504492532 08/07/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4539234

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------------|----------------|
| CRAIG M. STANLEY | 06/06/2017 |
| SIMON K. PORTER | 05/31/2017 |
| JOHN H. SHEERIN | 06/01/2017 |
| GLENN K. TRAINER | 05/31/2017 |
| JASON C. DELLA ROSA | 05/31/2017 |
| ETHAN L. HUWE | 05/31/2017 |
| SEAN T. MCINTOSH | 05/31/2017 |
| ERIK L. WANG | 06/06/2017 |
| CHRISTOPHER J. STRINGER | 07/27/2017 |
| MOLLY J. ANDERSON | 07/27/2017 |

RECEIVING PARTY DATA

| Name: | APPLE INC. |
|-----------------|-----------------|
| Street Address: | 1 INFINITE LOOP |
| City: | CUPERTINO |
| State/Country: | CALIFORNIA |
| Postal Code: | 95014 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15613054 |

CORRESPONDENCE DATA

Fax Number: (415)576-0300

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: 4155760200

Email: pcaldwell@kilpatricktownsend.com

KILPATRICK TOWNSEND & STOCKTON LLP/APPLE Correspondent Name:

Address Line 1: 1100 PEACHTREE STREET Address Line 2: MAILSTOP: IP DOCKETING 22 Address Line 4: ATLANTA, GEORGIA 30309

ATTORNEY DOCKET NUMBER: 090911-P30719US1-1026104

REEL: 043221 FRAME: 0856 504492532

PATENT

| NAME OF SUBMITTER: | PATRICIA CALDWELL |
|--|---------------------|
| SIGNATURE: | /Patricia Caldwell/ |
| DATE SIGNED: | 08/07/2017 |
| Total Attachments: 9 | |
| source=P30719US1 Assignment fully ex | xecuted#page1.tif |
| source=P30719US1 Assignment fully executed#page2.tif | |
| source=P30719US1 Assignment fully executed#page3.tif | |
| source=P30719US1 Assignment fully ex | xecuted#page4.tif |
| source=P30719US1 Assignment fully executed#page5.tif | |
| source=P30719US1 Assignment fully executed#page6.tif | |
| source=P30719US1 Assignment fully ex | xecuted#page7.tif |
| source=P30719US1 Assignment fully ex | xecuted#page8.tif |

source=P30719US1 Assignment fully executed#page9.tif

Attorney Docket No.: 090911-P30719US1-1026104

ASSIGNMENT

(Patent Application)

JOINT

WHEREAS, Craig M. Stanley, Simon K. Porter, John H. Sheerin, Glenn K. Trainer, Jason C. Della Rosa, Ethan L. Huwe, Sean T. McIntosh, Erik L. Wang, Christopher J. Stringer and Molly J. Anderson, hereinafter referred to as "Assignors," are the inventors of the invention described and set forth in the below-identified application for United States Letters Patent:

Title of Invention: AUDIO DRIVER AND POWER SUPPLY UNIT

ARCHITECTURE

Filing Date: June 2, 2017

Application No.: 15/613,054

WHEREAS, APPLE INC., a corporation of the state of California, located at 1 Infinite Loop, Cupertino, CA 95014, hereinafter referred to as "ASSIGNEE," is desirous of acquiring an interest in the invention and application and in any U.S. Letters Patent and Registrations which may be granted on the same;

For good and valuable consideration, receipt of which is hereby acknowledged by Assignors, Assignors have assigned, and by these presents do assign to Assignee all right, title and interest in and to the invention and application and to all foreign counterparts (including patent, utility model and industrial designs), and in and to any Letters Patent and Registrations which may hereafter be granted on the same in the United States and all countries throughout the world, and to claim the priority from the application as provided by the Paris Convention. The right, title and interest is to be held and enjoyed by Assignee and Assignee's successors and assigns as fully and exclusively as it would have been held and enjoyed by Assignors had this Assignment not been made, for the full term of any Letters Patent and Registrations which may be granted thereon, or of any division, renewal, continuation in whole or in part, substitution, conversion, reissue, prolongation or extension thereof.

Assignors further agree that they will, without charge to Assignors, but at Assignee's expense, (a) cooperate with Assignee in the prosecution of U.S. Patent applications and foreign counterparts on the invention and any improvements, (b) execute, verify, acknowledge and deliver all such further papers, including patent applications and instruments of transfer, and (c) perform such other acts as Assignee lawfully may request to obtain or maintain Letters Patent and Registrations for the invention and improvements in any and all countries, and to vest title thereto in Assignee, or Assignee's successors and assigns.

Assignors hereby authorize and request Kilpatrick Townsend & Stockton LLP, 1100 Peachtree Street, Suite 2800, Atlanta, Georgia 30309, to insert herein above the application number and filing date of said application when known.

IN TESTIMONY WHEREOF, Assignors have signed their names on the dates indicated.

| Signature: | | Date: | 6-6-17 |
|-----------------------|--|---------|----------|
| | Craig M. Stanley | | |
| Signature: | Vinnana and the state of the st | Date: | |
| | Simon K. Porter | | |
| Signature: | | Date: | |
| | John H. Sheerin | | |
| Signature: | | Date: | -6/3//(7 |
| | Glenn K. Trainer | | |
| Signature: | Gulle . | Date: | 5/31/17 |
| | Jásón C. Della Rosa | | and an e |
| Signature: | Ettin Mine | Date: | 5/31/17 |
| | Ethan L. Huwe | | Elm. Im |
| Signature: | Son T. Walnut | Date: | 5/31/17 |
| A | Sean T. McIntosh | | |
| Signature: | Erik L.Wang | Date: | |
| 65.8 T | EHR L. Wang | | |
| Signature: | Christopher J. Stringer | Date: | |
| genterro y nincolorid | Summon a sumger | gross : | |
| Signature: | Molly J. Anderson | Date: | |
| | wony J. Anderson | | |

Assignment Attorney Docket No.: 090911-P30719US1-1026104 Page 2 of 2

| Signature: | | Date: | |
|------------|-------------------------|---------|-----------|
| | Craig M. Stanley | | *** 1 |
| Signature: | 241 | Date: | 5/31/2019 |
| | Simon K. Forter | | |
| Signature: | | Date: _ | |
| | John H. Sheerin | | |
| Signature: | | Date: | |
| | Glenn K. Trainer | | |
| Signature: | | Date: _ | |
| | Jason C. Della Rosa | | |
| Signature: | | Date: _ | |
| | Ethan L. Huwe | | |
| Signature: | | Date: _ | |
| | Sean T. McIntosh | | |
| Signature: | | Date: | |
| | Erik L.Wang | | |
| Signature: | | Date: _ | |
| | Christopher J. Stringer | | |
| Signature: | | Date: | |
| | Molly J. Anderson | | |

Assignment Attorney Docket No.: 090911-P30719US1-1026104 Page 2 of 2

| Signature: | | Date: | |
|------------|---|-------|--------|
| | Craig M. Stanley | | |
| Signature: | | Date: | |
| Signature: | Simon K. Porter An Hold John H. Sheerin | Date: | 4/1/17 |
| Signature: | | Date: | |
| Signature: | | Date: | |
| Signature: | | Date: | |
| Signature: | Sean T. McIntosh | Date: | |
| Signature | : Erik L.Wang | Date: | |
| Signature | :Christopher J. Stringer | Date: | |
| Signature | : Molly J. Anderson | Date: | |

Assignment Attorney Docket No.: 090911-P30719USI-1026104

Page 2 of 2

| Signature: | | Date: | |
|------------|-------------------------|-------|--------|
| | Craig M. Stanley | | |
| Signature: | | Date: | |
| | Simon K. Porter | | |
| Signature: | | Date: | |
| | John H. Sheerin | | |
| Signature: | | Date: | |
| | Glenn K. Trainer | | |
| Signature: | | Date: | |
| | Jason C. Della Rosa | | |
| Signature: | | Date: | |
| | Ethan L. Huwe | | |
| Signature: | · | Date: | |
| | Sean T. McIntosh | | |
| Signature: | | Date: | 6/6/17 |
| | Erik L. Wang | | |
| Signature: | | Date: | |
| | Christopher J. Stringer | | |
| Signature: | | Date: | |
| | Molly J. Anderson | | |

Attorney Docket No.: 090911-P30719US1-1026104

ASSIGNMENT

(Patent Application)

JOINT

WHEREAS, Craig M. Stanley, Simon K. Porter, John H. Sheerin, Glenn K. Trainer, Jason C. Della Rosa, Ethan L. Huwe, Sean T. McIntosh, Erik L. Wang, Christopher J. Stringer and Molly J. Anderson, hereinafter referred to as "Assignors," are the inventors of the invention described and set forth in the below-identified application for United States Letters Patent:

Title of Invention: AUDIO DRIVER AND POWER SUPPLY UNIT

ARCHITECTURE

Filing Date:

June 2, 2017

Application No.:

15/613,054

WHEREAS, APPLE INC., a corporation of the state of California, located at 1 Infinite Loop, Cupertino, CA 95014, hereinafter referred to as "ASSIGNEE," is desirous of acquiring an interest in the invention and application and in any U.S. Letters Patent and Registrations which may be granted on the same;

For good and valuable consideration, receipt of which is hereby acknowledged by Assignors, Assignors have assigned, and by these presents do assign to Assignee all right, title and interest in and to the invention and application and to all foreign counterparts (including patent, utility model and industrial designs), and in and to any Letters Patent and Registrations which may hereafter be granted on the same in the United States and all countries throughout the world, and to claim the priority from the application as provided by the Paris Convention. The right, title and interest is to be held and enjoyed by Assignee and Assignee's successors and assigns as fully and exclusively as it would have been held and enjoyed by Assignors had this Assignment not been made, for the full term of any Letters Patent and Registrations which may be granted thereon, or of any division, renewal, continuation in whole or in part, substitution, conversion, reissue, prolongation or extension thereof.

Assignors further agree that they will, without charge to Assignors, but at Assignee's expense, (a) cooperate with Assignee in the prosecution of U.S. Patent applications and foreign counterparts on the invention and any improvements, (b) execute, verify, acknowledge and deliver all such further papers, including patent applications and instruments of transfer, and (c) perform such other acts as Assignee lawfully may request to obtain or maintain Letters Patent and Registrations for the invention and improvements in any and all countries, and to vest title thereto in Assignee, or Assignee's successors and assigns.

IN TESTIMONY WHEREOF, Assignors have signed their names on the dates indicated.

Assignment Attorney Docket No.: 090911-P30719US1-1026104 Page 2 of 2

| Signature: | <u> </u> | Date: | |
|------------|-------------------------|---------|-----------|
| | Craig M. Stanley | | |
| Signature: | | Date: | |
| | Simon K. Porter | | |
| Signature: | | Date: | |
| | John H. Sheerin | | |
| Signature: | | Date: | |
| | Glenn K. Trainer | | |
| Signature: | | Date: | |
| | Jason C. Della Rosa | | |
| Signature: | | Date: | · |
| | Ethan L. Huwe | | |
| Signature: | | Date: | |
| | Sean T. McIntosh | | |
| Signature: | ····· | _ Date: | |
| | Erik L. Wang | | 1 |
| Signature: | | Date: | 7/27/2017 |
| | Christopher J. Stringer | | |
| Signature: | | Date: | |
| | Molly J. Anderson | | |

ASSIGNMENT (Patent Application)

JOINT

WHEREAS, Craig M. Stanley, Simon K. Porter, John H. Sheerin, Glenn K. Trainer, Jason C. Della Rosa, Ethan L. Huwe, Sean T. McIntosh, Erik L. Wang, Christopher J. Stringer and Molly J. Anderson, hereinafter referred to as "Assignors," are the inventors of the invention described and set forth in the below-identified application for United States Letters Patent:

Title of Invention: AUDIO DRIVER AND POWER SUPPLY UNIT

ARCHITECTURE

Filing Date: June 2, 2017

Application No.: 15/613,054

WHEREAS, APPLE INC., a corporation of the state of California, located at 1 Infinite Loop, Cupertino, CA 95014, hereinafter referred to as "ASSIGNEE," is desirous of acquiring an interest in the invention and application and in any U.S. Letters Patent and Registrations which may be granted on the same;

For good and valuable consideration, receipt of which is hereby acknowledged by Assignors, Assignors have assigned, and by these presents do assign to Assignee all right, title and interest in and to the invention and application and to all foreign counterparts (including patent, utility model and industrial designs), and in and to any Letters Patent and Registrations which may hereafter be granted on the same in the United States and all countries throughout the world, and to claim the priority from the application as provided by the Paris Convention. The right, title and interest is to be held and enjoyed by Assignee and Assignee's successors and assigns as fully and exclusively as it would have been held and enjoyed by Assignors had this Assignment not been made, for the full term of any Letters Patent and Registrations which may be granted thereon, or of any division, renewal, continuation in whole or in part, substitution, conversion, reissue, prolongation or extension thereof.

Assignors further agree that they will, without charge to Assignors, but at Assignee's expense, (a) cooperate with Assignee in the prosecution of U.S. Patent applications and foreign counterparts on the invention and any improvements, (b) execute, verify, acknowledge and deliver all such further papers, including patent applications and instruments of transfer, and (c) perform such other acts as Assignee lawfully may request to obtain or maintain Letters Patent and Registrations for the invention and improvements in any and all countries, and to vest title thereto in Assignee, or Assignee's successors and assigns.

IN TESTIMONY WHEREOF, Assignors have signed their names on the dates indicated.

Assignment Attorney Docket No.: 090911-P30719US1-1026104 Page 2 of 2

| Signature: | | _ Date: | |
|------------|-------------------------|---------|----------|
| | Craig M. Stanley | | |
| Signature: | | Date: | |
| | Simon K. Porter | | |
| Signature: | | _ Date: | |
| | John H. Sheerin | | |
| Signature: | | Date: | |
| | Glenn K. Trainer | | |
| Signature: | | _ Date: | |
| | Jason C. Della Rosa | | |
| Signature: | | _ Date: | |
| | Ethan L. Huwe | | |
| Signature: | | _ Date: | |
| | Sean T. McIntosh | | |
| Signature: | | _ Date: | |
| | Erik L. Wang | | |
| Signature: | | _ Date: | |
| | Christopher J. Stringer | | |
| Signature: | Mallin. | _ Date: | 7-27-17- |
| | Molly J. Anderson | | |

PATENT REEL: 043221 FRAME: 0866

RECORDED: 08/07/2017