In The Matter Of:

APPLE, INC.

v.

SIGHTSOUND TECHNOLOGIES, LLC

LAWRENCE KENSWIL - Vol. 1

April 2, 2014

MERRILL CORPORATION
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

--o0o--

APPLE INC.,	)	
	)	
Petitioner,	)	
	)	
vs.	)	NO. CBM2013-00020
	)	CBM2013-00023
SIGHTSOUND TECHNOLOGIES, LLC,	)	
	)	
Patent Owner.	)	

DEPOSITION OF

LAWRENCE KENSWIL

Wednesday, April 2, 2014

Volume I

(Pages 1 - 175)

REPORTED BY: MEGAN F. ALVAREZ, RPR, CSR 12470

(SF-001615)

I N D E X

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EXHIBITS MARKED FOR IDENTIFICATION

EXHIBITS MARKED FOR IDENTIFICATION

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BE IT REMEMBERED THAT, pursuant to Notice, and on Wednesday, April 2, 2014, commencing at Ropes & Gray, 1900 University Avenue, 6th Floor, East Palo Alto, California, before me, Megan F. Alvarez, a Certified Shorthand Reporter, Registered Professional Reporter, personally appeared

LAWRENCE KENSWIL

_____

a witness in the above-entitled court case, called by the Patent Owner, who, having been first duly sworn, was examined and testified in said cause.

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WEDNESDAY, APRIL 2, 2014, 9:09 A.M.

LAWRENCE KENSWIL,

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

(Whereupon Exhibits 1 and 2 were marked for identification.)

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EXAMINATION

BY MS. SKLENAR:

Q. Good morning, Mr. Kenswil.

A. Good morning.

Q. Am I pronouncing your name correctly?

A. That's perfect.

Q. My name is Jennifer Sklenar. I'm here on behalf of SightSound, and I wanted to ask you some questions about your declarations.

First of all, could you state your full name for the record?

A. Lawrence Kenswil.

Q. And could you spell your last name?

A. K-E-N-S-W-I-L.

Q. Have you ever gone by any other names?

A. No.

Q. Have you ever been deposed before?
A. Yes.
Q. How many times?
A. Many.
Q. Could you give me an estimate of how many times?
A. Probably 20, 25.
Q. Can you generally describe the nature of the cases in which you were deposed previously?
A. During my career at Universal, I was often designated as the witness for certain subjects in litigation, whether it was plaintiffs or defendants. I was usually testifying on music contracts more than any other subject.
Q. Did you give any prior testimony that relates to the issues covered in your declarations that you submitted?
A. No.
Q. Did you ever testify in any proceedings other than depositions?
A. I -- trial witness.
Q. And how many times were you a trial witness?
A. I'd say three or five.
Q. And what was the general nature of the cases in which you were a trial witness?

A. Usually they were music contract litigation.

Q. Were you ever giving trial testimony on any issues that relate to the subject matter of your declarations?

MS. FUKUDA: I'm going to object to form to the question.

You can answer.

THE WITNESS: There were not about patents. They may have peripherally related to online music business.

BY MS. SKLENAR:

Q. In what way did your prior testimony relate to the online music business?

A. The -- I don't know in my mind which were depositions and which were trial testimony. But certainly the history of Universal's business dealings online would come up in several of these litigations.

Q. Do you recall any other aspects in which you gave previous testimony that related to the online music business?

A. I know there was one case in -- specifically don't remember the actual name of the plaintiff, but it's often referred to as the Eminem, E-M-I-N-E-M, case, the rapper, which dealt with the royalties payable to contracting parties on digital sales. And I believe I

testified in court on that case.

Q. Any other testimony that comes to mind that related to the online music industry?

A. Not in court that I remember, no.

Q. Was there any other testimony outside of court that you've given that related to the online music industry?

A. Well, there's been depositions that -- I can't remember specifically any that were directly related to online sales.

Q. Have you ever been a party yourself to any legal proceeding?

A. I may have been named personally once in a case against Universal.

Q. And what case was that?

A. It was a case brought by a man named Gary Kurfirst, K-U-R-F-I-R-S-T, who named several executives and the company. I believe we had the case dismissed against the individuals, but I don't remember specifically what happened with it.

Q. And what was the general nature of that case?

A. It was a contract dispute.

Q. In what regard?

A. He was a -- he had label that I had done a lot of legal work on that was distributed by Universal

Music. I don't remember the exact nature of the case. They usually are about the amount of money owed on the contract.

Q. You are here today as an expert witness for Apple; is that correct?

A. Yes.

Q. Have you ever served as an expert witness before?

A. No.

Q. And I've already used the term "your declarations." You submitted two declarations in two different proceedings; is that correct?

A. That's correct.

Q. And they're -- the declarations are identical; is that right?

A. Virtually. They refer to different patents, but otherwise they're the same.

Q. So if I refer to "your declarations," will you understand that I'm referring to the declarations you submitted in the CBM proceedings between Apple and SightSound?

A. That's fine.

Q. Now, it sounds like you've been deposed a fair number of times. So just to go over the depo process, obviously the court reporter is taking down your

testimony and it would be extremely helpful to her, I'm sure, if we try very hard not to speak over each other.

And so I will do my best to let you finish your answer before I ask the next question. I would also ask you to try to wait to let me get the full question out before you proceed to answer.

Is that okay?

A. Yes.

Q. Okay. And if I ask you any questions that you don't understand -- and that could happen -- I would ask that you let me know and ask me to clarify it so we have a clear record.

Is that okay?

A. Yes.

Q. And you understand you're under oath here today as you would be in a court of law?

A. Yes.

Q. And you're under penalty of perjury.

Do you understand that?

A. Yes.

Q. And you -- I'm sure you're aware that sometimes your attorneys will be -- your attorney will be making objections. And so long as you're not instructed not to answer, you understand you should go ahead and answer the question?

A. Yes.

Q. Okay. What, if anything, did you do to prepare to testify here today?

A. I reviewed my declarations and the exhibits to my declaration.

Q. When did you do that?

A. Yesterday and this morning.

Q. Did you do anything else to prepare for your deposition?

A. No.

Q. Did you meet with counsel?

A. Yes.

Q. When did you do that?

A. Yesterday.

Q. For how long?

A. About four hours.

Q. With whom did you meet?

A. Ching-Lee.

Q. Did you meet with anyone else?

A. I met with Jim...

Q. Batchelder?

A. Batchelder. I'm bad at names.

Q. No problem.

Did you meet with anyone else?

A. No.

Q. You say you reviewed your declarations and the exhibits that were cited?

A. Yes.

Q. What specific exhibits do you recall reviewing?

A. I recall reviewing the proposed SightSound business plan and various prospectuses where they were seeking investment funding.

Q. Do you recall reviewing any other exhibits?

A. No.

Q. So is it fair to say that in preparation for your deposition today, the only documents you reviewed were SightSound documents?

MS. FUKUDA: Objection to form.

THE WITNESS: There may have been some articles. I don't remember if I cross-checked the quotes in my deposition with the actual articles, but I may have glanced articles that were also exhibits.

BY MS. SKLENAR:

Q. Sitting here today, the only exhibits you're certain of that you reviewed in preparation for your deposition were the SightSound documents?

A. That's correct.

Q. When you say you may have reviewed some articles, are there specific articles that you think you

might have reviewed but you're not certain?

A. Well, there were various quotes in my declarations to publications. And I may have looked at some of those publications, but I don't recall whether I did.

Q. Were you shown any documents, other than the ones that you've mentioned, that refreshed your recollection as to any events?

A. No.

Q. Did you discuss your deposition with anyone, other than your attorney here today and Mr. Batchelder?

A. No.

Q. Now, you were also retained by Apple as an expert in the district court litigation; is that correct?

A. That's correct.

Q. And you submitted some reports for Apple in those proceedings?

A. Yes.

Q. Did you review those reports in preparation for your deposition here today?

A. No.

Q. When's the last time you reviewed those reports?

A. Before the case was stayed was the last time.

Q. Did you review those reports in any way in preparing your declarations that were submitted for the purposes of the CBM proceedings?

A. No.

Q. Are you taking any medication or any alcohol that would -- or any other substances that would affect your ability to testify truthfully here today?

A. No.

Q. Do you have any mental or physical illness that would affect your ability to testify truthfully?

A. No.

Q. Is there anything that you could think of that might impair your memory or your ability to testify truthfully here today?

A. No.

Q. I am going to put in front of you what's already been marked Kenswil Exhibits 1 and 2.

And Kenswil Exhibit 1 is the declaration of Lawrence Kenswil that was submitted in the CBM 2013-00020 proceeding.

Do you see that?

A. Yes.

Q. And this is your declaration that was submitted for purposes of that CBM proceeding that I just read, correct?

A. Correct.
Q. And that's your signature at the end of the document?
A. Yes, it is.
Q. And Kenswil Exhibit 2 is the declaration of Lawrence Kenswil that was submitted in the CBM 2013-00023 proceeding?
A. Yes.
Q. And that's your signature at the end?
A. Yes.
Q. Who drafted your declarations?
MS. FUKUDA: Object to this line of questioning. There's an agreement between the parties here that there would be no discovery into the expert report drafting process.
MS. SKLENAR: Mr. Batchelder asked Mr. Snell the same questions. Are you instructing not to answer?
MS. FUKUDA: Can you give me one second here?
MS. SKLENAR: Yes.
(Off the record at 9:21 a.m. and back on the record at 9:25 a.m.)
BY MS. SKLENAR:
Q. Mr. Kenswil, who drafted your declarations?
A. It was -- I would say the drafting itself was a joint effort between me and the lawyers. They

outlined the -- the initial.

MS. FUKUDA: And I'm just going to instruct the witness to, you know, this is -- we have to be careful here because there's an agreement that we wouldn't get into expert draft reports. So I allow that general question, but I don't want the details of what sentence was drafted which way to come out during the course of this line of questioning.

BY MS. SKLENAR:

Q. So you were given a general outline; is that correct?

A. Yes, the points we covered and, you know, which area of expertise that we're looking for essentially.

Q. Did you -- in the course of reviewing your declarations to prepare to testify here today, did you come across any errors?

A. I saw a few typos and a misplaced heading, which I probably ignored when I was doing the drafting. The headings, I didn't do the headings, so I --

MS. FUKUDA: Again, I'm going to caution the witness let's not talk about exactly what happened.

THE WITNESS: I did see typos.

BY MS. SKLENAR:

Q. Were there any typos of a substantive nature?

A. You know, the only one I remember off the top of my head...

In paragraph 94 -- I just noticed this this morning -- the next-to-the-last line is the word "it." It should be the word "is."

Q. Is there anything else you noticed?

A. I'm not a very good proofreader, so I don't recall seeing any.

Q. Anything else you noticed of a typographical nature?

A. I know there was one yesterday that I saw that the bold letterheading didn't refer to what came after it. It was misplaced, but I don't remember which one it was.

Q. Is there anything else about your declarations that you would wish to correct?

A. No.

Q. How much time did you spend in the process of preparing the declarations?

A. I'd have to look at my hourly sheets. I don't remember.

Q. Could you give me an estimate?

A. Ten maybe. At the most.

Q. Ten hours?

A. I have to think about that.

Q. Does the ten hours include reviewing the materials that were cited in your declaration?

A. Yes. Not counting yesterday, preparation for the...

Q. Right. So prior to the time that you signed the two declarations you spent approximately ten hours, which would include the declarations themselves and the review of the set of materials, correct?

A. Yes.

Q. I'd like you to turn to paragraph 5 of your declaration.

And that's under the heading "Qualifications," correct?

A. Yes.

Q. And in paragraph 5, you describe your educational background?

A. Yes.

Q. Does paragraph 5 accurately state the totality of your formal educational background?

A. It states my degrees, yes.

Q. Have you taken any course work other than what's reflected in paragraph 5?

A. I think since then, probably only in continuing education sources.

Q. And when you say "continuing education," do

you mean as a lawyer?

A. Yes.

Q. Do you have any other formal course work other than what's reflected in paragraph 5?

A. No.

Q. Paragraph 5 states that you graduated in 1972 from Cornell University with a bachelor's of arts in theater arts.

Do you see that?

A. Correct. Yes.

Q. While you were at Cornell, did you take any courses of a technical nature?

A. Yes.

Q. What was that?

A. Well, I started in the engineering school. So my first year was all engineering courses.

Q. What engineering courses did you take?

A. Basic sciences, chemistry, physics -- you know, math.

Q. And then it states that in 1977 you received a master of science degree in communications from Boston University.

A. Yes.

Q. While you were at Boston University, did you take any courses of a technical nature?

A. There may have been some courses that touched on the technical nature of broadcasting, but I don't recall specifically.

Q. You don't know one way or the other whether you took any courses of a technical nature while at Boston University?

A. That's correct.

Q. What types of things did you study as part of your communications degree?

A. I was mainly studying broadcast regulation.

Q. Did you study anything else?

A. Well, there were other courses in TV production, radio, but mainly on the regulation side.

Q. And if you would turn to paragraph 6, paragraphs 6 through 18 describe your employment history; is that correct?

A. Correct.

Q. Do those paragraphs accurately summarize your prior employment?

A. Yes, they do.

Q. So focusing on paragraph 7. You say you worked from -- and I'm paraphrasing -- but from -- strike that.

Paragraph 7 states that you worked from 1983 to 1991 as a business and legal affairs attorney; is

that correct?

A. Yes.

Q. What types of things did you do as a business and legal affairs attorney?

A. The bulk of my time was negotiating and drafting recording agreements. I also worked on music publishing, concert touring agreements, merchandising, and general corporate matters.

Q. Okay. And paragraph 8 states that in 1991 you became executive vice president for business and legal affairs and you were the chief legal officer of UMG Global; is that correct?

A. That's correct.

Q. What types of things did you do in that capacity?

A. All of the above that I mentioned before, along with general counsel duties and supervising -- more supervising of other lawyers doing the same thing.

Q. And you held that position, executive vice president for business and legal affairs, and the chief legal officer position from 1991 until 1998; is that correct?

A. That's correct.

Q. Prior to the time that you left that position in 1998, did you have any occasion to review business

prospectuses?

A. Yes.

Q. How often would you say that you did that?

A. It was a regular part of my job when people had business proposals for the company, I would review their proposals.

Q. And did you have occasion to review private placement memoranda?

A. Prior to 1998?

Q. Correct.

A. I may have, but it wasn't common.

Q. Are you familiar with the term "risk factors"?

A. Yes.

Q. What are risk factors?

A. Risk factors are events that may happen that would adversely affect a business.

Q. Do prospectuses generally include risk factors?

A. Yes.

Q. In your experience, do people tend to be sort of as negative as possible in describing risk factors associated with a particular business?

MS. FUKUDA: Objection to form.

THE WITNESS: They're not as negative as possible because if they were as negative as possible,

they wouldn't be looking to work in that business.
BY MS. SKLENAR:
Q. Well, how would you characterize the general approach to risk factors that are laid out in things like prospectuses?
A. Conservative.
Q. In 1998, you founded and ran UMG's eLabs as eLabs president; is that correct?
A. Correct.
Q. Did that position as eLabs president also include a legal component?
A. No.
Q. So that was a business function; is that right?
A. Yes.
Q. Okay. Prior to the time you became eLabs president, did you work with individuals who had computer engineering background?
A. Prior to the time, yes, I did.
Q. And when was that?
A. Well, I worked with them all through my career at Universal.
Q. Who was that?
A. The -- we had a recording studio, mastering studio, and those were run by technical people. Also, I

was on various committees at industry associations such as the RIAA, the IFPI, and they had technical people on staff ready to advise with any technical issues and questions. And I also worked on developing new formats, which would also include technical people on those groups -- in those groups.

Q. Can you give me some names of the technical individuals you worked with prior to 1998?

A. Sure. Try and get the dates right.

Paul Jessop, J-E-S-S-O-P.

Paul West, W-E-S-T.

Chris Horton, H-O-R-T-O-N.

Albhy, A-L-B-H-Y, Galuten, G-A-L-U-T-E-N.

It was a cross-over person, both technical and creative.

There were technical people also at the RIAA, but I can't recall who was there before '98.

Q. The individuals that you named -- Mr. Jessop, Mr. Galuten, Mr. West, and Mr. Horton -- were all those employees of UMG?

A. No.

Mr. Jessop was the head of technology for the IFPI.

Mr. Galuten became an employee of UMG prior to '98, but I worked with him before that.

Mr. Horton was at Panasonic, and we hired him around 1998 to work for us.

And who else did I mention? There was one more name I had.

Q. Mr. West?

A. Yes. Paul West ran the Universal recording studio, so he was employed.

Q. So let me just run through the list.

Mr. Galuten, what was his technical background?

A. He worked as a record producer.

Q. What was his undergraduate degree in?

A. I don't know.

Q. Did he have a graduate degree?

A. I don't know.

Q. What about Paul Jessop? Do you know what his technical background was?

A. He was a -- I don't know his degree, but he was definitely a techie.

Q. When you say, "He was definitely a techie" --

A. I would say he probably had a graduate degree in electrical engineering or something like that because he was more hardcore, let's say.

Q. But you don't know one way or another what specific degrees he held?

A. I don't know what his degrees were.

Q. I know the court reporter is going to shoot us both if we don't stop talking over each other. So we don't want her to do that.

What about Mr. West? What technical degree did he have?

A. I don't know his education.

Q. And what about Mr. Horton? What technical degree did he have?

A. He went to graduate school at MIT. I don't know exactly what his degree was in.

Q. Okay. Prior to 1998, did you personally have any firsthand experience with the technical constraint for the storage of digital audio files?

A. Yes.

Q. What was that?

A. Prior to the founding of eLabs, I was basically ramping up the same job. So I'd say starting in around 1993, I became -- I started working on the development of, internally, of digital business planning for the company, specifically for the digital downloading of files.

Q. Apart from planning for the company, did you do anything firsthand in the field as far as it relates to the storage of the digital audio files?

MS. FUKUDA: Objection to form.

THE WITNESS: Our general plan at that point was to learn as much as possible in order to create these business plans, so we met with many people. Especially by 1996, we were meeting with many people in the field to learn as much as possible so we could know what technical -- technology existed and what would exist so we could plan on budgeting for the entry into this business.

BY MS. SKLENAR:

Q. You said the planning started around 1993; is that correct?

A. Correct.

Q. Prior to 1993, did you have any firsthand experience with the technical constraints associated with the storage of digital audio files?

A. Yes.

Q. What was that?

A. Well, I had a computer; it was connected to the Internet. And I -- my firsthand experience in using that in downloading files. I knew what the speeds were. I knew what the storage was on the computers.

Q. So other than your use of a personal computer, did you have any firsthand experience with the technical constraints for the storage of digital audio files prior

to 1993?

A. As I was generally aware through my dealings, with especially Paul West, how music -- the transition from analog to digital in the music business and what it would take to convert our files from the analog to digital format. And part of that would be the storage and the transfer of those files.

Q. You say you were generally aware of that from your dealings with Paul West.

When did you begin working with Mr. West?

A. The '80s.

Q. In what capacity did you work with him?

A. He and his predecessor -- I don't remember the predecessor's name, but he had that job. He was there when I started at the company. They were my main technical go-to people when I had a question about technology.

Q. What did you do with Mr. West prior to 1993 that would have given you experience with the technical constraints associated with the storage of digital audio files?

A. Through the '80s, we were going through the transition of analog to digital formats, specifically to CD.

As a negotiator of the contracts, I needed to

know in detail what it would take for the company to do that, the costs involved and -- in developing business models for the -- specifically for the artist contracts. So the payment on these formats knowing what the overall business differences were between distributing analog and digital song files.

Q. Did you work with compression technology prior to 1993?

A. No.

Q. Did you work with encryption technology prior to 1993?

A. No.

Q. If you would turn to paragraph 9, in talking about -- you say: "In 1998, I founded and ran UMG's eLabs as eLabs' president," and then a little ways down you say that you were one of the first executives at UMG to have a personal computer.

Do you see that?

A. Yes.

Q. When did you first have a personal computer?

A. In the early -- well, at the company?

Q. Yes.

A. In the early '90s.

Q. Did you have a home computer before that?

A. Yes.

Q. When was that?
A. I'd say 1986 or 1987.
Q. And do you know for sure when you first had a home computer?
A. It was definitely by 1987.
Q. And why does that date stick out in your mind?
A. Because I think I have Quicken files going back that far.
Q. You say you were one of the first executives at UMG to have a personal computer.
When did the use of personal computers become prevalent among the executives at UMG?
A. I'd say it was a gradual process as networking -- I take that back. As e-mail became more required, people started getting computers so they could do e-mail.
Q. When was that at UMG where people began to regularly use computers for e-mail?
A. I don't remember the exact date. It was sometime in the '90s.
Q. Can you be any more specific as to when in the '90s that would have been? Do you know?
A. You're saying "executives" again. The executives were probably the last to have computers, and they were probably many by 2000 that still didn't have

computers. I'd say over the second half of the decade, it went from close to zero to 90 percent.

Q. When did the use of personal computers become prevalent among the general population?

MS. FUKUDA: Objection to form.

THE WITNESS: By "prevalent," you mean more than half?

BY MS. SKLENAR:

Q. Where people were regularly using personal computers for e-mail.

A. I don't think they hit a 50 percent penetration until the late '90s.

Q. And what's your basis for saying that?

A. Just my memory. I don't have any specific -- as we sit here, any specific citation.

Q. But you believe in the late '90s, about 50 percent of the people in the general population were using personal computers? That's your recollection?

A. That's my recollection.

Q. Again, there's nothing you can cite me to, correct?

A. Not as I sit here.

Q. Prior to 1993, what experience did you have with cable lines?

A. I had one in my house.

Q. Did you have any other experience with cable lines prior to 1993?

A. I think we had cable at the office also.

Are you talking about cable television?

Q. Any sort of cable lines.

A. I mean, cables are wires. I'm not sure it's really the -- the distinguishing factor is content going over them so...

Q. Sure. So let's make the question more specific to cable lines for telecommunications.

Prior to 1993, what experience did you have with the use of cable lines for telecommunications?

A. I think my experience prior to '93 would have been that of a user.

Q. Prior to 1993, what experience did you have with the cost of storage for digital audio files?

A. My primary experience in that would have been around the storage of our remastered library going from analog to digital and the costs of storing those digital files, as well as the aspects of releasing CDs which were also storage for digital files.

Q. And during what years did you get experience in that regard?

A. We were in the process of converting to digital from the -- probably from the time I started

with the company, 1983, '84.

Q. If you would turn to paragraph 10 of your declaration.

A. Paragraph 10?

Q. Yes.

You talk about how as president of eLabs, you supervised a team of business legal and technical professionals.

Do you see that?

A. Yes.

Q. Was that the first time you formally supervised any technical professionals?

A. No. Albhy Galuten was reporting to me before we started eLabs.

Q. Was Mr. Galuten the only technical individual who reported to you prior to 1998?

A. Yes.

Q. You say in paragraph 11 that during your tenure at eLabs, the unit commenced and oversaw a multi-million dollar project to digitize and catalog its music and associated artwork.

Do you see that?

A. Yes.

Q. So is that a correct statement, that commencement of the project to digitize and catalog the

music and associated artwork occurred during your tenure at eLabs?

A. The company began -- I'll summarize this as the digital vault project. The company began various digital vault initiatives prior to that, probably 1995, 1994. And that's separate from storage for CDs because the format for CD is different than the storage for format for digital distribution. It was recognized by the early, mid-'90s that in order to digitally distribute, we needed to prepare the music in a format that could then feed the digital system.

These projects were not centrally coordinated, and they were being developed by different operating units.

Around 1997, '98, we started centralizing those projects under someone who reported to me, and then from then on it was supervised centrally to build the housing for the digital files.

Q. So is it fair to say, beginning in 1998, that was the first time that individuals who were involved in the conversion process that you described reported to you?

A. Yes.

MS. SKLENAR: So I'm going to mark as Kenswil Exhibit 3, petitioner's reply.

(Whereupon Exhibit 3 was marked for identification.)

BY MS. SKLENAR:

Q. Mr. Kenswil, have you seen this document before?

A. No.

Q. If you could turn to page 13.

A. Yes.

Q. Do you see that your name appears on the second line of page 13?

A. Yes.

Q. And it refers to you as a music industry expert.

Do you see that?

A. Yes.

Q. Are you, in fact, a music industry expert?

A. I believe so.

Q. Are you an expert in any other areas?

MS. FUKUDA: Objection to form.

THE WITNESS: There are areas peripheral to the music business that I know a lot about. I don't know whether it rises to the level of expert.

BY MS. SKLENAR:

Q. In what subject matters do you consider yourself to be an expert?

MS. FUKUDA: Objection to form.

THE WITNESS: Copyright law, content licensing. I'll take music publishing as being part of the music industry, so associated industries to the recording industry: Music publishing, touring, merchandising.

That's all that comes to mind.

BY MS. SKLENAR:

Q. Are you an expert in consumer behavior?

MS. FUKUDA: Objection to form.

THE WITNESS: It's not my specialty. I'm very -- I have a lot of experience in the analysis of consumer behavior with regard to music sales.

BY MS. SKLENAR:

Q. You say it's not your specialty. What do you mean by that?

A. That means it was never the focus of my employment. Generally when I needed knowledge about that, I would refer to others in the company to answer my questions.

Q. Are you an expert in branding?

A. In general, no. In music branding, yes.

Q. What do you mean by "In music branding, yes"?

A. I understand how music branding works and the effect it has on sales.

Q. What does the term "music branding" mean to you?

A. It means the -- the secondary meaning that certain words have in the public's mind when making decisions about purchasing music.

Q. Can you give me an example of music branding?

A. Any artist's name, label names, retailer names, manufacturer name.

Q. Are you an expert in advertising?

A. No.

Q. Are you an expert in marketing?

A. No.

Q. Are you a financial expert?

A. I don't think there is such a thing.

Q. Have you ever worked as a financial analyst?

A. No.

Q. Are you an expert in sales?

MS. FUKUDA: Objection to form.

THE WITNESS: No.

BY MS. SKLENAR:

Q. Have you ever taken any patent law training?

A. No.

Q. You're not a patent attorney, correct?

A. No, I'm not.

Q. Have you ever done any work in the patent

field whatsoever?

A. What do you mean by "work"?

Q. Well, apart from your work in the Apple vs. SightSound proceedings, has anything over the course of your career related to the field of patent law?

A. Yes.

Q. What was that?

A. Well, as general counsel of the company, various patent issues would arise which I would have to handle. To the extent I understood it, we handled it internally. And to the extent I didn't, we would hire outside counsel.

Q. Give me an example of a patent issue that would arise.

A. There was one that arose all the time: Issues involving the patents of a CD. There were various issues as to what was covered, expiration dates, ways we could avoid to continue to pay if -- you know, if the patents had expired. It was the CD patent that mainly I was involved with.

Then later as we were starting to research new formats, I -- there were large industry discussions about developing these new formats and the necessity of patent pools to support them. And I was involved in many of these discussions of what patents would go into

these patent pools, what the payments would be for them, how -- who would have the rights to them, and how they would operate.

Q. You said as general counsel of the company various patent issues would arise that you would have to handle.

Do you recall saying that?

A. Yes.

Q. Did you have in-house patent counsel?

A. No.

Q. Did you have an in-house intellectual property attorney?

A. We all were intellectual property attorneys.

Q. And when you say you would handle it, what specifically are you talking about that you would do?

A. Well, I would -- it was my responsibility to develop the company's position on any issue -- on any legal issue, so I would have to do whatever I had to do to develop that position.

Q. If you could turn back to your declaration to paragraph 19. There you list in that paragraph the materials considered.

Do you see that?

A. Yes.

Q. Does this paragraph reflect the total world of

materials that you considered in the course of preparing your declarations?

A. Well, includes all matters cited here. I may have looked at documents that weren't cited because I decided they weren't necessary to the declaration.

Q. You state -- strike that.

You say you may have looked at documents that weren't cited. Do you know one way or the other whether you looked at documents that weren't specifically cited in your declarations?

A. I'm sure I did, yes.

Q. What were those materials?

A. I specifically remember, in looking through in the paragraph recalling the failed startups in the music business -- specifically the digital distribution retailers -- I did some research on the Internet as to specific dates and times of when those things happened. And I'm sure I looked at Web pages and documents that I didn't cite.

Q. You say you considered the Hair patents?

A. Yes.

Q. In what way did you consider them?

A. I looked at what the claims were.

Q. And did you read the patents in addition to looking at the claims?

A. I read -- I don't know if I read every word, but I certainly looked at them. I -- I probably looked at them for the first time almost 20 years ago. I'm familiar with them.

Q. You don't know whether in reviewing them -- strike that.

You don't know whether in considering them for purposes of your declarations whether you read the entirety of the patents?

A. I'd say I read the bulk of them, but there may be some sections I didn't read.

Q. How many times would you say you've -- strike that.

Do you understand what the various parts are of a patent?

MS. FUKUDA: Objection to form.

THE WITNESS: I'm not sure what you mean by "parts."

BY MS. SKLENAR:

Q. Well, let me -- strike that.

Do you understand which claims are at issue for purposes of the CBM proceedings?

A. Generally, yes.

Q. Which claims are those?

A. The claims of inventing a method for

delivering digital music files from one party to another and the exchange of monetary consideration electronically back.

MS. SKLENAR: Let's mark as Kenswil 4, U.S. Patent 5,191,573.

(Whereupon Exhibit 4 was marked for identification.)

BY MS. SKLENAR:

Q. Now, when I was referring to "claims" earlier, I meant the patent claims that were at issue.

Do you understand which section of the patent includes the claims?

A. I'm not sure I understand the question.

Q. Within Kenswil -- I'm going to refer to it as the '573 patent.

Do you understand that?

A. Uh-huh.

Q. Within the '573 patent, could you point me to the section that includes the patent claims?

MS. FUKUDA: Object to this line of questioning to the extent it's asking for Mr. Kenswil's patent knowledge. He's not being offered as a patent expert.

MS. SKLENAR: I'm going to object to that as an improper speaking objection. We should stick to the

PTAB rules.

MS. FUKUDA: Object to form. And also object to the line of questioning as outside the scope of his declaration.

THE WITNESS: Well, there may be a technical meaning to the word "claim" that I'm not aware of.

BY MS. SKLENAR:

Q. You don't know what the word "claim" means in the patent context?

A. Well, I'm not sure your use of it differs from my understanding of it.

Q. Okay. When you were considering what the invention was of the '573 patent, where did you look?

A. I looked at the field of invention and the summary of the invention.

MS. SKLENAR: Okay. Let's mark as Kenswil Exhibit 5 U.S. Patent 5,966,440.

(Whereupon Exhibit 5 was marked for identification.)

BY MS. SKLENAR:

Q. Do you recognize this as the '440 which is at issue in the CBM proceeding?

A. Yes.

Q. When you were considering the invention of the '440 patent, where did you look within this Exhibit 5 to

figure out what the invention was?

A. The abstract, field of the invention, the summary of the invention.

Q. Okay.

A. I also read the description of embodiment, looked at the -- the diagrams.

Q. You mentioned -- going back to your declaration, you mentioned that you read the deposition of Arthur Hair; is that correct?

A. No.

Q. You have not read Mr. Hair's deposition?

A. Not that I recall.

Q. And have you read Mr. Sanders' deposition?

A. No.

Q. Do you know who Mr. Sanders is?

A. Yes.

Q. And you know who Mr. Hair is?

A. Yes. I've met them both.

Q. Okay. Going back to paragraph 19 of your declaration, you say you had a conversation with Dr. Kelly.

Do you recall that?

A. Yes.

Q. Who is Dr. Kelly?

A. Dr. Kelly is an expert witness for Apple in

this proceeding.

Q. And how many conversations have you had with him?

A. One.

Q. When did you have that conversation?

A. During the week prior to the signing of the declaration.

Q. What did you talk about?

A. We talked about two matters, the two I referred to in here. One was hard drive capacities during the era. And the other one slips my mind, but it's in here.

Oh, just his opinion on whether the iTunes Music Store embodies the patent claims.

Q. So let's start with the first thing you discussed with Mr. Kelly.

You said you talked about hard drive capacities during the era, correct?

A. Yes.

Q. Which era are you referring to there?

A. The 19- -- the 1990s when the SightSound store was online.

Q. And why did you talk to Mr. Kelly about hard drive capacities during the 1990s?

MS. FUKUDA: Objection to the extent it calls

for privileged communications.

THE WITNESS: I wanted to confirm my memory of what the consumer hard drive availability was during that era.

BY MS. SKLENAR:

Q. What did Mr. Kelly tell you?

A. He confirmed that they were in the -- in the range that I remembered.

Q. What range was that?

A. 100- to 200-megabyte -- I'm sorry, yes.

Q. Do you recall anything about your conversations with Dr. Kelly about hard drive capacities during the 1990s other than what you already testified to?

A. No, I believe we only talked about capacity.

Q. You say you also talked to Mr. Kelly about whether iTunes embody the claims; is that right?

A. Yes.

Q. What specifically did you two discuss in that regard?

A. Well, not being a patent expert, I had no opinion of my own as to that issue. And so I needed his advice as to whether -- what his belief was on that.

Q. And what did Dr. Kelly tell you in that regard?

A. That it did not.

Q. Did he explain to you why he thought that?

A. Just very generally that the features of the iTunes Store generally were not part of the claims of the patent.

Q. Do you recall anything else about your conversation with Dr. Kelly about the iTunes Store other than what you've already testified to?

A. No.

Q. If you could turn to page 16, paragraph 52 of your declaration. So in the carryover sentence in paragraph 52, from pages 16 through 17, it refers to those having a bachelor's degree or equivalent in computer engineering or computer science and approximately two years of experience in developing software and hardware that transmit and receive files over a network.

Do you see that?

A. Yes.

Q. And you have a footnote where you say: "It is my understanding that such individuals are considered persons of ordinary skill in the art."

Do you see that?

A. Yes.

Q. Have you ever been a person of ordinary skill

in the art based upon the standard you set forth in your declaration?

MS. FUKUDA: Objection to form.

THE WITNESS: I have -- I do not have a bachelor's degree equivalent in computer engineering or computer science.

BY MS. SKLENAR:

Q. You are not a person of ordinary skill in the art as the standard has been set forth in your declaration, correct?

A. For this purpose, yes, that's correct.

Q. If we could turn to paragraph 24 of your declaration.

MS. FUKUDA: Paragraph 24?

MS. SKLENAR: Yes, paragraph.

MS. FUKUDA: Page 7.

THE WITNESS: Oh.

BY MS. SKLENAR:

Q. There's a quoted reference to evidence of secondary considerations.

Do you see that?

A. Yes.

Q. Do you have an understanding as to what "secondary considerations" means?

A. I have a layman's understanding.

Q. What is your layman's understanding?

A. That secondary considerations -- well, I believe they are considerations that come up after the fact of the patent in the operation of the businesses that lead to the decision whether there is a -- that the patent was obvious at the time that it was filed.

Q. Do you know what the various secondary considerations are?

A. Well, I know the ones that I consider.

Q. Which ones did you consider?

A. The commercial success and the coextensiveness of the -- of the use to the compared to the patent.

Q. If you turn to paragraph 25, you state in the context of secondary considerations: "I understand that commercial success includes achieving profitability and sales that represents a substantial quantity in the relevant market."

Do you see that?

A. Yes.

Q. Is that the understanding of "commercial success" that you applied throughout your declaration?

A. Yes.

Q. Where did you get that understanding as to the meaning of "commercial success"?

MS. FUKUDA: Let me just jump in in case the

witness feels that this is a privilege issue. Where -- I think in this context, the framework of the law is provided by the attorneys, and I'm going to provide that without waiver to any privileged communication.

BY MS. SKLENAR:

Q. So is it fair to say, Mr. Kenswil, that your understanding as set forth in paragraph 25 as to the meaning of "commercial success" was from counsel for Apple?

A. Yes.

Q. Do you have any understanding as to the meaning of "commercial success" in the patent context outside of your conversations with Apple's counsel?

A. I have a general understanding of what "commercial success" means in the music business. To the extent that is the same as what it means for patent purposes, then yes. If it isn't, then no.

MS. FUKUDA: May I ask for a break sometime in the next five minutes?

MS. SKLENAR: Why don't we do that now.

MS. FUKUDA: Okay.

(Off the record at 10:17 a.m. and back on the record at 10:30 a.m.)

BY MS. SKLENAR:

Q. Mr. Kenswil, if I could direct your attention

to paragraphs 26 through 28 of your declaration.

And now, we already established for paragraph 25 that your understanding of what's reflected in that paragraph was from counsel.

I want to ask you the same thing about paragraphs 26 through 28. Is your understanding of what's reflected in those paragraphs based on your discussions with counsel?

A. Yes.

Q. Do you have any independent knowledge of the subject matter of paragraphs 26 through 28 other than your discussions with counsel?

A. No.

Q. During the break, did you talk to your counsel about the substantive nature of your testimony?

A. No.

Q. If you could look at paragraph 29.

You say that there are many important aspects of the iTunes Music Store, ITMS, that are unrelated to the '440 patent.

Do you see that?

A. Yes.

Q. What are the important aspects that you're referring to there?

A. I believe I go on later to list them.

Without reading from the declaration, the important aspects are, one, the integration of hardware with software between the iPad -- sorry -- the iPod and the iTunes Store.

Another was the integration of the retail experience with the music playback software. Essentially it was one application for both playing back music and buying music.

Another was the -- the listening of popularity through different ratings via consumers.

Another was the -- very important one -- was the disaggregation of what is otherwise only available as album material into individual tracks available for purchase.

Another one was general recommendations.

I'd have to look at the declaration. There may be others.

Q. How did you decide whether an aspect of iTunes was important to its success?

A. My experience being a content supplier to the music store at the time of the launch after -- several years after, and talking to them, talking to the marketing people that reported to me, marketing people that didn't report to me, sales people within the company as to why iTunes was working when previous

attempts failed.

Q. You say "talking to them" was one of the reasons -- one of things you used in determining why iTunes was successful. You're referring to people at Apple?

A. No. I was referring to people within my own company.

Q. Have you -- so as far as the ways you went about determining whether -- strike that.

As far as determining the reasons that iTunes was successful, did you talk to anyone other than folks within your own company?

A. Well, I read industry articles, popular press articles. Talked to friends who had used it. Asked them why they like it.

In general, my knowledge of what brings success to, you know, certain recordings and not to others and their presentation to the public and seeing how iTunes handled that in comparison to the way successful distributors and retailers handled their product in the past all led to this conclusion.

Q. Let's start with individuals you spoke to.

You said you spoke to individuals within your own company, correct?

A. Sure.

Q. Apart from individuals you talked to about why iTunes Music Store was successful, you said you also talked to friends; is that right?

A. Yes.

Q. Is there anyone else you can think of that you talked to about why the iTunes Music Store was successful other than people within your company and your friends?

A. Reporters.

Q. Anyone else?

A. People at other companies.

Q. Is there anyone else?

A. People at other retailers.

Q. Anyone else?

A. Probably, but I can't think of any other category off the top of my head.

Q. Who did you talk to within your own company?

A. I talked to -- the main liaison between Universal and Apple worked for me. She was in charge of digital sales.

Q. Who was that?

A. Amanda Marks.

Q. Did you talk to anyone else within your company about the reasons iTunes Music Store was successful?

A. The marketing people at the individual record labels within the company.

Q. Who were they?

A. Steve Berman at Interscope.

Trying to remember the dates and the people who had those jobs at the time.

Monte Lippman, L-I-P-P-M-A-N, at Universal.

Bruce Resnikoff, R-E-S-N-I-K-O-F-F, who ran our catalog business.

Jim Urie, U-R-I-E, who was head of sales and distribution at Universal.

The people who ran the labels. Jimmy Iovine, I-O-V-I-N-E, was the main one.

Doug Morris, the CEO of our company.

It's a representative example.

Q. For the people that you listed from your company that you spoke to about the reasons why the iTunes Music Store was successful, over what period of time did you have those discussions?

A. From the launch of the store in, I believe, 2003 to -- through 2008.

Q. And do you recall specific comments that individuals within your company made as to reasons that they thought the iTunes Music Store was so successful?

A. I don't remember specific words they used, no.

Q. Even without specific words, do you remember the reasons they thought the iTunes Music Store was successful?

A. Yes.

Q. What was that?

A. The strength of the Apple brand, which I probably forgot the mention. The strength of the Apple brand was important. People were already associating it with digital music through the iPod, and then it became a easy association with the iTunes Music Store because they understood iTunes already.

The label heads were impressed with Apple's understanding of how the music business is dependent upon promoting its artists and how you promote the sale of music through the promotion of those artists. So much of the iTunes marketing was around artist releases and artist promotions and how Apple would coordinate the marketing on the iTunes Store with the priorities of the record label in marketing its product.

The ease of use of the software and how people -- at least people who weren't necessarily all that conversant with technology or computer use were -- were impressed by how even they could use it.

Those are examples.

Q. You said you talked to friends and asked them

why they liked it. How many friends are we talking about that you had these discussions with?

A. I don't remember.

Q. Can you give me an estimate?

A. Generally, in that time, if I met someone or talked to them, I would ask them if they used it because I was interested in people's reactions. So it was a general question I asked people.

Q. You don't have an idea how many people you asked?

A. No.

Q. You said you talked to reporters about the iTunes Music Store?

A. Yes.

Q. Which reporters?

A. Well, I had regular conversations with most people covering this business at the LA Times, The New York Times, Reuters, Bloomberg, Billboard, Variety.

And so I would -- whether we were talking specifically or general about the music business, certainly at the time the iTunes Music Store was growing, we would talk about their reaction to it and what they were hearing and what they thought of it.

Q. And you say you talked to people at other

companies?

A. Yes.

Q. Which companies are those?

A. To the extent it was legal -- antitrust laws permitting, I would talk to my equivalents at the other record labels doing similar jobs to mine as to how they felt it was going with iTunes.

Q. Going back to paragraph 29, when you talked about that the important aspects of iTunes were unrelated to the Hair patent, how did you make a determination whether the aspects of iTunes were related to patent or not?

A. My understanding was the patent was limited to claims relating to the transmission of the file from the source to the receiver and the transition and payment from the consumer back to the store.

And those were certainly necessary for digital sales, but certainly they were found in all previous attempts to succeed in the digital business. And we had had a series of failures in respect and suddenly iTunes succeed. The question came up, why did they succeed when everyone else failed.

Q. If you would look at paragraph 30 of your declaration.

You say that you disagree that there is a

nexus between any alleged merits between the claimed invention and the commercial success of iTunes.

Do you see that?

A. Yes.

Q. Do you agree -- separate and apart from the nexus between the claimed invention and the success of iTunes Music Store, separating that aside -- or putting that aside, do you agree that iTunes Music Store has been a commercial success?

A. Yes.

Q. And when do you think it became clear in the marketplace that the iTunes Music Store was, in fact, a commercial success?

A. Are you defining "commercial success" by the patent standards that I'm a little vague on or by my understanding of commercial success within the music business?

Q. Based upon the definition that you set forth in paragraph 25 of your declaration.

A. Right. Of course, it would be profitability and substantial quantity of sales.

It had substantial quantity of sales immediately.

I don't know when it achieved profitability. Much of the question about profitability of the iTunes

store had to do with allocating costs, and Apple was marketing the store in conjunction with its hardware. So, to some extent, you know, it could allocate costs either way and the store could go in and out of profitability.

But looking at just simple marginal profitability, it was, in my mind, profitable from the instant they started. I don't believe they had marginal costs in excess of the marginal revenue from the very beginning.

Q. As you would use the term "commercial success" in the music industry, do you believe the iTunes Music Store was commercially successful right away at the launch?

A. Yes. It far exceeded anyone's projection.

Q. If you would turn to paragraph 67 of your declaration.

A. 67?

Q. 67, correct.

You state there: "In my opinion, as discussed in detail below in paragraphs 68 through 98, the factors that make Apple successful include its experience, its credibility, its established brand name, its ability to license the major record labels, its FairPlay DRM technology, its user friendly features, the existing

iPod and iTunes management software, as well as intervening technical advances."

Do you see that?

A. Yes.

Q. I think we got into this before, but I just want to make sure the record's clear.

What method did you use to determine that these were the factors that made Apple successful?

A. My experience in the business, knowing what constituted success in the past and what led to success in various music retailing and product launches, as well as my conversations within and without the company I worked for.

Q. Are there any facts or data that you could point me to on which you base your opinion, other than your personal experience and the conversations that you've referenced?

MS. FUKUDA: Objection to form.

THE WITNESS: Well, take it one by one.

Its established brand name. It's a fact that Apple is a brand that's well known to the public since the launch of its initial line of personal computers many years before the launch of the iTunes Music Store.

Its ability to license -- to license major record labels is clear by the catalog it has within its

store. No other store has had that success in getting that much content online prior to that time. And I don't know if it's been matched since.

The FairPlay DRM technology is -- was used at the launch of the store and for several years thereafter. It was a necessary prerequisite to getting the major labels to put their content on the store. And you could read about that probably in the terms of use for the store and in various other articles about how the store works.

Its user friendly features, just obvious from using it. The -- the -- it works well, it's fast, it's gives instant gratification, and it gives information about the music at your fingertips in one place.

The existing IPod and iTunes music management software, something I already spoke about.

The integration of the sales and the music listening experience.

Intervening technical advances specifically refers to bandwidth speed and storage capacity in the home.

Q. What year was the iTunes Music Store launched?

A. I believe it was 2003.

Q. Do you have a sense of how many songs were purchased through the iTunes Music Store in 2003?

A. I don't remember, no.

Q. For -- let's say, just to give a hypothetical, that there were 30 million songs that were purchased in that year.

A. Okay.

Q. What did you do to assure yourself that those 30 million purchases related to the factors that you set forth in paragraph 67 rather than the fact that people wanted to purchase music over the Internet?

MS. FUKUDA: Objection to form.

THE WITNESS: Well, wanting to purchase music on the Internet, first of all, they -- it would have to be people who wanted to purchase music. We start there.

The over the Internet part is obvious because that's how it was done. The same way you sell record stores in a mall to people who are purchasing records in a mall, you sell music to people who are on the Internet. That's where the people are and you're reaching them.

The fact is that it had been preceded by a variety of different launches of different stores selling music over the Internet that failed miserably, including some attempts we had made at Universal. And so the question is why those 30 million sold and didn't sell prior to that is -- is what was different about

this launch from other launches that preceded it.
BY MS. SKLENAR:
Q. In forming your opinions about the reasons for the commercial success of the iTunes Music Store, did you rely on any surveys?
A. No.
Q. Are you aware of whether Apple has conducted surveys that get at the issue of why consumers are purchasing music through the iTunes Music Store?
A. I have never seen any surveys conducted by Apple.
Q. Do you know one way or the other whether Apple has any surveys that relate to that issue?
A. No, I do not.
Q. Have you ever inquired whether there were surveys at Apple that relate to the issue of why consumers are making purchases through the iTunes Music Store?
A. I don't think I've ever directly asked Apple that question, no.
Q. In forming your opinions about the reason for the commercial success of the iTunes Music Store, did you talk to anyone at Apple?
A. Well, I certainly talked to people at Apple at the time. But in forming the conclusions for this

declaration, I did not talk to anyone at Apple. But I based some of the conclusions on conversations I might have had with Apple 15 years ago -- or 10 years ago.

Q. Mr. Kenswil, if I can point you back to paragraph 19 of your declaration. There you listed the materials that you considered.

Do you see that?

A. Yes.

Q. And you specifically referenced a conversation with Dr. Kelly as something that you considered in forming your opinions, correct?

A. Yes.

Q. You didn't put in your declaration all the other conversations that you testified to in your deposition today as information that you considered in forming your opinions; isn't that right?

MS. FUKUDA: Objection to form.

THE WITNESS: I don't believe so.

BY MS. SKLENAR:

Q. Do you know of anything in your declaration that would indicate that you relied on conversations other than Mr. Kelly in forming your opinions?

A. Well, I think it's implied, the fact that I did what I did in my history of employment and my responsibilities, that I would have conversations with

many people in the course of that. I did not refer to any specific ones within the declaration.

Q. Okay. So in forming your opinions for purposes of your declaration, did you rely on any public statements by Apple personnel?

A. My general knowledge of overall sales at the iTunes Store were based on public releases by Apple.

Q. Which public releases?

A. Well, we did not receive -- I don't remember receiving from Apple reports of overall sales in the store. We would get reports of our content sales.

So Apple would periodically do releases: "We sold the billionth track. We sold two billion tracks." So I was certainly aware of those releases, and my overall knowledge of sales on iTunes came from those releases.

Q. The conversations that you recall with Apple personnel, during what years were those conversations?

A. From when we first started discussing the upcoming release, which would have been in the months preceding the launch of the store through my tenure at Universal, 2008.

Q. And what individuals do you recall speaking to?

A. Eddy Cue was probably my main contact.

Q. And you say that you talked to friends about reasons for the commercial success of the iTunes Music Store.

Over what period of time did you believe you talked to those people?

A. Well, as I said, from the time that the store launched, specifically when it launched for the PC, which came a few months after the launch for Apple or for Mac. I would generally ask anyone I was talking to if they used it.

Q. In paragraph 67, the factors that you list that you say make Apple successful, are any of those factors, in your opinion, more important than others?

A. Well, they're important for different reasons, and some are more direct than others.

For instance, I think the ease of use and integration of the software is, you know, a direct cause of success. Whereas the FairPlay DRM technology is indirect in that it led to deals with the labels, without which there would be no sales.

So it in and of itself doesn't cause people to buy music, but it led to the availability of the music. And the Apple brand is important but probably less important than the actual operability of the software.

Q. Have you yourself used the iTunes Music Store?

A. Yes.
Q. When was the first time you did that?
A. First time I used it, it was in beta.
Q. How many times would you say you've used it since it's been launched?
A. Dozens. If you're including the entire iTunes, including software, hundreds.
Q. Have you purchased music over the iTunes Music Store?
A. Yes.
Q. How many times?
A. Less than a hundred.
Q. Have you purchased videos over iTunes?
A. No.
Q. Never?
A. No.
Q. When you were providing your opinions about the reasons that iTunes has been commercially successful, what time period were you describing for purposes of your declaration?
A. From the launch through 2009, 2010, shortly after my leaving Universal.
MS. SKLENAR: So let's mark as the next in order Kenswil Exhibit 6.

(Whereupon Exhibit 6 was marked for identification.)

BY MS. SKLENAR:

Q. Do you recognize this press release?

A. I have a recollection of when it came out. I didn't remember the exact wording of it.

Q. The title of the press release is "Apple Launches the iTunes Music Store," correct?

A. Correct.

Q. And this is from April 28, 2003?

A. Yes.

Q. And it states: "Apple today launched the iTunes Music Store, a revolutionary online music store that lets customers quickly find, purchase, and download the music they want for just 99 cents per song without subscription fees."

A. Yes.

Q. Would you agree that's the essence of the idea behind the iTunes Music Store?

MS. FUKUDA: Objection to form.

THE WITNESS: That is a summary of the consumer sales offering. I don't know that's the essence of the story.

BY MS. SKLENAR:

Q. You say it's the summary of the consumer sales

offering?

A. Yeah.

Q. And below -- let's see. Three -- six paragraphs down, it says that: "The iTunes Music Store is fully integrated into iTunes 4."

Do you see that?

A. Yes.

Q. Are you familiar with iTunes 4?

A. I don't keep track of the version numbers, but I certainly was familiar with iTunes at the time the store launched, yes.

Q. Do you know how many versions of iTunes there have been since April of 2003?

A. Many, I would say. But many of the upgrades are, you know, purely technical and not visible to the consumer. I know my computer is always telling me to download a new version. So I don't necessarily know what happens when I do that.

Q. Do you know whether Apple has continued to add features to the iTunes Music Store over time since April of 2003?

A. I'm sure they have, yes.

Q. Do you know which features were added after the launch and which features were present during the launch?

A. I believe the main feature they added after the launch was Genius, which probably came a few years later, which was a new recommendation engine.

I think, otherwise, it's been an expansion of existing features rather than whole new features, although there may be whole new features as well.

Q. You don't know for sure when various features were introduced?

A. I would have to look at the current version store and pull up an old version store and compare them to recall which was there then and which is there now.

Q. So that's not something you did for purposes of forming your opinion for your declarations?

A. No.

MS. SKLENAR: Let's mark as Kenswil Exhibit 7...

(Whereupon Exhibit 7 was marked for identification.)

BY MS. SKLENAR:

Q. This is a press release, "iTunes Music Store Hits 5 Million Downloads."

Do you see that?

A. Yes.

Q. Press release from Apple June 23rd, 2003?

A. Yes.

Q. Do you recall reviewing this press release?
A. I don't recall the specific release, no.
Q. It states: "Apple today announced that music fans have downloaded over 5 million songs from the iTunes Music Store since its launch eight weeks ago today."
Do you see that?
A. Yes.
Q. Do you have any reason to dispute that?
A. No.
Q. And then it states: "In addition, over 46 percent of the songs have been purchased as albums."
Do you see that?
A. Yes.
Q. Do you have any reason to dispute that?
A. No.
Q. And then there's a quote from Steve Jobs in the second paragraph. It says: "The iTunes Music Store is changing the way people buy music. Selling 5 million songs in the first eight weeks has far surpassed our expectations and clearly illustrates that many customers are hungry for a legal way to acquire their music online."
Do you see that?
A. Yes.

Q. Do you agree with Mr. Jobs that performance of the iTunes Music Store in the first eight weeks showed that customers were hungry for a legal way to acquire music online?

A. I think it's legal speak. I think it shows that what he -- what I take this as referring to is the ongoing debate of whether legal services could survive in a world of so much illegal, or at least unauthorized, trading of music online. And I think what Steve was pointing out here was despite the billions of files that were on peer-to-peer networks, there was a market for sales as well.

So I take it the legal -- the word "legal" as being the main point of the clause.

Q. But, in fact, Mr. Jobs stated: "Selling 5 million songs in the first eight weeks has far surpassed our expectations and clearly illustrates that many customers are hungry for a legal way to acquire their music online."

That's his quote, right?

A. Yes.

Q. In paragraph 67 of your declaration concerning the factors that made Apple successful, you refer to Apple's experience and credibility.

What specific time period were you talking

about there?

A. From the launch of the store going forward.

Q. Did you do anything prior to signing your declarations to determine how Apple was perceived in the years just prior to the launch of the iTunes Music Store?

A. I did nothing in the time period during the preparation of this declaration in that regard, no.

Q. So, to be clear, you're relying on your own personal recollection as to how Apple was perceived in the time period leading to the launch of iTunes Music Store?

A. I'm relying on how I recall the perception that existed then, yes. I did not do any new research into what the perception was 10 years ago.

Q. You didn't look at any materials to refresh your recollection as to how Apple was perceived in the 1990s and early 2000s prior to signing your declaration; is that correct?

A. Well, how it was perceived in the 1990s probably didn't matter; it was how it was perceived at the time the music store was launched. I think that was important to how successful the music store was.

Q. But you didn't look at any materials to refresh your recollection as to how Apple was perceived

in the early 2000 time period; is that right?

A. That's correct.

Q. Is it fair to say that Apple's reputation has changed over time?

A. Yes.

Q. And why do -- do you agree with that?

A. I think its track record introducing successful technology leads to the perception of the brand as successful or as popular or as reliable, and that that track record has been building over the past 15 years as compared to the time period prior to that.

Q. Are you aware of any articles or publication that would suggest that Apple's reputation took a dive at various points in time?

A. I recall that it did. I don't recall any specific articles.

Q. You say you recall that it did. What do you mean by that?

A. I recall that, especially during the period when Steve jobs wasn't there, they had problems maintaining market share; that their product offerings were relatively narrow; and that their success in the marketplace, although high among a certain group, was not necessarily translating into large adoption by the public.

Q. What was Apple's market share in the early 2000 time period?

A. In what market?

Q. Well, what markets was it in?

A. It was in the personal computer market and in the peripheral market specifically with the iPod.

Q. What was its market share in the personal computer market?

A. My recollection is it would have been in the low teens.

Q. What's that based on?

A. If you ask me what I remember, that's what I remember. I don't know what it's based on.

Q. What was its market share in the peripheral market?

A. Well, in the iPod specifically. I don't know what its share was in printers and things like that. But in the iPod business or in the digital music player business, my impression was that it totally buried the competition upon its initial launch.

Q. When was the initial launch of the iPod?

A. Several years before the music store, so 2000 or give or take a year or two.

Q. You talk in your declaration about how Apple was able to secure licenses from the major labels,

correct?

A. Yes.

Q. Isn't an important reason that Apple was able to do that the fact that it had a small market share in the early 2000 time period in the PC market?

A. No.

Q. You disagree with that?

A. Yeah.

Q. What's your basis for that?

A. We would not have been all that interested in iTunes if their plan was to limit it to Apple hardware. And we were concerned that they were launching the iTunes Music Store so that it only worked on Apple hardware.

We were assured, however -- and those assurances were borne out -- that it would be expanded to PCs very quickly. And indeed it was by later that year.

We really didn't have an interest in spending a lot of money launching services that were only available on small minority of -- in homes. We wanted services available everywhere.

And so its PC market share was really irrelevant to that consideration.

Q. Do you know whether Steve Jobs has ever been

quoted saying that Apple's small market share was the reason that Apple was able to convince the major record labels to grant licenses to it?

A. No.

MS. SKLENAR: Let's mark as the next in order...

(Whereupon Exhibit 8 was marked for identification.)

BY MS. SKLENAR:

Q. Mr. Kenswil, I've put before you a chapter from the book "The Perfect Thing: How the iPod Shuffles Commerce, Culture, and Coolness," by Steven Levy.

Has a copyright date of 2006?

A. Correct.

Q. And feel free to go through this, but specifically I wanted to ask you about a quote at page 158.

A. All right. I had already read the first paragraph, and there are several factorial errors right there. But we can go to wherever you want.

Q. All right. Let's go to page 158.

Do you see there a quote in the first half of the page from Mr. Jobs?

A. Yes.

Q. Do you see there that Mr. Jobs is talking

about the -- one of the reasons that he was able to convince the record labels to grant licenses?

A. Yes.

Q. And he states: "Our smaller market share turned out to be an asset. We only convinced them to let us do it on the Mac at first. We said, 'Well, if, you know, if the virus gets out, it's only going to pollute 5 percent of the garden here.' And that's probably what in the end enabled us to get them to come along with us. Doug Morris, who runs Universal, said, when he was arguing with his own team, 'Look, I don't understand how Apple could ruin the record business in one year on Mac. Why shouldn't we try this?'"

Do you have --

A. Uh-huh.

Q. Do you have any reason to believe that Mr. Jobs was misquoted?

A. I have no reason to agree with anything said there. Whether he said it or not, I have no idea.

Q. But you didn't consider quotes -- this quotation from Mr. Jobs before signing your declaration, correct?

A. I've never seen this quote before.

And by the way, the proof is in pudding because the agreement between Universal and Apple did

not restrict the iTunes Music Store to the Mac. And so they had right from day one to expand to the PC.

Q. Move to strike your answer after, "I've never seen this quote before" as not responsive.

MS. FUKUDA: Objection to the strike. The witness is answering the question.

MS. SKLENAR: Let's mark as the next in order Exhibit 9.

(Whereupon Exhibit 9 was marked for identification.)

MS. SKLENAR: An article from variety.

BY MS. SKLENAR:

Q. Mr. Kenswil, I want to ask you about this article. It says: "Tech Tussels: Apple vs. The World," from November 3, 2010 in Variety. And then there's a question: "Can a company's decade-long dominance continue?"

Do you see that?

A. Yes.

Q. Do you read Variety?

A. I read -- at the time, I read Daily Variety, not Weekly Variety.

Q. Well, I'd like to direct your attention to the second page of this. And the third paragraph in talks about how the record industry is already firmly reliant

on Apple as it has a 69 percent share of online music sales and a 27 percent share of the overall music space, greater than the combined shares of Walmart and Best Buy.

Do you see that?

A. Yes.

Q. And, again, this is talking about the 2010 time period; is that right?

A. I don't know.

Q. Well, the article --

A. The article is dated that, but I don't know specifically what that refers to.

Q. Okay. We just got a glance from the court reporter, so we have to try not to talk over each other.

A. Sorry.

Q. In the fifth paragraph of that same page, it states: "That's a stunning reversal from where Apple found itself 10 years ago when the company was struggling to return to profitability and revive its reputation and Jobs had just committed to a second tour as CEO."

Do you see that?

A. Yes.

Q. Do you have any reason to disagree that in the 2000 time period that Apple was struggling to revive its

reputation?

A. I don't know when its reputation started going up, whether it was 2000 or 1998, but it was certainly going up in that time period from where it was before.

Q. But, again, you didn't review any articles in preparation for your declaration concerning what Apple's reputation was in the early 2000 time period, correct?

A. That's correct.

Q. Were you involved on behalf of UMG with the license negotiations with Apple?

A. I question whether they were license negotiations, but I was definitely involved in the negotiations, yes.

Q. Why do you question whether it was license negotiations?

A. Because the form of the agreement was not in the form of a license.

Q. What was the form of the agreement?

A. It was a wholesale/retail sales agreement.

Q. You say you were definitely involved. What was your role?

A. It started when meeting in Cupertino with Steve Jobs where he and his people demonstrated the iTunes Music Store in its beta version to a group of us. That continued with discussions with Eddy Cue about what

the terms would be for an agreement to allow them to launch a store with our content. And it went through various drafting phases by lawyers reporting to me.

All -- all the discussions about what points to give and hold on, I was involved with. And so generally I supervised the entire process.

Q. Did you ever work on behalf of other record labels?

A. No.

Q. So you --

A. Not while I was at Universal.

Q. So you were not involved on behalf of other record labels and their negotiations with Apple, correct?

A. Correct.

Q. Did you have discussions with individuals at other record labels about their specific negotiations with Apple?

A. No. That would be illegal.

Q. You did not do that?

A. That's correct.

Q. Did UMG give licenses to content for digital download to companies other than Apple?

A. Again, I'd rather not use the word "license." But we certainly did agreements and allowed our content

to be downloaded both before and after the Apple agreement.

Q. How many other companies did UMG grant rights to that were similar to what was granted to Apple?

A. In what time period?

Q. Within five years of the deal with Apple.

A. I'd estimate five to ten.

Q. What companies were those?

A. Before Apple, included Liquid Audio. And there was a launch of downloading within Universal that was direct to the consumer that did involve other companies but Universal acted as its own retailer.

After Apple, there was a whole series of launches that Universal -- I'm sorry.

Before Apple was also Press Play and MusicNet and Rhapsody. And other services of that vein which combined streaming with downloading and they were downloading components. I may have missed one.

Afterwards, there were slew of retail launches: Walmart, Best Buy, Amazon, eMusic. I'm sure I'm leaving some others out.

Q. Those are the ones you recall?

A. Yes.

Q. Did consumers value the ability to purchase music in different forms?

MS. FUKUDA: Objection to form.

THE WITNESS: I think different consumers have different formats that they prefer. Whether any one individual values multiple formats is. Debatable I think most people have a preferred format.

BY MS. SKLENAR:

Q. Well, do you think that there are certain consumers that value the ability to purchase music online through telecommunications lines?

MS. FUKUDA: Objection to form.

THE WITNESS: I think there are people who value buying music online, yes.

MS. SKLENAR: Let's mark as the next in order...

(Whereupon Exhibit 10 was marked for identification.)

BY MS. SKLENAR:

Q. This is a transcript of the testimony of you, Lawrence Kenswil, before the Copyright Royalty Board, Library of Congress.

Have you seen this before?

A. Yes.

Q. Can you --

A. One correction: I don't think it's a transcript of testimony; I think it's prepared

testimony.

Q. I appreciate that. Thank you.

Can you explain how it came about that you testified before the Copyright Royalty Board?

A. I was asked to by SoundExchange -- I'm sorry. Which -- yes, I was asked to by SoundExchange.

Q. What is SoundExchange?

A. SoundExchange is the organization charged with collecting royalties for covered digital services in the United States.

Q. When's the last time you reviewed your prepared remarks from this testimony?

A. 2006.

Q. So if you would turn to page 2. And I'm looking at the last paragraph.

Starting with the second sentence, it says: "Consumers now enjoy music in more ways than ever before: Satellite radio, satellite, and cable TV services, permanent digital audio downloaded tracks, and albums, streaming and conditional downloads and Webcasting, mobile and wireless services, video services, and sales of other digital products, e.g., ringtones."

Do you see that?

A. Yes.

Q. Do you agree that was the way in which consumers were enjoying music in the 2006 time period?

MS. FUKUDA: Objection to form.

THE WITNESS: Among others, yes.

BY MS. SKLENAR:

Q. And then if you look at the next page, page 3, you state that: "Consumers value the ability to purchase music in any forms and access music from almost everywhere."

Is that correct?

A. Yes.

Q. And you believe that that was true in 2006?

A. Yes.

Q. And then on page 4 at the -- under the heading "UMG's Approach to Licensing," the last sentence, you state: "In attempting to price UMG's products consistent with the value to consumer, UMG considers both the means by which its sound recordings will be distributed and how those recordings will be enjoyed by the consumer."

Do you see that?

A. Yes.

Q. And that was true at the time?

A. Yes.

Q. And then on page 11, there's a heading at the

bottom that says "Permanent Audio Download."

And it says: "UMG has entered into numerous permanent audio download agreements that allows services to sell individual sound recordings to users on the Internet. The common retail price for these downloads is 99 cents, although some services offer a discounted price to permit downloads to subscribers."

Do you see that?

A. Yes.

Q. And that was true in the 2006 time period?

A. Yes.

Q. Do you know who was the first entity to sell a song over the Internet for 99 cents?

A. I know the first entity to sell a Universal song for 99 cents.

Q. Do you know the first company that sold music over the Internet for 99 cents?

A. I don't know if anyone had done it before Universal. I don't know. I don't recall anyone who had done it before Universal.

Q. Didn't SightSound did do that?

MS. FUKUDA: Objection to form.

BY MS. SKLENAR:

Q. Didn't SightSound sell music over the Internet for 99 cents prior to the availability of the iTunes

Music Store?

MS. FUKUDA: Objection to form.

THE WITNESS: They may have.

BY MS. SKLENAR:

Q. You don't know one way or the other?

A. I know they were selling individual tracks. I don't recall the price.

MS. SKLENAR: Off the record.

(Off the record at 11:29 a.m. and back on the record at 11:52 a.m.)

BY MS. SKLENAR:

Q. Mr. Kenswil, I want to go back to conversations that you testified to earlier that formed the basis of your opinion which are not reflected in your declaration.

Do you recall the conversations that you testified about as to reasons that informed your opinion as to why consumers were purchasing music from the iTunes Music Store?

A. Yes.

Q. Do you have notes of any of those conversations?

A. No.

Q. Do you have records of any of them?

A. Well, to the extent they took place on e-mail

rather than orally, Universal may still have e-mail. I don't.

Q. Do you know whether they took place on e-mail or orally?

A. Oh, I'm sure I would have written e-mails on those subjects during that period. But I have no access to those.

To the -- again, to the extent they were on phone, I'm sure there are phone records somewhere, but I don't have them.

Q. If you could turn to paragraph 70 of your declaration.

There you reference one of the key concerns of the record label's piracy.

Do you see that?

A. Yes.

Q. And you indicate that Apple was able to address that by agreeing to distribute music with Apple's proprietary FairPlay digital rights management or DRM technology.

Do you see that?

A. Yes.

Q. Can you explain what DRM technology is?

A. Digital rights management is technology that prevents the copying of music without permission.

Q. And going back to paragraph 67 of your declaration, the Apple FairPlay DRM technology is one of the reasons that you cite as to why Apple was successful, correct?

A. It was indirectly responsible because it allowed them to get the rights to the major catalogs.

Q. But you list it as one of the factors that made Apple successful, correct, in your declaration?

A. Yes.

Q. Do you know from the SightSound materials that you reviewed, whether or not SightSound had a DRM capability in its operating system?

A. My recollection from that review is that SightSound was able to incorporate third-party DRM.

Q. And what third-party DRM was that?

A. I believe they quoted Windows Media.

Q. Do you know whether SightSound personnel told Apple personnel in the 1999 time period that it should put DRM in the Apple operating system in order to participate in the sale of digital music?

A. I don't know.

Q. Do you have any reason to believe that Apple's FairPlay DRM was superior to the DRM that SightSound was using?

A. I don't know that SightSound used DRM in its

sales. If they did, they did.

If you're asking me to compare FairPlay with Windows Media DRM or with SightSound DRM?

Q. Well, you said -- to go back to your prior answer...

MS. SKLENAR: Go off the record.

(Off the record at 11:56 a.m. and back on the record at 11:57 a.m.)

BY MS. SKLENAR:

Q. You said earlier that SightSound was able to incorporate a third-party DRM, right?

A. I remember reading within its prospectuses of business plan that it was. I don't know what date that that was available to them.

Q. So do you have any opinion as to the differences between the Apple DRM and the DRM that SightSound was able to incorporate?

A. I have -- what I remember being told by SightSound at the time is that they were able to use whatever third-party DRM the labels wished them to use that was available by license but that they weren't providing it.

Therefore, it was -- it was not -- there was no SightSound DRM per se. There was generally available DRM on the marketplace.

Q. Do you have any reason to believe that the Apple DRM was superior to the generally available DRM?

A. I have no reason to believe that the Apple DRM -- well, no DRM was generally available.

There was certain DRM that was developed that was licensable, but at that point, none of it had been particularly tested or used other than maybe Liquid Audio which was in the marketplace. The Microsoft DRM came later and, my recollection, came around it came around 2000, 2001.

And that DRM generally worked to prevent unauthorized copying more or less in the same way other DRM worked to prevent unauthorized copying.

All of this DRM had flaws, and they all had different flaws. So to compare them would require to look at what each one's factor was and what they did and didn't do.

Q. Let's focus on the early 2000 time period.

Do you have any reason to believe that the Apple FairPlay DRM was superior for specific reasons than the other available DRM technology?

A. The reason that we preferred the Apple DRM at that point for downloads was that it would work with the iPod and other DRMs wouldn't.

So it was superior from a consumer's point of

view in that it was interoperable with their preferred portable devices.

Q. Why is it preferable from a consumer's point of view that it would be inoperable with other portable devices?

A. Consumers were preferring the iPod to other offerings on the marketplace. The iPod worked with FairPlay; other portable devices did not. And, therefore, any music sold with FairPlay digital -- any music sold with a third-party DRM would not play on the iPod.

The iPod only knew how to decrypt FairPlay.

Q. Is that universally true, that people were unable to play other music with other DRMs on the iPod?

A. Correct.

Q. Were there any companies that were able to make their music available for use on iPod without FairPlay DRM?

A. RealPlayer -- Real, that's the name of the company -- put out what Apple termed a hack and they termed a -- probably something more positive; I don't remember what they call it -- that attempted to work around FairPlay DRM to allow the real DRM to play on the Apple.

Q. And you applauded that fact, didn't you?

A. I don't remember clapping my hands.

Q. You don't remember publicly applauding the fact that RealNetworks had come up with technology that would allow their music to be played on iPod without the FairPlay DRM?

A. I do remember supporting attempts at interoperability. And I think I probably gave a quote around that fact at the time that the Real DRM came out --

Q. Okay. Let's --

A. The Real workaround came out.

MS. SKLENAR: Let's mark as the next in order...

(Whereupon Exhibit 11 was marked for identification.)

BY MS. SKLENAR:

Q. Mr. Kenswil, we put before you Kenswil Exhibit 11, which is an article entitled "RealNetworks Breaks Apple's Hold On iPod."

Do you see that?

A. Yes.

Q. It's an article from July 27th of 2004, correct?

A. Correct.

Q. And you're quoted in this article, correct?

A. Correct.

Q. Do you have any reason to believe you were misquoted in this article?

A. No.

Q. So this article states that: "Several record company executives praised RealNetworks' independent steps to achieve compatibility with the iPod even without Apple's consent."

Do you see that?

A. Yes.

Q. And there's a quote by you that says: "Up until now, the world of downloads has been far too close to a world where the CD you buy in one store wouldn't play on the CD player you bought in another."

And then it goes on to say: "We applaud RealNetworks' efforts to correct this situation and appeal to all people and companies in this area to work towards a world of universal interoperability," correct?

A. Correct.

Q. Those were your words in 2004?

A. That's correct.

MS. SKLENAR: So let's mark as Exhibit 12...

(Whereupon Exhibit 12 was marked for identification.)

BY MS. SKLENAR:

Q. Do you recognize this Exhibit 12?

A. No.

Q. So the title is "RealNetworks to Apple: Our music will run on your player now."

A. Yes.

Q. And do you know what this is from? Can you tell looking at this?

A. No.

Q. And there's the same quote to you that we -- from you that we just saw on Exhibit 11: "Up until now, the world of downloads has been far too close to a world where the CD you buy in one store wouldn't play on the CD player you bought in another. We applaud RealNetworks' efforts to correct the situation and appeal to all people in companies in this area to work towards a world of universal operability."

Do you see that?

A. Yes.

Q. And you were quoted twice in different places with the same quotation, correct?

A. Yes.

Q. Did Apple, to your knowledge, ever express views that it wanted DRM removed from the iTunes Music Store?

A. Yes.

Q. What do you recall about that?

A. My recollection is several years after the store launch, Steve Jobs released a statement saying that it was time for the record companies to remove DRM from download sales.

MS. SKLENAR: Let's mark as Exhibit 13...

(Whereupon Exhibit 13 was marked for identification.)

BY MS. SKLENAR:

Q. This is "Thoughts on Music," by Steve Jobs, February 6, 2007.

Do you see that?

A. Yes.

Q. Is this the statement that you just testified to that you recollect about Mr. Jobs' view on DRM?

A. Yes.

Q. If you look at the second page of this, in the second paragraph, Mr. Jobs states that: "Today's most popular iPod holds 1,000 songs, and research tells us that the average iPod is nearly full."

And then he goes on to say that: "Only 22 out of the 1,000 songs, or under 3 percent of the music on the average iPod, is purchased from the iTunes stores and protected with the DRM."

Do you see that?

A. Yes.

Q. Do you have any reason to dispute that?

A. No.

Q. And then he says at the end of that paragraph that: "iPod users are clearly not locked into the iTunes Store to acquire their music."

Do you see that?

A. Yes.

Q. Do you have any reason to dispute that?

A. I think it's misleading.

Q. Why do you think it's misleading?

A. Because the way the other 97 percent of the music on the iPod got there wasn't because it was purchased in a different online store. It was because it was taken either from CDs or downloaded from a peer-to-peer system or traded with another consumer.

The fact was is that if it had been bought in another download store, it would not have been playable on the iPod so that iPod users would be locked into the iTunes Store to purchase their online music.

Q. So you think Mr. Jobs' statement is misleading?

A. I think it's a bit misleading, yeah.

Q. So later down on the page, Mr. Jobs -- and

this is the seventh paragraph that starts "Why would" --

Do you see that?

A. Yes.

Q. He poses a question: "Why would the big four music companies agree to let Apple and others distribute their music without using DRM systems to protect it?"

And he says: "The simplest answer is because DRMs haven't worked and they never work to halt music piracy."

Do you see that?

A. Yes.

Q. Do you disagree with Mr. Jobs' statement?

A. No.

Q. He concludes saying -- and he's talking about record labels -- and this is last page. And he says: "Convincing them to license their music to Apple and others DRM-free will create a truly interoperable music marketplace. Apple will embrace this wholeheartedly."

Do you see that?

A. Yes.

Q. Was there a point at which music became available on the iTunes Music Store without DRM?

A. Yes.

Q. When was that?

A. I would think it would be in the year or so

after the release of the statement was the first time Universal Music appeared without DRM. They may have had independent releases without DRM before that.

MS. SKLENAR: So let's mark as 14, a press release.

(Whereupon Exhibit 14 was marked for identification.)

BY MS. SKLENAR:

Q. So this is a press release from January 6, 2009, entitled "Changes Coming to the iTunes Store."

Do you see that?

A. Yes.

Q. Do you recall this press release?

A. Not specifically, no.

Q. And it says that: "Apple today announced several changes to the iTunes Store." It gives the Web site. "Beginning today, all four major music labels -- Universal Music Group, Sony BMG, Warner Music Group, and EMI -- along with thousands of independent labels are now offering their music in iTunes Plus, Apple's DRM-free format with higher quality 256 kpbs AAC encoding for audio quality virtually indistinguishable from the original recordings."

Do you see that?

A. Yes.

Q. Is that consistent with your recollection that Apple began offering music in a DRM-free format in the late 2000s?

A. Yes.

Q. So I'd like to turn now to paragraph 92 of your declaration.

In this paragraph, you are criticizing Mr. Snell, correct, for being unfamiliar with whether various features on the iTunes Music Store were available on SightSound's Web site?

A. I don't know if it was a criticism. It was just a statement.

Q. Okay. Well, you were commenting on that issue, correct?

A. I was pointing it out, yes.

Q. Okay. Did you review materials about SightSound's Web site to look to see whether or not these features were present on the Web site?

A. I reviewed the materials attached to exhibits to the declaration.

Q. But you didn't check to see whether these various features were available on the SightSound Web site?

MS. FUKUDA: Objection to form.

THE WITNESS: I don't think the SightSound

Web site exists any longer.
BY MS. SKLENAR:
Q. Well, certainly there's documentation that's been used in this litigation -- or in these proceedings relating to the SightSound Web site, correct?
A. Yes. I believe I saw the same documents that were shown to Mr. Snell.
Q. And you don't cite those in your report, correct?
MS. FUKUDA: Objection to form.
THE WITNESS: I don't know. I don't recall whether any were cited or not.
BY MS. SKLENAR:
Q. Do you have any understanding as to whether SightSound's Web site offered a preview function?
A. I don't recall.
Q. Do you know whether SightSound's Web site offered bonus information?
A. What do you mean by "bonus information"?
Q. Any sort of bonus information other than simply the ability to purchase music or videos?
A. I recall there was some information about the artist.
Q. What specifically do you recall was available?
A. For instance, brief artist recording history,

maybe a bio.

Q. If you look at paragraph 92, there you list approximately 17 features that you say Mr. Snell was unfamiliar with, whether or not they were on the SightSound Web site, correct?

A. Correct.

Q. And then in paragraph 93, you list six features that you say were all important to the success of ITMS, the iTunes Music Store, correct?

A. Yes.

Q. Just so I'm sure I understand your opinion, it's these six factors that are listed in paragraph 93 that you think were important to the success of the iTunes Music Store?

MS. FUKUDA: Objection to form.

THE WITNESS: These are examples of factors.

BY MS. SKLENAR:

Q. And when you say it's important to the success of the iTunes Music Store, are you saying that without these features, sales of music or video wouldn't have been made by Apple?

MS. FUKUDA: Objection to form.

THE WITNESS: Say without these features, their sales would have been lower.

BY MS. SKLENAR:

Q. So let's start with the five-star rating system. That's a feature you list in paragraph 93 as being important to the success of the iTunes Music Store, correct?

A. Correct.

Q. When did the five-star rating system become available on the iTunes Music Store?

A. I don't recall.

Q. Without the five-star rating system, how much lower do you think Apple's sales would have been through the iTunes Music Store?

A. I believe that it's a type of thing that would be very hard to quantify specifically because we have no ability to do a test, a research test, where one group would have the recommendations and the other group wouldn't.

I do know that people like knowing, for instance, if they're interested in an artist, which tracks on the album are most popular so they know which tracks to buy. And without that information, they could be confused and not know which tracks to buy and not buy anything. How you quantify that is difficult.

Q. Okay. Let's look at the second feature that you list in paragraph 93 as being important to the

success of the iTunes Music Store. And that is list of music videos by the band being viewed?

A. Yes.

Q. When did that feature become available on the iTunes Music Store?

A. I don't recall.

Q. If the iTunes Music Store did not include a list of the music videos by the band being viewed, how much lower do you think its sales would have been?

A. Again, for the same reasons, quantification, exact quantification is probably impossible. And that the use of the feature and -- and then a correlation with the music video being viewed and then a purchase happening after that could probably be studied and provided by someone who has that information. I don't.

Q. That's not something you did in the course of preparing your opinion, correct?

A. That's correct.

Q. You could have asked Apple for that information, correct?

MS. FUKUDA: Objection to form.

THE WITNESS: I could have asked. I don't know whether they have it.

BY MS. SKLENAR:

Q. Paragraph 93 also lists a list of music --

strike that.

Paragraph 93 also identifies the lists of movies and books about the band being viewed as one of the features that was important to the success of the iTunes Music Store, correct?

A. Correct.

Q. When did that feature become available?

A. I don't recall.

Q. If iTunes Music Store did not include lists of movies and books about the band being viewed, how much lower do you believe its sales would have been?

A. For the same reasons, that would be very difficult to quantify. I think this is a factor that rather than leading to direct sales as a result of the book being there, it is -- it leads to the overall attractiveness of the service as opposed to other services that don't have such information and would lead people to use the service more because there's more to be found on it.

I think in this one there wouldn't -- it would -- the correlation between actual sales and the use of the service is less important than the adding to the popularity of the service as a whole.

Q. Paragraph 93 also lists concert tour information for the band being viewed as one of the

features that was important to the success of the iTunes Music Store, correct?

A. Correct.

Q. When did that feature become available?

A. I don't recall.

Q. And if the iTunes Music Store did not include concert tour information for the band being viewed, how much lower do you believe the sales would have been?

A. I believe my answer to the -- to this is the same as my answer to the books and movies in that it's a general information service provided by the store that attracts people to use the store in general as opposed to leading to direct purchases as a result of the use of the service so that, again, it increases foot traffic which leads to sales.

Q. And paragraph 93 also lists the Genius recommendation feature as a feature important to the success of the iTunes Music Store, correct?

A. Correct.

Q. Do you know when the Genius feature became available?

A. My recollection is it was several years after the launch.

Q. Do you have any idea what impact there would have been on the sales of the iTunes -- strike that.

Do you have any estimate how much lower the sales would have been through the iTunes Music Store had the Genius recommendation not been offered?

A. I don't have statics on uses of Genius and sales resulting therefrom. This is analogous to physical stores that had personnel there who could recommend music to people based on their taste, which is something the music industry has always recognized is important in a good record store, is to have clerks knowledgeable in the business, something that may have been missing in the latter stages of the retail experience, especially in big box stores. And that this attempt to replicate that personal recommendation in an online environment was desirable because we knew for a fact the success of such recommendations previously in the physical environment.

Q. And -- paragraph 93 also lists a song-by-song popularity rating as a feature important to the success of the iTunes Music Store, correct?

A. Correct.

Q. Do you know when that feature became available?

A. My recollection is it was probably there at the beginning or something very similar to it.

Q. Do you know that for certain?

A. No.

Q. Do you have any estimate how much lower the sales would have been through the iTunes Music Store had that feature not been available?

A. It's essentially parallel to the five-star rating system where, again, it leads to let people know exactly what other people are buying, which in the music business has always been one of the main ways to market music, is to let people know what's popular and what their friends are listening to and what other people are listening to.

And so the general belief among people in the business is that leads to sales because of their experience in the business. The specifics on the iTunes store, I don't have specific statistics for.

Q. For these six factors in paragraph 93 -- five-star rating system, the list of music videos by the band, the list of movies and books about the band, the concert tour information, the Genius recommendation, and the song-by-song popularity rating -- do you have any understanding as to whether Apple keeps data as to whether those features have been important to sales that have been made over the iTunes Music Store?

A. No, I do not.

Q. Did you ask anyone on behalf of Apple whether

you -- whether they had data that would indicate whether or not those features were important to the success of the iTunes Music Store?

A. No.

Q. For these six factors that we just went through in paragraph 93, do you think certain of these are more important to the success of the iTunes Music Store than others?

A. Yes.

Q. Which ones were those?

A. Are you talking about just the ones in this sentence?

Q. In paragraph 93.

A. Are you including the second sentence or just the first sentence?

Q. So far, on the first sentence, the six factors.

A. Okay. The ones that indicate popularity and recommendations would be more important than the ones that simply give background information about artists. So I would list -- I would view the lists of movies and books and concert tours being not as important as rating systems and recommendations.

Q. So for the features that are in paragraph 92, I think we had talked earlier about how there was 17

features there.

Do you see that?

A. Yes.

Q. Are there any of those listed in paragraph 92 that are not listed in 93 that you would consider to be particularly important to the success of the iTunes Music Store?

MS. FUKUDA: Objection to form.

THE WITNESS: Yes. Do you want me to state which --

BY MS. SKLENAR:

Q. Which ones are those?

A. Preordering. Also-bought lists. ITunes Match.

Q. What did you say?

A. ITunes Match.

Reviews, although that refers more to video than audio. Video was a later addition to iTunes.

Q. Anything else in paragraph 92 that you think was important to the success of the iTunes Music Store?

A. Well, they also contributed to it, but those are the features in 92 that aren't in 93 that I think are more important ones.

Q. You mentioned preordering feature?

A. Yes.

Q. When did that feature become available?
A. I don't recall.
Q. Do you have any estimate of what the sales of the iTunes Music Store would have been had that feature not been available?
A. I certainly get reports at the time of preorders which could be substantial for major releases.
We -- we were very -- as a sale technique, preorders are important to us because it's not only the total sales but the timing of the sales. So the quicker the sales the better. And there's nothing better than someone actually buying something before it's even released.
Q. You said you got reports at the time of --
A. At the time of preorder activity.
Q. What time are you talking about?
A. When Apple was reporting sales to the Universal label, it would give preorder information. And so I was aware of preorder activity going on at the store.
Q. What percent of music offered for sales on the iTunes Music Store is offered with the preorder feature?
A. Well, the only thing that's preordered are new releases. So as a percentage of the total offer, it's a few compared to millions because everything is else

already there. So of the total music available for sale, it's a tiny percentage.

Of the actual sales, however, it's a much larger percentage, because many of the preorders are of new hits which people are very eager to buy.

Q. You say of the total sales it's a larger number. What percent of Apple's sales through the iTunes Music Store in any given year would be preordering versus songs that were already available?

A. I don't know.

Q. You also identified the also-bought feature in paragraph 92 as something that you thought was important to the commercial success of iTunes Music Store?

A. Yes.

Q. When did that feature become available?

A. I don't recall.

Q. Do you have an estimate of how the sales would have been impacted of the music store had that feature not been available?

A. No, I don't have a specific estimate of that.

Q. And you also mentioned the iTunes Match feature, correct?

A. Yes.

Q. What is the iTunes Match feature?

A. The iTunes Match feature, I believe -- and

different features are called different things at different times sometimes -- was a way of -- my recollection, was a way of completing the collection by matching up songs with -- new songs with songs you already have on your -- in your collection.

For instance, one of the things they had -- and I don't know if this was substituted out or not -- was something called "Complete Your Album" which essentially would know what songs on an album you had and which songs you didn't and offer you the ones that you didn't already have. And that sort of aggressive promotion is always good for sales.

Q. Do you know when the iTunes Match feature was offered?

A. No, I don't.

Q. Do you know what percent of sales in any given year for the iTunes Music Store come as a result of the iTunes Match feature?

A. No.

Q. Do you know what impact there would be on the iTunes Music Store sales had the iTunes Match feature not been offered?

A. I don't have any specific numbers.

Q. And the final thing you mentioned for paragraph 92 that you thought was important to the sales

of the iTunes Music Store was the reviews.

Do you recall that?

A. Yes.

Q. What is the reviews feature?

A. Reviews give people the -- it's information about what critics think of the product.

Q. Do you know when the reviews feature was offered?

A. No.

Q. Do you have a sense of what impact there would be on the sales of the iTunes Music Store had the review feature not been offered?

A. I don't have specific numbers.

MS. SKLENAR: Okay. Let's break for lunch.

(Whereupon the luncheon recess was taken at 12:32 p.m.)

--o0o--

APRIL 2, 2014 AFTERNOON SESSION 1:35 P.M.

--o0o--

BY MS. SKLENAR:

Q. Did you speak with your counsel over lunch or at any break previously about the substance of your testimony?

A. No.

Q. Turning again to paragraphs 92 and 93 in your declaration and considering the features that you list that you believe are important to the success of the iTunes Music Store, I want to ask you whether those features -- how they show up in the music store.

For example, let's say I search for a song by a particular artist. Which of those features would be on the page that I'm led to versus there would be a link that I need to click to get the information?

A. Well, the iTunes Music Store isn't a Web site; it's an application. So it really doesn't show up as pages; it shows up in Windows within the app. Also, it varies by device.

Q. Okay. Well, let's say I like Adele and I like the song "Someone Like You," and I search for the song on the music store.

A. Uh-huh.

Q. What features would I be able to see that

you've listed on paragraphs 92 and 93 based on that search result?

MS. FUKUDA: Objection to form.

THE WITNESS: Many of these don't relate to searching; they relate to specifically whatever you have on your screen however you got there.

So they relate to -- for instance, a Genius recommendation, there's a button on the store that's always -- I believe it's always there or close to always there.

BY MS. SKLENAR:

Q. But it's something that someone would have to click through to get the information; is that right?

A. That's right.

Q. Okay. What other features are those click-through type features where you have to click to get the information?

A. I believe the rating system is always there. There's a star rating system is always there.

The things that have more information about the artist would be something, generally, you would ask to come up. It wouldn't just be on the screen. You would request it and it would come up.

Q. Okay. When you say "something about the artist," do you mean reviews? Would that be an example?

A. Reviews, bio, discography.

Q. What about concert information?

A. That as well, too. It really depends on how they're featuring the artist any given time.

Sometimes they might push content to you. Other times you might have to request it because you want to see it.

But if they're featuring an artist, often the artist will be on the top of the screen being pushed to you. If you're interested, you can ignore it or not. However, if it's an artist that you've requested that they're not featuring, then it would be something you would have to ask for, then the information would come up.

Q. Turning to paragraph 92.

A. Yes.

Q. The five-star rating system, if I did a search for an artist, a particular song, and was led to a particular kind of information, is that something I would have get to click to get that information or is that something I would see?

MS. FUKUDA: Objection to form.

THE WITNESS: I believe generally it's available and it lists the tracks by an artist. It will show the popularity of those tracks automatically.

You can probably personalize the application to make it go away or -- but I think it's a default that's there.

BY MS. SKLENAR:

Q. Would I have to click a link to get a plot summary for a movie?

MS. FUKUDA: Objection to form.

THE WITNESS: Certainly to get expanded plot summary you would. There may be a very short one available.

BY MS. SKLENAR:

Q. Would I have to click a link to see multiple trailers for a given movie?

A. Yes.

Q. Would I have to click a link to get a cast and crew list for a movie?

A. Probably not the stars but the rest of the cast and crew, yes.

Q. Would I have to clink a link to get editors' notes?

A. Yes.

Q. Would I have to click a link to get viewers' also-bought list?

A. I think sometimes they show you viewer also-bought, but to see more like that you would have to

click it.

Q. Is it the case that someone would also see at least some viewers' also-bought information?

MS. FUKUDA: Objection to form.

THE WITNESS: Probably not.

BY MS. SKLENAR:

Q. Would I have to click a link to get a "more from these actors'" list?

A. Yes.

Q. Would I have to click a link to get movie bundles -- a group of movies at a volume discount?

MS. FUKUDA: Objection to form.

THE WITNESS: Those may be offered to you whether you ask for them or not. Depends on how they're marking. Other times you search a movie, it may suggest that there's a bundle available with that movie.

BY MS. SKLENAR:

Q. Would I have to click a link to see a list of music videos by the band being viewed?

A. Yes.

Q. Would I click a link to view the list of movie and books about the band being viewed?

A. Yes.

Q. Would I have to click a link to get concert information for the band being viewed?

A. Again, unless they're push-marketing it, yes.
Q. Would I have to click a link to use the iTunes Match feature?
A. I believe so, yes.
Q. Would I have to click a link to access the Master for iTunes feature?
A. I don't think that's a feature. I think that's just a marketing name for the quality of the tracks that are on the service.
Q. Would I have to click a link to get artist info?
A. Yes.
Q. Would I have to click a link to get reviews from Rotten Tomatoes?
A. Yes.
Q. So for the features that you testified that I would have to click a link to access that information specifically, do you know whether it's possible for Apple to track the extent to which those features were used in conjunction with the purchase?
A. I would be surprised if were not possible. I don't know for a fact that it's not possible.
Q. In other words, you would be surprised if Apple didn't track the extent to which those features were being used as driving sales?

MS. FUKUDA: Objection to form.

THE WITNESS: No, I said I'd be surprised if it were impossible for them to do. Whether they do it or not, I don't know.

BY MS. SKLENAR:

Q. You have no idea whether that's something Apple tracks?

A. No.

Q. And you didn't ask that question in conjunction with the preparation of your declaration?

MS. FUKUDA: Objection to form.

THE WITNESS: Correct.

BY MS. SKLENAR:

Q. Do you think there are a number of iTunes Music Store consumers who hear a song on the radio and decide they want to purchase that song and go onto iTunes and do that?

A. Yes.

Q. What percent of purchases do you think would fall into that category?

A. I don't know.

Q. Do you think there are consumers who become familiar with a band outside the context of the iTunes Music Store and decide they want to buy the album and go ahead and do that on the iTunes Music Store?

A. Yes.

Q. For those consumers, they're making a choice to buy the music in a digital format, correct?

MS. FUKUDA: Objection to form.

THE WITNESS: I don't know. Most music is not available in an analog format any longer.

BY MS. SKLENAR:

Q. For someone who becomes familiar with, say, an Adele album, and they want to own it, they could walk into a music store and buy a CD, correct?

A. Yes.

Q. Or they could go onto the iTunes Music Store and purchase the album that way, correct?

A. Yes.

Q. So for the individuals who go to the iTunes Music Store and purchase the album in that format, they've actually made a choice that they want to acquire the music in that format, correct?

MS. FUKUDA: Objection to form.

THE WITNESS: Yes.

BY MS. SKLENAR:

Q. Can you exclude the possibility that there are a large percentage of consumers of the iTunes Music Store who made purchases because they wanted to acquire music in that particular format where they have a stored

digital copy on, say, their PC?

MS. FUKUDA: Objection to form.

THE WITNESS: Could you repeat the question?

BY MS. SKLENAR:

Q. Sure.

Don't you think it's possible that there are a large percentage of consumers of the iTunes Music Store who made purchases from iTunes because they wanted to acquire music in a particular format and have a copy stored to their PC?

MS. FUKUDA: Objection to form.

THE WITNESS: It's ambiguous what you mean by "large." I'm sure there are consumers who do that for that reason, yes.

BY MS. SKLENAR:

Q. Do you have a sense of how many consumers would be purchasing from the iTunes Music Store because they want to acquire their music with a digital copy stored on their hard drives?

MS. FUKUDA: Objection to form.

THE WITNESS: In my experience, people buy music because they want to listen to the music and it's -- the format is secondary. The first decision is "I want to listen to the song."

The question of how I'm going to go about

listening to the song comes after that.

So the most important question is, "Do I want to hear that song?"

BY MS. SKLENAR:

Q. But if someone has made a decision that they want to hear and own a particular song, couldn't there be a large percentage of people who made the decision to go onto the iTunes Music Store and purchase it in that way versus a store where they can buy CDs because they want to have a format stored on their PCs?

MS. FUKUDA: Objection to form.

THE WITNESS: I believe there's many ways of storing music on your PC.

The fact that they go to the iTunes Music Store as opposed to another store is, I think, not all that important because I don't believe the iTunes Store gives any particular advantage to the ability to store music on your PC as opposed to any other way of buying music.

BY MS. SKLENAR:

Q. Well, couldn't -- isn't it possible that people don't want to own CDs because of the possibility that they could lose them or they get stolen before that information is stored onto their personal computers?

MS. FUKUDA: Objection to form.

THE WITNESS: I believe there's people who don't buy CDs because they're a generation that has never bought CDs and it's an old format that has fallen out of favor.

BY MS. SKLENAR:

Q. And why do you think that CDs are an old format that have fallen out of favor?

A. I believe they're an old format because it's 30 years old. I believe it's fallen out of favor primarily because of disaggregation of music and the ability to buy songs as opposed to albums.

MS. SKLENAR: Let's mark next in order 15.

(Whereupon Exhibit 15 was marked for identification.)

BY MS. SKLENAR:

Q. Mr. Kenswil, I put before you a press release entitled "Apple Announces iTunes 8."

Do you see that?

A. Yes.

Q. And it's dated September 9 of 2008?

A. Correct.

Q. This press release announces iTunes Version 8, correct?

A. Right.

Q. And in the second sentence, it says that:

"iTunes 8 includes the new break-through Genius feature."

Do you see that?

A. Genius.

Q. Genius, yes.

Do you see that?

A. Yes.

Q. And we've talked to some extent about the Genius feature already.

Can you tell us for the record what that feature is?

A. Genius, to my knowledge, examines a person's current music library that the iTunes software has access to and then provides ways of grouping music together based on which songs are in the library, including both songs already in the library and tracks that are available to add to that library.

Q. The Genius feature was introduced more than five years after the launch of the iTunes Music Store, correct?

A. Correct.

Q. Do you have a sense of how many songs were sold through the iTunes Music Store prior to the launch of the Genius feature?

A. Yes.

Q. How many?
A. Hundreds of millions.
Q. Okay. You say that the Genius feature was a feature that was important to the success of the iTunes Music Store in your declaration, correct?
A. Yes.
Q. Can you really dispute the fact that the iTunes Music Store was wildly successful even without that feature?
MS. FUKUDA: Objection to form.
THE WITNESS: It was successful prior to the feature. It was more successful after the feature.
BY MS. SKLENAR:
Q. So when you use the term "important to the success," what really do you mean by that?
A. I mean that it contributed to additional sales.
Q. But you don't have -- strike that.
You don't have an estimate for me of the amount of additional sales that the Genius feature contributed to the iTunes Music Store, correct?
A. Correct.
Q. If you would turn to paragraph 94 of your declaration.
You state there that in your experience in the

industry, most consumers are eager to know what is new, popular, and similar to other songs they already love.

Do you see that?

A. Yes.

Q. Do you have a sense of what percent of songs sold over the iTunes Music Store are based on the fact that people hear them on the radio and like them and want to purchase them?

A. Well, it's a matter of great debate over how important radio is to sales. It's generally thought they continue to be of major importance, especially in pop music genre.

Q. You say, "It's generally thought to continue to be of major importance." So can we just take a step back?

What factors do you think are the most important in determining whether a song would be purchased in any format?

MS. FUKUDA: Objection to form.

THE WITNESS: Many factors. It basically comes down to music marketing and how music is marketed by the labels.

Traditionally, the two most important forms of marketing -- by "traditionally," I mean the physical format era were radio play and retail pricing position.

As the Internet has grown, the opportunity for marketing has grown exponentially, especially around social media and music video distribution.

That has added to radio play, which continues to be important but probably narrower than it used to be. Fewer songs are played on the radio. And pricing positioning at physical retail has been replaced by the same concepts at virtual stores. And although price tends to be less volatile than it used to be in the physical ways, positioning continues to be very important. So that would be features, promotions, artists doing interviews at the store, exclusive content, early release, all the ways the labels have ways to get music in front of people so they can learn whether they like it.

Radio is -- continues to be in many ways the best way people can learn whether they like it because they hear it. Other ways are sampling, seeing music video. And the Internet has provided a very expanded venue for doing that.

So, again, it varies with genre, target audience.

BY MS. SKLENAR:

Q. What percent of sales of songs made on the Internet are because -- strike that.

What percent of sales made through the iTunes Music Store are made because the music store has provided the consumers with information about what's new, popular, and similar to the songs they already love?

A. I don't know.

Q. Do you have any sort of estimate?

A. I don't have a number on that, no.

Q. I want to turn to paragraph 95 of your declaration where you talk about concert tour information.

A. Yes.

Q. For what percent of bands who -- or artists whose music is available on the iTunes Music Store would they have tour information planned where it could be shown on the Web site?

A. Virtually all active artists appear live.

So we have to distinguish between current artists and catalog artists. Catalog artists that are no longer active would not. Current artists who are active would have that type of information.

Q. Did you finish?

A. The bulk of sales are current artists.

Q. What percent of sales are current artists versus catalog artists on iTunes Music Store?

A. I don't have that kind of information. But certainly while I was at Universal, the vast majority of sales were current artists.

Q. You don't know for the iTunes Music Store?

A. Well, the vast majority of sales on the iTunes Music Store were current artists while I was at Universal.

Q. For -- are you aware of any data which would give an idea of what percent of consumers for a particular band or artist all actually go to their concerts?

MS. FUKUDA: Objection to form.

THE WITNESS: I have no data on that, no.

BY MS. SKLENAR:

Q. Just to take an example. I mean, what is a band that you're familiar with that would tour in the U.S. today?

A. U2.

Q. Okay. Let's say for U2, right. What would you estimate would be the sales of U2 in the U.S. or songs through the iTunes Music Store?

MS. FUKUDA: Objection to form.

THE WITNESS: Total number of tracks sold, are you asking?

BY MS. SKLENAR:

Q. Let's do that, total number of tracks sold.

A. I would say 10 million or more on a given release.

Q. Okay. So -- and over what period of time are you estimating that?

A. During -- I mean, generally, record labels look at about 18 months as the initial release period. So, again, it varies from album to album. But, you know, that -- that would be the equivalent of about a million albums. So...

Q. You estimate 10 million tracks; is that correct?

A. Yeah, more or less. Depends on whether they have a hit on that album or not.

Q. Okay. For those 10 million tracks, what percent of those do you think would be purchased because the consumer was interested in the concert tour information?

MS. FUKUDA: Objection to form.

THE WITNESS: Many. I don't have a number on that.

BY MS. SKLENAR:

Q. And you don't have a number of what percent of the consumers would actually be interested in going to

see the band live; is that right?

MS. FUKUDA: Objection to form.

THE WITNESS: Well, U2 sells millions of tickets on its tours. And it sells millions of tracks on its albums.

I don't know how many actual purchasers of those tracks there are. Because it could be 10 people buying 100 tracks or 100 people buying 100 tracks. That, I don't know.

I also don't know the correlation between who's at the concert and who has bought the music. Obviously there's people who bought the song that didn't go to the concert and people that went to concert and didn't buy the track. So I don't have those numbers either.

BY MS. SKLENAR:

Q. Certainly couldn't there be a lot of people who have been to the concert and become more interested in the band and then buy tracks through the iTunes Music Store?

A. It's possible. But considering a concert costs $100 and a track costs 99 cents, it's more likely to be the other way around.

Q. But you don't know one way or the other what purchasing --

A. I don't have hard data on that, no. Sorry.

Q. You don't know one way or the other what the specific purchasing patterns are, do you?

MS. FUKUDA: Objection to form.

THE WITNESS: I don't have specific numbers on that, no.

BY MS. SKLENAR:

Q. Turning to paragraph 98 of your declaration.

You state that: "Widely advertised iTunes Music Store, another factor that contributed to the commercial success of iTunes Music Store"?

A. Yes.

Q. You didn't provide any facts or data about Apple's advertising, did you?

MS. FUKUDA: Objection to form.

THE WITNESS: I did not put any exhibits of that, no.

BY MS. SKLENAR:

Q. And you did not set forth any information about how much in the way of advertising was conducted, for example, in 2003, did you?

A. I did not give any exhibits to that, no -- examples of that.

Q. So what data are you familiar with that relates to the trends in purchasing of CD versus

downloaded copies of music?

A. During my time at Universal through 2008, I had access to weekly SoundScan data which tracked total sales by format, by release.

Q. And what type of -- what specifically did that information look like as far as format?

A. It was an online service that could respond -- database of sales that would respond to queries and would give you charts of most popular tracks and their total sales by format.

Q. And by "format," what are you talking about?

A. CD, digital download, cassette.

Q. You reviewed Mr. Snell's declaration, correct?

A. Correct.

MS. SKLENAR: Let's mark that as Exhibit 16.

(Whereupon Exhibit 16 was marked for identification.)

BY MS. SKLENAR:

Q. So this is the declaration of John Snell in support of patent owner SightSound Technologies, LLC's response to petition.

And this is the copy of the declaration you reviewed?

A. Yes.

Q. Okay. If you could turn to page 60.

We see there a chart of historical retail dollar value.

Do you see that?

A. I'm sorry. Page 60?

Q. Yes. Page 60.

Do you see the chart there?

A. Yes.

Q. So Mr. Snell states that: "Sales of digital downloads have largely displaced sales of physical media for content, such as records and compact discs," CDs.

And then he says that: "The graph below shows in terms of retail dollars increase in digital download purchases and the corresponding decrease in physical media purchases from 2004 through 2012 in the United States."

Do you see that?

A. Yes.

Q. Do you have any reason to dispute the content of the -- of what's shown here in the chart?

A. Yes.

Q. You dispute this?

A. Yes.

Q. What about it do you dispute?

A. Well, first, I don't know the source.

The -- there are many difference ways to

measure retail dollar value. I don't know what is being used here.

One of the ways of measuring retail dollar value was suggested retail list price which per unit -- which I suspect is what was used because I see a $12 billion number in 2004.

I don't believe actual retail sales was that high, but I do believe that may coincide with the RIAA financial releases which were based on suggested retail list price, which is fine if you're comparing year to year in that format. However, if you compare it to digital formats, download formats, there is no, quote, suggested retail list price other than the actual retail list price for downloads. There's no differential. There's no artificially inflated amount that actually doesn't get paid.

So where it says 12 billion in 2004, my recollection is the industry never was over $10 billion in this country. However, if you compare that coming down to digital downloads coming up, you're essentially comparing, since you're comparing dollars, apples and oranges, because you're comparing an artificial number suggested retail list price with an actual number, the amount actually paid for the downloads.

Q. So Mr. --

A. Plus -- there's more.

Q. Go ahead. Finish your answer.

A. It says: "Digital downloads have largely displaced sales of physical media for content."

He doesn't give a date. I suppose he means now. That's not true. Digital downloads have not largely replaced CDs. Digital downloads are more or less equivalent now to sales of CDs, and it's nowhere near what CD sales were 10, 15 years ago.

So they have not replaced those numbers. Nothing has replaced many of those numbers. And to the extent it's there now, they're still sort of on an equal par with physical.

Q. So Mr. Snell, in fact, did give a source of his data, did he not, in Footnote 27?

A. I didn't see that, yeah.

Q. So he lists as the source the RIAA year-end shipment statistics, correct?

A. Correct, which confirms what I said. Those would be suggested retail list price dollar values.

Q. So you don't dispute the fact that the trends in the sales for physical media purchases is going down and has been going down since 2004, correct?

A. I do not dispute that.

Q. And you don't dispute that the trend as far as

digital download purchases has been going up since at least 2004, correct?

A. I believe in recent years it's flat to down a little bit. But up until that, it was going up.

Q. In recent years are you referring to?

A. The dollar sales in permanent digital downloads in this country, I believe, are flat to down over the past year or two.

Q. Okay. Thank you.

As far as the charts -- before I go on, you didn't address or respond to Mr. Snell's statement that's set forth at this page 60, paragraph 83, in your in your declaration, correct?

MS. FUKUDA: Objection to form.

THE WITNESS: No. That's correct.

BY MS. SKLENAR:

Q. Okay. Turning to paragraph 84, Mr. Snell provides a table of retail dollars generated from digital downloads compared to streaming subscription services from 2004 through 2012.

Do you see that?

A. Yes.

Q. And you didn't provide any response to this information either, correct?

A. Correct.

Q. Okay. Why is it, in your view, that digital downloads, at least to some extent, have been replacing the physical media sales?

MS. FUKUDA: Objection to form.

THE WITNESS: I believe that the number one reason at launch was disaggregation, which I believe I already said; that the consumer now had the choice to buy one or two tracks for a dollar each rather than having to pay 12 to $16 for an entire CD. That was a huge incentive to switch to buying that way.

I also believe they enjoyed the flexibility of listening to music by their own play lists so they could re-order the songs which -- having basically a track-by-track jukebox facilitated as opposed to having to put CDs in and out of a CD player.

I think those are the main reasons why it took off as it did as an industry format.

BY MS. SKLENAR:

Q. If you could turn to paragraph 57 in your declaration.

You state in paragraph 57 that it would have been challenging to profitably run an electronic records store at the time.

Do you see that?

A. Yes.

Q. And then by the phrase "at the time," are you referring to 1995?

A. I'm referring to at the time SightSound was -- launched its audio store, 1995, yes.

Q. Okay. And then you say: "Given the then-current state of technology" -- and by "the then-current state of technology," you're referring again to 1995?

A. Yes.

Q. And then towards the end of paragraph 57, there are couple more references to "at the time" and "at that time."

Do you see that?

A. Yes.

Q. Again, are you referring to 1995?

A. Yes, as well as succeeding years.

Q. Do you know in the 1995 time period what the availability of broadband service was on college campuses?

MS. FUKUDA: Objection to form.

THE WITNESS: My recollection is that broadband was generally available on campus.

I'll take that back. 1995 is still early.

So I'm not sure what percentage of dorms had it. Certainly it was generally available in offices for

research purposes. I'm not sure whether the roll-out into dorms had reached critical mass at that point, but it would have soon after.

BY MS. SKLENAR:

Q. When you say, "It would have soon after," how much time are you talking about?

A. Oh, within the next three to five years. It would be ubiquitous.

Q. Have you ever downloaded a movie that has taken a particularly long time?

A. I generally don't download movies. I stream movies.

Q. Okay. Have you ever downloaded anything that's taken more than a half hour?

A. Yes.

Q. What have you downloaded that's taken that long?

A. Games.

Q. How long have they taken?

A. Oh, in 19- -- early 1990s and late 1980s, it might take hours.

Q. Do you know whether it was common for individuals in the 1990 time period to download various materials that would take hours and hours?

MS. FUKUDA: Objection to form.

THE WITNESS: I don't believe it was common, no.

BY MS. SKLENAR:

Q. But it's something that was done routinely, correct?

MS. FUKUDA: Objection to form.

THE WITNESS: Some people would do it. Most people wouldn't.

BY MS. SKLENAR:

Q. Do you have any sense of the extent to which people in the, let's say, late 1990 time period would download material that would take longer than half an hour to do so?

MS. FUKUDA: Objection to form.

THE WITNESS: It would depend on whether something was otherwise available and easy to get. If something was only available online, then the only way to get it would be to wait overnight. Some people would do that; other people would forgo it.

I believe the vast bulk of people in the 1990s had never downloaded anything and wouldn't start until they had broadband.

BY MS. SKLENAR:

Q. Do you know what time period broadband become commonly available?

A. I believe it only became commonly available in the 2000s.

Q. Do you have any sources on that?

A. Not off the top of my head, no.

Q. In paragraph 57 you don't provide any sources for the statements in that paragraph, correct?

A. Correct.

Q. So what was the source of the information that you put in paragraph 57?

MS. FUKUDA: Objection to form.

THE WITNESS: Well, I have to go through it one by one.

BY MS. SKLENAR:

Q. Well, when you generally talked about what was available in the 1990s and didn't provide a source, are you just relying on your recollection?

MS. FUKUDA: Objection to form.

THE WITNESS: Well, again, we'd have to take it item by item. And I can answer it specifically item by item.

BY MS. SKLENAR:

Q. Okay. Second sentence of paragraph 57 says that, for example, a home computer -- strike that.

Paragraph 57, second sentence, you state: "Not all homes had a home computer and not all the homes

with a home computer had access to data transfers via telephone lines, much less high-speed data transfer that would have facilitated prompt transfer of larger files, such as digital audio and video."

So that's based on your recollection?

A. Yeah.

Q. "Other options, such as cable, may have provided greater transfer feeds given their greater bandwidth. Using those lines for an electronic record store would have required cooperation from the cable companies."

Do you see that?

A. Yes.

Q. So that's based on your recollection as well?

MS. FUKUDA: Objection to form.

THE WITNESS: Yeah. Also based on my meeting with cable companies in the '90s on that subject.

BY MS. SKLENAR:

Q. But you don't provide a citation to that, correct?

A. To my personal meetings, no.

Q. You don't provide a citation for that sentence, do you?

A. No.

Q. And then you say in the next sentence: "The

cost of storage for digital audio and digital video as well as the relatively small storage capability available on home computers at the time meant even fewer potential sales even within the subset of available consumers."

Do you see that?

A. Yes.

Q. And that's just based on your recollection?

MS. FUKUDA: Objection to form.

THE WITNESS: As I confirmed in the other footnote, as well as my confirmation in the other footnote to the other expert.

BY MS. SKLENAR:

Q. So that's based on your discussion with Mr. Kelly?

A. Yes.

Q. And you say, "As I confirmed in the other footnote."

What footnote are you talking about?

A. I believe I made the same reference in another point in the declaration where I mentioned my phone call to Mr. Kelly. I'd have to go through it all to find it.

Q. You also state in that paragraph that: "Hard discs were a prime example of the high cost of storage at the time."

Do you see that?

A. Yes.

Q. And there's no citation to that either, correct?

A. No.

Q. I want to turn now to some of the SightSound documents that you reviewed for purposes of forming your opinion.

Who selected the documents that you reviewed as they related to SightSound?

MS. FUKUDA: Objection. And to the extent it calls for privileged information, I instruct the witness not to answer.

THE WITNESS: I was retained by Apple to give testimony in specific areas as Apple identified. And Apple also identified documents that they would like me to look at in forming those opinions. So it was Apple who selected them.

BY MS. SKLENAR:

Q. Do you think that the documents that you cited from SightSound were business records?

MS. FUKUDA: Objection to form.

THE WITNESS: Under what definition of business records?

BY MS. SKLENAR:

Q. Well, do you know in what context the documents were created and used that you relied upon?

A. Some were prospectuses designed to elicit funding. Some were business plans to get people to do business with them or fund them.

Some were -- well, I'm not sure what you mean by "SightSound documents." Some were press articles and things like that so...

MS. SKLENAR: Let's mark Exhibit 17.

(Whereupon Exhibit 17 was marked for identification.)

BY MS. SKLENAR:

Q. Do you recognize this document?

A. I remember seeing it, yes.

Q. And this is, in fact, a document that you cited in your declaration, correct?

A. Yes.

Q. What is your understanding how this document was used by SightSound?

MS. FUKUDA: Objection to form.

THE WITNESS: My only understanding of this document, it was a document provided by SightSound in this case.

How it was used other than that, I -- I don't

know.
BY MS. SKLENAR:
Q. Did you get a sense upon reviewing this document of who drafted it?
A. I assumed reading it that it was drafted by SightSound.
Q. Did you get a sense reviewing Exhibit 17 it was something that SightSound provided outside the company to potential investors?
MS. FUKUDA: Objection to form.
THE WITNESS: There are certainly references to require some investment to fund their operations, and I think could one deduce from that that it was then given to potential investors to get that money.
BY MS. SKLENAR:
Q. Isn't this document just a draft?
MS. FUKUDA: Objection to form.
THE WITNESS: Well, if it was stamped "Draft" anywhere, then it would be. I don't recall seeing that.
BY MS. SKLENAR:
Q. Well, why don't you look at page 7. And I'm referring to the numbers in the bottom middle of the page where it says "page 7 of 8."
A. Uh-huh. Yes.
Q. There it's talking about the legal structure

of Virtual Records.

Do you see that?

A. Yes.

Q. Do you know what Virtual Records is?

A. I took this to mean Virtual Records was a subsidiary set up by the owners of SightSound to operate a record company.

Q. But do you know that one way or the other?

MS. FUKUDA: Objection to form.

THE WITNESS: This is what I infer from the document.

BY MS. SKLENAR:

Q. Under "ownership," it states: "Virtual Records Inc. is owned by Mr. Hair, Mr. Scott," and it has in parentheses "(initial investor group.)"

Do you see that?

A. Yes.

Q. Who's Mr. Scott?

A. I don't recall -- I don't know.

Q. Do you know of anyone associated with SightSound who's ever been called Mr. Scott?

A. The only two I'm familiar with are Mr. Sander and Mr. Hair.

Q. And then the initial investor group in parentheses, do you know what that refers to?

A. I assumed it referred to whoever gave them the money to fund the operation they're proposing.

Q. Doesn't that suggest to you, the reference to initial investor group in parenthesis, that this is a document that's incomplete?

MS. FUKUDA: Objection to form.

THE WITNESS: No. It means it was a document prepared before they knew who the investor group would be, so they had to identify it somehow.

BY MS. SKLENAR:

Q. You don't know one way or the other whether this is a complete document, do you?

MS. FUKUDA: Objection to form.

THE WITNESS: I don't know whether there are other versions of this document prepared after this one, no.

BY MS. SKLENAR:

Q. You don't know whether or not this was a draft that was never sent outside the company, correct?

A. Well, it was sent outside the company because we have it here today.

Q. Okay. Fair enough.

You don't know one way or the other, do you, whether this document was a draft that was never sent outside the company at the time?

A. I do not know when this was sent outside the company.

Q. Do you know whether or not this was sent outside the company unrelated to the litigation in the proceedings with Apple?

A. No.

Q. If we look at "management," it says: "The president of Virtual Records Inc. is Mr. XXX, formerly of XXX Corporation."

Do you see that?

A. Yes.

Q. Wouldn't that suggest to you that this document is a draft that hasn't been completed?

MS. FUKUDA: Objection to form.

THE WITNESS: I would think that except for the parenthetical which then goes on to explain why it says "XXX." If it was just a draft, I don't know why they would do that.

BY MS. SKLENAR:

Q. But do you have any reason sitting here today to believe that this document was sent -- completed and sent to investors?

MS. FUKUDA: Objection to form.

THE WITNESS: Well, in reading it, it reads like it was something prepared with the intention to

give it to investors or business partners. Whether or not they ever did that, I have no knowledge.

MS. SKLENAR: Let's mark next in order Exhibit 18, a private placement memorandum.

(Whereupon Exhibit 18 was marked for identification.)

BY MS. SKLENAR:

Q. Do you recognize this Exhibit 18, which is entitled "Private Placement Memorandum April 27, 1999"?

A. I remember seeing it.

Q. This is a document you cited throughout your declaration, correct?

A. Correct.

Q. Do you know whether this document was a completed version that was sent outside the company to potential investors?

MS. FUKUDA: Objection to form.

THE WITNESS: No I don't.

BY MS. SKLENAR:

Q. You don't know what use SightSound made of this document, correct?

A. I do not know what they did with this document prior to this proceeding, no.

MS. SKLENAR: Let's go off the record and take a break.

(Off the record at 2:29 p.m. and back on the record at 2:48 p.m.)

MS. SKLENAR: I do not have any further questions at this point.

MS. FUKUDA: Okay.

THE WITNESS: You are almost done then.

MS. FUKUDA: I just have a couple of follow-up, if I may.

--o0o--

EXAMINATION

BY MS. FUKUDA:

Q. Mr. Kenswil, if you could take a look at Exhibit 6. That SightSound's counsel had put in front of you earlier.

MS. SKLENAR: Mr. Kenswil, you probably know this, now I have the chance to object. I would just ask that you give me the opportunity to do that.

THE WITNESS: Okay.

BY MS. FUKUDA:

Q. You remember Exhibit 6 from earlier today during the deposition --

A. Yes.

Q. -- when counsel pointed you to some language in paragraph 1?

A. Yes.

Q. If you take a look at paragraph 2, first sentence says: "'The iTunes Music Store offers the revolutionary rights to burn an unlimited number of CDs for personal use and to put music on an unlimited number of iPods for the on-the-go listening,' says Steve Jobs, Apple's CEO."

Do you agree with that statement there?

A. Yes.

Q. And I'm going to ask you the same question with respect to paragraphs 3, 4, 5, and 6, whether you -- if you -- just taking a look at those paragraphs and let us know whether you agree with the statements in those paragraphs as well.

MS. SKLENAR: Objection. Form.

THE WITNESS: Well, as far as the number of songs, on the surface...

(Reporter request for clarification.)

BY MS. FUKUDA:

Q. We can take it one at a time to make the record a little clearer.

Paragraph 3 says: "The iTunes Music Store features over 200,000 songs from music companies including BMG, EMI, Sony Music Entertainment, Universal, and Warner."

A. Right.

Q. You agree with that?

A. I have no independent knowledge of that. I only know what -- they say how many songs they have.

Q. Okay. Is there anything inconsistent between that statement and what you know?

MS. SKLENAR: Objection. Foundation.

THE WITNESS: I'm a little surprised it was that low at launch. I remember it being more, but --

BY MS. FUKUDA:

Q. Okay. Also if you see later in that paragraph, it says: "Users can listen to a free 30-second high-quality preview of any song in the store, then purchase and download their favorite songs or complete albums in pristine digital quality with just one click."

Do you agree with that statement?

A. Yes.

Q. In the fourth paragraph, it starts with: "The iTunes Music Store also features exclusive tracks from over 20 artists, including Bob Dylan, U2, Eminem, Sheryl Crow, and Sting, as well as special music videos from several of these artists which users can watch for free. In addition, the iTunes Music Store highlights new releases, staff favorites, and up-and-coming artists and delivers a compelling variety of music from many

genres and time periods ranging from rock and hip hop to jazz and classical."

Do you agree with those statements?

MS. SKLENAR: Objection. Foundation.

THE WITNESS: Other than the reference to Bob Dylan, which I have no way of knowing one way or the other, but I agree with the rest of it.

BY MS. FUKUDA:

Q. And the rest of the paragraph says: "The ability to browse the entire music store by genre, artist, and album combined with free high-quality previews of every song lets users explore music in an entirely new way to easily find the hits they love and discover gems they've never heard before."

Do you also agree with that statement?

A. Yes.

Q. Next paragraph.

"All music on iTunes Music Store is encoded in the industry standard AAC audio format at 128 kilobits per second, which enables smaller files and faster download times while rivaling CD quality sound superior to the quality of MP3 files at the same size."

Do you agree with that statement?

A. I certainly agree they were AAC audio format at 128 kilobits per second and enabling smaller files

and faster download times.

I'd say that the statements about comparisons to CD quality and MP3 quality comparison are subjective and a matter of opinion.

Q. If you don't mind, Mr. Kenswil, could you also take a look at Kenswil Exhibit 7 that was in front of you earlier today?

Okay. And earlier today, SightSound's counsel pointed to you language in the first two paragraphs of this document.

Do you recall that?

A. Yes.

Q. Let me ask you, in paragraph 1, the last sentence, where it says: "Apple also announced that it will ship its one millionth iPod this week." Sorry. Two sentences. "Apple introduced the third generation of its ultra portable digital music player in April, and it has become a huge hit with music lovers worldwide."

Do you agree with those two statements?

MS. SKLENAR: Objection. Form.

THE WITNESS: Yes.

BY MS. FUKUDA:

Q. Direct your attention to paragraph 5.

A. Yes.

Q. If you -- just to make it faster -- let me go

to paragraph 6.

Paragraph starts with: "The new super slim iPods store up to 7,500 songs in a stunning enclosure that is lighter and thinner than two CDs."

And the rest of that discussion, I guess without burdening everybody here in this room, can you read that paragraph to yourself and let us know whether you agree with the statements in that paragraph?

MS. SKLENAR: Objection. Form. Foundation.

THE WITNESS: Yes, I agree.

BY MS. FUKUDA:

Q. Okay. Earlier today, SightSound's counsel also asked you about the success of buying music online compared to the decrease in sales of CD music?

A. Yes.

Q. What is your understanding of when the capability to buy music online was first available?

MS. SKLENAR: Objection. Foundation.

BY MS. FUKUDA:

Q. Well, let me rephrase this.

Mr. Kenswil, do you have any understanding as to when the idea of purchasing music online first became available?

MS. SKLENAR: Objection. Scope. Foundation.

THE WITNESS: I certainly believe the music

companies were aware of the possibility from the mid-'80s, 1980s forward.

BY MS. FUKUDA:

Q. And is -- can you think of any examples from the mid-'80s that would support what you just said?

MS. SKLENAR: Objection. Scope. Foundation.

THE WITNESS: Well, there is one in my declaration from Jimmy Bowen.

BY MS. FUKUDA:

Q. Can you show us which you're talking about?

A. Sure.

MS. SKLENAR: Same objections.

BY MS. FUKUDA:

Q. Is this Kenswil Exhibit 1?

A. Yes. On page 17, Footnote 28, there's a quote from -- I believe -- I don't have the exhibit in front of me, but I believe the mid-1980s. I don't have the exact date from Jimmy Bowen, who was president of MCA National at the time, who I worked closely with because I was doing the business affairs for that company.

And he was certainly -- certainly a futurist of the business, and he had been working with digital files during that time period as he was not only a executive but a record producer. And at that time, the

digital transfer of files between studios was already being developed. And he was prescient enough at that time to extrapolate that to the consumer market. He estimated 10 years. He was a little optimistic.

Q. So we're clear, would you mind reading the quote you're talking about?

MS. SKLENAR: Objection. Scope. Foundation.

THE WITNESS: Sure.

"I see the time down the road, probably 10 years, when you'll be able to dial a series of numbers on your telephone and get a digital album over the phone line into your incoder" --

It's a misspelling of encoder.

-- "in your home. In five minutes, you can have a new album. It's on your telephone bill or it's on your credit card or whatever."

MS. FUKUDA: Thank you, Mr. Kenswil. I have no further questions for now.

MS. SKLENAR: Let's just go off the record for a few minutes.

(Off the record at 2:59 p.m. and back on the record at 3:03 p.m.)

--o0o--

EXAMINATION

BY MS. SKLENAR:

Q. Mr. Kenswil, Apple's counsel asked you about some statements in Exhibit 6 and Exhibit 7 concerning the iPod.

Do you recall that?

A. Yes.

Q. Didn't SightSound, in fact, have a portable music player?

MS. FUKUDA: Objection to form.

THE WITNESS: When you say "had a portable music player," I'm not sure what you mean. They certainly didn't manufacture one.

BY MS. SKLENAR:

Q. Did they have any sort of portable video player, to your knowledge?

A. In 1995?

Q. At any point in time.

A. I'm not aware of it.

Q. You're not aware of whether SightSound had any portable player that could play various medium?

A. I believe there were portable players that could play the audio that they were selling.

I don't know that they were their players, though. I think they were branded media players.

Q. Do you know whether during the meeting between

SightSound personnel and Apple personnel that the SightSound personnel told Apple that it should market a portable media player?

MS. FUKUDA: Objection to form.

THE WITNESS: I know nothing about any such meeting.

BY MS. SKLENAR:

Q. Counsel for Apple also asked you about the preview feature in Exhibit 6.

Do you recall that?

A. Yes.

Q. Didn't SightSound offer a preview feature on its Web site?

A. I believe they offered some previews of some songs, yes.

Q. Counsel for Apple also asked you about paragraph -- the footnote -- strike that.

Counsel for Apple also asked you about something at page 17 of your declaration.

Do you recall that?

A. Yes.

Q. She asked you specifically about Exhibit 4306, correct?

MS. FUKUDA: Objection to form.

THE WITNESS: Which page?

BY MS. SKLENAR:

Q. The quote you read from page 17 of your declaration, that was from Exhibit 4306; is that correct?

A. It's identified here as 4103.

Q. I think we're looking at different versions of your declaration. I'm looking at the one in the 00023 proceeding.

A. I'm looking at 00020.

Q. Could you do me a favor and look at the one that's the 00023 declaration?

A. Yes.

Q. So what is Exhibit 4306?

MS. FUKUDA: Objection to form.

THE WITNESS: I don't have that exhibit in front of me so I can't tell you.

BY MS. SKLENAR:

Q. Just to be clear, the quotation you read from -- what's his name? Jimmy Bowen?

A. Yes.

Q. The quotation you read from Jimmy Bowen is listed in this Exhibit 2 as coming from 4306, correct?

A. Yes.

Q. Counsel asked you to read that quotation in the record?

A. Yes.

Q. But counsel didn't provide you a copy of the exhibit; is that correct?

A. No. I read it from my declaration.

Q. Okay. And you don't mention in your declaration who -- the author of that quote, correct you don't identify Jimmy Bowen, correct?

A. No.

Q. And you also don't explain in your declaration you knew Mr. Bowen and had any communications with him concerning the statements that he made that are reflected on page 17 of your declaration, correct?

MS. FUKUDA: Objection to form.

THE WITNESS: Well, I didn't testify I had any communications with him about it, this quote. But I did not put in that I work with him, no.

BY MS. SKLENAR:

Q. So just to be clear, there's nowhere -- is it your testimony that you did not have communications with Mr. Bowen concerning the subject matter at paragraph -- page 17 of your declaration?

MS. FUKUDA: Objection to form.

THE WITNESS: No. I do not recall ever talking to him about this specific quote.

BY MS. SKLENAR:

Q. Do you -- is it your understanding that you have had communications with Mr. Bowen about the general nature of the information that's quoted here at page 17?

MS. FUKUDA: Objection to form.

THE WITNESS: I recall during the '80s generally talking to Mr. Bowen about technical subjects in the music industry, including the problems of digitization, specifically within the purview of music recording studios and mastering labs. But my recollection of that is general and not specific. I couldn't tell you time and place and exact subjects.

BY MS. SKLENAR:

Q. Okay.

The quotation that we see on page 17 of Mr. Bowen that you read, what article is he being quoted there in?

A. I would have to look at the exhibit to tell you that.

Q. In fact, 4306 is a part of the reexamination -- the ex parte reexamination of the '573 patent?

A. I don't know.

Q. Do you know what a reexamination is?

A. Yes.

Q. What's a reexamination?

A. I believe there was a second look at the patent after it was initially issued to determine whether that patent should remain viable -- probably not the correct technical term -- and that was the reexamination.

Q. So did you review portions of the '573 reexamination in forming your opinions that we see set forth in your declaration?

A. No, I've never reviewed that.

Q. Just to be clear, you've never read excerpts of the '573 reexamination; is that correct?

MS. FUKUDA: Objection to form.

THE WITNESS: I may have read things that are in exhibits that were used in that reexamination, but I did not review any files of that reexamination.

BY MS. SKLENAR:

Q. So the quotation that we see in paragraph -- strike that.

The quotation that we see at page 17, in what format was it when you reviewed it and decided to quote it in your declaration?

A. It was a copy, a Xerox copy of the exhibit.

Q. But you don't have that copy here with you today?

A. No. I didn't bring anything with me today.
Q. So what was -- what publication did that article appear in?
A. I don't recall.
Q. What was the year of the publication?
A. It was the mid-'80s.
Q. How do you know that?
A. That's just what I recall when I looked at it. I don't recall the exact date.
Q. Do you know what happened as a result of reexamination of the '573 patent?
A. No.
Q. You don't know whether claims were confirmed by the examiner?
A. I do not know specifically what the subject was or what the conclusion was, no.
MS. SKLENAR: Okay.
Just to be clear for the record, we object to your testimony here today about Mr. Bowen's quotation or his article.
I think the record has been made clear.
So I don't have further questions.
MS. FUKUDA: And I have no further questions.
MS. SKLENAR: Thank you.
--o0o--

(Whereupon the deposition was adjourned at 3:11 p.m.)

--o0o--

I declare under penalty of perjury that the foregoing is true and correct. Subscribed at _____, California, this _____ day of _____, 2014.

_____

LAWRENCE KENSWIL

CERTIFICATE OF REPORTER

I, MEGAN F. ALVAREZ, a Certified Shorthand Reporter, hereby certify that the witness in the foregoing deposition was by me duly sworn to tell the truth, the whole truth and nothing but the truth in the within-entitled cause;

That said deposition was taken down in shorthand by me, a disinterested person, at the time and place therein stated, and that the testimony of the said witness was thereafter reduced to typewriting, by computer, under my direction and supervision;

I further certify that I am not of counsel or attorney for either or any of the parties to the said deposition, nor in any way interested in the events of this cause, and that I am not related to any of the parties hereto.

DATED: April 2, 2014

MEGAN F. ALVAREZ
RPR, CSR 12470

APRIL 2, 2014

LAWRENCE KENSWIL
c/o CHING-LEE FUKUDA, ESQ.
ROPES & GRAY LLP
1211 AVENUE OF THE AMERICAS
NEW YORK, NY 10036-8704

IN RE: APPLE v. SIGHTSOUND

Dear Mr. Kenswil:

Please be advised that the original transcript of your deposition taken APRIL 2, 2014 in the above-referenced matter is available for reading and signing. The original transcript will be held at the offices of Merrill Corporation LegaLink, Inc., 135 Main, 4th Floor, San Francisco, California 94105 (800) 869-9132, thirty (30) days in accordance with California Code of Civil Procedure Section 2025.520.

If you are represented by counsel in this matter, you may wish to ask your attorney how to proceed. If you are not represented by counsel and wish to review your transcript, please contact my office for a mutually convenient appointment to review your deposition. Thank you for your cooperation in this matter.

Sincerely yours,

MEGAN F. ALVAREZ, RPR, CSR 12470
cc: Original transcript
All Counsel of Record

Merrill Legal Solutions

MERRILL CORPORATION

INSTRUCTIONS FOR READING/CORRECTING YOUR DEPOSITION

To assist you in making changes and /or corrections to your deposition testimony, please follow the directions below. If additional pages are necessary, please furnish them and attach the pages to the back of the errata sheet.

Please read your transcript carefully. If you find any errors or changes you wish to make, insert the changes and/or corrections on the errata sheet by listing the page and the line number reference and then the change you wish to make.

Please do not make any changes and /or corrections on the face of the transcript.

Please do NOT change any of the questions.

After completing your review, please sign the last page of the errata sheet, above the designated "Signature."

ERRATA SHEET

Page Line

____ ____ Change:_____

Reason:_____

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Page Line

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Reason:_____

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Reason:_____

_____ Subject to the above changes, I certify that the transcript is true and correct.

_____ No changes have been made. I certify that the transcript is true and correct.

_____ _____

(signature) (date)

N

Q

EXHIBIT 1

Exhibit 1 was previously filed under seal as Exhibit 4256 in CBM2013-00020

EXHIBIT 2

Exhibit 2 was previously filed under seal as Exhibit 4414 in CBM2013-00023

EXHIBIT 3

Exhibit 3 was previously filed under seal as Document No. 52 in CBM2013-00020

EXHIBIT 4

Exhibit 1304

US005191573A

United States Patent [19]

Hair

[11] Patent Number: 5,191,573

[45] Date of Patent: Mar. 2, 1993

[54] METHOD FOR TRANSMITTING A DESIRED DIGITAL VIDEO OR AUDIO SIGNAL

[76] Inventor: Arthur R. Hair, 301 Oaklawn Dr., Pittsburgh, Pa. 15241

[21] Appl. No.: 586,391

[22] Filed: Sep. 18, 1990

Related U.S. Application Data

[63] Continuation of Ser. No. 206,497, Jun. 13, 1988, abandoned.

[51] Int. Cl.[5] G11B 5/86; G11B 7/00; G11B 11/00

[52] U.S. Cl. 369/84; 235/381; 235/380; 369/33; 369/34; 369/15; 369/85

[58] Field of Search 369/33, 34, 13, 15, 369/84, 85; 235/380, 381, 375; 364/479, 410

[56] References Cited

U.S. PATENT DOCUMENTS

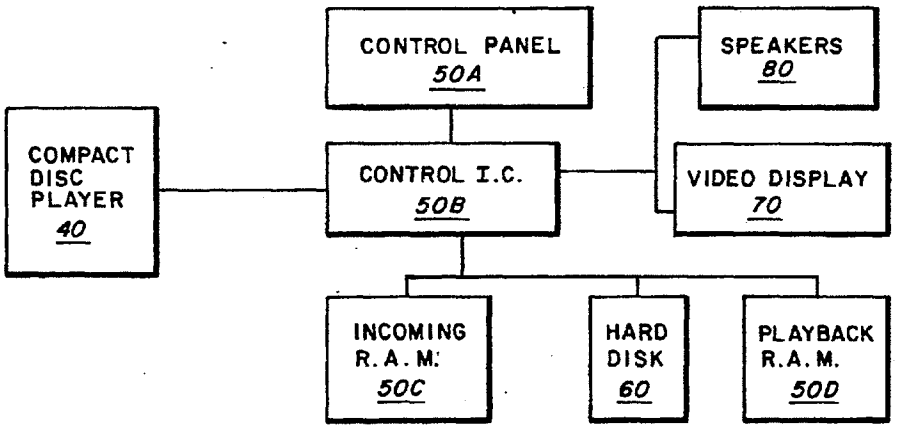
3,718,906	2/1973	Lightner	235/381
3,990,710	11/1976	Hughes	369/34
4,567,359	1/1986	Lockwood	235/381
4,647,989	3/1987	Geddes	235/381
4,654,799	3/1987	Ogaki et al.	364/479

Primary Examiner—Hoa Nguyen
Attorney, Agent, or Firm—Ansel M. Schwartz

[57] ABSTRACT

The present invention is a method for transmitting a desired digital video or audio signal stored on a first memory of a first party to a second memory of a second party. The method comprises the steps of transferring money via a telecommunications line to the first party from the second party. Additionally, the method comprises the step of then connecting electronically via a telecommunications line the first memory with the second memory such that the desired signal can pass therebetween. Next, there is the step of transmitting the desired digital signal from the first memory with a transmitter in control and in possession of the first party to a receiver having the second memory at a location determined by the second party. The receiver is in possession and in control of the second party. There is also the step of then storing the digital signal in the second memory.

6 Claims, 2 Drawing Sheets



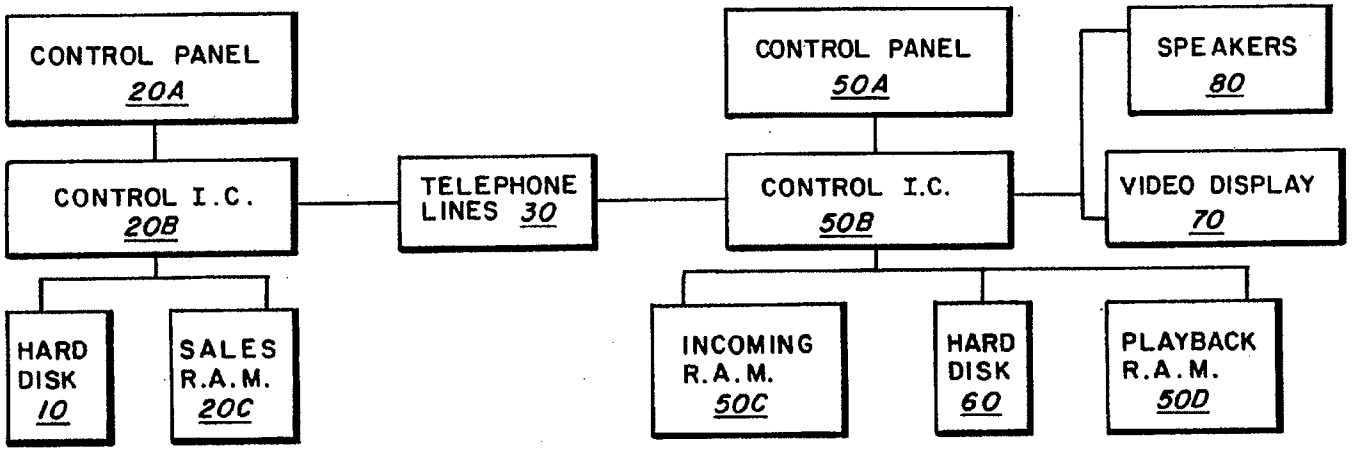

CONTROL PANEL
20A
CONTROL I.C.
20B
HARD
DISK
10
SALES
R.A.M.
20C
TELEPHONE
LINES 30
CONTROL PANEL
50A
CONTROL I.C.
50B
INCOMING
R.A.M.
50C
HARD
DISK
60
PLAYBACK
R.A.M.
50D
SPEAKERS
80
VIDEO DISPLAY
70

FIG. 1

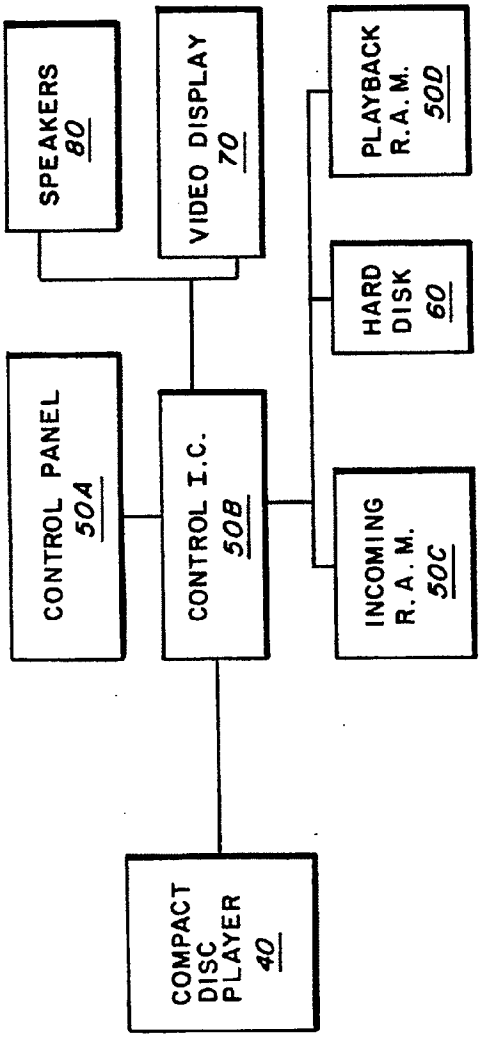

SPEAKERS
80
VIDEO DISPLAY
70
PLAYBACK
R.A.M.
50D
HARD
DISK
60
CONTROL PANEL
50A
CONTROL I.C.
50B
INCOMING
R.A.M.
50C
COMPACT
DISC
PLAYER
40

FIG. 2

METHOD FOR TRANSMITTING A DESIRED DIGITAL VIDEO OR AUDIO SIGNAL

This is a continuation of copending application Ser. No. 07/206,497 filed on Jun. 13, 1988, now abandoned.

FIELD OF THE INVENTION

The present invention is related to a method for the electronic sales and distribution of digital audio or video signals, and more particularly, to a method which a user may purchase and receive digital audio or video signal from any location which the user has access to a telecommunications line.

BACKGROUND OF THE INVENTION

The three basic mediums (hardware units) of music: records, tapes, and compact discs, greatly restricts the transferability of music and results in a variety of inefficiencies.

CAPACITY: The individual hardware units as cited above are limited as to the amount of music that can be stored on each.

MATERIALS: The materials used to manufacture the hardware units are subject to damage and deterioration during normal operations, handling, and exposure to the elements.

SIZE: The physical size of the hardware units imposes constraints on the quantity of hardware units which can be housed for playback in confined areas such as in automobiles, boats, planes, etc.

RETRIEVAL: Hardware units limit the ability to play, in a sequence selected by the user, songs from different albums. For example, if the user wants to play one song from ten different albums, the user would spend an inordinate amount of time handling, sorting, and cueing the ten different hardware units.

SALES AND DISTRIBUTION: Prior to final purchase, hardware units need to be physically transfered from the manufacturing facility to the wholesale warehouse to &:he retail warehouse to the retail outlet, resulting in lengthly, lag time between music creation and music marketing, as well as incurring unnessary and inefficient transfer and handling costs. Additionally, tooling costs required for mass production of the hardware units and the material cost of the hardware units themselves, further drives up the cost of music to the end user.

QUALITY: Until the recent invention of Digital Audio Music, as used on Compact Discs, distortion free transfer from the hardware units to the stereo system was virtually impossible. Digital Audio Music is simply music converted into a very basic computer language known as binary. A series of commands known as zeros or ones encode the music for future playback. Use of laser retrieval of the binary commands results in distortion free transfer of the music from the compact disc to the stereo system. Quality Digital Audio Music is defined as the binary structure of the Digital Audio Music. Conventional analog tape recording of Digital Audio Music is not to be considered quality inasmuch as the binary structure itself is not recorded. While Digital Audio Music on compact discs is a technological breakthrough in audio quality, the method by which the music is sold, distributed, stored, manipulated, retrieved, played and protected from copyright infringements remains as inefficient as with records and tapes.

COPYRIGHT PROTECTION: Since the invention of tape recording devices, strict control and enforcement of copyright laws have proved difficult and impossible with home recorders. Additionally, the recent invention of Digital Audio Tape Recorders now jeopardizes the electronic copyright protection of quality Digital Audio Music on Compact Discs or Digital Audio Tapes. If music exists on hardware units, it can be copied.

Accordingly, it is an objective of this invention is to provide a new and improved methodology/system to electronically sell and distribute Digital Audio Music.

A further objective of this invention to provide a new and improved methodology/system to electronically store and retrieve Digital Audio Music.

Another objective of this invention is to provide a new and improved methodology/system to electronically manipulate, i.e., sort, cue, and select, Digital Audio Music for playback.

Still another objective of this invention is to offer a new and improved methodology/system which can prevent unauthorized electronic copying of quality Digital Audio Music.

SUMMARY OF THE INVENTION

Briefly, this invention accomplishes the above cited objectives by providing a new and improved methodology/system of electronic sales, distribution, storage, manipulation, retrieval, playback, and copyright protection of Digital Audio Music. The high speed transfer of Digital Audio Music as prescribed by this invention is stored onto one piece of hardware, a hard disk, thus eliminating the need to unnecessarily handle records, tapes, or compact discs on a regular basis. This invention recalls stored music for playback as selected/programmed by the user. This invention can easily and electronically sort stored music based on many different criteria such as, but not limited to, music category, artist, album, user's favorite songs, etc. An additional feature of this invention is the random playback of songs, also based on the user's selection. For example, the user could have this invention randomly play all jazz songs stored on the user's hard disk, or randomly play all songs by a certain artist, or randomly play all of the user's favorite songs which the user previously electronically "tagged" as favorites. Further, being more specific, the user can electronically select a series of individual songs from different albums for sequential playback.

This invention can be configured to either accept direct input of Digital Audio Music from the digital output of a Compact Disc, such transfer would be performed by the private user, or this invention can be configured to accept Digital Audio Music from a source authorized by the copyright holder to sell and distribute the copyrighted materials, thus guaranteeing the protection of such copyrighted materials. Either method of electronically transfering Digital Audic Music by means of this invention is intended to comply with all copyright laws and restrictions and any such transfer is subject to the appropriate authorization by the copyright holder. Inasmuch as Digital Audio Music is software an this invention electronically transfers and stores such music, electronic sales and distribution of the music can take place via telephone lines onto a hard disk. This new methodology/system of music sales and distribution will greatly reduce the cost of goods sold

and will reduce the lag time between music creation and music marketing from weeks down to hours.

The present invention is a method for transmitting a desired digital video or audio signal stored on a first memory of a first party to a second memory of a second party. The method comprises the steps of transferring money via a telecommunications line to the first party from the second party. Additionally, the method comprises the step of then connecting electronically via a telecommunications line the first memory with the second memory such that the desired digital signal can pass therebetween. Next, there is the step of transmitting the desired digital signal from the first memory with a transmitter in control and in possession of the first party to a receiver having the second memory at a location determined by the second party. The receiver is in possession and in control of the second party. There is also the step of then storing the digital signal in the second memory.

Further objectives and advantages of this invention will become apparent as the following description proceeds and the particular features of novelty which characterize this invention will be pointed out in the claims annexed to and forming a part of this declaration.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF DRAWINGS

For a better understanding of this invention, reference should be made to the following detailed description, taken in conjunction with the accompanying drawings, in which:

FIG. **1** is a pictorial flow chart which may be used in carrying out the teachings of this invention for the purposes of electronic sales, distribution, storage, manipulation, retrieval, playback, and copyright protection of Digital Audio Music; and

FIG. **2** is a pictorial flow chart which may be used in carrying out the teachings of this invention for the purposes of electronic storage, manipulation, retrieval, and playback of Digital Audio Music.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the FIG. **1**, this invention is comprised of the following:

10 Hard Disk of the copyright holder
20 Control Unit of the copyright holder
20*a* Control Panel
20*b* Control Integrated Circuit
20*c* Sales Random Access Memory Chip
30 Telephone Lines/Input Transfer
50 Control Unit of the user
50*a* Control Panel
50*b* Control Integrated circuit
50*c* Incoming Random Access Memory Chip
50*d* Play Back Random Access Memory Chip
60 Hard Disk of the user
70 Video Display Unit
80 Stereo Speakers

The Hard Disk **10** of the agent authorized to electronically sell and distribute the copyrighted Digital Audio Music is the originating source of music in the configuration as outlined in FIG. **1**. The Control Unit **20** of the authorized agent is the means by which the electronic transfer of the Digital Audio Music from the agent's Hard Disk **10** via the Telephone Lines **30** to the user's Control Unit **50** is possible. The user's Control Unit would be comprised of a Control Panel **50***a*, a Control Integrated Circuit **50***b*, an Incoming Random Access Memory Chip **50***c*, and a Play Back Random Access Memory Chip **50***d*. Similarly, the authorized agent's Control Unit **20** would have a control panel and control integrated circuit similar to that of the user's Control Unit **50**. The authorized agent's Control Unit **20**, however, would only require the Sales Random Access Memory Chip **20***c*. The other components in FIG. **1** include a Hard Disk **60**, a Video (display Unit **70**, and a set of Stereo Speakers **80**.

Referring now to FIG. **2**, with the exception of a substitution of a Compact Disc Player **40** (as the initial source of Digital Audio Music) for the agent's Hard Disk **10**, the agent's Control Unit **20**, and the Telephone Lines **30** in FIG. **1**, FIG. **2** is the same as FIG. **1**.

In FIG. **1** and FIG. **2**, the following components are already commercially available: the agent's Hard Disk **10**, the Telephone Lines **30**, the Compact Disc Player **40**, the user's Hard Disk **60**, the Video Display Unit **70**, and the Stereo Speakers **80**. The Control Units **20** and **50**, however, would be designed specifically to meet the teachings of this invention. The design of the control units would incorporate the following functional features:

1) the Control Panels **20***a* and **50***a* would be designed to permit the agent and user to program the respective Control Integrated Circuits **20***b* and **50***b*,

2) the Control Integrated Circuits **20***b* and **50***b* would be designed to control and execute the respective commands of the agent and user and regulate the electronic transfer of Digital Audio Music throughout the system, additionally, the sales Control Integrated Circuit **20***b* could electronically code the Digital Audio Music in a configuration which would prevent unauthorized reproductions of the copyrighted material,

3) the Sales Random Access Memory Chip **20***c* would be designed to temporarily store user purchased Digital Audio Music for subsequent electronic transfer via telephone lines to the user's Control Unit **50**,

4) the Incoming Random Access Memory Chip **50***c* would be designed to temporarily store Digital Audio Music for subsequent electronic storage to the user's Hard Disk **60**,

5) the Play Back Random Access Memory Chip **50***d* would be designed to temporarily store Digital Audio Music for sequential playback.

The foregoing description of the Control Units **20** and **50** is intended as an example only and thereby is not restrictive with respect to the exact number of components and/or its actual design.

Once the Digital Audio Music has been electronically stored onto the user's Hard Disk **60**, having the potential to store literally thousands of songs, the user is free to perform the many functions of this invention. To play a stored song, the user types in the appropriate commands on the Control Panel **50***a*, and those commands are relayed to the Control Integrated Circuit **50***b* which retrieves the selected song from the Hard Disk **60**. When a song is retrieved from the Hard Disk **60** only a replica of the permanently stored song is retrieved. The permanently stored song remains intact on the Hard Disk **60**, thus allowing repeated playback. The Control Integrated Circuit **50***b* stores the replica onto the Play Back Random Access Memory Chip **50***d* at a high transfer rate. The Control Integrated Circuit **50***b* then sends the electronic output to the Stereo Speakers **80** at a controlled rate using the Play Back Random Access

Memory Chip 50*d* as a temporary staging point for the Digital Audio Music.

Unique to this invention is that the Control Unit **50** also serves as the user's personal disk jocky. The user may request specific songs to be electronically cued for playback, or may request the Control Unit **50** to randomly select songs based on the user's criteria. All of these commands are electronically stored in random access memory enabling the control unit to remember prior commands while simultaneously performing other tasks requested by the user and, at the same &time, continuing to play songs previously cued.

Offering a convenient visual display of the user's library of songs is but one more new and improved aspect of this invention. As the Control Unit **50** is executing the user's commands to electronically sort, select, randomly play, etc., the Video Display Screen **70** is continually providing feedback to the user. The Video Display Screen **70** can list/scroll all songs stored on the Hard Disk **60**, list/scroll all cued songs, display the current command function selected by the user, etc. Further expanding upon the improvements this invention has to offer, the Video Display Screen **70** can display the lyrics of the song being played, as well as the name of the song, album, artist, recording company, date of recording, duration of song, etc. This is possible if the lyrics and other incidental information are electronically stored to the Hard Disk **60** with the Digital Audio Music.

The present invention is a method for transmitting a desired digital video or audio signal stored on a first memory of a first party to a second memory of a second party. The method comprises the steps of transferring money via a telecommunications line to the first party from the second party. Additionally, the method comprises the step of then connecting electronically via a telecommunications line the first memory with the second memory such that the desired digital signal can pass therebetween. Next, there is the step of transmitting the desired digital signal from the first memory with a transmitter in control and in possession of the first party to a receiver having the second memory at a location determined by the second party. The receiver is in possession and in control of the second party. There is also the step of then storing the digital signal in the second memory.

In summary, there has been disclosed a new and improved methodology/system by which Digital Audio Music can be electronically sold, distributed, transferred, and stored. Further, there has been disclosed a new and improved methodology/system by which Digital Audio Music can be electronically manipulated, i.e., sorted, cued, and selected for playback. Further still, there has beer disclosed a new and improved methodology/system by which the electronic manipulation of Digital Audio Music can be visually displayed for the convenience of the user. Additionally, there has been disclosed a new and improved methodology/system by which electronic copyright protection of quality Digital Audio Music is possible through use of this invention.

Since numerous changes may be made in the above described process and apparatus and different embodiments of the invention may be made without departing from the spirit thereof, it is intended that all matter contained in the foregoing description or shown in the accompanying drawings shall be interpreted as illustrative, and not in a limiting sense. Further, it is intended that this invention is not to be limited to Digital Audio Music and can include Digital Video, Digital Commercials, and other applications of digital information.

I claim:

1. A method for transmitting a desired digital audio signal stored on a first memory of a first party to a second memory of a second party comprising the steps of:

transferring money electronically via a telecommunication lien to the first party at a location remote from the second memory and controlling use of the first memory from the second party financially distinct from the first party, said second party controlling use and in possession of the second memory;

connecting electronically via a telecommunications line the first memory with the second memory such that the desired digital audio signal can pass therebetween;

transmitting the desired digital audio signal from the first memory with a transmitter in control and possession of the first party to a receiver having the second memory at a location determined by the second party, said receiver in possession and control of the second party; and

storing the digital signal in the second memory.

2. A method as described in claim **1** including after the transferring step, the steps of searching the first memory for the desired digital audio signal; and selecting the desired digital audio signal from the first memory.

3. A method as described in claim **2** wherein the transferring step includes the steps of telephoning the first party controlling use of the first memory by the second party; providing a credit card number of the second party controlling the second memory to the first party controlling the first memory so the second party is charged money.

4. A method for transmitting a desired digital video signal stored on a first memory of a first party to a second memory of a second party comprising the steps of:

transferring money electronically via a telecommunications line to the first party at a location remote from the second memory and controlling use of the first memory, from a second party financially distinct from the first party, said second party in control and in possession of the second memory;

connecting electronically via a telecommunications line the first memory with the second memory such that the desired digital video signal can pass therebetween;

transmitting the desired digital video signal from the first memory with a transmitter in control and possession of the first party to a receiver having the second memory at a location determined by the second party, said receiver in possession and control of the second party; and

storing the digital signal in the second memory.

5. A method as described in claim **4** including after the transferring money step, the step of searching the first memory for the desired digital signal and selecting the desired digital signal from the first memory.

6. A method as described in claim **5** wherein the transferring step includes the steps of telephoning the first party controlling use of the first memory by the second party controlling the second memory; providing a credit card number of the second party controlling the second memory to the first party controlling the first memory so the second party controlling the second memory is charged money.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 5,191,573
DATED : March 2, 1993
INVENTOR(S) : Arthur R. Hair

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 1, line 12, replace "signal" with -- signals -- .

Column 1, line 17, replace ":" with -- , i.e., -- .

Column 1, line 38, replace "cueing" with -- queuing -- .

Column 1, line 40, replace "transfered" with -- transferred -- .

Column 1, line 42, replace "&:he" with -- the -- .

Column 1, line 43, replace "lengthly," with -- lengthy -- .

Column 1, line 44, replace "unnessary" with -- unnecessary -- .

Column 1, line 47, after "units", first occurrence, insert -- , -- .

Column 2, line 10, delete "is", second occurrence.

Column 2, line 13, after "invention" insert -- is -- .

Column 2, line 19, replace "cue" with -- queue -- .

Column 2, line 36, delete "-".

Column 2, line 59, replace "transfering" with -- transferring -- .

Column 2, line 59, replace "Audic" with -- Audio -- .

Column 2, line 64, replace "an" with -- and -- .

Column 3, line 36, replace "; and" with -- . -- .

Column 3, line 67, after "unit", second occurrence, insert -- 50 -- .

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 5,191,573

DATED : March 2, 1993

INVENTOR(S) : Arthur R. Hair

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 4, line 4, after "panel" insert -- 20a -- .

Column 4, line 5, after "circuit" insert -- 20b -- .

Column 4, line 9, replace "(display" with -- Display -- .

Column 4, lines 32 and 33, replace "system, additionally," with -- system. Additionally, -- .

Column 5, line 4, replace "jocky" with -- jockey -- .

Column 5, line 5, replace "cued" with -- queued -- .

Column 5, line 11, replace "&time" with -- time -- .

Column 5, line 12, replace "cued" with -- queued -- .

Column 5, line 20, replace "cued" with -- queued -- .

Column 5, line 28, replace "to" with -- on -- .

Column 5, line 32, replace "steps" with -- step -- .

Column 5, line 52, replace "cued" with -- queued -- .

Column 5, line 53, replace "beer" with -- been -- .

Column 6, line 9, replace "lien" with -- line -- .

Column 6, line 9, after "party" insert -- , -- .

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 5,191,573

DATED : March 2, 1993

INVENTOR(S) : Arthur R. Hair

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 6, line 11, after "memory" insert — , — .

Column 6, line 41, after "party" insert — , — .

Title page, item [57]

In the abstract, line 4, replace "steps" with — step — .

In the abstract, line 9, after "desired" insert — digital — .

Signed and Sealed this

Twenty-first Day of December, 1993

Attest:

BRUCE LEHMAN

Attesting Officer

Commissioner of Patents and Trademarks

US005191573C1

(12) EX PARTE REEXAMINATION CERTIFICATE (7888th)
United States Patent
Hair

(10) Number: US 5,191,573 C1
(45) Certificate Issued: Nov. 30, 2010

(54) METHOD FOR TRANSMITTING A DESIRED DIGITAL VIDEO OR AUDIO SIGNAL

(75) Inventor: Arthur R. Hair, Pittsburgh, PA (US)

(73) Assignee: DMT Licensing, LLC, Princeton, NJ (US)

Reexamination Request:
No. 90/007,402, Jan. 31, 2005

Reexamination Certificate for:
Patent No.: 5,191,573
Issued: Mar. 2, 1993
Appl. No.: 07/586,391
Filed: Sep. 18, 1990

Certificate of Correction issued Dec. 21, 1993.

Related U.S. Application Data

(63) Continuation of application No. 07/206,497, filed on Jun. 13, 1988, now abandoned.

(51) **Int. Cl.**

G11B 27/34	(2006.01)
G11B 27/031	(2006.01)
G11B 27/034	(2006.01)
G11B 27/00	(2006.01)
G11B 27/10	(2006.01)
G11B 20/00	(2006.01)
G07F 17/00	(2006.01)
G07F 17/16	(2006.01)
H04N 7/173	(2006.01)

(52) **U.S. Cl.** **369/84**; 235/380; 235/381; 348/E7.071; 369/15; 369/84; 369/85

(58) **Field of Classification Search** ..... None
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,244,809	A	4/1966	Fuller et al.
3,602,891	A	8/1971	Clark et al.
3,696,297	A	10/1972	Otero
3,718,906	A	2/1973	Lightner
3,824,597	A	7/1974	Berg
3,947,882	A	3/1976	Lightner
3,990,710	A	11/1976	Hughes
4,028,733	A	6/1977	Ulicki
4,045,776	A	8/1977	Wheelwright et al.
4,108,365	A	8/1978	Hughes
4,124,773	A	11/1978	Elkins
4,300,040	A	11/1981	Gould et al.
4,335,809	A	6/1982	Wain
4,359,223	A	11/1982	Baer et al.
4,370,649	A	1/1983	Fuerle

(Continued)

FOREIGN PATENT DOCUMENTS

GB	2 178 275 A	2/1987
JP	62-284496	6/1986
JP	62-284496	12/1987

OTHER PUBLICATIONS

"The History of Recordings", Recording Industry of Association, retrieved from http://www.riaa.com/issues/audio/hisotry.asp on Sep. 19, 2006.*

(Continued)

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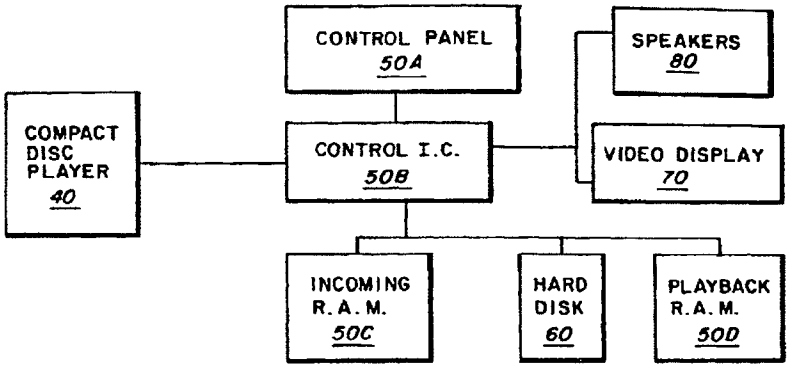
(57) **ABSTRACT**

The present invention is a method for transmitting a desired digital video or audio signal stored on a first memory of a first party to a second memory of a second party. The method comprises the step of transferring money via a telecommunications line to the first party from the second party. Additionally, the method comprises the step of then connecting electronically via a telecommunications line the first memory with the second memory such that the desired digital signal can pass therebetween. Next, there is the step of transmitting the desired digital signal from the first memory with a transmitter in control and in possession of the first party to a receiver having the second memory at a location determined by the second party. The receiver is in possession and in control of the second party. There is also the step of then storing the digital signal in the second memory.



U.S. PATENT DOCUMENTS

4,422,093	A		12/1983	Pargee	
4,472,747	A		9/1984	Schwartz	
4,499,568	A		2/1985	Gremillet	
4,506,387	A		3/1985	Walter	
4,520,404	A		5/1985	Von Kohorn	
4,521,806	A		6/1985	Abraham	
4,521,857	A		6/1985	Reynolds, III	
4,528,643	A		7/1985	Freeny, Jr.	
4,533,948	A		8/1985	McNamara et al.	
4,536,856	A		8/1985	Hiroishi	
4,538,176	A		8/1985	Nakajimo et al.	
4,559,570	A		12/1985	Schwartz	
4,567,359	A		1/1986	Lockwood	
4,567,512	A		1/1986	Abraham	
4,605,973	A		8/1986	Von Kohorn	
4,636,876	A		1/1987	Schwartz	
4,647,989	A		3/1987	Geddes	
4,648,037	A		3/1987	Valentino	
4,654,799	A		3/1987	Ogaki	
4,658,093	A		4/1987	Hellman	
4,667,802	A		5/1987	Verduin et al.	
4,672,613	A		6/1987	Foxworthy et al.	
4,674,055	A		6/1987	Ogaki	
4,675,904	A		6/1987	Silverman	
4,682,248	A		7/1987	Schwartz	
4,688,105	A		8/1987	Bloch et al.	
4,703,465	A		10/1987	Parker	
4,725,977	A		2/1988	Izumi et al.	
4,739,510	A		4/1988	Jeffers et al.	
4,754,483	A		6/1988	Weaver	
4,755,872	A		7/1988	Bestler et al.	
4,755,889	A		7/1988	Schwartz	
4,758,908	A		7/1988	James	
4,759,060	A		7/1988	Hayashi et al.	
4,761,684	A		8/1988	Clark et al.	
4,763,317	A		8/1988	Lehman et al.	
4,766,581	A		8/1988	Korn et al.	
4,787,050	A		11/1988	Suzuki	
4,787,073	A	*	11/1988	Masaki	369/178.01
4,789,863	A		12/1988	Bush	
4,792,849	A		12/1988	McCalley et al.	
4,797,918	A		1/1989	Lee et al.	
4,829,372	A		5/1989	McCalley et al.	
4,855,979	A	*	8/1989	Kimura et al.	369/98
4,870,515	A	*	9/1989	Stokes	360/72.2
4,894,789	A		1/1990	Yee	
4,918,588	A		4/1990	Barrett et al.	
4,949,187	A		8/1990	Cohen	
4,949,257	A		8/1990	Orbach	
4,999,806	A		3/1991	Chernow et al.	
5,003,384	A		3/1991	Durdan et al.	
5,019,900	A		5/1991	Clark et al.	
5,041,921	A		5/1991	Skerker et al.	
5,089,885	A		2/1992	Clark	
5,099,422	A		3/1992	Foresman et al.	
5,130,792	A		7/1992	Tindell et al.	
5,132,992	A		7/1992	Yurt et al.	
5,191,193	A		3/1993	Le Roux	
5,191,410	A		3/1993	McCalley et al.	
5,191,573	A		3/1993	Hair	
5,241,428	A	*	8/1993	Goldwasser et al.	386/109
5,307,456	A		4/1994	MacKay	
5,428,606	A		6/1995	Moskowitz	
RE35,184	E		3/1996	Walker	
5,535,137	A	*	7/1996	Rossmere et al.	358/537
5,675,734	A		10/1997	Hair	
5,966,440	A		10/1999	Hair	

OTHER PUBLICATIONS

"History of CD Technology", citing as a source "The compact Disc Handbook, 2nd Edition," by Ken C. Pohlmann, retrieved from http://www.oneoffcd.com/info/hisotrycd.cm on Sep.19, 2006.*

"History of MPEG", University of California, Berkeley, School of Information Management and Systems, retrieved from http://www2.sims.berkeley.edu/courses/is224/s99/GroupG/report1.html on Sep. 19, 2006.*

"IBM HDD Evolution" chart, by Ed Grochowski at Almaden, retrieved from http://www.storagereview.com/guideImages/z_ibm_storageevolution.gif on Sep. 19, 2006.*

Apple Inc., Form 10-Q, Apr. 21, 2010.

Blockbuster Changes Course of In-store Duplication Plans, Multimedia & Videodisc Monitor, vol. 12, No. 6, Jun. 1, 1994 (1 page).

Blockbuster Reaffirms Video Retailing Roots, Video Week, vol. 14, No. 19, May 17, 1993 (2 pages).

Blockbuster To Test Videogame Downloads In Summer, Audio Week, vol. 6, No. 12, Mar. 28, 1994 (2 pages).

IBM, Blockbuster join forces on CD venture; Associated Press, May 12, 1993 (2 pages).

Magistrate's Report and Recommendation (Amending Claim Construction), *Sightsound.com* v. *NSK et al.*, Civil Action No. 98-118, Apr. 2, 2002.

Magistrate's Report and Recommendation (on Claim Construction). *Sightsound.com* v. *NSK et al.*, Civil Action No. 98-118, Feb. 8, 2002.

Memorandum Order of Court (adopting amended claim construction recommendation),*Sightsound.com* v. *NSK et al.*, Civil Action No. 98-118, Nov. 27, 2002.

Music burning kiosks: On the right track; Self Service and Kiosk Association, Apr. 9, 2007 (4 pages).

Sony Music Plans to Test Use of In-Store Digital Kiosks, New York Times, Jun. 10, 1999.

Starbucks shuts down its Hear Music kiosks, May 2006 (http://brandautopsy.typepad.com/brandautopsy/2006/05/starbucks_shuts.html).

Turning Over New Leaf, Consumer Electronics, Feb. 13, 1995 (1 page).

Jordan, Larry E. and Churchill, Bruce, *Communications and Networking for the IBM PC*, Robert J. Brady Co., Bowie, MD (1983).

W. Rosch, "ComNet for the PC," *PC Magazine*, Aug. 1983, pp. 225-228.

E. Ferrarini, "Direct Connections for Software Selections," *Business Computer Systems*, Feb. 1984, pp. 35+ (4 pages total).

P. Elmer-DeWitt, "Calling up an on-line cornucopia; computer networks are supermarkets of services and information," *Time*, Apr. 7, 1986 (two-page electronic version obtained at http://www.highbeam.com).

From the newS desk, D. Needle, Info World, May 11, 1984.

Computer system organization: Problems of the 1980's, H. Apfelbaum, et al., Computer Sep. 1978, vol. II, No. 9.

System for capturing, storing and playing back large data bases at home, D.C. Gazis S.S. Soo, IBM Technical Disclosure Bulletin, vol. 23, No. 2, p. 856, Jul. 1980.

Jimmy Bowen: Music Row's Prophet of change, L. Chappell, Advantage, vol. 9, No. 10, p. 38, Oct. 1986.

Rock Around the Database, L. Dotto, Information Technal., vol. 57, No. 9, pp. 128-135, Sep. 1984.

Home (computer) terminal musical program selection, P.L. Rosenfeld, IBM Technical Disclosure Bulletin, vol. 23, No. 78, p. 3440.
A Harmonious Musical Interface, S. Cunningham, Network World, Inc., Sep. 8, 1986.
Electronic Orchestra in your livingroom, S. Mace, InfoWorld, Mar. 25, 1985, p. 29.
Cable Scan, No Author, Oct. 1983.
A review of digital audio techniques, M. Willocks, Journal of the Audio Engineering Society, vol. 26, No. 12, pp. 56, 58, 60, 62, 64, Jan.–Feb. 1978.
Digital Music Will Launch the Home Music Store, G. Gulick, Satellite News, 81–11–09, pp. 7.
Telecommunications in the coming decades, S.B. Weinstein, IEE Spectrum, Nov. 19??, p. 62.
Electronic Banking Goes to Market, T.S. Perry, IEE Spectrum, Feb. 19??, p. 46.
Gordon Bell calls for a U.S. Research Network, G. Gordon Bell, IEEE Spectrum, p. 54.
As Patents Multiply, Web Sites Find Lawsuits Are a Click Away, S. Hansell, New York Times, Dec. 11, 1999, A1.
The Tony Basile Home Page, The PAN Network, The PAN Network, Dec. 12, 1999.
Tele computing—Direct Connections for Software Selections, E. Ferrarini, Business computer systems, Feb. 1984.
Young Arcadians Come Home, D.N., Info World, vol. 5, No. 27.
Two way Cable System Using Residential CATV Facilities, Semir Sirazi, et al, ICCE 84, Jun. 7, 1984, LaSalle III—Digest of Technical Papers.
News, D. Caruso, InfoWorld, Apr. 16, 1984.
Pay Per View Entertainment System, PTO, US Patent and Trademark Office, Patent Bibliographic Database, Jan. 26, 2000.
Software Distribution System, PTO, US Patent and Trademark Office, patent Bibliographic Database, Jan. 26, 2000.
Dig Music: An On Demand Digital Music Selection System utilizing CATV Facilities, Y. Want G.M. Campbell, IEEE Transactions on Consumer Electronics, vol. CE 28. No. 3, Aug. 1982, p. x vii.
Transmission of Musical Info. in a teletext multiplexed broadcasting system, Y. Sugimori, et al., IEEE International Conference on Consumer Electronics, 1985—Digest of Technical Papers.
An Encrypted Digital Audio System for Conventional Cable System, K. Kitagawa, et al., IEEE International Conference on Consumer Electronics, 1985—Digest of Technical Papers.
Telephone computers—a look at the one per Desk Telecomputer, D. Pountain, Byte U.K., Jun. 1985.
Music Software for the Apple Macintosh, C. Yavelow, Computer Music Journal, vol. 9, No. 3, Fall 1985.
NAPLPS Videotex Frame Creation System with Automatic Encoding of Input Images, T. Fujimori, IEEE Transactions on Consumer Electronics, vol. CE–31, No. 3, Aug. 1985.
Picture Transmission for Videotex, K. Ngan, et al., IEEE Transactions on Consumer Electronics, vol. CE–31, No. 3, Aug. 1985.
A System for Transmitting Electronic Photographs, N. Kihara, et al., IEEE Transactions on Consumer electronics, vol. CE–28, No. 3, Aug. 1982.
A Low cost High Performance Picture Display for Photovideotex, G.P. Hudson C.P. Arbuthnot, IEEE Transactions on Consumer Electronics, vol. CE–32, Aug. 1986.
The Coding of Graphics Animation in a Videotext Terminal, C. Pabousctsidis, 1986 IEEE International Conference on Consumer Electronics, Digest of technical Papers, Jun. 1986.
Videotext Programs Videorecorder (VPV), U. Bensch, 1984, IEEE International Conference on Consumer Electronics, Digest of technical Papers, Jun. 1984.
Picture Transmission for Videotex, H. Weng Cheong N. King Ngi, 1988, IEEE International Conference on Consumer Electronics, Digest of technical Papers Jun. 1988Digital Still Picture Recorder Utilizing an Ordinary Audio Cassette DeckS. Kageyama, et al.1985 IEEE International Conference on Consumer Electronics, Digest of technical Papers, Jun. 1985.
Digital Still Picture Recorder Utilizing an Ordinary Audio Cassette Deck, S. Kageyama, et al., 1985 IEEE International Conference on Consumer Electronics, Digest of Technical Papers, Jun. 1985.
A New digital Audio and Data Transmission System Using the CATV Network, Y. Kojima, et al., IEEE Trqansactions on Consumer Electronics, vol. CE–30, No. 3, Aug. 1984.
A Simple Technique for Video Image Transmission, N.D. Jotwani, K.L. Mong, IEEE Transactions on Consumer Electronics, vol. CE–33, No. 1, Feb. 1987.
Third Party Profile: Control Video Corporation, no author, Control Video Corp. Web Site.
Dial–A–Game–GameLine module links WCS with Game Bank, D. Burns, Digital Antic, vol. 2, No. 4, Jul. 1983, p. 82.
Remembering the Gameline, D. Skelton, http://ccwf.ccutex-as.edu.
Digitalized Voice Comes of Age Part 1—Trade Offs, B. Occhiogrosso, Data Communications, Mar. 1978.
A New Digital Audio and Data Transmission System Using the CATV Network, Y. Kojima, et al., IEEE Transactions on Consumer Electronics, vol. CE–30, No. 3, Aug. 1984.
A Packet Video/Audio System Using the Asynchronous Transfer Mode Technique, H.J. Chao, et al., IEEE Transactions on Consumer Electronics, vol. 35, No. 2, May 1989.
Digital Audio Data Transmission in a Coaxial Cable Environment, R. Scheuerer, et al, IEEE Transactions on Consumer Electronics, vol. 35, No. 2, May 1989?.
Transmission of Musical info, in a Teletext Multiplexed Broadcasting system, Y. Sugimori, et al, IEEE Transactions on Consumer Electronics, vol. CE–29, No. 3, Aug. 1983.
4004 Futures for Teletext and Videotex in the US, R.P. Plummer, et al, IEEE Transactions on Consumer Electronics, vol. CE–25, No. 3, Jul. 1979.
Teletext/Viewdata LSI, B. Harden, et al., IEEE Transactions on Consumer Electronics, vol. CE–25, No. 3, Jul. 1979.
Prestel—the World's First Public View data Service, R.D. Bright, et al., IEEE Transactions on Consumer Electronics, vol. CE–25, No. 3, Jul.
Teletext and Viewdata (costs as Applied to the US Market, G.O. Crowther, IEEE Transactions on Consumer Electronics, vol. CE–25, No. 3, Jul. 1979.
Telidon—A Review, H. Brown W. Sawchuk, IEEE Communcations Magazine, Jan. 1981.
Videotex Services: Network and Terminal Alternatives, J.M. Costa A.M. Chitnis, IEEE Transactions on Consumer Electronics, vol. CE–25, No. 3, Jul. 1979.
System and Hardware Considerations of Home Terminals With Telephone Computer Access, J. Blank, IEEE Transactions on Consumer Electronics, vol. CE–25, No. 3, Jul. 1979.

Profile—Career Update, Key board News, Apr. 1985.
Telecommunications—Let Your Telephone Do the Sampling, B. Tolinski, KSC, Apr. 1986.
PAN: Meeting Place for the Industry, P. Leopold, Electronic Musician, Sep. 1986.
A Harmonious Musical Interface—Instrument Connectivity is Music to Composer's ears. S. Cunningham, Network World, Sep. 8, 1986 (vol. 3, No. 27).
Teaching Computers to Emulate Bach, J.S. Newton, The New York Times, Sunday, Mar. 1, 1987.
Getting Into PAN, S. Lloyd, Sonics (nothing else appears).
MIDI By Modem: The Future in Now, P. Leopold, Conference Paper—Music and Digital Technology.
The Information Source of the Future is Online now: Electronic Bulletin Boards, G. Armbruster, Keyboard Magazine, Dec. 1985.
MIDI—Musical Instrument Digital Interface, J. Aikin, Keyboard Magazine, Jan. 1986.
Mind Over MIDI—Diary of a Mad MIDI Specialist, J. Cooper, Keyboard Magazine, Jun. 1986.
Cover of the Keyboard Magazine and Advertisement from Hybrid Acts, Inc., Keyboard Magazine, Jul. 1986.
What is Musical Property?—The Ethics of Sampling, S. Alvaro, Keyboard Magazine, Oct. 1986.
Collection of MIDI Stereo Advertisments, Electronic Musician, vol. 5, No. 2, Feb. 1989.
In the Public Eye: Free Atari Software, J. Johnson, Electronic Musician, vol. 5, No. 10, Oct. 1989.
Going Online A Guide to elec. Bulletin board System, M. Rivers, Electronic Musician, vol. 6, No. 11, Nov. 1990.
Page of EM Classifieds, Electronic Musician, Nov. 1989.
Advertisements, Electronic Musician, Aug. 1989.
EM Classifieds, Electronic Musician, Jul. 1989.
Advertisements, Electronic Musician, Jul. 1989.
Start Me Up?—the Music Biz Meets the personal computer, B. Krepack R. Firestone, Published by Medioc Press, Copyright 1986.
A Harmonious Musical Interface, S. Cunningham, 1986 Network world, Sep. 8, 1986.
Synth—Bank, USPTO, USPTO—Trademark Text and Database.
Managing the Intellectual Property Lifecycle, B. Bell A. Brown, Jr., A excerpt from an article available at Synthbank.com 1998, Synthbank. Inc.
List of E-Bulletin Boards with an attached EM page of ads, ON-line Resources/Electronic Bulletin Boards.
An Upbeat Way to Order; worth watching, G. Charlish, 1988 The Financial Times (Lexis-Nexis).
Musicnet, USPTO, USPTO—Trademark.
PC Forum Attendees Call for Cooperation with Government, S. Higgins, Westlaw, Monday, Mar. 1, 1993.
Data Highways . . . Can we get there from here?, J. Burgess, The Washington Post, May 2, 1993 (Lexis-Nexis).
MNI Interactive to Revolutionize the Way Consumers Select and Purchase Entertainment Products, PR Newswire Association, Jan. 17, 1994.
The Interactive Age Can The Exalted Vision Become a Reality?, M. W. Miller, The Wall Street Journal, Thursday, Oct. 14, 1993.
Music Net Let's Consumer's Fingers do the Walking, J. McCullaugh, Billboard, Saturday, Oct. 16, 1993 (Westlaw).
"Rolling Stone" Takes Music to The Phone, S. Donaton A. Z. Cuneo, Advertising Age, Jul. 11, 1994 (Lexis-Nexis).
Most Silicon Valley Ventures Beat the Odds, S. Herhold, Knight—Ridder Tribune Business News, Feb. 14, 1999.
Entire Sep. Issue, Electronic Musician, Sep. 1986.
Digit Download—Guidelines for the Architecture of Audio Technical Facilities at an Online Music Retail Site, Preliminary White Paper Version 1.0 Mar. 2, 1999 (CDN 03994-004038).
USPTO Certificate of Correction—Patent No. 4,528,643, System for Reproducing information in material objects at a point at sale location, USPTO.
The Telharmonium: An Early Breakthrough in Electronic Music, T. Holmes, Gyrofrog Communications Electronic and Experimental Music 1996.
Free Music Downloads, CDNow, CDNow Web Site (CDN 000078-85).
Gameline—the Incredible New Way to Play Video Games, Gameline brochure.
Downloading and Tele-delivery of Computer Software, Music and Video, International Resource Development, Inc. (DN 021217 021432).
Downloading and Tele-delivery of Computer Software, Music and Video, International Resource Development, Inc. Jul. 1983 (CDN 021433-021664).
The Development of a Commercial Tele software Service, A. Sweet, Tele software Cavendish Conference Center Sep. 27-28, 1984. Publication No. 60 [61] Institution of Electronic and Radio Engineers.
Tele software—The Computer in Your TV set, J. Hedger, New Electronics, vol. 13, No. 245, Dec. 9, 1980.
Tele Software: Adding Intelligence to Teletext, R. Eason J. Hedger, Proceedings IEEE, vol. 126, No. 12, Dec. 1979.
Receiving Tele Software With CCT, J.R. Kinghorn, Tele software Cavendish Conference Center Sep. 27-28, 1984. Publication No. 60 [61] Institution of Electronic and Radio Engineers.
Games Tele Software on Cable, T.J Havelock, Tele software Cavendish Conference Center Sep. 27-28, 1984. Publication No. 60 [61] Institution of Electronic and Radio Engineers.
Broadcast Tele Software Exerience With ORACLE, J. Hedges, View data and Videotext, 1980-1981: A Worldwide Report.
The UK Teletext Standard for Tele Software Transmissions, D.J. Rayer, View data and Videotext, 1980-1981: A Worldwide Report.
Music from the skies promised by firm serving cable users, S. Chase, The Washington Post, Oct. 19, 1981.
Abstract—L. Landro, The Wall Street Journal, Oct. 14, 1981.
Abstract No author listed, UPI Oct. 13, 1981.
Hi-Tech do-Dads for the man of the house, No author listed, Trends.
New Products Programmed for Consumers, No author listed, Computer Report.
Electronics show had variety of new home equipment, No author listed, Hi-Fi News and Record Reviews, 1985.
New Telerecording Method for Audio, No author listed, BM/E, Oct. 1985.
Cable TV Moves To The Music, A.L. Yarrow, NY Times, Jul. 4, 1982.
What is Stalling the Record Business? No author listed, Business Week, Nov. 30, 1981.
Labels Gear Up For Home Music Store. No author listed, Billboard Magazine, Apr. 6, 1991.

The Record Shop of the Future May Be In Your Parlour, Hans Fantel, NY Times, Nov. 22, 1981.
The Latest Technology, R. Harrington, Washington Post, Jun. 28, 1981.
Thaddeus Cahill and the Telharmonium (electric instrument), No author listed, http://nicemusic4.music.niu.edu.
Thaddeus Cahill's Dynamophone/Telharmonium (1897), No author listed, http://www.obsolete.com.
Book Review: Magic Music From The Telharmonium, P. Hertz, http://www.obsolete.com.
Telharmonium, No author listed, http://www.britannica.com.
Keyboard and Tactile Interfaces, No author listed, In The Third Person, Oct. 1999.
No Time To Shop For Software, J. Paioff, InfoWorld, Aug. 20, 1984.
Warner Amex QUBE Cable Communications, No author listed, http://www.electricblue.com.
A Blast From The Past, P. Conger, http://www.cableworld.com, Mar. 28, 1998.
Where Is Everyone Now, No author listed, http://www.electricblue.com.
Juke Box History 1934 thru 1951, Gert Almind, http://ww-wl.jukebox.dk.
The Shyvers Multiphone, No author listed, http://www.dyz.com.
Dead Medium: Telephonic Jukeboxes: The Shyvers Multiphone . . ., B. Sterling, http://www.wps.com.
Downloading and Teledelivery of computer software, games, music, and video, Int'l. Resource Dev. Inc., US Copyright Application, Registration 1–243–407.
Compusonics Digitizes Phone Lines, No author listed, Digital Audio, Sep. 1985.
AT&T Demo, No author listed, Pro Sound News, Sep. 9, 1985.
Videogames and Electronic Toys, Int'l Resources Dev. Inc., May 1983.
Compusonics Eyes Options; Will Flagship Computer Make Direct CD Copies?, M. Harrington, Information Access Co., Mar. 30, 1987.
Direct Broadcast's Potential For Delivering Data Service, E. Holmes, Data Communications, Sep. 1984.
Sonus Music Products, C. Roads, Computer Music Journal, Spring 1987.
Advertisement: Gameline package, http://www.geocities.com.
Computer Music Networks, C. Roads, Computer Music Journal, Fall 1986.
Announcements, C. Roads, Computer Music Journal, Sep. 1986.
CVC Gameline Master Module, No author listed, http://ccwf.cc.utexas.edu.
Oregon Corporate Records, Re: Synth–Bank, Oregon Secretary of State.
Lexis Search Manual (Entire Manual).
Affidavit of Edgar Magnin and Exhibits, US Dist Ct for the Southern Dist. Of New York.
Transcript: Max Conference, Feb. 27, 1993.
Exhibits To Compuserve's Brief On Claim Interpretation, Jones, Day, Reavis & Pogue, Filed in US Dist. Ct. For The Southern Dist. Of New York.
AES Presentations, AES Preprints.
Brochure; Overview articles, etc on PAN, PAN Network.
Brochure: NERAC.
CompuSonics DSP—1000 World's First DARPS, CompuSonics Advertisement.
We Mean Business, C.S. Kaplan, Con. Elec. Daily, May 10, 1984.
Letter to Shareholders, D. Schwartz, CompuSound, Inc. Jan. 6, 1984.
Letter to Shareholders, D.Schwartz, CompuSound, Inc. Apr. 6, 1984.
Letter to Shareholders, D.Schwartz, CompuSound, Inc., Jul. 16, 1984.
Letter to Shareholders, D. Schwartz, CompuSound, Inc., May 31, 1985.
Manufacturing Update, Audio Video Inter. Jun. 1984.
CompuSonics Fuses Computer, Audio Into "Worlds First" HDR, M. Golden, CES Trade News Daily, Jun. 4, 1984.
Digital Sound Now on Computer Disks, S. Booth, Consumer Elec. Daily, Jun. 3, 1984.
CompuSonics Readies Floppy disc to record . . . , HFS Newspaper, Jun. 4, 1984.
Floppy disc may be the next music Makers, Business Week, May 28, 1984.
CompuSonics: Another Digital Audio St., N. Weinstock, MIX, Aug. 1984.
The State of RCA, TV Digest, May 21, 1984.
CompuSonics DSP–1000 . . . , CES Exhibition—D&E, 1984.
Optical—Disk based Digital Audio System, B. Robinson, Electronic Engineering Times, Sep. 1, 1986.
Brochure—CompuSonics DSP–1000, CompuSonics Corp.
Business Plan Overview, CompuSonics, Corp., Jun. 14, 1984.
Compusonics Corp. Corporate Profile, Audio Video International.
Toward Electronic Delivery of Music, J.P. Stautner, CompuSonics Corp.
Company sees Future in Digital, J. Hendon, Rocky MountainNews, Jul. 22, 1984.
Floppy–Disk Audio System, A. Mereson, Science Digest, Nov. 1984.
Recording Music on Floppy Discs, A. Zuckerman, High Technology, May 1984.
Digital Recording System Uses floppy–discs, Audio Times, May 1984.
Brochure, Compusonics Corp.
Hi–Fi Floppy, Cades, P.C. World, Apr. 1985.
New Hi–Fi Horizons, D. Canada, Stereo Review, Dec. 1984.
Specs. And Implem.of computer Audio console for Digital Mixing and Recording, D. Schwartz, AES 76th Convention, NYC, Jun. 20, 1984.
A High Speed Telecommunications Interface for Digital Audio Transmission and Reception, H. H. Sohn, Compusonics Corp.
The Audio Computer and its applications, Schwartz & Stautner, Compusonics Corp.
Engineering Your Own Digital Audio Broadcast System, D. Schwartz, Compusonics Corp.
Memo: To Mr. Kapp; from D. Schwartz, D. Schwartz, CompuSonics Corp., Apr. 26, 1990.
CompuSonics DSP 2002—Preliminary User Manual, CES, Jun. 1984.
Digital Mark. Corp. Video Real Estate System, JPS, CompuSonics Corporation.
Memo: to Holmbraker et al., D. Schwartz, CompuSonics Corporation.

Assembly Procedure for DS 1500, CompuSonics Corporation.
Application Notes: CSX Digital Signaling Processing, CompuSonics Corporation.
DMS Lecture, Compusonics Corporation, 1991.
Application Notes: DSP 1000 Digital Audio Disc Recorder, Compusonics Corporation.
Letter to E. Kraeutler, Esq. Re: CDNews/Liquid Auto, I. Gross, Wilson, Sonsini, Goodrich and Rosati—Apr. 14, 2000.
Patent License Agreement, Schoen & Hooban, Ergon Technology Associates Corp.
The Home Terminal, IRD, Inc., Aug. 1978.
Rolm Plugs CBX Into, EMMS—May 2, 1983.
Employee Non–Competition Agreement, CDNow, Inc.
Letter to D. Berl, Esq., K.J. Choi, Lucent Technologies.
Video Explosion on the way for buyers, M. Galligan, US News and World Report, Jun. 18, 1984.
Hi–Fi in the '80's: Not only Alive and Well . . . , L. Feldman, Information Access Co., Jul. 1984.
The Search for the Digital Recorder, B. Dumaine, Time, Inc., Nov. 12, 1984.
Ultimate Integration: Putting Software theory into . . . , J. Balga, Information Access Co., Feb. 12, 1985.
Technology Review, R. Welch, The American Banker, Dec. 12, 1986.
Remembering the Gameline, D. Skelton, www.mindspring.com.
Gameline Module links with game bank, D. Burns, www.atarimagazines.com.
Allison 7 Video, Allison, EE 380 Feb. 18, 1987.
Telesoftware—Value Added Teletext, J. Hedger, IEEE Transactions on Consumer Electronics; Feb.1980, vol. CE–26.
Telesoftware: Home Computing Via Broadcast Teletext, J. Hedger, IEEE Transactions on Consumer Electronics; Jul. 1999, vol. CE–25, No. 3.
The Future of Television as The Home Communications Terminal, International Resource Development Inc., Aug. 1981 (CDN 23101–23109).
Videogames & Electronic Toys, note, International Resource Development, Inc May 1983 (CDN 023054).
Telepay vs. Videodisc, International Resource Development Inc., Sep. 1982 (CDN 023068).
Health, Wealth & Self–Improvement Home Software, International Resource Development Inc., Sep. 1985 (CDN 023091).
Telecommunications Market Opportunities, International Resource Development Inc., Nov. 1985 (CDN 023110–023138.
VideoPrint (Contents), Jun. 22, 1983 (CDN 023139–23142).
CompSonics/Carts, Sep. 9, 1985 (CDN 023143).
Current Samples (Compusonics Digitizes Phone Lines), Sep. 1985 (CDN 023144).
(BME) Station Automation (New Telerecording Method for Audio, Oct. 1985 (CDN 023145–23146).
High–Tech do–Dads for the man of the house (Sound Investments), (CDN 023147 23150).
New Software (Delivery over the phone), Telephone Software Connection Inc. Oct., 1982 (CDN 023151).
Communications (No time to shop for software), Jessica Paioff, Aug. 20, 1984 (CDN023152).
Warner Amex QUBE Cable Communications, Peggy Conger, (CDN 023153–023157).
Warner Amex QUBE Cable Communications (Articles), (CDN 023158).
QUBE–ists (Where is everyone now?), (CDN 023159–23160).
The Shyvers Multiphone, (CDN023161–23162).
Dead medium: Telephonic Jukeboxes: The Shyvers Multiphone (Multiphone), (CDN 023163–23166).
Jukebox History 1934–1951, (CDN 023167–23173).
New Music Box (Keyboard and Tactile Interfaces), Oct. 1999 (CDN 023174–23180).
Britannica.com (telharmonium), (CDN 023181).
Book Review (Magic Music from the Telharmonium), Paul Hertz, The Scarecrow Press, Inc., (CDN 023182).
Thaddeus Cahill (Dynamophone/Telharmonium) 1897, (CDN 023183–23186).
Thaddeus Cahill and the Telharmonium (electric instrument), (CDN 023187–23189).
Style (The Latest Technology), Richard Harrington, Jun. 28, 1981 (CDN 023190–23191).
Financial, Oct. 13, 1981 (Tuesday) (CDN 023192).
Labels Gear Up For "Home Music Store", Earl Paige Ken Terry Bill Holland, Apr. 6, 1991 (CDN 023193–23194).
Abstract (Home Music Store), Laura Landro, Oct. 14, 1981 (Wednesday) (CDN 023195).
Washington Business (Music From the Skies Promised By Firm Serving Cable Users), Scott Chase, Oct. 19, 1981 (Monday) (CDN 023196).
Arts and Leisure Desk (Sounds: The Record Shop Of The Future May In Your Parlor), Hans Fantel, Nov. 22, 1981 (Sunday) (CDN 023197–23199).
Media & Advertising (What is stalling the record business), Nov. 30, 1981. (Industrial Edition) (CDN 023200–23202).
Financial Desk (Cable TV Moves to the Music, Andrew L. Yarrow, Jul. 4, 1982 (L. City Final Edition) (CDN 023203–23204.
TSC Write–Ups, (CDN 023552).
Telphone Software Connection, Inc. (The Hayes Micromodem II), (CDN 023553–23554.
TSC Bibliography (Call–Apple), (CDN 023556–23567).
Computers (Telephone Software Connection), (CDN 023559).
Article References (Now Your Home), Popular Mechanics, Mar. 1981. (CDN 023555–23568).
Buyers Guide (Branch Centers), (CDN 023569–23570).
News Link (Software delivery now at 2400 baud), Dec. 1985. (CDN 023571).
Telephone Software Connection, (CDN 023572–23573).
Software (Online Tip), (CDN 023574).
Telecommunicating (PC–Talk.III), (CDN 023575).
Poll (Adults believe children know more about computers), Lawrence Kilman, Oct. 16, 1985 (CDN 023576).
Electronic Mall (Telephone Software Connection), (CDN 023577).
Data Communications (Protecting Your Network Data), Elisabeth Horwitt, (CDN 023578).
To Catch A Thief (Microcomputer), Jul. 1985. (CDN 023579–23583).
Caller Response (Services) (Shopping for software at home, by phone), (CDN 023584).
On Line Consulting (Planning, Programming & Training), (CDN 023585).
Entry (Entry goes on line!), (CDN 023586).
Unique (2000 New Articles Screened Each Day), (CDN 023587).

Entry (Entry Magazine), (CDN 023588).
Satin and lace, and a message base (A board is a board), Dru Simon, (CDN 023589).
Reflections (on the videotex industry), Carole Houze Gerber, (CDN 023590).
Software Online (Help for Disabled Computer Users), (CDN 023591).
Telescan Analyzer & Telescan Database, Dec. 1984. (CDN 023592).
Reader Service (Phone secretary II), Dec. 1984. (CDN 023593–23595).
Communications Software (Software Communications Inc.), Nov. 1984 (CDN 023596–023601).
Communications (No time to shop for software?), Jessica Paioff, Aug. 20, 1984 (023602).
Link (Telephone Software), May 1984. (CDN 023603–23621).
Sample of Available Graphics Programs (Manufacturer), Oct. 1984 (CDN 023607).
RAM Required, Oct. 1984 (CDN 023608).
Telecommunicating, Art Kleiner, Spring 1984, (CDN 023610–23611).
Whole Earth Recommended Telecommunication Tools (Terminal Programs), Feb. 1984 (CDN 023612–23613).
Mite (Finding Mite), Spring 1984 (CDN 023614–23618).
Electronic Mail Programs (MCI Mail), Spring 1984 (CDN 023619).
Computer Conferencing Systems (CompuServe Special Interest Groups (SIGs), Spring 1984 (CDN 023620).
Uncorrected Page Proof (How RO Get Free Software), Alfred Glossbrenner, (CDN 023622).
The Treasure Trove (Comments;Diversi–DOS), DSR,Inc (CDN 023623–23630).
In Search of the Consummate Time Manager (Effective Management), Margaret P. Ezell, (CDN 023631–23632).
Display (meet, report,sell, plan), (CDN 023633).
Turning Point (Time is Money), (CDN 023634).
Lection, May 1984 (CDN 023635–23636).
Getting on Communi (Proveders and Consumers), Ed Magnin, Telephone Software Connection, Inc. Mar. 1984 (CDN 023637–23638).
Telecommunications (A Software Vending Machine), Ed Magnin, Telephone Software Connection, Inc. Mar. 1984 (CDN 023639).
Telecommunications (Auto Modem), Michael J. O'Neil, Mar. 1984 (CDN023640).
Micro Software Distribution (Now,Software Is Distributed By Wire, Ronald R. Cooke, Nov. 1983 (CDN 023642).
References: Offices and Numbers. 1984 (CDN 023643–23660).
Softalk (SubLogic), Dec. 1983 (CDN 023661–23676).
The TRS Connection, Nov. 1983 9CDN 023677–023679).
Display (The Access Unlimited Micro Shoping Center), Nov. 1983 (CDN 023680).
Telecommunications (Telecommunications Adviser), Ed Magnin, Telephone Software Connection Inc. Nov. 1983 (CDN 023681–23682).
Communications (Special Delivery Software), Lisa B. Stahr, Oct. 1983 (CDN 023683–23686).
Plumb (Employment Want Ads Go Online), Jun. 1983 (CDN 23688–23695).
Apple's New Image, (CDN 023696).
Tech (Lisa And Software Writers—No Love At First Byte?), Jessica Schwartz, (CDN 023697–23698).
Display (Datamost), (CDN 023699).
Cider (What's New This Month), Jun. 1983 (CDN 023700–23701).
Display (2nd Generation Spreadsheet), (CDN 023702).
Telecommunications (Telecommunications Adviser), Ed Magnin, Telephone Software Connection Inc. Jun. 1983 (CDN 023703–23704).
Cider Book Shelf, Jun. 1983 (CDN 023705–23706).
Telecommunications (Telecommunications Adviser) "Acoustic", Ed Magnin, Telephone Software Connection Inc. Jun. 1983 (CDN 023707–23709).
Downloader's Supermarket, Jun. 1983 (CDN 023710).
Letters (Krell Responds to review of LOGO), (CDN 023711).
Display (Apple Orchard) Peelings II responds. Nov. 2, 1983 (CDN 023712–23713).
Display (Nibble is Terrific), (CDN 023714).
Technology (Electronic Software Delivery Threatens Mail And Store Sales), William M. Bulkeley, Apr. 11, 1983 (CDN 023716–23717) The Wall Street Journal.
ET Phones Office (Electronic Transfer), Apr. 1983 (CDN 023718–23721) The Digest.
Western Union's Easylink Gets Direct Telex–To–PC Connection, Mar. 21, 1983 (CDN 023722)Information System News.
The Book Of Software, 1983 (CDN 02723–23725).
Softalk Classified Advertising (The Predictor), Apr. 1983 (CDN023726–23729 Softalk.
Programs boogie with–o–tech (Sales styles and marking strategies: A hard look at software), Joanne Cleaver, (CDN023730–23731) Home Computer.
Marketing Moves (Information services move modems), Deborah de Peyster, Mar. 7, 1983 (CDN 023733) ISO World.
Computer–Based Business Files (Available file transfer software), Mar./Apr. 1983 (CDN 023734–23735).
Chapter II Using Your Thunderclock Plus (Applications Software Packages Supporting the Thunderlock Plus), (CDN 023736).
Thunderclock Plus (User's Guide), (CDN 023737).
Pinball wizardry's gone electronic (the home computer), Duane Sandul, (CDN 023738).
Programmed to trim that waistline (the home computer), Duane Sandul, Feb. 5, 1983 (CDN 023739).
High adventure (the home computer), Duane Sandul, (CDN 023740).
Variation on a Theme, Dec. 1982 (CDN 023742).
Programmers Library, Paul Leighton, Dec. 1982 (CDN 023743–23744).
The Arcade Machine (Introduction), Chris Jochumson Doug Carlston, (CDN 023745).
Telephone Transfer II (Introduction), Leifhton Paul Ed Magnin, Nov. 1982 (CDN 023746).
Printographer (Introduction), Stephen Billard (CDN023747).
Connecting Your Computer to a Modem: Where to Start, Bill Chalgren (CDN 023748–23756).
L.I.S.A. (Laser Systems Interactive Sybolic Assembler) V. 1.5, (CDN 023757–23758).
Recent Computer Science Books, (CDN 023759–23763).
Modifying Your Monitor Program, Leighton Paul, (CDN023764–23765).
Modems: Hooking your Computer to the World, Stan Miastkowski George Stewart, Dec. 1982 (CDN 023766–23772).

Business (Telephone Software Connection), Dec. 1982 (CDN 023774–23787.
Displays (COOSOL Computer Products), Dec. 1982 (CDN 023788).
Displays: Apple (Amper–Magic), Dec. 1982 (CDN 023789).
Tomorrow's Apples Today (Telephone Transfer II), Nov. 1982 (CDN 023790–23792).
Display: (Music Maker Etc.), (CDN 023793).
A Guide to Communication Software Packages (Cutting line cost), Oct. 1982 CDN 023794–23807).
Data Communication Professionals:(Engineering Department Manager–Software, Oct. 1982 (CDN 023808).
Modems and the Micromodem II, Athol H. Cohen, (CDN 023809–23818.
Software (Arcade Math), Sep./Oct. 1982 (CDN 023819–23821).
Marketing (Makers Transform the Ways Computer Programs Are Sold), Susan Chace, Aug. 26, 1982 (CDN 023822).
Letter Perfect Data Perfect Edit 6502 (Letter Perfect), (CDN023823–23826).
Patching DOS The Easy Way, Leighton Paul, (CDN 023827).
Display: Together,Locksmith, the Inspector and Watson, (CDN 023828).
Electronic Mail System Enhances Delphi Method, Bernard S. Husbands, 1982 (CDN 023829–23832).
New Products (Save Civilization in Your Spare Time), May 1982 (CDN 023833–23843).
Just a Call Away (Dial Up Software Service), (CDN 023844).
Display: Radio & Records, (CDN 023845).
Display: She's No Stranger Now, (CDN 023846).
Radio & Records: Letter to Ed Magnin, Pam Bellamy, Apr. 22, 1982 (CDN 023847).
How to buy a personal computer (Here We Go Again), (CDN 023849 23850).
What's New? (Overlay Compiler, Mar. 1982 (CDN 023851–23852).
Display: Pure Power, Feb. 1982 (CDN 023854).
New Products: Not Just Another Chess Game (Championship chess), Feb. 1982 (CDN 023855).
New Electronic Mail Service On–Line, (CDN 023856).
Display: Arithmetic Teacher (Problems for Solving Fractions), (CDN 023857).
A Guide to Personal Computers (Personal–Computer Hardware), Steve Ditlea, Dec. 14, 1981 CDN 02386223870) New York.
A Line on Friendly Utilities, Theron Fuller, (CDN 023871–23874).
Conferences Goes On–Line (Ethernet Online), (CDN 023875–23881).
Terminal Data, Jeffrey Mazur, Sep. 1981 (CDN 023882–23885).
Dataloop: Smartmodem announced at NCC '81, Jul. 2, 1981 (CDN 023886–23893).
Research: George Bond, Jul. 7, 1981 (CDN 023894–23896).
Market Charter, Jun. 1981 (CDN 023897–23901).
Telephone Software Connectin (Phone Log), Feb. 1981 (CDN 023902).
Display: Faster Than a Speeding Typist, (CDN 023903).
Marketalk News (Multi–Media Video), Jan. 1981 (CDN 023904–23905).
Dial–Yo Directory (Talking Terminals, Frank J. Derfler, Jr., Jan. 1981 (CDN 023906–23907).
Apple Cart (Books), Chuck Carpenter, (CDN 023908–23910).
Display: Space War and Invasion, (CDN 023911).
Marketalk News (Hardhat Software), Nov. 1980 (CDN 023912–23913).
Admin.:Hello CBS News (Letter to Ed), (CDN 023915–23916).
Display: Advanced Electronics, (CDN 023918).
Novation Premieres New Exhibit at Two Los Angeles Shows, (CDN 023919–23923).
Microprocessor Newsletter: Microprocessor Training Center, Jun. 5, 1980 (CDN 023924–23932).
The Telephone Software Experience a Review (of Sorts), Val J. Golding, May 1980 (CDN 023933–23935).
Bibliography (hand notes), (CDN 023917–23732).
Display;Our Records of Growth, May 1979 (CDN 023937).
Display: Purchase and Receive Software, (CDN 023953).
Letter from License Department to Edgar&Marilyn Magnin, Jul. 19, 1979 (CDN 023938).
Copy of Business License (Business License Application), Edgar & Marilyn Magnin, (CDN 023939–23940).
Letter from J. Walker Owens Re: New Business Operator (Welcome), J. Walker Owens, Aug. 9, 1979 (CDN 023941–23944).
Software for the Apple II (Dynamaze,Ultra Blockade) Games), (CDN 023945–23946).
Display: Telephone Software Connection (Many Thanks for Your Recent Order), (CDN 023947).
Price Log (Answering Machines, Write–Edit&Send), (CDN 023951 23952).
Display: Advertisement (Desk Calculator II), Jul. 1980 (CDN 023950).
Instructions: Computer with header, (CDN 023954).
Microsoft Consumer Products Continuing the Microsoft Tradition (Announcing Microsoft Consumer Products), (CDN 023955).
The Apple Orchard (Computer World Printer INIT Routine), Mar./Apr. 1980 (CDN 023956).
Volume Table of Contents ($11,0), Jul./Aug. 1980 (CDN 023957–23959).
Sup'r'Terminal (Specifications), (CDN 023960).
Call–Apple (functions, remin.), Mar./Apr. 1980 (CDN 023961).
Call–Apple (Stock Market Data Retrieval One the Source), Hersch Pilloff, Mar./Apr. 1980 (CDN 023962).
CBS News Crew From Walter Cronkite, David Dow, Sep 9, 1980 (CDN 023963–23965).
Telephone Software Connection (Phone Log), (CDN 023966–23969).
Advertising for quicker shopping over computer (Go–Moku), (CDN 023970–23971).
Advertising for Pet and Apple II Users (PASCAL), Nov./Dec. 1980 (CDN 023973).
Letter from Telephone software Connection (Regarding the Electronic Communication Service), Mar. (CDN 023977).
Letter (Offering Introduction), (CDN 023979–23983).
Letter from Ed Magnin Ref: TSC/Telemail User), Ed Magnin, Feb. 8, 1982 (CDN 023984).
Now Your Home Computer Can Call Other Computers One the Telephone, Neil Shapiro, Mar. 1981 (CDN 023985–23987).

Advertising (Shape Builder, Terminal Programs, Double DOS, Math Tutor), Mar. 1981 (CDN 023988–23990).
Softalk (Micromate's Micronet—It Plugs in the Game Port), May (CDN 023991).
Voided Blank Check #1513, May (CDN 023998).
Corvus Controlling 3 Apples (We Have New Phone Numbers), May 18, 1981 (CDN 023999).
Predicting the Future With Electronic Mail (The Telenet Way), Bernard S. Husbands, Oct. 1981 (CDN 024000–24001).
Program Shopping by Phone: Software Co. Downloads Programs, Michael Swaine, Oct. 19, 1981 (CDN 024002).
Telephone Software Connection, Inc. (The Hayes Micromodem II: I've Never Brought a Better Slave, Jul. 1981 (CDN 024003).
Advertising (Shape Builder), CDN 024006–24008).
Advertising (Telephone Transfer II), (CDN 024009).
Display: The FP Report, (CDN 024018) Telephone Software Connection, Inc.
Display: Order Via Modem, (CDN 024019).
Price Log, Jun. 2, 1982 (CDN 02492023422).
Price Log Cont.), Oct. 21, 1982 (CDN 024023).
Display: Telephone Software Connection (Address Postage), (CDN 024024–24025).
Telephone Software Connection (Letter to Apple Dealer), Ed Magnin , (CDN 024026).
Display (Mr. Smartypants), (CDN 024028–24030).
Display (Disk–Cryption), (CDN 024031–24032).
Display (Video Librarian, (CDN 024033–24035).
Display (World Currency Trader), (CDN 024036–24037).
Display (Working Model of Telephone Software), (CDN 024038).
Telephone Software Connection (Letter to AppleCat Owner), Ed Magnin, (CDN 024039–24040).
Telephone Software Connection : The Hayes Micromodem II (I've never bought better slave), May 1980 (CDN 024041–24042).
Special Memo to Educators, Ed Magnin, (CDN 024043–24044).
Telephone Software Connection (Backgroung Piece, (CDN 024045–24049).
Display: Vend–O–Disk, (CDN 024050–24052).
Letter to Programmer, Ed Magnin, (CDN 024053–24054).
News From T.S.C., Apr. 1983 (CDN 024055–24058).
News From T.S.C., Jun. 1983 (CDN 024059–24062).
What is Voicemail?, (CDN 024063–24065).
Telephone Software Connection (Introduction), Ed Magnin, (CDN 024066–24067).
News From T.S.C., Oct. 1983 (CDN 024068–240710.
How to Order: Modem, 024072–24077).
Telecommunication (Teledelivery), (CDN 024084).
News From T.S.C., Jun. 1984, (CDN 024085–24088).
PlumbLine (Base Computers), (CDN 024089–24090).
News From T.S.C., Dec. 1984 (CDN 024091–24094).
News From T.S.C., Mar. 1985 (CDN 024095–24098).
Display: Phone Secretary, (CDN 024099–24100).
Telephone Software Connection (Background Pieces), (CDN 024101–24106).
Telephone Software Connection (Top Secret) Displays, (CDN 02410724113).
Display (Before 1984), (CDN 024114).
Display: If You Have an Apple (phone list), (CDN 024115–24117).
Display (The FP Report), (CDN 024118–24119).
The Haye's Micromodem II, CDN 024120–24121).
Price Log, (CDN 024122–24123).
News From T.S.C., Oct. 1983 (CDN 024124).
Display: Instructions on Software Delevery), (CDN 024125).
Price Log, (CDN 024126–24127).
News From T.S.C., Jun. 1983 (CDN 024128–24129).
Price Log, (CDN 024130–24131).
News From T.S.C., (CDN 024132–24133).
Display (Phone Secretary II (54), CDN 024134).
Letter to Programmer, Ed Magnin, (CDN 024135).
Programmers' Pipeline (Description Slip), (CDN 024136–24137).
Display: World Currency Trader, (CDN 024138).
Price Log, (CDN 024139–24140).
Display: Order Via Modem, (CDN 024141).
Display: Six Great Ways to Add to Your Summer Fun!, CDN 024142).
Phone Log, (CDN 024143–24144).
News From T.S.C. (Recent Offerings), Mar. 1985 (CDN 024145).
Spotlight on Graphics (Shape Builder), CDN 024146–24148).
Disk. Labelmaker (#73), CDN 024149).
News From T.S.C. (Terminal Program II), (CDN 024150–24152).
Free Update to Desk Calendar II, (CDN 024153).
News From T.S.C., Jun. 1984 (CDN 024154–24156).
Display: (Disk–Cryption), (CDN 024157–24158).
Display: (Phone Secretary) (#54), (CDN 024159–24160).
Communication (Terminal Program), (CDN 024161–24168).
Dialing Instructions, (CDN 024169).
Telecommunications Adviser, Ed Magnin, Nov. 1983 (CDN 024170–24171).
Getting On Communi (Providers and Consumers), Ed Magnin, Mar. 1983 (CDN 021417224173).
Online Tips, (CDN 024174).
Display: List (Software Sales), Apr. 11, 1983 (CDN 024175).
A Software Vending Machine, Ed Magnin, Mar. 1984 (CDN 024176).
Marketing (Makers Transform the Ways Computer Programs Are Sold), Susan Chace, Aug. 26, 1982 (CDN 024177) The Wall Street Journal.
Technology (Electronic Software Delivery Threatens Mail and Store Sales), May 6, 1983 (CDN 024178).
Western Union: Mailgram (Letter to Microcomputer User), (CDN 024179).
Apple//c Baud Rate Problem (Dialing Instructions), (CDN 024180).
Display: Recent Offerings, Mar. 1985 (CDN 024181–24184).
Letter ti Prometheus Modem Owner, Ed Magnin, (CDN 024185).
Display: Phone Secretary// (54), (CDN 024186–24187).
Future Developments in Telecommunication, (CDN 024188).
Responses (Future Developments in Telecommunication), (CDN 024189).
Charts (Uses for Telecommunication Links), (CDN 024190–24192).
Prologue (The Communication Satellite), (CDN 024193–24194).

Analog Versus Digital Transmission, (CDN 024195–24206).
Cable Television and Its Potential, (CDN 024207–24209).
Display: Qube gets you into the action, (CDN 024210).
Terminals in the Home, (CDN 024211–24223).
A Future Scenario, (CDN 024224–24246).
Signal Compression, (CDN 024247–24261).
Letter from Ed Magnin (Monthly Rental), Ed Magnin, (CDN 024262–24264).
Jitters, Jul. 29, 1996 (CDN 024265) Business Week.
E–Commerce: Who Owns the Rights?, Jul. 29, 1996 (CDN 02466–24267).
A pilot has to believe in his equipment. (Rolex), (CDN 024268).
Retailers cheer end of patent challenge, Dan Goodin, Apr. 2, 1999 (CDN 024269–24271).
Patently Offensive, Shoshana Berger, (CDN 024272).
Magnin & Associates (Video Game, Film & TV), (CDN 024273–24274).
Documents (Appendix F: Decimal Tokens for Keywords), (CDN 024275–24276).
Appendix F: Decimal Tokens For Key words, (CDN 024277).
Private People (Easing the way for libel suits), (CDN 024278).
May the Source Be With You, Christopher Bryon, (CDN 024279).
Information Services: Modems, (CDN 024280).
A Source of Riches, Alfred Glossbrenner, Aug. 1983 (CDN 024281–24284).
Electronic Jackpot, Alfred Grossbrenner, Sep. 1983 (CDN 024285–24287).
Consumer and Specialized On–Line Services, (CDN 024288–24290).
Calculation Programs, (CDN 024291–24293).
What Is Viewdata, CDN 024294–24302).
PM Electronics Monitor, Neil Shapiro, (CDN 024303).
Dial–Up Software Networks, Jules II. Gilder, May 1980 (CDN 024304–24306).
Software and Data Via Telephone, Oct. 1980 (CDN 024307–24310).
Dial–Up Software Networks, Herb Friedman, Oct. 1992 (024311–24314).
Documents (Ticketmaster to Lick Competition by Buying It), (CDN 024315–24316).
Ticketmaster (memo), Alan Citron Michael Cieply, Feb. 26, 1991 (CDN 024317–24318) Los Angeles Times.
Ticketmaster: 20 Years (Industry's #1 Has a Ticket to Rule), Adam Sandler, (CDN 024319–24321).
Electronic Life, Michael Crichto, 1983 (CDN 024322).
The Naked Computer (Telesoftware ?), Rochester, Gantz, William Marrow + Co., (CDN 024323).
Computers for Everybody (Downloading Programs), Jerry Willis, 1984 (CDN 024324–24328).
Telecommunications in the Information Age (Videotext Chapter 12), Singleton. 1983 (CDN 024329–24340).
United States Patent (Lockwood), May 3, 1994 (CDN 024341 24343).
United States Patent (Yuris, et al.), Jan. 27, 1981 (CDN 024344).
United States Patent (Kelly, et al.), May 15, 1984 (CDN 024345).
United States Patent (Hellman), Apr. 14, 1987 (CDN 024346–24347).
Documents (The Wired Society), James Martin, (CDN 02434824349).
New Use of Television (Viewdata), (CDN 024350).
News (Do–It–Yourself Newspapers), (CDN 024351).
Spider Webs (Pierre Teilhard de Chardin, (CDN 024352–24353).
Instant Mail (Digitized Messages), (CDN 024354).
Information Deluge, (CDN 024355).
Satellite Age (Chapter Fourteen Home), CDN 024356–24366).
James Martin & Co. Executive Profiles (James Martin, Oct. 25, 1996 (CDN 024367–24368) JM & Co.
2. News (Dow Jones News/ Retrieval's Free–Text Search), 1985 (CDN 024369–24383).
Computers (Telesun), (CDN 024384–24387).
16 Full–Service (The Source), (CDN 024388–24408).
Article 49 of 88 PatNews : Another reason why the E–Data patent is invalid, Gregory Atharonian, Oct. 16, 1996 (CDN 024409–24410) Deja News.
Article 1 of 25 PatNews: Mor PTO gossip on Zache,Edata, Hyatt, Gregory Atharonian, Oct. 18, 1996 (CDN 024411–24412).
Display: TSC Review, (CDN 024413).
United States Postal Service (Documents & Letters), (CDN 024414–24423).
The Home Accountant, Revisited (Responds to reviews), (CDN 024424–24426).
DFX (Introductions), Graeme Scott, (CDN 024427–24442).
Peelings Review (Introductions), Nov. 12, 1982 (CDN 024443.
Pellings II (Programmers Library), Nov. 10, 1982 (CDN 02444–24454).
Letter (Trial Termial), K.F. Moseley, Mar. 10, 1981 (CDN 024455).
K.F. Moseley's TVInerface 8 Evaluation (Time and Money Meter, Ed Magnin, (CDN 024456–24457).
A.D.A.M. II Newsletter (Acknowledgement), May 13, 1981 (CDN 024458–24465).
Peelings II (Publication of Apple Software Reviews), Aug. 6, 1980 (CDN 024467–24500).
Apple–Cart (Input From Readers), Chuck Carpenter, (CDN 024501–24503) Creative Computing.
Call–Apple (The Telehpone Software Exprience a Reivew (of Sort), Val Golding, (CDN 024504).
Softalk (Peachy Writer), Sep. 1982 (CDN 024505).
Softalk (Preformer Printer Format Board), (CDN 024506).
Extra Copy RE: KM, (CDN 024507–24508).
Marketing (Makers Transform Ways Computer Programs Are Sold), Susan Chace, Aug. 26, 1982 (CDN 024509) The Wall Street Journal.
Marketing (Some Computer Junkies), Susan Chace, Aug. 26, 1982 (CDN 024510) The Wall Street Journal.
Extra (CDN 024511).
New Products (Save Civilization in Your Spare Time), May 1982 (CDN 024512) Popular Computing.
Extra (CDN 024513).
What's New? (Overlay Compiler), March 1982 (CDN 024514).
The Information Directory Says It All! (Subject Index), (CDN 024515).
Tap New Markets! (Information Directory), (CDN 024516).
The 21st Century Library (Information Directory), Anne M. Helfrich, Mar. 16, 1982 (CDN 024517–24524).

Electronic Mail (Applications for Management), (CDN 024525–244534).
InfoWorld (AVL Eagle), Oct. 19, 1981.
TSC (Microcomputing), Oct. 15, 1981 CDN 024536).
Electronic Distribution (Trial Builder), (CDN 024537–24546).
Music (Honey. They're Downloading Our Song), Patrick M. Reilly, (CDN 024547–24548).
Who's News (Foundation Health Names Malik Hasan As CEO and President), May 13, 1997 (CDN 024549).
Industry Focus (Middlemen Find Ways to Survive Cyberspace Shopping), David Bank, (Dec. 12, 1996 (CDN 024550).
Egghead Inc. Ships Software Over Internet (Ingram Micro Inc.), David Bannk, Nov. 8, 1996 (CDN 024551).
Tom Clancy, Virtus Start Firm for On–Line Games, Nov. 13, 1996 (CDN 024552).
N2K Hires Phil Ramone to Start Up A Music Label Linked to the Internet, Patrick M. Reilly, Nov. 18, 1996 (CDN 024553)).
Business Briefs (AT&T Unveils a Services to Help Businesses Set Up Shop on Internet), JamesSanberg, Oct. 9, 1996 (CDN 024554).
Technology & Health (Industry Net Customers to Be Offered On–Line Payment Services From PNC), Raju Narisetti, Sep. 25, 1996 (CDN024555).
Vague New World (Digital Media Business Takes Form as a Battle Of Complex Alliances) (CDN 024556–24558).
Music Firms Vow to Block New CD System, Meg Cox, May 14, 1993 (CDN 024559–24560).
Business (Blockbuster plans to stock CDs electronically, May 12, 1993 (CDN 024561).
Technology&Health (Bellcore to Demonstrate System For Delivering Movies By Phone, Mary Lu Carnevale, Nov. 9, 1992 (CDN 024562).
Technology (IBM Commits More Than $100 Million on Venture to Relay Video, Other Data), Michael W, Miller, Sep. 16, 1992 (CDN 024563–24564).
IBM to UnVeil Plan to Skip Disks, Send Software By Satellite (GM's Hughes Network Joins Big Blue Alliance to Serve Retailers and Corporations), Bart Ziegler, Nov. 1, 1994 (CDN 024565–24566).
Software Industry Bulletin (SIB Third Quarter 1985 Software Employment Survey), Oct. 14, 1985 (CDN 024567–24568).
Download (Vendors Kick Off Fall Season With Teledelivery Ventures, Sep. 1985 (CDN 024569–24583).
Speed>s (Electronic Delivery of Software), (CDN 024584–24595).
Phone Memo, Apr. 19, 1985 (CDN 024596–24600).
Letter to Nathaniel Forbes (MCI Mail Letter), Ed Magnin, Apr. 8, 1985 (CDN 024601–24607).
Speed>s (The Inside Story), Apr. 8, 1985 (CDN 024608–24623).
Document: Letter to Nathaniel Forbes (Express Mail), Ed Magnin, Mar. 29, 1985 (CDN 024624–24630).
Gimcrax, Inc (The leader in electronic delivery of software), Dec. 5, 1984 (CDN 024631–24636).
Speed>s (New Edition of Speed<s disk Now Available), (CDN 024637).
Speed>s (Postage), (CDN 024638).
Speed>s (Over 50 Lotus 1–2–3 templates to be available exclusively on Speed<s!, (CDN 024639).
Speed>s (Postage), (CDN 024640).
Speed>s (Open An Electronic Library for Your Company Software), (CDN 024641).
Speed>s (Postage), Jan. 27, 1986 (CDN 024642).
Gimcrax Launches File Delivery Service, Dec. 23, 1985 (CDN 24643).
Speed>s (What Modem Should I Buy), Nov. 22, 1985 (CDN 024644).
Display (Speed>s), Dec. 2, 1985 (CDN 024645).
Speed>s (Now! Try Speed<s Electronic Delivery!), Oct. 21, 1985 (CDN 024646).
Speed>s (Your First Issue on the Speed<s Password!), (CDN 024647).
International Videotex Teletext News (Gimcrax to Download), Aug. 1984 (CDN 024648).
Speed>s (Speed>s Mean Business), (CDN 024649–24652).
News From the Source (Nat Forbes Promoted to Director of Sales for STC), (CDN 024653–24654).
Speed>s (Speed>s Mean Business), (CDN 024655–24658).
Handwritten Notes, (CDN 024659–24665).
Handwritten Notes (Nat Forbes), Mar. 28, 1985 (CDN 24666–24668).
Net to Transmit Videotex, Games to 12 Million User, Jim Bartimo, Jun. 13, 1983 (CDN 024669) Computer World.
Vending machines for software: What will Japan think up next? (Games only), Jun. 1985 (CDN 024670) Data Communications.
Electronic Software Distributor To Show System to Retailers, Rory J. O'Connor, May 30, 1983 (CDN 024671).
Software Industry Bulletin (Electronic Software Distributors), (CDN 024672–24675).
Software (Why try to stock software like physical goods? Why not just reproduce it as needed), (CDN 0924676–24683).
Mr. Download: An Interview with William von Meister, (CDN 024684 24693).
Letter to Bob Peyser (Telephone Software Connections), Ed Magnin, Mar. 25, 1985 (CDN 02469424700).
Direct–Net (Micro Marketworld Readers), Bill James, Feb. 1, 1985 (CDN 024701–24702).
Cutting Out the Middleman (Looking to expand their customer base), Myron Berger, (CDN 024703–24708).
Shop by Modem (Software Without Manuals), (CDN 024709).
Speak the Universal Lanaguage (Powerhouse), (CDN 024710).
Letter to Ed Magnin (Software Author Royalty Agreement), Fonnie Clifton, Oct. 17, 1983 (CDN 024711–24733).
Buy Software Via Modem (Define the Need), Elizabeth Ferrarini, (CDN 024734–24745).
ABC Video Enterprises Telefirst Project Had Boosters & Doubters, May 1, 1984 (CDN 024746).
Download (Micropro & Adapso Sue American Brands, Allege Software Piracy), Feb. 1985 (CDN 024747–24762).
Coleco, AT&T Unit to Form Joint Venture To Distribute Video Games By Telephone, Bob Davis, (CDN 024763).
Electronic (Pulling the Plug on Electronic Publishing), (CDN 024764 24766).
Software (Software Directories Go On–Line, Joanne Gamlin (CDN 024767–24780).
Say It With Remote Rom Software Delivery (Looking Ahead With Software News), (CDN 024781).
It's Not The Same Old 'Help' Anymore (Buzz Word), Mary–Beth Santarelli, (CDN 024782).

Are You Getting Ready for Electronic Software Delivery?, Richard Lewis, Feb. 1984 (CDN 024783–24788).
Hammerly files suit against PC Telelmart, (CDN 024789).
Micro Software Today (Education: Entertainment), (CDN 024790).
Distribution & Retailing (Xante to Distribute Software Electronically to Mass Merchandisers), (CDN 024791).
Systems : Software Engineering (Letter from Phil Klamm), Phil Klamm, Jan. 20, 1984 (CDN 024792).
ROM–Labs (Electronic Software Distribution System), Jan. 3, 1984 (CDN 024793–24802).
Van Diver's (The Most Resourceful Directories for the IBM PC, (CDN 024803).
Software Distribution: Smooth Going Now : Rocky Road Ahead. Steve Burke, (CDN 024804).
Romox is hoping to have system in 3,000 stores by end of '84, (CDN 024805).
Display (Soft Touch), Jan. 12, 1984 (CDN 024806).
Bugs in Electronic Software Distribution Not Worked Out (Electronic Distribution), Lisa Raleigh, (CDN 024807–24809).
Announcing a New In–Depth Study and Analysis of (Downloading & Teledelivery of Computer Software, Music & Video), Nancy L. Stocker, Mar. 11, 1986 (CDN 024810–24824).
Certificate of Copy Registration (Time and Money Meter), Edgar J. Magnin, Mar. 8, 1982 (CDN 024825–24840).
Certificate of Copy Registration (Quick Clock Adjust), Edgar J. Magnin, (CDN 024841–24847).
Certificate of Copy Registration (Math Tutor), Edgar J. Magnin, Jul. 18, 1981 (CDN 024848–24864).
Document: Delivery Notice (Certified), (CDN 024865.
Document: Postal Receipt (Certified) From : Ed & Marilyn Magnin, Mar. 27, 1981 (CDN 024866).
Receipt for Certified Mail #288727, Mar. 6, 1981 (CDN 024867).
Instructions :Certified Mail Fee, Optional Services, (CDN 024868).
Letter from Edgar J. Magnin (Copyrights Registration: Terminal Programs, Edgar J. Magnin, Mar. 5, 1981 (CDN 024869–24889).
Receipt (Register of Copyrights), Nov. 4, 1980 (CDN 024890–24905.
Receipt (Register of Copyrights: Library of Congress, Sep. 3, 1980 (CDN 024906–24927).
Certificate of Copyright Registration (Phone Secretary), Edgar J. Magnin, Nov. 4, 1980 (CDN 024929–24934).
Letter from Edgar J. Magnin (Copyright Registration: Phone Secretary), Edgar J. Magnin, Aug. 27, 1980 (CDN 024935–24946).
Letter from Edgar J. Magnin (Call TSC, Picture Transfer, Go–Moku, Chess Connection, Edgar J. Magnin, May 30, 1980 (CDN 024947–24951).
Certificate of Copyright Registration (Go–Moku), Edgar J. Magnin, Jun. 9, 1980 (CDN 024952–24960).
Certificate of Copyright Registration (Chess Connection), Craig Crossman, (CDN 024961–24971).
Certificate of Copyright Registration (Go–Moku), Edgar J. Magnin, (CDN 024972 24981).
Certificate of Copyright Registration (Call TSC), Edgar J. Magnin, (CDN 024982–24986).
Certificate of Copyright Registration (Picture Transfer Program), Edgar J. Magnin, (CDN 024987–25002) Apr. 1980.
Letter from Edgar J. Magnin :Applications for Copyright (Answering Machine, Write–Edit & Send, Telephone Transfer Program, Edgar J. Magnin, Mar. 28, 1980 (CDN 025003–25007).
Certificate of Copyright Registration (Write–Edit & Send, Edgar J. Magnin, (CDN 025008–25018).
Certificate of Copyright Registraction (Telephone Transfer Program), Edgar J. Magnin, (CDN 025019–25033).
Certificate of Copyright Registration (Answering Machine), Edgar J. Magnin, (CDN 025035–25046).
Certified Receipts: Certificate of Copyright Registration (Telephone Transfer II, Leighton Paul, Oct. (CDN 025047–25095).
Certificate of Copyright Registration (Telegammon), Anton Dahbura, Jr., (CDN 025096–25139).
Letter to Mr. Ledbetter RE: Correspondence of Mar. 12, 1982 control #2–054–0414(M), Edgar J. Magnin, Oct. 4, 1982 (CDN 025140–25212).
Certificate of Copyright Registration (Phone Secretary II), Edgar J. Magnin, Sep. 6, 1983 (CDN 025213–25253).
Certificate of Copyright Registration (Fifteen. Puzzle), Edgar J. Magnin, 7,1985 (CDN 025254–25313).
Letter to Mr. Magnin: RE: Fraction Tutor (TX 1 384 355) sand Typing Speed Builder (Certificate of Copyright Registration (Fraction Tutor), Edgar J. Magnin Larry M. Schultz, Jan. 4, 1985 (CDN 025314–25344).
Receipt for Certified Mail (Certificate of Copyright Registration (Picture Puzzle Programs), Edgar J. Magnin, (CDN 25345–25380).
Certificate of Copyright Registration (Quick Compare), Leighton Paul, (CDN 025381–25405.
Telephone Software Connection, Inc. (Program Listing), (CDN 025406–25408).
Serial Listing, (CDN 025409).
Serial Listing (con't), (CDN 025410).
Copyright Status (Programs,Copyright Notice Etc.), (CDN 02541125412731.
Receipts for Certified Mail : Letter from Edgar J. Magnin to Register of Copyrights (Instant Menu) Certified of Copyright Registration, Edgar J. Magnin, (Jun. 6/11, 1985 (CDN 025413–25448).
Receipts for Certified Mail: Letter from Edgar J. Magnin toRegister of Coping (Certified of Copyright Registration) : Mortgage Analyzer, Edgar J. Magnin, (CDN 025449–25475).
CompuSonics Version 1.05 (The Drive Event Control Loop for the DSP–1000), Jul. 17, 1987 (CDN 025476–255545).
Documents (Routing for the Machine, Routines Required to Read and to the Front Panes), Mar. 11, 1987 (CDN 025546–25667).
CompuSonics D S P 2002 version 1.00 (Preliminary User Manual, Aug 28. 1985 (CDN 025668–25707.
Audio Computer Owners Guide (Advertising), (CDN 025708).
Quick Reference Card (Operations), (CDN 025709–25767).
An Algorithm and Architecture for Constant–Q Spectrum Analysis (Abstract), Gary W. Schwede, Apr. 1983 (CDN 025768–25771).
AES (Presented at the 76th Convention Oct. 8–11, 1984 New York, (CDN 025772–025775.
Command and Status Registers (Receive Data Count Register), (CDN 025776–25786).

Letter to David M. Schwartz (RE: The Preprints From the AES 78th Convention), Patricia M. Maclonald, Nov. 18, 1985 (CDN 25787–25817.
Efficient Data Reduction for Digital Audio Using a Digital Filter Array (Purpose), John P. Stautner David M. Horowitz, 1986 (CDN 025818–25821).
AES (Presented at the 83rd Convention Oct. 16–19, 1987 New York), David M. Schwartz, (CDN 025822–25829).
AES (Presented at the 83rd Conventin Oct. 16–19, 1987 New York, John Stautner Sriram Jayasimba, (CDN 025830–25836).
AES (Presented at the 84th Convention Mar. 1–4, 1988 Paris, J.P. Stautner, (CDN 025837–25854).
The Digital Audio Cartridge Disk Recorder, Reproducer and Editor for Broadcast Use, David M. Schwartz, (CDN 025855–25866).
Towards Electronic Delivery of Music(1.0 Introduction, John P. Stautner, (CDN 025867–25873).
Architecture of a Real Time Digital Filterbank Processor for Tempered, Auditory, and Critical–Band Analysis/Synthesis, Gary W. Schwede, (CDN 025874–25875).
A Functional Overview of the Compusonics DSP–2000 Series, (CDN 025876–25877).
Musical Recording, Editing and Production Using the Compusonics DSP–2004, John P. Stautner, (CDN 025878–258790).
Strategies for the Representation and Data Reduction of Digital Music Signals (Work Performed and Methods Employed), John P. Stautner, Jun. 20, 1984 (CDN 025880–25881.
Analysis and Synthesis of Music Using the Auditory Transform, J. Stautner, Submitted to Dept. of Electrical Engineering and Computer Science, Massachusetts Institute of Technology May 1983 CDN025895.
Algorithms and Architectures for Constant–Q Fourier Spectrum Analysis, G. Schwede, Dissertation submitted to University of California, Berkeley Nov. 28, 1983 CDN026097.
Letter to Shareholders, D. Schwartz, CompuSonics CDN026261.
From the News Desk, Info World Newsweekly, Jun 4, 1984 vol. 6, Issue 23 CDN026263.
Manufacturing Update, International Audio Video, Jun. 1984 CDN026264.
Compusonics Pro Equipment & Services, Cover of Billboard Newspaper CDN026265.
Compusonics Fuses Computer, Audio Into "World's First" Home Digital Recorder, M. Golden, CES Trade News Daily, p. 10 Jun. 4, 1984 CDN026266.
Digital Sound Now On Computer Disks, S. Booth, Consumer Electronics Show Daily Jun. 3, 1984 CDN026267.
CompuSonics Readies Floppy Disk to Record and Play Back Music, HFD—The Weekly Home Furnishings Newspaper Jun. 4, 1984 CDN026268.
Technology Awards to CompuSonics, CDN026269.
CompuSonics DSP 1000 Digital Audio Disk Recorder Specifications, CompuSonics Corporation CDN026270.
CompuSonic Bows Totally Digital, Pro Sound News, New York, NY Jun. 8, 1984.
Floppy Disks May Be the Next Music Makers, Business Week May 28, 1984 CDN026272.
Studio Design Special, Mix—The Recording Industry Magazine Aug. 1984.
CompuSonics: Another Digital Audio Standard, N. Weinstock, Mix, vol. 8, No. 8, p. 24 CDN026274.
CompuSonics: Another Digital Audio Standard, N. Weinstock, Mix, vol. 8, No. 8, p. 26 CDN026275.
CompuSonics Readies Floppy Disk to Record and Play Back Music, HFD, Electronics, Section 1 Jun. 4, 1984 CDN026276.
The State of RCA, TV Digest, p. 14 May 21, 1984 CDN026277.
Display—CompuSonics Photographs, CDN026278.
Display—CES Exhibition Design and Engineering 1984, CDN026280.
Specifications—CompuSonics DSP 1000 Digital Disk Recorder/Player, CompuSonics Corporation CDN026281.
Article—Watch Out Digital Discs: Here Comes Floppy Audio, Unknown.
Specifications—CompuSonics DSP 1000 Digital Disk Recorder/Player, CompuSonics Corporation.
Optical–Disk–Digital Audio System Premieres, B. Robinson, Electronic Engineering Times, Issue 397 Sep. 1, 1986 CDN026284.
Specifications—CompuSonics DSP 1000 Digital Disk Recorder/Player, CompuSonics Corporation.
CompuSonics Business Plan Overview, Jun. 14, 1984 CDN026286.
Cover—Fortune Magazine, Nov. 12, 1984 CDN026289.
Advertisement—CompuSonics Corporate Profile, D. Schwartz, Audio Video International CDN026290.
Toward Electronic Delivery of Music: Sending and Receiving High Fidelity Digital Music, J. Stautner, CompuSonics Corporation CDN026291.
Company Sees Future in Digital Recorders, J. Hendon, Rocky Mountain News Jul. 22, 1984.
Floppy–Disk Audio System, A. Mereson, Science Digest Nov. 1984 CDN026299.
Recording Music on Floppy Disks, A. Zuckerman, High Technology May 1986 CDN026300.
Article—Sound is Big at Consumer Show, L. Mortwaki, Seattle, Washington Times Jun. 8, 1984 CDN026301.
Digital Recording System Uses Floppy Disks, Audio Times, vol. 26, No. 5 May 1984 CDN026302.
CompuSonics Advertisement, CDN026304.
Advertisement—MicroPro's WordStar 2000, CDN026305.
Hi–Fi Floppy, K. Yates, PC World, vol. 3, Issue 4 CDN026306.
The Digitization of Music, K. Yates, PC World, vol. 3, Issue 4 CDN026308.
A Sonic Glossary, K. Yates, PC World, vol. 3, Issue 4 CDN026311.
New Hi–Fi Horizons, D. Ranada, Stereo Review, Dec. 1984 CDN026313.
Specifications and Implementation of a Computer Audio Console for Digital Mixing and Recording, D. Schwartz, AES 76th Convention, NYC Jun. 20, 1984 CDN026317.
A High Speed Telecommunications Interface for Digital Audio Transmission and Reception, H. Sohn, Abstract CDN026319.
The Audio Computer and Its Applications, D. Schwartz; J. Stautner, CompuSonics Corporation CDN026332.
Engineering Your Own Digital Audio Broadcast System, D. Schwartz, CompuSonics Corporation CDN026343.
Tab—Pay 2 Tape '90, CDN026362.
Fax Cover Sheet to Michael Kapp from D. Schwartz, D. Schwartz, Apr. 26, 1990 CDN026363.
Fax Memo to Michael Kapp from D. Schwartz, D. Schwartz, Apr. 26, 1990.

Pay Per Listen Cable Audio System—Notes to Viewgraph Presentation, CompuSonics, CDN026365.
Pay Per Listen Cable Audio System—System Payback Analysis, CompuSonics, CDN026366.
Pay Per Listen Cable Audio System—Provide the In–Home Music Taper with a Wide Variety of Source Material, CompuSonics, CDN026367.
Pay Per Listen Cable Audio System—Provide the In–Home Music Taper with a Wide Variety of Source Material, CompuSonics, CDN026368.
Pay Per Listen Cable Audio System—Audio Database Format Options, CompuSonics, CDN026374.
Pay Per Listen Cable Audio System—Billboard Top 100 LPS Format, CompuSonics, CDN026375.
Pay Per Listen Cable Audio System—Program Publication Options, CompuSonics, CDN026379.
Letter to Shareholder from D. Schwartz, D. Schwartz, Nov. 21, 1984 CDN026381.
Letter to Shareholder from D. Schwartz, D. Schwartz, Oct. 10, 1985 CDN026382.
Display Photograph, CDN026384.
Display Photograph, CDN026385.
CompuSonics DSP2002 Preliminary User Manual, CDN026386.
Display—Hardware Spec, CDN026387.
Internal Data, CDN026388.
DSP–1000 Series, CDN026389.
Digital Marketing Corporation Video Real Estate System, Jun. 7, 1986 CDN026390.
Agenda for Jun. 7, 1988 Meeting, CDN026393.
Agenda for May 31, 1988 Meeting, CompuSonics, CDN026394.
Advertisement—Digilist Video Multiple Listing Service, Digital Marketing Corporation, CDN026395.
Advertisement—Digilist Video Multiple Listing Service, Digital Marketing Corporation, CDN026396.
Advertisement—Digilist Video Multiple Listing Service, Digital Marketing Corporation, CDN026398.
Memo to B. Holmbraker, B. Alderfer, R. Dahl, H. Fong from D. Schwartz, D. Schwartz, CompuSonics Financial/Technical Status Jan. 12, 1987 CDN026399.
Manual—Assembly Procedure for the DSP1500, CDN026401.
Specifications—CompuSonic DSP 1000, CDN026440.
DSP 1000 Digital Audio Disk Recorder Application Notes, CDN026489.
The Home Terminal, International Resource Development, pp. 149–158 Aug. 1978 CDN026745.
Rolm Plugs CBX Into IBM World, Electronic Mail & Message Systems vol. 7, No. 9 May 2, 1983 CDN026768.
Control Video Enters Downline Loading Business, Electronic Mail & Message Systems vol. 7, No. 11 Jun. 1, 1983 CDN026771.
EMMS Article, Electronic Mail & Message Systems vol. 7, No. 14, p. 17 Jul. 15, 1983 CDN026775.
The Other Half of the IBM PC, Electronic Mail & Message Systems vol. 7, No. 16 Aug. 15, 1983 CDN026776.
Electronic Message Systemss and the Home Terminal, Electronic Mail & Message Systems vol. 3, No. 12 Jun. 15, 1979 CDN026779.
EMMS Article, Electronic Mail & Message Systems vol. 3, No. 15, p. 13 Aug. 1, 1979 CDN026784.
EMMS Article, Electronic Mail & Message Systems vol. 6, No. 11, p. 20 Jun. 1, 1982 CDN026785.
EMMS Article, Electronic Mail & Message Systems vol. 6, No. 15, p. 14 Aug. 2, 1982 CDN026786.
EMMS Article, Electronic Mail & Message Systems vol. 6, No. 23 Dec. 1, 1982 CDN026789.
Fiber–Optics Will Shake the Utilities, Electronic Mail & Message Systems vol. 9, No. 20 Nov. 1, 1985 CDN026792.
British Telecom Offers Free Electronic Mail Services, Electronic Mail & Message Systems vol. 10, No. 7 Apr. 1, 1986 CDN026797.
Profit Protection—Risky Business, Electronic Mail & Message Systems vol. 12, No. 16 Aug. 15, 1988 CDN026801.
EMMS Article, Electronic Mail & Message Systems vol. 12, No. 21 Nov. 1, 1988 CDN026811.
CompuSonics to Bow Digital Audio Floppy Disk Player/Recorder; CD Rival?, C. Kaplan, Consumer Electronics Daily, vol. VIII, No. 5, Issue 8 May 10, 1984 CDN026255.
Home Telecommunications in the 1980's, International Resource Development, Inc. Apr. 1980, Report 150 CDN026812.
The Future of Television, International Resource Development, Inc. Aug. 1981, Report 176 CDN026914.
Health, Wealth & Self–Improvement Home Software, International Resource Development, Inc. Sep. 1985, Report 670 CDN026935.
Telecommunications Market Opportunities, International Resource Development, Inc. Nov. 1985, Report 676 CDN026955.
Telepay vs. Videodisc, International Resource Development, Inc. Sep. 1982, Report 510 CDN027013.
Videogames & Electronic Toys, International Resource Development, Inc. May 1983, Report 550 CNDN027034.
Payments Received for Report #558 Downloading and Teledelivery of Computer Software, Games & Music, Kenneth G. Bosomworth, Jan. 9, 2001 CDN027138.
Article—CompuSonics/Carts AT&T Demo, Pro Sound News Sep. 9, 1985 CDN027183.
Intentionally Omitted Documents CDN027190–CDN027734, Mar. 13, 2001 Letter to N. Bigas from R. Gruwell Mar. 9, 2001 Letter M. Neblett from N. Bigas Mar. 5, 2001 Letter to M. Neblett from N. Bigas
Transcription of Videotape, EE 280—Feb. 18 1987—Allison 7 CDN027735.
The Digital Audio Processing Station: A New Concept in Audio Postproduction, J. Moorer; C. Abbott; Peter Nye et al., Journal of Audio Engineering Society, vol. 34, No. 6, Jun. 1986, pp. 454–464 CDN027783.
On Digital I/O Format, T. Doi, Sony Corporation Presented at AES Digital Audio Technical Committee, Hamburg, West Germany Mar. 16, 1981 CDN027794.
PCM Program Transmission and Communication Network for the Norwegian Broadcasting Corporation, R. Andersen; K. Ronning, Journal of the Audio Engineering Society vol. 28, No. 4 Apr. 1980.
A Fibre Optic Multi–Channel Communication Link Developed for Remote Interconnection in a Digital Audio Console, P. Lidbetter S. Douglas, Presented at the 80th Convention, Audio Engineering Society Reprint (Preprint 2330 D6) Mar. 4–7, 1986 CDN 027830.
BBC Digital Audio—A Decade of On–Air Operation, D. Stripp, BBC, London, United Kingdom Collected Papers from the Audio Engineering Society Premiere Conference, Rye, New York Jun. 3–6, 1982 CDN027846.

Processing Systems for the Digital Audio Studio, M. Jones, Neve Electronics Internaitonal Limited, Royston, Hertfordshire, United Kingdom Collected Papers from the Audio Engineering Society Premiere Conference, Rye, New York Jun. 3–6, 1982 CDN027852.
Large Scale Acoustics, D. Hawkins, Studio Sound and Broadcast Engineering Mar. 1985.
BBC Digital Control Vehicle 12 Months On, K. Spencer–Allen, Diary–Diary, Studio Sound, p. 32–33 Nov. 1986.
WDR NEVE DSP Now in Use, Diary–Diary, Studio Sound, p. 18 Aug. 1986.
Digital Mastering Tape One, Studio Sound, pp. 36, 38, 40 Aug. 1986.
Digital Sound Signals: The Present BBC Distribution System and a Proposal for Bit–Rate Reduction by Digital Companding, M. Croll; D. Osborne; C. Spicer, International Broadcasting Convention Sep. 23–27, 1974.
Audio Engineering Handbook, K. Benson, Audio Engineering Handbook All–Digital Studio, pp. 4.37–4.38 Transmission Systems, pp. 4.57 Stereo with Television, p. 4.59 © 1988 CDN027884.
Handbook of Recording Engineering, J. Eargle, The All–Digital Studio, pp. 373–375 © 1986 CDN027892.
Routing of Digital Audio Signals in a Radio Broadcasting Centre, N. Gilchrist; G. Crowe G. Legg, Eleventh International Broadcasting Convention Sep. 19–23, 1986 CDN027897.
Signal Routing in a Digital Sound Studio, G. Roe; C. Caine, Eleventh International Broadcasting Convention Sep. 19–23, 1986 CDN027902.
Multi–Purpose Radio Links System for News Coverage, P. Marchant; I. Buffham, International Broadcasting Convention Sep. 18–21, 1982 CDN027907.
DOCAT—Digital, Optical CATV Trunk System, G. Mogensen; B. Petersen; H. Steffensen, International Broadcasting Convention Sep. 18–21, 1982 CDN027913.
Digital Transmission System for Television, Sound and Associated Data, A. Jones; D. Kitson, Tenth International Broadcasting Convention Sep. 21–25, 1984 CDN027918.
Digital Sound Mixing in the Analogue Studio, M. Jones; D. Langford; D. Tilsley, Tenth International Broadcasting Convention Sep. 21–25, 1984 CDN027923.
Digital Speech Networks, B. Gold, Proceedings of the IEEE, vol. 65, No. 12 Dec. 1977 CDN027939.
The Digital Coding of High–Quality Musical Sound, J. Moorer, Journal of the Audio Engineering Society vol. 27, No. 9, pp. 657–666 Sep. 1979 CDN027962.
Digital Audio for Cable Television, C. Robbins, 1986 NCTA Technical Papers, pp. 21–24 CDN028131.
Speech Understanding Systems, Massachusetts Inst. of Technology, Lincoln Lab., U.S. Department of Commerce, National Technical Information Service May 31, 1973 CDN028138.
Speech Understanding Systems, Massachusetts Inst. of Technology, Lincoln Lab., U.S. Department of Commerce, National Technical Information Service Jan. 15, 1974 CDN028166.
Information Processing Techniques Program, vol. I. Packet Speech/Acoustic Convolvers, Massachusetts Inst. of Techology, Lincoln Lab., U.S. Department of Commerce, National Technical Information Service Jun. 30, 1976 CDN028198.
Speech Analysis Synthesis and Perception, J. Flanagan, Bell Laboratories Channel Vocoders, pp.323–405 CDN028247.
Digitization of Audio: A Comprehensive Examination of Theory, Implementation and Current Practice, B. Blesser, Journal of the Audio Engineering Society vol. 26, No. 10 Oct. 1978 CDN028268.
Personal Computers and Music: The State of the Art, C. Yavelow, Journal of the Audio Engineering Society vol. 35, No. 3 Mar. 1987 CDN028301.
MIDI: Musical Instrument Digital Interface, B. Moog, Journal of the Audio Engineering Society vol. 34, No. 5 May 1986 CDN028325.
How Does a Computer Make Music?, J. Moorer, Computer Music Journal, vol. II, No. 1 pp .32–37 CDN028357.
Lossless Coding for Audio Discs, P. Craven M. Gerzon, Journal of the Audio Engineering Society vol. 44, No. 9 Sep. 1996 CDN028342.
AC–3: Flexible Perceptual Coding for Audio Transmission and Storage, C. Todd; G. Davidson; M. Davis, et al., Paper presented at the 96th Convention of the Audio Engineering Society, Feb. 26–Mar. 1, 1994 Dolby Laboratories, San Francisco CDN028365.
Masterline Software by Phone, Apple II User's Manual KH000015.
Masterline Software by Phone, Commodore 64 User's Manual KH000017.
Masterline Software by Phone, Commodore Software Edition for the Bellsouth Master Module KH000028.
Electronic Games Magazine, Jun. 1983 KH000055.
Gameliner Magazine, Oct. 1983 KH0000181.
Masterline Software by Phone, Issue Two, Apple Software Edition for the Bellsouth Master Module KH000209.
Electronic Games Magazine, Oct. 1983 KH000245.
Apple II Reference Manual, N2K04850.
VAX/VMS Accounting Utility Reference Manual, Sep. 1984 N2K05242.

* cited by examiner

EX PARTE
REEXAMINATION CERTIFICATE
ISSUED UNDER 35 U.S.C. 307

NO AMENDMENTS HAVE BEEN MADE TO THE PATENT

AS A RESULT OF REEXAMINATION, IT HAS BEEN DETERMINED THAT:

The patentability of claims **1-6** is confirmed.

* * * * *

EXHIBIT 5

Exhibit 1301

US005966440A

United States Patent [19]

Hair

[11] Patent Number: 5,966,440

[45] Date of Patent: Oct. 12, 1999

[54] **SYSTEM AND METHOD FOR TRANSMITTING DESIRED DIGITAL VIDEO OR DIGITAL AUDIO SIGNALS**

[75] Inventor: **Arthur R. Hair**, Pittsburgh, Pa.

[73] Assignee: **Parsec Sight/Sound, Inc.**, Mt. Lebanon, Pa.

[21] Appl. No.: **08/471,964**

[22] Filed: **Jun. 6, 1995**

Related U.S. Application Data

[63] Continuation of application No. 08/023,398, Feb. 26, 1993, which is a continuation of application No. 07/586,391, Sep. 18, 1990, Pat. No. 5,191,573, which is a continuation of application No. 07/206,497, Jun. 13, 1988, abandoned.

[51] **Int. Cl.**[6] **H04L 9/00**; G11B 5/86

[52] **U.S. Cl.** **380/4**; 360/15; 364/918.51

[58] **Field of Search** 235/381, 380, 235/375; 364/479, 410, 918, 918.51, 921, 926.9, 926.91, 926.92, 926.93; 369/33, 34, 84, 85; 360/15; 380/4

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,718,906	2/1973	Lightner	235/381
3,990,710	11/1976	Hughes	235/381
4,124,773	11/1978	Elkins	379/101.01
4,506,387	3/1985	Walter	359/118
4,521,806	6/1985	Abraham	358/86
4,528,643	7/1985	Freeny, Jr.	364/900
4,538,176	8/1985	Nakajima et al.	358/86
4,567,359	1/1986	Lockwood	235/381
4,647,989	3/1987	Geddes	360/55
4,654,799	3/1987	Ogaki et al.	364/479
4,789,863	12/1988	Bush	340/825.35
4,789,868	12/1988	Bush	340/825.35
5,191,193	3/1993	Le Roux	235/379
5,191,573	3/1993	Hair	369/84

OTHER PUBLICATIONS

"Teledelivery Business Quantified: Would You Believe $20 Billion?" VideoPrint, v4, n12, p1–4; Jun. 22, 1983; ISSN: 0271–0951 (Abstract is Attached).

Scott Mace, "Electronic Orchestras in Your Living Room; Midi Could Make the Biggest Year Yet for Computer Musicians" InfoWorld, Mar. 25, 1985.

"Rock around the Data Base" by Lydia Dotto, *Information Technology,* Sep. 1984.

Jimmy Bowen: Music Row's Prophet of Change, Chappell, Lindsay, 1986.

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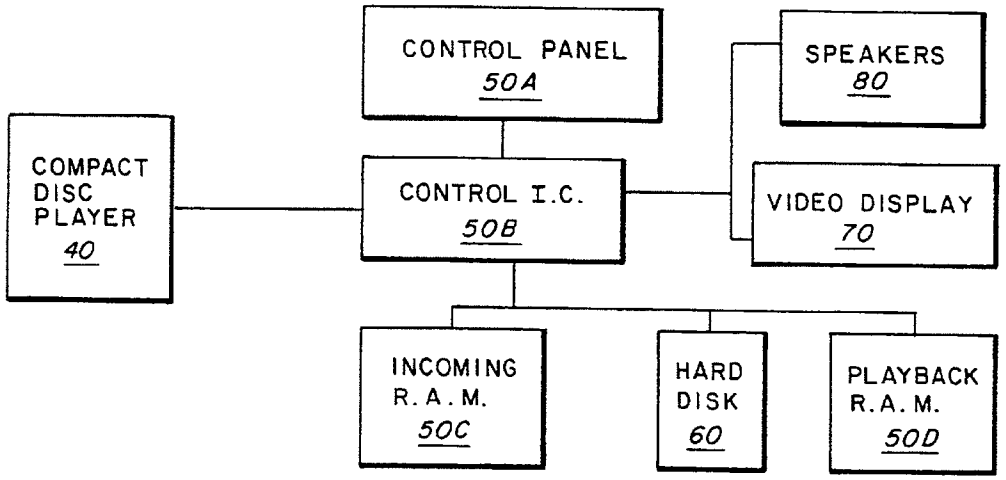
Attorney, Agent, or Firm—Ansel M. Schwartz

[57] **ABSTRACT**

A method for transferring desired digital video or audio signals. The method comprises the steps of forming a connection through telecommunications lines between a first memory of a first party and a second memory of a second party. The first memory has the desired digital video or audio signals. Then, there is the step of selling electronically by the first party to the second party through telecommunications lines, the desired digital video or audio signals in the first memory. Then, there is the step of transferring the desired digital video or audio signals from the first memory of the first party to the second memory of the second party through the telecommunications lines while the second memory is in possession and control of the second party. Additionally, there is a system for transferring digital video or audio signals.

63 Claims, 2 Drawing Sheets



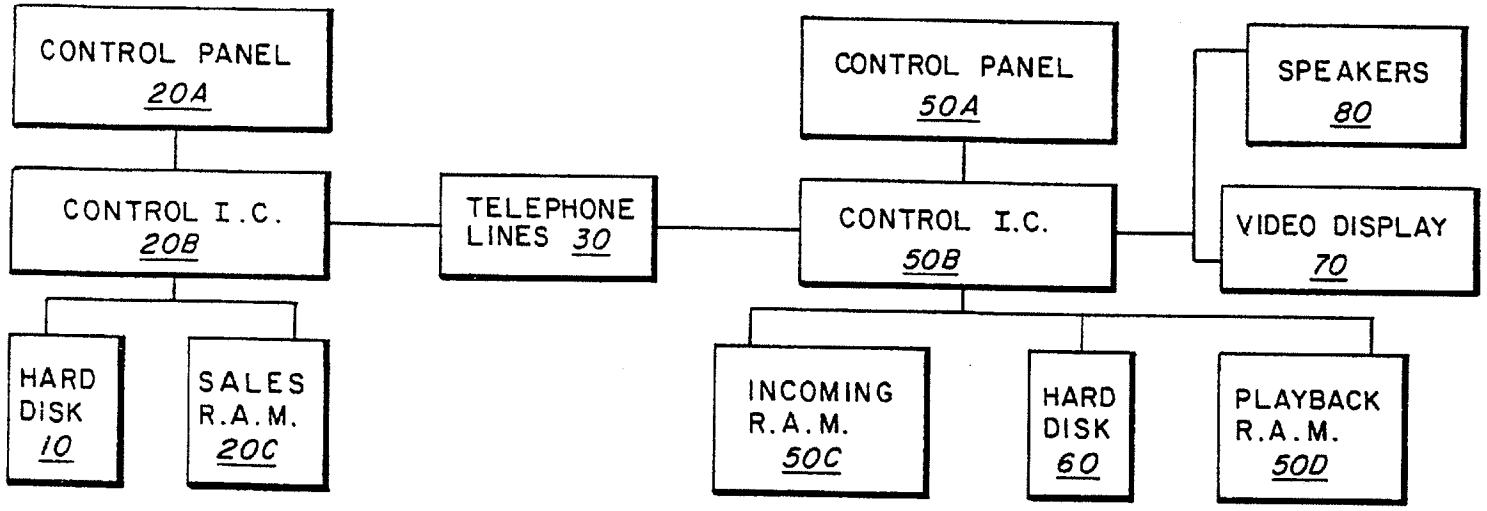

CONTROL PANEL
20A
CONTROL I.C.
20B
HARD DISK
10
SALES R.A.M.
20C
TELEPHONE LINES 30
CONTROL PANEL
50A
CONTROL I.C.
50B
INCOMING R.A.M.
50C
HARD DISK
60
PLAYBACK R.A.M.
50D
SPEAKERS
80
VIDEO DISPLAY
70

FIG. 1

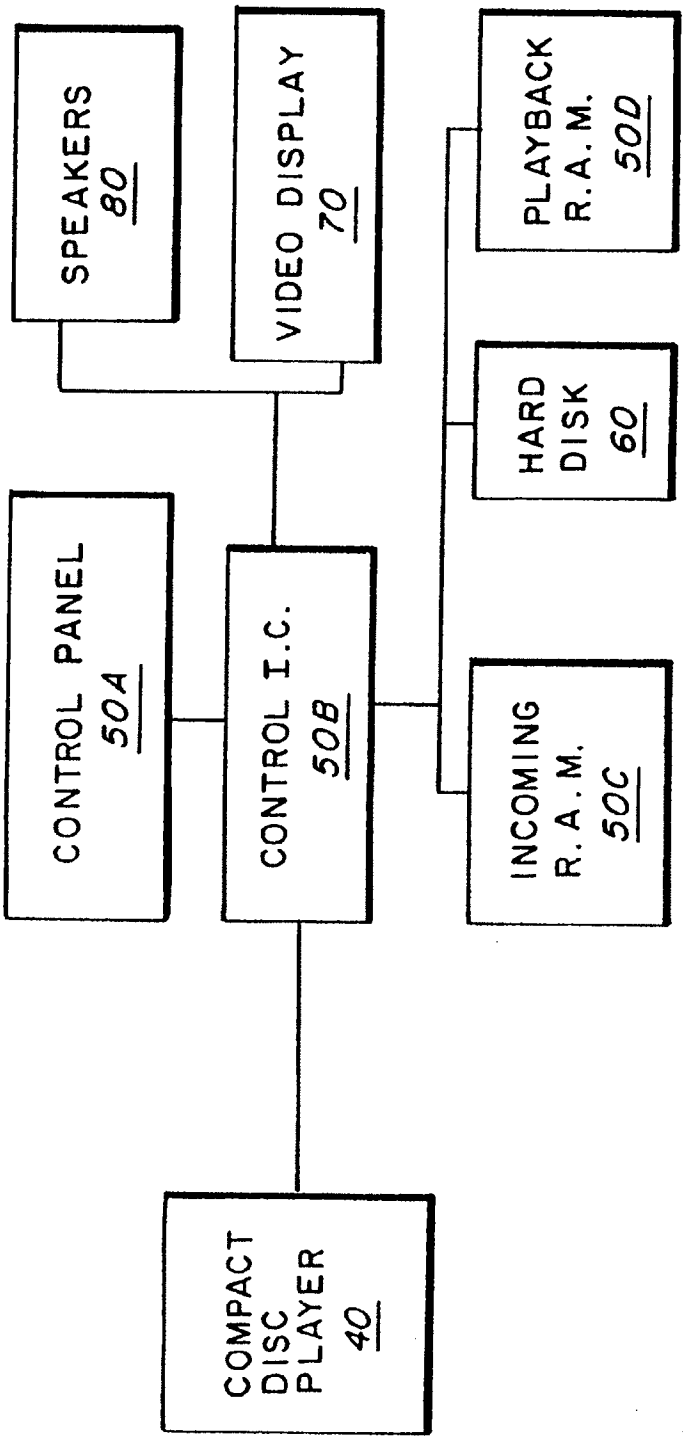

SPEAKERS
80
VIDEO DISPLAY
70
PLAYBACK
R.A.M.
50D
HARD
DISK
60
CONTROL PANEL
50A
CONTROL I.C.
50B
INCOMING
R.A.M.
50C
COMPACT
DISC
PLAYER
40

FIG. 2

SYSTEM AND METHOD FOR TRANSMITTING DESIRED DIGITAL VIDEO OR DIGITAL AUDIO SIGNALS

CROSS REFERENCE TO OTHER PATENTS

This is a continuation of copending application(s) Ser. No. 08/023,398 filed on Feb. 26, 1993. This is a continuation application of U.S. patent application Ser. No. 07/586,391 filed Sep. 18, 1990, now U.S. Pat. No. 5,191,573, issued Mar. 2, 1993, which is a continuation application of U.S. patent application Ser. No. 07/206,497, filed Jun. 13, 1988, abandoned.

FIELD OF THE INVENTION

The present invention is related to a system and associated method for the electronic sales and distribution of digital audio or video signals, and more particularly, to a system and method which a user may purchase and receive digital audio or video signal from any location which the user has access to telecommunications lines.

BACKGROUND OF THE INVENTION

The three basic mediums (hardware units) of music: records, tapes, and compact discs, greatly restricts the transferability of music and results in a variety of inefficiencies.

CAPACITY: The individual hardware units as cited above are limited as to the amount of music that can be stored on each.

MATERIALS: The materials used to manufacture the hardware units are subject to damage and deterioration during normal operations, handling, and exposure to the elements.

SIZE: The physical size of the hardware units imposes constraints on the quantity of hardware units which can be housed for playback in confined areas such as in automobiles, boats, planes, etc.

RETRIEVAL: Hardware units limit the ability to play, in a sequence selected by the user, songs from different albums. For example, if the user wants to play one song from ten different albums, the user would spend an inordinate amount of time handling, sorting, and cueing the ten different hardware units.

SALES AND DISTRIBUTION: Prior to final purchase, hardware units need to be physically transferred from the manufacturing facility to the wholesale warehouse to the retail warehouse to the retail outlet, resulting in lengthy lag time between music creation and music marketing, as well as incurring unnecessary and inefficient transfer and handling costs. Additionally, tooling costs required for mass production of the hardware units and the material cost of the hardware units themselves, further drives up the cost of music to the end user.

QUALITY: Until the recent invention of Digital Audio Music, as used on Compact Discs, distortion free transfer from the hardware units to the stereo system was virtually impossible. Digital Audio Music is simply music converted into a very basic computer language known as binary. A series of commands known as zeros or ones encode the music for future playback. Use of laser retrieval of the binary commands results in distortion free transfer of the music from the compact disc to the stereo system. Quality Digital Audio Music is defined as the binary structure of the Digital Audio Music. Conventional analog tape recording of Digital Audio Music is not to be considered quality inasmuch as the binary structure itself is not recorded. While

Digital Audio Music on compact discs is a technological breakthrough in audio quality, the method by which the music is sold, distributed, stored, manipulated, retrieved, played and protected from copyright infringements remains as inefficient as with records and tapes.

COPYRIGHT PROTECTION: Since the invention of tape recording devices, strict control and enforcement of copyright laws have proved difficult and impossible with home recorders. Additionally, the recent invention of Digital Audio Tape Recorders now jeopardizes the electronic copyright protection of quality Digital Audio Music on Compact Discs or Digital Audio Tapes. If music exists on hardware units, it can be copied.

Thus, as is apparent from the above discussion, the inflexible form in which the songs are purchased by an end user, and the distribution channels of the songs, requires the end user to go to a location to purchase the songs, and not necessarily be able to purchase only the songs desired to be heard, in a sequence the end user would like to hear them. This is not limited to just songs, but also includes, for example, videos.

Accordingly, it is an objective of this invention is to provide a new and improved methodology/system to electronically sell and distribute Digital Audio Music or digital video.

A further objective of this invention to provide a new and improved methodology/system to electronically store and retrieve Digital Audio Music or digital video.

Another objective of this invention is to provide a new and improved methodology/system to electronically manipulate, i.e., sort, cue, and select, Digital Audio Music or digital video for playback.

Still another objective of this invention is to offer a new and improved methodology/system which can prevent unauthorized electronic copying of quality Digital Audio Music or digital video.

SUMMARY OF THE INVENTION

Briefly, this invention accomplishes the above cited objectives by providing a new and improved methodology/system of electronic sales, distribution, storage, manipulation, retrieval, playback, and copyright protection of Digital Audio Music. The high speed transfer of Digital Audio Music as prescribed by this invention is stored onto one piece of hardware, a hard disk, thus eliminating the need to unnecessarily handle records, tapes, or compact discs on a regular basis. This invention recalls stored music for playback as selected/programmed by the user. This invention can easily and electronically sort stored music based on many different criteria such as, but not limited to, music category, artist, album, user's favorite songs, etc. An additional feature of this invention is the random playback of songs, also based on the user's selection. For example, the user could have this invention randomly play all jazz songs stored on the user's hard disk, or randomly play all songs by a certain artist, or randomly play all of the user's favorite songs which the user previously electronically "tagged" as favorites. Further, being more specific, the user can electronically select a series of individual songs from different albums for sequential playback.

This invention can be configured to either accept direct input of Digital Audio Music from the digital output of a Compact Disc, such transfer would be performed by the private user, or this invention can be configured to accept Digital Audio Music from a source authorized by the copyright holder to sell and distribute the copyrighted materials,

thus guaranteeing the protection of such copyrighted materials. Either method of electronically transferring Digital Audio Music by means of this invention is intended to comply with all copyright laws and restrictions and any such transfer is subject to the appropriate authorization by the copyright holder. Inasmuch as Digital Audio Music is software and this invention electronically transfers and stores such music, electronic sales and distribution of the music can take place via telephone lines onto a hard disk. This new methodology/system of music sales and distribution will greatly reduce the cost of goods sold and will reduce the lag time between music creation and music marketing from weeks down to hours.

The present invention is a system for transmitting desired digital video or audio signals stored on a first memory of a first party to preferably a second memory of a second party. The system comprises means or mechanism for electronically selling the desired digital video or digital audio signals preferably via telecommunications lines to the first party from the second party. Moreover, the system preferably comprises means or mechanism for connecting electronically via telecommunications lines the first memory preferably with the second memory such that the desired digital video or digital audio signals can pass therebetween. Additionally, the system comprises means or mechanism for transmitting the desired digital video or audio signals from the first memory with a transmitter in control and in possession of the first party to a receiver preferably having the second memory. While the receiver is in possession and in control of the second party. The receiver is placed at a second party location determined by the second party. Preferably, there is also means or mechanism for storing the digital video or digital audio signal in the second memory.

Further objectives and advantages of this invention will become apparent as the following description proceeds and the particular features of novelty which characterize this invention will be pointed out in the claims annexed to and forming a part of this declaration.

BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of this invention, reference should be made to the following detailed description, taken in conjunction with the accompanying drawings, in which:

FIG. **1** is a pictorial flow chart which may be used in carrying out the teachings of this invention for the purposes of electronic sales, distribution, storage, manipulation, retrieval, playback, and copyright protection of Digital Audio Music; and

FIG. **2** is a pictorial flow chart which may be used in carrying out the teachings of this invention for the purposes of electronic storage, manipulation, retrieval, and playback of Digital Audio Music.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings wherein like reference numerals refer to similar or identical parts throughout the several views, and more specifically to figure thereof, there is shown.

Referring now to the FIG. **1**, this invention preferably is comprised of the following:

10 Hard Disk of the copyright holder

20 Control Unit of the copyright holder
- **20***a* Control Panel
- **20***b* Control Integrated Circuit
- **20***c* Sales Random Access Memory Chip

30 Telephone Lines/Input Transfer

50 Control Unit of the user
- **50***a* Control Panel
- **50***b* Control Integrated Circuit
- **50***c* Incoming Random Access Memory Chip
- **50***d* Play Back Random Access Memory Chip

60 Hard Disk of the user

70 Video Display Unit

80 Stereo Speakers

The Hard Disk **10** of the first party or agent authorized to electronically sell and distribute the copyrighted Digital Audio Music is the originating source of music in the configuration as outlined in FIG. **1**. The Control Unit **20** of the authorized agent is the means by which the electronic transfer of the Digital Audio Music from the agent's Hard Disk **10** via the Telephone Lines **30** to the user's or second party's Control Unit **50** is possible. The user's Control Unit is comprised of a Control Panel **50***a*, a Control Integrated Circuit **50***b*, an Incoming Random Access Memory Chip **50***c*, and a Play Back Random Access Memory Chip **50***d*. Similarly, the authorized agent's Control Unit **20** has a control panel and control integrated circuit similar to that of the user's Control Unit **50**. The authorized agent's Control Unit **20**, however, only requires the Sales Random Access Memory Chip **20***c*. The other components in FIG. **1** include a Hard Disk **60**, a Video Display Unit **70**, and a set of Stereo Speakers **80**.

Referring now to FIG. **2**, with the exception of a substitution of a Compact Disc Player **40** (as the initial source of Digital Audio Music) for the agent's Hard Disk **10**, the agent's Control Unit **20**, and the Telephone Lines **30** in FIG. **1**, FIG. **2** is the same as FIG. **1**.

In FIG. **1** and FIG. **2**, the following components are already commercially available: the agent's Hard Disk **10**, the Telephone Lines **30**, the Compact Disc Player **40**, the user's Hard Disk **60**, the Video Display Unit **70**, and the Stereo Speakers **80**. The Control Units **20** and **50**, however, would be designed specifically to meet the teachings of this invention. The design of the control units would incorporate the following functional features:

1) the Control Panels **20***a* and **50***a* would be designed to permit the agent and user to program the respective Control Integrated Circuits **20***b* and **50***b*,

2) the Control Integrated Circuits **20***b* and **50***b* would be designed to control and execute the respective commands of the agent and user and regulate the electronic transfer of Digital Audio Music throughout the system, additionally, the sales Control Integrated Circuit **20***b* could electronically code the Digital Audio Music in a configuration which would prevent unauthorized reproductions of the copyrighted material,

3) the Sales Random Access Memory Chip **20***c* would be designed to temporarily store user purchased Digital Audio Music for subsequent electronic transfer via telephone lines to the user's Control Unit **50**,

4) the Incoming Random Access Memory Chip **50***c* would be designed to temporarily store Digital Audio Music for subsequent electronic storage to the user's Hard Disk **60**,

5) the Play Back Random Access Memory Chip **50***d* would be designed to temporarily store Digital Audio Music for sequential playback.

The foregoing description of the Control Units **20** and **50** is intended as an example only and thereby is not restrictive with respect to the exact number of components and/or its actual design.

Once the Digital Audio Music has been electronically stored onto the user's Hard Disk **60**, having the potential to store literally thousands of songs, the user is free to perform the many functions of this invention. To play a stored song, the user types in the appropriate commands on the Control Panel **50***a*, and those commands are relayed to the Control Integrated Circuit **50***b* which retrieves the selected song from the Hard Disk **60**. When a song is retrieved from the Hard Disk **60** only a replica of the permanently stored song is retrieved. The permanently stored song remains intact on the Hard Disk **60**, thus allowing repeated playback. The Control Integrated Circuit **50***b* stores the replica onto the Play Back Random Access Memory Chip **50***d* at a high transfer rate. The Control Integrated Circuit **50***b* then sends the electronic output to the Stereo Speakers **80** at a controlled rate using the Play Back Random Access Memory Chip **50***d* as a temporary staging point for the Digital Audio Music.

Unique to this invention is that the Control Unit **50** also serves as the user's personal disk jockey. The user may request specific songs to be electronically cued for playback, or may request the Control Unit **50** to randomly select songs based on the user's criteria. All of these commands are electronically stored in random access memory enabling the control unit to remember prior commands while simultaneously performing other tasks requested by the user and, at the same time, continuing to play songs previously cued.

Offering a convenient visual display of the user's library of songs is but one more new and improved aspect of this invention. As the Control Unit **50** is executing the user's commands to electronically sort, select, randomly play, etc., the Video Display Screen **70** is continually providing feedback to the user. The Video Display Screen **70** can list/scroll all songs stored on the Hard Disk **60**, list/scroll all cued songs, display the current command function selected by the user, etc. Further expanding upon the improvements this invention has to offer, the Video Display Screen **70** can display the lyrics of the song being played, as well as the name of the song, album, artist, recording company, date of recording, duration of song, etc. This is possible if the lyrics and other incidental information are electronically stored to the Hard Disk **60** with the Digital Audio Music.

The present invention is a method for transmitting desired digital video or digital audio signals stored on a first memory of a first party preferably to a second memory of a second party. The method comprises the steps of transferring money via telecommunications lines to the first party from the second party or electronically selling to the second party by the first party. Additionally, the method comprises the step of then connecting electronically via telecommunications lines the first memory preferably with the second memory such that the desired digital video or digital audio signals can pass therebetween. Next, there is the step of transmitting the desired digital video or digital audio signals from the first memory with a transmitter in control and in possession of the first party to a receiver preferably having the second memory. While the receiver is in possession and in control of the second party. The receiver is placed by the second party at a second party location determined by the second party. There preferably is also the step of then storing the desired digital video or digital audio signals in the second memory.

In summary, there has been disclosed a new and improved methodology/system by which Digital Audio Music or digital video can be electronically sold, distributed, transferred, and stored. Further, there has been disclosed a new and improved methodology/system by which Digital Audio Music or digital video can be electronically manipulated, i.e., sorted, cued, and selected for playback. Further still, there has been disclosed a new and improved methodology/system by which the electronic manipulation of Digital Audio Music can be visually displayed for the convenience of the user. Additionally, there has been disclosed a new and improved methodology/system by which electronic copyright protection of quality Digital Audio Music is possible through use of this invention.

Since numerous changes may be made in the above described process and apparatus and different embodiments of the invention may be made without departing from the spirit thereof, it is intended that all matter contained in the foregoing description or shown in the accompanying drawings shall be interpreted as illustrative, and not in a limiting sense. Further, it is intended that this invention is not to be limited to Digital Audio Music and can include Digital Video, Digital Commercials, and other applications of digital information.

For instance, the present invention is a system **100** for transferring digital video signals from a first party to a second party. The system **100** comprises a first party control unit **20** having a first memory having a plurality of desired individual video selections as desired digital video signals. The first party control unit **20** also has means or a mechanism for the first party to charge a fee to the second party for access to the desired digital video signals. The system **100** also comprises a second party control unit **50** having a second party control panel **50***a*, a receiver and a video display for playing the desired digital video or digital audio signals received by the receiver. The second party control panel **50***a* is connected to the video display and the receiver. The receiver and the video display is operatively controlled by the second party control panel **50***a*. The second party control unit **50** is remote from the first party control unit **20**. The second party control unit **50** is placed by the second party at a second party location determined by the second party which is remote from the first party control unit **20**. The second party chooses the desired digital video signals from the first memory with the second party control panel **20***a*. The system **100** is also comprised of telecommunications lines connected to the first party control unit **20** and the second party control unit **50** through which the desired digital video signals are electronically transferred from the first memory to the receiver while the second party control unit **50** is in possession and control of the second party after the desired digital video signals are sold to the second party by the first party.

Preferably, the second party control unit **50** includes a second memory which is connected to the receiver and the video display. The second memory stores the digital video signals that are received by the receiver for providing them to the video display. The second party control unit **50** preferably includes a second party hard disk **60** which stores a plurality of digital video signals, and a playback random access memory chip **50***d* electronically connected to the second party hard disk **60** for storing a replica of the desired digital video signals as a temporary staging area for playback. The second party control unit **50** includes a second party control integrated circuit **50***b* which controls and executes commands of the second party and is connected to the second party hard disk **60**, the playback random access memory **50***d*, and the first party control integrated circuit **20***b* through the telecommunications lines. The second party control integrated circuit **50***b* preferably includes the receiver. Additionally, the second party control unit **50** includes a second party control panel **20***a* through which the

second party control integrated circuit **20***b* is programmed and is sent commands and which is connected to the second party integrated circuit **50***b*. Preferably, the second party control unit **50** includes an incoming random access memory chip **50***c* connected to the second party hard drive **60** and the second party control integrated circuit **50***b*, and the first party control unit **20** through the telecommunications lines for temporarily storing the desired digital video signals received from the first party's control unit **20** for subsequent storage to the second party hard disk **60**. Preferably, the video display includes a video display unit connected to the playback random access memory chip 5O*c* and to the second party integrated circuit **50***b* for displaying the desired digital video signals.

The first party control unit **20** preferably includes a first party hard disk **10** having a plurality of digital video signals which include the desired digital video signals, and a sales random access memory chip **20***c* electronically connected to the first party hard disk **10** for storing a replica of the desired digital video signals of the first party's hard disk **10**. The first party control unit **20** preferably includes a first party control integrated circuit **20***b* which controls and executes commands of the first party and is connected to the first party hard disk **10**, the first party sales random access memory **20***c*, and the second party control integrated circuit **20***b* through the telecommunications lines. The first party control integrated circuit **20***b* and the second party control integrated circuit **50***b* regulate the transfer of the desired digital video signals. The first party control unit **20** preferably also includes a first party control panel **20***a* through which the first party control integrated circuit **20***b* is programmed and is sent commands and which is connected to the first party control integrated circuit **20***b*.

The means or mechanism for charging a fee includes means or a mechanism for charging a fee via telecommunications lines by the first party to the second party at a location remote from the second party location. Preferably, the second party has an account and the means or mechanism for charging a fee includes means or a mechanism for charging the account of the second party. Preferably, the means or mechanism for charging the account includes means or a mechanism for charging a credit card number of the second party. Preferably, the means or mechanism for electronically selling includes means or a mechanism for electronically selling includes means or a mechanism for charging a fee via telecommunications lines by the first party to the second party at a first party location remote from the second party location. Preferably, the second party has an account and the means or mechanism for charging a fee includes means or a mechanism for charging the account of the second party. Preferably, the means or mechanism for charging the account includes means or a mechanism for receiving a credit card number of the second party. The means or mechanism for receiving a credit card number preferably is part of the control integrated circuit **20***b*. The telecommunications lines are preferably telephone lines **30**.

The present invention also pertains to a method for transmitting desired digital video signals stored in a first memory having a plurality of individual video selections as digital video signals of a first party at a first party location to a second party at a second party location so the second party can view the desired digital video signals. The method comprises the steps of placing by the second party a receiver, and a video display connected to the receiver at the second party location determined by the second party which is remote from the first party location. Next, there is the step of charging a fee by the first party to the second party at a location remote from the second party location so the second party can obtain access to the desired digital video signals. Then, there is the step of connecting electronically via telecommunications lines the first memory with a receiver of the second party while the receiver is in possession and control of the second party. Next, there is the step of choosing the desired digital video signals by the second party from the first memory of the first party so desired digital video selections are selected. Next, there is the step of transmitting the desired digital video signals from the first memory with a transmitter in control and possession of the first party to the receiver of the second party while the receiver is in possession and control of the second party at the second party location determined by the second party. Next, there is the step of displaying the desired video signals received by the receiver on a video display in possession and control of the second party. The video display is connected with the receiver.

Preferably, the step of charging a fee includes the step of charging a fee via telecommunications lines by the first party to the second party so the second party can obtain access to the desired digital video signals stored on the first memory. Preferably, the second party has an account and the step of charging a fee includes the step of charging the account of the second party. Preferably, the step of charging the account of the second party includes the steps of telephoning the first party controlling use of the first memory by the second party. Then, there is the step of providing a credit card number of the second party controlling the second memory to the first party controlling the first memory so the second party is charged money. Preferably, the means or mechanism for the first party to charge a fee includes means or a mechanism for transferring money electronically via telecommunications lines to the first party at a location remote from the second memory at the second location.

Although the invention has been described in detail in the foregoing embodiments for the purpose of illustration, it is to be understood that such detail is solely for that purpose and that variations can be made therein by those skilled in the art without departing from the spirit and scope of the invention except as it may be described by the following claims.

What is claimed is:

1. A method for transferring desired digital video or digital audio signals comprising the steps of:

forming a connection through telecommunications lines between a first memory of a first party and a second memory of a second party control unit of a second party, said first memory having said desired digital video or digital audio signals;

selling electronically by the first party to the second party through telecommunications lines, the desired digital video or digital audio signals in the first memory; and

transferring the desired digital video or digital audio signals from the first memory of the first party to the second memory of the second party control unit of the second party through telecommunications lines while the second party control unit with the second memory is in possession and control of the second party; and playing through speakers of the second party control unit the digital video or digital audio signals in the second memory, said speakers of the second party control unit connected with the second memory of the second party control unit.

2. A method as described in claim **1** wherein the second party is at a second party location and the step of selling electronically includes the step of charging a fee via tele-

communications lines by the first party to the second party at a first party location remote from the second party location.

3. A method as described in claim 2 wherein the second party has an account and the step of charging a fee includes the step of charging the account of the second party.

4. A method as described in claim 3 wherein the step of charging the account of the second party includes the steps of telephoning the first party controlling use of the first memory by the second party; providing a credit card number of the second party controlling the second memory to the first party controlling the first memory so the second party is charged money.

5. A method as described in claim 4 including after the transferring step, the step of storing the desired digital video or digital audio signals in the second memory.

6. A method as described in claim 5 including before the transferring step, the step of electronically coding the desired digital video or digital audio signals into a configuration which would prevent unauthorized reproduction of the desired digital video or digital audio signals.

7. A method as described in claim 6 wherein the first memory includes a first party hard disk having a plurality of digital video or digital audio signals, and a sales random access memory chip which temporarily stores a replica of the desired digital video or digital audio signals purchased by the second party for subsequent transfer via telecommunications lines to the second memory of the second party; and including before the transferring step, there is the step of storing a replica of the desired digital video or digital audio signals from the hard disk into the sales random access memory chip.

8. A method as described in claim 7 wherein the second party control unit has a second party integrated circuit which controls and executes commands of the second party, and a second party control panel connected to the second party integrated circuit, and before the forming step, there is the step of commanding the second party integrated circuit with the second party control panel to initiate the purchase of the desired digital video or digital audio signals from the first party.

9. A method as described in claim 5 wherein the second memory of the second party control unit includes an incoming random access memory chip which temporarily stores the desired digital video or digital audio signals received from the sales random access memory chip, a second party hard disk for storing the desired digital video or digital audio signals, and a playback random access memory chip for temporarily storing the desired digital video or digital audio signals for sequential playback; and the storing step includes the steps of storing the desired digital video or digital audio signals in the incoming random access memory chip, transferring the desired digital video or digital audio signals from the incoming random access memory chip to the second party hard disk, storing the desired digital video or digital audio signals in the second party hard disk, commanding the second party integrated circuit with the second party control panel to play the desired digital video or digital audio signals and transferring a replica of the desired digital video or digital audio signals from the second party hard disk to the playback random access memory chip for playback.

10. A method as described in claim 9 including after the transferring step, there is the step of repeating the commanding, playing, and transferring a replica steps.

11. A method for transferring digital video or digital audio signals from a first party to a second party comprising the steps of:

placing a second party control unit in possession and control of the second party by the second party at a desired location determined by the second party;

entering into a second party control panel of the second party control unit of the second party commands by the second party to purchase desired digital video or digital audio signals from a first party;

forming a connection through telecommunications lines between a first memory of the first party and a second memory of the second party control unit, said first memory having desired digital video or digital audio signals;

selling electronically by the first party to the second party through telecommunications lines, the desired digital video or digital audio signals in the first memory;

transferring the desired digital video or digital audio signals from the first memory of the first party into the second memory of the second party through telecommunications lines while the second memory is in possession and control of the second party;

entering into the second party control panel commands to play the desired digital video or digital audio signals in the second memory of the second party control unit; and

playing the desired digital video or digital audio signals with the second party control unit.

12. A system for transferring digital video or digital audio signals comprising:

a first party control unit having a first memory having desired digital video or digital audio signals, and means or a mechanism for electronically selling the desired digital video or digital audio signals;

a second party control unit having a second party control panel, a second memory connected to the second party control panel, and means or a mechanism for playing the desired digital video or digital audio signals connected to the second memory and the second party control panel, said playing means or mechanism operatively controlled by the second party control panel, said second party control unit remote from the first party control unit, said second party control unit placed by the second party at a location determined by the second party; and

telecommunications lines connected to the first party control unit and the second party control unit through which the electronic sales of the desired digital video or digital audio signals occur and through which the desired digital video or digital audio signals are electronically transferred from the first memory to the second memory while the second memory is in possession and control of the second party after the desired digital video or digital audio signals are sold to the second party by the first party.

13. A system as described in claim 12 wherein the first party control unit includes a first party hard disk having a plurality of digital video or digital audio signals which include the desired digital video or digital audio signals, and a sales random access memory chip electronically connected to the first party hard disk for storing a replica of the desired digital video or digital audio signals of the first party's hard disk.

14. A system as described in claim 13 wherein the second party control unit includes a second party hard disk which stores a plurality of digital video or digital audio signals, and a playback random access memory chip electronically connected to the second party hard disk for storing a replica of

the desired digital video or digital audio signals as a temporary staging area for playback.

15. A system as described in claim 14 wherein the first party control unit includes a first party control integrated circuit which controls and executes commands of the first party and is connected to the first party hard disk, the first party sales random access memory, and the second party control integrated circuit through the telecommunications lines, said first party control integrated circuit and said second party control integrated circuit regulate the transfer of the desired digital video or digital audio signals; and a first party control panel through which the first party control integrated circuit is programmed and is sent commands and which is connected to the first party control integrated circuit.

16. A system as described in claim 15 wherein the second party control unit includes a second party control integrated circuit which controls and executes commands of the second party and is connected to the second party hard disk, the playback random access memory, and the first party control integrated circuit through the telecommunications lines, said second party control integrated circuit and said first party control integrated circuit regulate the transfer of the desired digital video or digital audio signals; and a second party control panel through which the second party control integrated circuit is programmed and is sent commands and which is connected to the second party integrated circuit.

17. A system as described in claim 16 wherein the second party control unit includes an incoming random access memory chip connected to the second party hard drive and the second party control integrated circuit, and the first party control unit through the telecommunications lines for temporarily storing the desired digital video or digital audio signals received from the first party's control unit for subsequent storage to the second party hard disk.

18. A system as described in claim 17 wherein the second party control unit includes a video display unit connected to the playback random access memory chip and to the second party integrated circuit for displaying the desired digital video or digital audio signals.

19. A system as described in claim 12 wherein the means or mechanism for electronically selling includes means or a mechanism for electronically selling includes means or a mechanism for charging a fee via telecommunications lines by the first party to the second party at a first party location remote from the second party location.

20. A system as described in claim 19 wherein the second party has an account and the means or mechanism for charging a fee includes means or a mechanism for charging the account of the second party.

21. A system as described in claim 20 wherein the means or mechanism for charging the account includes means or a mechanism for receiving a credit card number of the second party.

22. A method for transmitting desired digital video or digital audio signals stored on a first memory of a first party to a second memory of a second party comprising the steps of:

placing a second party control unit having a receiver and the second memory connected to the receiver by the second party at a desired location determined by the second party;

selling electronically via telecommunications lines to the second party at a location remote from the first memory by the first party controlling use of the first memory, said second party financially distinct from the first party, said second party in control and in possession of the second memory;

connecting electronically via telecommunications lines the first memory with the second memory such that the desired digital video or digital audio signals can pass therebetween;

transmitting the desired digital video or digital audio signals from the first memory with a transmitter in control and possession of the first party to the receiver of the second party control unit having the second memory at the location determined by the second party while said receiver is in possession and control of the second party;

storing the digital video or digital audio signals in the second memory; and playing the digital video or digital audio signals in the second memory with the second party control unit.

23. A system for transmitting desired digital video or digital audio signals stored on a first memory of a first party to a second memory of a second party comprising:

means or mechanism for transferring money electronically via telecommunications lines from the second party to the first party controlling use of the first memory, at a location remote from the second memory, said second party controlling use and in possession of the second memory;

means or a mechanism for connecting electronically via telecommunications lines the first memory with the second memory such that the desired digital video or digital audio signals can pass therebetween, said connecting means or mechanism in electrical communication with the transferring means or mechanism;

means or a mechanism for transmitting the desired digital video or digital audio signals from the first memory with a transmitter in control and possession of the first party to a receiver having the second memory while said receiver is in possession and control of the second party, said receiver placed at a location determined by the second party, said transmitting means or mechanism in electrical communication with said connecting means or mechanism;

means or a mechanism for storing the digital video or digital audio signals in the second memory, said storing means or mechanism in electrical communication with said transmitting means or mechanism; and means or mechanism for playing the digital video or digital audio signals stored in the second memory, said playing means or mechanism connected to the second memory.

24. A system as described in claim 23 wherein the connecting means or mechanism comprise a first control unit in possession and control of the first party and a second control unit in possession and control of the second party.

25. A system as described in claim 18 wherein the first control unit comprises a first control panel, first control integrated circuit and a sales random access memory, said sales random access memory and said first control panel in electrical communication with said first control integrated circuit, said second control unit comprising a second control panel, a second control integrated circuit, an incoming random access memory and a playback random access memory, said second control panel, said incoming random access memory and said playback random access memory in electrical communication with said second control integrated circuit.

26. A system as described in claim 25 wherein the telecommunications lines include telephone lines.

27. A system as described in claim 26 wherein the first memory comprises a first hard disk and the second memory comprises a second hard disk.

28. A system as described in claim 27 including a video display and speakers in possession and control of the second party, said video display and speakers in electrical communication with said second control integrated circuit.

29. A system for transmitting desired digital video or digital audio signals stored on a first memory of a first party at a first location to a second memory of a second party at a second party location comprising:

means or a mechanism for the first party to charge a fee to the second party for access to the desired digital video or digital audio signals at a location remote from the second location, said first party controlling use of the first memory, said second party controlling use and in possession of the second memory;

means or a mechanism for connecting electronically via telecommunications lines the first memory with the second memory such that the desired digital video or digital audio signals can pass therebetween, said connecting means or mechanism in electrical communication with the transferring means or mechanism;

means or a mechanism for transmitting the desired digital video or digital audio signals from the first memory with a transmitter in control and possession of the first party to a receiver having the second memory while said receiver is in possession and control of the second party, said receiver placed by the second party at the second party location determined by the second party, said transmitting means or mechanism in electrical communication with said connecting means or mechanism;

means or a mechanism for storing the digital video or digital audio signals in the second memory, said storing means or mechanism in electrical communication with said transmitting means or mechanism; and means or mechanism for playing the digital video or digital audio signals stored in the second memory, said playing means or mechanism connected to the second memory.

30. A system as described in claim 29 wherein the means or mechanism for the first party to charge a fee includes means or a mechanism for transferring money electronically via telecommunications lines to the first party at a location remote from the second memory at the second location.

31. A system as described in claim 30 wherein the connecting means or mechanism comprise a first control unit in possession and control of the first party and a second control unit in possession and control of the second party.

32. A system as described in claim 31 wherein the first control unit comprises a first control panel, first control integrated circuit and a sales random access memory, said sales random access memory and said first control panel in electrical communication with said first control integrated circuit, said second control unit comprising a second control panel, a second control integrated circuit, an incoming random access memory and a playback random access memory, said second control panel, said incoming random access memory and said playback random access memory in electrical communication with said second control integrated circuit.

33. A system as described in claim 32 wherein the telecommunications lines include telephone lines.

34. A system as described in claim 33 wherein the first memory comprises a first hard disk and the second memory comprises a second hard disk.

35. A system as described in claim 34 including a video display and speakers in possession and control of the second party, said video display and speakers in electrical communication with said second control integrated circuit.

36. A method for transmitting desired digital video or digital audio signals stored in a first memory of a first party at a first party location to a second memory of a second party comprising the steps of:

placing a second party control unit having the second memory by the second party at a desired second party location determined by the second party, said second party location remote from the first party location;

charging a fee by the first party to the second party at a location remote from the second party location so the second party can obtain access to the digital video or digital audio signals possessed by the first party, said first party and said second party in communication via said telecommunications lines;

connecting electronically via telecommunications lines the first memory with the second memory such that the desired digital video or digital audio signals can pass therebetween;

transferring electronically via telecommunications lines the digital video or digital audio signals from a first location with the first memory to the desired second party location with the second memory while the second memory is in possession and control of the second party, said second party location remote from said first location, said first memory in communication with said second memory via the telecommunications lines;

storing the digital video or digital audio signals in the second memory; and playing the digital video or digital audio signals stored in the second memory with the second party control unit.

37. A method as described in claim 36 wherein the step of charging a fee includes the step of charging a fee via telecommunications lines by the first party to the second party at a location remote from the second party location.

38. A method as described in claim 37 wherein the second party has an account and the step of charging a fee includes the step of charging the account of the second party.

39. A method as described in claim 38 wherein the step of charging the account of the second party includes the steps of telephoning the first party controlling use of the first memory by the second party; providing a credit card number of the second party controlling the second memory to the first party controlling the first memory so the second party is charged money.

40. A method as described in claim 39 including after the transferring step, there is the step of repeating the charging a fee, connecting, and transferring steps.

41. A method for transmitting desired digital video or digital audio signals stored on a first memory of a first party to a second memory of a second party comprising the steps of:

selling electronically via telecommunications lines to the second party at a location remote from the first memory by the first party controlling use of the first memory, said second party financially distinct from the first party, said second party in control and in possession of a second party control unit having a receiver and the second memory connected to the receiver;

connecting electronically via telecommunications lines the first memory with the second memory such that the desired digital video or digital audio signals can pass therebetween;

transmitting the desired digital video or digital audio signals from the first memory with a transmitter in control and possession of the first party to the receiver

connected to the second memory of the second party control unit at the location determined by the second party while said second party control unit is in possession and control of the second party;

storing the digital video or digital audio signals in the second memory; and playing the digital video or digital audio signals stored in the second memory with the second party control unit.

42. A method for transferring desired digital video or digital audio signals from a first party to a second party comprising the steps of:

placing a second party control unit having a second memory by the second party at a desired location determined by the second party;

forming a connection through telecommunications lines between a first memory of a first party and the second memory of the second party, said first memory having said desired digital video or digital audio signals;

selling electronically by the first party to the second party through telecommunications lines, the desired digital video or digital audio signals in the first memory;

transferring the desired digital video or digital audio signals from the first memory of the first party to the second memory of the second party through telecommunications lines; and playing the digital video or digital audio signals stored in the second memory with the second party control unit.

43. A method as described in claim **42** wherein the second party is at a second party location and the step of selling electronically includes the step of charging a fee via telecommunications lines by the first party to the second party at a first party location remote from the second party location.

44. A method as described in claim **43** wherein the second party has an account and the step of charging a fee includes the step of charging the account of the second party.

45. A method as described in claim **44** wherein the step of charging the account of the second party includes the steps of telephoning the first party controlling use of the first memory by the second party; providing a credit card number of the second party controlling the second memory to the first party controlling the first memory so the second party is charged money.

46. A method for transferring desired digital video or digital audio signals comprising the steps of:

placing a second party control unit having a second memory by the second party at a desired second party location determined by the second party;

forming a connection through telecommunications lines between a first memory of a first party and the second memory of a second party, said first memory having said desired digital video or digital audio signals;

incurring a fee by the second party to the first party for the use of telecommunications lines, the desired digital video or digital audio signals in the first memory;

transferring the desired digital video or digital audio signals from the first memory of the first party to the second memory of the second party through telecommunications lines while the second memory is in possession and control of the second party; and playing the digital video or digital audio signals stored in the second memory with the second party control unit.

47. A system for transferring digital video signals from a first party to a second party at a second party location comprising:

a first party control unit having a first memory having a plurality of desired individual video selections as desired digital video signals, and means or a mechanism for the first party to charge a fee to the second party for access to the desired digital video signals at a location remote from the second party location;

a second party control unit having a second party control panel, a receiver and a video display for playing the desired digital video signals received by the receiver, said second party control panel connected to the video display and the receiver, said receiver and video display operatively controlled by the second party control panel, said second party control unit remote from the first party control unit, said second party control unit placed by the second party at a second party location determined by the second party which is remote from said first party control unit, said second party choosing the desired digital video signals from the first memory with said second party control panel; and

telecommunications lines connected to the first party control unit and the second party control unit through which the desired digital video signals are electronically transferred from the first memory to the receiver while the second party control unit is in possession and control of the second party after the desired digital video signals are sold to the second party by the first party.

48. A system as described in claim **47** wherein the second party control unit includes a second memory which is connected to the receiver and the video display, said second memory storing the digital video signals that are received by the receiver to provide the video display with the digital video signals.

49. A system as described in claim **48** wherein the first party control unit includes a first party hard disk having a plurality of digital video signals which include the desired digital video signals, and a sales random access memory chip electronically connected to the first party hard disk for storing a replica of the desired digital video signals of the first party's hard disk.

50. A system as described in claim **49** wherein the second party control unit includes a second party hard disk which stores a plurality of digital video signals, and a playback random access memory chip electronically connected to the second party hard disk for storing a replica of the desired digital video signals as a temporary staging area for playback.

51. A system as described in claim **50** wherein the first party control unit includes a first party control integrated circuit which controls and executes commands of the first party and is connected to the first party hard disk, the first party sales random access memory, and the second party control integrated circuit through the telecommunications lines, said first party control integrated circuit and said second party control integrated circuit regulate the transfer of the desired digital video signals; and a first party control panel through which the first party control integrated circuit is programmed and is sent commands and which is connected to the first party control integrated circuit.

52. A system as described in claim **51** wherein the second party control unit includes a second party control integrated circuit which controls and executes commands of the second party and is connected to the second party hard disk, the playback random access memory, and the first party control integrated circuit through the telecommunications lines, said second party control integrated circuit and said first party control integrated circuit regulate the transfer of the desired digital video signals; and a second party control panel through which the second party control integrated circuit is

programmed and is sent commands and which is connected to the second party integrated circuit.

53. A system as described in claim 52 wherein the second party control unit includes an incoming random access memory chip connected to the second party hard drive and the second party control integrated circuit, and the first party control unit through the telecommunications lines for temporarily storing the desired digital video signals received from the first party's control unit for subsequent storage to the second party hard disk.

54. A system as described in claim 53 wherein the second party control unit includes a video display unit connected to the playback random access memory chip and to the second party integrated circuit for displaying the desired digital video signals.

55. A system as described in claim 47 wherein the means or mechanism for charging a fee includes means or a mechanism for charging a fee via telecommunications lines by the first party to the second party at a location remote from the second party location.

56. A system as described in claim 55 wherein the second party has an account and the means or mechanism for charging a fee includes means or a mechanism for charging the account of the second party.

57. A system as described in claim 56 wherein the means or mechanism for charging the account includes means or a mechanism for charging a credit card number of the second party.

58. A method for transmitting desired digital video signals stored in a first memory having a plurality of individual video selections as digital video signals of a first party at a first party location to a second party at a second party location so the second party can view the desired digital video signals comprising the steps of:

placing by the second party a receiver, and a video display connected to the receiver at the second party location determined by the second party which is remote from the first party location;

charging a fee by the first party to the second party at a location remote from the second party location so the second party can obtain access to the desired digital video signals;

connecting electronically via telecommunications lines the first memory with a receiver of the second party while the receiver is in possession and control of the second party;

choosing the desired digital video signals by the second party from the first memory of the first party so desired video selections are selected;

transmitting the desired digital video signals from the first memory with a transmitter in control and possession of the first party to the receiver of the second party while the receiver is in possession and control of the second party at the second party location determined by the second party; and

displaying the desired video signals received by the receiver on the video display in possession and control of the second party.

59. A method as described in claim 58 wherein the step of charging a fee includes the step of charging a fee via telecommunications lines by the first party to the second party so the second party can obtain access to the desired digital video signals stored on the first memory.

60. A method as described in claim 59 wherein the second party has an account and the step of charging a fee includes the step of charging the account of the second party.

61. A method as described in claim 60 wherein the step of charging the account of the second party includes the steps of telephoning the first party controlling use of the first memory by the second party; providing a credit card number of the second party controlling the second memory to the first party controlling the first memory so the second party is charged money.

62. A system for transferring digital audio signals from a first party to a second party at a second party location comprising:

a first party control unit having a first memory having a plurality of desired individual songs as desired digital audio signals, and means or a mechanism for the first party to charge a fee to the second party for access to the desired digital audio signals at a location remote from the second party location;

a second party control unit having a second party control panel, a receiver and speakers for playing the desired digital audio signals received by the receiver, said second party control panel connected to the speakers and the receiver, said receiver and speakers operatively controlled by the second party control panel, said second party control unit remote from the first party control unit, said second party control unit placed by the second party at a second party location determined by the second party which is remote from said first party control unit, said second party choosing the desired digital audio signals from the first memory with said second party control panel; and

telecommunications lines connected to the first party control unit and the second party control unit through which the desired digital audio signals are electronically transferred from the first memory to the receiver while the second party control unit is in possession and control of the second party after the desired digital audio signals are sold to the second party by the first party.

63. A method for transmitting desired digital audio signals stored in a first memory having a plurality of individual songs as digital audio signals of a first party at a first party location to a second party at a second party location so the second party can listen to the desired digital audio signals comprising the steps of:

placing by the second party a receiver, and speakers connected to the receiver at the second party location determined by the second party which is remote from the first party location;

charging a fee by the first party to the second party at a location remote from the second party location so the second party can obtain access to the desired digital audio signals;

connecting electronically via telecommunications lines the first memory with a receiver of the second party while the receiver is in possession and control of the second party;

choosing the desired digital audio signals by the second party from the first memory of the first party so desired songs are selected;

transmitting the desired digital audio signals from the first memory with a transmitter in control and possession of the first party to the receiver of the second party while the receiver is in possession and control of the second party at the second party location determined by the second party; and

playing the desired audio signals received by the receiver on the speakers in possession and control of the second party.

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(54) **SYSTEM AND METHOD FOR TRANSMITTING DESIRED DIGITAL VIDEO OR DIGITAL AUDIO SIGNALS**

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(56) **References Cited**

U.S. PATENT DOCUMENTS

3,244,809	A	4/1966	Fuller et al.
3,602,891	A	8/1971	Clark et al.
3,696,297	A	10/1972	Otero
3,718,906	A	2/1973	Lightner
3,824,597	A	7/1974	Berg

(Continued)

FOREIGN PATENT DOCUMENTS

GB	2 178 275 A	2/1987
JP	62-284496	6/1986
JP	62-284496	12/1987

OTHER PUBLICATIONS

"The History of Recordings", Recording Industry of Association, retrieved from http://www.riaa.com/issues/audio/hisotry.asp on Sep. 19, 2006.*

"History of CD Technology", citing as a source "The compact Disc Handbook, 2nd Edition," by Ken C. Pohlmann, retrieved from http://www.oneoffcd.com/info/hisotrycd.cfm on Sep. 19, 2006.*

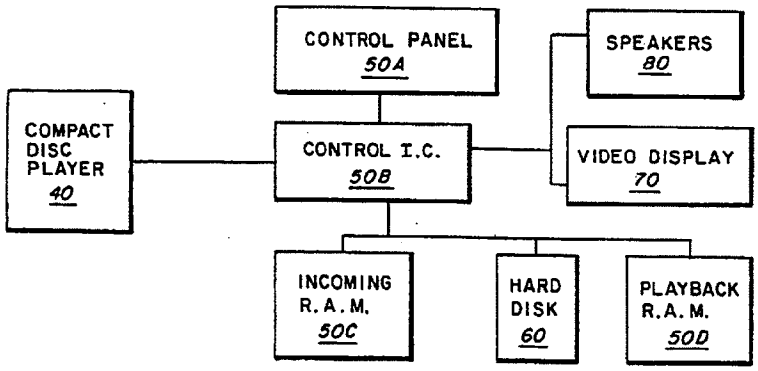
"History of MPEG", University of California, Berkeley, School of Information Management and Systems, retrieved from http://www2.sims.berkeley.edu/courses/is224/s99/GroupG/report1.html on Sep. 19, 2006.*

(Continued)

Primary Examiner—Roland G Foster

(57) **ABSTRACT**

A method for transferring desired digital video or audio signals. The method comprises the steps of forming a connection through telecommunications lines between a first memory of a first party and a second memory of a second party. The first memory has the desired digital video or audio signals. Then, there is the step of selling electronically by the first party to the second party through telecommunications lines, the desired digital video or audio signals in the first memory. Then, there is the step of transferring the desired digital video or audio signals from the first memory of the first party to the second memory of the second party through the telecommunications lines while the second memory is in possession and control of the second party. Additionally, there is a system for transferring digital video or audio signals.



U.S. PATENT DOCUMENTS

3,947,882	A		3/1976	Lightner	
3,990,710	A		11/1976	Hughes	
4,028,733	A		6/1977	Ulicki	
4,045,776	A		8/1977	Wheelwright et al.	
4,108,365	A		8/1978	Hughes	
4,124,773	A		11/1978	Elkins	
4,300,040	A		11/1981	Gould et al.	
4,335,809	A		6/1982	Wain	
4,359,223	A		11/1982	Baer et al.	
4,370,649	A		1/1983	Fuerle	
4,422,093	A		12/1983	Pargee	
4,472,747	A		9/1984	Schwartz	
4,499,568	A		2/1985	Gremillet	
4,506,387	A		3/1985	Walter	
4,520,404	A		5/1985	Von Kohorn	
4,521,806	A		6/1985	Abraham	
4,521,857	A		6/1985	Reynolds, III	
4,528,643	A		7/1985	Freeny, Jr.	
4,533,948	A		8/1985	McNamara et al.	
4,536,856	A		8/1985	Hirosishi	
4,538,176	A		8/1985	Nakajima et al.	
4,559,570	A		12/1985	Schwartz	
4,567,359	A		1/1986	Lockwood	
4,567,512	A		1/1986	Abraham	
4,586,430	A		5/1986	Freeny	
4,605,973	A		8/1986	Von Kohorn	
4,636,876	A		1/1987	Schwartz	
4,647,989	A		3/1987	Geddes	
4,648,037	A		3/1987	Valentino	
4,654,799	A		3/1987	Ogaki et al.	
4,658,093	A		4/1987	Hellman	
4,667,802	A		5/1987	Verduin et al.	
4,672,613	A		6/1987	Foxworthy et al.	
4,674,055	A		6/1987	Ogaki	
4,675,904	A		6/1987	Silverman	
4,682,248	A		7/1987	Schwartz	
4,688,105	A		8/1987	Bloch et al.	
4,703,465	A		10/1987	Parker	
4,725,977	A		2/1988	Izumi et al.	
4,739,510	A		4/1988	Jeffers et al.	
4,754,483	A		6/1988	Weaver	
4,755,872	A		7/1988	Bestler et al.	
4,755,889	A		7/1988	Schwartz	
4,758,908	A		7/1988	James	
4,759,060	A		7/1988	Hayashi et al.	
4,761,684	A		8/1988	Clark et al.	
4,763,317	A		8/1988	Lehman et al.	
4,766,581	A		8/1988	Korn et al.	
4,787,050	A		11/1988	Suzuki	
4,787,073	A	*	11/1988	Masaki	369/178.01
4,789,863	A		12/1988	Bush	
4,792,849	A		12/1988	McCalley et al.	
4,797,918	A		1/1989	Lee et al.	
4,829,372	A		5/1989	McCalley et al.	
4,870,515	A	*	9/1989	Stokes	360/72.2
4,894,789	A		1/1990	Yee	
4,918,588	A		4/1990	Barrett et al.	
4,949,187	A		8/1990	Cohen	
4,999,806	A		3/1991	Chernow et al.	
5,003,384	A		3/1991	Durdan et al.	
5,019,900	A		5/1991	Clark et al.	
5,041,921	A		8/1991	Scheffler	
5,089,885	A		2/1992	Clark	
5,099,422	A		3/1992	Foresman et al.	
5,130,792	A		7/1992	Tindell et al.	
5,132,992	A		7/1992	Yurt et al.	
5,191,193	A		3/1993	Le Roux	
5,191,410	A		3/1993	McCalley et al.	
5,191,573	A		3/1993	Hair	
5,241,428	A	*	8/1993	Goldwasser et al.	386/109
5,307,456	A		4/1994	MacKay	
5,428,606	A		6/1995	Moskowitz	
RE35,184	E		3/1996	Walker	
5,535,137	A	*	7/1996	Rossmere et al.	358/537
5,675,734	A		10/1997	Hair	
5,966,440	A		10/1999	Hair	

OTHER PUBLICATIONS

"IBM HDD Evolution" chart, by Ed Grochowski at Almaden, retrieved from http://www.soragereview.com/guidelmages/z_ibm_sorageevolution.gif on Sep. 19, 2006.*

D. Waters, "Prospects for Standardization in Cable Audio," *Technical Papers—NCTA Annual Convention,* 1984, pp. 82–84.

J. Taylor, "The Copy–Protection Wars," *PC Magazine,* vol. 5, No. 1, Jan. 14, 1986, pp. 165–167 (electronic version of original consisting of 14 pages being submitted).

P. Elmer–DeWitt, "Calling up an on–line cornucopia; computer networks are supermarkets of services and information," *Time,* Apr. 7, 1986 (two–page electronic version obtained at http://www.highbeam.com).

M. Kramer, "Network applications are adding encryption," *PC Week,* vol. 4, Mar. 3, 1987, p. C7(1) (electronic version of original consisting of 6 pages being submitted).

J. Zilber, B. Templin, and R. Ito, "It's a Mac, Mac, Mac World," *MacUser,* vol. 4, No. 4, Apr. 1988, pp. 135(7) (electronic version of original consisting of 10 pages being submitted).

M. Fischer, "Modems, Music, and Your Apple II," *A+ Magazine,* Jun. 1988, pp. 81–83.

Jordan, Larry E. and Churchill, Bruce, *Communications and Networking for the IBM PC,* Robert J. Brady Co., Bowie, MD (1983).

W. Rosch, "ComNet for the PC," *PC Magazine,* Aug. 1983, pp. 225–228.

E. Ferrarini, "Direct Connections for Software Selections," *Business Computer Systems,* Feb. 1984, pp. 35+ (4 pages total).

P. McDonnell, "AT&T Breaks the Speed Barrier," *Computers & Electronics,* Sep. 1984.

From the newS desk, D. Needle, Info World, May, 11, 1984.

Computer system organization: Problems of the 1980's, H. Apfelbaum, et al., Computer Sep. 1978, vol. II, No. 9.

System for capturing, storing and playing back large data bases at home, D.C. Gazis, S.S. Soo, IBM Technical Disclosure Bulletin, vol. 23, No. 2, p. 856, Jul. 1980.

Jimmy Bowen: Music Row's Prophet of change, L. Chappell, Advantage, vol. 9, No. 10, p. 38, Oct. 1986.

Rock Around the Database, L. Dotto, Information Technal., vol. 57, No. 9, pp. 128–135, Sep. 1984.

Home (computer) terminal musical program selection, P.L. Rosenfeld, IBM Technical Disclosure Bulletin, vol. 23, No. 78, p. 3440.

A Harmonious Musical Interface, S. Cunningham, NetworkWorld, Inc., Sep. 8, 1986.

Electronic Orchestra in your livingroom, S. Mace, InfoWorld, Mar. 25, 1985, p. 29.

Cable Scan, No Author, Oct. 1983.

A review of digital audio techniques, M. Willcocks, Journal of the Audio Engineering Society, vol. 26, No. 12, pp. 56, 58, 60, 62, 64, Jan.–Feb. 1978.

Digital Music Will Launch the Home Music Store, G. Gulick, Satellite News, Nov. 9, 1981, pp. 7.

Telecommunications in the coming decades, S.B. Weinstein, IEE Spectrum, Nov. 19??, p. 62.

Electronic Banking Goes to Market, T.S. Perry, IEE Spectrum, Feb. 19??., p. 46.
Gordon Bell calls for a U.S. Research Network, G. Gordon Bell, IEEE Spectrum p. 54.
As Patents Multiply, Web Sites Find Lawsuits Are a Click Away, S. Hansell, New York Times, Dec. 11, 1999, A1.
The Tony Basile Home Page, The PAN Network, The PAN Network, Dec. 12, 1999.
Tele computing—Direct Connections for Software Selections, E. Ferrarini, Business computer systems, Feb. 1984.
Young Arcadians Come Home, D.N., Info. World, vol. 5, No. 27.
Two way Cable System Using Residential CATV Facilities, Semir Sirazi, et al, ICCE 84, Jun. 7, 1984, LaSalle III—Digest of Technical Papers.
News, D. Caruso, InfoWorld, Apr. 16, 1984.
Pay Per View Entertainment System, PTO, US Patent and Trademark Office, Patent Bibliographic Database, Jan. 26, 2000.
Software Distribution System, PTO, US Patent and Trademark Office, patent Bibliographic Database, Jan. 26, 2000.
Dig–Music: An On Demand Digital Music Selection System utilizing CATV Facilities, Y. Want, G.M. Campbell, IEEE Transactions on Consumer Electronics, vol. CE 28, No. 3, Aug. 1982, p. xvii.
Transmission of Musical Info. in a teletext multiplexed broadcasting system, Y. Sugimori, et al., IEEE International Conference on Consumer Electronics, 1985—Digest of Technical Papers.
An Encrypted Digital Audio System for Conventional Cable System, K. Kitagawa, et al., IEEE International Conference on Consumer Electronics, 1985—Digest of Technical Papers.
Telephone computers—a look at the one per Desk Telecomputer, D. Pountain, Byte U.K., Jun. 1985.
Music Software for the Apple Macintosh, C. Yavelow, Computer Music Journal, vol. 9, No. 3, Fall 1985.
NAPLPS Videotex Frame Creation System with Automatic Encoding of Input Images, T. Fujimori, IEEE Transactions on Consumer Electronics, vol. CE–31, No. 3, Aug. 1985.
Picture Transmission for Videotex, K. Ngan, et al., IEEE Transactions on Consumer Electronics, vol. CE–31, No. 3, Aug. 1985.
A System for Transmitting Electronic Photographs, N. Kihara, et al., IEEE Transactions on Consumer electronics, vol. CE–28, No. 3, Aug. 1982.
A Low cost High Performance Picture Display for Photovideotex, G.P. Hudson, C.P. Arbuthnot, IEEE Transactions on Consumer Electronics, vol. CE–32, Aug. 1986.
The Coding of Graphics Animation in a Videotext Terminal, C. Pabousctsidis, 1986 IEEE International Conference on Consumer Electronics, Digest of technical Papers, Jun. 1986.
Videotext Programs Videorecorder (VPV), U. Bensch, 1984, IEEE International Conference on Consumer Electronics, Digest of technical Papers Jun. 1984.
Picture Transmission for Videotex, H. Weng Cheong, N. King Ngi, 1988, IEEE International Conference on Consumer Electronics, Digest of technical Papers Jun. 1988Digital Still Picture Recorder Utilizing an Ordinary Audio Cassette DeckS. Kageyama, et al.1985 IEEE International Conference on Consumer Electronics, Digest of technical Papers, Jun. 1985.
Digital Still Picture Recorder Utilizing an Ordinary Audio Cassette Deck, S. Kageyama, et al., 1985 IEEE International Conference on Consumer Electronics, Digest of Technical Papers, Jun. 1985.
A New digital Audio and Data Transmission System Using the CATV Network, Y. Kojima, et al., IEEE Trqansactions on Consumer Electronics, vol. CE–30, No. 3 Aug. 1984.
Video Image Transmission, K.L. Mong, 33, No. 1, Feb. 1987.
Third Party Profile: Control Video Corporation, no author, Control Video Corp. Web Site.
Dial–A–Game–GameLine module links WCS With Game Bank, D. Burns, Digital Antic, vol. 2, No. 4, Jul. 1983, p. 82.
Remembering the Gameline, D. Skelton, http;//ccwf.ccutex-as.edu.
Digitalized Voice Comes of Age Part 1—Trade Offs, B. Occhiogrosso, Data Communications, Mar. 1978.
A New Digital Audio and Data Transmission System Using the CATV Network, Y. Kojima, et al., IEEE Transactions on Consumer Electronics, vol. CE–30, No. 3, Aug. 1984.
A Packet Video/Audio System Using the Asynchronous Transfer Mode Technique, H.J. Chao, et al, IEEE Transactions on Consumer Electronics, vol. 35, No. 2, May 1989.
Digital Audio Data Transmission in a Coaxial Cable Environment, R. Scheuerer, et al, IEEE Transactions on Consumer Electronics, vol. 35, No. 2, May 1989? (Illegible).
Transmission of Musical info, in a Teletext Multiplexed Broadcasting system, Y. Sugimori, et al, IEEE Transactions on Consumer Electronics, vol. CE–29, No. 3, Aug. 1983.
4004 Futures for Teletext and Videotex in the US, R.P. Plummer, et al, IEEE Transactions on Consumer Electronics, vol. CE–25, No. 3, Jul. 1979.
Teletext/Viewdata LSI, B. Harden, et al., IEEE Transactions on Consumer Electronics, vol. CE–25, No. 3, Jul. 1979.
Prestel—the World's First Public View data Service, R.D. Bright, et al., IEEE Transactions on Consumer Electronics, vol. CE–25, No. 3, July.
Teletext and Viewdata (costs as Applied to the US Market, G.O. Crowther, IEEE Transactions on Consumer Electronics, vol. CE–25, No. 3, Jul. 1979.
Telidon—A Review, H. Brown, W. Sawchuk, IEEE Communications Magazine, Jan. 1981.
Videotex Services: Network and Terminal Alternatives, J.M. Costa, A.M. Chitnis, IEEE Transactions on Consumer Electronics, vol. CE–25, No. 3, Jul. 1979.
System and Hardware Considerations of Home Terminals With Telephone Computer Access, J. Blank, IEEE Transactions on Consumer Electronics, vol. CE–25, No. 3, Jul. 1979.
Profile—Career Update, Key board News, Apr. 1985.
Telecommunications—Let Your Telephone Do the Sampling, B. Tolinski, KSC, Apr. 1986.
PAN: Meeting Place for the Industry, P. Leopold, Electronic Musician, Sep. 1986.
A Harmonious Musical Interface—Instrument Connectivity is Music to Composer's ears., S. Cunningham, Networld, Sep. 8, 1986 (vol. 3, No. 27).
Teaching Computers to Emulate Bach, J.S. Newton, The New York Times, Sunday, Mar. 1, 1987.
Getting Into PAN, S. Lloyd, Sonics (nothing else appears).
MIDI By Modem: The Future in Now, P. Leopold, Conference Paper—Music and Digital Technology.

The Information Source of the Future is Online now: Electronic Bulletin Boards, G. Armbruster, Keyboard Magazine, Dec. 1985.
MIDI—Musical Instrument Digital Interface, J. Aikin, Keyboard Magazine, Jan. 1986.
MIND Over MIDI—Diary of a Mad MIDI Specialist, J. Cooper, Keyboard Magazine, Jun. 1986.
Cover of the Keyboard Magazine and Advertisement and from Hybrid Acts, Inc., Keyboard Magazine, Jul. 1986.
What is Musical Property?—The Ethics of Sampling, S. Alvaro, Keyboard Magazine, Oct. 1986.
Collection of MIDI Stereo Advertisements, Electronic Musician, vol. 5, No. 2, Feb. 1989.
In the Public Eye: Free Atari Software, J. Johnson, Electronic Musician, vol. 5, No. 10, Oct. 1989.
Going Online—A Guide to elec. Bulletin board System, M. Rivers, Electronic Musician, vol. 6, No. 11, Nov. 1990.
*Page of EM Classifields, Electronic Musician, Nov. 1989.
Advertisements, Electronic Musician, Aug. 1989.
EM Classifieds, Electronic Musician, Jul. 1989.
Advertisements, Electronic Musician, Jul. 1989.
Start Me. Up?—the Music Biz Meets the personal computer, B. Krepack, R. Firestone, Published by Medioc Press, Copyright 1986.
A Harmonious Musical Interface, S. Cunningham, 1986 Network world, Sep. 8, 1986.
Synth—Bank, USPTO, USPTO—Trademark Text and Database.
Managing the Intellectual Property Lifecycle, B. Bell, A. Brown, Jr., A excerpt from an article available at Synthbank.com 1998, Synthbank. Inc.
*List of E–Bulletin Boards with an attached EM page of ads, ON–line Resources/Electronic Bulletin Boards.
An Upbeat Way to Order; worth watching, G. Charlish, 1988 The Financial Times (Lexis–Nexis).
Musicnet, USPTO, USPTO—Trademark.
PC Forum Attendees Call for Cooperation with Government, S. Higgins, Westlaw, Monday, Mar. 1, 1993.
Data Highways . . . Can we get there from here?, J. Burgess, The Washington Post, May 2, 1993 (Lexis–Nexis).
MNI Interactive to Revolutionize the Way Consumers Select and Purchase Entertainment Products, PR Newswire Association, Jan. 17, 1994.
The Interactive Age—Can The Exalted Vision Become a Reality?, M. W. Miller, The Wall Street Journal, Thursday, Oct. 14, 1993.
Music Net Let's Consumer's Fingers do the Walking, J. McCullaugh, Billboard, Saturday, Oct. 16, 1993 (Westlaw).
"Rolling Stone" Takes Music to The Phone, S. Donaton, A. Z. Cuneo, Advertising Age, Jul. 11, 1994 (Lexis–Nexis).
Most Silicon Valley Ventures Beat the Odds, S. Herhold, Knight—Ridder Tribune Business News, Feb. 14, 1999.
*Entire September Issue, Electronic Musician, Sep. 1986.
Digit Download—Guidelines for the Architecture of Audio Technical Facilities at an Online Music Retail Site, Preliminary White Paper Version 1.0 Mar. 2, 1999 (CDN 03994–004038).
US Patent No. 4, 999,806, Software distribution system, USPTO.
US Patent No. 4,359,223, Interactive video playback system, USPTO.
USPTO Certificate of Correction—Patent No. 4,528,643, System for Reproducing information in material objects at a point at sale location, USPTO.
The Telharmonium: An Early Breakthrough in Electronic Music, T. Holmes, Gyrofrog Communications Electronic and Experimental Music 1996.
Free Music Downloads, CDNow, CDNow Web Site (CDN 000078–85).
Gameline—the Incredible New Way to Play Video Games, Gameline brochure.
Downloading and Teledelivery of Computer Software, Music and Video, International Resource Development, Inc. (DN 021217–021432).
Downloading and Teledelivery of Computer Software, Music and Video, International Resource Development, Inc. Jul. 1983 (CDN 021433–021664).
The Development of a Commercial Tele software Service, A. Sweet, Tele software Cavendish Conference Center Sep. 27–28, 1984. Publication No. 60 [61] Institution of Electronic and Radio Engineers.
Tele software—The Computer in Your TV set, J. Hedger, New Electronics, vol. 13, No. 245, Dec. 9, 1980.
Tele Software: Adding Intelligence to Teletext, R. Eason, J. Hedger, Proceedings IEEE, vol. 126, No. 12, Dec. 1979.
Receving Tele Software With CCT, J.R. Kinghorn, Tele software Cavendish Conference Center Sep. 27–28, 1984. Publication 60 [61] Institution of Electronic and Radio Engineers.
Games Tele Software on Cable, T.J Havelock, Tele software Cavendish Conference Center Sep. 27–28, 1984. Publication No. 60 [61] Institution of Electronic and Radio Engineers.
Broadcast Tele Software Experience With Oracle, J. Hedges, View data and Videotext, 1980–1981: A Worldwide Report.
The UK Teletext Standard for Tele Software Transmissions, D.J. Rayer, View data and Videotext, 1980–1981: A Worldwide Report.
Music from the skies promised by firm serving cable users, S. Chase, The Washington Post, Oct. 19, 1981.
Abstract—L. Landro, The Wall Street Journal, Oct. 14, 1981.
Abstract—No author listed, UPI—Oct. 13, 1981.
Hi–Tech *do–Dads* for the man of the house, No author listed, Trends.
New Products Programmed for Consumers, No author listed, Computer Report.
Electronics show had variety of new home equipment, No author listed, Hi–Fi News and Record Reviews, 1985.
New Telerecording Method for Audio, No author listed, BM/E, Oct. 1985.
Cable TV Moves To The Music, A.L. Yarrow, NY Times, Jul. 4, 1982.
What is Stalling the Record Business?, No author listed, Business Week, Nov. 30, 1981.
Labels Gear Up For Home Music Store, No author listed, Billboard Magazine, Apr. 6, 1991.
The Record Shop of the Future May Be In Your Parlour, Hans Fantel, NY Times, Nov. 22, 1981.
The Latest Technology, R. Harrington, Washington Post, Jun. 28, 1981.
Thaddeus Cahill and the Telharmonium (electric instrument), No author listed, http://nicemusic4.music.niu.edu.
Thaddeus Cahill's Dynamophone\Telharmonium (1897), No author listed, http://www.obsolete.com.
Book Review: Magic Music From The Telharmonium, P. Hertz, http://www.obsolete.com.
Telharmonium, No author listed, http://www.britannica.com.

Keyboard and Tactile Interfaces, No author listed, In The Third Person, Oct. 1999.
No Time To Shop For Software, J. Paioff, Infoworld, Aug. 20, 1984.
Warner Amex QUBE Cable Communications, No author listed, http://www.electricblue.com.
A Blast From The Past, P. Conger, http://www.cableworld.com, Mar. 28, 1998.
Where Is Everyone Now, No author listed, http://www.electricblue.com.
Juke Box History 1934 thru 1951, Gert Almind, http://ww-wl.jukebox.dk.
The Shyvers Multiphone, No author listed, http://wwwdyz.com.
Dead Medium: Telephonic Jukeboxes: The Shyvers Multiphone . . . , B. Sterling, http://www.wps.com.
Downloading and Teledelivery of computer software, games, music, and video, Int'l Resource Dev. Inc., US Copyright Applications, Registration 1–243–407.
Compusonics Digitizes Phone Lines, No author listed, Digital Audio, Sep. 1985.
AT&T Demo, No author listed, Pro Sound News, Sep. 9, 1985.
Videogames and Electronic Toys, Int'l Resources Dev. Inc., May 1983.
Compusonics Eyes Options; Will Flagship Computer Make Direct CD Copies?, M. Harrington, Information Access Co., Mar. 30, 1987.
Direct Broadcast's Potential For Delivering Data Service, E. Holmes, Data Communications, Sep. 1984.
Sonus Music Products, C. Roads, Computer Music Journal, Spring 1987.
Advertisement: Gameline package, http://www.geocities.com.
Computer Music Networks, C. Roads, Computer Music Journal, Fall 1986.
Announcements, C. Roads, Computer Music Journal, Summer 1986.
CVC Gameline Master Module, No author listed, http://ccwf.cc.utexas.edu.
Oregon Corporate Records, Re: Synth–Bank, Oregon Secretary of State.
Lexis Search Manual (Entire Manual).
Affidavit of Edgar Magnin and Exhibits, US Dist Ct for the Southern Dist. Of New York.
Transcript: Max Conference, Feb. 27, 1993.
Exhibits To Compuserve's Brief On Claim Interpretation, Jones, Day, Reavis & Pogue, Filed in US Dist. Ct. For The Southern Dist. Of New York.
AES Presentations, AES Preprint.
Brochure; Overview articles, etc on PAN, PAN Network.
Brochure: NERAC.
CompuSonics DSP–1000 World's First DARPS, CompuSonics Advertisement.
We Mean Business, C.S. Kaplan, Con. Elec. Daily, May 10, 1984.
Letter to Shareholders, D. Schwartz, CompuSound, Inc., Jan. 6, 1984.
Letter to Shareholders, D. Schwartz, CompuSound, Inc., Apr. 6, 1984.
Letter to Shareholders, D. Schwartz, CompuSound, Inc., Jul. 16, 1984.
Letter to Shareholders, D. Schwartz, CompuSound, Inc., May 31, 1985.
Manufacturing Update, Audio Video Inter. Jun. 1984.
CompuSonics Fuses Computer, Audio Into "Worlds First" HDR, M. Golden, CES Trade News Daily, Jun. 4, 1984.
Digital Sound Now on Computer Disks, S. Booth, Consumer Elec. Daily, Jun. 3, 1984.
CompuSonics Readies Floppy disc to record . . . , HFS Newspaper, Jun. 4, 1984.
Floppy disc may be the next music Makers, Business Week, May 28, 1984.
CompuSonics: Another Digital Audio Std, N. Weinstock, Mix, Aug. 1984.
The State of RCA, TV Digest, May 21, 1984.
CompuSonics DSP–1000 . . . , CES Exhibition—D&E, 1984.
Optical—Disk based Digital Audio System, B. Robinson, Electronic Engineering Times, Sep. 1, 1986.
Brochure—CompuSonics DSP–1000, CompuSonics Corp.
Business Plan Overview, CompuSonics, Corp., Jun. 14, 1984.
Compusonics Corp. Corporate Profile, Audio Video International.
Toward Electronic Delivery of Music, J.P. Stautner, CompuSonics Corp.
Company sees Future in Digital, J. Hendon, Rocky MountainNews, Jul. 22, 1984.
Floppy–Disck Audio System, A. Mereson, Science Digest, Nov. 1984.
Recording Music on Flopyy Discs, A. Zuckerman, High Technology, May 1984.
Digital Recording System Uses floppy—discs, Audio Times, May 1984.
Brochure, Compusonics Corp.
Hi–Fi Floppy, Cades, P.C. World, Apr. 1985.
New Hi–Fi Horizons, D. Canada, Stereo Review, Dec. 1984.
Specs. And Implem.of computer Audio console for Digital Mixing and Recording, D. Schwartz, AES 76th Convention, NYC, Jun. 20, 1984.
A High Speed Telecommunications Interface for Digital Audio Transmission and Reception, H. H. Sohn, Compusonics Corp.
The Audio Computer and its applications, Schwartz & Stautner, Compusonics Corp.
Engineering Your Own Digital Audio Broadcast System, D. Schwartz, Compusonics Corp.
Memo: To Mr. Kapp; from D. Schwartz, D. Schwartz, CompuSonics Corp., Apr. 26, 1990.
CompuSonics DSP 2002—Preliminary User Manual, CES, Jun. 1984.
Digital Mark. Corp. Video Real Estate System, JPS, CompuSonics Corporation.
Memo: to Holmbraker et al., D. Schwartz, CompuSonics Corporation.
Assembly Procedure for DS 1500, CompuSonics Corporation.
Application Notes: CSX Digital Signaling Processing, CompuSonics Corporation.
DMS Lecture, Compusonics Corporation, 1991.
Application Notes: DSP 1000 Digital Audio Disc Recorder, Compusonics Corporation.
Automated Merchandising System for Computer Software, Patent #4,949,257, Orbach, USPTO.
Letter to E. Kraeutler, Esq. Re: CDNews/Liquid Audio, I. Gross, Wilson, Sonsini, Goodrich and Rosati—Apr. 14, 2000.

Patent License Agreement, Schoen & Hooban, Ergon Technology Associates Corp.
The Home Terminal, IRD, Inc., Aug. 1978.
Rolm Plugs CBX Into, EMMS—May 2, 1983.
Employee Non–Competition Agreement, CDNow, Inc.
Letter to D. Berl, Esq., K.J. Choi, Lucent Technologies.
Video Explosion on the way for buyers, M. Galligan, US News and World Report, Jun. 18, 1984.
Hi–Fi in the '80 's : Not only Alive and well . . . , L. Feldman, Information Access Co., Jul. 1984.
The Search for the Digital Recorder, B. Dumaine, Time, Inc., Nov. 12, 1984.
Ultimate Integration: Putting Software theory into . . . , J. Balga, Information Access Co., Feb. 12, 1985.
Technology Review, R. Welch, The American Banker, Dec. 12, 1986.
Remembering the Gameline, D. Skelton, www.mindspring.com.
Gameline Module links with game bank, D. Burns, www.atarimagazines.com.
Allison 7 Video, Allison, EE 380 Feb. 18, 1987.
Telesoftware—Value Added Teletext, J. Hedger, IEEE Transactions on Consumer Electronics; Feb. 1980, vol. CE–26.
Telesoftware: Home Computing Via Broadcast Teletext, J. Hedger, IEEE Transactions on Consumer Electronics; Jul. 1999, vol. CE–25, No. 3.
The Future of Television as The Home Communications Terminal, International Resource Development Inc., Aug. 1981 (CDN 23101–23109).
Videogames & Electronic Toys, note, International Resource Development., Inc May 1983 (CDN 023054).
Telepay vs. Videodisc, International Resource Development Inc., Sep. 1982 (CDN 023068).
Health, Wealth & Self–Improvement Home Software, International Resource Development Inc., Sep. 1985 (CDN 023091).
Telecommunications Market Opportunities, International Resource Development Inc., Nov. 1985 (CDN 023110–023138).
VideoPrint (Contents), Jun. 22, 1983 (CDN 023139–23142).
CompSonics/Carts, Sep. 9, 1985 (CDN 023143).
Current Samples (Compusonics Digitizes Phone Lines), Sep. 1985 (CDN 023144).
(BME) Station Automation (New Telerecording Method for Audio, Oct. 1985 (CDN 023145–23146).
High–Tech do–Dads for the man of the house (Sound Investments), (CDN 023147–23150).
New Software (Delivery over the phone), Telephone Software Connection Inc. Oct. 1982 (CDN023151).
Communications (No time to shop for software), Jessica Paioff, Aug. 20, 1984 (CDN023152).
Warner Amex QUBE Cable Communications, Peggy Conger, (CDN 023153–023157).
Warner Amex QUBE Cable Communications (Articles), (CDN 023158).
QUBE–ists (Where is everyone now?), (CDN 023159–23160).
The Shyvers Multiphone, (CDN023161–23162).
Dead medium:Telephonic Jukeboxes: The Shyvers Multiphone (Multiphone), (CDN 023163–23166).
Jukebox History 1934–1951, (CDN 023167–23173).
New Music Box (Keyboard and Tactile Interfaces), Oct. 1999 (CDN 023174–23180).
Britannica.com (telharmonium), (CDN 023181).
Book Review (Magic Music from the Telharmonium), Paul Hertz, The Scarecrow Press, Inc.,(CDN 023182).
Thaddeus Cahill (Dynamophone/Telharmonium) 1897, (CDN 023183–23186).
Thaddeus Cahill and the Telharmonium (eletric instrument), (CDN 023187–23189).
Style (The Latest Technology), Richard Harrington, Jun. 28, 1981 (CDN 023190–23191).
Financial, Oct. 13, 1981 (Tuesday) (CDN 023192).
Labels Gear Up For "Home Music Store", Earl Paige, Ken Terry, Bill Holland, Apr. 6, 1991 (CDN 023193–23194).
Abstract (Home Music Store), Laura Landro, Oct. 14, 1981 (Wednesday) (CDN 023195).
Washington Business (Music From the Skies Promised By Firm Serving Cable Users), Scott Chase, Oct. 19, 1981 (Monday) (CDN 023196).
Arts and Leisure Desk (Sounds:The Record Shop Of The Future May In Your Parlor), Hans Fantel, Nov. 22, 1981 (Sunday) (CDN 023197–23199).
Media & Advertising (What is stalling the record business), Nov. 30, 1981. (Industrial Edition) (CDN 023200–23202).
Financial Desk (Cable TV Moves to the Music, Andrew L. Yarrow, Jul. 4, 1982 (L.City Final Edition) (CDN 023203–23204.
TSC Write–Ups, (CDN 023552).
Telphone Software Connection, Inc. (The Hayes Micromodem II), (CDN 023553–23554.
TSC Bibliography (Call–Apple), (CDN 023556–23567).
Computers (Telephone Software Connection), (CDN 023559).
Article References (Now Your Home), Popular Mechanics, Mar. 1981. (CDN 023555–23568).
Buyers Guide (Branch Centers), (CDN 023569–23570).
News Link (Software delivery now at 2400 baud), Dec. 1985. (CDN 023571).
Telephone Software Connection, (CDN 023572–23573).
Software (Online Tip), (CDN 023574).
Telecommunicating (PC–Talk.III), (CDN 023575).
Poll(Adults believe children know more about computers), Lawrence Kilman, Oct. 16, 1985. (CDN 023576).
Electronic Mall (Telephone Software Connection), (CDN 023577).
Data Communications (Protecting Your Network Data), Elisabeth Horwitt, (CDN 023578).
To Catch A Thief (Microcomputer), Jul. 1985.(CDN 023579–23583).
Caller Response (Services) (Shopping for software at home, by phone), (CDN 023584).
On Line Consulting (Planning, Programming & Training), (CDN 023585).
Entry (Entry goes on line!), (CDN 023586).
Unique (2000 New Articles Screened Each Day), (CDN 023587).
Entry (Entry Magazine), (CDN 023588).
Satin and lace, and a message base (A board is a board), Dru Simon, (CDN 023589).
Reflections (on the videotex industry), Carole Houze Gerber, (CDN 023590).
Software Online (Help for Disabled Computer Users), (CDN 023591).
Telescan Analyzer & Telescan Database, Dec. 1984. (CDN 023592).

Reader Service (Phone secretary II), Dec. 1984. (CDN 023593–23595).
Communications Software (Software Communications Inc.), Nov. 1984 (CDN 023596–023601).
Communications (No time to shop for software?), Jessica Paioff, Aug. 20, 1984 (023602).
Link (Telephone Software), May 1984. (CDN 023603–23621).
Sample of Available Graphics Programs (Manufacturer), Oct. 1984 (CDN 023607).
RAM Required, Oct. 1984 (CDN 023608).
Telecommunicating, Art Kleiner, Spring 1984 (CDN 023610–23611).
Whole Earth Recommended Telecommunication Tools (Terminal Programs), Feb. 1984 (CDN 023612–23613).
Mite (Finding Mite), Spring 1984 (CDN 023614–23618).
Electronic Mail Programs (MCI Mail), Spring 1984 (CDN 023619).
Computer Conferencing Systems (CompuServe Special Interest Groups (SIGs), Spring 1984 (CDN 023620).
Uncorrected Page Proof (How RO Get Free Software), Alfred Glossbrenner, (CDN 023622).
The Treasure Trove (Comments;Diversi–DOS), DSR,INC (CDN 023623–23630).
In Search of the Consummate Time Manager (Effective Management), Margaret P. Ezell, (CDN 023631–23632).
Display (meet, report,sell, plan), (CDN 023633).
Turning Point (Time is Money), (CDN 023634).
Lection, May 1984 (CDN 023635–23636).
Getting on Communi (Proveders and Consumers), Ed Magnin, Telephone Software Connection, Inc. Mar. 1984 (CDN 023637–23638).
Telecommunications (A Software Vending Machine), Ed Magnin, Telephone Software Connection, Inc. Mar. 1984 (CDN 023639).
Teleconnunications (Auto Modem), Michael J.O'Neil, Mar. 1984 (CDN023640).
Micro Software Distribution (Now,Software Is Distributed By Wire, Ronald R. Cooke, Nov. 1983 (CDN 023642).
References :Offices and Numbers. 1984 (CDN 023643–23660).
Softalk (SubLogic), Dec. 1983 (CDN 123661–23676).
The TRS Connection, Nov. 1983 9CDN 023677–023679).
Display (The Access Unlimited Micro Shopping Center), Nov. 1983 (CDN 023680).
Telecommunications (Telecommunications Adviser). Ed Magnin, Telephone Software Connection Inc. Nov. 1983 (CDN 023681–23682).
Communications (Special Delivery Software), Lisa B. Stahr, Oct. 1983 (CDN 023683–23686).
Plumb (Employment Want Ads Go Online), Jun. 1983 (CDN 23688–23695).
Apple's New Image, (CDN 023696).
Tech (Lisa And Software Writers—No Love At First Byte?), Jessica Schwartz, (CDN 023697–23698).
Display (Datamost), (CDN 023699).
Cider (What's New This Month), Jun. 1983 (CDN 023700–23701).
Display (2nd Generation Spreadsheet), (CDN 023702).
Telecommunications (Telecommunications Adviser). Ed Magnin, Telephone Software Connection Inc. Jun. 1983 (CDN 023703–23704).
Cider Book Shelf, Jun. 1983 (CDN 023705–23706).
Telecommunications (Telecommunications Advisert) "Acoustic", Ed Magnin, Telephone Software Connection Inc. Jun. 1983 (CDN 023707–23709).
Downloader's Supermarket, Jun. 1983 (CDN 023710).
Letters (Krell Responds to review of Logo), (CDN 023711).
Display (Apple Orchard) Peelings II responds. Nov. 2, 1983 (CDN 023712–23713).
Display (Nibble is Terrific), (CDN 023714).
Technology (Electronic Software Delivery Threatens Mail And Store Sales), William M. Bulkeley, Apr. 11, 1983 (CDN 023716–23717) The Wall Street Journal.
ET Phones Office (Electronic Transfer), Apr. 1983 (CDN 023718–23721) The Digest.
Western Union's Easylink Gets Direct Telex–To–PC Connection, Mar. 21, 1983 (CDN 023722)Information System News.
The Book Of Software, 1983 (CDN 02723–23725).
Softalk Classified Advertising (The Predictor), Apr. 1983 (CDN023726–23729 Softalk.
Programs boogie with–o–tech (Sales styles and marking strategies: A hard look at software), Joanne Cleaver, (CDN123730–23731) Home Computer.
Marketing Moves (Information services move modems), Deborah de Peyster, Mar. 7, 1983 (CDN 023733) ISO World.
Computer–Based Business Files (Availiable file transfer software), Mar./Apr. 1983 (CDN 123734–23735)
Chapter II Using Your Thunderclock Plus (Applications Software Packages Supporting the Thunderlock Plus), (CDN 023736).
Thunderclock Plus (User's Guide), (CDN 123737).
Pinball wizardry's gone electronic (the home computer), Duane Sandul, (CDN 023738).
Programmed to trim that waistline (the home computer), Duane Sandul, Feb. 5, 1983 (CDN 023739).
High adventure (the home computer), Duane Sandul, (CDN 023740).
Variation on a Theme, Dec. 1982 (CDN 023742).
Programmers Library, Paul Leighton, Dec. 1982 (CDN 023743–23744).
The Arcade Machine (Introduction), Chris Jochumson, Doug Carlston, (CDN 023745).
Telephone Transfer II (Introduction), Leifhton Paul, Ed Magnin, Nov. 1982 (CDN 023746).
Printographer (Introduction), Stephen Billard, (CDN023747).
Connecting Your Computer to a Modem: Where to Start, Bill Chalgren, (CDN 023748–23756).
L.I.S.A. (Laser Systems Interactive Sybolic Assembler) V. 1.5, (CDN 023757–23758).
Recent Computer Science Books, (CDN 023759–23763).
Modifying Your Monitor Program, Leighton Paul, (CDN023764–23765).
Modems: Hooking your Computer to the World, Stan Miastkowski, George Stewart, Dec. 1982 (CDN 023766–23772).
Business (Telephone Software Connection), Dec. 1982 (CDN 023774–23787).
Displays (Coosol Computer Products), Dec. 1982 (CDN 023788).
Displays: Apple (Amper–Magic), Dec. 1982 (CDN 023789).
Tomorrow's Apples Today (Telephone Transfer II), Nov. 1982 (CDN 023790–23792).
Display: (Music Maker etc.), (CDN 023793).

A Guide to Communication Software Packages (Cutting line cost), Oct. 1982 CDN 023794–23807).
Data Communication Professionals:(Engineering Department Manager–Software, Oct. 1982 (CDN 023808).
Modems and the Micromodem II, Athol H. Cohen, (CDN 023809–23818.
Software (Arcade Math), Sep./Oct. 1982 (CDN 023819–23821).
Marketing (Makers Transform the Ways Computer Programs Are Sold), Susan Chace, Aug. 26, 1982, (CDN 023822).
Letter Perfect Data Perfect Edit 6502 (Letter Perfect), (CDN023823–23826).
Patching Dos the Easy Way, Leighton Paul, (CDN 023827).
Display: Together,Locksmith, the Inspector and Watson, (CDN 023828).
Electronic Mail System Enhances Delphi Method, Bernard S. Husbands, 1982 (CDN 023829–23832).
New Products (Save Civilization in Your Spare Time), May 1982 (CDN 023833–23843).
Just a Call Away (Dial Up Software Service), (CDN 023844).
Display: Radio & Records, (CDN 023845).
Display: She's No Stranger Now, (CDN 023846).
Radio & Records: Letter to Ed Magnin, Pam Bellamy, Apr. 22, 1982 (CDN 023847).
How to buy a personal computer (Here We Go Again), (CDN 023849–23850).
What's New? (Overlay Compller, Mar. 1982 (CDN 023851–23852).
Display: Pure Power, Feb. 1982 (CDN 023854).
New Products: Not Just Another Chess Game (Champion chess), Feb. 1982 (CDN 023855).
New Electronic Mail Service On–Line, (CDN 023856).
Display: Arithmetic Teacher (Problems for Solving Fractions), (CDN 023857).
A Guide to Personal Computers (Personal–Computer Hardware), Steve Ditlea, Dec. 14, 1981 CDN 02386223870) New York.
A Line On Friendly Utilities, Theron Fuller, (CDN 023871–23874).
Conferences Goes On–Line (Ethernet Online), (CDN 023875–23881).
Terminal Data, Jeffrey Mazur, Sep. 1981 (CDN 023882–23885).
Dataloop: Smartmodem announced at NCC '81, Jul. 2, 1981 (CDN 023886–23893).
Research: George Bond, Jul. 7, 1981 (CDN 023894–23896).
Market Charter, Jun. 1981 (CDN 023897–23901).
Telephone Software Connection (Phone Log), Feb. 1981 (CDN 023902).
Display: Faster Than a Speeding Typist, (CDN 023903).
Marketalk News (Multi–Media Video), Jan. 1981 (CDN 023904–23905).
Dial–Yo Directory (Talking Terminals, Frank J. Derfler. Jr., Jan. 1981 (CDN 023906–23907).
Apple Cart (Books), Chuck Carpenter, (CDN 023908–23910).
Display: Space War and Invasion, (CDN 023911).
Marketalk News (Hardhat Software), Nov. 1980 (CDN 023912–23913).
Adim.:Hello CBS News (Letter to Ed), (CDN 023915–23916).
Display: Advanced Electronics, (CDN 023918).
Novation Premieres New Exhibit at Two Los Angeles Shows, (CDN 023919–23923).
Microprocessor Newsletter : Microprocessor Training Center, Jun. 5, 1980 (CDN 023924–23932).
The Telephone Software Experience a Review (of Sorts), Val J. Golding, May 1980 (CDN 023933–23935).
Bibliography (hand notes), (CDN 023917–23732).
Display ;Our Records of Growth, May 1979 (CDN 023937).
Display: Purchase and Receive Software, (CDN 023953).
Letter from License Department to Edgar&Marilyn Magnin, Jul. 19, 1979 (CDN 023938).
Business License (Business License Application), Edgar & Marilyn Magnin, (CDN 023939–23940).
Letter from J. Walker Owens Re: New Business Operator (Welcome), J. Walker Owens, Aug. 9, 1979 (CDN 023941–23944).
Software for the Apple II (Dynamaze,Ultra Blockade) Games), (CDN 023945–23946).
Display : Telephone Software Connection (Many Thanks for Your Recent Order), (CDN 023947).
Price Log (Answering Machines, Write–Edit& Send), (CDN 023951–23952).
Display : Advertisement (Desk Calculator II), Jul. 1980 (CDN 023950).
Instructions: Computer with header, (CDN 023954).
Microsoft Consumer Products Continuing the Microsoft Tradition (Announcing Microsoft Consumer Products), (CDN 023955).
The Apple Orchard (Computerworld Printer Init Routine), Mar./Apr. 1980 (CDN 023956).
Volume Table of Contents ($11,0), Jul./Aug. 1980 (CDN 023957–23959).
Sup'R'Terminal (Specifications), (CDN 023960).
Call–Apple (functions, remin.), Mar./Apr. 1980 (CDN 023961).
Call–Apple (Stock Market Data Retrieval One the Source), Hersch Pilloff, Mar./Apr. 1980 (CDN 023962).
CBS News Crew From Walter Cronkite, David Dow, Sep. 9, 1980 (CDN 023963–23965).
Telephone Software Connection (Phone Log), (CDN 023966–23969).
Advertising for quicker shopping over computer (Go–Moku), (CDN 023970–23971).
Advertising for Pet and Apple II Users (Pascal), Nov./Dec. 1980 (CDN 023973).
Letter from Telephone software Connection (Regarding the Electronic Communication Service), March (CDN 023977).
Letter (Offering Introduction), (CDN 023979–23983).
Letter from Ed Magnin Ref: TSC/Telemail User), Ed Magnin, Feb. 8, 1982 (CDN 023984).
Now Your Home Computer Can Call Other Computers One the Telephone, Neil Shapiro, Mar. 1981 (CDN 023985–23987).
Advertising (Shape Builder, Terminal Programs, Double Dos, Math Tutor), Mar. 1981 (CDN 023988–23990).
Softalk (Micromate's Micronet–It Plugs in the Game Port), May (CDN 023991).
Voided Blank Check #1513, May (CDN 023998).
Corvus Controlling 3 Apples (We Have New Phone Numbers), May 18, 1981 (CDN 023999).
Predicting the Future With Electronic Mail (The Telenet Way), Bernard S. Husbands, Oct. 1981 (CDN 024000–24001).

Program Shopping by Phone : Software Co. Downloads Programs, Michael Swaine, Oct. 19, 1981 (CDN 024002).
Telephone Software Connection, Inc. (The Hayes Micromodem II : Iv'e Never Brought a Better Slave, Jul. 1981 (CDN 024003).
Advertising (Shape Builder), CDN 024006–24008).
Advertising (Telephone Transfer II), (CDN 024009).
Display: The FP Report, (CDN 024018) Telephone Software Connection. Inc.
Display: Order Via Modem, (CDN 024019).
Price Log, Jun. 2, 1982 (CDN 02492023422).
Price Log Cont.), Oct. 21, 1982 (CDN 024023).
Display: Telephone Software Connection (Address Postage), (CDN 024024–24025).
Telephone Software Connection (Letter to Apple Dealer), Ed Magnin, (CDN 024026).
Display (Mr. Smartypants), (CDN 024028–24030).
Display (Disk–Cryption), (CDN 024031–24032).
Display (Video Librarian, (CDN 024033–24035).
Display (World Currency Trader), (CDN 024036–24037).
Display (Working Model of Telephone Software), (CDN 024038).
Telephone Software Connection (Letter to AppleCat Owner), Ed Magnin, (CDN 024039–24040).
Telephone Software Connection : The Hayes Micromodem II (I've never bought better slave), May 1980 (CDN 024041–24042).
Special Memo to Educators, Ed Magnin, (CDN 024043–24044).
Telephone Software Connection (Backgroung piece, (CDN 024045–24049).
Display : Vend–O–Disk, (CDN 024050–24052).
Letter to Programmer, Ed Magnin, (CDN 024053–24054).
News From T.S.C., Apr. 1983 (CDN 024055–24058).
News From T.S.C., Jun. 1983 (CDN 024059–24062).
What is Voicemail?, (CDN 024063–24065).
Telephone Software Connection (Introduction), Ed Magnin, (CDN 024066–24067).
News From T.S.C., Oct. 1983 (CDN 024068–24071).
How to Order : Modem, 024072–24077).
Telecommunication (Teledelivery), (CDN 024084).
News From T.S.C., Jun. 1984 (CDN 024085–24088).
PlumbLine (Base Computers), (CDN 024089–24090).
News From T.S.C., Dec. 1984 (CDN 024091–24094).
News From T.S.C., Mar. 1985 (CDN 024095–24098).
Display: Phone Secretary, (CDN 024099–24100).
Telephone Software Connection (Background Pieces), (CDN 024101–24106).
Telephone Software Connection (Top Secret) Displays, (CDN 02410724113).
Display (Before 1984), (CDN 024114).
Display: If You Have an Apple (phone list), (CDN 024115–24117).
Display (The FP Report), (CDN 024118–024119).
The Haye's Micromodem II, CDN 024120–24121).
Price Log, (CDN 024122–24123).
News From T.S.C., Oct. 1983 (CDN 024124).
Display: Instructions on Software Delevery), (CDN 024125).
Price Log, (CDN 024126–24127).
News From T.S.C., Jun. 1983 (CDN 024128–24129.
Price Log, (CDN 024130–24131).
News From T.S.C., (CDN 024132–24133).
Display (Phone Secretary II (54), CDN 024134).
Letter to Programmer, Ed Magnin, (CDN 024135).
Programmers' Pipeline(Description Slip), (CDN 024136–24137).
Display: World Currency Trader, (CDN 024138).
Price Log, (CDN 024139–24140).
Display: Order Via Modem, (CDN 024141).
Display: Six Great Ways to Add to Your Summer Fun!, CDN 024142).
Phone Log, (CDN 024143–24144).
News From T.S.C. (Recent Offerings), Mar. 1985 (CDN 024145).
Spotlight on Graphics (Shape Builder), CDN 024146–24148).
Disk, Labelmaker (#73), CDN 024149).
News From T.S.C. (Terminal Program II), (CDN 024150–24152).
Free Update to Desk Calendar II, (CDN 024153).
News From T.S.C., Jun. 1984 (CDN 024154–24156).
Display : (Disk–Cryption), (CDN 024157–24158).
Display: (Phone Secretary) (#54), (CDN 024159–24160).
Communication (Terminal Program), (CDN 024161–24168).
Dialing Instructions, (CDN 024169).
Telecommunications Adviser, Ed Magnin, Nov. 1983 (CDN 024170–24171).
Getting on Communi ((Providers and Consumers), Ed Magnin, Mar. 1984 (CDN 021417224173).
Online Tips, (CDN 024174).
Display: List (Software Sales), Apr. 11, 1983 (CDN 024175).
A Software Vending Machine, Ed Magnin, Mar. 1984 (CDN 024176).
Marketing (Makers Transform the Ways Computer Programs Are Sold), Susan Chace, Aug. 26, 1982 (CDN 024177) The Wall Street Journal.
Technology (Electronic Software Delivery Threatens Mail and Store Sales), May 6, 1983 (CDN 024178).
Western Union: Mailgram (Letter to Microcomputer User), (CDN 024179).
Apple//c Baud Rate Problem (Dialing Instructions), (CDN 024180).
Display: Recent Offerings, Mar. 1985 (CDN 024181–24184).
Letter ti Prometheus Modem Owner, Ed Magnin, (CDN 024185).
Display: Phone Secretary// (54), (CDN 024186–24187).
Future Developments in Telecommunication, (CDN 024188).
Responses (Future Developments in Telecommunication), (CDN 024189).
Charts (Uses for Telecommunication Links), (CDN 024190–24192).
Prologue (The Communication Satellite), (CDN 024193–24194).
Analog Versus Digital Transmission, (CDN 024195–24206).
Cable Television and Its Potential, (CDN 024207–24209).
Display : Qube gets you into the action, (CDN 024210).
Terminals in the Home, (CDN 024211–24223).
A Future Scenario, (CDN 024224–24246).
Signal Compression, (CDN 024247–24261).
Letter from Ed Magnin (Monthly Rental), Ed Magnin, (CDN 024262–24264).
Jitters, Jul. 29, 1996 (CDN 024265) Business Week.

E–Commerce: Who Owns the Rights?, Jul. 29, 1996(CDN 02466–24267).
A pilot has to believe in his equipment (Rolex), (CDN 024268).
Retailers cheer end of patent challenge, Dan Goodin, Apr. 2, 1999 (CDN 024269–24271).
Patently Offensive, Shoshana Berger, (CDN 024272).
Magnin & Associates (Video Game, Film & TV), (CDN 024273–24274).
Documents (Appendix F: Decimal Tokens for Keywords), (CDN 024275–24276).
Appendix F: Decimal Tokens For Key words, (CDN 024277).
Private People (Easing the way for libel suits), (CDN 024278).
May the Source Be With You, Christopher Byron, (CDN 024279).
Infomation Services: Modems, (CDN 024280).
A Source of Riches, Alfred Glossbrenner, Aug. 1983 (CDN 024281–24284).
Electronic Jackpot, Alfred Glossbrenner, Sep. 1983 (CDN 024285–24287).
Consumer and Specialized On–Line Services, (CDN 024288–24290).
Calculation Programs, (CDN 024291–24293).
What is Viewdata, CDN 024294–24302).
PM Electronics Monitor, Neil Shapiro, (CDN 024303).
Dial–Up Software Networks, Jules H. Gilder, May 1980 (CDN 024304–24306).
Software and Data via Telephone, Oct. 1980 (CDN 024307–24310).
Dial–Up Software Networks, Herb Friedman, Oct. 1992 (024311–24314).
Documents (Ticketmaster to Lick Competition by Buying It), (CDN 024315–24316).
Ticketmaster (memo), Alan Citron, Michael Cieply, Feb. 26, 1991 (CDN 024317–24318) Los Angeles Times.
Ticketmaster: 20 Years (Industry's #Has a Ticket to Rule), Adam Sandler, (CDN 024319–24321).
Electronic Life, Michael Crichto, 1983 (CDN 024322).
The Naked Computer (Telesoftware?), Rochester, Gantz, William Marrow+ Co., (CDN 024323).
Computers for Everybody (Downloading Programs), Jerry Willis, 1984 (CDN 024324–24328).
Telecommunications in the Information Age (Videotext Chapter 12), Singleton, 1983 (CDN 024329–24340).
United States Patent (Lockwood), May 3, 1994 (CDN 024341–24343).
United States Patent (Yuris, et. al.), Jan. 27, 1981 (CDN 024344).
United States Patent (Kelly, et. al.), May 15, 1984 (CDN 024345).
United States Patent (Hellman), Apr. 14, 1987 (CDN 024346–24347).
Documents (The Wired Society), James Martin, (CDN 02434824349).
New Use of Television (Viewdata), (CDN 024350).
News (Do–It–Yourself Newspapers), (CDN 024351).
Spiderwebs (Pierre Teilhard de Chardin (CDN 024352–24353).
Instant Mail (Digitized Messages), (CDN 024354).
Information Deluge, (CDN 024355).
Satellite Age (Chapter Fourteen Home), CDN 024356–24366).
James Martin & Co. Executive Profiles (James Martin, Oct. 25, 1996 (CDN 024367–24368) JM & Co.
2. News (Dow Jones News/ Retrieval's Free–Text Search), 1985 (CDN 024369–24383).
Computers (Telesun), (CDN 024384–24387).
16 Full–Service (The Source), (CDN 024388–24408).
Article 49 of 88 Patnews : Another reason why the E–Data patent is invalid, Gregory Atharonian, Oct. 16, 1996 (CDN 024409–24410) Deja News.
Article 1 of 25 Patnews: Mor PTO gossip on Zache,Edata, Hyatt, Gregory Atharonian, Oct. 18, 1996 (CDN 024411–24412).
Display: TSC Rreview, (CDN 024413).
United States Postal Service (Documents & Letters), (CDN 024414–24423).
The Home Accountant, Revisited (Responds to reviews), (CDN 024424–24426).
DFX (Introductions), Graeme Scott, (CDN 024427–24442).
Peelings Review (Introductions), Nov. 12, 1982 (CDN 024443.
Pellings II (Programmers Library), Nov. 10, 1982 (CDN 024444–24454).
Letter (Trail Terminal), K.F. Moseley, Mar. 10, 1981 (CDN 024455).
K.F. Moseley's TVinerface 8 Evaluation (Time and Money Meter, Ed Magnin, (CDN 024456–24457).
A.D.A.M. II Newsletter (Acknowledgement), May 13, 1981 (CDN 024458–24465).
Peelings II (Publication of Apple Software Reviews), Aug. 6, 1980 (CDN 024467–24500).
Apple–Cart (Input From Readers), Chuck Carpenter, (CDN 024501–24503) Creative Computing.
Call–Apple (The Telephone Software Exprience a Review (of Sort), Val Golding, (CDN 024504).
Softalk (Peachy Writer), Sep. 1982 (CDN 024505).
Softalk (Preformer Printer Format Board), (CDN 024506).
Extra Copy Re: KM, (CDN 024507–24508).
Marketing (Makers Transform Ways Computer Programs Are Sold), Susan Chace, Aug. 26, 1982 (CDN 024509) The Wall Street Journal.
Marketing (Some Computer Junkies), Susan Chace, Aug. 26, 1982 (CDN 024510) The Wall Street Journal.
Extra, (CDN 024511).
New Products (Save Civilization in Your Spare Time), May 1982 (CDN 024512) Popular Computing.
Extra, (CDN 024513).
What's New? (Overlay Compiler), Mar. 1982 (CDN 024514).
The Information Directory Says It All! (Subject Index), (CDN 024515).
Tap New Markets! (Information Directory), (CDN 024516).
The 21st Century Library (Information Directory), Anne M. Helfrich, Mar. 16, 1982 (CDN 024517–24524).
Electronic Mail (Applications for Management), (CDN 024525–24534).
InfoWorld (AVL Eagle), Oct. 19, 1981.
TSC (Microcomputing), Oct. 15, 1981 CDN 024536).
Electronic Distribution (Trial Builder), (CDN 024537–24546).
Music (Honey. They're Downloading Our Song), Patrick M. Reilly, (CDN 024547–24548).
Who's News (Foundation Health Names Malik Hasan As CEO and President), May 13, 1997 (CDN 024549).

Industry Focus (Middlemen Find Ways to Survive Cyberspace Shopping), David Bank, Dec. 12, 1996 (CDN 024550).
Egghead Inc. Ships Software Over Internet (Ingram Micro Inc.), David Bannk, Nov. 8, 1996 (CDN 024551).
Tom Clancy, Virtus Start Firm for On–Line Games, Nov. 13, 1996 (CDN 024552).
N2K Hires Phil Ramone to Start Up A Music Label Linked to the Internet, Patrick M. Reilly, Nov. 18, 1996 (CDN 024553)).
Business Briefs (AT&T Unveils a Services to Help Businesses Set Up Shop on Internet), JamesSandberg, Oct. 9, 1996 (CDN 024554).
Technology & Health (Industry. Net Customers to Be Offered On–Line Payment Services From PNC), Raju Narisetti, Sep. 25, 1996 (CDN024555).
Vague New World (Digital Media Business Takes Form as a Battle Of Complex Alliances), (CDN 024556–24558).
Music Firms Vow to Block New CD System, Meg Cox, May 14, 1993 (CDN 024559–24560).
Business (Blockbuster plans to stock CDs electronically, May 12, 1993 (CDN 024561).
Technology&Health (Bellcore to Demonstrate System For Delivering Movies By Phone, Mary Lu Carnevale, Nov. 9, 1992 (CDN 024562).
Technology (IBM Commits More Than $100 Million on Venture to Relay Video, Other Data), Michael W, Miller, Sep. 16, 1992 (CDN 024563–24564).
IBM to Unveil Plan to Skip Disks, Send Software By Satellite (GM's Hughes Network Joins Big Blue Alliance to Serve Retailers and Corporations), Bart Ziegler, Nov. 1, 1994 (CDN 024565–24566).
Software Industry Bulletin (SIB Third Quarter 1985 Software Empolyment Survery), Oct. 14, 1985 (CDN 024567–24568).
Download (Vendors Kick Off Fall Season With Teledelivery Ventures, Sep. 1985 (CDN 024569–24583).
Speed>s (Electronic Delivery of Software), (CDN 024584–24595).
Phone Memo, Apr. 19, 1985 (CDN 024596–24600).
Letter to Nathaniel Forbes (MCI Mail Letter), Ed Magnin, Apr. 8, 1985 (CDN 024601–24607).
Speed>s (The Inside Story), Apr. 8, 1985 (CDN 024608–24623).
Document: Letter to Nathaniel Forbes (Express Mail), Ed Magnin, Mar. 29, 1985 (CDN 024624–24630).
Gimcrax, Inc (The leader in electronic delivery of software), Dec. 5, 1984 (CDN024631–24636).
Speed>s (New Edition of Speed>s disk Now Available), (CDN 024637).
Speed>s (Postage), (CDN 024638).
Speed>s (Over 50 Lotus 1–2–3 templates to be available exclusively on Speed>s!, (CDN 024639).
Speed>s (Postage), (CDN 024640).
Speed>s (Open An Electronic Library for Your Computer Company Software), (CDN 024641).
Speed>s (Postage), Jan. 27, 1986 (CDN 024642).
Gimcrax Launches File Delivery Service, Dec. 23, 1985 (CDN 24643).
Speed>s (What Modem Should I Buy), Nov. 22, 1985 (CDN 024644).
Display (Speed>s), Dec. 2, 1985 (CDN 024645).
Speed>s (Now! Try Speed>s Electronic Delivery!), Oct. 21, 1985 (CDN 024646).
Speed>s (Your First Issue on the Speed>s Password!), (CDN 024647).
International Videotex Teletext News (Gimcrax to Download), Aug. 1984 (CDN 024648).
Speed>s (Speed>s Mean Business), (CDN 024649–24652).
News From the Source (Nat Forbes Promoted to Director of Sales for STC), (CDN 024653–24654).
Speed>s (Speed>s Mean Business, (CDN 024655–24658).
Handwritten Notes, (CDN 024659–24665).
Handwritten Notes (Nat Forbes), Mar. 28, 1985 (CDN 24666–24668).
Net to Transmit Videotex, Games to 12 Million User, Jim Bartimo, Jun. 13, 1983 (CDN 024669) Computer World.
Vending machines for software: What will Japan think up next? (Games only), Jun. 1985 (CDN 024670) Data Communications.
Electronic Software Distributor To Show System to Retailers, Rory J. O'Connor, May 30, 1983 (CDN 024671).
Software Industry Bulletin (Electronic Software Distributors), (CDN 024672–24675).
Software (Why try to stock software like physical goods? Why not just reproduce it as needed), (CDN 0924676–24683).
Mr. Download: An Interview with William von Meister, (CDN 024684–24693).
Letter to Bob Peyser (Telephone Software Connections), Ed Magnin, Mar. 25, 1985 (CDN 02469424700).
Direct–Net (Micro Marketworld Readers), Bill James, Feb. 1, 1985 (CDN 024701–24702).
Cutting Out the Middleman (Looking to expand their customer base), Myron Berger, (CDN 024703–24708).
Shop by Modem (Software Without Manuals), (CDN 024709).
Speak the Universal Lanaguage (Powerhouse), (CDN 024710).
Letter to Ed Magnin (Software Author Royalty Agreement), Fonnie Clifton, Oct. 17, 1983 (CDN 024711–24733).
Buy Software Via Modem (Define the Need), Elizabeth Ferrarini, (CDN 024734–24745).
ABC Video Enterprises Telefirst Project had Boosters & Doubters, May 1, 1984 (CDN 024746).
Download (Micrpro & Adapso Sue American Brands, Allege Software Piracy), Feb. 1985 (CDN 024747–24762).
Coleco, AT&T Unit to Form Joint Venture To Distribute Video Games By Telephone, Bob Davis, (CDN 024763).
Electronic(Pulling the Plug on Electronic Publishing), (CDN 024764–24766).
Software (Software Directories Go On–Line, Joanne Gamlin, (CDN 024767–24780).
Say it With Remote ROM Software Delivery (Looking Ahead With Software News), (CDN 024781).
It's Not The Same Old 'Help' Anymore (Buzz Word), Mary–Beth Santarelli, (CDN 024782).
Are You Getting Ready for Electronic Software Delivery? Richard Lewis, Feb. 1984 (CDN 024783–24788).
Hammerly files suit against PC Telelmart, (CDN 024789).
Micro Software Today (Education: Entertainment), (CDN 024790).
Distribution & Retailing (Xante to Distribute Software Electronically to Mass Merchandisers), (CDN 024791).
Systems : Software Engineering (Letter from Phil Klamm), Phil Klamm, Jan. 20, 1984 (CDN 024792).
ROM–Labs (Electronic Software Distribution System), Jan. 3, 1984 (CDN 024793–24802).

Van Diver's (The Most Resourceful Directories for the IBM PC, (CDN 024803).
Software Distribution: Smooth Going Now : Rocky Road Ahead, Steve Burke, (CDN 024804).
Romox is hoping to have system in 3,000 stores by end of '84, (CDN 024805).
Display (Soft Touch), Jan. 12, 1984 (CDN 024806).
Bugs in Electronic Software Distribution Not Worked Out (Electronic Distribution), Lisa Raleigh, (CDN 024807–24809).
Announcing a New In–Depth Study and Analysis of (Downloading & Teledelivery of Computer Software, Music & Video), Nancy L. Stocker, Mar. 11, 1986 (CDN 024810–24824).
Certificate of Copy Registration (Time and Money Meter), Edgar J. Magnin, Mar. 8, 1982 (CDN 024825–24840).
Certificate of Copy Registration (Quick Clock Adjust), Edgar J. Magnin, (CDN 024841–24847).
Certificate of Copy Registration (Math Tutor), Edgar J. Magnin, Jul. 18, 1981 (CDN 024848–24864).
Document: Delivery Notice (Certified), (CDN 024865.
Document: Postal Receipt (Certified) From : Ed & Marilyn Magnin, Mar. 27, 1981 (CDN 024866).
Receipt for Certified Mail #288727, Mar. 6, 1981 (CDN 024867).
Instructions :Certified Mail Fee, Optional Services, (CDN 024868).
Letter from Edgar J. Magnin (Copyrights Registration: Terminal Programs, Edgar J. Magnin, Mar. 5, 1981 (CDN 024869–24889).
Receipt (Register of Copyrights), Nov. 4, 1980 (CDN 024890–24905.
Receipt (Register of Copyrights: Library of Congress, Sep. 3, 1980 (CDN 024906–24927).
Certificate of Copyright Registration (Phone Secretary), Edgar J. Magnin, Nov. 4, 1980 (CDN 024929–24934).
Letter from Edgar J. Magnin (Copyright Registration: Phone Secretary), Edgar J. Magnin, Aug. 27, 1980 (CDN 024935–24946).
Letter from Edgar J. Magnin (Call TSC, Picture Transfer, Go–Moku, Chess Connection, Edgar J. Magnin, May 30, 1980 (CDN 024947–24951).
Certificate of Copyright Registration (Go–Moku), Edgar J. Magnin, Jun. 9, 1980 (CDN 024952–24960).
Certificate of Copyright Registration (Chess Connection), Craig Crossman, (CDN 024961–24971).
Certificate of Copyright Registration (Go–Moku), Edgar J. Magnin, (CDN 024972–24981).
Certificate of Copyright Registration (Call TSC), Edgar J. Magnin, (CDN 024982–24986).
Certificate of Copyright Registration (Picture Transfer Program), Edgar J, Magnin, (CDN 024987–25002) Apr. 1980.
Letter from Edgar J. Magnin :Applications for Copyright (Answering Machine, Write–Edit & Send, Telephone Transfer Program, Edgar J. Magnin, Mar. 28, 1980 (CDN 025003–25007).
Certificate of Copyright Registration (Write–Edit & Send, Edgar J. Magnin, (CDN 025008–25018).
Certificate of Copyright Registration (Telephone Transfer Program), Edgar J. Magnin, (CDN 0245019–25033).
Certificate of Copyright Registration (Answering Machine), Edgar J. Magnin, (CDN 025035–25046).
Certified Receipts: Certificate of Copyright Registration (Telephone Transfer II, Leighton Paul, Oct. (CDN 025047–25095).
Certificate of Copyright Registration (Telegammon), Anton Dahbura, Jr., (CDN 025096–25139).
Letter to Mr. Ledbetter Re: Correspondence of Mar. 12, 1982 control # 2–054–0414(M), Edgar J. Magnin, Oct. 4, 1982 (CDN 025140–25212).
Certificate of Copyright Registration (Phone Secretary II), Edgar J. Magnin, Sep. 6, 1983 (CDN 025213–25253).
Certificate of Copyright Registration (Fifteen. Puzzle), Edgar J. Magnin, 7,1985 (CDN 025254–25313).
Letter to Mr. Magnin: Re: Fraction Tutor (TX 1 384 355) sand Typing Speed Boilder (Certificate of Copyright Registration (Fraction Tutor), Edgar J. Magnin, Larry M. Schultz, Jan. 4, 1985 (CDN 025314–25344).
Receipt for Certified Mail (Certificate of Copyright Registration (Picture Puzzle Programs), Edgar J. Magnin, (CDN 25345–25380).
Certificate of Copyright Registration (Quick Compare), Leighton Paul, (CDN 025381–25405).
Telephone Software Connection, Inc.(Program Listing), (CDN 025406–25408).
Serial Listing, (CDN 025409).
Serial Listing (Con't), (CDN 025410).
Copyright Status (Programs,Copyright Notice etc.), (CDN 02541125412731.
Receipts for Certified Mail : Letter from Edgar J. Magnin to Register of Copyrights (Instant Menu) Certified of Copyright Registration, Edgar J. Magnin, Jun. 6/11, 1985 (CDN 025413–25448).
Receipts for Certified Mail: Letter from Edgar J. Magnin to Register of Coping (Certified of Copyright Registration) : Mortgage Analyzer, Edgar J. Magnin, (CDN 025449–25475).
CompuSonics Version 1.05 (The Drive Event Control Loop for the DSP–1000), Jul. 17, 1987 (CDN 025476–255545).
Documents (Routing for the Machine, Routines Required to Read and to the Front Panes), Mar. 11, 1987 (CDN 025546–25667).
CompuSonics D S P 2002 version 1.00 (Preliminary User Manual, Aug. 28, 1985 (CDN 025668–25707.
Audio Computer Owners Guide (Advertising), (CDN 025708).
Quick Reference Card (Operations), (CDN 025709–25767).
An Algorithm and Architecture for Constant–Q Spectrum Analysis (Abstract), Gary W. Schwede, Apr. 1983 (CDN 025768–25771).
AES (Presented at the 76th Convention Oct. 8–11, 1984 New York, (CDN 025772–025775.
Command and Status Registers (Receive Data Count Register). CDN 025776–25786).
Letter to David M. Schwartz (Re: The Preprints From the AES 78th Convention), Patricia M. Maclonald, Nov. 18, 1985 (CDN 25787–25817.
Efficient Data Reduction for Digital Audio Using a Digital Filter Array (Purpose), John P. Stautner, David M. Horowitz, 1986 (CDN 025818–25821).
AES (Presented at the 83rd Convention Oct. 16–19, 1987 New York, David M. Schwartz, (CDN 025822–025829).
AES (Presented at the 83rd Convention Oct. 16–19, 1987 New York, John Stautner, Sriram Jayasimba, (CDN 025830–025836).

AES (Presented at the 84th Convention Mar. 1–4, 1988 Paris, J.P. Stautner, (CDN 025837–025854).
The Digital Audio Cartridge Disk Recorder, Reproducer and Editor for Broadcast Use, David M. Schwartz, (CDN 025855–25866).
Towards Electronic Delivery of Music(1.0 Introduction, John P. Stautner, (CDN 025867–25873).
Architecture of a Real Time Digital Filterbank Processor for Tempered, Auditory, and Critical–Band Analysis/Synthesis, Gary W. Schwede, (CDN 025874–25875).
A Functional Overview of the Compusonics DSP–2000 Series, (CDN 025876–25877).
Musical Recording, Editing and Production Using the Compusonics DSP–2004, John P. Stautner, (CDN 025878–258790).
Strategies for the Representation and Data Reduction of Digital Music Signals (Work Performed and Methods Employed, John P. Stautner, Jun. 20, 1984 (CDN 025880–25881.
Analysis and Synthesis of Music Using the Auditory Transform, J. Stautner, Submitted to Dept. of Electrical Engineering and Computer Science, Massachusetts Institute of Technology May 1983 CDN025895.
Algorithms and Architectures for Constant–Q Fourier Spectrum Analysis, G. Schwede, Dissertation submitted to University of California, Berkeley Nov. 28, 1983 CDN026097.
Letter to Shareholders, D. Schwartz, CompuSonics CDN026261.
From the News Desk, InfoWorld Newsweekly, Jun. 4, 1984 vol. 6, Issue 23 CDN026263.
Manufacturing Update, International Audio Video, Jun. 1984 CDN026264.
Compusonics Pro Equipment & Services, Cover of Billboard Newspaper CDN026265.
Compusonics Fuses Computer, Audio Into "World's First" Home Digital Recorder, M. Golden, CES Trade News Daily, p. 10 Jun. 4, 1984 CDN026266.
Digital Sound Now On Computer Disks, S. Booth, Consumer Electronics Show Daily Jun. 3, 1984 CDN026267.
CompuSonics Readies Floppy Disk to Record and Play Back Music, HFD—The Weekly Home Furnishings Newspaper Jun. 4, 1984 CDN026268.
Technology Awards to CompuSonics, CDN026269.
CompuSonics DSP 1000 Digital Audio Disk Recorder Specifications, CompuSonics Corporation CDN026270.
CompuSonic Bows Totally Digital, Pro Sound News, New York, NY Jun. 8, 1984.
Floppy Disks May Be the Next Music Makers, Business Week May 28, 1984 CDN026272.
Studio Design Special, Mix—The Recording Industry Magazine Aug. 1984.
CompuSonics: Another Digital Audio Standard, N. Weinstock, Mix, vol. 8, No. 8, p. 24 CDN026274.
CompuSonics: Another Digital Audio Standard, N. Weinstock, Mix, vol. 8, No. 8, p. 26 CDN026275.
CompuSonics Readies Floppy Disk to Record and Play Back Music, HFD, Electronics, Section 1 Jun. 4, 1984 CDN026276.
The State of RCA, TV Digest, p. 14 May 21, 1984 CDN026277.
Display—CompuSonics Photographs, CDN026278.
Display—CES Exhibition Design and Engineering 1984, CDN026280.
Specifications—CompuSonics DSP 1000 Digital Disk Recorder/Player, CompuSonics Corporation CDN026281.
Article—Watch Out Digital Discs: Here Comes Floppy Audio, Unknown.
Specifications—CompuSonics DSP 1000 Digital Disk Recorder/Player, CompuSonics Corporation.
Optical–Disk–Digital Audio System Premieres, B. Robinson, Electronic Engineering Times, Issue 397 Sep. 1, 1986 CDN026284.
Specifications—CompuSonics DSP 1000 Digital Disk Recorder/Player, CompuSonics Corporation.
CompuSonics Business Plan Overview, Jun. 14, 1984 CDN026286.
Cover—Fortune Magazine, Nov. 12, 1984 CDN026289.
Advertisement—CompuSonics Corporate Profile, D. Schwartz, Audio Video International CDN026290.
Toward Electronic Delivery of Music: Sending and Receiving High Fidelity Digital Music, J. Stautner, CompuSonics Corporation CDN026291.
Company Sees Future in Digital Recorders, J. Hendon, Rocky Mountain News Jul. 22, 1984.
Floppy–Disk Audio System, A. Mereson, Science Digest Nov. 1984 CDN026299.
Recording Music on Floppy Disks, A. Zuckerman, High Technology May 1986 CDN026300.
Article—Sound is Big at Consumer Show, L. Mortwaki, Seattle Washington Times Jun. 8, 1984 CDN026301.
Digital Recording System Uses Floppy Disks, Audio Times, vol. 26, No. 5 May 1984 CDN026302.
CompuSonics Advertisement, CDN026304.
Advertisement—MicroPro's WordStar 2000, CDN026305.
Hi–Fi Floppy, K. Yates, PC World, vol. 3, Issue 4 CDN026306.
The Digitization of Music, K. Yates, PC World, vol. 3, Issue 4 CDN026308.
A Sonic Glossary, K. Yates, PC World, vol. 3, Issue 4 CDN026311.
New Hi–Fi Horizons, D. Ranada, Stereo Review, Dec. 1984 CDN026313.
Specifications and Implementation of a Computer Audio Console for Digital Mixing and Recording, D. Shwartz, AES 76th Convention, NYC Jun. 20, 1984 CDN026317.
A High Speed Telecommunications Interface for Digital Audio Transmission and Reception, H. Sohn, Abstract CDN026319.
The Audio Computer and Its Applications, D. Schwartz; J. Stautner, CompuSonics Corporation CDN026332.
Engineering Your Own Digital Audio Broadcast System, D. Schwartz, CompuSonics Corporation CDN026343.
Tab—Pay 2 Tape '90, CDN026362.
Fax Cover Sheet to Michael Kapp from D. Schwartz, D. Schwartz, Apr. 26, 1990 CDN026363.
Fax Memo to Michael Kapp from D. Schwartz, D. Schwartz, Apr. 26, 1990.
Pay Per Listen Cable Audio System—Notes to Viewgraph Presentation, CompuSonics, CDN026365.
Pay Per Listen Cable Audio System—System Payback Analysis, CompuSonics, CDN026366.
Pay Per Listen Cable Audio System—Provide the In–Home Music Taper with a Wide Variety of Source Material, CompuSonics, CDN026367.
Pay Per Listen Cable Audio System—Provide the In–Home Music Taper with a Wide Variety of Source Material, CompuSonics, CDN026368.

Pay Per Listen Cable Audio System—Audio Database Format Options, CompuSonics, CDN026374.
Pay Per Listen Cable Audio System—Billboard Top 100 LPS Format, CompuSonics, CDN026375.
Pay Per Listen Cable Audio System—Program Publication Options, CompuSonics, CDN026379.
Letter to Shareholder from D. Schwartz, D. Schwartz, Nov. 21, 1984 CDN026381.
Letter to Shareholder from D. Schwartz, D. Schwartz, Oct. 10, 1985 CDN026382.
Display Photograph, CDN026384.
Display Photograph, CDN026385.
CompuSonics DSP2002 Preliminary User Manual, CDN026386.
Display—Hardware Spec, CDN026387.
Internal Data, CDN026388.
DSP–1000 Series, CDN026389.
Digital Marketing Corporation Video Real Estate System, Jun. 7, 1986 CDN026390.
Agenda for Jun. 7, 1988 Meeting, CDN026393.
Agenda for May 31, 1988 Meeting, CompuSonics, CDN026394.
Advertisement—Digilist Video Multiple Listing Service, Digital Marketing Corporation, CDN026395.
Advertisement—Digilist Video Multiple Listing Service, Digital Marketing Corporation, CDN026396.
Advertisement—Digilist Video Multiple Listing Service, Digital Marketing Corporation, CDN026398.
Memo to B. Holmbraker, B. Alderfer, R. Dahl, H. Fong from D. Schwartz, D. Schwartz, CompuSonics Financial/Technical Status Jan. 12, 1987 CDN026399.
Manual—Assembly Procedure for the DSP1500, CDN026401.
Specifications—CompuSonic DSP 1000, CDN026440.
DSP 1000 Digital Audio Disk Recorder Application Notes, CDN026489.
The Home Terminal, International Resource Development, pp. 149–158 Aug. 1978 CDN026745.
Rolm Plugs CBX Into IBM World, Electronic Mail & Message Systems vol. 7, No. 9 May 2, 1983 CDN026768.
Control Video Enters Downline Loading Business, Electronic Mail & Message Systems vol. 7, No. 11 Jun. 1, 1983 CDN026771.
EMMS Article, Electronic Mail & Message Systems vol. 7, No. 14, p. 17 Jul. 15, 1983 CDN026775.
The Other Half of the IBM PC, Electronic Mail & Message Systems vol. 7, No. 16, Aug. 15, 1983 CDN026776.
Electronic Message Systems and the Home Terminal, Electronic Mail & Message Systems vol. 3, No. 12 Jun. 15, 1979 CDN026779.
EMMS Article, Electronic Mail & Message Systems vol. 3, No. 15, p. 13 Aug. 1, 1979 CDN026784.
EMMS Article, Electronic Mail & Message Systems vol. 6, No. 11, p. 20 Jun. 1, 1982 CDN026785.
EMMS Article, Electronic Mail & Message Systems vol. 6, No. 15, p. 14 Aug. 2, 1982 CDN026786.
EMMS Article, Electronic Mail & Message Systems vol. 6, No. 23, Dec. 1, 1982 CDN026789.
Fiber–Optics Will Shake the Utilities, Electronic Mail & Message Systems vol. 9, No. 20, Nov. 1, 1985 CDN026792.
British Telecom Offers Free Electronic Mail Services, Electronic Mail & Message Systems vol. 10, No. 7, Apr. 1, 1986 CDN026797.
Profit Protection—Risky Business, Electronic Mail & Message Systems vol. 12, No. 16, Aug. 15, 1988 CDN026801.
EMMS Article, Electronic Mail & Message Systems vol. 12, No. 21, Nov. 1, 1988 CDN026811.
CompuSonics to Bow Digital Audio Floppy Disk Player/Recorder; CD Rival?, C. Kaplan, Consumer Electronics Daily, vol. VIII, No. 5, Issue 8 May 10, 1984 CDN026255.
Home Telecommunications in the 1980's, International Resource Development, Inc. Apr. 1980, Report 150 CDN026812.
The Future of Television, International Resource Development, Inc. Aug. 1981, Report 176 CDN026914.
Health, Wealth & Self–Improvement Home Software, International Resource Development, Inc. Sep. 1985, Report 670 CDN026935.
Telecommunications Market Opportunities, International Resource Development, Inc. Nov. 1985, Report 676 CDN026955.
Teleplay vs. Videodisc, International Resource Development, Inc. Sep. 1982, Report 510 CDN027013.
Videogames & Electronic Toys, International Resource Development, Inc. May 1983, Report 550 CDN027034.
Deliberately Left Blank.
Payments Received for Report #558 Downloading and Teledelivery of Computer Software, Games & Music, Kenneth G. Bosomworth, Jan. 9, 2001 CDN027138.
Article—CompuSonics/Carts AT&T Demo, Pro Sound News Sep. 9, 1985 CDN027183.
Intentionally Omitted Documents CDN027190–CDN027734, Mar. 13, 2001 Letter to N. Bigas from R. Gruwell, Mar. 9, 2001 Letter M. Neblett from N. Bigas, Mar. 5, 2001 Letter to M. Neblett from N. Bigas.
Transcription of Videotape, EE 380—Feb. 18, 1987—Allison 7 CDN027735.
The Digital Audio Processing Station: A New Concept in Audio Postproduction, J. Moorer; C. Abbott; Peter Nye et al., Journal of Audio Engineering Society, vol. 34, No. 6, Jun. 1986, pp. 454–464 CDN027783.
On Digital I/O Format, T. Doi, Sony Corporation Presented at AES Digital Audio Technical Committee, Hamburg, West Germany Mar. 16, 1981 CDN027794.
PCM Program Transmission and Communication Network for the Norwegian Broadcasting Corporation, R. Andersen; K. Ronning, Journal of the Audio Engineering Society vol. 28, No. 4 Apr. 1980.
A Fibre Optic Multi–Channel Communication Link Developed for Remote Interconnection in a Digital Audio Console, P. Lidbetter, S. Douglas, Presented at the 80th Convention, Audio Engineering Society Reprint (Preprint 2330 D6) Mar. 4–7, 1986 CDN027830.
BBC Digital Audio—A Decade of On–Air Operation, D. Stripp, BBC, London, United Kingdom Collected Papers from the Audio Engineering Society Premiere Conference, Rye, New York Jun. 3–6, 1982, CDN027846.
Processing Systems for the Digital Audio Studio, M. Jones, Neve Electronics Internaitonal Limited, Royston, Hertfordshire, United Kingdom Collected Papers from the Audio Engineering Society Premiere Conference, Rye, New York Jun. 3–6, 1982 CDN027852.
Large Scale Acoustics, D. Hawkins, Studio Sound and Broadcast Engineering Mar. 1985.
BBC Digital Control Vehicle 12 Months on, K. Spencer–Allen, Diary–Diary, Studio Sound, p. 32–33 Nov. 1986.

WDR Neve DSP Now in Use, Diary–Diary, Studio Sound, p. 18 Aug. 1986.

Digital Mastering Tape One, Studio Sound, p. 36, 38, 40 Aug. 1986.

Digital Sound Signals: The Present BBC Distribution System and a Proposal for Bit–Rate Reduction by digital Companding, M. Croll; D. Osborne; C. Spicer, International Broadcasting Convention Sep. 23–27, 1974.

Audio Engineering Handbook, K. Benson, Audio Engineering Handbook All–Digital Studio, pp. 4.37–4.38 Transmission Systems, pp. 4.57 Stereo with Television, p. 4.59 © 1988 CDN027884.

Handbook of Recording Engineering J. Eargle The All Digital Studio, pp. 373–375 ©1986 CDN27892.

Routing of Digital Audio Signals in a Radio Broadcasting Centre, N. Gilchrist; G. Crowe, G. Legg, Eleventh International Broadcasting Convention Sep. 19–23, 1986 CDN027897.

Signal Routing in a Digital Sound Studio, G. Roe; C. Caine, Eleventh International Broadcasting Convention Sep. 19–23, 1986 CDN027902.

Multi–Purpose Radio Links System for News Coverage, P. Marchant; I. Buffham, International Broadcasting Convention Sep. 18–21, 1982 CDN027907.

Docat—Digital, Optical CATV Trunk System, G. Mogensen; B. Petersen; H. Steffensen, International Broadcasting Convention Sep. 18–21, 1982 CDN027913.

Digital Transmission System for Television, Sound and Associated Data, A. Jones; D. Kitson, Tenth International Broadcasting Convention Sep. 21–25, 1984 CDN027918.

Digital Sound Mixing in the Analogue Studio, M. Jones; D. Langford; D. Tilsley, Tenth International Broadcasting Convention Sep. 21–25, 1984 CDN027923.

Digital Speech Networks, B. Gold, Proceedings of the IEEE, vol. 65, No. 12, Dec. 1977 CDN027939.

The Digital Coding of High–Quality Musical Sound, J. Moorer, Journal of the Audio Engineering Society vol. 27, No. 9, pp. 657–666 Sep. 1979 CDN027962.

Digital Audio for Cable Television, C. Robbins, 1986 NCTA Technical Papers, pp. 21–24 CDN028131.

Speech Understanding Systems, Massachusetts Inst. of Technology, Lincoln Lab., U.S. Department of Commerce, National Technical Information Service May 31, 1973 CDN028138.

Speech Understanding Systems, Massachusetts Inst. of Technology, Lincoln Lab., U.S. Department of Commerce, National Technical Information Service Jan. 15, 1974 CDN028166.

Information Processing Techniques Program, vol. I. Packet Speech/Acoustic Convolvers, Massachusetts Inst. of Technology, Lincoln Lab., U.S. Department of Commerce, National Technical Information Service Jun. 30, 1976 CDN028198.

Speech Analysis Synthesis and Perception, J. Flanagan, Bell Laboratories Channel Vocoders, pp. 323–405 CDN028247.

Digitization of Audio: A Comprehensive Examination of Theory, Implementation and Current Practice, B. Blesser, Journal of the Audio Engineering Society vol. 26, No. 10 Oct. 1978 CDN028268.

Personal Computers and Music: The State of the Art, C. Yavelow, Journal of the Audio Engineering Society vol. 35, No. 3 Mar. 1987 CDN028301.

MIDI: Musical Instrument Digital Interface, B. Moog, Journal of the Audio Engineering Society vol. 34, No. 5 May 1986 CDN028325.

How Does a Computer Make Music?, J. Moorer, Computer Music Journal, vol. II, No. 1 pp. 32–37 CDN028357.

Lossless Coding for Audio Discs, P. Craven, M. Gerzon, Journal of the Audio Engineering Society vol. 44, No. 9 Sep. 1996 CDN028342.

AC–3: Flexible Perceptual Coding for Audio Transmission and Storage, C. Todd; G. Davidson; M. Davis, et al., Paper presented at the 96th Convention of the Audio Engineering Society, Feb. 26–Mar. 1, 1994 Dolby Laboratories, San Francisco CDN028365.

Masterline Software by Phone, Apple II User's Manual KH000015.

Masterline Software by Phone, Commodore 64 User's Manual KH000017.

Masterline Software by Phone, Commodore Software Edition for the Bellsouth Master Module KH000028.

Electronic Games Magazine, Jun. 1983 KH000055.

Gameliner Magazine, Oct. 1983 KH0000181.

Masterline Software by Phone, Issue Two, Apple Software Edition for the Bellsouth Master Module KH000209.

Electronic Games Magazine, Oct. 1983 KH000245.

Apple II Reference Manual, N2K04850.

VAX/VMS Accounting Utility Reference Manual, Sep. 1984 N2K05242.

* cited by examiner

EX PARTE REEXAMINATION CERTIFICATE ISSUED UNDER 35 U.S.C. 307

THE PATENT IS HEREBY AMENDED AS INDICATED BELOW.

Matter enclosed in heavy brackets [ ] appeared in the patent, but has been deleted and is no longer a part of the patent; matter printed in italics indicates additions made to the patent.

AS A RESULT OF REEXAMINATION, IT HAS BEEN DETERMINED THAT:

The patentability of claim **46** is confirmed.

Claims **2, 3, 5, 9, 17, 22, 37, 38, 41, 43, 44, 46, 62** and **63** are cancelled.

Claims **1, 4, 6, 10-12, 14-16, 18 ,23 27, 29, 36, 39, 42, 45, 47, 49-53** and **58** are determined to be patentable as amended.

Claims **7, 8, 13,19-21, 24-26, 28, 30-35, 40, 48, 54-57** and **59-61**, dependent on an amended claim, are determined to be patentable.

New claims **64-113** are added and determined to be patentable.

1. A method for transferring desired digital video or digital audio signals comprising the steps of:

forming a connection through telecommunications lines between a first memory of a first party and a second memory of a second party control unit of a second party, said first memory having said desired digital video or digital audio signals;

selling electronically by the first party to the second party through telecommunications lines, the desired digital video or digital audio signals in the first memory, *the second party is at a second party location and the step of selling electronically includes the step of charging a fee via telecommunications lines by the first party to the second party at a first party location remote from the second party location, the second party has an account and the step of charging a fee includes the step of charging the account of the second party*; and

transferring the desired digital video or digital audio signals from the first memory of the first party to the second memory of the second party control unit of the second party through telecommunications lines while the second party control unit with the second memory is in possession and control of the second party; *storing the desired digital video or digital audio signals in a non-volatile storage portion the second memory;* and playing through speakers of the second party control unit the digital video or digital audio signals *stored* in the second memory, said speakers of the second party control unit connected with the second memory of the second party control unit;

wherein the non-volatile storage portion is not a tape or CD.

4. A method as described in claim **[3]** *1* wherein the step of charging the account of the second party includes the steps of telephoning the first party controlling use of the first memory by the second party; providing a credit card number of the second party controlling the second memory to the first party controlling the first memory so the second party is charged money.

6. A method as described in claim **[5]** *4* including before the transferring step, the step of electronically coding the desired digital video or digital audio signals into a configuration which would prevent unauthorized reproduction of the desired digital video or digital audio signals.

10. A method as described in claim **[9]** *4, wherein the non-volatile storage portion comprises is a second party hard disk, and wherein the second memory of the second party control unit includes an incoming random access memory chip which temporarily stores the desired digital video or digital audio signals received from the sales random access memory chip and a playback random access memory chip for temporarily storing the desired digital video or digital audio signals for sequential playback; and the storing step includes the steps of storing the desired digital video or digital audio signals in the incoming random access memory chip, transferring the desired digital video or digital audio signals from the incoming random access memory chip to the second party hard disk, storing the desired digital video or digital audio signals in the second party hard disk, commanding the second party integrated circuit with the second party control panel to play the desired digital video or digital audio signals and transferring a replica of the desired digital video or digital audio signals from the second party hard disk to the playback random access memory chip for playback, the method further* including after the transferring step, there is the step of repeating the commanding, playing, and transferring a replica steps.

11. A method for transferring digital video or digital audio signals from a first party to a second party comprising the steps of:

placing a second party control unit in possession and control of the second party by the second party at a desired location determined by the second party;

entering into a second party control panel of the second party control unit of the second party commands by the second party to purchase desired digital video or digital audio signals from a first party;

forming a connection through telecommunications lines between a first memory of the first party and a second memory of the second party control unit, said first memory having desired digital video or digital audio signals;

selling electronically by the first party to the second party through telecommunications lines, the desired digital video or digital audio signals in the first memory;

transferring the desired digital video or digital audio signals from the first memory of the first party into the second memory of the second party through telecommunications lines while the second memory is in possession and control of the second party;

storing the desired digital video or digital audio signals in a non-volatile storage portion of the second memory;

entering into the second party control panel commands to play the desired digital video or digital audio signals in the second memory of the second party control unit; and

playing the desired digital video or digital audio signals with the second party control unit;

wherein the non-volatile storage portion is not a tape or CD.

12. A system for transferring digital video or digital audio signals comprising:

a first party control unit having a first memory having desired digital video or digital audio signals, and means or a mechanism for electronically selling the desired digital video or digital audio signals;

a second party control unit having a second party control panel, a second memory connected to the second party control panel, and means or a mechansim for playing the desired digital video or digital audio signals connected to the second memory and the second party control panel, said playing means or mechanism operatively controlled by the second party control panel, said second party control unit remote from the first party control unit, said second party control unit placed by the second party at a location determined by the second party; and

telecommunications lines connected to the first party control unit and the second party control unit through which the electronic sales of the desired digital video or digital audio signals occur and through which the desired digital video or digital audio signals are electronically transferred from the first memory to the second memory while the second memory is in possession and control of the second party after the desired digital video or digital audio signals are sold to the second party by the first party;

the second memory including a non-volatile storage portion that stores the desired digital video or digital audio signals,

wherein the non-volatile storage portion is not a tape or CD.

14. A system as described in claim 13 wherein the second party control unit includes [a second party hard disk which stores a plurality of digital video or digital audio signals, and] a playback random access memory chip electronically connected to the [second party hard disk] *non-volatile storage portion* for storing a replica of the desired digital video or digital audio signals as a temporary staging area for playback.

15. A system as described in claim 14 wherein *the second party control unit includes a second party integrated circuit and* the first party control unit includes a first party control integrated circuit which controls and executes commands of the first party and is connected to the first party hard disk, the first party sales random access memory, and the second party control integrated circuit through the telecommunications lines, said first party control integrated circuit and said second party control integrated circuit regulate the transfer of the desired digital video or digital audio signals; and a first party control panel through which the first party control integrated circuit is programmed and is sent commands and which is connected to the first party control integrated circuit.

16. A system as described in claim 15 wherein the [second party control unit includes a] second party control integrated circuit [which] controls and executes commands of the second party and is connected to the second party hard disk, the playback random access memory, and the first party control integrated circuit through the telecommunications lines, said second party control integrated circuit and said first party control integrated circuit regulate the transfer of the desired digital video or digital audio signals; and a second party control panel through which the second party control integrated circuit is programmed and is sent commands and which is connected to the second party integrated circuit.

18. A system as described in claim [17] *16* wherein the second party control unit includes a video display unit connected to the playback random access memory chip and to the second party integrated circuit for displaying the desired digital video or digital audio signals.

23. A system for transmitting desired digital video or digital audio signals stored on a first memory of a first party to a second memory of a second party comprising:

means or a mechanism for transferring money electronically via telecommunications lines from the second party to the first party controlling use of the first memory, at a location remote from the second memory, *the second memory including a non-volatile storage portion, wherein the non-volatile storage portion is not a tape or CD,* said second party controlling use and in possession of the second memory;

means or a mechanism for connecting electronically via telecommunications lines the first memory with the second memory such that the desired digital video or digital audio signals can pass therebetween, said connecting means or mechanism in electrical communication with the transferring means or mechanism;

means or a mechanism for transmitting the desired digital video or digital audio signals from the first memory with a transmitter in control and possession of the first party to a receiver having the second memory while said receiver is in possession and control of the second party, said receiver placed at a location determined by the second party, said transmitting means or mechanism in electrical communication with said connecting means or mechanism;

means or a mechanism for storing the digital video or digital audio signals in the *non-volatile storage portion of the* second memory, said storing means or mechanism in electrical communication with said transmitting means or mechanism; and means or mechanism for playing the digital video or digital audio signals stored in the *non-volatile storage portion of the* second memory, said playing means or mechanism connected to the second memory.

27. A system as described in claim 26 wherein the first memory comprises a first hard disk [and the second memory comprises a second hard disk].

29. A system for transmitting desired digital video or digital audio signals stored on a first memory of a first party at a first location to a second memory of a second party at a second party location comprising:

means or a mechanism for the first party to charge a fee to the second party for access to the desired digital video or digital audio signals at a location remote from the second location, said first party controlling use of the first memory, said second party controlling use and in possession of the second memory;

means or a mechanism for connecting electronically via telecommunications lines the first memory with the second memory such that the desired digital video or digital audio signals can pass therebetween, said connecting means or mechanism in electrical communication with the transferring means or mechanism;

means or a mechansim for transmitting the desired digital video or digital audio signals from the first memory with a transmitter in control and possession of the first party to a receiver having the second memory while said receiver is in possession and control of the second party, said receiver placed by the second party at the second party location determined by the second party,

said transmitting means or mechanism in electrical communication with said connecting means or mechanism;

means or a mechanism for storing the digital video or digital audio signals in the second memory, said storing means or mechanism *including a non-volatile storage portion of the second memory that is not a tape or CD,* in electrical communication with said transmitting means or mechanism; and means or mechanism for playing the digital video or digital audio signals stored in the second memory, said playing means or mechanism connected to the second memory.

36. A method for transmitting desired digital video or digital audio signals stored in a first memory of a first party at a first party location to a second memory of a second party comprising the steps of:

placing a second party control unit having the second memory by the second party at a desired second party location determined by the second party, said second party location remote from the first party location;

charging a fee by the first party to the second party at a location remote from the second party location so the second party can obtain access to the digital video or digital audio signals possessed by the first party, said first party and said second party in communication via said telecommunications lines, *the step of charging a fee includes the step of charging a fee via telecommunications lines by the first party to the second party at a location remote from the second party location, the second party has an account and the step of charging a fee includes the step of charging the account of the second party*;

connecting electronically via telecommunications lines the first memory with the second memory such that the desired digital video or digital audio signals can pass therebetween;

transferring electronically via telecommunications lines the digital video or digital audio signals from a first location with the first memory to the desired second party location with the second memory while the second memory is in possession and control of the second party, said second party location remote from said first location, said first memory in communication with said second memory via the telecommunications lines;

storing the digital video or digital audio signals in *a non-volatile storage portion of* the second memory; and playing the digital video or digital audio signals stored in the second memory with the second party control unit;

wherein the non-volatile storage portion is not a tape or CD.

39. A method as described in claim **[38]** *36* wherein the step of charging the account of the second party includes the steps of telephoning the first party controlling use of the first memory by the second party; providing a credit card number of the second party controlling the second memory to the first party controlling the first memory so the second party is charged money.

42. A method for transferring desired digital video or digital audio signals from a first party to a second party comprising the steps of:

placing a second party control unit having a second memory by the second party at a desired location determined by the second party;

forming a connection through telecommunications lines between a first memory of a first party and the second memory of the second party, said first memory having said desired digital video or digital audio signals;

selling electronically by the first party to the second party through telecommunications lines, the desired digital video or digital audio signals in the first memory, *the second party is at a second party location and the step of selling electronically includes the step of charging a fee via telecommunications lines by the first party to the second party at a first party location remote from the second party location, the second party has an account and the step of charging a fee includes the step of charging the account of the second party*;

transferring the desired digital video or digital audio signals from the first memory of the first party to the second memory of the second party through telecommunications lines; *storing the desired digital video or digital audio signals in a non-volatile storage portion of the second memory;* and playing the digital video or digital audio signals stored in the second memory with the second party control unit;

wherein the non-volatile storage portion is not a tape or CD.

45. A method as described in claim **[44]** *42* wherein the step of charging the account of the second party includes the steps of telephoning the first party controlling use of the first memory by the second party; providing a credit card number of the second party controlling the second memory to the first party controlling the first memory so the second party is charged money.

47. A system for transferring digital video signals from a first party to a second party at a second party location comprising:

a first party control unit having a first memory having a plurality of desired individual video selections as desired digital video signals, and means or a mechanism for the first party to charge a fee to the second party for access to the desired digital video signals at a location remote from the second party location;

a second party control unit having a second party control panel, a receiver, *a second memory* and a video display for playing the desired digital video signals received by the receiver, said second party control panel connected to the, *second memory, the* video display and the receiver, said receiver and video display operatively controlled by the second party control panel, said second party control unit remote from the first party control unit, said second party control unit placed by the second party at a second party location determined by the second party which is remote from said first party control unit, said second party choosing the desired digital video signals from the first memory with said second party control panel; and

telecommunications lines connected to the first party control unit and the second party control unit through which the desired digital video signals are electronically transferred from the first memory to the receiver while the second party control unit is in possession and control of the second party after the desired digital video signals are sold to the second party by the first party;

the second memory including a non-volatile storage portion for storing the digital video signals that are received by the receiver;

wherein the non-volatile storage portion is not a tape or CD.

49. A system as described in claim **[48]** *47* wherein the first party control unit includes a first party hard disk having

a plurality of digital video signals which include the desired digital video signals, and a sales random access memory chip electronically connected to the first party hard disk for storing a replica of the desired digital video signals of the first party's hard disk.

50. A system as described in claim **49** wherein the second [party control unit] *memory* includes [a second party hard disk which stores a plurality of digital video signals, and] a playback random access memory chip electronically connected to the [second party hard disk] *non-volatile storage portion* for storing a replica of the desired digital video signals as a temporary staging area for playback.

51. A system as described in claim **50** wherein *the second party control unit includes a second party integrated circuit and* the first party control unit includes a first party control integrated circuit which controls and executes commands of the first party and is connected to the first party hard disk, the first party sales random access memory, and the second party control integrated circuit through the telecommunications lines, said first party control integrated circuit and said second party control integrated circuit regulate the transfer of the desired digital video signals; and a first party control panel through which the first party control integrated circuit is programmed and is sent commands and which is connected to the first party control integrated circuit.

52. A system as described in claim **51** wherein the [second party control unit includes a] second party control integrated circuit [which] controls and executes commands of the second party and is connected to the second party hard disk, the playback random access memory, and the first party control integrated circuit through the telecommunications lines, said second party control integrated circuit and said first party control integrated circuit regulate the transfer of the desired digital video signals; and a second party control panel through which the second party control integrated circuit is programmed and is sent commands and which is connected to the second party integrated circuit.

53. A system as described in claim **52** wherein the second party control unit includes an incoming random access memory chip connected to the [second party hard drive] *non-volatile storage portion* and the second party control integrated circuit, and the first party control unit through the telecommunications lines for temporarily storing the desired digital video signals received from the first party's control unit subsequent storage to the [second party hard disk] *non-volatile storage portion.*

58. A method for transmitting desired digital video signals stored in a first memory having a plurality of individual video selections as digital video signals of a first party at a first party location to a *second memory of a* second party at a second party location so the second party can view the desired digital video signals comprising the steps of:

placing by the second party a receiver, and a video display connected to the receiver at the second party location determined by the second party which is remote from the first party location;

charging a fee by the first party to the second party at a location remote from the second party location so the second party can obtain access to the desired digital video signals;

connecting electronically via telecommunications lines the first memory with a receiver of the second party while the receiver is in possession and control of the second party;

choosing the desired digital video signals by the second party from the first memory of the first party so desired video selections are selected;

transmitting the desired digital video signals from the first memory with a transmitter in control and possession of the first party to the receiver of the second party while the receiver is in possession and control of the second party at the second party location determined by the second party;

storing the desired digital video signals in a non-volatile storage portion of the second memory; and

displaying the desired video signals received by the receiver on the video display in possession and control of the second party;

wherein the non-volatile storage portion is not a tape or CD.

64. A method for transferring desired digital video or digital audio signals comprising the steps of:

forming a connection through telecommunications lines between a first memory of a first party and a second memory of a second party control unit of a second party, the second memory including a second party hard disk, said first memory having said desired digital video or digital audio signals;

selling electronically by the first party to the second party through telecommunications lines, the desired digital video or digital audio signals in the first memory, the second party is at a second party location and the step of selling electronically includes the step of charging a fee via telecommunications lines by the first party to the second party at a first party location remote from the second party location, the second party has an account and the step of charging a fee includes the step of charging the account of the second party; and

transferring the desired digital video or digital audio signals from the first memory of the first party to the second memory of the second party control unit of the second party through telecommunications lines while the second party control unit with the second memory is in possession and control of the second party; storing the desired digital video or digital audio signals in the second party hard disk; and playing through speakers of the second party control unit the digital video or digital audio signals stored in the second party hard disk, said speakers of the second party control unit connected with the second memory of the second party control unit.

65. A method as described in claim 64 wherein the step of charging the account of the second party includes the steps of telephoning the first party controlling use of the first memory by the second party; providing a credit card number of the second party controlling the second memory to the first party controlling the first memory so the second party is charged money.

66. A method as described in claim 65 including before the transferring step, the step of electronically coding the desired digital video or digital audio signals into a configuration which would prevent unauthorized reproduction of the desired digital video or digital audio signals.

67. A method as described in claim 66 wherein the first memory includes a first party hard disk having a plurality of digital video or digital audio signals, and a sales random access memory chip which temporarily stores a replica of the desired digital video or digital audio signals purchased by the second party for subsequent transfer via telecommunications lines to the second memory of the second party; and including before the transferring step, there is the step of storing a replica of the desired digital video or digital audio signals from the first party hard disk into the sales random access memory chip.

68. A method as described in claim 67 wherein the second party control unit has a second party integrated circuit which controls and executes commands of the second party, and a second party control panel connected to the second party integrated circuit, and before the forming step, there is the step of commanding the second party integrated circuit with the second party control panel to initiate the purchase of the desired digital video or digital audio signals from the first party.

69. A method as described in claim 68 wherein the second memory of the second party control unit includes an incoming random access memory chip which temporarily stores the desired digital video or digital audio signals received from the sales random access memory chip and a playback random access memory chip for temporarily storing the desired digital video or digital audio signals for sequential playback; and the storing step includes the steps of storing the desired digital video or digital audio signals in the incoming random access memory chip, transferring the desired digital video or digital audio signals from the incoming random access memory chip to the second party hard disk, storing the desired digital video or digital audio signals in the second party hard disk, commanding the second party integrated circuit with the second party control panel to play the desired digital video or digital audio signals and transferring a replica of the desired digital video or digital audio signals from the second party hard disk to the playback random access memory chip for playback.

70. A method as described in claim 69 including after the transferring step, there is the step of repeating the commanding, playing, and transferring a replica steps.

71. A method for transferring digital video or digital audio signals from a first party to a second party comprising the steps of:

placing a second party control unit in possession and control of the second party by the second party at a desired location determined by the second party;

entering into a second party control panel of the second party control unit of the second party commands by the second party to purchase desired digital video or digital audio signals from a first party;

forming a connection through telecommunications lines between a first memory of the first party and a second memory of the second party control unit, said first memory having desired digital video or digital audio signals, the second memory including a second party hard disk;

selling electronically by the first party to the second party through telecommunications lines, the desired digital video or digital audio signals in the first memory;

transferring the desired digital video or digital audio signals from the first memory of the first party into the second memory of the second party through telecommunications lines while the second memory is in possession and control of the second party;

storing the desired digital video or digital audio signals in the second party hard disk;

entering into the second party control panel commands to play the desired digital video or digital audio signals in the second party hard disk of the second party control unit; and

playing the desired digital video or digital audio signals with the second party control unit.

72. A system for transferring digital video or digital audio signals comprising:

a first party control unit having a first memory having desired digital video or digital audio signals, and means or a mechanism for electronically selling the desired digital video or digital audio signals;

a second party control unit having a second party control panel, a second memory, including a second party hard disk storing the desired digital video or digital audio signals connected to the second party control panel, and means or a mechanism for playing the desired digital video or digital audio signals connected to the second memory and the second party control panel, said playing means or mechanism operatively controlled by the second party control panel, said second party control unit remote from the first party control unit, said second party control unit placed by the second party at a location determined by the second party; and

telecommunications lines connected to the first party control unit and the second party control unit through which the electronic sales of the desired digital video or digital audio signals occur and through which the desired digital video or digital audio signals are electronically transferred from the first memory to the second memory while the second memory is in possession and control of the second party after the desired digital video or digital audio signals are sold to the second party by the first party and stored in the second party hard disk.

73. A system as described in claim 72 wherein the first party control unit includes a first party hard disk having a plurality of digital video or digital audio signals which include the desired digital video or digital audio signals, and a sales random access memory chip electronically connected to the first party hard disk for storing a replica of the desired digital video or digital audio signals of the first party hard disk.

74. A system as described in claim 73 wherein the second party control unit includes a playback random access memory chip electronically connected to the second party hard disk for storing a replica of the desired digital video or digital audio signals as a temporary staging area for playback.

75. A system as described in claim 74 wherein the second party control unit includes a second party integrated circuit and the first party control unit includes a first party control integrated circuit which controls and executes commands of the first party and is connected to the first party hard disk, the first party sales random access memory, and the second party control integrated circuit through the telecommunications lines, said first party control integrated circuit and said second party control integrated circuit regulate the transfer of the desired digital video or digital audio signals; and a first party control panel through which the first party control integrated circuit is programmed and is sent commands and which is connected to the first party control integrated circuit.

76. A system as described in claim 75 wherein the second party control integrated circuit controls and executes commands of the second party and is connected to the second party hard disk, the playback random access memory, and the first party control integrated circuit through the telecommunications lines, said second party control integrated circuit and said first party control integrated circuit regulate the transfer of the desired digital video or digital audio signals; and a second party control panel through which the second party control integrated circuit is programmed and is sent commands and which is connected to the second party integrated circuit.

77. A system as described in claim 76 wherein the second party control unit includes an incoming random access

memory chip connected to the second party hard drive and the second party control integrated circuit, and the first party control unit through the telecommunications lines for temporarily storing the desired digital video or digital audio signals received from the first party's control unit for subsequent storage to the second party hard disk.

78. A system as described in claim 77 wherein the second party control unit includes a video display unit connected to the playback random access memory chip and to the second party integrated circuit for displaying the desired digital video or digital audio signals.

79. A system as described in claim 72 wherein the means or mechanism for electronically selling includes means or a mechanism for electronically selling includes means or a mechanism for charging a fee via telecommunications lines by the first party to the second party at a first party location remote from the second party location.

80. A system as described in claim 79 wherein the second party has an account and the means or mechanism for charging a fee includes means or a mechanism for charging the account of the second party.

81. A system as described in claim 80 wherein the means or mechanism for charging the account includes means or a mechanism for receiving a credit card number of the second party.

82. A system for transmitting desired digital video or digital audio signals stored on a first memory of a first party to a second memory of a second party comprising:

means or a mechanism for transferring money electronically via telecommunications lines from the second party to the first party controlling use of the first memory, at a location remote from the second memory, said second party controlling use and in possession of the second memory, the second memory including a hard disk;

means or a mechanism for connecting electronically via telecommunications lines the first memory with the second memory such that the desired digital video or digital audio signals can pass therebetween, said connecting means or mechanism in electrical communication with the transferring means or mechanism;

means or a mechanism for transmitting the desired digital video or digital audio signals from the first memory with a transmitter in control and possession of the first party to a receiver having the second memory while said receiver is in possession and control of the second party, said receiver placed at a location determined by the second party, said transmitting means or mechanism in electrical communication with said connecting means or mechanism;

means or a mechanism for storing the digital video or digital audio signals in the second party hard disk, said storing means or mechanism in electrical communication with said transmitting means or mechanism; and means or mechanism for playing the digital video or digital audio signals stored in the second memory, said playing means or mechanism connected to the second memory.

83. A system as described in claim 82 wherein the connecting means or mechanism comprise a first control unit in possession and control of the first party and a second control unit in possession and control of the second party.

84. A system as described in claim 83 wherein the first control unit comprises a first control panel, first control integrated circuit and a sales random access memory.

said sales random access memory and said first control panel in electrical communication with said first control integrated circuit,

said second control unit comprising a second control panel, a second control integrated circuit, an incoming random access memory and a playback random access memory,

said second control panel, said incoming random access memory and said playback random access memory in electrical communication with said second control integrated circuit.

85. A system as described in claim 84 wherein the telecommunications lines include telephone lines.

86. A system as described in claim 85 wherein the first memory comprises a first hard disk.

87. A system as described in claim 86 including a video display and speakers in possession and control of the second party, said video display and speakers in electrical communication with said second control integrated circuit.

88. A system for transmitting desired digital video or digital audio signals stored on a first memory of a first party at a first location to a second memory of a second party at a second party location comprising:

means or a mechanism for the first party to charge a fee to the second party for access to the desired digital video or digital audio signals at a location remote from the second location, said first party controlling use of the first memory, said second party contolling use and in possession of the second memory, the second memory including a second party hard disk;

means or a mechanism for connecting electronically via telecommunications lines the first memory with the second memory such that the desired digital video or digital audio signals can pass therebetween, said connecting means or mechanism in electrical communication with the transferring means or mechanism;

means or a mechanism for transmitting the desired digital video or digital audio signals from the first memory with a transmitter in control and possession of the first party to a receiver having the second memory while said receiver is in possession and control of the second party, said receiver placed by the second party at the second party location determined by the second party, said transmitting means or mechanism in electrical communication with said connecting means or mechanism;

means or a mechanism for storing the digital video or digital audio signals in the second party hard disk, said storing means or mechanism in electrical communication with said transmitting means or mechanism; and means or mechanism for playing the digital video or digital audio signals stored in the second memory, said playing means or mechanism connected to the second memory.

89. A system as described in claim 88 wherein the means or mechanism for the first party to charge a fee includes means or a mechanism for transferring money electronically via telecommunications lines to the first party at a location remote from the second memory at the second location.

90. A system as described in claim 89 wherein the connecting means or mechanism comprise a first control unit in possession and control of the first party and a second control unit in possession and control of the second party.

91. A system as described in claim 90 wherein the first control unit comprises a first control panel, first control integrated circuit and a sales random access memory, said sales random access memory and said first control panel in electrical communication with said first control integrated circuit, said second control unit comprising a second control

panel, a second control integrated circuit, an incoming random access memory and a playback random access memory, said second control panel, said incoming random access memory and said playback random access memory in electrical communication with said second control integrated circuit.

92. A system as described in claim 91 wherein the telecommunications lines include telephone lines.

93. A system as described in claim 92 wherein the first memory comprises a first hard disk.

94. A system as described in claim 93 including a video display and speakers in possession and control of the second party, said video display and speakers in electrical communication with said second control integrated circuit.

95. A method for transmitting desired digital video or digital audio signals stored in a first memory of a first party at a first party location to a second memory of a second party comprising the steps of:

placing a second party control unit having the second memory by the second party at a desired second party location determined by the second party, said second party location remote from the first party location, the second memory including a second party hard disk;

charging a fee by the first party to the second party at a location remote from the second party location so the second party can obtain access to the digital video or digital audio signals possessed by the first party, said first party and said second party in communication via said telecommunications lines, the step of charging a fee includes the step of charging a fee via telecommunications lines by the first party to the second party at a location remote from the second party location, the second party has an account and the step of charging a fee includes the step of charging the account of the second party;

connecting electronically via telecommunications lines the first memory with the second memory such that the desired digital video or digital audio signals can pass therebetween;

transferring electronically via telecommunications lines the digital video or digital audio signals from a first location with the first memory to the desired second party location with the second memory while the second memory is in possession and control of the second party, said second party location remote from said first location, said first memory in communication with said second memory via the telecommunications lines;

storing the digital video or digital audio signals in the second party hard disk; and playing the digital video or digital audio signals stored in the second party hard disk with the second party control unit.

96. A system as described in claim 95 wherein the step of charging the account of the second party includes the steps of telephoning the first party controlling use of the first memory by the second party; providing a credit card number of the second party controlling the second memory to the first party controlling the first memory so the second party is charged money.

97. A system as described in claim 96 including after the transferring step, there is the step of repeating the charging a fee, connecting, and transferring steps.

98. A method for transferring desired digital video or digital audio signals from a first party to a second party comprising the steps of:

placing a second party control unit having a second memory by the second party at a desired location determined by the second party;

forming a connection through telecommunications lines between a first memory of a first party and the second memory of the second party, said first memory having said desired digital video or digital audio signals, the second memory including a second party hard disk;

selling electronically by the first party to the second party through telecommunications lines, the desired digital video or digital audio signals in the first memory, the second party is at a second party location and the step of selling electronically includes the step of charging a fee via telecommunications lines by the first party to the second party at a first party location remote from the second party location, the second party has an account and the step of charging a fee includes the step of charging the account of the second party;

transferring the desired digital video or digital audio signals from the first memory of the first party to the second memory of the second party through telecommunications lines; storing the desired digital video or digital audio signals in the second party hard disk; and playing the digital video or digital audio signals stored in the second party hard disk with the second party control unit.

99. A system as described in claim 98 wherein the step of charging the account of the second party includes the steps of telephoning the first party controlling use of the first memory by the second party; providing a credit card number of the second party controlling the second memory to the first party controlling the first memory so the second party is charged money.

100. A method for transferring digital video signals from a first party to a second party at a second party location comprising:

a first party control unit having a first memory having a plurality of desired individual video selections as desired digital video signals, and means or a mechanism for the first party to charge a fee to the second party for access to the desired digital video signals at a location remote from the second party location;

a second party control unit having a second party control panel, a receiver, a second party hard disk and a video display for playing the desired digital video signals received by the receiver, said second party control panel connected to the second party hard disk, the video display and the receiver, said receiver and video display operatively controlled by the second party control panel, said second party control unit remote from the first party control unit, said second party control unit placed by the second party at a second party location determined by the second party which is remote from said first party control unit, said second party choosing the desired digital video signals from the first memory with said second party control panel; and

telecommunications lines connected to the first party control unit and the second party control unit through which the desired digital video signals are electronically transferred from the first memory to the receiver while the second party control unit is in possession and control of the second party after the desired digital video signals are sold to the second party by the first party;

the second party hard disk storing the digital video signals that are received by the receiver.

101. A system as described in claim 100 wherein the first party control unit includes a first party hard disk having a plurality of digital video signals which include the desired

digital video signals, and a sales random access memory chip electronically connected to the first party hard disk for storing a replica of the desired digital video signals of the first party hard disk.

102. A system as described in claim 101 wherein the second party control unit includes a a playback random access memory chip electronically connected to the second party hard disk for storing a replica of the desired digital video signals as a temporary staging area for playback.

103. A system as described in claim 102 wherein the second party control unit includes a second party integrated circuit and the first party control unit includes a first party control integrated circuit which controls and executes commands of the first party and is connected to the first party hard disk, the first party sales random access memory, and the second party control integrated circuit through the telecommunications lines, said first party control integrated circuit and said second party control integrated circuit regulate the transfer of the desired digital video signals; and a first party control panel through which the first party control integrated circuit is programmed and is sent commands and which is connected to the first party control integrated circuit.

104. A system as described in claim 103 wherein the second party control integrated circuit controls and executes commands of the second party and is connected to the second party hard disk, the playback random access memory, and the first party control integrated circuit through the telecommunications lines, said second party control integrated circuit and said first party control integrated circuit regulate the transfer of the desired digital video signals; and a second party control panel through which the second party control integrated circuit is prgrammed and is sent commands and which is connected to the second party integrated circuit.

105. A system as described in claim 104 wherein the second party control unit includes an incoming random access memory chip connected to the second party hard disk and the second party control integrated circuit, and the first party control unit through the telecommunications lines for temporarily storing the desired digital video signals received from the first party control unit for subsequent storage to the second party hard disk.

106. A system as described in claim 105 wherein the second party control unit includes a video display unit connected to the playback random access memory chip and to the second party integrated circuit for displaying the desired digital video signals.

107. A system as described in claim 100 wherein the means or mechanism for charging a fee includes means or a mechanism for charging a fee via telecommunications lines by the first party to the second party at a location remote from the second party location.

108. A system as described in claim 107 wherein the second party has an account and the means or mechanism for charging a fee includes means or a mechanism for charging the account of the second party.

109. A system as described in claim 108 wherein the means or mechanism for charging the account includes means or a mechanism for charging a credit card number of the second party.

110. A method for transmitting desired digital video signals stored in a first memory having a plurality of individual video selections as digital video signals of a first party at a first party location to a second memory of a second party at a second party location so the second party can view the desired digital video signals comprising the steps of:

placing by the second party a receiver, and a video display connected to the receiver at the second party location determined by the second party which is remote from the first party location, the second receiver in electrical communication with the second memory, which includes a second party hard disk;

charging a fee by the first party to the second party at a location remote from the second party location so the second party can obtain access to the desired digital video signals;

connecting electronically via telecommunications lines the first memory with a receiver of the second party while the receiver is in possession and control of the second party;

choosing the desired digital video signals by the second party from the first memory of the first party so desired video selections are selected;

transmitting the desired digital video signals from the first memory with a transmitter in control and possession of the first party to the receiver of the second party while the receiver is in possession and control of the second party at the second party location determined by the second party;

storing the desired digital video signals in the second party hard disk; and

displaying the desired video signals received by the receiver on the video display in possession and control of the second party.

111. A system as described in claim 110 wherein the step of charging a fee includes the step of charging a fee via telecommunications lines by the first party to the second party so the second party can obtain access to the desired digital video signals stored on the first memory.

112. A system as described in claim 111 wherein the second party has an account and the step of charging a fee includes the step of charging the account of the second party.

113. A method as described in claim 112 wherein the step of charging the account of the second party includes the steps of telephoning the first party controlling use of the first memory by the second party; providing a credit card number of the second party controlling the second memory to the first party controlling the first memory so the second party is charged money.

* * * * *

EXHIBIT 6

Apple Launches the iTunes Music Store

CUPERTINO, California—April 28, 2003—Apple® today launched the iTunes® Music Store, a revolutionary online music store that lets customers quickly find, purchase and download the music they want for just 99 cents per song, without subscription fees. The iTunes Music Store offers groundbreaking personal use rights, including burning songs onto an unlimited number of CDs for personal use, listening to songs on an unlimited number of iPods, playing songs on up to three Macintosh® computers, and using songs in any application on the Mac®, including iPhoto™, iMovie™ and iDVD™.

"The iTunes Music Store offers the revolutionary rights to burn an unlimited number of CDs for personal use and to put music on an unlimited number of iPods for on-the-go listening," said Steve Jobs, Apple's CEO. "Consumers don't want to be treated like criminals and artists don't want their valuable work stolen. The iTunes Music Store offers a groundbreaking solution for both."

The iTunes Music Store features over 200,000 songs from music companies including BMG, EMI, Sony Music Entertainment, Universal and Warner. Users can easily search the entire music store to instantly locate any song by title, artist or album, or browse the entire collection of songs by genre, artist and album. Users can listen to a free 30-second high-quality preview of any song in the store, then purchase and download their favorite songs or complete albums in pristine digital quality with just one click.

The iTunes Music Store also features exclusive tracks from over 20 artists, including Bob Dylan, U2, Eminem, Sheryl Crow and Sting, as well as special music videos from several of these artists which users can watch for free. In addition, the iTunes Music Store highlights new releases, staff favorites and up-and-coming artists, and delivers a compelling variety of music from many genres and time periods, ranging from Rock and Hip Hop to Jazz and Classical. The ability to browse the entire music store by genre, artist and album combined with free high-quality previews of every song lets users explore music in an entirely new way, to easily find the hits they love and discover gems they've never heard before.

All music on the iTunes Music Store is encoded in the industry-standard AAC audio format at 128 kilobits per second which enables smaller files and faster download times while rivaling CD-quality sound superior to the quality of MP3 files at the same size. The AAC audio format, developed by Dolby, was also adopted to provide the audio encoding for the industry-standard MPEG-4 video format.

The iTunes Music Store is fully integrated into iTunes® 4, the fourth major release of Apple's popular digital music jukebox software, allowing users to purchase, download, organize and listen to their music using just one application. iTunes 4 features major new enhancements including Rendezvous™ music-sharing between Macs, so users can legally stream their music to other Macs without the hassle of copying files from computer to computer.

Pricing & Availability
iTunes 4 with the iTunes Music Store is available as a free download immediately at www.apple.com/itunes. The iTunes Music Store requires a valid credit card with a U.S. billing address, a Mac equipped with iTunes 4 and Mac® OS X version 10.1.5 or later. Further information about Apple's digital music products can be found at www.apple.com/ipod and www.apple.com/music.

Apple ignited the personal computer revolution in the 1970s with the Apple II and reinvented the personal computer in the 1980s with the Macintosh. Apple is committed to bringing the best personal computing experience to students, educators, creative professionals and consumers around the world through its innovative hardware, software and Internet offerings.

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EXHIBIT 7

iTunes Music Store Hits Five Million Downloads

Apple to Ship One Millionth iPod This Week

WWDC 2003, San Francisco—June 23, 2003—Apple® today announced that music fans have downloaded over five million songs from the iTunes® Music Store since its launch eight weeks ago today. In addition, over 46 percent of the songs have been purchased as albums, and over 80 percent of the over 200,000 songs available on the online store have been purchased at least once. Apple also announced that it will ship its one millionth iPod™ this week. Apple introduced the third generation of its ultra-portable digital music player in April, and it has become a huge hit with music lovers worldwide.

"The iTunes Music Store is changing the way people buy music," said Steve Jobs, Apple's CEO. "Selling five million songs in the first eight weeks has far surpassed our expectations, and clearly illustrates that many customers are hungry for a legal way to acquire their music online."

"The iTunes Music Store has defined what it means for people to have music instantly—and legally—at their fingertips," said Doug Morris, Universal Music Group's CEO. "The iTunes Music Store is pushing us into the future of how music is produced and consumed."

"Apple has shown the music industry, artists and consumers that there is a successful and easy way of legally distributing and obtaining music over the Internet," said Roger Ames, Warner Music Group's chairman and CEO. "Everyone in our industry is looking for a solution and Apple is leading the way with the iTunes Music Store."

The iTunes Music Store lets customers easily search a broad catalog of over 200,000 tracks to instantly locate any song by title, artist or album. With just one click, they can purchase the songs they want and download them directly into their iTunes 4 music library for just 99 cents per song, without any subscription fees. Songs are downloaded in pristine digital quality and can be burned onto an unlimited number of CDs for personal use at no extra cost, played on up to three Macintosh® computers, listened to on an unlimited number of iPods, and used in other Mac® applications, including iPhoto™, iMovie™ and iDVD™. Thousands of new songs, new albums and exclusive tracks are added to the iTunes Music Store every week. PC users will be able to enjoy downloading songs from the iTunes Music Store when it is released for the Windows platform by the end of this year.

The new super-slim iPods store up to 7,500 songs in a stunning enclosure that is lighter and thinner than two CDs. iPod is the only portable music player with Apple's patent pending Auto-Sync, an innovative feature that automatically downloads entire music libraries into iPod and keeps it up-to-date whenever the iPod is plugged into a Mac or Windows PC. iPod features completely solid-state "no moving parts" navigation wheel and buttons; an elegant dock with audio out for fast and easy connection to a computer or stereo; an "On-The-Go" playlist so users can build a playlist right on their iPod; and a customizable main menu so users can promote the features they use most often to their top level menu. The iPod family includes a 10GB model for just $299 (US), a 15GB model for $399 (US) and a high-capacity 30GB model that holds up to 7,500 songs for $499 (US).

Apple ignited the personal computer revolution in the 1970s with the Apple II and reinvented the personal computer in the 1980s with the Macintosh. Apple is committed to bringing the best personal computing experience to students, educators, creative professionals and consumers around the world through its innovative hardware, software and Internet offerings.

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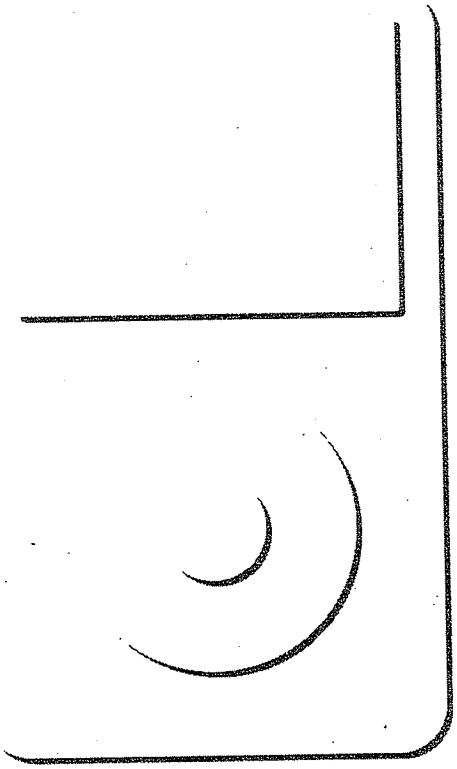
EXHIBIT 8

The Perfect Thing

How the iPod Shuffles Commerce, Culture, and Coolness



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"When we first approached the labels, the online music business was a disaster. Nobody had ever sold a song for ninety-nine cents. Nobody ever really sold a *song*. And we walked in and we said, 'We want to sell songs à la carte. We want to sell albums, too, but we want to sell songs individually.' They thought that would be the death of the album."

So goes Steve Jobs's description to me of the task he faced when trying to establish the iTunes Music Store. Many thought that establishing such a store in 2003 was a quixotic misstep, since the competition, file-sharing networks where millions of users downloaded songs from one another, had a seemingly unbeatable price point: zero.

But a year after the store flung open its virtual doors, Steve Jobs was delighted to put in a call to twenty-year-old Kevin Britten of Hays, Kansas, congratulating him for buying the hundred-millionth song sold on iTunes. Less than two years later, Jobs got back on the phone to dial up Alex Ostrovsky of West Bloomfield, Michigan, with the good news that the sixteen-year-old was getting ten iPods, an iMac, a $10,000 music gift certificate, and a scholarship established in his name at the Juilliard School. Ostrov-

sky's purchase of Coldplay's "Speed of Sound" was Apple's *billionth* downloaded song.

Apple Computer's online emporium lays a plausible claim for itself to be the savior of a music industry that feared that all its revenues would be drained by pirates. In a sense, though, the iTunes store was inevitable, the culmination of a story that began in 1988, when the music world changed forever and didn't know it. Those late-middle 1980s seem fuzzy now and somewhat quaint. The World Wide Web wasn't yet a glimmer in the eye of Tim Berners-Lee. Steve Jobs was trying to sell NeXT computers to educational institutions. The Sony Walkman was still the hottest thing going in personal music. But plenty of computer scientists knew that ultimately computers would be taking center stage in both audio and video. The digitization of everything had begun, and it was time to convert everything analog to the new regime of bits.

It doesn't seem obvious that the film industries (the music labels, ominously, were out of the loop) would entrust the crucial task of digitization to a consortium of two German entities: the Fraunhofer-Institut für Integrierte Schaltungen (Institute for Integrated Circuits, part of a bigger research conglomerate, Fraunhofer Gesellschaft) and the University of Erlangen, named after the small town in southern Germany where it was located. But that's what happened in 1988. An international group of geeks gathered there to create a "codec" (shorthand for code-decode), a standard means of processing recorded music and captured video images into a compressed digital file. The result of their labors was actually three such approaches, or "layers." Two of the layers did the coding and decoding at high speeds and required very heavy technology, while a third did its work in a tempo more suited to personal computers. This last was dubbed with the snooze-inducing appellation Moving Picture Experts Group 1, Layer 3. So everyone called it MP3. In

1992, the International Organization for Standardization bestowed upon the codec the status of an official standard. "Nobody, I promise you, had any idea what this would mean to music," said one engineer on the project.

It wasn't until almost a decade after MP3's creation that some people did begin to get the idea. Things got started when one clever geek discovered the MP3 code on a German server and hacked up a means of playing songs and storing them on a PC. Though the propeller-heads who concocted MP3 had never envisioned its use as a home-brew activity for music fans who wanted to turn their computers into music boxes and swap songs electronically, some people began to do just that. In 1997, a kid from Sedona, Arizona, named Justin Frankel created WinAmp, the first application that could credibly call itself a digital jukebox. He offered it free to anyone who cared to download it. (Eventually, AOL bought his company and another one he'd started, for $400 million.)

The next step was to move MP3s off the computer and into portable devices. In 1998, a small Korean company called Diamond Multimedia released a tiny speakerless device, the Rio PMP300, that would play about an hour's worth of MP3 songs that you could upload from your computer. At this point the record labels stepped in. Their reaction set the tone for the way that the music industry would hereafter deal with the technology that was destined to be its future.

They sued.

The argument of their lobbying and legal arm, the Recording Industry Association of America (RIAA), was that the very *existence* of a digital music player that could make computer copies of the songs they owned was a violation of their copyrights. But a judge refused to block the sales of the device. Thereafter it was clear that if the recording industry could not stop technology, it would

have to come down hard on the digital distribution of music on the Internet.

In retrospect, it would seem that instead of fighting such an idea, the labels might have done better to embrace it. After all, one of the toughest problems faced by the labels was getting the right numbers of CDs to retailers or getting stuck with unwanted goods when overly optimistic sales projections did not pan out. Moving bits instead of discs would solve that problem. Another frustrating challenge was getting new material into the ears of potential buyers. Labels were desperate to expose listeners to new releases, so much so that periodically scandals would erupt when it turned out that the labels were doling out bribes to radio stations to play their songs—a practice that had long ago earned a word of its own, "payola." But "streaming" songs on the Internet—playing them in real time, just like on the radio—would make it easy to give hot new tunes vast worldwide exposure; what's more, the deep-search features of the Internet would ensure that interested listeners could actually find some of the music that might interest them. This wasn't rocket science. By the end of the twentieth century, when virtually every publication in America was screaming like a carnival barker to hawk the wonders of cyberspace and the promise of friction-fee commerce, your fear of change would have had to be very substantial indeed to limit your vision to the Internet's threats and not actively pursue its benefits. Mama, this was a *world-class* fear of change. Blind to the prospects of plenty, the industry chose to circle its wagons and take aim at even the most well-intentioned would-be allies on the Internet.

One of those potential allies, for instance, was Michael Robertson, and his story bears telling. In 1997 Robertson was running an early search engine called Filez, which logged what kinds of infor-

mation people were looking for on the Internet. One day he noticed an unfamiliar term in search requests: MP3. "I didn't know what that was," he says, "but I thought if people are searching for it, it must be an opportunity." He did some homework and was amazed to discover that there was actually a kind of file—that thing called a codec—that could make your computer sound like a stereo. He tried it himself—a friend sent him an MP3 of Dave Brubeck's "Take Five" (a song that Steve Jobs would include among the disks he sent to the first iPod reviewers). Compared to the fuzzy audio you normally got when you tried to play songs from the Internet, it sounded great.

Robertson created a Web site for people searching for information about MP3 files, figuring he could use it to send traffic to his real business, Filez. He tried to secure the Internet domain name MP3 and found that someone had already registered the address. The owner had never heard of Moving Picture Experts Group 1, Layer 3, or its soon-to-be-famous abbreviation; he'd claimed the name because his initials were MP, and since MP.com had been taken, as well as MP1.com and MP2.com, he'd settled for the next best thing. Robertson paid him a thousand bucks for the domain name. By simply turning on his Web site MP3.com—with nothing yet on the site—Robertson logged 10,000 unique visitors his first day. Apparently, like members of some weird cult, thousands of people had been blindly typing "MP3" into search engines, just waiting for the day a decent result would emerge.

Robertson now had to figure what to put on the site. He first thought that he would publish articles about MP3 music. "I ran out of news stories to aggregate in about four minutes, because there weren't any," he says. So he wrote his own. In researching these articles he learned about Justin Frankel's WinAmp and other devel-

opments in the digital music world. But even as the site became a central repository for MP3 information, visitors were frustrated because there was no music. Robertson vowed to change that. He solicited songs from unsigned bands, promising to store all their tunes and let them use MP3.com to promote themselves. In exchange, they would give Robertson a few tracks to give away on a nonexclusive basis. He recalls the reaction: "Everyone in the music industry said, 'You're going to give away free bandwidth and free storage? Well, you're going to go bankrupt.' " But MP3.com thrived. It would eventually accumulate more than a million songs from more than 150,000 bands. A million visitors a day would come to hear songs.

Then Robertson came up with a scheme to let people listen to music from their own collections while they were online. The immediate problem was how to get the songs from the user to Robertson's service. At that time, most people connected to the Internet on slow dial-up connections. They would not tolerate interminable waits to upload their songs to his site so he could stream the songs back to them when they wanted to listen. Robertson's solution was a scheme that would, he believed, follow the law and please the music industry. He called it the "online locker." The first step was to verify that someone legally owned a CD. One did this by putting the disc in his computer, which would scan the disc to verify it and send the verification to MP3.com. From that point, the songs would be registered in that person's account. MP3 would already have its own copy stored online—its servers would store just about any song you could think of, legally purchased—and make it available to you for listening.

Robertson was taking pains not to rip off the labels. He had the data to show that his system actually made money for them, since

it encouraged people to listen to and buy more music. And if the industry heavyweights would build on a system like this, they could have fantastic new ways to promote new artists and deepen the connection fans had with the performers they already adored.

What did those industry heavyweights do?

They sued.

Why? "For one thing," says Robertson, "they didn't want to break their track record of suing every new music technology that's ever come out. That's a fifty-year tradition, maybe a *hundred*-year tradition."

Perhaps you can tell that the guy is a little bitter. "People looked at me and said, 'Oh, yeah, you're one of those free-music-for-everyone people, you're getting sued for copyright.' I'm like, 'Hey, I'm not free music for everybody.' This system is *good* for the music industry, because it sells more CDs. And in fact, we did sell more CDs through every online retailer that signed up with us. But the courts considered what are called statutory damage laws, which means [the record companies] didn't have to prove any actual damage. So even though I had evidence that we helped them sell more music, it didn't matter."

These comments came years after the fact, as Robertson and I were finishing a lunch in New York City. He struck me as a guy with a fairly sunny disposition, a blithe surfer-dude type. Those dark days are long gone for Robertson. In fact, the days were never so dark that he went broke—in 2001, at the height of MP3.com's glory and the apex of the Internet bubble, he sold the company for $400 million, pocketing about a third of that. But I got the impression that sometimes his eyes pop open at four A.M. with the painfully recurring questions busting in on him like home invaders: *Why didn't they see? Why did they want to kill something that could*

make them money? "They sued me for $150,000 per CD that I had in my index, which was, you know, four trillion dollars," he says. "So I had to settle, and I couldn't appeal."

The rest is history. The way young people would learn about digital music would not be from MP3.com and its almost fanatical contortions to stay on the right side of the copyright law. Instead kids would go bonkers with a music sharing system that sprang out of the mind of an eighteen-year-old college freshman, Napster. It used a system called peer-to-peer file sharing that was a step beyond a digital locker; essentially it threw open the doors to everyone's hard drive. Billions of songs were downloaded. Cumulatively, it created the biggest music store imaginable—one without a cash register.

I was dazzled by Napster the first time I saw it. The interface was crude, almost nonexistent. But when you typed in the name of even the most obscure song you could think of, it would grind away until it found the song on the computer hard drive of some stranger you would never meet. *Someone* always had your song; the system could not be stumped. (The ability of the Internet to expeditiously deliver items that appealed to only a tiny slice of the buying population, to the very few who wanted such goods, would later be dubbed the Long Tail effect.) Then you would begin the process—not always successful—of handshaking with that stranger's computer and downloading a song. Sometimes it took a while, but it was always amazing when the download was finished and you'd play the song. So amazing that the fact that you had gotten the song for free was almost a secondary consideration. A few months after Shawn Fanning, Napster's creator, invited the world to download his program—sort of like introducing an aggressive virus in the wild—millions of people were Napster nuts and the

program was consuming more than half the bandwidth on college computer networks nationwide.

In March 1999, I wrote a column for *Newsweek* outlining the threat to the established order it represented, as well as the possibilities for glory if the music industry embraced the model. One of my readers showed the piece to her husband. He was Hank Barry, a copyright lawyer who was also a venture capitalist at Hummer, Winblad, one of the alpha dogs of Sand Hill Road, where Silicon Valley's top VC firms were located. Barry was so intrigued that he not only got Hummer to invest in Napster but became its CEO.

Barry's job was to make Napster legit, first offering, then begging the record labels to help the company shift to selling songs legally. "We're trying to build a bridge to everybody involved in Napster, from music educators and users to record companies," he told me in 2000 after thanking me for cluing him in to the company. (Later, the thank-yous would be bestowed ironically.) He even opened a dialogue with Lars Ulrich, the drummer of Metallica, a heavy-metal band whose outrage at its unwanted presence on the Napster net had become a *cause célèbre*. "It's a weird situation, because we're in the middle of putting him out of business," said Ulrich. But even though Napster was arguably the biggest popularizer of music the world had ever seen and the rewards of using it to let people buy music rather than steal it were unimaginable, the record labels didn't want to give Napster a hug and make it part of the team. They wanted to kill it.

So they sued.

The labels won their suit for copyright infringement, and Napster was no more. I have talked to Hank Barry since and seen the same helpless look that I saw in Michael Robertson's eyes. *Why didn't they work with us?*

Killing Napster was easier than killing the idea of free music. A new generation of file-sharing systems sprang up, using a more cunning means of distribution. Napster had directed its users to songs on other users' computers by means of a central database under its control; this was the smoking gun that made the service legally culpable. But newcomers like Morpheus, Freenet, Kazaa, and Grokster did not have a central database. Their software set up self-sustaining file-sharing networks that lived on their own in cyberspace, like those giant fungi that cover thousands of acres in the northwest. Those networks enabled people to make their stuff available to anyone else on the network and find where the stuff was elsewhere on the Net. What that stuff was and whether it infringed on anyone's copyrights was not the business of Morpheus to worry about, was it?

Another set of lawsuits—MGM (and all the other content owners) versus Grokster, et al. But by then the music industry understood that its problem wasn't just file-sharing systems but file sharers. These were people who loved music—*customers.* They thought that getting music off the Internet was a birthright. And these customers, especially the younger ones, were developing the belief that Internet music, like Internet mail and Internet instant messaging, worked best when you got it free. (To paraphrase the soul singer Luther Ingram, how could anything that feels so right . . . be *wrong?*) To quell this belief, the music industry began a huge educational initiative on the immorality of grabbing songs from the Internet. They paid for MTV-style commercials and took out big ads in periodicals. On the Grammy Awards telecast, the head of the Recording Academy brought festivities to a dead stop as he lectured the nation's youth. This was *stealing,* he insisted, just as larcenous as jimmying the door of someone's big black Cadillac, hot-wiring it, and tire-burning into the night. But of course there

was a difference that a twelve-year-old had no problem identifying. Cars are zero-sum. When you drive away someone's Caddy, the owner is faced with an empty parking space and no car. But when you download a song from someone, it's still there. Music downloads are an infinite-sum game, and everybody knew it.

The other problem with the ethics lesson was that record labels were themselves spotty on the morality thing. Their history was an unbroken litany of publishing credits pilfered from artists, unpaid royalties, and envelopes stuffed with illegal payola. Their plea against downloading came across like an etiquette lesson from the Green River Killer.

It would be unfair to say that the music industry was full of stupid executives. Instead, the people at the top were well-paid pashas who lived and died by short-term results. They'd attained their lofty posts by cunning and a gut instinct for what the public wanted. If the glaciers that supported their current business models were to melt, the smart play for an executive was to hope that there would be sufficient ice to support him until retirement. Nonetheless, they could not ignore the howls of criticism coming their way as a result of their refusal to provide a legal means of getting music online. So the music industry reluctantly began its own music services, called Pressplay and MusicNet. They were pathetic, half-hearted efforts. For one thing, the labels could not agree to work together to create a service that sold music from all their catalogs, a requirement met by the most humble mom-and-pop record store in the physical world. Sony and Universal were on Pressplay, Warner and BMG on MusicNet, and only EMI was on both. So it was virtually guaranteed that no one service would have all the songs you wanted. In any case, only a sampling of the catalogs was on either service. Compared to Napster's long tail, this was a short stub.

MusicNet's interface and restrictive rules made it particularly abominable; it asked users to pony up $10 a month to stream up to a hundred songs and download a hundred. But these were so-called tether downloads; after thirty days, the songs would no longer play and to revive them you had to draw on your allotment again. Pressplay was more reasonably designed but still laden with speed bumps and outright roadblocks for music buyers. The mentality of both systems was that copyrighted songs should be released to music lovers only if they were loaded with software time bombs that would prevent their subsequent theft. This put the music industry into the position of asking people to pay for inferior crippled digital files when unprotected versions were readily available on file-sharing services for free. *The Wall Street Journal*'s Walt Mossberg wrote, "MusicNet and Pressplay are designed in a way that reflects the false lesson of Napster—all people are thieves—much more than the true lesson, that there's a business in selling downloadable songs for a modest price."

Could anyone crack the code of selling music on the Internet—music that customers would simply buy and then would be free to play thereafter—and getting the record labels to allow him to do it in a way where his customers did not feel like criminals?

Well, yes.

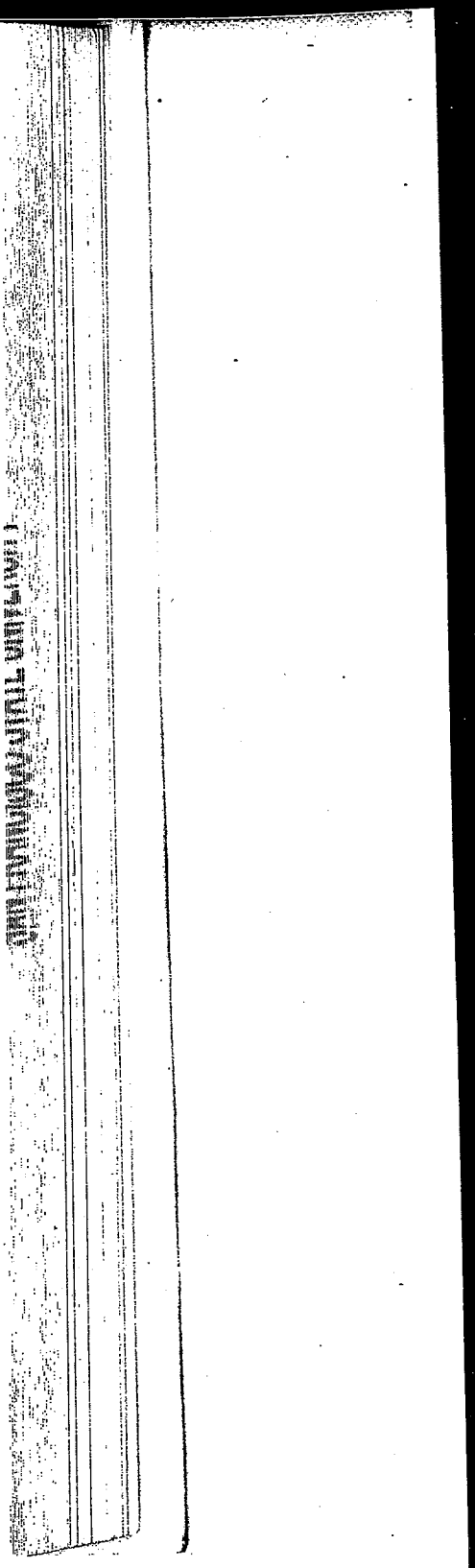
During the whirlwind iPod development process in 2001, the idea of an Apple music store had never come up. You loaded songs onto iTunes one of two ways. The first was very simple: you inserted a CD you owned or had borrowed into the optical media slot of your Mac, and iTunes would launch automatically. If you were connected to the Internet, your computer would, without prompting, venture online to a database that would quickly analyze the characteristics of your disc and, with uncanny accuracy, fill in the titles of the tracks. Then, with a single mouse click, you

would "rip" the songs into digital form and your Macintosh would place them in the appropriate place in your iTunes library. This would work, of course, whether the disc you inserted was one you bought or one you borrowed from a friend.

The second method was to bypass the ripping process and import the digital files themselves. In almost every case this involved venturing onto the Internet and getting songs from someone who was willing to collaborate with you on an act of piracy. (Napster or its successors would be your enabler.) You could also send digital music files to your pals via e-mail or even instant messaging, and they could install the songs in their iTunes library for transfer to the iPod. This was technically copyright infringement but felt like a victimless crime.

But Steve Jobs was keenly interested in giving iPod users a legal pipeline to purchase digital music. As with the iPod itself, he felt he could create an experience that would far surpass anything that had come before. This wasn't a high bar. Also, there was a pretty good template for an e-commerce site: the hugely popular Amazon .com. People would go to Amazon and just hang out, as if in a cool shopping mall, because there were fun things to do and discover, like seeing other people's lists of favorite stuff or reading reviews of books you were thinking of buying. Jobs's bigger problem, one that Amazon didn't face, was that his store would have to compete with a widely distributed system that allowed people to download just about any recording ever made—for free.

Nonetheless, by 2002 Jobs felt that Apple could build a music store so delightful to visit, easy to use, complete in its selections, and reliable in its performance that people would happily pay a fair price. After all, he liked to point out, people pay good money for bottled water when a free alternative is the turn of a faucet away. What he could not do was establish the store without the coopera-



tion and permission of all the owners of the music he would sell: the five major record labels, Universal, Warner, EMI, BMG, and Sony. The kind of store Jobs envisioned would require virtually any song that anyone could imagine, and lacking even one of the big players would mean that users would face a second-rate selection. "Second rate" was not in Jobs's vocabulary.

Jobs organized his assault on the labels like a major military campaign. He had many advantages that the trailblazers in the field had not enjoyed. Unlike an upstart founder of some punk Internet start-up or an expatriate Microsoft executive, he was a full equal of, and sometimes held superior status to, the top executives he wooed. Not only would his mug have to be included in any virtual Mount Rushmore of the personal computer industry you'd imagine, but Jobs was a bona fide movie studio head, having built Pixar into a dominant digital animation operation. So when Jobs came to deal, he would not be closeted with the "new media" executives who were two reports down from the CEO.

As someone who had a big footprint in both Hollywood and Silicon Valley, Jobs felt he had a unique perspective on the culture clash between those two worlds and how it had led the record labels to the brink of ruin—and why he was the person to breach it. He believed the reason that the labels had not worked with the likes of MP3.com or Napster was as much a cultural gap as anything else. "People in Hollywood think that technology is just something you buy, and they don't think it's a creative process at all," he says. "All of a sudden the Internet comes along and people start to steal their product. They're shell-shocked by Napster, and they're looking for someone to blame. And they blame the technology industry. Since the technology industry doesn't appreciate how much work goes into making these products, they dismiss these things— 'Well, they have to adapt to a new business model.' Both are dead wrong."

Jobs felt ideally placed to convince the top person at each label that the new Apple online store would provide a way out of the stew. Part of his success would rest on which companies he approached first—and which last. The first two were obvious to Jobs. In the fall of 2002, he met with Roger Ames of Warner Music. At the time, Ames was pitching Jobs on supporting an extrasecure version of the CD, but Jobs used the meeting to talk about his music store. Ames was impressed.

But the key domino was Universal, with the biggest market share of the majors. The label was known as a hardliner in the digital music wars, but was going through a rough time—its parent company, Vivendi, was on the rocks and was openly peddling the label. So Jobs made a beeline for Universal Music's CEO, Doug Morris, to begin the process of nailing down the big prize. Meanwhile, he would woo EMI (known as the most eager to license) and BMG, another company on the block in the turbulent industry (it would soon merge with Sony Music). The one big hurdle then would be Sony, whose own weird politics made it unpredictable; the Japanese giant was often paralyzed by conflicts between its electronics divisions and its artistic holdings. Not to mention that Sony, maker of the Walkman, might not have been willing to kiss up to the guy who was boasting, with excellent reason, that he had created "the Walkman of the twenty-first century."

Here was the m.o. After the initial contact with the big boss, Jobs would invite a team from the label to fly up to Cupertino and there, in the big boardroom on the fourth floor of One Infinite Loop, he would unleash a full-fledged charisma assault in presenting his plan. And if there were any remaining doubts, he would have the executives consider one more thing: the iTunes store would serve only an insignificant sliver of the marketplace—the measly four or five percent market share who had Macintoshes, and within

that only the sliver of think-different-ers who had iPods. In 2002, Apple had begun selling Windows versions of iPods, but since iTunes, the basis of the Apple store, did not run on Windows, the vast majority of the recording industry's customers would not be able to utilize the proposed store. "Our smaller market share turned out to be an asset!" Jobs says. "We only convinced them to let us do it on the Mac at first. We said, 'Well, if, you know, if the virus gets out, it's only going to pollute five percent of the garden here.' And that's probably what, in the end, enabled us to get them to come along with us. Doug Morris, who runs Universal, said, when he was arguing with his own team, 'Look, how—I don't understand how Apple could ruin the record business in one year on Mac. Why shouldn't we try this?'"

Going to Universal, which had proven itself a tough sell for digital music efforts, was a great early move for Jobs. "At the end of the day, everything follows Universal," says Sean Ryan, an entrepreneur who had dealt with all the labels in an effort to license their music for his company, Rhapsody, which streamed music rather than sold it. "Sony will fight anything, but the rest of them just follow Universal, the strongest square." Some believe that Jobs's secret weapon with Universal was a rumor at the time that Apple might be interested in merging with a music company. Howard Stringer, then CEO of Sony USA and now in charge of all of Sony, puts it bluntly: "Steve Jobs was able to fool Universal into believing he was going to buy it—that was quite smart." The facts are a little more complicated. After Jobs had a good talk with Doug Morris, the Universal CEO contacted the head of the most powerful label in the Universal family, Jimmy Iovine of Interscope. Iovine was a music industry icon. In the seventies, he had engineered Bruce Springsteen's records. Now he was the head of several of his own powerful labels in

Universal's camp, including the key hip-hop imprint. He had the ear, and the respect, of everyone from 50 Cent to Sheryl Crow.

As a guy who knew the purpose of every solenoid on a studio soundboard, Iovine was not scared of technology. But by the time he headed to Cupertino, he was distraught at technology's impact on his industry. "I realized we had a problem between content owners and technology users. It's a very attractive thing to buy an album, make ten copies, and give it away or sell it, whatever's attractive." He had made it a point to connect with people in Silicon Valley who were devising schemes for the future of music and had been shocked at what he had found. One incident in particular stuck out in his mind. Iovine was visiting Intel, the company that makes the lion's share of processors, the electronic brains inside computers. Iovine was describing the concerns of the music industry to a top executive at the semiconductor giant, and the man looked right at Iovine and commented, "You know, not every industry is meant to last forever." It was such an insulting viewpoint—a flipped-off observation that what Iovine had done all his life had no economic future—that Iovine just laughed. But it bugged him plenty. That's why he was eager to hear something new when he headed to Cupertino.

What impressed him right off the bat was not only the well-developed scheme that Apple had cooked up but Jobs's attitude. "We just hit it off, what can I say?" Iovine recalls. "Every other company was telling us, 'Give us your licenses and we'll build you a system.' He had a complete thought."

Was there also a tempting possibility that Apple might merge with Universal? It did cross Iovine's mind. "I would've loved for that to happen," he says. "We are not a technological industry, and we needed a relationship with a technology company to fix our

problem. So I brought it up." Iovine, however, insists that the possibility wasn't the reason he got on board with Apple. "That's not why I did it," he says. "I fell in love with [Apple's system] and thought it was fantastic."

Iovine not only became a loud voice urging Universal's support but, after the deal was done, would wind up putting Jobs together with his artist Sheryl Crow for a *Fortune* magazine cover shoot.

But before that happened, there were huge obstacles to overcome. The stickiest part of making the deal was determining what rights would be given to and what rights withheld from those buying songs on the system. The songs sold on the iTunes store would be saddled with a layer of protection known as digital rights management, or DRM. Unlike files in the MP3 format, which are completely unfettered and can be copied infinitely without degradation, Apple's downloads would have a layer of protection laid on top. The exact rules of copying would be crucial in determining how users would view the iTunes store. An overly restrictive set of rules would kill the whole project. Instead of adopting someone else's technology for protecting music, Apple decided to start from scratch and build its own system. The idea was to strike the happy but as yet elusive medium where labels would feel their intellectual property was protected and consumers would be able to make use of the music without feeling as if they purchased disabled product. At that point no one was sure that this zone existed.

"We told them that to compete with Kazaa, we had to offer users broad personal-use rights," says Jobs. "Like being able to burn as many CDs as you want. And being able to put your music on as many iPods as you want, being able to put it on more than one computer. They were not in that mind-set when we first talked."

Jobs found this out pretty explicitly in one of his presentations with music executives. As part of his spiel, he would outline the de-

tails of the iTunes store. But at one session, each time he'd write down an element of his rights scheme—how many burns a user was allowed, how many computers could have access to a music library—a guy from the record company would jump up, erase the figure, and put in a more restrictive number. "Jobs wasn't used to someone else writing on his whiteboard," recalls one participant at that meeting, highly amused.

But Jobs understood that allowing users the maximum level of freedom would be essential. There was no way in hell that he would allow a system with the Apple imprimatur if it felt as though it had been designed by lawyers. The only way the system would work would be if people rarely, if ever, ran into antipiracy restrictions. And when they did run into them, they should be more like speed bumps than barriers. This philosophy was reflected in the name that he used for his DRM software: FairPlay.

Eventually he was able to get all of the labels to agree to the following rules: downloaded songs could be retained forever, just as CDs are. Since people commonly own more than one computer, or expect music they purchase to be available to everyone in their immediate family, the songs would be playable on as many as three "authorized" computers. (The iTunes Web site would keep track of those, and if you got rid of a computer, you could decommission it and add another to the approved list. A year after the store opened, this number was increased to five.) You could burn a song to a CD as many times as you wanted, but you could not make limitless CDs of the same collection of tunes. (In other words, FairPlay would not let you make endless copies of the new Black Eyed Peas record.) Ten burns of a playlist was the original limit, later adjusted to seven.

Eddy Cue, the Apple executive in charge of the store, admitted that the process of corralling all the labels was frustrating. "It's not

a secret that the negotiations were painful in the sense that we were trying to move some of them faster than they wanted to move," he says. But the labels also knew that the public was losing patience with them. Everybody was worried about a lost generation that saw nothing at all wrong with grabbing music off the Internet for free. The court cases against Napster had been won, and the subsequent case against the post-Napster sites was heading to the Supreme Court, with good prospects. But that was lousy publicity, and the RIAA's next step was even worse—a set of lawsuits against actual music fans whose identities had been traced through the files they had shared online. While music executives rode around in limousines and mugged on the red carpet with their divas *du jour,* they were slapping their future customers—sometimes blue-collar kids barely making college tuition—with settlement demands of five to fifteen thousand dollars. If they were seen as publicly rejecting their best shot yet to actually sell songs online, who would not feel justified by grabbing what he could? On the other hand, Apple was promising to make *not* stealing . . . cool. And promising to jam the airwaves with irresistible commercials, in pulsing hot pinks and yellows, to hype the fun things about buying music. (Quite a change from the music industry's don't-steal-or-you'll-go-to-jail-or-Hell campaign.) The contract the labels signed with Apple specified a multimillion-dollar marketing commitment, and Apple indeed spent tens of millions on its ads. "These were smart guys," says Jobs. "They basically in the end trusted us, and we negotiated a landmark deal."

BMG and EMI fell into place. The last domino to fall was, as expected, Sony. Sir Howard Stringer, the recently knighted former CBS News executive, was personally frustrated that Sony hadn't created such a store first. "It's our fault," he said, explaining that several years earlier Sony had been working with IBM to create a

similar operation. "We were well ahead," he moaned, "but we tried to write the perfect legitimate download experience and got bogged down." He believed that Apple's solution—which he called "security light" because of the relatively simple ways people could get around the iPod's restrictions—was an inadequate shortcut, but he also understood that Jobs had backed his company into a corner. Ultimately, Stringer recognized that since there was no short-term solution to the industry's problems, being the lone holdout to Apple's store just wouldn't play. He told his bosses in Tokyo that Sony should join the others.

The iTunes Music Store launched on April 28, 2003, with 200,000 songs. (Also on that day, Apple introduced the third-generation version of the iPod, a slightly slimmer model with the four control buttons beneath the display screen.) The intention was to cajole the labels—both the majors and smaller indie concerns—to submit many more songs to Apple. (Indeed, by 2006, the store listed more than two million tunes.) For the bulk of the songs that would fill the infinite rack space, it was just a matter of logistics: finding the masters and digitizing the tunes. But some superstars (or their managers) just didn't want their songs online. Jobs had gone to a few performers he knew, like Mick Jagger, to make a personal appeal. Apparently he could not convince the big-lipped sexagenarian to license the songs, because the Rolling Stones were missing in action. (A year later, they came on board.) Another omission was the Beatles, despite the buddy-buddy status Jobs claimed with Sir Paul McCartney. This situation was particularly complicated, since the Beatles' record company has the same name as Steve Jobs's computer company. Years ago, when Apple Computer created software to let its users play CDs, the Beatles sued, claiming that the Cupertino company had violated an earlier agreement not to venture into the music business. Apple paid $26

million to settle the case in 1991. But the appearance of an Apple iTunes store led the Beatles to claim that Jobs was going beyond the terms of the settlement, which didn't specify that Apple could start its own music store. "It'll get resolved, it's not a big deal," Jobs told me after the other Apple filed suit in London. "It's unfortunate because we love the Beatles. I'd do anything for those guys." (The English judge hearing the case began proceedings by confessing that he was an avid iPod user. No one thought it a conflict. *Everybody* has an iPod. The judge ruled for Apple Computer.)

In the first week, users bought more than a million songs on the iTunes Music Store, more than had been legally downloaded in all of history. And remember, that was from only the percentage of Macintosh users who had iPods and took the trouble to download from the iTunes store on the Internet.

What made the store so good? One key reason was that the store is not a Web site but an actual component of the iTunes software that iPod users already adored. According to Jobs, this was partially a consequence of the systems Apple had set up long ago on its online store. "We had a lot of the pieces in place," he says. "The store runs on top of our internal systems, which uses SAP [a customer transaction management software], so it's very rigorous in terms of its controls and its transaction processing and all that stuff, so that saved a lot. And we already had a lot of expertise in sending bits all over the planet, because we're the number one movie trailer download site in the world."

More important, this approach made it immeasurably easier to buy songs. To venture onto the store, one did not have to fire up a browser, punch in a Web address, and tap in a password, the virtual equivalent of putting on one's boots and driving five miles to Tower Records. All you had to do was click the mouse on the "Music Store" option, and the store would appear almost as if it had been

on your own hard disk all along. Since Apple kept your credit card information, there was no barrier to making a buy, no series of menus asking you to fill in your name, address, e-mail address, credit card number, and the security code of your credit card. (Apple would eventually accumulate a stockpile of tens of millions of live credit card numbers, a treasure second only to Amazon's in the online world.) And when you did buy, the download would be quick and the song would go straight into your iTunes library. For iPod owners, this process was immeasurably easier than seeking out tunes on some file-sharing network, where the download might or might not work, and then taking the steps to load it into iTunes. And since most people didn't bang their heads against the restrictions of the FairPlay DRM, the iTunes store felt like an *Apple* experience—as opposed to the lawyer-designed Bleak House feel of the previous efforts.

The next step was obvious: Apple began making a version that would run on Windows computers, too. Jobs returned to the record labels to explain that the small experiment involving 5 percent of the computer-buying population was now about to cover everyone. "We were able to convince them after six months to let us expand it to Windows," says Jobs. Not that the labels had much of a choice; it would be a public relations debacle if the music industry shut down the one place where people actually bought online music legally.

The record labels professed delight at the store's success. Finally, people were paying for music and liking it. "The iPod and the iTunes Store are shining light at a very bleak time in the industry," said RIAA President Cary Sherman. But the good feelings were mixed with more than a little consternation at the not-so-subtle shift online buying represented for their business model. Downloading music a song at a time is not just an alternative means of

distributing and acquiring the musical products otherwise found at Tower Records and Wal-Mart but one of those fundamental shifts in the way people consume music and, ultimately, the way people will go about making music. Fifty years ago, the advent of 45-rpm "singles" changed the fundamental nature of the business and created not only a marketplace but an entire culture based on the frenzied three minutes a hit song would last. In the sixties, around the time that the Beatles arrived, this was supplemented and ultimately surpassed by the dinner plate–sized slab of vinyl known as the long playing (LP) 33-rpm record, on which music was distributed in two helpings of roughly twenty minutes each. That restriction became a ground rule, like the rhyming scheme of a sestina, and the great rock artists of the 1960s and '70s shaped their creations to the vinyl clock. (Think *Sgt. Pepper, Ziggy Stardust,* and *Dark Side of the Moon.*) In the 1990s, the CD ripped the needle across the surface of the LP age, and suddenly artists had a full hour to fill, with no natural breaking point when you flipped over the record. That hour exceeded the available time and attention span of most listeners, and in any case all too often a singer-songwriter, band, or hip-hop crew didn't have enough good stuff to fill the space. So they filled it with their second-rate offerings. "People are making a lot of shit," Stephan Jenkins of the rock group Third Eye Blind told me. "They have a couple good songs and then the rest of the album isn't very good. People aren't trying to make whole albums good. They're just trying to get that royalty rate for all twelve tracks."

Nevertheless, the CD was still a *package.* Buying music song by song hadn't been the norm since the days when bobby-soxers parceled their pennies for the latest single from their favorite heartthrob teen idol. In the interim, pop music had gained the status of art. Messing with the work—the song selection, even the

sequence—was frowned upon. "If you reprogram the order of cuts in a pop album, you dissolve the album, at least as the album was once conceived—as a story the artist wanted to tell," wrote *New Yorker* critic David Denby. "Played as a selection of favorites, 'Sgt. Pepper's Lonely Hearts Club Band' disintegrates into a random collection of eccentrically charming songs—not the end of the world, of course, but not what John Lennon and Paul McCartney intended, either." Denby's tirade was written as a criticism of compact discs (because they could in theory be reprogrammed), but the album's integrity really didn't come under serious attack until the iPod and Apple's alluring store.

From the music industry's perspective, of course, keeping the package whole wasn't an artistic consideration but a commercial one. Listeners had been griping for years that all too often a CD would have only two or three songs worth listening to—or even just one great song and fifty minutes of junk. Now they could do something about it. Listen to Heather McNeil, a Boston-based Virgin Megastore employee in her early twenties. She'll still buy a CD—hey, she works in a store full of them—but prefers buying songs off iTunes. "I think what record companies charge for a CD is ridiculous," she says, "so I go and get the three songs I like and pay three dollars instead of twenty dollars." She might be surprised to hear that plenty of her favorite artists think she's doing the right thing. "Eighteen dollars for a CD is a lot of money," the singer Sarah McLachlan told me after performing a few songs at the launch of the Windows iTunes Store in October 2003. In contrast, buying on Apple's store comes closer to her belief that "music should be like air." Plus, she added, "I just love the five A.M. availability."

Not coincidentally, the cherry-picking method reflects the way people now *listen* to music . . . shuffling it on their iPods. "The linear experience is gone," says the rock musician John Mayer.

"There's a new digital etiquette. The iPod scroll bar has changed the chemistry of listening, and we're now a skip-forward generation."

The experience is even changing the dynamics of fandom. Instead of staying loyal to a band and dropping a bundle on its CD, people can spread the love, snaring a song a friend liked or one they heard on Internet radio. It's a looser, more adventuresome way to consume music. Reviewing the 2005 version of the independent Coachella rock festival in the desert town of Indio, California, *New York Times* writer Kelefa Sanneh wrote that the satisfying diversity of the festival was a direct result of the iPod. "The promise of Coachella, like the promise of an iPod shuffle, is that it will let you hear your favorite music in a totally different context," he wrote. "Narrow obsession has come to seem less appealing than broad familiarity [of the] scrupulously eclectic world of . . . iPod shuffle owners, all of them finding ways to make chaos part of their listening experience."

As the iTunes store evolved, it began taking advantage of this flexibility, offering artists a chance to come up with new ways to package music, often in less formal and more vital formats. In 2004, for instance, the iTunes store began selling a package of three songs recorded live by Liz Phair, at an impromptu concert in the Apple Store in Chicago. "If you were to sell only 50,000 of these in the real world, you wouldn't do it," the iTunes store manager, Eddy Cue, explained to me. "Here you do it, because the formula changes completely. I don't have to do a print run, decide how many CDs to press. I don't have to worry about distribution and which stores I'm going to put them in. I can be very instantaneous, make changes, do what works, and stop doing what doesn't work. As the business of music changes, the economies may change with it. That's just the reality. Over time they will change, and we think we'll be in a great position."

iTunes *already* seemed in a great position, grabbing and maintaining almost three fourths of all legal music downloads. Had Cue been thinking of opportunities that could come if Apple held on to a significant share of those sales as the percentage of music that is sold online climbed above the current two or three?

He had. "We'd be Wal-Mart," he says.

Sweet. But not even Wal-Mart has Apple's 85 percent market share, a number that didn't budge as the music industry granted licenses to more and more competitors. Online buyers could now buy downloads from Microsoft, Yahoo!, Napster (not the original file-sharing crew but some company that bought the name at a bankruptcy fire sale), and, uh, Wal-Mart. (Oddly absent was Amazon.com; as late as 2004, CEO Jeff Bezos assured me that his company would join in, but only when it figured out some innovative twists.) Didn't matter how many or who . . . iTunes ruled.

That dominance began to make record executives more than a little nervous. They voiced two complaints in particular. One was that Apple was scooping up too much money. Not from running the store—two thirds of the revenues went straight to the record labels, a much better cut than they got from bricks-and-mortar record stores, and with no outlays in materials, no returns, and no having to chip in for Apple's massive promotional efforts on billboards and TV ads. (At best the iTunes store made a tiny profit.) What bugged them was that Apple was making money on *iPods*. Howard Stringer complained to me that since the iPod wouldn't exist without the songs sold by labels like Sony, Apple should share its iPod profits with the recording industry. (An interesting argument coming from a company that sold 340 million Walkman players—and as far as I know, had never volunteered to kick back revenues to Warner Music or EMI.) When I reported this conversation to Jobs, he went a little nuts. "That's a fantasy!" he howled.

"Howard must be flying too much between New York and Tokyo. Of course it's absurd—let them go invent something themselves."

The other gripe was that with Jobs's insistence on holding the song tariff at ninety-nine cents, he was subverting the labels' God-given right to set their own prices. Of course, they wanted to charge more. After Warner Music head Edgar Bronfman, Jr., went public with this complaint, Jobs struck back at a Paris news conference in September 2005. "If they want to raise prices, it means that they are getting greedy," he said. "If the price goes up, [the consumers] will go back to piracy and everybody loses." A few weeks later he explained his comment to me. "I didn't call anybody greedy," he said, "except those who would choose to extract more money out of the consumer."

It's a given that those moguls are greedy. That's why they're *moguls*. But they're also wrong in their belief that charging more for online songs will fatten their bank accounts. Digital economics indicate that the wise course is charging *less*. Look what happened when Rob Glaser, the CEO of RealNetworks (which had purchased the Rhapsody subscription service and online store), tried an experiment during a campaign to sign up new users. In the summer of 2004 he cut the prices of his song downloads from 99 cents to 49 cents. (The labels, of course, made sure that Glaser ate the difference, paying *them* as if the tunes sold for full price.) What Glaser found was startling: his users bought *six times* as many tracks. So by cutting the price in half, Glaser tripled his revenue. It's fair to conclude that 99 cents is a low enough price for people to purchase the songs they want, but when the price goes down to 49 cents, customers are likely to grab tunes on a hunch or a whim. You would think that the labels would sit up and take note—after all, someone who buys six songs instead of one is not only forking out more money but getting more intensely involved in music, being more

daring in sampling new bands, and generally becoming a more devoted customer. But—are you surprised by now?—the music executives *hated* the idea. They felt that it sent a signal that their music wasn't worth very much.

Is it any wonder that music lovers hate record labels and love the iPod? This dichotomy played out vividly on March 29, 2005, the day the Supreme Court considered *Metro-Goldwyn-Mayer Studios, Inc. et al. v. Grokster, Ltd., et al.* This was to be the final determination of the lawsuit the labels had instituted against the post-Napster file-sharing services, which claimed that they were not responsible for any infringement that might be occurring on their networks. Clearly the Groksters of the world looked to be operating on the wrong side of the law—anyone whose IQ was in the black could see that just about the *only* thing people used those networks for was stealing songs. But should a service—or a technological device—be outlawed because people generally used it in an illegal manner?

Some people worried that the Supreme Court might rule too broadly in striking down the file-sharing networks. Specifically, they feared the decision might negate the Sony Betamax decision, a previous Supreme Court ruling that had preserved a consumer's right to dub copyrighted works for personal use. The most dire scenario would be to allow people who create content—movies, books, songs—a veto over new consumer electronics products because the products were too user-friendly in the way they permitted you to make copies of their DVDs and CDs. In that case, it wouldn't be just the Electronic Frontier Foundation crowd, the Intellectual Property academics, and the street geeks bent out of joint—the entire electronics industry would be at risk. So said amicus briefs by the likes of Intel and the Consumer Electronics Association.

All of these arguments were rather esoteric, but it turns out

there was a succinct way to put it so that anyone—the guy next to you on the subway, or that gal in black robes who's an associate justice—could get it. *What about the iPod?* The scariest nightmare of all would be if the ruling had pulled the plug on the next great gadget coming out of Apple. On the day of the argument people stood outside the building with signs like SAVE THE IPOD. And once the argument began, Justice Stephen Breyer nailed the MGM lawyer with the question of the day: If Hollywood prevailed, could he "recommend to the iPod inventor that he could go ahead and have his iPod, or, for that matter, Gutenberg his press?" Even before the lawyer could respond, Breyer barked at him, "What's your answer?" Yes, the lawyer insisted, Jobs could have his iPod and Gutenberg his printing press. But the justices weren't satisfied. A couple of minutes later, Justice David Souter took up the cause. "How is that clear in the iPod case?" he wanted to know. Before he got an answer, the associate justice launched a loving description of how one could get music on the iPod either legally or illegally and wondered if that variation was something that "the guy sitting in the garage figuring out whether to invent the iPod" should have to worry about. It couldn't be clearer that Souter knew his iPod inside and out. So it was no surprise that while the June 2005 decision went against the file-sharing services, the justices emphatically reaffirmed the principle of allowing individuals to copy music—to keep the iPod safe.

Good thing, because the era of digital music is just beginning. In a 2004 interview Jobs shared the big picture with me. "I'm one hundred percent clear that we will all listen to music on devices like an iPod," he said. "They may take different forms, but they'll all be devices like this, that hold a thousand or more songs. And we will all buy our music off an online music store. The Internet was *built* to deliver music."

What about physical media?

"It'll all go away. Eventually. I think burning CDs is passé already. Why would you burn a CD anymore? Just plug your iPod into your car! And I think the transition from portable CD players and all that stuff to iPods is going to happen in the next three to five years. The majority of the music in this country to be bought online will happen over the next six to eight years."

Thanks, in no small part, to iPod.

It's not so hard to see why the music industry so desperately clings to its business model. But once the CDs are discarded into history's dustbin, the labels will have to endure the transformation that was inevitable from the day MP3s hit the Internet. What's the sense of maintaining the illusion of a CD-size package when there are no CDs? And how can the labels keep their lock on the artists they sign when rock bands and classical orchestras can bypass the entire process of signing with a label and go straight to iTunes and other online stores? What's the point of a record label then?

Apple itself never set out to change the music business. The idea was always to sell iPods. But the principle that guided Apple was one that the music industry, with its overpriced CDs; its focus on blockbuster acts of boy bands, pop tarts, and American idols; and its lawsuits against its most ardent fans, seemed to have lost track of. The best way to sell music is for the seller to keep in touch with that part of him or herself that simply loves the songs. The people at Apple are proud of their passion for music. They talk about it at every opportunity. When it comes to business plans they are businesspeople, and when it comes to negotiating they can be hardliners. But their success has come largely because of their ability to ask themselves as potential customers, What's the way *I* would want to use this product? And when the tunes start playing, they are perfectly capable of being starstruck, if not fawning, fans.

That includes the CEO. One of Steve Jobs's greatest days at Apple came on October 26, 2004, when Apple announced the U2 iPod, a digital boxed set of the band's entire catalog, and a new iPod commercial featuring the Irish band, at the utter top of the music heap at that moment, singing their new tune, "Vertigo." (That was also the day Apple announced the first iPod with a color screen, the iPod photo. Though the tiny display wasn't ideal for passing around shots of bridal showers and landscapes, the high-contrast output made text more readable, and it was immediately evident that soon all iPods would be color.) The day almost certainly had special significance for Jobs, because it marked his return to the public eye after his cancer surgery a couple of months before. In the newly restored California Theatre in San Jose, Bono and guitarist The Edge performed a couple of tunes after Jobs made his announcements. Tentative at first, Bono quickly gained his footing and was soon projecting his persona through the modest former vaudeville house as if it were a football stadium.

The U2 iPod was a landmark for Jobs and Apple. Other bands had done deals with digital music, releasing previously unavailable cuts or songs from live shows. But the U2 event was truly strength meeting strength, a meeting of equals. And that was reflected in a small press roundtable after the show, with Steve Jobs flanked by Bono and the Edge. Bono, who at an earlier Apple event via satellite connection had joked that he was "there to kiss the corporate ass," was still kissing, contending that Apple was less a corporate entity than a creative one. "They're like a band," said the Irish icon.

"I guess we're a big corporation, but it doesn't feel that way to us," said Jobs.

Bono proceeded to debunk the music industry's complaint that piracy was killing them. "Don't believe those people," he said. "*Crap music* is hurting music. Give people what they want when they

want it. The CD is not a fair fight with the download." His solution? "We want to stop running away from the future, like the music business has. We want to walk up to it and give it a big kiss."

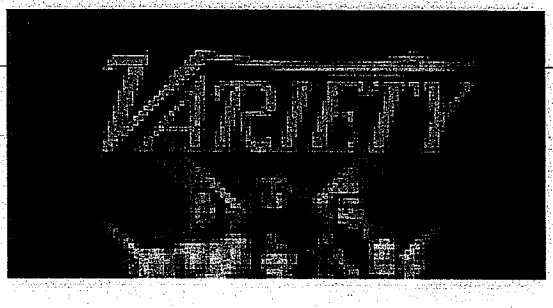
After that meeting, I got to talk to Jobs in private. He was in a sentimental mood. In fact, he was getting a bit *verklempt*. It reminded me of the time we had talked after the iTunes Store for Windows was launched. The music he had played when people entered the hall was a haunting rendition of the Beatles' song "In My Life" by Johnny Cash, who had died a month earlier. I asked him who'd chosen the tune. "I did," he said. "When he died, I went on the site and I looked at all the Johnny Cash stuff and was listening to that. I'd never heard that, that old Beatles song, and it's beautiful. That was one of the last recordings he made. And you could imagine him singing that to his wife. Here's a guy who's done what he's done in his life, who he's been, what he's been through, and he's singing that song and you know he's thinking about his wife, who's recently departed. It doesn't get any richer than that. So to me it's just one of those reminders of how powerful music can be in your life."

Now Jobs was reflective again. "The iPod is three years old next month," he told me. "When we started this, nobody really knew what it was, and people that did really didn't believe it would be a big hit. And when we were trying to do the iTunes Music Store, it was"—he paused, groping for the phrase—"such an uphill battle. Everybody in the industry [thought it wouldn't work]. It was almost impossible. And to see it blossom into what it's become, and to see U2 performing at our event, it was just—" He stopped, and an extremely rare moment passed when Steve Jobs was at a loss for what to say next. "I'm trying to think of the word," he finally said. Another long silence. "I don't have a word," he concluded, obviously moved, giving an Academy Award level performance, or both. He

gave a long sigh. "When they were on," he continued, "I was sitting next to one of my close colleagues at Apple and I socked him on the leg *really hard* and said, 'We're going to remember this for the rest of our lives.' That's how I felt. It was really great."

Similarly, the music industry will remember the iPod for the rest of *its* life. However long that is.

EXHIBIT 9



Tech Tussles: Apple vs. The World

November 3, 2010 | 05:00AM PT

Can company's decade-long dominance continue?

Chris Morris (http://variety.com/author/chris-morris/)

Apple might be one of the most dominant players in the entertainment and technology worlds, but to climb to that pinnacle, it adopted a business model that would make most strategists wince.

Rather than choosing one sector to conquer, the house that Steve Jobs built opted to fight a multi-front war. What's amazing is that Apple has won so often on so many battlegrounds.

Apple may not exactly be looking to take over the world — but Jobs loves to talk about changing it. Certainly he and his company have expansionist designs on the world's leisure time.

The recording industry is already firmly reliant on Apple, as it has a 69% share of online music sales and a 27% share of the overall music space, greater than the combined shares of Walmart and Best Buy.

It's not stopping there. The vidgame industry is nervously looking over its collective shoulder as players abandon traditional game platforms and turn to iDevices (http://variety.com/t/idevices/). TV and movie content owners are feeling increased pressure to work with Apple. Book, magazine and newspaper publishers are being drawn into the company's gravitational pull. And Apple's bombshell product announcements have forced the biggest consumer electronics companies to alter or cancel products before they're launched to remain competitive.

That's a stunning reversal from where Apple found itself 10 years ago, when the company was struggling to return to profitability and revive its reputation — and Jobs had just committed to his second tour as CEO.

Today, Apple is the poster child for the digital generation.

"Apple almost cratered totally, but the last 10 years have been phenomenal," said Gary Shapiro, president and CEO of the Consumer Electronics Assn. "They have redefined categories and they have created new categories. ... You cannot point to another company in the world that has higher success at the strategic or execution level."

Apple vs. TV

With music firmly in its pocket, Apple is now turning its sights on video content. Apple TV, while hardly a market leader at this point, hopes to capitalize on the over-the-top movement and has persuaded ABC, the BBC and Fox that a la carte programming — specifically, 99¢ rentals of TV shows — is a model that can work.

Not all content providers are on board, though. The heads of Time Warner and NBC have categorically stated that such a low price point devalues their content and could jeopardize their companies' business models.

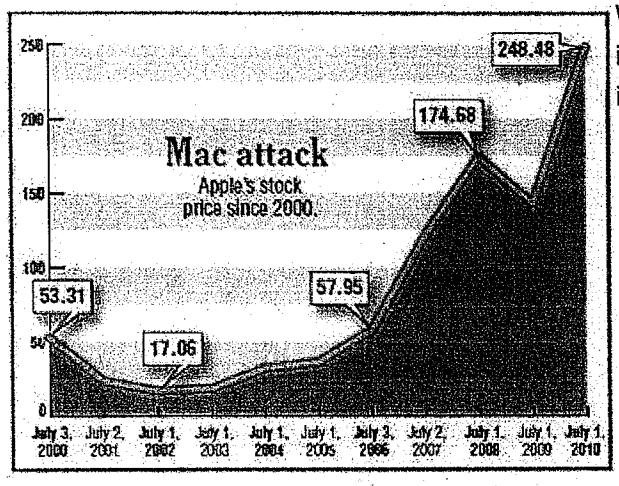
The disagreement between the congloms centers on a few points. First, television (and film) content makers saw how quickly Apple became a force in the music industry and don't want to cede that level of control.

"I think a lot of record label executives were blindsided by how much power Apple came to wield," said Scott Steinberg (http://variety.com/t/scott-steinberg/), CEO and lead analyst at TechSavvy Global. "Network content providers tend to be hopeful, but cagey about how to proceed, because they've gotten a taste of how quickly Apple can use a bargaining chip to its advantage."

And while those content providers are eager to monetize catalog content, they haven't yet figured out how best to do that and still safeguard their relationships with broadcasters and cable providers.

"Scripted content — whether it's feature films or series — cannot be profitable based on a single window," said John Landgraf, president and general manager of FX at a recent Variety Entertainment and Technology Summit. "They need to sell through multiple windows. I think the key to the current flux in the business model is figuring out a windowing strategy that allows some degree of exclusivity for those of us who actually create the content."

Game on!



When it comes to gaming, Apple has quite literally stumbled into its success and is only now beginning to realize the potential of interactive entertainment.

Since 2007, Apple has sold 100 million iPhones, iPod Touches and iPads. None of those devices was designed as a gaming platform, but the app explosion opened up the world of mobile gaming. These days, Jobs refers to the iPod Touch as "the No. 1 portable game player in the world" adding that the device "outsells Nintendo and Sony's portable game players combined."

Actually, that's creative math. It conveniently ignores older systems, such as the Game Boy Advance, that are still in use. And while entertainment and game apps have surpassed 1.5 billion downloads on the iPod Touch alone, the raw dollar numbers don't come close to touching Nintendo's income from DS games (http://variety.com/t/ds-games/).

Neither Nintendo nor Sony is willing to cede the fight. In March, Nintendo will launch the 3DS, a portable gaming system that features stereoscopic 3D images without the need for special glasses. Also next year, Sony is expected to announced the PSP2, its next generation handheld gaming system.

The window for single-function devices could be closing, though — something Apple is counting on in this fight. It is a hardware-focused company that eschews the razor-and-razor-blade model that's typical in the gaming industry, where the hardware is a loss leader for sales of the game software.

Apple doesn't rely on software or other forms of content to make its financials. That's why it pushes for such low prices with content owners. Those low prices draw in consumers like moths to a flame, and they then are happy to buy Apple's high-priced, high-margin hardware. That has helped Apple accrue more than $51 billion in cash reserves.

Apple vs. Amazon

The launch of the iPad brought Apple into the fight for the future of print content. Magazine and newspaper editors have so far struggled to find the best use for the device, but many recognize the shift to digital media is inevitable and are figuring out how to adapt. The shining example for many has been Wired, which has shot video specifically for the iPad version of its magazine and offers exclusive bonus content each month.

With iBooks (http://variety.com/t/ibooks/), the company was hoping to assume a dominant position in the eReader (http://variety.com/t/ereader/) space but it hasn't managed to make a notable dent in Amazon's position so far. In fact, it has helped secure Amazon's dominance since there's a downloadable Kindle app for all iDevices.

Today, Amazon holds 76% of the ebook market. Kindle sales in the past month have already topped the entire fourth quarter of 2009.

But Apple is patient.

A study of the eReader market from Cowen and Co. found nearly 60% of digital book readers on iPad used iBooks. And while Apple only holds a 5% share of the market now, that's expected to more than triple by 2015, while Amazon's share slides to 51%.

The final battle in this arena won't be fought for a long time.

Apple vs. the world

Given its successes, it's easy to view Apple as a tech juggernaut, but there are forces that could reverse its fortunes.

From an investor standpoint, the company is tied very closely to Jobs, whose health problems have been well documented.

His departure, however and whenever it comes, will be an enormous psychological hurdle for investors and some employees to overcome.

Apple also risks attracting unwelcome attention from regulators. While Jobs tends to run his company as if it were still a pugnacious underdog, Apple's sheer size and market dominance could attract scrutiny from the U.S. and other governments, who might want to ensure it doesn't become too powerful. That could prove a distraction, especially for a company that relies so heavily on the guiding vision of its CEO.

Ultimately, though, Apple could become a victim of its own success. With so many hit products over the past 10 years and the strength of Jobs' so-called "reality distortion field," onlookers wonder how long the streak can last.

"You can't own the world — and even if you could, the world is limiting," Shapiro said. "Steve Jobs, every year, seems to pull a new rabbit out of the hat and I don't know how many rabbits are left in that hat."

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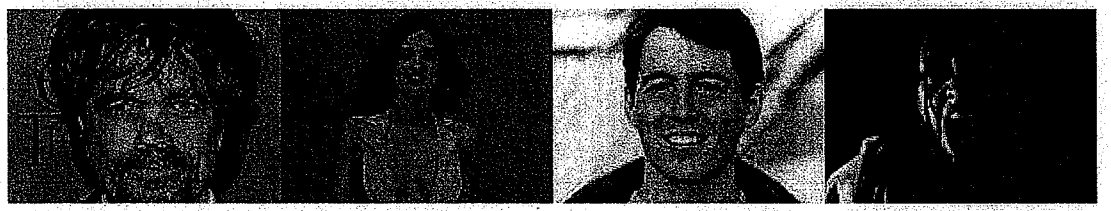

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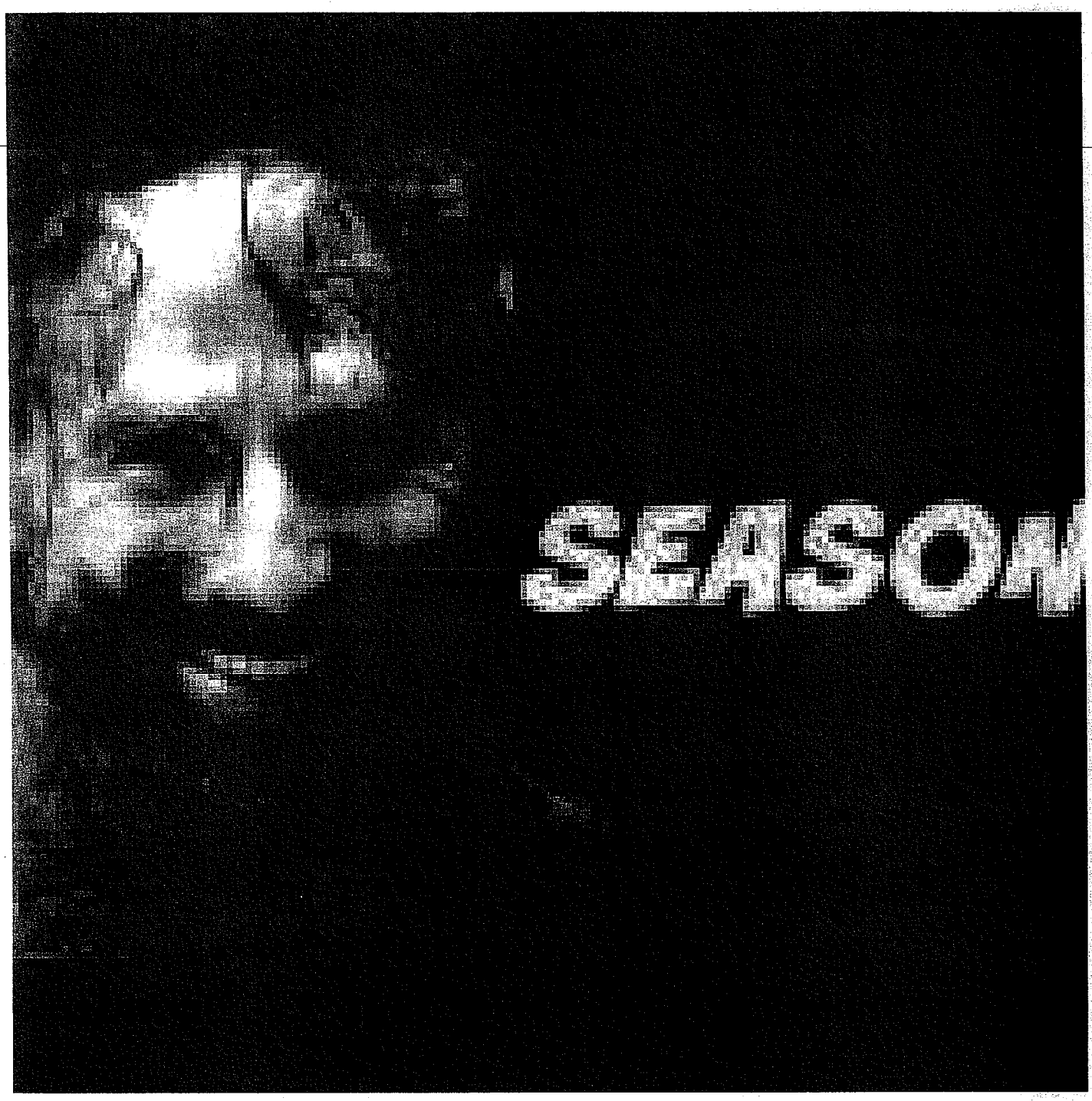
Linda Perry: 5 Things To Know About...

(http://hollywoodlife.com/2014/04/01/linda-perry-sara-gilbert-married-roseanne-wife/)

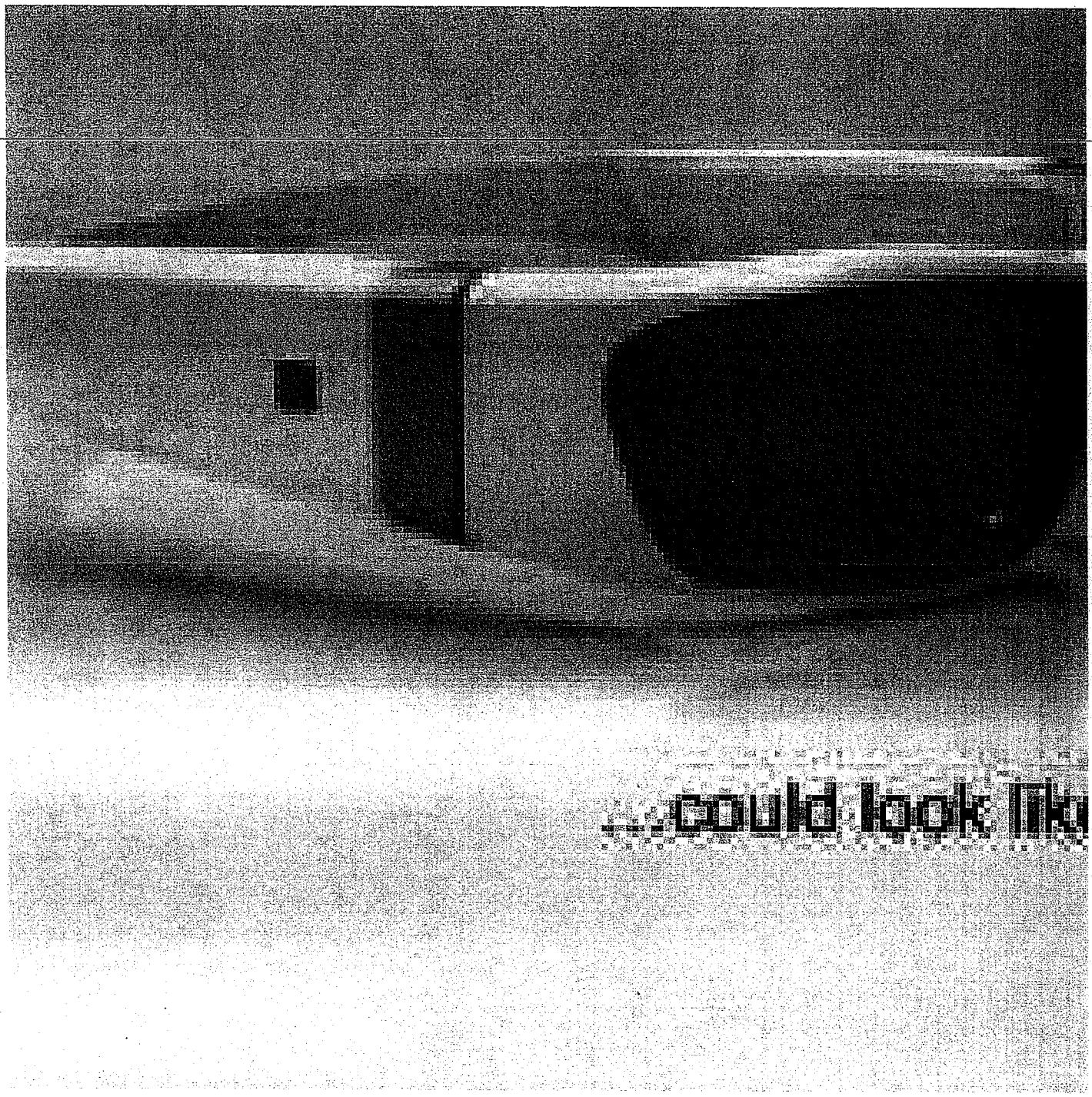


The Walking Dead Season 5 Cast and...

(http://www.youtube.com/watch?v=haF-fuWuZFo&feature=youtube_gdata)

Exclusive CSI Sneak Peek: A 'Suicide...

(http://tvline.com/2014/04/01/csi-db-hostage-season-4-episode-19-video/)



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PMC - The Power of Content (http://www.pmc.com/)

EXHIBIT 10

Before the
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LIBRARY OF CONGRESS
Washington, D.C.

In the Matter of ADJUSTMENT OF RATES AND TERMS FOR PREEXISTING SUBSCRIPTION SERVICES AND SATELLITE DIGITAL AUDIO RADIO SERVICES	Docket No. 2006-1 CRB DSTRA

TESTIMONY OF

LAWRENCE KENSWIL

President of Universal eLabs,
a division of Vivendi Universal's Universal Music Group

PUBLIC VERSION

October 2006

Public Version

DIRECT TESTIMONY OF LAWRENCE KENSWIL

Background and Qualifications

I am the President of Universal eLabs, a division of Vivendi Universal's Universal Music Group ("UMG"). I have headed eLabs from its founding in January 1999. Previously, I was UMG's Executive Vice President, Business and Legal Affairs. I sit on the Board of Directors of the Recording Industry Association of America and, previously, the Board of the International Federation of the Phonographic Industry.

Universal eLabs is dedicated to exploring, developing, and evolving global business and new technology strategies to deliver music to consumers in innovative ways. eLabs is comprised of a team of business, legal, and technical professionals devoted to developing, implementing, and operating new music products, programming and digital distribution initiatives across all emerging technology and convergence platforms, including Internet, mobile, physical, kiosk, home networking and set-top box systems. As President of eLabs, I oversee all of UMG's efforts to license sound recordings for electronic distribution.

About Universal Music Group

UMG is the world's largest music company with a history dating back to the 19th century. In 2005, UMG held a 31.7% share of the domestic recorded music market.

UMG includes an extensive and diverse collection of music labels — including Decca Record Company, Deutsche Grammophon, Interscope Records, Geffen Records, A&M Records, Island Records, Def Jam Records, Lost Highway Records, MCA Nashville, Mercury Nashville Records, Motown Records and Universal Records — and artists — including Beck, Black Eyed Peas, Bon Jovi, Sheryl Crow, Dr. Dre, Eminem,

Jay-Z, Diana Krall, Nelly, No Doubt, Gwen Stefani, Shania Twain, Stevie Wonder, and Sting.

UMG International operates directly or through joint ventures and licensees in 77 countries. Universal Classics Group is responsible for more than 40% of world sales in the classical music genre, and Verve Music Group is the world's largest jazz recording company. Universal Music Publishing Group owns or administers more than one million copyrights.

The Electronic Distribution Market

The Rapid Development of New Ways to Consume Music

Recognizing the considerable growth in the electronic distribution market and the potential for more in the coming months and years, UMG is transforming from a "record company" to a "music entertainment company." UMG's annualized revenues from electronic distribution of recorded music in the United States have grown from near zero a few years ago to approximately [[redacted]][1] as of the first half of 2006. Universal Music Mobile, a division of UMG, was a pioneer in fusing recorded music and the burgeoning mobile phone market.

Whereas in the past UMG focused almost exclusively on selling CDs and other physical product, the future for UMG is about receiving a fair return from multiple revenue streams. Consumers now enjoy music in more ways than ever before — satellite radio, satellite and cable T.V. services, permanent digital audio downloaded tracks and albums, streaming and conditional downloads, and webcasting, mobile and wireless services, video services, and sales of other digital products (e.g., ringtones). We at UMG

[1] The information in this testimony that has been marked as restricted is proprietary and commercially sensitive information that is not generally known to the public.

are hopeful that the revenues from all of these uses of music will, in the long run, more than compensate for any lost physical sales. Because consumers value the ability to purchase music in many forms and access music from almost everywhere, UMG believes that the evolution to electronic distribution — while challenging at first for many reasons, not the least of which is digital piracy — will ultimately expand the market for music and augment UMG's revenue from sound recordings.

Digital piracy over the last few years has posed a serious threat to the industry, with physical sales declining in five of the last six years, at the same time that the economy has been growing. According to RIAA data, sales of CDs in the United States have declined 25.2% from 2000 to 2005. SX Ex. 004 DP. At the same time, the costs of identifying, developing and promoting the artists that consumers want to hear (the core of UMG's business) have not changed. Consequently, the importance of a fair return from all of these different markets cannot be overstated.

In addition, although these new revenue streams sometimes provide additional compensation for UMG, they also can substitute for sales of other UMG products, including CDs. This includes satellite radio and the pre-existing "over T.V." services. There is only so much time in the day for people to spend listening to music. With 70 or more music channels offering niche programming, satellite radio is "narrowcasting," not broadcasting. Because of the number of channels and its enormous variety, satellite radio and the other services can provide consumers with exactly the mood or genre of music that they want at a particular time, reducing the need of consumers to purchase CDs, downloads and subscription services. With such tremendous breadth and high digital audio quality, these services substitute for the other ways that people experience music —

not only for CDs, from which the record companies currently make most of their sales, but also for other digital services from which UMG derives increasingly important and substantial revenue.

UMG's Approach to Licensing

UMG's approach to licensing digital rights has evolved over time. For a period, UMG sought to license legitimate new services in the marketplace in order to create competition with peer-to-peer networks on which people could illegally download UMG sound recordings. But times have changed, and there are now many legitimate services distributing music in different forms.

In selling and licensing its products, UMG seeks to protect its sound recordings from piracy and to receive a fair return according to the value that consumers place on them. UMG does not enter into agreements for broad or blanket licenses of its catalog in the hope that it will "promote" sales of CDs or another revenue stream. Rather, UMG tries to maximize each and every revenue stream. UMG does not view as promotional the commercial exploitation by others of the very product that it seeks to sell. In attempting to price UMG's products consistent with the value to the consumer, UMG considers both the means by which its sound recordings will be distributed and how those recordings will be enjoyed by the consumer.

The Development of Portability and Wireless Services

One of the most significant developments in the digital marketplace is the availability of music via portable devices and wireless networks. In addition to consumers' traditional choice of which artists to listen to, consumers are beginning to choose when and where they want their music content delivered. Since the introduction

of the first mp3 player, consumers have been able to download music to their computers, transfer it to a portable device and take the music with them. Now consumers also can access and acquire music from anywhere, through the ever-improving wireless networks that are offering audio and video content.

Exploitation (often by others) of UMG's content is directly related to the expansion of these wireless networks. Wireless carriers need audio and video content to attract wireless customers to more expensive data packages (often an additional $15-25 per month) and new cell phones. For them, music is a key component to selling subscriptions and equipment. Thus, they are racing to offer as much content as possible.

The market has already shown that consumers will pay a substantial sum (in addition to paying for a wireless service and a cell phone) to be able to access music and other content anywhere at any time. Consumers already pay a monthly premium of about $5 for portable subscription services (over the monthly price for non-portable subscription services). And in the nascent market for audio and video downloads to mobile phones, sales figures from around the world and the initial trials in the United States indicate that the mobile consumer is willing to pay significantly more than the PC-based consumer of digital content.

In sum, UMG views the wireless transmission of music to be of enormous value to consumers. Indeed, UMG licenses distribution of its content over wireless networks separately from licensing for services that allow access only over fixed lines. This ensures that UMG receives fair value for the music that it provides and that consumers enjoy. The value that consumers place on portable and mobile functionality is reflected

Public Version

in UMG's marketplace agreements because UMG's pricing — the rates UMG charges its licensees — is based on the value of the service to consumers.

And the same is true of satellite radio. Whether in the car or with the many available wireless hand-held devices, satellite radio subscribers can enjoy their music anytime and anywhere. Accordingly, just as our marketplace dealings show a very significant premium for wireless delivery — both in terms of what consumers are willing to pay the services and what the services pay UMG for the use of our music — the same should be true of the satellite radio services. That consumers are willing to pay $12.95 per month for a base subscription to satellite radio shows the high value of these types of services to subscribers. It follows that the record companies are entitled to their fair share of that added consumer value as well.

Value of Marketplace Agreements

When UMG licenses its sound recordings in the marketplace for digital distribution, UMG requires licensees to pay not only reasonable royalty fees, but also to meet extensive security requirements, provide audit rights, and offer guaranteed promotional consideration. While many of these forms of consideration are difficult to quantify, there is no question that, in their absence, UMG would require additional compensation.

There are a number of ways in which these considerations are manifested in UMG's licensing practices:

First, [redacted]

[redacted]

Second, [redacted].

Third, [redacted]

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[redacted].

Fourth, [redacted].

Fifth, [redacted].

Sixth, [redacted].

Finally, [redacted].

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New Media Agreements

Over the past few years, UMG has entered into agreements for a wide variety of digital rights, including Interactive Streaming and Conditional Downloads (tethered and portable), Video Streaming, Permanent Audio Downloads, and Mobile/Wireless Services. Below, I provide some representative examples of the agreements for these services.

Subscription Services (On Demand Streaming and Conditional Downloads)

UMG licenses a number of services that provide consumers with streams or conditional downloads of sound recordings. These services are interactive or "on-demand" (*i.e.*, the user can choose the specific song or album to download or stream) and are conditional (*i.e.*, the user may download the song to a PC and then play the song at will only so long as the subscription is in effect).

The conditional downloads are either non-portable or portable. With a non-portable service, a user can only listen to the music (whether as a conditional download or a stream) on a personal computer or other approved home device. Often, the same companies both offer interactive and non-interactive versions of these services. Rhapsody, for example, offers a non-portable interactive subscription service for $9.99 per month and a non-portable, non-interactive service pursuant to the DMCA for $4.99 per month (with discounts for annual subscribers).

A portable subscription service, by contrast, is quite a bit different. With a portable service, a user may transfer the conditional download onto a portable device that includes software to prevent further copying. Thus, users get the significantly more valuable portability function. Rhapsody offers its portable subscription service, Rhapsody To Go, for $14.99 per month.

Non-portable Services

UMG has granted licenses to numerous non-portable services. [

].

Portable Services

As discussed above, consumers pay a premium for services that offer portability. UMG's agreements with webcasters who operate portable subscription services reflect that value, and UMG receives higher royalties. UMG has entered into a few agreements with companies that operate portable services. [

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Video Streaming

UMG has pioneered the monetization of music videos on demand. The switch from seeing videos as promotional to recognizing that they are an important revenue stream mirrors similar developments throughout the electronic distribution market.

UMG's licenses for video agreements are a useful comparison for determining the market value of the content because all video agreements — whether non-interactive or interactive — are entirely market-driven. There is no compulsory license negatively affecting UMG's free market decisions. Among other things, UMG has complete control over the videos that it will release as part of these agreements. [redacted].

For 2006, UMG has generally licensed music video streaming for royalties equal to [redacted].

Permanent Audio Download

UMG has entered into numerous permanent audio download agreements that allow services to sell individual sound recordings to users on the Internet. The common retail price for these downloads is $0.99, although some services offer a discounted price for permanent downloads to subscribers. [redacted]

[redacted]

Mobile/Wireless Services

The market for wireless music services is developing rapidly. As discussed above, all signs are that consumers value the ability to receive music over wireless devices very highly, and that, in the marketplace, record companies have negotiated higher license rates for delivery of sound recordings to wireless devices. In negotiated agreements, UMG receives higher rates for downloads to wireless devices and video streaming over wireless networks than it does for downloads and video streaming to personal computers.

Cell Phone Tones (Ringtones and Mastertones)

Users download ringtones — digital versions of sound recordings — and use them as the ringer on their cell phones. Mastertones are ringtones that sound identical to the master sound recording (typically a portion of a sound recording under 30 seconds). [redacted]

Wireless Audio Downloads

UMG is negotiating with a number of companies to offer wireless audio downloads. [redacted]

[redacted]

[redacted].

I declare under penalty of perjury that the foregoing testimony is true and correct to the best of my knowledge and belief.

Lawrence Kenswil

Date: 10/24/06

Public Version

Exhibits Sponsored by Lawrence Kenswil

Exhibit No.	Description
SX Ex. 004 DP	[Redacted]
SX Ex. 105 DR	[Redacted]

EXHIBIT 11

RealNetworks breaks Apple's hold on iPod

By John Borland (http://www.cnet.com.au/member/CNET%20Australia%20team/) | July 27, 2004

More On

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- networks
- real

RealNetworks announced Monday that it has unlocked some of Apple Computer's most tightly held technology secrets, giving its music a way onto the popular iPod digital music player.

The announcement is part of a broader release of RealNetworks software, which will let songs sold from the company's online store play on a variety of portable devices, including the iPod and Microsoft-compatible rivals. RealNetworks has been selling songs from its digital song store since January, but the files could previously be played only on a few portable devices.

The new Harmony software, which RealNetworks said mimics the proprietary copy protection used in Apple's iTunes store, is sure to be controversial. Apple has previously refused to provide licenses to companies seeking iPod compatibility, and RealNetworks did not seek permission before releasing its own version of iPod-friendly software.

"This is actually a natural extension to a decision we made two years ago with respect to different formats," said RealNetworks Chief Strategy Officer Richard Wolpert. "We think consumer choice is going to win out over proprietary formats."

RealNetworks' move marks a step away from what had been an increasingly confusing world of incompatible digital music formats and devices.

Record companies and consumer groups have been deeply critical of technology companies' decision to tie certain devices to specific music formats. Traditionally, CDs and DVDs have worked on any manufacturers' players, they note, while music downloads have been tied to specific brands of devices.

Indeed, several record company executives praised RealNetworks' independent steps to achieve compatibility with the iPod, even without Apple's consent.

"Up to now, the world of downloads has been far too close to a world where the CD you buy in one store wouldn't play on the CD player you bought in another," Larry Kenswil, president of Universal Music's eLabs division, said in a statement. "We applaud RealNetworks' efforts to help correct this situation and appeal to all people and companies in this area to work toward a world of universal interoperability."

Apple did not return requests for comment.

Apple maintains a dominant market share in the music download business, and RealNetworks hopes that the new compatibility with the iPod will help drive customers to its online store.

Dangerous ground?

RealNetworks has previously thumbed its nose at rivals in a similar way. Its 2002 Helix server, which sends media files out over the Internet, included the ability to stream Microsoft -formatted files--a capability only Microsoft servers previously had.

Last January, RealNetworks also announced that it had figured out how to let its PC software play songs purchased from Apple's iTunes store and save them onto the iPod.

The new Harmony software's ability to work with Microsoft devices is fairly straightforward. When a customer buys a song from RealNetworks' online store, the software will check what kind of portable device is attached to the computer and change the song into Microsoft's format if necessary. Microsoft has provided licenses to its Windows Media technology to many companies.

Harmony also will automatically change songs into an iPod-compatible format. But because Apple has not licensed its FairPlay copy-protection software to anyone, RealNetworks executives said its engineers had to re-create their own version in their labs in order to make the device play them back.

Although the company said this action wasn't technically "reverse engineering," the software could trigger intense legal scrutiny.

The license accompanying Apple's iPod says purchasers cannot "copy, decompile, reverse engineer, disassemble, (or) attempt to derive the source code of" the software.

Boston patent attorney Bruce Sunstein said courts have issued mixed opinions on how much reverse engineering is allowed for purposes such as making compatible products.

"The law is unsettled," Sunstein said. "We might find some litigation if Apple wanted to be aggressive."

Indeed, lawsuits have been sparked by similar previous cases. In one famous example, Atari Games subsidiary Tengen created cartridges that worked with Nintendo's NES game machine in the late 1980s, when Nintendo was barring any other company from doing so.

Nintendo sued and won when it was discovered that Tengen had obtained part of Nintendo's software code from the U.S. Copyright Office and used it to make its games compatible.

RealNetworks has staunchly maintained that it has not illegally used any of Apple's copyrighted software code, however.

"We certainly feel we have all the licenses and rights to do what we've done or we wouldn't have done it," RealNetworks' Wolpert said.

Analysts welcomed the move as a good step for consumers, who would be able to buy music from RealNetworks' store and not worry about having to stay permanently with one brand of player to use music purchased online.

"Right now if you're a consumer, you have to pick sides," said Forrester Research analyst Josh Bernoff. "With every track you buy you're going further down the path of incompatibility...This is going to create some pressure on Microsoft and Apple to provide similar levels of interoperability."

The Harmony software will be available in test form on RealNetworks' site Tuesday, and will ultimately find its way into a variety of products, the company said.

Previous Story

Apple iPod (4th Generation, 20GB) (http://www.cnet.com.au/apple-ipod-4th-generation-20gb-240000384.htm)

MP3 Players
Next Story

iPod goes down the toilet (http://www.cnet.com.au/ipod-goes-down-the-toilet-240000403.htm)

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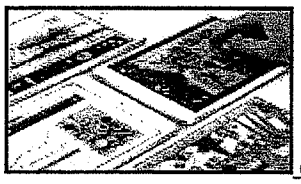
-  (http://www.cnet.com.au/itunes-app-store-pricing-to-rise-in-australia-339346965.htm)

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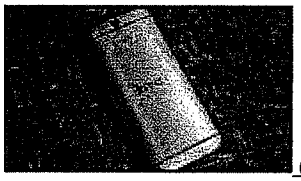
-  (http://www.cnet.com.au/spec-showdown-htc-one-m8-vs-galaxy-s5-vs-iphone-5s-339346932.htm)

EXHIBIT 12

RealNetworks to Apple: Our music will run on your player now

Posted at 26 July 2004 05:46 CEST by Crabbyappleton

Real is supposed to make an announcement on Monday, declaring the ability of their music to be played on an iPod. Apparenty, they have unlocked some of the DRM technology behind the worlds most popular player. In addition, this is just one facet of some new software they have created that will allow them to sell music that is compatible with a variety of different players, including microsoft compatible rivals. They named the software o all things, Harmony. Somehow I don't think this is going to create much around the Apple compound. Accordin to this C|Net article, Harmony does a pretty good job of simulating the DRM from an iTune so the iPod will accept it and send it happily to those white earbuds. This is not going to go over well with Steve Job's, because he hasn't wanted to let other music companies license an iPod compatibility. What's going to be fun tc watch is, RealNetworks didn't ask permission to unleash their iPod fooling software either. Harmony also will automatically change songs into an iPod-compatible format. But because Apple has not licensed its FairPlay copy-protection software to anyone, RealNetworks executives said its engineers had to re-create their own version in their labs in order to make the device play them back. Although the company said this action wasn't technically "reverse engineering," the software could trigger intense legal scrutiny. The license accompanying Apple's iPod says purchasers cannot "copy, decompile, reverse engineer, disassemble, (or) attempt to derive the source code of" the software. Well, let's stay tuned to this one, as we have to expect some intense posturing and gnashing of teeth this coming week. You can read the entire story from C|Net right here. Check out this quote from Larry Kenswil, president of Universal Music's eLabs. He really rubs some salt in the wound "Up to now, the world of downloads has been far too close to a world where the CD you buy in one store wouldn't play on the CD player you bought in another," Larry Kenswil, president of Universal Music's eLabs division, said in a statement. "We applaud RealNetworks' efforts to help correct this situation and appeal to all people and companies in this area to work toward a world of universal interoperability." I have never been much of a Real fan, but this makes me smile. You just have to love it when a DRM falls apart. Source: C|Net

Lawrence Kenswil
April 2, 2014
Exhibit No. 12
Megan F. Alvarez
RPR, CSR No. 12470

There are 10 comments

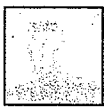
SupremeCheddar
CD Freaks Member

Posted on: 26 Jul 04 06:09

I will never understand how realnetworks even got this far. It's one of those weirder tech companies that just won't die.

[edited by SupremeCheddar on 26.07.2004 06:09]

Report this comment



Spitfire_x86
CD Freaks Junior Member

Posted on: 26 Jul 04 07:09

Real must die.

Report this comment

TexasGuy
CD Freaks Member

Posted on: 26 Jul 04 10:54

Let them entertain us. I bet Apple is pissed. I'd be. Like making a clone of IBM bios and saying it was not reversed engineered. Right...

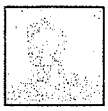
Report this comment

BadReligionPR
Retired Moderator

Posted on: 26 Jul 04 15:06

Can't Apple just release a firmware update after like 3 months, and screw over all the Real users?

Report this comment



darkpepe
New on Forum

Posted on: 26 Jul 04 17:28

Anything but MP3 is shit, don't bother...

Report this comment

roadworker
MyCE Resident

Posted on: 26 Jul 04 19:58

This is funny..... If a simple person does the same for getting maximum compatibility and removing restrictions on his devices,it's called "cracking" .....if a big company does the same,it's called "universal interoperability" What a joke....:B

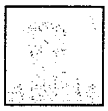
Report this comment

petera
CDFreaks Resident

Posted on: 26 Jul 04 21:13

There still breaking the law under the DCMA arn't they? I can't see Apple's problem with FairPlay. Let them licence it and you can get the royalties from some one elses hard work. Seems simple to me.....
[edited by petera on 26.07.2004 21:13]

Report this comment



quantumdesign
New on Forum

Posted on: 26 Jul 04 21:27

Yes, this is a violation of the DMCA. But more important is the fact that the CEO of RealNetworks is the single biggest individual political contributor this year, and his money is going directly to the co-sponsors of the INDUCE Act, Hillary Clinton, Tom Daschle, Barbara Boxer, and Patrick Leahy. Even if these guys ARE breaking DRM, it's only to cover the fact that they're also trying to steal your VCR.

Report this comment

tranceaddict
CD Freaks Member

Posted on: 26 Jul 04 23:12

i agree with above poster. how in the hell has real stayed in business all these years?

Report this comment

Mgz
CD Freaks Member

Posted on: 27 Jul 04 12:55

OK, kid, here is the deal (from HA.org)

Quote:

> As you know, the RealNetworks music store sells songs in 192 kbps AAC (as opposed to iTMS at 128 kbps). When transferring your purchased songs to the iPod, the AAC itself is not touched, but the Helix DRM is transmuxed to the DRM used by the iPod, i.e. fully protected and without trans-coding. If you then transfer the file back to your PC (for instance with Anapod), you get an M4P file, that is a protected MPEG-4 AAC file.

You guy jumped into conclusion too soon. I dun like Real either but I have to admit that they're becoming nicer than they used to be. They remove spyware from Real7/8, support Vorbis/Theora/Ogg, GPL'ed Helix Core Player,etc

[edited by Mgz on 27.07.2004 12:56]

Report this comment

Post your comment

You need to register before you can comment

Your message:

Register

EXHIBIT 13

Thoughts on Music

Steve Jobs
February 6, 2007

With the stunning global success of Apple's iPod music player and iTunes online music store, some have called for Apple to "open" the digital rights management (DRM) system that Apple uses to protect its music against theft, so that music purchased from iTunes can be played on digital devices purchased from other companies, and protected music purchased from other online music stores can play on iPods. Let's examine the current situation and how we got here, then look at three possible alternatives for the future.

To begin, it is useful to remember that all iPods play music that is free of any DRM and encoded in "open" licensable formats such as MP3 and AAC. iPod users can and do acquire their music from many sources, including CDs they own. Music on CDs can be easily imported into the freely-downloadable iTunes jukebox software which runs on both Macs and Windows PCs, and is automatically encoded into the open AAC or MP3 formats without any DRM. This music can be played on iPods or any other music players that play these open formats.

The rub comes from the music Apple sells on its online iTunes Store. Since Apple does not own or control any music itself, it must license the rights to distribute music from others, primarily the "big four" music companies: Universal, Sony BMG, Warner and EMI. These four companies control the distribution of over 70% of the world's music. When Apple approached these companies to license their music to distribute legally over the Internet, they were extremely cautious and required Apple to protect their music from being illegally copied. The solution was to create a DRM system, which envelopes each song purchased from the iTunes store in special and secret software so that it cannot be played on unauthorized devices.

Apple was able to negotiate landmark usage rights at the time, which include allowing users to play their DRM protected music on up to 5 computers and on an unlimited number of iPods. Obtaining such rights from the music companies was unprecedented at the time, and even today is unmatched by most other digital music services. However, a key provision of our agreements with the music companies is that if our DRM system is compromised and their music becomes playable on unauthorized devices, we have only a small number of weeks to fix the problem or they can withdraw their entire music catalog from our iTunes store.

To prevent illegal copies, DRM systems must allow only authorized devices to play the protected music. If a copy of a DRM protected song is posted on the Internet, it should not be able to play on a downloader's computer or portable music device. To achieve this, a DRM system employs secrets. There is no theory of protecting content other than keeping secrets. In other words, even if one uses the most sophisticated cryptographic locks to protect the actual music, one must still "hide" the keys which unlock the music on the user's computer or portable music player. No one has ever implemented a DRM system that does not depend on such secrets for its operation.

The problem, of course, is that there are many smart people in the world, some with a lot of time on their hands, who love to discover such secrets and publish a way for everyone to get free (and stolen) music. They are often successful in doing just that, so any company trying to protect content using a DRM must frequently update it with new and harder to discover secrets. It is a cat-and-mouse game. Apple's DRM system is called FairPlay. While we have had a few breaches in FairPlay, we have been able to successfully repair them through updating the iTunes store software, the iTunes jukebox software and software in the iPods themselves. So far we have met our commitments to the music companies to protect their music, and we have given users the most liberal usage rights available in the industry for legally downloaded music.

With this background, let's now explore three different alternatives for the future.

The first alternative is to continue on the current course, with each manufacturer competing freely with their own "top to bottom" proprietary systems for selling, playing and protecting music. It is a very competitive market, with major global companies making large investments to develop new music players and online music stores. Apple, Microsoft and Sony all compete with proprietary systems. Music purchased from Microsoft's Zune store will only play on Zune players; music purchased from Sony's Connect store will only play on Sony's players; and music purchased from Apple's iTunes store will only play on iPods. This is the current state of affairs in the industry, and customers are being well served with a continuing stream of innovative products and a wide variety of choices.

Some have argued that once a consumer purchases a body of music from one of the proprietary music stores, they are forever locked into only using music players from that one company. Or, if they buy a specific player, they are locked into buying music only from that company's music store. Is this true? Let's look at the data for iPods and the iTunes store – they are the industry's most popular products and we have accurate data for them. Through the end of 2006, customers purchased a total of 90 million iPods and 2 billion songs from the iTunes store. On average, that's 22 songs purchased from the iTunes store for each iPod ever sold.

Today's most popular iPod holds 1000 songs, and research tells us that the average iPod is nearly full. This means that only 22 out of 1000 songs, or under 3% of the music on the average iPod, is purchased from the iTunes store and protected with a DRM. The remaining 97% of the music is unprotected and playable on any player that can play the open formats. It's hard to believe that just 3% of the music on the average iPod is enough to lock users into buying only iPods in the future. And since 97% of the music on the average iPod was not purchased from the iTunes store, iPod users are clearly not locked into the iTunes store to acquire their music.

The second alternative is for Apple to license its FairPlay DRM technology to current and future competitors with the goal of achieving interoperability between different company's players and music stores. On the surface, this seems like a good idea since it might offer customers increased choice now and in the future. And Apple might benefit by charging a small licensing fee for its FairPlay DRM. However, when we look a bit deeper, problems begin to emerge. The most serious problem is that licensing a DRM involves disclosing some of its secrets to many people in many companies, and history tells us that inevitably these secrets will leak. The Internet has made such leaks far more damaging, since a single leak can be spread worldwide in less than a minute. Such leaks can rapidly result in software programs available as free downloads on the Internet which will disable the DRM protection so that formerly protected songs can be played on unauthorized players.

An equally serious problem is how to quickly repair the damage caused by such a leak. A successful repair will likely involve enhancing the music store software, the music jukebox software, and the software in the players with new secrets, then transferring this updated software into the tens (or hundreds) of millions of Macs, Windows PCs and players already in use. This must all be done quickly and in a very coordinated way. Such an undertaking is very difficult when just one company controls all of the pieces. It is near impossible if multiple companies control separate pieces of the puzzle, and all of them must quickly act in concert to repair the damage from a leak.

Apple has concluded that if it licenses FairPlay to others, it can no longer guarantee to protect the music it licenses from the big four music companies. Perhaps this same conclusion contributed to Microsoft's recent decision to switch their emphasis from an "open" model of licensing their DRM to others to a "closed" model of offering a proprietary music store, proprietary jukebox software and proprietary players.

The third alternative is to abolish DRMs entirely. Imagine a world where every online store sells DRM-free music encoded in open licensable formats. In such a world, any player can play music purchased from any store, and any store can sell music which is playable on all players. This is clearly the best alternative for consumers, and Apple would embrace it in a heartbeat. If the big four music companies would license Apple their music without the requirement that it be protected with a DRM, we would switch to selling only DRM-free music on our iTunes store. Every iPod ever made will play this DRM-free music.

Why would the big four music companies agree to let Apple and others distribute their music without using DRM systems to protect it? The simplest answer is because DRMs haven't worked, and may never work, to halt music piracy. Though the big four music companies require that all their music sold online be protected with DRMs, these same music companies continue to sell billions of CDs a year which contain completely unprotected music. That's right! No DRM system was ever developed for the CD, so all the music distributed on CDs can be easily uploaded to the Internet, then (illegally) downloaded and played on any computer or player.

In 2006, under 2 billion DRM-protected songs were sold worldwide by online stores, while over 20 billion songs were sold completely DRM-free and unprotected on CDs by the music companies themselves. The music companies sell the vast majority of their music DRM-free, and show no signs of changing this behavior, since the overwhelming majority of their revenues depend on selling CDs which must play in CD players that support no DRM system.

So if the music companies are selling over 90 percent of their music DRM-free, what benefits do they get from selling the remaining small percentage of their music encumbered with a DRM system? There appear to be none. If anything, the technical expertise and overhead required to create, operate and update a DRM system has limited the number of participants selling DRM protected music. If such requirements were removed, the music industry might experience an influx of new companies willing to invest in innovative new stores and players. This can only be seen as a positive by the music companies.

Much of the concern over DRM systems has arisen in European countries. Perhaps those unhappy with the current situation should redirect their energies towards persuading the music companies to sell their music DRM-free. For Europeans, two and a half of the big four music

companies are located right in their backyard. The largest, Universal, is 100% owned by Vivendi, a French company. EMI is a British company, and Sony BMG is 50% owned by Bertelsmann, a German company. Convincing them to license their music to Apple and others DRM-free will create a truly interoperable music marketplace. Apple will embrace this wholeheartedly.

Thoughts on Music

EXHIBIT 14

Apple Press Info

Changes Coming to the iTunes Store

- All Songs DRM-Free
- Users Can Download Songs Directly Onto iPhone 3G Over Their 3G Network for the Same Price
- In April 2009, Songs on iTunes Will be Available at Three Price Points

SAN FRANCISCO—January 6, 2009—Apple® today announced several changes to the iTunes® Store (www.itunes.com). Beginning today, all four major music labels—Universal Music Group, Sony BMG, Warner Music Group and EMI, along with thousands of independent labels, are now offering their music in iTunes Plus, Apple's DRM-free format with higher-quality 256 kbps AAC encoding for audio quality virtually indistinguishable from the original recordings. iTunes customers can also choose to download their favorite songs from the world's largest music catalog directly onto their iPhone™ 3G over their 3G network just as they do with Wi-Fi today, for the same price as downloading to their computer. And beginning in April, based on what the music labels charge Apple, songs on iTunes will be available at one of three price points: 69 cents, 99 cents and $1.29, with most albums still priced at $9.99.

"We are thrilled to be able to offer our iTunes customers DRM-free iTunes Plus songs in high quality audio and our iPhone 3G customers the ability to download music from iTunes anytime, anywhere over their 3G network at the same price as downloading to your computer or via Wi-Fi," said Steve Jobs, Apple's CEO. "And in April, based on what the music labels charge Apple, songs on iTunes will be available at one of three price points—69 cents, 99 cents and $1.29—with many more songs priced at 69 cents than $1.29."

iTunes offers customers a simple, one-click option to easily upgrade their entire library of previously purchased songs to the higher quality DRM-free iTunes Plus format for just 30 cents per song or 30 percent of the album price. The iTunes Store will begin offering eight million of its 10 million songs in Apple's DRM-free format, iTunes Plus, today with the remaining two million songs offered in iTunes Plus by the end of March.

iPhone 3G users can now preview and purchase the entire iTunes Store music catalog on their iPhone 3G over their 3G network, just as they do with Wi-Fi today, for the same price and in the same high quality format. Songs purchased on an iPhone will automatically sync to a user's computer the next time they sync their iPhone.

The iTunes Store is the world's most popular online music, TV and movie store with a catalog of over 10 million songs, over 30,000 TV episodes and over 2,500 films including over 600 in stunning high definition video. With Apple's legendary ease of use, pioneering features such as iTunes Movie Rentals, integrated podcasting support, the ability to turn previously purchased tracks into complete albums at a reduced price, and seamless integration with iPod® and iPhone, the iTunes Store is the best way for Mac® and PC users to legally discover, purchase and download music and video online.

Apple ignited the personal computer revolution in the 1970s with the Apple II and reinvented the personal computer in the 1980s with the Macintosh. Today, Apple continues to lead the industry in innovation with its award-winning computers, OS X operating system and iLife and professional applications. Apple is also spearheading the digital media revolution with its iPod portable music and video players and iTunes online store, and has entered the mobile phone market with its revolutionary iPhone.

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EXHIBIT 15

Apple Announces iTunes 8

Features Apple's New Breakthrough Genius Technology

SAN FRANCISCO—September 9, 2008—Apple® today announced iTunes® 8, the next major release of Apple's ubiquitous music and video player for Macs and PCs which is seamlessly integrated with the most popular online content store in the world (www.itunes.com). iTunes 8 includes the new breakthrough Genius feature, which lets you automatically create playlists from songs in your music library that go great together—with just one click. Genius helps music fans rediscover favorite songs in their existing music library and suggests related music on the iTunes Store they might want to add to their music collection. iTunes 8 features new ways of viewing your music and video libraries, and adds television programs in stunning high definition for sale on the iTunes Store.

Using Apple's breakthrough Genius feature is easy—select any song, click the Genius button, and iTunes instantly creates a playlist of songs that go great together from your own library. You can preview the playlist Genius creates, refresh the list to choose different songs and save Genius playlists to enjoy again later. You can even create Genius Playlists on-the-go with the new iPod® classic, iPod touch, iPod nano and iPhone™. The Genius sidebar appears right in iTunes and recommends music from the iTunes Store that you don't already have, based on the songs you select.

When you turn on iTunes 8's new Genius feature, information about your music library is anonymously sent to the iTunes Store, where it is combined with the anonymously-gathered knowledge from millions of other iTunes users and processed through Apple-developed algorithms. The Genius results, specifically tailored to your personal music library, are sent back to your computer to enable users to automatically create Genius playlists in iTunes and on your iPods, even when they are not connected to the Internet.

iTunes 8's new visual browsing interface displays your music and video libraries using your album and video covers, and also provides a great way to navigate your movies, TV shows, iPhone apps, podcasts and audiobooks.

The iTunes Store has become the world's most popular online TV store and features an incredible selection of over 30,000 episodes from ABC, CBS, The CW, FOX, NBC and over 70 cable networks including Bravo, Comedy Central, Disney Channel, ESPN, FX, HBO, MTV, Nickelodeon, Sci Fi, Showtime and USA. With iTunes 8, television fans can now watch their favorite programs from ABC, NBC and Showtime in stunning HD for just $2.99 per episode, perfect for viewing on their Mac® or PC, or on their widescreen TV with Apple TV.

The iTunes Store is the world's most popular online music, TV and movie store with a catalog of 8.5 million songs, over 30,000 TV episodes and over 2,500 films including 600 in stunning high definition video. With Apple's legendary ease of use, pioneering features such as iTunes Movie Rentals, integrated podcasting support, iMix playlist sharing, the ability to turn previously purchased tracks into complete albums at a reduced price, and seamless integration with iPod and iPhone, the iTunes Store is the best way for Mac and PC users to legally discover, purchase and download music and video online.

Pricing & Availability
iTunes 8 for Mac and Windows includes the iTunes Store and is available as a free download from (www.itunes.com). Purchase and download of songs and videos from the iTunes Store requires a valid credit card from a financial institution in the country of purchase. Video availability varies by country.

Apple ignited the personal computer revolution in the 1970s with the Apple II and reinvented the personal computer in the 1980s with the Macintosh. Today, Apple continues to lead the industry in innovation with its award-winning computers, OS X operating system and iLife and professional applications. Apple is also spearheading the digital media revolution with its iPod portable music and video players and iTunes online store, and has entered the mobile phone market with its revolutionary iPhone.

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EXHIBIT 16

Filed on behalf of:

Patent Owner Sightsound
By: David R. Marsh, Ph.D.
Kristan L. Lansbery, Ph.D.
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Washington, DC 20004
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Fax: (202) 942-5999

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE, INC.,

Petitioner,

v.

Patent of SIGHTSOUND TECHNOLOGIES, LLC,

Patent Owner.

Case CBM2013-00020
Patent 5,191,573

DECLARATION OF JOHN SNELL IN SUPPORT OF PATENT OWNER SIGHTSOUND TECHNOLOGIES, LLC'S RESPONSE TO PETITION

Case CBM2013-00020
Patent 5,191,573

Mail Stop PATENT BOARD
Patent Trial and Appeal Board
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

I, John Snell, hereby declare as follows:

1. I have been retained by the plaintiff Patent Owner SightSound Technologies, LLC ("Patent Owner" or "SightSound"), to provide assistance and expert testimony in the Covered Business Method Review ("CBM Review") taking place before the Patent Trials and Appeals Board ("PTAB" or "Board") regarding U.S. Patent No. 5,191,573 ("the '573 Patent") and U.S. Patent No. 5,966,440 ("the '440 Patent"). I have personal knowledge of the facts and opinions set forth in this declaration, and if called upon to do so, I would testify competently thereto. My *curriculum vitae* describing my background and experience is attached hereto as Appendix A.

2. This Declaration gives the opinions, and their underlying bases and reasons, about which I may testify further. This report further includes information regarding the validity of the patents in light of Petitioner Apple Inc.'s ("Petitioner" or "Apple") assertions in this proceeding that the patents are anticipated under 35 U.S.C. § 102 and obvious under 35 U.S.C. § 103(a). This report also includes information regarding why one skilled in the art would not find the inventions

disclosed in the patents obvious at the relevant time and further information relating to considerations of non-obviousness, as well as information regarding the advantages of the patented invention over the prior art.

I. Background and Qualifications

3. I am an engineer, and reside and work in San Geronimo, California. I specialize in the design and analysis of microelectronics, software, and systems for recording, playing, synthesis, processing and transferring of electronic media over electronic networks. I have over four decades of experience in electronics engineering, computer science, signal processing mathematics, and the engineering of audio, video and music. I have researched, designed, developed and analyzed the microelectronics and software of numerous digital music and video systems.

4. I studied at Carnegie-Mellon University from 1967–74. My interdisciplinary graduate work through the electrical engineering department at Carnegie-Mellon University was performed with a grant from the National Science Foundation. I earned my Bachelor of Science degree in Electrical Engineering and my Bachelor of Arts degree in Cybernetics (an interdisciplinary program, combining coursework in computer science, signal processing mathematics, physics, music analysis and composition, psychology and physiology of perception as well as audio, video and electrical engineering) at Carnegie-Mellon University. I wrote my first computer program in 1968 on a mainframe computer at Carnegie-

Mellon University, where I took courses in programming, including data structures and software design for real-time systems. I have programmed computers and media processing digital systems at all levels, from high-level code down to assembly language and microcode (including binary, octal and hexadecimal for debugging systems).

5. I worked on the development of a large multiprocessing system and a graphics display processor, as well as analog-to-digital and digital-to-analog audio converters in the Engineering Lab of the Artificial Intelligence Lab at Carnegie-Mellon University in the early 1970s. I co-designed the microelectronics and software of a real-time microwave (wireless) signal analyzer in the mid-1970s.

6. I am the founder (1976) and original editor of the COMPUTER MUSIC JOURNAL,[1] an academic publication of international research on the application of computer science, signal processing mathematics, electronics, software, physics, acoustics and psychology of perception to the composition, recording, editing, and processing of music. Publication of several books[2] resulted from the articles I collected and edited.

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[1] Computer Music Journal, MIT Press.

[2] Revised articles from the COMPUTER MUSIC JOURNAL with new articles edited by John Snell, John Strawn and Curtis Roads were published in 3 books:

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7. I also did research in digital audio and music processing at Stanford University from 1977–1980 at the Center for Computer Research in Music and Acoustics (CCRMA). I worked on the development of the third generation of the CCRMA mainframe computer for editing, signal processing, and playing digital music files, and our computer was connected to the ARPANET.

8. I was a design engineer from 1980–86 at Lucasfilm Ltd., where we designed and developed the microelectronics and software of graphics-based multiprocessor supercomputers for recording, processing, synthesis, editing and transferring of digital music, voices, Foley, and sound effects. In addition to design of the programmable digital mixing console and solid state memory system of our Digital Audio Signal Processor (a.k.a. ASP and SoundDroid), I contributed to the architecture[3] and use of higher-speed circuitry (change from noisy, slower

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FOUNDATIONS OF COMPUTER MUSIC (MIT PRESS 1985), DIGITAL AUDIO Engineering (Kaufmann 1985), and DIGITAL AUDIO SIGNAL PROCESSING (Kaufmann 1985).

[3] Contributions to the architecture included replacement of the traditional single-bus with a dual-bus for faster processing (since most calculations involve dual-operands), touch-sensitive, interactive graphics screen technology for ease of

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TTL to faster, less noise-prone, ECL supercomputer integrated circuitry[4]) for real-time operation. Our ASP/SoundDroid system included static and dynamic random access semiconductor memory (RAM) as well as disk drives for storing digital audio. This multiprocessor system was designed so that multiple channels of digital audio could be transmitted over a private Ethernet (ASPnet) between the

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editing, and use of a hinged paging design for easy troubleshooting access to signals.

[4] Emitter-coupled-logic (ECL) was a faster and cleaner method of electronics design than TTL. Electronic circuitry known as transistor-transistor technology (TTL) was commonly used for digital design in the 1970s and 1980s. Schottky TTL sometimes failed due to its electrical noise and reflections over lines connecting TTL chips. From troubleshooting experience with the noise generated by, and line reflections of, Schottky TTL in developing large digital systems in the 1970s, I realized the need for a faster and more reliable supercomputer technology. Speed was an essential ingredient for real-time processing of media during this period. However, I designed portions of our less speed-critical user interface with more energy-efficient CMOS (complimentary metal-oxide-semiconductor) integrated circuitry, which became the dominant technology for microprocessors.

disk drives connected to the memory systems of the processors. Our Trio project was designed for editing digital audio and video with optical video disks.

9. I designed several real-time multiprocessing systems for processing digital media signals over the last few decades[5 and 6] and wrote a book,[7] which detailed my design of numerous architectures for processing audio and video. In 1989, I was invited to give an international presentation on real-time software design issues in programming multiprocessor systems,[8] which was subsequently published by the Audio Engineering Society. In the 1990s, I worked on the design

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[5] John M. Snell, *Expandable Interactive Real-time Multiprocessor DSP*, Proceedings of the IEEE ASSP Workshop on Applications of Signal Processing to Audio and Acoustics (IEEE Press 1989).

[6] John Snell, *Professional Real-time Signal Processor for Synthesis, Sampling, Mixing & Recording,* PROCEEDINGS OF THE 83RD CONVENTION OF THE AUDIO ENGINEERING SOCIETY (Audio Engineering Society 1987).

[7] John M. Snell, Multiprocessor Architectures & Design Techniques for Media Signal Processing & Synthesis 1991–1995 (Timbre Engineering 1995).

[8] John M. Snell, *Multiprocessor DSP Architectures & Implications for Software*, AUDIO IN DIGITAL TIMES (Audio Engineering Society 1990).

of a supercomputer chip and software for personal home computers, which enabled simultaneous processing of multiple streams of media. This integrated circuit with its software was designed to receive, decode and process digital video, digital audio and graphics while implementing modem connection to the Internet. These systems were designed with static and dynamic RAM (Random Access Memory) as well as non-volatile digital storage.

10. Over the last decade, I worked on the design of a multiprocessing supercomputer system which allowed customers to select their own movies and music over the Internet and have them transmitted from solid state memory to their home over the higher-fidelity cable TV and satellite dish (wireless) networks, including thousands of channels of high-fidelity digital audio and high-definition digital video. I also worked on the design/analysis of smartphone applications involving digital media. I have used the Internet and its predecessor, the ARPANET, since 1972[9] for my research and development work in digital media. I

[9] For example, my first transmission of digital files of music instrument designs with scores to play them was from Carnegie-Mellon University to Stanford University in the early 1970s over the ARPAnet. This was years ahead of the less expressive MIDI standard.

have given lectures and engineering presentations at international conferences, research centers and universities.[10]

11. My experience with music is not limited to microelectronics and software engineering. I have been a musician since early childhood, and my compositions have been played in concerts and over the radio, as well as in live theater and film soundtracks.

12. I served from 1992–95 on the Editorial Review Board of MICROPROCESSOR REPORT. I analyzed the internal design of state-of-the-art digital media processing chips and advanced memory technology for this highly-respected

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[10] I have given lectures and engineering presentations at Audio Engineering Society international conferences, International Computer Music Conferences, Institute of Electrical and Electronics Engineers (IEEE) International Conference on Signal Processing Applications and Technology, Stanford University, Institut de Recherche et Coordination Acoustique/Musique (IRCAM, Paris), University of California, Microprocessor Forum, Eastman School of Music, Northwestern University, DSPx (Digital Signal Processing Conference, San Jose, CA), IEEE Mini/Micro West (San Francisco), WCCF, Mills College and Carnegie-Mellon University.

publication on integrated circuit design for electrical engineers and computer scientists.

13. I was honored by the Audio Engineering Society in 2000 with a Fellowship Award for innovative digital audio engineering design and valuable contributions to the advancement of audio engineering.

14. I have analyzed hundreds of patents since the early 1970s and have served as an expert witness in trial and deposition. I am being compensated at $350/hour for my work on this case. I have not testified at trial or deposition in the past four years.

II. Materials Reviewed

15. In preparing my opinions, I have considered the following materials:

- '573 Patent, its File History and Reexamination History [Exs. 4101, 4102, 4103]
- '440 Patent, its File and Reexamination History [Ex. 4127]
- The Declaration of Scott Sander and exhibits [Ex. 2110-2120]
- The Declaration of John Stautner and exhibits [Ex. 2121-2122]
- The Deposition of David Michael Schwartz, December 9-10, 2013 [Ex. 2124]
- The Deposition of David M. Schwartz, February 1, 2001[Ex. 2125]

- The Deposition of John P. J. Kelly, Ph.D., December 4, 2013 [Ex. 2126]
- Recording Industry Association of America Year-End Shipment Statistics for 2008, 2009, 2010, 2011, and 2012 [Ex. 2127]
- Full Written Transcript from 1987 Stanford Lecture [Ex. 2128]
- Article entitled *A Management/Preservation Scorecard*, written by Bill Bolland, and published in the November, 6, 1999 edition of Billboard Newspaper [Ex. 2129]
- **Excerpts of Petitioner's SEC filings** [Exs. 2130, 2132, 2144 and 2145]
- Apple Press Releases [Exs. 2131, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140 and 2148]
- **Excerpts from Apple's Earning Call Transcripts** [Exs. 2141, 2142 and 2146]
- Article entitled *Top Music Seller's Store has no Door*, dated April 04, 2008, and published in the Los Angeles Times (available at http://articles.latimes.com/2008/apr/04/business/fi-itunes4) [Ex. 2143]

- Online article entitled *How iTunes Works*, written by Julie Layton and Jonathan Strickland (available at http://electronics.howstuffworks.com/itunes5.htm) [Ex. 2147]
- Screenshots obtained from Apple's website [Exs. 2150 &2151]
- Steven Dupler, *Joint Telerecording Push: CompuSonics*, AT&T Link, Billboard, vol. 97, no. 40, Oct. 5, 1985 ("Dupler article") [Ex. 4106]
- David Needle, From the News Desk: *Audio/digital interface for the IBM PC?*, InfoWorld, vol. 6, no. 23, p. 9, June 4, 1984 ("Needle article") [Ex. 4107]
- Larry Israelite, *Home Computing: Scenarios for Success*, Billboard, Dec. 15, 1984 ("Israelite article") [Ex. 4108]
- "Digital Audio Telecommunication System" diagram, © 1985 [Ex. 4112]
- David Schwartz, July 16, 1984 Letter to CompuSonics' Shareholders, July 16, 1984 ("Schwartz 1984 Letter") [Ex. 4113]
- Hyun Heinz Sohn, *A High Speed Telecommunications Interface for Digital Audio Transmission and Reception*, 7^{6th} AES Convention, Oct. 1984 ("Sohn article") [Ex. 4114]

- David Schwartz, October 10, 1985 Letter to CompuSonics" Shareholders, Oct. 10, 1985 ("Schwartz 1985 Letter") [Ex. 4115]
- CompuSonics Video, *Application Notes: CSX Digital Signal Processing* 1986 ("Application Note") [Ex. 4116]
- "Digital Audio Software Production/Distribution" diagram [Ex. 4117]
- U.S. Patent No. 4,682,248 ("Schwartz patent") [Ex. 4118]
- Brian Dumaine, *The Search for the Digital Recorder*, Fortune, p. 116, Nov. 12, 1984 (Dumaine article") [Ex. 4119]
- 1987 Stanford lecture ("Stanford lecture") [Ex. 4120]
- International Patent Application W085/02310 ("Softnet patent") [Ex. 4109]
- United States Patent No. 3, 718,906 ("Lightner patent") [Ex. 4110]
- United States Patent No. 3,990,710 ("Hughes patent") [Ex. 4111]
- U.S. Patent No. 4,124,773 ("Elkins patent") [Ex. 4128]
- U.S. Patent No. 4,667,008 ("Kramer patent") [Ex. 4129]
- U.S. Patent No. 4,528,643 ("Freeny patent") [Ex. 4130]
- Photograph of CompuSonics equipment [Exc. 4131]
- Declaration of John P. J. Kelly [Ex. 4132]

- Declaration of David Schwartz [Ex. 4133]
- **Special Master's Report and Recommendation On Claim** Construction dated Nov. 19, 2012 in the matter of SightSound **Technologies, LLC v. A . ("Claim Construction Recommendation") [Ex. 4134]**
- Order re Claim Construction dated 2/13/13 in the matter of SightSound Techs., LLC v. Apple Inc. [Ex. 4135]
- *New Telerecording Method for Audio,* Broadcast Management/Engineering, (Oct. 10, 1985) [Ex. 4140]

III. The Hair Patents

16. I am very familiar with the background of the technology to which the '573 and '440 patents (collectively the "Patents") relate and the problems they solved. My testimony on this issue is based on my review of the Patents and their prosecution and reexamination histories, as well as my own specialized knowledge of this field of technology, acquired through my education and decades of professional experience.

17. On March 2, 1993, the United States Patent and Trademark Office ("PTO") issued United States Patent No. 5,191,573. The '573 Patent claims priority to an application, Serial No. 206,497, that was filed on June 13, 1988. The '573 Patent underwent reexamination, and the PTO confirmed the validity of all

six claims of the '573 Patent by issuing a reexamination certificate, U.S. Patent No 5,191,573 C1, on November 30, 2010. No claims from the '573 Patent were amended or cancelled during reexamination.

18. The PTO further issued U.S. Patent No. 5,966,440 ("the '440 Patent") on October 12, 1999. The '440 Patent is a continuation of the application that gave rise to the '573 Patent and also claims priority to the same application, No. 07/206,497, that was filed on June 13, 1998. The '440 Patent also underwent reexamination. Among other things, the PTO confirmed the validity of claim 1, as amended, and the '440 Patent was amended to include new claims 64 and 95. The PTO issued a reexamination certificate, U.S. Patent No. 5,966,440 C1, on June 27, 2010.

19. The Patents generally relate to the field of electronic sale and distribution of digital audio or digital video. More specifically, the patented technology pertains to business methods associated with the transmission of digital audio or digital video via telecommunications lines to non-removable memory storage owned by a customer.

A. <u>The '573 patent and Claims at Issue</u>

20. The '573 Patent discloses a method to sell digital music and digital video files over telecommunication lines, allowing the purchaser/user to pay per

file and download the file to his or her non-removable memory storage such as a hard disk, which allows for playback.

21. The '573 Patent is directed to "a system and associated method for the electronic sales and distribution of digital audio or video signals, and more particularly, to a system and method which a user may purchase and receive digital audio or video signals from any location which the user has access to telecommunication lines." '573 patent at 1:15–21.

22. In describing the sales, distribution and transferability of music at or prior to the filing date, the '573 Patent discusses a number of drawbacks to then-current music media: records, tapes and compact discs (collectively, "the prior art hardware units"). '573 patent at cols. 1–2. From a capacity standpoint, the '573 patent discloses that the prior art hardware units were limited in the amount of music that can be stored on each unit. *Id.* at 1:27–29. The prior art hardware units also limited a user's ability to play, in a user-selected sequence, songs from different albums. *Id.* at 1:39–44. In contrast, the '573 Patent disclosed the methods that permitted the download of individual songs rather than albums. From a sales and distribution standpoint, the '573 Patent describes the need to physically transfer prior art hardware units such as compact discs, cassettes or records from the manufacturing facility to the wholesale warehouse to the retail warehouse to the retail outlet prior to final purchase, resulting in lag time between music creation

and marketing as well as the resulting transfer and handling costs. *Id.* at 1:38–45. Before the '573 Patent, customers were required to physically go to retail locations to get selected songs. *See id.* at 1:55–63.

23. At the time of the invention, there were numerous ways for consumers to purchase audio and video content. The primary method for consumers to purchase music was to make a purchase of records, tapes and CDs at a retail store with cash, check or credit card. Consumers could also order music on hardware units from catalogues and pay with a check or credit card. Consumers could subscribe to cable channels and watch video movies (*e.g.* Showtime, HBO) broadcasted at certain times of the day. Rather than allowing consumers to download and store digital video recordings, pay per view allowed access to content (a code to unscramble content) broadcasted at certain times of the day. Consumers could also rent video cassettes from video rental stores (e.g. Blockbuster).

24. The specification of the patent both envisioned and provided for an improved methodology to electronically sell, distribute, store, manipulate, retrieve, play and protect distortion-free digital audio and video files. *Id.* at 2:23–44. The benefits taught by the specification include easy recall of stored music for playback as selected or programmed by the user, changing the playback order of stored music based on different criteria, such as music category, artist, or user's favorite

songs, and the random playback of music based on the user's selection. *Id.* at 2:44–61. The patented method envisioned both a break from and how to break from the distribution of prior art hardware units sold as albums.

25. For protection from piracy, the '573 Patent discloses that digital audio and video files can be transferred from a source authorized by the copyright holder to sell and distribute the digital files. *Id.* at Fig. 1 & 2:55–58. In short the claimed invention provides a new method of selling and distributing music over telecommunications lines, that reduces the time between music creation, music marketing and music sale that broke with the dependence of hardware units and "album only" sales and play back. *Id.* at 2:65–3:2.

26. I understand that claims 1, 2, 4, and 5 of the '573 Patent are at issue in this proceeding. Claim 1 of the '573 Patent is directed to the electronic sale and distribution, and storage of digital audio signals. The electronic sale and distribution is accomplished by: (1) transferring money electronically from a second party to a first party via a telecommunications line; (2) forming a connection, through a telecommunications line, between the first party's first memory and the second party's second memory; (3) transmitting the desired digital audio signal from the first memory to the second memory via the established connection, all while the second memory is in the possession and control of the second party and at a location determined by the second party; and (4) storing the

transmitted digital audio signal in the second memory. '573 Patent at 6:4-25. Claim 2 is dependent upon claim 1 and adds that the second party searches and selects the desired digital audio signal from the first memory after the transferring step. *Id.* at 6:26-30. Finally, claims 4 and 5 duplicate claims 1 and 2 respectively, but pertain to digital video signals rather than digital audio signals. *See id.* at 6:38-62.

27. The specification makes abundantly clear that the invention precluded removable physical storage media as a second memory. *See* Figure 1 ("hard disk" as second memory). It discussed the host of inefficiencies associated with removable media which was a problem solved by the invention, including that the removable physical media were prone to limited storage capacity, damage and deterioration, low sound quality, and copyright infringement; and the sale and distribution of physical media was time consuming, costly, and wasteful. *See id.* at 1:16-2:9. The '573 Patent's novel method of electronically selling and distributing digital video and digital audio signals directly to a non-removable storage medium rendered these problems moot and rendered unnecessary the time and costs associated with manufacturing, packaging, shipping, and finally shelving the removable physical media at a brick-and-mortar location. *See id.* at 1:38-48, 2:27-35. At the time of the invention, the non-removable second memory storage primarily contemplated was a hard disk. This is in contrast to the primary mobile

prior art hardware of tapes used in connection with portable tape recorders like the "Walkman."

28. During the prosecution of the patent and the subsequent reexamination proceedings, none of the claims of the '573 Patent were amended, however, the reexamination helped define the term "second memory" to include a non-volatile storage portion that is not a tape or CD, or other removable media. Specifically, the Board of Patent Appeals and Interferences found that the "'573 patent describes storing the digital signal in a non-volatile storage portion of the second memory, where the non-volatile storage portion is not a tape or CD." *Id.* at 1450. *See id.* at 1274-76. In the Notice of Intent to Issue *Ex Parte* Reexamination Certificate, the Examiner concluded that the "ordinary and customary meaning of 'second memories' [does not include] cassette tapes, CDs *and the like*. . . ." *Id.* at 1587. One of ordinary skill in the art would understand that these '573 Patent "second memories" exclude removable storage mediums, such as records, tapes, CDs, cassettes, cartridges, optical disks and floppy disks and are limited to non-removable memory such as a hard disk.

B. Claim Construction

29. I understand that the Board has adopted the following interpretations of terms in the '573 Patent.

Term	Interpretation
"first party"	A first entity, whether a corporation or a real person.
"second party"	A second entity, whether a corporation or a real person.
"telecommunications lines"	An electronic medium for communicating between computers
"electronically"	through the flow of electrons
"connecting electronically"	Connecting through devices or systems which depend on the flow of electrons
"transferring money electronically"	providing payment electronically (i.e., through devices or systems which depend on the flow of electrons)
"digital audio signal"	Digital representations of sound waves.

IV. Level of Ordinary Skill

30. I believe the level of ordinary skill relevant to the '573 Patent would be an individual with an undergraduate degree in electrical engineering or computer science and/or approximately 2–4 years of industry experience in the design of systems and methods for storing and transmitting digital information.

V. Advantages of Patented Methods over prior modes of distributing music.

31. I believe the patented methods had several advantages over the prior modes of distributing and selling music. In my opinion, there were several benefits to selling music electronically as claimed and described in the Patents, over the

prior art methods of sale which required the sale of removable physical media—such as records, cassette tapes, cartridges, VHS tapes, optical disks and CDs. Moreover, the cost, warehousing, management of physical inventory, and distribution of such removable physical media made the delivery of single songs impractical. Floppy disks had the same limitations as cassettes, VHS tapes and CDs, and I was unable to determine any indication from the materials I reviewed that a floppy disk with music or audio content was ever sold. Further, based on my experience, I do not believe that a floppy disk was ever a commercial medium for music, audio or video content.

32. The patented methods have several advantages over the prior modes of distributing digital music and digital video, including the combination of deterioration and damage, greatly increased flexibility of retrieval, easier sales and improved distribution, improved audio fidelity and copyright protection, as noted in the first 3 columns of the '573 Patent.

33. The fidelity of audio and video in removable media is typically inferior to audio and video in internal computer storage, where the media is protected. For example, compact discs and DVDs skip or get stuck and have to be restarted, due to oil left from fingers touching the playing surface or to leaving them out of their protective shells, where they may be scratched or collect dust.

Even a new disk has errors which the player masks or conceals, resulting in a loss in fidelity.

34. The signal to noise ratio and distortion of even a new audio cassette tape is inferior to that of digital audio recorded with well-designed equipment. An audio signal is recorded in a magnetic coating on a tape. Magnetization is transferred between adjacent windings of the tape on a reel if it is not played for long periods of time. Eventually one can hear the previous or next loud section of music during a quiet moment of music. With each playing, the delicate magnetic tape is pressed against a hard playback head, which slowly wears the coating and degrades the magnetized audio signal over time. When the tape becomes tangled in the playback mechanism, it is often stretched or wrinkled. Tape stretching introduces wow and flutter, and wrinkling of the tape causes distortion in the music.

35. The signal to noise ratio and distortion of even a new record is inferior to that of digital audio recorded with well-designed equipment. An audio signal is recorded in deformations from the spiral groove in a plastic record. The previous or next loud section of music is sometimes audible in an adjacent groove of quiet music. With each playing, the record player needle degrades the audio signal, as it scrapes, effectively filing or smoothing, the deformations in the shape of the plastic groove in the record. Scratches caused by human handling—or placing and

bouncing the needle in the groove—produce objectionable clicks and pops. A record sometimes becomes stuck in a groove, repeating the last few seconds until someone comes to move the needle to the next groove, interrupting the musical experience. Audible distortion may result from oil, food, and other residue on finger tips which touch the surface of the record, or from leaving them out where they collect dust and may be scratched.

36. The quality of digital audio copied into the Patents' internal storage is more reliable and less subject to degradation because the storage media is not handled by humans each time they access the media. This is particularly relevant to flexible playback because with internal storage the song selection can be electronically cued as opposed to physically switching out prior art hardware units (CDs etc).

37. With previous music distribution on CDs, cassettes, cartridges and records, customers had to purchase whole albums in a fixed order, instead of just songs of music one desired, and playback was typically the whole album in the order fixed by the artist rather than the user. In custom duplicating machines, the order in which the music was stored on a removable medium was fixed after the user selected his pieces and order of playback because removable hardware was used. The "mixed tape" or "party tape" was a popular early version of this but it was still a fixed version on a prior art hardware unit. Even the "mixed tape" or

"party tape" required considerable consumer time to set up and then was fixed. A long felt need existed for a methodology that allowed for the flexibility disclosed by the '573 Patent. The '573 patented method allowed the user to change which pieces he or she wanted to hear at any time, and in which order they would be played, without having to change a CD, etc., each time he or she changed which previously purchased pieces would be played, or in which order they would be played. Such customer accommodation led to increased sales.

38. The sale and distribution of digital music over telecommunication lines and digital storage allowed effective copyright and piracy protection so that the creators and the distributor are paid under the '573 patented method.

39. The ability to purchase and receive music and video over a telecommunication line allows customers to shop anytime, not just during store hours, and pieces of music are never out of stock. Shopping by computer also allows customers to search for music by title, composer, musicians, genre and date. Searching through endless rows and bins of CDs and cassettes took hours, sometimes not finding the music one wanted. The patented method allowed for the ease and flexibility in selecting and purchasing music with the ability to purchase only the pieces of music one wants and being able to hear this music quickly in the comfort and quiet of one's home, all contributing to increased sales.

40. The '573 Patent eliminated the need for transportation through traffic to a physical store, and waiting in a cashier's line for customers to pay for their purchases, saving consumers hours of their valuable time.

41. The '573 Patent described the need to physically transfer prior art media from the manufacturing facility to the wholesale warehouse to the retail warehouse to the retail outlet prior to final purchase, resulting in lag time between music creation and marketing as well as the resulting transfer and handling costs.[11] By teaching the sale and distribution of digital music over a telecommunication line to non-removable memory such as a hard drive, the '573 Patent removed the added cost of manufacturing removable media like CDs and the related tooling costs, as well as the cost of distribution trucks and their fuel. By shifting the paradigm from removable hardware sold in a store the need for warehouses, middle salesmen, stores, distribution trucks and their fuel, a larger percentage of the royalties could go to the creators of the music, or be realized as profit for the distributor of the music.

42. The '573 Patent provided for advantages of selling, purchasing, and distributing digital music and digital video over telecommunication lines to non-removable memory (*e.g.*, hard drives), resulting in a dramatic shift in the audio

[11] '573 Patent at 1:38–51.

market as music stores which sold records, cassette tapes and CDs were replaced by Internet sale of downloadable music and flexible playback by the end user.

VI. The CompuSonics System and Publications

43. I understand that CompuSonics created high end stereo equipment for consumers, specifically, devices referred to as DSPs (digital signal processors) that were intended to replace traditional tape recorders using digital quality. I also understand that CompuSonics focused on developing compression technology. I have reviewed the Declaration of John P. Stautner and the statements in his declaration comport with my understanding of CompuSonics, its business and its technology. CompuSonics sold digital recorder/players referred to as DSPs, which were intended to be a "direct replacement" for traditional stereo components, including replacing CDs with "super floppy" disks. CompuSonics DSPs were intended to be used for (1) archiving a consumer's favorite record or tape on a removable digital copy; (2) home music editing; (3) live recording of music; and (4) miscellaneous professional uses such as playing sound effects and library archives. I understand CompuSonics' so-called "telerecording" technology was not available on any commercially available DSP.

44. I have also reviewed the exhibits submitted by Apple in this proceeding relating to the so-called "CompuSonics system" or the "CompuSonics publications" and have concluded that when viewed by one of ordinary skill in the

art, they do not disclose claims 1, 2, 4 and 5 of the '573 Patent. Further, it is unlikely that many of the "CompuSonics publications" would have been reviewed by those of ordinary skill in the art at the time, who would have been much more likely to read articles published by the Institute of Electrical and Electronics Engineers (e.g. *IEEE Transactions on Acoustics, Speech and Signal Processing*, *IEEE Computer*, *IEEE Micro*), Association for Computing Machinery (e.g. *Journal of the ACM*), AES (e.g. *Journal of the Audio Engineering Society*), MIT Press (e.g. *Computer Music Journal*), ASA (e.g. *Journal of the Acoustical Society of America*), or the Society of Motion Picture and Television Engineers (*SMPTE Journal*). Other related publications read by those of ordinary skill in the art at the time included *Science*, *Scientific American*, *Physics Today* and trade journals like *EE Times*, and *Computer Design*, or popular magazines like *DDJ*, *Byte*, *Macworld*, *PC Magazine*, *The Absolute Sound* and *Stereophile*. However, it is unreasonable to require microelectronics design engineers and computer scientists to have read articles in *Billboard Magazine* (Exs. 4106 & 4108), an article from *Fortune Magazine* (Ex. 4119), and letters to CompuSonics Shareholders which were likely only available to shareholders (Exs. 4113, 4115 & likely 4116). Although *Billboard* was read by pop musicians and marketing and advertising specialists interested in pop music, microelectronics design engineers and computer scientists did not consider *Billboard* a credible source of mathematics, microelectronics,

semiconductor material science, physics, audio engineering, video engineering, or computer science information. Overloaded engineering schedules did not leave time to waste seeking engineering guidance, much less "Futurama" speculation, from magazines like *Billboard* and *Fortune*.

45. Exhibit 4106 discloses a removable floppy disk as a consumer memory. This removable floppy disk would not meet the objectives of the '573 Specification described herein; and it therefore does not anticipate claim 1. Exhibit 4106 also fails to disclose a second party either searching the first memory or selecting a desired digital audio signal, and therefore does not anticipate claim 2. Because Exhibit 4106 does not mention video at all, it fails to anticipate claims 4 and 5. Moreover, Exhibit 4106 lacks any suggestion or link to combine its disclosure, which is missing elements of the '573 claims, to any other cited exhibit or disclosure.

46. In Exhibit 4107, InfoWorld incorrectly stated that the "CompuSonic DS-1000" (*sic*) system "will allow the user to route music through the IBM PC" and that "you would be able to download music onto your PC in the same manner as other digital information." InfoWorld was known for reporting on business computing, yet was not a publication engineers would look to for guidance in designing digital music processing equipment. Although PCs were capable of controlling signal processing equipment, routing music through a 1984 IBM PC

resulted in clicks, pops and other forms of distortion, due to inadequate processing speed. Further, the idea of "routing music through an IBM PC" was not something that CompuSonics was pursuing according to John Stautner because they understood that the storage capacity and computational capacity was superior on the DSP as compared to a PC. Stautner Decl., ¶ 22. Rather than storing music in a PC, the CompuSonics DSP-1000 enabled music to be stored on a removable floppy diskette which was part of the CompuSonics' equipment. The CompuSonics DSP-1000 described would, at best, replace a CD player for playing digital music, but would read floppy disks with severely limited storage capacity, rather than CDs. CompuSonics did not suggest that the DSP-1000 would use a non-removable hardware unit. Additionally, Exhibit 4107 does not disclose a step of "transferring money electronically" and therefore does not anticipate claim 1. Exhibit 4107 also fails to disclose a second party either searching the first memory or selecting a desired digital audio signal, and therefore does not anticipate claim 2. Because Exhibit 4107 does not mention video at all, it fails to anticipate claims 4 and 5. Furthermore, Exhibit 4107 lacks any suggestion or link to combine its disclosure, which is missing elements of the '573 claims, to any other cited exhibit or disclosure.

47. Exhibit 4108 does not disclose either "transferring money electronically" or a non-removable hardware unit for music storage. Exhibit 4108

suggests that with the improvements in shipment of data, customers, "in the not-too-distant future [...] will be able to buy music at home" by using a cable service and paying, long after the step of downloading the music, an "itemized monthly cable service bill." Ex. 4108 at 4. After a cable service bill was mailed, the consumer would pay for their monthly subscription service with a check, cash, or by writing down and mailing a credit card number. The music ends up on a removable floppy disk in the DSP-1000 via the cable station in that scenario. Because a "relatively low number of fully functional cable television installations" were expected for some time ("the availability of high-speed, low-error transmission of digital data will be limited in the immediate future"), another "more realistic" scenario is presented in Exhibit 4108 with the same missing claim elements. This second scenario discloses that: "The customer goes to the record store and requests that a specific 'album' be put on floppy disk." Billboard lacked credibility, as design engineers understood there was no means to sufficiently compress an album of music to fit on a floppy diskette with any reasonable fidelity. Why would a design engineer waste time reading an unreliable newspaper-magazine which didn't understand that even a super-floppy disk provided insufficient storage for an album of music, even when compressed to the levels of distortion Billboard accepted. This second scenario (of transmitting music to the record store where it is stored on a removable floppy disk for the consumer to

purchase) fails to disclose "transferring money electronically" from a first party having the content to the second party having a second memory (because the record store is the party in possession of the floppy disk memory, rather than the second party transferring the money, at the point of sale). Exhibit 4108 is also contrary to virtually every other element of the patent as well as to the teaching of the patent to obviate removable hardware units. A removable floppy disk as a consumer memory would not allow for the objectives of the '573 Specification described herein to be realized. In light of this, Exhibit 4108 anticipates none of the claims of the '573 patent. Furthermore, Exhibit 4108 lacks any suggestion or link to combine its disclosure, which is missing elements of the '573 claims, to any other cited exhibit or disclosure.

48. Exhibit 4112 fails to disclose how a consumer indicates what is a "desired" digital audio signal, and fails to teach a second party or "transferring money electronically." There is no disclosure of a first party and a second party. It therefore does not anticipate claim 1. Exhibit 4112 fails to disclose a second party either searching the first memory or selecting a desired digital audio signal, and therefore does not anticipate claim 2. Because Exhibit 4112 does not mention video at all, it fails to anticipate claims 4 and 5. Moreover, Exhibit 4112 does not provide any business method whatsoever as it merely depicts an alleged experimental transmission of data. Furthermore, other than being mentioned

during the Stanford lecture, Exhibit 4112 lacks any suggestion or link to combine its disclosure, which is missing elements of the '573 claims, to any other cited exhibit or disclosure - most of which are incompatible systems with the components of Exhibit 4112. Indeed, during the Stanford lecture, Mr. Schwartz suggested that that Exhibit 4112 would involve cable companies who would transmit content to be recorded on floppy disks with charges added to a consumer's monthly bill. Ex. 2128 ("call up the cable tv company, say I'll buy it, add it to my bill, download it to the disk and then get the bill 30 days later or whatever.").

49. Exhibit 4113 demonstrates CompuSonics' business method. They sold DSPs. More specifically DSP-2000s to keep the company going while waiting for future DSP-1000 sales. The DSP-2000s were designed for professional use, such as the "DSP-2004 Professional Mixer/Recorder [that] was demonstrated with a live duet." Ex. 4113 at 1. Professional use would not have had "the second party financially distinct from the first party" as required by the '573 patent claims. Only when a DSP-1000 and floppy disks were involved was there potentially a sale, and CompuSonics was not interested in the details of such a sale because their business method relied only on sales of the DSPs. There is lack of CompuSonics' evidence disclosing how "consumers will be able to purchase" digital signals. Many methods of purchasing could have existed, including record stores or computer stores selling floppy disks, sales on a monthly cable television bill for a

subscription service or pay-by-view content broadcast at certain times of the day, or floppy disk-of-the-month clubs. CompuSonics was focused on the floppy disk being the hardware unit of the future due to its ability to be recorded at home, in comparison with a CD that could not be recorded at home at the time, but did not focus on to whom or how the sales would be made. Therefore, the method of payment recited in the '573 patent claims is not disclosed and for, at least, this reason fails to teach the step of "transferring money electronically" and "the second party financially distinct from the first party." Moreover, using a removable floppy disk in the DSP-1000 as a consumer memory would not allow for the objectives of the '573 Specification described herein to be realized. Furthermore, Exhibit 4113 suggests the *existence* of a database, but fails to disclose a second party either searching the first memory or selecting a desired digital audio signal, and therefore does not anticipate claim 2. Because Exhibit 4113 does not mention video at all, it fails to anticipate claims 4 and 5. Finally, Exhibit 4113 lacks any suggestion or link to combine its disclosure, which is missing elements of the '573 claims, to any other cited exhibit or disclosure except possibly Exhibit 4108, from which it seems to borrow a cable service payment suggestion.

50. Exhibit 4114 is directed to "the audio industry [that] is devoted to using, refining and developing new methods of storing, retrieving, transmitting,

and receiving sound information." Ex. 4114 at 2. Exhibit 4114 mentions a "missing link [that] is an interface to the phone line that will allow the 'pumping' of the sounds data" (*id.* at 3), and states that "[t]hese are exciting times for the electronics industry (*id.* at 11)." Rather than describe a CompuSonics interface to the phone line, Hyun Heinz Sohn described a Multibus host computer buffering interface to an AT&T Accunet Terminal in Exhibit 4114. There is no suggestion that the consumer will have direct access to the imagined database in the "future outlook" portion of Exhibit 4114. The two potential scenarios to obtain audio imagined in Exhibit 4114 are the same as the scenarios described in Exhibit 4113. *First,* Exhibit 4114 suggests a scenario in which "video music services, which broadcast over cable networks" can release a new album, presumably with payment to the cable network via an itemized monthly cable television bill as described in Exhibit 4113. *Second,* Exhibit 4114 suggests connecting *record stores*, again not *consumers*, to databases. Therefore Exhibit 4114 is no better than the prior art describing vending machines, such as U.S. Patent No. 3,718,906 ("Lightner patent") that was overcome during prosecution. Similar to the prior art already overcome during prosecution, in Exhibit 4114, the second party transferring money electronically, *i.e.,* the consumer, is not the party that has possession of the second memory, instead the record store has possession of the second memory. Exhibit 4114 therefore fails to anticipate claim 1. In addition,

there is no suggestion of use of a non-removable hardware unit for storage of music. Exhibit 4114 also fails to disclose a second party either searching the first memory or selecting a desired digital audio signal, and therefore does not anticipate claim 2. Because Exhibit 4114 does not mention video at all, it fails to anticipate claims 4 and 5. Finally, Exhibit 4114 lacks any suggestion or link to combine its disclosure, which is missing elements of the '573 claims, to any other cited exhibit or disclosure except possibly Exhibit 4108 or 4113, from which it seems to borrow a cable service payment.

51. Even if the single, cryptic reference to "all-electronic purchases" taught "transferring money electronically," Exhibit 4115 fails to anticipate claim 1. Exhibit 4115 does not teach anything other than a floppy disk as a second memory and fails to anticipate claim 1 for at least this reason. Ex. 4115 at the bottom of page 1 ("transfers and digital recording of high fidelity audio from any music dealer's DSP-2000 to the DSP-1000 in your living room"). Exhibit 4115 discusses "the first group of DSP-1000 pilot production units," which only had a floppy disk drive for file storage, as being "used extensively for trade show demonstrations, field testing, and laboratory evaluation." Ex. 4115 at page 2. The mention of professional systems with hard drives in Exhibit 4115 do not have a "transferring money electronically" step because there is only one party and money would not be transferred between the different audio recording and production

services of a single party. Even if these were different parties with transfers between an audio recording and audio production entities, the money transfer would likely be in the reverse order of the claim, *i.e.*, not to the first party with the audio content, but to the second party performing the service. Bob Lifton used the DSP-2002 to do his job of editing audio for video, not to make a purchase from a first party with the desired digital audio or video signals. Exhibit 4115 does not mention any purchases having been made using either DSP version. Exhibit 4115 also fails to disclose either searching the first memory or selecting a desired digital audio signal, and therefore does not anticipate claim 2. Because Exhibit 4115 does not mention selling, transmission or storage of video, it fails to anticipate claims 4 and 5. Finally, Exhibit 4115 lacks any suggestion or link to combine its disclosure, which is missing elements of the '573 claims, to any other cited exhibit or disclosure. As previously mentioned, it cannot be assumed that one of ordinary skill in the art would have seen CompuSonics shareholder letters, like Exhibit 4115.

52. Exhibit 4116 suggests products that may be made using CompuSonics CSX digital signal processing. Exhibit 4116 does not teach a step of "transferring money electronically" and therefore fails to anticipate claim 1. Exhibit 4116 was presumably cited by Peti

decoder/recorder receives the digital video/audio data over the cable link and

copies it to disk." The disk referred to in this scenario is "a 400 megabyte write-once optical disk," not a non-removable hardware unit. The cost of these write-once optical drive and blank disks limited products to the professional market, as they were too expensive for the consumer home market. Further, the distributor sends a signal to a "cable television subcarrier or other transmission format." The customer would be billed for that transmission, through the cable service or other transmission format, and pay an itemized monthly cable service bill. At the time, cable subscription bills were paid monthly with a check, cash, or by writing down and mailing a credit card number. None of these are "transferring money electronically" and the digital signal is stored on a removable hardware unit, so that this does not anticipate claim 1. In addition, I understand that separate disclosures, even in the same reference, cannot be used together without some link or teaching to do so for anticipation purposes. Exhibit 4116 has several other distinct scenarios described that could allegedly substantially improve "the cost/performance ratio of digital video products." Despite what might be references to a "main disk" or "magnetic fixed disk drives" these references are not related to the "Music Video Distribution" section of Exhibit 4116 and are instead discussing databases that would be searched by the *same party* that recorded the information, likely audio/video industry professionals or as part of picture/voice verification or surveillance systems. In particular, there is no business method, let

alone "transferring money electronically" that is suggested to be used with the systems that might have hard disks suggested for searching the database of music and video entertainment content for sale. Even if Exhibit 4116 discloses the use of non-removable hardware units for video or audio storage that can be "played back in any desired order" (*id.* at 1) and for "efficient storage and retrieval," (*id.* at 2), there was no concept to make non-removable hardware units part of a business method and to require the transfer of money electronically to store a digital signal on the non-removable hardware unit. Exhibit 4116 also fails to disclose a second party searching the first memory for a desired digital audio signal to purchase, and therefore does not anticipate claim 2. While Exhibit 4116 mentions video, it fails to anticipate claims 4 and 5 for the same reasons that it fails to anticipate claims 1 and 2, respectively. Finally, Exhibit 4116 lacks any suggestion or link to combine its disclosure, which is missing elements of the '573 claims, to any other cited exhibit or disclosure except possibly Exhibits 4108, 4113, or 4114, from which it seems to borrow a cable service payment system.

53. Exhibit 4117 has no disclosure of a non-removable hardware unit. It therefore does not anticipate any claims of the '573 patent. Exhibit 4117 lacks any suggestion or link to combine its disclosure, which is missing elements of the '573 claims, to any other cited exhibit or disclosure. Even if one of skill in the art did combine Exhibit 4117 with any of the other cited exhibits, there is no disclosure or

even a suggestion to use a non-removable hardware unit at the location of the second party consumer with Exhibit 4117. In addition, there is no disclosure or suggestion of transmitting a desired digital audio or video signal in exchange for the transfer of money electronically. A person skilled in the art would be unable to discern any method of payment. Exhibit 4117 also fails to disclose either searching the first memory or selecting a desired digital audio signal, and therefore does not anticipate claim 2. Because Exhibit 4117 does not mention video at all, it fails to anticipate claims 4 and 5.

54. Exhibit 4118 (Schwartz '248 patent) is directed to "using high density recording on a low cost magnetic media . . . [to provide] a digital audio, video recording and playback system." Exhibit 4118 at 3:44-50. Exhibit 4118 describes the problems of "cost and slow access speed" for digital image storage and playback (*id.* at 3:7-9) and preferably uses "a 5.25" magnetic disk commonly in use for digital magnetic storage" (*id.* at 8:44-46). Ex. 4118 teaches away from storage in non-removable memory, as it teaches toward floppy and optical disks, which allow a recorder to be more economically competitive than recorders based on solid state silicon memory and bubble memory. "The preferred embodiment of the present invention utilizes a 5 1/4" flexible diskette commonly known as a mini-floppy." (*id.* at 14:31-15:5). Further, Exhibit 4118 does not disclose a business method at all, and in particular does not disclose transmitting a desired digital

audio signal in exchange for the electronic transfer of money. Regardless of hard drive digital storage disclosure in Exhibit 4118, it lacks the suggestion to transfer money electronically between two financially distinct parties for any reason, let alone a transmission of a digital audio signal. The uses described for the invention of Exhibit 4118 may or may not require "a computer communications link." *Id.* at 12:44-49, 62-68. It therefore does not anticipate claim 1. Exhibit 4118 also fails to disclose either searching the first memory or selecting a desired digital audio signal, and therefore does not anticipate claims 2 or 5. Finally, Exhibit 4118 lacks any suggestion or link to combine its disclosure, which is missing elements of the '573 claims, to any other cited exhibit or disclosure.

55. Exhibit 4119 is a story about plans to replace a digital compact disk players with a digital floppy disk player that can also record. Ex. 4119 at 1. Exhibit 4119 states that "[t]o make its floppy disks the standard" before the Japanese decide to go with digital cassette tapes, CompuSonics "plans to license the technology cheaply to other manufacturers." Ex. 4119, pg. 2. There is no disclosure that CompuSonics was even planning to replace the prior art removable hardware units with a non-removable hardware unit. To the contrary, CompuSonics was prepared to lose money by giving cheap licenses to make floppy disks the standard hardware unit in Japan. Accordingly, Exhibit 4119 does not anticipate claim 1. In addition, Exhibit 4119 speaks of selling "over the

telephone," but a person of skill in the art would understand that this could mean placing an order by telephone to be invoiced on a monthly bill. The reference to "symphonies *ordered* by credit card" also suggests that a credit card payment would be made in writing in advance of purchase, for instance by writing down a code for a recording and a credit card number and mailing it to the seller. Exhibit 4119 therefore fails to anticipate claim 1 for at least this reason as well. Exhibit 4119 also fails to disclose either searching the first memory or selecting a desired digital audio signal, and therefore does not anticipate claims 2 or 5. While Exhibit 4119 refers to "movies," it fails to anticipate claims 4 and 5 for the same reasons that it fails to anticipate claims 1 and 2, respectively. Finally, Exhibit 4119 lacks any suggestion or link to combine its disclosure, which is missing elements of the '573 claims, to any other cited exhibit or disclosure.

56. Exhibit 4120 focuses on the DSP-1000 and replacing the prior art hardware units with the removable optical disks that were handed out during the lecture. Ex. 4120 at 3, lines 18-23. The comparison point was compact disks and CD ROM. *Id.* at 4, line 21. There was no teaching of a second party having a non-removable hardware unit, and certainly no second memory that would read on claim 1. Exhibit 4120 states that the DSP-2002 "was while we were in the process of developing the system. So we couldn't do the research itself on the system." *Id.* at 23, lines 12-14. The DSP-2000s were *never* intended to transmit to each other

under the possession of financially distinct parties and be part of a business method that would have a step of "transferring money electronically." *Id.* at 32, lines 7-12. At best, the DSP-2002 had a database for transmission to another user having only a DSP-1000 floppy disk drive. Exhibit 4120 states that the floppy disk provides the flexible playback long desired (*id.* at 29, line 21 through 30, line 13) and states that removable hardware units are preferable (*id.* at 35, lines 4-16; 38, lines 8-16; 44, lines 5-21). Exhibit 4120 also fails to disclose a second party either searching the first memory or selecting a desired digital audio signal from the memory, and therefore does not anticipate claim 2. Because Exhibit 4120 does not mention video at all, it fails to anticipate claims 4 and 5. Finally, other than Exhibits 4112 and 4117 discussed above, Exhibit 4120 lacks any suggestion or link to combine its disclosure, which is missing elements of the '573 claims, to any other cited exhibit or disclosure.

57. Exhibit 4131 discloses none of the steps of the patent, but is a photograph of a box with a removable floppy disk leaning against it, from which a person skilled in the art would be unable to discern any method, much less a business method for transmitting a desired digital audio or video signal in exchange for the electronic transfer of money. In addition, Exhibit 4131 lacks any suggestion or link to combine its disclosure, which is missing elements of the '573

claims, to any other cited exhibit or disclosure. Exhibit 4131 therefore does not anticipate any claims of the '573 Patent.

58. Exhibit 4140 fails to disclose a non-removable hardware unit. Although AM radio is not CD quality music as specified in the patent, exhibit 4140 discloses the recording onto floppy disk of a transmission of audio from WLS radio over AT&T's Accunet. Ex. 4140 at pg. 2. Exhibit 4140 also disclosed that Schwartz "visualizes a time when new music will be sent out from recording companies directly to radio stations or consumers at home, from the phone onto floppy disk." *Id.* at 3. And Exhibit 4140 disclosed "a floppy disk-based digital recorder for broadcast use;" (*id.*) and "the consumer marketplace [] floppy disk-based DSP-1000" (*id.*). All potential second memory disclosed in Exhibit 4140 is removable. Moreover, there is no disclosure of a step of "transferring money electronically," and for at least these reasons, Exhibit 4140 fails to anticipate claim 1. Exhibit 4140 also fails to disclose a second party either searching the first memory or selecting a desired digital audio signal from the memory, and therefore does not anticipate claim 2. Because Exhibit 4140 does not mention video at all, it fails to anticipate claims 4 and 5. Finally, Exhibit 4140 lacks any suggestion or link to combine its disclosure, which is missing elements of the '573 claims, to any other cited exhibit or disclosure. Exhibit 4140 therefore does not anticipate any claims of the '573 patent.

VII. At the time of the invention, the business method of electronically selling digital audio signals and digital video signals over telecommunications lines for storage on consumer memory free of removable physical media such as CDs, cassettes, cartridges, tapes, optical disks and floppy disks was neither obvious nor predictable in light of the CompuSonics Publications

59. At the time of the invention (June 13, 1988), content producers were unwilling and/or unable to make their content available for sale (or otherwise make their content available for distribution) in digital format over computer networks.

60. Even as late as 1999, only one of the five major music studios (Sony) had a central digital music archive in place that would allow it to participate in electronic distribution of its digital audio signals:

> U.S. record labels are at varying stages in their efforts to achieve a central digital database with asset management and archival preservation functions. Following is a rundown of the status to date.
>
> * Sony Music is the only one of the five major-label groups to have a central digital music archive in place.
>
> Its customized system—which is handled by a staff of 10—is based on the twin concepts of asset preservation and asset **management. "It allows us to** save our recordings and to quickly find, transfer, and re-purpose them for electronic media distribution **and other ventures," says director of technology** Malcolm Davidson.
>
> The system was installed in early 1996 and has been online **since. A**

> CD-era recordings are now stored in its digital silo, with an estimated 2% of remaining catalog being added every year. Also, all new releases are automatically added to the silo. The material in the digital silo is "
>
> The database consists of a Silicon Graphics computer and an EMASS data archive system developed by Raytheon (now Advanced Digital **Information Corp.'s AMASS), which includes** an Automatic Media Library (AML) component.
>
> The AML is a robotic retrieval system that offers infinitely expandable storage. It can store a variety of media, including Digital Tape Format (DTF), Advanced Intelligent Tape, and Digital Linear Tape.
>
> The company has installed Sony-manufactured DTF subsystems that store data on large (42 gigabyte) or small (12 gigabyte) tape cartridges. [12]

61. As discussed in the quote above, Sony was the only music label that had a central digital music archive system in place by 1999 to find, transfer, and re-purpose recordings for electronic media distribution, and Sony used removable tapes as its storage medium.

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[12] BILL BOLLAND, A management/preservation scorecard, BILLBOARD 92 (Nov. 6, 1999) (emphasis added), available online at http://books.google.com/books?id=eggEAAAAMBAJ&pg=PA92 [Ex. 2129].

62. Content producers believed the digital formats of their master recording content, such as digital audio signals and digital video signals, were so valuable that they were unwilling to make systems that stored them accessible to users on devices that were in the control and possession of the users. Although CDs contain digital recordings, due to flaws, they are not exact copies of the master recordings owned by content producers. CDs use error concealment to reduce audibility of imperfections. To avoid piracy of master recordings, content producers were focused on utilizing techniques to avoid storage to consumer-controlled memory. The audio and video recording labels attempted to block electronic distribution of the digital, non-physical signals of recordings during the 1990s and into the next decade due to concern over loss of their control of the audio and video markets.

63. Content producers were more comfortable with consumers holding their content on removable physical media, as had been done on tapes, CDs and records. As one example, the Freeny patent cited by Dr. Kelly to support his assertion that "the advantages . . . of electronic distribution and sales . . . of digital music, were known" (*see* e.g., Ex. 4132 at ¶ 27), described a system in which even though the information was transmitted over a telecommunications line, the information would only be transmitted to a retail location so that a physical object, such as a CD or cassette could be made and sold on-the-spot to a customer:

> The present invention provides a means for reproducing or manufacturing material objects at point of sale locations only with the permission of the owner of the information, thereby assuring that the owner of the information will be compensated in connection with such reproduction. The system of the present invention solves the problems associated with manufacturing, inventory, configuration distribution and collection previously discussed and permits sale of material objects embodying information in a more efficient, economical and profitable manner.[13]

64. Thus, the Freeny patent accommodated concerns of content providers and did not describe or suggest the business method for electronically selling digital signals described in the '573 patent. The Freeny system maintained control over the digital audio signals and digital video signals by both transmitting them to a retail location, not to a user, and by only selling them in material objects, such as cassette tapes.[14]

65. The CompuSonics publications similarly teach toward utilizing removable physical media (specifically floppy disks) as the consumer storage medium and teach away from the patented invention. The focus of all of the exhibits is the CompuSonics compression technology ("CSX") and the use of removable disks as a consumer storage medium. The inefficiency that

[13] Freeny at 4:8–18.

[14] Freeny at 4:36–55:

CompuSonics focused on was due to the size of the audio and digital files themselves. *See* Ex. 4116 at 2 ("Any time video and audio are stored, retrieved, or transmitted by computer, CSX makes it less costly and more efficient."); Stautner Decl., ¶11 ("Developing sophisticated compression algorithms, supported in hardware and software, was critical to CompuSonics' and CompuSonics Video's mission to sell digital recording devices.").

66. Conversely, Hair understood that music and video sales were being hampered by their removable media: "The three basic mediums (hardware units) of music: records, tapes, and compact discs, greatly restricts the transferability of music and results in a variety of inefficiencies." '573 Spec 1: 17-20. The '573 patent specification was directed to changing the distribution of music and audio so that it only lists records, tapes, and compact disks as the basic mediums of music. It is not surprising that "floppy disk" is not included in this list of basic mediums of music. Music was not typically, if at all, sold commercially on floppy disks. The Petitioner has not provided any evidence that music on a floppy disk was ever commercially sold by CompuSonics.

67. CompuSonics focus was to replace CDs with floppy disks, however, floppy disks shared almost all of the same inefficiencies and limitations of the other media described in the patent. While CompuSonics compression technology was designed to fit a song on a floppy disk or more content on an optical disk, the

amount of digital music or video material that CompuSonics was projecting could be on a single optical disk was, at best, no more than the existing mediums at that time. With regard to capacity, there was no advantage beyond existing audio and video mediums if a floppy disk was used as the medium.

68. The '573 patent specification also states that the materials used to manufacture the hardware units are subject to damage and deterioration during normal operations, handling, and exposure to the elements. '573 Spec 1:30-33. CompuSonics compression technology made no change to the basic materials used for the floppy disks, which were also subject to damage and deterioration during normal operations, handling, and exposure to the elements (including setting a floppy on top of a stereo amplifier with its power transformer, which could alter the magnetically recorded data).

69. The '573 patent specification also states that the physical size of the hardware units imposes constraints on the quantity of hardware units which can be housed for playback in confined areas ('573 Spec 1:34-37), and that the hardware units limit the ability to play a sequence of units selected by the user, songs from different albums (*id.*). There was no change in the method of distribution or sales described by CompuSonics so that the floppy disks of CompuSonics would have these limitations as well.

70. The "electronic record store" disclosed in Exhibit 4106 suggested music transmission over AT&T's Accunet from a record company to a retailer, and then from the retailer to a consumer for storage on a floppy disk. AT&T Accunet was priced for the business market, beyond the residential consumer market. Evidence of the availability of AT&T Accunet to residential consumers is not disclosed in Exhibit 4106, nor in the other exhibits. Without AT&T Accunet, a second party would not be able to receive transmission of digital audio signals at a location determined by the second party. Exhibit 4106 discloses the potential for a consumer to record received music on a floppy disk in a "CompuSonics digital audio recorder/player (which has yet to see production)." Ex. 4106 at 3. One can see the labels of cassette tapes, CDs and records in a consumer's library of music on bookshelves. The floppy diskette is too thin for a label on its side. A user would spend an inordinate amount of time searching, sorting, handling and cueing of different songs if floppy disks or other removable media were used to play numerous songs. Similarly, organization of the media would depend on the user to organize them in a physical space as opposed to the electronic organization of all the media on a hard disk. Only the use of non-removable memory such as a hard disk accomplishes an objective of the '573 patent to easily and electronically sort stored music based on many different criteria. '573 Spec. 2:50-52.

71. Fu

patent specification would be no better with floppy disks than with existing media at the time. CompuSonics was designing compression techniques to enable "high density recording" at home. Ex. 4118 at 3:44-50. The audio files stored on the floppy disks recorded by a CompuSonics system would have probably been copied many 1000's of times by the same machine that recorded the first copy. "If music exists on hardware units, it can be copied." '573 spec 2:9-10. Unlike the '573 patent, the CompuSonics exhibits provide no disclosure of illegal copy protection. Further, the editing function present in the DSPs further teaches away from the utilization of these devices to purchase digital signals. Content holders would be unwilling to allow their digital signals to be downloaded to the CompuSonics devices because they could be changed (*e.g.* removal of copy protection) with the editor, hence, the CompuSonics devices are in conflict with the invention.

72. None of the CompuSonics exhibits alone or combined, even with the skill of one in the art, disclose the claimed method. The CompuSonics exhibits are evidence that those of skill in the art did not recognize the inefficiencies or the solution for the problem. CompuSonics was focused on compressing the size of the files on the floppy disks. While smaller digital files may have improved the transmission or storage of digital audio and video files, they do not suggest the methods claimed in the '573 Patent. Rather, CompuSonics emphasized using

floppy disks and DSP-1000s with only removable media for consumer file storage despite having designed DSP-2000s with hard drives for professional systems. CompuSonics taught the use of a hard disk for an "electronic record store," but specifically disclosed a floppy disk for the consumer. CompuSonics, notwithstanding being knowledgeable about hard drives, taught away from consumer storage on non-removable media such as hard drives.

73. One of ordinary skill in the art would understand that CompuSonics was teaching away from the use of non-removable media such as hard drives for a consumer memory device. At the time, one of ordinary skill in the art would have believed that non-removable storage, such as a hard drives, were an extremely impractical storage medium for a consumer to utilize for a music library (just as CompuSonics believed). Hard drives were extremely expensive with limited storage capacity. Although it was conceivable to connect a few drives to a home computer, noise, driver current, power and cooling would be obstacles to connecting the large number of hard drives required to store a library of music on a consumer computer at the time. While the technology existed and could be implemented as described in the '573 Specification, a person of ordinary skill in the art would not have been attracted to this overly complex and impractically expensive solution for consumer products.

74. In sum, despite the prior art elements working according to their established functions and predictability, no one, including CompuSonics, disclosed a solution to **removable media until the '573 patent specification published.** CompuSonics always intended to use removable media and floppy disks because they believed hard drives were inferior (noisy and impractical for consumer equipment), which is why the DSP-1000s that were subsequently produced only had a floppy drive. Stautner Decl., ¶ 7.

75. In addition, there is no evidence that CompuSonics was concerned about copyright protection or how the money would be transferred in connection with a sale. I have seen no evidence that CompuSonics had a defined approach to how the money would transfer for payment. Several different methods were **existing at the time of the '573 patent filing date, including a monthly bill via a** cable company and a subscription service. Any of the CompuSonics systems are not sufficient disclosure of the claimed elements even when combined with other exhibits or the knowledge of one of skill in the art in the absence of a defined billing method.

76. For all of these reasons, selling digital audio signals and digital video signals over telecommunications lines and storing them in user-controlled non-removable memory, including hard drives and hard disks, were not obvious or predictable variations over the CompuSonics publications.

VIII. Apple, iTunes and the iTunes Music Store

77. Apple is a technology company based in Cupertino, California. Apple designs, manufactures and markets mobile communication and media devices, personal computers, and portable digital music players as well as providing software and services.[15]

78. Apple introduced version 1.0 of the iTunes software in 2001. The iTunes software did not provide for the sale of any music or video, but was instead a music player that allowed users to create and manage digital music in a virtual library.[16] The iTunes software allowed users to copy (often referred to as "rip") the content of physical CDs to their music libraries, where the content would reside in digital form on the user's hard drive, allowing a user to organize, search, browse and play music or video, as well as burn their own audio CDs. Apple promoted the iTunes software as offering "a real-time search engine and single-click browsing

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[15] Exhibit 2145, Excerpts from Apple's SEC Form 10-K for the Fiscal Year Ended September 29, 2012, at 1, obtained from http://www.sec.gov/edgar.shtml.

[16] Exhibit 2131, printout of http://www.apple.com/pr/library/2001/01/09Apple-Introduces-iTunes-Worlds-Best-and-Easiest-To-Use-Jukebox-Software.html; Exhibit 2132, at 5, Excerpts from A le's SEC Form 10-K405 for the Period Ending September 29, 2001, obtained from http://www.sec.gov/edgar.shtml.

by artist, album or genre"[17] and also as having an "elegant user interface," which took "the complexity out of managing digital music, making it fast and easy to encode MP3s, create playlists, burn custom CDs and store an entire digital music collection on a Mac."[18]

79. In October 2001, Apple introduced the iPod digital music player.[19] When synched to the user's computer, the iPod automatically downloaded the user's iTunes songs and playlists to the iPod for playback.[20] Apple promoted the iPod and iTunes as a duo in 2001-2002,[21] claiming that "iTunes seamlessly

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[17] Exhibit 2131, printout of http://www.apple.com/pr/library/2001/01/09Apple-Introduces-iTunes-Worlds-Best-and-Easiest-To-Use-Jukebox-Software.html.

[18] Exhibit 2133, printout of http://www.apple.com/pr/library/2002/07/17Apple-Announces-iTunes-3.html.

[19] Exhibit 2134, printout of http://www.apple.com/pr/library/2001/10/23Apple-Presents-iPod.html.

[20] *Id.*

[21] Exhibit 2135, printout of http://www.apple.com/pr/library/2002/03/20Apple-Introduces-10GB-iPod-2-000-Songs-in-Your-Pocket.html; Exhibit 2136, printout of http://www.apple.com/pr/library/2002/07/17Apple-Unveils-New-iPods.html.

integrates with iPod, allowing Mac users to easily transfer their entire digital music collection onto their iPod in less than 10 seconds per CD."[22]

80. On April 28, 2003, Apple introduced the iTunes Music Store (herein referred to "ITMS"), an "online music store that lets customers quickly find, purchase and download the music they want for just 99 cents per song, without subscription fees."[23] The ITMS store was "fully integrated into iTunes 4," "allowing users to purchase, download, organize and listen to their music using

[22] Ex. 2133, printout of http://www.apple.com/pr/library/2002/07/17Apple-Announces-iTunes-3.html.

[23] Exhibit 2137, printout of http://www.apple.com/pr/library/2003/04/28Apple-Launches-the-iTunes-Music-Store.html. Initially iTunes and the ITMS were only available to Macintosh users. In October 2003, Apple made iTunes and the ITMS available to Windows users. Exhibit 2138, printout of http://www.apple.com/pr/library/2003/10/16Apple-Launches-iTunes-for-Windows.html.

just one application."[24] Like the iTunes software, the ITMS permitted users to "browse the entire collection of songs by genre, artist and album."[25]

81. With the ITMS, users now had the choice of: (1) purchasing their music on a CD and copying ("ripping") the content of the CD to the iTunes software, where they could organize, search, play and transfer their music to other devices; or (2) purchasing their music directly in the form of digital signals from the ITMS, where once in their iTunes library they could organize, search, play and transfer their music to other devices (Figure 1, '573 Patent). Once the music was purchased, either in CD form or directly from ITMS as a digital signal, the options for consumers to use the iTunes "elegant user interface" to organize, search and browse their music—as well as to transfer it to their iPod—were essentially the same. Users purchasing CDs (and then ripping them to iTunes) had the benefit of an additional portable copy of their music in another medium. Users purchasing directly from the ITMS had expressed a clear preference to purchase their music directly in the form of digital signals for download——*i.e.*, the patented invention. If a user was primarily attracted to the content itself, the iTunes user interface or the ability to use Apple products such as the iPod, there is no reason why the user

[24] *Id.*

[25] *Id.*

would purchase through the ITMS as opposed to purchase a CD and upload the content to their iTunes library. The decision to purchase directly from the ITMS instead of to purchase a CD for upload to the iTunes library reflects a demand for the ability to purchase the signals electronically for download.

IX. The Patented Invention Has Been Commercially Successful

82. The patented invention is commercially successful. The success of the invention is reflected in the prevalence of both digital downloads generally and specifically, sales of audio/video content from the ITMS.[26]

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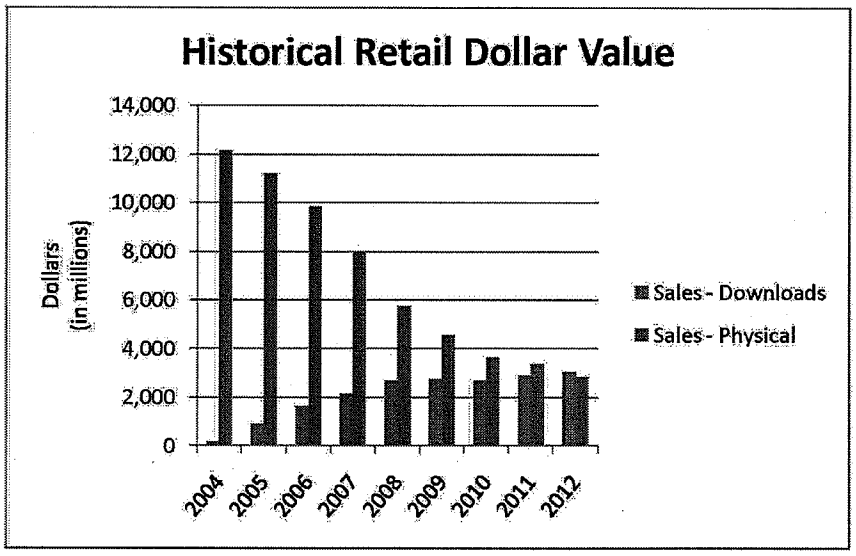
[26] In forming the opinions herein regarding the commercial success of the patented invention, I reviewed the June 5, 2013 Expert Report of Mark. M. Gleason from the underlying litigation in the District Court and the data summarized and presented therein regarding digital downloads. The report I reviewed was redacted of any Apple confidential information. While Mr. Gleason was preparing the expert reports submitted in the District Court, I spoke to him regarding the patents and provided information regarding the music industry throughout the relevant time period and other modes of content distribution in relation to the patented invention. I have reviewed the data formatted by Mr. Gleason in the following table and chart regarding the digital downloads vs.

Footnote continued on next page

A. Commercial Success of Digital Downloads

83. Sales of digital downloads have largely displaced sales of physical media for content, such as records and compact disks ("CDs"). The graph below shows, in terms of retail dollar value, the increase in digital download purchases and the corresponding decrease in physical media purchases from 2004 through 2012 in the United States. [27]



Footnote continued from previous page
physical media and streaming, confirmed that it is correct, and incorporated it herein.

[27] Exhibit 2127, Recording Industry Association of America Year-End Shipment Statistics for 2008, 2009, 2010, 2011, and 2012.

84. Subscription streaming services are an alternative method of providing consumers digital music or digital video content over the Internet. With a streaming subscription service, the consumer never owns the content and such lack of ownership limits its portability. Some people now view this as a disadvantage to streaming subscriptions services; however, these services have achieved some success (although they have not been as successful as digital downloads). The table below shows that substantially more retail dollars have been generated from digital downloads compared to streaming subscription services from 2004 through 2012 in the United States.[28]

Manufacturers' Retail Dollar Value (in millions, net after returns)									
	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Downloads	183	925	1,652	2,138	2,689	2,760	2,681	2,905	3,020
Subscription	-	149	206	201	221	213	212	359	571

85. Digital downloads have the largest market share of the music market compared to other product. Digital downloads have been significantly more commercially successful than other available methods of obtaining digital audio

[28] See Ex. 2127 (Recording Industry Association of America Year-End Shipment Statistics for 2008, 2009, 2010, 2011, and 2012).

and digital video signals, in particular, (a) using physical media and (b) obtaining digital content through streaming subscription services.

B. Commercial Success of Apple's ITMS

86. The ITMS is the most successful download music store of all time and is currently the largest music retailer in the world.[29] On February 6, 2013, Apple announced that it had sold more than 25 billion songs from the ITMS, selling in more than 119 countries.[30] A ITMS's market share was over 80 percent of the U.S. digital download music market.[31] By 2008, the ITMS had become the largest music retailer in the U.S., surpassing Wal-Mart (which

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[29] Exhibit 2139, printout of http://www.apple.com/pr/library/2010/02/25iTunes-Store-Tops-10-Billion-Songs-Sold.html.

[30] Exhibit 2140, printout of http://www.apple.com/pr/library/2013/02/06iTunes-Store-Sets-New-Record-with-25-Billion-Songs-Sold.html.

[31] Exhibit 2141, Excerpts from Apple's Fourth Quarter of Fiscal Year 2005 Earnings Call Transcript, dated October 13, 2005, and Exhibit 2142, Excerpts from Apple's Second Quarter of Fiscal Year 2008 Earnings Call Transcript, dated April 23, 2008.

primarily sold physical media).[32] TIME magazine listed the iTunes Store as the Coolest Invention of 2003.[33]

87. The ITMS has also generated a substantial amount of revenue, for example, over $4.1 billion in net sales in FY 2010, $5.4 billion in new sales in 2011, $7.5 billion in net sales in FY 2012 and $9.3 billion in net sales in FY 2013.[34] ITMS has also been commercially successful in facilitating sales of other products in Apple's "ecosystem," such as the iPod, iPad and iPhone. It is well

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[32] Exhibit 2143, printout of http://articles.latimes.com/2008/apr/04/business/fi-itunes4.

[33] Exhibit 2120, "Coolest Inventions: Invention of the Year: The 99 Cent Solution," *Time* (Nov. 17, 2013).

[34] *See* Ex 2144 (excerpts from Apple 10-K for the Fiscal Year Ended September 28, 2013, at 29), Ex. 2130 (excerpts from Apple 10-K for the Fiscal Year Ended September 29, 2012, at 31), Ex. 2145 (excerpts from Apple 10-K for the Fiscal Year Ended September 24, 2011, at 32).

known that Apple's business strategy was to drive sales of the iPod and other devices using the ITMS.[35]

C. The ITMS Practices the Patents and is Co-Extensive with the Claims of the Patents

88. I have used the ITMS numerous times and am familiar with the process by which sales of digital audio and video are made through the ITMS, as well as reviewed information regarding the operations of the ITMS available at www.Apple.com as well as other publicly available sources.

89. I believe the ITMS practices the claimed invention and in fact embodies and is co-extensive with the claims of the patents. The '573 Patent describes "A method for transmitting a desired digital audio signal stored on a first memory of a first party to a second memory of a second party." Claim 1, Preamble. In sum, the ITMS is a system which uses a method for transmitting a

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[35] *See e.g.*, Ex. 2141, Excerpts from Apple's Fourth Quarter of Fiscal Year 2005 Earnings Call Transcript, dated October 13, 2005) ("we believe selling music helps us to sell iPods and we are very focused on that"); Ex. 2146 (Apple's First Quarter of Fiscal Year 2008 Earnings Call Transcript, dated January 22, 2008) ("Our objective with the iTunes store is to run it just a little above break-even and we think that it helps us to sell iPods and Macs and that is really our strategy.")

digital audio signal (e.g. iTunes digital music recording), desired by a consumer, from the memory part of Apple servers, to the non-removable memory (e.g. disk drive) in a consumer's device (e.g. computer or digital device). Apple is the first party. The consumer or user is the second party. The first memory of Apple is server memory, including disk drives, tape drives and semiconductor memory in and connected to the servers, including those provided by Akamai, in the Apple data centers. The second memory is the non-removable memory in a computer or device owned by consumers/users.

90. **Through the ITMS, Apple, the "first party," operates a download** system by which digital audio and video files are electronically sold to buyers for download over the Internet. Servers with memory for storage of digital audio and video content, are required to operate a digital audio and video download system. For Apple to sell digital audio and video signals over the Internet, these servers must be controlled directly or indirectly by Apple.

91. **A user of the ITMS, the "second party," controls some type of** personal computer or consumer digital media player at some location remote from Apple. The user controls where it utilizes the personal computer or consumer digital media player and what information and software resides on it.

92. Using a software application downloaded from Apple.com or a website associated with Apple.com, an online buyer forms a connection to the

ITMS over the Internet (a telecommunications line). The user's computer is at a location remote from the ITMS servers where the content is stored. In making a purchase through the ITMS, the user searches the ITMS to select the content it wishes to purchase.

93. In making a purchase through the ITMS, the user is required to provide a credit card number, PayPal or other bank or financial account information so that payment may be made electronically for purchases made from the ITMS (the transferring money electronically step). *See* Exhibit 2147, *How iTunes Works* by Julia Layton and Jonathan Strickland, http://electronics.howstuffworks.com/itunes5.htm ("To make a purchase in the iTunes store, all you have to do is click the 'Buy' button next to the song, video or app. Apple will charge your accoun .").

94. In making a purchase, the user selects digital files for purchase and then receives the music file via a download process where the file is transferred from Apple's, or its agent's (e.g., Akamai), servers to the user's computer (the step of transmitting the desired digital audio or video signal).

95. Finally, the transmitted digital audio or video signals are stored on the user's non-removable memory (storing step: the digital signal in the second memory). The buyer can then play the file using his or her computer or consumer digital media playing device.

96. The steps described herein are duplicated when video is sold through the ITMS instead of music.

97. The operation of the ITMS is a reflection of the patented method of electronically selling digital audio and video signals and is commensurate with the scope of the claimed invention. Indeed, the operation and essential purpose of the ITMS is to accomplish every step of the claim. While the ITMS is able to access content to sell through the claimed method and also contains a user interface, these elements are no more than necessary to effectuate the purpose of the invention.

D. There is a Nexus Between the Commercial Success of the ITMS and the Patented Invention

98. I further believe that a nexus exists between this commercial success and the unique features claimed in the patents. The '573 Patent covers a method and system that allows a customer to purchase and download digital audio and/or digital video signals over telecommunications lines for future playback. This is coextensive with sales of audio and video content from the ITMS, which—as described above—is essentially an embodiment of the patented invention. Accordingly, the decision by consumers to purchase digital downloads generally, and to purchase infringing sales of content from the ITMS more specifically, establishes a nexus between the commercial success of the product and the unique features claimed in the patents.

99. The nexus between the commercial success of the ITMS and the '573 Patent is also specifically demonstrated comparing the use of iTunes software to manage content copied from CDs to the use of iTunes software to manage music purchased and downloaded from ITMS. As explained above (*see supra*, Section VIII.C), prior to the introduction of the ITMS, the iTunes software did not provide for the sale of any music or video, but was instead a music player that allowed users to manage digital music in a virtual library.[36] The iTunes software allowed users to copy ("rip") the content of physical CDs to their music libraries, where the content would then reside in digital form so that the user could "store them on their computer's hard drive; organize their music using powerful searching, browsing and play list features; watch stunning visualizations on their computer screen; and burn their own audio CDs."[37] The iTunes software offered "a real-time search

[36] Exhibit 2131, printout of http://www.apple.com/pr/library/2001/01/09Apple-Introduces-iTunes-Worlds-Best-and-Easiest-To-Use-Jukebox-Software.html; Exhibit 2132, Excerpts from Apple's SEC Form 10-K405 for the Period Ending September 29, 2001.

[37] Exhibit 2131, http://www.apple.com/pr/library/2001/01/09Apple-Introduces-iTunes-Worlds-Best-and-Easiest-To-Use-Jukebox-Software.html.

engine and single-click browsing by artist, album or genre" and an "elegant user interface."[38]

100. As explained above, with the introduction of the ITMS, which was "fully integrated into iTunes 4," consumers now had the choice of: (1) purchasing their music on a CD and "ripping" the content of the CD to the iTunes software, where they could organize, search, play and transfer their music to other devices; or (2) purchasing their music directly in the form of digital signals from the ITMS, where once on their iTunes library they could then organize, search, play and transfer their music to other devices (Figure 1, '573 Patent). Once the music was purchased (either in CD form or directly from ITMS as a digital signal), the options for consumers to use iTunes to organize, search and browse their music was the same. Customers purchasing CDs (and then ripping them to iTunes) had the benefit of an additional portable copy of their music in another medium. Customers purchasing directly from the ITMS had expressed a clear preference to purchase their music directly in the form of digital signals for download——i.e., the patented invention. A customer's preference to purchase through the patented method is not surprising, and is due to the convenience of the electronic purchase

[38] *Id.*; Exhibit 2133, http://www.apple.com/pr/library/2002/07/17Apple-Announces-iTunes-3.html.

and payment, the flexibility, and the elimination of inefficiencies disclosed in the patented invention.

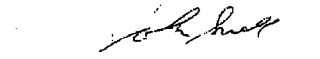
101. Apple may suggest that customers are attracted to the ITMS because of non-patented features such as its elegant user interface or the desire for content. The user interface of the ITMS does not appear to be significantly different than the user interface of SightSound.com, which organized content in the same fashion, offered the same purchasing and preview options, and also utilized cover art. *Compare* Exs. 2112, 2113 and 2119 *with* Exs. 2150 and 2151. Further, in my opinion these "features" would not drive a consumer to purchase from the ITMS and could not be responsible for its commercial success. The content available through the ITMS was similarly available to consumers in the form of physical media such as a CD. A consumer always had the option of purchasing the content on a CD and uploading it to the iTunes Software, where the consumer could experience Apple's iTunes user interface, as well as sort and view their music, cover art and transfer it to an iPod. All of these features are available in the iTunes Software (*see supra* sec. VIII). The data outlined above, however, suggests there has been a significant move away from physical media to digital downloads. Thus, the decision to purchase audio and video from the ITMS necessarily reflects the consumer's deliberate choice to purchase the content directly in its digital form over telecommunications lines—*i.e.*, to utilize the patented technology.

102. The nexus between the commercial success of the ITMS and the patented invention is further demonstrated by evidence provided with the declaration of Scott Sander that Apple copied the patented invention. Representatives from SightSound specifically alerted Apple to the patents in 1993 and subsequently, in 1999, disclosed details of their business model of selling digital audio and video signals via the Internet in a written diagram detailing their system for implementing the method disclosed in the patents. Sander Decl., ¶ 8, Ex. 2117. This written disclosure was followed up by an in person meeting, where SightSound again described in detail their implementation of the method disclosed in the patents, and asked Apple to implement certain functionality in its operating system that would allow Mac computers to support the electronic sale of digital audio and video. Sander Decl., ¶ 10. SightSound also suggested that Apple create **a handheld audio player (prior to Apple's creation of the iPod).** *Id.*, Ex. 2117. Apple declined, however, within two years of the meeting it launched the iTunes software and iPod, followed by the ITMS. In creating the ITMS, Apple chose to utilize the method disclosed in the patents not a method or system described in the prior art.

Case CBM2013-00020
Patent 5,191,573

I declare under penalty of perjury that the foregoing is true and correct.

Sworn this 3rd day of January, 2014 at San Geronimo, California.



John Snell

Appendix A

John Snell Curriculum Vitae

Experience

1988-present Engineering Consultant: Design, analysis, testing and reverse-engineering of circuit microelectronics, software & systems for consumer and professional systems. Work has focused on digital video and audio processors, special-purpose chips and FPGAs for real-time systems, networks and multi-processor systems. Projects have included: multi-channel cable network digital video/audio server, digital audio and video compression, high-bandwidth switching and routing systems, video/audio set-top boxes, digital signal processors, MP3 players and smart phone applications, media processor system on a chip for personal computer video and audio, music synthesizers and samplers, satellite digital broadcast network, digital signal processing mathematics, multichannel high-bandwidth recorders and a media editor. Expert witness: analyzed hundreds of patents, tested and reverse engineered potential prior art, prepared reports and exhibits, and testified in deposition and court.

1986-1988 University of California: Research Engineer: real-time multiprocessor research & design for digital media signal processing; design seminars covering this research.

1980-1986 Lucasfilm Ltd.: Computer Research & Development Engineer: engineering design of microelectronics, software & systems for recording, processing & editing digital media.

1977-1980 Engineering Consultant (design & analysis of circuit micro-electronics, computer design and development, software & systems for recording & processing digital media).

1976-78 *Computer Music Journal*, MIT Press: Founder and Editor-in-chief of this peer-reviewed academic journal focused on research and design of digital audio systems and software (in publication for over 35 years).

1975-76 ARGOSystems: Electronics Engineer: design, development, programming & debugging of microelectronics & software for real-time, microwave signal analysis system.

1973 Carnegie-Mellon University, Electrical Engineering Dept.: Instructor (electronics circuit design)

1972-74 Carnegie-Mellon University, Computer Science Dept.: Electronics Technician: development and troubleshooting of micro-electronics, including multiprocessor (crossbar switch connecting 16 computers and 16 shared memory banks), digital audio A/D/A converters, and computer graphics display system.

1971 PBS (WQED) Television: Internship in video/audio television broadcasting network.

Education

1992 Stanford University: digital signal processing (advanced mathematics for media processing).

1978-1980 Stanford University: guest researcher.

1967-74 Carnegie-Mellon University: interdisciplinary graduate work in electrical engineering (focused on digital media processing & synthesis) with grant from National Science Foundation; BS in Electrical Engineering; BA in Cybernetics (interdisciplinary program, combining coursework in computer science, calculus and signal processing mathematics, physics, music analysis and composition, psychology and physiology of perception as well as audio, video and electrical engineering).

Honors and Service

John Snell served from 1992-95 on the Editorial Review Board of *Microprocessor Report*, a prestigious publication on integrated circuit design analysis (focusing on design of media processors and advanced memory).

In Sept., 2000 the Audio Engineering Society honored John Snell with a Fellowship Award for innovative digital audio engineering design and valuable contributions to the advancement of audio engineering.

John Snell has been an invited lecturer and given workshops at numerous international conferences, research centers and universities, including Audio Engineering Society international conferences, International Computer Music Conferences, IEEE International Conference on Signal Processing Applications and Technology,

Stanford University, IRCAM, University of California, Microprocessor Forum, Eastman School of Music, Northwestern University, DSPx, IEEE Mini/Micro West, WCCF, Mills College and Carnegie-Mellon University.

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EXHIBIT 17

Two Year Expansion Plan

TABLE OF CONTENTS

HIGHLY CONFIDENTIAL
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FINANCIAL INFORMATION

I. Executive Summary

Patented Technology — In the mid 1980s, Arthur R. Hair conceived an new method to electronically sell and distribute movies and music in digital form. On March 2, 1993, Mr. Hair received United States Patent 5,191,573 protecting a method to sell movies [digital video recordings] and prerecorded music [digital audio recordings] over telecommunications lines. More specifically, and without limitation, Mr. Hair's patent protects the electronic sale and transmission of digital video and digital audio recordings over telecommunications lines and corresponding charges [i.e. to a telephone bill, credit card, or other billing means] for the purchase or rental of the digital recordings.

Parsec Sight/Sound, Inc. — [ownership/control of the patented technology] Mr. Hair and Mr. Scott C. Sander, joint owners of the patented technology, transferred ownership of United States Patent 5,191,573 to Parsec Sight/Sound, Inc. Parsec Sight/Sound licensed Mr. Hair's invention to Digital Sight/Sound, Inc.

Digital Sight/Sound, Inc. — [control of the distribution system] Mr. Hair and Mr. Sander established Digital Sight/Sound, Inc. for the purpose of electronically selling digital video and digital audio recordings via the Internet, which is protected by the method set forth in USP 5,191,573. Digital Sight/Sound entered into an exclusive licensing agreement with Parsec Sight/Sound authorizing Digital Sight/Sound to electronically sell and distribute prerecorded movies and music in digital form via the Internet. Initially, Digital Sight/Sound is concentrating only on the electronic sale of recorded music.

Virtual Records, Inc. — [control of music recordings] Mr. Hair and Mr. Sander established a new and virtual record label marketing music recordings in cyberspace called Virtual Records, Inc. Virtual Records represents xx bands and expects to represent hundreds of other "up and coming" bands on the Internet which have not yet contracted with a traditional recording label. Virtual Records will seek out and sign these previously unsigned bands for the express purpose of selling their music electronically via the Internet. Digital Sight/Sound entered into a favorable contract with Virtual Records, Inc. whereby Digital Sight/Sound would electronically sell and distribute music controlled by Virtual Records. Virtual Records will approach "unsigned" bands via global advertising on the Virtual Records Web Site, trade magazine advertising, and direct solicitation of managers and agents. With only one copy of the band's digital recording [either CD or DAT], Virtual Records can sell an infinite number of electronic copies of that recording, world wide via Digital Sight/Sound's *virtual record store* on the Internet. Additionally, Virtual Records will offer each band a page on the Virtual Records "home page" on the Internet for global promotion of the band.

II. The Internet

Initial Objective of the Internet — The Internet owes its existence to the Pentagon and the Cold War. If an atomic war were to break out, telephones would be the first victim. So, the U.S. Government wanted to bomb-proof the communications linking the U.S. Government with institutions performing defense research, defense contractors, and other defense related entities. In 1964, the concept of a "center-less" network was developed by the Rand Corporation. This would mean that no single computer connected to the communications network could be a weak link if destroyed by a well placed bomb. The government "think tank" anticipated hundreds and eventually thousands of computers connected in parallel with plenty of communication line redundancy built in, the way the human brain is wired, so that the loss of a few key "neurons" would not result in the loss of key bodily functions.

History of the Internet — The result of Rand's efforts was called ARPAnet after the Pentagon's *Advanced Research Projects Agency*, the sponsor of the project. ARPAnet came into existence in 1969, and since its inception the Internet has grown from 4 computers networked together to over 16,000 interconnected networks, each network containing multiple individual computers. As the number of universities and other organizations on the original ARPAnet increased, it became clear that making communication easier between colleagues around the country had benefits that went well beyond military research. In 1985, with the goal of connecting five supercomputer sites around the country, the National Science Foundation [NSF] created regional networks using TCP/IP protocols from the ARPAnet. In 1989, the ARPAnet was decommissioned. The greatest measure of the stability of the Internet lies in the fact that when the ARPAnet was shut down, Internet users didn't even notice. Conversely, with the proliferation of free enterprise on the Internet, level of service has increased and the number of Internet users began to grow and is still growing today — at a rate of 20% per month by many estimates. In 1992, the Swiss high-energy physics research organization, CERN, unveiled the World Wide Web [a user friendly feature of the Internet], with support of fonts, graphics, sounds, and video. The resulting World Wide Web made the Internet user friendly and Web browsers such as NCSA Moasic were created to further assist the "computer illiterate" in their ventures on the Internet. The 1993 release of this first Web browser, NCSA Mosaic rocketed the rapid growth of the Internet. The World Wide Web is a menu system which gathers Internet resources from all over the world into a series of menu pages, or screens for graphical view by the user. The World Wide Web is also a distributed system which stores data and information on many computers. Currently, with innovations provided by Netscape and Silicon Graphics, new standards and file formats are being added, bringing the World Wide Web to a true "media-rich" environment.

The Internet's Future — Currently, it is estimated that 20 to 40 million people use the Internet worldwide, with one million new users per month. Opening up the Internet to the "general" public will virtually guarantee its continued exponential growth through 1996, when the Internet will experience a step function increase in both bandwidth and users. A new company called *@home*, recently formed by the Menlo Park venture capital firm Kleiner Perkins Caufield & Byers and Tele-Communications Inc., the nation's largest cable company, will provide high-speed Internet access through cable television systems. *@home* will begin to offer Internet access in the first quarter of 1996, to TCI cable TV customers, as well as, to customers of various other cable TV systems. Pricing is expected to be $30 to $40 a month for unlimited use at the astounding speed of 10 megabits per second. With over 11.7 million TCI cable TV customers, this high-speed cable service could quickly make TCI the single largest Internet Provider. Once operational, millions of cable TV customers could "down load" an entire *virtual album* [digitally compressed] from Digital Sight/Sound in about 87 seconds.

III. The Digital Sight/Sound Distribution System

Virtual Record Store — Digital Sight/Sound operates a Web Site on the Internet's World Wide Web which acts as a *virtual record store* on the Internet. Digital Sight/Sound's Web Site address is *http://www.sightsound.com*. The Web Site operates on a Silicon Graphics' Web server computer system and running software provided by Netscape Communications Corporation. Digital Sight/Sound currently practices the invention protected by Mr. Hair's patent, "down loading" digital audio recordings to customers upon payment via credit card. The equipment comprising Digital Sight/Sound's *virtual record store* is located at 610 Smithfield Street, Suite 405, Pittsburgh, PA 15222. Hardware: Silicon Graphics WebFORCE Indy 200MHz R4400SC Web Server; Kentrox DSU/CSU; Cisco 2500 series router; and ethernet network. Software: Netscape Commerce Server software; Netscape Navigator; WebMagic authoring software; MPEG Encoder software; and master copies of digital audio recordings available for purchase. Internet Access: MCI Telecommunications Corporation provides Digital Sight/Sound's dedicated fiber optic connection to the Internet. The connection utilizes a T-1 fiber optic line offering 1.544 megabits per second service. Increased capacity to a DS-3 line offering 45 megabits per second service is available as necessary. As the Digital Sight/Sound customer base grows, multiple "web servers" will be added and linked in parallel to accommodate the growing demand and "web servers" will be placed major markets throughout the United States and in key international locations.

Customers — The initial customers of Digital Sight/Sound are the Internet *early adopters*. The prototypical *early adopter* has high bandwidth access to the Internet via their association with universities or corporations and possesses the hardware and software necessary to fully utilize Digital Sight/Sound's *virtual record store*. Hardware: multi-media PC or Macintosh; available data storage device in excess of 700 Mb; random access memory in excess of 8 Mb; 386 microprocessor or equivalent or better. Software: Netscape Navigator v1.1 or equivalent. Netscape Communications Corporation, as previously mentioned, produces the popular Netscape Navigator which is a direct descendant of NCSA Mosaic [created by the National Center for Supercomputing Applications in 1993]. First shipped in December 1994, the Netscape Navigator is already used by over 80% of Web users. Internet Access: ISDN access [128 kilobit per second] to the Internet or better. In mid 1996, a new type of customer will be catered to, the *residential customer*. Through the *@home* offering, *residential customers* across the country will have more than enough bandwidth to take advantage of Digital Sight/Sound's *virtual record store* on the Internet. As point of reference, *@home* will offer the *residential customer* bandwidth 78 times greater than today's very affluent Internet user connected to the Internet via an ISDN line.

Ease of Electronic Purchase — The customer uses with their *Personal Computer* [as configured above] to access the Internet through Netscape Navigator and accesses Digital Sight/Sound's *virtual record store*. As mentioned above, Digital Sight/Sound's *virtual record store* on the Internet is structured under the Netscape Commerce Server software which is designed for seamless interaction with the Netscape Navigator software. Using the Netscape Navigator software, the customer instantly visits Digital Sight/Sound's *virtual record store* on the Internet, browses through the menu of recording titles that can be indexed and cross referenced, selects a recording, enters their credit card information for verification and payment, and "down loads" the selected recording to their own *Personal Computer*. Various "freeware" software programs are currently available which permit the user to playback the audio recordings on various computer platforms [i.e. PC, Mac, UNIX, etc.]. In 1996, Digital Sight/Sound plans to offer an Entertainment Operating System which will permit the customer to manipulate their purchased recordings with ease.

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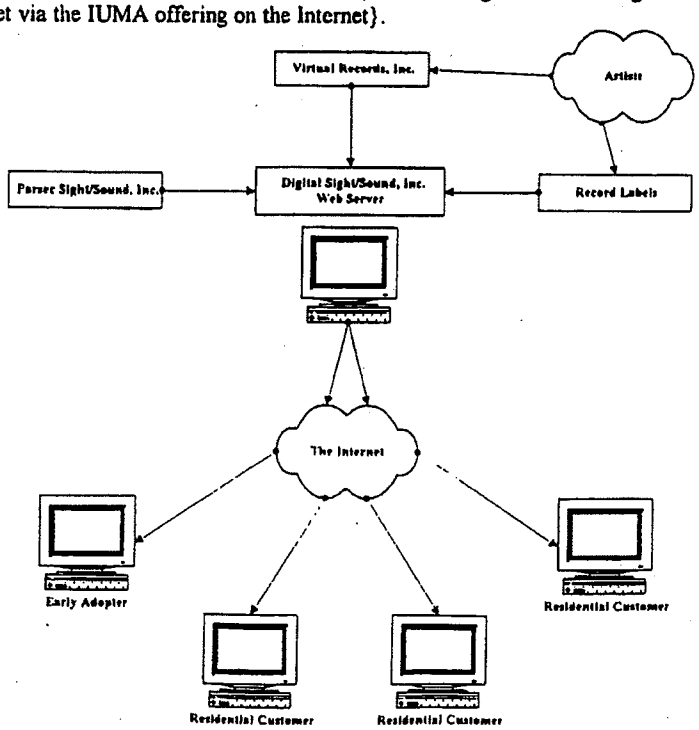
IV. Marketing and Growth of Virtual Records Inc.

Early Adopters — Virtual Records has and, for the first three (3) months of 1996, will continue to cater to the Internet *early adopter*, having access to the appropriate level of bandwidth. During this period, Virtual Records' sales growth will be modest, and constrained by the size of the market with appropriate bandwidth. A step function in sales, however, will occur upon successful completion of Digital Sight/Sound's digital compression efforts and upgrade to a DS-3 line, increasing bandwidth 28 fold. Various digital compression algorithms are readily available and selection of the most efficient for incorporation in the Digital Sight/Sound Entertainment Operating System will result in at least a 6:1 compression ratio. The most intriguing compression algorithm is HARC-C created by the Houston Advanced Research Center. HARC-C can take a 650 megabyte *virtual album* and compress it down to 108 megabytes. This 6:1 compression is tantamount to buying 5 additional Silicon Graphic work stations and connecting them each to a dedicated DS-3 line.

Residential Customer — As *@home* systematically connects the residential market to the Internet at the astounding speed of 10 megabit per second, Virtual Records will redirect efforts to cater to the *residential customer* as well. It is not wise to be too predictive as to the exact demographics of this new customer, however, it is reasonable to assume the demographics of the residential customer will parallel those of the home computer market.

Band Representation — The first band to be represented in cyberspace by Virtual Records was The Gathering Field, selling the first *virtual album* on September 26, 1995. Since then, xxx bands have signed with Virtual Records and are listed on Exhibit "E" {future "unsigned" bands targeted include those who currently market via the IUMA offering on the Internet}.



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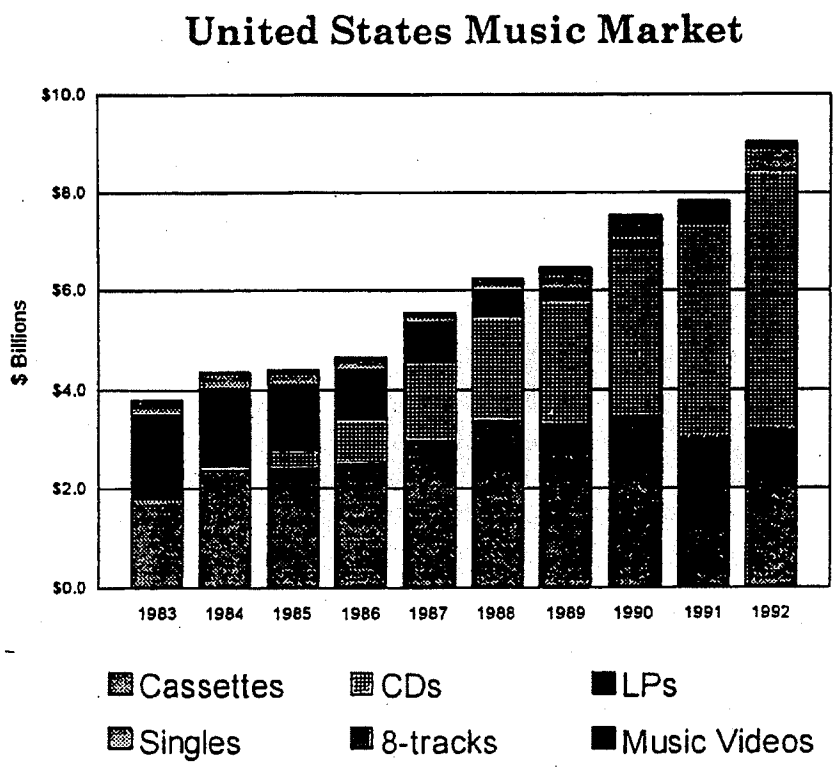
V. The U.S. Music Market

In the United States in 1994, expenditures on recorded music were estimated to exceed $9.0 billion. The compact disc lead the field with $5.2 billion in sales, followed by the cassette with $3.1 billion in sales. The compact disc experienced incredible market penetration, from $15 million in sales in 1983, compared to $5.2 billion in 1994.



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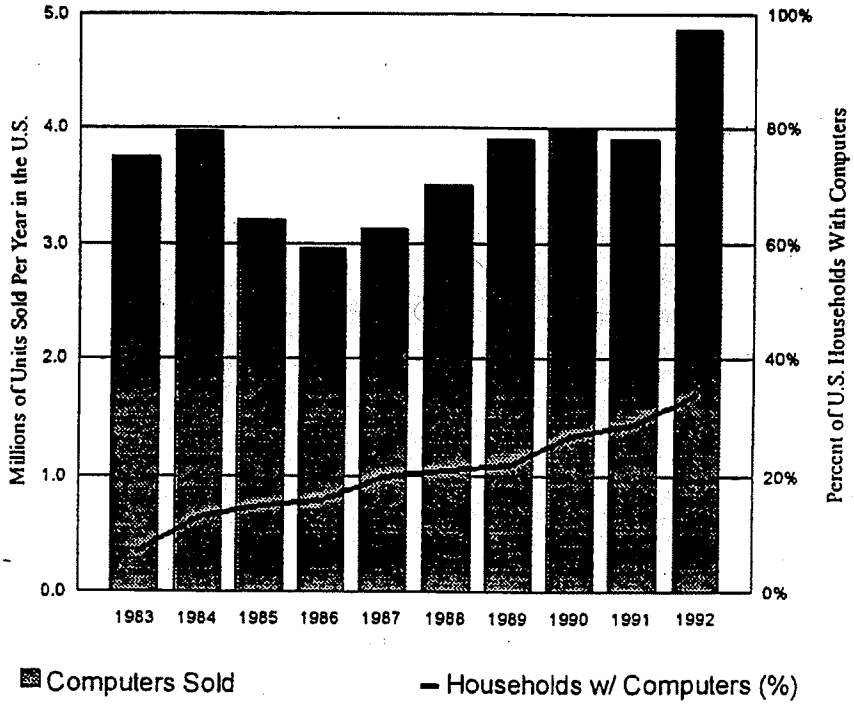
VI. The U.S. Home Computer Market

About 4 million home computers are sold each year in the United States. In the next few years, half of the U.S. households will be computer equipped.

United States Home Computer Market



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VII. Legal Structure of Virtual Records Inc.

Ownership — Virtual Records, Inc. is owned by Mr. Hair, Mr. Scott, and {initial investor group}. Board resolution authorizes management to enter into an agreement whereby a Venture Capital concern provides $1,013,997 of venture capital in return for fifty percent (50%) ownership in Virtual Records, Inc. Virtual Records, Inc. is incorporated in the State of Pennsylvania as a Subchapter "S" Corporation.

Board of Directors — The Board of Directors provides guidance to the Management of Virtual Records. There are five (5) total seats on the Board of Directors, of which the Venture Capitalist is entitled to three (3) seats. The Board of Directors currently consists of: Mr. Hair [Chairman], Mr. Sander [Vice Chairman]. Meetings of the Board of Directors occur on a quarterly basis.

Management — The President of Virtual Records Inc. is Mr. xxx formerly of xxx Corporation {the President will be selected from qualified candidates within the recording industry, Mr. Hair is currently acting as interim President}. The Vice President is Mr. xxx formerly of xxx Corporation {the Vice President will be selected from qualified candidates within the recording industry, Mr. Sander is currently acting as the interim Vice President}. The Treasurer is Mr. xxx formerly of xxx Corporation {the Treasurer will be selected from qualified candidates within the recording industry, Mr. Grant Wirth currently provides those services on a consulting basis}. General Counsel is Mr. xxx formerly of xxx {currently Mr. Ansel M. Schwartz provides intellectual property counsel and Mr. Dennis Unkovic provides business and corporate counsel on a consulting basis}.

VIII. Financial Information

Source and Use of Funds – Virtual Records, Inc. requires a minimum of $1,013,997 of initial operating capital from a venture capitalist to fund a two year expansion plan. As detailed on Exhibit "A", the initial operating capital will be used in conjunction with revenue generated from operations to pay for all business related expenses and/or capital purchases.

Estimates of Revenue – In any pioneering business, especially relating to the Internet and its phenomenal growth, financial projections are impossible to accurately predict, however, generalizations can be made. Therefore, we have been conservative and assumed of the 20 – 40 million Internet users, our initial customer base consists of 100,000 *early adopters* with high bandwidth access to the Internet through a university or major corporation. As the efforts of *@home* kick into high gear, we again are conservative with our assumption that of the 54 million cable TV customers in the United States, only 10 million opt for the *@home* service and only 1.9 million of them become our customers by the end of 1996. Pricing of a *virtual album* is $6.00, more than half the retail price of a CD or DAT. Per the agreement between Virtual Records and Digital Sight/Sound, Virtual Records will receive $2.00 for each Virtual Records controlled *virtual album* sold via Digital Sight/Sound's *virtual record store* on the Internet. Deducting artist royalty payments and other expenses, Virtual Records' net income is projected to be about $80,000 per month by December 1996. Refer to Exhibit "A" for additional details on revenue & expense projections.

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Exhibit "A"

Financial Projections

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Virtual Records, Inc.
Income Statement

Month	Albums	Average Sales per Album	Mb per Album	Library Size in Gb	DS/S Market Share	Unit Sales	Gross Sales	Artist Royalty	Gross Revenue	Total Expenses	Net Income	Cumulative Income
Jan-96	50	16	650	32.5	100.00%	780	$1,560	$585	$975	$82,000	($81,025)	($81,025)
Feb-96	100	7	650	65.0	90.00%	702	$1,404	$527	$878	$82,000	($81,123)	($162,148)
Mar-96	250	22	650	162.5	80.00%	5,475	$10,950	$4,106	$6,844	$82,000	($75,156)	($237,304)
Apr-96	500	19	108	54.0	70.00%	9,581	$19,163	$7,186	$11,977	$82,000	($70,023)	($307,327)
May-96	600	68	108	64.8	60.00%	41,063	$82,125	$30,797	$51,328	$82,000	($30,672)	($337,999)
Jun-96	700	98	108	75.6	50.00%	68,438	$136,875	$51,328	$85,547	$82,000	$3,547	($334,452)
Jul-96	800	103	108	86.4	40.00%	82,125	$164,250	$61,594	$102,656	$82,000	$20,656	($313,796)
Aug-96	900	91	108	97.2	30.00%	82,125	$164,250	$61,594	$102,656	$82,000	$20,656	($293,140)
Sep-96	1,000	82	108	108.0	20.00%	82,125	$164,250	$61,594	$102,656	$82,000	$20,656	($272,483)
Oct-96	1,100	105	108	118.8	20.00%	114,975	$229,950	$86,231	$143,719	$82,000	$61,719	($210,765)
Nov-96	1,200	110	108	129.6	20.00%	131,400	$262,800	$98,550	$164,250	$82,000	$82,250	($128,515)
Dec-96	1,300	101	108	140.4	20.00%	131,400	$262,800	$98,550	$164,250	$82,000	$82,250	($46,265)
96 Total						750,188	$1,500,377	$562,641	$937,735	$984,000	($46,265)	($46,265)

$2.00 label fee income
$0.75 artist royalty per album

	Investment	shares	ownership	year 2 distribution	return on investment
hair	$0	25	12.50%	$123,375	n/a
sander	$0	25	12.50%	$123,375	n/a
investors	$500,000	50	25.00%	$246,750	49.35%
venture capital	$1,013,997	100	50.00%	$493,500	48.67%
total	$1,513,997	200	100.00%	$987,000	

Detailed Expenses

Month	Salary & Benefits Employees #1	#2	#3	#4	#5	Advertising	Travel	Office Space	Legal	Accounting	Office Overhead	Total Expenses
Jan-96	$12,000	$0	$6,000	$4,000	$3,000	$10,000	$20,000	$2,000	$10,000	$5,000	$10,000	$82,000
Feb-96	$12,000	$0	$6,000	$4,000	$3,000	$10,000	$20,000	$2,000	$10,000	$5,000	$10,000	$82,000
Mar-96	$12,000	$0	$6,000	$4,000	$3,000	$10,000	$20,000	$2,000	$10,000	$5,000	$10,000	$82,000
Apr-96	$12,000	$0	$6,000	$4,000	$3,000	$10,000	$20,000	$2,000	$10,000	$5,000	$10,000	$82,000
May-96	$12,000	$0	$6,000	$4,000	$3,000	$10,000	$20,000	$2,000	$10,000	$5,000	$10,000	$82,000
Jun-96	$12,000	$0	$6,000	$4,000	$3,000	$10,000	$20,000	$2,000	$10,000	$5,000	$10,000	$82,000
Jul-96	$12,000	$0	$6,000	$4,000	$3,000	$10,000	$20,000	$2,000	$10,000	$5,000	$10,000	$82,000
Aug-96	$12,000	$0	$6,000	$4,000	$3,000	$10,000	$20,000	$2,000	$10,000	$5,000	$10,000	$82,000
Sep-96	$12,000	$0	$6,000	$4,000	$3,000	$10,000	$20,000	$2,000	$10,000	$5,000	$10,000	$82,000
Oct-96	$12,000	$0	$6,000	$4,000	$3,000	$10,000	$20,000	$2,000	$10,000	$5,000	$10,000	$82,000
Nov-96	$12,000	$0	$6,000	$4,000	$3,000	$10,000	$20,000	$2,000	$10,000	$5,000	$10,000	$82,000
Dec-96	$12,000	$0	$6,000	$4,000	$3,000	$10,000	$20,000	$2,000	$10,000	$5,000	$10,000	$82,000
96 Total	$144,000	$0	$72,000	$48,000	$36,000	$120,000	$240,000	$24,000	$120,000	$60,000	$120,000	$984,000

Exhibit "B"

Digital Sight/Sound's Internet "home page"

The worlds first electronic music/video store

- **What in the cyberspace is Digital Sight/Sound?**

We are the first company established to electronically sell music and movies in digital form over the Internet. Right now we're only providing music, but as soon as the bandwidth of the Internet gets bigger, we'll offer you motion pictures as well! Check out our Systems Requirements page for all the details.

- **Proprietary Technology**

Digital Sight/Sound, Inc. is the exclusive licensee of United States Patent 5,191,573, issued on March 2, 1993, and titled *Method For Transmitting A Desired Digital Video or Audio Signal.* This patented technology gives Digital Sight/Sound exclusive rights to electronically sell digital video and digital audio recordings via telecommunications in the United States of America. Any unauthorized use of this technology is strictly prohibited. All rights reserved. Digital Sight/Sound, Virtual Records, and Virtual Studios are Servicemarks of Digital Sight/Sound, Inc.

[V-RECORDS | V-STUDIOS | SYSTEM REQUIREMENTS | NEW ACCOUNT | STORE | E-MAIL]

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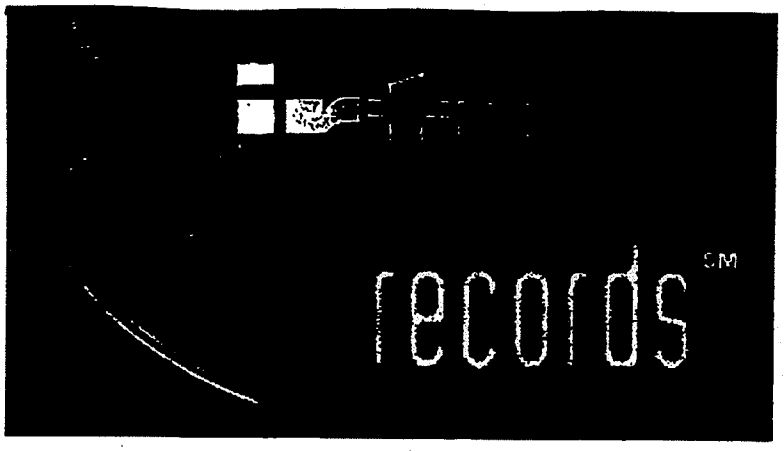
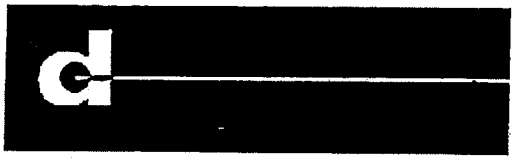


First "Digital Album" Sold on the Internet

On September ?, Digital Sight/Sound sold the very first music recording over the Internet, The Gathering Field's namesake album. That's right, the entire disc was sold, then electronically delivered via the 'Net to the buyer. You can make history, too. Order your own copy of The Gathering Field by activating a new account [if you don't already have one]. We utilize RSA data security through Netscape's Netsite Commerce Server, so your numbers stay safe. For more information on The Gathering Field, and how to purchase their namesake albumn, click on the albumn cover to the left.



First time here?

If you are a new Digital Sight/Sound user, please activate a new account for on-line purchases. After your account has been established, use your login and password to access the Digital Sight/Sound archives. Also, make sure to check the System Requirements for using Digital Sight/Sound's Web Site.

Bands Welcome!

Is your band "unsigned"? . . . do you want your music marketed worldwide directly to your fans by Digital Sight/Sound on the Internet? If you have already produced a CD or DAT, drop us a line at (???) ???-???? or send a message to info@sightsound.com.

Coming Attractions!

Watch for the Digital Sight/Sound library of albumns to grow as we sign more and more bands.

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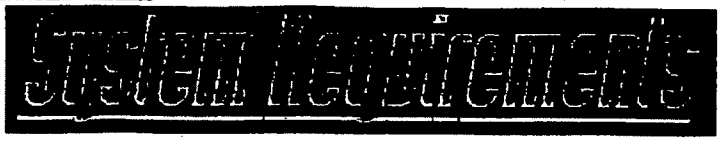

What Do I Need?

You are ready to become one of the first to purchase music recordings over the Internet if you have :

A multimedia PC or Mac
A minimum of 700 Mb of available hard drive space
Preferably, Netscape Navigator 1.1 [and above] compatible browser
Preferably, at least an ISDN connection to the 'Net [If you are bandwidth deprived, check out @home].
Software capable of playing the ".aiff" audio file format [Check Netscape's *Assistance* for pointers to helper applications].

Memory Hogasaurus!

In the very near future, we will think of hard storage in terms of gigabytes, lots of gigabytes. In fact, memory guru Bob Root of Maxoptix predicts "xxxx" will be common. Maxoptix plans to offer a XX gigabyte optical storage library for $XXX in 1996. Measly storage devices measured in megabytes will soon be remembered with nostalgia as are 8-track tapes, Beta, and other extinct technosaurs. What are you waiting for, setup your home music archive today!

Digital Diet Plan Underway

We are on a Megabyte weight loss program here at Digital Sight/Sound. Various digital compression algorithms are enabling us to reduce both data transfer time and data storage requirements for our albums.

That ol' Bandwidth Problem

Well, you might be asking, "What does the future hold for this, uh, technical situation?" Are you familiar with @home? Well you should be! In the first quarter of 1996, @home will begin to connect a variety of cable TV systems to the Internet, TCI being one of the first. It will take several months, however, @home plans to quickly connect all 11.7 million TCI customers [as well as other cable TV company customers] to the Internet and allow each and everyone of them to access the Infobahn at a screaming 10 megabits per second. It's estimated they'll be offering this service for the low, low price of $30 to $40 per month. Don't you think you should call your local cable TV company and ask when they plan to join up with @home. Check out the @home web site, and get ready for the bandwidth explosion!

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Sign-Up Form : [All Fields Required]

Username:

Password: [Do Not Forget]

Phone:

E-Mail:

First Name:

Last Name:

Address 1:

Address 2:

City:

State / Zip:

Credit Card:

Select Card Type

Number:

Expiration:

Setup Account Clear

- [V-RECORDS | V-STUDIOS | SYSTEM REQUIREMENTS | STORE | E-MAIL]

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The Gathering Field Makes It's Internet Debut!

One of the best releases of the year.
[Four Stars -- highest rating]

-- Pittsburgh's Rock and Roll Reporter, November, 1994

The Gathering Field's debut CD is a fine, thoughtful and sweetsounding release from a group of very talented musicians. If your favorite radio station isn't playing this, it's time for you to make a phone call.

-- BackFlash Newspaper, Rochester, NY June, 1995

Their debut albumn features original, progressive, folk rock in the style of *Counting Crows, Mathew Sweet, the Bodeans, and Hootie and the Blowfish.* The band has opened for *Toad the Wet Sprocket, Over the Rhine, The Caulfields, and Blue Rodeo,* among others.

[Available For Purchase]

The Gathering Field
[Test Clip:4.3MB]

[Purchase]

- [V-RECORDS | V-STUDIOS | SYSTEM REQUIREMENTS | NEW ACCOUNT | E-MAIL]

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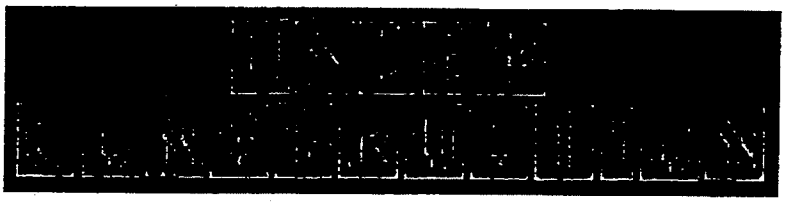

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Exhibit "C"

'Future Shocks — The End of the Music Business As We Know It'

Musician, December 1, 1993, pages 32–49.

Exhibit "D"

'Why the Internet Chews Up Business Models'

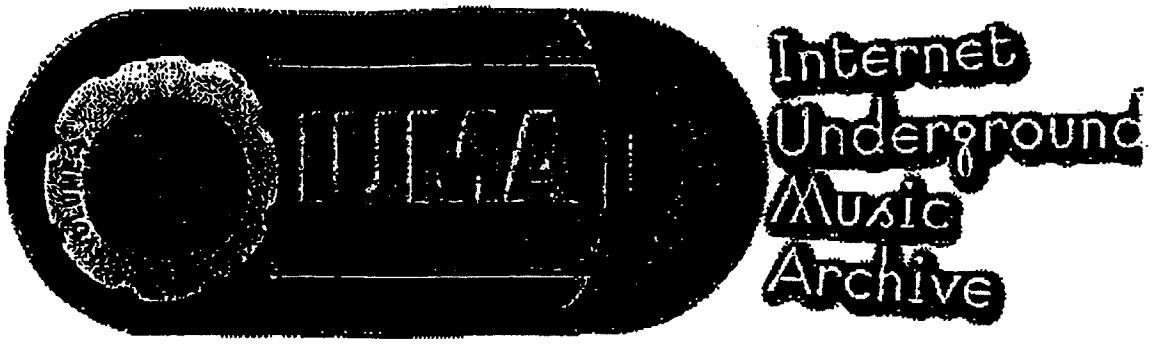
Upside, August 1995, pages 22–37

Exhibit "E"

Listing of Bands Signed with Virtual Records, Inc.

- **The Gathering Field** — **1 *virtual album***
-
-
-

{see the attached IUMA Internet "home page" for prospective bands}



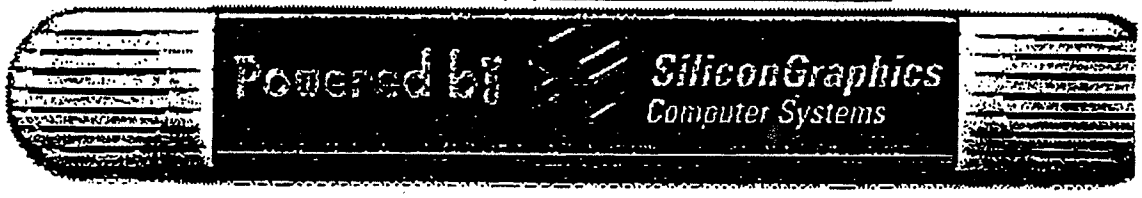
Welcome to the Net's first, free hi-fi music archive.

New Users, Please...

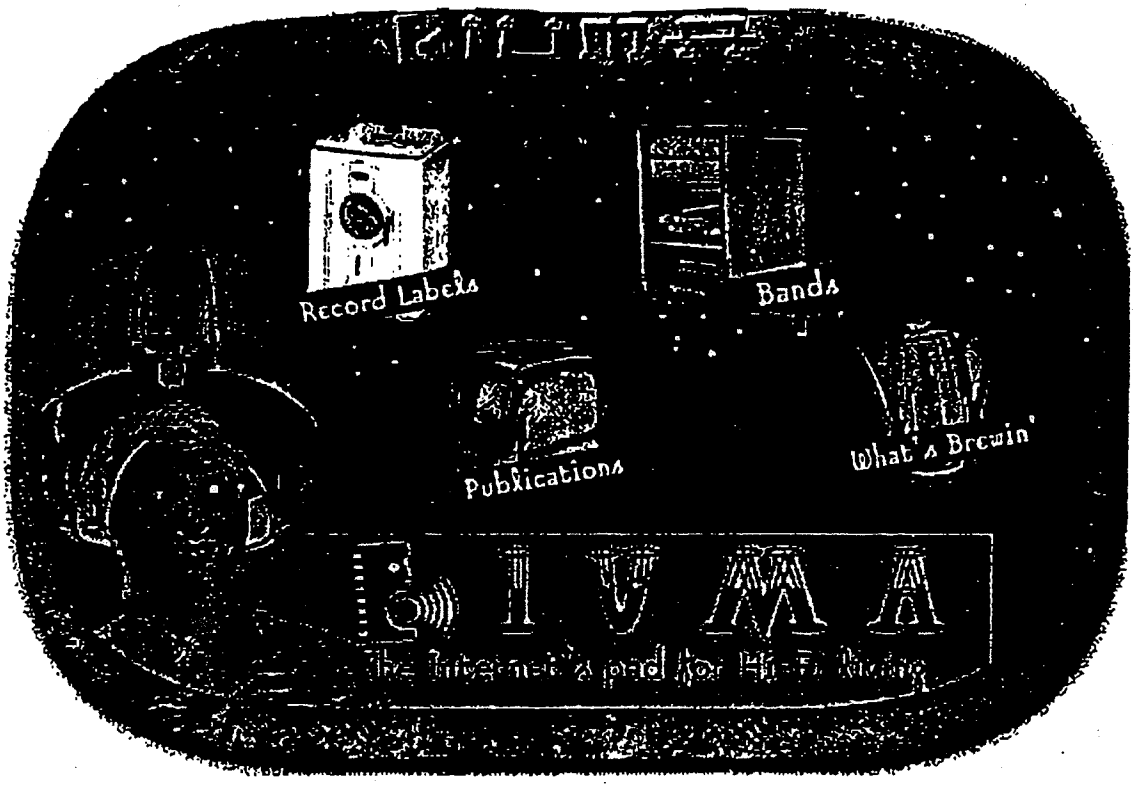
Enter IUMA

Presented in Bitblasting Color, where available.

Internet Backbone Connectivity by InterNex Information Services, Inc.



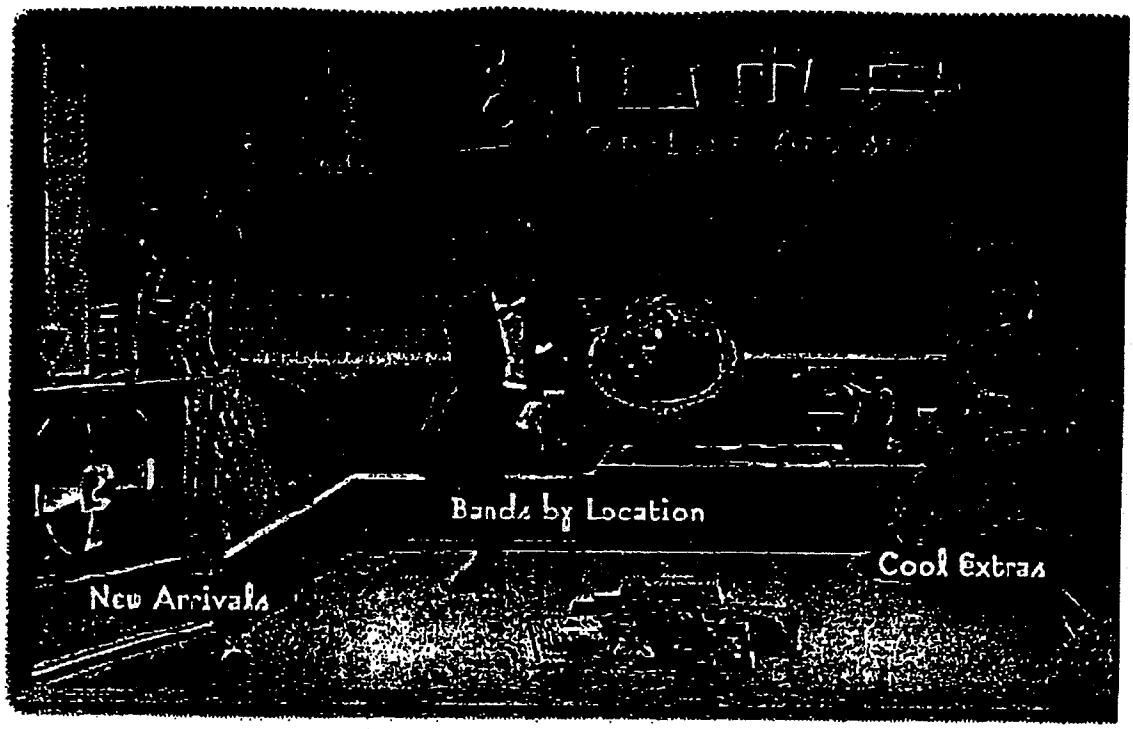
This Netscape Server site is best viewed with Netscape Navigator 1.2.
Download Netscape Now!



Bookmark Me! If you are using Netscape, try this *improved* EZ-Bookmark feature.
If this is your first time to IUMA, we highly recommend taking the Guided Tour.

Sponsorship of IUMA has begun. More information is available about our policy and goals.

And finally, IUMA proudly presents swank T-shirts, savory bar-b-qued meat and the deluxe wallpaper collection *Fancy Pants*.



IUMA's VISION of a level playing field
begins here with more than 600 independent artists online.

Choose a genre and press "Go," or mingle in the party above.

All Genres
A Cappella
Ambient
Blues
Children's
Classical

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ATTORNEYS' EYES ONLY
FINANCIAL INFORMATION

98-0118
000619A

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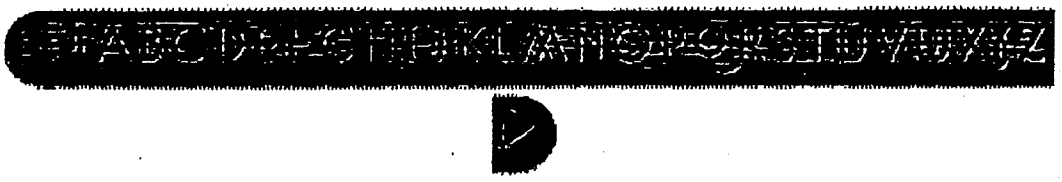
Sightsound.com v. N2K, Civ. 98-0118

Travel in complete comfort! Enter the artist & press return.

[redacted]



Jump to: Barth, Bill / Black Rain / Chaparral

Jump type: Band Page Section

Barth, Bill, *"Love Supreme"*
Blues, Rhythm and Blues, Rock
Amsterdam, , Holland
Date Uploaded: 1994-12-04

Out of the smoke filled coffee houses of Amsterdam comes the trippy yet laid back blues of Bill Barth and friends. Sit back, relax, pretend you're at the Bulldog with a piece of *Space Cake* in front of you, and download this tune. Sometimes your soul just needs it.

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Black Rain, *"Dyin' For The Cause"*

Blues, Hard Rock, Rock
San Luis Obispo, California, USA
Date Uploaded: 1994-11-08

Black Rain's unique sound has been described as Rock with a Blues tinge....music is good.

Chaparral, *"REAL POLITIK"*

Folk, Blues
AWM Bridge, West Virginia, USA
Date Uploaded: 1994-12-12

A woman and her piano churning out a great tune. The Appalachian music tradition continues.

Clownhead Hammer, *"Leave"*

Blues, College/Indie/Lo-Fi, Funk, Hard Rock, Jazz, Punk, Rock, Weird
Los Angeles, California, USA
Date Uploaded: 1995-08-03

What the hell *IS* this? It's loud and melodic, dischordal and groovy, funky and ugly, distinctly indistinct. But, strangely enough, people seem to like this stuff. It's got teeth, fur, wire and wood and it's called CLOWNHEAD HAMMER.

Euphoria, *"Sleep"*
Ambient, Blues
Toronto, Ontario, Canada
Date Modified: 1995-06-27

...ambient blues - for that lonely trek down the super highway.

EXHIBIT 18

Exhibit 18 was previously filed under seal as Exhibit 4358 in CBM2013-00023