AO 120 (Rev. 08/10)

| TO: | Mail Stop 8<br>Director of the U.S. Patent and Trademark Office<br>P.O. Box 1450<br>Alexandria, VA 22313-1450 | REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK |
|---|---|---|

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court DELAWARE on the following

☐ Trademarks or ☑ Patents. ( ☐ the patent action involves 35 U.S.C. § 292.):

| DOCKET NO. | DATE FILED | U.S. DISTRICT COURT |
|---|---|---|
| | 10/21/2014 | DELAWARE |

| PLAINTIFF | DEFENDANT |
|---|---|
| SONOS, INC. | D&M HOLDINGS INC. d/b/a THE D+M GROUP, D&M HOLDINGS U.S. INC., AND DENON ELECTRONICS (USA), LLC |

| | PATENT OR TRADEMARK NO. | DATE OF PATENT OR TRADEMARK | HOLDER OF PATENT OR TRADEMARK |
|---|---|---|---|
| 1 | U.S. 8,788,080 B1 | 7/22/2014 | Sonos, Inc. |
| 2 | U.S. 7,571,014 B1 | 8/4/2009 | Sonos, Inc. |
| 3 | U.S. 8,588,949 B2 | 11/19/2013 | Sonos, Inc. |
| 4 | U.S. D559,197 S | 1/8/2008 | Sonos, Inc. |
| 5 | | | |

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

| DATE INCLUDED | INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading | |
|---|---|---|
| PATENT OR TRADEMARK NO. | DATE OF PATENT OR TRADEMARK | HOLDER OF PATENT OR TRADEMARK |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |

In the above—entitled case, the following decision has been rendered or judgement issued:

| DECISION/JUDGEMENT |
|---|
| |

| CLERK | (BY) DEPUTY CLERK | DATE |
|---|---|---|
| JOHN A. CERINO | | |

**Copy 1—Upon initiation of action, mail this copy to Director** **Copy 3—Upon termination of action, mail this copy to Director**
**Copy 2—Upon filing document adding patent(s), mail this copy to Director** **Copy 4—Case file copy**

AO 120 (Rev. 08/10)

| TO: | REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK |
|---|---|
| Mail Stop 8<br>Director of the U.S. Patent and Trademark Office<br>P.O. Box 1450<br>Alexandria, VA 22313-1450 | |

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court DELAWARE on the following

☐ Trademarks or ☑ Patents. ( ☐ the patent action involves 35 U.S.C. § 292.):

| DOCKET NO. | DATE FILED | U.S. DISTRICT COURT |
|---|---|---|
| 14-1330 RGA | 10/21/2014 | DELAWARE |

| PLAINTIFF | DEFENDANT |
|---|---|
| SONOS, INC. | D&M HOLDINGS INC. d/b/a THE D+M GROUP, D&M HOLDINGS U.S. INC., AND DENON ELECTRONICS (USA), LLC |

| | PATENT OR TRADEMARK NO. | DATE OF PATENT OR TRADEMARK | HOLDER OF PATENT OR TRADEMARK |
|---|---|---|---|
| 1 | US D559,197 S | 1/8/2008 | SONOS, INC. |
| 2 | US 7,571,014 B1 | 8/4/2009 | SONOS, INC. |
| 3 | US 8,588,949 B2 | 11/19/2013 | SONOS, INC. |
| 4 | US 8,843,224 B2 | 9/23/2014 | SONOS, INC. |
| 5 | US 8,938,637 B2 | 1/20/2015 | SONOS, INC. |

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

| DATE INCLUDED | INCLUDED BY |
|---|---|
| 3/7/2016 | ☑ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading |

| | PATENT OR TRADEMARK NO. | DATE OF PATENT OR TRADEMARK | HOLDER OF PATENT OR TRADEMARK |
|---|---|---|---|
| 1 | US 8,938,312 B2 | 1/20/2015 | SONOS, INC. |
| 2 | US 9,042,556 B2 | 5/26/2015 | SONOS, INC. |
| 3 | US 9,130,771 B2 | 9/8/2015 | SONOS, INC. |
| 4 | US 9,195,258 B2 | 11/24/2015 | SONOS, INC. |
| 5 | US 9,213,357 B2 | 12/15/2015 | SONOS, INC. |

SEE ATTACHED

In the above—entitled case, the following decision has been rendered or judgement issued:

| DECISION/JUDGEMENT |
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| CLERK | (BY) DEPUTY CLERK | DATE |
|---|---|---|
| JOHN A. CERINO | | |

**Copy 1—Upon initiation of action, mail this copy to Director** **Copy 3—Upon termination of action, mail this copy to Director**
**Copy 2—Upon filing document adding patent(s), mail this copy to Director** **Copy 4—Case file copy**

AO 120 (Rev. 08/10)

| TO: | REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK |
|---|---|
| Mail Stop 8<br>Director of the U.S. Patent and Trademark Office<br>P.O. Box 1450<br>Alexandria, VA 22313-1450 | |

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court DELAWARE on the following

☐ Trademarks or ☑ Patents. ( ☐ the patent action involves 35 U.S.C. § 292.):

| DOCKET NO. | DATE FILED | U.S. DISTRICT COURT |
|---|---|---|
| 14-1330 RGA | 10/21/2014 | DELAWARE |

| PLAINTIFF | DEFENDANT |
|---|---|
| SONOS, INC.<br><br>PAGE TWO | D&M HOLDINGS INC. d/b/a THE D+M GROUP, D&M HOLDINGS U.S. INC., AND DENON ELECTRONICS (USA), LLC |

| | PATENT OR TRADEMARK NO. | DATE OF PATENT OR TRADEMARK | HOLDER OF PATENT OR TRADEMARK |
|---|---|---|---|
| 1 | US 9,202,509 B2 | 12/1/2015 | SONOS, INC. |
| 2 | US 9,219,959 B2 | 12/22/2015 | SONOS, INC. |
| 3 | | | |
| 4 | | | |
| 5 | | | |

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

| DATE INCLUDED | INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading | |
|---|---|---|
| PATENT OR TRADEMARK NO. | DATE OF PATENT OR TRADEMARK | HOLDER OF PATENT OR TRADEMARK |
| 1 | | |
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In the above—entitled case, the following decision has been rendered or judgement issued:

| DECISION/JUDGEMENT |
|---|
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| CLERK | (BY) DEPUTY CLERK | DATE |
|---|---|---|
| JOHN A. CERINO | | |

**Copy 1—Upon initiation of action, mail this copy to Director** **Copy 3—Upon termination of action, mail this copy to Director**
**Copy 2—Upon filing document adding patent(s), mail this copy to Director** **Copy 4—Case file copy**

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT3616443

| | |
|---|---|
| **SUBMISSION TYPE:** | NEW ASSIGNMENT |
| **NATURE OF CONVEYANCE:** | PATENT SECURITY AGREEMENT |

**CONVEYING PARTY DATA**

| Name | Execution Date |
|---|---|
| SONOS, INC. | 10/28/2015 |

**RECEIVING PARTY DATA**

| | |
|---|---|
| **Name:** | JPMORGAN CHASE BANK, N.A. |
| **Street Address:** | 10 S. DEARBORN STREET |
| **City:** | CHICAGO |
| **State/Country:** | ILLINOIS |
| **Postal Code:** | 60603 |

**PROPERTY NUMBERS Total: 80**

| Property Type | Number |
|---|---|
| **Patent Number:** | 9170600 |
| **Patent Number:** | D524251 |
| **Patent Number:** | 8234395 |
| **Patent Number:** | 8024055 |
| **Patent Number:** | 7792311 |
| **Patent Number:** | 7154381 |
| **Patent Number:** | 7571014 |
| **Patent Number:** | 7378903 |
| **Patent Number:** | 7668964 |
| **Patent Number:** | 8326951 |
| **Patent Number:** | D559197 |
| **Patent Number:** | 8694910 |
| **Patent Number:** | 9075509 |
| **Patent Number:** | 7805682 |
| **Patent Number:** | D582429 |
| **Patent Number:** | 8020023 |
| **Patent Number:** | D575800 |
| **Patent Number:** | D575801 |
| **Patent Number:** | 8258872 |
| **Patent Number:** | 8483853 |

| Property Type | Number |
|---|---|
| **Patent Number:** | 8086752 |
| **Patent Number:** | 8290603 |
| **Patent Number:** | 8990360 |
| **Patent Number:** | 7696816 |
| **Patent Number:** | D655305 |
| **Patent Number:** | 8788080 |
| **Patent Number:** | 8938312 |
| **Patent Number:** | D672748 |
| **Patent Number:** | 9042556 |
| **Patent Number:** | 8370678 |
| **Patent Number:** | 8843224 |
| **Patent Number:** | 9052810 |
| **Patent Number:** | 8923997 |
| **Patent Number:** | 8971546 |
| **Patent Number:** | 8423659 |
| **Patent Number:** | D685392 |
| **Patent Number:** | 8811630 |
| **Patent Number:** | 9084058 |
| **Patent Number:** | 9164531 |
| **Patent Number:** | 9164532 |
| **Patent Number:** | 8908879 |
| **Patent Number:** | 8903526 |
| **Patent Number:** | 9031255 |
| **Patent Number:** | 9020623 |
| **Patent Number:** | D721352 |
| **Patent Number:** | 9106192 |
| **Patent Number:** | 9137564 |
| **Patent Number:** | 9031244 |
| **Patent Number:** | D695715 |
| **Patent Number:** | 8995687 |
| **Patent Number:** | 8867761 |
| **Patent Number:** | D721059 |
| **Patent Number:** | 8930005 |
| **Patent Number:** | 8965033 |
| **Patent Number:** | 8588949 |
| **Patent Number:** | 8868698 |
| **Patent Number:** | 9078010 |
| **Patent Number:** | 9008330 |

| Property Type | Number |
|---|---|
| **Patent Number:** | 8910265 |
| **Patent Number:** | 9094706 |
| **Patent Number:** | D684948 |
| **Patent Number:** | 9164533 |
| **Patent Number:** | 9158327 |
| **Patent Number:** | 8689036 |
| **Patent Number:** | D721061 |
| **Patent Number:** | 8775546 |
| **Patent Number:** | 9130770 |
| **Patent Number:** | 8886347 |
| **Patent Number:** | 8934997 |
| **Patent Number:** | 8843228 |
| **Patent Number:** | D696299 |
| **Patent Number:** | 9141645 |
| **Patent Number:** | 9130771 |
| **Patent Number:** | 9066179 |
| **Patent Number:** | 9122451 |
| **Patent Number:** | 9166273 |
| **Patent Number:** | D724570 |
| **Patent Number:** | 8938637 |
| **Patent Number:** | 9014834 |
| **Patent Number:** | 8995240 |

**CORRESPONDENCE DATA**

**Fax Number:** (202)739-3001

***Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.***

**Phone:** 202-739-3000
**Email:** jennifer.evans@morganlewis.com
**Correspondent Name:** MORGAN, LEWIS & BOCKIUS LLP
**Address Line 1:** 1111 PENNSYLVANIA AVENUE, NW
**Address Line 4:** WASHINGTON, D.C. 20004

| | |
|---|---|
| **ATTORNEY DOCKET NUMBER:** | 066397-0576 |
| **NAME OF SUBMITTER:** | JENNIFER C. EVANS |
| **SIGNATURE:** | /jce/ |
| **DATE SIGNED:** | 11/15/2015 |
| | This document serves as an Oath/Declaration (37 CFR 1.63). |

**Total Attachments: 50**
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**PATENT SECURITY AGREEMENT**

This **PATENT SECURITY AGREEMENT** (as amended, restated, modified or otherwise supplemented from time to time, this "Patent Security Agreement") is made as of October 28, 2015, by and between **SONOS, INC.**, a Delaware corporation (the "Grantor"), and **JPMORGAN CHASE BANK, N.A.**, in its capacity as administrative agent (the "Administrative Agent") for the lenders party to the Credit Agreement referred to below.

W I T N E S S E T H:

WHEREAS, pursuant to that certain Credit Agreement of even date herewith (as amended, restated, amended and restated, supplemented, or otherwise modified from time to time, the "Credit Agreement"), by and among the Grantor and the other Domestic Borrowers from time to time party thereto, Sonos Europe, B.V. and the other European Borrowers from time to time party thereto, the other Loan Parties from time to time party thereto, the Lenders from time to time party thereto, and the Administrative Agent, the Lenders have agreed to make certain financial accommodations available to the Borrowers from time to time pursuant to the terms and conditions thereof;

WHEREAS, the Lenders are willing to make the financial accommodations to the Borrowers as provided for in the Credit Agreement, but only upon the condition, among others, that the Grantor shall have executed and delivered to the Administrative Agent, on behalf of the Secured Parties, that certain U.S. Pledge and Security Agreement, dated as of the date hereof (including all exhibits thereto, as from time to time amended, restated, amended and restated, supplemented or otherwise modified, the "Security Agreement");

WHEREAS, pursuant to the Security Agreement, the Grantor pledged and granted to the Administrative Agent, for the benefit of the Secured Parties, a security interest in the Patent Collateral (as defined below); and

WHEREAS, pursuant to the Security Agreement, the Grantor has agreed to execute and deliver this Patent Security Agreement in order to record the security interest granted to the Administrative Agent, for the benefit of the Secured Parties, with the United States Patent and Trademark Office.

NOW, THEREFORE, in consideration of the premises and mutual covenants herein contained and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Grantor hereby agrees as follows:

1. DEFINED TERMS. All capitalized terms used but not otherwise defined herein have the meanings given to them in the Security Agreement or, if not defined therein, in the Credit Agreement.

2. GRANT OF SECURITY INTEREST IN PATENT COLLATERAL. The Grantor hereby unconditionally grants, collaterally assigns and pledges to the Administrative Agent, on behalf of the Secured Parties, to secure the prompt and complete payment and performance of the Secured Obligations in accordance with the Credit Agreement, a continuing first priority security interest (subject only to Liens permitted under Section 6.02 of the Credit Agreement) (referred to in this Patent Security Agreement as the "Security Interest") in all of the Grantor's right, title and interest in, to and under the following to the extent constituting Collateral, whether now owned or hereafter acquired or arising (collectively, the "Patent Collateral"):

(a) all of its Patents including those referred to on Schedule I;

(b) all divisionals, continuations, continuations-in-part, reissues, reexaminations or extensions of the foregoing; and

(c) all products and proceeds (as that term is defined in the UCC) of the foregoing, including any claim by the Grantor against third parties for past, present or future infringement of any Patent, including the right to receive any damages. Notwithstanding anything to the contrary herein, in no event shall the Patent Collateral include any Excluded Collateral.

3. SECURITY FOR SECURED OBLIGATIONS. This Patent Security Agreement and the Security Interest created hereby secures the payment and performance of the Secured Obligations, whether now existing or arising hereafter. Without limiting the generality of the foregoing, this Patent Security Agreement secures the payment of all amounts which constitute part of the Secured Obligations and would be owed by the Grantor to the Secured Parties whether or not they are unenforceable or not allowable, in each case, due to the existence of an insolvency proceeding involving the Grantor.

4. SECURITY AGREEMENT. The Security Interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interests granted to the Administrative Agent, on behalf of the Secured Parties, pursuant to the Security Agreement. The Grantor hereby acknowledges and affirms that the rights and remedies of the Administrative Agent with respect to the Security Interest in the Patent Collateral made and granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. To the extent there is any inconsistency between this Patent Security Agreement and the Security Agreement, the Security Agreement shall control.

5. AUTHORIZATION TO SUPPLEMENT. If the Grantor shall obtain rights to any new Patent application or issued Patent or become entitled to the benefit of any Patent application or Patent for any divisional, continuation, continuation-in-part, reissue, or reexamination of any existing Patent or Patent application, in each case, other than Excluded Collateral, the provisions of this Patent Security Agreement shall automatically apply thereto. The Grantor hereby authorizes the Administrative Agent unilaterally to modify this Patent Security Agreement by amending Schedule I to include any such new Patent rights of the Grantor. Notwithstanding the foregoing, no failure to so modify this Patent Security Agreement or amend Schedule I shall in any way affect, invalidate or detract from the Administrative Agent's continuing security interest in all Collateral, whether or not listed on Schedule I.

6. COUNTERPARTS. This Patent Security Agreement may be executed in any number of counterparts and by different parties on separate counterparts, each of which, when executed and delivered, shall be deemed to be an original, and all of which, when taken together, shall constitute but one and the same Patent Security Agreement. Delivery of an executed counterpart of this Patent Security Agreement by telefacsimile or other electronic method of transmission (e.g. via email in portable document file format) shall be equally as effective as delivery of an original executed counterpart of this Patent Security Agreement. This Patent Security Agreement is a Loan Document.

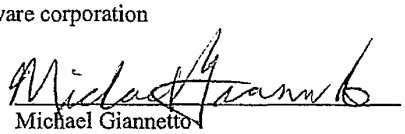
7. **CHOICE OF LAW. THIS PATENT SECURITY AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE INTERNAL LAWS (AND NOT THE LAW OF CONFLICTS, BUT GIVING EFFECT TO NEW YORK GENERAL OBLIGATIONS LAW SECTION 5-1401) OF THE STATE OF NEW YORK.**

8. MISCELLANEOUS. THIS PATENT SECURITY AGREEMENT SHALL BE SUBJECT TO THE PROVISIONS REGARDING CONSENT TO JURISDICTION AND JURY TRIAL WAIVER SET FORTH IN SECTIONS 8.17 AND 8.18 OF THE SECURITY AGREEMENT, AND SUCH PROVISIONS ARE INCORPORATED HEREIN BY THIS REFERENCE, MUTATIS MUTANDIS.

**IN WITNESS WHEREOF**, the parties hereto have caused this Patent Security Agreement to be executed and delivered as of the day and year first above written.

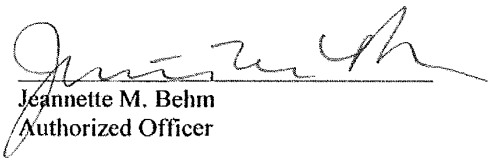
**GRANTOR:**

**SONOS, INC.,**
a Delaware corporation

By: 
Name: Michael Giannetto
Title: Chief Financial Officer and Treasurer

**ADMINISTRATIVE AGENT:**

**JPMORGAN CHASE BANK, N.A.**

By: 
Name: Jeannette M. Behm
Title: Authorized Officer

[Signature page to Patent Security Agreement]

**SCHEDULE I**
**to**
**PATENT SECURITY AGREEMENT**

**Patents and Patent Applications**

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | 9,170,600 | Method And Apparatus For Providing Synchrony Group Status Information | 10/27/2015 | US |
| Sonos, Inc. | D524,251 | Remote Control Device For Electronic Equipment | 7/4/2006 | US |
| Sonos, Inc. | 8234395 | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | 7/31/2012 | US |
| Sonos, Inc. | 8024055 | Method And System For Controlling Amplifiers | 9/20/2011 | US |
| Sonos, Inc. | 7792311 | Method And Apparatus For Automatically Enabling Subwoofer Channel Audio Based On Detection Of Subwoofer Device | 9/7/2010 | US |
| Sonos, Inc. | 7154381 | System And Method For Operating A Sensed Power Device Over Data Wiring | 12/26/2006 | US |
| Sonos, Inc. | 7571014 | Method And Apparatus For Controlling Multimedia Players In A Multi-Zone System | 8/4/2009 | US |
| Sonos, Inc. | 7378903 | System And Method For Minimizing Dc Offset In Outputs Of Audio Power Amplifiers | 5/27/2008 | US |
| Sonos, Inc. | 7668964 | System And Method For Synchronizing Channel Handoff As Among A Plurality Of Devices | 2/23/2010 | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Method And Apparatus For Managing A Playlist By Metadata | Pending | US |
| Sonos, Inc. | 8326951 | Establishing A Secure Wireless Network With Minimum Human Intervention | 12/4/2012 | US |
| Sonos, Inc. | D559,197 | Control Strip For Electronic Appliances | 1/8/2008 | US |
| Sonos, Inc. | 8,694,910 | User Interface To Enable Users To Scroll Through A Large List Of Items | 4/8/2014 | US |
| Sonos, Inc. | 9,075,509 | User Interface To Provide Additional Information On A Selected Item In A List | 7/7/2015 | US |
| Sonos, Inc. | 7,805,682 | Method And Apparatus For Editing A Playlist | 9/28/2010 | US |
| Sonos, Inc. | D582,429 | Digital Media Device | 12/9/2008 | US |
| Sonos, Inc. | 8,020,023 | Systems And Methods For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices Without A Voltage Controlled Crystal Oscillator | 9/13/2011 | US |
| Sonos, Inc. | D575,800 | Multimedia Box | 8/26/2008 | US |
| Sonos, Inc. | D575,801 | Multimedia Box | 8/26/2008 | US |
| Sonos, Inc. | 8,258,872 | Multi-Tier Power Supply For Audio Amplifiers | 9/4/2012 | US |
| Sonos, Inc. | 8,483,853 | Controlling And Manipulating Groupings In A Multi-Zone Media System | 7/9/2013 | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | 8,086,752 | Systems And Methods For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices That Independently Source Digital Data | 12/27/2011 | US |
| Sonos, Inc. | 8,290,603 | Method And Apparatus For Controlling Multimedia Players In A Multi-Zone System | 10/16/2012 | US |
| Sonos, Inc. | 8,990,360 | System, Method, And Computer Program For Remotely Managing A Digital Device | 3/24/2015 | US |
| Sonos, Inc. | 7,696,816 | System And Method For Minimizing Dc Offset In Outputs Of Audio Power Amplifiers | 4/13/2010 | US |
| Sonos, Inc. | Pending | Systems And Methods For Configuring And Profiling A Digital Media Device | Pending | US |
| Sonos, Inc. | D655,305 | Networked Multimedia Unit | 3/6/2012 | US |
| Sonos, Inc. | Pending | Advertising In A Digital Media Playback System | Pending | US |
| Sonos, Inc. | Pending | Controlling And Grouping In A Multi-Zone Media System | Pending | US |
| Sonos, Inc. | 8,788,080 | Multi-Channel Pairing In A Media System | 7/22/2014 | US |
| Sonos, Inc. | 8,938,312 | Smart Line-In Processing | 1/20/2015 | US |
| Sonos, Inc. | D672,748 | Playback Device | 12/18/2012 | US |
| Sonos, Inc. | Pending | Antenna Configurations For Wireless Speakers | Pending | US |
| Sonos, Inc. | 9,042,556 | Shaping Sound Responsive To Speaker Orientation | 5/26/2015 | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | 8,370,678 | Systems And Methods For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices Without A Voltage Controlled Crystal Oscillator | 2/5/2013 | US |
| Sonos, Inc. | 8,843,224 | Method And System For Controlling Amplifiers | 9/23/2014 | US |
| Sonos, Inc. | Pending | Methods And System To Share Media | Pending | US |
| Sonos, Inc. | 9,052,810 | Methods And Apparatus To Manage Zones Of A Multi-Zone Media Playback System | 6/9/2015 | US |
| Sonos, Inc. | Pending | Methods And Apparatus To Change Control Centexts Of Controllers | Pending | US |
| Sonos, Inc. | Pending | Method And Apparatus For Collecting Diagnostic Information | Pending | US |
| Sonos, Inc. | 8,923,997 | Method And Apparatus For Adjusting A Speaker System | 12/30/2014 | US |
| Sonos, Inc. | 8,971,546 | Systems, Methods, Apparatus, And Articles Of Manufacture To Control Audio Playback Devices | 3/3/2015 | US |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture For Playback Demonstration At A Point Of Sale Display | Pending | US |
| Sonos, Inc. | Pending | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | 8,423,659 | Systems And Methods For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices That Independently Source Digital Data | 4/16/2013 | US |
| Sonos, Inc. | D685,392 | Playback Device | 7/2/2013 | US |
| Sonos, Inc. | 8,811,630 | Systems, Methods, And Apparatus To Filter Audio | 8/19/2014 | US |
| Sonos, Inc. | Pending | Methods And Systems To Select An Audio Track | Pending | US |
| Sonos, Inc. | Pending | Systems And Methods For Multi-Network Audio Control | Pending | US |
| Sonos, Inc. | Pending | Systems And Methods For Connecting An Audio Controller To A Hidden Audio Network | Pending | US |
| Sonos, Inc. | 9,084,058 | Sound Field Calibration Using Listener Localization | 7/14/2015 | US |
| Sonos, Inc. | Pending | Systems And Methods For Networked Music Playback | Pending | US |
| Sonos, Inc. | Pending | Systems And Methods For Player Setup Room Names | Pending | US |
| Sonos, Inc. | 9164531 | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | 10/20/2015 | US |
| Sonos, Inc. | Pending | Context-Based User Music Menu Systems And Methods | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Method And Apparatus To Receive, Play, And Provide Audio Content In A Multi-Zone System | Pending | US |
| Sonos, Inc. | 9164532 | Method And Apparatus For Displaying Zones In A Multi-Zone System | 10/20/2015 | US |
| Sonos, Inc. | Pending | Intelligently Increasing The Sound Level Of Player | Pending | US |
| Sonos, Inc. | Pending | Methods And Systems For Subwoofer Calibration | Pending | US |
| Sonos, Inc. | Pending | Methods And Apparatus For Direct Routing Between Nodes Of Networks | Pending | US |
| Sonos, Inc. | 8,908,879 | Audio Content Auditioning | 12/9/2014 | US |
| Sonos, Inc. | 8,903,526 | Device Playback Failure Recovery And Redistribution | 12/2/2014 | US |
| Sonos, Inc. | 9,031,255 | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide Low-Latency Audio | 5/12/2015 | US |
| Sonos, Inc. | 9,020,623 | Methods And Apparatus To Provide An Infrared Signal | 4/28/2015 | US |
| Sonos, Inc. | D721,352 | Playback Device | 1/20/2015 | US |
| Sonos, Inc. | Pending | Collecting And Providing Local Playback System Information | Pending | US |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide Automatic Wireless Configuration | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Systems And Methods For Networked Music Playback Including Remote Add To Queue | Pending | US |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide A Crowd-Sourced Playlist With Guest Access | Pending | US |
| Sonos, Inc. | Pending | Systems And Methods For Mobile Music Zones | Pending | US |
| Sonos, Inc. | 9,106,192 | System And Method For Device Playback Calibration | 8/11/2015 | US |
| Sonos, Inc. | 9137564 | Shift To Corresponding Media In A Playback Queue | 9/15/2015 | US |
| Sonos, Inc. | Pending | Modification Of Audio Responsive To Proximity Detection | Pending | US |
| Sonos, Inc. | Pending | Dynamic Spanning Tree Root Selection | Pending | US |
| Sonos, Inc. | 9,031,244 | Smart Audio Settings | 5/12/2015 | US |
| Sonos, Inc. | Pending | Web-Based Music Partner Systems And Methods | Pending | US |
| Sonos, Inc. | D695,715 | Speaker Panel For A Playback Device | 12/17/2013 | US |
| Sonos, Inc. | 8,995,687 | Volume Interactions For Connected Playback Devices | 3/31/2015 | US |
| Sonos, Inc. | 8,867,761 | Multi-Tier Power Supply For Audio Amplifiers | 10/21/2014 | US |
| Sonos, Inc. | D721,059 | Speaker Panel For A Playback Device | 1/13/2015 | US |
| Sonos, Inc. | 8,930,005 | Acoustic Signatures In A Playback System | 1/6/2015 | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | 8,965,033 | Acoustic Optimization | 2/24/2015 | US |
| Sonos, Inc. | 8,588,949 | Method And Apparatus For Controlling Multimedia Players In A Multi-Zone System | 11/19/2013 | US |
| Sonos, Inc. | 8,868,698 | Establishing A Secure Wireless Network With Minimum Human Intervention | 10/21/2014 | US |
| Sonos, Inc. | 9,078,010 | Audio Content Playback Management | 7/7/2015 | US |
| Sonos, Inc. | 9,008,330 | Crossover Frequency Adjustments For Audio Speakers | 4/14/2015 | US |
| Sonos, Inc. | 8,910,265 | Assisted Registration Of Audio Sources | 12/9/2014 | US |
| Sonos, Inc. | Pending | Providing A Multi-Channel And A Multi-Zone Audio Environment | Pending | US |
| Sonos, Inc. | Pending | Methods And Apparatus For Multicast Optimization | Pending | US |
| Sonos, Inc. | Pending | Methods And Apparatus To Learn And Share Remote Commands | Pending | US |
| Sonos, Inc. | 9,094,706 | Systems And Methods For Wireless Music Playback | 7/28/2015 | US |
| Sonos, Inc. | D684,948 | Playback Device | 6/25/2013 | US |
| Sonos, Inc. | Pending | Media Content Search Based On Metadata | Pending | US |
| Sonos, Inc. | Pending | Mobile Source Media Content Access | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Method And Apparatus For Providing Audio And Playback Timing Information To A Plurality Of Networked Audio Devices | Pending | US |
| Sonos, Inc. | Pending | Method And Apparatus For Switching Between A Directly Connected And A Networked Audio Source | Pending | US |
| Sonos, Inc. | 9164533 | Method And Apparatus For Obtaining Audio Content And Providing The Audio Content To A Plurality Of Audio Devices In A Multi-Zone System | 10/20/2015 | US |
| Sonos, Inc. | 9158327 | Method And Apparatus For Skipping Tracks In A Multi-Zone System | 10/13/2015 | US |
| Sonos, Inc. | 8689036 | Systems And Methods For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices Without A Voltage Controlled Crystal Oscillator | 4/1/2014 | US |
| Sonos, Inc. | Pending | System And Method For A Media Experience Social Interface | Pending | US |
| Sonos, Inc. | Pending | Automatic Configuration Of Household Playback Devices | Pending | US |
| Sonos, Inc. | Pending | Automatic Configuration Of Household Playback Devices | Pending | US |
| Sonos, Inc. | D721,061 | Playback Device | 1/13/2015 | US |
| Sonos, Inc. | Pending | Pre-Caching Of Audio Content | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Method And Apparatus For Displaying Single And Container Items In A Play Queue | Pending | US |
| Sonos, Inc. | 8,775,546 | Systems And Methods For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices That Independently Source Digital Data | 7/8/2014 | US |
| Sonos, Inc. | Pending | Method And Apparatus For Displaying Single And Internet Radio Items In A Play Queue | Pending | US |
| Sonos, Inc. | Pending | Method And Apparatus For Providing Synchrony Group Status Information | Pending | US |
| Sonos, Inc. | Pending | Method And Apparatus For Adjusting Volume In A Synchrony Group | Pending | US |
| Sonos, Inc. | Pending | Method And Apparatus For Displaying A List Of Tracks Scheduled For Playback By A Synchrony Group | Pending | US |
| Sonos, Inc. | 9130770 | Establishing A Secure Wireless Network With A Minimum Human Intervention | 9/8/2015 | US |
| Sonos, Inc. | Pending | Private Queue For A Media Playback System | Pending | US |
| Sonos, Inc. | Pending | Playlist Update In A Media Playback System | Pending | US |
| Sonos, Inc. | Pending | Playback Queue Transfer In A Media Playback System | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Method And Apparatus For Dynamic Channelization Device Switching In A Synchrony Group | Pending | US |
| Sonos, Inc. | Pending | Method And Apparatus For Dynamic Master Device Switching In A Synchrony Group | Pending | US |
| Sonos, Inc. | Pending | Method And Apparatus For Playing And Providing Audio Content In A Synchrony Group | Pending | US |
| Sonos, Inc. | Pending | Method And Apparatus For Switching Players Between Synchrony Groups | Pending | US |
| Sonos, Inc. | Pending | Method And Apparatus For Synchrony Group Control Via A Plurality Of Independent User Interface Modules | Pending | US |
| Sonos, Inc. | Pending | Method And Apparatus For Causing A Device To Join A Synchrony Group | Pending | US |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide Guest Access | Pending | US |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide Guest Access | Pending | US |
| Sonos, Inc. | Pending | Method And Apparatus For Causing A Device To Join A Synchrony Group | Pending | US |
| Sonos, Inc. | 8,886,347 | Method And Apparatus For Selecting A Playback Queue In A Multi-Zone System | 11/11/2014 | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Method And Apparatus For Synchronously Pausing Audio Content | Pending | US |
| Sonos, Inc. | Pending | Method And Apparatus For Synchronously Skipping An Audio Track | Pending | US |
| Sonos, Inc. | 8,934,997 | Controlling And Manipulating Groupings In A Multi-Zone Media System | 1/13/2015 | US |
| Sonos, Inc. | 8,843,228 | Method And Apparatus For Updating Zone Configurations In A Multi-Zone System | 9/23/2014 | US |
| Sonos, Inc. | D696,299 | Playback Device | 12/24/2013 | US |
| Sonos, Inc. | Pending | Playback Queue Control Via A Playlist On A Mobile Device | Pending | US |
| Sonos, Inc. | Pending | Playback Queue Control Transition | Pending | US |
| Sonos, Inc. | Pending | Connected State Indicator | Pending | US |
| Sonos, Inc. | Pending | Moving A Playback Queue To A New Zone | Pending | US |
| Sonos, Inc. | Pending | Private Queue Indicator | Pending | US |
| Sonos, Inc. | Pending | Playlist Modification | Pending | US |
| Sonos, Inc. | Pending | Playback Zone Silent Connect | Pending | US |
| Sonos, Inc. | 9141645 | Method And Apparatus For Controlling Multimedia Players In A Multi-Zone System | 9/22/2015 | US |
| Sonos, Inc. | Pending | Satellite Volume Control | Pending | US |
| Sonos, Inc. | Pending | Group Volume Control | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Methods And Apparatus To Manage Zones Of A Multi-Zone Media Playback System | Pending | US |
| Sonos, Inc. | Pending | Intelligent Amplifier Activation | Pending | US |
| Sonos, Inc. | Pending | Methods And Apparatus To Manage Zones Of A Multi-Zone Media Playback System | Pending | US |
| Sonos, Inc. | 9130771 | Establishing A Secure Wireless Network With Minimum Human Intervention | 9/8/2015 | US |
| Sonos, Inc. | Pending | Systems And Methods To Provide Play/Pause Content | Pending | US |
| Sonos, Inc. | Pending | Associating Playback Devices With Playback Queues | Pending | US |
| Sonos, Inc. | Allowed | Loudspeaker Configuration | | US |
| Sonos, Inc. | 9,066,179 | Loudspeaker Assembly Configuration | 6/23/2015 | US |
| Sonos, Inc. | Pending | Controls For Use With A Playback Device | Pending | US |
| Sonos, Inc. | Pending | Speaker Cooling | Pending | US |
| Sonos, Inc. | Pending | Volume Enhancements In A Multi-Zone Media Playback System | Pending | US |
| Sonos, Inc. | Pending | System And Method For Issuing Commands In A Media Playback System | Pending | US |
| Sonos, Inc. | Pending | Multi-Household Support | Pending | US |
| Sonos, Inc. | Pending | Proximity Sensing Configuration | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Capacitive Proximity Sensor Configuration Including An Antenna Ground Plane | Pending | US |
| Sonos, Inc. | 9,122,451 | Capacitive Proximity Sensor Configuration Including A Speaker Grille | 9/1/2015 | US |
| Sonos, Inc. | Pending | Media System Access Via Cellular Network | Pending | US |
| Sonos, Inc. | Pending | Fast-Resume Audio Playback | Pending | US |
| Sonos, Inc. | Pending | Personalized Media Playback At A Discovered Point-Of-Sale Display | Pending | US |
| Sonos, Inc. | Pending | Audio Content Search In A Media Playback System | Pending | US |
| Sonos, Inc. | 9166273 | Configurations For Antennas | 10/20/2015 | US |
| Sonos, Inc. | Pending | Coordinator Device For Paired Or Consolidated Players | Pending | US |
| Sonos, Inc. | Pending | Communication Routes Based On Low Power Operation | Pending | US |
| Sonos, Inc. | Pending | Transitioning A Networked Playback Device Between Operating Modes | Pending | US |
| Sonos, Inc. | Pending | Group Coordinator Device Selection | Pending | US |
| Sonos, Inc. | Pending | Identifying A Useful Wired Connection | Pending | US |
| Sonos, Inc. | Pending | Facilitating The Resolution Of Address Conflicts In A Networked Media Playback System | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Controlling And Displaying Zones In A Multi-Zone System | Pending | US |
| Sonos, Inc. | Pending | Accessing Last-Browsed Information In A Media Playback System | Pending | US |
| Sonos, Inc. | Pending | Media Playback System Using Standby Mode In A Mesh Network | Pending | US |
| Sonos, Inc. | Pending | Clock Rate Adjustment In A Multi-Zone System | Pending | US |
| Sonos, Inc. | Pending | Software Application And Zones | Pending | US |
| Sonos, Inc. | Pending | Audio Synchronization Among Playback Devices Using Offset Information | Pending | US |
| Sonos, Inc. | Pending | Remote Creation Of A Playback Queue For A Future Event | Pending | US |
| Sonos, Inc. | Pending | Audio Output Balancing During Synchronized Playback | Pending | US |
| Sonos, Inc. | Pending | Audio Output Balancing During Synchronized Playback | Pending | US |
| Sonos, Inc. | D724570 | Speaker Stand | 3/17/2015 | US |
| Sonos, Inc. | 8,938,637 | Systems And Methods For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices Without A Voltage Controlled Crystal Oscillator | 1/20/2015 | US |
| Sonos, Inc. | Pending | User Interface To Enable Users To Scroll Through A Large List Of Items | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Method And Apparatus For Switching Between A Directly Connected And A Networked Audio Source | Pending | US |
| Sonos, Inc. | Pending | Method And Apparatus For Providing Synchrony Group Status Information | Pending | US |
| Sonos, Inc. | Pending | Method And Apparatus For Displaying A List Of Tracks Scheduled For Playback By A Synchrony Group | Pending | US |
| Sonos, Inc. | Pending | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | Pending | US |
| Sonos, Inc. | Pending | Media System Controller Interface | Pending | US |
| Sonos, Inc. | Pending | Media Content Based On Playback Zone Awareness | Pending | US |
| Sonos, Inc. | Pending | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | Pending | US |
| Sonos, Inc. | Pending | Playback Zone Representations | Pending | US |
| Sonos, Inc. | Pending | Webpage Media Playback | Pending | US |
| Sonos, Inc. | Pending | Graphical User Interface For A Display Screen Or Portion Thereof | Pending | US |
| Sonos, Inc. | Pending | Graphical User Interface For A Display Screen Or Portion Thereof | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Graphical User Interface For A Display Screen Or Portion Thereof | Pending | US |
| Sonos, Inc. | Pending | Graphical User Interface For A Display Screen Or Portion Thereof | Pending | US |
| Sonos, Inc. | Pending | Graphical User Interface For A Display Screen Or Portion Thereof | Pending | US |
| Sonos, Inc. | Pending | Icon For A Portion Of A Display Screen | Pending | US |
| Sonos, Inc. | Pending | Playback Zone Representations | Pending | US |
| Sonos, Inc. | Pending | Group Volume Control | Pending | US |
| Sonos, Inc. | Pending | Playback Device Configuration Based On Proximity Detection | Pending | US |
| Sonos, Inc. | Pending | Audio Settings Based On Environment | Pending | US |
| Sonos, Inc. | Pending | Media Playback System Controller Having Multiple Graphical Interfaces | Pending | US |
| Sonos, Inc. | Pending | Dynamic Display Of Filter Criteria | Pending | US |
| Sonos, Inc. | Pending | Media-Item Database | Pending | US |
| Sonos, Inc. | Pending | Remote Storage And Provisioning Of Media Index | Pending | US |
| Sonos, Inc. | Pending | Account Aware Media Preferences | Pending | US |
| Sonos, Inc. | Pending | Mirrored Queues | Pending | US |
| Sonos, Inc. | Pending | Methods And Systems For Transmitting Playlists | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | 9,014,834 | Multi-Channel Pairing In A Media System | 4/21/2015 | US |
| Sonos, Inc. | Pending | Media Preference Database | Pending | US |
| Sonos, Inc. | Pending | Playback Of Media Content According To Media Preferences | Pending | US |
| Sonos, Inc. | Pending | Receiving Media Content Based On Media Preferences Of Multiple Users | Pending | US |
| Sonos, Inc. | Pending | Management Of Media Content Playback | Pending | US |
| Sonos, Inc. | Pending | Power Plug | Pending | US |
| Sonos, Inc. | Pending | Share Restriction For Media Items | Pending | US |
| Sonos, Inc. | Pending | Systems And Methods For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices That Independently Source Digital Data | Pending | US |
| Sonos, Inc. | Pending | Social Queue | Pending | US |
| Sonos, Inc. | 9143859 | Multi-Channel Pairing In A Media System | | US |
| Sonos, Inc. | Pending | Providing Media Items From Playback History | Pending | US |
| Sonos, Inc. | Pending | Device Group Identification | Pending | US |
| Sonos, Inc. | Pending | Application Launch | Pending | US |
| Sonos, Inc. | Pending | Streaming Music Using Supported Services | Pending | US |
| Sonos, Inc. | Pending | Music Discovery | Pending | US |
| Sonos, Inc. | Pending | Alarm | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Lock Screen Media Playback Control | Pending | US |
| Sonos, Inc. | Pending | Systems, Methods, And Apparatus To Filter Audio | Pending | US |
| Sonos, Inc. | Pending | Managing Application Access Of A Media Playback System | Pending | US |
| Sonos, Inc. | Pending | Inconsistent Queues | Pending | US |
| Sonos, Inc. | Pending | Zone Group Control | Pending | US |
| Sonos, Inc. | Pending | Policies For Media Playback | Pending | US |
| Sonos, Inc. | Pending | Queue Identification | Pending | US |
| Sonos, Inc. | Pending | Graphical User Interface For A Display Screen Or Portion Thereof | Pending | US |
| Sonos, Inc. | Pending | Device Base | Pending | US |
| Sonos, Inc. | 8,995,240 | Playback Using Positioning Information | 3/31/2015 | US |
| Sonos, Inc. | Pending | Audio Settings | Pending | US |
| Sonos, Inc. | Pending | Device Grouping | Pending | US |
| Sonos, Inc. | Pending | Zone Grouping | Pending | US |
| Sonos, Inc. | Pending | Contextual Indexing Of Media Items | Pending | US |
| Sonos, Inc. | Pending | Apparatus Having Varying Geometry | Pending | US |
| Sonos, Inc. | Pending | Social Playback Queues | Pending | US |
| Sonos, Inc. | Pending | Surface Ornamentation Or Icon For A Control For Use With A Playback Device | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Surface Ornamentation Or Icon For Use With A Playback Device | Pending | US |
| Sonos, Inc. | Pending | Surface Ornamentation Or Icon For Use With A Playback Device | Pending | US |
| Sonos, Inc. | Pending | Playback Device | Pending | US |
| Sonos, Inc. | Pending | Method And System For Controlling Amplifiers | Pending | US |
| Sonos, Inc. | Pending | Method And Apparatus For Updating Zone Configurations In A Multi-Zone System | Pending | US |
| Sonos, Inc. | Pending | Zone Recognition | Pending | US |
| Sonos, Inc. | Pending | Continuous Playback Queue | Pending | US |
| Sonos, Inc. | Pending | Audio Processing Algorithms | Pending | US |
| Sonos, Inc. | Pending | Audio Processing Algorithm Database | Pending | US |
| Sonos, Inc. | Pending | Playback Device Calibration | Pending | US |
| Sonos, Inc. | Pending | Microphone Calibration | Pending | US |
| Sonos, Inc. | Pending | Cloud Queue Item Removal | Pending | US |
| Sonos, Inc. | Pending | Prioritizing Media Content Requests | Pending | US |
| Sonos, Inc. | Pending | Power Increase Based On Packet Type | Pending | US |
| Sonos, Inc. | Pending | Indicator On A Network Device | Pending | US |
| Sonos, Inc. | Pending | Power Supplies | Pending | US |
| Sonos, Inc. | Pending | Speaker Terminals | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Limited-Access Media | Pending | US |
| Sonos, Inc. | Pending | Playback Updates | Pending | US |
| Sonos, Inc. | Pending | Social Media Queue | Pending | US |
| Sonos, Inc. | Pending | Media Item Context From Social Media | Pending | US |
| Sonos, Inc. | Pending | Social Media Connection Recommendations Based On Playback Information | Pending | US |
| Sonos, Inc. | Pending | Indicating An Association Between A Social-Media Account And A Media Playback System | Pending | US |
| Sonos, Inc. | Pending | Associating A Captured Image With A Media Item | Pending | US |
| Sonos, Inc. | Pending | Playback Device Control | Pending | US |
| Sonos, Inc. | Pending | Displaying Data Related To Media Content | Pending | US |
| Sonos, Inc. | Pending | Service Provider User Accounts | Pending | US |
| Sonos, Inc. | Pending | Switching Between A Directly Connected And A Networked Audio Source | Pending | US |
| Sonos, Inc. | Pending | Obtaining And Transmitting Audio | Pending | US |
| Sonos, Inc. | Pending | Packaging System With Slidable Latch | Pending | US |
| Sonos, Inc. | Pending | Audio Content Auditioning By Playback Device | Pending | US |
| Sonos, Inc. | Pending | Zone Configuration Based On Playback Selections | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Obtaining Content From Remote Source For Playback | Pending | US |
| Sonos, Inc. | Pending | Obtaining Content From Direct Source And Remote Source | Pending | US |
| Sonos, Inc. | Pending | Systems And Methods For Networked Music Playback | Pending | US |
| Sonos, Inc. | Pending | Systems And Methods For Networked Music Playback | Pending | US |
| Sonos, Inc. | Pending | Device Playback Failure Recovery And Redistribution | Pending | US |
| Sonos, Inc. | Pending | Streaming Music Using Authentication Information | Pending | US |
| Sonos, Inc. | Pending | Adjusting A Playback Device | Pending | US |
| Sonos, Inc. | Pending | Playback Device | Pending | US |
| Sonos, Inc. | Pending | Playback Device | Pending | US |
| Sonos, Inc. | Pending | Multi-Channel Playback Of Audio Content | Pending | US |
| Sonos, Inc. | Pending | Providing Information Associated With A Media Item | Pending | US |
| Sonos, Inc. | Pending | Speaker Panel For A Playback Device | Pending | US |
| Sonos, Inc. | Pending | Acoustic Signatures | Pending | US |
| Sonos, Inc. | Pending | Smart Line-In Processing In A Group | Pending | US |
| Sonos, Inc. | Pending | Zone Configurations Maintained By Playback Device | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Systems And Methods For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices Without A Voltage Controlled Crystal Oscillator | Pending | US |
| Sonos, Inc. | Pending | Control Of Multiple Playback Devices | Pending | US |
| Sonos, Inc. | Pending | Playback Based On Received Sound Waves | Pending | US |
| Sonos, Inc. | Pending | Sharing Access To A Media Service | Pending | US |
| Sonos, Inc. | Pending | Cloud Queue Access Control | Pending | US |
| Sonos, Inc. | Pending | Cloud Queue Access Control | Pending | US |
| Sonos, Inc. | Pending | Cloud Queue Access Control | Pending | US |
| Sonos, Inc. | Pending | Cloud Queue Synchronization Protocol | Pending | US |
| Sonos, Inc. | Pending | Cloud Queue Playback Policy | Pending | US |
| Sonos, Inc. | Pending | Cloud Queue Playhead | Pending | US |
| Sonos, Inc. | Pending | Synchronized Audio Mixing | Pending | US |
| Sonos, Inc. | Pending | Multi-Channel Pairing In A Media System | Pending | US |
| Sonos, Inc. | Pending | Device Lock Mode | Pending | US |
| Sonos, Inc. | Pending | Crossover Frequency Adjustments For Audio Speakers | Pending | US |
| Sonos, Inc. | Pending | Preference Conversion | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Operation Using Positioning Information | Pending | US |
| Sonos, Inc. | Pending | Smart Line-In Processing | Pending | US |
| Sonos, Inc. | Pending | Networked Music Playback | Pending | US |
| Sonos, Inc. | Pending | Gain Based On Play Responsibility | Pending | US |
| Sonos, Inc. | Pending | Playback Expansion | Pending | US |
| Sonos, Inc. | Pending | Playback Expansion | Pending | US |
| Sonos, Inc. | Pending | Playback According To Playback Responsibility In Stereo Pair | Pending | US |
| Sonos, Inc. | Pending | Volume Interactions For Connected Playback Devices | Pending | US |
| Sonos, Inc. | Pending | Audio Content Auditioning | Pending | US |
| Sonos, Inc. | Pending | Playback Device Calibration | Pending | US |
| Sonos, Inc. | Pending | Signal Detecting And Emitting Device | Pending | US |
| Sonos, Inc. | Pending | Low-Latency Audio Networking | Pending | US |
| Sonos, Inc. | Pending | Information Display Regarding Playback Queue Subscriptions | Pending | US |
| Sonos, Inc. | Pending | Smart Audio Settings | Pending | US |
| Sonos, Inc. | Pending | Playback Calibration | Pending | US |
| Sonos, Inc. | Pending | Playback Device Calibration | Pending | US |
| Sonos, Inc. | Pending | Acoustic Signatures | Pending | US |
| Sonos, Inc. | Pending | Location Based Playback System Control | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Power Plug | Pending | US |
| Sonos, Inc. | Pending | Audio Settings Based On Environment | Pending | US |
| Sonos, Inc. | Pending | Surface Ornamentation Or Icon For A Display Screen | Pending | US |
| Sonos, Inc. | Pending | Wearable Device Zone Group Control | Pending | US |
| Sonos, Inc. | Pending | Track Playback | Pending | US |
| Sonos, Inc. | Pending | Calibration Of Multiple Playback Devices | Pending | US |
| Sonos, Inc. | Pending | Audio Content Auditioning | Pending | US |
| Sonos, Inc. | Pending | Media Container Addition And Playback Within Queue | Pending | US |
| Sonos, Inc. | Pending | Identification Of Audio Content Facilitated By Playback Device | Pending | US |
| Sonos, Inc. | Pending | Configuration Based On Speaker Orientation | Pending | US |
| Sonos, Inc. | Pending | Wireless Radio Switching | Pending | US |
| Sonos, Inc. | Pending | Social Network Account Assisted Service Registration | Pending | US |
| Sonos, Inc. | Pending | Volume Limit | Pending | US |
| Sonos, Inc. | Pending | Speaker Calibration | Pending | US |
| Sonos, Inc. | Pending | Antenna Selection | Pending | US |
| Sonos, Inc. | Pending | Playback Device | Pending | US |
| Sonos, Inc. | Pending | Loudspeaker Assembly Configuration | Pending | US |
| Sonos, Inc. | Pending | Sound Field Calibration Using Listener Localization | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Audio Content Playback Management | Pending | US |
| Sonos, Inc. | Pending | User Interface | Pending | US |
| Sonos, Inc. | Pending | Dynamic Bonding Of Playback Devices | Pending | US |
| Sonos, Inc. | Pending | Multiple Groupings In Playback System | Pending | US |
| Sonos, Inc. | Pending | Calibration Indicator | Pending | US |
| Sonos, Inc. | Pending | Calibration State Variable | Pending | US |
| Sonos, Inc. | Pending | Rf Antenna Proximity Sensing In A Playback Device | Pending | US |
| Sonos, Inc. | Pending | Base Properties In Media Playback System | Pending | US |
| Sonos, Inc. | Pending | Wireless Music Playback | Pending | US |
| Sonos, Inc. | Pending | Establishing A Secure Wireless Network With A Minimum Human Intervention | Pending | US |
| Sonos, Inc. | Pending | Voice Coil Wire Configurations | Pending | US |
| Sonos, Inc. | Pending | Antenna Assemblies | Pending | US |
| Sonos, Inc. | Pending | Hybrid Test Tone For Space-Averaged Room Audio Calibration Using A Moving Microphone | Pending | US |
| Sonos, Inc. | Pending | Concurrent Multi-Loudspeaker Calibration With A Single Measurement | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Establishing A Secure Wireless Network With Minimum Human Intervention | Pending | US |
| Sonos, Inc. | Pending | Switching Connection Between Network Devices | Pending | US |
| Sonos, Inc. | Pending | Pair Volume Control | Pending | US |
| Sonos, Inc. | Pending | Capacitive Proximity Sensor Configuration Including A Speaker Grille | Pending | US |
| Sonos, Inc. | Pending | Loudness Matching | Pending | US |
| Sonos, Inc. | Pending | Updating Zone Configuration In A Multi-Zone Media System | Pending | US |
| Sonos, Inc. | Pending | Volume Interactions For Connected Playback Devices | Pending | US |
| Sonos, Inc. | Pending | Group Volume Control | Pending | US |
| Sonos, Inc. | Pending | Playback According To Playback Responsibility In Group | Pending | US |
| Sonos, Inc. | Pending | Calibration Error Conditions | Pending | US |
| Sonos, Inc. | Pending | Frequency Routing Based On Orientation | Pending | US |
| Sonos, Inc. | Pending | Shift To Corresponding Media In A Playback Queue | Pending | US |
| Sonos, Inc. | Pending | Social Playback Queues | Pending | US |
| Sonos, Inc. | Pending | Multi-Channel Pairing In A Media System | Pending | US |
| Sonos, Inc. | Pending | Animated Interface Element Incorporating Warped Circles For A Display Device | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Playback Device Calibration User Interface | Pending | US |
| Sonos, Inc. | Pending | Multi-Channel Pairing In A Media System | Pending | US |
| Sonos, Inc. | Pending | Animated Interface Element Incorporating Concentric Circles For A Display Device | Pending | US |
| Sonos, Inc. | Pending | Animated Interface Element Incorporating Dot Tracing For A Display Device | Pending | US |
| Sonos, Inc. | Pending | Manipulation Of Playback Device Response Using An Acoustic Filter | Pending | US |
| Sonos, Inc. | Pending | Manipulation Of Playback Device Response Using Signal Processing | Pending | US |
| Sonos, Inc. | Pending | Playback System Join With Base | Pending | US |
| Sonos, Inc. | Pending | Pre-Caching Of Media In A Playback Queue | Pending | US |
| Sonos, Inc. | Pending | Data Routing Optimization | Pending | US |
| Sonos, Inc. | Pending | Grouping Zones | Pending | US |
| Sonos, Inc. | Pending | Ungrouping Zones | Pending | US |
| Sonos, Inc. | Pending | Changing Zone Grouping | Pending | US |
| Sonos, Inc. | Pending | Transducer Diaphragm | Pending | US |
| Sonos, Inc. | Pending | Suggested Application Download | Pending | US |
| Sonos, Inc. | Pending | Display Stand | Pending | US |
| Sonos, Inc. | Pending | Associating Playback Devices With Playback Queues | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Associating Playback Devices With Playback Queues | Pending | US |
| Sonos, Inc. | Pending | Display Stands And Display Stand Arrays | Pending | US |
| Sonos, Inc. | Pending | Streaming Music Using Authentication Information | Pending | US |
| Sonos, Inc. | Pending | Device Lock Mode | Pending | US |
| Sonos, Inc. | Pending | Streaming Music Using Authentication Information | Pending | US |
| Sonos, Inc. | Pending | Location-Based Playlist | Pending | US |
| Sonos, Inc. | Pending | Common Characteristics Of Playback Systems | Pending | US |
| Sonos, Inc. | Pending | Device Impairment Detection | Pending | US |
| Sonos, Inc. | Pending | Validation Of Audio Calibration Using Multi-Dimensional Motion Check | Pending | US |
| Sonos, Inc. | Pending | Facilitating Calibration Of An Audio Playback Device | Pending | US |
| Sonos, Inc. | Pending | Improper Position Notification | Pending | US |
| Sonos, Inc. | Pending | Activity Reset | Pending | US |
| Sonos, Inc. | Pending | Spatial Mapping Of Audio Playback Devices In A Listening Environment | Pending | US |
| Sonos, Inc. | Pending | Smart Music Services Preferences | Pending | US |
| Sonos, Inc. | Pending | Playback Device | Pending | US |
| Sonos, Inc. | Pending | Playback Device Calibration | Pending | US |
| Sonos, Inc. | Pending | Loudspeaker Diaphragm | Pending | US |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Abandoned | System And Method For Controlling Devices To Selectively Facilitate Synchronization Of Operations Thereamong | | US |
| Sonos, Inc. | Abandoned | Method And Apparatus For Signal Processing Based Upon Characteristics Of Music | | US |
| Sonos, Inc. | Abandoned | Prioritizing Media Content Requests | | US |
| Sonos, Inc. | Issued | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | 4/22/2014 | Canada |
| Sonos, Inc. | Issued | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | 8/7/2013 | EP |
| Sonos, Inc. | Issued | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | 9/28/2011 | China |
| Sonos, Inc. | Pending | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | Pending | Japan |
| Sonos, Inc. | Issued | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | 10/1/2014 | EP |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Issued | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | 6/14/2013 | Japan |
| Sonos, Inc. | Issued | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | 12/9/2014 | Japan |
| Sonos, Inc. | Issued | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | 6/17/2015 | China |
| Sonos, Inc. | Pending | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | Pending | Hong Kong |
| Sonos, Inc. | Issued | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | 8/7/2013 | Germany |
| Sonos, Inc. | Pending | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | Pending | EP |
| Sonos, Inc. | Pending | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | Pending | Canada |
| Sonos, Inc. | Issued | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing | 8/7/2013 | Great Britain |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| | | Devices | | |
| Sonos, Inc. | Issued | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | 8/7/2013 | France |
| Sonos, Inc. | Issued | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | 8/7/2013 | Netherlands |
| Sonos, Inc. | Pending | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | Pending | EP |
| Sonos, Inc. | Issued | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | 10/1/2014 | Germany |
| Sonos, Inc. | Issued | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | 10/1/2014 | Great Britain |
| Sonos, Inc. | Pending | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | Pending | Japan |
| Sonos, Inc. | Issued | Fenway Speaker Design | 8/8/2012 | China |
| Sonos, Inc. | Pending | Smart Line-In Processing | Pending | Japan |
| Sonos, Inc. | Pending | Smart Line-In Processing | Pending | Canada |
| Sonos, Inc. | Pending | Smart Line-In Processing For Audio | Pending | EP |
| Sonos, Inc. | Pending | Smart Line-In Processing | Pending | China |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Multi-Channel Pairing In A Media System | Pending | EP |
| Sonos, Inc. | Pending | Multi-Channel Pairing In A Media System | Pending | China |
| Sonos, Inc. | Pending | Multi-Channel Pairing In A Media System | Pending | Japan |
| Sonos, Inc. | Pending | Multi-Channel Pairing In A Media System | Pending | Canada |
| Sonos, Inc. | Issued | Playback Device | 3/27/2013 | China |
| Sonos, Inc. | Pending | Shaping Sound Responsive To Speaker Orientation | Pending | Japan |
| Sonos, Inc. | Pending | Shaping Sound Responsive To Speaker Orientation | Pending | China |
| Sonos, Inc. | Pending | Shaping Sound Responsive To Speaker Orientation | Pending | Canada |
| Sonos, Inc. | Pending | Shaping Sound Responsive To Speaker Orientation | Pending | EP |
| Sonos, Inc. | Pending | Shaping Sound Responsive To Speaker Orientation | Pending | EP |
| Sonos, Inc. | Pending | Web-Based Music Partner Systems And Methods | Pending | Canada |
| Sonos, Inc. | Issued | Web-Based Music Partner Systems And Methods | 8/14/2015 | Japan |
| Sonos, Inc. | Pending | Web-Based Music Partner Systems And Methods | Pending | EP |
| Sonos, Inc. | Pending | Web-Based Music Partner Systems And Methods | Pending | China |
| Sonos, Inc. | Pending | Web-Based Music Partner Systems And Methods | Pending | Japan |
| Sonos, Inc. | Pending | Methods And System To Share Media | Pending | Japan |
| Sonos, Inc. | Pending | Methods And System To Share Media | Pending | China |
| Sonos, Inc. | Pending | Methods And System To Share Media | Pending | EP |
| Sonos, Inc. | Pending | Methods And Apparatus To Manage Zones Of A Multi-Zone Media Playback System | Pending | China |
| Sonos, Inc. | Pending | Methods And Apparatus To Manage Zones Of A Multi-Zone Media Playback System | Pending | Japan |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Methods And Apparatus To Manage Zones Of A Multi-Zone Media Playback System | Pending | EP |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Control Audio Playback Devices | Pending | Japan |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Control Audio Playback Devices | Pending | China |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Control Audio Playback Devices | Pending | EP |
| Sonos, Inc. | Issued | Playback Device | 7/24/2013 | China |
| Sonos, Inc. | Pending | Systems And Methods For Networked Music Playback | Pending | EP |
| Sonos, Inc. | Pending | Systems And Methods For Networked Music Playback | Pending | Japan |
| Sonos, Inc. | Pending | Systems And Methods For Connecting An Audio Controller To A Hidden Audio Network | Pending | Japan |
| Sonos, Inc. | Pending | Systems And Methods For Connecting An Audio Controller To A Hidden Audio Network | Pending | Canada |
| Sonos, Inc. | Pending | Systems And Methods For Networked Music Playback | Pending | Canada |
| Sonos, Inc. | Issued | Systems And Methods For Connecting An Audio Controller To A Hidden Audio Network | 9/10/2015 | Australia |
| Sonos, Inc. | Pending | Systems And Methods For Networked Music Playback | Pending | Australia |
| Sonos, Inc. | Pending | Systems And Methods For Connecting An Audio Controller To A Hidden Audio Network | Pending | EP |
| Sonos, Inc. | Pending | Systems And Methods For Networked Music Playback | Pending | China |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Systems And Methods For Connecting An Audio Controller To A Hidden Audio Network | Pending | China |
| Sonos, Inc. | Pending | Systems And Methods For Connecting An Audio Controller To A Hidden Audio Network | Pending | Australia |
| Sonos, Inc. | Issued | Speaker Panel For A Playback Device | 9/4/2013 | China |
| Sonos, Inc. | Issued | Speaker Panel For A Playback Device | 10/23/2013 | China |
| Sonos, Inc. | Pending | Methods And Apparatus For Direct Routing Between Nodes Of Networks | Pending | EP |
| Sonos, Inc. | Pending | Methods And Apparatus For Direct Routing Between Nodes Of Networks | Pending | Japan |
| Sonos, Inc. | Pending | Methods And Apparatus For Direct Routing Between Nodes Of Networks | Pending | China |
| Sonos, Inc. | Pending | Audio Content Auditioning | Pending | EP |
| Sonos, Inc. | Pending | Audio Content Auditioning | Pending | China |
| Sonos, Inc. | Pending | Audio Content Auditioning | Pending | Japan |
| Sonos, Inc. | Pending | Device Playback Failure Recovery And Redistribution | Pending | EP |
| Sonos, Inc. | Pending | Device Playback Failure Recovery And Redistribution | Pending | China |
| Sonos, Inc. | Pending | Device Playback Failure Recovery And Redistribution | Pending | Japan |
| Sonos, Inc. | Pending | Device Playback Failure Recovery And Redistribution | Pending | EP |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide Low-Latency Audio | Pending | EP |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide Low-Latency Audio | Pending | China |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide Low-Latency Audio | Pending | Japan |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Methods And Apparatus To Provide An Infrared Signal | Pending | EP |
| Sonos, Inc. | Pending | Methods And Apparatus To Provide An Infrared Signal | Pending | China |
| Sonos, Inc. | Pending | Methods And Apparatus To Provide An Infrared Signal | Pending | Japan |
| Sonos, Inc. | Pending | Collecting And Providing Local Playback System Information | Pending | EP |
| Sonos, Inc. | Pending | Collecting And Providing Local Playback System Information | Pending | China |
| Sonos, Inc. | Pending | Collecting And Providing Local Playback System Information | Pending | Japan |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide Automatic Wireless Configuration | Pending | EP |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide Automatic Wireless Configuration | Pending | China |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide Automatic Wireless Configuration | Pending | Japan |
| Sonos, Inc. | Pending | Systems And Methods For Networked Music Playback Including Remote Add To Queue | Pending | EP |
| Sonos, Inc. | Pending | Systems And Methods For Networked Music Playback Including Remote Add To Queue | Pending | China |
| Sonos, Inc. | Pending | Systems And Methods For Networked Music Playback Including Remote Add To Queue | Pending | Japan |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide A Crowd-Sourced Playlist With Guest Access | Pending | EP |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide A Crowd-Sourced Playlist With Guest Access | Pending | China |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide A Crowd-Sourced Playlist With Guest Access | Pending | Japan |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide Guest Access | Pending | EP |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide Guest Access | Pending | China |
| Sonos, Inc. | Pending | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide Guest Access | Pending | Japan |
| Sonos, Inc. | Pending | Systems And Methods For Mobile Music | Pending | EP |
| Sonos, Inc. | Pending | Systems And Methods For Mobile Music | Pending | China |
| Sonos, Inc. | Pending | Systems And Methods For Mobile Music | Pending | Japan |
| Sonos, Inc. | Pending | Modification Of Audio Responsive To Proximity Detection | Pending | EP |
| Sonos, Inc. | Pending | Modification Of Audio Responsive To Proximity Detection | Pending | China |
| Sonos, Inc. | Pending | Modification Of Audio Responsive To Proximity Detection | Pending | Japan |
| Sonos, Inc. | Pending | Dynamic Spanning Tree Root Selection | Pending | EP |
| Sonos, Inc. | Pending | Dynamic Spanning Tree Root Selection | Pending | China |
| Sonos, Inc. | Pending | Dynamic Spanning Tree | Pending | Japan |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| | | Root Selection | | |
| Sonos, Inc. | Registered | Equipment For The Recording Or Reporduction Of Sounds Or Pictures | Pending | OHIM |
| Sonos, Inc. | Issued | Playback Device | 3/12/2014 | China |
| Sonos, Inc. | Pending | Acoustic Optimization | Pending | EP |
| Sonos, Inc. | Pending | Acoustic Optimization | Pending | China |
| Sonos, Inc. | Pending | Acoustic Optimization | Pending | Japan |
| Sonos, Inc. | Pending | Providing A Multi-Channel And A Multi-Zone Audio Environment | Pending | EP |
| Sonos, Inc. | Pending | Assisted Registration Of Audio Sources | Pending | EP |
| Sonos, Inc. | Pending | Assisted Registration Of Audio Sources | Pending | China |
| Sonos, Inc. | Pending | Assisted Registration Of Audio Sources | Pending | Japan |
| Sonos, Inc. | Pending | Mobile Source Media Content Access | Pending | EP |
| Sonos, Inc. | Pending | Mobile Source Media Content Access | Pending | Japan |
| Sonos, Inc. | Pending | Mobile Source Media Content Access | Pending | China |
| Sonos, Inc. | Pending | System And Method For A Media Experience Social Interface | Pending | EP |
| Sonos, Inc. | Pending | System And Method For A Media Experience Social Interface | Pending | Japan |
| Sonos, Inc. | Pending | Automatic Configuration Of Household Playback Devices | Pending | Japan |
| Sonos, Inc. | Pending | Automatic Configuration Of Household Playback Devices | Pending | EP |
| Sonos, Inc. | Pending | Automatic Configuration Of Household Playback Devices | Pending | EP |
| Sonos, Inc. | Pending | Automatic Configuration Of Household Playback Devices | Pending | Japan |
| Sonos, Inc. | Pending | Pre-Caching Of Audio Content | Pending | EP |
| Sonos, Inc. | Pending | Pre-Caching Of Audio Content | Pending | Japan |
| Sonos, Inc. | Registered | Volume Control | 3/17/2014 | OHIM |
| Sonos, Inc. | Pending | Media Playback System Controller Having Multiple | Pending | Japan |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| | | Graphical Interfaces | | |
| Sonos, Inc. | Pending | Media Playback System Controller Having Multiple Graphical Interfaces | Pending | EP |
| Sonos, Inc. | Pending | Private Queue For A Media Playback System | Pending | EP |
| Sonos, Inc. | Pending | Private Queue For A Media Playback System | Pending | Japan |
| Sonos, Inc. | Pending | Playlist Update In A Media Playback System | Pending | EP |
| Sonos, Inc. | Pending | Playlist Update In A Media Playback System | Pending | Japan |
| Sonos, Inc. | Pending | Playback Queue Transfer In A Media Playback System | Pending | EP |
| Sonos, Inc. | Pending | Playback Queue Transfer In A Media Playback System | Pending | Japan |
| Sonos, Inc. | Registered | Graphical User Interface For A Display Screen Or Portion Thereof | 9/8/2014 | OHIM |
| Sonos, Inc. | Registered | Graphical User Interface For A Display Screen Or Portion Thereof | 9/8/2014 | OHIM |
| Sonos, Inc. | Issued | Power Plug | 7/15/2015 | China |
| Sonos, Inc. | Pending | Power Plug | Pending | China |
| Sonos, Inc. | Issued | Power Plug | 8/3/2015 | Japan |
| Sonos, Inc. | Registered | Power Plug | 10/31/2014 | OHIM |
| Sonos, Inc. | Registered | Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For A Control For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For A Control For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A | 2/12/2015 | OHIM |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| | | Playback Device | | |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For Use With A Playback Device | 2/12/2015 | OHIM |
| Sonos, Inc. | Pending | Playback Device | Pending | China |
| Sonos, Inc. | Issued | Playback Device | 8/28/2015 | Japan |
| Sonos, Inc. | Pending | Surface Ornamentation Or Icon For A Control For Use With A Playback Device | Pending | China |
| Sonos, Inc. | Pending | Surface Ornamentation Or Icon For A Control For Use With A Playback Device | Pending | Japan |
| Sonos, Inc. | Pending | Surface Ornamentation Or Icon For Use With A Playback Device | Pending | China |
| Sonos, Inc. | Pending | Surface Ornamentation Or Icon For Use With A Playback Device | Pending | Japan |
| Sonos, Inc. | Pending | Surface Ornamentation Or Icon For Use With A Playback Device | Pending | China |
| Sonos, Inc. | Pending | Surface Ornamentation Or Icon For Use With A Playback Device | Pending | Japan |
| Sonos, Inc. | Pending | Surface Ornamentation Or Icon For A Control For Use With A Playback Device | Pending | China |
| Sonos, Inc. | Pending | Zone Recognition | Pending | EP |
| Sonos, Inc. | Registered | Power Plug | N/A | OHIM |
| Sonos, Inc. | Pending | Power Plug | Pending | Japan |
| Sonos, Inc. | Pending | Power Plug | Pending | China |
| Sonos, Inc. | Pending | Surface Ornamentation Or Icon For A Display Screen | Pending | Japan |
| Sonos, Inc. | Registered | Surface Ornamentation Or Icon For A Display Screen | N/A | OHIM |
| Sonos, Inc. | Pending | Surface Ornamentation Or Icon For A Display Screen | Pending | China |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | WO/2005/013047 | System And Method For Synchronizing Operations Among A Plurality Of Independently Clocked Digital Data Processing Devices | 2/10/2005 | PCT |
| Sonos, Inc. | WO/2012/145321 | Smart Line-In Processing | 10/26/2012 | PCT |
| Sonos, Inc. | WO/2012/137190 | Multi-Channel Pairing In A Media System | 10/11/2012 | PCT |
| Sonos, Inc. | WO/2013/012582 | Shaping Sound Responsive To Speaker Orientation | 1/24/2013 | PCT |
| Sonos, Inc. | WO/2013/013160 | Web-Based Music Partner Systems And Methods | 1/24/2013 | PCT |
| Sonos, Inc. | WO/2013/043958 | Methods And System To Share Media | 3/28/2013 | PCT |
| Sonos, Inc. | WO/2013/049346 | Methods And Apparatus To Manage Zones Of A Multi-Zone Media Playback System | 4/4/2013 | PCT |
| Sonos, Inc. | WO/2013/055661 | Systems, Methods, Apparatus, And Articles Of Manufacture To Control Audio Playback Devices | 6/18/2014 | PCT |
| Sonos, Inc. | WO/2013/101729 | Systems And Methods For Connecting An Audio Controller To A Hidden Audio Network | 7/4/2013 | PCT |
| Sonos, Inc. | WO/2013/101727 | Systems And Methods For Networked Music Playback | 7/4/2013 | PCT |
| Sonos, Inc. | WO/2013/169595 | Methods And Apparatus For Direct Routing Between Nodes Of Networks | 11/14/2013 | PCT |
| Sonos, Inc. | WO/2013/177296 | Audio Content Auditioning | 11/28/2013 | PCT |
| Sonos, Inc. | WO/2013/184792 | Device Playback Failure Recovery And Redistribution | 12/12/2013 | PCT |
| Sonos, Inc. | WO/2013/188659 | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide Low-Latency Audio | 12/19/2013 | PCT |
| Sonos, Inc. | WO/2013/192135 | Methods And Apparatus To Provide An Infrared Signal | 12/27/2013 | PCT |
| Sonos, Inc. | WO/2014/004175 | Collecting And Providing Local Playback System Information | 1/3/2014 | PCT |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | WO/2014/004181 | Systems And Methods For Networked Music Playback Including Remote Add To Queue | 1/3/2014 | PCT |
| Sonos, Inc. | WO/2014/004174 | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide Automatic Wireless Configuration | 1/3/2014 | PCT |
| Sonos, Inc. | WO/2014/004182 | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide A Crowd-Sourced Playlist With Guest Access | 1/3/2014 | PCT |
| Sonos, Inc. | WO/2014/004180 | Systems, Methods, Apparatus, And Articles Of Manufacture To Provide Guest Access | 1/3/2014 | PCT |
| Sonos, Inc. | WO/2014/004684 | Systems And Methods For Mobile Music | 1/3/2014 | PCT |
| Sonos, Inc. | WO/2014/004962 | Dynamic Spanning Tree Root Selection | 1/3/2014 | PCT |
| Sonos, Inc. | WO/2014/004964 | Modification Of Audio Responsive To Proximity Detection | 1/3/2014 | PCT |
| Sonos, Inc. | WO/2014/036271 | Acoustic Optimization | 3/6/2014 | PCT |
| Sonos, Inc. | WO/2014/055272 | Providing A Multi-Channel And A Multi-Zone Audio Environment | 4/10/2014 | PCT |
| Sonos, Inc. | WO/2014/052469 | Assisted Registration Of Audio Sources | 4/3/2014 | PCT |
| Sonos, Inc. | WO/2014/089077 | Mobile Source Media Content Access | 6/12/2014 | PCT |
| Sonos, Inc. | WO/2014/116693 | System And Method For A Media Experience Social Interface | 1/22/2014 | PCT |
| Sonos, Inc. | WO/2014/127282 | Automatic Configuration Of Household Playback Devices | 8/21/2014 | PCT |
| Sonos, Inc. | WO/2014/127281 | Automatic Configuration Of Household Playback Devices | 8/21/2014 | PCT |
| Sonos, Inc. | WO/2014/133994 | Pre-Caching Of Audio Content | 9/4/2014 | PCT |
| Sonos, Inc. | WO/2014/145746 | Media Playback System Controller Having Multiple Graphical Interfaces | 9/18/2014 | PCT |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | WO/2014/172462 | Private Queue For A Media Playback System | 10/23/2014 | PCT |
| Sonos, Inc. | WO/2014/172415 | Playlist Update In A Media Playback System | 10/23/2014 | PCT |
| Sonos, Inc. | WO/2014/172417 | Playback Queue Transfer In A Media Playback System | 10/23/2014 | PCT |
| Sonos, Inc. | WO/2014/193890 | Playback Queue Control Via A Playlist On A Mobile Device | 12/4/2014 | PCT |
| Sonos, Inc. | WO/2014/197583 | Satellite Volume Control | 12/11/2014 | PCT |
| Sonos, Inc. | WO/2014/209952 | Intelligent Amplifier Activation | 12/31/2014 | PCT |
| Sonos, Inc. | WO/2015/006226 | Systems And Methods To Provide Play/Pause Content | 1/15/2015 | PCT |
| Sonos, Inc. | WO/2015/009815 | Associating Playback Devices With Playback Queues | 1/22/2015 | PCT |
| Sonos, Inc. | WO/2015/047677 | Transitioning A Networked Playback Device Between Operating Modes | 4/2/2015 | PCT |
| Sonos, Inc. | WO/2015/047765 | Audio Content Search In A Media Playback System | 4/2/2015 | PCT |
| Sonos, Inc. | WO/2015/047899 | Media System Access Via Cellular Network | 4/2/2015 | PCT |
| Sonos, Inc. | WO/2015/047900 | Multi-Household Support | 4/2/2015 | PCT |
| Sonos, Inc. | WO/2015/048310 | Identifying A Useful Wired Connection | 4/2/2015 | PCT |
| Sonos, Inc. | WO/2015/108937 | Software Application And Zones | 7/23/2015 | PCT |
| Sonos, Inc. | WO/2015/119900 | Remote Creation Of A Playback Queue For A Future Event | 8/13/2015 | PCT |
| Sonos, Inc. | WO/2015/127082 | Media Content Based On Playback Zone Awareness | 8/27/2015 | PCT |
| Sonos, Inc. | WO/2015/131024 | Playback Zone Representations | 9/3/2015 | PCT |
| Sonos, Inc. | WO/2015/134692 | Webpage Media Playback | 9/11/2015 | PCT |
| Sonos, Inc. | WO/2015/142868 | Playback Device Configuration Based On Proximity Detection | 9/24/2015 | PCT |
| Sonos, Inc. | WO/2015/142866 | Dynamic Display Of Filter Criteria | 9/24/2015 | PCT |
| Sonos, Inc. | WO/2015/142873 | Audio Settings Based On Environment | 9/24/2015 | PCT |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Account Aware Media Preferences | Pending | PCT |
| Sonos, Inc. | WO/2015/153875 | Methods And Systems For Transmitting Playlists | 10/8/2015 | PCT |
| Sonos, Inc. | Pending | Media Preference Database | Pending | PCT |
| Sonos, Inc. | Pending | Media Content Playback Management | Pending | PCT |
| Sonos, Inc. | Pending | Continuous Playback Queue | Pending | PCT |
| Sonos, Inc. | Pending | Prioritizing Media Content Requests | Pending | PCT |
| Sonos, Inc. | Pending | Social Queue | Pending | PCT |
| Sonos, Inc. | Pending | Providing Media Items From Playback History | Pending | PCT |
| Sonos, Inc. | Pending | Cloud Queue Management | Pending | PCT |
| Sonos, Inc. | Pending | Cloud Queue Access Control | Pending | PCT |
| Sonos, Inc. | Pending | Music Discovery | Pending | PCT |
| Sonos, Inc. | Pending | Device Group Identification | Pending | PCT |
| Sonos, Inc. | Pending | Lock Screen Media Playback Control | Pending | PCT |
| Sonos, Inc. | Pending | Zone Group Control | Pending | PCT |
| Sonos, Inc. | Pending | Policies For Media Playback | Pending | PCT |
| Sonos, Inc. | Pending | Queue Identification | Pending | PCT |
| Sonos, Inc. | Pending | Inconsistent Queues | Pending | PCT |
| Sonos, Inc. | Pending | Managing Application Access Of A Media Playback System | Pending | PCT |
| Sonos, Inc. | Pending | Playback Using Positioning Information | Pending | PCT |
| Sonos, Inc. | Pending | Device Grouping | Pending | PCT |
| Sonos, Inc. | Pending | Zone Grouping | Pending | PCT |
| Sonos, Inc. | Pending | Audio Settings | Pending | PCT |
| Sonos, Inc. | Pending | Contextual Indexing Of Media Items | Pending | PCT |
| Sonos, Inc. | Pending | Social Playback Queues | Pending | PCT |
| Sonos, Inc. | Pending | Zone Recognition | Pending | PCT |
| Sonos, Inc. | Pending | Audio Processing Algorithms | Pending | PCT |
| Sonos, Inc. | Pending | Microphone Calibration | Pending | PCT |
| Sonos, Inc. | Pending | Limited-Access Media | Pending | PCT |
| Sonos, Inc. | Pending | Playback Device Calibration | Pending | PCT |
| Sonos, Inc. | Pending | Cloud Queue Item Removal | Pending | PCT |

| Loan Party | Patent # | Description | Issue Date | Filing Authority |
|---|---|---|---|---|
| Sonos, Inc. | Pending | Social Media Queue | Pending | PCT |
| Sonos, Inc. | Pending | Playback Updates | Pending | PCT |
| Sonos, Inc. | Pending | Indicating An Association Between A Social-Media Account And A Media Playback System | Pending | PCT |
| Sonos, Inc. | Pending | Media Item Context From Social Media | Pending | PCT |
| Sonos, Inc. | Pending | Social Media Connection Recommendations Based On Playback Information | Pending | PCT |
| Sonos, Inc. | Pending | Playback Device Control | Pending | PCT |
| Sonos, Inc. | Pending | Displaying Data Related To Media Content | Pending | PCT |
| Sonos, Inc. | Pending | Service Provider User Accounts | Pending | PCT |
| Sonos, Inc. | Pending | Packaging System With Slidable Latch | Pending | PCT |

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 NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 10/861,653 | 06/05/2004 | Robert A. Lambourne | SNS-71304US01 (04-0601) |

**CONFIRMATION NO. 3676**

109473
Invention Mine LLC - SNS
200 S. Wacker Drive
Suite 3100
Chicago, IL 60606

**POWER OF ATTORNEY NOTICE**

*OC000000074449338*

Date Mailed: 04/07/2015

## NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/01/2015.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/dtdinh/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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 NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 10/861,653 | 06/05/2004 | Robert A. Lambourne | SNS-71304US01 (04-0601) |

**CONFIRMATION NO. 3676**

107361
McDonnell Boehnen Hulbert & Berghoff LLP
Sonos, Inc.
300 South Wacker Drive
Chicago, IL 60606

**POA ACCEPTANCE LETTER**

*OC000000074449358*

Date Mailed: 04/07/2015

## NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/01/2015.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/dtdinh/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PTO/AIA/80 (07-12)
Approved for use through 11/30/2014. OMB 0651-0035
U.S. Patent and Trademark Office; U.S DEPARTMENT OF COMMERCE
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.

# POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

■ Practitioners associated with Customer Number: 107361

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

| Name | Registration Number | Name | Registration Number |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignments documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

■ The address associated with Customer Number: 107361

OR

☐

| | | | |
|---|---|---|---|
| Firm or Individual Name | | | |
| Address | | | |
| City | | State | Zip |
| Country | | | |
| Telephone | | Email | |

Assignee Name and Address: Sonos, Inc, 223 E. De La Guerra St.
Santa Barbara, CA 93101

**A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of The practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.**

**SIGNATURE of Assignee of Record**

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

| | | | |
|---|---|---|---|
| Signature | Mark Triplett | Date | 10/2/2012 |
| Name | Mark Triplett | Telephone | (805) 965-3001 |
| Title | Director, IP | | |

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 3 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. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 21919706 |
| **Application Number:** | 10861653 |
| **International Application Number:** | |
| **Confirmation Number:** | 3676 |
| **Title of Invention:** | METHOD AND APPARATUS FOR CONTROLLING MULTIMEDIA PLAYERS IN A MULTI-ZONE SYSTEM |
| **First Named Inventor/Applicant Name:** | Robert A. Lambourne |
| **Customer Number:** | 109473 |
| **Filer:** | Jeffrey Armstrong |
| **Filer Authorized By:** | |
| **Attorney Docket Number:** | SNS-71304US01 (04-0601) |
| **Receipt Date:** | 01-APR-2015 |
| **Filing Date:** | 05-JUN-2004 |
| **Time Stamp:** | 10:12:08 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| Submitted with Payment | no |
|---|---|

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Power of Attorney | SonosPOA.pdf | 59137<br>ad1d213683cc4019bf26d10570655bcd3505f7f0 | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |

| Total Files Size (in bytes): | 59137 |
|---|---|

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

AO 120 (Rev. 08/10)

| TO: | REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK |
|---|---|
| **Mail Stop 8<br>Director of the U.S. Patent and Trademark Office<br>P.O. Box 1450<br>Alexandria, VA 22313-1450** | |

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court DELAWARE on the following

☐ Trademarks or ☑ Patents. ( ☐ the patent action involves 35 U.S.C. § 292.):

| DOCKET NO. | DATE FILED | U.S. DISTRICT COURT |
|---|---|---|
| | 10/21/2014 | DELAWARE |

| PLAINTIFF | DEFENDANT |
|---|---|
| SONOS, INC. | D&M HOLDINGS INC. d/b/a THE D+M GROUP, D&M HOLDINGS U.S. INC., AND DENON ELECTRONICS (USA), LLC |

| | PATENT OR TRADEMARK NO. | DATE OF PATENT OR TRADEMARK | HOLDER OF PATENT OR TRADEMARK |
|---|---|---|---|
| 1 | U.S. 8,788,080 B1 | 7/22/2014 | Sonos, Inc. |
| 2 | U.S. 7,571,014 B1 | 8/4/2009 | Sonos, Inc. |
| 3 | U.S. 8,588,949 B2 | 11/19/2013 | Sonos, Inc. |
| 4 | U.S. D559,197 S | 1/8/2008 | Sonos, Inc. |
| 5 | | | |

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

| DATE INCLUDED | INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading | |
|---|---|---|
| PATENT OR TRADEMARK NO. | DATE OF PATENT OR TRADEMARK | HOLDER OF PATENT OR TRADEMARK |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |

In the above—entitled case, the following decision has been rendered or judgement issued:

| DECISION/JUDGEMENT |
|---|
| |

| CLERK | (BY) DEPUTY CLERK | DATE |
|---|---|---|
| JOHN A. CERINO | | |

**Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director**
**Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy**

UNITED STATES PATENT AND TRADEMARK OFFICE

# CERTIFICATE OF CORRECTION



| | |
|---|---|
| PATENT NO. | : 7,571,014 B1 |
| APPLICATION NO. | : 10/861653 |
| DATED | : August 4, 2009 |
| INVENTOR(S) | : Robert A. Lambourne and Nicholas A. J. Millington |

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the claims:

Claim 1, column 15, line 2, delete "slayers" and replace with --players--

Claim 16, column 16, line 10, delete "slayers" and replace with --players--

Claim 24, column 16, line 42, delete "ever" and replace with --every--

Claim 25, column 16, line 66, delete "slayers" and replace with --players--

Claim 38, column 18, line 21, delete "slayers" and replace with --players--

Claim 44, column 18, line 59, delete "ever" and replace with --every--

Signed and Sealed this
Nineteenth Day of March, 2013

Teresa Stanek Rea

Teresa Stanek Rea
*Acting Director of the United States Patent and Trademark Office*

**UNITED STATES PATENT AND TRADEMARK OFFICE**
(Attorney Docket No. SNS-71306.US.01)

| | | |
|---|---|---|
| In re Application of: | ) | |
| | ) | |
| Robert A. Lambourne, et al. | ) | Examiner: Daniel Sellers |
| | ) | |
| Serial No.: 10/861,653 | ) | Art Unit: 2614 |
| | ) | |
| Filed: June 5, 2004 | ) | Confirmation No.: 3676 |
| | ) | |
| U.S. Patent: 7,571,014 issued August 4, 2009 | ) | |
| | ) | |
| | ) | |
| Title: Method and Apparatus for Controlling Multimedia Players in a Multi-Zone System | ) | |
| | ) | |

**REQUEST FOR CERTIFICATE OF CORRECTION**
**PURSUANT TO 37 C.F.R. § 1.322 and §1.323**

Attn: Certificate of Correction Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

Pursuant to 37 C.F.R. §1.322 and §1.323, the Assignee of Record, Sonos, Inc., requests issuance of a Certificate of Correction for the above-identified patent. The Assignee submits herewith a completed Certificate of Correction Form (PTO/SB/44), as well as the fee set forth in 37 C.F.R. § 1.20(a), for correcting mistakes recited in the above-identified patent. In particular, the Assignee seeks to correct mistakes of clerical, typographical nature and of minor character in claims 1, 16, 24-25, 38 and 44 of the above-identified patent. The corrections are as follows:

Claim 1, Column 15, line 2, please delete "slayers" and insert --players--.

Claim 16, Column 16, line 10, please delete "slayers" and insert --players--.

Claim 24, Column 16, line 42, please delete "ever" and insert --every--.

Claim 25, Column 16, line 66, please delete "slayers" and insert --players--.

Claim 38, Column 18, line 21, please delete "slayers" and insert --players--.

Claim 44, Column 18, line 59, please delete "ever" and insert --every--.

The Assignee respectfully submits that the requested corrections do not constitute new matter, nor require substantive examination of the file. The errors in claims 1, 16, 25 and 38 arose by the Office's typographical error. The Assignee notes that the correct word "players" was present in the claims filed by the Applicant on March 28, 2009. The errors in claims 24 and 44 were Applicants' errors, where the word "ever" should have been "every". Applicants therefore submit herewith the required fee pursuant to 37 CFR §1.20(a)

Consideration of this Request and issuance of the Certificate of Correction are respectfully requested.

If there are any questions or comments regarding this request, the Examiner is encouraged to contact the undersigned attorney as indicated below.

Date: February 22, 2013

Respectfully submitted,
/Robert J. Irvine III/
Robert J. Irvine III
Registration No. 41865

**TechLaw LLP**
200 South Wacker Drive, Suite 3100
Chicago, IL 60606
Telephone: 312-834-4334

PTO/SB/44 (09-07)
Approved for use through 08/31/2013. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.
(Also Form PTO-1050)

# UNITED STATES PATENT AND TRADEMARK OFFICE
## CERTIFICATE OF CORRECTION



PATENT NO. : 7,571,014

APPLICATION NO.: 10/861,653

ISSUE DATE : August 4, 2009

INVENTOR(S) : Robert A. Lambourne, Nicholas A.J. Millington

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the claims:

Claim 1, column 15, line 2, delete "slayers" and replace with --players--

Claim 16, column 16, line 10, delete "slayers" and replace with --players--

Claim 24, column 16, line 42, delete "ever" and replace with --every--

Claim 25, column 16, line 66, delete "slayers" and replace with --players--

Claim 38, column 18, line 21, delete "slayers" and replace with --players--

Claim 44, column 18, line 59, delete "ever" and replace with --every--

MAILING ADDRESS OF SENDER (Please do not use customer number below):

Robert J. Irvine III
200 S. Wacker Drive, Suite 3100
Chicago, IL 60606

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. 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 1.0 hour 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. **SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

## Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

| Electronic Patent Application Fee Transmittal | |
|---|---|
| **Application Number:** | 10861653 |
| **Filing Date:** | 05-Jun-2004 |
| **Title of Invention:** | METHOD AND APPARATUS FOR CONTROLLING MULTIMEDIA PLAYERS IN A MULTI-ZONE SYSTEM |
| **First Named Inventor/Applicant Name:** | Robert A. Lambourne |
| **Filer:** | Robert Johnson Irvine/Danielle York |
| **Attorney Docket Number:** | SNS-71304.US.01 |
| Filed as Large Entity | |

**Utility under 35 USC 111(a) Filing Fees**

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Basic Filing:** | | | | |
| **Pages:** | | | | |
| **Claims:** | | | | |
| **Miscellaneous-Filing:** | | | | |
| **Petition:** | | | | |
| **Patent-Appeals-and-Interference:** | | | | |
| **Post-Allowance-and-Post-Issuance:** | | | | |
| Certificate of correction | 1811 | 1 | 100 | 100 |
| **Extension-of-Time:** | | | | |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Miscellaneous:** | | | | |
| | | | **Total in USD ($)** | **100** |

| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 15021669 |
| **Application Number:** | 10861653 |
| **International Application Number:** | |
| **Confirmation Number:** | 3676 |
| **Title of Invention:** | METHOD AND APPARATUS FOR CONTROLLING MULTIMEDIA PLAYERS IN A MULTI-ZONE SYSTEM |
| **First Named Inventor/Applicant Name:** | Robert A. Lambourne |
| **Customer Number:** | 109473 |
| **Filer:** | Robert Johnson Irvine |
| **Filer Authorized By:** | |
| **Attorney Docket Number:** | SNS-71304.US.01 |
| **Receipt Date:** | 22-FEB-2013 |
| **Filing Date:** | 05-JUN-2004 |
| **Time Stamp:** | 14:34:57 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | yes |
| Payment Type | Credit Card |
| Payment was successfully received in RAM | $100 |
| RAM confirmation Number | 943 |
| Deposit Account | |
| Authorized User | |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 1 | Request for Certificate of Correction | SNS71306US01COCLetter.pdf | 69748<br>6d4738452854cfbb8a633634c95ed9ba8f222207 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 2 | Request for Certificate of Correction | SNS71306US01-COC22FEB2013.pdf | 158151<br>a8d6b39baf3d2b93aa5412cdd9de07b16f935c1d | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 3 | Fee Worksheet (SB06) | fee-info.pdf | 30314<br>8ed4c0599a46119068469e0477d499455cf0b495 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | | **Total Files Size (in bytes):** | 258213 | |

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**<u>New Applications Under 35 U.S.C. 111</u>**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**<u>National Stage of an International Application under 35 U.S.C. 371</u>**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**<u>New International Application Filed with the USPTO as a Receiving Office</u>**
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Secured Patent Application Information Retrieval



10/881,810 METHOD AND APPARATUS FOR CONTROLLING MULTIMEDIA PLAYERS IN A MULTI-ZONE SYSTEM 3NB.P1104.US.01



## Transaction History

| Date | Transaction Description |
|---|---|
| 10-29-2012 | Change in Power of Attorney (May Include Associate POA) |
| 10-26-2012 | Correspondence Address Change |
| 10-29-2012 | Change in Power of Attorney (May Include Associate POA) |
| 05-24-2011 | Change in Power of Attorney (May Include Associate POA) |
| 05-19-2011 | Correspondence Address Change |
| 08-04-2009 | Recordation of Patent Grant Mailed |
| 07-15-2009 | Issue Notification Mailed |
| 08-04-2009 | Patent Issue Date Used in PTA Calculation |
| 07-06-2009 | Dispatch to FDC |
| 06-22-2009 | Application Is Considered Ready for Issue |
| 06-19-2009 | Issue Fee Payment Verified |
| 06-19-2009 | Issue Fee Payment Received |
| 06-16-2009 | Mail Examiner's Amendment |
| 06-16-2009 | Mail Notice of Allowance |
| 06-09-2009 | Document Verification |
| 06-09-2009 | Notice of Allowance Data Verification Completed |
| 06-08-2009 | Examiner's Amendment Communication |
| 09-15-2008 | Rule 47 / 48 Correction of Inventorship Papers Filed |
| 03-28-2009 | New or Additional Drawing Filed |
| 04-03-2009 | Date Forwarded to Examiner |
| 03-28-2009 | Response after Non-Final Action |
| 02-18-2009 | Mail Non-Final Rejection |
| 02-17-2009 | Non-Final Rejection |
| 09-15-2008 | Oath or Declaration Filed (Including Supplemental) |
| 10-18-2008 | Date Forwarded to Examiner |
| 09-15-2008 | Response after Non-Final Action |
| 10-08-2008 | Case Docketed to Examiner in GAU |
| 06-27-2008 | Mail Non-Final Rejection |
| 06-23-2008 | Non-Final Rejection |
| 10-17-2007 | Withdraw Flagged for 5/25 |
| 10-16-2007 | Flagged for 5/25 |
| 10-02-2007 | Case Docketed to Examiner in GAU |
| 05-01-2007 | Case Docketed to Examiner in GAU |
| 06-21-2006 | Case Docketed to Examiner in GAU |
| 03-22-2006 | Case Docketed to Examiner in GAU |
| 06-30-2005 | Case Docketed to Examiner in GAU |
| 03-01-2005 | IFW TSS Processing by Tech Center Complete |
| 03-01-2005 | Case Docketed to Examiner in GAU |
| 07-30-2004 | Application Return from OIPE |
| 07-30-2004 | Application Return TO OIPE |
| 07-30-2004 | Application Dispatched from OIPE |
| 07-30-2004 | Application Is Now Complete |
| 06-05-2004 | PGPubs nonPub Request |
| 07-16-2004 | Cleared by OIPE CSR |
| 06-23-2004 | IFW Scan & PACR Auto Security Review |
| 06-05-2004 | Initial Exam Team nn |

*If you need help:*

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- *Send general questions about USPTO programs to the USPTO Contact Center (UCC).*
- *If you experience technical difficulties or problems with this application, please report them via e-mail to Electronic Business Support or call 800-786-9199.*

| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 14859703 |
| **Application Number:** | 10861653 |
| **International Application Number:** | |
| **Confirmation Number:** | 3676 |
| **Title of Invention:** | METHOD AND APPARATUS FOR CONTROLLING MULTIMEDIA PLAYERS IN A MULTI-ZONE SYSTEM |
| **First Named Inventor/Applicant Name:** | Robert A. Lambourne |
| **Customer Number:** | 109473 |
| **Filer:** | Robert Johnson Irvine |
| **Filer Authorized By:** | |
| **Attorney Docket Number:** | SNS-71304.US.01 |
| **Receipt Date:** | 01-FEB-2013 |
| **Filing Date:** | 05-JUN-2004 |
| **Time Stamp:** | 20:14:22 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| Submitted with Payment | no |
|---|---|

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Transmittal Letter | 71304-SE-Notice.pdf | 150168<br>6143f88f30999aad22cad285ac7dd8d6d8f62390 | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |

| | |
|---|---|
| **Total Files Size (in bytes):** | 150168 |

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**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

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

Applicant: Robert A. Lambourne

Title: METHOD AND APPARATUS FOR CONTROLLING MULTIMEDIA PLAYERS IN A MULTI-ZONE SYSTEM

Patent No.: 7,571,014

Appl. No.: 10/861,653

Filing Date: 6/5/2004

Art Unit: 2614

Confirmation Number: 3676

NOTIFICATION OF LOSS OF
ENTITLEMENT TO SMALL ENTITY STATUS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This communication is to provide NOTICE, pursuant to 37 CFR § 1.28(b), that the patentee status has changed from that of small entity to other than that of small entity.

Respectfully submitted,

Date: Feb. 1, 2013

By: /Robert J. Irvine III/

TechLaw LLP
Customer Number: 107170
Telephone: (312) 834-4334

Robert J. Irvine III
Attorney for Applicant
Registration No. 41,865

| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 14859820 |
| **Application Number:** | 10861653 |
| **International Application Number:** | |
| **Confirmation Number:** | 3676 |
| **Title of Invention:** | METHOD AND APPARATUS FOR CONTROLLING MULTIMEDIA PLAYERS IN A MULTI-ZONE SYSTEM |
| **First Named Inventor/Applicant Name:** | Robert A. Lambourne |
| **Customer Number:** | 109473 |
| **Filer:** | Robert Johnson Irvine |
| **Filer Authorized By:** | |
| **Attorney Docket Number:** | SNS-71304.US.01 |
| **Receipt Date:** | 01-FEB-2013 |
| **Filing Date:** | 05-JUN-2004 |
| **Time Stamp:** | 20:41:46 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| Submitted with Payment | no |
|---|---|

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Transmittal Letter | 7571014-Notice-re-Small-Entity.pdf | 58824<br>25edc72813f6a32948537cd2552efb470dfbe592 | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |

| Total Files Size (in bytes): | 58824 |
|---|---|

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**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

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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 NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 10/861,653 | 06/05/2004 | Robert A. Lambourne | 20218/04-0601 (RIN-007) |

**CONFIRMATION NO. 3676**

14458
Mark Triplett (Sonos, Inc.)
150 S. Wacker Drive
Suite 2100
Chicago, IL 60606

**POA ACCEPTANCE LETTER**

*OC000000047782800*

Date Mailed: 10/29/2012

## NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/13/2011.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/atesfai/

---

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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 NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 10/861,653 | 06/05/2004 | Robert A. Lambourne | 20218/04-0601 (RIN-007) |

**CONFIRMATION NO. 3676**

14458
Mark Triplett (Sonos, Inc.)
150 S. Wacker Drive
Suite 2100
Chicago, IL 60606

**POWER OF ATTORNEY NOTICE**

*OC000000047782786*

Date Mailed: 10/29/2012

## NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/13/2011.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/atesfai/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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 NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 10/861,653 | 06/05/2004 | Robert A. Lambourne | |

**CONFIRMATION NO. 3676**

109473
TechLaw LLP
200 S. Wacker Drive
Suite 3100
Chicago, IL 60606

**POA ACCEPTANCE LETTER**

*OC000000057349905*

Date Mailed: 10/29/2012

## NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 09/24/2012.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/jtfitzhugh sr/

---

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 10/861,653 | 06/05/2004 | Robert A. Lambourne | 20218/04-0601 (RIN-007) |

**CONFIRMATION NO. 3676**

14458
Mark Triplett (Sonos, Inc.)
150 S. Wacker Drive
Suite 2100
Chicago, IL 60606

**POWER OF ATTORNEY NOTICE**

*OC000000057349873*

Date Mailed: 10/29/2012

## NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 09/24/2012.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/jtfitzhugh sr/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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# POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

☑ Practitioners associated with the Customer Number: 109473

***OR***

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

| Name | Registration Number | Name | Registration Number |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

☑ The address associated with Customer Number: 109473

*OR*

| | | | |
|---|---|---|---|
| ☐ Firm or Individual Name | | | |
| Address | | | |
| City | | State | Zip |
| Country | | | |
| Telephone | | Email | |

Assignee Name and Address:
Sonos, Inc.
223 E. De La Guerra Street
Santa Barbara, CA 93101

**A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.**

**SIGNATURE of Assignee of Record**

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

| | | | |
|---|---|---|---|
| Signature | /Mark W. Triplett/ | Date | September 14, 2012 |
| Name | Mark W. Triplett | Telephone | |
| Title | Director, Intellectual Property | | |

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 3 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. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/96 (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

## STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Robert Lambourne and Nicholas Millington

Application No./Patent No.: 7,571,014 Filed/Issue Date: August 4, 2009

Titled: METHOD AND APPARATUS FOR CONTROLLING MULTIMEDIA PLAYERS IN A MULTI-ZONE SYSTEM

Sonos, Inc. , a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;

2. ☐ an assignee of less than the entire right, title, and interest in (The extent (by percentage) of its ownership interest is _____ %); or

3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy therefore is attached.

**OR**

B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Robert Lambourne To: Sonos, Inc.

The document was recorded in the United States Patent and Trademark Office at
Reel 015443 , Frame 0654, or for which a copy thereof is attached.

2. From: Robert Lambourne & Nicholas Millington To: Sonos, Inc.

The document was recorded in the United States Patent and Trademark Office at
Reel 028345 , Frame 0881, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____ , Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☒ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Robert J. Irvine III/ September 24, 2012

Signature Date

Robert J. Irvine III Attorney of Record

Printed or Typed Name Title

This collection of information is required by 37 CFR 3.73(b). 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. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

## Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 13816109 |
| **Application Number:** | 10861653 |
| **International Application Number:** | |
| **Confirmation Number:** | 3676 |
| **Title of Invention:** | METHOD AND APPARATUS FOR CONTROLLING MULTIMEDIA PLAYERS IN A MULTI-ZONE SYSTEM |
| **First Named Inventor/Applicant Name:** | Robert A. Lambourne |
| **Customer Number:** | 14458 |
| **Filer:** | Robert Johnson Irvine |
| **Filer Authorized By:** | |
| **Attorney Docket Number:** | 20218/04-0601 (RIN-007) |
| **Receipt Date:** | 24-SEP-2012 |
| **Filing Date:** | 05-JUN-2004 |
| **Time Stamp:** | 23:54:38 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| Submitted with Payment | no |
|---|---|

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Power of Attorney | SONOS-POA-sign.pdf | 186891<br>d7a3a330a13921e52cd99d512afa125b8f631595 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 2 | Assignee showing of ownership per 37 CFR 3.73(b). | 71304-373b-final.pdf | 112455<br>c12cd0fe43cefabf53f5db9289d2c326173a0c97 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | | **Total Files Size (in bytes):** | 299346 | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

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 NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 10/861,653 | 06/05/2004 | Robert A. Lambourne | RIN-007 |

**CONFIRMATION NO. 3676**

14458
Mark Triplett (Sonos, Inc.)
150 S. Wacker Drive
Suite 2100
Chicago, IL 60606

**POA ACCEPTANCE LETTER**

*OC000000047782800*

Date Mailed: 05/24/2011

## NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/13/2011.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/atesfai/

---

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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 NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|---|---|---|---|
| 10/861,653 | 06/05/2004 | Robert A. Lambourne | RIN-007 |

**CONFIRMATION NO. 3676**

26797
SILICON VALLEY PATENT AGENCY
7394 WILDFLOWER WAY
CUPERTINO, CA 95014

**POWER OF ATTORNEY NOTICE**

*OC000000047782786*

Date Mailed: 05/24/2011

## NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/13/2011.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/atesfai/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PTO/SB/80 (11-08)
Approved for use through 11/30/2011. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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# POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

☑ Practitioners associated with the Customer Number: 14458

***OR***

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

| Name | Registration Number | Name | Registration Number |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

☑ The address associated with Customer Number: 14458

*OR*

| | | | |
|---|---|---|---|
| ☐ Firm or Individual Name | | | |
| Address | | | |
| City | | State | Zip |
| Country | | | |
| Telephone | | Email | |

Assignee Name and Address:

SONOS, INC., 223 E. DE LA GUERRA STREET, SANTA BARBARA, CALIFORNIA 93101

**A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.**

**SIGNATURE of Assignee of Record**

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

| | | | |
|---|---|---|---|
| Signature | /Mark Triplett/ | Date | 4/29/2011 |
| Name | Mark W. Triplett | Telephone | |
| Title | Director, Intellectual Property | | |

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 3 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. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

## Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
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## STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: SONOS, INC.

Application No./Patent No.: 7,571,014 Filed/Issue Date: 08-04-2009

Titled: METHOD AND APPARATUS FOR CONTROLLING MULTIMEDIA PLAYERS IN A MULTI-ZONE SYSTEM

SONOS, INC. , a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;

2. ☐ an assignee of less than the entire right, title, and interest in (The extent (by percentage) of its ownership interest is _____ %); or

3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 015443, Frame 0654, or for which a copy therefore is attached.

**OR**

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Mark Triplett/ 4/28/2011

Signature Date

Mark W. Triplett Director, Intellectual Property

Printed or Typed Name Title

This collection of information is required by 37 CFR 3.73(b). 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. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 10087775 |
| **Application Number:** | 10861653 |
| **International Application Number:** | |
| **Confirmation Number:** | 3676 |
| **Title of Invention:** | METHOD AND APPARATUS FOR CONTROLLING MULTIMEDIA PLAYERS IN A MULTI-ZONE SYSTEM |
| **First Named Inventor/Applicant Name:** | Robert A. Lambourne |
| **Customer Number:** | 26797 |
| **Filer:** | Christopher Neith George/Kristen Moore |
| **Filer Authorized By:** | Christopher Neith George |
| **Attorney Docket Number:** | RIN-007 |
| **Receipt Date:** | 13-MAY-2011 |
| **Filing Date:** | 05-JUN-2004 |
| **Time Stamp:** | 17:14:26 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| Submitted with Payment | no |
|---|---|

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Power of Attorney | General_POA_Sonos_4-29-2011.pdf | 82905<br>f78478cfefb4282a7298f696ca98df6473e8427f | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 2 | Assignee showing of ownership per 37 CFR 3.73(b). | 04-0601_RIN-007_37CFR373b.pdf | 36436<br>5311c7940b488b9c0d0be82a666493042e90834a | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | | **Total Files Size (in bytes):** | 119341 | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

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. | ISSUE DATE | PATENT NO. | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/861,653 | 08/04/2009 | 7571014 | RIN-007 | 3676 |

26797 7590 07/15/2009

SILICON VALLEY PATENT AGENCY
7394 WILDFLOWER WAY
CUPERTINO, CA 95014

# ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 1091 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment 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) WEB site (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 (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Robert A. Lambourne, Cambridge, MA;
Nicholas A. J. Millington, Santa Barbara, CA;

## PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail** **Mail Stop ISSUE FEE**
**Commissioner for Patents**
**P.O. Box 1450**
**Alexandria, Virginia 22313-1450**
**or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 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: Use Block 1 for any change of address)

26797 7590 06/16/2009

SILICON VALLEY PATENT AGENCY
7394 WILDFLOWER WAY
CUPERTINO, CA 95014

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 Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

| | |
|---|---|
| Joe Zheng | (Depositor's name) |
| / joe zheng / | (Signature) |
| 6/19/2009 | (Date) |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/861,653 | 06/05/2004 | Robert A. Lambourne | RIN-007 | 3676 |

TITLE OF INVENTION: METHOD AND APPARATUS FOR CONTROLLING MULTIMEDIA PLAYERS IN A MULTI-ZONE SYSTEM

| APPLN. TYPE | SMALL ENTITY | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|---|---|---|---|---|---|---|
| nonprovisional | YES | $755 | $0 | $0 | $755 | 09/16/2009 |

| EXAMINER | ART UNIT | CLASS-SUBCLASS |
|---|---|---|
| SELLERS, DANIEL R | 2614 | 700-094000 |

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 Joe Zheng
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. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Sonos, Inc. Santa Barbara, CA 93101

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 submitted:
- ☒ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ☐ A check is enclosed.
- ☒ Payment by credit card. Form PTO-2038 is attached. Paid via EFS
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.
- ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

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.

Authorized Signature / joe zheng / Date 06/19/2009

Typed or printed name Joe Zheng Registration No. 39,450

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, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, 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.

| Electronic Patent Application Fee Transmittal | |
|---|---|
| **Application Number:** | 10861653 |
| **Filing Date:** | 05-Jun-2004 |
| **Title of Invention:** | METHOD AND APPARATUS FOR CONTROLLING MULTIMEDIA PLAYERS IN A MULTI-ZONE SYSTEM |
| **First Named Inventor/Applicant Name:** | Robert A. Lambourne |
| **Filer:** | Joe Zheng |
| **Attorney Docket Number:** | RIN-007 |
| Filed as Small Entity | |

**Utility under 35 USC 111(a) Filing Fees**

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Basic Filing:** | | | | |
| **Pages:** | | | | |
| **Claims:** | | | | |
| **Miscellaneous-Filing:** | | | | |
| **Petition:** | | | | |
| **Patent-Appeals-and-Interference:** | | | | |
| **Post-Allowance-and-Post-Issuance:** | | | | |
| Utility Appl issue fee | 2501 | 1 | 755 | 755 |
| **Extension-of-Time:** | | | | |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Miscellaneous:** | | | | |
| | | | **Total in USD ($)** | **755** |

| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 5547719 |
| **Application Number:** | 10861653 |
| **International Application Number:** | |
| **Confirmation Number:** | 3676 |
| **Title of Invention:** | METHOD AND APPARATUS FOR CONTROLLING MULTIMEDIA PLAYERS IN A MULTI-ZONE SYSTEM |
| **First Named Inventor/Applicant Name:** | Robert A. Lambourne |
| **Customer Number:** | 26797 |
| **Filer:** | Joe Zheng |
| **Filer Authorized By:** | |
| **Attorney Docket Number:** | RIN-007 |
| **Receipt Date:** | 19-JUN-2009 |
| **Filing Date:** | 05-JUN-2004 |
| **Time Stamp:** | 01:12:21 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | yes |
| Payment Type | Credit Card |
| Payment was successfully received in RAM | $755 |
| RAM confirmation Number | 6127 |
| Deposit Account | |
| Authorized User | |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 1 | Post Allowance Communication - Incoming | ResponseToAllowance.pdf | 92912<br>95909597d222d159f5fd1b20d0f1ab1f32ebd952 | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 2 | Issue Fee Payment (PTO-85B) | FeeTransmittal.pdf | 91504<br>41e6924ccd895a67d7c6117300c6c6ebed34bb9f | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 3 | Fee Worksheet (PTO-875) | fee-info.pdf | 30147<br>a3519ec5c645d0e06e14dd9a3b77202dd7293440 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | **Total Files Size (in bytes):** | 214563 | | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**<u>New Applications Under 35 U.S.C. 111</u>**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**<u>National Stage of an International Application under 35 U.S.C. 371</u>**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**<u>New International Application Filed with the USPTO as a Receiving Office</u>**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

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

| | |
|---|---|
| **Applicant(s):** | Robert A. Lambourne & Nicholas A. J. Millington |
| **Title:** | Method and apparatus for controlling multimedia players in a multi-zone system |
| **Serial No.:** | 10/861,653 |
| **Confirmation No.:** | 3676 |
| **Filing Date:** | 06/05/2004 |
| **Examiner:** | Daniel R. Sellers |
| **Group Art Unit:** | 2615 |
| **Docket No:** | RIN-007 |

June 19, 2009

Mail Stop: Issue Fee
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

**Response to Notice of Allowance**

Dear Sir:

In response to the Notice of Allowance and Issue Fee Due mailed on 06/16/2009, the Applicants submit the following items:

1. A Original copy of Issue Fee Transmittal;
2. A payment of $755 as the issue fee (paid via EFS);

**Remarks**

The Applicants appreciate the Examiner for allowing this application. It is hereby respectfully submitted that the enclosed items complete the requirement for the issuance of the above-identified application.

Please telephone the undersigned at (408)777-8873, if there are any questions.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to "Commissioner of Patents and Trademarks, Box Issue Fee, Washington, DC 20231", on June 19, 2009.

Via EFS

Signed: / joe zheng / (Joe Zheng)

Respectfully Submitted,

/ joe zheng /

Joe Zheng
Reg.: No.: 39,450

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

# NOTICE OF ALLOWANCE AND FEE(S) DUE

26797 7590 06/16/2009

SILICON VALLEY PATENT AGENCY
7394 WILDFLOWER WAY
CUPERTINO, CA 95014

| EXAMINER | |
|---|---|
| SELLERS, DANIEL R | |
| ART UNIT | PAPER NUMBER |
| 2614 | |

DATE MAILED: 06/16/2009

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/861,653 | 06/05/2004 | Robert A. Lambourne | RIN-007 | 3676 |

TITLE OF INVENTION: METHOD AND APPARATUS FOR CONTROLLING MULTIMEDIA PLAYERS IN A MULTI-ZONE SYSTEM

| APPLN. TYPE | SMALL ENTITY | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|---|---|---|---|---|---|---|
| nonprovisional | YES | $755 | $0 | $0 | $755 | 09/16/2009 |

**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 DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

**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 above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, 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 box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). 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. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop 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.**



PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

## PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail** **Mail Stop ISSUE FEE**
**Commissioner for Patents**
**P.O. Box 1450**
**Alexandria, Virginia 22313-1450**
**or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 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: Use Block 1 for any change of address)

26797 7590 06/16/2009

SILICON VALLEY PATENT AGENCY
7394 WILDFLOWER WAY
CUPERTINO, CA 95014

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 Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

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

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/861,653 | 06/05/2004 | Robert A. Lambourne | RIN-007 | 3676 |

TITLE OF INVENTION: METHOD AND APPARATUS FOR CONTROLLING MULTIMEDIA PLAYERS IN A MULTI-ZONE SYSTEM

| APPLN. TYPE | SMALL ENTITY | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|---|---|---|---|---|---|---|
| nonprovisional | YES | $755 | $0 | $0 | $755 | 09/16/2009 |

| EXAMINER | ART UNIT | CLASS-SUBCLASS |
|---|---|---|
| SELLERS, DANIEL R | 2614 | 700-094000 |

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. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. 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 submitted:

❑ Issue Fee

❑ Publication Fee (No small entity discount permitted)

❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

❑ A check is enclosed.

❑ Payment by credit card. Form PTO-2038 is attached.

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

❑ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

❑ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

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.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

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, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, 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.

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. |
|---|---|---|---|---|
| 10/861,653 | 06/05/2004 | Robert A. Lambourne | RIN-007 | 3676 |

26797 7590 06/16/2009

SILICON VALLEY PATENT AGENCY
7394 WILDFLOWER WAY
CUPERTINO, CA 95014

| EXAMINER | |
|---|---|
| SELLERS, DANIEL R | |
| ART UNIT | PAPER NUMBER |
| 2614 | |

DATE MAILED: 06/16/2009

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 1091 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 1091 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment 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) WEB site (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 (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

| Notice of Allowability | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/861,653 | LAMBOURNE ET AL. | |
| | Examiner | Art Unit | |
| | DANIEL R. SELLERS | 2614 | |

***-- 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 *3/28/09*.

2. ☒ The allowed claim(s) is/are *1-17,19,20,22-44,46 and 47*.

3. ☐ 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: _____.

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.**

4. ☐ 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.

5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") 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./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   **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. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

6. ☐ 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. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

## DETAILED ACTION

### *Drawings*

1. The drawings were received on 3/28/09. These drawings are acceptable.

## EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Joe Zheng on 6/3/2009.

The application has been amended as follows:

Amend **claims 16, 19, 20, and 30-33** filed 3/28/2009 in the following manner:

-- 16. A method for controlling a plurality of players, the method comprising:

displaying on a screen a list showing a plurality of volume meters, at least one of the volume meters representing an audio volume of one of the players, and another one of the volume meters representing an audio volume of a group of players, [if] <u>when</u> there is such a group; and

adjusting one of the volume meters as desired after one of the volume meters from the list is selected<u>, wherein the one of the volume meters is for the group of players, represented by an averaged value of audio volumes of the players in the group, and said adjusting of the one of the volume meters includes</u>

changing a volume of each of the group of players synchronously in accordance with an adjustment made by a user. --

-- 19. The method of claim [18] 16, further comprising adjusting the one of the volume meters for the group of players in a predetermined manner that appears that the group of players are being adjusted at the same time.

20. The method of claim [18] 16, further comprising maintaining relative volume loudness difference among each of the players in the group. --

-- 30. The apparatus of claim [27] 29, wherein said determining an [of the] audio source for the zone comprises selecting the audio source being played or ready to be played by the zone group head.

31. The apparatus of claim [27] 29, wherein said determining an [of the] audio source for the zone comprises selecting the audio source being played or ready to be played by one of the players in the zone group.

32. The apparatus of claim [27] 29, wherein said making [of] the audio source available comprises:

determining whether the audio source is available locally; and

retrieving the audio source from a device on a network, if the audio source is not available locally.

33. The apparatus of claim [27] 29, wherein said making [of] the audio source available comprises:

determining the audio source from one of the players in the zone group; and

causing the audio source available to every other player in the zone group. --

***Allowable Subject Matter***

3. Claims **1-17, 19, 20, 22-44, 46, and 47** are allowed.

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

5. Regarding **claim 1**, the prior art does not teach or reasonably suggest an average volume level to represent volumes of the players in the group, wherein an average volume level of a player is analogous to the volume gain of a player.

Dorrough, US 5,751,819 A, teaches level meters, which can display averages (see abstract and column 4, lines 44-59). However, the average level display is not the same as the average gain. Dorrough is concerned with simplifying a recording engineer's job in setting volume gain, and not displaying the average volume gain of tracks, or channels, or even players in a group.

Lee et al., US 2005/0047605 A1, teaches a similar concept to Dorrough. Lee et al. teaches a power display unit representing the power in a group of channels (see ¶ 0016 and 0024). Lee et al. is concerned with a visual display to represent the average fluctuation in volume, or power, in multiple channels and is not concerned with representing the average volume gain of multiple channels or players in a group.

6. Claims 2-15 are allowed because they depend from claim 1.

7. Regarding **claim 16**, see above with respect to claim 1. Claim 16 is allowable because the prior art does not teach or reasonably suggest an average volume level to

represent volumes of the players in the group, wherein an average volume level of a player is analogous to the volume gain of a player.

8. Claims 17, 19, 20, and 22-26 are allowed because they depend from claim 16.

9. Regarding **claim 27**, see above with respect to claim 1. Claim 27 is allowable because the prior art does not teach or reasonably suggest an average volume level to represent volumes of the players in the group, wherein an average volume level of a player is analogous to the volume gain of a player.

10. Claims 28-39 are allowed because they depend from claim 27.

11. Regarding **claim 40**, see above with respect to claim 1. Claim 40 is allowable because the prior art does not teach or reasonably suggest an average volume level to represent volumes of the players in the group, wherein an average volume level of a player is analogous to the volume gain of a player.

12. Claims 41-44, 46, and 47 are allowed because they depend from claim 40.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

***Conclusion***

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

Holtz et al., US 2002/0109710 A1 (previously cited) - teaches a mixer device with volume controls (see ¶ 0111-0122);

Anttila et al., US 2003/0126211 A1 (previously cited) - teaches a list of clients to send audio to (see ¶ 0065-0066 and figure 9); and

Blank et al., US 2004/0252400 A1 (previously cited) - teaches computer media synchronization across a network (see figure 2 and 7 and ¶ 0034-0037 and 0066-0067).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL R. SELLERS whose telephone number is (571)272-7528. The examiner can normally be reached on Monday to Friday, 9am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (571)272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel R. Sellers/
Examiner, Art Unit 2614
/CURTIS KUNTZ/
Supervisory Patent Examiner, Art Unit 2614

| Notice of References Cited | Application/Control No. 10/861,653 | Applicant(s)/Patent Under Reexamination LAMBOURNE ET AL. | |
|---|---|---|---|
| | Examiner DANIEL R. SELLERS | Art Unit 2614 | Page 1 of 1 |

**U.S. PATENT DOCUMENTS**

| * | | Document Number Country Code-Number-Kind Code | Date MM-YYYY | Name | Classification |
|---|---|---|---|---|---|
| * | A | US-5,751,819 | 05-1998 | Dorrough, Michael L. | 381/56 |
| * | B | US-2005/0047605 | 03-2005 | Lee et al. | 381/056 |
| | 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.

| Search Notes | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 10861653 | LAMBOURNE, ROBERT A. |
| | Examiner | Art Unit |
| | DANIEL R SELLERS | 2615 |

| SEARCHED | | | |
|---|---|---|---|
| Class | Subclass | Date | Examiner |
| 700 | 94 | 6/23/08 | /DRS/ |
| Updated | | 2/13/09 | /DRS/ |
| 715 | 716, 734, 735 | 2/13/09 | /DRS/ |
| 709 | 220, 221 | 2/13/09 | /DRS/ |
| Updated | | 6/4/09 | /DRS/ |
| 381 | 56 | 6/4/09 | /DRS/ |

| SEARCH NOTES | | |
|---|---|---|
| Search Notes | Date | Examiner |
| See East Search Notes | 6/23/08 | /DRS/ |
| Updated | 2/13/09 | /DRS/ |
| Updated Search | 6/4/09 | /DRS/ |

| INTERFERENCE SEARCH | | | |
|---|---|---|---|
| Class | Subclass | Date | Examiner |
| 700 | 94 | 6/4/09 | /DRS/ |
| 715 | 716 | 6/4/09 | /DRS/ |

## EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|---|---|---|---|---|---|---|
| S163 | 1900 | 700/94.ccls. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/05/28 22:31 |
| S162 | 682 | 381/56.ccls. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/05/28 22:30 |
| S161 | 7 | S160 and 381/56.ccls. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/05/28 21:06 |
| S160 | 219 | (audio multi $1media music song mp3 sound) near5 (group $3 zon$3 network$3) and (volume gain level amplifi$7) near2 (average mean median) near10 (display$3 calculat$4 show$3 meter$3) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/05/28 20:45 |

| | | | | | | |
|---|---|---|---|---|---|---|
| S159 | 145 | (audio multi $1media music song mp3) near5 (group$3 zon $3 network $3) and (volume gain level amplifi $7) near2 (average mean median) near10 (display$3 calculat$4 show$3 meter$3) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/05/28 20:45 |
| S158 | 334 | (audio multi $1media music video song) near5 (group$3 zon $3 network $3) and (volume gain level amplifi $7) near2 (average mean median) near10 (display$3 calculat$4 show$3 meter$3) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/05/28 20:42 |
| S157 | 889 | (audio multi $1media music video song) near5 (group$3 zon $3 network $3) and (volume gain level amplifi $7) near10 (average mean median) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/05/28 20:42 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | near10 (display$3 calculat$4 show$3 meter$3) | | | | |

**6/4/09 9:56:27 PM**
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| Index of Claims | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 10861653 | LAMBOURNE ET AL. |
| | Examiner | Art Unit |
| | DANIEL R SELLERS | 2614 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ✓ | Rejected | - | Cancelled | N | Non-Elected | A | Appeal |
| = | Allowed | ÷ | Restricted | I | Interference | O | Objected |

☒ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

| CLAIM | | DATE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Final | Original | 06/23/2008 | 02/13/2009 | 06/04/2009 | | | | | | |
| 1 | 1 | ✓ | ✓ | = | | | | | | |
| 2 | 2 | ✓ | ✓ | = | | | | | | |
| 3 | 3 | ✓ | ✓ | = | | | | | | |
| 4 | 4 | ✓ | ✓ | = | | | | | | |
| 5 | 5 | ✓ | ✓ | = | | | | | | |
| 6 | 6 | ✓ | ✓ | = | | | | | | |
| 7 | 7 | ✓ | ✓ | = | | | | | | |
| 8 | 8 | ✓ | ✓ | = | | | | | | |
| 9 | 9 | ✓ | ✓ | = | | | | | | |
| 10 | 10 | ✓ | ✓ | = | | | | | | |
| 11 | 11 | ✓ | ✓ | = | | | | | | |
| 12 | 12 | ✓ | ✓ | = | | | | | | |
| 13 | 13 | ✓ | ✓ | = | | | | | | |
| 14 | 14 | ✓ | ✓ | = | | | | | | |
| 15 | 15 | ✓ | ✓ | = | | | | | | |
| 16 | 16 | ✓ | ✓ | = | | | | | | |
| 17 | 17 | ✓ | ✓ | = | | | | | | |
| | 18 | ✓ | ✓ | - | | | | | | |
| 18 | 19 | ✓ | ✓ | = | | | | | | |
| 19 | 20 | ✓ | ✓ | = | | | | | | |
| | 21 | O | O | - | | | | | | |
| 20 | 22 | ✓ | ✓ | = | | | | | | |
| 21 | 23 | ✓ | ✓ | = | | | | | | |
| 22 | 24 | ✓ | ✓ | = | | | | | | |
| 23 | 25 | ✓ | ✓ | = | | | | | | |
| 24 | 26 | ✓ | ✓ | = | | | | | | |
| 25 | 27 | ✓ | ✓ | = | | | | | | |
| 26 | 28 | ✓ | ✓ | = | | | | | | |
| 27 | 29 | ✓ | ✓ | = | | | | | | |
| 28 | 30 | ✓ | ✓ | = | | | | | | |
| 29 | 31 | ✓ | ✓ | = | | | | | | |
| 30 | 32 | ✓ | ✓ | = | | | | | | |
| 31 | 33 | ✓ | ✓ | = | | | | | | |
| 32 | 34 | ✓ | ✓ | = | | | | | | |
| 33 | 35 | ✓ | ✓ | = | | | | | | |
| 34 | 36 | ✓ | ✓ | = | | | | | | |

| Index of Claims | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 10861653 | LAMBOURNE ET AL. |
| | Examiner | Art Unit |
| | DANIEL R SELLERS | 2614 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ✓ | Rejected | - | Cancelled | N | Non-Elected | A | Appeal |
| = | Allowed | ÷ | Restricted | I | Interference | O | Objected |

☒ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

| CLAIM | | DATE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Final | Original | 06/23/2008 | 02/13/2009 | 06/04/2009 | | | | | | |
| 35 | 37 | ✓ | ✓ | = | | | | | | |
| 36 | 38 | ✓ | ✓ | = | | | | | | |
| 37 | 39 | ✓ | ✓ | = | | | | | | |
| 38 | 40 | ✓ | ✓ | = | | | | | | |
| 39 | 41 | ✓ | ✓ | = | | | | | | |
| 40 | 42 | ✓ | ✓ | = | | | | | | |
| 41 | 43 | ✓ | ✓ | = | | | | | | |
| 42 | 44 | ✓ | ✓ | = | | | | | | |
| | 45 | O | O | - | | | | | | |
| 43 | 46 | ✓ | ✓ | = | | | | | | |
| 44 | 47 | ✓ | ✓ | = | | | | | | |

| Issue Classification | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 10861653 | LAMBOURNE ET AL. |
| | Examiner | Art Unit |
| | DANIEL R SELLERS | 2614 |

| ORIGINAL | | INTERNATIONAL CLASSIFICATION | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CLASS | SUBCLASS | CLAIMED | | | | | | | | | NON-CLAIMED | | | | | |
| 700 | 94 | G | 0 | 6 | F | 17 / 00 (2006.01.01) | | | | | | | | | | |
| CROSS REFERENCE(S) | | G | 0 | 6 | F | 3 / 00 (2006.01.01) | | | | | | | | | | |
| CLASS | SUBCLASS (ONE SUBCLASS PER BLOCK) | | | | | | | | | | | | | | | |
| 715 | 716 | | | | | | | | | | | | | | | |

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

| Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 17 | 17 | 31 | 33 | | | | | | | | | | |
| 2 | 2 | | 18 | 32 | 34 | | | | | | | | | | |
| 3 | 3 | 18 | 19 | 33 | 35 | | | | | | | | | | |
| 4 | 4 | 19 | 20 | 34 | 36 | | | | | | | | | | |
| 5 | 5 | | 21 | 35 | 37 | | | | | | | | | | |
| 6 | 6 | 20 | 22 | 36 | 38 | | | | | | | | | | |
| 7 | 7 | 21 | 23 | 37 | 39 | | | | | | | | | | |
| 8 | 8 | 22 | 24 | 38 | 40 | | | | | | | | | | |
| 9 | 9 | 23 | 25 | 39 | 41 | | | | | | | | | | |
| 10 | 10 | 24 | 26 | 40 | 42 | | | | | | | | | | |
| 11 | 11 | 25 | 27 | 41 | 43 | | | | | | | | | | |
| 12 | 12 | 26 | 28 | 42 | 44 | | | | | | | | | | |
| 13 | 13 | 27 | 29 | | 45 | | | | | | | | | | |
| 14 | 14 | 28 | 30 | 43 | 46 | | | | | | | | | | |
| 15 | 15 | 29 | 31 | 44 | 47 | | | | | | | | | | |
| 16 | 16 | 30 | 32 | | | | | | | | | | | | |

| | | | |
|---|---|---|---|
| /DANIEL R SELLERS/<br>Examiner.Art Unit 2614 | 6/4/09 | Total Claims Allowed: | |
| (Assistant Examiner) | (Date) | 43 | |
| /CURTIS KUNTZ/<br>Supervisory Patent Examiner.Art Unit 2614 | 06/06/2009 | O.G. Print Claim(s) | O.G. Print Figure |
| (Primary Examiner) | (Date) | 16 | 7D |

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | |
|---|---|
| **Applicant(s):** | Robert A. Lambourne & Nicholas A. J. Millington |
| **Title:** | Method and apparatus for controlling multimedia players in a multi-zone system |
| **Serial No.:** | 10/861,653 |
| **Confirmation No.:** | 3676 |
| **Filing Date:** | 06/05/2004 |
| **Examiner:** | Daniel R. Sellers |
| **Group Art Unit:** | 2615 |
| **Docket No:** | RIN-007 |

March 28, 2009

Mail Stop: No-Fee Amendments
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

## Response to Second Office Action

Dear Sir:

In response to the Office Action dated 02/18/2009, the Applicant respectfully requests the Examiner to reconsider the pending claims in view of the following amendments and the remarks:

**AMENDMENTS TO THE DRAWINGS** begin on page 2 of this Response.

**AMENDMENTS TO THE CLAIMS** are reflected in the listing of claims which begins on page 3 of this Response.

**REMARKS/ARGUMENTS** begin on page 12 of this Response.

## AMENDMENTS TO THE DRAWINGS

FIGs. 7A-7D have been amended to correct some informalities, they are now reproducible.

## AMENDMENTS TO THE CLAIMS

Please cancel claims 18, 21 and 45 without prejudice and amend Claims 1, 16, 27, 30-33 and 40 as follows:

1. (*Currently amended*) A method for controlling a plurality of players, the method comprising:

   displaying on a screen a first list showing at least available players;

   displaying, when at least one of the players is selected as a zone group head, on the screen a second list showing at least some of the players that are eligible to be grouped with the zone group head;

   forming a zone group started with the zone group head, after one or more players from the at least some of the players are selected to join the zone group; and

   synchronizing all players in the zone group;

   adjusting a volume meter represented by an averaged value of audio volumes of the players in the group, wherein said adjusting of the volume meter includes changing a volume of each of the group of players synchronously in accordance with an adjustment made by a user.

2. (*Original*) The method of claim 1, wherein the first list becomes scrollable, when the available players do not fit in the screen.

3. (*Original*) The method of claim 1, wherein said synchronizing all players in the zone group comprises:

   determining an audio source for the zone group;

   making the audio source available to each of the players in the zone group; and

   playing the audio source synchronously in all players in the zone group.

4. (*Original*) The method of claim 3, wherein said determining an audio source for the zone comprises selecting the audio source being played or ready to be played by the zone group head.

5. (*Original*) The method of claim 3, wherein said of determining an audio source for the zone comprises selecting the audio source being played or ready to be played by one of the players in the zone group.

6. (*Original*) The method of claim 3, wherein said making of the audio source available comprises:
   determining whether the audio source is available locally; and
   retrieving the audio source from a device on a network, if the audio source is not available locally.

7. (*Original*) The method of claim 6, wherein said making of the audio source available comprises:
   determining the audio source from one of the players in the zone group; and
   causing the audio source available to every other player in the zone group.

8. (*Original*) The method of claim 1, wherein said synchronizing of all players in the zone group comprises:
   causing all players in the zone group to play an identical audio source; and
   presenting the zone group in a manner that indicates a grouping.

9. (*Original*) The method of claim 8, wherein the manner includes one or more of highlighting, colors, explicit texts and graphs.

10. (*Previously amended*) The method of claim 1, wherein the first list further shows at least one zone group.

11. (*Original*) The method of claim 10, wherein the zone group includes at least two players.

12. (*Original*) The method of claim 9, wherein a configuration of the zone group is stored in at least one of the players or a controller for remotely controlling one or

more of the players, the configuration including information on how the two players are grouped.

13. (*Original*) The method of claim 8, further including:
    selecting the zone group to be de-grouped from the first list;
    displaying on the screen another list showing all the players within the zone group to be de-grouped;
    selecting one or more players from the another list; and
    disassociating the selected players from the zone group.

14. (*Previously amended*) The method of claim 13, wherein said disassociating the selected players comprises making the selected players available for grouping with a zone group.

15. (*Previously amended*) The method of claim 13, wherein the another list becomes scrollable, when all the players within the zone group to be de-grouped do not fit in the screen.

16. (*Currently amended*) A method for controlling a plurality of players, the method comprising:
    displaying on a screen a list showing a plurality of volume meters, at least one of the volume meters representing an audio volume of one of the players, and another one of the volume meters representing an audio volume of a group of players, if there is such a group; and
    adjusting one of the volume meters as desired after one of the volume meters from the list is selected, wherein the one of the volume meters is for the group of players, represented by an averaged value of audio volumes of the players in the group, and said adjusting of the one of the volume meters includes changing a volume of each of the group of players synchronously in accordance with an adjustment made by a user.

17. (*Original*) The method of claim 16, wherein said adjusting the one of the volume meters includes:

causing the audio volume to be adjusted in accordance with an adjustment to the volume meter; or

causing the audio volume to be off, when a mute button is activated while the audio volume is on; and

causing the audio volume to be on, when a mute button is activated while the audio volume is off.

18. (*Cancelled*)

19. (*Original*) The method of claim 18, further comprising adjusting the one of the volume meters for the group of players in a predetermined manner that appears that the group of players are being adjusted at the same time.

20. (*Original*) The method of claim 18, further comprising maintaining relative volume loudness difference among each of the players in the group.

21. (*Cancelled*)

22. (*Original*) The method of claim 16, further comprising playing an identical audio source in the group of players.

23. (*Original*) The method of claim 22, wherein the audio source is retrieved in form of audio data packets over the network.

24. (*Original*) The method of claim 23, wherein at least part of the audio source is retrieved or being streamed from one of the players.

25. (*Original*) The method of claim 16, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the

volume meters includes causing an equal change to a volume of each of the players in the group.

26. (*Original*) The method of claim 16, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes causing a predetermined unit change in volume for ever action by a user.

27. (*Currently amended*) An apparatus for controlling a plurality of players, the apparatus comprising:

a screen;

a screen driver commanding the screen;

an input interface;

a network interface;

a memory for storing code for an application module;

a processor coupled to the memory, the input interface, the screen driver and the network interface, the processor executing the code in the memory to cause the application module and the screen driver to perform operations of:

displaying on a screen a first list showing at least available players;

displaying a zone group including players from the available players when at least two of the available players are selected to form the zone group, wherein any one of the players in the group serves as a zone group head; ~~and~~

synchronizing all players in the zone group in accordance with the zone group head; and

adjusting a volume meter represented by an averaged value of audio volumes of the players in the group, wherein said adjusting of the volume meter includes changing a volume of each of the group of players synchronously in accordance with an adjustment made by a user.

28. (*Original*) The apparatus of claim 27, wherein the first list becomes scrollable, when the available players do not fit in the screen.

29. (*Previously amended*) The apparatus of claim 27, wherein said synchronizing all players in the zone group comprises:

determining an audio source for the zone group;

making the audio source available to each of the players in the zone group; and

playing the audio source synchronously in all players in the zone group.

30. (*Currently amended*) The apparatus of claim 27, wherein said determining ~~an~~ of the audio source for the zone comprises selecting the audio source being played or ready to be played by the zone group head.

31. (*Currently amended*) The apparatus of claim 27, wherein said determining ~~an~~ of the audio source for the zone comprises selecting the audio source being played or ready to be played by one of the players in the zone group.

32. (*Currently amended*) The apparatus of claim 27, wherein said making of the audio source available comprises:

determining whether the audio source is available locally; and

retrieving the audio source from a device on a network, if the audio source is not available locally.

33. (*Currently amended*) The apparatus of claim 27, wherein said making of the audio source available comprises:

determining the audio source from one of the players in the zone group; and

causing the audio source available to every other player in the zone group.

34. (*Original*) The apparatus of claim 27, wherein said synchronizing all players in the zone group comprises:

causing all players in the zone group to play an identical audio source; and

presenting the zone group in a manner that indicates a grouping.

35. (*Original*) The apparatus of claim 34, wherein the manner includes one or more of highlighting, colors, explicit texts and graphs in the screen.

36. (*Previously amended*) The apparatus of claim 27, wherein the first list further shows at least one zone group.

37. (*Previously amended*) The apparatus of claim 27, wherein the processor executing the code in the memory to cause the application module and the screen driver to perform operations of:

selecting the zone group to be de-grouped from the first list;

displaying on the screen an another list showing all the players within the zone group to be de-grouped;

selecting one or more players from the another list; and

disassociating the selected players from the zone group.

38. (*Original*) The apparatus of claim 37, wherein said disassociating the selected players comprises making the selected players available for grouping with a zone group.

39. (*Previously amended*) The apparatus of claim 37, wherein the another list becomes scrollable, when all the players within the zone group to be de-grouped do not fit in the screen.

40. (*Currently amended*) An apparatus for manipulating a plurality of players, the apparatus comprising:

a screen;

a screen driver commanding the screen;

an input interface;

a network interface;

a memory for storing code for an application module;

a processor coupled to the memory, the input interface, the screen driver and the network interface, the processor executing the code in the memory to cause the application module and the screen driver to perform operations of:

displaying on a screen a list showing a plurality of volume meters, at least one of the volume meters representing an audio volume of one of the players, and another one of the volume meters representing an audio volume of a group of players, if there is such a group; and

adjusting one of the volume meters as desired after one of the volume meters from the list is selected, wherein the one of the volume meters is for the group of players, represented by an averaged value of audio volumes of the players in the group, and said adjusting of the one of the volume meters includes changing a volume of each of the group of players synchronously in accordance with an adjustment made by a user.

41. (*Original*) The apparatus of claim 40, wherein said adjusting the one of the volume meters includes:

causing the audio volume to be adjusted in accordance with an adjustment to the volume meter; or

causing the audio volume to be off, when a mute button is activated while the audio volume is on; and

causing the audio volume to be on, when a mute button is activated while the audio volume is off.

42. (*Previously amended*) The apparatus of claim 40, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes:

changing a volume of each of the group of players synchronously in accordance with an adjustment made by a user;

43. (*Original*) The apparatus of claim 40, wherein the processor executing the code in the memory causes the application module and the screen driver to perform

operations of adjusting the one of the volume meters for the group of players in a predetermined manner that appears that the group of players are being adjusted at the same time.

44. (*Original*) The apparatus of claim 40, wherein the processor executing the code in the memory causes the application module and the screen driver to perform operations of maintaining relative volume loudness difference among each of the players in the group.

45. (*Cancelled*).

46. (*Original*) The apparatus of claim 40, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes causing an equal change to a volume of each of the players in the group.

47. (*Original*) The apparatus of claim 40, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes causing a predetermined unit change in volume for ever action by a user.

## REMARKS

Claims 1 - 47 were submitted for examination. In this Office Action, Claims 1 – 15 and 27-39 are rejected under 35 USC 103(a) as being unpatentable over Berezowski et al (US Patent No.:7,218,708, hereinafter "Berezowski") In view of Tomassetti (US Patent Publication No.:20020188762, hereinafter "Tomassetti"), Claims 16, 18-20, 22-26, 40, 42-44, and 46-47 are rejected under 35 USC 103(a) as being unpatentable over the combination of Berezowski and Tomassetti and further in view of Lsely et al (US Patent Publication No.:20020214097, hereinafter "Lsely"), Claims 17 and 41 are rejected under 35 USC 103(a) as being unpatentable over the combination of Berezowski, Tomassetti and Lsely further in view of Lumsden (US Patent No.:5,299,266, hereinafter "Lumsden") and claims 21 and 45 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

The Examiner is appreciated for his careful examination and indication of allowing Claims 21 and 45. In the foregoing amendments, FIGs. 7A-&D have been amended to be reproducible. To expedite the prosecution of the above reference application, the Applicant chose to accept the allowable claims 21 and 45 by amending independent Claims 1, 16, 27 and 40 to include all of the limitations of Claim 21 or 45 and any intervening claims. Subsequently, Claims 18, 21 and 45 are cancelled.

In particular, Claim 16 is amended to include the limitations of Claims 18 and 21, where Claim 21 depends on Claim 18 that depends on Claim 16, Claims 18 and 21 are than cancelled. Claim 40 is amended to include the limitations of Claim 45 that is then cancelled. Claim 1 is also amended to include the limitations of Claims 18 and 21. As a result of the amendments, Claims 1-17, 19-20 and 22-47 are pending.

In view of the above amendments and remarks, the Applicant believes that Claims 1-17, 19-20 and 22-47 shall be in condition for allowance over the cited references. Early and favorable action is being respectfully solicited.

If there are any issues remaining which the Examiner believes could be resolved through either a Supplementary Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at (408)777-8873.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to "Commissioner of Patents and Trademarks, Washington, DC 20231", on **March 28, 2009**.
Via EFS.

Name: Joe Zheng

Signature: / joe zheng /

Respectfully submitted;

/ joe zheng /

Joe Zheng
Reg. No.: 39,450

| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 5054149 |
| **Application Number:** | 10861653 |
| **International Application Number:** | |
| **Confirmation Number:** | 3676 |
| **Title of Invention:** | Method and apparatus for controlling multimedia players in a multi-zone system |
| **First Named Inventor/Applicant Name:** | Robert A. Lambourne |
| **Customer Number:** | 26797 |
| **Filer:** | Joe Zheng |
| **Filer Authorized By:** | |
| **Attorney Docket Number:** | RIN-007 |
| **Receipt Date:** | 28-MAR-2009 |
| **Filing Date:** | 05-JUN-2004 |
| **Time Stamp:** | 14:01:49 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| Submitted with Payment | no |
|---|---|

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Amendment/Req. Reconsideration-After Non-Final Reject | 2ndResponse.pdf | 95862<br>ef2a39cdac8f56c2928204ef2ff6a41588dd26b6 | no | 13 |

| **Warnings:** |
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| Total Files Size (in bytes): | 95862 |
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**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

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**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 5054165 |
| **Application Number:** | 10861653 |
| **International Application Number:** | |
| **Confirmation Number:** | 3676 |
| **Title of Invention:** | Method and apparatus for controlling multimedia players in a multi-zone system |
| **First Named Inventor/Applicant Name:** | Robert A. Lambourne |
| **Customer Number:** | 26797 |
| **Filer:** | Joe Zheng |
| **Filer Authorized By:** | |
| **Attorney Docket Number:** | RIN-007 |
| **Receipt Date:** | 28-MAR-2009 |
| **Filing Date:** | 05-JUN-2004 |
| **Time Stamp:** | 14:20:59 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| Submitted with Payment | no |
|---|---|

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Drawings-only black and white line drawings | AmendedDrawings.pdf | 136661<br>3c0f7d356918937b5a711529f3a02d5a6a5544ef | no | 4 |
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| **Information:** | | | | | |

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| **Total Files Size (in bytes):** | 136661 |

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| Electronic Acknowledgement Receipt | |
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| **Application Number:** | 10861653 |
| **International Application Number:** | |
| **Confirmation Number:** | 3676 |
| **Title of Invention:** | Method and apparatus for controlling multimedia players in a multi-zone system |
| **First Named Inventor/Applicant Name:** | Robert A. Lambourne |
| **Customer Number:** | 26797 |
| **Filer:** | Joe Zheng |
| **Filer Authorized By:** | |
| **Attorney Docket Number:** | RIN-007 |
| **Receipt Date:** | 28-MAR-2009 |
| **Filing Date:** | 05-JUN-2004 |
| **Time Stamp:** | 15:22:54 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| Submitted with Payment | no |
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## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
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| 1 | Drawings-only black and white line drawings | AmendedDrawings.pdf | 137450<br>e25f7d2f9346b33b9c205ce0bdc9a9157c7b1523 | no | 4 |
| **Warnings:** | | | | | |
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**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**
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**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

| **PATENT APPLICATION FEE DETERMINATION RECORD** Substitute for Form PTO-875 | Application or Docket Number 10/861,653 | Filing Date 06/05/2004 | ☐ To be Mailed |
|---|---|---|---|

## APPLICATION AS FILED – PART I

| | (Column 1) | (Column 2) | SMALL ENTITY ☒ | | OR | OTHER THAN SMALL ENTITY | |
|---|---|---|---|---|---|---|---|
| FOR | NUMBER FILED | NUMBER EXTRA | RATE ($) | FEE ($) | | RATE ($) | FEE ($) |
| ☐ BASIC FEE (37 CFR 1.16(a), (b), or (c)) | N/A | N/A | N/A | | | N/A | |
| ☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m)) | N/A | N/A | N/A | | | N/A | |
| ☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q)) | N/A | N/A | N/A | | | N/A | |
| TOTAL CLAIMS (37 CFR 1.16(i)) | minus 20 = | * | X $ = | | OR | X $ = | |
| INDEPENDENT CLAIMS (37 CFR 1.16(h)) | minus 3 = | * | X $ = | | | X $ = | |
| ☐ APPLICATION SIZE FEE (37 CFR 1.16(s)) | If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). | | | | | | |
| ☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j)) | | | | | | | |
| * If the difference in column 1 is less than zero, enter "0" in column 2. | | | TOTAL | | | TOTAL | |

## APPLICATION AS AMENDED – PART II

| AMENDMENT | 03/28/2009 | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | SMALL ENTITY RATE ($) | ADDITIONAL FEE ($) | OR | OTHER THAN SMALL ENTITY RATE ($) | ADDITIONAL FEE ($) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total (37 CFR 1.16(i)) | * 44 | Minus | ** 47 | = 0 | X $26 = | 0 | OR | X $ = | |
| | Independent (37 CFR 1.16(h)) | * 4 | Minus | ***4 | = 0 | X $110 = | 0 | OR | X $ = | |
| | ☐ Application Size Fee (37 CFR 1.16(s)) | | | | | | | | | |
| | ☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | | OR | | |
| | | | | | | TOTAL ADD'L FEE | 0 | OR | TOTAL ADD'L FEE | |

| AMENDMENT | | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | RATE ($) | ADDITIONAL FEE ($) | | RATE ($) | ADDITIONAL FEE ($) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total (37 CFR 1.16(i)) | * | Minus | ** | = | X $ = | | OR | X $ = | |
| | Independent (37 CFR 1.16(h)) | * | Minus | *** | = | X $ = | | OR | X $ = | |
| | ☐ Application Size Fee (37 CFR 1.16(s)) | | | | | | | | | |
| | ☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | | OR | | |
| | | | | | | TOTAL ADD'L FEE | | OR | TOTAL ADD'L 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.

Legal Instrument Examiner:
/PAULA BRITTON/

This collection of information is required by 37 CFR 1.16. 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 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

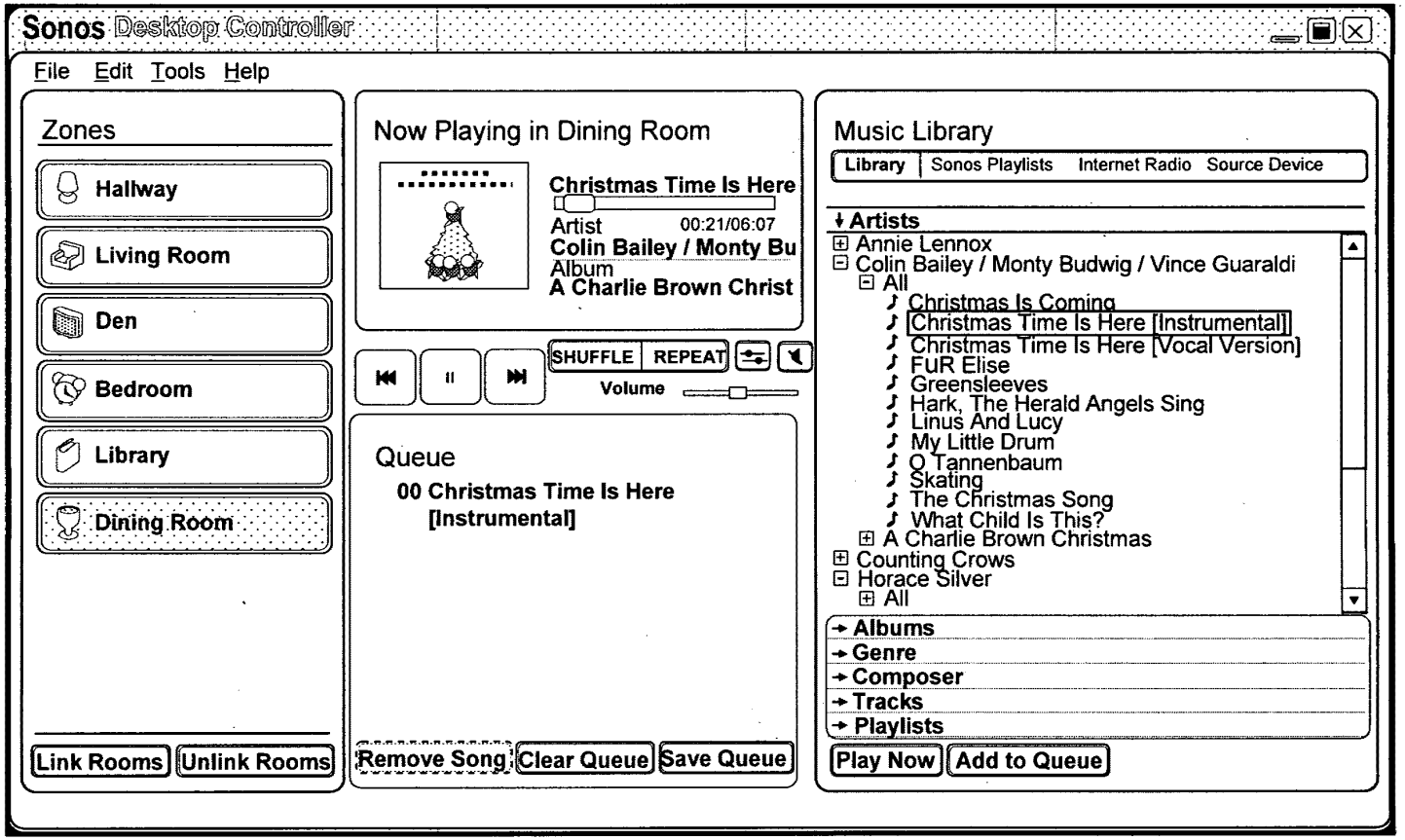

Sonos Desktop Controller
File Edit Tools Help
Zones
Hallway
Living Room
Den
Bedroom
Library
Dining Room
Link Rooms
Unlink Rooms
Now Playing in Dining Room
Christmas Time Is Here
Artist 00:21/06:07
Colin Bailey / Monty Bu
Album
A Charlie Brown Christ
SHUFFLE REPEAT
Volume
Queue
00 Christmas Time Is Here
[Instrumental]
Remove Song
Clear Queue
Save Queue
Music Library
Library
Sonos Playlists
Internet Radio
Source Device
Artists
Annie Lennox
Colin Bailey / Monty Budwig / Vince Guaraldi
All
Christmas Is Coming
Christmas Time Is Here [Instrumental]
Christmas Time Is Here [Vocal Version]
FuR Elise
Greensleeves
Hark, The Herald Angels Sing
Linus And Lucy
My Little Drum
O Tannenbaum
Skating
The Christmas Song
What Child Is This?
A Charlie Brown Christmas
Counting Crows
Horace Silver
All
Albums
Genre
Composer
Tracks
Playlists
Play Now
Add to Queue

FIG. 7A

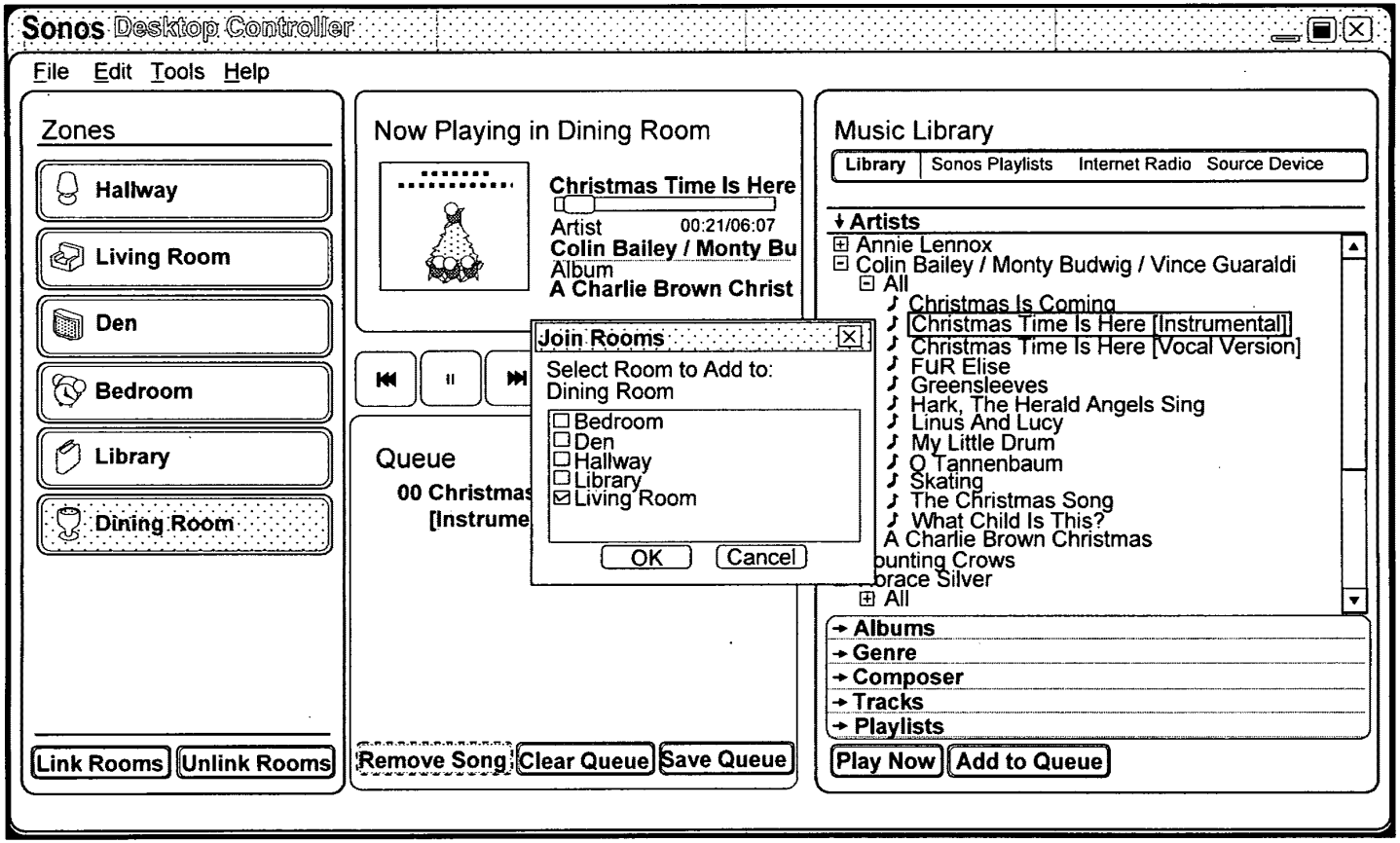

Sonos Desktop Controller
File Edit Tools Help
Zones
Hallway
Living Room
Den
Bedroom
Library
Dining Room
Link Rooms
Unlink Rooms
Now Playing in Dining Room
Christmas Time Is Here
Artist
00:21/06:07
Colin Bailey / Monty Bu
Album
A Charlie Brown Christ
Queue
00 Christmas
[Instrume
Remove Song
Clear Queue
Save Queue
Join Rooms
Select Room to Add to:
Dining Room
Bedroom
Den
Hallway
Library
Living Room
OK
Cancel
Music Library
Library
Sonos Playlists
Internet Radio
Source Device
Artists
Annie Lennox
Colin Bailey / Monty Budwig / Vince Guaraldi
All
Christmas Is Coming
Christmas Time Is Here [Instrumental]
Christmas Time Is Here [Vocal Version]
FUR Elise
Greensleeves
Hark, The Herald Angels Sing
Linus And Lucy
My Little Drum
O Tannenbaum
Skating
The Christmas Song
What Child Is This?
A Charlie Brown Christmas
bunting Crows
brace Silver
All
Albums
Genre
Composer
Tracks
Playlists
Play Now
Add to Queue

FIG. 7B

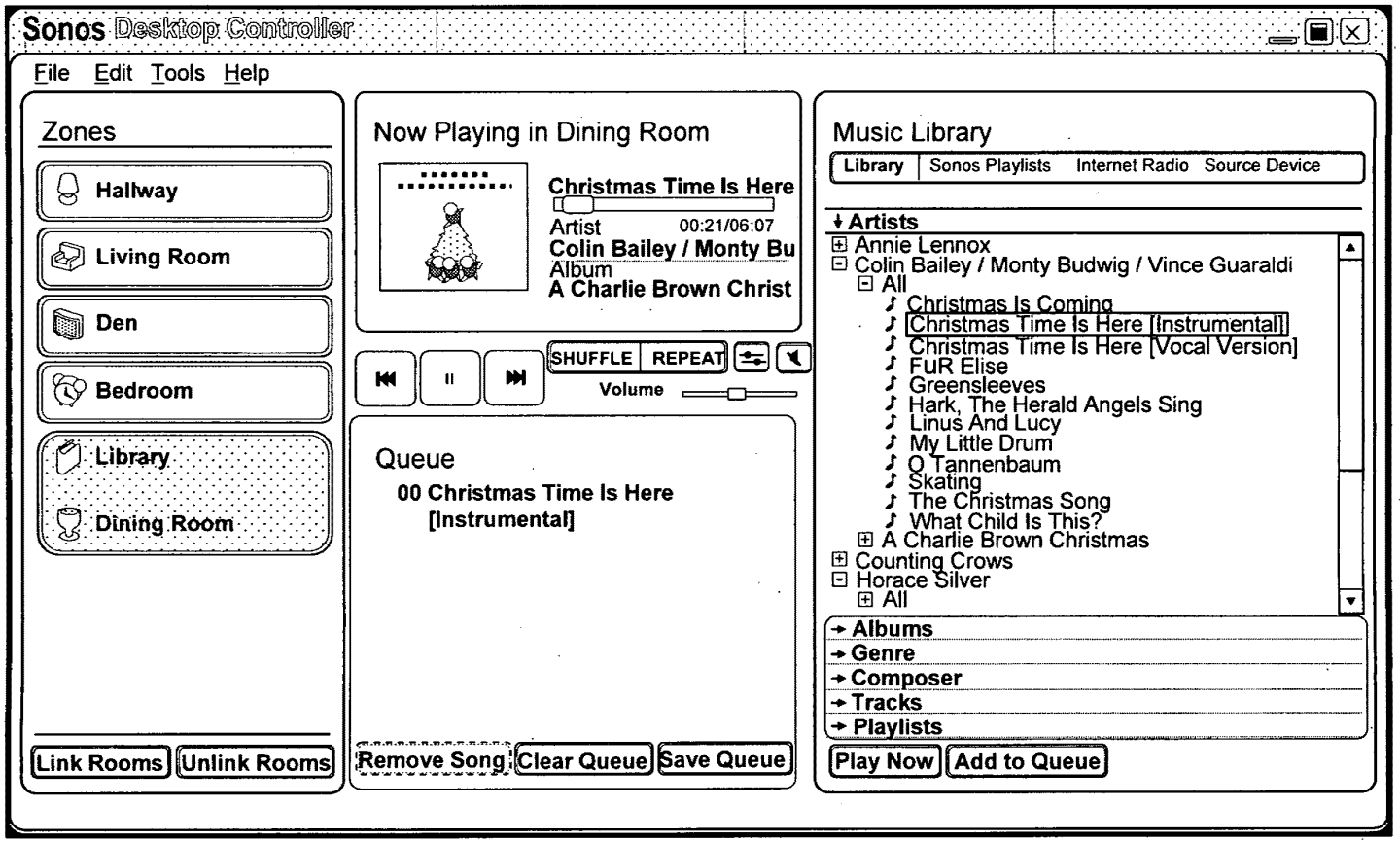

Sonos Desktop Controller
File Edit Tools Help
Zones
Hallway
Living Room
Den
Bedroom
Library
Dining Room
Link Rooms
Unlink Rooms
Now Playing in Dining Room
Christmas Time Is Here
Artist 00:21/06:07
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SHUFFLE
REPEAT
Volume
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Remove Song
Clear Queue
Save Queue
Music Library
Library
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O Tannenbaum
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The Christmas Song
What Child Is This?
A Charlie Brown Christmas
Counting Crows
Horace Silver
All
Albums
Genre
Composer
Tracks
Playlists
Play Now
Add to Queue

FIG. 7C

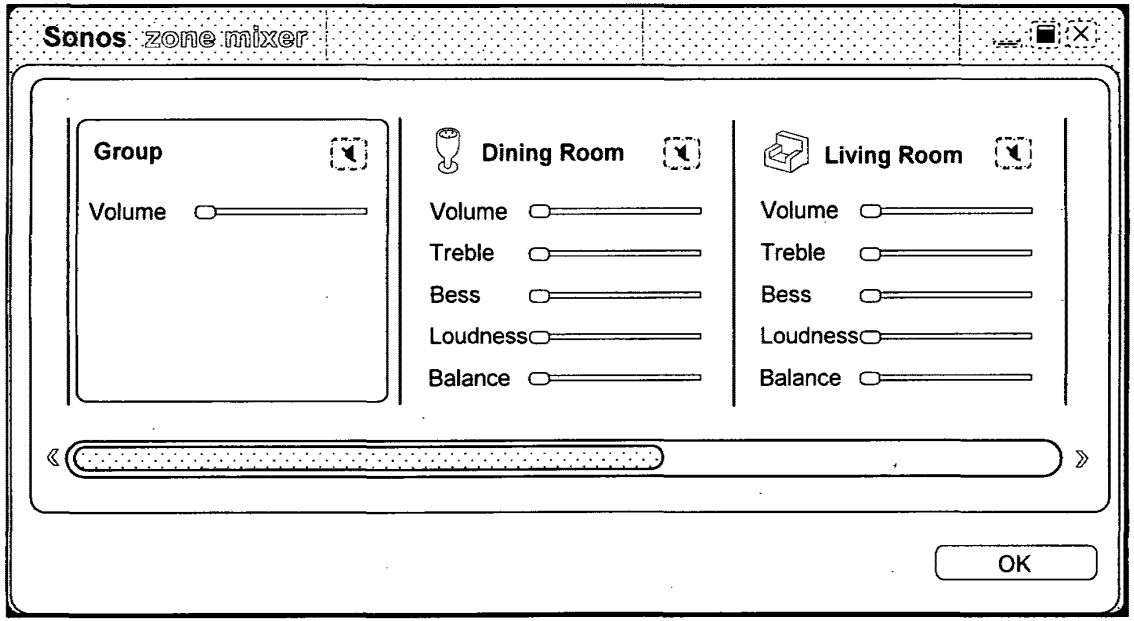

Sonos zone mixer
Group
Volume
Dining Room
Volume
Treble
Bess
Loudness
Balance
Living Room
Volume
Treble
Bess
Loudness
Balance
OK

FIG. 7D

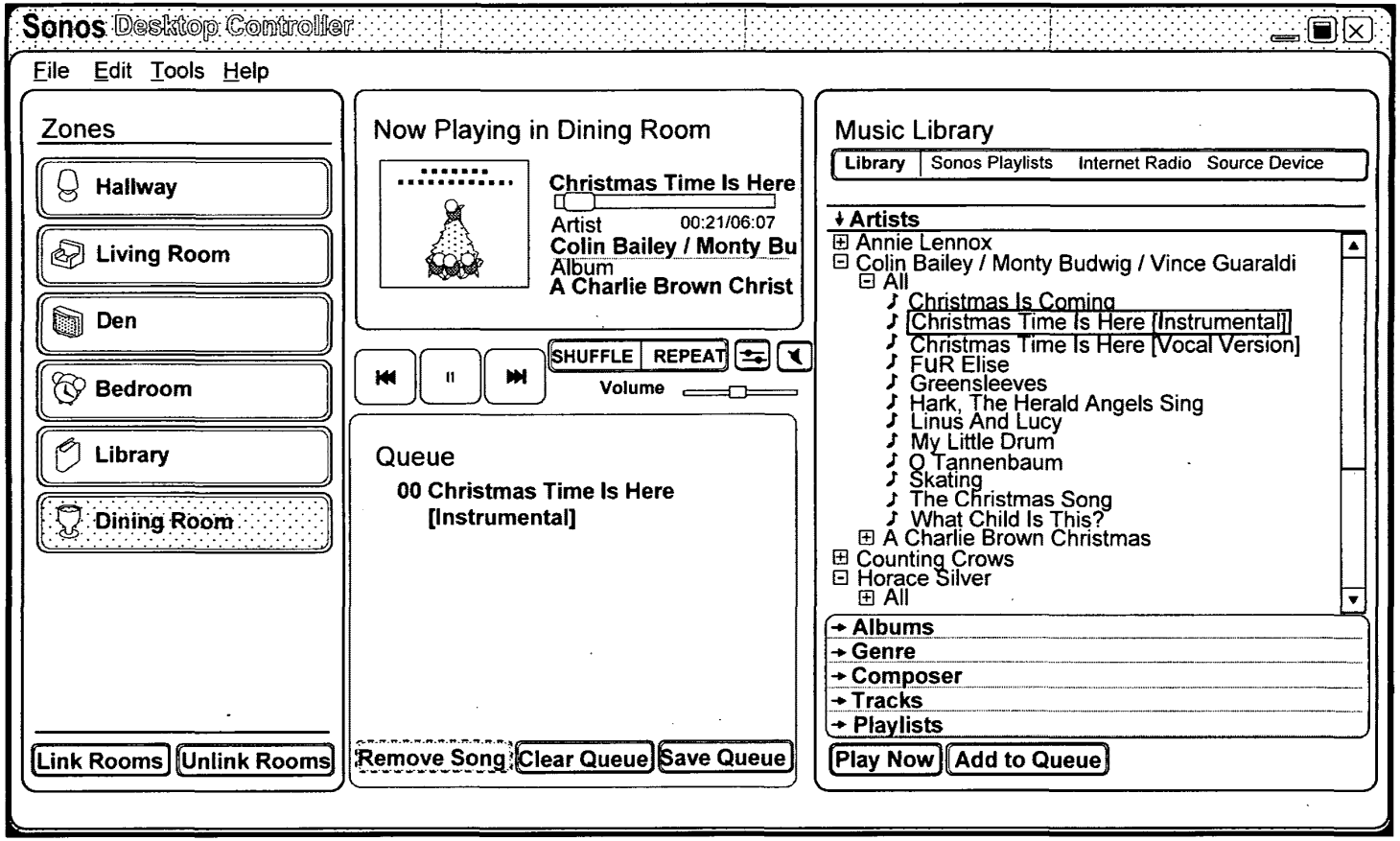

Sonos Desktop Controller
File Edit Tools Help
Zones
Hallway
Living Room
Den
Bedroom
Library
Dining Room
Link Rooms
Unlink Rooms
Now Playing in Dining Room
Christmas Time Is Here
Artist 00:21/06:07
Colin Bailey / Monty Bu
Album
A Charlie Brown Christ
SHUFFLE
REPEAT
Volume
Queue
00 Christmas Time Is Here
[Instrumental]
Remove Song
Clear Queue
Save Queue
Music Library
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Colin Bailey / Monty Budwig / Vince Guaraldi
All
Christmas Is Coming
Christmas Time Is Here [Instrumental]
Christmas Time Is Here [Vocal Version]
FuR Elise
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What Child Is This?
A Charlie Brown Christmas
Counting Crows
Horace Silver
All
Albums
Genre
Composer
Tracks
Playlists
Play Now
Add to Queue

FIG. 7A

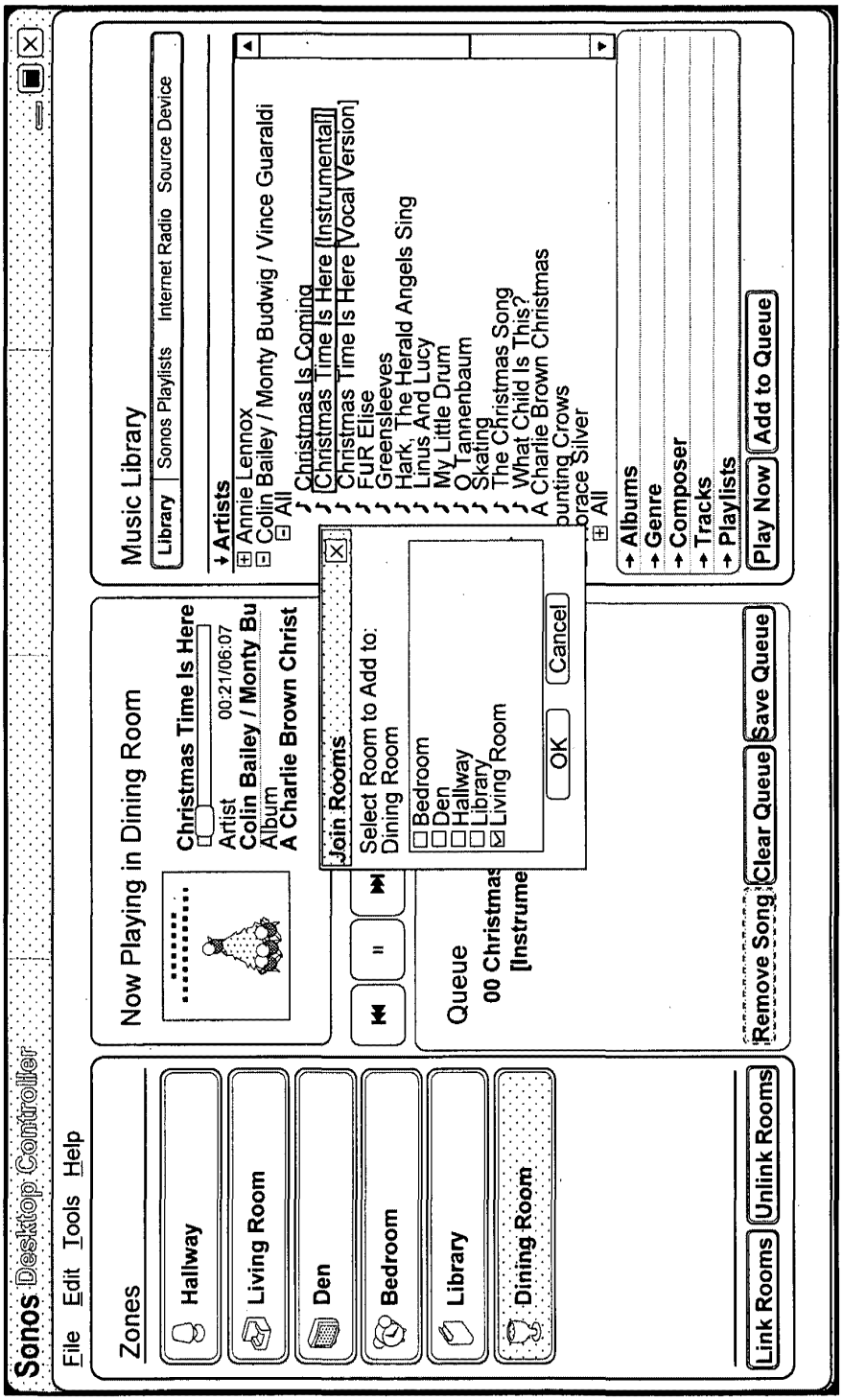

Sonos Desktop Controller
File Edit Tools Help
Zones
Hallway
Living Room
Den
Bedroom
Library
Dining Room
Link Rooms
Unlink Rooms
Now Playing in Dining Room
Christmas Time Is Here
Artist
Colin Bailey / Monty Bu
Album
A Charlie Brown Christ
00:21/06:07
Join Rooms
Select Room to Add to:
Dining Room
Bedroom
Den
Hallway
Library
Living Room
OK
Cancel
Queue
00 Christmas
[Instrume
Remove Song
Clear Queue
Save Queue
Music Library
Library
Sonos Playlists
Internet Radio
Source Device
Artists
Annie Lennox
Colin Bailey / Monty Budwig / Vince Guaraldi
All
Christmas Is Coming
Christmas Time Is Here [Instrumental]
Christmas Time Is Here [Vocal Version]
FUR Elise
Greensleeves
Hark, The Herald Angels Sing
Linus And Lucy
My Little Drum
O Tannenbaum
Skating
The Christmas Song
What Child Is This?
A Charlie Brown Christmas
punting Crows
brace Silver
All
Albums
Genre
Composer
Tracks
Playlists
Play Now
Add to Queue

FIG. 7B

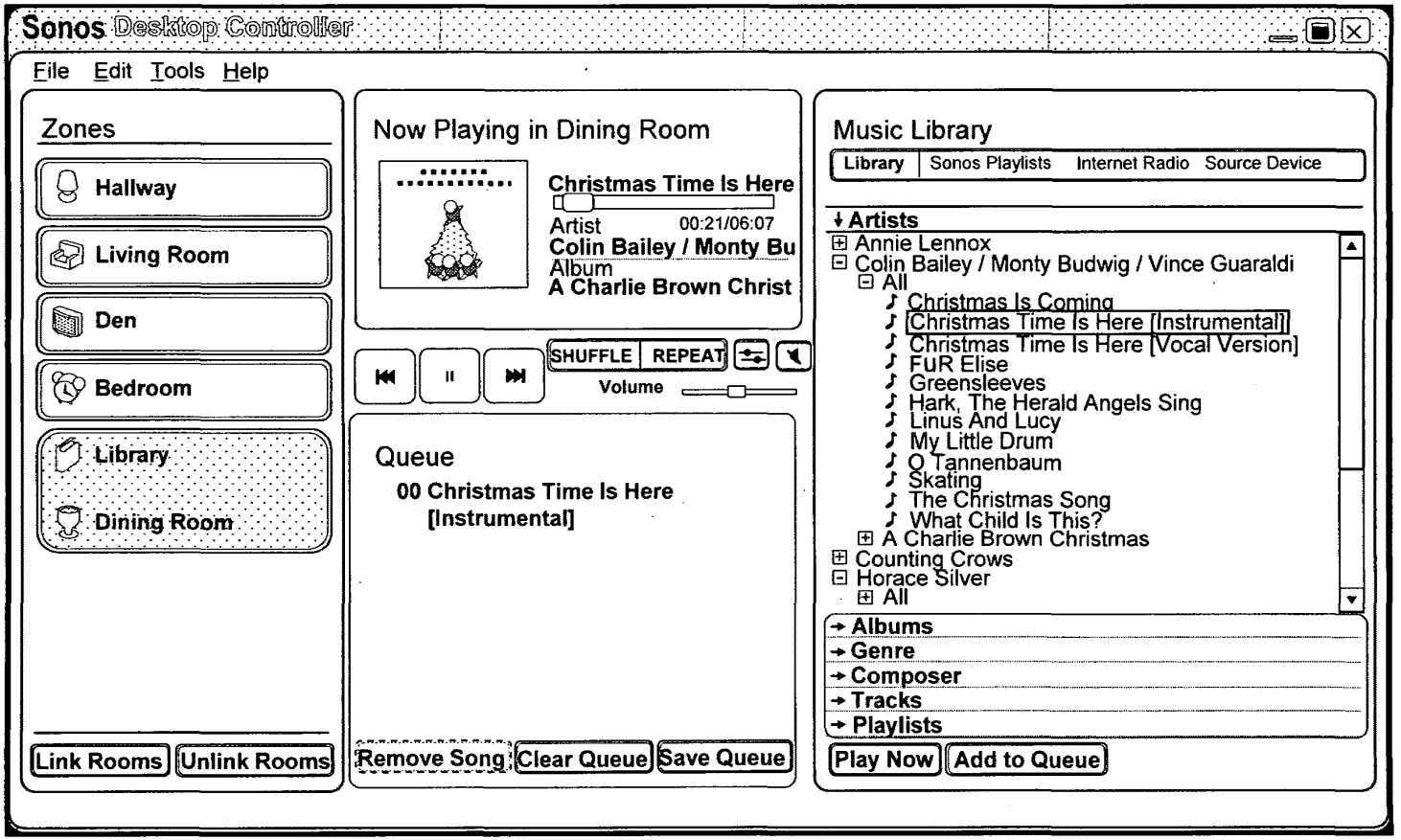

Sonos Desktop Controller
File Edit Tools Help
Zones
Hallway
Living Room
Den
Bedroom
Library
Dining Room
Link Rooms
Unlink Rooms
Now Playing in Dining Room
Christmas Time Is Here
Artist 00:21/06:07
Colin Bailey / Monty Bu
Album
A Charlie Brown Christ
SHUFFLE
REPEAT
Volume
Queue
00 Christmas Time Is Here
[Instrumental]
Remove Song
Clear Queue
Save Queue
Music Library
Library
Sonos Playlists
Internet Radio
Source Device
Artists
Annie Lennox
Colin Bailey / Monty Budwig / Vince Guaraldi
All
Christmas Is Coming
Christmas Time Is Here [Instrumental]
Christmas Time Is Here [Vocal Version]
FuR Elise
Greensleeves
Hark, The Herald Angels Sing
Linus And Lucy
My Little Drum
O Tannenbaum
Skating
The Christmas Song
What Child Is This?
A Charlie Brown Christmas
Counting Crows
Horace Silver
All
Albums
Genre
Composer
Tracks
Playlists
Play Now
Add to Queue

FIG. 7C

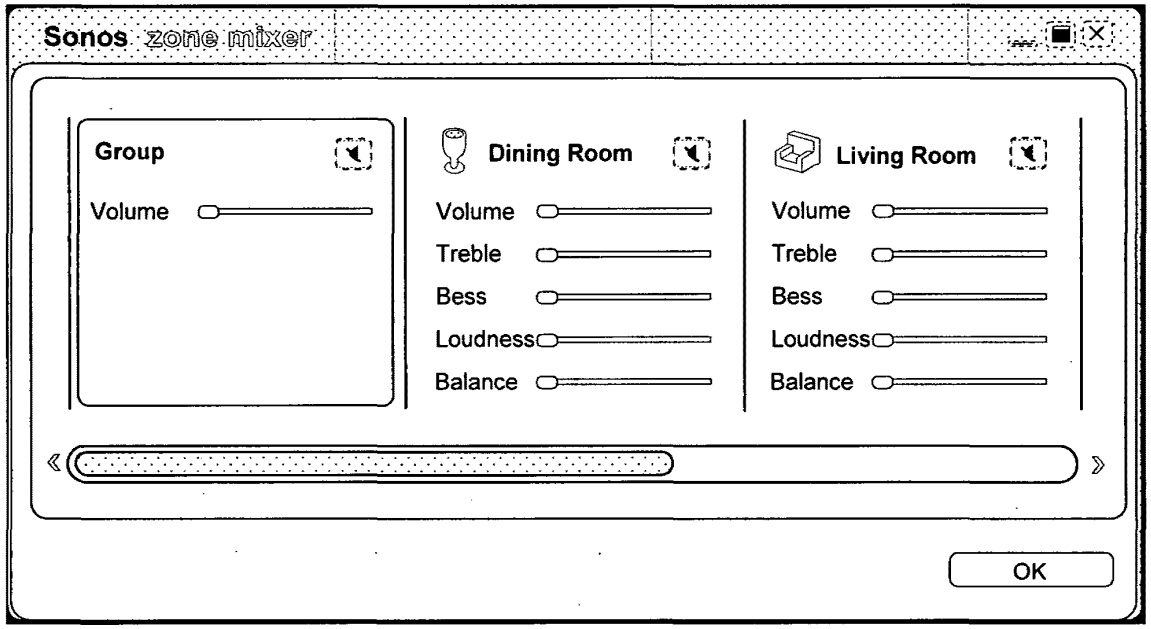

Sonos zone mixer
Group
Volume
Dining Room
Volume
Treble
Bess
Loudness
Balance
Living Room
Volume
Treble
Bess
Loudness
Balance
OK

FIG. 7D

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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/861,653 | 06/05/2004 | Robert A. Lambourne | RIN-007 | 3676 |

26797 7590 02/18/2009
SILICON VALLEY PATENT AGENCY
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| EXAMINER | |
|---|---|
| SELLERS, DANIEL R | |
| ART UNIT | PAPER NUMBER |
| 2614 | |
| MAIL DATE | DELIVERY MODE |
| 02/18/2009 | PAPER |

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

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/861,653 | LAMBOURNE ET AL. | |
| | Examiner | Art Unit | |
| | DANIEL R. SELLERS | 2614 | |

*-- 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) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 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 September 2008*.

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) *1-47* 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) *1-19, 21-44, and 46-47* is/are rejected.

7)☒ Claim(s) *20 and 45* 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 *05 June 2004* 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).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ 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.

**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/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments, see page 12, filed 9/15/08, with respect to the rejection(s) of claim(s) 1-20, 22-44, and 46-47 under 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newfound prior art. See the rejections under 35 USC 103.

### *Claim Objections*

2. Claims **30-33** are objected to because there is no antecedent basis for "said determining an audio source". Claim 29, which depends on claim 27, introduces a limitation for "determining an audio source". These claims appear to further limit claim 29 and not claim 27, and they will be interpreted as such for expedited prosecution.

### *Drawings*

3. New corrected drawings, for figures 7A-7D, in compliance with 37 CFR 1.121(d) are required in this application because they are not of sufficient quality for reproduction (see 37 CFR 1.84). Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. **Claims 1-15 and 27-39** are rejected under 35 U.S.C. 103(a) as being unpatentable over Berezowski et al. (hereinafter Berezowski, and previously cited), US 7,218,708 B2, in view of Tomassetti et al. (hereinafter Tomassetti), US 2002/0188762 A1.

6. Regarding **claim 1**, Berezowski teaches a method for controlling a plurality of players, the method comprising:

*displaying on a screen a first list showing at least available players* (see column 5, line 57 - column 6, line 13 teaches a screen displaying a list of available players previously entered)*;*
*displaying, when at least one of the players is selected as a zone group head, on the screen a second list showing at least some of the players that are eligible to be grouped with the zone group head;*
*forming a zone group started with the zone group head, after one or more players from the at least some of the players are selected to join the zone group; and*
*synchronizing all players in the zone group.*

Berezowski teaches a source node to communicate to a group or zone (see column 2, line 49 - column 3, line 7, column 3, lines 44-49, and column 4, lines 7-43). Berezowski teaches a paging system employing different groups or zones, wherein at least some of the destinations (i.e. players) that are eligible to be grouped with a source node (i.e. zone group head) can be selected on a display (see column 6, lines 5-13 and figures 8-9). Berezowski teaches a zone group started with the source node, after one or more players from at least some of the destinations, or players, are selected to join the zone group (see column 5, line 66 - column 6, line 13 implies that a zone is created

by at least one player being added as a destination). Berezowski does not appear to teach the selection of a zone group head or synchronization.

Tomassetti teaches a multi-zone entertainment network (see abstract). Specifically, Tomassetti teaches that any node can become a source or a destination (see ¶ 0019). Therefore, it would have been obvious for one of ordinary skill at the time to select one of the players as a zone group head. Tomassetti also teaches synchronization of an audio within a zone (see ¶ 0005, 0009-0012, and 0016-0019), so it would have been obvious to synchronize all the players in a zone group. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Berezowski and Tomassetti for the purpose of reducing echoes. It is obvious to one of ordinary skill in the art that the same audio stream played in adjacent rooms, or rooms that are not acoustically separate, can create a slightly disturbing echo when the audio is not synchronized.

7. Regarding **claim 2**, see the preceding argument with respect to claim 1. The combination teaches the method of claim 1, wherein it is obvious to create a scrollable list when the available players do not fit the screen (see Berezowski, figure 10, wherein a typical prior art vertical scrollbar is shown in a foreground window).

8. Regarding **claim 3**, see the preceding argument with respect to claim 1. The combination teaches the method of claim 1, wherein said synchronizing all players in the zone group comprises:

> *determining an audio source for the zone group* (see Tomassetti, ¶ 0018 and 0074)*; making the audio source available to each of the players in the zone group* (id., ¶ 0074)*; and playing the audio source synchronously in all players in the zone group* (id., ¶ 0018).

9. Regarding **claim 4**, see the preceding argument with respect to claim 3. The combination teaches the method of claim 3, wherein said determining an audio source for the zone comprises selecting the audio source being played or ready to be played by the zone group head (see Tomassetti, ¶ 0074, wherein players provide their own streams to be broadcast and selected among other streams).

10. Regarding **claim 5**, see the preceding argument with respect to claim 3. The combination teaches the method of claim 3, wherein said determining an audio source for the zone comprises selecting the audio source being played or ready to be played by one of the players in the zone group (see Tomassetti, ¶ 0074).

11. Regarding **claim 6**, see the preceding argument with respect to claim 3. The combination teaches the method of claim 3, wherein said making the audio source available comprises:

> *determining whether the audio source is available locally* (see Tomassetti, ¶ 0074)*; and*
> *retrieving the audio source from a device on a network, if the audio source is not available locally.*

Tomassetti teaches a mix of local and network available audio sources. It is obvious to retrieve an audio source from a network if it is not available locally.

12. Regarding **claim 7**, see the preceding argument with respect to claim 6. The combination teaches the method of claim 6, wherein said making the audio source available comprises:

> *determining the audio source from one of the players in the zone group* (see Tomassetti, ¶ 0067 and ¶ 0074, wherein audio can be selected from any connected audio source)*; and*
> *causing the audio source available to every other player in the zone group* (see Berezowski, column 5, line 66 - column 6, line 13).

13. Regarding **claim 8**, see the preceding argument with respect to claim 1. The combination teaches the method of claim 1, wherein said synchronizing all players in the zone group comprises:

*causing all players in the zone group to play an identical audio source* (see Tomassetti, ¶ 0067, wherein "The home theater system 226 may be capable... of sending... audio files... to individual room stations 202-212...." and ¶ 0074, wherein "… each remote station itself can broadcast or **receive** independent of and **simultaneous** with other remote stations."); *and*

*presenting the zone group in a manner that indicates a grouping* (see Berezowski, figures 8-10 and column 6, lines 5-13).

14. Regarding **claim 9**, see the preceding argument with respect to claim 8. The combination teaches the method of claim 8, wherein the manner includes one or more of highlighting, colors, explicit texts and graphs (see Berezowski, column 6, lines 5-13).

15. Regarding **claim 10**, see the preceding argument with respect to claim 1. The combination teaches the method of claim 1, wherein it is obvious to display a first list showing at least one zone group when one exists.

16. Regarding **claim 11**, see the preceding argument with respect to claim 10. The combination teaches the method of claim 10, wherein the zone group includes at least two players (see Berezowski, column 5, line 57 - column 6, line 13).

17. Regarding **claim 12**, see the preceding argument with respect to claim 9. The combination teaches the method of claim 9, wherein a configuration of the zone group is stored in at least one of the players or a controller for remotely controlling one or more of the players, the configuration including information on how the two players are grouped (see Berezowski, column 6, lines 5-13).

18. Regarding **claim 13**, see the preceding argument with respect to claim 8. The combination teaches the method of claim 8, further including:

*selecting the zone group to be de-grouped from the first list* (see Berezowski, figure 9, wherein zones are displayed);
*displaying on the screen another list showing all the players within the zone group to be de-grouped* (see Berezowski, figure 9, wherein the "edit" button makes a more detailed display, such as shown in figure 8 or 10, with details of each connection in a zone obvious);
*selecting one or more players from the other list* (obvious in view of "edit" buttons); *and*
*disassociating the selected players from the zone group* (obvious in view of edit).

It is obvious that it is preferable to display another list with the above features.

19. Regarding **claim 14**, see the preceding argument with respect to claim 13. The combination teaches the method of claim 13, wherein said disassociating the selected players comprises making the selected players available for grouping with a zone group (see Berezowski, column 5, line 57 - column 6, line 13 and figures 8-10 makes it obvious that a user can edit the zones).

20. Regarding **claim 15**, see the preceding argument with respect to claim 13. The combination teaches the method of claim 13, wherein the other list becomes scrollable, when all the players within the zone group to be de-grouped do not fit in the screen. Berezowski teaches a typical scroll bar (see figure 10) and it would have been obvious to create a scrollable list when the list became large enough to not fit on a screen.

21. Regarding **claim 27**, the combination teaches an apparatus for controlling a plurality of players, the apparatus comprising:

*a screen* (see Berezowski, figure 8 and column 5, lines 57-59);
*a screen driver commanding the screen* (inherent);
*an input interface* (id., column 5, lines 59-65);
*a network interface* (id., column 4, lines 7-22);

*a memory for storing code for an application module* (id., column 2, line 49 - column 3, line 7)*;*

*a processor coupled to the memory, the input interface, the screen driver and the network interface, the processor executing the code in the memory to cause the application module and the screen driver* (inherent) *to perform operations of:*

*displaying on a screen a first list showing at least available players* (id., column 5, line 57 - column 6, line 13 and figures 8-10)*;*

*displaying a zone group including players from the available players when at least two of the available players are selected to form the zone group, wherein any one of the players in the group serves as a zone group head* (id., column 5, line 66 - column 6, line 13 in view of Tomassetti, ¶ 0074)*; and*

*synchronizing all players in the zone group in accordance with the zone group head* (see Tomassetti, ¶ 0005, 0009-0012, and 0016-0019).

The combination of claim 1, teaches the features above, wherein it is inherent there must be a screen driver to display an output and a processor to execute the software.

22. Regarding **claim 28**, see the preceding argument with respect to claims 2 and 27. The combination teaches these features like the method of claim 2, wherein it is performed on an apparatus with the features of claim 27.

23. Regarding **claim 29**, see the preceding argument with respect to claims 3 and 28. The combination teaches these features like the method of claim 3, wherein it is performed on an apparatus with the features of claim 27.

24. Regarding **claim 30**, see the preceding argument with respect to claims 4 and 28. The combination teaches these features like the method of claim 4, wherein it is performed on an apparatus with the features of claim 29.

25. Regarding **claim 31**, see the preceding argument with respect to claims 5 and 28. The combination teaches these features like the method of claim 5, wherein it is performed on an apparatus with the features of claim 29.

26. Regarding **claim 32**, see the preceding argument with respect to claims 6 and 28. The combination teaches these features like the method of claim 6, wherein it is performed on an apparatus with the features of claim 29.

27. Regarding **claim 33**, see the preceding argument with respect to claims 7 and 28. The combination teaches these features like the method of claim 7, wherein it is performed on an apparatus with the features of claim 29.

28. Regarding **claim 34**, see the preceding argument with respect to claims 8 and 28. The combination teaches these features like the method of claim 8, wherein it is performed on an apparatus with the features of claim 27.

29. Regarding **claim 35**, see the preceding argument with respect to claims 9 and 28. The combination teaches these features like the method of claim 9, wherein it is performed on an apparatus with the features of claim 34.

30. Regarding **claim 36**, see the preceding argument with respect to claims 10 and 28. The combination teaches these features like the method of claim 10, wherein it is performed on an apparatus with the features of claim 27.

31. Regarding **claim 37**, see the preceding argument with respect to claims 13 and 28. The combination teaches these features like the method of claim 13, wherein it is performed on an apparatus with the features of claim 27.

32. Regarding **claim 38**, see the preceding argument with respect to claims 14 and 28. The combination teaches these features like the method of claim 14, wherein it is performed on an apparatus with the features of claim 37.

33. Regarding **claim 39**, see the preceding argument with respect to claims 15 and 28. The combination teaches these features like the method of claim 15, wherein it is performed on an apparatus with the features of claim 37.

34. **Claims 16, 18-20, 22-26, 40, 42-44, 46, and 47** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Berezowski and Tomassetti as applied to claim 1 above, and further in view of Isely et al. (hereinafter Isely), US 2002/0124097 A1.

35. Regarding **claim 16**, see the preceding argument with respect to claim 1. The combination of Berezowski and Tomassetti teaches a method for controlling a plurality of players, the method comprising:

*displaying on a screen a list showing a plurality of volume meters, at least one of the volume meters representing an audio volume of one of the players, and another one of the volume meters representing an audio volume of a group of players, if there is such a group; and*

*adjusting one of the volume meters as desired after one of the volume meters from the list is selected* (see Tomassetti, ¶ 0004 and 0068).

The prior combination of Berezowski and Tomassetti teaches the features shown above, wherein Tomassetti makes it obvious to control the audio for each individual player in a group. However, it does not appear to teach a display listing a plurality of volume meters, where one volume level represents a group of players.

Isely teaches a zone audio player (see abstract). Specifically, Isely teaches a volume level to represent each player in a designated zone (see ¶ 0011-0012). Isely also teaches volume levels with unique relationships associated with a zone (see ¶ 0047-0049, 0053, 0056, and 0057). It would have been obvious to display on a screen (such as the LCD taught by Tomassetti) the volume meters representing one of the

unique relationships in the zone for the purpose of providing better ambiance. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Berezowski, Tomassetti, and Isely for the purpose of providing better ambiance.

36. Regarding **claim 18**, see the preceding argument with respect to claim 16. The combination teaches the method of claim 16, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes:

*changing a volume of each of the group of players synchronously in accordance with an adjustment made by a user* (see Tomassetti, ¶ 0004, 0005, 0009-0012, 0016-0019, and 0068, and Isely, ¶ 0053).

It would have been obvious to synchronize the change in volume due to linking the volume changes according to the unique relationships defined in Isely.

37. Regarding **claim 19**, see the preceding argument with respect to claim 18. The combination teaches the method of claim 18, further comprising adjusting the one of the volume meters for the group of players in a predetermined manner that appears that the group of players is being adjusted at the same time.

38. Regarding **claim 20**, see the preceding argument with respect to claim 18. The combination of Berezowski, Tomassetti, and Isely teach the method of claim 18, wherein Isely teaches the method further comprising maintaining relative volume loudness difference among each of the players in the group (see ¶ 0053).

39. Regarding **claim 22**, see the preceding argument with respect to claim 16. The combination teaches the method of claim 16, further comprising playing an identical

audio source in the group of players (see Tomassetti, ¶ 0067, wherein "The home theater system 226 may be capable... of sending... audio files... to individual room stations 202-212...." and ¶ 0074, wherein "… each remote station itself can broadcast or **receive** independent of and **simultaneous** with other remote stations.").

40. Regarding **claim 23**, see the preceding argument with respect to claim 22. The combination teaches the method of claim 22, wherein the audio source is retrieved in form of audio data packets over the network (see Tomassetti, ¶ 0016).

41. Regarding **claim 24**, see the preceding argument with respect to claim 23. The combination teaches the method of claim 23, wherein at least part of the audio source is retrieved or being streamed from one of the players (see Tomassetti, ¶ 0074).

42. Regarding **claim 25**, see the preceding argument with respect to claims 20 and 23. The combination teaches the method of claim 23, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes causing an equal change to a volume of each of the players in the group (see Isely, ¶ 0053).

43. Regarding **claim 26**, see the preceding argument with respect to claims 16 and 25. The combination teaches the method of claim 16, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes causing a predetermined unit change in volume for ever action by a user (the combination teaches one volume meter to control the group, and it is implied that a change is a predetermined amount).

44. Regarding **claim 40**, see the preceding argument with respect to claims 16 and 27. The combination teaches these features like the method of claim 16, wherein it is performed on an apparatus with the features of claim 27.

45. Regarding **claim 42**, see the preceding argument with respect to claims 18 and 40. The combination teaches these features like the method of claim 18, wherein it is performed on an apparatus with the features of claim 40.

46. Regarding **claim 43**, see the preceding argument with respect to claims 19 and 40. The combination teaches these features like the method of claim 19, wherein it is performed on an apparatus with the features of claim 40.

47. Regarding **claim 44**, see the preceding argument with respect to claims 20 and 40. The combination teaches these features like the method of claim 20, wherein it is performed on an apparatus with the features of claim 40.

48. Regarding **claim 46**, see the preceding argument with respect to claims 25 and 40. The combination teaches these features like the method of claim 25, wherein it is performed on an apparatus with the features of claim 40.

49. Regarding **claim 47**, see the preceding argument with respect to claims 26 and 40. The combination teaches these features like the method of claim 26, wherein it is performed on an apparatus with the features of claim 40.

50. **Claims 17 and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Berezowski, Tomassetti, and Isely as applied to claim 16 above, and further in view of Lumsden, US 5,299,266 A (previously cited).

51. Regarding **claim 17**, see the preceding argument with respect to claim 16. The combination of Berezowski, Tomassetti, and Isely teach the method of claim 16, wherein said adjusting the one of the volume meters includes:

causing the audio volume to be adjusted in accordance with an adjustment to the volume meter (see Tomassetti, ¶ 0004 and 0068); or

causing the audio volume to be off, when a mute button is activated while the audio volume is on; and

causing the audio volume to be on, when a mute button is activated while the audio volume is off.

The prior combination does not appear to teach a muting operation.

In an analogous art, Lumsden teaches a mixing console with a plurality of volume controls (abstract). Specifically, Lumsden teaches a mute command through a group interface (column 2, line 39 - column 3, line 11). It is obvious a mute button can restore the original gain level when the volume is off. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Berezowski, Tomassetti, Isely, and Lumsden for the purpose of providing a quick way to silence or resume any output.

52. Regarding **claim 41**, see the preceding argument with respect to claims 17 and 40. The combination teaches these features like the method of claim 17, wherein it is performed on an apparatus with the features of claim 40.

***Allowable Subject Matter***

53. **Claims 21 and 45** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record does not appear to teach an average volume level to represent volumes of the players in the

group.

***Conclusion***

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

Holtz et al., US 2002/0109710 A1 (previously cited) - teaches a mixer device with volume controls (see ¶ 0111-0122);

Anttila et al., US 2003/0126211 A1 (previously cited) - teaches a list of clients to send audio to (see ¶ 0065-0066 and figure 9); and

Blank et al., US 2004/0252400 A1 (previously cited) - teaches computer media synchronization across a network (see figure 2 and 7 and ¶ 0034-0037 and 0066-0067).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL R. SELLERS whose telephone number is (571)272-7528. The examiner can normally be reached on Tuesday to Friday, 8am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (571)272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel R. Sellers/
Examiner, Art Unit 2614
/CURTIS KUNTZ/
Supervisory Patent Examiner, Art Unit 2614

| Notice of References Cited | Application/Control No. 10/861,653 | Applicant(s)/Patent Under Reexamination LAMBOURNE ET AL. | |
|---|---|---|---|
| | Examiner DANIEL R. SELLERS | Art Unit 2614 | Page 1 of 1 |

**U.S. PATENT DOCUMENTS**

| * | | Document Number Country Code-Number-Kind Code | Date MM-YYYY | Name | Classification |
|---|---|---|---|---|---|
| * | A | US-2002/0188762 | 12-2002 | Tomassetti et al. | 709/251 |
| * | B | US-2002/0124097 | 09-2002 | Isely et al. | 709/231 |
| | 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 | | | | | |
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**NON-PATENT DOCUMENTS**

| * | | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
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*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.

| Index of Claims | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 10861653 | LAMBOURNE, ROBERT A. |
| | Examiner | Art Unit |
| | DANIEL R SELLERS | 2615 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ✓ | Rejected | - | Cancelled | N | Non-Elected | A | Appeal |
| = | Allowed | ÷ | Restricted | I | Interference | O | Objected |

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

| CLAIM | | DATE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Final | Original | 06/23/2008 | 02/13/2009 | | | | | | | |
| | 1 | ✓ | ✓ | | | | | | | |
| | 2 | ✓ | ✓ | | | | | | | |
| | 3 | ✓ | ✓ | | | | | | | |
| | 4 | ✓ | ✓ | | | | | | | |
| | 5 | ✓ | ✓ | | | | | | | |
| | 6 | ✓ | ✓ | | | | | | | |
| | 7 | ✓ | ✓ | | | | | | | |
| | 8 | ✓ | ✓ | | | | | | | |
| | 9 | ✓ | ✓ | | | | | | | |
| | 10 | ✓ | ✓ | | | | | | | |
| | 11 | ✓ | ✓ | | | | | | | |
| | 12 | ✓ | ✓ | | | | | | | |
| | 13 | ✓ | ✓ | | | | | | | |
| | 14 | ✓ | ✓ | | | | | | | |
| | 15 | ✓ | ✓ | | | | | | | |
| | 16 | ✓ | ✓ | | | | | | | |
| | 17 | ✓ | ✓ | | | | | | | |
| | 18 | ✓ | ✓ | | | | | | | |
| | 19 | ✓ | ✓ | | | | | | | |
| | 20 | O | O | | | | | | | |
| | 21 | ✓ | ✓ | | | | | | | |
| | 22 | ✓ | ✓ | | | | | | | |
| | 23 | ✓ | ✓ | | | | | | | |
| | 24 | ✓ | ✓ | | | | | | | |
| | 25 | ✓ | ✓ | | | | | | | |
| | 26 | ✓ | ✓ | | | | | | | |
| | 27 | ✓ | ✓ | | | | | | | |
| | 28 | ✓ | ✓ | | | | | | | |
| | 29 | ✓ | ✓ | | | | | | | |
| | 30 | ✓ | ✓ | | | | | | | |
| | 31 | ✓ | ✓ | | | | | | | |
| | 32 | ✓ | ✓ | | | | | | | |
| | 33 | ✓ | ✓ | | | | | | | |
| | 34 | ✓ | ✓ | | | | | | | |
| | 35 | ✓ | ✓ | | | | | | | |
| | 36 | ✓ | ✓ | | | | | | | |

| Index of Claims | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 10861653 | LAMBOURNE, ROBERT A. |
| | Examiner | Art Unit |
| | DANIEL R SELLERS | 2615 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ✓ | Rejected | - | Cancelled | N | Non-Elected | A | Appeal |
| = | Allowed | ÷ | Restricted | I | Interference | O | Objected |

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

| CLAIM | | DATE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Final | Original | 06/23/2008 | 02/13/2009 | | | | | | | |
| | 37 | ✓ | ✓ | | | | | | | |
| | 38 | ✓ | ✓ | | | | | | | |
| | 39 | ✓ | ✓ | | | | | | | |
| | 40 | ✓ | ✓ | | | | | | | |
| | 41 | ✓ | ✓ | | | | | | | |
| | 42 | ✓ | ✓ | | | | | | | |
| | 43 | ✓ | ✓ | | | | | | | |
| | 44 | ✓ | ✓ | | | | | | | |
| | 45 | O | O | | | | | | | |
| | 46 | ✓ | ✓ | | | | | | | |
| | 47 | ✓ | ✓ | | | | | | | |

| Search Notes | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 10861653 | LAMBOURNE, ROBERT A. |
| | Examiner | Art Unit |
| | DANIEL R SELLERS | 2615 |

| SEARCHED | | | |
|---|---|---|---|
| Class | Subclass | Date | Examiner |
| 700 | 94 | 6/23/08 | /DRS/ |
| Updated | | 2/13/09 | /DRS/ |
| 715 | 716, 734, 735 | 2/13/09 | /DRS/ |
| 709 | 220, 221 | 2/13/09 | /DRS/ |

| SEARCH NOTES | | |
|---|---|---|
| Search Notes | Date | Examiner |
| See East Search Notes | 6/23/08 | /DRS/ |
| Updated | 2/13/09 | /DRS/ |

| INTERFERENCE SEARCH | | | |
|---|---|---|---|
| Class | Subclass | Date | Examiner |
| | | | |

EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|---|---|---|---|---|---|---|
| S156 | 40 | (edit$3 chang$3) near20 (list$3) near5 (broadcast) near20 (node destination group membership cluster) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/13 11:49 |
| S155 | 11 | 715/734.ccls. and (edit$3 chang$3) near20 (list$3) near20 (node destination group membership cluster) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/13 11:48 |
| S154 | 5 | 715/735.ccls. and (edit$3 chang$3) near20 (list$3) near20 (node destination group membership cluster) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/13 11:47 |
| S153 | 1 | 715/735.ccls. and (edit$3 chang$3) near5 (list$3) near10 (node destination group membership) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/13 11:47 |
| S152 | 3 | 715/734.ccls. and (edit$3 chang$3) near5 (list$3) near10 (node destination group membership) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/13 11:46 |
| S151 | 22 | 709/220.ccls. and (edit$3 chang$3) near5 (list$3) near10 (node destination group membership) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/13 11:45 |
| S150 | 11 | S147 and (edit$3 chang $3) near5 (list$3) near10 (node destination group membership) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/13 11:43 |
| S149 | 13 | S147 and (list$3) near10 (availab$7) near10 (node destination) and (group zone work$1group broadcast$3) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/13 10:12 |
| S148 | 3 | S147 and (list$3) near10 (availab$7) near10 (node destination) near10 (group zone work$1group broadcast$3) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/13 10:11 |

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|---|---|---|---|---|---|---|
| S147 | 1560 | 709/221.ccls. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/13 10:06 |
| S146 | 334 | 715/734.ccls. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/13 10:05 |
| S145 | 48 | ("5831610").URPN. | USPAT | OR | ON | 2009/02/12 20:09 |
| S144 | 13 | S142 and (edit$3) near20 (group zone aggregat$4 collect$4 formation assosciat$5) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/12 20:07 |
| S143 | 12 | S142 and (leav$3 disassociat$5 remov$3 withdraw$3 disengag$4 delet$4 detatch$5 dismiss $3 discharg$3) near20 (group zone aggregat$4 collect$4 formation assosciat$5) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/12 20:04 |
| S142 | 198 | 715/735.ccls. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/12 20:03 |
| S141 | 2 | 715/735.ccls. and (redef$3 re$1establish$3 exchang$3 chang$3) near10 (master) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/12 20:03 |
| S140 | 6 | 715/734.ccls. and (redef$3 re$1establish$3 exchang$3 chang$3) near10 (master) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/12 20:02 |
| S139 | 16 | 715/734.ccls. and (remov $3) near5 (node destination) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/12 20:00 |
| S138 | 9 | (remov$3) near5 (node destination) near20 (network$3) near20 (gui display$3) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/12 19:58 |

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|---|---|---|---|---|---|---|
| S137 | 1 | S136 and "715".clas. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/12 19:56 |
| S136 | 76 | (remov$3) near5 (node destination) near20 (network$3) near20 (multi $1cast$3 broad$1cast$3) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/12 19:56 |
| S135 | 0 | (display$3) near20 (remov $3) near5 (node destination) near20 (network$3) near20 (multi $1cast$3 broad$1cast$3) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/12 19:56 |
| S134 | 32 | (zone group$3 multi $1zone sharing) near20 (audio music) near20 (network$3 wire$1less distribut$5) and (changing) near10 (source destination) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/11 18:13 |
| S133 | 46 | (zone group$3 multi $1zone sharing) near20 (audio music) near20 (network$3 wire$1less distribut$5) and (edit$3 re $1form$5 re$1defin$5) near10 (source destination) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/11 18:02 |
| S132 | 149 | (zone group$3 multi $1zone sharing) near20 (audio music) near20 (network$3 wire$1less distribut$5) and (edit$3 re $1form$5 re$1defin$5) near10 (group$3 zone multi $1zone collect$5 slave source destination) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/11 18:01 |
| S131 | 27 | (shar$3) near5 (audio music) near10 (network$3 wire$1less distribut$5) and (edit$3 re$1form$5 re $1defin$5) near10 (zone group$3 multi$1zone) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/11 17:57 |
| S130 | 2 | "20050198125" | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/11 17:54 |

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|---|---|---|---|---|---|---|
| S129 | 36 | (group$3) near5 (audio music) near10 (network$3 wire$1less distribut$5) and (edit$3 re$1form$5 re $1defin$5) near10 (zone group$3 multi$1zone) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/11 17:48 |
| S128 | 4 | (zone) near5 (audio music) near10 (network$3 wire $1less distribut$5) and (edit$3 re$1form$5 re $1defin$5) near10 (zone multi$1zone) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/11 17:31 |
| S127 | 77 | (zone) near5 (audio music) near10 (network$3 wire $1less distribut$5) and (chang$3 edit$3 re$1form $5 form$5 re$1defin$5 defin$5) near10 (zone multi $1zone) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/11 17:30 |
| S126 | 1 | S125 and (chang$3 edit$3 re$1form$5 form$5 re $1defin$5 defin$5) near10 (zone multi$1zone) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/11 17:29 |
| S125 | 35 | ("20010005174" \| "20020026541" \| "20020059425" \| "20020065568" \| "20020072816" \| "20020072817" \| "20020075965" \| "20020082730" \| "20020087224" \| "20030023741" \| "20060287746" \| "20080109095" \| "20080114481" \| "5519641" \| "5402499" \| "5406634" \| "5722041" \| "5799042" \| "5822440" \| "5832024" \| "5903135" \| "5946343" \| "6064699" \| "6085236" \| "6185305" \| "6263503" \| "6327477" \| "6327563" \| "6329908" \| "6378010" \| "6826283" \| "6907458" \| "7039193" \| "7206404" \| "D385880"). PN. | US-PGPUB; USPAT | OR | ON | 2009/02/11 17:29 |
| S124 | 0 | S123 and (chang$3 edit$3 re$1form$5 form$5 re $1defin$5 defin$5) near10 (zone multi$1zone) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/11 17:13 |

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|---|---|---|---|---|---|---|
| S123 | 17 | ("20010037389" \| "20040078105" \| "4466063" \| "5293619" \| "5297211" \| "5625845" \| "5664221" \| "5999610" \| "6141681" \| "6314479" \| "6341278" \| "6381599" \| "6389466" \| "6393430" \| "6553404" \| "6810419" \| "6975568").PN. | US-PGPUB; USPAT | OR | ON | 2009/02/11 17:13 |
| S122 | 6 | S121 and (chang$3 edit$3 re$1form$5 form$5 re $1defin$5 defin$5) near10 (zone multi$1zone) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/11 16:55 |
| S121 | 24 | (multi$1zone) near5 (audio music) near10 (network$3 wire$1less distribut$5) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/11 16:54 |
| S120 | 0 | ("2002/0124097").URPN. | USPAT | OR | ON | 2009/02/11 16:52 |
| S119 | 1 | ("2002/0188762").URPN. | USPAT | OR | ON | 2009/02/11 16:51 |
| S118 | 7 | ("2003/0035556").URPN. | USPAT | OR | ON | 2009/02/11 16:50 |
| S117 | 7 | ("5440644").URPN. | USPAT | OR | ON | 2009/02/11 16:48 |
| S116 | 8 | ("20030035556" \| "4438526" \| "4811403" \| "4979100" \| "5034808" \| "5291325" \| "5440644" \| "5675752").PN. | US-PGPUB; USPAT | OR | ON | 2009/02/11 16:43 |
| S114 | 1 | "pass module" and 700/94.ccls. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/11 16:41 |
| S113 | 7 | (audio music song) near5 (group$3 zon$3 network $3) near20 (loud$1speaker speaker transducer) and (volume gain level amplifi $7) near10 (associat$4 correspond$4 represent$7) near10 (average mean median) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/11 09:28 |

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|---|---|---|---|---|---|---|
| S112 | 207 | (audio music song) near5 (group$3 zon$3 network $3) and (volume gain level amplifi$7) near10 (associat $4 correspond$4 represent $7) near10 (average mean median) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/11 09:27 |
| S111 | 439 | (audio multi$1media music video song) near5 (group $3 zon$3 network$3) and (volume gain level amplifi $7) near10 (associat$4 correspond$4 represent$7) near10 (average mean median) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/11 09:27 |
| S110 | 0 | ("7218708".pn. "20020188762" "20020124097") and (mut $3) | US-PGPUB; USPAT | OR | ON | 2009/02/10 15:04 |
| S109 | 2 | ("7218708".pn. "20020188762") and (packet$6) | US-PGPUB; USPAT | OR | ON | 2009/02/10 15:01 |
| S108 | 0 | ("20020124097") and (synchron$7 simultaneous $2 "same" adj time) | US-PGPUB; USPAT | OR | ON | 2009/02/10 12:27 |
| S107 | 1 | ("20020124097") and (level volume gain amplif $7) | US-PGPUB; USPAT | OR | ON | 2009/02/10 12:12 |
| S106 | 2 | ("7218708".pn. "20020188762") and (level volume gain amplif$7) | US-PGPUB; USPAT | OR | ON | 2009/02/10 12:05 |
| S105 | 2 | ("7218708".pn. "20020188762") and (level volume gain) | US-PGPUB; USPAT | OR | ON | 2009/02/10 12:03 |
| S104 | 4 | anjum$.in. and piconet | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 18:29 |
| S103 | 137 | anjum$.in. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 18:29 |
| S102 | 1 | "00992121" | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 18:29 |

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|---|---|---|---|---|---|---|
| S101 | 0 | "20030992121" | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 18:28 |
| S100 | 0 | "200300992121" | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 18:28 |
| S99 | 24 | (display$3 show$3 gui user adj interfac$4) near20 (leav$3 disassociat $5 remov$3 withdraw$3 disengag$4 delet$4 detatch $5 dismiss$3 discharg$3) near20 (group zone aggregat$4 collect$4 formation assosciat$5) near20 (multi$1media video audio music) and (network$3 distribut$5) near5 (audio video multi $1media) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 18:22 |
| S98 | 53 | (display$3 show$3 gui user adj interfac$4) near10 (leav$3 disassociat $5 remov$3 withdraw$3 disengag$4 delet$4 detatch $5 dismiss$3 discharg$3) near5 (group zone aggregat$4 collect$4 formation assosciat$5) near5 (multi$1media video audio music) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 17:57 |
| S96 | 25 | (display$3 show$3 gui user adj interfac$4) near10 (leav$3 disassociat $5 remov$3 withdraw$3 disengag$4 delet$4 detatch $5 dismiss$3 discharg$3) near5 (group zone aggregat$4 collect$4 formation assosciat$5) near5 (audio music) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 17:39 |

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|---|---|---|---|---|---|---|
| S95 | 211 | (display$3 show$3 gui user adj interfac$4) near10 (leav$3 disassociat $5 remov$3 withdraw$3 disengag$4 delet$4 detatch $5 dismiss$3 discharg$3) near5 (group zone aggregat$4 collect$4 formation assosciat$5) near5 (media multi $1media audio music) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 17:38 |
| S94 | 1 | "20040260669" and (leav $3 disassociat$5 remov$3 withdraw$3 disengag$4 delet$4 detatch$5 dismiss $3 discharg$3) near20 (group zone aggregat$4 collect$4 format$4 assosciat$5) with (media multi$1media audio music) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 17:04 |
| S93 | 17 | S90 and (synchroni$7) near5 (media multi $1media audio music song) near20 (group zone aggregat$4 collect$4 formation assosciat$5) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 16:34 |
| S92 | 7 | S90 and (synchroni$7) near5 (audio music song) near20 (group zone aggregat$4 collect$4 formation assosciat$5) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 16:31 |
| S91 | 83 | S90 and (synchroni$7) near20 (group zone aggregat$4 collect$4 formation assosciat$5) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 16:31 |
| S90 | 7161 | (leav$3 disassociat$5 remov$3 withdraw$3 disengag$4 delet$4 detatch $5 dismiss$3 discharg$3) near5 (group zone aggregat$4 collect$4 formation assosciat$5) near5 (media multi $1media audio music) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 16:30 |
| S89 | 21259 | (leav$3 disassociat$5 remov$3 withdraw$3 disengag$4 delet$4 detatch $5 dismiss$3 discharg$3) near20 (group zone aggregat$4 collect$4 formation assosciat$5) with (media multi$1media audio music) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 16:29 |

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|---|---|---|---|---|---|---|
| S88 | 10 | S85 and (leav$3 disassociat $5 remov$3 withdraw$3 disengag$4 delet$4 detatch $5 dismiss$3 discharg$3) near20 (group zone aggregat$4 collect$4 format$4 assosciat$5) with (media multi$1media audio music) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 16:29 |
| S87 | 9 | S85 and (leav$3 disassociat $5 remov$3 withdraw$3 disengag$4 delet$4 detatch $5 dismiss$3 discharg$3) near20 (group zone aggregat$4 collect$4 format$4 assosciat$5) near20 (media multi $1media audio music) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 16:28 |
| S86 | 19 | S85 and (leav$3 disassociat $5 remov$3 withdraw$3 disengag$4 delet$4 detatch $5 separat$5 dismiss$3 discharg$3) near10 (group zone aggregat$4 collect$4 format$4 assosciat$5) near20 (media multi $1media audio music) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 16:21 |
| S85 | 948 | 715/716.ccls. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/09 16:15 |
| S84 | 6 | ("20020103919" \| "5794018" \| "6907466" \| "7096271" \| "7386627" \| "7430609").PN. | US-PGPUB; USPAT | OR | ON | 2009/02/05 18:55 |
| S83 | 16 | synchron$7 near5 (audio music paging) near20 (different) near5 (room zone area) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/05 18:37 |
| S82 | 593 | synchron$7 near5 (audio music paging) near20 (room zone area) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/05 18:37 |

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|---|---|---|---|---|---|---|
| S81 | 37 | (user operator person$4) near10 (group$3 aggregat $4 select$4) near10 (group zone) near5 (audio music) near20 (interface display$3 gui) and (network$3 distribut$5) near5 (audio music) near10 (output play$5 apparatus device room space) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/05 16:47 |
| S80 | 98 | (user operator person$4) near10 (group$3 aggregat $4 select$4) near10 (group zone) near5 (audio music) near20 (interface display$3 gui) and (group zone) near5 (audio music) near10 (output player device room space) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/05 16:45 |
| S79 | 174 | (user operator person$4) near10 (group$3 aggregat $4 select$4) near10 (group zone) near5 (audio music) near20 (display$3 gui) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/05 16:42 |
| S78 | 232 | (user operator person$4) near10 (group$3 aggregat $4 select$4) near10 (group zone) near10 (audio music) near20 (display$3 gui) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/05 16:42 |
| S77 | 802 | (group$3 aggregat$4 select $4) near10 (group zone) near10 (audio music) near20 (display$3 gui) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/05 16:42 |
| S76 | 1062 | (group$3 aggregat$4 select $4) near10 (group zone) near10 (audio music) near20 (interface display $3 gui) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/05 16:41 |
| S75 | 4104 | (group$3 aggregat$4 select $4) near10 (group zone) near10 (audio video a-v a/ v av audio$1video multimedia music) near20 (interface display$3 gui) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/05 16:41 |
| S74 | 20 | S73 and (display$3) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/05 14:10 |

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|---|---|---|---|---|---|---|
| S73 | 22 | (US-20040070593-$ or US-20070038999-$ or US-20030126211-$ or US-20040252400-$ or US-20020109710-$ or US-20030040910-$ or US-20040008852-$ or US-20030149992-$ or US-20050057538-$ or US-20020124097-$).did. or (US-6813777-$ or US-7218708-$ or US-5742348-$ or US-5239458-$ or US-5299266-$ or US-7454120-$ or US-6026150-$ or US-6198479-$ or US-6546419-$ or US-6665303-$ or US-6678740-$ or US-6762690-$).did. or (US-20040070593-A-$).did. | US-PGPUB; USPAT; DERWENT | OR | ON | 2009/02/05 14:10 |
| S72 | 11 | S71 and synchron$7 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2009/02/04 18:14 |
| S71 | 22 | (US-20040070593-$ or US-20070038999-$ or US-20030126211-$ or US-20040252400-$ or US-20020109710-$ or US-20030040910-$ or US-20040008852-$ or US-20030149992-$ or US-20050057538-$ or US-20020124097-$).did. or (US-6813777-$ or US-7218708-$ or US-5742348-$ or US-5239458-$ or US-5299266-$ or US-7454120-$ or US-6026150-$ or US-6198479-$ or US-6546419-$ or US-6665303-$ or US-6678740-$ or US-6762690-$).did. or (US-20040070593-A-$).did. | US-PGPUB; USPAT; DERWENT | OR | ON | 2009/02/04 18:13 |
| S70 | 6 | (("6198479") or ("6546419") or ("6026150") or ("6762690") or ("6678740") or ("6665303")).PN. | USPAT | OR | OFF | 2008/12/24 11:37 |

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|---|---|---|---|---|---|---|
| S69 | 54 | (creat$5 mak$3 defin$3) near5 (group$3 zon$3 area room) near20 (home house appartment space) and (group$3 zon$3 area room) near20 (audio music) near5 (player play $1back) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 14:33 |
| S68 | 5 | (creat$5 mak$3 defin$3) near5 (group$3 zon$3 area room) near20 (home house appartment space) near20 (audio music) near5 (player play$1back) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 14:31 |
| S67 | 10 | S66 and (head master) near20 (play$5) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 13:44 |
| S66 | 272 | (group$3 zon$3 area room) near20 (home house appartment space) near20 (audio music) near5 (player play$1back) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 13:44 |
| S65 | 19 | ("20020010917" \| "20030154493" \| "20040218905" \| "20040221302" \| "20040268407" \| "20050028208" \| "20060179462" \| "20070067800" \| "5414455" \| "6002394" \| "6118493" \| "6414725" \| "6744967" \| "6748481" \| "6857130" \| "7089321" \| "7089348" \| "7130623" \| "7139868").PN. | US-PGPUB; USPAT; USOCR | OR | ON | 2008/12/23 13:42 |
| S64 | 0 | ("7454120").URPN. | USPAT | OR | ON | 2008/12/23 13:42 |
| S63 | 10 | S62 and (display$3 gui graphical$2) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 13:38 |
| S62 | 12 | S61 and synchron$7 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:58 |

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|---|---|---|---|---|---|---|
| S61 | 59 | (group$3 zone area) near5 (home house appartment space) near20 (audio music) near5 (player play $1back) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:52 |
| S60 | 17 | (group$3 zone area) near5 (home house appartment space) near20 (music) near5 (player play$1back) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:51 |
| S59 | 0 | (group$3 zone area) near5 (home house appartment space) near20 (music) near5 (player play$1back) near20 ("same" simultaneous$2) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:51 |
| S58 | 41 | (display$3 gui graphical$2) near5 (group$3 zone) near20 (music) near5 (player play$1back) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:48 |
| S57 | 6 | (display$3 gui graphical$2) near5 (group$3 zone area) near20 (music) near5 (player play$1back) near20 ("same" simultaneous$2) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:48 |
| S56 | 107 | (display$3 gui graphical$2) near5 (group$3 zone area) near20 (music) near5 (player play$1back) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:47 |
| S55 | 301 | (display$3 gui graphical$2) near5 (group$3 zone area) near20 (audio music) near5 (player play$1back) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:47 |
| S54 | 5441 | (group$3 zone area) near20 (audio music) near5 (player play$1back) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:47 |
| S53 | 26 | pass adj module near20 (group$3 zone area) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:45 |
| S52 | 2 | ("2003/0220705").URPN. | USPAT | OR | ON | 2008/12/23 12:44 |

| | | | | | | |
|---|---|---|---|---|---|---|
| S51 | 36 | pass adj module near20 network | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:40 |
| S50 | 23 | (zone area) near5 (group $3) near20 (play$5) and (master) near20 (group$3) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:22 |
| S49 | 6 | (zone near5 group$3) near20 (play$5) and (master) near20 (group$3) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:21 |
| S48 | 2 | (zone near5 group) near20 (play$5) near20 (master) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:21 |
| S47 | 2 | (zone near5 group near5 master) near20 (play$5) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:21 |
| S46 | 79 | (zone near5 group) near20 (play$5) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:21 |
| S45 | 0 | (zone near5 group near5 head) near20 (play$5) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/12/23 12:20 |

2/13/09 10:06:10 PM
C:\Documents and Settings\dsellers\My Documents\EAST\Workspaces\10861653.wsp

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | |
|---|---|
| **Applicant(s):** | Robert A. Lambourne & Nicholas A. J. Millington |
| **Title:** | Method and apparatus for controlling multimedia players in a multi-zone system |
| **Serial No.:** | 10/861,653 |
| **Confirmation No.:** | 3676 |
| **Filing Date:** | 06/05/2004 |
| **Examiner:** | Daniel R. Sellers |
| **Group Art Unit:** | 2615 |
| **Docket No:** | RIN-007 |

September 15, 2008

Mail Stop: No-Fee Amendments
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

## Response to First Office Action

Dear Sir:

In response to the Office Action dated 06/27/2008, the Applicant respectfully requests the Examiner to reconsider the pending claims in view of the following amendments and the remarks:

**AMENDMENTS TO THE SPCIFICATION** begin on page 2 of this Response.

**AMENDMENTS TO THE CLAIMS** are reflected in the listing of claims which begins on page 3 of this Response.

**REMARKS/ARGUMENTS** begin on page 12 of this Response.

## AMENDMENTS TO THE SPCIFICATION

Please amend the paragraph before paragraph [0001] on page 2 as follow:

# Method and apparatus for controlling multimedia players in a multi-zone system

Robert A. Lambourne and Nicholas A. J. Millington

## CROSS-REFERENCE TO RELATED APPLICATION

This application is a continuation-in-part of U. S. Patent Application Serial No. 10/816,217, filed April 1, 2004, in the name of Nicholas A. J. Millington, and entitled "System and method for synchronizing operations among a plurality of independently clocked digital data processing devices" filed on April 1, 2004.

## BACKGROUND OF THE INVENTION

Field of the Invention

## AMENDMENTS TO THE CLAIMS

Please amend Claims 10, 14-15, 27, 29, 33, 36-37, 39 and 42 as follows:

1. (*Original*) A method for controlling a plurality of players, the method comprising:
   displaying on a screen a first list showing at least available players;
   displaying, when at least one of the players is selected as a zone group head, on the screen a second list showing at least some of the players that are eligible to be grouped with the zone group head;
   forming a zone group started with the zone group head, after one or more players from the at least some of the players are selected to join the zone group; and
   synchronizing all players in the zone group.

2. (*Original*) The method of claim 1, wherein the first list becomes scrollable, when the available players do not fit in the screen.

3. (*Original*) The method of claim 1, wherein said synchronizing all players in the zone group comprises:
   determining an audio source for the zone group;
   making the audio source available to each of the players in the zone group; and
   playing the audio source synchronously in all players in the zone group.

4. (*Original*) The method of claim 3, wherein said determining an audio source for the zone comprises selecting the audio source being played or ready to be played by the zone group head.

5. (*Original*) The method of claim 3, wherein said determining an audio source for the zone comprises selecting the audio source being played or ready to be played by one of the players in the zone group.

6. (*Original*) The method of claim 3, wherein said making the audio source available comprises:

determining whether the audio source is available locally; and

retrieving the audio source from a device on a network, if the audio source is not available locally.

7. (*Original*) The method of claim 6, wherein said making the audio source available comprises:

determining the audio source from one of the players in the zone group; and

causing the audio source available to every other player in the zone group.

8. (*Original*) The method of claim 1, wherein said synchronizing all players in the zone group comprises:

causing all players in the zone group to play an identical audio source; and

presenting the zone group in a manner that indicates a grouping.

9. (*Original*) The method of claim 8, wherein the manner includes one or more of highlighting, colors, explicit texts and graphs.

10. (*Currently amended*) The method of claim 1, wherein the first list ~~also~~ further shows at least one zone group~~, if there is one~~.

11. (*Original*) The method of claim 10, wherein the zone group includes at least two players.

12. (*Original*) The method of claim 9, wherein a configuration of the zone group is stored in at least one of the players or a controller for remotely controlling one or more of the players, the configuration including information on how the two players are grouped.

13. (*Original*) The method of claim 8, further including:

selecting the zone group to be de-grouped from the first list;

displaying on the screen another list showing all the players within the zone group to be de-grouped;

selecting one or more players from the another list; and

disassociating the selected players from the zone group.

14. (*Currently amended*) The method of claim ~~11~~13, wherein said disassociating the selected players comprises making the selected players available for grouping with a zone group.

15. (*Currently amended*) The method of claim ~~11~~13, wherein the another list becomes scrollable, when all the players within the zone group to be de-grouped do not fit in the screen.

16. (*Original*) A method for controlling a plurality of players, the method comprising:

displaying on a screen a list showing a plurality of volume meters, at least one of the volume meters representing an audio volume of one of the players, and another one of the volume meters representing an audio volume of a group of players, if there is such a group; and

adjusting one of the volume meters as desired after one of the volume meters from the list is selected.

17. (*Original*) The method of claim 16, wherein said adjusting the one of the volume meters includes:

causing the audio volume to be adjusted in accordance with an adjustment to the volume meter; or

causing the audio volume to be off, when a mute button is activated while the audio volume is on; and

causing the audio volume to be on, when a mute button is activated while the audio volume is off.

18. (*Original*) The method of claim 16, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes:

changing a volume of each of the group of players synchronously in accordance with an adjustment made by a user;

19. (*Original*) The method of claim 18, further comprising adjusting the one of the volume meters for the group of players in a predetermined manner that appears that the group of players are being adjusted at the same time.

20. (*Original*) The method of claim 18, further comprising maintaining relative volume loudness difference among each of the players in the group.

21. (*Original*) The method of claim 18, wherein the one of the volume meters from the list selected is represented by an averaged value of audio volumes of the players in the group.

22. (*Original*) The method of claim 16, further comprising playing an identical audio source in the group of players.

23. (*Original*) The method of claim 22, wherein the audio source is retrieved in form of audio data packets over the network.

24. (*Original*) The method of claim 23, wherein at least part of the audio source is retrieved or being streamed from one of the players.

25. (*Original*) The method of claim 16, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes causing an equal change to a volume of each of the players in the group.

26. (*Original*) The method of claim 16, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes causing a predetermined unit change in volume for ever action by a user.

27. (*Currently amended*) An apparatus for controlling a plurality of players, the apparatus comprising:

a screen;

a screen driver commanding the screen;

an input interface;

a network interface;

a memory for storing code for an application module;

a processor coupled to the memory, the input interface, the screen driver and the network interface, the processor executing the code in the memory to cause the application module and the screen driver to perform operations of:

displaying on a screen a first list showing at least available players;

displaying a zone group including players from the available players when at least two of the available players are selected to form the zone group, wherein any one of the players in the group serves as a zone group head; and

~~; and~~

synchronizing all players in the zone group in accordance with the zone group head.

28. (*Original*) The apparatus of claim 27, wherein the first list becomes scrollable, when the available players do not fit in the screen.

29. (*Currently amended*) The apparatus of claim ~~26~~27, wherein said synchronizing all players in the zone group comprises:

determining an audio source for the zone group;

making the audio source available to each of the players in the zone group; and

playing the audio source synchronously in all players in the zone group.

30. (*Original*) The apparatus of claim 27, wherein said determining an audio source for the zone comprises selecting the audio source being played or ready to be played by the zone group head.

31. (*Original*) The apparatus of claim 27, wherein said determining an audio source for the zone comprises selecting the audio source being played or ready to be played by one of the players in the zone group.

32. (*Original*) The apparatus of claim 27, wherein said making the audio source available comprises:

determining whether the audio source is available locally; and

retrieving the audio source from a device on a network, if the audio source is not available locally.

33. (*Currently amended*) The apparatus of claim ~~30~~27, wherein said making the audio source available comprises:

determining the audio source from one of the players in the zone group; and

causing the audio source available to every other player in the zone group.

34. (*Original*) The apparatus of claim 27, wherein said synchronizing all players in the zone group comprises:

causing all players in the zone group to play an identical audio source; and

presenting the zone group in a manner that indicates a grouping.

35. (*Original*) The apparatus of claim 34, wherein the manner includes one or more of highlighting, colors, explicit texts and graphs in the screen.

36. (*Currently amended*) The apparatus of claim 27, wherein the first list ~~also~~ further shows at least one zone group~~, if there is one~~.

37. (*Currently amended*) The apparatus of claim 27, wherein the processor executing the code in the memory to cause the application module and the screen driver to perform operations of:

selecting the zone group to be de-grouped from the first list;

displaying on the screen an another list showing all the players within the zone group to be de-grouped;

selecting one or more players from the another list; and

disassociating the selected players from the zone group.

38. (*Original*) The apparatus of claim 37, wherein said disassociating the selected players comprises making the selected players available for grouping with a zone group.

39. (*Currently amended*) The apparatus of claim 37, wherein the another list becomes scrollable, when all the players within the zone group to be de-grouped do not fit in the screen.

40. (*Original*) An apparatus for manipulating a plurality of players, the apparatus comprising:

a screen;

a screen driver commanding the screen;

an input interface;

a network interface;

a memory for storing code for an application module;

a processor coupled to the memory, the input interface, the screen driver and the network interface, the processor executing the code in the memory to

cause the application module and the screen driver to perform operations of:

displaying on a screen a list showing a plurality of volume meters, at least one of the volume meters representing an audio volume of one of the players, and another one of the volume meters representing an audio volume of a group of players, if there is such a group; and

adjusting one of the volume meters as desired after one of the volume meters from the list is selected.

41. (*Original*) The apparatus of claim 40, wherein said adjusting the one of the volume meters includes:

causing the audio volume to be adjusted in accordance with an adjustment to the volume meter; or

causing the audio volume to be off, when a mute button is activated while the audio volume is on; and

causing the audio volume to be on, when a mute button is activated while the audio volume is off.

42. (*Currently amended*) The apparatus ~~method~~ of claim 40, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes:

changing a volume of each of the group of players synchronously in accordance with an adjustment made by a user;

43. (*Original*) The apparatus of claim 40, wherein the processor executing the code in the memory causes the application module and the screen driver to perform operations of adjusting the one of the volume meters for the group of players in a predetermined manner that appears that the group of players are being adjusted at the same time.

44. (*Original*) The apparatus of claim 40, wherein the processor executing the code in the memory causes the application module and the screen driver to perform operations of maintaining relative volume loudness difference among each of the players in the group.

45. (*Original*) The apparatus of claim 44, wherein the one of the volume meters from the list selected is represented by an averaged value of audio volumes of the players in the group.

46. (*Original*) The apparatus of claim 40, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes causing an equal change to a volume of each of the players in the group.

47. (*Original*) The apparatus of claim 40, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes causing a predetermined unit change in volume for ever action by a user.

## REMARKS

Claims 1 - 47 were submitted for examination. In this Office Action, Claims 1 – 20, 22-44 and 46-47 are rejected under 35 USC 103(a) as being unpatentable over Millington, (US Patent Pub. No.:2007/0038999, hereinafter "Millington"). In view of other references, and claims 22 and 45 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

The Examiner is appreciated for his careful examination and comments. In the foregoing amendments, Claims 10, 14-15, 27, 29, 33, 36-37, 39 and 42 have been amended to correct some informalities. The objections to the claims is believed to have overcome.

Millington is used as a primary reference in combination with others to reject all pending claims except for claims 22 and 45. However, it is noticed that Millington and the instant application are commonly assigned to Sonos, Inc. Accordingly, the Applicant hereby makes the following statement:

This instant application and the reference were, at the time the invention was made, owned by and assigned to, Sonos, Inc. having an address at 223 E. De La Guerra, Santa Barbara, CA 93101.

Accordingly, Millington is disqualified as prior art under 35 U.S.C. 103. The combination of Millington with other references is now moot. In addition, the inventorship of this application is being petitioned to correct the inventorship to include Millington as a co-inventor.

In view of the above amendments and remarks, the Applicant believes that Claims 1-47 shall be in condition for allowance over the cited references. Early and favorable action is being respectfully solicited.

If there are any issues remaining which the Examiner believes could be resolved through either a Supplementary Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at (408)777-8873.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to "Commissioner of Patents and Trademarks, Washington, DC 20231", on **September 15, 2008**. Via EFS.

Name: Joe Zheng

Signature: / joe zheng /

Respectfully submitted;

/ joe zheng /

Joe Zheng
Reg. No.: 39,450

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

| | |
|---|---|
| **Applicant(s):** | Robert A. Lambourne & Nicholas A. J. Millington |
| **Title:** | Method and apparatus for controlling multimedia players in a multi-zone system |
| **Serial No.:** | 10/861,653 |
| **Confirmation No.:** | 3676 |
| **Filing Date:** | 06/05/2004 |
| **Examiner:** | Daniel R. Sellers |
| **Group Art Unit:** | 2615 |
| **Docket No:** | RIN-007 |

September 15, 2008

Mail Stop: Petition Office
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

## Petition under 37 CFR 1.48 (a) and (c) to Correct Inventorship

Dear Sir:

Applicant Robert A. Lambourne, in recognition of the facts set forth below, hereby petitions the Commissioner to add the name of Nicholas A. J. Millington as a co-inventor of the above referenced patent application as well as any divisional, continuation or continuation-in-part applications that may be filed and based on the present application.

Accompanying this Petition is a Verified Statement of Facts and Declaration, a Supplemental Declaration and Authorization, signed by Robert A. Lambourne and Nicholas A. J. Millington ("the actual inventors"). A revised assignment also signed by both of the actual inventors is being recorded.

The application for patent in the name of only one of the two co-inventors was made through error and without any deceptive intent on the part of named inventors, the unnamed inventors, the assignee of the patent application or the representative of the named/unnamed inventors, as will be apparent from the Verified Statement of Facts attached herewith.

Please telephone the undersigned at (408)777-8873, if there are any questions.

Respectfully submitted;

/ joe zheng /
Joe Zheng
Reg.: No. 39,450

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to "Commissioner of Patents and Trademarks, Washington, DC 20231", on September 15, 2008.

Name: Joe Zheng

Signature: / joe zheng /

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

| | |
|---|---|
| **Applicant(s):** | Robert A. Lambourne & Nicholas A. J. Millington |
| **Title:** | Method and apparatus for controlling multimedia players in a multi-zone system |
| **Serial No.:** | 10/861,653 |
| **Confirmation No.:** | 3676 |
| **Filing Date:** | 06/05/2004 |
| **Examiner:** | Daniel R. Sellers |
| **Group Art Unit:** | 2615 |
| **Docket No:** | RIN-007 |

August 20, 2008

Mail Stop: Petition Office
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Verified Statement of facts and Declaration in Support of
Petition under 37 CFR 1.48 (a) and (c) to Correct Inventorship

Dear Sir:

1. We, Robert A. Lambourne and Nicholas A. J. Millington, are employees of Sonos, Inc., a corporation of the State of Delaware having a principal place of business at 223 E. De La Guerra, Santa Barbara, CA 93101, hereinafter "the Company" or "Company").

2. The Company has main research laboratories in Santa Barbara of California and Cambridge of Massachusetts in US. From time to time, Robert A. Lambourne and Nicholas A. J. Millington travel between the research laboratories but do not travel together most of the time.

3. Prior to 06/05/2004, Robert A. Lambourne had been regularly and diligently working on projects that led to the conception and reduction to practice of the

present invention. Robert A. Lambourne was not aware of anyone else in the laboratories who might be working on the present invention.

4. The above patent application was filed on 06/05/2004 and named Robert A. Lambourne as the sole inventor of the present invention in the above application.

5. After an Office Action dated 06/27/2008 was received, Joe Zheng who represents the present invention before the USPTO notices that a US Patent Publication No.: 20070038999 to Nicholas A. J. Millington (hereinafter "the Publication) cited as the primary reference is commonly assigned to the Company. In reviewing the comments made by the Examiner regarding the present invention and the Publication, Joe Zheng concludes that the Examiner is correct and there is a substantial amount of disclosure in the present application being disclosed in the Publication. A question of correct inventorship of the present application is raised.

6. It is then noticed that prior to 04/01/2004, Nicholas A. J. Millington had been independently, regularly and diligently working on other projects that led to the filing of a patent application serial No.: 10/816,217 published in the Publication.

7. Both the present application and the Publication are commonly assigned to the Company.

8. Several discussions took place between Robert A. Lambourne, Nicholas A. J. Millington and executives of the Company to determine if one or more claims in the present application are possibly contributed by Nicholas A. J. Millington.

9. In reviewing the above application, the Publication, the company records maintained by Nicholas A. J. Millington, Robert A. Lambourne concluded that Nicholas A. J. Millington did contribute substantially to the conception and reduction to practice of the present invention and at least one claim in the above application.

10. The error in omitting the name of Nicholas A. J. Millington as co-inventor of the patent application as filed was made without any deceptive intent.

11. All statements made herein of our own knowledge are true and all statements made on information and belief are believed to be true; and further 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 statement may jeopardize the validity of the application or any patents issuing thereon.

Respectfully submitted;

Date: August, 27, 2008 By: _____ Robert A. Lambourne

Date: August 27 2008 By: _____ Nicholas A. J. Millington

Please telephone the undersigned at (408)777-8873, if there are any questions.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to "Commissioner of Patents and Trademarks, Washington, DC 20231", on 09/15 , 2008.

Name: Joe Zheng

Signature: / joe zheng /

Respectfully submitted;

/ joe zheng /
Joe Zheng
Reg.: No. 39,450

PTO/SB/01 (09-04)
Approved for use through 07/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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# DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

☐ Declaration Submitted With Initial Filing *OR* ☑ Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)

| | |
|---|---|
| Attorney Docket Number | **RIN-007** |
| First Named Inventor | **Robert A. Lambourne** |
| *COMPLETE IF KNOWN* | |
| Application Number | **10/861,653** |
| Filing Date | **06/05/2004** |
| Art Unit | **2615** |
| Examiner Name | **Daniel R. Sellers** |

**I hereby declare that:**

Each inventor's residence, mailing address, and citizenship are as stated below next to their name.

I believe the inventor(s) named below to be the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**Method and apparatus for controlling multimedia players in a multi-zone system**

*(Title of the Invention)*

the specification of which

☐ is attached hereto

*OR*

☑ was filed on (MM/DD/YYYY) **06/05/2004** as United States Application Number or PCT International Application Number **10/861,653** and was amended on (MM/DD/YYYY) _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

| Prior Foreign Application Number(s) | Country | Foreign Filing Date (MM/DD/YYYY) | Priority Not Claimed | Certified Copy Attached? YES | NO |
|---|---|---|---|---|---|
| | | | ☐ | ☐ | ☐ |
| | | | ☐ | ☐ | ☐ |
| | | | ☐ | ☐ | ☐ |
| | | | ☐ | ☐ | ☐ |

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.



This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 21 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. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

PTO/SB/01 (09-04)
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## DECLARATION — Utility or Design Patent Application

| | | | | | |
|---|---|---|---|---|---|
| Direct all correspondence to: | ☑ The address associated with Customer Number: | 26797 | OR | ☐ | Correspondence address below |

| | | |
|---|---|---|
| Name | | |
| Address | | |
| City | State | ZIP |
| Country | Telephone (408) 777-8873 | Fax (408) 873-9249 |

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 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**NAME OF SOLE OR FIRST INVENTOR:** ☐ A petition has been filed for this unsigned inventor

| | | | |
|---|---|---|---|
| Given Name (first and middle [if any]) Robert A. | | Family Name or Surname Lambourne | |
| Inventor's Signature | | | Date 8/29/08 |
| Residence: City Santa Barbara | State CA | Country USA | Citizenship UK |
| Mailing Address 3722 Cedar Vista | | | |
| City Santa Barbara | State CA | Zip 93110 | Country USA |

**NAME OF SECOND INVENTOR:** ☐ A petition has been filed for this unsigned inventor

| | | | |
|---|---|---|---|
| Given Name (first and middle [if any]) Nicholas A. J. | | Family Name or Surname Millington | |
| Inventor's Signature | | | Date 8/29/08 |
| Residence: City Santa Barbara | State CA | Country USA | Citizenship USA |
| Mailing Address 1221A Salsipuedes Street | | | |
| City Santa Barbara | State CA | Zip 93103 | Country USA |

☐ Additional inventors or a legal representative are being named on the _____ supplemental sheet(s) PTO/SB/02A or 02LR attached hereto.

# Electronic Patent Application Fee Transmittal

| | |
|---|---|
| **Application Number:** | 10861653 |
| **Filing Date:** | 05-Jun-2004 |
| **Title of Invention:** | Method and apparatus for controlling multimedia players in a multi-zone system |
| **First Named Inventor/Applicant Name:** | Robert A. Lambourne |
| **Filer:** | Joe Zheng |
| **Attorney Docket Number:** | RIN-007 |

Filed as Small Entity

## Utility under 35 USC 111(a) Filing Fees

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Basic Filing:** | | | | |
| **Pages:** | | | | |
| **Claims:** | | | | |
| **Miscellaneous-Filing:** | | | | |
| **Petition:** | | | | |
| Petition fee- 37 CFR 1.17(h) (Group III) | 1464 | 1 | 130 | 130 |
| **Patent-Appeals-and-Interference:** | | | | |
| **Post-Allowance-and-Post-Issuance:** | | | | |
| **Extension-of-Time:** | | | | |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Miscellaneous:** | | | | |
| | | | **Total in USD ($)** | **130** |

| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 3946844 |
| **Application Number:** | 10861653 |
| **International Application Number:** | |
| **Confirmation Number:** | 3676 |
| **Title of Invention:** | Method and apparatus for controlling multimedia players in a multi-zone system |
| **First Named Inventor/Applicant Name:** | Robert A. Lambourne |
| **Customer Number:** | 26797 |
| **Filer:** | Joe Zheng |
| **Filer Authorized By:** | |
| **Attorney Docket Number:** | RIN-007 |
| **Receipt Date:** | 15-SEP-2008 |
| **Filing Date:** | 05-JUN-2004 |
| **Time Stamp:** | 21:14:23 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | yes |
| Payment Type | Credit Card |
| Payment was successfully received in RAM | $130 |
| RAM confirmation Number | 5022 |
| Deposit Account | |
| Authorized User | |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 1 | Amendment/Req. Reconsideration-After Non-Final Reject | ResponseTo1stOA.pdf | 91806<br>8416a9347fb7e9e02456dec91ebf5b0c1341a5af | no | 13 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 2 | Petition for review by the Technology Center SPRE. | PetitionToCorrectInventorship.pdf | 70836<br>28e8f6c6764cacd20d5feb706d34e11a408ca9bd | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 3 | Petition for review by the Technology Center SPRE. | SignedPetitionSupport.pdf | 150809<br>e0aab054f1a5ae3759fef2addfb58774679e08ff | no | 3 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 4 | Oath or Declaration filed | SignedDeclaration.pdf | 131842<br>94d46683b90677dc6306a090158ce2035a24f0c2 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 5 | Fee Worksheet (PTO-06) | fee-info.pdf | 30083<br>f3bd7a68279185b0bd125ddd8097be865064ef00 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | **Total Files Size (in bytes):** | 475376 | | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**<u>New Applications Under 35 U.S.C. 111</u>**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**<u>National Stage of an International Application under 35 U.S.C. 371</u>**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**<u>New International Application Filed with the USPTO as a Receiving Office</u>**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

PTO/SB/06 (07-06)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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| **PATENT APPLICATION FEE DETERMINATION RECORD** Substitute for Form PTO-875 | Application or Docket Number 10/861,653 | Filing Date 06/05/2004 | ☐ To be Mailed |
|---|---|---|---|

**APPLICATION AS FILED – PART I**

| | (Column 1) | (Column 2) | SMALL ENTITY ☒ | | OR | OTHER THAN SMALL ENTITY | |
|---|---|---|---|---|---|---|---|
| FOR | NUMBER FILED | NUMBER EXTRA | RATE ($) | FEE ($) | | RATE ($) | FEE ($) |
| ☐ BASIC FEE (37 CFR 1.16(a), (b), or (c)) | N/A | N/A | N/A | | | N/A | |
| ☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m)) | N/A | N/A | N/A | | | N/A | |
| ☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q)) | N/A | N/A | N/A | | | N/A | |
| TOTAL CLAIMS (37 CFR 1.16(i)) | minus 20 = | * | X $ = | | OR | X $ = | |
| INDEPENDENT CLAIMS (37 CFR 1.16(h)) | minus 3 = | * | X $ = | | | X $ = | |
| ☐ APPLICATION SIZE FEE (37 CFR 1.16(s)) | If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). | | | | | | |
| ☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j)) | | | | | | | |
| * If the difference in column 1 is less than zero, enter "0" in column 2. | | | TOTAL | | | TOTAL | |

**APPLICATION AS AMENDED – PART II**

| | | (Column 1) | | (Column 2) | (Column 3) | SMALL ENTITY | | OR | OTHER THAN SMALL ENTITY | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **09/15/2008** | CLAIMS REMAINING AFTER AMENDMENT | | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA | RATE ($) | ADDITIONAL FEE ($) | | RATE ($) | ADDITIONAL FEE ($) |
| AMENDMENT | Total (37 CFR 1.16(i)) | * 47 | Minus | ** 47 | = 0 | X $25 = | 0 | OR | X $ = | |
| | Independent (37 CFR 1.16(h)) | * 4 | Minus | ***4 | = 0 | X $105 = | 0 | OR | X $ = | |
| | ☐ Application Size Fee (37 CFR 1.16(s)) | | | | | | | | | |
| | ☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | | OR | | |
| | | | | | | TOTAL ADD'L FEE | 0 | OR | TOTAL ADD'L FEE | |

| | | (Column 1) | | (Column 2) | (Column 3) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | CLAIMS REMAINING AFTER AMENDMENT | | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA | RATE ($) | ADDITIONAL FEE ($) | | RATE ($) | ADDITIONAL FEE ($) |
| AMENDMENT | Total (37 CFR 1.16(i)) | * | Minus | ** | = | X $ = | | OR | X $ = | |
| | Independent (37 CFR 1.16(h)) | * | Minus | *** | = | X $ = | | OR | X $ = | |
| | ☐ Application Size Fee (37 CFR 1.16(s)) | | | | | | | | | |
| | ☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | | OR | | |
| | | | | | | TOTAL ADD'L FEE | | OR | TOTAL ADD'L 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.

Legal Instrument Examiner:
/EVELYN G. NIMMONS/

This collection of information is required by 37 CFR 1.16. 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 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

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. |
|---|---|---|---|---|
| 10/861,653 | 06/05/2004 | Robert A. Lambourne | RIN-007 | 3676 |

26797 7590 06/27/2008
SILICON VALLEY PATENT AGENCY
7394 WILDFLOWER WAY
CUPERTINO, CA 95014

| EXAMINER | |
|---|---|
| SELLERS, DANIEL R | |
| ART UNIT | PAPER NUMBER |
| 2615 | |
| MAIL DATE | DELIVERY MODE |
| 06/27/2008 | PAPER |

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

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/861,653 | LAMBOURNE, ROBERT A. | |
| | Examiner | Art Unit | |
| | DANIEL R. SELLERS | 2615 | |

*-- 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) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 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 *05 June 2004*.

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) *1-47* 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) *1-19, 21-44, and 46-47* is/are rejected.

7)☒ Claim(s) *20 and 45* 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 *05 June 2004* 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).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ 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.

**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/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Objections*

1. **Claims 10, 14, 15, 29, 36, and 42** are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

2. Regarding **claims 10 and 36**, they create a conditional limitation wherein if an event occurs it will further limit (e.g. "wherein the first list also shows at least one zone group"), but if the event does not occur (e.g. "if there is one"), the claims do not further limit the parent claim (i.e. there is no indication of how the method proceeds if there event did not occur). The claims could be written to include a limitation, wherein the method includes a step to check for a first zone group and to include steps for the events that occur with said check.

3. Regarding **claims 14 and 15**, they appear to further limit claim 13 much like claims 38 and 39 further limit claim 37. They will be prosecuted as such to expedite prosecution.

4. Regarding the apparatus of **claim 29** depends on the method of claim 26, wherein it appears claim 29 should depend on claim 27. The Office will interpret this claim as being dependent from claim 27 to expedite prosecution.

5. Regarding **claim 33**, it appears to further limit claim 32 and not claim 30. It will be interpreted as such for expedited prosecution.

6. Regarding **claim 42**, see the preceding argument with respect to claim 29. Claim 42 is written as a method claim to further limit an apparatus claim.

### *Drawings*

7. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because they are not of sufficient quality for reproduction (see 37 CFR 1.84). Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 103*

8. 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 negatived by the manner in which the invention was made.

9. **Claims 1-15 and 27-39** are rejected under 35 U.S.C. 103(a) as being unpatentable over Millington, US 2007/0038999 A1 in view of Berezowski et al., US 7,218,708 B2 (hereinafter Millington and Berezowski, respectively).

10. Regarding **claim 1**, Millington teaches a method for controlling a plurality of players, the method comprising:

*displaying on a screen a first list showing at least available players;*
*displaying, when at least one of the players is selected as a zone group head, on the screen a second list showing at least some of the players that are eligible to be grouped with the zone group head;*
*forming a zone group started with the zone group head, after one or more players from the at least some of the players are selected to join the zone group* (¶ 0019-0022 teaches different groupings or sets of zone players or "synchrony groups"); *and*
*synchronizing all players in the zone group* (¶ 0019 teaches synchronized playback of an audio program).

Furthermore, Millington teaches a user interface module (13), which includes a display (¶ 0032). Millington also teaches a zone group head selection (¶ 0031), however Millington does not appear to teach displaying a list of available players, nor a display of some players eligible to be grouped with selected zone group head.

Berezowski teaches a paging system employing different groups or zones, wherein players eligible to be grouped with a zone group head can be selected on a display (column 5, line 57 - column 6, line 13 and figures 8-10). Even though Berezowski teaches paging systems, one of ordinary skill in the art at the time of the invention would appreciate the similarities of broadcast audio or speech into different zones of playback devices. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Millington and Berezowski for the purpose of simplifying the user interface and facilitating selections of zone group heads and players.

11. Regarding **claim 2**, see the preceding argument with respect to claim 1. The combination teaches the method of claim 1, wherein it is obvious to create a scrollable list when the available players do not fit the screen (see Berezowski,

figure 10, wherein a typical prior art vertical scrollbar is shown in a foreground window).

12. Regarding **claim 3**, see the preceding argument with respect to claim 1. The combination teaches the method of claim 1, wherein said synchronizing all players in the zone group comprises:

> *determining an audio source for the zone group* (see Millington, ¶ 0018-0019)*;*
> *making the audio source available to each of the players in the zone group* (id., ¶ 0019-0021)*; and*
> *playing the audio source synchronously in all players in the zone group* (id., ¶ 0019-0021).

13. Regarding **claim 4**, see the preceding argument with respect to claim 3. The combination teaches the method of claim 3, wherein said determining an audio source for the zone comprises selecting the audio source being played or ready to be played by the zone group head (see Millington, ¶ 0021 and 0029).

14. Regarding **claim 5**, see the preceding argument with respect to claim 3. The combination teaches the method of claim 3, wherein said determining an audio source for the zone comprises selecting the audio source being played or ready to be played by one of the players in the zone group (see Millington, ¶ 0029).

15. Regarding **claim 6**, see the preceding argument with respect to claim 3. The combination teaches the method of claim 3, wherein said making the audio source available comprises:

> *determining whether the audio source is available locally* (see Millington, ¶ 0018)*; and*
> *retrieving the audio source from a device on a network, if the audio source is not available locally.*

Millington teaches a mix of local and network available audio sources. It is obvious to retrieve an audio source from a network if it is not available locally.

16. Regarding **claim 7**, see the preceding argument with respect to claim 6. The combination teaches the method of claim 6, wherein said making the audio source available comprises:

*determining the audio source from one of the players in the zone group* (see Millington, ¶ 0019, wherein audio can be selected from any connected audio source)*; and*

*causing the audio source available to every other player in the zone group* (id., ¶ 0021).

17. Regarding **claim 8**, see the preceding argument with respect to claim 1. The combination teaches the method of claim 1, wherein said synchronizing all players in the zone group comprises:

*causing all players in the zone group to play an identical audio source* (see Millington, ¶ 0021)*; and*

*presenting the zone group in a manner that indicates a grouping* (see Berezowski, figures 8-10 and column 6, lines 5-13).

18. Regarding **claim 9**, see the preceding argument with respect to claim 8. The combination teaches the method of claim 8, wherein the manner includes one or more of highlighting, colors, explicit texts and graphs (see Berezowski, column 6, lines 5-13).

19. Regarding **claim 10**, see the preceding argument with respect to claim 1. The combination teaches the method of claim 1, wherein it is obvious to display a first list showing at least one zone group when one exists.

20. Regarding **claim 11**, see the preceding argument with respect to claim 10. The combination teaches the method of claim 10, wherein the zone group includes at least two players (see Millington, ¶ 0021).

21. Regarding **claim 12**, see the preceding argument with respect to claim 9. The combination teaches the method of claim 9, wherein a configuration of the zone group is stored in at least one of the players or a controller for remotely controlling one or more of the players, the configuration including information on how the two players are grouped (see Berezowski, column 6, lines 5-13).

22. Regarding **claim 13**, see the preceding argument with respect to claim 8. The combination teaches the method of claim 8, further including:

> *selecting the zone group to be de-grouped from the first list* (see Millington, ¶ 0022)*;*
> *displaying on the screen another list showing all the players within the zone group to be de-grouped;*
> *selecting one or more players from the other list* (id., ¶ 0022-0023)*; and*
> *disassociating the selected players from the zone group* (id., ¶ 0024).

It is obvious that it is preferable to display another list with the above features.

23. Regarding **claim 14**, see the preceding argument with respect to claim 13. The combination teaches the method of claim 13, wherein said disassociating the selected players comprises making the selected players available for grouping with a zone group (see Millington, ¶ 0023-0025).

24. Regarding **claim 15**, see the preceding argument with respect to claim 13. The combination teaches the method of claim 13, wherein the other list becomes scrollable, when all the players within the zone group to be de-grouped do not fit in the screen. Berezowski teaches a typical scroll bar (see figure 10) and it

would have been obvious to create a scrollable list when the list became large enough to not fit on a screen.

25. Regarding **claim 27**, the combination teaches an apparatus for controlling a plurality of players, the apparatus comprising:

*a screen* (see Millington, ¶ 0032);
*a screen driver commanding the screen* (inherent);
*an input interface* (id., ¶ 0020);
*a network interface* (id., figure 3, unit 41);
*a memory for storing code for an application module* (see Berezowski, column 2, line 49 - column 3, line 7);
*a processor coupled to the memory, the input interface, the screen driver and the network interface, the processor executing the code in the memory to cause the application module and the screen driver* (inherent) *to perform operations of:*
*displaying on a screen a first list showing at least available players* (id., column 5, line 57 - column 6, line 13 and figures 8-10);
*displaying a zone group including players from the available players when at least two of the available players are selected to form the zone group, wherein any one of the players in the group serves as a zone group head* (see Millington, ¶ 0031); *and*
*synchronizing all players in the zone group in accordance with the zone group head* (id., ¶ 0019 and 0022-0025 teaches synchronized playback of an audio program).

The combination of claim 1, teaches the features above, wherein it is inherent there must be a screen driver to display an output and a processor to execute the software.

26. Regarding **claim 28**, see the preceding argument with respect to claims 2 and 27. The combination teaches these features like the method of claim 2, wherein it is performed on an apparatus with the features of claim 27.

27. Regarding **claim 29**, see the preceding argument with respect to claims 3 and 28. The combination teaches these features like the method of claim 3, wherein it is performed on an apparatus with the features of claim 27.

28. Regarding **claim 30**, see the preceding argument with respect to claims 4 and 28. The combination teaches these features like the method of claim 4, wherein it is performed on an apparatus with the features of claim 27.

29. Regarding **claim 31**, see the preceding argument with respect to claims 5 and 28. The combination teaches these features like the method of claim 5, wherein it is performed on an apparatus with the features of claim 27.

30. Regarding **claim 32**, see the preceding argument with respect to claims 6 and 28. The combination teaches these features like the method of claim 6, wherein it is performed on an apparatus with the features of claim 27.

31. Regarding **claim 33**, see the preceding argument with respect to claims 7 and 28. The combination teaches these features like the method of claim 7, wherein it is performed on an apparatus with the features of claim 32.

32. Regarding **claim 34**, see the preceding argument with respect to claims 8 and 28. The combination teaches these features like the method of claim 8, wherein it is performed on an apparatus with the features of claim 27.

33. Regarding **claim 35**, see the preceding argument with respect to claims 9 and 28. The combination teaches these features like the method of claim 9, wherein it is performed on an apparatus with the features of claim 34.

34. Regarding **claim 36**, see the preceding argument with respect to claims 10 and 28. The combination teaches these features like the method of claim 10, wherein it is performed on an apparatus with the features of claim 27.

35. Regarding **claim 37**, see the preceding argument with respect to claims 13 and 28. The combination teaches these features like the method of claim 13, wherein it is performed on an apparatus with the features of claim 27.

36. Regarding **claim 38**, see the preceding argument with respect to claims 14 and 28. The combination teaches these features like the method of claim 14, wherein it is performed on an apparatus with the features of claim 37.

37. Regarding **claim 39**, see the preceding argument with respect to claims 15 and 28. The combination teaches these features like the method of claim 15, wherein it is performed on an apparatus with the features of claim 37.

38. **Claims 16, 18, 19, 22-24, 40, 42, and 43** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Millington and Berezowski as applied to claim 1 above, and further in view of Suzuki, US 5,239,458 A.

39. Regarding **claim 16**, see the preceding argument with respect to claim 1. The combination of Millington and Berezowski teaches a method for controlling a plurality of players, the method comprising:

> *displaying on a screen a list showing a plurality of volume meters, at least one of the volume meters representing an audio volume of one of the players, and another one of the volume meters representing an audio volume of a group of players, if there is such a group; and*
> *adjusting one of the volume meters as desired after one of the volume meters from the list is selected* (see Millington, ¶ 0031).

The prior combination of Millington and Berezowski teaches the features shown above. However, it does not appear to teach a display listing a plurality of volume meters.

In an analogous art, Suzuki teaches a mixing console with a plurality of volume controls (abstract). Specifically, Suzuki teaches a display (28) associated with a plurality of faders (10) in a mixing console (column 3, lines 38-51). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Millington, Berezowski, and Suzuki for the purpose of displaying remote player's volume levels. It would allow the operator an easier and quicker way to check the volume levels of all the players in a group.

40. Regarding **claim 18**, see the preceding argument with respect to claim 16. The combination teaches the method of claim 16, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes:

*changing a volume of each of the group of players synchronously in accordance with an adjustment made by a user* (see Millington, ¶ 0031 and 0043, wherein ¶ 0043 is evidence that ¶ 0031 teaches synchronous volume control).

41. Regarding **claim 19**, see the preceding argument with respect to claim 18. The combination teaches the method of claim 18, further comprising adjusting the one of the volume meters for the group of players in a predetermined manner that appears that the group of players is being adjusted at the same time.

42. Regarding **claim 22**, see the preceding argument with respect to claim 16. The combination teaches the method of claim 16, further comprising playing an identical audio source in the group of players (see Millington, ¶ 0021).

43. Regarding **claim 23**, see the preceding argument with respect to claim 22. The combination teaches the method of claim 22, wherein the audio source is

retrieved in form of audio data packets over the network (see Millington, ¶ 0018, wherein streaming implies audio in packets over a network).

44. Regarding **claim 24**, see the preceding argument with respect to claim 23. The combination teaches the method of claim 23, wherein at least part of the audio source is retrieved or being streamed from one of the players (see Millington, ¶ 0018).

45. Regarding **claim 40**, see the preceding argument with respect to claims 16 and 27. The combination teaches these features like the method of claim 16, wherein it is performed on an apparatus with the features of claim 27.

46. Regarding **claim 42**, see the preceding argument with respect to claims 18 and 40. The combination teaches these features like the method of claim 18, wherein it is performed on an apparatus with the features of claim 40.

47. Regarding **claim 43**, see the preceding argument with respect to claims 19 and 40. The combination teaches these features like the method of claim 19, wherein it is performed on an apparatus with the features of claim 40.

48. **Claims 17 and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Millington, Berezowski, and Suzuki as applied to claim 16 above, and further in view of Lumsden, US 5,299,266 A.

49. Regarding **claim 17**, see the preceding argument with respect to claim 16. The combination of Millington, Berezowski, and Suzuki teach the method of claim 16, wherein said adjusting the one of the volume meters includes:

causing the audio volume to be adjusted in accordance with an adjustment to the volume meter (see Millington, ¶ 0031); or

causing the audio volume to be off, when a mute button is activated while the audio volume is on; and
causing the audio volume to be on, when a mute button is activated while the audio volume is off.

The prior combination does not appear to teach a muting operation.

In an analogous art, Lumsden teaches a mixing console with a plurality of volume controls (abstract). Specifically, Lumsden teaches a mute command through a group interface (column 2, line __ - column 3, line 11). It is obvious a mute button can restore the original gain level when the volume is off. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Millington, Berezowski, Suzuki, and Lumsden for the purpose of providing a quick way to silence or resume any output.

50. Regarding **claim 41**, see the preceding argument with respect to claims 17 and 40. The combination teaches these features like the method of claim 17, wherein it is performed on an apparatus with the features of claim 40.

51. **Claims 20, 25, 26, 44, 46, and 47** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Millington, Berezowski, and Suzuki as applied to claim 16 above, and further in view of Also et al., US 2004/0008852 A1 (hereinafter Also).

52. Regarding **claim 20**, see the preceding argument with respect to claim 18. The combination of Millington, Berezowski, and Suzuki teach the method of claim 18, but they do not appear to teach the method further comprising maintaining relative volume loudness difference among each of the players in the group.

In an analogous art, Also teaches a mixing console with a plurality of volume controls (abstract). Specifically, Also teaches a group volume control that appears to adjust the group in a relative amount (i.e. the main volume is raised a certain amount and each player is raised the same amount) (see ¶ 0002-0003). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Millington, Berezowski, Suzuki, and Also for the purpose of raising the volume of a group of players that have do not play at the same loudness level at the same gain level (e.g. different speaker loads and amplifiers behave differently).

53. Regarding **claim 25**, see the preceding argument with respect to claims 20 and 23. The combination teaches the method of claim 23, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes causing an equal change to a volume of each of the players in the group (see Millington, ¶ 0031 and see Also, ¶ 0002-0003).

54. Regarding **claim 26**, see the preceding argument with respect to claims 16 and 25. The combination teaches the method of claim 16, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes causing a predetermined unit change in volume for ever action by a user (the combination teaches one volume meter to control the group, and it is implied that a change is a predetermined amount).

55. Regarding **claim 44**, see the preceding argument with respect to claims 20 and 40. The combination teaches these features like the method of claim 20, wherein it is performed on an apparatus with the features of claim 40.

56. Regarding **claim 46**, see the preceding argument with respect to claims 25 and 40. The combination teaches these features like the method of claim 25, wherein it is performed on an apparatus with the features of claim 40.

57. Regarding **claim 47**, see the preceding argument with respect to claims 26 and 40. The combination teaches these features like the method of claim 26, wherein it is performed on an apparatus with the features of claim 40.

### *Allowable Subject Matter*

58. **Claims 21 and 45** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record does not appear to teach an average volume level to represent volumes of the players in the group.

### *Conclusion*

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

Holtz et al., US 2002/0109710 A1 - teaches a mixer device with volume controls (see ¶ 0111-0122);

Anttila et al., US 2003/0126211 A1 - teaches a list of clients to send audio to (see ¶ 0065-0066 and figure 9).; and

Blank et al., US 2004/0252400 A1 - teaches computer media synchronization across a network (see figure 2 and 7 and ¶ 0034-0037 and 0066-0067).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL R. SELLERS whose telephone number is (571)272-7528. The examiner can normally be reached on Monday to Friday, 9am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Suhan Ni can be reached on (571)272-7505. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel R. Sellers/
Examiner, Art Unit 2615

/Suhan Ni/
Primary Examiner, Art Unit 2614

| Notice of References Cited | Application/Control No. 10/861,653 | Applicant(s)/Patent Under Reexamination LAMBOURNE, ROBERT A. | |
|---|---|---|---|
| | Examiner DANIEL R. SELLERS | Art Unit 2615 | Page 1 of 1 |

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| | K | US- | | | |
| | L | US- | | | |
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Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

| Index of Claims | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 10861653 | LAMBOURNE, ROBERT A. |
| | Examiner | Art Unit |
| | DANIEL R SELLERS | 2615 |

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☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

| CLAIM | | DATE | | | | | | | | |
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| Index of Claims | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 10861653 | LAMBOURNE, ROBERT A. |
| | Examiner | Art Unit |
| | DANIEL R SELLERS | 2615 |

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| ✓ | Rejected | - | Cancelled | N | Non-Elected | A | Appeal |
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☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

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| Final | Original | 06/23/2008 | | | | | | | | |
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| Search Notes | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 10861653 | LAMBOURNE, ROBERT A. |
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|---|---|---|---|
| Class | Subclass | Date | Examiner |
| 700 | 94 | 6/23/08 | /DRS/ |

| SEARCH NOTES | | |
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|---|---|---|---|---|
| 10/861,653 | 06/05/2004<br>RULE | 381 | 2615 | RIN-007 |

**APPLICANTS**
Robert A. Lambourne, Cambridge, MA;

**** CONTINUING DATA **************************

**** FOREIGN APPLICATIONS **************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **** ** SMALL ENTITY **
07/30/2004

| Foreign Priority claimed ☐ Yes ☑ No<br>35 USC 119(a-d) conditions met ☐ Yes ☐ No<br>Verified and Acknowledged /DANIEL R SELLERS/ Examiner's Signature | ☐ Met after Allowance<br>Initials | STATE OR COUNTRY | SHEETS DRAWINGS | TOTAL CLAIMS | INDEPENDENT CLAIMS |
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| | | MA | 14 | 47 | 4 |

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**TITLE**

Method and apparatus for controlling multimedia players in a multi-zone system

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EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|---|---|---|---|---|---|---|
| S1 | 0 | "10".src. and "861653".ap. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/20 03:45 |
| S3 | 55 | kaleidescape$.as. | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/20 03:45 |
| S4 | 3 | kaleidescape$.as. and zone | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/20 03:50 |
| S5 | 296 | (music audio) near5 (player device) near20 (zone) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/20 03:51 |
| S6 | 12 | (music audio) near5 (player device) near20 (zone) and (master near20 slave) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/20 03:51 |
| S7 | 11 | (("6009457") or ("6031818") or ("20010032188") or ("20020090914") or ("20020112244") or ("20030099212") or ("20030126211") or ("20040203378") or ("6836788") or ("6934766") or ("7312785")).PN. | US-PGPUB; USPAT | OR | OFF | 2008/06/22 18:57 |
| S8 | 16635 | (menu display) near20 (guest slave player zone multicast) near10 (join$4 add$7 select$5) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 19:01 |
| S9 | 1351 | (menu display) near20 (guest slave player zone multicast) near10 (join$4 add$7 select$5) near20 (audio music song) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 19:02 |

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| S10 | 15 | 715/716.ccls. and (menu display) near20 (guest slave player zone multicast) near10 (join$4 add$7 select$5) near20 (audio music song) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 19:02 |
| S11 | 363 | (menu) near20 (guest slave player zone multicast) near10 (join$4 add$7 select$5) near20 (audio music song) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 19:04 |
| S12 | 18 | (menu) near20 (guest slave zone multicast) near10 (join$4 add$7 select$5) near20 (audio music song) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 19:04 |
| S13 | 72 | (network$3) near5 (audio music paging announcement) near20 (zone area) near10 (group $3 collection) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 19:07 |
| S14 | 3 | (network$3) near5 (audio music paging announcement) near20 (zone area) near10 (group $3 collection) and (menu display) near10 (group$3 collection) near20 (select $7 add$7 join$3) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 19:07 |
| S15 | 2 | "381".clas. and (network $3) near5 (audio music paging announcement) near20 (zone area) near10 (group$3 collection) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 19:08 |
| S16 | 46 | "381".clas. and (network $3) near5 (audio music paging announcement) near20 (zone area) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 19:09 |
| S17 | 6 | (("20050081213") or ("5875354") or ("20040252400") or ("20020034374") or ("20020073228") or ("7007106")).PN. | US-PGPUB; USPAT | OR | OFF | 2008/06/22 19:11 |
| S18 | 0 | ("2004/0252400").URPN. | USPAT | OR | ON | 2008/06/22 19:13 |

| | | | | | | |
|---|---|---|---|---|---|---|
| S19 | 99 | (user operator) near5 (select$5 choos$3) near10 (audio music) near20 (transm$7 send$3) near10 (client zone group$3 slave) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 19:20 |
| S20 | 3 | (user operator) near5 (select$5 choos$3) near10 (audio music) near20 (transm$7 send$3) near10 (client zone group$3 slave) near20 menu | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 19:20 |
| S21 | 14 | ("20040170159" \| "20040203568" \| "3848193" \| "5740235" \| "5781852" \| "5887067" \| "6078653" \| "6108544" \| "6295001" \| "6442250" \| "6553100" \| "6574338" \| "6650744" \| "6745021"). PN. | US-PGPUB; USPAT; USOCR | OR | ON | 2008/06/22 19:26 |
| S22 | 6 | (US-20040070593-$ or US-20070038999-$ or US-20030126211-$ or US-20040252400-$).did. or (US-6813777-$ or US-7218708-$).did. or (US-20040070593-A-$).did. | US-PGPUB; USPAT; DERWENT | OR | ON | 2008/06/22 19:48 |
| S23 | 5 | S22 and (synchron$7) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 19:49 |
| S24 | 6 | S22 and (group$5 zone slave) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 19:55 |
| S25 | 2 | S22 and (volume) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 21:31 |
| S26 | 3 | S22 and (volume mute) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 21:32 |
| S27 | 0 | silvfast$.in. and (volume gain) near20 (group) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 22:49 |

| | | | | | | |
|---|---|---|---|---|---|---|
| S28 | 3 | audio near2 mixer near20 (volume gain) near20 (group) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 22:49 |
| S29 | 0 | silfvast$.in. and (volume gain) near20 (group) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 22:49 |
| S30 | 108 | audio near2 mixer and (volume gain) near20 (group) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 22:52 |
| S31 | 0 | audio near2 mixer and (volume gain) near20 (group) near50 (average) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 23:08 |
| S32 | 2 | audio near2 mixer and (volume gain) near20 (group) and (average) near10 (volume gain) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 23:09 |
| S33 | 4989 | (volume gain) near20 (group) and (average) near10 (volume gain) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 23:10 |
| S34 | 34 | (chang$3 adjus$3) near5 (average) near5 (volume gain) near20 (group) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 23:11 |
| S35 | 1 | (chang$3 adjus$3) near10 (average) near10 (volume gain level) near20 (group) and (audio music song) near10 (mix$3 network$3) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 23:12 |
| S36 | 8 | (chang$3 adjus$3) near10 (average) near10 (volume gain level) near20 (group) and (audio music song) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 23:14 |
| S37 | 145 | (chang$3 adjus$3) near10 (average) near10 (volume gain level) near20 (group) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 23:16 |

| | | | | | | |
|---|---|---|---|---|---|---|
| S38 | 227 | (chang$3 adjus$3) near10 (average) near10 (volume gain level) near20 (group $3 zon$3 network$3) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 23:17 |
| S39 | 23 | (chang$3 adjus$3) near10 (average) near10 (volume gain level) near20 (group $3 zon$3 network$3) and (audio music song) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 23:17 |
| S40 | 54 | (volume gain level) near20 (group$3 zon$3 network$3) near20 (represent$7) near10 (average mean) and (audio music song) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/22 23:21 |
| S41 | 13 | audio near2 mixer and (volume) near5 (display) near5 (level) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/23 03:19 |
| S42 | 30 | ("4631525").URPN. | USPAT | OR | ON | 2008/06/23 03:21 |
| S43 | 1 | audio near2 mixer and (volume) near5 (mut$3) near20 (group) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/23 03:28 |
| S44 | 22 | audio near2 mixer and (mut$3) near20 (group) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2008/06/23 03:29 |

6/ 23/ 08 4:26:26 AM
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PTO/SB/05 (08-00)
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22704 U.S. PTO 060504

22386 U.S.PTO 10/861653 060504

# UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

| | |
|---|---|
| Attorney Docket No. | RIN-007 |
| First Inventor | Robert A. Lambourne |
| Title | Method and apparatus for controlling multimedia players in a multi-zone system |
| Express Mail Label No. | ED048266815US |

## APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

1. [X] Fee Transmittal Form (e.g., PTO/SB/17) *(Submit an original and a duplicate for fee processing)*
2. [X] Applicant claims small entity status. See 37 CFR 1.27.
3. [X] Specification [*Total Pages* 42 ] *(preferred arrangement set forth below)*
   - Descriptive title of the invention
   - Cross Reference to Related Applications
   - Statement Regarding Fed sponsored R & D
   - Reference to sequence listing, a table, or a computer program listing appendix
   - Background of the Invention
   - Brief Summary of the Invention
   - Brief Description of the Drawings (*if filed*)
   - Detailed Description
   - Claim(s)
   - Abstract of the Disclosure
4. [X] Drawing(s) *(35 U.S.C. 113)* [ *Total Sheets* 14 ]
5. Oath or Declaration [ *Total Pages* 2 ]
   a. [X] Newly executed (original or copy)
   b. [ ] Copy from a prior application (37 CFR 1.63 (d)) *(for continuation/divisional with Box 17 completed)*
      i. [ ] DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. [ ] Application Data Sheet. See 37 CFR 1.76
7. [ ] CD-ROM or CD-R in duplicate, large table or Computer Program (*Appendix*)
8. Nucleotide and/or Amino Acid Sequence Submission (*if applicable, all necessary*)
   a. [ ] Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. [ ] CD-ROM or CD-R (2 copies); or
      ii. [ ] paper
   c. [ ] Statements verifying identity of above copies

## ACCOMPANYING APPLICATION PARTS

9. [X] Assignment Papers (cover sheet & document(s))
10. [ ] 37 CFR 3.73(b) Statement *(when there is an assignee)* [ ] Power of Attorney
11. [ ] English Translation Document *(if applicable)*
12. [ ] Information Disclosure Statement (IDS)/PTO-1449 [ ] Copies of IDS Citations
13. [ ] Preliminary Amendment
14. [X] Return Receipt Postcard (MPEP 503) *(Should be specifically itemized)*
15. [ ] Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
16. [X] Other: Non-publication request

17. If a CONTINUING APPLICATION, *check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:*

[ ] Continuation [ ] Divisional [ ] Continuation-in-part (CIP) of prior application No.: _____ / _____

*Prior application information:* *Examiner* _____ *Group / Art Unit:* _____

**For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.**

## 18. CORRESPONDENCE ADDRESS

[X] *Customer Number or Bar Code Label* (Insert Customer No. or Attach bar code label here) 26797 or [ ] *Correspondence address below* 26797

| | | | | | |
|---|---|---|---|---|---|
| Name | | | | | |
| Address | | | | | |
| City | | State | | Zip Code | |
| Country | | Telephone | 408-777-8873 | Fax | 408-873-9249 |

| | | | |
|---|---|---|---|
| Name (Print/Type) | Joe Zheng | Registration No. (Attorney/Agent) | 39,450 |
| Signature | Jzheng | Date | 6/15/2004 |

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# FEE TRANSMITTAL for FY 2004

*Effective 10/01/2003. Patent fees are subject to annual revision.*

☑ Applicant claims small entity status. See 37 CFR 1.27

**TOTAL AMOUNT OF PAYMENT** ($) 711.00

| *Complete if Known* | |
|---|---|
| Application Number | |
| Filing Date | Herewith |
| First Named Inventor | Robert A. Lambourne |
| Examiner Name | |
| Art Unit | |
| Attorney Docket No. | RIN-007 |

## METHOD OF PAYMENT *(check all that apply)*

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☑ Deposit Account:

Deposit Account Number: 502436

Deposit Account Name: Joe Zheng

**The Director is authorized to:** *(check all that apply)*

☑ Charge fee(s) indicated below ☑ Credit any overpayments

☑ Charge any additional fee(s) or any underpayment of fee(s)

☐ Charge fee(s) indicated below, **except for the filing fee** to the above-identified deposit account.

## FEE CALCULATION

### 1. BASIC FILING FEE

| Large Entity Fee Code | Large Entity Fee ($) | Small Entity Fee Code | Small Entity Fee ($) | Fee Description | Fee Paid |
|---|---|---|---|---|---|
| 1001 | 770 | 2001 | 385 | Utility filing fee | 385 |
| 1002 | 340 | 2002 | 170 | Design filing fee | |
| 1003 | 530 | 2003 | 265 | Plant filing fee | |
| 1004 | 770 | 2004 | 385 | Reissue filing fee | |
| 1005 | 160 | 2005 | 80 | Provisional filing fee | |

SUBTOTAL (1) ($) 385.00

### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

| | | Extra Claims | | Fee from below | Fee Paid |
|---|---|---|---|---|---|
| Total Claims | 47 | -20** = | 27 | x 9 | = 243 |
| Independent Claims | 4 | - 3** = | 1 | x 43 | = 43 |
| Multiple Dependent | | | | | = |

| Large Entity Fee Code | Large Entity Fee ($) | Small Entity Fee Code | Small Entity Fee ($) | Fee Description |
|---|---|---|---|---|
| 1202 | 18 | 2202 | 9 | Claims in excess of 20 |
| 1201 | 86 | 2201 | 43 | Independent claims in excess of 3 |
| 1203 | 290 | 2203 | 145 | Multiple dependent claim, if not paid |
| 1204 | 86 | 2204 | 43 | ** Reissue independent claims over original patent |
| 1205 | 18 | 2205 | 9 | ** Reissue claims in excess of 20 and over original patent |

SUBTOTAL (2) ($) 286.00

***or number previously paid, if greater; For Reissues, see above*

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

| Large Entity Fee Code | Large Entity Fee ($) | Small Entity Fee Code | Small Entity Fee ($) | Fee Description | Fee Paid |
|---|---|---|---|---|---|
| 1051 | 130 | 2051 | 65 | Surcharge - late filing fee or oath | |
| 1052 | 50 | 2052 | 25 | Surcharge - late provisional filing fee or cover sheet | |
| 1053 | 130 | 1053 | 130 | Non-English specification | |
| 1812 | 2,520 | 1812 | 2,520 | For filing a request for *ex parte* reexamination | |
| 1804 | 920* | 1804 | 920* | Requesting publication of SIR prior to Examiner action | |
| 1805 | 1,840* | 1805 | 1,840* | Requesting publication of SIR after Examiner action | |
| 1251 | 110 | 2251 | 55 | Extension for reply within first month | |
| 1252 | 420 | 2252 | 210 | Extension for reply within second month | |
| 1253 | 950 | 2253 | 475 | Extension for reply within third month | |
| 1254 | 1,480 | 2254 | 740 | Extension for reply within fourth month | |
| 1255 | 2,010 | 2255 | 1,005 | Extension for reply within fifth month | |
| 1401 | 330 | 2401 | 165 | Notice of Appeal | |
| 1402 | 330 | 2402 | 165 | Filing a brief in support of an appeal | |
| 1403 | 290 | 2403 | 145 | Request for oral hearing | |
| 1451 | 1,510 | 1451 | 1,510 | Petition to institute a public use proceeding | |
| 1452 | 110 | 2452 | 55 | Petition to revive - unavoidable | |
| 1453 | 1,330 | 2453 | 665 | Petition to revive - unintentional | |
| 1501 | 1,330 | 2501 | 665 | Utility issue fee (or reissue) | |
| 1502 | 480 | 2502 | 240 | Design issue fee | |
| 1503 | 640 | 2503 | 320 | Plant issue fee | |
| 1460 | 130 | 1460 | 130 | Petitions to the Commissioner | |
| 1807 | 50 | 1807 | 50 | Processing fee under 37 CFR 1.17(q) | |
| 1806 | 180 | 1806 | 180 | Submission of Information Disclosure Stmt | |
| 8021 | 40 | 8021 | 40 | Recording each patent assignment per property (times number of properties) | 40 |
| 1809 | 770 | 2809 | 385 | Filing a submission after final rejection (37 CFR 1.129(a)) | |
| 1810 | 770 | 2810 | 385 | For each additional invention to be examined (37 CFR 1.129(b)) | |
| 1801 | 770 | 2801 | 385 | Request for Continued Examination (RCE) | |
| 1802 | 900 | 1802 | 900 | Request for expedited examination of a design application | |

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($) 40.00

| SUBMITTED BY | | | | (Complete *(if applicable)*) | |
|---|---|---|---|---|---|
| *Name (Print/Type)* | Joe Zheng | *Registration No. (Attorney/Agent)* | 39,450 | *Telephone* | (408)777-887 |
| *Signature* | JZheng | | | *Date* | 6/5/2004 |

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This collection of information is required by 37 CFR 1.17 and 1.27. 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 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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| NONPUBLICATION REQUEST UNDER 35 U.S.C. 122(b)(2)(B)(i) | | |
|---|---|---|
| | First Named Inventor | **Robert A. Lambourne** |
| | Title | **Method and apparatus for controlling multimedia players in a multi-zone system** |
| | Atty Docket Number | **RIN-007** |

I hereby certify that the invention disclosed in the attached application **has not and will not be** the subject of an application filed in another country, or under a multilateral agreement, that requires publication at eighteen months after filing.

I hereby request that the attached application not be published under 35 U.S.C. 122(b).

6/5/2004
Date


Signature

**Joe Zheng, Reg. No.: 39,450**
Typed or printed name

This request must be signed in compliance with 37 CFR 1.33(b) and submitted with the application **upon filing.**

Applicant may rescind this nonpublication request at any time. If applicant rescinds a request that an application not be published under 35 U.S.C. 122(b), the application will be scheduled for publication at eighteen months from the earliest claimed filing date for which a benefit is claimed.

If applicant subsequently files an application directed to the invention disclosed in the attached application in another country, or under a multilateral international agreement, that requires publication of applications eighteen months after filing, the applicant **must** notify the United States Patent and Trademark Office of such filing within forty-five (45) days after the date of the filing of such foreign or international application. **Failure to do so will result in abandonment of this application (35 U.S.C. 122(b)(2)(B)(iii)).**

Burden Hour Statement: This collection of information is required by 37 CFR 1.213(a). The information is used by the public to request that an application not be published under 35 U.S.C. 122(b) (and the PTO to process that request). Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This form is estimated to take 6 minutes to complete. This time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

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22704 U.S. PTO 060504

22386 U.S.PTO 10/861653 060504

# UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

| | |
|---|---|
| Attorney Docket No. | RIN-007 |
| First Inventor | Robert A. Lambourne |
| Title | Method and apparatus for controlling multimedia players in a multi-zone system |
| Express Mail Label No. | ED048266815US |

## APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. [X] Fee Transmittal Form (e.g., PTO/SB/17) *(Submit an original and a duplicate for fee processing)*
2. [X] Applicant claims small entity status. See 37 CFR 1.27.
3. [X] Specification [Total Pages 42 ] *(preferred arrangement set forth below)*
   - Descriptive title of the invention
   - Cross Reference to Related Applications
   - Statement Regarding Fed sponsored R & D
   - Reference to sequence listing, a table, or a computer program listing appendix
   - Background of the Invention
   - Brief Summary of the Invention
   - Brief Description of the Drawings *(if filed)*
   - Detailed Description
   - Claim(s)
   - Abstract of the Disclosure
4. [X] Drawing(s) *(35 U.S.C. 113)* [ Total Sheets 14 ]
5. Oath or Declaration [ Total Pages 2 ]
   a. [X] Newly executed (original or copy)
   b. [ ] Copy from a prior application (37 CFR 1.63 (d)) *(for continuation/divisional with Box 17 completed)*
      i. [ ] DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. [ ] Application Data Sheet. See 37 CFR 1.76
7. [ ] CD-ROM or CD-R in duplicate, large table or Computer Program *(Appendix)*
8. Nucleotide and/or Amino Acid Sequence Submission *(if applicable, all necessary)*
   a. [ ] Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. [ ] CD-ROM or CD-R (2 copies); or
      ii. [ ] paper
   c. [ ] Statements verifying identity of above copies

ADDRESS TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231

## ACCOMPANYING APPLICATION PARTS

9. [X] Assignment Papers (cover sheet & document(s))
10. [ ] 37 CFR 3.73(b) Statement *(when there is an assignee)* [ ] Power of Attorney
11. [ ] English Translation Document *(if applicable)*
12. [ ] Information Disclosure Statement (IDS)/PTO-1449 [ ] Copies of IDS Citations
13. [ ] Preliminary Amendment
14. [X] Return Receipt Postcard (MPEP 503) *(Should be specifically itemized)*
15. [ ] Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
16. [X] Other: Non-publication request

17. If a CONTINUING APPLICATION, *check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:*

[ ] Continuation [ ] Divisional [ ] Continuation-in-part (CIP) of prior application No.: _____ / _____

*Prior application information:* *Examiner* _____ *Group / Art Unit:* _____

**For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.**

## 18. CORRESPONDENCE ADDRESS

[X] *Customer Number or Bar Code Label* (Insert Customer No. or Attach bar code label here) 26797 or [ ] *Correspondence address below* 26797

| | | | | | |
|---|---|---|---|---|---|
| Name | | | | | |
| Address | | | | | |
| City | | State | | Zip Code | |
| Country | | Telephone | 408-777-8873 | Fax | 408-873-9249 |

| | | | |
|---|---|---|---|
| Name (Print/Type) | Joe Zheng | Registration No. (Attorney/Agent) | 39,450 |
| Signature | J Zheng | Date | 6/15/2004 |

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# FEE TRANSMITTAL for FY 2004

*Effective 10/01/2003. Patent fees are subject to annual revision.*

☑ Applicant claims small entity status. See 37 CFR 1.27

**TOTAL AMOUNT OF PAYMENT** ($) 711.00

| *Complete if Known* | |
|---|---|
| Application Number | |
| Filing Date | Herewith |
| First Named Inventor | Robert A. Lambourne |
| Examiner Name | |
| Art Unit | |
| Attorney Docket No. | RIN-007 |

## METHOD OF PAYMENT *(check all that apply)*

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☑ Deposit Account:

Deposit Account Number: 502436

Deposit Account Name: Joe Zheng

**The Director is authorized to:** *(check all that apply)*

☑ Charge fee(s) indicated below ☑ Credit any overpayments

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## FEE CALCULATION

### 1. BASIC FILING FEE

| Large Entity Fee Code | Large Entity Fee ($) | Small Entity Fee Code | Small Entity Fee ($) | Fee Description | Fee Paid |
|---|---|---|---|---|---|
| 1001 | 770 | 2001 | 385 | Utility filing fee | 385 |
| 1002 | 340 | 2002 | 170 | Design filing fee | |
| 1003 | 530 | 2003 | 265 | Plant filing fee | |
| 1004 | 770 | 2004 | 385 | Reissue filing fee | |
| 1005 | 160 | 2005 | 80 | Provisional filing fee | |

SUBTOTAL (1) ($) 385.00

### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

| | | Extra Claims | | Fee from below | | Fee Paid |
|---|---|---|---|---|---|---|
| Total Claims | 47 | -20** = | 27 | x 9 | = | 243 |
| Independent Claims | 4 | - 3** = | 1 | x 43 | = | 43 |
| Multiple Dependent | | | | | = | |

| Large Entity Fee Code | Large Entity Fee ($) | Small Entity Fee Code | Small Entity Fee ($) | Fee Description |
|---|---|---|---|---|
| 1202 | 18 | 2202 | 9 | Claims in excess of 20 |
| 1201 | 86 | 2201 | 43 | Independent claims in excess of 3 |
| 1203 | 290 | 2203 | 145 | Multiple dependent claim, if not paid |
| 1204 | 86 | 2204 | 43 | ** Reissue independent claims over original patent |
| 1205 | 18 | 2205 | 9 | ** Reissue claims in excess of 20 and over original patent |

SUBTOTAL (2) ($) 286.00

***or number previously paid, if greater; For Reissues, see above*

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

| Large Entity Fee Code | Large Entity Fee ($) | Small Entity Fee Code | Small Entity Fee ($) | Fee Description | Fee Paid |
|---|---|---|---|---|---|
| 1051 | 130 | 2051 | 65 | Surcharge - late filing fee or oath | |
| 1052 | 50 | 2052 | 25 | Surcharge - late provisional filing fee or cover sheet | |
| 1053 | 130 | 1053 | 130 | Non-English specification | |
| 1812 | 2,520 | 1812 | 2,520 | For filing a request for *ex parte* reexamination | |
| 1804 | 920* | 1804 | 920* | Requesting publication of SIR prior to Examiner action | |
| 1805 | 1,840* | 1805 | 1,840* | Requesting publication of SIR after Examiner action | |
| 1251 | 110 | 2251 | 55 | Extension for reply within first month | |
| 1252 | 420 | 2252 | 210 | Extension for reply within second month | |
| 1253 | 950 | 2253 | 475 | Extension for reply within third month | |
| 1254 | 1,480 | 2254 | 740 | Extension for reply within fourth month | |
| 1255 | 2,010 | 2255 | 1,005 | Extension for reply within fifth month | |
| 1401 | 330 | 2401 | 165 | Notice of Appeal | |
| 1402 | 330 | 2402 | 165 | Filing a brief in support of an appeal | |
| 1403 | 290 | 2403 | 145 | Request for oral hearing | |
| 1451 | 1,510 | 1451 | 1,510 | Petition to institute a public use proceeding | |
| 1452 | 110 | 2452 | 55 | Petition to revive - unavoidable | |
| 1453 | 1,330 | 2453 | 665 | Petition to revive - unintentional | |
| 1501 | 1,330 | 2501 | 665 | Utility issue fee (or reissue) | |
| 1502 | 480 | 2502 | 240 | Design issue fee | |
| 1503 | 640 | 2503 | 320 | Plant issue fee | |
| 1460 | 130 | 1460 | 130 | Petitions to the Commissioner | |
| 1807 | 50 | 1807 | 50 | Processing fee under 37 CFR 1.17(q) | |
| 1806 | 180 | 1806 | 180 | Submission of Information Disclosure Stmt | |
| 8021 | 40 | 8021 | 40 | Recording each patent assignment per property (times number of properties) | 40 |
| 1809 | 770 | 2809 | 385 | Filing a submission after final rejection (37 CFR 1.129(a)) | |
| 1810 | 770 | 2810 | 385 | For each additional invention to be examined (37 CFR 1.129(b)) | |
| 1801 | 770 | 2801 | 385 | Request for Continued Examination (RCE) | |
| 1802 | 900 | 1802 | 900 | Request for expedited examination of a design application | |

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($) 40.00

| SUBMITTED BY | | | | (Complete *(if applicable)*) | |
|---|---|---|---|---|---|
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| *Signature* | JZheng | | | *Date* | 6/5/2004 |

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| NONPUBLICATION REQUEST UNDER 35 U.S.C. 122(b)(2)(B)(i) | | |
|---|---|---|
| | First Named Inventor | **Robert A. Lambourne** |
| | Title | **Method and apparatus for controlling multimedia players in a multi-zone system** |
| | Atty Docket Number | **RIN-007** |

I hereby certify that the invention disclosed in the attached application **has not and will not be** the subject of an application filed in another country, or under a multilateral agreement, that requires publication at eighteen months after filing.

I hereby request that the attached application not be published under 35 U.S.C. 122(b).

6/5/2004
Date


Signature

**Joe Zheng, Reg. No.: 39,450**
Typed or printed name

This request must be signed in compliance with 37 CFR 1.33(b) and submitted with the application **upon filing.**

Applicant may rescind this nonpublication request at any time. If applicant rescinds a request that an application not be published under 35 U.S.C. 122(b), the application will be scheduled for publication at eighteen months from the earliest claimed filing date for which a benefit is claimed.

If applicant subsequently files an application directed to the invention disclosed in the attached application in another country, or under a multilateral international agreement, that requires publication of applications eighteen months after filing, the applicant **must** notify the United States Patent and Trademark Office of such filing within forty-five (45) days after the date of the filing of such foreign or international application. **Failure to do so will result in abandonment of this application (35 U.S.C. 122(b)(2)(B)(iii)).**

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## In the United States Patent and Trademark Office

**US Utility Patent Application for**

# Method and apparatus for controlling multimedia players in a multi-zone system


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File No.: RIN-007

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Express Mail Label # ED 048266815US Date of Deposit: **June 5, 2004**

I hereby certify that this paper or fee is being deposited with the United States Postal Service using "Express Mail Post Office To Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to "Mail Stop: New Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313"

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# Method and apparatus for controlling multimedia players in a multi-zone system

Robert A. Lambourne

## BACKGROUND OF THE INVENTION

Field of the Invention

**[0001]** The invention is generally related to the area of audio technologies and human-computer interaction. In particular, the invention is related to method and apparatus for controlling or manipulating a plurality of multimedia players in a multi-zone system.

The Background of Related Art

**[0002]** An enduring passion for quality audio reproduction or system is continuing to drive demands from users. One of the demands includes an audio system in a house in which, for example, one could grill to classic rock on a patio while another one may cook up his/her own music selections in a kitchen. This is all at the same time while a teenager catches a ballgame in a family room, and another one blasts pop in a bedroom. And the best part of such audio system is that each family member does not need his or her own stereo system - one system gives everyone access to all the music sources.

**[0003]** Currently, one of the systems that can meet part of such demand is a conventional multi-zone audio system that usually includes a number of audio players. Each of the audio players has its own amplifier(s) and a set of speakers and typically installed in one place (e.g., a room). In order to play an audio source at one location, the audio source must be provided locally or from a

centralized location. When the audio source is provided locally, the multi-zone audio system functions as a collection of many stereo systems, making source sharing difficult. When the audio source is provided centrally, the centralized location may include a juke box, many compact discs, an AM or FM radio, tapes, or others. To send an audio source to an audio player demanding such source, a cross-bar type of device is used to prevent the audio source from going to other audio players that may be playing other audio sources.

**[0004]** In order to achieve playing different audio sources in different audio players, the traditional multi-zone audio system is generally either hard-wired or controlled by a pre-configured and pre-programmed controller. While the pre-programmed configuration may be satisfactory in one situation, it may not be suitable for another situation. For example, a person would like to listen to broadcast news from his/her favorite radio station in a bedroom, a bathroom and a den while preparing to go to work in the morning. The same person may wish to listen in the den and the living room to music from a compact disc in the evening. In order to satisfy such requirements, two groups of audio players must be established. In the morning, the audio players in the bedroom, the bathroom and the den need to be grouped for the broadcast news. In the evening, the audio players in the den and the living room are grouped for the music. Over the weekend, the audio players in the den, the living room, and a kitchen are grouped for party music. Because the morning group, the evening group and the weekend group contain the den, it can be difficult for the traditional system to accommodate the requirement of dynamically managing the ad hoc creation and deletion of groups.

**[0005]** Other than the above mentioned problem, the control of the audio players as a group does not exist. For example, the audio volume of the audio

players in the traditional multi-zone audio system needs to be adjusted one at a time, resulting in an inconvenient and non-homogenous audio environment.

**[0006]** There is, therefore, a need for solutions in a multi-zone audio system to control a plurality of audio players and their audio characteristics from one controlling device.

## SUMMARY OF THE INVENTION

**[0007]** This section is for the purpose of summarizing some aspects of the present invention and to briefly introduce some preferred embodiments. Simplifications or omissions in this section as well as in the abstract or the title of this description may be made to avoid obscuring the purpose of this section, the abstract and the title. Such simplifications or omissions are not intended to limit the scope of the present invention.

**[0008]** In general, the present invention pertains to control of audio characteristics of a plurality of multimedia players, or simply players, from a controller. The characteristics include, but are not limited to, an audio source and an audio volume being played in each of the players. In particular, the present invention enables the user to remotely control the audio characteristics of the players either as a group or as an individual player. According to one aspect of the present invention, the same audio source is selected to be played synchronously in a group of players via a controlling device operated by a user. The group may be flexibly formed in a dynamic manner. Within the group, any one of the audio sources may be chosen and made available to each of the players. All audio playback control operations such as pause/play, forward/rewind, next/previous track are synchronously controlled, while the audio

volume adjustment may be applied to a selected player or all of the players in the group.

**[0009]** According to another aspect of the present invention, a configurable module is implemented in the controlling device that provides interactive graphic user interface for controlling playback of the audio source, grouping a plurality of players together, de-grouping a group or adjusting audio volume of individual players or a group of players.

**[0010]** According to yet another aspect of the present invention, a player in a group of players is configured to synchronously play an audio source by selecting a source, making the source available or retrieving the source if the source is not found locally

**[0011]** The present invention may be implemented in many forms including software, hardware or a combination of both. According to one embodiment, the present invention is directed to a method for controlling a plurality of players, the method comprising: displaying on a screen a first list showing at least available players, selecting at least one of the players as a zone group head, displaying on the screen a second list showing at least some of the players that are eligible to be grouped with the zone group head, selecting one or more players from the at least some of the players to be a group being formed by the group head, and synchronizing all players in the group.

**[0012]** According to another embodiment, the present invention is a method for controlling a plurality of players, the method comprising displaying on a screen a list showing a plurality of volume meters, at least one of the volume meters representing an audio volume of one of the players, and another one of the volume meters representing an audio volume of a group of players, if there is

such group, selecting one of the volume meters from the list, and adjusting the one of the volume meters as desired.

**[0013]** According to still another embodiment, the present invention is an apparatus for controlling a plurality of players, the apparatus comprises a screen, a screen driver commanding the screen, an input interface, a network interface, a memory for storing code for an application module, a processor coupled to the memory, the input interface, the screen driver and the network interface, the processor executing the code in the memory to cause the application module and the screen driver to perform operations of: displaying on the screen a first list showing at least available players; selecting at least one of the players as a zone group head; displaying on the screen a second list showing at least some of the players that are eligible to be grouped with the zone group head; selecting one or more players from the at least some of the players to be a zone group being formed by the zone group head; and synchronizing all players in the zone group.

**[0014]** The operations further include displaying on a screen a list showing a plurality of volume meters, at least one of the volume meters representing an audio volume of one of the players, and another one of the volume meters representing an audio volume of a group of players, if there is such group; selecting one of the volume meters from the list; and adjusting the one of the volume meters as desired.

**[0015]** One of the objects, features, and advantages of the present invention is to remotely control a plurality of multimedia players in a multi-zone system, playing and controlling the audio source synchronously if the players are grouped together, or playing and controlling the audio source individually if the players are disassociated with each other.

**[0016]** Other objects, features, and advantages of the present invention will become apparent upon examining the following detailed description of an embodiment thereof, taken in conjunction with the attached drawings.

## BRIEF DESCRIPTION OF THE DRAWINGS

**[0017]** These and other features, aspects, and advantages of the present invention will become better understood with regard to the following description, appended claims, and accompanying drawings where:

**[0018]** FIG. 1 shows an exemplary configuration in which the present invention may be practiced;

**[0019]** FIG. 2A shows an exemplary functional block diagram of a player in accordance with the present invention;

**[0020]** FIG. 2B shows an example of a controller that may be used to remotely control one of more players of FIG. 2A;

**[0021]** FIG. 2C shows an exemplary internal functional block diagram of a controller in accordance with one embodiment of the present invention;

**[0022]** FIGS. 3A and 3B illustrate a sequence of screen displays in accordance with one embodiment of the present invention for controlling a plurality of players;

**[0023]** FIG. 3C shows a sequence of screen displays in accordance with one embodiment of the present invention for alternatively controlling players;

**[0024]** FIGS. 4A and 4B show a sequence of screen displays in accordance with one embodiment of the present invention for controlling players regarding audio volume;

**[0025]** FIG. 5 shows a flowchart or process of controlling a plurality of zones players according to one embodiment of the present invention;

**[0026]** FIG. 6 shows a flowchart or process of controlling audio volume of a plurality of players in a zone group according to one embodiment of the present invention; and

**[0027]** FIGS 7A-7D show a sequence of screen displays in accordance with one embodiment of the present invention on a computing device for alternatively controlling players.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

**[0028]** The present invention pertains to techniques for controlling a plurality of players, grouping some of the players, manipulating audio characteristics of the players individually or in groups. The audio characteristics include, but are not limited to, audio volume, audio bass, and audio treble. The players, also referred to as zone players, are part of in a multi-zone system that may be installed in a complex with multiple zones. In general, each zone player is located in one of the zones. Each of the zone players in the multi-zone system is coupled to a data network to communicate not only with each other but with other devices. According to one aspect of the present invention, through a controlling device, not only can each of the zone players be individually controlled, but also two or more of the zone players may be grouped as one or

more groups and controlled as if they were a single unit. The audio playback for the zone players in a zone group can be synchronized.

**[0029]** According to another aspect of the techniques, a zone group configuration can be manipulated via a user interface provided in a controlling device. The user interface provides a mechanism to manage, create, delete or modify zone groups. All audio playback operations, such as pause/play, forward/rewind, next/previous track, are synchronized for the zone players in a zone group. The zone group configuration may be saved in any one of zone players for easy retrieval in any of the zones at anytime.

**[0030]** The detailed description of the present invention is presented largely in terms of procedures, steps, logic blocks, processing, or other symbolic representations that directly or indirectly resemble the operations of devices or systems that can be used on networks. These descriptions and representations are typically used by those skilled in the art to most effectively convey the substance of their work to others skilled in the art.

**[0031]** Reference herein to "one embodiment" or "an embodiment" means that a particular feature, structure, or characteristic described in connection with the embodiment can be included in at least one embodiment of the invention. The appearances of the phrase "in one embodiment" in various places in the specification are not necessarily all referring to the same embodiment, nor are separate or alternative embodiments mutually exclusive of other embodiments. Further, the order of blocks in process flowcharts or diagrams representing one or more embodiments of the invention do not inherently indicate any particular order nor imply any limitations in the invention.

**[0032]** Referring now to the drawings, in which like numerals refer to like parts throughout the several views. FIG. 1 shows an exemplary configuration **100** in which the present invention may be practiced. The configuration may represent, but not be limited to, a part of a residential home, a business building or a complex with multiple zones. There are a number of multimedia players of which three examples **102**, **104** and **106** are shown as audio devices. Each of the audio devices may be installed or provided in one particular area or zone and hence referred to as a zone player herein.

**[0033]** As used herein, unless explicitly stated otherwise, an audio source or audio sources are in digital format and can be transported or streamed over a data network. To facilitate the understanding of the present invention, it is assumed that the configuration **100** represents a home. Thus, the zone player **102** and **104** may be located in two of the bedrooms respectively while the zone player **106** may be installed in a living room. All of the zone players **102**, **104** and **106** are coupled directly or indirectly to a data network **108**. In addition, a computing device **110** is shown to be coupled on the network **108**. In reality, any other devices such as a home gateway device, a storage device, or an MP3 player may be coupled to the network **108** as well.

**[0034]** The network **108** may be a wired network, a wireless network or a combination of both. In one example, all devices including the zone players **102**, **104** and **106** are coupled to the network **108** by wireless means based on an industry standard such as IEEE 802.11. In yet another example, all devices including the zone players **102**, **104** and **106** are part of a local area network that communicates with a wide area network (e.g., the Internet).

**[0035]** Many devices on the network **108** are configured to download and store audio sources. For example, the computing device **110** can download audio sources from the Internet and store the downloaded sources locally for sharing with other devices on the Internet or the network **108**. The computing device **110** can also be configured to receive streaming audio. Shown as a stereo system, the device **112** is configured to receive an analog audio source (e.g., from broadcasting) or retrieve a digital audio source (e.g., from a compact disk). The analog audio sources can be converted to digital audio sources. In accordance with the present invention, the audio source may be shared among the devices on the network **108**.

**[0036]** Two or more zone players may be grouped together to form a new zone group. Any combinations of zone players and an existing zone group may be grouped together. In one instance, a new zone group is formed by adding one zone player to another zone player or an existing zone group. A first chosen zone player to form the new zone group may be referred to as a zone group head. Depending on implementation, all other zone players in the group are synchronized to play an audio source or a queue of sources being played or provided by the zone group head or any one zone player in the group may be selected to synchronize others. For example, when the zone player **106** is added to the zone player **102** to form a new zone group, the zone players **102** is the zone group head of the new zone group. Both players will synchronously playback audio sources that are accessible to any one of the zone players in the multi-zone system. In one embodiment, the audio source being played or provided by the zone player **102** will be also played in the zone player **106**. In another embodiment, the audio source being played or provided by the newly added zone player **106** will be played in all players in the group.

**[0037]** In spite of an existing zone group including the zone players **102** or **106**, it is still possible to add another zone player (e.g., player **104**) to the existing zone group containing the zone players **102** and **106**. In one embodiment, when this zone group is selected to play an audio source, the zone players **102** and **106** will synchronize with the zone player **104**, playing whatever the zone player **104** is playing or ready to play. In another embodiment, when this zone group is selected to play an audio source, the zone player **104** will synchronize with the zone players **102** and **106**, playing whatever the zone players **102** and **106** are playing or ready to play. In an exemplary deployment, a zone group includes the zone players **102**, **104** and **106** located in a bedroom, a kitchen and a bathroom of a house, respectively. When an audio source is played in the zone group, the playback is synchronized among the zone players **102**, **104** and **106** in the group. As a result, a user may hear the same music or song regardless of whether the user is in the bedroom, the kitchen or the bathroom.

**[0038]** Many devices on the network **108** may be configured to control operations of the zone players **102**, **104** and **106**. In particular, one or more controlling devices **140** and **142** are used to control zone players **102**, **104** and **106** as shown in FIG. 1. The controlling devices **140** and **142** are preferably portable and remotely control the zone players via wireless means (e.g., infrared, radio, wireless standard IEEE 802.11b or 802.11g). In one embodiment, besides controlling an individual zone player, the controlling device **140** or **142** is configured to manage audio sources and audio characteristics of all the zone players regardless where the controlling device **140** or **142** is located in a house or a confined complex.

**[0039]** Referring now to FIG. 2A, there is shown an exemplary functional block diagram of a zone player **200** in accordance with the present invention. The

zone player **200** includes a network interface **202**, a processor **204**, a memory module **206**, an audio processing circuit **210**, a digital signal processing module **212**, an audio amplifier **214** and a RF interface **216**. The network interface **202** facilitates a data flow between a data network (i.e., the data network **108** of FIG. 1) and the zone player **200** and typically executes a special set of rules (i.e., a protocol) to send data back and forth. One of the common protocols is TCP/IP (Transmission Control Protocol/Internet Protocol) commonly used in the Internet. In general, a network interface manages the assembling of an audio source or file into smaller packets that are transmitted over the data network or reassembles received packets into the original source or file. In addition, the network interface **202** handles the address part of each packet so that it gets to the right destination or intercepts packets destined for the zone player **200**.

**[0040]** The network interface **202** may include one or both of a wireless interface **216** and a wired interface **217**. The wireless interface **216**, also referred to as a RF interface, provides network interface functions by a wireless means for the zone player **200** to communicate with other devices in accordance with a communication protocol (such as the wireless standard IEEE 802.11a, 802.11b or 802.11g). The wired interface **217** provides network interface functions by a wired means (e.g., an Ethernet cable). In one embodiment, a zone player, referred to as an access zone player, includes both of the interfaces **216** and **217**, and other zone players include only the RF interface **216**. Thus these other zone players communicate with other devices on a network or retrieve audio sources via the access zone player. The processor **204** is configured to control the operation of other parts in the zone player **200**. The memory **206** may be loaded with one or more software modules that can be executed by the processor **204** to achieve desired tasks. According to one aspect of the present

invention, a software module implementing one embodiment of the present invention is executed, the processor **204** operates in accordance with the software module in reference to a saved zone group configuration characterizing a zone group created by a user, the zone player **200** is caused to retrieve an audio source from another zone player or a device on the network.

**[0041]** According to one embodiment of the present invention, the memory **206** is used to save one or more saved zone configuration files that may be retrieved for modification at any time. Typically, a saved zone group configuration file is transmitted to a controller (e.g., the controlling device **140** or **142** of FIG. 1) when a user operates the controlling device. The zone group configuration provides an interactive user interface so that various manipulations or control of the zone players may be performed.

**[0042]** The audio processing circuit **210** resembles most of the circuitry in an audio playback device and includes one or more digital-to-analog converters (DAC), an audio preprocessing part, an audio enhancement part or a digital signal processor and others. In operation, when an audio source is retrieved via the network interface **202**, the audio source is processed in the audio processing circuit **210** to produce analog audio signals. The processed analog audio signals are then provided to the audio amplifier **214** for playback on speakers. In addition, the audio processing circuit **210** may include necessary circuitry to process analog signals as inputs to produce digital signals for sharing with other devices on a network.

**[0043]** Depending on an exact implementation, the digital signal processing module **212** may be implemented within the audio processing circuit **210** or as a combination of hardware and software. The audio amplifier **214** is

typically an analog circuit that powers the provided analog audio signals to drive one or more speakers.

**[0044]** Referring now to FIG. 2B, there is shown an example of a controller **240**, which may correspond to the controlling device **140** or **142** of FIG. 1. The controller **240** may be used to facilitate the control of multi-media applications, automation and others in a complex. In particular, the controller **240** is configured to facilitate a selection of a plurality of audio sources available on the network, controlling operations of one or more zone players (e.g., the zone player **200**) through a RF interface corresponding to the RF interface **216** of FIG. 2A. According to one embodiment, the wireless means is based on an industry standard (e.g., infrared, radio, wireless standard IEEE 802.11a, 802.11b or 802.11g). When a particular audio source is being played in the zone player **200**, a picture, if there is any, associated with the audio source may be transmitted from the zone player **200** to the controller **240** for display. In one embodiment, the controller **240** is used to synchronize more than one zone players by grouping the zone players in a group. In another embodiment, the controller **240** is used to control the volume of each of the zone players in a zone group individually or together.

**[0045]** The user interface for the controller **240** may include some of a screen **242** (e.g., a LCD screen) and a set of functional buttons as follows: a "zones" button **244**, a "back" button **246**, a "music" button **248**, a scroll wheel **250**, "ok" button **252**, a set of transport control buttons **254**, a mute button **262**, a volume up/down button **264**, a set of soft buttons **266** corresponding to the labels **268** displayed on the screen **242**.

**[0046]** The screen **242** displays various screen menus in response to a user's selection. In one embodiment, the "zones" button **244** activates a zone management screen or "Zone Menu", which is described in more details below. The "back" button **246** may lead to different actions depending on the current screen. In one embodiment, the "back" button triggers the current screen display to go back to a previous one. In another embodiment, the 'back" button negates the user's erroneous selection. The "music" button **248** activates a music menu, which allows the selection of an audio source (e.g., a song) to be added to a zone player's music queue for playback.

**[0047]** The scroll wheel **250** is used for selecting an item within a list, whenever a list is presented on the screen **242**. When the items in the list are too many to be accommodated in one screen display, a scroll indicator such as a scroll bar or a scroll arrow is displayed beside the list. When the scroll indicator is displayed, a user may rotate the scroll wheel **250** to either choose a displayed item or display a hidden item in the list. The "ok" button **252** is use to confirm the user selection on the screen **242**.

**[0048]** There are three transport buttons **254,** which are used to control the effect of the currently playing song. For example, the functions of the transport buttons may include play/pause and forward/rewind a song, move forward to a next song track, or move backward to a previous track. According to one embodiment, pressing one of the volume control buttons such as the mute button **262** or the volume up/down button **264** activates a volume panel. More detailed description of the volume panel will be discussed below. In addition, there are three soft buttons **266** that can be activated in accordance with the labels **268** on the screen **242**. It can be understood that, in a multi-zone system, there may be multiple audio sources being played. The music transport functions described

herein shall apply selectively to one of the sources when a corresponding one of the zone players or zone groups is selected.

**[0049]** FIG. 2C illustrates an internal functional block diagram of an exemplary controller **270**, which may correspond to the controller **240** of FIG. 2B. The screen **272** on the controller **270** may be a LCD screen. The screen **272** communicates with and is commanded by a screen driver **274** that is controlled by a microcontroller (e.g., a processor) **276**. The memory **282** may be loaded with one or more application modules **284** that can be executed by the microcontroller **276** with or without a user input via the user interface **278** to achieve desired tasks. In one embodiment, an application module is configured to facilitate grouping a number of selected zone players into a zone group and synchronizing the zone players for one audio source. In another embodiment, an application module is configured to control together the audio volumes of the zone players in a zone group. In operation, when the microcontroller **276** executes one of the application modules **284**, the screen driver **274** generates control signals to drive screen **272** to display an application specific user interface accordingly, more of which will be described below.

**[0050]** The controller **270** includes a network interface **280** referred to as a RF interface **280** that facilitates wireless communication with a zone player via a corresponding RF interface thereof. In one embodiment, the commands such as volume control and audio playback synchronization are sent via the RF interfaces. In another embodiment, a saved zone group configuration is transmitted between a zone player and a controller via the RF interfaces. The controller **270** may control one or more zone players, such as **102**, **104** and **106** of FIG. 1. Nevertheless, there may be more than one controllers, each in a zone (e.g., a room) and configured to control any one and all of the zone players.

**[0051]** In one embodiment, a user creates a zone group including at least two zone players from the controller **240** that sends signals or data to one of the zone players. As all the zone players are coupled on a network, the received signals in one zone players can cause other zone players in the group to be synchronized so that all the zone players in the group playback an identical audio source or a list of identical audio sources. Similarly, when a user increases the audio volume of the group from the controller, the signals or data of increasing the audio volume for the group are sent to one of the zone players and causes other zone players in the group to be increased together in volume and in same scale.

**[0052]** According to one implementation, an application module is loaded in memory **282** for zone group management. When a predetermined key (e.g. the "zones" button **244**) is activated on the controller **240**, the application module is executed in the microcontroller **276**. The input interface **278** coupled to and controlled by the microcontroller **276** receives inputs from a user. A "Zone Menu" is then displayed on the screen **272**. The user may start grouping zone players into a zone group by activating a "Link Zones" or "Add Zone" soft button, or de-grouping a zone group by activating an "Unlink Zones" or "Drop Zone" button. The detail of the zone group manipulation will be further discussed below.

**[0053]** As described above, the input interface **278** includes a number of function buttons as well as a screen graphical user interface. It should be pointed out that the controller **240** in FIG. 2B is not the only controlling device that may practice the present invention. Other devices that provide the equivalent control functions (e.g., a computing device, a hand-held device) may also be configured to practice the present invention. In the above description, unless otherwise specifically described, it is clear that keys or buttons are generally referred to as

either the physical buttons or soft buttons, enabling a user to enter a command or data.

**[0054]** FIGS. 3A and 3B illustrate a sequence of screens in accordance with one embodiment of the present invention for manipulating a plurality of zone players for an exemplary four-zone distributed audio system. There are four zone players in four zones and referred to as: "Zone 1", "Zone 2", "Zone 3" and "Zone 4".

**[0055]** FIG. 3A shows a grouping process. A first "Zone Menu" **302** shows a first list **303** of available zone players. One of the zone players or existing zone group is selected as a zone group head **304**, which is indicated with uniformly highlighted texts. It is noted the highlighted texts may also be expressed as grouped icons, concatenated texts or other representations of a current selection on the screen. The highlighted texts react to a user's scrolling selection (e.g., via a scroll wheel **250** of FIG. 2B). Also shown as one of the bottom labels on the first "Zone Menu" **302** is the "Link Zones" or "Add Zone" label **306** that corresponds to a soft button (e.g., soft button **266** of FIG. 2B). A scroll indicator is displayed beside the first display **302** when the number of items is too many to be accommodated in one display.

**[0056]** When the soft button corresponding to "Link Zones" or "Add Zone" **306** is activated, a second "Zone Menu" **308** is displayed. A second list shows eligible zone groups or zone players **309** for the zone group head **304**. Since "Zone 2" has been selected as the zone group head to form a zone group, the eligible zone groups and zone players are now "Zone 1", "Zone 3" and "Zone 4". As shown as highlighted texts, the zone player (Zone 4) **310** is selected to be grouped with the zone group head (Zone 2) **304** to form a new zone group.

**[0057]** After the user confirms the selection, the newly formed zone group configuration is updated and the audio source can be played synchronously for all of the zone players in the newly formed zone group as shown in FIG. 3A. The first "Zone menu" **312** is displayed again with the newly formed zone group **314** as one of the choices along with other available zone players. Depending on implementation, any zone players that have been used in a group may or may not be used in another group. As shown in FIG. 3A, the zone players 2 and 4 are in a zone group started by the zone player 2, the zone player 4 (even the zone player 2) can be in another zone group, for example, while a player in a living room is grouped with a player in a dinning room, the same player in the living room can be grouped with a player in a family room.

**[0058]** In another embodiment, a display shows a list of available zone players for grouping. An interactive graphic interface allows a user to interactively select some of the available zone players that are automatically grouped. Anyone of the selected zone players in the group may be elected to be a group head such that other players in the group are synchronized to follow the group head.

**[0059]** According to one embodiment, the synchronization of all zone players in the new zone group is achieved with the following steps: 1) choosing an audio source from one of the zone players in the group, 2) checking if the chosen audio source is available locally on each of the zone players, 3) retrieving the audio source from another device (e.g., other zone players) which has the audio source via the data network, if the audio source is not available locally, and 4) playing the audio source on each of the zone players synchronously. In another embodiment, the audio source in the group or player to be added is chosen as default for other zone players. As shown in FIG. 3A, the audio source for "Zone 4" is track 10 with artist D. Accordingly, the zone player "Zone 2" will

play track 10 with artist D synchronously with "Zone 4" after the new zone group is formed.

**[0060]** FIG. 3B shows a de-grouping process in reference to FIG. 3A.1. A first "Zone Menu" **322** shows a first list **323** of available zone players and zone groups, if there is any. One of the zone groups ("Zone 2 + Zone 4") to be de-grouped is selected as shown in highlight texts **324**. When the "Unlink Zones" or "Drop Zone" soft button **326** is activated, the second "Zone Menu" **328** displays a list **329** that shows all of the member zone players in the selected zone group. One of the zone players **330** (Zone 4) in the selected zone group is chosen to be disassociated from the zone group **324**. When the de-grouping is confirmed by user, the "Zone Menu" **332** is presented to reflect the de-grouping of a zone group (e.g., "Zone 2") **334**. When zone players are grouped together, all of the zone players play the same audio source synchronously. If a zone player is disassociated or dropped from the zone group, the remaining zone players in the zone group continue playing the audio source. In the "Zone Menu" **332**, it shows the zone player (Zone 4) has no music **336** after the disassociation from the zone group, while the remaining player (Zone 2) continues to play the same music – track 10 with artist D.

**[0061]** Referring now to FIG. 3C, there shows a sequence of screens depicting alternative steps of creating a zone group. An exemplary five-zone audio system is used to describe these alternative steps. There are five zone players located in a living room, a dining room, a kitchen, an office and a master bedroom. It is assumed that three of the five rooms, the living room, the dining room and the kitchen, are grouped to form a zone group called "LivingRoom+DiningRoom+Kitchen". The Screen display **350** shows that an audio source called "Counting Crows" **352** is being played on all the zone players

in the group. When a user activates the "music" button **248** on a controller **240** of FIG. 2B, the screen display **360** shows a "Music Menu" page which shows a list of choices **362**. One of the choices is "Play Music From Other Rooms" **364**. When the user selects this option, the screen display **370** for "Play Same Music As Other Rooms" displays a list **372** of eligible rooms or zone players to be grouped with the current group "Living Room+Dining Room+Kitchen". In this example the eligible rooms are Office **374** and Master Bedroom **376**. It is assumed that the "Office" **374** which is indicated with the highlighted bar is chosen. As a result, the zone player "Office" is grouped with the original zone group to become a new group called "LivingRoom+DiningRoom+Kitchen+Office" as shown in screen display **380**. And the audio source "Miles Davis" **382** from the zone player "Office" is played synchronously on all zone players in the new group.

**[0062]** Referring now to FIGS. 4A and 4B, there is shown a sequence of screens in accordance with one embodiment of the present invention for controlling audio volume of zone players in a zone group. These screens are activated and displayed when one of the volume control buttons is activated. According to one embodiment, the volume control buttons are "mute" button **262** and "volume up/down" button **264** on the controller **240** of FIG. 2B.

**[0063]** FIG. 4A shows that the current active zone player is in a living room of a house. The "Volume" panel **410** is displayed for the current zone player "Living Room". A volume meter **412** is included to indicate a volume adjustment made by a user. A mute icon **414** is shown when the "mute" button is activated while the audio is on.

**[0064]** FIG. 4B shows that the current active zone group includes five rooms: living room, dining room, kitchen, den and study. A "Volume" panel **430** for the zone group is displayed for the convenience of a user. In the display, a plurality of volume meters **431** is shown. One of the volume meters is for the entire zone group **432**. Other volume meters are for all the zone players in the group, one for each room or zone player. A scroll indicator is shown as a downward arrow **436** that indicates the screen is too small to hold all volume meters in one screen display. There are more hidden choices that can be viewed by scrolling down. The scrolling cursor **436** is highlighted (e.g., Den **434**). As a user scrolls down the list of volume meters **431**, the contents on "Volume" panel **440** includes the volume meter of the next zone player on the list (e.g., Study **444**). Similarly, when the scroll indicator is an upward arrow **442**, other hidden choices within the list can be viewed by scrolling up.

**[0065]** When a user adjusts the audio volume, only the highlighted zones or zone players are affected. If the highlighted selection is one zone player, the audio adjustment will only apply to that particular chosen player. If multiple zone players are selected, the adjustment applies to all of the chosen players similar to the volume adjustment to the group volume meter described below. The audio volume of all zone players in the zone group will be affected, if the highlighted selection is at the volume meter of the entire group **432**. Any audio volume adjustment to the zone group applies to all of the zone players equally within the entire zone group. Depending on implementation, the relative difference of the audio volume among zone players in the group remains unchanged either in percentage or graphic strength.

**[0066]** FIG. 5 shows a flowchart or process **500** of implementing one embodiment of the present invention for manipulating zone players. The process

**500**, which is preferably understood in conjunction with the previous figures especially with FIGS. 2B, 2C, 3A and 3B, may be implemented in software, hardware, or a combination of both. According to one embodiment, an application module implementing the process **500** is embedded in a controller, for example, the device **240** of FIG. 2C. The module may be loaded in the memory **282** to be executed by the microcontroller (processor) **276** and operating in conjunction with user input commands via the input interface **278**.

**[0067]** The process **500** starts with a display at **502** showing a list of zone players or existing zone groups, if there are any. When the available zone players and zone groups in the list is too long to be presented on the display, a scroll indicator will be displayed beside the list. A user may access the hidden items within the list by scrolling either upward or downward. At **503**, the process **500** splits into two branches based on the following tasks: 1) grouping a plurality of zone players to form a zone group, or 2) de-grouping a zone group.

**[0068]** If the process **500** performs the grouping task, the process moves onto **504**. The user selects one of the zone players as a zone group head or the zone groups from the list. Once the selection is made and a key is activated (e.g., a soft button **306** as shown in FIG. 3A), a new list (e.g., screen **308** as shown in FIG. 3A) showing all of the zone players and zone groups that are eligible to be grouped with the selection at **504** is displayed at **508**. In one embodiment as shown in FIG. 3A, when the zone player "Zone 2" is selected as the zone group head in a four-zone audio system, the eligible zone players are all other zone players ("Zone 1", "Zone 3" and "Zone 4") except for the zone player "Zone 2". At **510**, the end user is then given the option to select one or more of the eligible zone players (e.g., "Zone 4" in FIG. 3A) or one of the eligible zone groups to be grouped into the selection at **504**.

**[0069]** At **512**, the user has the option to confirm to accept or to discard the selection made at **510**. When a confirmation is made, the process **500** creates the zone group by synchronizing all of the zone players in the zone group at **514**. In one embodiment, the synchronization is performed first to determine the audio source in the selected player to be grouped (e.g., Zone 4 in FIG. 3A). Then the audio source is transmitted to all other zone players in the same zone group before playing the audio source synchronously. In the meantime, this newly formed zone group configuration is updated. For example, the zone group configuration is saved to the memory **206** on the zone player **200** of FIG. 2A via the wireless communication. After the zone player in the newly formed zone group has been synchronized, the process **500** moves back to **502**. An updated list of available zone players and zone groups is displayed. As an example shown in "Zone Menu" **312** of FIG. 3A, the newly formed zone group is listed as one of the items.

**[0070]** Going back to **512**, if the selection made at **510** can not be confirmed or is to be discarded, the process **500** goes back to **502** without updating any zone group configuration. In this case, the original list is intact (e.g., "Zone Menu" **302** of FIG. 3A).

**[0071]** Going back to the grouping task test at **503**, when the process **500** performs the de-grouping task, the process **500** moves to **524**. A user selects one zone group from the first list. Once the selection is made, a list (e.g., screen **328** as shown in FIG. 3B) showing all of the zone players in the selected zone group is displayed at **528**. In one embodiment as shown in FIG. 3B, "Zone 2+Zone 4" is the selected zone group, the zone players in the selected zone

group are "Zone 2" and "Zone 4". At **530**, the end user selects one or more of the zone players (e.g., Zone 4) from the list to be disassociated from the zone group. At **532**, the user has the option to confirm or to discard the selection made at **530**.

**[0072]** When the selection is confirmed, the process **500** updates the selected zone group by disassociating the zone player from the zone group at **534**. As a result of the disassociation, the audio source being played in the zone group is no longer available to the disassociated zone player. In the meantime, the updated zone group configuration is saved. For example, the zone configuration is saved to the memory **206** on the zone player **200** (FIG. 2A). After the zone player has been disassociated, the process **500** moves back to **502**. The list of available zone players and zone groups is displayed. This time the newly updated zone group is listed as one of the items (e.g., "Zone Menu" **332** of FIG. 3B).

**[0073]** Going back to **532**, if the selection made at **530** is to be discarded, the process **500** moves back to **502** directly without updating the zone group configuration. In this case, the original list is presented (e.g., "Zone Menu" **322** of FIG. 3B).

**[0074]** Referring now to FIG. 6, there is shown a flowchart or process **600** of controlling audio volume of a plurality of zone players in a zone group. The process **600**, which is preferably understood in conjunction with the previous figures especially with FIGS. 2B, 2C, 4A and 4B, may be implemented in software, hardware, or a combination of both. According to one embodiment, an application module implementing the process **600** is embedded in a controller, for example, the device **240** of FIG. 2C. The module may be loaded in the memory

**282** to be executed by the microcontroller (processor) **276** and operating in conjunction with user input commands. In one embodiment, the module is configured to control the audio volume of a group of zone players. It should be noted that zone group and a group of zone players are used interchangeably in the description for FIG. 6.

**[0075]** At **605**, the process **600** starts when one of the volume control buttons, for example, "mute" button **262** or "volume up/down" button **264**, on the controller **240** of FIG. 2B, is activated. The process **600** splits into two branches depending on whether a single zone player or a group of zone players is to be controlled at **610**.

**[0076]** If it is for a single zone player, a volume meter (e.g., "Volume" panel **410** in FIG. 4A) is presented at **612**. At **614**, the end user has option to adjust the volume for the zone player with one of the volume control buttons. The volume control signals are sent from the controller **240** (FIG. 2C) to the zone player **200** (FIG. 2A). In one embodiment, the volume panel displays a moving volume meter showing an increasing or decreasing bar as the audio volume of the selected zone player is adjusted up or down. In another embodiment, the mute icon is shown instead of a volume meter, when the "mute" button is activated while the audio is on.

**[0077]** At **616**, the process **600** is waiting for a user's command. If a predetermined amount of time (e.g., 1 second) has lapsed, the process **600** ends, which means the user is not going to change the volume. Otherwise, the process **600** goes back to **612** waiting for another action from the end user.

**[0078]** Referring back to **610**, if process **600** is for a group of zone players, then the process **600** moves to the zone group branch at **622**, in which a plurality

of volume meters is presented. The plurality of volume meters includes one for each of the zone players in the zone group, plus one more for the entire zone group. In one embodiment as shown in FIG. 4B, a "Volume" panel **430** for a plurality of zone players in a zone group is presented. When the screen is too small to display all the zone players, a scroll indicator is displayed beside the list of the volume meters to indicate that there are hidden volume meters. At **624**, the user selects one of the volume meters. At **626**, the audio volume is adjusted with one of the volume control buttons. When the volume adjustment is made to one of the zone players, only the selected zone player is affected. The audio volume of the rest of the zone players remains unchanged. However, when the volume adjustment is made to the zone group, the entire group will respond to the volume adjustment in an identical scale. In one embodiment, the identical scale is based on percentage of the audio volume. In another embodiment, the identical scale is based on graphic representation of the volume meter.

**[0079]** In one embodiment, an end user increases the audio volume for the zone group by 5%. The volume for each of the zone players in the zone group will be increased by 5%, and the relative volume loudness difference among each of the zone players remains unchanged. In another embodiment, if a user had muted one of the zone players of the zone group, the volume of all other zone players would have been unchanged.

**[0080]** The group audio volume is calculated based on a predetermined formula. In one embodiment, the group audio volume is the averaged value of the audio volume of all the zone players within the zone group. In another embodiment, the median value may be chosen as the group audio volume. The user uses a scrolling device (e.g., scroll wheel **250** of FIG. 2B) to select a zone

player or the entire zone group and then adjust the volume with one of the volume control buttons.

**[0081]** At **628**, the process **600** is waiting for a user's command. If a predetermined amount of time has lapsed, the process **600** ends, which means the user is not going to change the volume of the zone group. Otherwise, the process **600** goes back to **622** waiting for another action from the end user.

**[0082]** FIGs. 7A-7D are a series of screenshots according to one embodiment of the present invention on a computing device on a network. The computing device may correspond to the device 110 of FIG. 1 and be configured to control operations of the zone players installed in a complex. With a larger screen of the computing device than that of a portable controller, the graphic user interface on the larger screen appears different from that, for example, shown in FIGs. 3A-4B, the underlying principle nevertheless does not depart from the above description for the portable controller. A user is able to control any one or all of the zone players from the computing device. FIG. 7A shows all individual available zone players with the one in the Dining Room being selected to play a track entitled "A Charlie Brown Christmas". FIG. 7B shows a pop-up window listing remaining available players to be grouped with the one in the Dining Room. Depending on a desirable group, the user can select from the remaining available players to be grouped with the one in the Dining Room to form a zone group. FIG. 7C shows, as a result, the players in the Dining Room and the living room are in one group and play synchronously a song entitled "Christmas time is here". FIG. 7D shows the control of some exemplary acoustic characteristics of the zone players in a group with the volume being controlled.

**[0083]** The present invention can be implemented in many ways, each of which may yield one or more of the following benefits, advantages or features. One of them is a mechanism provided to enable a user to remotely control audio characteristics of the zone players either as a group or as an individual player. Second, an interactive graphic user interface is provided to enable a user to manage, create, delete or modify zone groups. Another one of the benefits, advantages or features is to provide a user interface to facilitate a user to control audio characteristics of an individual zone player or a group of zone players. Other benefits, advantages or features can be appreciated by those skilled in the art given the detailed description herein.

**[0084]** While the present invention has been described with reference to specific embodiments, the description is illustrative of the invention and is not to be construed as limiting the invention. Various modifications to the present invention can be made to the preferred embodiments by those skilled in the art without departing from the true spirit and scope of the invention as defined by the appended claim. For example, the present invention can be implemented in a multi-zone multimedia system providing other than audio entertainment. Accordingly, the scope of the present invention is defined by the appended claims rather than the forgoing description of embodiments.

## Claims

I claim:

1. A method for controlling a plurality of players, the method comprising:
   displaying on a screen a first list showing at least available players;
   displaying, when at least one of the players is selected as a zone group head, on the screen a second list showing at least some of the players that are eligible to be grouped with the zone group head;
   forming a zone group started with the zone group head, after one or more players from the at least some of the players are selected to join the zone group; and
   synchronizing all players in the zone group.

2. The method of claim 1, wherein the first list becomes scrollable, when the available players do not fit in the screen.

3. The method of claim 1, wherein said synchronizing all players in the zone group comprises:
   determining an audio source for the zone group;
   making the audio source available to each of the players in the zone group; and
   playing the audio source synchronously in all players in the zone group.

4. The method of claim 3, wherein said determining an audio source for the zone comprises selecting the audio source being played or ready to be played by the zone group head.

5. The method of claim 3, wherein said determining an audio source for the zone comprises selecting the audio source being played or ready to be played by one of the players in the zone group.

6. The method of claim 3, wherein said making the audio source available comprises:

   determining whether the audio source is available locally; and

   retrieving the audio source from a device on a network, if the audio source is not available locally.

7. The method of claim 6, wherein said making the audio source available comprises:

   determining the audio source from one of the players in the zone group; and

   causing the audio source available to every other player in the zone group.

8. The method of claim 1, wherein said synchronizing all players in the zone group comprises:

   causing all players in the zone group to play an identical audio source; and

   presenting the zone group in a manner that indicates a grouping.

9. The method of claim 8, wherein the manner includes one or more of highlighting, colors, explicit texts and graphs.

10. The method of claim 1, wherein the first list also shows at least one zone group, if there is one.

11. The method of claim 10, wherein the zone group includes at least two players.

12. The method of claim 9, wherein a configuration of the zone group is stored in at least one of the players or a controller for remotely controlling one or more of the players, the configuration including information on how the two players are grouped.

13. The method of claim 8, further including:

selecting the zone group to be de-grouped from the first list;

displaying on the screen another list showing all the players within the zone group to be de-grouped;

selecting one or more players from the other list; and

disassociating the selected players from the zone group.

14. The method of claim 11, wherein said disassociating the selected players comprises making the selected players available for grouping with a zone group.

15. The method of claim 11, wherein the other list becomes scrollable, when all the players within the zone group to be de-grouped do not fit in the screen.

16. A method for controlling a plurality of players, the method comprising:

displaying on a screen a list showing a plurality of volume meters, at least one of the volume meters representing an audio volume of one of the players, and another one of the volume meters representing an audio volume of a group of players, if there is such a group; and

adjusting one of the volume meters as desired after one of the volume meters from the list is selected.

17. The method of claim 16, wherein said adjusting the one of the volume meters includes:

causing the audio volume to be adjusted in accordance with an adjustment to the volume meter; or

causing the audio volume to be off, when a mute button is activated while the audio volume is on; and

causing the audio volume to be on, when a mute button is activated while the audio volume is off.

18. The method of claim 16, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes:

changing a volume of each of the group of players synchronously in accordance with an adjustment made by a user;

19. The method of claim 18, further comprising adjusting the one of the volume meters for the group of players in a predetermined manner that appears that the group of players are being adjusted at the same time.

20. The method of claim 18, further comprising maintaining relative volume loudness difference among each of the players in the group.

21. The method of claim 18, wherein the one of the volume meters from the list selected is represented by an averaged value of audio volumes of the players in the group.

22. The method of claim 16, further comprising playing an identical audio source in the group of players.

23. The method of claim 22, wherein the audio source is retrieved in form of audio data packets over the network.

24. The method of claim 23, wherein at least part of the audio source is retrieved or being streamed from one of the players.

25. The method of claim 16, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes causing an equal change to a volume of each of the players in the group.

26. The method of claim 16, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes causing a predetermined unit change in volume for ever action by a user.

27. An apparatus for controlling a plurality of players, the apparatus comprising:

a screen;

a screen driver commanding the screen;

an input interface;

a network interface;

a memory for storing code for an application module;

a processor coupled to the memory, the input interface, the screen driver and the network interface, the processor executing the code in the memory to cause the application module and the screen driver to perform operations of:

displaying on a screen a first list showing at least available players;

displaying a zone group including players from the available players when at least two of the available players are selected to form the zone group, wherein any one of the players in the group serves as a zone group head;

; and

synchronizing all players in the zone group in accordance with the zone group head.

28. The apparatus of claim 27, wherein the first list becomes scrollable, when the available players do not fit in the screen.

29. The apparatus of claim 26, wherein said synchronizing all players in the zone group comprises:

determining an audio source for the zone group;

making the audio source available to each of the players in the zone group; and

playing the audio source synchronously in all players in the zone group.

30. The apparatus of claim 27, wherein said determining an audio source for the zone comprises selecting the audio source being played or ready to be played by the zone group head.

31. The apparatus of claim 27, wherein said determining an audio source for the zone comprises selecting the audio source being played or ready to be played by one of the players in the zone group.

32. The apparatus of claim 27, wherein said making the audio source available comprises:

determining whether the audio source is available locally; and

retrieving the audio source from a device on a network, if the audio source is not available locally.

33. The apparatus of claim 30, wherein said making the audio source available comprises:

determining the audio source from one of the players in the zone group; and

causing the audio source available to every other player in the zone group.

34. The apparatus of claim 27, wherein said synchronizing all players in the zone group comprises:

causing all players in the zone group to play an identical audio source; and

presenting the zone group in a manner that indicates a grouping.

35. The apparatus of claim 34, wherein the manner includes one or more of highlighting, colors, explicit texts and graphs in the screen.

36. The apparatus of claim 27, wherein the first list also shows at least one zone group, if there is one.

37. The apparatus of claim 27, wherein the processor executing the code in the memory to cause the application module and the screen driver to perform operations of:

selecting the zone group to be de-grouped from the first list;

displaying on the screen an other list showing all the players within the zone group to be de-grouped;

selecting one or more players from the other list; and

disassociating the selected players from the zone group.

38. The apparatus of claim 37, wherein said disassociating the selected players comprises making the selected players available for grouping with a zone group.

39. The apparatus of claim 37, wherein the other list becomes scrollable, when all the players within the zone group to be de-grouped do not fit in the screen.

40. An apparatus for manipulating a plurality of players, the apparatus comprising:

a screen;

a screen driver commanding the screen;

an input interface;

a network interface;

a memory for storing code for an application module;

a processor coupled to the memory, the input interface, the screen driver and the network interface, the processor executing the code in the memory to cause the application module and the screen driver to perform operations of:

displaying on a screen a list showing a plurality of volume meters, at least one of the volume meters representing an audio volume of one of the players, and another one of the volume meters representing an audio volume of a group of players, if there is such a group; and

adjusting one of the volume meters as desired after one of the volume meters from the list is selected.

41. The apparatus of claim 40, wherein said adjusting the one of the volume meters includes:

causing the audio volume to be adjusted in accordance with an adjustment to the volume meter; or

causing the audio volume to be off, when a mute button is activated while the audio volume is on; and

causing the audio volume to be on, when a mute button is activated while the audio volume is off.

42. The method of claim 40, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes:

changing a volume of each of the group of players synchronously in accordance with an adjustment made by a user;

43. The apparatus of claim 40, wherein the processor executing the code in the memory causes the application module and the screen driver to perform operations of adjusting the one of the volume meters for the group of players in a predetermined manner that appears that the group of players are being adjusted at the same time.

44. The apparatus of claim 40, wherein the processor executing the code in the memory causes the application module and the screen driver to perform operations of maintaining relative volume loudness difference among each of the players in the group.

45. The apparatus of claim 44, wherein the one of the volume meters from the list selected is represented by an averaged value of audio volumes of the players in the group.

46. The apparatus of claim 40, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes causing an equal change to a volume of each of the players in the group.

47. The apparatus of claim 40, wherein the one of the volume meters from the list selected is for the group of players, and wherein said adjusting the one of the volume meters includes causing a predetermined unit change in volume for ever action by a user.

# Method and apparatus for controlling multimedia players in a multi-zone system


ABSTRACT

Techniques for controlling zone group and zone group characteristics such as audio volume in a multi-zone system are disclosed. The multi-zone system includes a number of multimedia players, each preferably located in a zone. A controller may control the operations of all of the zone players remotely from any one of the zones. Two or more zone players may be dynamically grouped as a zone group for synchronized operations. According to one aspect of the techniques, a zone group configuration can be managed, updated, modified via an interactive user interface provided in a controlling device. The zone group configuration may be saved in one of zone players. According to another aspect of the techniques, the audio volume control of a zone group can be performed individually or synchronously as a group.

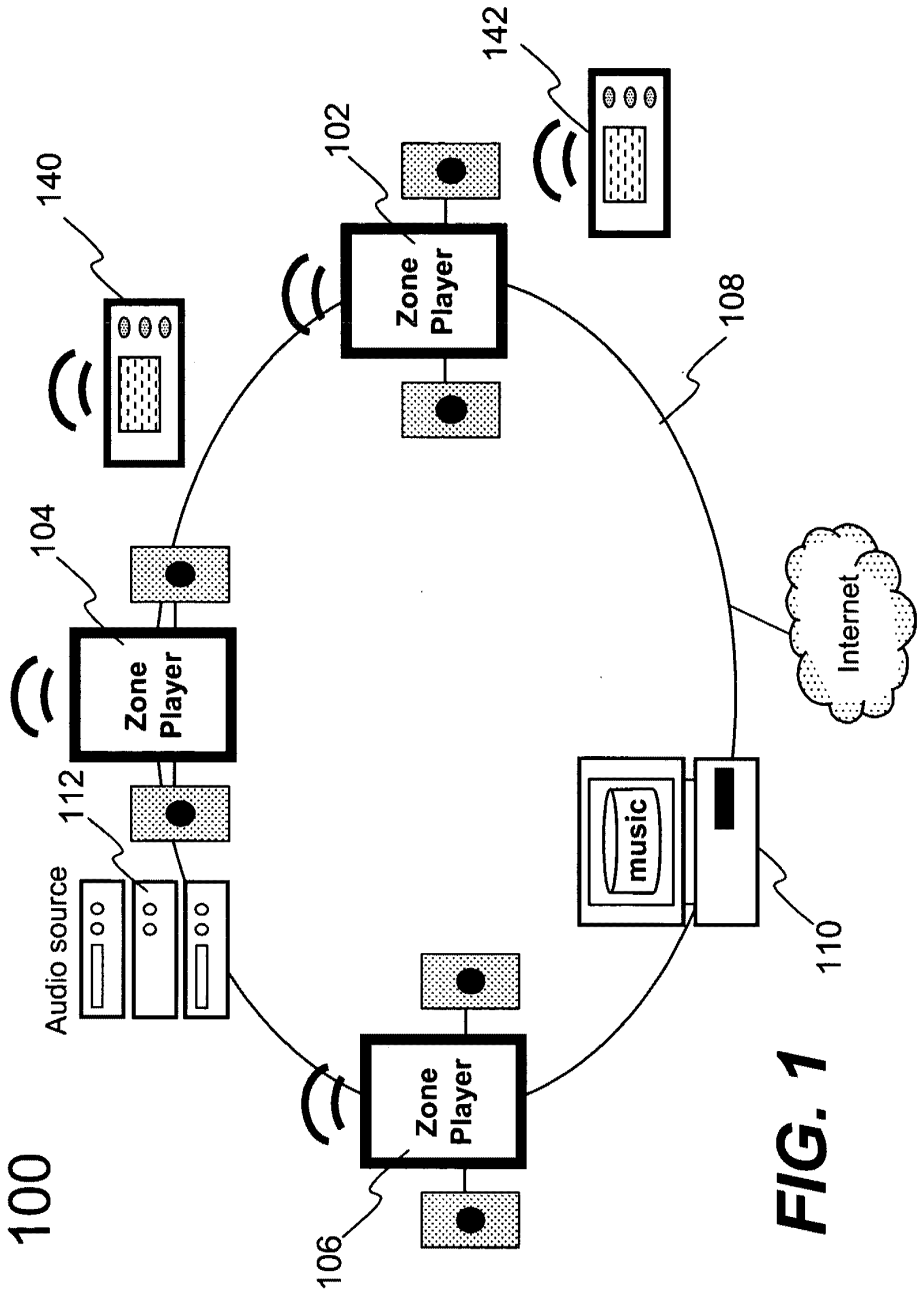

100
Zone Player
Zone Player
Zone Player
Audio source
music
Internet
102
104
106
108
110
112
140
142

FIG. 1

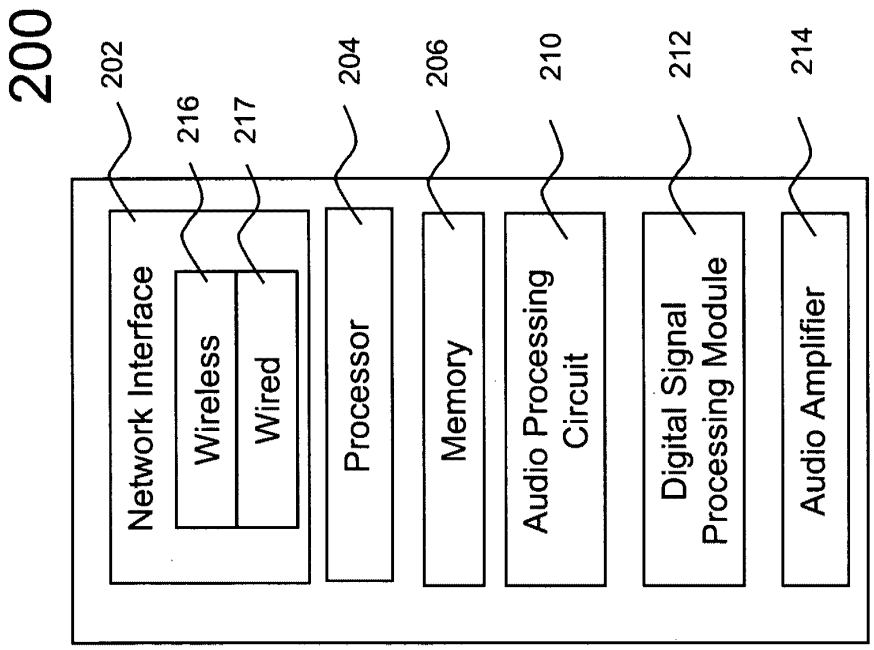

200
202
216
217
204
206
210
212
214
Network Interface
Wireless
Wired
Processor
Memory
Audio Processing Circuit
Digital Signal Processing Module
Audio Amplifier

FIG. 2A

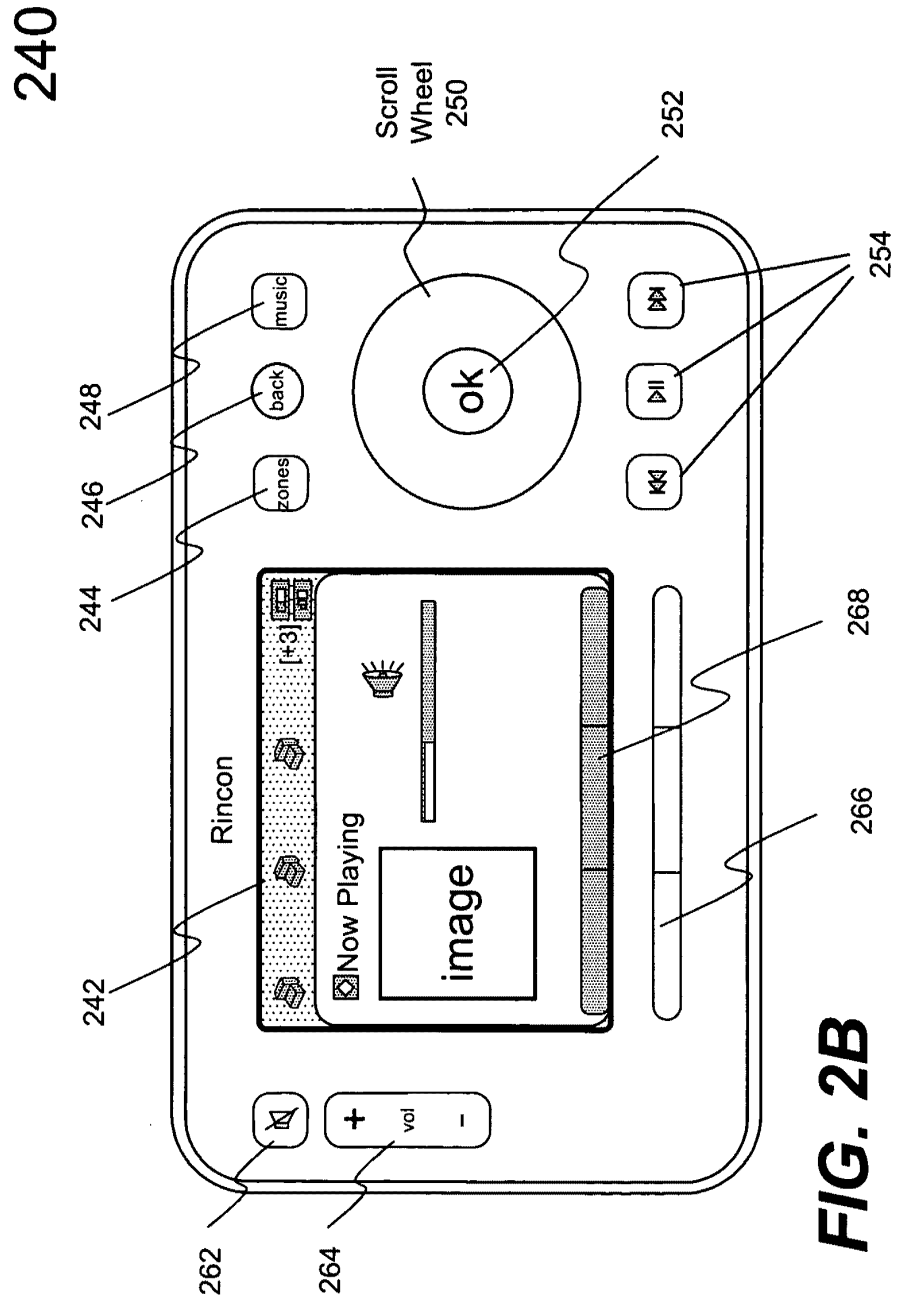

240
Scroll Wheel 250
252
254
248
246
244
242
268
266
262
264
music
back
zones
ok
[+3]
Rincon
Now Playing
image
vol
+
-

FIG. 2B

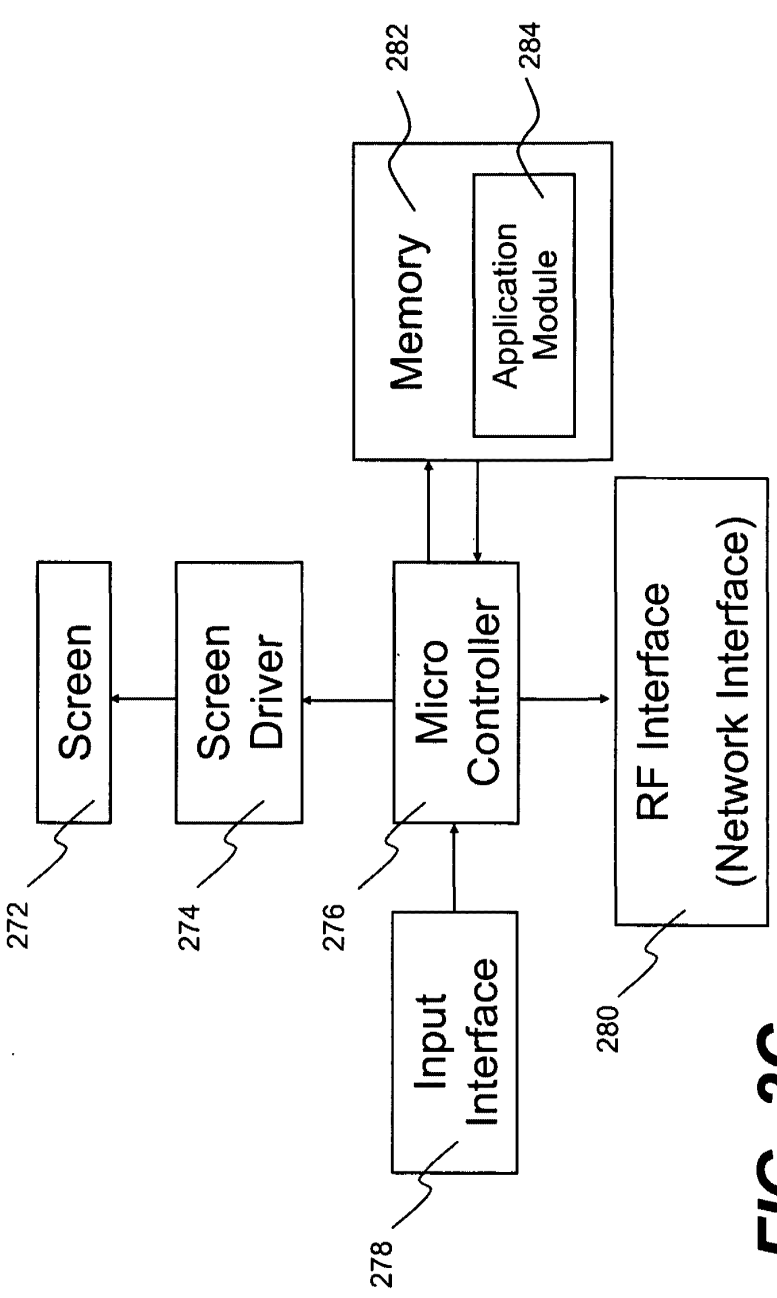

270
Memory
282
Application Module
284
Screen
Screen Driver
Micro Controller
RF Interface (Network Interface)
Input Interface
272
274
276
278
280

FIG. 2C

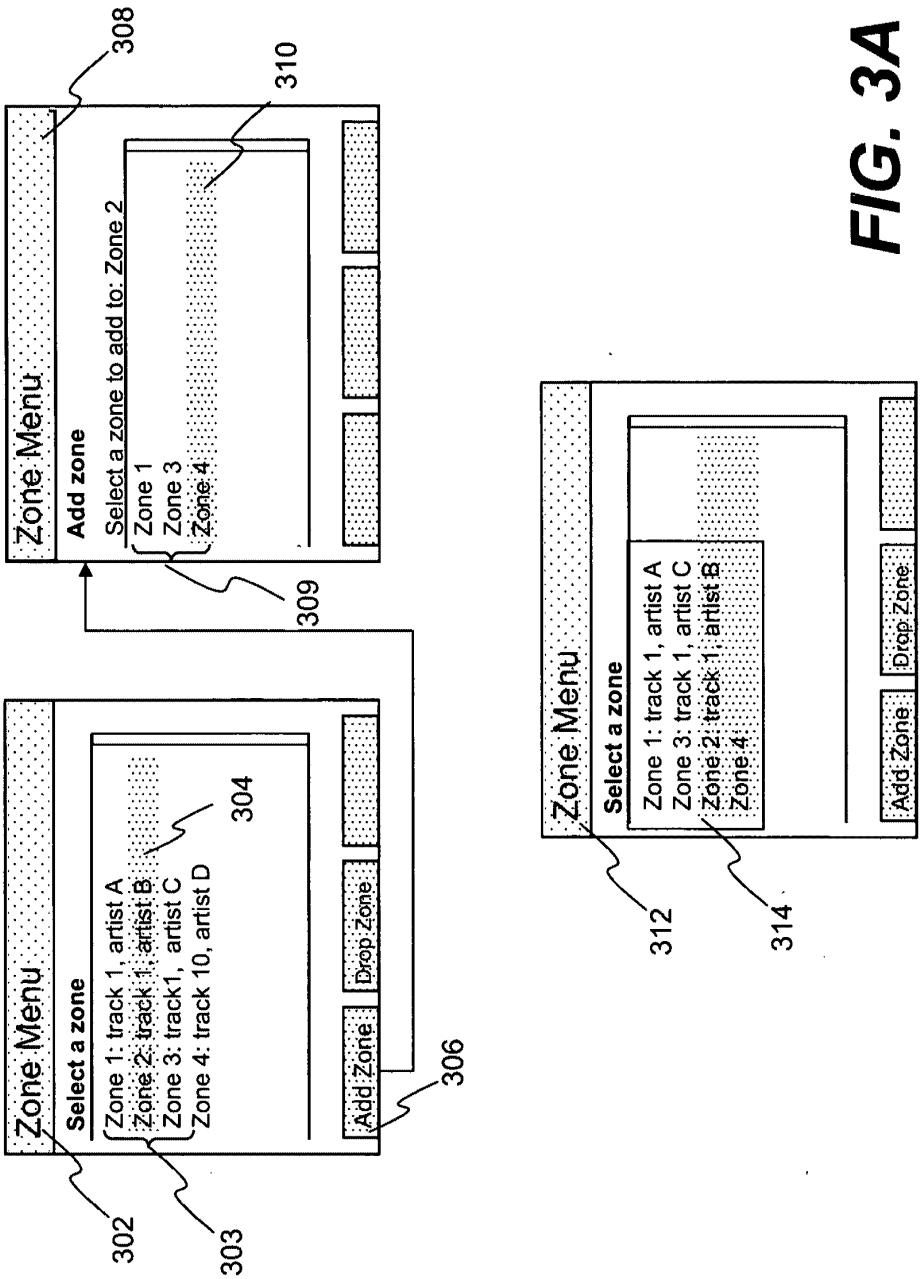

Zone Menu
Select a zone
Zone 1: track 1, artist A
Zone 2: track 1, artist B
Zone 3: track1, artist C
Zone 4: track 10, artist D
Add Zone
Drop Zone
302
303
304
306
308
Add zone
Select a zone to add to: Zone 2
Zone 1
Zone 3
Zone 4
309
310
Zone Menu
Select a zone
Zone 1: track 1, artist A
Zone 3: track 1, artist C
Zone 2: track 1, artist B
Zone 4
Add Zone
Drop Zone
312
314

FIG. 3A

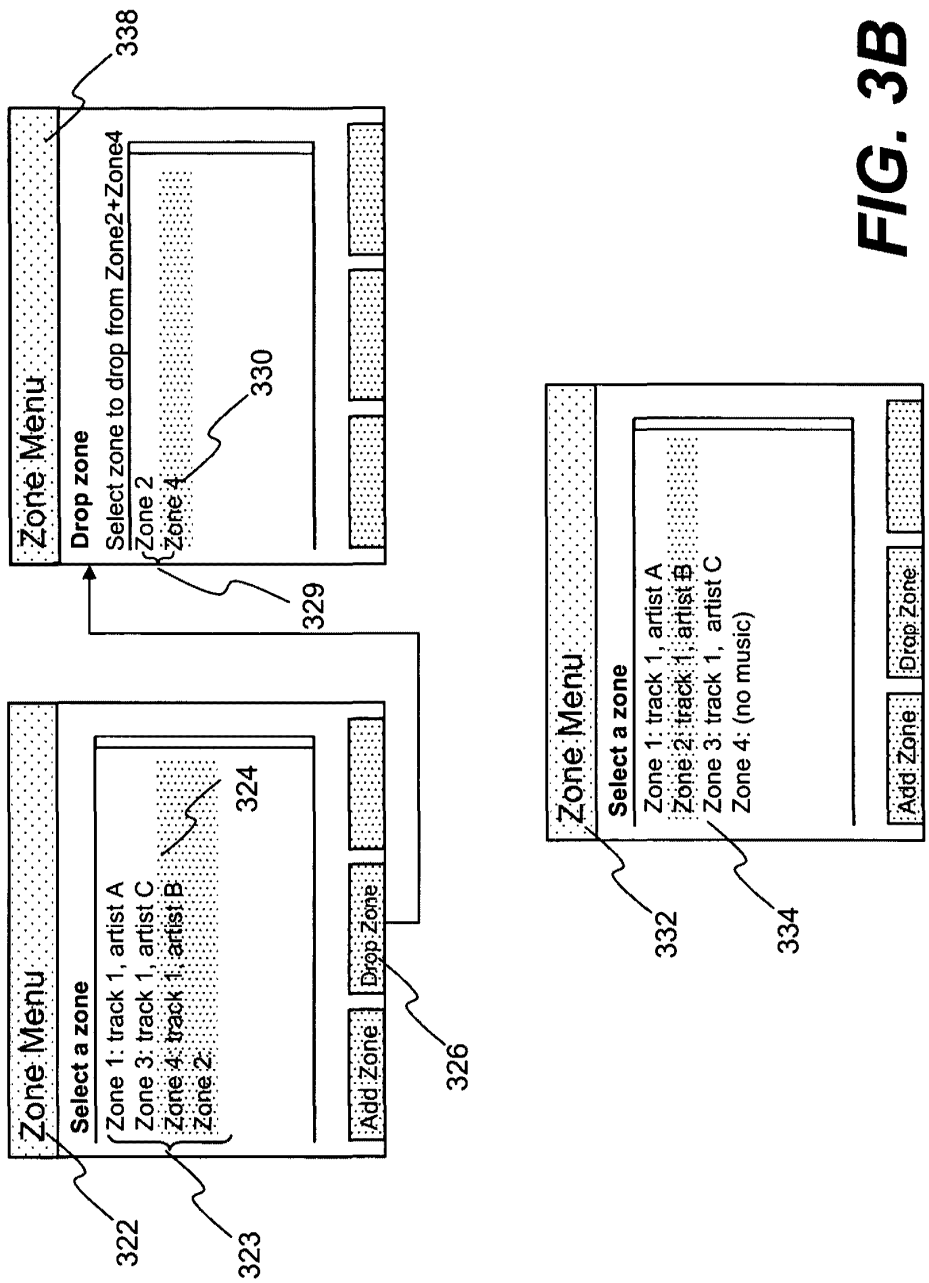

Zone Menu
Select a zone
Zone 1: track 1, artist A
Zone 3: track 1, artist C
Zone 4: track 1, artist B
Zone 2:
Add Zone
Drop Zone
322
323
324
326
Zone Menu
Drop zone
Select zone to drop from Zone2+Zone4
Zone 2
Zone 4
329
330
338
Zone Menu
Select a zone
Zone 1: track 1, artist A
Zone 2: track 1, artist B
Zone 3: track 1, artist C
Zone 4: (no music)
Add Zone
Drop Zone
332
334

FIG. 3B

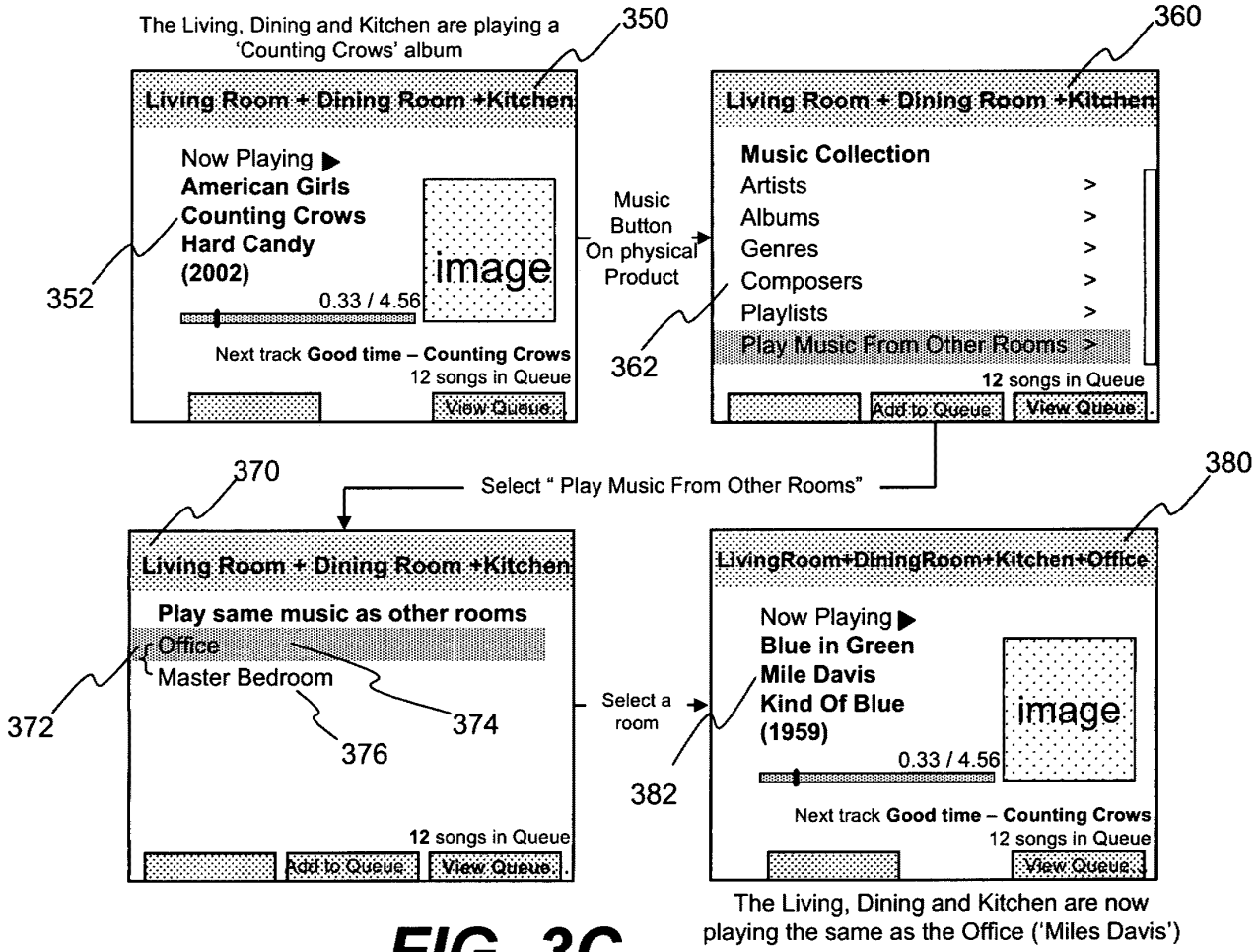

The Living, Dining and Kitchen are playing a 'Counting Crows' album
350
Living Room + Dining Room +Kitchen
Now Playing ▶
American Girls
Counting Crows
Hard Candy
(2002)
image
0.33 / 4.56
Next track Good time – Counting Crows
12 songs in Queue
View Queue
352
Music Button On physical Product
360
Living Room + Dining Room +Kitchen
Music Collection
Artists >
Albums >
Genres >
Composers >
Playlists >
Play Music From Other Rooms >
12 songs in Queue
Add to Queue
View Queue
362
Select " Play Music From Other Rooms"
370
Living Room + Dining Room +Kitchen
Play same music as other rooms
Office
Master Bedroom
372
374
376
12 songs in Queue
Add to Queue
View Queue
Select a room
380
LivingRoom+DiningRoom+Kitchen+Office
Now Playing ▶
Blue in Green
Mile Davis
Kind Of Blue
(1959)
image
0.33 / 4.56
382
Next track Good time – Counting Crows
12 songs in Queue
View Queue
The Living, Dining and Kitchen are now playing the same as the Office ('Miles Davis')

FIG. 3C

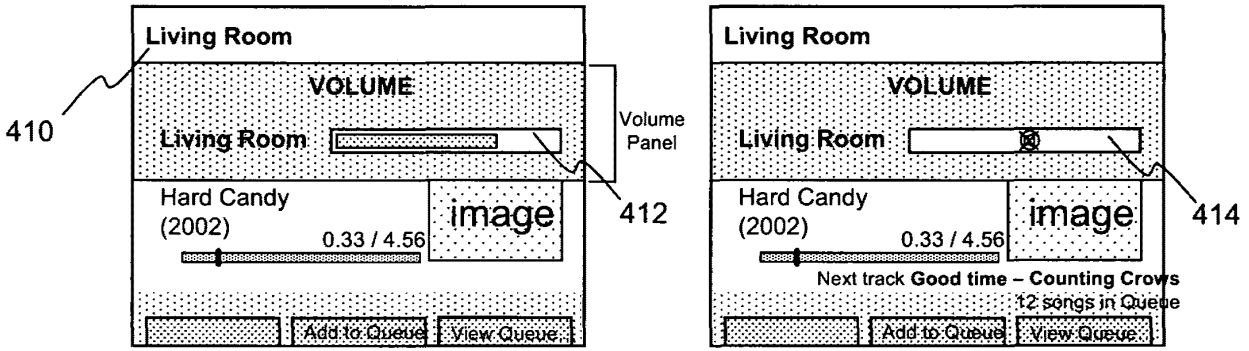

Living Room
VOLUME
Living Room
Volume Panel
410
412
Hard Candy
(2002)
0.33 / 4.56
image
Add to Queue
View Queue
Living Room
VOLUME
Living Room
414
Hard Candy
(2002)
0.33 / 4.56
image
Next track Good time – Counting Crows
12 songs in Queue
Add to Queue
View Queue

FIG. 4A

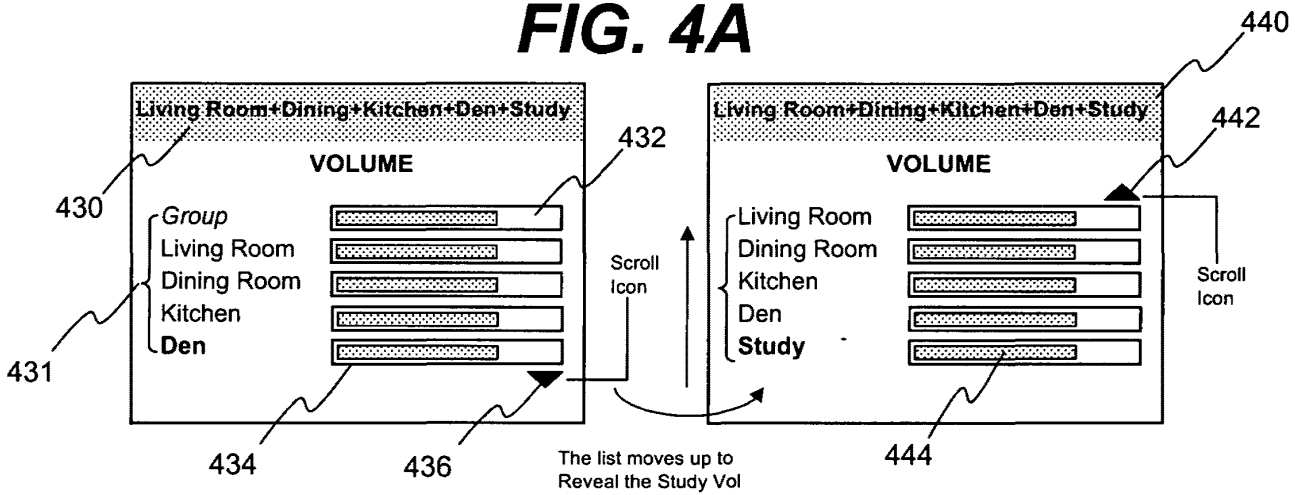

Living Room+Dining+Kitchen+Den+Study
VOLUME
430
432
Group
Living Room
Dining Room
Kitchen
Den
431
Scroll Icon
434
436
The list moves up to Reveal the Study Vol
Living Room+Dining+Kitchen+Den+Study
VOLUME
440
442
Living Room
Dining Room
Kitchen
Den
Study
Scroll Icon
444

FIG. 4B

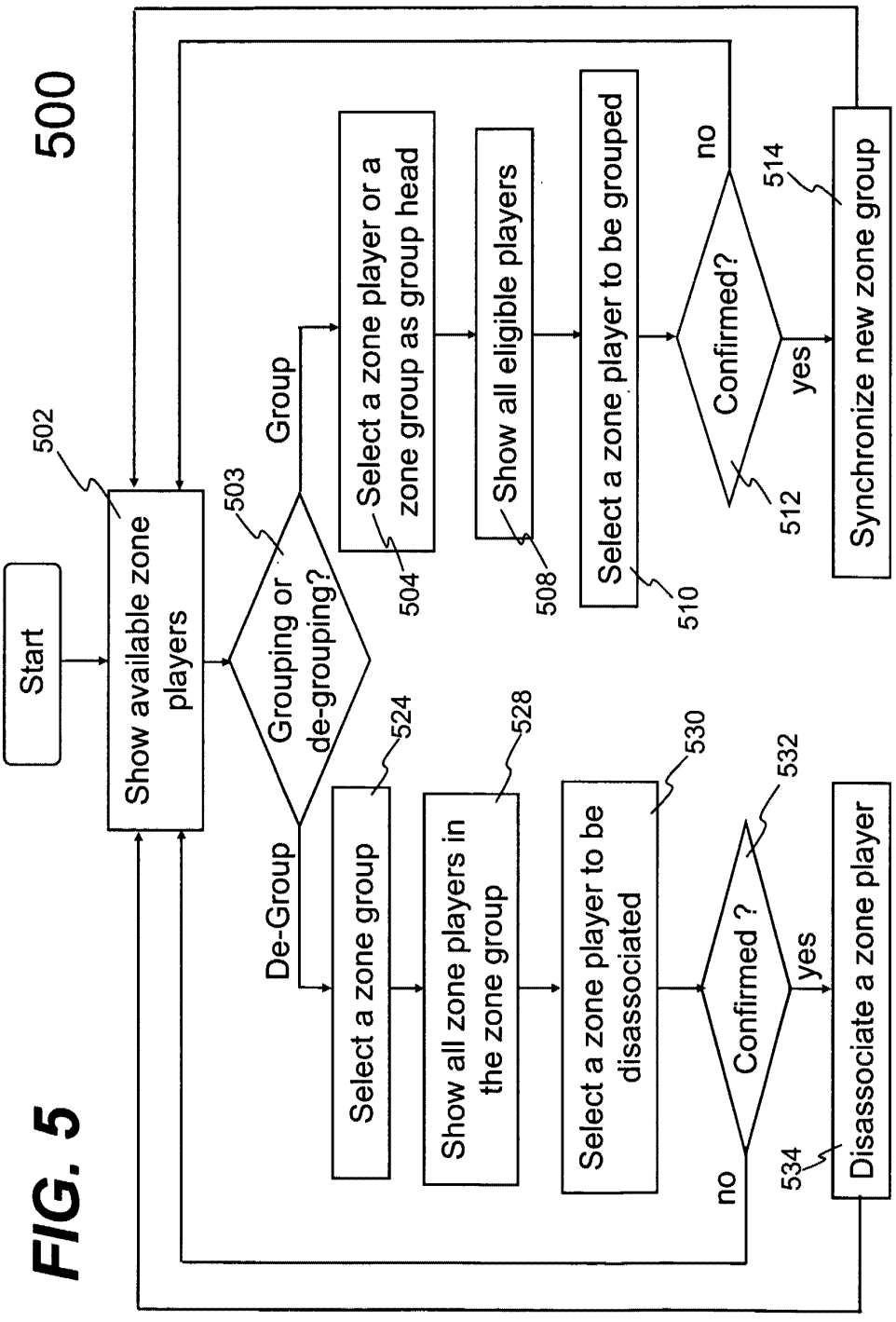

500
Start
Show available zone players
502
Grouping or de-grouping?
503
Group
De-Group
Select a zone player or a zone group as group head
504
Show all eligible players
508
Select a zone player to be grouped
510
Confirmed?
512
no
yes
Synchronize new zone group
514
Select a zone group
524
Show all zone players in the zone group
528
Select a zone player to be disassociated
530
Confirmed ?
532
no
yes
Disassociate a zone player
534

FIG. 5

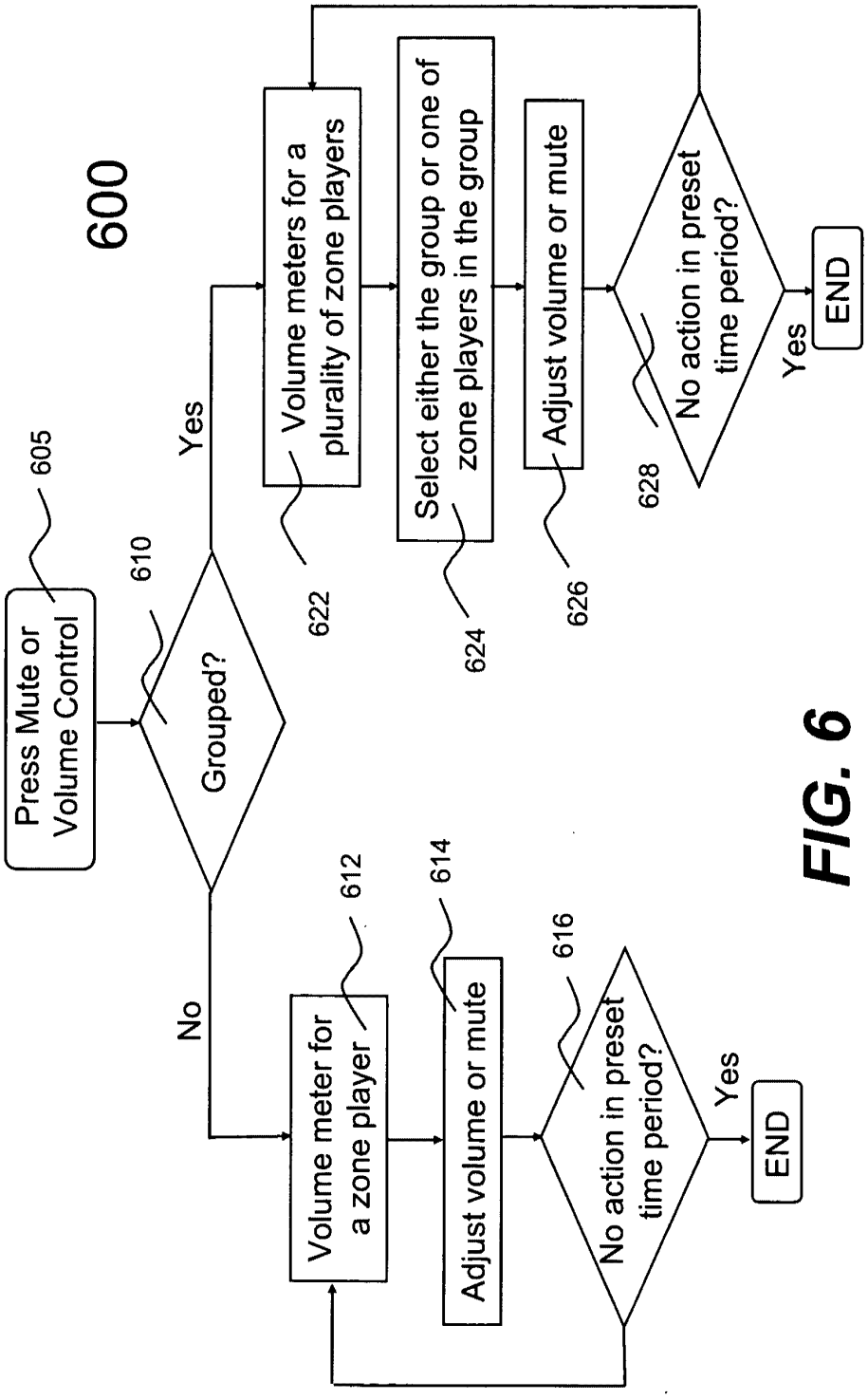

600
Press Mute or Volume Control
605
Grouped?
610
Yes
No
Volume meters for a plurality of zone players
622
Select either the group or one of zone players in the group
624
Adjust volume or mute
626
No action in preset time period?
628
Yes
END
Volume meter for a zone player
612
Adjust volume or mute
614
No action in preset time period?
616
Yes
END

FIG. 6

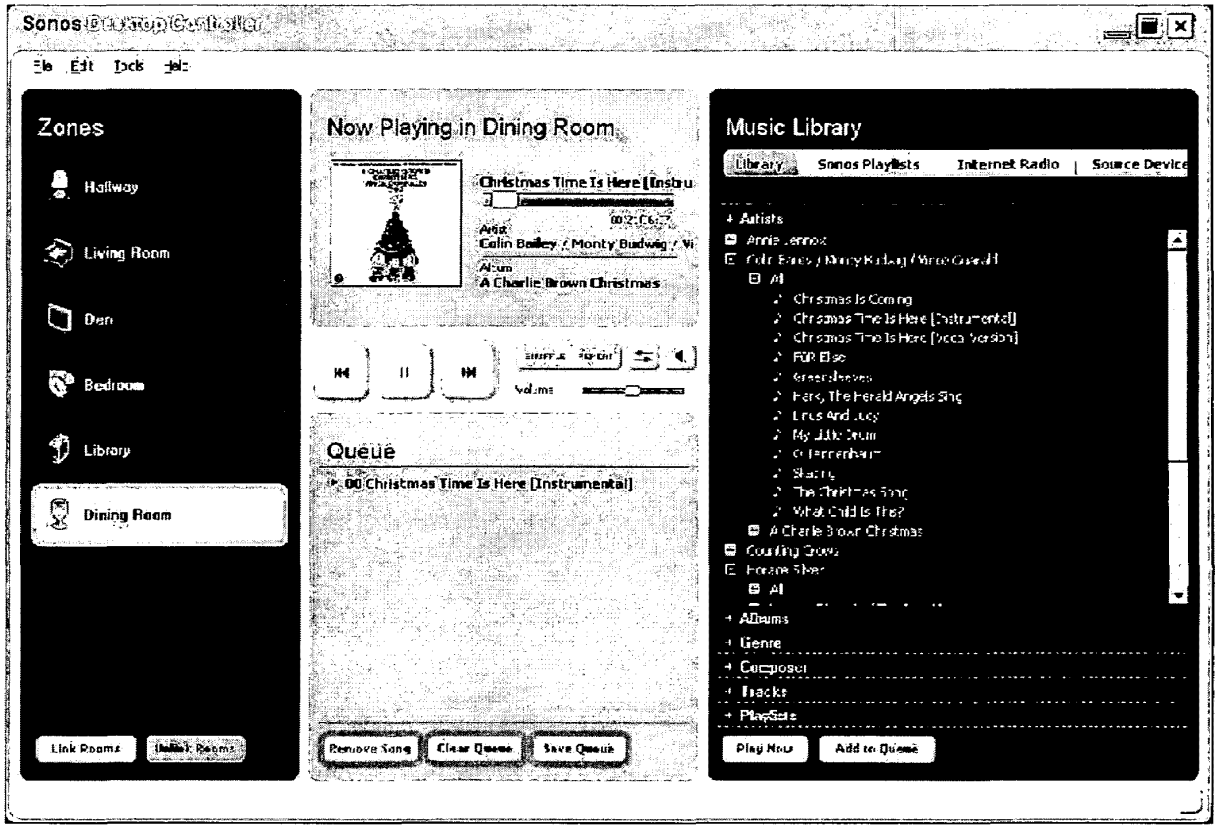



FIG. 7A

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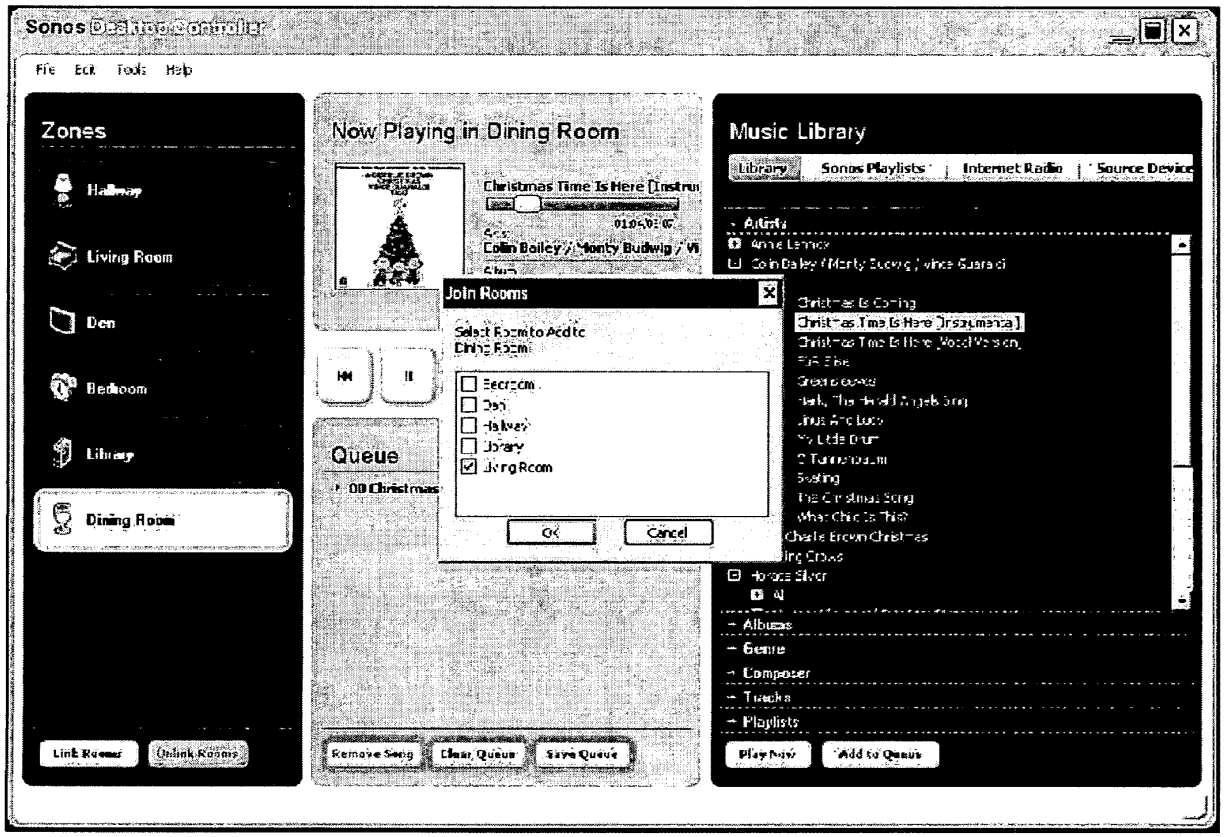



FIG. 7B

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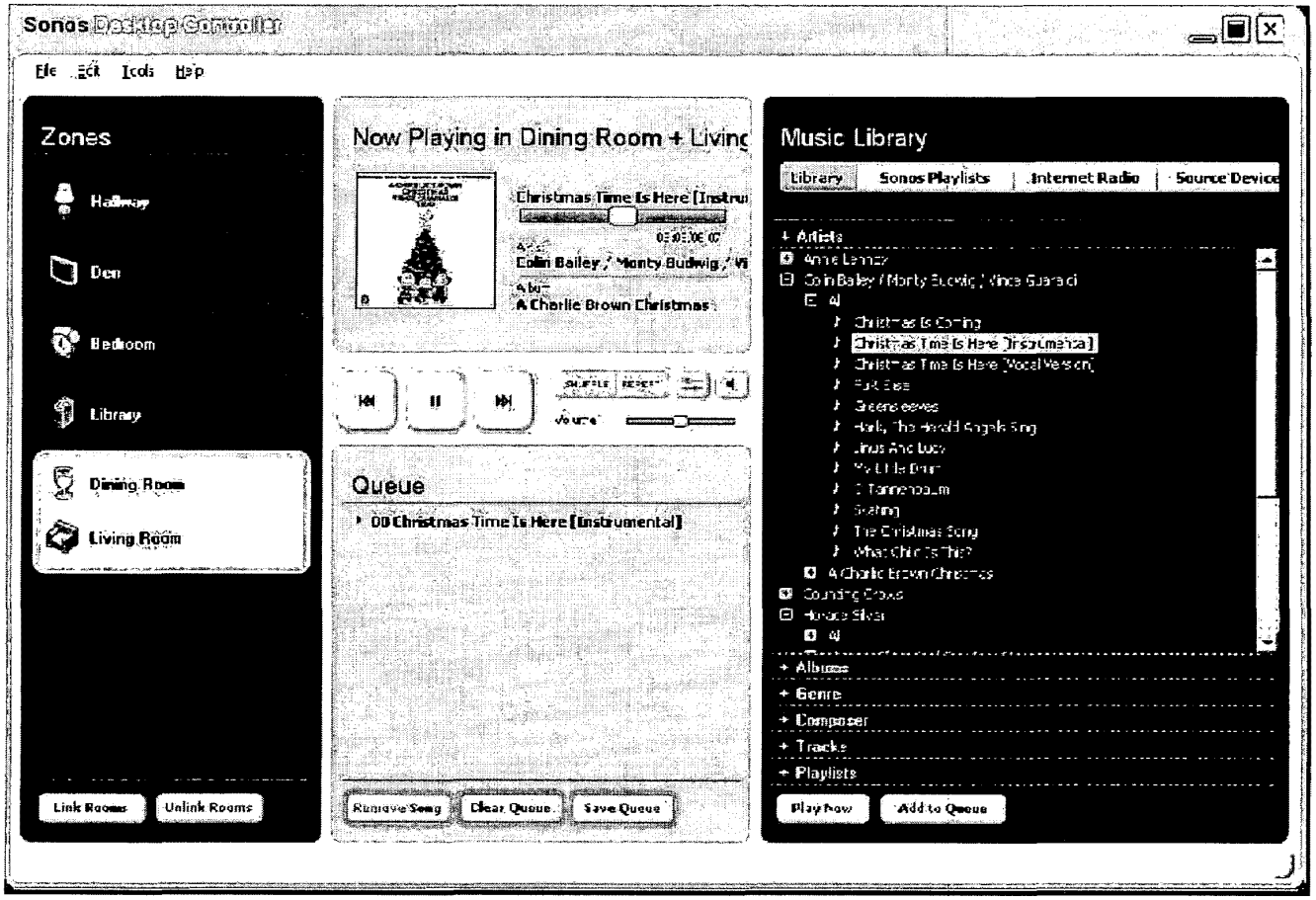



FIG. 7C

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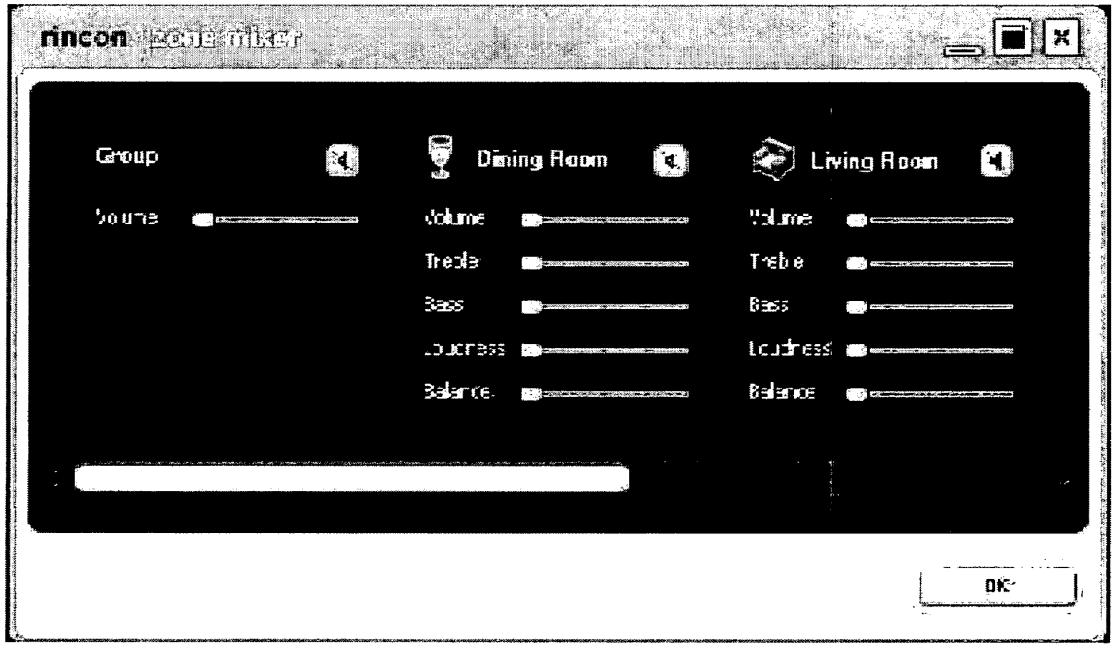



FIG. 7D

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# DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

☒ Declaration Submitted with Initial Filing OR ☐ Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)

| | |
|---|---|
| Attorney Docket Number | RIN-007 |
| First Named Inventor | Robert A. Lambourne |
| *COMPLETE IF KNOWN* | |
| Application Number | / |
| Filing Date | Herewith |
| Group Art Unit | |
| Examiner Name | |

**As a below named Inventor, I hereby declare that:**

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**Method and apparatus for controlling multimedia players in a multi-zone system**

*(Title of the Invention)*

the specification of which
☒ is attached hereto
OR
☐ was filed on (MM/DD/YYYY) _____ as United States Application Number or PCT International Application Number _____ and was amended on (MM/DD/YYYY) _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

| Prior Foreign Application Number(s) | Country | Foreign Filing Date (MM/DD/YYYY) | Priority Not Claimed | Certified Copy Attached? YES | NO |
|---|---|---|---|---|---|
| | | | ☐ | ☐ | ☐ |
| | | | ☐ | ☐ | ☐ |
| | | | ☐ | ☐ | ☐ |
| | | | ☐ | ☐ | ☐ |

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

| Application Number(s) | Filing Date (MM/DD/YYYY) | |
|---|---|---|
| | | ☐ Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto. |

[Page 1 of 2]

Burden Hour Statement: This form is estimated to take 0.4 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

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# DECLARATION — Utility or Design Patent Application

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

| U.S. Parent Application or PCT Parent Number | Parent Filing Date (MM/DD/YYYY) | Parent Patent Number (if applicable) |
|---|---|---|
| | | |

☐ Additional U.S. or PCT International application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: ☐ Customer Number 26797 → *Place Customer Number Bar Code Label here*

*OR*

☐ Registered practitioner(s) name/registration number listed below

| Name | Registration Number | Name | Registration Number |
|---|---|---|---|
| | | | |

☐ Additional registered practitioner(s) named on supplemental Registered Practitioner Information sheet PTO/SB/02C attached hereto.

Direct all correspondence to: ☐ Customer Number or Bar Code Label 26797 *OR* ☐ Correspondence address below

| | | | | | |
|---|---|---|---|---|---|
| Name | | | | | |
| Address | | | | | |
| Address | | | | | |
| City | | State | | ZIP | |
| Country | | Telephone | (408)777-8873 | Fax | (408)873-9249 |

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 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**Name of Sole or First Inventor:** ☐ A petition has been filed for this unsigned inventor

| Given Name (first and middle [if any]) | Family Name or Surname |
|---|---|
| Robert A. | Lambourne |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Inventor's Signature | Robert A. Lambourne | | | | | Date | 5 June 2004 |
| Residence: City | Cambridge | State | MA | Country | USA | Citizenship | UK |
| Post Office Address | 18 Whittier Street, Apt. #3 | | | | | | |
| Post Office Address | | | | | | | |
| City | Cambridge | State | MA | ZIP | 02140 | Country | USA |

☒ Additional inventors are being named on the 1 supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto

[Page 2 of 2]

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PATENT APPLICATION SERIAL NO. _____

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

06/09/2004 JADD01 00000021 502436 10861653

01 FC:2001 385.00 DA
02 FC:2201 43.00 DA
03 FC:2202 243.00 DA

PTO-1556
(5/87)

*U.S. Government Printing Office: 2002 — 489-267/69033

## PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2003

Application or Docket Number: 10826653

### CLAIMS AS FILED - PART I

| | (Column 1) | (Column 2) |
|---|---|---|
| TOTAL CLAIMS 47 | | |
| FOR | NUMBER FILED | NUMBER EXTRA |
| TOTAL CHARGEABLE CLAIMS | 47 minus 20= | * 27 |
| INDEPENDENT CLAIMS | 4 minus 3 = | * 1 |
| 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 |
| BASIC FEE | 385.00 | OR | BASIC FEE | 770.00 |
| XS 9= | 243 | OR | XS18= | |
| X43= | 103 | OR | X86= | |
| +145= | — | OR | +290= | |
| TOTAL | 971 | OR | TOTAL | |

### CLAIMS AS AMENDED - PART II

1/16/27 40

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

| SMALL ENTITY | | OR | OTHER THAN SMALL ENTITY | |
|---|---|---|---|---|
| RATE | ADDITIONAL FEE | | RATE | ADDITIONAL FEE |
| X$ 9= | | OR | X$18= | |
| X43= | | OR | X86= | |
| +145= | | OR | +290= | |
| TOTAL ADDIT. FEE | | OR | TOTAL ADDIT. FEE | |

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

| RATE | ADDITIONAL FEE | | RATE | ADDITIONAL FEE |
|---|---|---|---|---|
| X$ 9= | | OR | X$18= | |
| X43= | | OR | X86= | |
| +145= | | OR | +290= | |
| TOTAL ADDIT. FEE | | OR | TOTAL ADDIT. FEE | |

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

| RATE | ADDITIONAL FEE | | RATE | ADDITIONAL FEE |
|---|---|---|---|---|
| X$ 9= | | OR | X$18= | |
| X43= | | OR | X86= | |
| +145= | | OR | +290= | |
| 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.

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