- what those  
15:20:29 20 names were?

15:20:30 21 A. Well, for example, Dr. Thomas Stockham of  
15:20:32 22 the University of Utah, who was the founder of  
15:20:38 23 Soundstream in the 1970s. The man who's responsible  
15:20:43 24 for the Telarc recordings, the 1812 Overture, the  
15:20:47 25 first digital recording of the 1812 Overture.

15:20:51 1 It's a famous -- a landmark in audio history

15:20:53 2 is that digital recording of the 1812 Overture, which

15:20:58 3 blew out more speakers than I care to think about.

15:21:02 4 He's the guy who did it.

15:21:04 5 Q. Any other names that you can recall

15:21:07 6 providing to them?

15:21:10 7 A. Yes. Barry Blesser, who's a professor at

15:21:13 8 MIT. There may have been another couple of names.

15:21:30 9 Those are the only two that pop to mind right now,

15:21:33 10 two key figures in the industry.

15:21:38 11 Toshi Doi at Sony.

15:21:42 12 An unpronounceable Dutch last name at

15:21:44 13 Philips. The guy who was head of their compact disk

15:21:48 14 development group. Famous person, I just couldn't

15:21:52 15 spell or pronounce his name.

15:21:58 16 Q. Now, you've told me about a number of

15:21:59 17 communications you had with the Wilson, Sonsini

15:22:08 18 attorneys. Other than what you've already mentioned,

15:22:08 19 can you think of any other communications that you

15:22:08 20 had with them prior to this past Monday?

15:22:23 21 A. Nothing substantive that I can -- just the

15:22:27 22 phone calls we just discussed.

15:22:29 23 Q. And you had mentioned some e-mails a few

15:22:31 24 minutes ago.

15:22:32 25 A. Yes.

15:22:32 1 Q. Did you send them e-mails in return at  
15:22:35 2 times?

15:22:36 3 A. Yeah, just a few, and as I recall, and I'm  
15:22:39 4 sure they're still on my computer at work, they  
15:22:41 5 pertain to scheduling either who would come to the  
15:22:47 6 house to pick up the boxes or when I could get them  
15:22:49 7 back. You know, that exchange.

15:22:52 8 There was no exchange pertaining to  
15:22:54 9 technology or to this -- you know, the subject under  
15:22:57 10 discussion here.

15:22:59 11 Q. Do you have any objection to making copies  
15:23:01 12 of the e-mails available if you are requested?

15:23:03 13 A. I'll be glad to, assuming they're still  
15:23:06 14 there and I can find them, yeah, no problem.

15:23:09 15 Q. Now, you mentioned you met with Wilson  
15:23:12 16 attorneys this past Monday.

15:23:14 17 A. Yes.

15:23:14 18 Q. Where did you meet them?

15:23:15 19 A. Somewhere else in this building.

15:23:17 20 Q. Approximately how long did you meet with  
15:23:19 21 them?

15:23:19 22 A. It was an hour and a half.

15:23:22 23 Q. And who was -- who attended the meeting?

15:23:26 24 A. David Berl, and I think the other couple  
15:23:31 25 lawyers popped in and out.

15:23:33 1  
15:23:37 2  
15:23:39 3  
15:23:39 4  
15:23:42 5  
15:23:44 6  
15:23:45 7  
15:23:46 8  
15:23:49 9  
15:23:50 10  
15:23:52 11  
15:23:53 12  
15:23:57 13  
15:24:01 14  
15:24:04 15  
15:24:06 16  
15:24:10 17  
15:24:10 18  
15:24:13 19  
15:24:15 20  
15:24:18 21  
15:24:19 22  
15:24:20 23  
15:24:26 24  
15:24:29 25

I think you popped in for a minute?

MS. MUCCHETTI: I don't think so.

THE WITNESS: No, then the other guy. Was it the other guy? The guy with the black-rim glasses, Michael.

BY MR. MUDGE:

Q. Mr. Barclay?

A. Yes, I think he stopped in for a moment.

MS. MUCCHETTI: I've never been mistaken for Michael Barclay.

THE WITNESS: Well, he didn't sit down. He just said hi and left.

I know why he came in. He had Gary Schwede with him. He said, I think you remember Gary, because he knew we used to work together. So he just brought Gary in and we said hello and that was it.

BY MR. MUDGE:

Q. Did you speak with Mr. Schwede during the meeting that you had here?

A. No. Well, I said, hi, Gary, how you've been.

Q. Before the meeting, did you speak with Mr. Schwede about this case in any way?

A. No, did not.

Q. Have you spoken with Mr. Schwede since your



15:24:31 1 meeting on Monday with Wilson?

15:24:33 2 A. No.

15:24:38 3 Q. I believe you said the meeting you had on

15:24:40 4 Monday was about an hour and a half?

15:24:42 5 A. Yes.

15:24:42 6 Q. And your best recollection is, though, it

15:24:45 7 was with Mr. Berl?

15:24:46 8 A. Yes.

15:24:48 9 Q. Primarily with Mr. Berl?

15:24:49 10 A. Yes, it was with Mr. Berl.

15:24:51 11 Q. What did you discuss at that meeting?

15:24:53 12 A. We discussed the -- I don't know if it was

15:24:58 13 exactly these documents, but some of them. You know,

15:25:03 14 what they were about.

15:25:06 15 I think he was verifying that I remembered

15:25:08 16 them and that I had actually read them at some point

15:25:10 17 in the past.

15:25:12 18 Q. Did Mr. Berl explain that he was intending

15:25:16 19 to introduce some of those documents in your

15:25:18 20 deposition today?

15:25:22 21 A. I think he may have said that.

15:25:24 22 Q. Did Mr. Berl ask you questions about the

15:25:28 23 subject matter of which you've testified earlier

15:25:30 24 today?

15:25:31 25 A. Yes, he did.

15:25:32 1 Q. Do you remember what questions he asked you?

15:25:34 2 A. They were variations on the same ones he

15:25:37 3 asked me today. Not as many.

15:25:49 4 Q. Did he ask you to respond to those questions

15:25:51 5 during the meeting?

15:25:59 6 A. Yeah. Not at length, but, yes, yes. I gave

15:26:03 7 brief responses.

15:26:05 8 Q. And do you recall any of those responses

15:26:06 9 that you provided on Monday different in any

15:26:10 10 substantive way from the information you provided

15:26:13 11 today?

15:26:14 12 A. Other than being shorter? No.

15:26:20 13 Q. Did Mr. Berl ask you to emphasize any

15:26:23 14 particular matter in connection with your responses

15:26:24 15 to his questions that were going to be asked today?

15:26:28 16 A. No, he did not.

15:26:33 17 Q. Did you have an understanding as a result of

15:26:35 18 your meetings and communications with Wilson, Sonsini

15:26:37 19 as to whether you should expound on certain elements

15:26:40 20 of the information you were providing today?

15:26:43 21 A. It was -- I don't think David told me, but

15:26:46 22 it was clear to me that what was of interest here was

15:26:50 23 the processes surrounding telerecording. You know,

15:26:53 24 the aspects -- all the aspects about, you know, music

15:26:57 25 being digitized and sent here and there.

15:27:02 1 Q. And was it your understanding that to be  
15:27:04 2 helpful, it would be better for you to provide,  
15:27:09 3 volunteer information about telerecording?  
15:27:12 4 A. He told me to just answer the questions as,  
15:27:15 5 you know, directly as I could, as clearly as I could  
15:27:19 6 and in as plain language as I could.  
15:27:25 7 Q. Now, other than the attorneys at Wilson,  
15:27:29 8 Sonsini that you've already mentioned that you've  
15:27:32 9 spoken with, have you spoken with anybody else about  
15:27:42 10 your testimony here today or your appearance here  
15:27:42 11 today at the deposition?  
15:27:42 12 A. No. Well, my wife. She knows where I am  
15:27:45 13 and what I'm doing.  
15:27:46 14 Q. Have you had any occasion to speak with any  
15:27:50 15 attorneys from the firm called Morgan, Lewis &  
15:27:52 16 Bockius about your testimony here today?  
15:27:56 17 A. Doesn't ring a bell, no.  
15:27:59 18 Q. Have you spoken with any employees of CDNOW  
15:28:03 19 about your testimony here today?  
15:28:05 20 A. No.  
15:28:11 21 Q. Do you know what kind of company CDNOW is?  
15:28:14 22 A. Only what I've seen on the Internet. I  
15:28:18 23 believe I visited their website sometime in the past.  
15:28:22 24 Q. Approximately how many times had you visited  
15:28:25 25 CDNOW's website?

15:28:27 1 A. Once.

15:28:27 2 Q. And approximately when was that?

15:28:28 3 A. Last summer, I believe.

15:28:33 4 Q. After you received the call from

15:28:35 5 Mr. Gourvitz, the first call, did you undertake to

15:28:41 6 look at any Internet sites in connection with the

15:28:45 7 subject matter that you're looking at?

15:28:47 8 A. None.

15:28:55 9 Q. Do you know anything about the plaintiff in

15:28:57 10 this case, SightSound?

15:29:00 11 A. As a business? No, nothing.

15:29:03 12 Q. Had you heard of them as a company before

15:29:04 13 today?

15:29:06 14 A. I haven't heard of them as a company. I've

15:29:08 15 seen their name.

15:29:11 16 Q. Do you know or recall what context you saw

15:29:13 17 their name?

15:29:14 18 A. I'm pretty sure I saw their name on one --

15:29:19 19 between one and three patents, I believe three. I'm

15:29:22 20 not sure if it's on all three of the patents I looked

15:29:25 21 at or just one.

15:29:28 22 Q. And you just referred to some patents you

15:29:29 23 looked at.

15:29:30 24 A. Yes.

15:29:31 25 Q. When did you look at these patents?

15:29:34 1 A. They were provided -- those binders that  
15:29:36 2 came in the box, you know, three weeks ago or  
15:29:40 3 whenever I got the box from Wilson, Sonsini, in the  
15:29:43 4 binders or with them or attached to them or somewhere  
15:29:47 5 in the box were three -- xeroxes of three U.S.  
15:29:50 6 patents that were to a guy named Hair, I believe.

15:29:55 7 Q. Arthur Hair, perhaps?

15:29:58 8 A. I don't remember the first name.

15:30:03 9 Q. And was there any other materials in the  
15:30:04 10 binders that you received from Wilson, Sonsini other  
15:30:06 11 than the patents you just described which -- strike  
15:30:11 12 that. Let me back up.

15:30:13 13 The three patents you just referred to that  
15:30:15 14 were in the set of materials that you received from  
15:30:17 15 Wilson, Sonsini, had they come from materials that  
15:30:20 16 you provided to them?

15:30:22 17 A. No. I'm pretty sure they were nowhere in  
15:30:26 18 those ten boxes of CompuSonics stuff.

15:30:30 19 Q. Other than those three patents you just  
15:30:31 20 mentioned, were there any other materials that you  
15:30:35 21 found in the box that came back to you that you had  
15:30:37 22 not provided to Wilson, Sonsini?

15:30:46 23 A. The only other thing in the box, which I  
15:30:48 24 think I threw in the box in my office, was a copy  
15:30:51 25 of -- whatever it's called, the summons to come here

15:30:55 1 today. There was a copy of that, but I think I put  
 15:30:58 2 that in the box at my office when I gathered the  
 15:31:01 3 stuff up to take it, you know, home.

15:31:11 4 Q. Now, you mentioned that you had seen the  
 15:31:14 5 three Hair patents --

15:31:16 6 A. Yes.

15:31:17 7 Q. -- in the box from Wilson, Sonsini.

15:31:19 8 A. Yes.

15:31:19 9 Q. Did you review the patents?

15:31:20 10 A. Yes, I did read them to the extent that I'm  
 15:31:23 11 capable of reading them. They're fairly technical,  
 15:31:29 12 languagewise.

15:31:32 13 Q. And did the folks at Wilson, Sonsini ask you  
 15:31:33 14 to take a look at those patents?

15:31:35 15 A. Yes, they did.

15:31:36 16 Q. Did they ask you to evaluate or provide any  
 15:31:40 17 reaction to those patents?

15:31:42 18 A. Well, they asked me for my opinion, you  
 15:31:44 19 know, what I thought of them in general.

15:31:48 20 Q. And what did you tell them?

15:31:50 21 A. I said, if they were trying to patent or had  
 15:31:52 22 gotten patents on what I think they'd gotten patents  
 15:31:55 23 on, somebody at the Patent Office had a screw loose.  
 15:32:00 24 A guy with a Vietnamese last name, Nguyen something  
 15:32:05 25 or other. Something Nguyen, N-G-U-Y-E-N. The

15:32:09 1 examiner. I said the examiner has a screw loose, I  
15:32:15 2 think was my conclusion.

15:32:21 3 Q. Were you asked to take a look at the patent  
15:32:22 4 claims, the claims contained in the patents?

15:32:28 5 A. Not specifically. I was asked to read the  
15:32:29 6 patents.

15:32:36 7 Q. Were you asked to undertake any evaluation  
15:32:38 8 of those patents as against any system that's out  
15:32:41 9 there today for downloading digital signals?

15:32:45 10 A. No.

15:32:50 11 Q. When you reviewed the patents, did you, in  
15:32:56 12 reviewing them, did you come to some understanding of  
15:32:58 13 your own as to what you thought Mr. Hair was  
15:33:00 14 attempting to patent?

15:33:04 15 A. I think so. I'd have to be vague. I think  
15:33:10 16 I know, I'm not sure I know. I could give you my  
15:33:15 17 opinion of what I think the patent is supposed to be.

15:33:19 18 MR. BERL: I'm going to object here to the  
15:33:21 19 extent this calls for a legal opinion.

15:33:24 20 MR. MUDGE: And I'm not asking for a legal  
15:33:25 21 opinion, sir. I'm just asking for whatever  
15:33:28 22 understanding you obtained as a result of the review  
15:33:32 23 of the patents you undertook at Wilson's request.

15:33:34 24 THE WITNESS: I believe that what Hair is  
15:33:35 25 trying to patent is a system for what we used to call

15:33:42 1 telerecording. That's what it looked like to me.

2 BY MR. MUDGE:

15:33:57 3 Q. Now, other than the things you've already

15:34:01 4 told us about in answer to my questions, were you

15:34:07 5 asked to undertake any other analysis or review of

15:34:09 6 any materials by Wilson, Sonsini?

15:34:13 7 A. Other than what was in those binders and the

15:34:16 8 patents themselves, no.

15:34:17 9 Q. Right.

15:34:18 10 A. No.

15:34:29 11 Q. I think I recalled from your testimony

15:34:31 12 earlier today, and forgive me if I forget, it's a

15:34:34 13 number of hours ago, you are a president of ImaginOn,

15:34:40 14 is that correct?

15:34:40 15 A. Yes, CEO and founder, yes.

15:34:45 16 Q. And are you also a director of that company?

15:34:47 17 A. Yes.

15:34:48 18 Q. Do you own any stock in that company?

15:34:50 19 A. I own about 10% of the company.

15:34:55 20 Q. Are you an officer or director in any other

15:34:57 21 company currently?

15:34:58 22 A. No.

15:35:02 23 Q. Do you own stock in CDNOW?

15:35:05 24 A. No.

15:35:07 25 Q. Do you own stock in Bertelsmann?



15:35:11 1 A: No. Let me just say for the record that I  
 15:35:12 2 do not have an investment portfolio. I own some  
 15:35:16 3 shares in a mutual fund, a Scudder Fund, Scudder  
 15:35:19 4 International Fund, and the stock in my own company,  
 15:35:24 5 and that's it.

15:35:30 6 Q. And would you mind describing for me,  
 15:35:33 7 briefly, what is the nature of the business that  
 15:35:36 8 ImaginOn carries out today?

15:35:39 9 A. We're an information technology company. We  
 15:35:41 10 develop systems for transmitting and playing back  
 15:35:49 11 digital video and audio files and text files.  
 15:35:53 12 Various different forms of data over Internet and  
 15:35:56 13 intranets.

15:36:00 14 Q. Does this involve transferring digital audio  
 15:36:06 15 or digital video information over the Internet from  
 15:36:08 16 one location to another?

15:36:09 17 A. Yes.

15:36:18 18 Q. Does ImaginOn operate a service in which it  
 15:36:22 19 receives compensation for such transmissions?

15:36:25 20 A. That's part of our business, yes.

15:36:28 21 Q. How long has ImaginOn been in the business  
 15:36:31 22 of transferring audio or video information over the  
 15:36:35 23 Internet?

15:36:41 24 A. We acquired a company called iNow in  
 15:36:44 25 San José in March 1999. They are an ISP, an Internet

177

15:36:53 1 service provider, and at the time, as soon as we took  
15:36:56 2 them over, you could say at that point we inherited  
15:37:02 3 that business because some of their servers contained  
15:37:04 4 audio and video information that was hosted on behalf  
15:37:08 5 of their client.

15:37:16 6 Q. And prior to the time you took over iNow,  
15:37:19 7 had ImaginOn conducted a business involving the  
15:37:22 8 transfer of audio or video files over the Internet?

15:37:30 9 A. There were some incidental transfer of audio  
15:37:33 10 or video files in a product called WebZinger, which  
15:37:40 11 is capable of retrieving audio or video files for a  
15:37:44 12 user. That product failed its test marketing in  
15:37:47 13 1999, so it was never widely deployed.

15:37:57 14 Q. Currently, the service that ImaginOn  
15:38:00 15 conducts that does involve transferring audio or  
15:38:03 16 video information, is there a name that's supplied  
15:38:05 17 for that service?

15:38:07 18 A. The name of the system is called ImaginOn  
15:38:10 19 Video, and you can visit the website ImaginOn.com and  
15:38:14 20 there's more than you ever wanted to know about this  
15:38:16 21 business.

15:38:18 22 Q. Who are the customers of ImaginOn for the  
15:38:23 23 video service you just described? And I'm not asking  
15:38:26 24 for you to name specific entities, just generally  
15:38:29 25 speaking.

15:38:30 1 A. Businesses that are in the business of  
15:38:31 2 communicating or selling products where they want to  
15:38:33 3 use interactive television, basically, over the  
15:38:36 4 Internet as opposed to television over cable. The  
15:38:42 5 product's relatively new. We launched it in April of  
15:38:45 6 last year, and we've delivered maybe a dozen such  
15:38:48 7 systems.

15:38:53 8 Q. When you say you've delivered a dozen such  
15:38:55 9 systems, are these systems that allow your customers  
15:38:57 10 to undertake delivery of audio or video information?

15:39:01 11 A. Yes, sir.

15:39:04 12 Q. And, again, if I understand your answer a  
15:39:06 13 couple minutes ago, the customers are generally  
15:39:08 14 business customers as opposed to consumers?

15:39:11 15 A. Yes, they are businesses. They're all  
15:39:13 16 businesses. We do not sell to consumers.

15:39:21 17 Q. Do you have an understanding as to the  
15:39:22 18 nature of the video or audio information that your  
15:39:25 19 customers are using your systems to transfer?

15:39:28 20 MR. BERL: I'll object as vague.

15:39:33 21 THE WITNESS: I don't -- I only know from  
15:39:34 22 samples, you know, from looking at those customers'  
15:39:37 23 servers, their sites, to see what they're doing.

15:39:39 24 For example, one is Golf Magazine, and the  
15:39:44 25 video is entirely golfing clips, golf training, golf

179

15:39:47 1 resorts, golfing discounts, golf balls, golf bags. I

15:39:52 2 mean, it's all golf all the time.

15:39:57 3           These are specific businesses and each one,

15:40:00 4 you know, has its own stuff. There's a bicycle

15:40:03 5 company and all their stuff is bicycles and trails

15:40:09 6 that you would bicycle on. Things like that.

15:40:17 7           Q.     I'd actually like to now go back and ask you

15:40:29 8 a few follow-up questions in connection with some of

15:40:29 9 your information that you provided earlier today.

15:40:29 10           You talked about some demonstrations or

15:40:29 11 tests that have been conducted and you described

15:40:32 12 them, I think, for the record. But I just want to

15:40:38 13 make clear, did any of those tests involve a

15:40:44 14 transaction which involved a payment of money or a

15:40:47 15 fee of any kind?

15:40:50 16           A.     No.

15:40:56 17           Q.     And I think you mentioned that in the

15:41:01 18 Chicago to New York demonstration that you took part

15:41:05 19 in, there had been scripts prepared to facilitate the

15:41:10 20 transfer of files?

15:41:11 21           A.     Yes.

15:41:12 22           Q.     If those scripts had not been prepared, was

15:41:17 23 there software functionality that was available for

15:41:21 24 commercial sale which would have undertaken the step

15:41:25 25 of picking out a particular audio file and sending it

15:41:29 1 over the telephone lines, as you've described, to  
15:41:34 2 another site?

15:41:35 3 MR. BERL: Vague.

15:41:38 4 THE WITNESS: The operator of the system  
15:41:40 5 could type a command -- these are computers -- to do  
15:41:44 6 anything they wished with any named file. If the  
15:41:47 7 file was music, it would pick it out and send or  
15:41:52 8 fetch that music. If it were a Word document, it  
15:41:54 9 would go get that.

15:41:56 10 These are computers, fundamentally. So  
15:42:00 11 they're at the operator's command. Could you  
15:42:03 12 automate those processes, like you can automate any  
15:42:06 13 computer? Sure.

15:42:08 14 That's what we did with the scripts. We  
15:42:10 15 automated the process to make the demo flow to avoid  
15:42:15 16 keystroke error so we wouldn't flub it in front of  
15:42:18 17 the press.

15:42:20 18 BY MR. MUDGE:

15:42:20 19 Q. Now, I want to focus now on the commercial  
15:42:22 20 units that were sold to -- the commercial, I guess  
15:42:26 21 the 2002 units that you sold.

15:42:30 22 Was there functionality provided in the  
15:42:33 23 commercial units that the operator could type in a  
15:42:36 24 command to fetch a file and essentially transmit it  
15:42:39 25 electronically to a remote location?

15:42:44 1 A. That is built in to every UNIX workstation 181  
15:42:46 2 that I know of. That's a fundamental part of the  
15:42:52 3 operating system. UNIX computers are designed to  
15:42:54 4 network. It's one of the reasons they became popular  
15:42:56 5 in business settings, you know, commercial use.

15:43:08 6 Q. Now, what about the 1000 series that you  
15:43:11 7 also mentioned. I believe you said that they were  
15:43:14 8 marketed more to consumers?

15:43:16 9 A. Yes, they were meant to be -- that was our  
15:43:19 10 consumer product.

15:43:21 11 Q. Were any of the functions that you described  
15:43:26 12 with respect to the 2000 for fetching or sending a  
15:43:29 13 file, were they provided as functions, as buttons  
15:43:33 14 that were made available for consumers to use?

15:43:36 15 A. No, they were not.

15:43:44 16 Q. Now, in connection with the functionality  
15:43:48 17 you just described, at least with respect to the 2000  
15:43:52 18 series of the ability to fetch a file and send it  
15:43:57 19 over a telecom line, was there any discussion of how  
15:44:01 20 to do that or how to give those instructions in any  
15:44:05 21 of the manuals that your company had put together?

15:44:11 22 A. I'm pretty sure you'll find that in the --  
15:44:13 23 There was a standard manual that came with  
15:44:15 24 each machine that was essentially the UNIX manual,  
15:44:18 25 the UNIX operating system. Not the little user guide

15:44:21 1 that was submitted in evidence, but the real UNIX  
15:44:24 2 manual. It's about this thick and it comes with  
15:44:27 3 every UNIX computer.

15:44:28 4 And the instructions were how to manipulate  
15:44:31 5 files on a network, send, receive. All of that is  
15:44:34 6 part of the standard thing, the standard UNIX manual.

15:44:39 7 Q. Did any of the manuals that were provided to  
15:44:43 8 your customers describe how to hook the machines up  
15:44:49 9 with the Accunet service?

15:44:51 10 MR. BERL: Vague.

15:44:55 11 THE WITNESS: No.

15:45:15 12 BY MR. MUDGE:

15:45:16 13 Q. With respect to the 2002 series again, as  
15:45:19 14 you referred to in the demonstrations, and again I  
15:45:22 15 want to focus now on the commercial units that were  
15:45:24 16 sold, was there any synchronization that was required  
15:45:30 17 in order for one machine to be able to transmit or  
15:45:33 18 receive files from another machine?

15:45:35 19 A. That is part of what the software in each  
15:45:40 20 machine did in conjunction with that DATI. That's  
15:45:42 21 one of the reasons we had to make that black box is  
15:45:45 22 so they would synch up with each other. They could  
15:45:47 23 handshake, as they say in engineering terms, without  
15:45:50 24 the operator having to get involved.

15:45:57 25 Q. Did any of your manuals describe how the

15:46:00 1 DATI worked in that regard?

15:46:02 2 A. Only our technical papers. It was never  
15:46:04 3 included as part of a user manual.

15:46:08 4 Q. And the technical papers you just referred  
15:46:10 5 to, were they in any of the materials we saw here  
15:46:15 6 today?

15:46:16 7 A. Yes. The paper by Heinz Sohn. You want the  
15:46:21 8 exhibit number?

15:46:23 9 Q. If you wouldn't mind just identifying it.

15:46:25 10 A. It's Exhibit 7. "A High Speed  
15:46:26 11 Telecommunications Interface for Digital Audio  
15:46:28 12 Transmission and Reception" by Hyun Heinz Sohn,  
15:46:34 13 Exhibit 7.

15:46:37 14 And we did make this paper widely available  
15:46:40 15 as part of our promotion to our customers, you know,  
15:46:52 16 about capabilities of the system. Part of our  
15:46:52 17 promotional effort.

15:47:04 18 Q. Now, in connection with the machines that  
15:47:07 19 CompuSonics sold, either the commercial machines, the  
15:47:10 20 2000 series, or the consumer machines, the 1000  
15:47:13 21 series, were they ever used in any transaction where  
15:47:17 22 a music file was uploaded or downloaded over  
15:47:23 23 telecommunications lines?

15:47:30 24 MR. BERL: Vague as to upload or download.

15:47:40 25 THE WITNESS: I'm sure they were.



15:47:41 1

The question is to what extent and by whom,

15:47:43 2

because we did a lot of our own -- we had offices --

15:47:47 3

CompuSonics had an office in Cambridge, an

15:47:49 4

office in Denver, Colorado and an office in Palo

15:47:53 5

Alto. So our machines frequently talked to each

15:47:56 6

other, you know, sent data around.

15:47:59 7

And then our clients, who had more than one

15:48:02 8

machine, also had 2002s talking to each other. But

15:48:05 9

what the nature of any given transaction or what kind

15:48:09 10

of data was in it, I can't testify to that.

15:48:12 11

BY MR. MUDGE:

15:48:13 12

Q. And do you have any ability to say that you

15:48:16 13

know that any sales transaction took place where

15:48:18 14

there was an exchange of money or credit information

15:48:22 15

in connection with any of those downloads?

15:48:25 16

A. I just don't know because once they were

15:48:28 17

shipped to clients, we weren't exactly sure what they

15:48:30 18

were used for.

15:49:00 19

Q. Now, you mentioned earlier today that you

15:49:03 20

testified in a couple of settings. Have you ever

15:49:06 21

been involved in any litigation, without regards to

15:49:10 22

whether there was any testimony, in which there was

15:49:15 23

at issue somebody's intellectual property rights?

15:49:19 24

A. No.

15:49:31 25

Q. Have you ever been asked to serve as an

15:49:33 1 expert witness in connection with any cases involving

15:49:39 2 intellectual property rights?

15:49:42 3 A. No.

15:49:43 4 Q. Have you ever been asked to serve as an

15:49:45 5 expert witness in connection with any cases involving

15:49:48 6 computer technology?

15:49:50 7 A. No. Let me just state, to cut this a little

15:49:53 8 short, I've never been an expert witness in anything,

15:49:57 9 ever.

15:50:15 10 Q. Now, you mentioned earlier today that in

15:50:17 11 connection with your work with CompuSonics, you had

15:50:20 12 worked with some of your colleagues in developing the

15:50:24 13 DSP, I guess the 1000 series and 2002 series.

15:50:29 14 In connection with that development work

15:50:30 15 there was some, I guess, algorithms that were

15:50:33 16 prepared and programmed to run on the DSP chips, as I

15:50:38 17 think you described it. Is that correct?

15:50:40 18 A. Yes.

15:50:41 19 Q. And who developed those algorithms?

15:50:44 20 A. I wrote the first versions of those as part

15:50:49 21 of the -- one of the patent applications, and as a

15:50:52 22 working document, you know, to serve as a guideline

15:50:55 23 for actual coding.

15:50:56 24 Then John Stautner wrote the first actual

15:51:01 25 piece of code that would run, that would execute and

15:51:03 1 do some work, you know, actually do the job. It may  
15:51:11 2 have been one of the other people on the project who  
15:51:12 3 was actually first. I remember John as getting  
15:51:15 4 something working first.

15:51:20 5 Q. And in connection with your development of  
15:51:22 6 the algorithms, did you have to undertake any studies  
15:51:26 7 or course work in order to understand the signal  
15:51:30 8 processing environment that you were working in?

15:51:33 9 A. Yes, I did.

15:51:34 10 (At this time, Monica Mucchetti left the  
15:51:35 11 deposition room.)

15:51:39 12 THE WITNESS: I'm a trained musician, so I  
15:51:40 13 understand music pretty thoroughly, and at that time  
15:51:47 14 I was a pretty good software programmer. Some people  
15:51:52 15 would call me an expert programmer. I'd learned  
15:51:55 16 programming at school, at Carnegie Melon. I've been  
15:51:59 17 programming computers since 1966.

18 BY MR. MUDGE:

15:52:05 19 Q. How about with respect to the specific  
15:52:06 20 signal processing that you were working with, did you  
15:52:09 21 undertake any studies?

15:52:11 22 A. Yes. Digital signal processing, you know,  
15:52:15 23 outside of military applications, was new in 1982 --  
15:52:21 24 1981 when I started getting involved with this  
15:52:23 25 project. And I did attend some seminars on the

187

15:52:26 1 topic, I bought the books. You know, went to Texas

15:52:31 2 Instruments in Texas and sat through some of their

15:52:34 3 training, getting up to speed sessions about the new

15:52:36 4 era of digital signal processing chips that they

15:52:39 5 started.

15:52:42 6 It did take me a little while to get used to

15:52:45 7 programming in that environment. It's somewhat

15:52:47 8 different than programming, say, a mainframe.

15:52:59 9 MR. MUDGE: Would this be a good time for a

15:53:02 10 break, like five or ten minutes?

15:53:04 11 MR. BERL: Fine with me.

15:53:05 12 MR. MUDGE: Go off the record.

15:53:07 13 THE VIDEOGRAPHER: The time is 3:53 p.m. We

15:53:10 14 are going off the record.

16:13:35 15 (Recess: 3:53 p.m. to 4:13 p.m.)

16:13:36 16 THE VIDEOGRAPHER: Back on the record. The

16:13:37 17 time is 4:13 p.m.

16:13:41 18 BY MR. MUDGE:

16:13:42 19 Q. Mr. Schwartz, earlier you talked a

16:13:43 20 little bit about the communications between two DSP

16:13:51 21 2002s. I think as you said, they could be configured

16:13:54 22 to transmit files using the UNIX operating system I

16:14:00 23 believe.

16:14:00 24 A. Yes.

16:14:00 25 Q. Do you know what communications protocol, if

16:14:02 1 any, was involved in any file communications between  
16:14:07 2 the two of the DSP units?

16:14:09 3 A. I don't know. Frankly, you'd have to ask  
16:14:11 4 one of the engineers who were involved with that.

16:14:20 5 Q. Now, earlier this morning you had mentioned,  
16:14:21 6 I think, you had had a time where you were asked to  
16:14:24 7 testify a long time ago, like 20 or 25 years ago, and  
16:14:29 8 I apologize if you gave this answer this morning, but  
16:14:31 9 I was wondering in what locale was that testimony  
16:14:34 10 given?

16:14:35 11 A. I think it was Pittsburgh, and it wasn't in  
16:14:39 12 a courtroom. It was, you know, a deposition kind of  
16:14:41 13 thing, but I have a vague recollection of some  
16:14:45 14 traffic accident and an insurance company, a neck  
16:14:50 15 brace. And that's about -- I mean, that's sort of  
16:14:54 16 what I remember, but that's about it.

16:14:56 17 Q. Were you a party to that case?

16:14:59 18 A. I think I was in the car.

16:15:02 19 Q. Do you remember if you were a plaintiff or a  
16:15:04 20 defendant?

16:15:05 21 A. I just don't remember.

16:15:07 22 Q. Were you the one with the neck brace?

16:15:09 23 A. I wore a neck brace for about a week, yes,  
16:15:14 24 or two weeks. It's starting to come back to me  
16:15:19 25 talking about it.

16:15:21 1 Q. Well, is there anything else that you  
16:15:22 2 remember about that particular incident?

16:15:24 3 A. Some drunk ran into our car. That's what it  
16:15:31 4 boils down to.

16:15:33 5 Q. And that was what ultimately led to your  
16:15:35 6 deposition testimony --

16:15:37 7 A. Yeah, some deposition pertaining to -- I  
16:15:43 8 don't think it was my insurance claim, some other  
16:15:45 9 insurance claim. I think the drunk driver, actually.

16:15:52 10 Q. Have you ever heard of Priceline.com?

16:15:55 11 A. Yes, William Shatner.

16:15:58 12 Q. So you've seen the commercials then?

16:16:01 13 A. Of course.

16:16:02 14 Q. Do you have any understanding as to whether  
16:16:05 15 they have any patents covering their service?

16:16:15 16 A. Oh, I have a vague recollection of a  
16:16:17 17 business model patent, but I'm not sure if that  
16:16:19 18 pertains to Priceline or somebody else.

16:16:23 19 Q. Have you ever read any stories about  
16:16:25 20 Priceline perhaps suing Microsoft in connection with  
16:16:29 21 a business method patent?

16:16:34 22 A. Did they sue Expedia? I mean, if it's  
16:16:36 23 something to do with Expedia, maybe. I didn't follow  
16:16:39 24 it, if that's what it is.

16:16:40 25 Q. I'm simply asking your understanding, if you

16:16:43 1 have any.

16:16:43 2 A. No, I don't know.

16:16:50 3 Q. How about Amazon.com, have you heard of  
16:16:53 4 them?

16:16:54 5 A. Sure.

16:16:55 6 Q. Have you ever used their service?

16:16:56 7 A. No, but my wife has.

16:16:57 8 Q. Have you ever heard anything about any  
16:16:59 9 patents covering OneClick technology that Amazon may  
16:17:06 10 have obtained?

16:17:08 11 MR. BERL: Vague as to "covering" and calls  
16:17:10 12 for a legal conclusion.

16:17:11 13 THE WITNESS: I've heard about it, but I  
16:17:12 14 haven't looked into it. I don't know anything about  
16:17:14 15 it.

16:17:14 16 BY MR. MUDGE:

16:17:15 17 Q. Have you ever read any news stories about a  
16:17:17 18 lawsuit that Amazon may have had against Barnes &  
16:17:21 19 Noble regarding their patent?

16:17:23 20 A. Yes, I read about it in the Wall Street  
16:17:25 21 Journal. I didn't even finish the article. I  
16:17:28 22 started to read into it and it kind of lost me.

16:17:32 23 Q. As a businessman, do you have any viewpoint  
16:17:33 24 as to business method patents and whether people  
16:17:38 25 should be allowed to get them or not?

16:17:40 1 A. I haven't really given it any thought,  
16:17:43 2 because I'm not sure I understand what a business  
16:17:45 3 method patent is. I haven't spent the time to figure  
16:17:48 4 that out.

16:17:52 5 Q. Now, in response to some of my questions a  
16:17:54 6 little while ago, you talked about receiving some  
16:17:57 7 advice, I guess, from an attorney in connection with  
16:17:59 8 obtaining patents for CompuSonics and you mentioned  
16:18:04 9 the attorney's name. Did the attorney work for a  
16:18:07 10 firm?

16:18:09 11 A. He did, and I don't remember the name of the  
16:18:10 12 firm at that time, because he pretty shortly  
16:18:15 13 thereafter moved to Arlington, Virginia and joined  
16:18:19 14 Shoemaker & Mattare in Arlington, Virginia, where as  
16:18:24 15 far as I know, he still is today.

16:18:30 16 Q. Have you had any occasion to speak to the  
16:18:33 17 attorney since he handled your patent portfolio while  
16:18:38 18 you were at CompuSonics?

16:18:39 19 A. I talked to him maybe eight or ten years ago  
16:18:44 20 just to say hello. It was just a social  
16:18:50 21 conversation.

16:18:57 22 Q. Now, does your company today have any  
16:18:59 23 patents covering any technology for transmission of  
16:19:03 24 audio or video recordings?

16:19:10 25 A. I don't think so. We have several patents



16:19:12 1 assigned to the company. One of them is in my name 192  
16:19:16 2 solely assigned to the company, the other is in my  
16:19:18 3 name and Leonard Kain, joint inventors. I'm pretty  
16:19:25 4 sure there's nothing in there that -- in neither of  
16:19:28 5 those that pertains to transmitting audio and video.  
16:19:34 6 Q. Does your company have any patents pending,  
16:19:38 7 either directly or through assignments from your  
16:19:40 8 merger with the other company?  
16:19:42 9 A. No. Not that I'm aware of, no.  
16:19:51 10 Q. Again, earlier in response to one of my  
16:19:53 11 questions you'd mentioned you had some vague  
16:19:55 12 familiarity of SightSound. Do I recall your  
16:19:59 13 testimony correctly?  
16:20:00 14 A. No, I don't know anything about the company  
16:20:10 15 or its principals.  
16:20:10 16 Q. Okay, I thought that you had said at least  
16:20:10 17 you may have heard of them at one point.  
16:20:10 18 A. I saw the name, I believe, printed on one or  
16:20:13 19 more of those patents. I wouldn't bet on it, but I  
16:20:15 20 think that's where the name popped up.  
16:20:18 21 Q. Have you ever had occasion to visit any  
16:20:20 22 website operated by SightSound?  
16:20:24 23 A. No.  
16:20:30 24 Q. You testified earlier today that at one  
16:20:33 25 point in time you resigned from CompuSonics because

16:20:36 1 essentially there was not much business. I'm  
16:20:39 2 paraphrasing your testimony.

16:20:40 3 A. Yes.

16:20:41 4 Q. Whatever happened to CompuSonics after you  
16:20:43 5 left the company?

16:20:44 6 A. It became inactive. In the words of its  
16:20:49 7 corporate attorney, it became a ghost ship. I don't  
16:20:54 8 know if that's a technical term among lawyers or  
16:20:56 9 that's just a colorful description. I don't know.  
16:21:01 10 But that's how he described its legal status, because  
16:21:03 11 I asked. I was concerned about being sued, you know,  
16:21:06 12 down the road by somebody, sometime, you know, for  
16:21:11 13 something that may have happened while I was CEO of  
16:21:15 14 that company.

16:21:16 15 Q. Did you ever get sued by anybody in  
16:21:18 16 connection with your time at CompuSonics?

16:21:19 17 A. No.

16:21:20 18 Q. Did anybody ever purchase any of the assets  
16:21:23 19 from CompuSonics after you left the company?

16:21:30 20 A. The company held a kind of giant yard sale  
16:21:32 21 for the benefit of creditors in 1989 and the money  
16:21:39 22 went to the creditors, not to me or any of the  
16:21:41 23 employees.

16:21:43 24 Q. Do you recall generally what kind of assets  
16:21:45 25 were sold?

16:21:47 1 A. Computers. You know, electronic components.  
16:21:55 2 Shelving, desks. You know, the stuff you find around  
16:22:00 3 an office.

16:22:00 4 Q. How about the patents that you had obtained?

16:22:04 5 MR. BERL: Foundation.

16:22:07 6 Go ahead and answer, if you know.

16:22:11 7 THE WITNESS: The patent remained with the  
16:22:12 8 company until several years later, I hired an  
16:22:16 9 attorney in San José, whose name I can't recall but  
16:22:21 10 I'm sure I could find, and asked him to see if I  
16:22:25 11 could obtain -- because the company owed me money,  
16:22:29 12 salary and various other things -- to see whether I  
16:22:34 13 could gain ownership of the patent.

16:22:37 14 And we did file some papers that technically  
16:22:39 15 put it back in my name, but he said if anyone ever  
16:22:42 16 challenges that transaction, it's going to blow up,  
16:22:45 17 or you'll get -- if there's any money there, you'll  
16:22:48 18 get paid back what the company owed you at the time  
16:22:50 19 you left the company, and then the patent has to be  
16:22:53 20 returned to the company.

16:22:57 21 My only basis in presently holding it is as  
16:23:00 22 a marker for the debt, an interest that the company  
16:23:05 23 owed me when it went out of business.

24 BY MR. MUDGE:

16:23:08 25 Q. Sounds like maybe a lien of some type. I'm

16:23:11 1

not asking you for a legal interpretation.

16:23:13 2

A. It acts like a lien, exactly. Holding the

16:23:15 3

assignment acts in effect like a lien.

16:23:21 4

But not a mechanic's lien.

16:23:24 5

Q. Now, earlier today in response to some

16:23:28 6

questions from Mr. Berl you referred to a company,

16:23:32 7

BMI, that I think you said you had spoken to.

16:23:35 8

A. Yes.

16:23:36 9

Q. Do you know what kind of company they are or

16:23:38 10

were at the time?

16:23:38 11

A. I'm pretty sure I have the name correct.

16:23:41 12

It's a record company in England, in London. I met

16:23:46 13

with them in London. I could have the name wrong. I

16:23:49 14

think it was BMI. Unless it was EMI, but. Three

16:23:58 15

initials, sounds like BMI.

16:24:00 16

Q. Do you have an understanding as to whether

16:24:02 17

that company is still in business today?

16:24:04 18

A. Don't know.

16:24:16 19

Q. Now, in connection with your meetings and

16:24:18 20

conversations with the attorneys at Wilson, Sonsini,

16:24:21 21

did they ever describe for you a view about the Hair

16:24:26 22

patents?

16:24:29 23

MR. BERL: I'm going to object to that on

16:24:31 24

the grounds that it calls for work product

16:24:32 25

information, and on this I'm going to instruct him

16:24:36 1 not to answer.

16:24:43 2 MR. MUDGE: I certainly don't agree to that  
16:24:45 3 and I can't see any basis for at this point in time,  
16:24:49 4 again, your communications with a fact witness here  
16:24:54 5 who's here testifying as to them now at this time  
16:24:58 6 being work product.

16:25:01 7 MR. BERL: Well, your question covers any  
16:25:04 8 kind of communication we've had with him. I've  
16:25:06 9 outlined the reasons before.

16:25:12 10 MR. MUDGE: Well, we're just going to have  
16:25:14 11 to take that up with the court I think at some point  
16:25:16 12 in time unless we can resolve the issue, because we  
16:25:19 13 certainly don't agree that it's work product.

16:25:23 14 Are you going to follow the instruction not  
16:25:26 15 to answer the question?

16:25:30 16 THE WITNESS: Yes, I will not answer the  
16:25:32 17 question at this time.

16:25:35 18 BY MR. MUDGE:

16:25:35 19 Q. By the way, are you being represented today  
16:25:37 20 in connection with your testimony by anybody as an  
16:25:40 21 attorney?

16:25:42 22 A. I don't think so. They're not my attorneys,  
16:25:46 23 no.

16:26:01 24 Q. When you met with the individuals from  
16:26:06 25 Wilson, Sonsini in December last year, I think you

16:26:10 1 said that was the first meeting, at that time did  
16:26:15 2 they express to you any impression or evaluation of  
16:26:20 3 the Hair patents?

16:26:29 4 MR. BERL: Same objection. I'm going to  
16:26:29 5 instruct the witness not to answer that.

16:27:27 6 MR. MUDGE: Will you answer the question,  
16:27:28 7 sir?

16:27:28 8 THE WITNESS: No.

16:27:30 9 MR. MUDGE: I'm obviously going to make my  
16:27:32 10 position clear on the record. I don't think it's  
16:27:34 11 appropriate for an objection and an instruction not  
16:27:38 12 to answer to be made in connection with testimony  
16:27:43 13 requested from a fact witness, a fact witness whose  
16:27:47 14 testimony was procured by the very -- by the very  
16:27:50 15 counsel who are now making the instruction not to  
16:27:52 16 answer.

16:27:56 17 MR. BERL: Well, just for the record to  
16:27:59 18 state our position clearly, this information as  
16:28:05 19 covered by this question broadly pertains to  
16:28:08 20 information that we may or may not have given the  
16:28:10 21 witness well before this deposition that may or may  
16:28:12 22 not have been in connection with his deposition and,  
16:28:15 23 theoretically, could cover much information that  
16:28:18 24 doesn't belong -- or that doesn't relate to this  
16:28:21 25 deposition.

16:28:22 1 Further, this work product privilege belongs  
16:28:24 2 to the attorneys at Wilson, Sonsini, not the witness.  
16:28:27 3 We are requesting that he not answer since it's our  
16:28:31 4 privilege and not his. He's free to answer if he so  
16:28:34 5 chooses.

16:28:42 6 THE WITNESS: There's not much of an answer.  
16:28:44 7 No, the Wilson, Sonsini people did not  
16:28:48 8 suggest that there was anything wrong with those  
16:28:51 9 patents, but you don't start -- it's clear there's a  
16:28:56 10 legal battle.

16:28:57 11 It was clear to me there was a legal dispute  
16:28:59 12 over these, so given that they were on the opposing  
16:29:02 13 side, my logical conclusion was that they did not  
16:29:06 14 agree that those patents should have been issued.

16:29:08 15 I didn't have to ask that, nor did they tell  
16:29:10 16 me that. It's just obvious on the face of the matter  
16:29:13 17 that that was the case.

16:29:16 18 BY MR. MUDGE:

16:29:17 19 Q. At your meeting this past Monday, did any of  
16:29:23 20 the attorneys from Wilson express to you any specific  
16:29:31 21 information that would be helpful to them in  
16:29:36 22 rendering the patents invalid?

16:29:38 23 MR. BERL: Same objection to the extent that  
16:29:39 24 it might cover attorney work product.

16:29:43 25 You can answer that.

16:29:45 1 THE WITNESS: I don't know why they're  
16:29:46 2 objecting. They didn't do that.  
16:29:55 3 BY MR. MUDGE:  
16:29:55 4 Q. Now, again, thinking about your meeting on  
16:29:57 5 Monday, I understand you happened to run into  
16:29:59 6 Mr. Gary Schwede.  
16:30:01 7 A. Yes.  
16:30:02 8 Q. But you didn't speak to him, as I  
16:30:03 9 understand.  
16:30:05 10 A. Well, we just said --  
16:30:06 11 MR. BERL: Misstates prior testimony.  
16:30:08 12 MR. MUDGE: I'm sorry.  
16:30:08 13 Q. You did say hello or greet him. I meant  
16:30:10 14 speak to him more at length.  
16:30:13 15 A. No.  
16:30:13 16 Q. Was there any reason why you didn't speak to  
16:30:16 17 him more at length?  
16:30:17 18 A. He was on his way out the door and I wanted  
16:30:21 19 to get the meeting over with and get back to my  
16:30:23 20 office, so neither one of us were inclined to  
16:30:26 21 chitchat.  
16:30:28 22 Q. Even though you hadn't seen him for several  
16:30:30 23 years, you didn't want to take the opportunity to  
16:30:33 24 kind of catch up and see how he was doing or  
16:30:35 25 anything?



16:30:37 1 A. Not in this context, no, not in the law  
16:30:40 2 firm's office. I expect to see Gary at the next IEEE  
16:30:46 3 microcomputer conference. I run into him like once a  
16:30:49 4 year or so at some engineering meeting anyway, you  
16:30:52 5 know. There's one coming up in April.  
16:30:58 6 Q. Now, in connection with your appearance here  
16:31:01 7 today, are you being compensated in any way?  
16:31:05 8 A. No.  
16:31:08 9 Q. Were you offered any compensation to appear  
16:31:10 10 today?  
16:31:10 11 A. No.  
16:31:15 12 Q. During any of the breaks that we've had  
16:31:18 13 during your deposition testimony today, did you have  
16:31:21 14 any conversations with the Wilson, Sonsini attorneys  
16:31:24 15 about the subject of your testimony?  
16:31:31 16 A. Other than for them to say "You're doing  
16:31:33 17 fine," I think. I mean, paraphrasing, I think that's  
16:31:37 18 about it.  
16:31:40 19 Q. Was there any request made by any of the  
16:31:42 20 Wilson attorneys for you to make any specific points  
16:31:47 21 in your responses to the questioning?  
16:31:49 22 A. No.  
16:31:56 23 MR. MUDGE: Why don't we take two minutes  
16:31:57 24 and see if we can't get this wrapped up.  
16:32:00 25 MR. BERL: Okay.

16:32:00 1 THE VIDEOGRAPHER: Going off the record. 201  
16:32:01 2 The time is 4:32 p.m.  
16:40:06 3 (Recess: 4:32 p.m. to 4:41 p.m.)  
16:40:07 4 (At this time, Monica Mucchetti was absent  
16:40:12 5 from the deposition room.)  
16:41:01 6 THE VIDEOGRAPHER: Back on the record. The  
16:41:02 7 time is 4:41 p.m.  
16:41:06 8 BY MR. MUDGE:  
16:41:07 9 Q. Mr. Schwartz, in connection with your  
16:41:11 10 earlier meetings with Wilson, Sonsini, did you  
16:41:14 11 receive any compensation for attending those  
16:41:16 12 meetings?  
16:41:18 13 A. Yes, I did.  
16:41:19 14 Q. And what compensation was that?  
16:41:21 15 A. My normal consulting rate, which is billed  
16:41:25 16 on an hourly basis at \$350 an hour.  
16:41:28 17 Q. And was that for the December meeting and  
16:41:29 18 the meeting this past Monday?  
16:41:32 19 A. Yes.  
16:41:34 20 Q. Were you compensated for the time you took  
16:41:37 21 in gathering the materials up for Wilson to pick up  
16:41:41 22 and then ultimately return to you?  
16:41:46 23 A. Yes. That was fairly small, because I  
16:41:48 24 didn't -- I spotted them, I didn't pick them up. I  
16:41:51 25 had the Wilson, Sonsini people go through the garage

16:41:53 1 and actually retrieve the stuff. I didn't.

16:41:58 2 Q. And was your compensation at the same rate  
16:42:00 3 that you just referred to?

16:42:01 4 A. Yes, yes.

16:42:09 5 Q. Have you received any other compensation  
16:42:09 6 from Wilson in connection with your time spent in  
16:42:09 7 this matter?

16:42:10 8 A. I have invoiced for time spent studying  
16:42:13 9 those binders, you know, those two big binders of  
16:42:16 10 documents.

16:42:19 11 Q. In connection with --

16:42:21 12 A. And watching that videotape. The hour --  
16:42:23 13 you know, the Stanford thing.

16:42:25 14 Q. Thank you. What's the total amount that you  
16:42:29 15 have invoiced Wilson for in terms of your work in  
16:42:32 16 connection with this case?

16:42:34 17 A. Oh, it's got to be close to \$3,000.

16:42:41 18 Q. And as I understand your testimony, just so  
16:42:43 19 I'm clear, you're not intending to invoice them in  
16:42:46 20 connection with your time spent today?

16:42:48 21 A. That's correct.

16:42:49 22 Q. Do you anticipate doing any further work in  
16:42:51 23 connection with this case for Wilson, Sonsini?

16:42:52 24 A. I hope not.

16:42:56 25 Q. Has Wilson --

16:42:57 1 THE WITNESS: No offense.

16:42:59 2 MR. BERL: None taken.

16:43:00 3 BY MR. MUDGE:

16:43:01 4 Q. Have the attorneys at Wilson, Sonsini asked

16:43:02 5 you to undertake any further work?

16:43:05 6 A. No.

16:43:14 7 Q. Now, I'm not sure if I asked this question,

16:43:16 8 but if I did, I apologize if I'm asking it a second

16:43:19 9 time, but did they ask you to actually serve as an

16:43:22 10 expert witness in this case?

16:43:23 11 A. No. They said something like we might

16:43:28 12 consider using you as an expert witness at some point

16:43:31 13 in the future, and I said how about using an actual

16:43:37 14 expert, like Dr. Gary Schwede, wouldn't that be good.

16:43:40 15 So I kind of sicked them on Dr. Schwede.

16:43:47 16 Q. And off of yourself, I take it?

16:43:49 17 A. Oh, yes. They've got Gary, they don't need

16:43:53 18 me.

16:43:53 19 Q. So then as I understand it, you do not

16:43:55 20 expect to be asked to be -- or to serve as an expert

16:43:59 21 witness in this matter?

16:44:00 22 A. I don't expect to be, no.

16:44:02 23 Q. Do you expect to testify at trial in

16:44:05 24 connection with this matter as a fact witness?

16:44:07 25 A. I was told that this videotape could be used

16:44:10 1 so I wouldn't have to go to Pittsburgh, not that I'd  
16:44:15 2 object going to Pittsburgh.

16:44:19 3 Q. But as I understand, you don't have any  
16:44:23 4 current plans to attend the trial in Pittsburgh?

16:44:25 5 A. No, I do not.

16:44:34 6 Q. Going back to the two meetings that you had  
16:44:36 7 with the folks at Wilson, Sonsini, how did they  
16:44:42 8 describe this lawsuit to you?

16:44:45 9 MR. BERL: I'm once again going to object on  
16:44:47 10 work product grounds to the extent that it calls for  
16:44:49 11 information outside the scope of his testimony or  
16:44:52 12 deposition. He's free to answer.

16:44:56 13 THE WITNESS: They just described it as a  
16:44:59 14 dispute over whether or not the Hair patents should  
16:45:08 15 be controlling or in the future control what I call  
16:45:12 16 telerecording.

16:45:15 17 BY MR. MUDGE:

16:45:17 18 Q. And in your response, you refer to "should  
16:45:21 19 be controlling or in the future control  
16:45:23 20 telerecording." Can you describe for me what you  
16:45:26 21 mean by "control"?

16:45:28 22 A. Well, where --

16:45:30 23 MR. BERL: Speculation.

16:45:32 24 THE WITNESS: Yeah, this is speculation,  
16:45:34 25 that in the future the owners of those patents might

16:45:40 1 be tariffing transactions involving digital audio  
16:45:47 2 transmission over, say, the Internet.

16:45:49 3 BY MR. MUDGE:

16:45:49 4 Q. Did the lawyers at Wilson, Sonsini ever  
16:45:51 5 discuss with you whether or not the CDNOW service was  
16:45:58 6 infringing any of the Hair patents?

16:46:01 7 MR. BERL: Same objection.

16:46:04 8 THE WITNESS: They never used that term or  
16:46:06 9 suggested that.

16:46:14 10 MR. MUDGE: I'm just going to take a minute  
16:46:16 11 and mark a couple of documents, and we'll be  
16:46:18 12 finished.

16:46:19 13 Let's mark this one. I'm not sure what the  
16:46:21 14 next number is. We'll mark this as Exhibit 15.

16:46:27 15 (WHEREUPON, DEPOSITION EXHIBIT 15 WAS MARKED  
16:46:36 16 FOR IDENTIFICATION.)

16:46:36 17 BY MR. MUDGE:

16:46:36 18 Q. Exhibit 15 is a one-page document bearing  
16:46:38 19 the production number CDN026379. I would simply ask  
16:46:46 20 if you recognize that document in any way.

16:46:49 21 A. Yes, it looks like -- I remember giving a  
16:46:53 22 presentation at the IEEE microcomputer conference at  
16:46:59 23 Asilomar, looks like 1990, judging by the copyright  
16:47:04 24 mark on here, where I, you know, gave a talk and  
16:47:09 25 slide show about this kind of system.

16:47:16 1 Q. At the time you gave the talk, were you  
16:47:17 2 still employed or an officer with CompuSonics?

16:47:20 3 A. No. I was not, but I felt I should because  
16:47:26 4 it was developed at the time I was at CompuSonics in  
16:47:29 5 1989, I felt that I had to attribute the copyright on  
16:47:34 6 the information and the drawings back to what  
16:47:37 7 basically was a ghost ship company at that point.

16:47:47 8 MR. MUDGE: We'll mark this as Exhibit 16.

16:47:49 9 (WHEREUPON, DEPOSITION EXHIBIT 16 WAS MARKED  
16:48:02 10 FOR IDENTIFICATION.)

16:48:02 11 BY MR. MUDGE:

16:48:02 12 Q. Exhibit 16 is a three-page document bearing  
16:48:05 13 production numbers CDN027168 through CDN027170, and  
16:48:13 14 I'll note for the record that it appears to be a set  
16:48:18 15 of three pages, what appears to be representative of  
16:48:22 16 two articles obtained from the Dialog service.

16:48:34 17 A. Okay.

16:48:36 18 Q. Mr. Schwartz, the first page and the top  
16:48:41 19 half of the second page of this exhibit appear to be  
16:48:44 20 an article, this is an electronic copy of an article,  
16:48:47 21 but it appears to come from Forbes Magazine in 1986  
16:48:55 22 authored by Gail Bronson.

16:48:55 23 A. Yes, I remember the article.

16:48:58 24 Q. Do you think or do you recall that this  
16:49:00 25 accurately reflects your -- strike that.

16:49:04 1 In reviewing this electronic copy, does this  
16:49:09 2 in your understanding represent the article as it  
16:49:11 3 appeared in 1986?

16:49:15 4 A. Without comparing it to the actual magazine,  
16:49:17 5 I can't say it's identical, but the gist of it seems  
16:49:20 6 to be what was in the article, yes.

16:49:24 7 Q. Do you have any reason to believe that the  
16:49:26 8 quotations attributed to you are inaccurate in any  
16:49:30 9 way?

16:49:32 10 A. I believe they're the quotations that  
16:49:34 11 appeared in the magazine probably. They're not --

16:49:38 12 All of the writers paraphrase what I say and  
16:49:41 13 sometimes put a few words in my mouth. It's never  
16:49:44 14 exactly what I say. It's sort of along the same  
16:49:48 15 lines as what I said.

16:49:49 16 Q. But you believe that the two pages I'm  
16:49:54 17 referring to here, to the extent they're paraphrasing  
16:49:57 18 your thoughts, that's an accurate representation?

16:49:59 19 A. Yes.

16:50:02 20 Q. And if you could look then at the bottom of  
16:50:04 21 Page 27169 and to the third page of this exhibit, it  
16:50:09 22 appears to be an article from the Weekly Home  
16:50:13 23 Furnishings newspaper authored by Mark Harrington. I  
16:50:19 24 was wondering if you recall being interviewed by Mark  
16:50:22 25 Harrington.



16:50:23 1 A. That does not ring a bell, but there was so  
 16:50:25 2 many interviews, it could very well, you know, be  
 16:50:30 3 what happened.

16:50:31 4 This could be what it says it is. I'm sure  
 16:50:33 5 it is. If this magazine exists and this is the  
 16:50:36 6 article in it, then that's what it is. I just don't  
 16:50:39 7 remember the guy.

16:50:53 8 Q. I believe a few minutes ago when I asked you  
 16:50:55 9 a question about your invoices to Wilson, Sonsini, do  
 16:50:58 10 I recall that you said you charge your standard  
 16:51:01 11 hourly rate of \$350 an hour?

16:51:03 12 A. Yes.

16:51:04 13 Q. And do you recall approximately how many  
 16:51:05 14 hours you worked in connection with the invoice?

16:51:10 15 MR. BERL: Asked and answered.

16:51:15 16 THE WITNESS: Divide. What is that, eight  
 16:51:17 17 hours, ten hours, something like that.

16:51:22 18 MR. MUDGE: That's all the questions we have  
 16:51:23 19 for you.

16:51:27 20 THE WITNESS: Thank you.

16:51:27 21 THE VIDEOGRAPHER: This concludes the  
 16:51:28 22 deposition of David Schwartz. The number of tapes  
 16:51:30 23 used is three. The original videotapes will be  
 16:51:32 24 retained by Dan Mottaz Video Productions at 402 Dewey  
 16:51:38 25 Boulevard, San Francisco, California 94116,

16:51:42 1

(415) 731-1300.

16:51:46 2

This marks the end of Videotape No. 3. The

16:51:49 3

time is 4:51 p.m. We're going off the record.

4

(Ending Time: 4:51 p.m.)

5

6

I, DAVID M. SCHWARTZ, hereby declare under  
7 penalty of perjury:

8

That the foregoing transcript is true and  
9 correct.

10

Executed on \_\_\_\_\_, 2001,

11

at \_\_\_\_\_, California.

12

13

14

\_\_\_\_\_  
DAVID M. SCHWARTZ

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## 1 CERTIFICATION

2 I, FRANCES A. WEINROB, duly authorized  
3 to administer oaths pursuant to Section 2093(b) of  
4 the California Code of Civil Procedure, do hereby  
5 certify: That the witness in the foregoing deposition  
6 was by me administered the oath to testify to the  
7 truth in the within-entitled cause; that said  
8 deposition was taken at the time and place therein  
9 cited; that the testimony of the said witness was  
10 reported by me and was thereafter transcribed under  
11 my direction into typewriting; that the foregoing is  
12 a complete and accurate record of said testimony; and  
13 that the witness was given an opportunity to read and  
14 correct said deposition and to subscribe the same.

15 Should the signature of the witness not  
16 be affixed to the deposition, the witness shall not  
17 have availed himself/herself of the opportunity to  
18 sign or the signature has been waived.

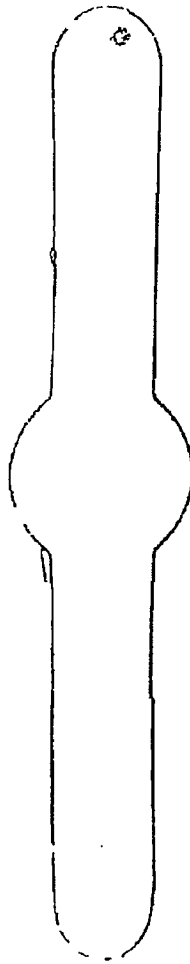
19 I further certify that I am not of  
20 counsel nor attorney for any of the parties in the  
21 foregoing deposition and caption named nor in any way  
22 interested in the outcome of the cause named in said  
23 caption.

24 DATED: 2.15, 2001

25 Frances Ann Weinrob  
FRANCES ANN WEINROB, CSR 4029



DISK



# EXHIBIT 4

# CompuSonics

## DIGITAL AUDIO SOFTWARE PRODUCTION/DISTRIBUTION

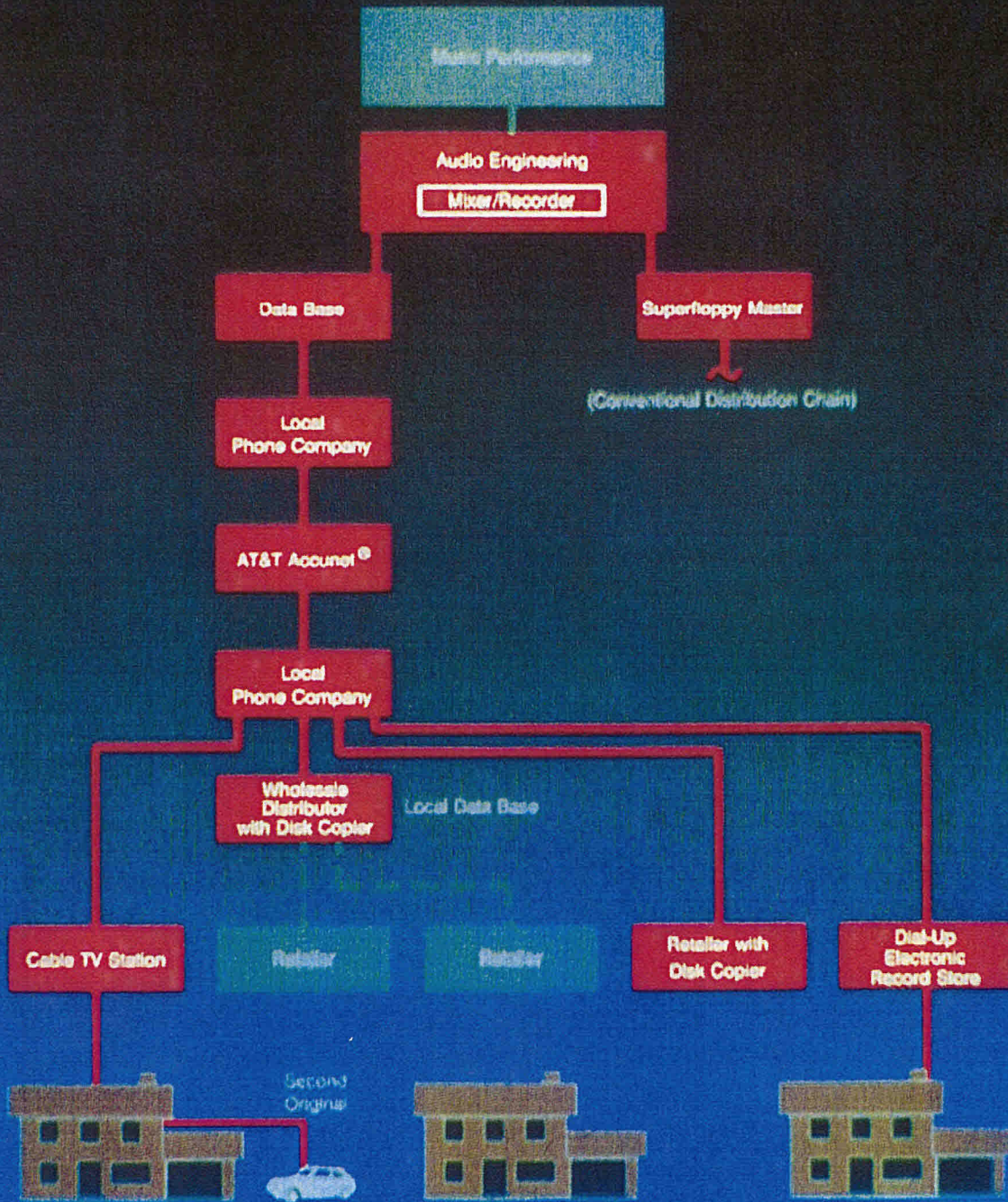


EXHIBIT  
D. Schwartz (4) dr  
12/9/13  
PENGLD 800-631-6999

# CompuSonics

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