

FILE HISTORY

09/438,469

INVENTORS: LAWSON A. WOOD , ARLINGTON, VA
(US)

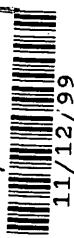
TITLE: METHOD FOR DISTRIBUTING MUSIC
BY PROVIDING PERSONALIZED
SPECIMEN FOR PATTERN
RECOGNITION

APPLICATION NO: 09/438,469

FILED: 1999-11-12

COMPILED: 04 NOV 2014

JC525 U.S. PTO
09/438469



709	203
Class	Subclass
ISSUE CLASSIFICATION	

PATENT NUMBER

U.S. UTILITY PATENT APPLICATION

O.I.P.E. <i>PD</i> SCANNED <i>[initials]</i> Q.A. <i>omul</i>	PATENT DATE
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SECTOR	CLASS <i>709</i>	SUBCLASS <i>24203</i>	ART UNIT <i>2154</i>	EXAMINER <i>W. L. in</i>
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(Attached in pocket on right inside flap)

ABANDONED

PREPARED AND APPROVED FOR ISSUE

ISSUING CLASSIFICATION

ORIGINAL		CROSS REFERENCE(S)					
CLASS	SUBCLASS	CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)				
<i>709</i>	<i>203</i>	<i>709</i>	<i>200</i>				
INTERNATIONAL CLASSIFICATION		<i>705</i>	<i>26</i>	<i>57</i>	<i>51</i>		
<i>G06F</i>	<i>15/16</i>	<i>704</i>	<i>246</i>				

☐ Continued on Issue Slip Inside File Jacket

<input type="checkbox"/> TERMINAL DISCLAIMER	DRAWINGS			CLAIMS ALLOWED	
	Sheets Drwg. <i>6</i>	Figs. Drwg. <i>9</i>	Print Fig. <i>2</i>	Total Claims <i>11</i>	Print Claim for O.G. <i>11</i>
<input type="checkbox"/> a) The term of this patent subsequent to _____ (date) has been disclaimed.	<i>Wen Jan L</i> (Assistant Examiner) <i>5/29/03</i> (Date)			NOTICE OF ALLOWANCE MAILED <i>5/30/03</i>	
<input type="checkbox"/> b) The term of this patent shall not extend beyond the expiration date of U.S. Patent. No. _____	<i>Meng Al T. An</i> SUPERVISORY PATENT EXAMINER TECHNOLOGY CENTER 2100 (Primary Examiner) <i>5/29/03</i> (Date)			ISSUE FEE Amount Due <i>\$650.00</i> Date Paid _____	
<input type="checkbox"/> c) The terminal _____ months of this patent have been disclaimed.	_____ (Legal Instruments Examiner) (Date)			ISSUE BATCH NUMBER	

WARNING:

The information disclosed herein may be restricted. Unauthorized disclosure may be prohibited by the United States Code Title 35, Sections 122, 181 and 368. Possession outside the U.S. Patent & Trademark Office is restricted to authorized employees and contractors only.

Form PTO-436A
(Rev. 10/97)

(LABEL AREA)

METHOD FOR DISTRIBUTING MUSIC BY PROVIDING
PERSONALIZED SPECIMEN FOR PATTERN RECOGNITION

Transaction History

Date	Transaction Description
11/18/1999	Initial Exam Team nn
12/6/1999	IFW Scan & PACR Auto Security Review
12/10/1999	Application Dispatched from OIPE
5/25/2000	Case Docketed to Examiner in GAU
10/6/2000	Case Docketed to Examiner in GAU
8/21/2001	Information Disclosure Statement (IDS) Filed
8/21/2001	Information Disclosure Statement (IDS) Filed
11/27/2001	Case Docketed to Examiner in GAU
5/10/2002	Correspondence Address Change
6/17/2002	Case Docketed to Examiner in GAU
9/13/2002	Non-Final Rejection
9/17/2002	Mail Non-Final Rejection
1/15/2003	Response after Non-Final Action
1/15/2003	Request for Extension of Time - Granted
1/23/2003	Date Forwarded to Examiner
2/10/2003	Final Rejection
2/13/2003	Mail Final Rejection (PTOL - 326)
5/13/2003	Response after Final Action
5/16/2003	Date Forwarded to Examiner
5/21/2003	Examiner Interview Summary Record (PTOL - 413)
5/24/2003	Response after Final Action
5/24/2003	Request for Extension of Time - Granted
5/28/2003	Date Forwarded to Examiner
5/28/2003	Response after Final Action
5/28/2003	Date Forwarded to Examiner
5/29/2003	Formal Drawings Required
5/29/2003	Notice of Allowance Data Verification Completed
5/29/2003	Case Docketed to Examiner in GAU
5/30/2003	Mail Notice of Allowance
5/30/2003	Mail Formal Drawings Required
7/3/2003	Receipt into Pubs
7/7/2003	Workflow - File Sent to Contractor
8/26/2003	Receipt into Pubs
9/30/2003	Mail Abandonment for Failure to Pay Issue Fee
9/30/2003	Abandonment for Failure to Pay Issue Fee

PATENT APPLICATION



09438469

jc525 U.S. PTO

09/438469



11/12/99

INITIALS

NOV 29 1999

CONTENTS

Date received
(Incl. C. of M.)
or
Date Mailed

Date received
(Incl. C. of M.)
or
Date Mailed

1. Application *6 pnts* - papers.

2. *I.D.S. w/ references* 8-21-01

3. *Change of address* 4-29-02

4. *Reg 3ms* 9-17-02

5. *Ext of Time (1)* 01-15-03

6. *Amend A* 01-15-03

7. *Final Reg 3ms* 2-13-03

8. *Amend B & attach* 5-13-03

9. *Amend C & attach* 5-28-03

10. *Amend D* 5-28-03

11. *Ext of Time* 5-30-03

12. *Notice of Abandonment* SEP 30 2003

13. *Request for Access* 8-14-05

14. *Request for Access* 11-24-05

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O.C.
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ISSUE SLIP STAPLE AREA (for additional cross references)

POSITION	INITIALS	ID NO.	DATE
FEE DETERMINATION	NW	7539	11-20-99
O.I.P.E. CLASSIFIER			5 11-29-99
FORMALITY REVIEW		71471	12/8

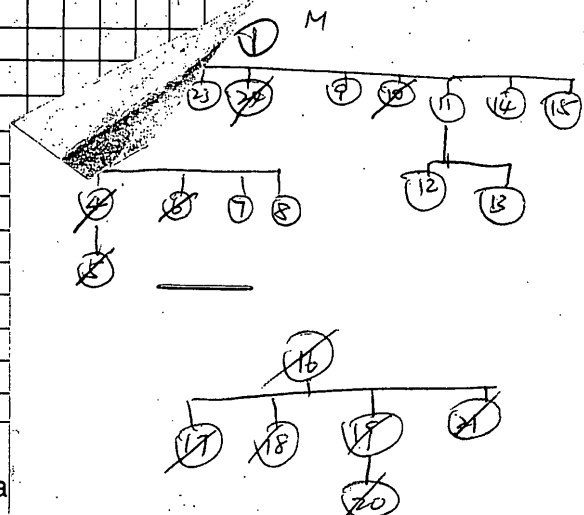
INDEX OF CLAIMS

✓ Rejected N Non-elected
= Allowed I Interference
- (Through numeral) Canceled A Appeal
÷ Restricted O Objected

Claim	Final	Original	Date
1	✓	1	✓
2	✓	2	✓
3	✓	3	✓
4	✓	4	✓
5	✓	5	✓
6	✓	6	✓
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Claim	Final	Original	Date
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Claim	Final	Original	Date
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If more than 150 cla
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Google Ex. 1016

SEARCHED

Class	Sub.	Date	Exmr.
709	200 201 203 217 219		
705	26 27 51	9/6/02	wtel
704	200 231 246		
379	907 406.3 406.2 338 88.01 52		
	updated	Search 2/15/03 5/29/03	wtel wtel

SEARCH NOTES (INCLUDING SEARCH STRATEGY)

	Date	Exmr.
Consulted Hani Kazimi about transferring to 705/27 (denied)	9/6/02	wtel
Consulted Zarni Maung re. classification of claim 1.	9/9/02	wtel
Searched EAST	5/29/03	wtel
Consulted Meng for allowance	5/15/03	wtel

INTERFERENCE SEARCHED

Class	Sub.	Date	Exmr.
709	200 203		
705	26 27 51	5/29/03	wtel
704	200 231 246		

L Number	Hits	Search Text	DB	Time stamp
1	96	(music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/09/09 08:44
2	96	(music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/09/09 08:50
3	0	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and preview with noise	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/09/09 08:51
4	0	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and preview with (corrupt\$3 or distort\$3)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/09/09 08:52
5	0	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and preview with isolated with (clip or sample or segment or portion or part or snippet)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/09/09 08:53
6	0	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and isolated with (clip or sample or segment or portion or part or snippet)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/09/09 08:54
7	38	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and preview with (clip or sample or segment or portion or part or snippet)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/09/09 08:58
8	16	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and watermark\$3	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/09/09 08:55
9	12	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and preview with (clip or sample or segment or portion or part or snippet) and (((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and watermark\$3)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/09/09 08:58
12	9	((("5745556") or ("6057884") or ("5734719") or ("5794217") or ("5874686") or ("5918213") or ("5694334") or ("5613060") or ("6400996"))).PN.	USPAT	2002/09/09 09:02
13	12	(((((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and preview with (clip or sample or segment or portion or part or snippet)) and (((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and watermark\$3)) not (((("5745556") or ("6057884") or ("5734719") or ("5794217") or ("5874686")) or ("5918213") or ("5694334") or ("5613060") or ("6400996"))).PN.)	USPAT	2002/09/09 09:02
-	2380	((704/246) or (704/231) or (704/200) or (455/563) or (455/550) or (455/73) or (379/907) or (379/406.03) or (379/406.02) or (379/338) or (379/88.01) or (379/52)).CCLS.	USPAT	2002/09/06 18:45
-	1985	((704/246) or (704/231) or (704/200) or (455/563) or (455/550) or (455/73) or (379/907) or (379/406.03) or (379/406.02) or (379/338) or (379/88.01) or (379/52)).CCLS.) and (@AD<19991212)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/08/23 16:17
-	2335	(music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/08/23 17:03
-	128	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (709/\$3 or 705/\$3).ccls. and (@AD<"19991112")	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/08/23 17:04

-	10	(((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (709/\$3 or 705/\$3).ccls. and (@AD< "19991112")) and (704/\$3 or 381/\$6 or 382/\$6 or 700/\$6).ccls.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/09/09 08:40
-	57	(((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (709/\$3 or 705/\$3).ccls. and (@AD< "19991112")) and recogni\$7	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/08/23 17:08
-	9	((("5745556") or ("6057884") or ("5734719") or ("5794217") or ("5874686") or ("5918213") or ("5694334") or ("5613060") or ("6400996")).PN.	USPAT	2002/09/09 09:02

L Number	Hits	Search Text	DB	Time stamp
1	12	(((((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and preview with (clip or sample or segment or portion or part or snippet)) and (((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and watermark\$3)) not (((("5745556") or ("6057884") or ("5734719") or ("5794217") or ("5874686") or ("5918213") or ("5694334") or ("5613060") or ("6400996"))).PN.)	USPAT	2003/02/07 11:47
2	40	watermarking.ti.	USPAT	2003/02/07 11:48
3	2626	(music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:24
4	0	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (add or adding) with (tick or ticking) with (sound or noise)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:22
5	0	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (add or adding or superimpos\$3) with (tick or ticking) with (sound or noise)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:22
6	0	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (add or adding or superimpos\$3) with (tick or ticking or click or clicking) with (sound or noise)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:23
7	17	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (add or adding or insert\$3 or superimpos\$3) with (tick or ticking or click or clicking)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:24
8	2607	(music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:25
9	17	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (add or adding or insert\$3 or superimpos\$3) with (tick or ticking or click or clicking)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:27
10	0	(705/\$6) and (add or adding or insert\$3 or superimpos\$3) with tick\$3 with sound	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:29
11	0	(705/\$6) and (add or adding or insert\$3 or superimpos\$3) with tick\$3 with (noise or sound)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:30
12	2	(705/\$6 or 704/\$3) and (add or adding or insert\$3 or superimpos\$3) with tick\$3 with (noise or sound)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:33
14	1	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (add or adding or insert\$3 or superimpos\$3) with structured with (noise or sound)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:34
13	5	(705/\$6 or 704/\$3) and (add or adding or insert\$3 or superimpos\$3) with structured with (noise or sound)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:39
15	62	(705/\$6 or 704/\$3) and (add or adding or insert\$3 or superimpos\$3) with (degrad\$3 or corrupt\$4)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:40

16	24	((705/\$6 or 704/\$3) and (add or adding or insert\$3 or superimpos\$3) with (degrad\$3 or corrupt\$4)) and (degrad\$3 or corrupt\$4) with noise	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:41
17	16	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (degrad\$3 or corrupt\$4) with noise	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:41
22	7	((("6385596") or ("5874686") or ("6282549") or ("5794217") or ("5745556") or ("6057884") or ("5734719")).PN.	USPAT	2003/02/07 15:07
24	0	((((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (add or adding or insert\$3 or superimpos\$3) with (tick or ticking or click or clicking)) and (tempo and key)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 15:07
23	15	((((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (add or adding or insert\$3 or superimpos\$3) with (tick or ticking or click or clicking)) and (tempo or key)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 15:08

L Number	Hits	Search Text	DB	Time stamp
4	4252	(music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/29 11:34
5	5508	((((705/26 or 705/27 or 705/57) or (704/246) or (704/231) or (704/200) or (455/563) or (455/550) or (455/73) or (379/907) or (379/406.03) or (379/406.02) or (379/338) or (379/88.01) or (379/52)).CCLS.) and (@AD<19991112))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/29 11:25
6	62	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (((((705/26 or 705/27 or 705/57) or (704/246) or (704/231) or (704/200) or (455/563) or (455/550) or (455/73) or (379/907) or (379/406.03) or (379/406.02) or (379/338) or (379/88.01) or (379/52)).CCLS.) and (@AD<19991112)))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/29 11:25
7	9	((((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (((((705/26 or 705/27 or 705/57) or (704/246) or (704/231) or (704/200) or (455/563) or (455/550) or (455/73) or (379/907) or (379/406.03) or (379/406.02) or (379/338) or (379/88.01) or (379/52)).CCLS.) and (@AD<19991112))) and preview with (clip or sample or segment or portion or part or snippet)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/05/29 11:27
8	433	(((((705/26 or 705/27 or 705/57) or (704/246) or (704/231) or (704/200) or (455/563) or (455/550) or (455/73) or (379/907) or (379/406.03) or (379/406.02) or (379/338) or (379/88.01) or (379/52)).CCLS.) and (@AD<19991112)) and (pattern or sample) with recogni\$7	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/05/29 11:33
9	0	(((((705/26 or 705/27 or 705/57) or (704/246) or (704/231) or (704/200) or (455/563) or (455/550) or (455/73) or (379/907) or (379/406.03) or (379/406.02) or (379/338) or (379/88.01) or (379/52)).CCLS.) and (@AD<19991112)) and (pattern or sample) with recogni\$7) and (music\$2 or song or vocal\$7) and (duration and pitch) near3 sequence	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/29 11:35
10	3	(((((705/26 or 705/27 or 705/57) or (704/246) or (704/231) or (704/200) or (455/563) or (455/550) or (455/73) or (379/907) or (379/406.03) or (379/406.02) or (379/338) or (379/88.01) or (379/52)).CCLS.) and (@AD<19991112)) and (pattern or sample) with recogni\$7) and (music\$2 or song or vocal\$7) and pitch near3 sequence	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/29 11:36
11	5	((((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (((((705/26 or 705/27 or 705/57) or (704/246) or (704/231) or (704/200) or (455/563) or (455/550) or (455/73) or (379/907) or (379/406.03) or (379/406.02) or (379/338) or (379/88.01) or (379/52)).CCLS.) and (@AD<19991112))) and (((((705/26 or 705/27 or 705/57) or (704/246) or (704/231) or (704/200) or (455/563) or (455/550) or (455/73) or (379/907) or (379/406.03) or (379/406.02) or (379/338) or (379/88.01) or (379/52)).CCLS.) and (@AD<19991112)) and (pattern or sample) with recogni\$7)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/29 11:36

L Number	Hits	Search Text	DB	Time stamp
-	12	(((((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and preview with (clip or sample or segment or portion or part or snippet)) and (((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and watermark\$3)) not (((("5745556") or ("6057884") or ("5734719") or ("5794217") or ("5874686") or ("5918213") or ("5694334") or ("5613060") or ("6400996")).PN.)	USPAT	2003/02/07 11:44
-	38	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and preview with (clip or sample or segment or portion or part or snippet)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/05/29 11:27
-	96	(music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2002/09/10 12:26
-	7	((("6385596") or ("5874686") or ("6282549") or ("5794217") or ("5745556") or ("6057884") or ("5734719")).PN.	USPAT	2003/02/07 15:06
-	4927	((((704/246) or (704/231) or (704/200) or (455/563) or (455/550) or (455/73) or (379/907) or (379/406.03) or (379/406.02) or (379/338) or (379/88.01) or (379/52)).CCLS.) and (@AD<19991212)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/29 11:21
-	6	(((((704/246) or (704/231) or (704/200) or (455/563) or (455/550) or (455/73) or (379/907) or (379/406.03) or (379/406.02) or (379/338) or (379/88.01) or (379/52)).CCLS.) and (@AD<19991212)) and tempo	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/04 14:28
-	6	(((((704/246) or (704/231) or (704/200) or (455/563) or (455/550) or (455/73) or (379/907) or (379/406.03) or (379/406.02) or (379/338) or (379/88.01) or (379/52)).CCLS.) and (@AD<19991212)) and tempo	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/04 15:06
-	5	(((((704/246) or (704/231) or (704/200) or (455/563) or (455/550) or (455/73) or (379/907) or (379/406.03) or (379/406.02) or (379/338) or (379/88.01) or (379/52)).CCLS.) and (@AD<19991212)) and tempo) and key	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/04 15:05
-	7	((("6385596") or ("5874686") or ("6282549") or ("5794217") or ("5745556") or ("6057884") or ("5734719")).PN.	USPAT	2003/02/04 15:06
-	1	(((((6385596") or ("5874686") or ("6282549") or ("5794217") or ("5745556") or ("6057884") or ("5734719")).PN.) and tempo	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/04 15:15
-	11	music with synthes\$4 and (tempo same pitch same sequence) and (@AD<19991212)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/04 15:18
-	12	(((((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and preview with (clip or sample or segment or portion or part or snippet)) and (((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3 or purchas\$3 or retail\$3) and preview and (@AD<19991112)) and watermark\$3)) not (((("5745556") or ("6057884") or ("5734719") or ("5794217") or ("5874686") or ("5918213") or ("5694334") or ("5613060") or ("6400996")).PN.)	USPAT	2003/02/07 11:47
-	40	watermarking.ti.	USPAT	2003/02/07 11:48
-	2626	(music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:24

-	0	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (add or adding) with (tick or ticking) with (sound or noise)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:22
-	0	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (add or adding or superimpos\$3) with (tick or ticking) with (sound or noise)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:22
-	0	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (add or adding or superimpos\$3) with (tick or ticking or click or clicking) with (sound or noise)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:23
-	17	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (add or adding or insert\$3 or superimpos\$3) with (tick or ticking or click or clicking)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:24
-	2607	(music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/05/29 11:22
-	17	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (add or adding or insert\$3 or superimpos\$3) with (tick or ticking or click or clicking)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:27
-	0	(705/\$6) and (add or adding or insert\$3 or superimpos\$3) with tick\$3 with sound	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:29
-	0	(705/\$6) and (add or adding or insert\$3 or superimpos\$3) with tick\$3 with (noise or sound)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:30
-	2	(705/\$6 or 704/\$3) and (add or adding or insert\$3 or superimpos\$3) with tick\$3 with (noise or sound)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:33
-	1	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (add or adding or insert\$3 or superimpos\$3) with structured with (noise or sound)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:34
-	5	(705/\$6 or 704/\$3) and (add or adding or insert\$3 or superimpos\$3) with structured with (noise or sound)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:39
-	62	(705/\$6 or 704/\$3) and (add or adding or insert\$3 or superimpos\$3) with (degrad\$3 or corrupt\$4)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:40
-	24	((705/\$6 or 704/\$3) and (add or adding or insert\$3 or superimpos\$3) with (degrad\$3 or corrupt\$4)) and (degrad\$3 or corrupt\$4) with noise	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/05/29 11:24
-	16	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (degrad\$3 or corrupt\$4) with noise	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 14:41
-	7	((("6385596") or ("5874686") or ("6282549") or ("5794217") or ("5745556") or ("6057884") or ("5734719")).PN.	USPAT	2003/02/07 15:07

-	0	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (add or adding or insert\$3 or superimpos\$3) with (tick or ticking or click or clicking)) and (tempo and key)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 15:07
-	15	((music\$2 or song or vocal\$7) with (sal\$3 or distribut\$3)) and (add or adding or insert\$3 or superimpos\$3) with (tick or ticking or click or clicking)) and (tempo or key)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/02/07 15:08

SERIAL NUMBER	FILING DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
09/438,469	11/12/99	704	2741 304	31255-152013
APPLICANT LAWSON A. WOOD, ARLINGTON, VA.				
CONTINUING DOMESTIC DATA*** VERIFIED <u>none</u> <u>wife</u>				
371 (NAT'L STAGE) DATA*** VERIFIED <u>none</u> <u>wife</u>				
FOREIGN APPLICATIONS*** VERIFIED <u>none</u> <u>wife</u>				
IF REQUIRED, FOREIGN FILING LICENSE GRANTED 12/08/99 ** SMALL ENTITY **				
Foreign Priority claimed 35 USC 119 (a-d) conditions met		<input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> Met after Allowance	STATE OR COUNTRY VA	SHEETS DRAWING 6
Verified and Acknowledged <u>wife</u> Examiner's Initials _____		Initials _____	TOTAL CLAIMS 21	INDEPENDENT CLAIMS 2
ADDRESS VENABLE P O BOX 34385 WASHINGTON DC 20043-9998 Allen Wood Rabin & Berdo Suite 500 1101 14th Street, N.W. Washington, D.C. 22205				
TITLE METHOD FOR RECOGNIZING AND DISTRIBUTING MUSIC By <u>providing personalized</u> <u>Specimen for Pattern Recognition</u>				
FILING FEE RECEIVED \$389	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT NO. _____ for the following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit _____	

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

11/24/1999 NVILLARI 00000052 09438469

01 FC:201	380.00 OP
02 FC:203	9.00 OP

Repln. Ref: 11/24/1999 NVILLARI 0011430100
DAH:220261 Name/Number:09438469
FC: 704 \$9.00 CR

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November 12, 1999

Honorable Assistant Commissioner
for Patents
Washington, D.C. 20231

Attorney Docket No. 31255-152013

ATTENTION: BOX PATENT APPLICATIONS

Re: New Patent Application For:
"METHOD FOR RECOGNIZING AND DISTRIBUTING MUSIC"
Inventor: Lawson A. WOOD

Sir:

Attached hereto is an application for U.S. Letters Patent, which includes:

- [X] Specification, Abstract, and Claims (30 pages).
- [X] Drawings (6 Sheets, Figs. 1-9).

Also attached are:

- [X] Declaration and Power of Attorney
- [X] Verified Statement (Declaration) Claiming Small Entity Status Independent Inventor.
- [X] A Check in the amount of \$398.00 (See Formula Below).

Basic Filing Fee (small entity)	\$380.00
Additional Fees:	
Total number of claims in excess of 20: 2 x \$19.00	18.00
Number of independent claims in excess of 3: 0 x \$ 41.00	- 0 -
Multiple dependent claims: 0 x \$135.00	- 0 -
TOTAL FEE DUE	<u>\$398.00</u>

Should the filing fee be missing, or should a greater or lesser fee be required, please charge or credit Deposit Account No. 22-0261, and notify the undersigned accordingly.

Respectfully submitted,

L. Allen Wood
L. Allen Wood (The Applicant)
Registration No. 28,134

\W/SJB
69493

APPLICATION FOR UNITED STATES LETTER PATENT

INVENTOR: Lawson A. Wood

TITLE: METHOD FOR RECOGNIZING AND
DISTRIBUTING MUSIC

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ATTORNEY REFERENCE: 31255-152013

BACKGROUND OF THE INVENTION

The present application is directed to a method for recognizing and distributing music, and more particularly to a method for recognizing a musical composition from a specimen that is hummed, sung, or otherwise vocalized by a customer, and for permitting a customer to
5 preview a musical composition before distributing the composition to the customer over the internet.

The internet (and particularly the worldwide web) is becoming an important vehicle for distributing music, usually in encoded form. Web sites currently (1999) exist that distribute music in an encoded format known as "MP3." So-called "juke box" programs are
10 also available which permit MP3 files that have been downloaded over the internet to be stored and played on audio systems. Some authorities speculate that distribution of music over the internet will eventually replace conventional record shops.

Some customers who desire to purchase a recording at a record shop may be familiar with the music itself, but may not be sure of the singer or group that produced the music, or
15 possibly the title of the relevant song or album. In a music shop, such a customer is able to question a shopkeeper, and possibly hum a few bars of the musical composition for the shopkeeper to attempt to identify. Alternatively, music stores frequently permit patrons to sample recordings before buying them, so a customer who is not sure which recording he or she would like to purchase may select a few possible recordings and listen to them until the
20 desired recording is located. There is no harm in permitting a customer to listen to as much of a recording as the customer would like, since the customer cannot legally take a recording from the shop without paying for it.

Speech recognition technology is highly developed. Typically, features are extracted from spoken words and then normalized to provide patterns that are compared to patterns in a pattern library. When a pattern derived from a spoken word matches a pattern in the library sufficiently, a phoneme of the spoken word has been found. The features that are extracted from the spoken words may identify a range of frequencies that are present during extremely brief slices of time and the power at those frequencies. Sophisticated mathematical operations are then performed on the extracted features in order to generate the patterns for pattern matching.

10 SUMMARY OF THE INVENTION

An object of the invention is to facilitate distribution of music over the internet by permitting customers or other people to preview (perhaps "pre-listen" would be more accurate, but Applicant prefers to stick with English words) music before downloading it.

Another object is to permit people to preview music in a manner that permits them to identify a musical composition for which they are searching without providing a usable substitute for the desired composition.

A further object is to provide techniques for corrupting music so that it can be used for purpose of identification but not enjoyment.

Yet another object is to provide a method for recognizing a musical composition that is hummed, sung, chanted, or otherwise vocalized by a customer. The specimen may be sent via the internet or telephone to a remote location for analysis and pattern matching. Alternatively, if a customer's home computer is suitably equipped, the home computer can be used to generate a pattern locally from the customer's specimen, and the pattern alone may be

transmitted via the internet to a remote location for pattern matching. The music recognition can also be executed at record shops, without sending either the specimen of the customer's vocalization or a pattern derived from the specimen to a remote location.

In accordance with one aspect of the invention, a method for distributing music includes the steps of sending information to identify a musical composition in writing to a customer or other person over the internet. If the customer sends a request for an audio preview of the composition that is identified in writing, a corrupted version of some or all of this musical composition is sent to the customer over the internet. If the customer then requests the musical composition without corruption, it is sent to the customer.

The corrupted version of the musical composition that is sent to the customer for purposes of identification may include a short-duration snippet of the composition or a sequence of isolated snippets from the composition, possibly with superimposed noise.

In accordance with another aspect of the invention, a musical composition can be recognized by extracting features from a specimen that has been vocalized by a person, generating a pattern from the extracted features, comparing this pattern with patterns in a pattern library, and identifying at least one musical composition as a result of this comparison. The pattern preferably includes a pitch sequence and/or a duration sequence. The pitch sequence may identify how many half tones up or down exist between a current note of the specimen and the previous note. The duration sequence may indicate the duration of one note with respect to the duration of the previous note, or the duration of features of the specimen with respect to a predetermined tempo.

BRIEF DESCRIPTION OF THE DRAWINGS:

Figure 1 schematically illustrates a system for communication between a customer and a music distribution company via the internet, along with a financial institution for facilitating payment for distributed music;

5 Figure 2 illustrates equipment at the customer's location;

Figure 3 is a flow chart schematically illustrating communication between the customer and the music distribution company;

Figure 4 is a block diagram of a system for recognizing musical compositions and providing both the compositions themselves and corrupted versions of the compositions;

10 Figure 5 is a flow chart illustrating an example of corruption of music by an extraction of snippets;

Figure 6 is a block diagram of a feature extraction unit and a normalization unit of a music recognition system;

15 Figure 7 illustrates a display on a monitor for permitting a customer to select a key and a tempo;

Figure 8 illustrates an alternative arrangement for a duration sequence analyzer that is part of the normalization unit shown in Figure 6; and

Figure 9 illustrates a feature extraction unit and a duration sequence analyzer for rap music.

20

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT:

Figure 1 illustrates a customer's house 10 which can be connected by the public telephone system, represented by a telephone line 12, to a customer's internet service provider

14. Reference number 16 represents the internet. A music distribution company 18 is connected by a high-speed data link 20 to a company's internet service provider 22, which can communicate with a customer's internet service provider 14 over the internet 16. The music distribution company 18 is also connected by a high-speed data link 24 to a financial institution 26, such as a bank that issues debit cards or credit cards or both to retail customers.

Figure 2 illustrates equipment located at the customer's house 10. This equipment includes a computer 28 having a hard disk 30, a drive 32 for a removable recording medium, and a speaker 34. The computer 28 has a modem (not illustrated) for communicating with the internet service provider 14. A monitor 36 is connected to the computer 28. Also connected to the computer 28 are a keyboard 38 and a microphone 42. An audio system (not illustrated) may be connected to the computer 28. It will be assumed that the customer has installed a program which permits him to receive music files (possibly in encoded form, such as MP3-encoded files) and to store and play them).

The customer may move the mouse 40 over a surface in the usual manner to control the location of a pointer 44 on the screen of the monitor 36. The mouse 40 has a button 46 that the customer can depress to signal to the computer that the customer has selected a region of the screen of monitor 36 with the pointer 44, and wishes to commence a predetermined activity associated with the selected region of the screen (i.e., "click on" something). Furthermore, depending on what is displayed on the screen, the operating system employed by computer 28 (such as Microsoft's "Windows"TM operating system) may change the pointer 44 to an insertion marker (not illustrated) for identifying an insertion point for text entered via the keyboard 38.

In Figure 2, it is assumed that the customer has employed a browser program to address a server (not illustrated) at the company 18 and to download the music distribution company's home page via the internet 16. It is also assumed that the company's home page offers customers three options for selecting songs, albums, or other musical compositions that the customer wishes to purchase. Two of these options, A and B, are illustrated schematically in regions 48 and 50 of the screen. Option A, for example, might permit the customer to select a time period (for example, within the past year, or within the past five years, or by decade intervals prior to that) and to select a type of music (rock and roll, country and western, and so forth), whereupon the music distribution company's server would return one or more pages with a menu of songs or other musical compositions available for the customer to select. For example, the customer might select 1950-1960 as the time interval, and receive an alphabetized menu of titles of rock and roll songs (along with the identity of the singer or group) that were first issued in that decade and are available for purchase from the company 18. The customer might then select the song "Blue Suede Shoes" by Elvis Presley from this menu. Option B might also permit the customer to select a time period and a type of music, and then return an alphabetized menu of singers or groups and the titles of songs that they originated during the selected period. For example, if the customer selected rock and roll and the decade 1950-1960, one singer on the menu would be Elvis Presley, and "Blue Suede Shoes" would be listed as the title of one song that he released during this period. Other menu options, including singers or groups, followed by their albums by title and the songs on each album, or key words in the lyrics, would also be possible. In each case, what would ultimately be displayed to the customer on monitor 36 for possible purchase would be a menu

which identifies different pieces of music in writing (e.g., "Blue Suede Shoes" by Elvis Presley).

One problem with such an approach is that some customers have poor memories for song titles and may not remember who sang a particular song, much less be able to recall the title of the album on which it appeared. Such customers may hesitate to purchase music over the internet out of concern that they would be wasting their money if they purchased the wrong song or album. Even if steps are taken to reduce this uncertainty, as by displaying album covers or the lyrics of songs, this hesitancy would naturally have an inhibiting effect on the sale of music over the internet.

Figure 3 illustrates how to avoid this problem by permitting the customer to audibly verify that he or she has selected the piece of music that he or she intended. The customer starts by logging on with the customer's internet service provider 14 and then addressing the music distribution company (step 52) by typing in the company's worldwide web address or URL. The company thereupon downloads the selection options available to the customer (step 54). The options may be presented on the company's home page, or the home page might be hyper-linked to one or more intervening pages before the customer reaches the options. In the event that the music distribution company offers only one option, step 54 would be skipped and, instead of selecting an option in step 56, the customer would simply be presented with the option that the company supports.

In step 58, the company downloads information about the selected option. For example, if the customer has been given the option of selecting songs by title during a time period selected by the customer and for a type of music selected by the customer, an alphabetical list of titles of songs of the selected type and during the selected period, possibly

also accompanied by the name of the singer or group, is downloaded in step 58. In step 60, the customer uses the selection button 46 on his mouse 40 in order to identify the desired song. This information about the desired song is conveyed to the music distribution company.

In step 62, the company downloads preview information (step 62), which permits the customer to audibly verify that the song selected in step 60 is indeed the song that the customer wants to purchase. The preview information is a corrupted version of the selected song. The corrupted version in this case is a sequence of snippets of the selected song with blank intervals between the snippets. For example, the preview information might be the first ten seconds of the song, followed by a five-second blank interval, followed by the 15th-25th seconds of the song, followed by another five-second blank interval, and so forth. Preferably, the snippets are also acoustically degraded. One way of doing this would be by limiting the frequency response of the snippets, but since the customer might then assume that poor quality music was being offered for sale, it might be better to superimpose noise on the snippets and possibly also on the blank intervals between the snippets. One type of noise would be a repeating ticking sound, like a metronome operating at high speed. The purpose of the preview information is to permit the customer to audibly verify the selection made at step 60 without providing the customer at this stage with music that would be enjoyable to listen to.

After the customer has listened to the preview information in step 64, he or she verifies the selection, for example, by typing "Y" on keyboard 38. Although not shown, if the customer decides after listening to the preview information that the information about the desired song that was entered at step 60 was incorrect, possibly indicated by typing "N" on keyboard 38, the procedure returns to step 60. In step 64, after verifying the selection, the

customer is also asked to provide payment information, as by entering a credit card number. This information is then conveyed to the music distribution company, which verifies the payment information with the financial institution 26 (Figure 1) during step 66. The company then downloads a file containing the selection, such as an MP3 file, in step 68. The customer
5 then stores the downloaded file on hard disk 30 or on a removable storage medium that has been inserted in drive 32 (step 70).

Returning now to Figure 2, in addition to the options 48 and 50, the music distribution company also offers a music recognition option that the customer can "click on" by using the mouse 40 to move the pointer 44 to the designated region of the screen of monitor 36 and then
10 depressing the selection button 46. The music distribution company then downloads a page (not illustrated) asking the customer to vocalize the song he or she wants into the microphone 42 during an interval (for example, 10 seconds) that is communicated on the screen (as by depicting a "record" light which changes from red to green when the interval begins, and then changes back to red when the interval ends). Here, the term "vocalize" is intended to include
15 singing lyrics, singing with the lyrics replaced by dummy vocalizations (such as "da-da-da-da"), humming, and so forth. The result of the customer's audibilization of the song that he or she wants is an audio file that is conveyed to the music distribution company 18 via the internet 16. This file will be called the "specimen" that the customer has submitted for analysis.

20 Figure 4 illustrates units located at the music distribution company 18 for analyzing the specimen. They include a music recognition unit 72, a music retrieval unit 76, and a selection preview unit 78. The music recognition unit 72 includes a feature extraction unit 80,

which may include hardware components; the remaining element shown in Figure 4 are preferably implemented by software.

The customer's specimen file is input at a port 82 and conveyed to the feature extraction unit 80. It extracts from the specimen musical features which characterize the song. The features extracted typically include information about the notes in the specimen and possibly also information about the durations of the notes. Since the customer may not vocalize the specimen in the same key as the desired recording or at the same tempo as the desired recording, the extracted features are normalized by a normalization unit 84 in order to provide frequency-independent information about the notes in the specimen and, if information about the duration of the notes is among the features extracted by unit 80, to express the durations in a relative manner that is suitable for pattern matching instead of being expressed in terms of seconds or fractions of a second. The normalized features are supplied to a pattern matching unit 86, which compares them to patterns in a pattern library 88. The pattern library 88 stores normalized features extracted from all of the songs or other musical compositions that are stored in a music library 90. The pattern library 88 may include normalized extracted features for all of each song. However, since customers will typically vocalize the chorus of a song or possibly a limited number of other memorable features, it is sufficient for the pattern library to store only normalized features for popular portions of each song. This speeds up the pattern matching.

As its name implies, the pattern matching unit 86 determines how closely the normalized features that have been extracted from the customer's specimen matches the normalized features stored in the pattern library. Although it is possible for the normalized features extracted from the specimen to exactly match an entry stored in the pattern library 88,

typically a distant score is calculated between the specimen and each entry in the pattern library, and a particular entry is determined to be a candidate if the distance is smaller than a predetermined value. The candidates from the reference library 88 that are selected by pattern matching unit 86 are read out of music library 90. The library 90 includes not only the encoded songs, but also identification information such as the title of the song and the name of the singer or group. The candidate songs and identifying information are stored in a musical composition and identifier memory 92.

The selection preview unit 78 includes a snippet extractor 94 that receives the contents of the memory 92. The identification information (i.e., identifiers such as title and singer or group) is downloaded at step 58 (Figure 3) and the customer selects one of the candidates by clicking on the identification information in step 60. The snippet extractor 94 thereupon extracts a sequence of snippets from the selected candidate, with blank spaces between the snippets, and a noise unit 96 superimposes a repetitive ticking sound on the snippets and the blanks between them. This forms preview information, which is conveyed along a path 98. The preview information is downloaded at step 62 of Figure 3. If the customer then verifies the selected candidate during step 64 and offers suitable payment, a file containing the musical composition itself is issued along a path 100 and is downloaded in step 68.

One way to implement snippet extractor 94 is illustrated in a flow chart shown in Figure 5. It is assumed in Figure 5 that the customer has exercised the music recognition option and that one or more compositions and one or more identifiers have been stored in memory 92 as a result of pattern matching with the customer's specimen. In step 102, the identifier or identifiers stored in memory 92 are transmitted to the customer for display on the customer's monitor. If the customer chooses a selection by clicking on it with the mouse 40,

information about the selected composition is transmitted to the music distribution company. In step 104, a check is made to determine whether the customer has made a selection. If not, a selection timer is set in step 106. A check is made in step 108 to determine whether the time set by this timer has elapsed, and if not, the process returns to step 104. If the timer has timed
5 out (Y at step 108), a notice is sent to the customer, and the snippet extraction process ends before it has truly gotten underway.

When the customer has selected a composition (Y at step 104), the file of the selected composition is read out of memory 92, beginning from where the customer's specimen started. The file is sent to the customer as it is read out in step 112. The customer begins
10 playing the composition when he or she receives the file, and can probably tell rapidly whether the composition is the one that he or she intended in the specimen.

A snippet duration timer is set in step 114. A check is made in step 116 to determine whether it has timed out. If not, a check is made at step 118 to determine whether the customer has signaled a desire to stop listening to this composition. The customer can signal
15 such a desire by clicking on another identifier, thereby ending the snippet extraction procedure for the composition that he or she had previously selected, or by taking some other action that is inconsistent with a desire to continue listening to the previously selected composition, as by moving to a different page of the music distribution company's web site or leaving the web site entirely. If the customer has not decided to stop listening to the selected
20 composition, a check is made at step 120 to determine whether the selected composition has ended. If not, the process returns to step 116.

After the snippet duration timer has timed out (Y at step 116), the reading out of the file from memory 92 continues, but it is not sent to the customer (step 122). A blank interval

timer is set in step 124, and a check is made at step 126 to determine whether it has timed out. If not, checks are made at steps 128 and 130 to determine whether the customer has indicated a desire to stop listening to this composition or whether the composition has ended. After the blank interval timer has timed out (Y at step 126), the process returns to step 112, and the customer then has an opportunity to begin listening to the next snippet.

The operation of snippet extractor 94 is similar to that discussed above with respect to Figure 5 if the customer does not select the music recognition option, and instead picks a composition from a menu of identifiers displayed on the monitor 36. The main difference would be that the snippet extraction process would begin at step 110 after the file of the selected composition had been read out of the library 90 on the basis of the identifier selected by the customer, and the reading of the file from the memory 92 would start from the beginning of the composition.

Figure 6 illustrates an embodiment of two units in the recognition unit 72: a feature extraction unit 80' and a normalization unit 84'. It is assumed that the specimen file from the customer has been transformed to an analog audio signal that is applied to an input port 82. This signal is filtered by a narrow bandpass filter 132 whose passband is limited to a few octaves in which most customers can be expected to sing. The bandpass filtered signal is then supplied to a frequency analyzer such as a filter bank 134. The feature extraction unit 80' also includes a level detector 136, which compares the level of the bandpass filtered signal to a predetermined value, outputting a digital one if the level is above a predetermined value and otherwise outputting a zero.

The normalization unit 84' includes a strongest tone detector 140, which identifies the frequency of the strongest signal from filter bank 134 if the level detector 136 determines that

the level of the bandpass filtered signal exceeds the predetermined value. If the frequency of the strongest signal from filter bank 134 changes, the new frequency is identified by strongest tone identifier 140 and the old one is transferred to a prior tone memory 142. In the event that the level detected by the detector 136 falls below the predetermined value, the strongest tone identifier 140 continues to identify the frequency that was strongest when the level was above the predetermined value, and no changes are made in the content of memory 140. The reason for this is that many customers can be expected to vocalize their specimen using a string of dummy words, such as "da-da-da," leaving pauses or periods of substantially reduced volume between the "das," even though the composition they are audibilizing may lack such pauses or periods of reduced volume. It is worth noting that the strongest tone identifier 140 will continue to identify a tone even when the customer's audibilization accurately reflects a rest (or period of silence) in the composition itself. Although this could be looked at as an error if the purpose were to fully characterize the composition so as to be able to accurately reproduce it from the characterization alone, the purpose here is not to regenerate the music, but instead to generate a pattern for pattern matching. It is believed that ignoring periods of silence in the specimen will be beneficial since this will accommodate differences in the way that customers vocalize music (particularly when using dummy words at different frequencies with low volume or no volume between the dummy words), while ignoring rests will not substantially diminish the utility of the patterns that are produced.

The strongest tone identifier 140 preferably ignores changes in frequency that persists less than a predetermined interval of time, such as a tenth of a second. This avoids spurious results due to inadvertent warbling or pitch changes during the customer's audibilization.

Now, a brief digression into the physics of music. If one tone has twice the frequency of another tone, the two tones are said to be an octave apart. In what is called the "equally tempered scale," an octave interval is divided into 12 half-tone intervals. The ratio between one interval and the next is the 12th root of 2 (approximately 1.05946).

5 It is conventional to set the frequency of the A above middle C at 440 Hz. Table 1 below shows the equally tempered scale for an octave beginning at middle C (the sign # indicates a sharp):

10 TABLE 1
Equally Tempered Scale For A = 440 Hz

Note	Frequency in Hz
C	261.6 (= C# ÷ 1.05946)
C#	277.2 (= D ÷ 1.05946)
D	293.7 (= D# ÷ 1.05946)
D#	311.1 (= E ÷ 1.05946)
E	329.6 (= F ÷ 1.05946)
F	349.2 (= F# ÷ 1.05946)
F#	370.0 (= G ÷ 1.05946)
G	392.0 (= G# ÷ 1.05946)
G#	415.3 (= A ÷ 1.05946)
A	440 (defined)
A#	466.2' (= A x 1.05946)
B	493.9 (= A# x 1.05946)
C'	523.2 (= B x 1.05946 or 2 x C)

15 It seems unlikely that many customers for music would be able to vocalize in perfect pitch using the frequencies depicted in Table 1 (or the corresponding frequencies in octaves above or below those illustrated in Table 1). However, even if a customer vocalizes a specimen off-key, the 1.05946 ratio between half tones would remain (unless the customer is

hopelessly unable to carry a tune). Table 2 below shows an octave of an equally tempered scale beginning at a frequency that is a little bit below middle C. By comparing Tables 1 and 2, it will be seen that all of the notes in Table 2 have frequencies that are slightly below those of the corresponding notes in Table 1, but are above the frequencies of the notes a half-tone below the corresponding frequencies of Table 1 (for example, "almost F sharp" in Table 2 has a frequency of 360.6 Hz, which is below true F sharp in Table 1 (370.0 Hz) but above true F in Table 1 (349.2 Hz)). It will be apparent from the above discussion of the physics of music that the exact set of frequencies that a customer uses to vocalize a specimen is relatively unimportant, so long as this set of frequencies conforms to the 12th root of two ratio between half-tone intervals in the equally tempered scale.

TABLE 2

Equally Tempered Scale, Off-Key

Note	Frequency in Hz
Almost C	255 (off-key vocalization)
Almost C#	270.2 (Almost C x 1.05946)
Almost D	286.2 (Almost C# x 1.05946)
Almost D#	303.2 (Almost D x 1.05946)
Almost E	321.3 (Almost D# x 1.05946)
Almost F	340.4 (Almost E x 1.05946)
Almost F#	360.6 (Almost F x 1.05946)
Almost G	382.1 (Almost F# x 1.05946)
Almost G#	404.8 (Almost G x 1.05946)
Almost A	428.8 (Almost G# x 1.05946)
Almost A#	454.3' (Almost A x 1.05946)
Almost B	481.4 (Almost A# x 1.05946)
Almost C'	510.0 (Almost B x 1.05946)

Regardless of what frequency a customer uses for audibilizing the first note of his or her specimen, that frequency establishes a scale of relative frequencies and the second note of the specimen will have one of these relative frequencies. A scale base upon the frequency of the second note would include the same set of frequencies as the scale based upon the first note, so long as the first and second notes are an integral number of equally tempered half-tones apart. Similarly, a scale based on the third vocalized note of the specimen would include the same set of frequencies. In an analogous manner, a guitar that is in tune relative to itself can be used to play a song even if the strings of the guitar are not tuned to concert pitch, and each note of the song that is played on this guitar will fall in the same scale.

Returning now to Figure 6, a scale generator 144 receives the content of the prior tone memory 142, and generates a scale from it by multiplying the frequency of the prior tone by integral multiples of the 12th root of 2 and by dividing the frequency by integral multiples of the 12th root of 2. The current tone that is being vocalized will have one of the frequencies on this scale if the customer is vocalizing his or her specimen accurately (and the frequency of the current tone will be near one of the frequencies generated by the scale generator 144 even if the customer is slightly inaccurate in his vocalization). A half-tone quantizer 152 receives the frequency of the current tone along a path 148 and the frequency of the prior tone along a path 150. It also receives the scale produced by the generator 144. The half-tone interval quantizer 152 then determines the number of half tones between the current tone and the prior tone by comparing them to the scale. If the current tone and the prior tone are adjacent to each other on the scale, then the current and prior tones are a half-tone apart. If the scale has one frequency point between the current tone and the prior tone, then they are two half-tones apart. Two frequency points on the scale between the current tone and the prior tone means

that they are three half-tones apart, and so forth. The quantizer 152 indicates at an output port 154 how many half tones the current tone lies above or below the prior tone of the customer's specimen. If one considers a sequence of five different notes in the specimen, a typical sequence might be +4 (indicating that the second note of the sequence is four half tones above the first note of the sequence), -6 (indicating that the third note of the sequence is six half tones below the second note of the sequence, or two half notes below the first), -4 (indicating that the fourth note of the sequence is four half notes below the third tone of the sequence), and +8 (indicating that the fifth note of the sequence is 8 half tones above the fourth note of the sequence). The output of the pitch sequence analyzer 138 is thus a sequence of positive or negative integers which characterize the notes in the customer's specimen.

The normalization unit 84' preferably also includes a duration sequence analyzer 156. It includes a current tone timer 158 which begins timing an interval when the output of level detector 136 goes from 0 to 1 and completes the timing of the interval when the output of strongest tone identifier 140 changes. The time measured by the timer 158 is then shifted to a last complete note duration memory 160, and the current timer 158 is reset in preparation for timing a new interval. When the new interval is timed, this value is shifted to the memory 160, and the value previously stored in memory 160 is shifted to a previous note duration memory 162. A relationship calculator then calculates the relationship between the value stored in the memories 160 and 162. One way of calculating this relationship would be to determine whether the last complete note is longer, shorter, or approximately equal in duration to the previous note. This would provide a sequence at an output port 166 that is selected from a set of three states (more than a little longer, more than a little shorter, or approximately equal). A more sophisticated relationship to calculate would be the ratio of the

duration of the last complete note to the duration of the previous note. Music is typically comprised of whole notes, half notes, quarter notes, eighth notes, and so forth, so ratios would be particularly useful in characterizing the specimen. One problem with ratios, however, might arise if a very brief note is followed by a much longer one (say, for example, a
5 sixteenth note at one frequency followed by three whole notes at another frequency), in which case the ratio might become very sensitive to inadvertent inaccuracies by the customer in the duration of the shorter tone. Because of this, it may be desirable to identify the ratio simply as "large," rather than expressing it numerically, if the ratio exceeds a predetermined value (possibly 32 or 64).

10 There are several options for how the pitch sequence and duration sequence from normalization unit 84' may be used in pattern matching. One option would be to use the pitch sequence to identify patterns in library 88 (Figure 4) with the same or similar pitch sequences as the specimen and if the number of "hits" is large, to then proceed to the duration sequence in order to reduce the number of candidates. Of those compositions located with the aid of
15 the pitch sequence from pitch sequence analyzer 183, those which have duration sequences that are the same as or similar to the duration sequence from analyzer 156 would be retained. Of course, the duration sequence from analyzer 156 could be checked first, with the pitch sequence from analyzer 138 being used to locate a subset of the hits that were detected using the duration sequence. Although the normalization unit 84' has both a pitch sequence
20 analyzer (138) and a duration sequence analyzer (156), it should be noted that a normalization unit could consist of only one of these analyzers, although on many occasions this would increase the number of hits that would need to be presented to the customer.

Another option that should be mentioned would be to use the pitch sequence and the duration sequence from analyzers 138 and 156 simultaneously during the pattern matching. This approach would be particularly fruitful when the relationship calculated by the relationship calculator 164 is a ratio. The pitch of a note in the customer's specimen and how long that note lasts with respect to the previous note of the specimen, and the pitch of the next note in the specimen and its duration with respect to the previous note of the specimen, and so forth for the rest of the specimen, would be checked against the patterns in library 88. The net result would be somewhat like creating a pitch-with-respect-to-time graph of the customer's specimen, and then comparing this graph with similar pitch-with-respect-to-time graphs stored in the pattern library 88. If the pitch of a note in the customer's specimen matches the pitch of a note in one of the patterns in the library, but the duration of the note in the customer's specimen is slightly different, the result would be a small error or distance from the pattern in the library. If the pitch of the next note in the specimen and its duration are the same as the next pitch and duration in the library's pattern, there would be no increase in the error or distance. If the pitch of the next note in the specimen matches the next pitch in the pattern, but again the duration is slightly off, this error or distance would be added to the previous error or distance, and so on, until the entire specimen has been checked against this particular pattern in the library and a total distance score has been obtained. This total distance score would then be compared to a threshold value to determine whether the specimen is relatively close to this particular pattern in the library.

The patterns stored in library 88 could be prepared by professional musicians, who listen the recordings, record the melodies using standard musical notation, and then generate pitch and duration sequences from the musical notation. A far less expensive approach would

be to play the recordings and generate pitch and duration sequences for storage, using the feature extraction unit 80' and the normalization unit 84'.

Although it would be possible for pattern library 88 to store pitch and duration sequences for the entirety of each composition from beginning to end, the speed of the pattern matching could be increased considerably if the pattern library 88 only includes portions of each composition, possibly the chorus and one or two other memorable stretches of music that might tend to stick in the mind of consumers. Another possibility would be to store pitch and duration sequences for all of each composition, but to limit the pattern matching by unit 86 to only the chorus of each composition and possibly also one or two other memorable stretches of each composition. Of course, if the normalization unit that is used employs only a pitch sequence analyzer or only a duration sequence analyzer, what has been said above applies only to the respective sequence.

Another embodiment will now be described with reference to Figures 7 and 8. Figure 7 illustrates a piano keyboard 168 that is displayed on the monitor 36. The customer positions the pointer 44 on one of the keys and then clicks the selection button 46 (Figure 2) to hear the tone of that key at concert pitch (see Table 1). The customer may listen to other notes in the same manner until he or she finds the key in which he or she is comfortable vocalizing. The note selected will be the first note of the customer's specimen. The customer also adjusts the tempo of the vocalization. Reference number 170 illustrates a drum which is beat repeatedly by a drum stick 172, with each beat of the drumstick being accompanied by a characteristic sound from the speaker 34 (Figure 2). The customer may adjust the tempo of the drumbeats by using the mouse 40 (Figure 2) to move the pointer 44 so as to adjust the position of a marker 174 along a tempo scale 176 from fast or slow. After the customer has selected the

pitch of the first note of the specimen using the keyboard 168 and the tempo of the specimen using the temp scale 176, he or she can practice the specimen several times and then hit a key of keyboard 38 (Figure 2) to transmit the selected pitch and tempo to the music distribution company. A simulated "record" light 178 then changes colors, for example, from red to green, telling the customer to start vocalizing the specimen. After a predetermined period, perhaps 10 seconds, the record light 178 changes back, thus ending the specimen. The customer may, however, terminate the specimen before then by depressing a key on keyboard 38.

Figure 8 illustrates a duration sequence analyzer 180, which includes a selected tempo memory 182 that stores the tempo selected by the customer. It also includes a current tone timer 184, which receives input signals from the level detector 136 and the strongest tone identifier 140 (see Figure 6). When the current tone is followed by a new tone, what was previously the current tone becomes the last complete note, and its timed duration is shifted to a last complete note duration memory 186. A relationship calculator 188 then finds the relationship between the duration of the last complete note and the tempo selected by the customer.

The embodiment of Figures 7 and 8 has the advantage of inviting increased participation by the customer. Furthermore, after the customer has found a frequency at concert pitch at which to begin the specimen, he or she will likely be able to keep the remaining notes of the specimen at concert pitch. This is of no particular consequence if the pitch sequence analyzer 138 that is shown in Figure 6 is employed. On the other hand, since the customer is using concert pitch or approximately concert pitch for the specimen, it would be possible for the pitch sequence to be a sequence of notes (for example, C, E, G, A #, ...)

which could be compared by the pattern matching unit 86 (Figure 4) against note sequences stored in the pattern library 88.

Additionally, the relationship calculator 188 can find the ratio between the duration of each tone in the specimen and a set value that is stored in the memory 182. A duration sequence formed in such a manner would tend to be more reliable than a duration sequence form determined by taking the ratio between the duration of each note in the specimen and the duration of the previous note. It would be necessary to find the tempo of each recording in order to provide patterns for the library 88 (Figure 4). This could be done electronically, but it could also be easily done manually by a person who listens to each recorded composition for a few measures and closes a switch on the beats.

Figure 9 illustrates an embodiment of a feature extraction unit 190 and a normalization unit 192 (a duration sequence analyzer alone) that are suitable for use with rap music, which is primarily characterized by rhythm rather than by pitch sequences. The audio signal is applied to an input port 194 and is filtered by a bandpass filter 196. Unlike the arrangement shown in Figure 6, where the level detector 136 generates a binary output which depends on whether the bandpass-filtered signal exceeds a threshold value, in Figure 9 the bandpass filtered signal is supplied to a peak detector 198. When it detects a peak in the volume of the bandpass-filtered signal, the output of detector 198 changes momentarily from a digital "0" to a digital "1." This signal is applied to a current peak interval timer 200, which then begins timing until the next peak is detected. The current interval then becomes the last complete interval, and the content of timer 200 is shifted to a last complete interval memory 202. The timer 200 is then reset and begins timing a new current interval.

The normalization unit 192 also includes a selected tempo memory 204 for storing a tempo selected by the customer. A relationship calculator 206 then finds the ratio between the duration of the last complete interval and the selected tempo, and provides a duration sequence at an output port 208.

5 It will be understood that the above description of the present invention is susceptible to various modifications, changes, and adaptations, and the same are intended to be comprehended within the meaning and range of equivalents of the appended claims.

In particular, if the customer's computer has hardware for extracting features from the specimen, possibly including a digital signal processor, the music distribution company may
10 download a program for implementing the normalization unit. In such a case, the customer need not send the specimen to the music distribution company, but can, instead, simply send patterns derived from the specimen. Furthermore, although the music recognition techniques disclosed herein are particularly useful for internet distribution of music, they can be employed at music stores or elsewhere without involvement of the internet.

WHAT I CLAIM IS:

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A1

1. A method for distributing music over the internet, comprising the steps of:

(a) sending information to identify a musical composition in writing to a person

5 over the internet;

(b) receiving a request from the person over the internet for an audio preview of the musical composition;

(c) sending a corrupted version of some or all of the musical composition to the person over the internet;

10 (d) receiving a request from the person over the internet for the musical composition without corruption; and

(e) sending the musical composition without corruption to the customer.

15 2. The method of claim 1, further comprising the step of (f) recognizing the musical composition from a specimen vocalized by the person, step (f) being conducted before step (a).

20 3. The method of claim 2, wherein step (f) comprises comparing a pattern derived from the specimen with patterns in a pattern library.

4. The method of claim 3, wherein the pattern derived from the specimen comprises a pitch sequence.

5. The method of claim 4; wherein the pattern derived from the specimen further comprises a duration sequence.

6. The method of claim 3, wherein the pattern derived from the specimen comprises a duration sequence.

7. The method of claim 3, further comprising receiving the specimen over the internet and deriving the pattern from the specimen.

8. The method of claim 3, wherein the pattern derived from the specimen is received over the internet.

9. The method of claim 1, wherein step (e) is conducted over the internet.

10. The method of claim 1, wherein step (a) further comprises sending information to identify at least one additional musical composition in writing to the customer over the internet, and wherein a request for a preview of one of the musical compositions that has been selected by the customer is received in step (b).

11. The method of claim 1, wherein the corrupted version of some or all of the musical composition comprises a short-duration snippet of the musical composition.

⁶
~~12~~. The method of claim ⁵~~11~~, wherein the duration of the snippet is less than about 15 seconds.

⁷
~~13~~. The method of claim ⁵~~11~~, wherein noise is superimposed on the snippet.

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⁸
~~14~~. The method of claim 1, wherein the corrupted version of some or all of the musical composition comprises a plurality of isolated, short-duration snippets of the musical composition.

Sub A ¹⁵. The method of claim 1, further comprising the step of securing payment for the musical composition without corruption before conducting step (e).

16. A method of recognizing a musical composition from a specimen of a musical composition that has been vocalized by a person, comprising the steps of:

- 15 (a) extracting features from the specimen vocalized by the person;
- (b) generating a pattern from the extracted features;
- (c) comparing the pattern generated in step (b) with patterns in a pattern library;
- and;
- (d) identifying at least one musical composition from the comparison conducted in
- 20 step (c).

17. The method of claim 16, wherein the pattern generated in step (b) comprises a pitch sequence.

18. The method of claim 16, wherein the pattern generated in step (b) comprises a duration sequence.

5 19. The method of claim 16, wherein step (b) comprises the steps of identifying a sequence of tones in the specimen, and determining half-tone differences between the tones of the sequence.

10 20. The method of claim 19, wherein step (b) further comprises the steps of determining the durations of the tones in the sequence, and finding relationships between the durations of tones that are adjacent one another in the sequence.

15 21. The method of claim 16, further comprising the step of permitting the person to select a tempo for vocalizing the specimen, and wherein step (b) comprises finding relationships between the selected tempo and the durations of features extracted in step (a).

Add AB

ABSTRACT OF THE DISCLOSURE

A customer for music distributed over the internet may select a composition from a menu of written identifiers (such as the song title and singer or group) and then confirm that
5 the composition is indeed the one desired by listening to a corrupted version of the composition. If the customer has forgotten the song title or the singer or other words that provide the identifier, he or she may hum or otherwise vocalize a few bars of the desired composition. A music-recognition system then locates candidates for the selected composition and displays identifiers for these candidates to the customer.

FIG. 1

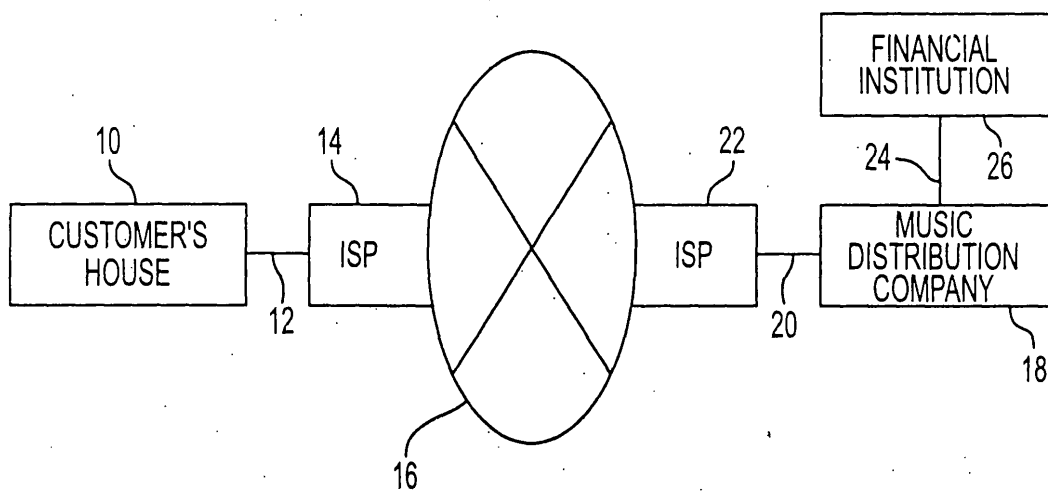


FIG. 2

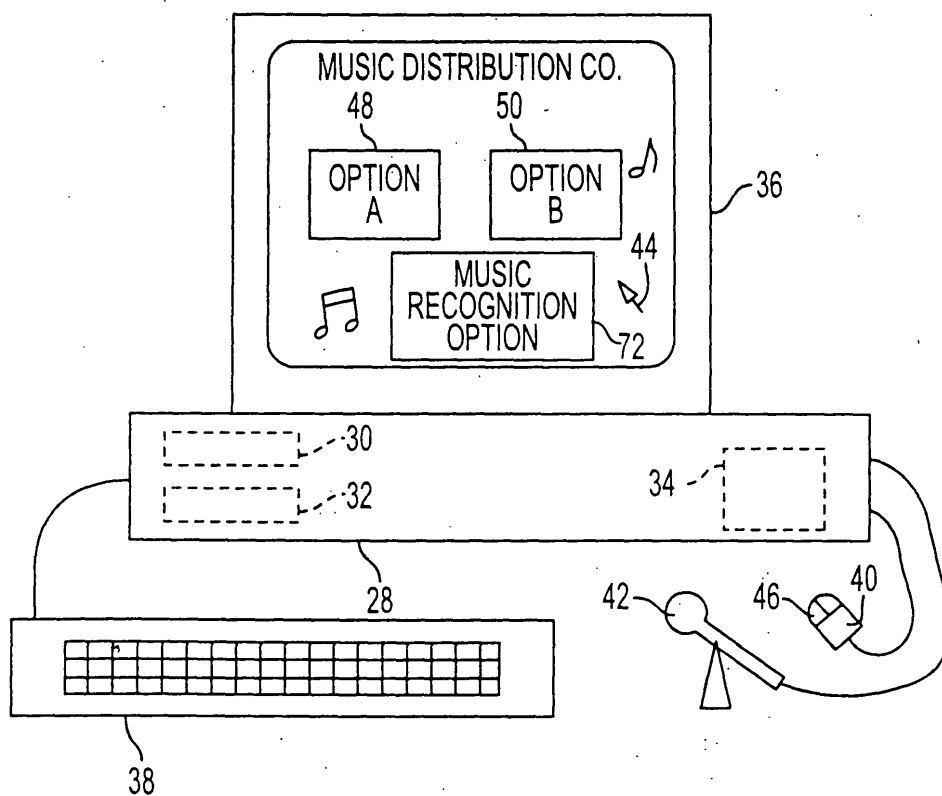


FIG. 3

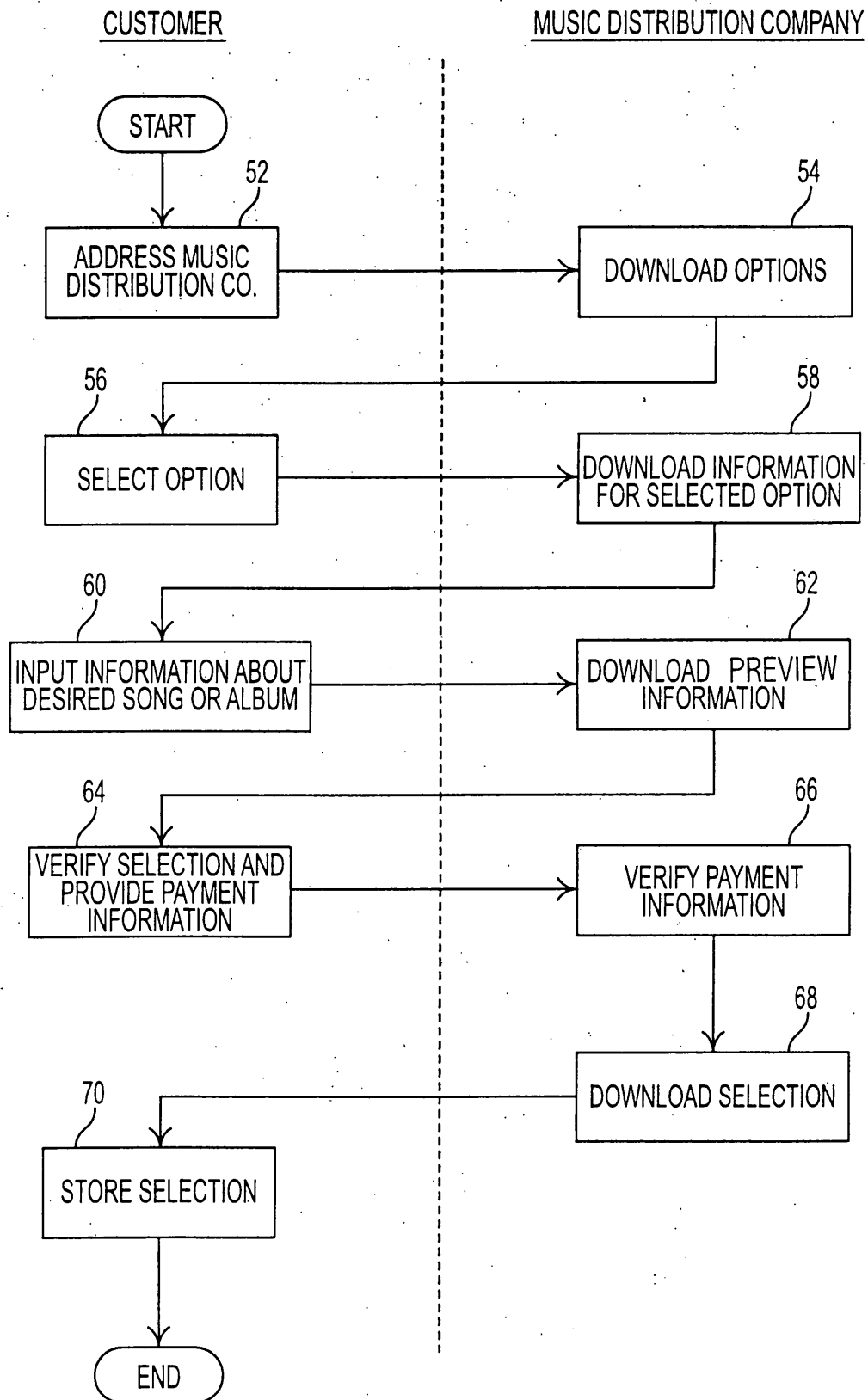


FIG. 4

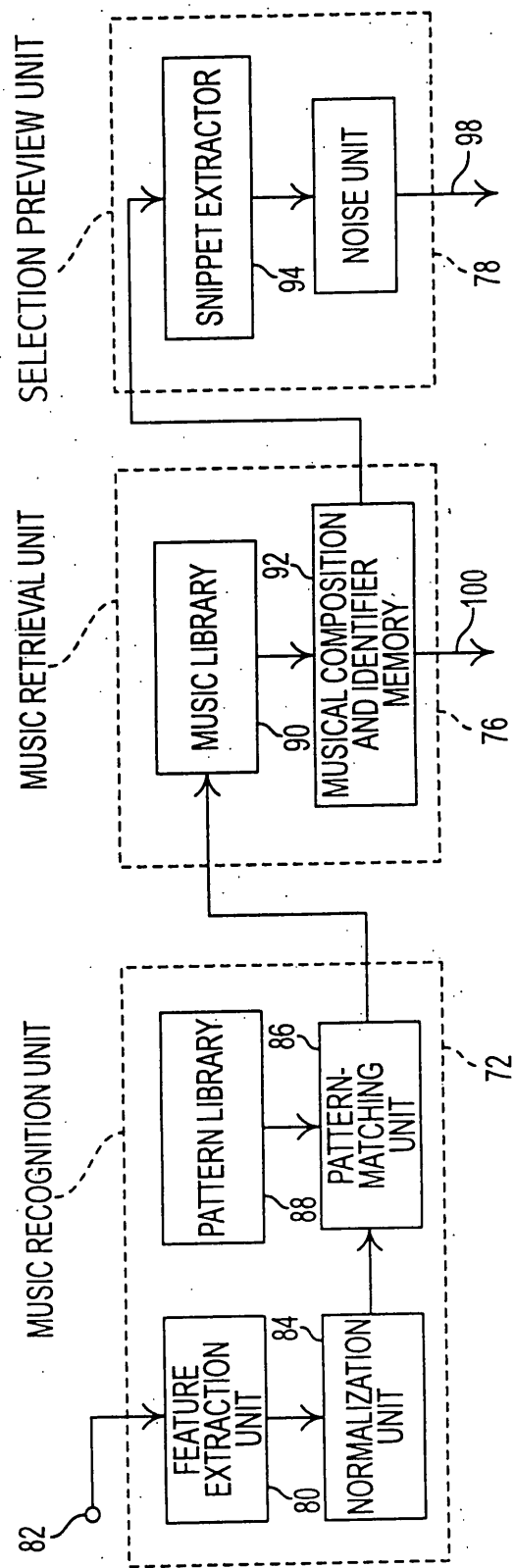
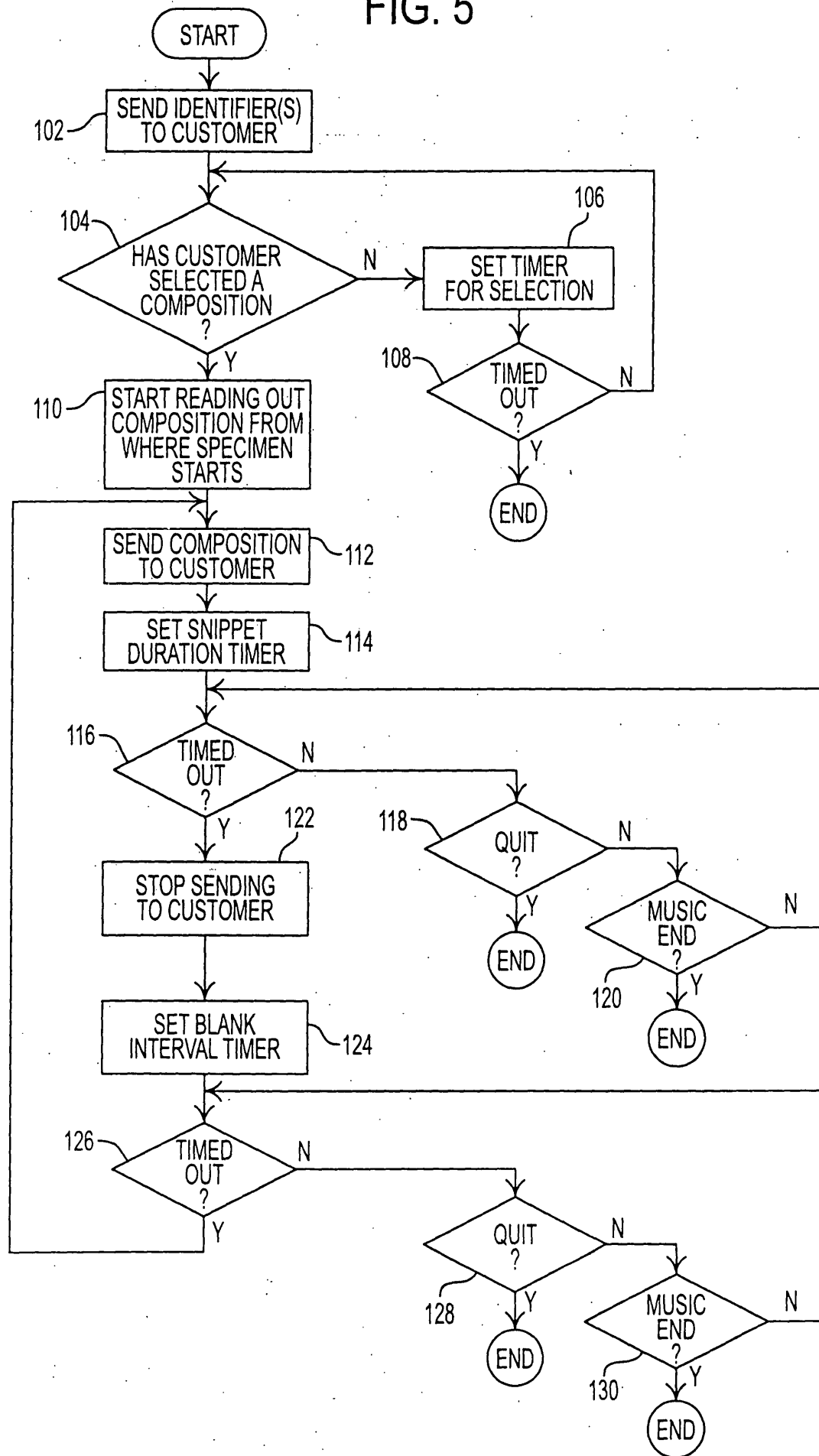


FIG. 5



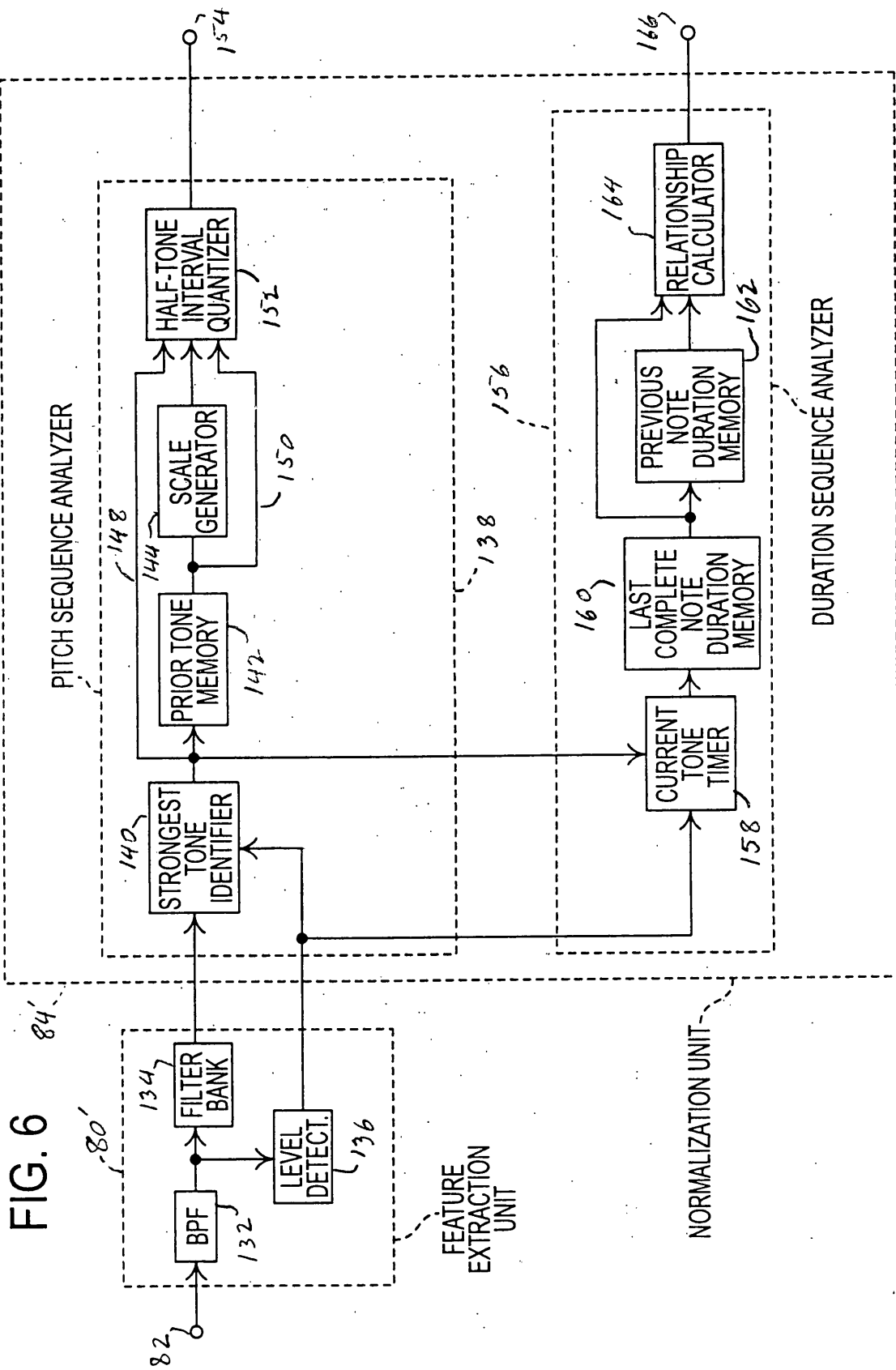


FIG. 7

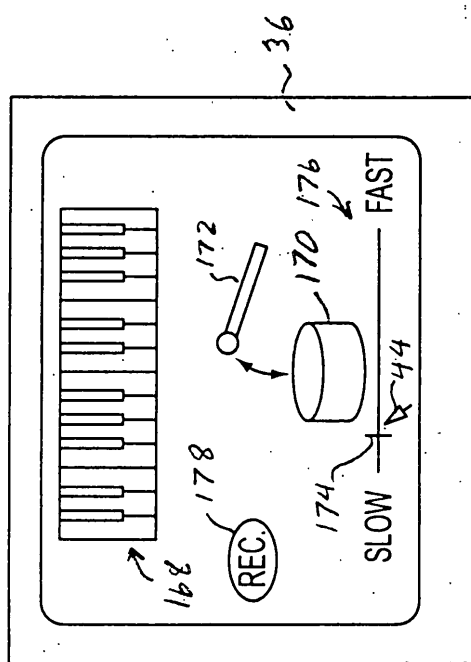


FIG. 8

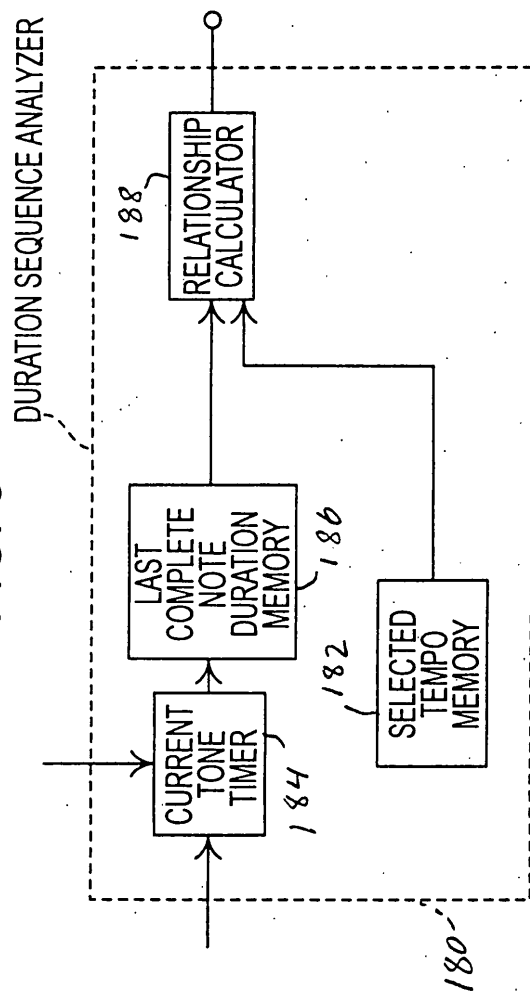


FIG. 9

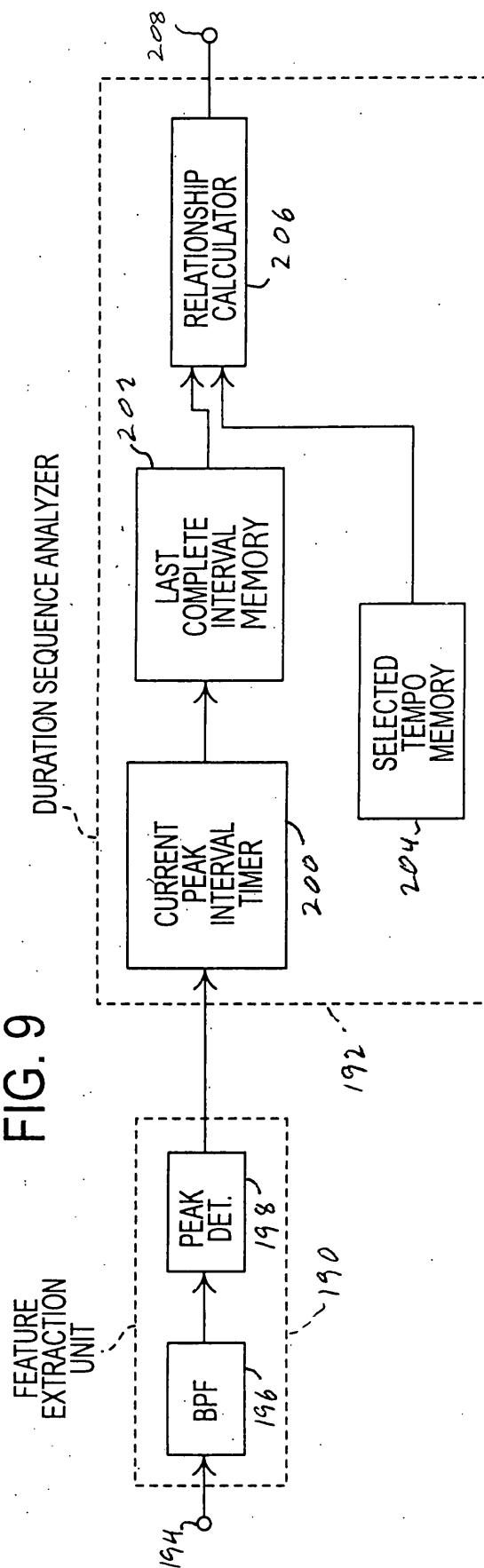


FIG. 1

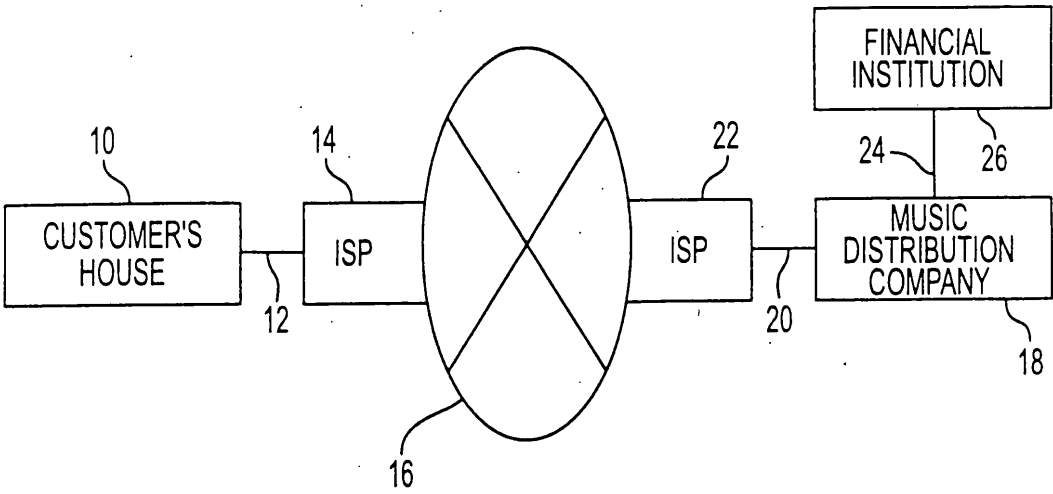


FIG. 2

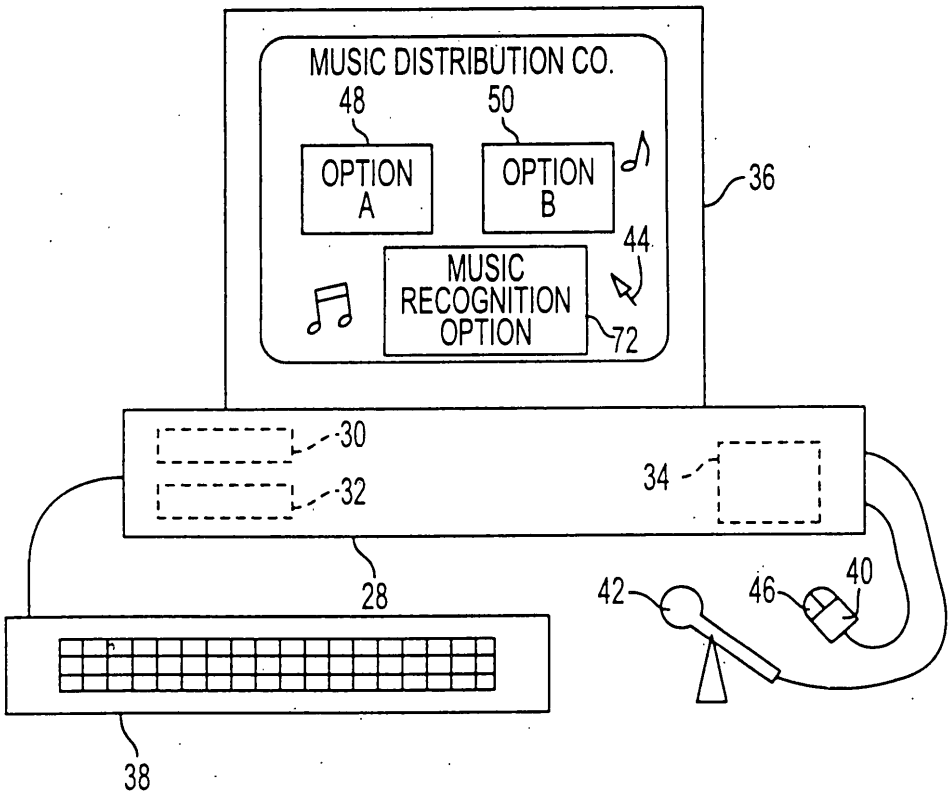


FIG. 3

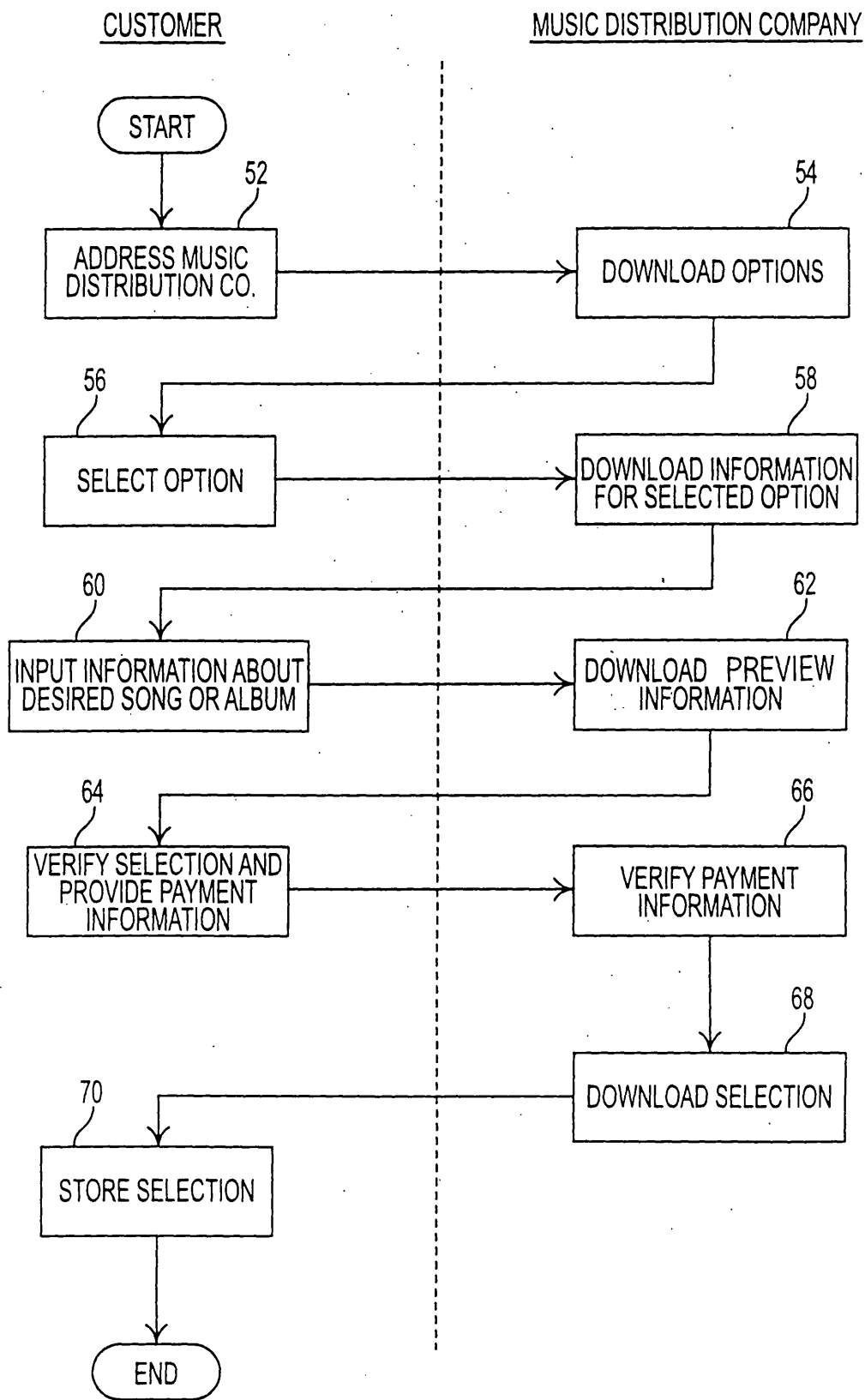


FIG. 4

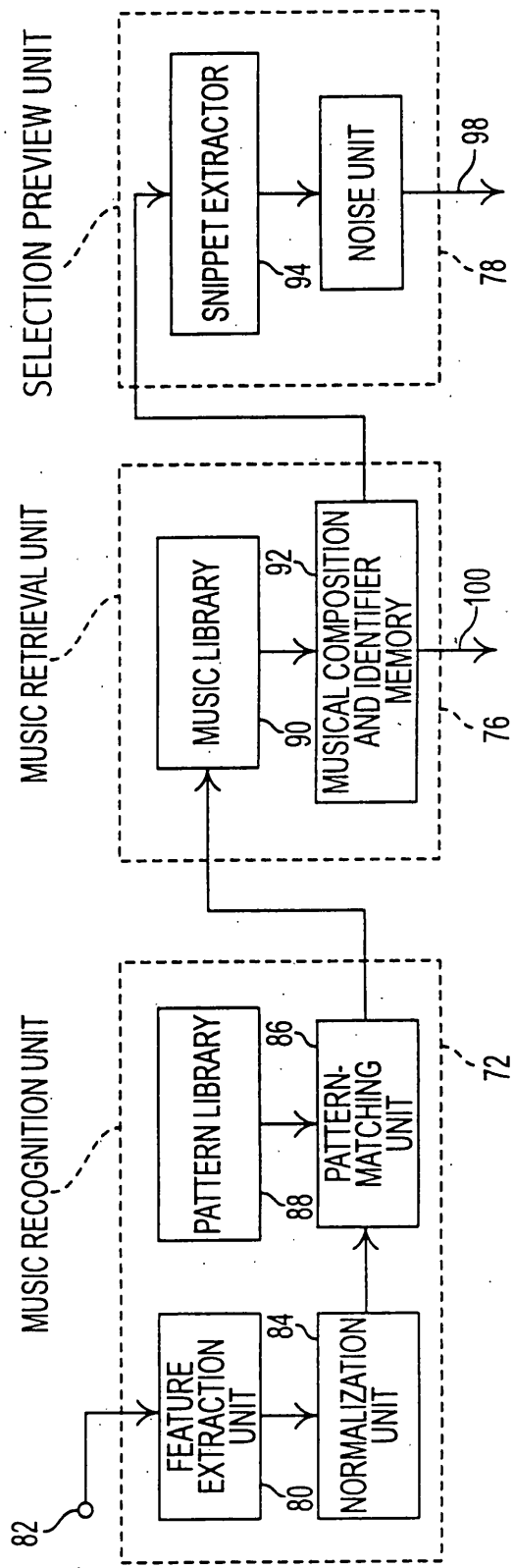
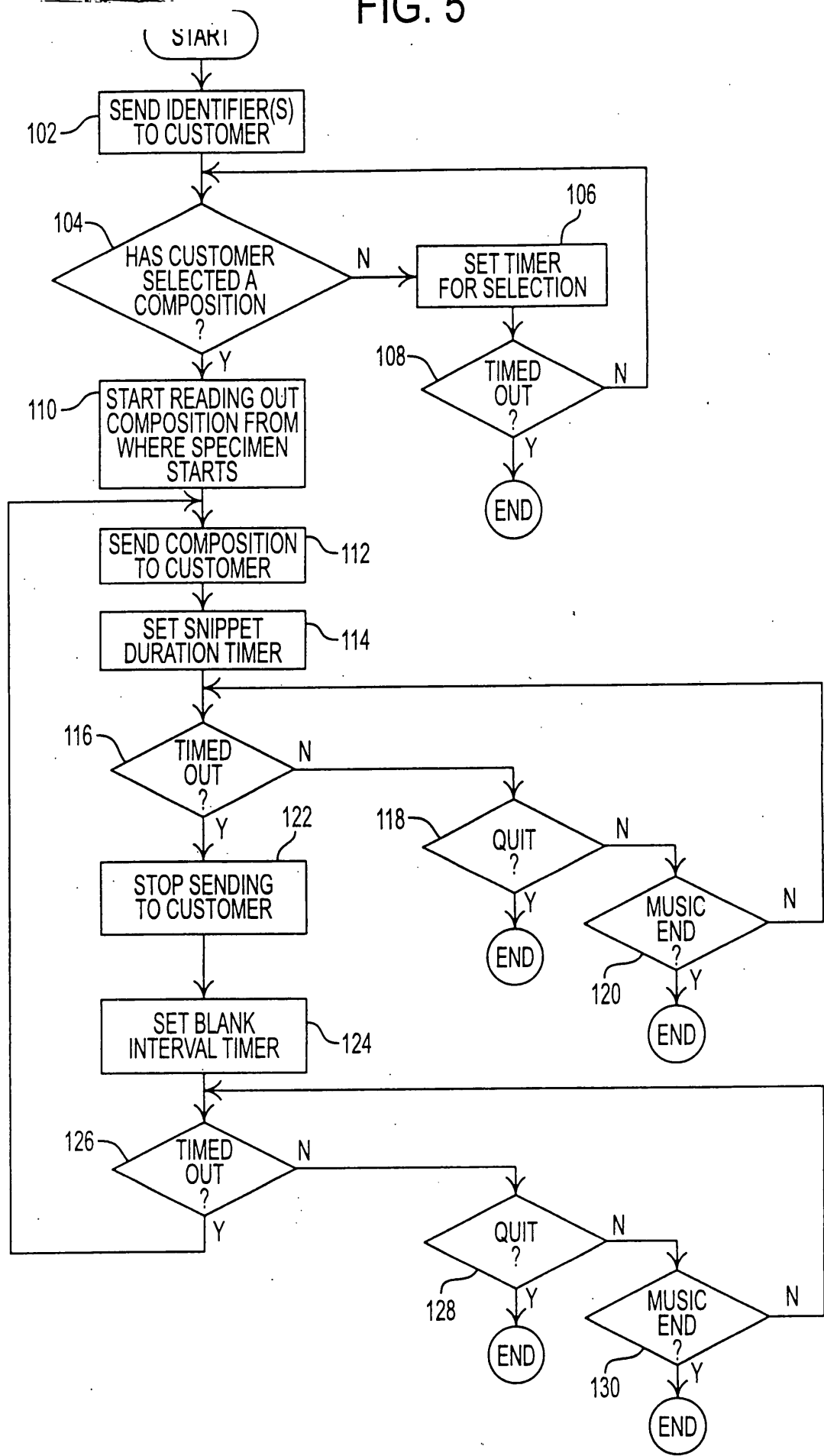


FIG. 5



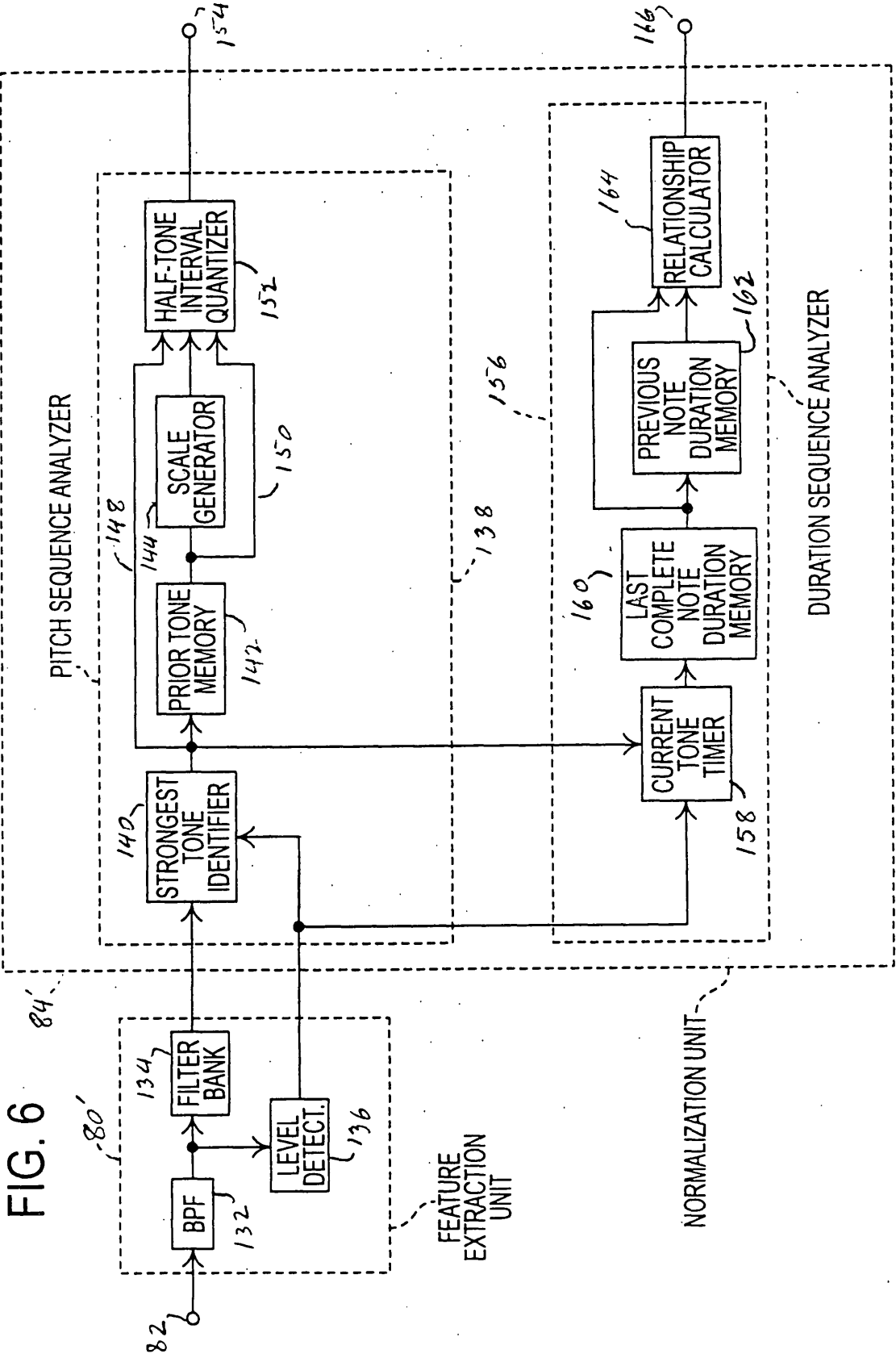


FIG. 7

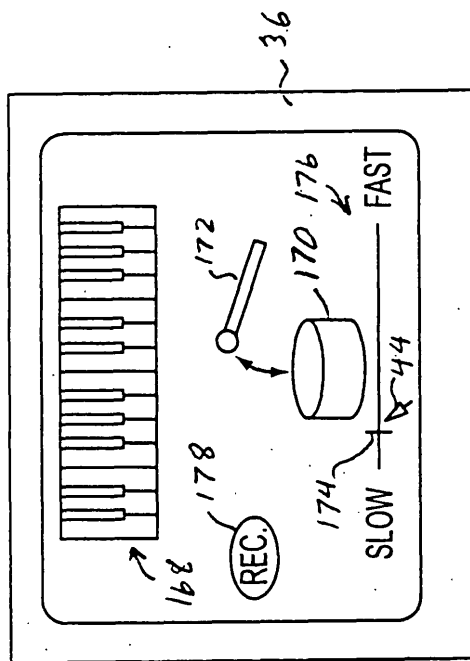


FIG. 8

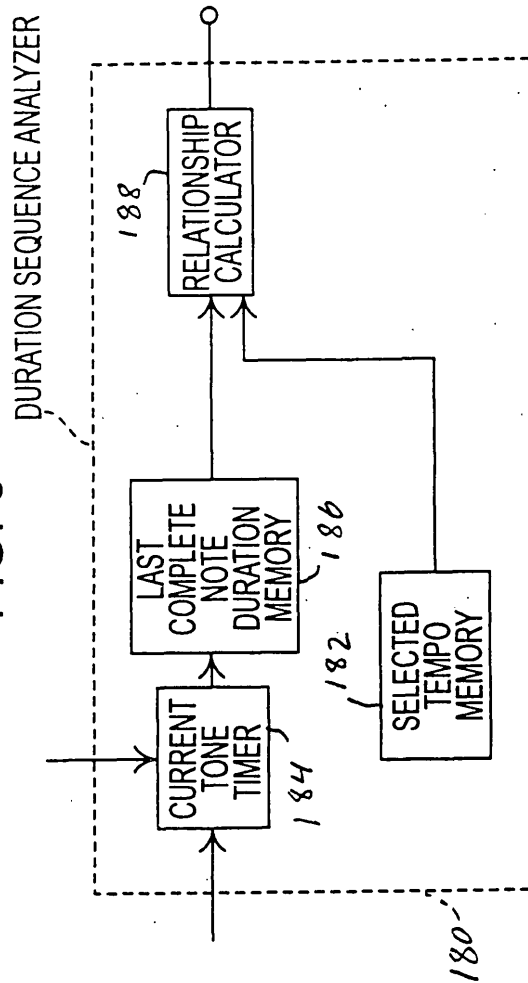


FIG. 9

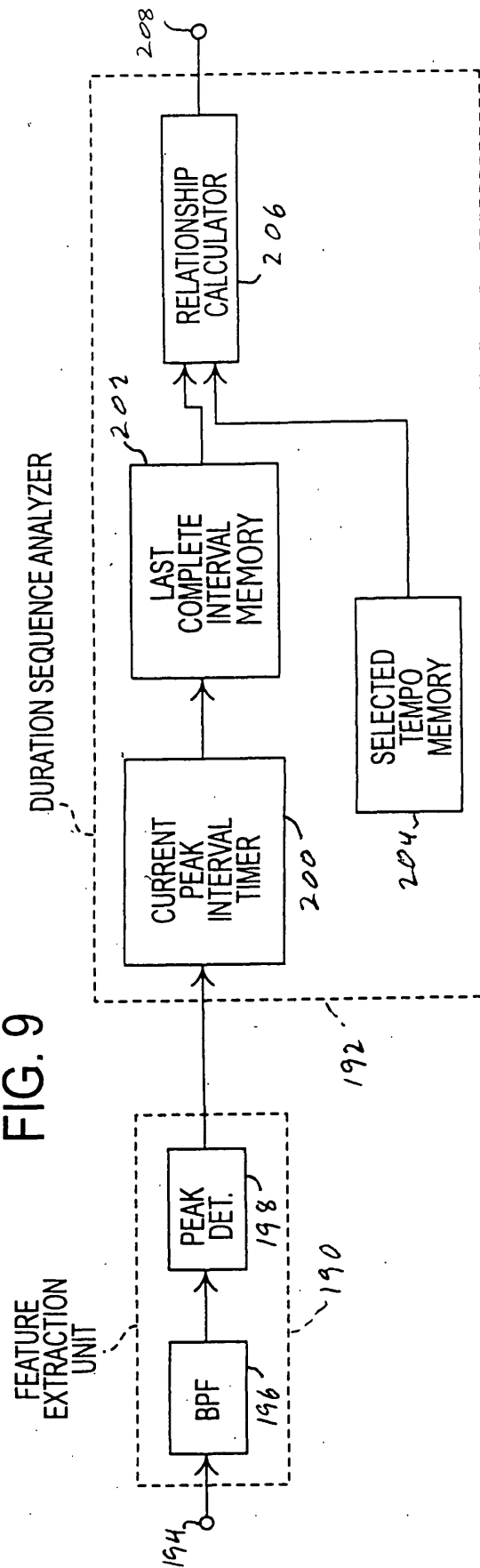


FIG. 1

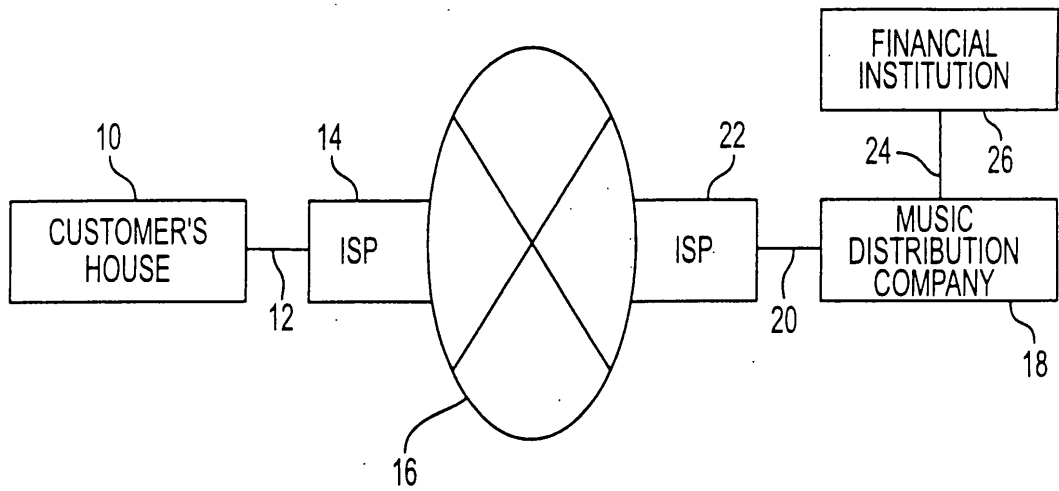


FIG. 2

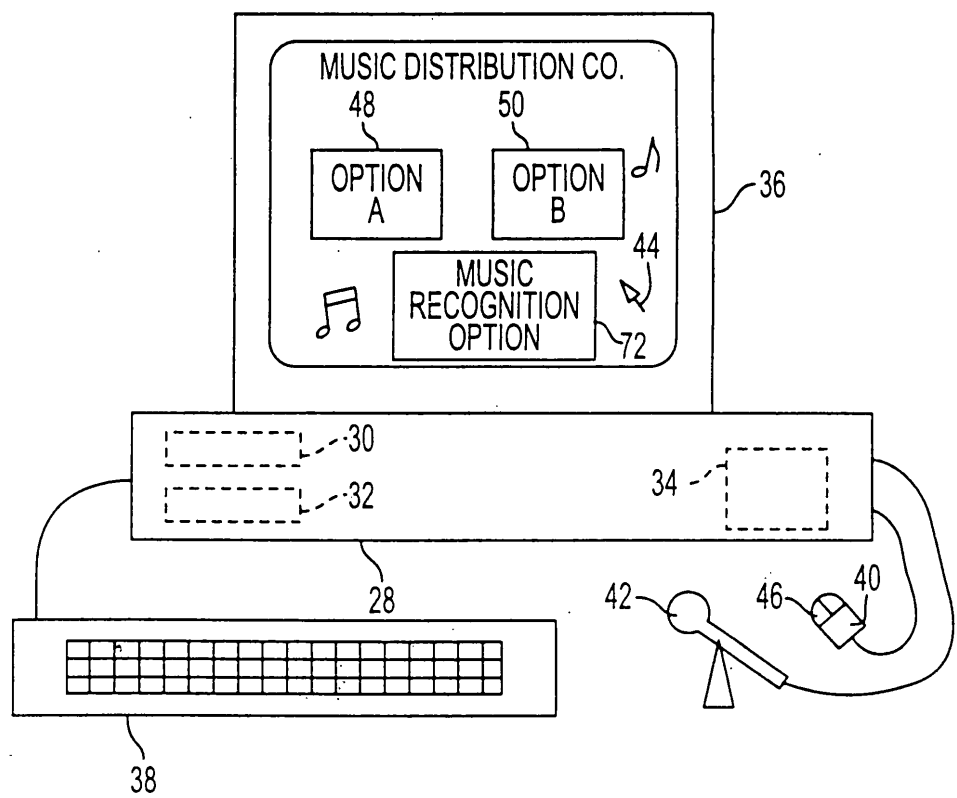


FIG. 3

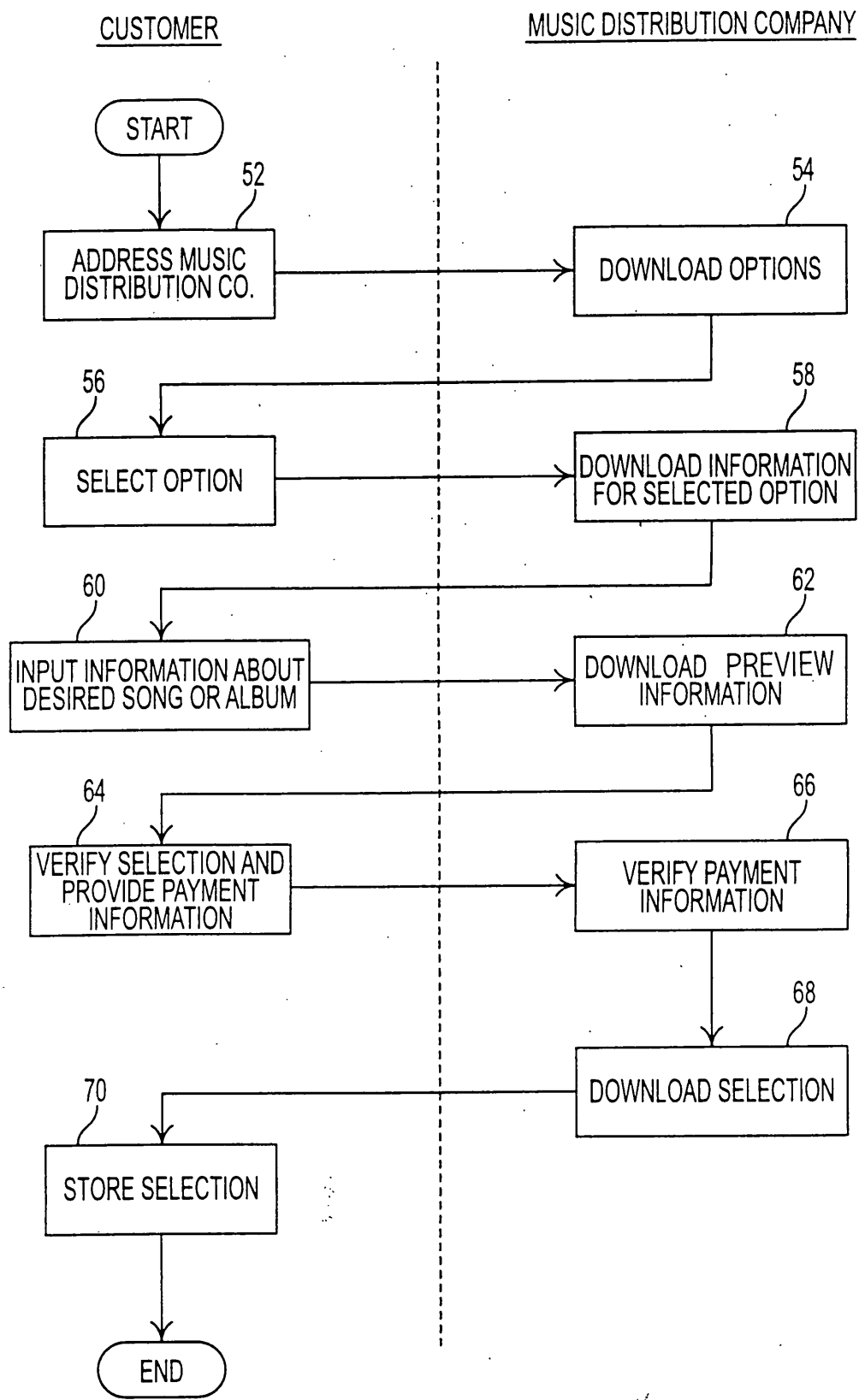


FIG. 4

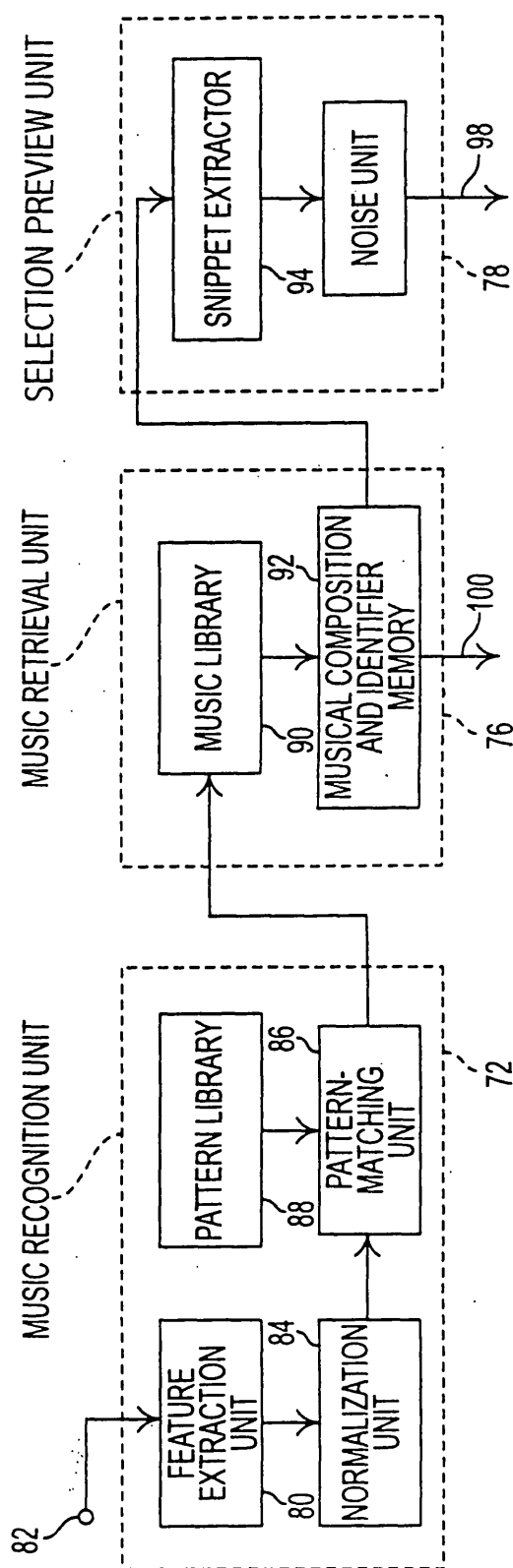
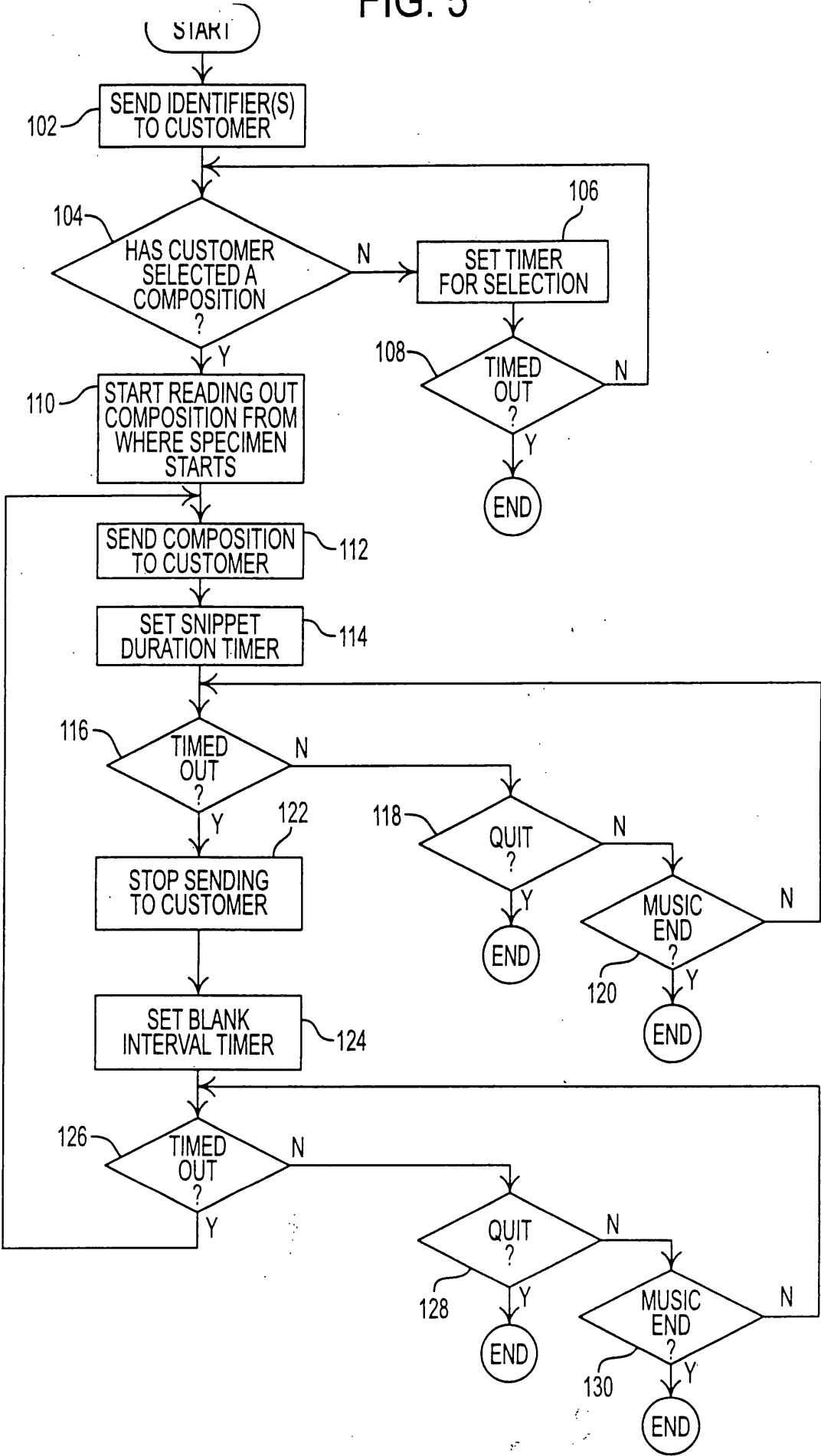


FIG. 5



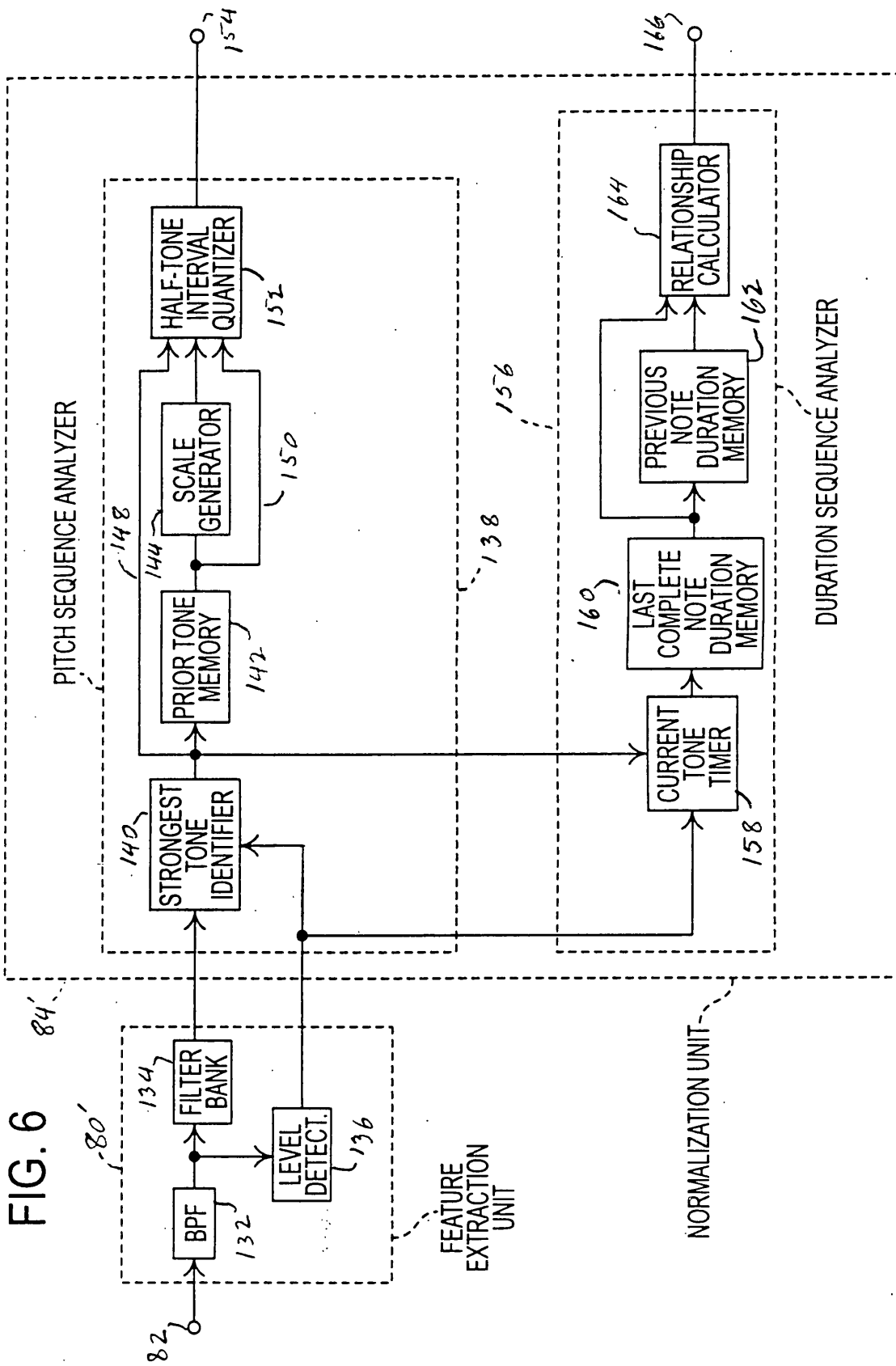


FIG. 7

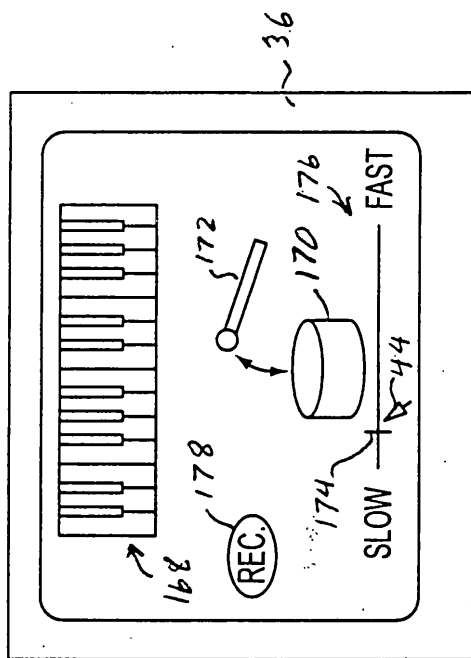


FIG. 8

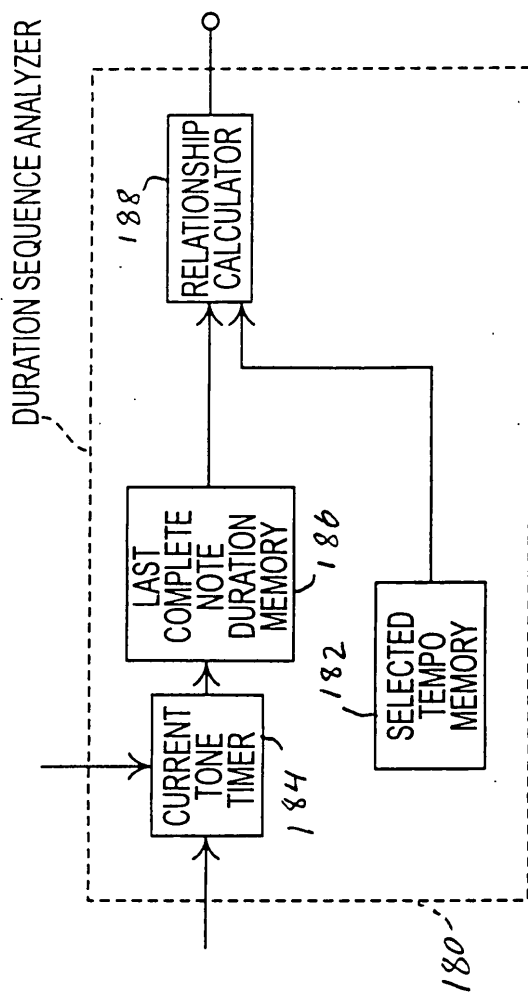
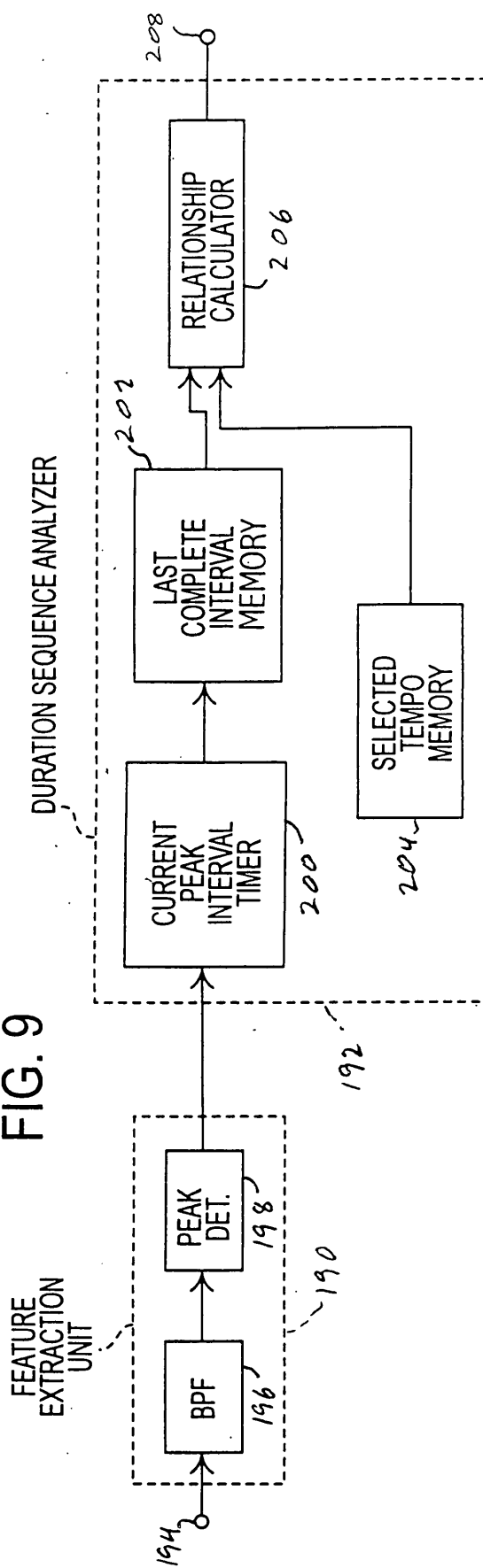


FIG. 9



DECLARATION FOR UNITED STATES PATENT APPLICATION,
POWER OF ATTORNEY, DESIGNATION OF CORRESPONDENCE ADDRESS

As the below named inventor, I hereby declare that my residence, post office address, and citizenship are as stated below next to my name, and that I believe I am the original, first, and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled

METHOD FOR RECOGNIZING AND DISTRIBUTING MUSIC

the specification of which

- ☒ is attached hereto.
☐ was filed on _____ as Application No. _____ and was amended on (if applicable)
☐ was filed under the Patent Cooperation Treaty on _____, Serial No. _____, the United States of America being designed.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims.

I acknowledge the duty to disclose to the Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent, utility model, design, or inventor's certificate listed below and have also identified below any foreign application(s) for patent, utility model, design, or inventor's certificate having a filing date before that of the application(s) on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
Number	Country	Date Filed	Yes	No

I hereby appoint the following attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: George H. Spencer (Reg. No. 18,038), Norman N. Kunitz (Reg. No. 20,586), Robert J. Frank (Reg. No. 19,112), Gabor J. Kelemen (Reg. No. 21,016), Robert Kinberg (Reg. No. 26,924), John W. Schneller (Reg. No. 26,031), Ashley J. Wells (Reg. No. 29,847), Allen Wood (Reg. No. 28,134), James R. Burdett (Reg. No. 31,594), Suite 1000, 1201 New York Avenue, N.W., Washington, D.C. 20005-3917, Telephone: (202) 962-4800, Telefax: (202) 962-8300.

Address all correspondence to VENABLE, P.O. Box 34385, Washington, D.C. 20043-9998.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signature: Lawson A. Wood Date: Nov. 12, 1999.
 Inventor: Lawson A. WOOD
 Citizenship: United States of America
 Residence and Post Office Address: 873 N. Frederick Street
 Arlington, Virginia 22205

Applicant or Patentee: Lawson A. WOOD
Application or Patent No.: _____
Filed or Issued: Concurrently
For: METHOD FOR RECOGNIZING AND DISTRIBUTING MUSIC

Attorney Docket: 31255-152013

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) and 1.27(b)) - INDEPENDENT INVENTOR

As the below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 C.F.R. § 1.9(c) for purposes of paying reduced fees under sections 41(a) and (b) of Title 35, United States Code, to the U.S. Patent and Trademark Office with regard to the invention entitled METHOD FOR RECOGNIZING AND DISTRIBUTING MUSIC described in

☒ the specification filed herewith.
☐ Application Serial No. _____, filed _____
☐ Patent No. _____, issued _____

I have not assigned, granted, conveyed, or licensed and am under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 C.F.R. § 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 C.F.R. § 1.9(d) or a nonprofit organization under 37 C.F.R. § 1.9(e).

Each person, concern, or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

☒ no such person, concern or organization
☐ persons, concerns or organizations listed below*

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. 37 C.F.R. § 1.27.

NAME _____
ADDRESS _____
☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

NAME _____
ADDRESS _____
☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

NAME _____
ADDRESS _____
☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any changes in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. 37 C.F.R. § 1.28(b).

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Lawson A. WOOD
NAME OF INVENTOR

Lawson A. Wood
SIGNATURE OF INVENTOR

Nov. 12, 1999
DATE

RECEIVED #

AUG 23 2001

Technology Center 2600



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Art Unit : 2741

Examiner: To Be Assigned

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AUG 28 2001

Technology Center 2100

IN RE: PATENT APPLICATION OF

Applicant : Lawson A. WOOD)

Appln. No.: 09/438,469)

Filed : November 12, 1999)

For : METHOD FOR RECOGNIZING)
AND DISTRIBUTING MUSIC)

Att'y Dkt. : 31255-152013)

INFORMATION
DISCLOSURE STATEMENT

August 21, 2001

Customer No.



26694

PATENT TRADEMARK OFFICE

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

This is an Information Disclosure Statement submitted under 37 CFR 1.97-1.98. A Form PTO 1449 and copies of the references listed therein are attached. It is respectfully requested that the references be considered and made of record.

Respectfully submitted,

Allen Wood

Allen Wood (The Applicant)

Registration No. 28,134

VENABLE

Post Office Box 34385

Washington, D.C. 20043-9998

Telephone: (202) 962-4800

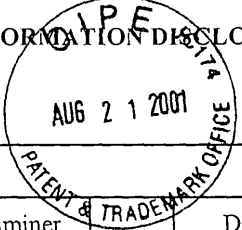
Telefax : (202) 962-8300

AW/SJB
#310024

AUG 2 2001

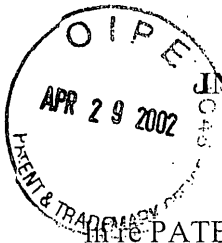
Page 1 of 1

Technology Center 2600

FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT 		Atty Docket 31255-152013		Application No. 09/438,469			
		Applicant Lawson A. WOOD					
		Filing Date November 12, 1999		Group 2741 <i>2154</i>			
U.S. PATENT DOCUMENTS							
Examiner Initial		Document Number	Date	Name	Class	Sub-Class	Filing Date
<i>WLR</i>	AA	5,794,217	08/11/98	Richard ALLEN			
<i>WLR</i>	AB	5,874,686	02/23/99	Asif U. GHIAS, et al.			
<i>WLR</i>	AC	5,918,213	02/29/99	Warren BERNARD, et al.			
	AD						
	AE						
	AF						
	AG						
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Sub-Class	Translation
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)							
	AJ						
	AK						
	AL						
	AM						
	AN						
	AO						
Examiner <i>WLR Jan L</i>					Date Considered <i>9/6/02</i>		
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.							

#310026

#3



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit: 2741
Examiner: Not yet assigned

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MAY 01 2002

THIS PATENT APPLICATION OF:

Applicant(s) : Lawson A. Wood
Serial No. : 09/438,469
Filed : November 12, 1999
For : METHOD FOR RECOGNIZING
AND DISTRIBUTING MUSIC
Attorney Ref. : AW-16

CHANGE OF
ADDRESS

April 29, 2002

Commissioner of Patents
Washington, D.C. 20231

Sir:
Please send all further correspondence to:

Allen Wood
Rabin & Berdo
Suite 500
1101 14th Street, N.W.
Washington, D.C. 22205

RECEIVED
MAY 10 2002
Technology Center 2100

Please direct telephone calls to (202) 659-1915.-

Respectfully submitted,

L. Allen Wood
L. Allen Wood - Reg. No. 28,134 (the applicant)
RABIN & BERDO, P.C.
Telephone: 202-659-1915
Telefax: 202-659-1898
CUSTOMER NO. 23995

AW



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/438,469	11/12/1999	LAWSON A. WOOD	31255-152013	9368

26694 7590 09/17/2002

VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP
P.O. BOX 34385
WASHINGTON, DC. 20043-9998

EXAMINER

LIN, WEN TAI

ART UNIT	PAPER NUMBER
----------	--------------

2154

DATE MAILED: 09/17/2002

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/438,469	WOOD, LAWSON A.	
	Examiner	Art Unit	
	Wen-Tai Lin	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 21 August 2001.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-21 is/are pending in the application.

4a) Of the above claim(s) 16-21 is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-15 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other:

DETAILED ACTION

1. Claims 1-21 are presented for examination.

Restriction

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- i. Claims 1-15, Group I, are drawn to method and apparatus for distribution of music over the network, classified in Class 709, subclass 200.

- ii. Claims 16-21, Group II, are drawn to method and apparatus for speech/audio signal processing, classified in Class 704, subclass 243.

Inventions Group I and II are related as subcombinations disclosed as useable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately useable. In the instant case, invention Group I has separate utility such as browsing a music information provider to preview, search and receive the selected audio files over the network. See MPEP 806.05(d).

During a telephone conversation with Mr. Allen Wood on 9/9/2002 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-15. Affirmation of this election must be made by applicant in responding to this office action. Claims 16-21 are withdrawn from further consideration by the examiner as being drawn to a nonelected invention. See 37 CFR 1.142(b).

3. Claim 13 is objected to because it is not clear what kind of noise is being superimposed on the data. Specifically, there are different types of noise, such as random noise versus structured (or colored) noise, both may degrade the original fidelity of the data. Unless specifically specified, the noise being added to the data may be broadly interpreted as anything that does not correlate with the data and degrades the original fidelity. For example, watermarking is a form of structured noise purposely added to the original data.

Clarification/correction is required in response to this office action.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1, 9, 11, 13 and 15 are rejected under 35 U.S.C. 102(e)(b) as being anticipated by Wiser et al.[U.S. Pat. No. 6385596].

6. As to claim 1, Wiser taught the invention as claimed including: a method for distributing music over the internet[col.3, lines 5-10], comprising the steps of:

(a) sending information to identify a musical composition in writing to a person over the internet [Fig.8; col.14, lines 40-47];

(b) receiving a request from the person over the internet for an audio preview of the musical composition[col.14, lines 48-51];

(c) sending a corrupted version of some or all of the musical composition to the person over the internet [col.3, lines 50-63; that is, the low quality audio data for preview is a corrupted version of some or all of the musical composition];

(d) receiving a request from the person over the internet for the musical composition without corruption [col.29, lines 65-67]; and

(e) sending the musical composition without corruption to the customer[col.30, lines 20-22; col.3, lines 54-55].

7. As to claim 9, Wiser further taught that step (e) is conducted over the internet [col.3, lines 5-10].

8. As to claim 11, Wiser further taught that the corrupted version of some or all of the musical composition comprises a short-duration snippet of the musical composition [col.7, lines 56-62].

9. As to claim 13, Wiser further taught that structured noise is superimposed on the snippet [col.7, lines 17-19; that is, watermarking has an effect of superimposing noise on the audio data, resulting in slightly blurred audio image].

10. As to claim 15, Wiser further taught that the step of securing payment for the musical composition without corruption before conducting step (e) [col.4, lines 51-67; col.3, lines 54-55].

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiser et al.(hereafter "Wiser") [U.S. Pat. No. 6385596], as applied to claims 1, 9, 11, 13

and 15 above, and further in view of Ghias et al.(hereafter "Ghias") [U.S. Pat. No. 5874686].

13. Ghias is cited from Applicant's IDS filed on 8/21/2001.

14. As to claim 2, Wiser did not specifically teach that the method comprising the step of (f) recognizing the musical composition from a specimen vocalized by the person, step (f) being conducted before step (a).

However, Ghias taught a method wherein a particular melody or tune is vocalized by the person as a hummed query for further matching in the database [col.2, lines 41-52].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Wiser and Ghias by adopting hummed query as an option of specifying a musical ID, because this is a simple and natural way of querying an audio database [Ghias: col.1, lines 21-27], and by doing so, Wiser's music distribution system/method could provide multiple choices of identifying a music.

15. As to claim 3, Ghias further taught that step (f) comprises comparing a pattern derived from the specimen with patterns in a pattern library [Abstract: lines 2-5; that is, the pattern is a sequence of relative pitch difference].

16. As to claim 4, Ghias further taught that the pattern derived from the specimen comprises a pitch sequence [col.3, lines 8-22; that is, since the sequence of relative pitch difference is derived from a pitch sequence, the former can be recovered from the latter].

17. As to claims 5 and 6, Ghias further taught that the pattern derived from the specimen further comprises a duration sequence [col.3, lines 8-22; note that, with "S" representing "the same as the previous pitch" in the sequence of relative pitch difference, the original pitch duration is preserved. For example, a "D" followed by a "U" has a length of one time unit; a "D" followed by an "S" has a length of two time units. It is obvious that both the pitch sequence and duration sequence are properly preserved in Ghias's sequence of relative pitch difference].

18. As to claim 7, Wiser and Ghias did not specifically teach that the pattern is derived at a remote server close to the database (i.e., by transmitting the specimen over the network).

However, it is well known in the art that when serving clients with hand-held devices, a remote server normally takes care of most of the processing tasks.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that Ghias would have to rely on a remote server to perform the pitch tracking/detection task for clients using light-weight, hand-held devices so that the

latter could be alleviated from the execution of the time-consuming pitch tracking/detection algorithms.

19. As to claim 8, Ghias further taught that the pattern derived from the specimen locally [22, Fig.1] and then transferred to a remote database [col.2, lines 34-40].

20. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wiser et al.(hereafter "Wiser") [U.S. Pat. No. 6385596], as applied to claims 1-9, 11, 13 and 15 above, and further in view of Allen [U.S. Pat. No. 5794217].

21. Allen is cited from Applicant's IDS filed on 8/21/2001.

22. As to claim 10, Wiser did not specifically teach that step (a) further comprises sending information to identify at least one additional musical composition in writing to the customer over the internet, and wherein a request for a preview of one of the musical compositions that has been selected by the customer is received in step (b).

However, Allen taught a method of promoting a consumer to preview titles derived from a consumer profile database, which includes items from the consumer's previous browse or preview activities [col.4, lines 12-28]. Since Wiser's system has to present a limited number of preview titles on the consumer's terminal [Wiser: Fig.8], it is obvious that a carefully chosen musical items on display could make a better sale to the consumer.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Allen's consumer profile in Wiser's system, so that when the consumer's choice for preview is received, a new musical item derived from the recent choices could be presented on the consumer's terminal, thereby promoting Wiser's consumers to buy more.

23. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wiser et al. [U.S. Pat. No. 6385596], as applied to claims 1-11, 13 and 15 above.

24. As to claim 12, Wiser did not specifically teach that the duration of the snippet is less than about 15 seconds.

However, Wiser taught that the duration of the preview clip is parameterized and therefore is adjustable [see col.7, lines 56-62]. It is also obvious that the preview duration should be set to long enough just for a nominal person to identify the subject, but not too long to entertain the consumer or overload the network. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to have set the duration of a snippet around certain empirical values; among them, a value less than about 15 seconds is a potential choice in Wiser's system.

25. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wiser et al. [U.S. Pat. No. 6385596], as applied to claims 1-13 and 15 above, and further in view of Hoffert et al.(hereafter "Hoffert") [U.S. Pat. No. 6282549].

26. As to claim 14, Wiser did not specifically teach that the corrupted version of some or all of the musical composition comprises a plurality of isolated, short-duration snippets of the musical composition.

However, Hoffert taught that the preview data includes snippets of audio information [col.30, lines 1-2; col.23, lines 19-24].

It would have been obvious to one of ordinary skill in the art at the time the invention was made that Wiser could extend the preview data from a single snippet to a plurality of snippets so that each snippet represents the feature of a different portion of the audio file, making it easier to identify a music or song in Wiser's system.

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Ronen [U.S. Pat. No. 5745556];

Chen et al. [U.S. Pat. No. 6057884];

Tsevdos et al. [U.S. Pat. No. 5734719], disclosed systems/methods for distributing audio/video items over the network with secured payment.

28. A shortened statutory period for response to this action is set to expire **3 (three) months and 0 days** from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the application (see 35 U.S.C. 133, M.P.E.P. 710.02, 710.02(b)).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen-Tai Lin whose telephone number is (703)305-4875. The examiner can normally be reached on Monday-Friday(8:00-5:00) .

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703)305-9678. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

(703)746-7239 for official communications;


(703)746-7238 for after final communications; and

(703)746-7240 for status inquires draft communication.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Wen-Tai Lin

September 10, 2002


9/10/02

Notice of References Cited	Application/Control No. 09/438,469	Applicant(s)/Patent Under Reexamination WOOD, LAWSON A.	
	Examiner Wen-Tai Lin	Art Unit 2154	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-6,385,596	05-2002	Wiser et al.	369/84
*	B	US-5,874,686	02-1999	Ghias et al.	84/609
	C	US-6,282,549	08-2001	Hoffert et al.	707/1
*	D	US-5,794,217	08-1998	Allen, Richard	705/27
	E	US-5,745,556	04-1998	Ronen, Yzhak	379/114.01
	F	US-6,057,884	05-2000	Chen et al.	348/42
	G	US-5,734,719	03-1998	Tsevdos et al.	375/240.01
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

09/43846

NOTICE OF DRAFTSPERSON'S
PATENT DRAWING REVIEWThe drawing(s) filed (insert date) 11/12/99 are:A. ☐ approved by the Draftsperson under 37 CFR 1.84 or 1.152.B. ☒ objected to by the Draftsperson under 37 CFR 1.84 or 1.152 for the reasons indicated below. The Examiner will require submission of new, corrected drawings when necessary. Corrected drawing must be submitted according to the instructions on the back of this notice.1. DRAWINGS. 37 CFR 1.84(a): Acceptable categories of drawings:
Black ink. Color.☐ Color drawings are not acceptable until petition is granted.

Fig(s) _____

☐ Pencil and non black ink not permitted. Fig(s) _____

2. PHOTOGRAPHS. 37 CFR 1.84 (b)

☐ 1 full-tone set is required. Fig(s) _____☐ Photographs not properly mounted (must use bristol board or photographic double-weight paper). Fig(s) _____☐ Poor quality (half-tone). Fig(s) _____

3. TYPE OF PAPER. 37 CFR 1.84(e)

☐ Paper not flexible, strong, white, and durable.

Fig(s) _____

☐ Erasures, alterations, overwritings, interlineations, folds, copy machine marks not accepted. Fig(s) _____☐ Mylar, velum paper is not acceptable (too thin).

Fig(s) _____

4. SIZE OF PAPER. 37 CFR 1.84(f): Acceptable sizes:

☐ 21.0 cm by 29.7 cm (DIN size A4)☐ 21.6 cm by 27.9 cm (8 1/2 x 11 inches)☐ All drawing sheets not the same size.

Sheet(s) _____

☐ Drawings sheets not an acceptable size. Fig(s) _____

5. MARGINS. 37 CFR 1.84(g): Acceptable margins:

Top 2.5 cm Left 2.5cm Right 1.5 cm Bottom 1.0 cm

SIZE: A4 Size

Top 2.5 cm Left 2.5 cm Right 1.5 cm Bottom 1.0 cm

SIZE: 8 1/2 x 11

Margins not acceptable. Fig(s) 5☒ Top (T) _____ Left (L) _____☒ Right (R) _____ Bottom (B) _____

6. VIEWS. 37 CFR 1.84(h)

REMINDER: Specification may require revision to correspond to drawing changes.

Partial views. 37 CFR 1.84(h)(2)

☐ Brackets needed to show figure as one entity.

Fig(s) _____

☐ Views not labeled separately or properly.

Fig(s) _____

☐ Enlarged view not labeled separately or properly.

Fig(s) _____

7. SECTIONAL VIEWS. 37 CFR 1.84 (h)(3)

☐ Hatching not indicated for sectional portions of an object.

Fig(s) _____

☐ Sectional designation should be noted with Arabic or Roman numbers. Fig(s) _____

8. ARRANGEMENT OF VIEWS. 37 CFR 1.84(i)

☐ Words do not appear on a horizontal, left-to-right fashion when page is either upright or turned so that the top becomes the right side, except for graphs. Fig(s) _____

9. SCALE. 37 CFR 1.84(k)

☐ Scale not large enough to show mechanism without crowding when drawing is reduced in size to two-thirds in reproduction.

Fig(s) _____

10. CHARACTER OF LINES, NUMBERS, & LETTERS.

37 CFR 1.84(i)

☒ Lines, numbers & letters not uniformly thick and well defined, clean, durable, and black (poor line quality).Fig(s) 6-9

11. SHADING. 37 CFR 1.84(m)

☐ Solid black areas pale. Fig(s) _____☐ Solid black shading not permitted. Fig(s) _____☐ Shade lines, pale, rough and blurred. Fig(s) _____

12. NUMBERS, LETTERS, & REFERENCE CHARACTERS.

37 CFR 1.84(p)

☐ Numbers and reference characters not plain and legible.

Fig(s) _____

☐ Figure legends are poor. Fig(s) _____☐ Numbers and reference characters not oriented in the same direction as the view. 37 CFR 1.84(p)(1)

Fig(s) _____

☐ English alphabet not used. 37 CFR 1.84(p)(2)

Figs _____

☐ Numbers, letters and reference characters must be at least .32 cm (1/8 inch) in height. 37 CFR 1.84(p)(3)

Fig(s) _____

13. LEAD LINES. 37 CFR 1.84(q)

☐ Lead lines cross each other. Fig(s) _____☐ Lead lines missing. Fig(s) _____

14. NUMBERING OF SHEETS OF DRAWINGS. 37 CFR 1.84(t)

☐ Sheets not numbered consecutively, and in Arabic numerals beginning with number 1. Sheet(s) _____

15. NUMBERING OF VIEWS. 37 CFR 1.84(u)

☐ Views not numbered consecutively, and in Arabic numerals, beginning with number 1. Fig(s) _____

16. CORRECTIONS. 37 CFR 1.84(w)

☐ Corrections not made from prior PTO-948 dated _____

17. DESIGN DRAWINGS. 37 CFR 1.152

☐ Surface shading shown not appropriate. Fig(s) _____☐ Solid black shading not used for color contrast.

Fig(s) _____

COMMENTS

REVIEWER

A.D.

DATE

12/10/99

TELEPHONE NO.

ATTACHMENT TO PAPER NO.

Attachment for PTO-948 (Rev. 03/01, or earlier)
6/18/01

The below text replaces the pre-printed text under the heading, "~~Information on How to Effect Drawing Changes~~" on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

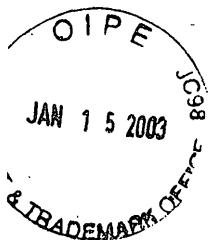
All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.

06/01/01



6/H
Bturne
1/23/03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit: 2154
Examiner: Mr. Wen Tai Lin

In re Patent Application of:

RECEIVED

Applicant(s): Lawson A. Wood

JAN 17 2003

Serial No.: 09/438,469

Technology Center 2100

Filed: November 12, 1999

For: METHOD FOR RECOGNIZING
AND DISTRIBUTING MUSIC

AMENDMENT

Atty Dkt: Aw-16

January 15, 2003

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

In response to the Office Action of September 17, 2002, the period for reply to which is being extended to expire on January 17, 2003 by a Petition filed concurrently herewith, kindly amend the above-identified application as follows:

IN THE CLAIMS:

In what follows, instructions will be presented for amending the claims. With regard to the claims that are being rewritten, an Attachment is appended to this Amendment to show how the rewritten claims differ from the previous version of these claims.

Kindly cancel withdrawn claims 16-21 without prejudice to a possible divisional application.

Kindly also cancel claims 2, 3, 5, 6 and ~~15~~, and amend claims 1, 4, and 7-10, and add new claims 22-24, so that a complete set of the pending claims will read as follows:

note
1/23/03

A

Suber
P1

1. (Once Amended) A method for distributing music over the internet, comprising the steps of:

(a) recognizing a musical composition from a specimen vocalized by a person, by comparing a pattern derived from the specimen with patterns from a pattern library;

(b) sending information to identify a musical composition in writing to the person over the internet;

(c) receiving a request from the person over the internet for an audio preview of the musical composition;

(d) sending a corrupted version of some or all of the musical composition to the person over the internet;

(e) receiving a request from the person over the internet for the musical composition without corruption; and

(f) sending the musical composition without the corruption to the person, wherein the pattern derived from the specimen comprises a duration sequence.

(Claims 2 and 3 have been cancelled.)

4. (Once Amended) The method of claim 1, wherein the pattern derived from the specimen further comprises a pitch sequence.

(Claims 5 and 6 have been cancelled.)

2 7. (Once Amended) The method of claim 1, further comprising receiving the specimen over the internet and deriving the pattern from the specimen.

3 8. (Once Amended) The method of claim 1, wherein the pattern derived from the specimen is received over the internet.

4 9. (Once Amended) The method of claim 1, wherein step (f) is conducted over the internet.

10. (Once Amended) The method of claim 1, wherein step (b) further comprises sending information to identify at least one additional musical composition in writing to the customer over the internet, and wherein a request for a preview of one of the musical compositions that has been selected by the customer is received in step (c).

11. (Original) The method of claim 1, wherein the corrupted version of some or all of the musical composition comprises a short-duration snippet of the musical composition.

12. (Original) The method of claim 11, wherein the duration of the snippet is less than about 15 seconds.

13. (Original) The method of claim 11, wherein the noise is superimposed on the snippet.

14. (Original) The method of claim 1, wherein the corrupted version of some or all of the musical composition comprises a plurality of isolated, short-duration snippets of the musical composition.

9 15. (Once Amended) The method of claim 1, further comprising the step of securing payment for the musical composition without corruption before conducting step (f).

Claims 16-21 have been cancelled.

10 22. (New) The method of claim 1, wherein the corrupted version sent in step (d) has a repeated ticking sound superimposed on it.

11 23. (New) The method of claim 1, further comprising the step of providing the person with a set of tempos to choose from before the person vocalizes the specimen.

12 24. (New) The method of claim 1, further comprising the step of providing the person with a set of tempos to choose from and a set of keys to choose from before the person vocalizes the specimen.

Remarks

The Office Action of September 17, 2002 has been received and its contents carefully noted.

The present Amendment revises independent claim 1 to include the subject matter previously recited in the claims 2, 3, and 6, which are being canceled. Claims 5 is also being canceled, as being redundant in view of the revisions to claim 1. The dependent claims are being revised, where appropriate, in view of the changes to claim 1. New depend claims 22-24 are being added to further protect the invention. It is noted that new

claim 22 is supported by (for example) the sentence at page 9 of the application, lines 14-15, and that claims 23 and 24 are supported by the passage at page 22, line 13, to page 23, line 8.

Section 3 of the Office Action objects to claim 13 on the ground that it is not clear what kind of noise is being superimposed on the data. This objection (which really appears to be an indefiniteness rejection in disguise) is respectfully traversed, since the kind of noise that is superimposed goes to the scope of claim 13 rather than its clarity. Claim 13 covers any kind of superimposed noise. It is noted, however, that new claim 22 specifies repeated ticking as the noise.

Section 3 of the Office Action comments that watermarking is a form of structured noise that is purposely added to the original data. In reply, it is believed that techniques exist for digital watermarking that do not corrupt the payload data itself. Consider the Wiser reference, for example. A passage noted in Section 9 of the Office Action advises that audio image 208 (see Figure 2 of the reference) is watermarked by inserting additional data directly into the audio data stream prior to compression, preferably with a high-quality compression algorithm. The reference then advises, in the paragraph at lines 27-37 of column 7, that the audio image 208 is encrypted. Since it is the encrypted file that Wiser sells to customers, it seems likely that ordinarily skilled person would conclude that Wiser's watermarking does not degrade the audio data. The comment in the reference that the audio image 208 is watermarking by inserting additional data directly into the audio data stream probably means that the additional data is inserted into frame preambles or so forth, without disturbing the audio payload data itself.

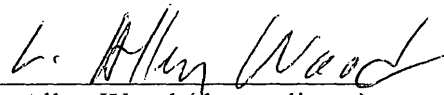
As was noted previously, claim 1 is being amended to include subject matter that previously appeared in claim 6. Claim 1 includes a new step (a) which provides that a pattern derived from a vocalized specimen is compared with patterns from a pattern library. Claim 1 now includes with a "wherein" clause which asserts that "the pattern derived from the specimen comprises a duration sequence." This is not suggested by the Ghias reference. Section 17 of the Office Action takes position that a passage at column 3 of the Ghias reference indicates that a pattern which Ghias derived from a specimen

comprises a duration sequence, but Applicant respectfully disagrees. A fair reading of this passage indicates that Ghias teaches only that a tone is the same as a previous tone (S), or up from the previous tone (U), or down from the previous tone (D). There is no suggestion in the reference of also including the duration of the tones-- such as quarter notes, whole notes, and so forth-- and it is therefore respectfully submitted that there is no "duration sequence" in accordance with claim 1.

Since the remaining claims depend from claim 1 and recite additional limitations to further defined the invention, it is respectfully submitted that their patentable along with claim 1 and need not be further discussed. It is nevertheless noted that new claim 23 recites the step of "providing the person with a set of tempos to choose from before the person vocalized as the specimen," and that new claim 24 recites providing both tempos and keys to choose from. This is not suggested by the Ghias reference.

For the foregoing reasons, it is respectfully submitted that the application is now in condition for allowance. Reconsideration of the application is therefore respectfully requested.

Respectfully submitted,



L. Allen Wood (the applicant)
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Washington, D.C.
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Telefax: (202) 408-0924

ATTACHMENT—CLAIM CHANGES

This attachment includes claims that are being re-written in this Amendment, with underlining being used to identify additions to the previous version of the re-written claims and with brackets being used to identify deletions from the previous version.

1. (Once Amended) A method for distributing music over the internet, comprising the steps of:

(a) recognizing a musical composition from a specimen vocalized by a person, by comparing a pattern derived from the specimen with patterns from a pattern library;

(b) [(a)] sending information to identify a musical composition in writing to a person over the internet;

(c) [(b)] receiving a request from the person over the internet for an audio preview of the musical composition;

(d) [(c)] sending a corrupted version of some or all of the musical composition to the person over the internet;

(e) [(d)] receiving a request from the person over the internet for the musical composition without corruption; and

(f) [(e)] sending the musical composition without the corruption to the [customer] person[.],

wherein the pattern derived from the specimen comprises a duration sequence.

4. (Once Amended) The method of claim [3]1, wherein the pattern derived from the specimen further comprises a pitch sequence.

7. (Once Amended) The method of claim [3]1, further comprising receiving the specimen over the internet and deriving the pattern from the specimen.

8. (Once Amended) The method of claim [3]1, wherein the pattern derived from the specimen is received over the internet.

9. (Once Amended) The method of claim 1, wherein step [(e)] (f) is conducted over the internet.

10. (Once Amended) The method of claim 1, wherein step [(a)] (b) further comprises sending information to identify at least one additional musical composition in writing to the customer over the internet, and wherein a request for a preview of one of the musical compositions that has been selected by the customer is received in step [(b)] (c).

15. (Once Amended) The method of claim 1, further comprising the step of securing payment for the musical composition without corruption before conducting step [(e)] (f).



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit: 2154
Examiner: Mr. Wen Tai Lin

In re Patent Application of:

Applicant(s): Lawson A. Wood

Serial No.: 09/438,469

Filed: November 12, 1999

For: METHOD FOR RECOGNIZING
AND DISTRIBUTING MUSIC

Atty Dkt: Aw-16

RECEIVED

JAN 17 2003

Technology Center 2100

PETITION FOR
EXTENTION OF TIME

January 15, 2003

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Please extend the period for responding to the Office Action of September 17, 2002 by one month, and thus until January 17, 2003. The requisite extension fee of \$55 (for a small entity) is being submitted concurrently. Should this remittance be accidentally missing, however, or should any additional fees be needed, the Commissioner may charge such fees to our Deposit Account 18-0002.

Respectfully submitted,

L. Allen Wood (the applicant)
Registration No. 28,134
RABIN & BERDO, P.C.
Suite 500
1101 14th Street, N.W.
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Telephone: (202) 326-0222
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01/16/2003 CCHAU1 00000065 09438469

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55.00 0P

FEE ENCLOSED: \$ 55
Please charge any further
fee to our Deposit Account
No. 18-0002

2154
#5



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/438,469	11/12/1999	LAWSON A. WOOD	31255-152013	9368

26694 -7590 02/13/2003

VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

EXAMINER

LIN, WEN TAI

ART UNIT	PAPER NUMBER
----------	--------------

2154

DATE MAILED: 02/13/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/438,469	WOOD, LAWSON A.	
	Examiner	Art Unit	
	Wen-Tai Lin	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 15 January 2003.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1,4,7-15 and 22-24 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1,4,7-15 and 22-24 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

1. Claims 1, 4, 7-15 and 22-24 are presented for examination. Claims 2, 3, 5-6 and 16-21 are canceled; claims 22-24 are newly added; and claims 1, 4, and 7-15 have been amended.
2. The text of those sections of Title 35, USC code not included in this action can be found in the prior Office Action.

Claim Rejections - 35 USC § 103

3. Claims 1, 4, 7-9, 11, 13, 15 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiser et al. (hereafter "Wiser") [U.S. Pat. No. 6385596] in view of Ghias et al. (hereafter "Ghias") [U.S. Pat. No. 5874686].
4. Wiser and Ghias were cited in the previous office action.
5. As to claim 1, Wiser teaches the invention substantially as claimed including: a method for distributing music over the internet [col.3, lines 5-10], comprising the steps of:

(b) sending information to identify a musical composition in writing to a person over the internet [Fig.8; col.14, lines 40-47];

(c) receiving a request from the person over the internet for an audio preview of the musical composition[col.14, lines 48-51];

(d) sending a corrupted version of some or all of the musical composition to the person over the internet [col.3, lines 50-63; that is, the low quality audio data for preview is a corrupted version of some or all of the musical composition];

(e) receiving a request from the person over the internet for the musical composition without corruption [col.29, lines 65-67]; and

(f) sending the musical composition without corruption to the customer[col.30, lines 20-22; col.3, lines 54-55].

Wiser does not specifically teach the step of:

(a) recognizing a musical composition from a specimen vocalized by a person, by comparing a pattern derived from the specimen with patterns from a pattern library, wherein the pattern derived from the specimen comprises a duration sequence.

However, Ghias teaches a method wherein a particular melody or tune is vocalized by the person as a hummed query for further matching in the database (i.e., the library) [col.2, lines 41-52; col.5, line 66 – col. 6, line 6]. Although Ghias represents the sampled data as a sequence of pitch differences, it is obvious that a duration sequence can be recovered from Ghias' pitch differences using the three letter alphabet

(U, D, S) representation [col.3, lines 8-20]. For example, by representing a melody with a sequence of pitches that are derived from the lowest duration among the notes, the duration of a note would be reflected by the number of S letters following the U or D letters. Additionally, it is also obvious that both the sampled melody and the database can be represented as successive notes [Ghias : col.1, lines 57-62] in MIDI formats [Ghias : col.2, lines 60-63] and compared between the two using the original note sequences, wherein the original note durations are naturally preserved.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combine the teachings of Wiser and Ghias by applying Ghias' specimen query technique in Wiser's online music distribution system, because Ghias' method provides a natural and convenient way of specifying a music or song for purchase.

6. As to claim 4, Ghias further taught that the pattern derived from the specimen comprises a pitch sequence [col.3, lines 8-22; that is, since the sequence of relative pitch difference is derived from a pitch sequence, the former can be recovered from the latter].

7. As to claim 7, Wiser and Ghias did not specifically teach that the pattern is derived at a remote server close to the database (i.e., by transmitting the specimen over the network).

However, it is well known in the art that when serving clients with hand-held devices, a remote server normally takes care of most of the processing tasks.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that Ghias would have to rely on a remote server to perform the pitch tracking/detection task for clients using light-weight, hand-held devices so that the latter could be alleviated from the execution of the time-consuming pitch tracking/detection algorithms.

8. As to claim 8, Ghias further taught that the pattern derived from the specimen locally [22, Fig.1] and then transferred to a remote database [col.2, lines 34-40].

9. As to claim 9, Wiser further taught that step (f) is conducted over the internet [col.3, lines 5-10].

10. As to claim 11, Wiser further taught that the corrupted version of some or all of the musical composition comprises a short-duration snippet of the musical composition [col.7, lines 56-62].

11. As to claim 13, Wiser further taught that structured noise is superimposed on the snippet [col.7, lines 17-19; that is, watermarking has an effect of superimposing noise on the audio data, resulting in slightly blurred audio image; note that applicant is directed to a passage in the reference of Matsui et al. at col.1, lines 38-43, U.S. Pat No.

Art Unit: 2154

6425082, since the applicant appeared to be not convinced of the effect of watermarking].

12. As to claim 15, Wiser further taught that the step of securing payment for the musical composition without corruption before conducting step (e) [col.4, lines 51-67; col.3, lines 54-55].

13. As to claim 22, Wiser in view of Ghias did not specifically teach adding repeated ticking sound on the audio image.

However, Wiser taught using lower quality of audio image for preview. The purpose is to encourage a potential buyer to purchase the high fidelity product, instead of keeping the previewed songs/music for perpetual use. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added repeated ticking sound on the audio image, because adding ticking sound would simulate the unpleasant mechanical defects in the play-back machine, thereby lowering the quality of the audio image.

14. As to claims 23-24, Wiser in view of Ghias did not specifically teach the step of providing the person with a set of tempos and/or a set of keys to choose from before the person vocalizes the specimen.

However, it is well known in the art that providing tempos or keys that are associated with a song could facilitate a vocalist in tuning up before singing.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a set of tempos and/or keys to choose from, because obtaining a better vocalized specimen would result in higher accuracy in the library search.

15. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wiser et al.(hereafter "Wiser")[U.S. Pat. No. 6385596], as applied to claims 1-9, 11, 13 and 15 above, and further in view of Allen [U.S. Pat. No. 5794217].

16. Allen was cited in the previous office action.

17. As to claim 10, Wiser did not specifically teach that step (b) further comprises sending information to identify at least one additional musical composition in writing to the customer over the internet, and wherein a request for a preview of one of the musical compositions that has been selected by the customer is received in step (c).

However, Allen taught a method of promoting a consumer to preview titles derived from a consumer profile database, which includes items from the consumer's previous browse or preview activities [col.4, lines 12-28]. Since Wiser's system has to present a limited number of preview titles on the consumer's terminal [Wiser: Fig.8], it is obvious that a carefully chosen musical items on display could make a better sale to the consumer.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Allen's consumer profile in Wiser's system, so that when the consumer's choice for preview is received, a new musical item derived from the recent choices could be presented on the consumer's terminal, thereby promoting Wiser's consumers to buy more.

18. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wiser et al. [U.S. Pat. No. 6385596], as applied to claims 1, 4, 7-11, 13 and 15 above.

19. As to claim 12, Wiser did not specifically teach that the duration of the snippet is less than about 15 seconds.

However, Wiser taught that the duration of the preview clip is parameterized and therefore is adjustable [see col.7, lines 56-62]. It is also obvious that the preview duration should be set to long enough just for a nominal person to identify the subject, but not too long to entertain the consumer or overload the network. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to have set the duration of a snippet around certain empirical values; among them, a value less than about 15 seconds is a potential choice in Wiser's system.

20. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wiser et al. [U.S. Pat. No. 6385596], as applied to claims 1,4,7-13 and 15 above, and further in view of Hoffert et al.(hereafter "Hoffert") [U.S. Pat. No. 6282549].

21. As to claim 14, Wiser did not specifically teach that the corrupted version of some or all of the musical composition comprises a plurality of isolated, short-duration snippets of the musical composition.

However, Hoffert taught that the preview data includes snippets of audio information [col.30, lines 1-2; col.23, lines 19-24].

It would have been obvious to one of ordinary skill in the art at the time the invention was made that Wiser could extend the preview data from a single snippet to a plurality of snippets so that each snippet represents the feature of a different portion of the audio file, making it easier to identify a music or song in Wiser's system.

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Farrett et al. [U.S. Pat. No. 5281754], disclosed a melody composed based on MIDI format; and

Matsui et al. [U.S. Pat. No. 6425082], disclosed a watermarking method.

23. Applicant's arguments with respect to claims 1, 4 and 7-15 have been considered but are moot in view of the new ground(s) of rejection.

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

25. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen-Tai Lin whose telephone number is (703)305-4875. The examiner can normally be reached on Monday-Friday(8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703)305-9678. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

(703)746-7239 for official communications;

(703)746-7238 for after final communications; and

(703)746-7240 for status inquires draft communication.

Application/Control Number: 09/438,469

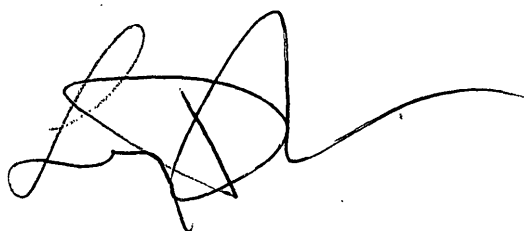
Page 11

Art Unit: 2154

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Wen-Tai Lin

February 6, 2003

A handwritten signature in black ink, appearing to be "Harry D. Donaghue", with a long horizontal flourish extending to the right.

HARRY D. DONAGHUE
PRIMARY EXAMINER

Notice of References Cited	Application/Control No. 09/438,469	Applicant(s)/Patent Under Reexamination WOOD, LAWSON A.	
	Examiner Wen-Tai Lin	Art Unit 2154	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,425,082	07-2002	Matsui et al.	713/176
*	B	US-5,281,754	01-1994	Farrett et al.	84/609
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

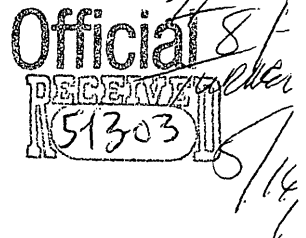
FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

**Certification of Facsimile Transmission**

I hereby certify that the following Amendment After Final Rejection and its attachments (10 pages total) are being transmitted by facsimile to the U.S. Patent and Trademark Office at fax number (703) 746-7238 on May 13, 2003.

Allen Wood
Name of person faxing this document.

Allen Wood *Not Signed*
Signature of person faxing this document.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit: 2154
Examiner: Mr. Wen Tai Lin

In re Patent Application of:

Applicant(s): Lawson A. Wood)

Serial No.: 09/438,469)

Filed: November 12, 1999)

For: METHOD FOR RECOGNIZING)
AND DISTRIBUTING MUSIC)

Atty Dkt: Aw-16)

**AMENDMENT AFTER
FINAL REJECTION**

January 15, 2003

ATTENTION: Box AF
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

In response to the Office Action of February 13, 2003, the period for reply to which is being extended to expire on May 13, 2003, kindly amend the above-identified application as follows:

IN THE CLAIMS:

Kindly rewrite claim 1 to read as follows (it being noted that an Attachment A is appended to this Amendment to show how the rewritten claim differs from the previous version of this claim):

Received from <1> at 5/13/03 7:47:56 PM [Eastern Daylight Time]

1. (Twice Amended) A method for distributing music over the internet, comprising the steps of:

(a) recognizing a musical composition from a specimen vocalized by a person, by comparing a pattern derived from the specimen with patterns from a pattern library;

(b) sending information to identify the musical composition in writing to the person over the internet;

(c) receiving a request from the person over the internet for an audio preview of the musical composition;

(d) sending a corrupted version of some or all of the musical composition to the person over the internet;

(e) receiving a request from the person over the internet for the musical composition without corruption; and

(f) sending the musical composition without the corruption to the person, wherein the pattern derived from the specimen comprises a duration sequence.

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Remarks

The Office Action of February 13, 2003 has been received and its contents carefully noted. In response, the present Amendment corrects an informality that has been detected in claim 1.

The Office Action again rejects the claims for obviousness on the basis of Wiser et al in view of Ghias et al (hereafter simply "Wiser" and "Ghias"). For the reasons discussed below, however, it is respectfully submitted that the invention defined by independent claim 1 is patentable over these references.

The Office Action acknowledges that Wiser does not disclose step (a) of claim 1 ("recognizing a musical composition from a specimen vocalized by a person, by comparing a pattern derived from the specimen with patterns from a pattern library"), "wherein the pattern derived from the specimen comprises a duration sequence." The Office Action, however, points to the disclosure in the Ghias reference of searching a melody. The Office Action states, in the paragraph bridging pages 3 and 4:

Although Ghias represents the sampled data as a sequence of pitch differences, it is obvious that a duration sequence can be recovered from Ghias' pitch differences using the three letter alphabet [U, D, S] representation [col. 3, lines 8-20]. For example, by representing a melody with a sequence of pitches that are derived from the lowest duration among the notes, the duration of a note would be reflected by the number of S letters following the U or D letters. ...

Applicant respectfully submits that it is **not** obvious that a duration sequence can be recovered from Ghias' pitch differences using his U, D, S representation. In fact, a duration sequence **cannot** be recovered.

The passage in the Ghias reference that is noted in the Office Action states that the introductory theme of Beethoven's 5th Symphony can be converted into the sequence _SSDUSSD (where the first note is ignored because there was no previous note). This means the pitch sequence is Same, Same, Down, Up, Same, Same, Down. Ghias' pitch sequence has no information whatsoever about the duration of the notes. The statement in the Office Action that the duration of a note would be reflected by the number of S letters

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following the U or D letters is wrong. This is apparent from the opening theme of Beethoven's 5th Symphony.

Beethoven's 5th Symphony is a famous piece of music. Since it frequently appears in the soundtracks of movies and television shows, it is familiar to most people (even if they are unable to identify it as Beethoven's 5th Symphony). It sounds like Morse code put to music: dit-dit-dit-dah, and then dit-dit-dit-dah repeated at a slightly lower frequency. Applicant has saved it on his office computer, and would be happy to play it over the telephone if the Examiner would care to hear it. Just hearing the introductory theme from Beethoven's 5th Symphony is enough to confirm that the duration of a note, in Ghias's sequence, is **not** reflected by the number of S letters following a U or a D.

Although Applicant is not a musician, he has scouted around on the internet and come up with Attachments B, C, and D to this Amendment. Attachment B shows the introductory theme of Beethoven's 5th Symphony in musical notation. Attention is invited to the top line of Attachment B, which shows three notes having the same tone, followed by a note having a lower tone, followed by three more notes having the same tone (but higher in pitch than the lower tone that follows the first three same-tone notes), followed by a note having a lower tone. This is _SSDUSSD, just as Ghias states. But Attachment B indicates that these notes have different durations. The first three same-tone notes are eighth notes (see Attachment C) and the second three same-tone notes are also eighth notes. The other two notes (the two Ds in the _SSDUSSD sequence) are half notes that are marked by *fermatas* (see Attachment D). In terms of duration, then, the introductory theme of Beethoven's 5th Symphony has three brief notes followed by a note that is longer than all three brief notes together, followed by another three brief notes and another note that is longer than the preceding three brief notes. Dit-dit-dit-dah, dit-dit-dit-dah. In short, the duration of a note in Ghias' tone sequence is **not** reflected by the number of S letters following a U or D.

The paragraph bridging pages 3 and 4 of the Office Action also states, "Additionally, it is also obvious that both the sampled melody and the database can be represented as successive notes ... in MIDI formats ... and compared between the two using

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Received from <1> at 5/13/03 7:47:56 PM [Eastern Daylight Time]

the original note sequences, wherein the original note duration are naturally preserved." Applicant is not familiar with the details of the MIDI formats and the Office Action has not included references that would provide further information about them, but it is clear that pitch durations cannot be derived from Ghias' pitch sequences.

It is also respectfully submitted that the Ghias reference is improperly combined with Wiser in the rejection. The reason is that a person who was ordinarily skilled in the internet marketing art and who wanted to improve Wiser's system in some way would have no reason to consult the audio recognition art for assistance in this endeavor, and thus should not be presumed to know that the Ghias reference even exists. On ordinarily skilled person is only presumed to know about the prior art in his own field; he is presumed to know about prior art in other fields only he would have had an incentive to consult these other fields while trying to improve something in his own field. Nothing in Wiser would have motivated an ordinarily skilled person to seek hints for improving Wiser's system in the audio recognition art, so knowledge of Ghias should not be imputed to the ordinarily skilled person. In hindsight, the functionality of Wiser's music distribution system could indeed be expanded by including Ghias's melody searching technique, but hindsight has no place in 35 USC 103.

Since the remaining claims depend directly or indirectly from claim 1 and recite additional limitations to further define the invention, they are patentable along with claim 1 and need not be further discussed. It is nevertheless noted that dependent claims 23 and 24 recite the step of "providing the person with a set of tempos to choose from before the person vocalizes the specimen," and this is not suggested by the references. The last paragraph on page 6 of the Office Action takes the position that "it is well known in the art that providing tempos or keys that are associated with a song could facilitate a vocalist in tuning up before singing," so this would have been obvious. Applicant, of course, disagrees. In just what art is this well known? Wiser's internet marketing art? Ghias' audio recognition art? At any rate, in musical performances the tempo is usually left to the director or band leader, and individual performers are not provided with a set of tempos to choose from.

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For the foregoing reasons, it is respectfully submitted that the application is now in condition for allowance. Reconsideration of the application is therefore respectfully requested.

Respectfully submitted,



L. Allen Wood (the applicant)
Registration No. 28,134
RABIN & BERDO, P.C.
Suite 500
1101 14th Street, N.W.
Washington, D.C.
Telephone: (202) 326-0222
Telefax: (202) 408-0924

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ATTACHMENT A — CLAIM CHANGES

This attachment includes a claim that is being rewritten in this Amendment, with underlining being used to identify additions to the previous version of the re-written claims and with brackets being used to identify deletions from the previous version.

1. (Twice Amended) A method for distributing music over the internet, comprising the steps of:

(a) recognizing a musical composition from a specimen vocalized by a person, by comparing a pattern derived from the specimen with patterns from a pattern library;

(b) [(a)] sending information to identify [a] the musical composition in writing to a person over the internet;

(c) [(b)] receiving a request from the person over the internet for an audio preview of the musical composition;

(d) [(c)] sending a corrupted version of some or all of the musical composition to the person over the internet;

(e) [(d)] receiving a request from the person over the internet for the musical composition without corruption; and

(f) [(e)] sending the musical composition without the corruption to the [customer] person].

wherein the pattern derived from the specimen comprises a duration sequence.

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Attachment B

Beethoven Symphony No. 5: comparison of themes


First theme (C minor)



Second theme (Eb major):
1st phrase (antecedent)



2nd phrase (consequent)



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SN 09/438,469



Terra Community College - music department

HOME

PITCH

RHYTHM

SCALES

GLOSSARY

Melodies consist of pitches that usually vary in duration. Rests are used to indicate the duration of silences. Rhythm is the aspect of musical sounds and silences that deals with duration.

Whole note and whole rest: the longest single note value in general use.

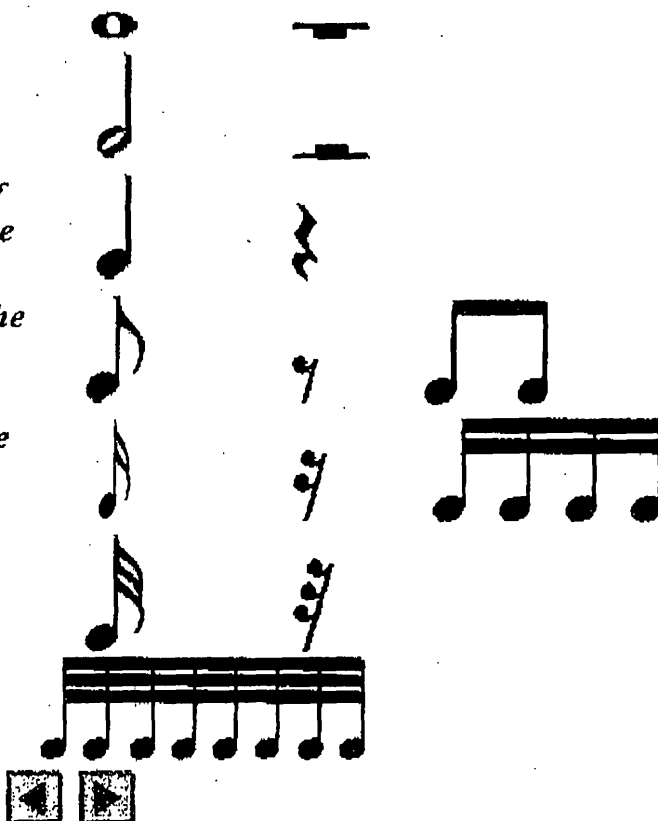
Half note and half rest: half the value of the whole note.

Quarter note and quarter rest: half the value of the half note, one quarter the value of the whole note.

Eighth note and eighth rest: half the value of the quarter note, one quarter the value of the half note.

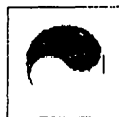
Sixteenth note and sixteenth rest: half the value of the eighth note, one quarter the value of the quarter note.

Thirty-second note and thirty-second rest: half the value of the sixteenth note, one quarter the value of the eighth note.

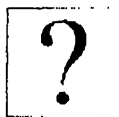


Attachment C

Attachment D The Abstruse Symbols Page



The Good, the Bad, and the Ugly (1966) Clint Eastwood, Eli Wallach, Lee Van Cleef. The third of Sergio Leone's spaghetti Westerns. A long, fascinating movie about 3 drifters looking for buried treasure during the Civil War. It is violent, complex and morally ambiguous. The yin and yang symbol, on the other hand, expresses the unity of not-so-ambiguous opposites. (See Hegel tie-in below for another approach to the synthesis of opposites). I see this symbol entirely too often. Let's all give it a rest.



The Greatest Question (1919) A D.W. Griffith film starring Lillian Gish. Apparently she didn't remember making this movie. I can't say as I've ever had the pleasure of seeing this one, but I hear she gets saved from being raped and there are ghosts and oil discoveries. It's kind of a shame that some of the best titles got used up so early on.



Do the Right Thing (1989) Danny Aiello, Ossie Davis, Ruby Dee, John Turturo, Rosie Perez, and Spike Lee (who wrote and directed). Another very ambiguous film in which no one is portrayed as better than they should be. The movie is about life in a black neighborhood in Brooklyn where a white-owned pizza parlor serves as community center and flash point. Spike Lee can get very preachy but this time he gets it right. Race relations *are* as volatile as he portrays them. And the film has a dialectical approach (another Hegel tie-in) which is particularly appropriate for the theme. And as far as the comic goes -- I wouldn't mind having Ten Commandments of Managed Care, as long as I get to write them. Hegel also had a lot to say about the origin of religion and morality (spirit getting to know itself, etc. -- I just never understood it very well. Probably why I had to go into medicine in the first place.



The Pied Piper (1972) Donovan, Diana Dors, John Hurt, Donald Pleasence, Jack Wild. The piper gets rid of the rats, as promised, but is denied payment. You know the rest. Donovan (yes, that Donovan) does a great job and the rest of the movie is just what a good medieval film should be -- full of superstition, disease, pestilence, and vermin. This one is not for the kids. Anyway, one way or another, you gotta pay the piper or he'll lead you astray. Far astray.



fermata Music. the sustaining of a note, chord, or rest for a duration longer than the indicated time value, with the length of the extension at the performer's discretion. For the purposes of this discussion, I am emphasizing the ability to hold something (i.e. benefits) at the discretion of the player (IMO), based upon an irrelevant ethical system. As for the promised Hegel tie-in, well the last panel pun says it all (*Geist* -- spirit for those of you who didn't take Philosophy 101). To learn more about fermatas, tune in to Adventures in Good Music with Karl Haas. The web site even lets you look at the cue sheets for the shows.

By the way, it's my son's birthday today so please wish him an on-line Happy Birthday!

Interview Summary	Application no.	Applicant(s)	
	09/438,469	WOOD, LAWSON A.	
	Examiner	Art Unit	
	Wen-Tai Lin	2154	

All participants (applicant, applicant's representative, PTO personnel):

(1) Wen-Tai Lin. (3) _____

(2) Allen Wood. (4) _____

Date of Interview: 21 May 2003.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☒ Personal [copy given to: 1) ☐ applicant 2) ☒ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☐ No.
If Yes, brief description: _____

Claim(s) discussed: 1, 4 and 10.

Identification of prior art discussed: _____

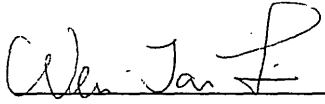
Agreement with respect to the claims f) ☒ was reached. g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: The examiner suggested that the application would be allowable if claims 1, 4 and 10 are combined. Applicant agreed to make further amendment to achieve this.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.


Examiner's signature, if required

Sent by: Konica Fax 9825

1;

05/24/03 6:23PM; #327;

Page 1/5



Certification of Facsimile Transmission

I hereby certify that the following Second Amendment After Final Rejection and its attachment (5 pages total) are being transmitted by facsimile to the U.S. Patent and Trademark Office at fax number (703) 746-7238 on May 24, 2003.

Allen Wood
Name of person faxing this document.

Allen Wood
Signature of person faxing this document.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit: 2154
Examiner: Mr. Wen Tai Lin

In re Patent Application of:

Applicant(s): Lawson A. Wood

Serial No.: 09/438,469

Filed: November 12, 1999

For: METHOD FOR RECOGNIZING
AND DISTRIBUTING MUSIC

Atty Dkt: Aw-16

**SECOND
AMENDMENT AFTER
FINAL REJECTION**

May 24, 2003

ATTENTION: Box AF
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

PETITION FOR EXTENSION OF TIME

Please extend the period for responding to the Office Action of February 13, 2003 by one month, and thus until June 13, 2003. Please charge the extension fee of \$55 to our Deposit Account number 18-0002.

REVISIONS TO THE APPLICATION

In further response to the Office Action, please amend the application in the manner directed below:

Received from <1> at 5/24/03 7:26:07 PM [Eastern Daylight Time]

IN THE CLAIMS:

Kindly cancel claims 4, 10, and 24. Kindly also rewrite claim 1 to read as follows (it being noted that an Attachment is appended to this Amendment to show how the rewritten claim differs from the previous version of this claim):

Sub D
1. (Three Times Amended) A method for distributing music over the internet, comprising the steps of:

(a) recognizing a plurality of musical compositions from a specimen vocalized by a person, by comparing a pattern derived from the specimen with patterns from a pattern library;

C
(b) sending information to identify the musical compositions in writing to the person over the internet;

(c) receiving a request from the person over the internet for an audio preview of one of the musical compositions, which has been selected by the person;

(d) sending a corrupted version of some or all of the selected musical composition to the person over the internet;

(e) receiving a request from the person over the internet for the selected musical composition without corruption; and

(f) sending the selected musical composition without the corruption to the person, wherein the pattern derived from the specimen comprises pitch and duration sequences.

SN 09/438,469

- 2 -

Received from <1> at 5/24/03 7:26:07 PM [Eastern Daylight Time]

Remarks

The Examiner is thanked for his courtesy during a telephone call on May 21, 2003. During this telephone call, the Examiner reported that the application would be allowable if claim 1 were amended to include the subject matter of claims 4 and 10.

Accordingly, in order to secure allowance of the application without further prosecution, claims 4 and 10 are being cancelled, and their subject matter is being shifted to claim 1. Claim 24 has become unnecessary in view of the cancellation of claim 4, so it is being cancelled.

Before the present Second Amendment After Final Rejection, step (b) of claim 1 referred to a single musical composition, and claim 10 referred to at least one additional musical composition. That is, a plurality of musical compositions were identified to the customer in claim 10. Left unsaid was that these musical compositions resulted from step (a) of claim 1, and represent what might be called "candidate" musical compositions generated from the specimen vocalized by the customer. Step (a) of claim 1 has been amended to fill in this gap.

It is noted that the Attachment to the original Amendment After Final Rejection was incorrect. What it should have shown was that "a" in step (b) of claim 1 was being changed to "the." The oversight is regretted.

Applicant is contemplating filing a CIP, in which the customer uses a mouse and the keyboard shown in Figure 7 of the present application's drawings to pick out a piano-type specimen, instead of vocalizing the specimen. If applicant does indeed proceed with a CIP, applicant may choose to abandon the present application and seek allowance of a broader version of what now appears in claim 1. That is to say, the present Second Amendment After Final Rejection should not be taken as an admission that the disclosure in the present application warrants only the protection that is now provided by claim 1, and applicant reserves the right to seek broader claim coverage if he decides to proceed with a CIP.

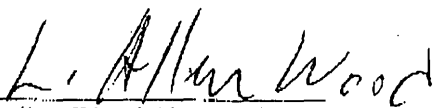
SN.09/438,469

- 3 -

Received from <1> at 5/24/03 7:26:07 PM [Eastern Daylight Time]

For the foregoing reasons, it is respectfully submitted that the application is now in condition for allowance. Reconsideration of the application is therefore respectfully requested.

Respectfully submitted,



L. Allen Wood (the applicant)
Registration No. 28,134
RABIN & BERDO, P.C.
Suite 500
1101 14th Street, N.W.
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Telephone: (202) 326-0222
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SN 09/438,469

- 4 -

Received from <1> at 5/24/03 7:26:07 PM [Eastern Daylight Time]

ATTACHMENT — CLAIM CHANGES

This attachment includes a claim that is being rewritten in this Amendment, with underlining being used to identify additions to the previous version of the re-written claim and with brackets being used to identify deletions from the previous version.

1. (Three Times Amended) A method for distributing music over the internet, comprising the steps of:

(a) recognizing a plurality of musical [composition] compositions from a specimen vocalized by a person, by comparing a pattern derived from the specimen with patterns from a pattern library;

(b) sending information to identify the musical [composition] compositions in writing to the person over the internet;

(c) receiving a request from the person over the internet for an audio preview of one of the musical [composition] compositions, which has been selected by the person;

(d) sending a corrupted version of some or all of the selected musical composition to the person over the internet;

(e) receiving a request from the person over the internet for the selected musical composition without corruption; and

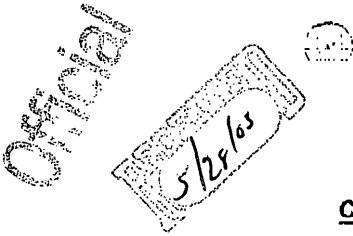
(f) sending the selected musical composition without the corruption to the person, wherein the pattern derived from the specimen comprises [a] pitch and duration [sequence] sequences.

Sent by: Konica Fax 9825

1;

05/28/ 1:19PM; #464;

Page 1/5



#1010
thru 3
5/28/03

Certification of Facsimile Transmission

I hereby certify that the following Second Amendment After Final Rejection and its attachment (5 pages total) are being transmitted by facsimile to the U.S. Patent and Trademark Office at fax number (703) 746-7238 on May 27, 2003.

Allen Wood
Name of person faxing this document.

Allen Wood
Signature of person faxing this document.

Re-faxed May 28 '03 Allen Wood
Also re-faxed May 28 '03 to 703-746-5516 Allen Wood
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit: 2154
Examiner: Mr. Wen Tai Lin

In re Patent Application of:

Applicant(s): Lawson A. Wood)
Serial No.: 09/438,469)
Filed: November 12, 1999)
For: METHOD FOR RECOGNIZING)
AND DISTRIBUTING MUSIC)
Atty Dkt: Aw-16)

**THIRD
AMENDMENT AFTER
FINAL REJECTION**

May 27, 2003

ATTENTION: Box AF
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

In further response to the Office Action of February 13, 2003, the period for reply to which has been extended to expire on June 13, 2003 by a Petition included in a Second Amendment After Final Rejection that was filed on May 24, 2003, please amend the application in the manner directed below:

IN THE CLAIMS:

Received from <1> at 5/28/03 2:21:21 PM [Eastern Daylight Time]

Kindly rewrite claim 1 to read as follows (it being noted that an Attachment is appended to this Amendment to show how the rewritten claim differs from the previous version of this claim):

- WHL
5/28/03
1. ~~Three~~ ^{Four} Times Amended) A method for distributing music over the internet, comprising the steps of:
- (a) recognizing a musical composition from a specimen vocalized by a person, by comparing a pattern derived from the specimen with patterns from a pattern library;
 - (b) sending information to identify the musical composition in writing to the person over the internet;
 - (c) receiving a request from the person over the internet for an audio preview of the musical composition;
 - (d) sending a corrupted version of some or all of the musical composition to the person over the internet;
 - (e) receiving a request from the person over the internet for the musical composition without corruption;
 - (f) sending the musical composition without the corruption to the person; and
 - (g) sending information to identify at least one additional musical composition in writing to the person over the internet,
- wherein the pattern derived from the specimen comprises pitch and duration sequences.

SN 09/438,469

- 2 -

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31

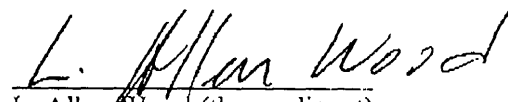
Remarks

The Examiner is thanked for his courtesy during a telephone call on May 27, 2003. During this telephone call, the Examiner reported that he considered the revision to claim 1 that was presented in the Second Amendment After Final Rejection to be too broad. The Examiner explained that he interpreted claim 10 (now cancelled) as requiring that the customer be sent information again to identify at least one additional musical composition, as part of a continuing transaction with the customer, and not merely that the customer be sent information one time to identify a plurality of candidate musical compositions for the customer to choose from.

Accordingly, the present Third Amendment After Final Rejection returns steps (a) through (f) of claim 1 to their previous form, and adds a new step (g) derived from the first portion of claim 10. The second portion of claim 10 ("wherein a request for a preview of one of the musical compositions that has been selected by the customer is received in step (c)") is not believed to be necessary for patentability over the prior art in view of the presence of step (c), and has therefore been omitted. It is noted that "customer" in claim 10 has been changed to "person" in the present amendment to claim 1 in order to cure an antecedent basis problem.

For the foregoing reasons, it is respectfully submitted that the application is now in condition for allowance. Reconsideration of the application is therefore respectfully requested.

Respectfully submitted,



L. Allen Wood (the applicant)
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Telefax: (202) 408-0924

SN 09/438,469

- 3 -

Received from <1> at 5/28/03 2:21:21 PM [Eastern Daylight Time]

ATTACHMENT — CLAIM CHANGES

This attachment includes a claim that is being rewritten in this Amendment, with underlining being used to identify additions to the previous version of the re-written claim and with brackets being used to identify deletions from the previous version.

1. (Three Times Amended) A method for distributing music over the internet, comprising the steps of:

(a) recognizing a musical composition from a specimen vocalized by a person, by comparing a pattern derived from the specimen with patterns from a pattern library;

(b) sending information to identify the musical composition in writing to the person over the internet;

(c) receiving a request from the person over the internet for an audio preview of the musical composition;

(d) sending a corrupted version of some or all of the musical composition to the person over the internet;

(e) receiving a request from the person over the internet for the musical composition without corruption; [and]

(f) sending the musical composition without the corruption to the person, and

(g) sending information to identify at least one additional musical composition in writing to the person over the internet,

wherein the pattern derived from the specimen comprises [a] pitch and duration sequences.

SN 09/438,469

- 4 -

Received from <1> at 5/28/03 2:21:21 PM [Eastern Daylight Time]

Send Confirmation Report

Name: Konica Fax 9825

ID: 1

27-May-03 11:35AM Page 1

Job	Start time	Usage	Phone Number/Email	Type	Pages	Mode	Status
391	5/27 11:34AM	18	7037467238	Send	4/4	EC144	Completed

Total: 18

Pages sent: 4

Pages printed: 0

Continuation of Facsimile Transmission

I hereby certify that the following Second Amendments After Final Rejection and its attachment (5 pages total) are being transmitted by facsimile to the U.S. Patent and Trademark Office at the number (703) 746-7238 on May 27, 2003.

Allen Wood

Signature of person faxing this document.

Allen Wood

Signature of person faxing this document.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group/Art Unit: 2134

Examiner: Mr. Wen-Yai Lin

In re Patent Application #00

Applicant(s): Lawson A. Wood

Serial No.: 09/438,462

Filed: November 12, 1999

For: METHOD FOR RECOGNIZING AND DISTRIBUTING MUSIC

Att'y Del.: AW:16

THIRD AMENDMENT AFTER FINAL REJECTION

May 27, 2003

ATTENTION: Box AE
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir,

In further response to the Office Action of February 13, 2003, the period for reply in which has been extended to expire on June 13, 2003 by a Provision included in a Second Amendment After Final Rejection that was filed on May 24, 2003, please amend the application in the manner directed below:

IN THE CLAIMS:

#11 p29

Notice of Allowability	Application No.	Applicant(s)	
	09/438,469	WOOD, LAWSON A.	
	Examiner	Art Unit	
	Wen-Tai Lin	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/28/2003.
2. ☒ The allowed claim(s) is/are 1,7-9,11-15,22 and 23, renumbered as claims 1-11.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**


7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☒ CORRECTED DRAWINGS must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☒ to Paper No. 4.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____ | 6 <input type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |


MENG-AL T. AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

11/E
Tuesday
6/24

REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance:

The prior art of record does not teach or suggest individually or in combination a method for distributing musical composition by comparing a pattern derived from a personalized specimen (e.g., vocalized or written short notes) with a pattern library, wherein:

- the pattern derived from the specimen comprises duration and pitch sequences;
- the matched musical composition is corrupted (e.g. by adding noise) before providing it to the person (over the Internet) for preview;
- uncorrupted musical composition is delivered after the person has confirmed the purchase; and
- information for identifying at least one additional musical composition in writing is sent to the person for selection for additional preview.

2. Pursuant to MPEP 606.01, the title has been changed to read:

--METHOD FOR DISTRIBUTING MUSIC BY PROVIDING PERSONALIZED SPECIMEN FOR PATTERN RECOGNITION --.

Application/Control Number: 09/438,469
Art Unit: 2783

Page 3

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen-Tai Lin whose telephone number is (703)305-4875. The examiner can normally be reached on Monday-Friday (8:00-5:00) .

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703)305-9678. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

(703)746-7239 for official communications;


(703)746-7238 for after final communications; and

(703)746-5516 for status inquires draft communication.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Wen-Tai Lin

May 29, 2003


MENG-AL T. AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

26694 7590 05/30/2003

VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

EXAMINER

LIN, WEN TAI

ART UNIT

CLASS-SUBCLASS

2154

709-203000

DATE MAILED: 05/30/2003

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/438,469	11/12/1999	LAWSON A. WOOD	31255-152013	9368

TITLE OF INVENTION: METHOD FOR DISTRIBUTING MUSIC BY PROVIDING PERSONALIZED SPECIMEN FOR PATTERN RECOGNITION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$650	\$0	\$650	09/02/2003

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.
- B. If the status is changed, pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above and notify the United States Patent and Trademark Office of the change in status, or

If the SMALL ENTITY is shown as NO:

- A. Pay TOTAL FEE(S) DUE shown above, or
- B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check the box below and enclose the PUBLICATION FEE and 1/2 the ISSUE FEE shown above.
- ☐ Applicant claims SMALL ENTITY status.
See 37 CFR 1.27.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
Alexandria, Virginia 22313-1450
Fax (703)746-4000

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

26694 7590 05/30/2003

VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Box Issue Fee address above, or being facsimile transmitted to the USPTO, on the date indicated below.

	(Depositor's name)
	(Signature)
	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/438,469	11/12/1999	LAWSON A. WOOD	31255-152013	9368

TITLE OF INVENTION: METHOD FOR DISTRIBUTING MUSIC BY PROVIDING PERSONALIZED SPECIMEN FOR PATTERN RECOGNITION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$650	\$0	\$650	09/02/2003

EXAMINER	ART UNIT	CLASS-SUBCLASS
LIN, WEN TAI	2154	709-203000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) ☐ individual ☐ corporation or other private group entity ☐ government

4a. The following fee(s) are enclosed:

- ☐ Issue Fee
- ☐ Publication Fee
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s):

- ☐ A check in the amount of the fee(s) is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Commissioner is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

Commissioner for Patents is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

(Authorized Signature)

(Date)

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant, a registered attorney or agent, or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMIT THIS FORM WITH FEE(S)



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/438,469	11/12/1999	LAWSON A. WOOD	31255-152013	9368
26694	7590	05/30/2003	EXAMINER	
VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP P.O. BOX 34385 WASHINGTON, DC 20043-9998 UNITED STATES			LIN, WEN TAI	
			ART UNIT	PAPER NUMBER
			2154	11
DATE MAILED: 05/30/2003				

Determination of Patent Term Extension under 35 U.S.C. 154 (b)
(application filed after June 7, 1995 but prior to May 29, 2000)

The patent term extension is 0 days. Any patent to issue from the above identified application will include an indication of the 0 day extension on the front page.

If a continued prosecution application (CPA) was filed in the above-identified application, the filing date that determines patent term extension is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system. (<http://pair.uspto.gov>)

Any questions regarding the patent term extension or adjustment determination should be directed to the Office of Patent Legal Administration at (703)305-1383.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/438,469	11/12/1999	LAWSON A. WOOD	31255-152013	9368
26694	7590	05/30/2003	EXAMINER	
VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP P.O. BOX 34385 WASHINGTON, DC 20043-9998 UNITED STATES			LIN, WEN TAI	
			ART UNIT	PAPER NUMBER
			2154	
DATE MAILED: 05/30/2003				

Notice of Fee Increase on January 1, 2003

If a reply to a "Notice of Allowance and Fee(s) Due" is filed in the Office on or after January 1, 2003, then the amount due will be higher than that set forth in the "Notice of Allowance and Fee(s) Due" since there will be an increase in fees effective on January 1, 2003. See Revision of Patent and Trademark Fees for Fiscal Year 2003; Final Rule, 67 Fed. Reg. 70847, 70849 (November 27, 2002).

The current fee schedule is accessible from: <http://www.uspto.gov/main/howtofees.htm>.

If the issue fee paid is the amount shown on the "Notice of Allowance and Fee(s) Due," but not the correct amount in view of the fee increase, a "Notice to Pay Balance of Issue Fee" will be mailed to applicant. In order to avoid processing delays associated with mailing of a "Notice to Pay Balance of Issue Fee," if the response to the Notice of Allowance and Fee(s) due form is to be filed on or after January 1, 2003 (or mailed with a certificate of mailing on or after January 1, 2003), the issue fee paid should be the fee that is required at the time the fee is paid. If the issue fee was previously paid, and the response to the "Notice of Allowance and Fee(s) Due" includes a request to apply a previously-paid issue fee to the issue fee now due, then the difference between the issue fee amount at the time the response is filed and the previously paid issue fee should be paid. See Manual of Patent Examining Procedure, Section 1308.01 (Eighth Edition, August 2001).

Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/438,469	11/12/1999	LAWSON A. WOOD	31255-152013	9368

26694 7590 09/30/2003

VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

EXAMINER

LIN, WEN TAI

ART UNIT	PAPER NUMBER
----------	--------------

2154

DATE MAILED: 09/30/2003

P 412

Please find below and/or attached an Office communication concerning this application or proceeding.



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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09/438,469

EXAMINER

ART UNIT	PAPER NUMBER
----------	--------------

P#12

DATE MAILED:

NOTICE OF ABANDONMENT

This application is abandoned in view of:

- ☐ Applicant's failure to timely file a proper response to the Office letter mailed on _____.
- ☐ A response (with a Certificate of Mailing or Transmission of _____) was received on _____, which is after the expiration of the period for response (including a total extension of time of _____ month(s)) which expired on _____.
- ☐ A proposed response was received on _____, but it does not constitute a proper response to the final rejection.
- (A proper response to a final rejection consists only of: a timely filed amendment which places the application in condition for allowance; a Notice of Appeal; or the filing of a continuing application under 37 CFR 1.62 (FWC).
- ☐ No response has been received.
- ☒ Applicant's failure to timely pay the required issue fee within the statutory period of three months from the mailing date of the Notice of Allowance.
- ☐ The issue fee (with a Certificate of Mailing or Transmission of _____) was received on _____.
- ☐ The submitted issue fee of \$_____ is insufficient. The issue fee required by 37 CFR 1.18 is \$_____.
- ☒ The issue fee has not been received.
- ☐ Applicant's failure to timely file new formal drawings as required in the Notice of Allowability.
- ☐ Proposed new formal drawings (with a Certificate of Mailing or Transmission of _____) were received on _____.
- ☐ The proposed new formal drawings filed _____ are not acceptable.
- ☐ No proposed new formal drawings have been received.
- ☐ The express abandonment under 37 CFR 1.62(g) in favor of the FWC application filed on _____.
- ☐ The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.
- ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a) upon the filing of a continuing application.
- ☐ The decision by the Board of Patent Appeals and Interferences rendered on _____ and because the period for seeking court review of the decision has expired and there are no allowed claims.
- ☐ The reason(s) below:

ABANDONMENT
CONTACT PERSON IS:
TOM HAWKINS
305-8380

REQUEST FOR ACCESS TO AN ABANDONED APPLICATION UNDER 37 CFR 1.14

Bring completed form to:
File Information Unit
Crystal Plaza Three, Room 1D01
2021 South Clark Place
Arlington, VA
Telephone: (703) 308-2733

In re Application of

Application Number

Filed

09/438469 11-12-1999

Paper No. 13

I hereby request access under 37 CFR 1.14(a)(1)(iv) to the application file record of the above-identified ABANDONED application, which is identified in, or to which a benefit is claimed, in the following document (as shown in the attachment):

United States Patent Application Publication No. 2004, page, 0049540

United States Patent Number, column, line, or

WIPO Pub. No., page, line

Related Information about Access to Pending Applications (37 CFR 1.14):

Direct access to pending applications is not available to the public but copies may be available and may be purchased from the Office of Public Records upon payment of the appropriate fee (37 CFR 1.19(b)), as follows:

For published applications that are still pending, a member of the public may obtain a copy of:

- the file contents;
- the pending application as originally filed; or
- any document in the file of the pending application.

For unpublished applications that are still pending:

- (1) If the benefit of the pending application is claimed under 35 U.S.C. 119(e), 120, 121, or 365 in another application that has: (a) issued as a U.S. patent, or (b) published as a statutory invention registration, a U.S. patent application publication, or an international patent application publication in accordance with PCT Article 21(2), a member of the public may obtain a copy of:
 - the file contents;
 - the pending application as originally filed; or
 - any document in the file of the pending application.
- (2) If the application is incorporated by reference or otherwise identified in a U.S. patent, a statutory invention registration, a U.S. patent application publication, or an international patent application publication in accordance with PCT Article 21(2), a member of the public may obtain a copy of:
 - the pending application as originally filed.

Darlene Jones

Signature
Darlene Jones

Typed or printed name

Registration Number, if applicable

703-664-6164

Telephone Number

8/12/09
Date
RECEIVED
AUG 12 2009
FOR PTO USE ONLY
Approved by: *[Signature]*
(Initials)
File Information Unit
Unit

This collection of information is required by 37 CFR 1.14. The information is required to obtain or retain a benefit by the public which is to file and by the USPTO to process an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22312-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. BRING TO: File Information Unit, Crystal Plaza Three, Room 1D01, 2021 South Clark Place, Arlington, VA.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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REQUEST FOR ACCESS TO AN ABANDONED APPLICATION UNDER 37 CFR 1.14

Bring completed form to:

File Information Unit, Suite 3A20,
2800 South Randolph Street
Arlington, VA 22206

Telephone: (703) 756-1800

In re Application of

Application Number

Filed

09-438469

11-12-99

BY: _____

Paper No. #14

I hereby request access under 37 CFR 1.14(a)(1)(iv) to the application file record of the above-identified ABANDONED application, which is not within the file jacket of a pending Continued Prosecution Application (CPA) (37 CFR 1.53(d)) and which is identified in, or to which a benefit is claimed, in the following document (as shown in the attachment):

United States Patent Application Publication No. _____, page, _____ line _____,

United States Patent Number 7743092, column _____, line, _____,

WIPO Pub. No. _____, page _____, line _____,

Related Information About Access to Applications Maintained in the Image File Wrapper System (IFW) and Access to Pending Applications in General

A member of the public, acting without a power to inspect, cannot order applications maintained in the IFW system through the FIU. If the member of the public is entitled to a copy of the application file, then the file is made available through the Public Patent Application Information Retrieval system (Public PAIR) on the USPTO internet web site (www.uspto.gov). Terminals that allow access to Public PAIR are available in the Public Search Room. The member of the public may also be entitled to obtain a copy of all or part of the application file upon payment of the appropriate fee. Such copies must be purchased through the Office of Public Records upon payment of the appropriate fee (37 CFR 1.19(b)).

For published applications that are still pending, a member of the public may obtain a copy of:

the file contents; the pending application as originally filed; or any document in the file of the pending application.

For unpublished applications that are still pending:

- (1) If the benefit of the pending application is claimed under 35 U.S.C. 119(e), 120, 121, or 365 in another application that has: (a) issued as a U.S. patent, or (b) published as a statutory invention registration, a U.S. patent application publication, or an international patent application publication in accordance with PCT Article 21(2), a member of the public may obtain a copy of: the file contents; the pending application as originally filed; or any document in the file of the pending application.
- (2) If the application is incorporated by reference or otherwise identified in a U.S. patent, a statutory invention registration, a U.S. patent application publication, or an international patent application publication in accordance with PCT Article 21(2), a member of the public may obtain a copy of the pending application as originally filed.

Signature

Date

Typed or printed name

Registration Number, if applicable

Telephone Number

Approved by:

Unit:

FOR PTO USE ONLY

RECEIVED

NOV 04 2014

BY: _____

This collection of information is required by 37 CFR 1.11 and 1.14. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. BRING TO: File Information Unit, Suite 3A20, 2800 South Randolph Street, Arlington, Virginia.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Shepard's

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Claim 16-21 are recognition of Music
(related to recognition of speech techniques)
704/246 + Applications 704/270, 276

Claims 2-8 include recognition of music
related to claims 16-21

Claims 1 and 9-15 are merely requesting
certain data to be sent over the internet (Class 709).

82
D.D. 2767
Dung Dinh

PRIMARY EXAMINER
DAVID D. KNEPPER

DAVID D. KNEPPER
PRIMARY EXAMINER

LEXIS-NEXIS

1-800-543-6862
CUSTOMER SERVICE

2700 INTERNAL TRANSFER REQUEST FOR S.N.

09/4 8469

Nguyen
reconsideration

DATE: 5-02-00

FROM: (print name)

FORWARD TO:

REASON(S):

A. Art Unit: 2763

A. You had Parent

(check box)

B. Class: 379

B. See Title

(check box)

C Subclass: 93+

C. See Abstract

(check box)

D. See Claim(s): 1

FURTHER EXPLANATION IF NEEDED:

Audio distribution over Internet

DATE:

FROM: (print name)

FORWARD TO:

REASON(S):

A. Art Unit:

A. You had Parent

(check box)

B. Class:

B. See Title

(check box)

C Subclass:

C. See Abstract

(check box)

D. See Claim(s):

FURTHER EXPLANATION IF NEEDED:

DATE:

FROM: (print name)

FORWARD TO CLASSIFIER

REASON(S):

A. You had Parent

(check box)

B. See Title

(check box)

C. See Abstract

(check box)

D. See Claim(s):

FURTHER EXPLANATION IF NEEDED:

DISPOSITION BY 2700 CLASSIFICATION

DATE: 5/11/00

CLASSIFIER: Mendez

FORWARD TO:

REASON(S):

A. Art Unit: 2757

A. You had Parent

(check box)

B. Class: 709

B. See Title

(check box)

C Subclass: 228

C. See Abstract

(check box)

D. See Claim(s):

FURTHER EXPLANATION IF NEEDED:

709/228 Im Au 2757

2700 INTERNAL TRANSFER REQUEST FOR S.N.

09/438,469

DATE: 02-02-00 FROM: _____ (print name)

FORWARD TO:

A. Art Unit: 2756

B. Class: 709

C Subclass: 217+

REASON(S):

A. You had Parent ☐ (check box)

B. See Title ☐ (check box)

C. See Abstract ☐ (check box)

D. See Claim(s): _____

FURTHER EXPLANATION IF NEEDED:

audio over internet.

DATE: 3/29/00 FROM: 2757 (print name)

FORWARD TO:

A. Art Unit: 2761

B. Class: 705

C Subclass: 26

REASON(S):

A. You had Parent ☐ (check box)

B. See Title ☐ (check box)

C. See Abstract ☐ (check box)

D. See Claim(s): _____

FURTHER EXPLANATION IF NEEDED:

nominal recognition of Internet
method for shipping of audio recording

DATE: 4/5/00 FROM: Susie M. Draz (print name)

FORWARD TO CLASSIFIER

A. You had Parent ☐ (check box)

B. See Title ☐ (check box)

C. See Abstract ☐ (check box)

D. See Claim(s): _____

FURTHER EXPLANATION IF NEEDED:

tone/pitch recognition - music art

DISPOSITION BY 2700 CLASSIFICATION

DATE: 20 Apr 2000 CLASSIFIER: Mandaguru

FORWARD TO:

A. Art Unit: 2741

B. Class: 704

C Subclass: 246

REASON(S):

A. You had Parent ☐ (check box)

B. See Title ☐ (check box)

C. See Abstract ☐ (check box)

D. See Claim(s): _____

FURTHER EXPLANATION IF NEEDED:

O.K. for 704/246 (see also 270,276) with claims 1-9-15 to be restricted to class 709 as noted by Dung Dinh.

Claims 16-21 & 2-8 include recognition of music & such "recognition" is not classified elsewhere & best examinable with speech/voice recognition.

PATENT APPLICATION FEE DETERMINATION RECORD

Effective November 10, 1998

Application or Docket Number

09/438/469

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE		
TOTAL CLAIMS	21 minus 20 = *	1
INDEPENDENT CLAIMS	2 minus 3 = *	
MULTIPLE DEPENDENT CLAIM PRESENT		

* If the difference in column 1 is less than zero, enter "0" in column 2

SMALL ENTITY
TYPE ☒OR
OTHER THAN
SMALL ENTITY

RATE	FEE		RATE	FEE
	380.00	OR		760.00
X\$ 9=	9	OR	X\$18=	
X39=		OR	X78=	
+130=		OR	+260=	
TOTAL	389	OR	TOTAL	

CLAIMS AS AMENDED - PART II

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	* 13	Minus	** 21 =
Independent	* 1	Minus	*** 3 =
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			

SMALL ENTITY

OR
OTHER THAN
SMALL ENTITY

RATE	ADDI- TIONAL FEE		RATE	ADDI- TIONAL FEE
X\$ 9=		OR	X\$18=	
X39=		OR	X78=	
+130=		OR	+260=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	* 11	Minus	** 21 =
Independent	* 1	Minus	*** 3 =
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			

RATE	ADDI- TIONAL FEE		RATE	ADDI- TIONAL FEE
X\$ 9=		OR	X\$18=	
X39=		OR	X78=	
+130=		OR	+260=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus	**
Independent	*	Minus	***
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			

RATE	ADDI- TIONAL FEE		RATE	ADDI- TIONAL FEE
X\$ 9=		OR	X\$18=	
X39=		OR	X78=	
+130=		OR	+260=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.