IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re *Ex Parte* Reexamination of:	)
	)
Patent No. 5,886,274	) Control Number: Not Yet Assigned
	)
Inventors: Stanley Jungleib	) Group Art Unit: Not Yet Assigned
	)
Issue Date: Mar. 23, 1999	) Examiner: Not Yet Assigned
Application No.: 08/891,580	)
	) Box: ***Ex Parte* Reexam**
For: SYSTEM AND METHOD FOR GENERATING, DISTRIBUTING, STORING AND PERFORMING MUSICAL WORK FILES	)

Mail Stop *Ex Parte* Reexam
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir or Madam:

REQUEST FOR *EX PARTE* REEXAMINATION

The Electronic Frontier Foundation (EFF), a not-for-profit public organization that works to protect free expression in all forms of electronic media, by and through its undersigned attorneys, respectfully requests *ex parte* reexamination of claims 1-45 of U.S. Patent No. 5,886,274 ("the '274 patent") [Exhibit A], titled "System and Method for Generating, Distributing, Storing and Performing Musical Work Files," to Stanley Jungleib, assigned on its face to Seer Systems, Inc. This Request submits substantial new questions of patentability based on prior art patents and printed publications not previously cited by or presented to the Patent and Trademark Office. These prior art references either fully anticipate under 35 U.S.C. § 102 or, in combination, render obvious under 35 U.S.C. § 103, claims 1-45 of the '274 patent.

Consequently, EFF respectfully requests that the Office order an *ex parte* reexamination of the '274 patent and issue a certificate cancelling claims 1-45.

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TABLE OF PRIOR ART RELIED UPON

Prior Art Publications (Appendix)

Appendix A	Stanley Jungleib, *General MIDI* (A-R Editions, Inc. 1995)
Appendix B	Richard Heimlich et al., *Sound Blaster: The Official Book* (McGraw-Hill, Inc., 1993)
Appendix C	Thomas M. Levergood et al., *AudioFile: A Network-Transparent System for Distributed Audio Applications*, Summer USENIX, Cincinnati, OH, June 21-25, 1993, at pp. 219-36
Appendix D	U.S. Patent No. 5,734,119 to France et al., *Method For Streaming Transmission Of Compressed Music*, filed Dec. 19, 1996, issued Mar. 31, 1998
Appendix E	U.S. Patent No. 5,521,323 to Paulson et al., *Real-Time Performance Score Matching*, filed May 21, 1993, issued May 28, 1996

Exhibits

Exhibit A	United States Patent No. 5,886,274 to Stanley Jungleib, *System And Method For Generating, Distributing, Storing And Performing Musical Work Files*, filed July 11, 1997, issued Mar. 23, 1999.
Exhibit B	Chart showing that *General MIDI* invalidates the indicated claims under 35 U.S.C. § 102
Exhibit C	Chart showing that *General MIDI* in combination with *Sound Blaster* invalidates the indicated claims under 35 U.S.C. § 103
Exhibit D	Chart showing that *General MIDI* in combination with *AudioFile* invalidates the indicated claims under 35 U.S.C. § 103
Exhibit E	Chart showing that *France* invalidates the indicated claims under 35 U.S.C. § 102
Exhibit F	Chart showing that *France* in combination with *Paulson* invalidates the indicated claims under 35 U.S.C. § 103
Exhibit G	Chart showing that *Paulson* invalidates the indicated claims under 35 U.S.C. § 102
Exhibit H	Chart showing that *Paulson* in combination with *General MIDI* invalidates the indicated claims under 35 U.S.C. § 103
Exhibit I	Claims Construction Order, *Seer Systems, Inc. v. Beatnik, Inc.*, No. C 03 4636 JSW (EDL) (N.D. Cal. Sept. 20, 2005)
Exhibit J	Claims Construction Order Re Means-Plus-Function Claims, *Seer Systems, Inc. v. Beatnik, Inc.*, No. C 03 4636 JSW (EDL) (N.D. Cal. Mar. 22, 2006)
Exhibit K	12/29/05 Joint Claim Construction and Prehearing Statement, *Seer Systems, Inc. v. Beatnik, Inc.*, No. C 03 4636 JSW (EDL) (N.D. Cal.)
Exhibit L	David Kaplowitz & David Battino, *MIDI Rocks the Web*, Music & Computers, Mar./Apr. 1997
Exhibit M	The Complete MIDI 1.0 Detailed Specification: Standard MIDI Files 1.0, Version 96.1 (2nd ed. 1996)
Exhibit N	'274 File History (Serial No. 08/891,580), 9/22/98 Amendment

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CASES

STATUTES

RULES

I. STATEMENT POINTING OUT SUBSTANTIAL NEW QUESTIONS OF PATENTABILITY

U.S. Patent No. 5,886,274 (the '274 patent) [Exhibit A] relates to the field of computer music, more particularly to systems and methods for generating, distributing, storing, and performing musical work files. These systems and methods were described, disclosed, and known to the public years prior to the filing of the application that resulted in this patent. For example, the named inventor on the '274 patent, Stanley Jungleib, had already published an entire book including descriptions of systems and methods for composing and playing back musical work files more than one year before the July 11, 1997 priority filing date of the '274 patent. Similarly, others of skill in the art had already published or patented descriptions of systems and methods for composing and playing back musical work files that anticipated or rendered obvious the claims of the '274 patent. Because these prior art references were never considered by the USPTO, they raise substantial new questions of patentability.

Moreover, the '274 patent is causing substantial public harm by stifling development in the digital music composition and playback field, and is threatening to compromise at least two public media standards – MPEG4 and XMF. In fact, the '274 patent has already been asserted against small companies and is currently threatening others trying to innovate in this field. Therefore, in addition to the substantial new questions of patentability raised below, EFF respectfully requests consideration of the '274 patent's threat to public media standards and the resulting public harm when determining whether or not to reexamine the '274 patent.

Each of the paragraphs below sets forth a substantial new question of patentability regarding claims 1-45. Each substantial new question of patentability is addressed in greater detail in Section III below.

A. Because Stanley Jungleib, *General MIDI* anticipated claims 1-6, 8-20, and 22-45 of the '274 patent and was never considered by the USPTO, it raises a substantial new question of patentability.

A substantial new question of patentability as to claims 1-6 and 8-20 and 22-45 is raised by Stanley Jungleib, *General MIDI* (A-R Editions, Inc. 1995) ("*General MIDI*"),[1] a book authored by the named inventor of the '274 patent. *General MIDI* taught each limitation of claims 1-6, 8-20 and 22-45 of the '274 patent. *General MIDI* qualifies as a prior art printed publication under 35 U.S.C. § 102(b) because it was published and copyrighted in 1995. Despite the fact that this book was authored by the '274 patent inventor, it was never provided to the PTO as prior art during prosecution of the '274 patent and thus presents new prior art. Because *General MIDI* provides a basis for rejection of claims 1-6, 8-20 and 22-45 under 35 U.S.C. § 102(b), EFF believes that a reasonable examiner would consider its teachings important in determining whether or not claims 1-6, 8-20 and 22-45 are patentable.

B. Because the combination of *General MIDI* and Richard Heimlich et al., *Sound Blaster: The Official Book* rendered obvious claims 7 and 21 of the '274 patent and was never considered by the USPTO, it raises a substantial new question of patentability.

A substantial new question of patentability for claims 7 and 21 is raised by *General MIDI* combined with Richard Heimlich et al., *Sound Blaster: The Official Book* (McGraw-Hill, Inc. 1993) ("*Sound Blaster*").[2] *Sound Blaster* taught each additional limitation of claims 7 and 21.[3] *Sound Blaster* qualifies as a prior art publication under 35 U.S.C. § 102(b) because it was

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[1] Stanley Jungleib, *General MIDI* (A-R Editions, Inc. 1995) ("*General MIDI*") [Appendix A].

[2] Richard Heimlich et al., *Sound Blaster: The Official Book* (McGraw-Hill, Inc. 1993) ("*Sound Blaster*") [Appendix B].

[3] Claim 7 depends from claims 1 and 6; claim 21 depends from claims 16 and 20. As explained above, *General MIDI* taught or suggested the limitations of claims 1, 6, 16 and 20, among others.

published and copyrighted in 1993. The teachings of *Sound Blaster* were not considered during the prosecution of the '274 patent and thus are new, and the teachings of *General MIDI* were not considered during the prosecution of the '274 patent and thus are new. Because *Sound Blaster* when combined with *General MIDI* provides a basis for rejection of claims 7 and 21 under 35 U.S.C. § 103(a), EFF believes that a reasonable examiner would consider these teachings and suggestions important in determining whether or not claims 7 and 21 are patentable.

C. Because the combination of *General MIDI* and Thomas M. Levergood et al., *AudioFile: A Network-Transparent System for Distributing Audio Applications* rendered obvious claims 28-45 of the '274 patent and was never considered by the USPTO, it raises a substantial new question of patentability.

A substantial new question of patentability as to claims 28-45 is raised by *General MIDI* combined with Thomas M. Levergood et al., *AudioFile: A Network-Transparent System for Distributing Audio Applications* ("*AudioFile*").[4] *AudioFile* taught the "downloadable-in-real-time" limitation added to independent claims 28, 36, 44, and 45 to overcome an obviousness rejection during examination. But for amending the claims to include the "downloadable-in-real-time" limitation, claims 28, 36, 44, and 45 as well as the claims that depend from them would not have issued. *AudioFile* qualifies as a prior art publication under 35 U.S.C. § 102(b) because it was published in 1993. The teachings of *AudioFile* were not considered during the prosecution of the '274 patent and thus are new, and the teachings of *General MIDI* were not considered during the prosecution of the '274 patent and thus are new. Because *AudioFile* when combined with *General MIDI* provides a basis for rejection of claims 28-45 under 35 U.S.C. § 103(a), EFF

[4] Thomas M. Levergood et al., *AudioFile: A Network-Transparent System for Distributing Audio Applications*, Summer USENIX, Cincinnati, OH, June 21-25, 1993, at pp. 219-36 ("*AudioFile*") [Appendix C].

believes that a reasonable examiner would consider these teachings and suggestions important in determining whether or not claims 28-45 are patentable.

D. Because U.S. Patent No. 5,734,119 (France) anticipated claims 1-6, 9-20, 23-34, 36-42, and 44-45 of the '274 patent and was never considered by the USPTO, it raises a substantial new question of patentability.

A substantial new question of patentability at least to claims 1-6, 9-20, 23-34, 36-42, and 44-45 is raised by U.S. Patent 5,734,119 to France et al. entitled "Method for Streaming Transmission of Compressed Music" ("*France*").[5] *France* teaches each limitation of claims 1-6, 9-20, 23-34, 36-42, and 44-45 of the '274 patent. *France* qualifies as a prior art patent under 35 U.S.C. § 102(e) because the application that led to its issuance was filed on December 19, 1996, before the July 11, 1997 priority date for the '274 patent, and the inventive entity of *France* is different than that of the '274 patent.[6] The teachings of *France* were not considered during the prosecution of the '274 patent and thus are new. Because *France* provides a basis for rejection of claims 1-6, 9-20, 23-34, 36-42, and 44-45 under 35 U.S.C. § 102(e), EFF believes that a reasonable examiner would consider its teachings important in determining whether or not claims 1-6, 9-20, 23-34, 36-42, and 44-45 are patentable.

E. Because the combination of U.S. Patent No. 5,734,119 (France) and U.S. Patent No. 5,521,323 (Paulson) rendered obvious claims 7, 8, 21, 22, 35, and 43 of the '274 patent and was never considered by the USPTO, it raises a substantial new question of patentability.

A substantial new question of patentability for claims 7, 8, 21, 22, 35, and 43 is raised by *France* combined with U.S. Patent No. 5,521,323 to Paulson et al. entitled "Real-Time Performance Score Matching" ("*Paulson*").[7] *Paulson* teaches each additional limitation of

[5] U.S. Patent No. 5,734,119 ("France") [Appendix D].

[6] *See* 35 U.S.C. § 102(e).

[7] U.S. Patent No. 5,521,323 ("Paulson") [Appendix E].

claims 7, 8, 21, 22, 35, and 43.[8] *Paulson* qualifies as a prior art publication under 35 U.S.C. § 102(b) because the application that led to its issuance was filed on May 21, 1993 and the patent issued on May 28, 1996, more than one year prior to the July 11, 1997 priority date for the '274 patent. The teachings of *Paulson* were not considered during the prosecution of the '274 patent and thus are new, and the teachings of *France* were not considered during the prosecution of the '274 patent and thus are new. Because *Paulson* combined with *France* provides a basis for rejection of claims 7, 8, 21, 22, 35, and 43 under 35 U.S.C. § 103(a), EFF believes that a reasonable examiner would consider these teachings and suggestions important in determining whether or not claims 7, 8, 21, 22, 35, and 43 are patentable.

F. Because U.S. Patent No. 5,521,323 (Paulson) anticipated claims 1-9, 11-14, 16-23, 25-28, 30-33, 35-36, 38-41, and 43-45 of the '274 patent and was never considered by the USPTO, it raises a substantial new question of patentability.

A substantial new question of patentability as to claims 1-9, 11-14, 16-23, 25-28, 30-33, 35-36, 38-41, and 43-45 is raised by U.S. Patent No. 5,521,323 ("*Paulson*"). *Paulson* teaches each limitation of claims 1-9, 11-14, 16-23, 25-28, 30-33, 35-36, 38-41, and 43-45 of the '274 patent. *Paulson* qualifies as a prior art publication under 35 U.S.C. § 102(b) because the application that led to its issuance was filed on May 21, 1993 and the patent issued on May 28, 1996, more than one year prior to the July 11, 1997 priority date for the '274 patent. The teachings of *Paulson* were not considered during the prosecution of the '274 patent and thus are new. Because *Paulson* provides a basis for rejection of claims 1-9, 11-14, 16-23, 25-28, 30-33, 35-36, 38-41, and 43-45 under 35 U.S.C. § 102(b), EFF believes that a reasonable examiner

[8] Claim 7 depends from claims 1 and 6, and claim 8 depends on claim 1. As explained above, *France* teaches the limitations of claim 1 and 6, among others. The limitations and dependency of claim 21 is similar to claim 7. The limitations and dependency of claims 22, 35, and 43 is similar to claim 8.

would consider its teachings important in determining whether or not claims 1-9, 11-14, 16-23, 25-28, 30-33, 35-36, 38-41, and 43-45 are patentable.

G. Because the combination of U.S. Patent No. 5,521,323 (Paulson) and *General MIDI* rendered obvious claims 10, 15, 24, 29, 34, 37, and 42 of the '274 patent and was never considered by the USPTO, it raises a substantial new question of patentability.

A substantial new question of patentability to claims 10, 15, 24, 29, 34, 37, and 42 is raised by *Paulson* combined with *General MIDI*. As explained above, *Paulson* teaches the limitations of claims 1-9, 11-14, 16-23, 25-28, 30-33, 35-36, 38-41, and 43-45. *General MIDI* teaches each additional limitation of claims 10, 15, 24, 29, 34, 37, and 42.[9] *General MIDI* qualifies as a prior art printed publication under 35 U.S.C. § 102(b) because it was published and copyrighted in 1995. The teachings of *General MIDI* were not considered during the prosecution of the '274 patent and thus are new, and the teachings of *Paulson* were not considered during the prosecution of the '274 patent and thus are new. Because *General MIDI* when combined with *Paulson* provides a basis for rejection of claims 10, 15, 24, 29, 34, 37, and 42 under 35 U.S.C. § 103(a), EFF believes that a reasonable examiner would consider these teachings and suggestions important in determining whether or not claims 10, 15, 24, 29, 34, 37, and 42 are patentable.

II. BACKGROUND

A. The claimed inventions of the '274 patent

[9] Claim 10 depends from claims 1 and 9. Claim 15 depends from claims 1 and 14. Claim 24 depends from claims 16, 22, and 23. Claim 29 depends from claims 28. Claim 34 depends from claims 28 and 31. Claim 37 depends from claim 36. Claim 42 depends from claim 36. As explained above, *General MIDI* teaches the limitations of claims 1, 9, 14, 16, 22, 23, 28, 31, and 36, among others.

The application that led to the issuance of the '274 patent was filed on July 11, 1997. The '274 patent contains a total of 45 claims and 8 independent claims. Of the 8 independent claims, claims 1, 26, 27, 28, 44, and 45 are apparatus claims; claims 16 and 36 are method claims. The claims of the '274 patent can be divided into two categories: the "composition system and method" claims (nos. 1-27) and the "player system and method" claims (nos. 28-45). There is substantial overlap among the claim limitations. The chart below summarizes the relationships among the claims.

Claim	Similar to	Claim	Similar to	Claim	Similar to	Claim	Similar to	Claim	Similar to	Claim	Similar to
1 (App)	16, 27	**16 (Met)**	1, 27	**26 (App)**		**28 (App)**	36, 45	**36 (Met)**	28, 45	**44 (App)**	
2 (d1)	17	17 (d16)	2	**27 (App)**	1, 16	29 (d28)	37	37 (d36)	29	**45 (App)**	28, 36
3 (d2)	18	18 (d17)	3			30 (d28)	38	38 (d36)	30		
4 (d1)	19	19 (d16)	4, 5			31 (d28)	39	39 (d36)	31		
5 (d4)	19	20 (d16)	6			32 (d31)	40	40 (d39)	32		
6 (d1)	20	21 (d20)	7			33 (d31)	41	41 (d39)	33		
7 (d6)	21	22 (d16)	8			34 (d31)	42	42 (d36)	34		
8 (d1)	22	23 (d20)	11			35 (d28)	43	43 (d36)	35		
9 (d1)		24 (d23)	10, 15								
10 (d9)	15, 24	25 (d16)	14								
11 (d9)	23										
12 (d11)											
13 (d1)											
14 (d1)	25										
15 (d14)	10, 24										

* App = apparatus claim; Met = method claim; Bold text = independent claim; d = dependent claim

The composition system and method claims (nos. 1-27) of the '274 patent are generally directed to a system for creating a "musical work file" which includes "music control signals"

and at least a portion of a "sound bank containing at least one instrument sound." According to the claims, the "music control signals" are received from an input device and are used to control the generation of instrument sounds stored in the sound bank. As illustrated below, independent claims 1, 16, and 27 of the '274 patent contain essentially similar claim limitations. Claim 26 is a means-plus-function claim containing virtually the same claim limitation language as claims 1, 16, and 27.[10] Thus, claim 1 is representative of the alleged "composition" invention claimed.

Claim 1	Claim 16	Claim 27	Claim 26
A composition system comprising:	A method comprising the steps of:	A computer-readable medium storing program code for causing the computer to perform the steps of:	A composition system comprising:
a **sound bank containing at least one instrument sound**;	receiving **at least a portion of a sound bank containing at least one instrument sound**; and	receiving **at least a portion of a sound bank containing at least one instrument sound**; and	means for **receiving at least a portion of a sound bank containing at least one instrument sound**; and
an input device for **receiving music control signals**;	**receiving music control signals**;	**receiving music control signals**;	means for **receiving music control signals**;
a sequencer coupled to the input device for **storing the music control signals**; and	**storing the music control signals** and received sound bank portion …	**storing the music control signals** and received sound bank portion …	means for **storing the music control signals** and received sound bank portion …
a work manager coupled to the sound bank and to the sequencer for generating a **musical work file** containing the music control signals and at least a portion of the sound bank.	as a **musical work file.**	as a **musical work file**.	as a **musical work file**.

[10] Claim 27 is directed to "a computer-readable medium storing program code for causing the computer to perform the steps of…." Each of the prior art references discussed in this petition describe computer systems and methods implemented by computer software, and thus satisfies this language.

The player system and method claims (nos. 28-45) generally describe a system that receives "a musical work file containing downloadable-in-real-time topology information, downloadable-in-real-time music sequence data, and a sound bank which includes at least one downloadable-in-real-time instrument sound." According to the claims, the music sequence data is processed based on the topology information and sound bank and then converted into sound. As illustrated below, independent claims 28, 36, and 45 of the '274 patent contain essentially similar claim limitations. Claim 44 is a means-plus-function claim containing virtually the same claim limitation language as claims 28, 36, and 45.[11] Thus, claim 28 is representative of the alleged "player" invention claimed.

Claim 28	Claim 36	Claim 45	Claim 44
A player system that can receive and play downloadable-in-real-time musical data, comprising:	A method for playing a musical work file comprising the steps of:	A computer-readable medium storing program code for causing a computer to perform the steps of:	A player system that can receive and play downloadable-in-real-time musical data, comprising:
an input terminal for **receiving a musical work file containing downloadable-in-real-time topology information, downloadable-in-real-time music sequence data, and a sound bank which includes at least one downloadable-in-real-time instrument sound;**	**receiving said musical work file containing downloadable-in-real-time topology information, downloadable-in-real-time music sequence data, and a sound bank which includes at least one downloadable-in-real-time instrument sound;**	**receiving a musical work file containing downloadable-in-real-time topology information, downloadable-in-real-time music sequence data, and a sound bank which includes at least one downloadable-in-real-time instrument sound;**	means for **receiving a musical work file containing downloadable-in-real-time topology information, downloadable-in-real-time music sequence data, and a sound bank which includes at least one downloadable-in-real-time instrument sound;**
a synthesizer capable of adding downloadable-	**processing the music sequence data based**	**processing the music sequence data based**	means for **processing the music sequence**

[11] Claim 45 is directed to "a computer-readable medium storing program code for causing the computer to perform the steps of...." Each of the prior art references discussed in this petition describe computer systems and methods implemented by computer software, and thus satisfies this language.

Claim 28	Claim 36	Claim 45	Claim 44
in-real-time sounds, said synthesizer being coupled to the input terminal for **processing the music sequence data based on the topology information and the sound bank**; and	**on the topology information and the sound bank**; and	**on the topology information and the sound bank**; and	**data based on the topology information and the sound bank**; and
a speaker system coupled to the synthesizer for **converting the processed music sequence data to sound.**	**converting the processed music sequence data to sound.**	**converting the processed music sequence data to sound.**	means for **converting the processed music sequence data to sound.**

Attached hereto as Exhibits B, C, D, E, F, G, and H are charts that show, on a claim-by-claim and limitation-by-limitation basis, how each asserted prior art reference anticipated, or combination of prior art references rendered obvious, every one of the claims of the '274 patent.

B. Prosecution History

The '274 patent prosecution history is very short. There was only one Office Action rejecting claims 1-45 under 35 U.S.C. § 103 based on prior art from an examiner's search. Independent claims 28, 36, 44, 45 were amended to include a "downloadable-in-real-time" limitation to distinguish claims from the prior art. Claims 1-45 were allowed in a Notice of Allowability dated October 27, 1998. The '274 patent issued on March 23, 1999. Notably, none of the cited prior art references relied upon in this reexamination petition were considered during prosecution of the '274 patent.

C. Claim Construction

The examiner must consider broadest reasonable claim construction: "Claim construction is an essential part of the examination process. Each claim must be separately

analyzed and given its broadest reasonable interpretation in light of and consistent with the written description. *See, e.g., In re Morris*, 127 F.3d 1048, 1053-54, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997)."[12]

The claim construction orders covering the claims of the '274 patent issued by the district court for the Northern District of California in *Seer Systems, Inc. v. Beatnik, Inc.*, No. C 03 4636 JSW (EDL), dated September 20, 2005 and March 22, 2006, are illustrative.[13] The terms construed and their constructions are as follows:

Term	Court's Definition[14]
Means for receiving music control signals	A central processing unit programmed to perform the disclosed algorithm of receiving music control signals from MIDI input device and passing them through a synthesizer engine to the sequencer for storage, and equivalents thereof.
Means for receiving at least a portion of a sound bank containing at least one instrument sound	A central processing unit programmed to perform the disclosed algorithm of receiving at least a portion of a sound bank containing at least one instrument sound through retrieving composer-selected instrument sounds either from local sound bank or, if there are work links, from locations in music network system, and equivalents thereof.
Means for storing the music control signals and received sound bank portion as a musical work file	A central processing unit programmed to perform the disclosed algorithm of storing the music control signals and received sound bank portion through a work manager that assigns musical work file header data, computers initialization data, reformats, imports and exports raw musical data, stores all such data into a musical work file and certifies said musical work file, and equivalents thereof.
Means for receiving a musical work file containing downloadable-in-real-time topology information, downloadable-in-real-time music sequence data,	A central processing unit programmed to perform the disclosed algorithm of receiving a musical work file through downloading musical work file from

[12] MPEP § 2163 (8th ed., rev. 6, Sept. 2007)

[13] The parties in this case entered into a settlement agreement prior to trial on the merits.

[14] Claims Construction Order, *Seer Systems, Inc. v. Beatnik, Inc.*, No. C 03 4636 JSW (EDL) (N.D. Cal. Sept. 20, 2005) [Exhibit I]; Claims Construction Order Re Means-Plus-Function Claims, *Seer Systems, Inc. v. Beatnik, Inc.*, No. C 03 4636 JSW (EDL) (N.D. Cal. Mar. 22, 2006) [Exhibit J].

Term	Court's Definition[14]
and a sound bank which includes at least one downloadable-in-real-time instrument sound	composer server via communications interface or CD drive, and examining certification of said musical work file to authenticate and to determine performance rights, and equivalents thereof.
Means for processing the music sequence data based on the topology information and the sound bank	A central processing unit programmed to perform the disclosed algorithm of processing the music sequence data through: (1) playing the raw musical data; (2) downloading in real time from the composer server or computer network the composer-selected initial mix and effect parameters; (3) retrieving from sound bank the instrument sounds referenced by the music sequence, and from locations specified by work links any instruments, mixes, effects or other work link data; and (4) determining availability of all sounds needed to perform musical work, and equivalents thereof.
Means for converting the processed music sequence data to sound	A central processing unit programmed to perform the disclosed algorithm of converting the processed music sequence data to sound by the synthesizer driver, in conjunction with the client sound output device, or by the speaker system coupled to the mixer, and equivalents thereof.
Music control signals	Signals for controlling a musical work
Work link	Reference to musical data
Work link data	Musical data
Work manager	Software for managing a musical work

In determining the broadest reasonable construction, the USPTO should note that the patentee previously agreed to the following claim constructions relevant to the '274 patent claims:

Term	Seer's Previously-Agreed Upon Definition (per briefing)[15]
Certifying	Verifying the integrity of data being exchanged

[15] 12/29/05 Joint Claim Construction and Prehearing Statement, *Seer Systems, Inc. v. Beatnik, Inc.*, No. C 03 4636 JSW (EDL) (N.D. Cal.) [Exhibit K]; *see* Claims Construction Order, *Seer Systems, Inc. v. Beatnik, Inc.*, No. C 03 4636 JSW (EDL) (N.D. Cal. Sept. 20, 2005) [Exhibit I].

Term	Seer's Previously-Agreed Upon Definition (per briefing)[15]
	between two parties and guaranteeing authorized use of this data
Downloadable-in-real-time	Streaming, wherein the player begins playing audio and/or video from one location in the file while it is receiving later parts of the file from the server
Input device	A hardware or software device for receiving music control signals
Input terminal	A device for receiving data
Instrument sounds	A sound source(s)
Mix changes and effect changes	Alterations of the parameters controlling the processing of signals
Musical work file	File containing musical data
Network communications interface	A device that sends data to and/or receives data from a network
Sample bank	A collection of one or more digital recordings
Serial number	A number used to identify
Sound bank	A collection of one or more sounds sources
Topology information	A description of the configuration of processors
Work certifier	Work certifier, which is software

III. MULTIPLE PRIOR ART PUBLICATIONS RENDER THE '274 CLAIMS ANTICIPATED AND/OR OBVIOUS.

A. Stanley Jungleib, *General MIDI* anticipated claims 1-6, 8-20, and 22-45 of the '274 patent.

General MIDI is a book authored by Stanley Jungleib, the named inventor of the '274 patent. It was published approximately two years before the '274 patent application was filed, described much of what is disclosed and claimed in the '274 patent, and was not disclosed to the Patent Office during prosecution. *General MIDI* anticipated claims 1-6, 8-20, and 22-45 of the '274 patent.

1. *General MIDI* qualifies as 102(b) prior art.

General MIDI was published by A-R Editions, Inc. and copyrighted in 1995.[16] Its unique commercial book identifier or International Standard Book Number (ISBN) is 0-89579-310-5.[17] *General MIDI* was authored by Stanley Jungleib, the named inventor of the '274 patent, and published more than one year prior to July 11, 1997, the priority filing date of the application that led to the '274 patent.[18] Therefore, *General MIDI* qualifies as prior art under 35 U.S.C. § 102(b).

2. *General MIDI* expressly disclosed every limitation of claims 1-6, 8-20, and 22-45.

General MIDI expressly disclosed a composition system for creating a "musical work file" (a file containing musical data) which includes "music control signals" and at least a portion of a "sound bank containing at least one instrument sound" as claimed in claims 1-6, 8-20, and 22-27 of the '274 patent. Means-plus-function claim 26 is also expressly disclosed because *General MIDI* described a composition system that performed the same function specified in the claims as well as the same or equivalent corresponding structure for that function[19] as disclosed in the '274 patent specification, namely a central processing unit.[20] The following chart compares claim 1 of the '274 patent with some of the relevant disclosure in *General MIDI*:

Claim 1 of the '274 patent	*General MIDI* reference

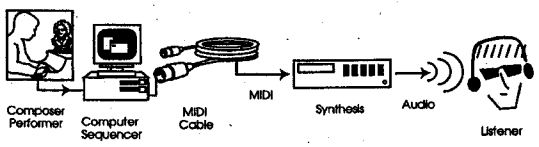
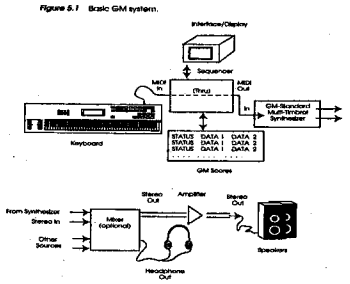
[16] *General MIDI* at p. iii [Appendix A].

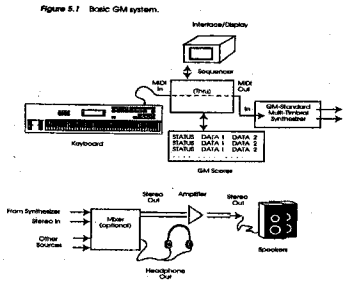
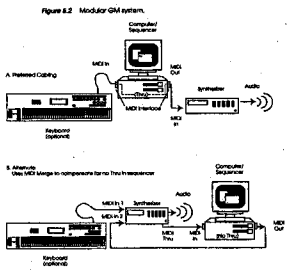
[17] *General MIDI* at p. back cover [Appendix A].

[18] 35 U.S.C. § 102(b).

[19] MPEP § 2181-83 (8th ed., rev. 6, Sept. 2007).

[20] *See* U.S. Patent No. 5,886,274 at 3:15-40 [Exhibit A]; *General MIDI* at pp. 82-83 [Appendix A]; Claims Construction Order Re Means-Plus-Function Claims, *Seer Systems, Inc. v. Beatnik, Inc.*, No. C 03 4636 JSW (EDL) (N.D. Cal. Mar. 22, 2006) [Exhibit J].

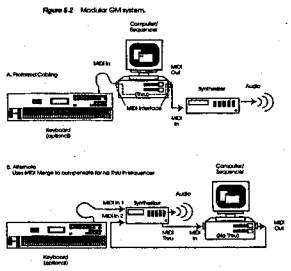
Claim 1 of the '274 patent	*General MIDI* reference
[1.] A composition system comprising:	*General MIDI* describes a composition system: "MIDI makes musical ideas analyzable by the computer. It facilitates the conversion of the very analog world of musical thought into and out of the digital software environment. There the music can be subjected to the full range of nasty or nice things that can be done to any data. Figure 1.2: MIDIfied music thought stream. Figure 1.2 illustrates the resulting new composer-listener path: (1) The performing composer creates and edits MIDI data into a (2) sequencer that creates a distributable song file that plays (3) MIDI messages over a MIDI network to a (4) synthesizer that converts the MIDI into ensemble music that goes into (5) your ear and magically becomes a musical idea in your head. However, the big difference this time is that this music has not been passed through a performing middleman." (p. 7) ***Figure 1.2*** MIDIfied music thought stream.  (p. 7)  (p. 78) **"In effect, MIDI becomes a general control system for audio by offering real-time parametric control over stereo voices and their manipulation via the sequence. In other words, what was formerly a mere wave sample can now easily benefit from real-time pitch shifting, looping, enveloping, filtering, and effects processing.** Bringing in the audio into the synthesizer also happens to eliminate problems associated with attempting to synchronize MIDI with audio outside of the synthesizer." (p. 188-89)
[1a.] a sound bank containing at least one instrument sound;	*General MIDI* discloses a sound bank (banks of custom sounds and instruments) containing instrument sounds: "The composer or sound designer uses wave and instrument editors that produce **banks of custom sounds and instruments** needed for the sequence. These sounds can range from raw waves in any format (through wavetable

Claim 1 of the '274 patent	*General MIDI* reference
	synthesis with looping oscillators, as is now customary) to subtractive synthesis or FM, ultimately using any synthesis technique including physical modeling." (p. 189)
[1b.] an input device for receiving music control signals;	*General MIDI* discloses an input device (keyboard (or other MIDI performance controller)) that receives MIDI music control signals: "Figure 5.1: Basic GM system." (p. 78-79)  "Keyboard: **The keyboard (or other MIDI performance controller)** is optional for those who want to create sequences from their playing." (p. 79) "Computer-Based MIDI Systems: Whether you get a Windows machine or a Macintosh, you can build a high-quality, flexible system by hooking up an external sound module or integrated synthesizer. As a way of getting MIDI physically in or out of your computer, this expansion step often requires that you add a **MIDI interface** to an existing or added serial port. Figure 5.2 shows how such a system works." (p. 83) "Figure 5.2. Modular GM System." (p. 83) 
[1c.] a sequencer coupled to the input device for storing the music control signals; and	*General MIDI* discloses a sequencer coupled to the input device for storing the music control signals: **"Sequencers can store whatever you play,** let you improve it, and play individual parts back simultaneously. **The sequencer stores the data received and the precise relative time it appeared.** So, the sequence built up in memory is just a list of **MIDI messages** occurring at specific times relative to

Claim 1 of the '274 patent	*General MIDI* reference
	one another for all the channels in the system." (p. 152-153)
[1d.] a work manager coupled to the sound bank and to the sequencer for generating a musical work file containing the music control signals and at least a portion of the sound bank.	*General MIDI* discloses work manager software coupled to the sound bank and to the sequencer: "Figure 1.2 illustrates the resulting new composer-listener path: **(1) The performing composer creates and edits MIDI data into a (2) sequencer that creates a distributable song file that plays** (3) MIDI messages over a MIDI network to a (4) synthesizer that converts the MIDI into ensemble music that goes into (5) your ear and magically becomes a musical idea in your head. However, the big difference this time is that this music has not been passed through a performing middleman." (p. 7) "Sequencer: The **computer program** that allows you to play and manipulate time-based MIDI data. Its job is to **manage the sequence of MIDI messages** that constitute the musical score of the digital piece. For interchange, the sequencer stores music in **Standard MIDI File (SMF) format**." (p. 8) The musical work file (SMF with its custom banks) containing musical data is generated, containing music control signals and a portion of the sound bank (banks of custom sounds and instruments): "**The composer saves the custom sound, drum kit, and effects bank identities as SMF "meta-events."** The new Scores therefore point to all the **custom instrument information** they need to be heard correctly, expressively, and uniquely. They may call for many **banks of sounds**, drum kits, and effects. **The user obtains the SMF together with its custom banks and opens the sequence into the player or sequencer. When the player loads the sequence, it learns what sounds are needed and confirms that the sounds are somewhere in the active banks (or, I suppose, posts a notice about any missing)**" (p. 190) "For example, we want to say that **the synthesizer must be able to play and download sounds simultaneously**. But when talking about system services such as the hard drive, things like the effect of disk access on pending processes leave our direct control." (p. 190)

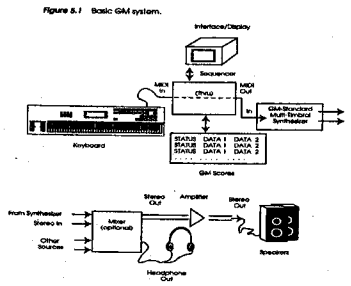
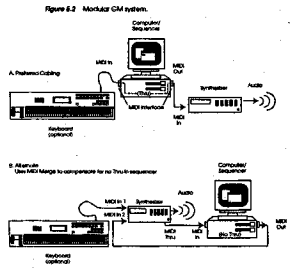
General MIDI also expressly disclosed a player system and method that receives "a musical work file containing downloadable-in-real-time topology information, downloadable-in-real-time music sequence data, and a sound bank which includes at least one downloadable-in-real-time instrument sound" as claimed in claims 28-45 of the '274 patent. Means-plus-function claim 44 is also expressly disclosed because *General MIDI* described a player system that

performs the same function specified in the claims as well as the same or equivalent corresponding structure for that function[21] as disclosed in the '274 patent specification, namely a central processing unit.[22] The following chart compares claim 28 of the '274 patent with some of the relevant disclosure in *General MIDI*:

Claim 28 of the '274 patent	***General MIDI* reference**
[28.] A player system that can receive and play downloadable-in-real-time musical data, comprising:	*General MIDI* discloses a player system capable of receiving and playing downloadable-in-real-time musical data: "Figure 5.2. Modular GM System." (p. 83)  "**This move toward downloadable custom instruments will provide the desired capacity for both variety and predictability** to splendidly serve composers as well as game and content sound designers, incidentally giving GM2 the longevity to deserve being renamed GM2000." (p. 188) "**The composer or sound designer uses wave and instrument editors that produce banks of custom sounds and instruments needed for the sequence.** These sounds can range from raw waves in any format (through wavetable synthesis with looping oscillators, as is now customary) to subtractive synthesis or FM, ultimately using any synthesis technique including physical modeling. **The move toward downloadable instruments offers special advantages to the game and content sound designer. Until now there has been a dichotomy between audio and MIDI. You used either one or the other.** The synthesizer always plays from RAM because the engine needs to have to have fast access to the entire waveform, particularly if transposition is going to occur. In contrast, long waves typically play from disk. In the context of definable instruments, however, the lines start to blur. **By easily installing waves into the synthesizer, the user or sound designer can play audio**

[21] MPEP § 2181-83 (8th ed., rev. 6, Sept. 2007).

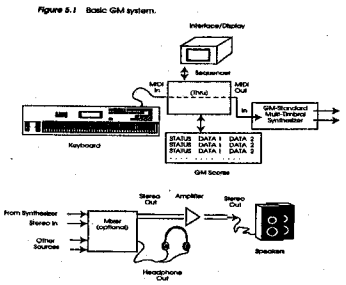
[22] *See* U.S. Patent No. 5,886,274 at 6:26-54 [Exhibit A]; *General MIDI* at pp. 82-83 [Appendix A]; Claims Construction Order Re Means-Plus-Function Claims, *Seer Systems, Inc. v. Beatnik, Inc.*, No. C 03 4636 JSW (EDL) (N.D. Cal. Mar. 22, 2006) [Exhibit J].

Claim 28 of the '274 patent	*General MIDI* reference
	without the system interruption that might be caused by having to play waves from disk using standard techniques. In effect, MIDI becomes a general control system for audio by offering real-time parametric control over stereo voices and their manipulation via the sequence. In other words, what was formerly a mere wave sample can now easily benefit from real-time pitch shifting, looping, enveloping, filtering, and effects processing. Bringing the audio into the synthesizer also happens to eliminate problems associated with attempting to synchronize MIDI with audio outside of the synthesizer." (p. 188-89)
[28a.] an input terminal for receiving a musical work file containing downloadable-in-real-time topology information, downloadable-in-real-time music sequence data, and a sound bank which includes at least one downloadable-in-real-time instrument sound;	*General MIDI* discloses an input terminal (Windows PC or Macintosh) for receiving a musical work file: "Figure 5.1: Basic GM system." (p. 78-79)  "Computer-Based MIDI Systems: Whether you get a Windows machine or a Macintosh, you can build a high-quality, flexible system by hooking up an external sound module or integrated synthesizer. As a way of **getting MIDI physically in or out of your computer**, this expansion step often requires that you add a **MIDI interface** to an existing or added serial port. Figure 5.2 shows how such a system works." (p. 83) "Figure 5.2. Modular GM System." (p. 83)  A musical work file (SMF with its custom banks) containing downloadable-in-real-time topology information (voicing parameters and control information e.g., learns what sounds are needed and confirms where the sounds are somewhere in the active banks):

Claim 28 of the '274 patent	*General MIDI* reference
	"The user obtains the SMF together with its custom banks and opens the sequence into the player or sequencer. **When the player loads the sequence, it learns what sounds are needed and confirms that the sounds are somewhere in the active banks (or, I suppose, posts a notice about any missing). The player ideally examines the SMF to determine what kind of file it is and automatically selects the correct output channels to ensure that redundant (Base + Extended) data are not sent to the synthesizer.**" (p. 190) "The composer or sound designer uses wave and instrument editors that produce banks of custom sounds and instruments needed for the sequence. These sounds can range from raw waves in any format (through wavetable synthesis with looping oscillators, as is now customary) to subtractive synthesis or FM, ultimately using any synthesis technique including physical modeling. The move toward downloadable instruments offers special advantages to the game and content sound designer. Until now there has been a dichotomy between audio and MIDI. You used either one or the other. The synthesizer always plays from RAM because the engine needs to have to have fast access to the entire waveform, particularly if transposition is going to occur. In contrast, long waves typically play from disk. In the context of definable instruments, however, the lines start to blur. By easily installing waves into the synthesizer, the user or sound designer can play audio without the system interruption that might be caused by having to play waves from disk using standard techniques. In effect, **MIDI becomes a general control system for audio by offering real-time parametric control over stereo voices and their manipulation via the sequence. In other words, what was formerly a mere wave sample can now easily benefit from real-time pitch shifting, looping, enveloping, filtering, and effects processing.** Bringing the audio into the synthesizer also happens to eliminate problems associated with attempting to synchronize MIDI with audio outside of the synthesizer." (p. 188-89) Downloadable-in-real-time music sequence data (MIDI data): "The composer saves the custom sound, drum kit, and effects bank identities as **SMF "meta-events."** The **new Scores** therefore point to all the custom instrument information they need to be heard correctly, expressively, and uniquely. **They may call for many banks of sounds, drum kits, and effects.**" (p. 190) "The composer or sound designer uses wave and instrument editors that produce banks of custom sounds and instruments needed for the sequence. These sounds can range from raw waves in any format (through wavetable synthesis with looping oscillators, as is now customary) to subtractive synthesis or FM, ultimately using any synthesis technique including physical modeling. The move toward downloadable instruments offers special advantages to the game and content sound designer. Until now there has been a dichotomy between audio and MIDI. You used either one or the other. The synthesizer always plays from RAM because the engine needs to have to have fast access

Claim 28 of the '274 patent	*General MIDI* reference
	to the entire waveform, particularly if transposition is going to occur. In contrast, long waves typically play from disk. In the context of definable instruments, however, the lines start to blur. By easily installing waves into the synthesizer, the user or sound designer can play audio without the system interruption that might be caused by having to play waves from disk using standard techniques. **In effect, MIDI becomes a general control system for audio by offering real-time parametric control over stereo voices and their manipulation via the sequence. In other words, what was formerly a mere wave sample can now easily benefit from real-time pitch shifting, looping, enveloping, filtering, and effects processing.** Bringing the audio into the synthesizer also happens to eliminate problems associated with attempting to synchronize MIDI with audio outside of the synthesizer." (p. 188-89) "For example, we want to say that **the synthesizer must be able to play and download sounds simultaneously**. But when talking about system services such as the hard drive, things like the effect of disk access on pending processes leave our direct control." (p. 190) And a sound bank (banks of custom sounds and instruments) containing at least one downloadable-in-real-time instrument sound: "After configuring the channels, the player asks the synthesizer about its capabilities and tells the synthesizer what instruments are needed. **The synthesizer provides for and requests whatever custom sounds it can accommodate, accessing the active banks,** and uses defaults for the rest." (p. 190) "**The composer or sound designer uses wave and instrument editors that produce banks of custom sounds and instruments needed for the sequence. These sounds can range from raw waves in any format (through wavetable synthesis with looping oscillators, as is now customary) to subtractive synthesis or FM, ultimately using any synthesis technique including physical modeling. The move toward downloadable instruments offers special advantages to the game and content sound designer.** Until now there has been a dichotomy between audio and MIDI. You used either one or the other. The synthesizer always plays from RAM because the engine needs to have to have fast access to the entire waveform, particularly if transposition is going to occur. In contrast, long waves typically play from disk. In the context of definable instruments, however, the lines start to blur. **By easily installing waves into the synthesizer, the user or sound designer can play audio without the system interruption that might be caused by having to play waves from disk using standard techniques. In effect, MIDI becomes a general control system for audio by offering real-time parametric control over stereo voices and their manipulation via the sequence. In other words, what was formerly a mere wave sample can now easily benefit from real-time pitch shifting, looping, enveloping, filtering, and effects processing.** Bringing the audio into the synthesizer also happens to eliminate problems associated with attempting to synchronize MIDI with audio outside

Claim 28 of the '274 patent	*General MIDI* reference
	of the synthesizer." (p. 188-89) "For example, we want to say that **the synthesizer must be able to play and download sounds simultaneously**. But when talking about system services such as the hard drive, things like the effect of disk access on pending processes leave our direct control." (p. 190)
[28b.] a synthesizer capable of adding downloadable-in-real-time sounds, said synthesizer being coupled to the input terminal for processing the music sequence data based on the topology information and the sound bank; and	*General MIDI* discloses a synthesizer capable of adding downloadable-in-real-time sounds: "By easily **installing waves into the synthesizer**, the user or sound designer can play audio without the system interruption that might be caused by having to play waves from disk using standard techniques. In effect, **MIDI becomes a general control system for audio by offering real-time parametric control** over stereo voices and their manipulation via the sequence. In other words, what was formerly a mere wave sample can now easily benefit from **real-time pitch shifting, looping, enveloping, filtering, and effects processing**. Bringing the audio into the synthesizer also happens to eliminate problems associated with attempting to synchronize MIDI with audio outside of the synthesizer." (p. 188-89) Synthesizer is coupled to the input terminal (Windows PC or Macintosh) for processing the music sequence data (MIDI data) based on the topology information (voicing parameters and control information, e.g., learns what sounds are needed and confirms that the sounds are somewhere in the active banks) and the sound bank (banks of custom sounds and instruments): "**When the player loads the sequence, it learns what sounds are needed and confirms that the sounds are somewhere in the active banks (or, I suppose, posts a notice about any missing).** The player ideally examines the SMF to determine what kind of file it is and automatically selects the correct output channels to ensure that redundant (Base + Extended) data are not sent to the synthesizer. After configuring the channels, **the player asks the synthesizer about its capabilities and tells the synthesizer what instruments are needed. The synthesizer provides for and requests whatever custom sounds it can accommodate, accessing the active banks, and uses defaults for the rest**." (p. 190)
[28c.] a speaker system coupled to the synthesizer for converting the processed music sequence data to sound.	*General MIDI* discloses a speaker system coupled to the synthesizer for converting the processed music sequence data (MIDI data) to sound: "Figure 5.1: Basic GM system." (p. 78-79)

Claim 28 of the '274 patent	*General MIDI* reference
	

Attached hereto as Exhibit B is a chart that maps the relevant disclosures of *General MIDI* to the claims of the '274 patent, on a claim-by-claim and limitation-by-limitation basis. Exhibit B confirms that *General MIDI* expressly disclosed claims 1-6, 8-20, and 22-45 of the '274 patent.

3. *General MIDI* is enabled.

General MIDI enabled one of skill in the art to practice claims 1-6, 8-20, and 22-45 of the '274 patent because a skilled person upon reading the book would have understood that success could be achieved merely by replicating the systems and methods described in the publication. *General MIDI* provided a disclosure of at least the same general level of detail as found in the '274 patent. Therefore, *General MIDI* is enabled.

B. Combined, *General MIDI* and Richard Heimlich et al., *Sound Blaster: The Official Book* rendered obvious claims 7 and 21 of the '274 patent.

The disclosures of *General MIDI* combined with the disclosure of *Sound Blaster* rendered obvious claims 7 and 21 of the '274 patent. *Sound Blaster* is a book authored by Richard Heimlich et al. that was published approximately four years before the '274 patent application was filed. It generally described the creation and playback of digital musical work files and the use of the Sound Blaster device in music composition and playback systems. Specifically, *Sound Blaster* described musical work file formats that met all the claimed elements

of claims 7 and 21. Thus, the combination of *General MIDI* with *Sound Blaster* rendered obvious claims 7 and 21 of the '274 patent.

1. *Sound Blaster* qualifies as 102(b) prior art.

Sound Blaster was published by McGraw-Hill, Inc. and copyrighted in 1993.[23] Its unique commercial book identifier or International Standard Book Number (ISBN) is 0-07-881907-5. *Sound Blaster* was authored by Richard Heimlich et al. and published more than one year prior to July 11, 1997, the priority filing date of the application that led to the '274 patent. Therefore, *Sound Blaster* qualifies as prior art under 35 U.S.C. § 102(b).

2. Combined, *General MIDI* and *Sound Blaster* disclosed every limitation of claims 7 and 21 of the '274 patent.

General MIDI described a composition system and method for composing and playing back musical work files, whereby a musical work file is created containing music control signals and a portion of the sound bank – the same as is claimed in the '274 patent.

Similarly, *Sound Blaster* described the creation and playback of musical work files. In fact, it taught several musical work file formats with a header that met the claim limitation in claims 7 and 21: "wherein the header includes a title, a serial number, and a composer's name." For example, it described the Creative Music File Format (.CMF), which included a header specifying "title," "File ID," and "composer" information.[24] As shown above, *General MIDI* expressly disclosed claims 1 and 6 as well as claims 16 and 20, which are the claims from which claims 7 and 21 depend, respectively. The following chart illustrates how the combination of *General MIDI* with *Sound Blaster* rendered obvious claims 7 and 21 of the '274 patent:

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[23] *Sound Blaster* at p. iv [Appendix B].

[24] *Sound Blaster* at pp. 436-37 [Appendix B].

<table>
<tr><th>Claims 7 and 21 of the '274 patent</th><th>*Sound Blaster* reference</th></tr>
<tr><td>[7.] A composition system of claim 6 wherein the header includes a title, a serial number, and a composer's name.

[21.] The method of claim 20 wherein the header includes a title, a serial number, and a composer's name</td><td>*Sound Blaster* discloses a header including title, identification File ID, and composer's name information:

"The .CMF file format consists of three different block structures including a header block, an instrument block, and a music block.

CMF Header Block

<table>
<tr><td>Offset</td><td>Description</td></tr>
<tr><td>00-03</td><td>File ID 'CTMF'</td></tr>
<tr><td>04-05</td><td>File Format Version (current Version is 1.10)
MSB = major Version
LSB = minor Version</td></tr>
<tr><td>06-07</td><td>Offset of instrument block from start of file</td></tr>
<tr><td>08-09</td><td>Offset of music block from start of file</td></tr>
<tr><td>0A-0B</td><td>Ticks per quarter note (one beat) [default = 120]</td></tr>
<tr><td>0C-0D</td><td>Clock ticks per second [default = 96]</td></tr>
<tr><td>0E-0F</td><td>Offset of music title from start of file (0 = none)</td></tr>
<tr><td>10-11</td><td>Offset of composer name (0 = none)</td></tr>
<tr><td>12-13</td><td>Offset of remarks (0 = none)</td></tr>
<tr><td>14-23</td><td>Channel-in-use table (16 bytes long)</td></tr>
<tr><td>24-25</td><td>Number of instruments used</td></tr>
<tr><td>26-27</td><td>Basic tempo</td></tr>
<tr><td>28-</td><td>Title, composer and/or remarks are stored here"</td></tr>
</table>

(p. 436)</td></tr>
</table>

Attached hereto as Exhibit C is a chart that shows, on a claim-by-claim and limitation-by-limitation basis, how *General MIDI* in combination with *Sound Blaster* rendered obvious claims 7 and 21 of the '274 patent.

3. A person of ordinary skill in the art would have been motivated to combine *General MIDI* with *Sound Blaster*.

When considering the obviousness of a combination of known elements, the operative question is: "whether the improvement is more than the predictable use of prior art elements according to their established functions."[25] As *KSR* explained, a combination is obvious when it

[25] *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007); *see also* MPEP § 2141 (8th ed.,

creates no synergy, i.e., when the two technologies "in combination [do] no more than they would in separate, sequential operation" or when the applicant "simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement."[26]

Headers were common features of musical work file formats long before the filing of the application that led to issuance of the '274 patent. It was known to a person of ordinary skill in the art that musical work file information could be organized in "chunks" to promote flexibility and improve consistency and compatibility across platforms.[27] Indeed, as early as 1996, the specification for Standard MIDI 1.0 files disclosed a file format including a header chunk and enabled track names and other descriptive information to be stored with MIDI data.[28] Similarly, *Sound Blaster* described several musical work file formats that contained headers – specifically headers which included title, file identification and composer information.

Moreover, because headers were such common features of musical work file formats prior to the issuance of the '274 patent, one of ordinary skill in the art could have taken the teachings of the *General MIDI* reference in combination with his or her own knowledge of the art and been in possession of the alleged invention.[29]

Thus, it was entirely predictable to combine the system and method disclosed in *General MIDI* with the musical work file format described in *Sound Blaster*. The combination of

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rev. 6, Sept. 2007).

[26] *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007).

[27] *See, e.g.,* David Kaplowitz & David Battino, *MIDI Rocks the Web*, Music & Computers, Mar./Apr. 1997, at p. 29 [Exhibit L].

[28] *See* The Complete MIDI 1.0 Detailed Specification: Standard MIDI Files 1.0, Version 96.1, at pp. 1-4 (2nd ed. 1996) [Exhibit M].

General MIDI with *Sound Blaster* was nothing more than the predictable use of known prior art elements according to their established functions.

The recent *KSR* decision cautions against applying the "teaching-suggestion-motivation" test in an overly rigid manner.[30] However, the motivation to combine *General MIDI* with *Sound Blaster* was so strong that it satisfied even the strictest application of this standard. *General MIDI* and *Sound Blaster* both expressly addressed the problem of composing and playing back musical work files.[31] The Sound Blaster device was one of many PC sound cards that were widely known by the time *General MIDI* was published. In fact, *General MIDI* itself actually discussed the implementation and use of the Sound Blaster device as a potential component of a composition system for composing and playing back musical work files.[32] And, *Sound Blaster* detailed the implementation and use of the Sound Blaster device in a composition system for composing and playing back musical work files.[33] Thus, for at least the foregoing reasons, one

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[29] *See In re Graves*, 69 F.3d 1147, 1152 (Fed. Cir. 1995), *cert. denied*, 517 U.S. 1124 (1996).

[30] *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007); *see also* MPEP § 2141 (8th ed., rev. 6, Sept. 2007).

[31] *See General MIDI* at pp. 7-11 ("By inserting the computer's powers of control, storage, editing, and user interface into the musical thought stream, two great things happen. First, the link to the composer becomes absolutely direct. Second, you can use your own sequencer to participate to any degree you choose in the composer's thought stream.") [Appendix A]; *Sound Blaster* at pp. 47-49 ("Anything you play on your computer's keyboard, or on an external MIDI keyboard, can recorded by the computer. Likewise, any MIDI data in your computer can be played back on the keyboard's synthesizer or on a MIDI sound module.") [Appendix B].

[32] *See General MIDI* at pp. 104-111 ("To Ad-Lib's basic FM synthesis format, Creative Labs added an 8-bit ADC and DAC, a joystick/MIDI port (see figure 6.1), and some enabling utilities for general purpose audio. The Sound Blaster was born.") [Appendix A].

[33] *See Sound Blaster* at pp. 50-52 ("Most sound cards today, including the Sound Blaster and Sound Blaster Pro, provide a joystick connector on the sound card. This connector has been assigned a dual purpose, by utilizing two pins that are unneeded by the joystick. One pin receives MIDI data (MIDI In) and the other sends MIDI data (MIDI Out). By connecting a MIDI interface cable to the joystick connector, you can connect your PC to a MIDI device.")

of ordinary skill in the art would have been motivated to combine the teachings of *General MIDI* with the teachings of *Sound Blaster*.

4. *General MIDI* combined with *Sound Blaster* enabled claims 7 and 21 of the '274 patent.

"To render a later invention unpatentable for obviousness, the prior art must enable a person of ordinary skill in the field to make and use the later invention."[34] At the same time, however, a prior art reference need not itself be enabling in order to qualify as prior art for the purpose of determining obviousness; "it qualifies as prior art, regardless, for whatever is disclosed therein."[35] As shown previously, *Sound Blaster* expressly taught a musical work file format with a header containing title, file identification and composer name information.

General MIDI in combination with *Sound Blaster* enabled one of ordinary skill in the art to practice claims 7 and 21 of the '274 patent, because an ordinarily skilled artisan upon reading the publications would have understood that success could be achieved merely by replicating the system and method for composing and playing back musical work files taught in *General MIDI* and then incorporating the teachings for one of the musical work file formats containing a header that included title, file identification and composer information described in *Sound Blaster*.

For at least the foregoing reasons, the combination of *General MIDI* and *Sound Blaster* enabled one of ordinary skill in the art to practice claims 7 and 21 of the '274 patent.

C. Combined, *General MIDI* and Thomas M. Levergood et al., *AudioFile: A Network-Transparent System for Distributed Audio Applications* rendered obvious claims 28-45 of the '274 patent.

[Appendix B].

[34] *In re Kumar*, 418 F.3d 1361, 1369 (Fed. Cir. 2005).

[35] *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1357 (Fed. Cir. 2003) (citing *Symbol Tech., Inc. v. Opticon, Inc.*, 935 F.2d 1569, 1578 (Fed. Cir. 1991)); *see also* MPEP § 2121 (8th ed., rev. 6, Sept. 2007).

The disclosures of *General MIDI* combined with the disclosure of *AudioFile* rendered obvious claims 28-45 of the '274 patent. *AudioFile* is an article authored by Thomas M. Levergood et al. that was published approximately four years before the '274 patent application was filed. It described a software system and method for providing continuous downloading and playback of audio data in real-time. Specifically, *AudioFile* described receiving and playing downloadable-in-real-time musical data as claimed in claims 28-45 of the '274 patent. Thus, the combination of *General MIDI* with *Sound Blaster* rendered obvious claims 28-45 of the '274 patent.

1. *AudioFile* qualifies as 102(b) prior art.

AudioFile was published in conjunction with the June 21-25, 1993 USENIX Conference in Cincinnati, Ohio. *AudioFile* was presented at the USENIX conference[36] and published more than one year prior to July 11, 1997, the priority filing date of the application that led to the '274 patent. Therefore, *AudioFile* qualifies as prior art under 35 U.S.C. § 102(b).

2. Combined, *General MIDI* and *AudioFile* disclosed every limitation of claims 28-45 of the '274 patent.

As detailed above, *General MIDI* expressly disclosed a player system and method that receives "a musical work file containing downloadable-in-real-time topology information, downloadable-in-real-time music sequence data, and a sound bank which includes at least one downloadable-in-real-time instrument sound" as claimed in independent claims 28, 36, 44 and 45 as well as the limitations of dependent claims 29-35 and 37-43 of the '274 patent. In addition, as

[36] *See AudioFile* at Table of Contents ("Thursday (2:00 – 3:30) … Session Chair: Nathaniel Borenstein … AudioFile: A Network-Transparent System for Distributed Audio Applications") [Appendix C].

detailed herein, *General MIDI* combined with *AudioFile* rendered obvious claims 28-45 of the '274 patent.

AudioFile is a detailed enabling disclosure of how to implement "real-time" downloading and playback of audio data. *AudioFile* described a system for real-time downloading and playback with four main components: (1) The Protocol – a wire protocol that links the server with client applications over local and network communication channels; (2) Client Library and Applications Programming Interface – provide a means for applications to generate protocol requests and to communicate with the server using a procedural interface; (3) The Server – mediates access to audio hardware devices and exports the device-independent interface to clients; and (4) Clients – applications which make the system immediately useable and which serve as illustrations for more complex applications.[37]

Specifically, *AudioFile* disclosed a portable, device-independent, network-transparent system for computer audio systems that provided continuous downloading and playback of audio data in real-time implemented by buffering future playback and recent record data in the server:

> ***AudioFile is a portable, device-independent, network-transparent system for computer audio systems***. Similar to the X Window System, it provides an abstract audio device interface with a simple network protocol to support a variety of audio hardware and multiple simultaneous clients. ***AudioFile emphasizes client handling of audio data and permits exact control of timing***. This paper describes our approach to digital audio, the AudioFile protocol, the client library, the audio server, and some example client applications.[38]
>
> ***The server maintains input and output buffers for each audio device. A periodic update task moves samples between the server buffers and the audio hardware.*** Figure 3 illustrates the server record and play buffers before and after the update task executes. ***At each invocation, the update task moves new record data (since recLastUpdate) from the hardware buffer to the server***

[37] *AudioFile* at pp. 219-20 [Appendix C].

[38] *AudioFile* at Abstract (emphasis added) [Appendix C].

> ***buffer, and moves the next batch of playback data (starting at the "before" timeNextUpdate) from the server buffer to the hardware buffer***. Finally, the update task initializes the end of the server buffer with silence.[39]

AudioFile accomplished continuous downloading and playback of audio data in real-time by tagging all audio recording and playback operations with time values that were directly associated with the relevant audio hardware – audio device time. *AudioFile* discussed numerous potential computer clocks to measure time, and implemented the audio sample rate clock:

> A simple desktop system might have four different clocks: time-of-day, interval timer, display refresh, and audio. Each computer system in a network has its own clocks. Time-of-day clocks may be synchronized with protocols such as NTP [9], but we are not aware of any systems that keep the other clocks synchronized. In principle, it is possible to use any clock for audio. ***Because we wanted to be able to specify audio data down to the individual sample, we chose to use the audio sample rate clock. The server maintains a representation of this clock in a "time register" for scheduling all audio events for the particular device***.[40]

In *AudioFile*, the explicit control of time provided the mechanism required for continuous downloading and playback of audio data in real-time. Because each play request carried an exact timestamp, future downloading and playback of the data could be buffered in the server, and continuous, real-time playback is achieved by merely advancing the requested audio device time by the duration of the previous request:

> ***Each play and record request carries with it an exact timestamp. The abstraction is implemented by buffering future playback and recent record data in the server. Continuous recording or playback is done by advancing the requested device time by the duration of the previous request***.[41]

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[39] *AudioFile* at p. 225 (emphasis added) [Appendix C].

[40] *AudioFile* at p. 221 (emphasis added) [Appendix C].

[41] *AudioFile* at p. 221 (emphasis added) [Appendix C].

> ***Explicit control of time provides the mechanism needed for real-time applications. As long as the play requests reach the server before their start times, playback will be continuous.*** A leisurely application will schedule playback well in the future, while a ***real-time application will schedule for the very near future.***[42]

Thus, *AudioFile* explicitly described and taught one of ordinary skill in the art how to continuously download and playback audio data in real-time.

Strikingly, in contrast, the '274 patent provides no substantive disclosure of how to receive and play downloadable-in-real-time musical data. For computer-related inventions, "[t]he specification should disclose ***how*** to configure a computer to possess the requisite functionality or ***how*** to integrate the programmed computer with other elements of the invention, unless a skilled artisan would know how to do so without such disclosure."[43] Since the '274 patent provided neither the disclosure required to configure a computer system to receive and play downloadable-in-real-time musical data nor the disclosure required to integrate the programmed computer with other elements of the invention to perform receiving and playing downloadable-in-real-time musical data as claimed,[44] presumably a skilled artisan would have known how to do so without such disclosure. Thus, the explicit disclosure in the *AudioFile* reference provides more than the required disclosure for purposes of enablement.

During prosecution of the '274 patent, the "downloadable-in-real-time" limitation was added to independent claims 28, 36, 44, and 45 to distinguish them from the prior art and

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[42] *AudioFile* at p. 221 (emphasis added) [Appendix C].

[43] MPEP § 2106 (8th ed., rev. 4, May 2004).

[44] *See* '274 patent specification [Exhibit A]; '274 File History (Serial No. 08/891,580), 9/22/98 Amendment, at pp. 6-8 (emphasis added) [Exhibit N].

overcome an obviousness rejection. Applicant argued that receiving "downloadable-in-real-time sound data" was not found in the prior art:

> Because the claimed player system of the invention can ***receive downloadable-in-real-time sound data***, the player system allows for "*modification of an infinite variety of custom instrument or non-instrument sounds*" (page 4, lines 11-13, emphasis added) immediately or during music playback. In contrast, the *Sato* karaoke system is a "fixed" system and *Sato* does not teach, suggest, or make obvious downloadable-in-real-time sound data that enables flexibility (through modification) and customization.[45]

However, as detailed above, *AudioFile* disclosed receiving "downloadable-in-real-time" data, and, *General MIDI* disclosed the player system and method claimed in claims 28-45. But for amending the claims to include the "downloadable-in-real-time" limitation, independent claims 28, 36, 44, and 45, and dependent claims 29-35 and 37-43, depending from claims 28 and 36, respectively, would not have issued. Therefore, the teachings of *General MIDI* in combination with *AudioFile* rendered obvious claims 28-45 of the '274 patent.

Attached hereto as Exhibit D is a chart that shows, on a claim-by-claim and limitation-by-limitation basis, how *General MIDI* in combination with *AudioFile* rendered obvious claims 28-45 of the '274 patent.

3. A person of ordinary skill in the art would have been motivated to combine *General MIDI* with *AudioFile*.

Like the '274 patent, *General MIDI* relates to the field of computer music, namely, systems and methods for generating, distributing, storing, and performing musical work files. As suggested and described in *General MIDI*, previous computer music systems were designed to

[45] *See* '274 File History (Serial No. 08/891,580), 9/22/98 Amendment, at p. 8 (emphasis added) [Exhibit N].

play either audio or MIDI, but the move toward downloadable instruments bridged the dichotomy between audio and MIDI:

> The move toward ***downloadable instruments*** offers special advantages to the game and content designer. ***Until now there has been a dichotomy between audio and MIDI. You used either one or the other.... In the context of definable instruments, however, the lines start to blur***.[46]

Furthermore, *General MIDI* suggested and described the use of MIDI as a "general control system for audio" by installing sound waves into the synthesizer:

> By easily ***installing waves into the synthesizer***, the user or sound designer ***can play audio*** without the system interruption that might be caused by having to play waves from disk using standard techniques. In effect, ***MIDI becomes a general control system for audio*** by offering real-time parametric control over stereo voices and their manipulation via the sequence.[47]

AudioFile relates to a portable, device-independent, network-transparent system for computer audio systems that provides continuous downloading and playback for general audio data in real-time. As discussed in *AudioFile*, the AudioFile system has been used for many desktop audio applications:

> Since its original implementation, ***AudioFile has been used for many applications and experiments with desktop audio***. These applications include ***audio recording, playback***, video conferencing, answering machines, voice mail, telephone control, speech recognition, and speech synthesis.[48]

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[46] *General MIDI* at p. 189 (emphasis added) [Appendix A].

[47] *General MIDI* at p. 189 (emphasis added) [Appendix A].

[48] *AudioFile* at p. 219 (emphasis added) [Appendix C].

Moreover, the *AudioFile* distribution includes a number of client programs, including applications for recording, playback and signal processing. One of these applications is called aplay, which reads and plays digital audio files or sound files:

> ***aplay reads digital audio from a file or standard input and sends it to the server for playback.*** aplay can serve as the core of a sound-clip browser or voice mail program or as the final stage in a signal processing pipeline.... ***aplay handles only "raw" sound files but could be easily extended to handle popular sound file formats***.[49]

Thus, *AudioFile* described a system for transmitting, distributing, and playing back the same type of audio data that *General MIDI* required to create downloadable instruments and to make MIDI a "general control system for audio."

When considering the obviousness of a combination of known elements, the operative question is: "whether the improvement is more than the predictable use of prior art elements according to their established functions."[50] As *KSR* explained, a combination is obvious when it creates no synergy, i.e., when the two technologies "in combination [do] no more than they would in separate, sequential operation" or when the applicant "simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement."[51]

Thus, it was entirely predictable to combine the system and method for composing and playing back musical work files disclosed in *General MIDI* with the software system and method for providing continuous downloading and playback of audio data in real-time described in

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[49] *AudioFile* at p. 228 (emphasis added) [Appendix C].

[50] *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007); *see also* MPEP § 2141 (8th ed., rev. 6, Sept. 2007).

[51] *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007).

AudioFile. The combination of *General MIDI* with *AudioFile* was nothing more than the predictable use of known prior art elements according to their established functions.

The recent *KSR* decision cautions against applying the "teaching-suggestion-motivation" test in an overly rigid manner.[52] However, the motivation to combine *General MIDI* with *AudioFile* was so strong that it satisfied even the strictest application of this standard. *AudioFile* taught, suggested, and made obvious continuous downloading and playback of audio data in real-time, which enabled flexibility of a musical composition and playback system, such as the system described in *General MIDI*, through modification and customization.[53] Thus, for at least the foregoing reasons, one of ordinary skill in the art would have been motivated to combine the teachings of *General MIDI* with the teachings of *AudioFile*.

4. *General MIDI* combined with *AudioFile* enabled claims 28-45 of the '274 patent.

"To render a later invention unpatentable for obviousness, the prior art must enable a person of ordinary skill in the field to make and use the later invention."[54] At the same time, however, a prior art reference need not itself be enabling in order to qualify as prior art for the purpose of determining obviousness; "it qualifies as prior art, regardless, for whatever is disclosed therein."[55]

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[52] *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007); *see also* MPEP § 2141 (8th ed., rev. 6, Sept. 2007).

[53] *See* '274 File History (Serial No. 08/891,580), 9/22/98 Amendment, at p. 8 (emphasis added) [Exhibit N].

[54] *In re Kumar*, 418 F.3d 1361, 1369 (Fed. Cir. 2005).

[55] *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1357 (Fed. Cir. 2003) (citing *Symbol Tech., Inc. v. Opticon, Inc.*, 935 F.2d 1569, 1578 (Fed. Cir. 1991)); *see also* MPEP § 2121 (8th ed., rev. 6, Sept. 2007).

AudioFile described a system for computer audio including the AudioFile protocol, the client library, the audio server, and some example client applications. *AudioFile* explicitly taught one of ordinary skill in the art how to continuously download and playback audio data in real-time. Thus, *AudioFile* is a detailed, enabling disclosure of how to implement "real-time" downloading and playback of audio data.

As shown above, *General MIDI* expressly disclosed a system and method for playing back musical work files. *General MIDI* in combination with *AudioFile* enabled one of ordinary skill in the art to practice claims 28-45 of the '274 patent, because an ordinarily skilled artisan upon reading the publications would have understood that success could be achieved merely by replicating the system and method for playing back musical work files taught in *General MIDI* and then incorporating the teachings for continuous downloading and playback of audio data in real-time described in *AudioFile*.

For at least the foregoing reasons, the combination of *General MIDI* and *AudioFile* enabled one of ordinary skill in the art to practice claims 28-45 of the '274 patent.

D. U.S. Patent No. 5,734,119 (France) anticipates claims 1-6, 9-20, 23-34, 36-42, and 44-45 of the '274 patent.

France disclosed a system and method for creating a data file that accurately represented synthesized music containing both music control signals and instrument sounds, transmitting, and playing back this file over the Internet[56] – the same as is claimed in the '274 patent. The application that led to *France* was filed before the '274 patent application was filed and

[56] *France* at 1:15-21 ("This invention relates to the transmission and immediate playback of synthesized music over a limited bandwidth medium such as the Internet. More particularly, it relates to a method of creating, on a server, a data file that accurately represents synthesized music in a compressed format and transferring this file to an Internet client using a streaming protocol.") [Appendix D].

described much of what is disclosed and claimed in the '274 patent. *France* anticipated claims 1-6, 9-20, 23-34, 36-42, and 44-45 of the '274 patent.

1. *France* qualifies as 102(e) prior art.

The application that led to *France* was filed on Dec. 19, 1996. *France* was issued on March 31, 1998, titled "Method For Streaming Transmission of Compressed Music." Because the effective U.S. filing date for *France* was before the priority filing date of the '274 patent, and the inventive entity of *France* is different than that of the '274 patent, *France* can be applied against the claims of the '274 patent under 35 U.S.C. § 102(e). Therefore, *France* qualifies as 35 U.S.C. § 102(e) prior art.

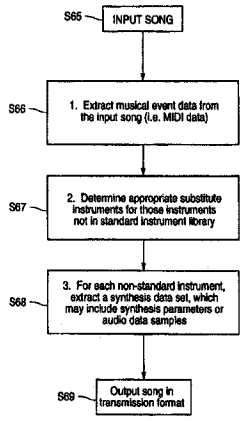
2. *France* expressly disclosed every limitation of claims 1-6, 9-20, 23-34, 36-42, and 44-45 of the '274 patent.

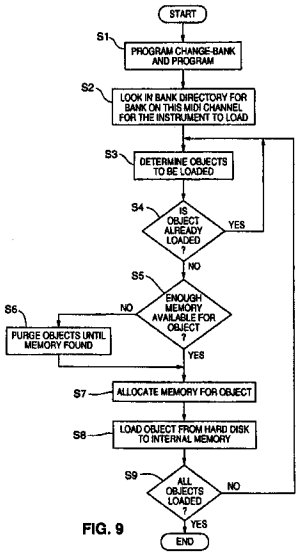
France expressly disclosed a composition system and method directed to a system for creating a "musical work file" which included "music control signals" and at least a portion of a "sound bank containing at least one instrument sound" as claimed in claims 1-6, 9-20, and 23-27 of the '274 patent. Means-plus-function claim 26 is also expressly disclosed because *France* described a composition system that performed the same function specified in the claims as well as the same or equivalent corresponding structure for that function[57] as disclosed in the '274 patent specification, namely a central processing unit.[58] The following chart compares claim 1 of the '274 patent with some of the relevant disclosure in *France*:

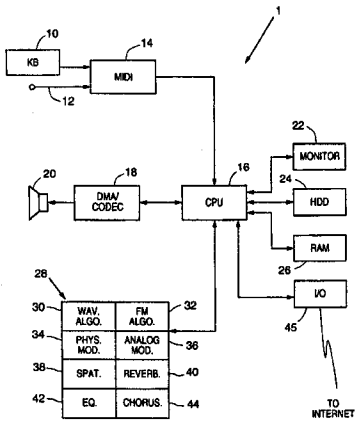
Claim 1 of the '274 patent	*France* reference

[57] MPEP § 2181-83 (8th ed., rev. 6, Sept. 2007).

[58] *See* U.S. Patent No. 5,886,274 at 3:15-40 [Exhibit A]; *France* at 11:30-12-27 [Appendix D]; Claims Construction Order Re Means-Plus-Function Claims, *Seer Systems, Inc. v. Beatnik, Inc.*, No. C 03 4636 JSW (EDL) (N.D. Cal. Mar. 22, 2006) [Exhibit J].

Claim 1 of the '274 patent	***France* reference**
[1.] A composition system comprising:	*France* discloses a composition system: "**The Server-Composer PC is programmed as a music authoring tool with which users compose music on a PC in a very straight forward manner. The output of SSSS Server-Composer is a music data file (referred to hereinafter as a CyberMIDI file or an MDF) which contains all the information to play back identical music on the Client-Player PC using the Sound Synthesis System**. Both the Server-Composer and Client-Player technologies are based on the SSSS described in the aforementioned copending patent application Nos. 08/561,889 and 08/672,096, and are essentially identical." (6:66-7-9) "**The Client-Player PC is a driver-level SSSS playback engine** which responds to CyberMIDI data. The SSSS Client-Player is configured as an "Internet ready" application, fully integrated into a variety of internet browser environment formats, including Netscape Navigator (a trademark of Netscape Communications Inc.) as a Plug-in, Microsoft Explorer as an ActiveX Controls (trademarks of Microsoft, Inc.), and Sun Microsystems' Java (a trademark of Sun Microsystems) as an applet." (6:66-7:33)
[1a.] a sound bank containing at least one instrument sound;	*France* discloses a sound bank (bank directory) containing an instrument sound:  FIG. 2 "FIG. 2 is a flow chart depicting the steps required to encode music according to the present invention." (8:37-38)

Claim 1 of the '274 patent	*France* reference
	 FIG. 9 "FIG. 9 is a flow chart for a PROGRAM CHANGE AND LOADING INSTRUMENTS routine performed by the central processor shown in FIG. 8." (8:55-57) "Referring now more particularly to FIG. **9**, the CPU **16** initially executes the PROGRAM CHANGE AND LOADING INSTRUMENTS routine. This routine is normally carried on in background, rather than in real time. **At step S1 the CPU 16 loads from the HDD 24 the sound synthesizer program, including some data directory (so-called bank directory) files, into the RAM 26. At step S2, the CPU 16 looks in a bank directory of the data on the HDD 24 for the particular group of instruments specified by a MIDI command received from the MIDI circuit 14.**" (12:50-59)
[1b.] an input device for receiving music control signals;	*France* discloses an input device (a real time data input device, e.g., a musical keyboard) for receiving music control signals: "**The SSSS is comprised of a MIDI circuit 14 connected to a real time data input device, e.g. a musical keyboard 10.**" (11:47-48)

Claim 1 of the '274 patent	*France* reference
	 FIG. 8 "FIG. 8 is a block diagram of a SSSS as used in the present invention." (8:53-54) "As will be explained in further detail hereinafter, when **the CPU 16 receives a MIDI command from the MIDI circuit 14 designating a particular key or switch on the keyboard 10 which has been depressed by an operator**, the CPU **16** synthesizes one or more voices for each of the channels in response to the MIDI commands, each of the voices being generated by one or more audio synthesis algorithms **30** including a wavetable algorithm **28**, a frequency modulation algorithm **32**, an analog algorithm **36**, and a physical model algorithm **34**. It is to be understood that although the algorithms **30** are depicted as discrete elements, they are implemented in software. Also, it should be understood that the same algorithm can be used to synthesize voices received on different MIDI channels." (11:66-12:12)
[1c.] a sequencer coupled to the input device for storing the music control signals; and	*France* discloses a sequencer coupled to the input device for storing the music control signals: "**The SSSS is comprised of a MIDI circuit 14 connected to a real time data input device, e.g. a musical keyboard 10. Alternately, the MIDI circuit 14 can be supplied with voice signals from other sources, includes sources, e.g., a sequencer (not shown), within the computer 1.** The term "voice" is used herein as a term of art for audio synthesis and is used generally herein to refer to digital data representing a synthesized musical instrument." (11:47-54)

Claim 1 of the '274 patent	*France* reference

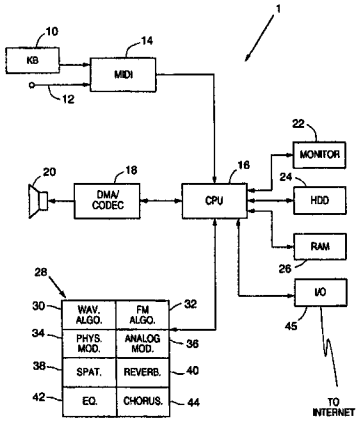


FIG. 8

"FIG. 8 is a block diagram of a SSSS as used in the present invention." (8:53-54)

The sequencer stores music control signals:

"A **Sequencing Module** 226 provides the capability to **capture notes** in a live performance and edit them, as will be described below. **The sequencing code 226 also provides the capability to load and play MIDI files** from an external source, like the Internet 110. These files can also be edited, as will be described below." (10:56-61)

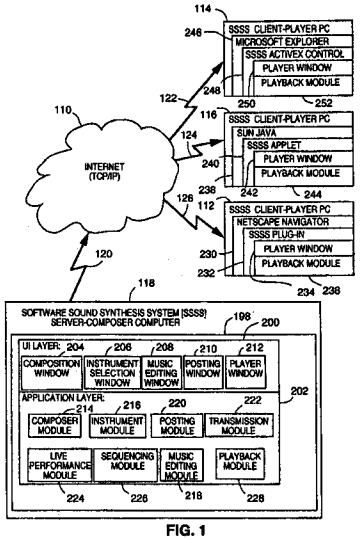
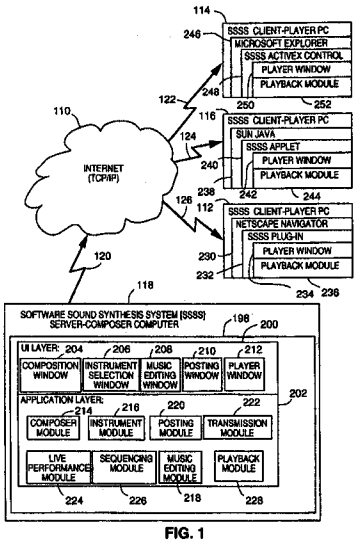
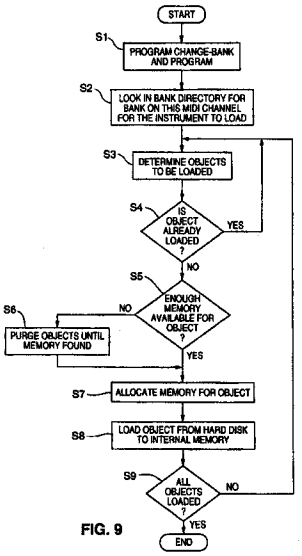
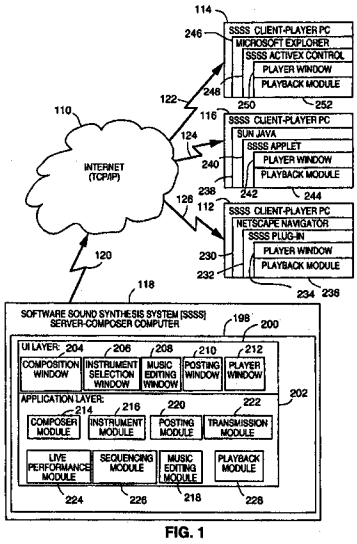


FIG. 1

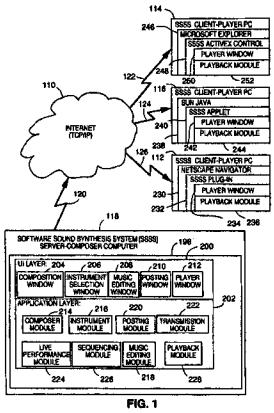
"FIG. 1 is a block diagram depicting a system for streaming transmission of

Claim 1 of the '274 patent	*France* reference
	enhanced MIDI commands over the Internet." (8:34-36)
[1d.] a work manager coupled to the sound bank and to the sequencer for generating a musical work file containing the music control signals and at least a portion of the sound bank.	*France* discloses a work manager (Server-Composer computer music authoring tool program) for generating a musical work file (CyberMIDI MDF) containing music control signals and at least a portion of the sound bank (bank directory): "In the preferred embodiment, the Server-Composer computer 118 includes a music file stored in its storage medium 24 that has been encoded according to the procedure depicted in FIG. 2, which will be explained further herein. As an Internet server, the Server-Composer computer 118 is available to any other network protocol address. **The Server-Composer computer 118 includes a music authoring tool 198 which allows composition of music on a PC in an intuitive manner. It is this program that can generate the encoded music data file which contains all the information necessary to playback identical music on a Client-Player PC 112.**" (9:46-59) "A Posting Module 220 provides the capability to assign the CyberMIDI MDF to an icon in the developer's Internet 110 web page. Referring to FIG. 5, **the MDF consists of MIDI data 132, synthesis voicing parameters 130, and wavetable content 134.**" (11:1-4)  FIG. 1 "FIG. 1 is a block diagram depicting a system for streaming transmission of enhanced MIDI commands over the Internet." (8:34-36) The work manager is coupled to the sound bank (bank directory):

Claim 1 of the '274 patent	*France* reference
	"The SSSS Server-Composer computer 118 authoring user interface (UI) 200 is simple, easy-to-use, and graphically based. The primary windows include (1) a 'clip music' style composition window 204, **(2) an instrument selection window 206 which includes being able to switch instruments while the music is playing**, (3) an editing music window 208 which allows drag-and-drop editing of notes on a music staff, and (4) a posting window 210 which allows a music data file to be posted as an icon on a web page, and (5) a player window 212 which allows control of the playback of the music data file." (9:65-10:8) "An Instrument Module 216 provides the **capability to select any instrument** to be assigned to any MIDI channel being played. The selection can be made in real-time such that the music changes while the user is listening." (10:43-46)  FIG. 9 "FIG. 9 is a flow chart for a PROGRAM CHANGE AND LOADING INSTRUMENTS routine performed by the central processor shown in FIG. 8." (8:55-57) "Referring now more particularly to FIG. **9**, the CPU **16** initially executes the PROGRAM CHANGE AND LOADING INSTRUMENTS routine. This routine is normally carried on in background, rather than in real time. **At step S1 the CPU 16 loads from the HDD 24 the sound synthesizer program, including some data directory (so-called bank directory) files, into the RAM 26.** At step S2, the CPU 16 looks in a **bank directory** of the data on the HDD 24 for the particular group of instruments specified by a MIDI command received from the MIDI circuit 14." (12:50-59)

Claim 1 of the '274 patent	*France* reference
	The work manager (Server-Composer computer music authoring tool program) is also coupled to the sequencer: "**The SSSS Server-Composer computer 118 authoring user interface (UI) 200 is simple, easy-to-use, and graphically based. The primary windows include (1) a 'clip music' style composition window 204,** (2) an instrument selection window 206 which includes being able to switch instruments while the music is playing, (3) an editing music window 208 which allows drag-and-drop editing of notes on a music staff, and (4) a posting window 210 which allows a music data file to be posted as an icon on a web page, and (5) a player window 212 which allows control of the playback of the music data file." (9:65-10:8) "A **Sequencing Module** 226 provides the capability to **capture notes** in a live performance and edit them, as will be described below. **The sequencing code 226 also provides the capability to load and play MIDI files** from an external source, like the Internet 110. These files can also be edited, as will be described below." (10:56-61)  FIG. 1 "FIG. 1 is a block diagram depicting a system for streaming transmission of enhanced MIDI commands over the Internet." (8:34-36)

France also expressly disclosed a player system that receives "a musical work file containing downloadable-in-real-time topology information, downloadable-in-real-time music sequence data, and a sound bank which includes at least one downloadable-in-real-time instrument sound" claimed in claims 28-34, 36-42, and 44-45 of the '274 patent. Means-plus-function claim 44 is also expressly disclosed because *France* described a player system that performs the same function specified in the claims as well as the same or equivalent corresponding structure for that function[59] as disclosed in the '274 patent specification, namely a central processing unit.[60] The following chart compares claim 28 of the '274 patent with some of the relevant disclosure in *France*:

Claim 28 of the '274 patent	***France* reference**
[28.] A player system that can receive and play downloadable-in-real-time musical data, comprising:	*France* discloses a player system that can receive and play downloadable-in-real-time musical data:  FIG. 1 "FIG. 1 is a block diagram depicting a system for streaming transmission of enhanced MIDI commands over the Internet." (8:34-36)

[59] MPEP § 2181-83 (8th ed., rev. 6, Sept. 2007).

[60] *See* U.S. Patent No. 5,886,274 at 6:26-54 [Exhibit A]; *France* at 11:30-12-27 [Appendix D]; Claims Construction Order Re Means-Plus-Function Claims, *Seer Systems, Inc. v. Beatnik, Inc.*, No. C 03 4636 JSW (EDL) (N.D. Cal. Mar. 22, 2006) [Exhibit J].

Claim 28 of the '274 patent	*France* reference
	"Turning to FIG. 1, the present invention is a method for compressing and transferring music data files from a Server-Composer computer 118, over the Internet 110 or any network, to any number of Client-Player personal computers (PCS) 112, 114, 116 such that the transmission time is relatively short because the file size is relatively small and the music begins to play immediately upon arriving at a Client-Player PC 112." (9:19-26)
[28a.] an input terminal for receiving a musical work file containing downloadable-in-real-time topology information, downloadable-in-real-time music sequence data, and a sound bank which includes at least one downloadable-in-real-time instrument sound;	*France* discloses an input terminal (Client-Player PC) for receiving a musical work file (CyberMIDI MDF): **"The output of SSSS Server-Composer is a music data file (referred to hereinafter as a CyberMIDI file or an MDF) which contains all the information to play back identical music on the Client-Player PC using the Sound Synthesis System."** (7:1-5) **"The Client-Player PC is a driver-level SSSS playback engine which responds to CyberMIDI data.** The SSSS Client-Player is configured as an "Internet ready" application, fully integrated into a variety of internet browser environment formats, including Netscape Navigator (a trademark of Netscape Communications Inc.) as a Plug-in, Microsoft Explorer as an ActiveX Controls (trademarks of Microsoft, Inc.), and Sun Microsystems' Java (a trademark of Sun Microsystems) as an applet." (7:25-33) The musical work file (CyberMIDI MDF) contains downloadable-in-real-time topology information (voicing parameters and control information) and downloadable-in-real-time music sequence data (MIDI data): "Referring to FIGS. 3 and 7, the MDF is transferred and processed as follows. The Client-Player 112 first requests music from the Server-Composer PC 118 in step S70. This request is in the form of the Client-Player 112 connecting to the Server-Composer's 118 Internet 110 IP address and then activating the download of a music data file by clicking on an CyberSound MDF icon found on the server's 118 web page. **The server 118 responds in step S71 by beginning to transmit a stream of SSSS voicing parameters encapsulated in system exclusive messages and standard MIDI musical event data. This musical event data is comprised of the second field 132 of the MDF discussed above. The second field 132 includes MIDI event data, substituted-in GM voicing data, and control information."** (21:19-32) "The MIDI data is in MIDI Standard 1.0 Format and is subdivided and ordered such that upon step S72, where the Client-Player 112 begins to receive the musical event data stream, the first segments of the MIDI data initiate immediate Client-Player 112 playback in step S73. **Meanwhile, the remainder of the MIDI data and encapsulated SSSS voicing parameters continue to be transmitted and received. Data is received substantially faster than it is audibly reproduced, thereby requiring buffering of the**

Claim 28 of the '274 patent	*France* reference
	received MDF, and allowing instantaneous playback upon receipt while the voicing parameters 130 are processed to create all but the wavetable custom voices." (21:33-44) The musical work file (CyberMIDI MDF) also contains a sound bank which includes at least one downloadable-in-real-time instrument sound: "For any non-standard wavetable instruments, the initial segments received include a special back-to-back sequence of **standard MIDI bank change** 418, 430 and program change voicing assignment commands that will indicate to the Client-player PC 112 that a GM voice is being substituted-in for a **custom wavetable voice whose synthesis data will follow later in the MDF.**" (22:4-10)
[28b.] a synthesizer capable of adding downloadable-in-real-time sounds, said synthesizer being coupled to the input terminal for processing the music sequence data based on the topology information and the sound bank; and	*France* discloses a synthesizer capable of adding downloadable-in-real-time sounds: "As will be explained in further detail hereinafter, when the CPU 16 receives a MIDI command from the MIDI circuit 14 designating a particular key or switch on the keyboard 10 which has been depressed by an operator, **the CPU 16 synthesizes one or more voices for each of the channels in response to the MIDI commands, each of the voices being generated by one or more audio synthesis algorithms 30 including a wavetable algorithm 28, a frequency modulation algorithm 32, an analog algorithm 36, and a physical model algorithm 34**. It is to be understood that although the algorithms 30 are depicted as discrete elements, they are implemented in software." (11:66-12:10) "The Playback Module 236, 244, 252 is driver level code which responds to the MDF. It is implemented as a Netscape Navigator Plug-In 232, a Microsoft Explorer ActiveX Control 248, and a Java applet 240. As discussed above it has a minimal user interface, but **does include effects processing and the additional SSSS synthesis types, i.e., analog synthesis, FM synthesis, and physical modeling. It also includes a 32-bit sequence player to trigger the synthesis playback engine.**" (23:20-28) Synthesizer is coupled to the input terminal for processing the music sequence data (MIDI data) based on the topology information (voicing parameters and control information) and the sound bank (bank directory): "The MIDI data is in MIDI Standard 1.0 Format and is subdivided and ordered such that upon step S72, where the Client-Player 112 begins to receive the musical event data stream, the first segments of the MIDI data initiate immediate Client-Player 112 playback in step S73. **Meanwhile, the remainder of the MIDI data and encapsulated SSSS voicing parameters continue to be transmitted and received. Data is received substantially faster than it is audibly reproduced, thereby requiring buffering of the received MDF, and allowing instantaneous playback upon receipt while the voicing parameters 130 are processed to create all but the wavetable custom voices.**" (21:33-44)

Claim 28 of the '274 patent	*France* reference
	"At step S1 the CPU 16 loads from the HDD 24 the **sound synthesizer program**, including some data directory (so-called bank directory) files, into the RAM 26. At step S2, the CPU 16 looks in a **bank directory** of data on the HDD 24 for the **particular group of instruments specified by the MIDI command** received from the MIDI circuit 14." (12:53-59)
[28c.] a speaker system coupled to the synthesizer for converting the processed music sequence data to sound.	*France* discloses a speaker system (music reproducing system) coupled to the synthesizer for converting the processed music sequence data (MIDI data) to sound: "The MIDI circuit 14 supplies digital commands in real time asynchronously over a plurality of channels to a **central processing unit (CPU) 16** which stores them in a circular buffer. **The CPU 16 is connected to a direct memory access (DMA) buffer/CODEC circuit 18 which is connected, in turn, to an audio transducer circuit, e.g. a speaker circuit 20 which is represented in the figure as a speaker but should be understood as representative of a music reproducing system including amplifiers, etc.** Also connected to the CPU and controlled by it are a display monitor 22, a hard disk drive (HDD) 24, and a random access memory (RAM) 26." (11:55-65)

Attached hereto as Exhibit E is a chart that maps the relevant disclosures of *France* to the claims of the '274 patent, on a claim-by-claim and limitation-by-limitation basis. Exhibit E confirms that *France* expressly disclosed claims 1-6, 9-20, 23-34, 36-42, and 44-45 of the '274 patent.

3. *France* is enabled.

Prior art patents are presumed enabled.[61] *France* is an issued prior art patent; therefore, it is presumed enabled. Furthermore, *France* is enabled because a skilled person upon reading the patent would have understood that success could be achieved merely by replicating the systems and methods described. *France* provided at least the same level of disclosure – arguably more detailed – as compared with that found in the '274 patent. Therefore, *France* is enabled.

E. Combined, U.S. Patent No. 5,734,119 (France) and U.S. Patent No. 5,521,323 (Paulson) rendered obvious claims 7, 8, 21, 22, 35, and 43 of the '274 patent.

[61] *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 457 F.3d 1293, 1305 (Fed. Cir. 2006).

The disclosures of *France* combined with the disclosure of *Paulson* rendered obvious claims 7, 8, 21, 22, 35, and 43 of the '274 patent. The application that led to *Paulson* was filed more than four years before the '274 patent application was filed. *Paulson* generally disclosed a system and method for providing coordinate accompaniment for a musical performance, whereby a musical work file is created containing both music control signals and instrument sounds, and which is then played back. Specifically, *Paulson* described a musical work file format that met all the claimed elements of claims 7 and 21 as well as a means to protect musical work file data from unauthorized access that met all the claimed elements of claims 8, 22, 35, and 43. Thus, the combination of *France* with *Paulson* rendered obvious claims 7, 8, 21, 22, 35, and 43 of the '274 patent.

1. *Paulson* qualifies as 102(b) prior art.

The application that led to U.S. Patent 5,521,323 (Paulson) was filed on May 21, 1993. *Paulson* was issued on May 28, 1996, titled "Real-Time Performance Score Matching." *Paulson* was published more than one year prior to July 11, 1997, the priority filing date of the application that led to the '274 patent. Therefore, *Paulson* qualifies as prior art under 35 U.S.C. § 102(b).

2. Combined, *France* and *Paulson* disclosed every limitation of claims 7, 8, 21, 22, 35, and 43 of the '274 patent.

As shown above, *France* disclosed a system and method for creating a data file that accurately represented synthesized music containing both music control signals and instrument sounds, transmitting, and playing back this file over the Internet[62] – the same function as the '274 claims.

[62] *France* at 1:15-21 [Appendix D].

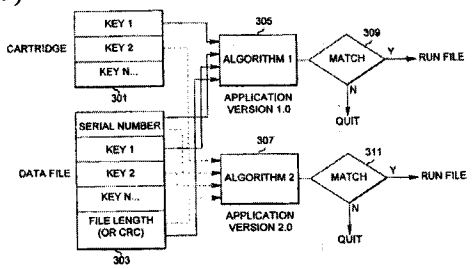
Similarly, *Paulson* described a system and method for providing coordinate accompaniment for a musical performance, whereby a musical work file was created containing both music control signals and instrument sounds and played back. *Paulson* disclosed a musical work file called a "repertoire file" that included information such as composer information, composition information, and a terms and symbols file.[63] Thus, *Paulson* taught the claim limitation of claims 7 and 21: "wherein the header includes a title, a serial number, and a composer's name." In addition, *Paulson* also taught the limitation of claims 8 and 22: "certifying the musical work file" and the limitation of related claims 35 and 43: "certifying rights of the player system." *Paulson* disclosed a system processor with a data cartridge and data protection algorithm to protect repertoire file data content from unauthorized access as well as an application software program for certifying the rights of the player system to convert the processed music sequence to sound.

As shown above, *France* expressly disclosed claims 1, 6, 16, 20, 28, and 36 which are the claims from which claims 7, 8, 21, 22, 35, and 43 depend. The following charts illustrate how the combination of *France* with *Paulson* rendered obvious claims 7 and 21, as well as claims 8, 22, 35, and 43 of the '274 patent:

Claims 7 and 21 of the '274 patent	***Paulson* reference**
[7.] A composition system of claim 6 **wherein the header includes a title, a serial number, and a composer's name.**	*Paulson* discloses a file format generated with a header including composition title, other identification, and composer's name information: "A **repertoire data file** contains music, control, and **information segments**. The music segments include the music note sequence and preset information; the control segments include music marks, time signature, instrumentation,

[63] *Paulson* at 8:47-56 [Appendix E].

Claims 7 and 21 of the '274 patent	*Paulson* reference
[21.] The method of claim 20 **wherein the header includes a title, a serial number, and a composer's name.**	automated accompaniment, and **user option information; the information segments include composer biography, composition, performance information, and other terms and symbols.**" (2:3-10)

Claims 8, 22, 35, and 43 of the '274 patent	*Paulson* reference
[8.] The composition system of claim 1 wherein the work manager includes a work certifier for **certifying the musical work file.**	*Paulson* disclosed a work manager including a work certifier (encryption key and data protection algorithm) for certifying the musical work file and a certifier (application software program) for certifying the rights of the player system to convert the processed music sequence to sound: **"A data cartridge 505 is used to prevent unauthorized copying of content 503."** (4:34-35)
[22.] The method of claim 16 further comprising the step of **certifying the musical work file.**	 Fig. 3 "FIG. 3 is a flow diagram showing an **encryption key and algorithm** selection process according to the present invention." (2:25-27)
[35.] The player system of claim 28 further comprising a certifier for **certifying rights of the player system to convert the processed music sequence to sound.**	"FIG. 3 illustrates the **data protection algorithm used to protect repertoire data content 503 from unauthorized access.** A series of data encryption keys 305 to be used with a predetermined number of encryption algorithms 305, 307 are stored within the data cartridge 505. A data file 303, stored in content file 503 contains a serial number value, a file length or cyclical redundancy check (CRC) value, and a predetermined series of target data keys each generated from the serial number and file length or CRC value by each of the encryption data keys 301 and each of the predetermined number of encryption algorithms 305, 307. **An application software program executing on the workstation 111 has one of the**

Claims 8, 22, 35, and 43 of the '274 patent	*Paulson* reference
[43.] The method of claim 36 further comprising the step of **certifying rights of the player system to convert the processed music sequence to sound.**	**predetermined number of encryption algorithms 305, 307 encoded within it. When a repertoire data file is to be used, the application software program extracts the serial number and the file length value from it, selects one of the data encryption data keys 301 from the data cartridge, and uses the pre-encoded encryption algorithm 305, 307 contained within the program to generate a resultant key value. At 309, 311 the resultant key value is compared to each of the target key values contained within the data file 303. If one of the target key values matches the resultant key value, the data file is run; otherwise, execution terminates."** (4:49-5:10)

Attached hereto as Exhibit F is a chart that shows, on a claim-by-claim and limitation-by-limitation basis, how *France* in combination with *Paulson* rendered obvious claims 7, 8, 21, 22, 35, and 43 of the '274 patent.

3. A person of ordinary skill in the art would have been motivated to combine *France* with *Paulson*.

When considering the obviousness of a combination of known elements, the operative question is: "whether the improvement is more than the predictable use of prior art elements according to their established functions."[64] As *KSR* explained, a combination is obvious when it creates no synergy, i.e., when the two technologies "in combination [do] no more than they would in separate, sequential operation" or when the applicant "simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement."[65]

Headers were common features of musical work file formats long before the filing of the application that led to issuance of the '274 patent. It was known to a person of ordinary skill in

[64] *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007); *see also* MPEP § 2141 (8th ed., rev. 6, Sept. 2007).

[65] *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007).

the art that musical work file information be organized in "chunks" to promote flexibility and improve consistency and compatibility across platforms.[66] Indeed, as early as 1996, the specification for Standard MIDI 1.0 files disclosed a file format including a header chunk that enabled track names and other descriptive information to be stored with the MIDI data.[67] Similarly, *Paulson* described a musical work file that contained a header, which included title, file identification and composer information.

Moreover, because headers were such common features of musical work file formats prior to the issuance of the '274 patent, one of ordinary skill in the art could have taken the teachings of the *France* reference in combination with his or her own knowledge of the art and been in possession of the alleged invention.[68]

Additionally, as described in *Paulson*, it was known to one of skill in the art prior to issuance of the '274 patent that certifying a musical work file to prevent unauthorized access of musical work file data could be achieved by implementing a data cartridge and data protection algorithm system to certify permission to access the file.

Thus, it was entirely predictable to combine the system and method disclosed in *France* with the musical work file format and musical work file protection system described in *Paulson*. The combination of *France* with *Paulson* was nothing more than the predictable use of known prior art elements according to their established functions.

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[66] *See, e.g.,* David Kaplowitz & David Battino, *MIDI Rocks the Web*, Music & Computers, Mar./Apr. 1997, at p. 29 [Exhibit L].

[67] *See* The Complete MIDI 1.0 Detailed Specification: Standard MIDI Files 1.0, Version 96.1, at pp. 1-4 (2nd ed. 1996) [Exhibit M].

[68] *See In re Graves*, 69 F.3d 1147, 1152 (Fed. Cir. 1995), *cert. denied*, 517 U.S. 1124 (1996).

The recent *KSR* decision cautions against applying the "teaching-suggestion-motivation" test in an overly rigid manner.[69] However, the motivation to combine *France* with *Paulson* was so strong that it satisfied even the strictest application of this standard. *France* and *Paulson* both expressly addressed the exact same subject matter: the creation and playback of musical work files. Thus, for at least the foregoing reasons, one of ordinary skill in the art would have been motivated to combine the teachings of *France* with the teachings of *Paulson.*

4. *France* combined with *Paulson* enabled claims 7, 8, 21, 22, 35, and 43 of the '274 patent.

"To render a later invention unpatentable for obviousness, the prior art must enable a person of ordinary skill in the field to make and use the later invention."[70] At the same time, however, a prior art reference need not itself be enabling in order to qualify as prior art for the purpose of determining obviousness; "it qualifies as prior art, regardless, for whatever is disclosed therein."[71] Prior art patents are presumed enabled.[72] Since *France* and *Paulson* are both prior art patents, both are presumed enabled. Furthermore, *France* and *Paulson* are enabled because a skilled person upon reading these patents would have understood that success could be achieved merely by replicating the systems and methods described. Both *France* and *Paulson* provided at least the same level of disclosure as compared with that found in the '274 patent. Therefore, *France* and *Paulson* are both enabled.

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[69] *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007); *see also* MPEP § 2141 (8th ed., rev. 6, Sept. 2007).

[70] *In re Kumar*, 418 F.3d 1361, 1369 (Fed. Cir. 2005).

[71] *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1357 (Fed. Cir. 2003) (citing *Symbol Tech., Inc. v. Opticon, Inc.*, 935 F.2d 1569, 1578 (Fed. Cir. 1991)); *see also* MPEP § 2121 (8th ed., rev. 6, Sept. 2007).

[72] *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 457 F.3d 1293, 1305 (Fed. Cir. 2006).

As shown previously, *Paulson* expressly taught a musical work file format containing a header including title, file identification and composer name information as set forth in claims 7 and 21 of the '274 patent as well as a work certifier limitation as set forth in claims 8, 22, 35, and 43 of the '274 patent via a system processor with a data cartridge and data file protection algorithm.

France in combination with *Paulson* enabled one of ordinary skill in the art to practice claims 7, 8, 21, 22, 35, and 43 of the '274 patent, because an ordinarily skilled artisan upon reading the prior art patents would have understood that success could be achieved merely by replicating the system and method for composing and playing back musical work files taught in *France* and then incorporating the teachings in *Paulson* relating to musical work file formats with header information including title, identification and composer information as well as the *Paulson* teachings relating to musical work file protection.

For at least the foregoing reasons, the combination of *France* and *Paulson* enabled one of ordinary skill in the art to practice claims 7, 8, 21, 22, 35, and 43 of the '274 patent.

F. U.S. Patent No. 5,521,323 (Paulson) anticipated claims 1-9, 11-14, 16-23, 25-28, 30-33, 35-36, 38-41, and 43-45 of the '274 patent.

Paulson described a system and method for providing coordinate accompaniment for a musical performance, whereby a musical work file was created containing both music control signals and instrument sounds and played back – analogous to what is claimed in the '274 patent. The application that led to *Paulson* was filed more than four years before the '274 patent application was filed and described much of what is disclosed and claimed in the '274 patent. *Paulson* anticipated claims 1-9, 11-14, 16-23, 25-28, 30-33, 35-36, 38-41, and 43-45 of the '274 patent.

1. *Paulson* qualifies as 102(b) prior art.

As shown above, *Paulson* is a prior art patent under 35 U.S.C. § 102(b).

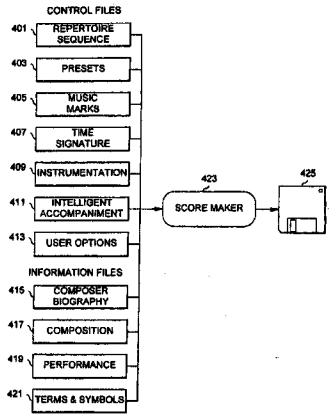
2. *Paulson* expressly disclosed every limitation of claims 1-9, 11-14, 16-23, 25-28, 30-33, 35-36, 38-41, and 43-45 of the '274 patent.

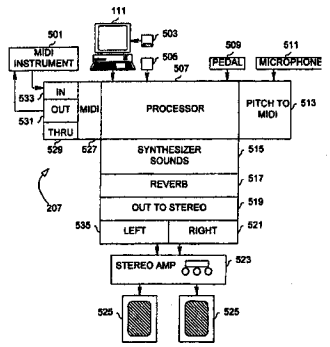
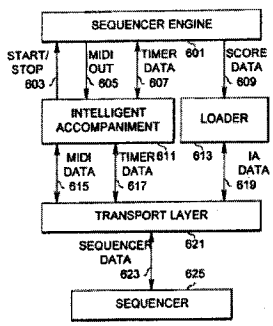
Paulson expressly disclosed a composition system and method directed to a system for creating a "musical work file" which included "music control signals" and at least a portion of a "sound bank containing at least one instrument sound" as claimed in claims 1-9, 11-14, 16-23, and 25-27 of the '274 patent. Means-plus-function claim 26 was also expressly disclosed because *Paulson* described a composition system that performed the same function specified in the claims as well as the same or equivalent corresponding structure for that function[73] as disclosed in the '274 patent specification, namely a central processing unit.[74] The following chart compares claim 1 of the '274 patent with some of the relevant disclosure in *Paulson*:

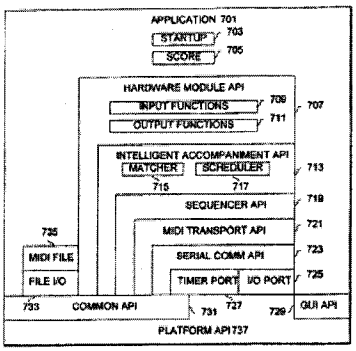
Claim 1 of the '274 patent	***Paulson* reference**
[1.] A composition system comprising:	*Paulson* discloses a composition system: "**A system for interpreting the requests and performance of an instrument soloist, stated in the parlance of the musician and within the context of a specific published edition of music the soloist is using, to control the performance of a digitized music accompaniment**. Sound events and their associated attributes are extracted from the soloist performance and are numerically encoded. The pitch, duration and event type of the encoded sound events are then compared to a desired sequence of the performance score to determine if a match exists between the soloist performance and the performance score. If a match exists between the soloist performance and the performance score, **the system instructs a music synthesizer module to provide an audible accompaniment for the soloist. The system can provide an accompaniment** for a selectable amount of time even if the soloist intentionally or unintentionally departs from the score." (Abstract)
[1a.] a sound bank containing at least	*Paulson* discloses a sound bank (instrumentation file) containing instrument sounds:

[73] MPEP § 2181-83 (8th ed., rev. 6, Sept. 2007).

[74] *See* U.S. Patent No. 5,886,274 at 3:15-40 [Exhibit A]; *Paulson* at 4:21-34 [Appendix E]; Claims Construction Order Re Means-Plus-Function Claims, *Seer Systems, Inc. v. Beatnik, Inc.*, No. C 03 4636 JSW (EDL) (N.D. Cal. Mar. 22, 2006) [Exhibit J].

Claim 1 of the '274 patent	*Paulson* reference
one instrument sound;	"**The repertoire data file contains music, control, and information segments. The music segments include the music note sequence and preset information**; the control segments include music marks, time signature, **instrumentation**, automated accompaniment, and user option information; the information segments include composer biography, composition, performance information, and other terms and symbols." (2:3-10) "The files are classified as either control files or information files. The control files used by the application are preferably **a repertoire sequence file 401 for the actual music accompaniment files**, a presets file 403 for synthesizer presets, a music marks file 405 for rehearsal marks and other music notations, a time signature file 407 for marking the number of measures in a piece, whether there is a pickup measure, where time signature changes occur, and the number of beats in the measure as specified by the time signature, **an instrumentation file 409 to turn accompanying instruments on or off**, an automated accompaniment file 411 to set the default regions for automated accompaniment on or off (where in the music the accompaniment will listen to and follow the soloist), and a user options file 413 to transpose instruments and to set fine adjustments made to the timing mechanisms." (8:33-47)  Fig. 4 "FIG. 4 is a block diagram of a file structure according to the present invention." (2:29-30)
[1b.] an input device for receiving music control signals;	*Paulson* discloses an input device (a musical instrument digital interface (MIDI) compatible instrument) for receiving music control signals: "**A high level view of the hardware module 207 for a preferred Automated accompaniment system is given in FIG. 5. Optionally, a musical instrument digital interface (MIDI) compatible instrument 501 is connected to a processor 507 through a MIDI controller 527 having an input port 533, output port 531, and a through port 529. The MIDI instrument 501 may connect directly to the Automated accompaniment system.** Alternatively, a microphone 511 may be connected to a pitch-to-MIDI converter 513 which in turn is connected to processor 507." (4:21-30)

Claim 1 of the '274 patent	*Paulson* reference
	"Once the processor 507 has the soloist input and musical performance score content 503, the digital signals for an appropriate accompaniment are generated and then typically sent to a synthesizer module 515. The synthesizer interprets the digital signals and provides an analog sound signal which has reverberation applied to it by a reverb unit 517." (4:35-41)  Fig. 5 "FIG. 5 is a block diagram of the high level hardware organization of an accompaniment system according to the present invention." (2:31-2:33)
[1c.] a sequencer coupled to the input device for storing the music control signals; and	*Paulson* discloses a sequencer coupled to the input device (a musical instrument digital interface (MIDI) compatible instrument): "The data flow between logical elements of a preferred Automated accompaniment system is described in FIG. 6. **A sequencer engine 601 outputs MIDI data based at the current tempo and current position within the musical performance score, adjusts the current tempo based on a tempo map, sets a sequence position based on a repeats map, and filters out unwanted instrumentation.**" (5:15-20) "**The sequencer engine 601 typically receives musical note start and stop data 603 and timer data 607 from an Automated accompaniment module 611**, and sends corresponding MIDI out data 605 back to the Automated accompaniment module 611. **The sequencer engine 601 further sends musical score data 609 to a loader 613 which sends and receives such information as presets, reverb settings, and tunings data 619 to and from the transport layer 621.**" (5:20-28)  Fig. 6

Claim 1 of the '274 patent	*Paulson* reference
	"FIG. 6 is a block diagram of a high level data flow overview according to the present invention." (2:23-35) Sequencer stores the music control signals: "A **sequencer API 719** comprises a superset of and is derived from the MIDI transport API 721 and provides **basic MIDI sequencer capabilities** such as loading or **saving a file**, playing a file including start, stop, and pause functions, positioning, muting, and tempo adjustment. An Automated accompaniment API 713 comprises a superset of and is derived from the sequencer API 719 and adds Automated accompaniment matching capabilities to the sequencer. A hardware module API 707 having input functions 709 and output functions 711 comprises a superset of and is derived from the Automated accompaniment API 713 and adds the hardware module protocol to the object. The Automated accompaniment application 701 is the main platform independent application containing functions to respond to user commands and requests and to handle and display data." (5:52-67)  Fig. 7 "FIG. 7 is a block diagram of a high level interface between software modules according to the present invention." (2:36-37)
[1d.] a work manager coupled to the sound bank and to the sequencer for generating a musical work file containing the music control signals and at least a portion of the sound bank.	*Paulson* discloses a work manager (computerized score maker software tool) coupled to the sound bank (instrumentation file) and to the sequencer: "**A computerized score maker software tool 423 makes the musical performance score and assembles all control and information data files into a single repertoire file 425.**" (8:53-56)

Claim 1 of the '274 patent	*Paulson* reference

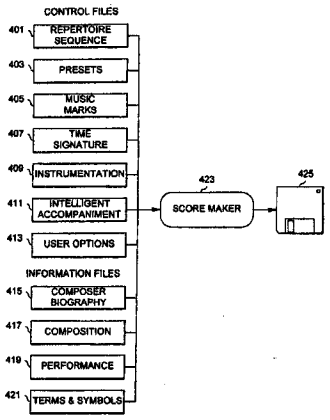


Fig. 4

"FIG. 4 is a block diagram of a file structure according to the present invention." (2:29-30)

"The sequencer engine 601 typically receives musical note start and stop data 603 and timer data 607 from an Automated accompaniment module 611, and sends corresponding MIDI out data 605 back to the Automated accompaniment module 611. **The sequencer engine 601 further sends musical score data 609** to a loader 613 which sends and receives such information as presets, reverb settings, and tunings data 619 to and from the transport layer 621. The transport layer 621 further sends and receives MIDI data 615 and timer data 617 to and from the Automated accompaniment module 611. **A sequencer 625 can preferably send and receive sequencer data 623, which includes MIDI data 615**, timer data 617, and Automated accompaniment data 619, to and from the Automated accompaniment system through the transport layer 621." (5:20-34)

Musical work file (repertoire file) contains music control signals and at least a portion of the sound bank (instrumentation file):

"A **repertoire file** is preferably composed of a number of smaller files as shown in FIG. 4. These files are typically tailored individually for each piece of music. The files are classified as either control files or information files. The control files used by the application are preferably a **repertoire sequence file 401** for the **actual music accompaniment files**, a presets file 403 for synthesizer presets, a music marks file 405 for rehearsal marks and other music notations, a time signature file 407 for marking the number of measures in a piece, whether there is a pickup measure, where time signature changes occur, and the number of beats in the measure as specified by the time signature, **an instrumentation file 409 to turn accompanying instruments on or off**, an automated accompaniment file 411 to set the default regions for automated accompaniment on or off (where in the music the accompaniment will listen to and follow the soloist), and a user options file 413 to transpose instruments and to set fine adjustments made to the timing mechanisms. The information files used by the application are preferably a composer biography file 415 for

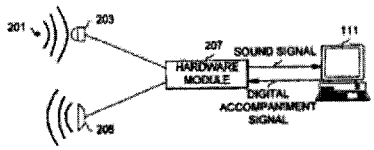
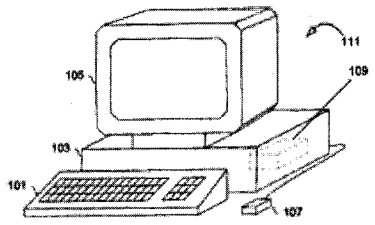
Claim 1 of the '274 patent	*Paulson* reference
	information about the composer, a composition file 417 for information about the composition, a performance file 419 containing performance instructions, and a terms and symbols file 421 containing the description of any terms used in the piece." (8:30-53)

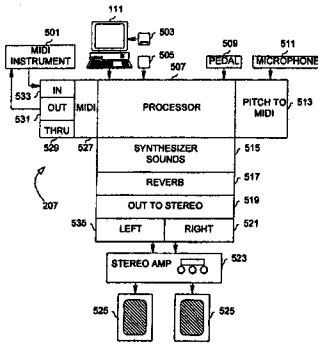
Paulson also expressly disclosed a player system and method that receives "a musical work file containing downloadable-in-real-time topology information, downloadable-in-real-time music sequence data, and a sound bank which includes at least one downloadable-in-real-time instrument sound" as claimed in claims 28, 30-33, 35-36, 38-41, and 43-45 of the '274 patent. Means-plus-function claim 44 is also expressly disclosed because *Paulson* described a player system that performed the same function specified in the claims as well as the same or equivalent corresponding structure for that function[75] as disclosed in the '274 patent specification, namely a central processing unit.[76] The following chart compares claim 28 of the '274 patent with some of the relevant disclosure in *Paulson*:

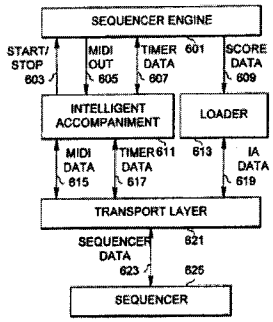
Claim 28 of the '274 patent	*Paulson* reference
[28.] A player system that can receive and play downloadable-in-real-time musical data, comprising:	*Paulson* discloses a player system that can receive and play downloadable-in-real-time musical data: "The present invention provides **a system and method for a comparison between a performance and a performance score in order to provide coordinated accompaniment with the performance**. A system with generally the same objective is described in U.S. Pat. No. 4,745,836, issued May 24, 1988, to Dannenberg, which is hereby incorporated by reference." (3:53-59) "The intelligent accompaniment of the present invention corrects for a pitch-to-MIDI conversion delay or other system delays by **altering the**

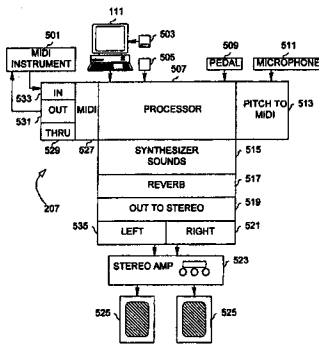
[75] MPEP § 2181-83 (8th ed., rev. 6, Sept. 2007).

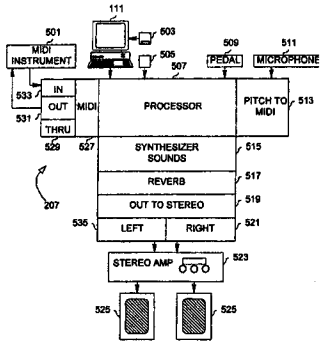
[76] *See* U.S. Patent No. 5,886,274 at 6:26-54 [Exhibit A]; *Paulson* at 4:21-34 [Appendix E]; Claims Construction Order Re Means-Plus-Function Claims, *Seer Systems, Inc. v. Beatnik, Inc.*, No. C 03 4636 JSW (EDL) (N.D. Cal. Mar. 22, 2006) [Exhibit J].

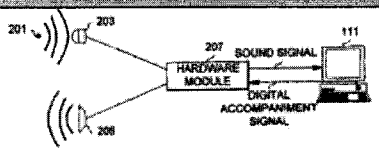
Claim 28 of the '274 patent	*Paulson* reference
	accompaniment in real-time based upon the post-processing of past individual events of the soloist performance." (8:13-17) "**A presets data file 403 for a score is preferably in the standard MIDI Type 1 file format.** The presets are downloaded to the hardware module 207 (FIG. 2) for each score. No error checking is typically done on the format of the presets data file." (8:62-67)  Fig. 2 "FIG. 2 is a block diagram of the high level logical organization of an accompaniment system according to the present invention." (2:22-24) "Expected Note List. **While a score is playing** (and if the workstation is in FollowPerformer mode) the workstation Automated accompaniment software 109 will **send ExpectNotes**, a list of the next group of melody notes to expect. The hardware module 207 **responds with ExpectNotesReceived**. This will allow a pitch follower module within the hardware 207 to filter out extraneous notes. **Since ExpectNotes is sent continuously during playback, this message and response will determine if the hardware module 207 is still connected and functioning**." (12:65-13:7)
[28a.] an input terminal for receiving a musical work file containing downloadable-in-real-time topology information, downloadable-in-real-time music sequence data, and a sound bank which includes at least one downloadable-in-real-time instrument sound;	*Paulson* discloses an input terminal (computer workstation) for receiving a musical work file (repertoire data file): "**FIG. 1 shows the components of a computer workstation 111 that may be used with the system. The workstation includes a keyboard 101 by which a user may input data into a system, a computer chassis 103 which holds electrical components and peripherals, a screen display 105 by which information is displayed to the operator, and a pointing device 107, typically a mouse, with the system components logically connected to each other via internal system bus within the computer. Automated accompaniment software which provides control and analysis functions to additional system components connected to the workstation is executed [by] a central processing unit 109 within the workstation 111.**" (3:60-4:4)  Fig. 1 "FIG. 1 is a perspective view of the components of a digital computer

Claim 28 of the '274 patent	*Paulson* reference
	according to the present invention." (2:20-21) "**Once the processor 507 has the soloist input and musical performance score content 503, the digital signals for an appropriate accompaniment are generated and then typically sent to a synthesizer module 515. The synthesizer interprets the digital signals and provides an analog sound signal which has reverberation applied to it by a reverb unit 517.**" (4:35-41)  Fig. 5 "FIG. 5 is a block diagram of the high level hardware organization of an accompaniment system according to the present invention." (2:31-33) A musical work file (repertoire file) containing downloadable-in-real-time topology information (voicing parameters and control information, e.g., tempo map, repeats map, timer data) and downloadable-in-real-time music sequence data (MIDI data): "A **repertoire file** is preferably composed of a number of smaller files as shown in FIG. 4. These files are typically tailored individually for each piece of music. The files are classified as either control files or information files. The control files used by the application are preferably a **repertoire sequence file 401** for the **actual music accompaniment files**, a presets file 403 for synthesizer presets, a music marks file 405 for rehearsal marks and other music notations, a time signature file 407 for marking the number of measures in a piece, whether there is a pickup measure, where time signature changes occur, and the number of beats in the measure as specified by the time signature, **an instrumentation file 409 to turn accompanying instruments on or off**, an automated accompaniment file 411 to set the default regions for automated accompaniment on or off (where in the music the accompaniment will listen to and follow the soloist), and **a user options file 413 to transpose instruments and to set fine adjustments made to the timing mechanisms**. The information files used by the application are preferably a composer biography file 415 for information about the composer, a composition file 417 for information about the composition, a performance file 419 containing performance instructions, and a terms and symbols file 421 containing the description of any terms used in the piece." (8:30-53)

Claim 28 of the '274 patent	*Paulson* reference
	"The data flow between logical elements of a preferred Automated accompaniment system is described in FIG. 6. **A sequencer engine 601 outputs MIDI data based at the current tempo and current position within the musical performance score, adjusts the current tempo based on a tempo map, sets a sequence position based on a repeats map, and filters out unwanted instrumentation. The sequencer engine 601 typically receives musical note start and stop data 603 and timer data 607 from an Automated accompaniment module 611**, and sends corresponding MIDI out data 605 back to the Automated accompaniment module 611. **The sequencer engine 601 further sends musical score data 609 to a loader 613 which sends and receives such information as presets, reverb settings, and tunings data 619 to and from the transport layer 621.**" (5:15-28)  Fig. 6 "FIG. 6 is a block diagram of a high level data flow overview according to the present invention." (2:23-35) And, a sound bank (instrumentation file) which includes downloadable-in-real-time instrument sound: "A **repertoire file** is preferably composed of a number of smaller files as shown in FIG. 4. These files are typically tailored individually for each piece of music. The files are classified as either control files or information files. The control files used by the application are preferably a **repertoire sequence file 401** for the **actual music accompaniment files**, a presets file 403 for synthesizer presets, a music marks file 405 for rehearsal marks and other music notations, a time signature file 407 for marking the number of measures in a piece, whether there is a pickup measure, where time signature changes occur, and the number of beats in the measure as specified by the time signature, **an instrumentation file 409 to turn accompanying instruments on or off**, an automated accompaniment file 411 to set the default regions for automated accompaniment on or off (where in the music the accompaniment will listen to and follow the soloist), and **a user options file 413 to transpose instruments and to set fine adjustments made to the timing mechanisms**. The information files used by the application are preferably a composer biography file 415 for information about the composer, a composition file 417 for information about the composition, a performance file 419 containing performance instructions, and a terms and symbols file 421 containing the

Claim 28 of the '274 patent	*Paulson* reference
	description of any terms used in the piece." (8:30-53) "**The intelligent accompaniment of the present invention corrects for a pitch-to-MIDI conversion delay or other system delays by altering the accompaniment in real-time** based upon the post-processing of past individual events of the soloist performance." (8:13-17)
[28b.] a synthesizer capable of adding downloadable-in-real-time sounds, said synthesizer being coupled to the input terminal for processing the music sequence data based on the topology information and the sound bank; and	*Paulson* discloses a synthesizer capable of adding downloadable-in-real-time sounds, which is coupled to the input terminal (computer workstation): "**Once the processor 507 has the soloist input and musical performance score content 503, the digital signals for an appropriate accompaniment are generated and then typically sent to a synthesizer module 515. The synthesizer interprets the digital signals and provides an analog sound signal which has reverberation applied to it by a reverb unit 517.**" (4:35-41)  Fig. 5 "FIG. 5 is a block diagram of the high level hardware organization of an accompaniment system according to the present invention." (2:31-33) Synthesizer processes the music sequence data (MIDI data) based on topology information (voicing parameters and control information, e.g., NoteOn, NoteOff, Preset, PitchBend, etc.): "**Synthesizer Data Stream (Workstation → Hardware Module). The score sequence for the hardware module's synthesizer will be standard MIDI Channel Voice Messages. (NoteOn, NoteOff, Preset, PitchBend, etc.)**" (13:8-11) Synthesizer processes the music sequence data (MIDI data) based on the sound bank (instrumentation file): "**The repertoire data file contains music, control, and information segments. The music segments include the music note sequence and preset information**; the control segments include music marks, time signature, **instrumentation**, automated accompaniment, and user option information; the information segments include composer biography, composition, performance

Claim 28 of the '274 patent	*Paulson* reference
	information, and other terms and symbols." (2:3-10) "The main user options module 1207 receives program commands and invokes an **instrumentation module** 1607 allowing a user to **select differing instrumentations** for jazz idoms as shown in FIG. 31, and non jazz idioms as showing in FIG. 30" (7:58-62) **"The intelligent accompaniment of the present invention corrects for a pitch-to-MIDI conversion delay or other system delays by altering the accompaniment in real-time** based upon the post-processing of past individual events of the soloist performance." (8:13-17)
[28c.] a speaker system coupled to the synthesizer for converting the processed music sequence data to sound.	*Paulson* discloses a speaker system coupled to the synthesizer: "Once the processor 507 has the soloist input and musical performance score content 503, **the digital signals for an appropriate accompaniment are generated and then typically sent to a synthesizer module 515. The synthesizer interprets the digital signals and provides an analog sound signal which has reverberation applied to it by a reverb unit 517**. The analog sound signal is sent through a stereo module 519 which splits the signal into a left channel 535 and a right channel 521, which then typically are sent through a stereo signal amplifier 523 and which then can be heard through **speakers** 525." (4:35-45)  Fig. 5 "FIG. 5 is a block diagram of the high level hardware organization of an accompaniment system according to the present invention." (2:31-33) The processed music sequence data (MIDI data) is converted into sound: "**The digital accompaniment signal is then sent back to the hardware module 207 where the digital signal is converted to an analog sound signal which is then typically applied to a speaker 205**. It will be recognized that the **sound signal** may be processed within the hardware module 207 without departing from the invention. It will further be recognized that other sound generation means such as headphones may be substituted for the **speaker 205**." (4:12-20)

Claim 28 of the '274 patent	*Paulson* reference
	 Fig. 2 "FIG. 2 is a block diagram of the high level logical organization of an accompaniment system according to the present invention." (2:22-24)

Attached hereto as Exhibit G is a chart that maps the relevant disclosures of *Paulson* to the claims of the '274 patent, on a claim-by-claim and limitation-by-limitation basis. Exhibit G confirms that *Paulson* expressly disclosed claims 1-9, 11-14, 16-23, 25-28, 30-33, 35-36, 38-41, and 43-45 of the '274 patent.

3. *Paulson* is enabled.

Prior art patents are presumed enabled.[77] *Paulson* is an issued prior art patent; therefore, it is presumed enabled. Furthermore, *Paulson* is enabled because a skilled person upon reading the patent would have understood that success could be achieved merely by replicating the systems and methods described. Moreover, *Paulson* provided at least the same level of disclosure – arguably more detailed – as compared with that found in the '274 patent. Therefore, *Paulson* is enabled.

G. Combined, U.S. Patent No. 5,521,323 (Paulson) and *General MIDI* rendered obvious claims 10, 15, 24, 29, 34, 37, and 42 of the '274 patent.

1. *General MIDI* qualifies as 102(b) prior art

As shown above, *General MIDI* is a prior art publication under 35 U.S.C. § 102(b).

2. Combined, *Paulson* and *General MIDI* disclosed every limitation of claims 10, 15, 24, 29, 34, 37, and 42 of the '274 patent.

[77] *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 457 F.3d 1293, 1305 (Fed. Cir. 2006).

Paulson described a system and method for providing coordinate accompaniment for a musical performance, whereby a musical work file was created containing both music control signals and instrument sounds and then played back. Similarly, *General MIDI* described a composition system and method for composing and playing back musical work files, whereby a musical work file was created containing music control signals and instrument sounds – the same function as the '274 claims. *Paulson* combined with *General MIDI* disclosed every limitation of claims 10, 15, 24, 29, 34, 37, and 42 of the '274 patent.

Claims 10, 15, and 24 of the '274 patent contain essentially similar claim limitations: "wherein the music control signals include a work link, and the data I/O engine further stores the work link to the musical work file." "Work links" have been defined as "references to musical data."[78] *General MIDI* taught a composition system wherein the MIDI data (musical control signals) pointed to all the custom instrument information contained in the banks of sound, drum kits, and effects the instruments need to be heard correctly, expressively, and uniquely. The sequencer further stored the custom sound, drum kit, and effects bank identities to the Standard MIDI file (SMF) as "meta-events."[79] Additionally, *General MIDI* disclosed all the claims from which claims 10, 15, and 24 depend.[80] Therefore, as illustrated in the chart below, *General MIDI* disclosed the limitations of claims 10, 15, and 24.

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[78] *See* Claims Construction Order, *Seer Systems, Inc. v. Beatnik, Inc.*, No. C 03 4636 JSW (EDL) (N.D. Cal. Sept. 20, 2005) [Exhibit I].

[79] *General MIDI* at p. 190 [Appendix A].

[80] Claim 10 depends upon claims 1 and 9. Claim 15 depends upon claims 1 and 14. Claim 24 depends upon 16, 22, and 23. *General MIDI* expressly disclosed claims 1-6, 8-20 and 22-45 of the '274 patent. *See* Exhibit B.

Claims 10, 15, and 24 of the '274 patent	*General MIDI* reference
[10.] The composition system of claim 9 **wherein the music control signals include a work link, and the data I/O engine further stores the work link to the musical work file.**	*General MIDI* discloses music control signals including work links (SMF meta-events) and the data I/O engine stores the work link to the musical work file (SMF with its custom banks): "**The composer saves the custom sound, drum kit, and effects bank identities as SMF "meta-events." The new Scores therefore point to all the custom instrument information they need to be heard correctly, expressively, and uniquely. They may call for many banks of sounds, drum kits, and effects. The user obtains the SMF together with its custom banks and opens the sequence into the player or sequencer. When the player loads the sequence, it learns what sounds are needed and confirms that the sounds are somewhere in the active banks (or, I suppose, posts a notice about any missing).** The player ideally examines the SMF to determine what kind of file it is and automatically selects the correct output channels to ensure that redundant (Base + Extended) data are not sent to the synthesizer. **After configuring the channels, the player asks the synthesizer about its capabilities and tells the synthesizer what instruments are needed. The synthesizer provides for and requests whatever custom sounds it can accommodate, accessing the active banks, and uses defaults for the rest.** With this idea, rather than being unrealistically pressed to sound identical, synthesizers can compete on the size of their RAM above a certain minimum; on their ability to support as wide a range of sounds and effects as possible; on fidelity; and on the intelligence of their algorithms in dealing with the given cost constraints and other boundary conditions." (p. 190)
[15.] The composition system of claim 14 **wherein the music control signals include a work link specifying a location storing work link data; the data I/O engine further stores the work link to the musical work file;** and the synthesizer engine retrieves the work link data stored at the location specified by the work link.	
[24.] The method of claim 23 **wherein the music control signals include a work link, and further including the step of storing the work link to the musical work file.**	

Claims 29 and 37 of the '274 patent contain similar claim limitations wherein the player system and method for playing a musical work file includes "a CD drive." *General MIDI* disclosed a player system and method for playing a musical work file wherein the distribution method for MIDI music may be CD-ROMs or networks.[81] Additionally, *General MIDI*

[81] *General MIDI* at p. 172 [Appendix A].

disclosed all of the claims from which claims 29 and 37 depend.[82] Therefore, as illustrated in the chart below, *General MIDI* disclosed the claim limitations in claims 29 and 37.

[82] Claim 29 depends upon claim 28. Claim 37 depends upon claim 36. *General MIDI* expressly disclosed claims 1-6, 8-20 and 22-45 of the '274 patent. *See* Appendix A.

Claims 29 and 37 '274 patent	***General MIDI* reference**
[29.] The player system of claim 28 wherein the input terminal includes a **CD drive**.	*General MIDI* discloses distribution of work files via a CD drive: "MIDI music wants to go more mainstream but cannot afford all the advertising because the price also has to come down. It is too speculative for most people to spend $99 on floppies of unknown quality. **For these reasons the catalyzing distribution method for this technology may well be CD-ROMs or networks.**" (p. 172)
[37.] The method of claim 36 comprising the further step of transmitting said musical work file by a **CD drive**.	

Claims 34 and 42 of the '274 patent contain similar claim limitations: "wherein the music sequence data includes a work link specifying a location storing work link data; and the synthesizer engine retrieves the work link data referenced by the work link." *General MIDI* disclosed a player system wherein the synthesizer engine retrieved the work link data referenced by the work link by accessing the active banks.[83] Additionally, *General MIDI* disclosed all the claims from which claims 34 and 42 depend.[84] Therefore, as illustrated in the chart below, *General MIDI* disclosed the claim limitations in claims 34 and 42.

Claims 34 and 42 '274 patent	***General MIDI* reference**
[34.] The player system of claim 31 **wherein the music sequence data includes a work link specifying a location storing work link data;**	*General MIDI* discloses music sequence data (MIDI data) including a work link (SMF meta-events) specifying a location storing work link data (scores point to all the custom instrument information): **"The composer saves the custom sound, drum kit, and effects bank identities as SMF "meta-events." The new Scores therefore point to all the custom instrument information they need to be heard correctly, expressively, and uniquely. They may call for many banks of sounds, drum kits, and effects. The user obtains the SMF together with its custom**

[83] *General MIDI* at p. 190 [Appendix A].

[84] Claim 34 depends upon claim 28 and 31. Claim 42 depends upon claim 36. *General MIDI* expressly disclosed claims 1-6, 8-20 and 22-45 of the '274 patent. *See* Appendix A.

Claims 34 and 42 '274 patent	*General MIDI* reference
and the synthesizer engine retrieves the work link data referenced by the work link.	**banks and opens the sequence into the player or sequencer. When the player loads the sequence, it learns what sounds are needed and confirms that the sounds are somewhere in the active banks** (or, I suppose, posts a notice about any missing)." (p. 190) The synthesizer engine retrieves (accessing the active banks) the work link data referenced by the work link:
[42.] The method of claim 36 wherein the music **sequence data includes a work link specifying a location storing work link data; and further comprising the step of receiving the work link data from the location specified by the work link.**	"The player ideally examines the SMF to determine what kind of file it is and automatically selects the correct output channels to ensure that redundant (Base + Extended) data are not sent to the synthesizer. **After configuring the channels, the player asks the synthesizer about its capabilities and tells the synthesizer what instruments are needed. The synthesizer provides for and requests whatever custom sounds it can accommodate, accessing the active banks, and uses defaults for the rest.** With this idea, rather than being unrealistically pressed to sound identical, synthesizers can compete on the size of their RAM above a certain minimum; on their ability to support as wide a range of sounds and effects as possible; on fidelity; and on the intelligence of their algorithms in dealing with the given cost constraints and other boundary conditions." (p. 190)

Attached hereto as Exhibit H is a chart that shows, on a claim-by-claim and limitation-by-limitation basis, how *Paulson* in combination with *General MIDI* rendered obvious 10, 15, 24, 29, 34, 37, and 42 of the '274 patent.

3. A person of ordinary skill in the art would have been motivated to combine *Paulson* with *General MIDI*.

When considering the obviousness of a combination of known elements, the operative question is: "whether the improvement is more than the predictable use of prior art elements according to their established functions."[85] As *KSR* explained, a combination is obvious when it creates no synergy, i.e., when the two technologies "in combination [do] no more than they

[85] *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007); *see also* MPEP § 2141 (8th ed., rev. 6, Sept. 2007).

would in separate, sequential operation" or when the applicant "simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement."[86]

As described in *General MIDI*, it was known to one of skill in the art prior to issuance of the '274 patent that work links, or references to musical data, stored on the musical work file could point to instrument information contained in sound banks, drum kits, and effects required for playback. In *General MIDI*, the sequencer stored the custom sound, drum kit, and effects bank identities to the musical work file as "meta-events."[87] *General MIDI* also described a player system wherein the synthesizer engine retrieved the work link data referenced by the work link by accessing the sound banks.[88]

CD-ROM drives were common input devices in PC-based musical work file player systems long before the filing of the application that led to issuance of the '274 patent.[89] It was known to one of skill in the art prior to the filing of the application that led to the issuance of the '274 patent that CD-ROM drives were a means to distribute musical work files. Indeed, *General MIDI* described the use of CD-ROMs to distribute musical work files.[90]

Moreover, because work links and CD-ROM drives were such common features of musical work file formats and system of composing and playing back musical work files, respectively, prior to the filing of the application that led to the issuance of the '274 patent, one

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[86] *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007).

[87] *General MIDI* at p. 190 [Appendix A].

[88] *General MIDI* at p. 190 [Appendix A]; *see also* The Complete MIDI 1.0 Detailed Specification: Standard MIDI Files 1.0, Version 96.1, at pp. 7-10 (2nd ed. 1996) [Exhibit M].

[89] *General MIDI* at p. 172 [Appendix A]; *see generally Sound Blaster* at pp. 80-81, 90-91, 226-27, 338-40 [Appendix B].

[90] *General MIDI* at p. 172 [Appendix A].

of ordinary skill in the art could have taken the teachings of the *Paulson* reference in combination with his or her own knowledge of the art and been in possession of the alleged invention.[91]

Thus, it was entirely predictable to combine the system and method disclosed in *Paulson* with the composition and method for composing and playing back musical work files described in *General MIDI*. The combination of *Paulson* with *General MIDI* was nothing more than the predictable use of known prior art elements according to their established functions.

The recent *KSR* decision cautions against applying the "teaching-suggestion-motivation" test in an overly rigid manner.[92] However, the motivation to combine *Paulson* with *General MIDI* was so strong that it satisfied even the strictest application of this standard. *Paulson* and *General MIDI* both expressly addressed the problem of composing and playing back musical work files. Thus, for at least the foregoing reasons, one of ordinary skill in the art would have been motivated to combine the teachings of *Paulson* with the teachings of *General MIDI*.

4. *Paulson* combined with *General MIDI* enabled claims 10, 15, 24, 29, 34, 37, and 42.

"To render a later invention unpatentable for obviousness, the prior art must enable a person of ordinary skill in the field to make and use the later invention."[93] At the same time, however, a prior art reference need not itself be enabling in order to qualify as prior art for the

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[91] *See In re Graves*, 69 F.3d 1147, 1152 (Fed. Cir. 1995), *cert. denied*, 517 U.S. 1124 (1996).

[92] *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007); *see also* MPEP § 2141 (8th ed., rev. 6, 2007).

[93] *In re Kumar*, 418 F.3d 1361, 1369 (Fed. Cir. 2005).

purpose of determining obviousness; "it qualifies as prior art, regardless, for whatever is disclosed therein."[94]

Prior art patents are presumed enabled.[95] *Paulson* is an issued prior art patent; therefore, it is presumed enabled. Furthermore, *Paulson* is enabled because a skilled person upon reading the patent would have understood that success could be achieved merely by replicating the systems and methods described. Moreover, *Paulson* provided at least the same level of disclosure – arguably more detailed – as compared with that found in the '274 patent. Therefore, *Paulson* is enabled.

General MIDI is enabled because a skilled person upon reading the book would have understood that success could be achieved merely by replicating the systems and methods described in the publication. Additionally, *General MIDI* provided a disclosure of at least the same general level of detail as found in the '274 patent.

As shown previously, *General MIDI* expressly taught the work link limitations set forth in claims 10, 15, 24, 34 and 42 of the '274 patent as well as the CD drive limitations set forth in claims 29 and 37 of the '274 patent. *Paulson* in combination with *General MIDI* enabled one of ordinary skill in the art to practice claims 10, 15, 24, 29, 34, 37 and 42 of the '274 patent because an ordinarily skilled artisan upon reading the prior art patent and book would have understood that success could be achieved merely by replicating the system and method for composing and playing back musical work files taught in *Paulson* and incorporating the teachings in *General MIDI* relating to work links and CD drives.

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[94] *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1357 (Fed. Cir. 2003) (citing *Symbol Tech., Inc. v. Opticon, Inc.*, 935 F.2d 1569, 1578 (Fed. Cir. 1991)); *see also* MPEP § 2121 (8th ed., rev. 6, Sept. 2007).

[95] *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 457 F.3d 1293, 1305 (Fed. Cir. 2006).

For at least the foregoing reasons, the combination of *Paulson* and *General MIDI* enabled one of ordinary skill in the art to practice claims 10, 15, 24, 29, 34, 37 and 42 of the '274 patent.

IV. CONCLUSION

In view of the substantial new questions of patentability raised by *General MIDI* (Jungleib), *Sound Blaster* (Heimlich), *AudioFile* (Levergood), *France* (U.S. Patent No. 5,734,119) and *Paulson* (U.S. Patent No. 5,521,323), EFF respectfully submits that a new *ex parte* reexamination should be instituted pursuant to 35 U.S.C. § 304 and claims 1-45 of the '274 patent cancelled as anticipated and obvious.

For the Examiner's convenience, two copies of a CD have been included with this petition. The CD contains electronic copies of this petition and as well as the charts presented in Exhibits B, C, D, E, F, G, and H.

Dated: October 8, 2008

Respectfully Submitted,

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