## 503907384 07/08/2016

# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

## **CONVEYING PARTY DATA**

Name	Execution Date
HARVEY D. THORNBURG	06/28/2016
PETER A. RAFFENSPERGER	06/23/2016

## **RECEIVING PARTY DATA**

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

## **PROPERTY NUMBERS Total: 3**

Property Type	Number
Application Number:	62348662
Application Number:	15200863
Application Number:	15200841

## **CORRESPONDENCE DATA**

Fax Number:

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.

Email: mail@ganzlaw.com
Correspondent Name: GANZ POLLARD LLC

Address Line 1: PO BOX 2200

Address Line 4: HILLSBORO, OREGON 97123

ATTORNEY DOCKET NUMBER:	P31250USP1, US1, US2	
NAME OF SUBMITTER:	CHRIS RENNING	
SIGNATURE:	/Chris Renning/	
DATE SIGNED:	07/08/2016	

**Total Attachments: 4** 

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PATENT 503907384 REEL: 039111 FRAME: 0102

For good and valuable consideration, receipt of which is hereby acknowledged, we, the undersigned inventors (hereafter, "Assignor") of certain inventions (hereafter, the "Inventions") for which we are making an application, as follows:

U.S. Provisional Patent Application;

Entitled: DETECTION AND REMOVAL OF UNWANTED NOISES;

Filed on: June 10, 2016

Assigned Application Serial Number: 62/348,662

Identified by Attorney Docket No. P31250USP1 / APP-2.002.PR of GANZ POLLARD, LLC,

P.O. Box 2200, Hillsboro, Oregon 97123;

For Letters Patent of The United States of America;

Entitled: NOISE DETECTION AND REMOVAL SYSTEMS, AND RELATED METHODS;

Filed on: July 1, 2016

Assigned Application Serial Number: 15/200,863

Identified by Attorney Docket No. P31250US1 / APP-2.002.US1 of GANZ POLLARD, LLC,

P.O. Box 2200, Hillsboro, Oregon 97123,

and

For Letters Patent of The United States of America;

Entitled: NOISE DETECTION AND REMOVAL SYSTEMS, AND RELATED METHODS;

Filed on: July 1, 2016

Assigned Application Serial Number: 15/200,841

Identified by Attorney Docket No. P31250US2 / APP-2.002.US2 of GANZ POLLARD, LLC,

P.O. Box 2200, Hillsboro, Oregon 97123,

(Hereinafter referred to as the "Patent Applications")

hereby sell, assign, and transfer unto

Apple Inc. of 1 Infinite Loop, Cupertino, California 95014, a for-profit corporation formed under the laws of the State of California,

as Assignee.

for Assignee's own use and benefit, and for Assignee's successors and assigns, the entire right, title and interest, for all countries, in and to: (a) the Inventions; (b) the Patent Applications and all related patent rights; (c) any and all other provisional and non-provisional patent applications pertaining to said Inventions or the Patent Applications (the "Other Applications"); (d) any and all patent applications claiming priority to the Patent Applications and/or to the Other Applications, or from which the Patent Applications or the Other Applications claim priority, including international and foreign applications (collectively, the "Priority Applications"); (e) any and all continuing applications of the Patent Applications, the Other Applications and the Priority Applications (the "Continuing Applications"); (f) any and all reissues, re-examinations and/or extensions relating to or of the Patent Applications, the Other Applications or the Priority Applications, including, without limitation, any and all renewals of and/or substitutes thereof

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> PATENT REEL: 039111 FRAME: 0103

(collectively, the "Extensions"); and (g) any and all rights and privileges that may be issued, granted or otherwise arise from, in any country, any and all said Inventions (such rights and privileges including, without limitation, any and all patent rights, other protections arising from patent applications, and other proprietary rights). Hereinafter, any and all of the Patent Applications, Other Applications, Priority Applications, Continuing Applications and rights arising therefrom are collectively referred to as "Patent Family Rights."

If the U.S. Serial Number and filing date are unknown at the time of execution of this Assignment, Assignor authorizes any attorney listed with GANZ POLLARD, LLC, or otherwise associated with USPTO Customer Number 130224, to insert where indicated above, the serial number and filing date of said application when known, and to make changes to the Attorney Docket No. listed herein.

Without limiting the generality of the foregoing, Assignor requests and agrees that any and all patents under Patent Family Rights shall issue to said Assignee, or to Assignee's successors and assigns, or to such nominee(s) as Assignee may designate, as the sole owner of the entire right, title and interest in and to any and all said patents and said inventions thereby patented. And Assignor grants Assignee a limited power of attorney to execute documents on Assignor's behalf to give effect to this provision in case Assignor is unavailable, deceased, incapacitated, or otherwise unable or unwilling to cooperate in the process of effecting a transfer of ownership, or recordation of ownership right(s) in the name of the Assignee.

Assignor agrees that, when requested, Assignor will, without charge to said Assignee but at Assignee's expense, execute additional assignments and all other writings, make all declarations and take all oaths, and do all other acts which Assignee reasonably may deem necessary, desirable or convenient (i) for perfecting, securing, maintaining, asserting, and enforcing any and all patent applications and patents for, and other rights and privileges relating to, said inventions and Patent Family Rights in any and all countries and (ii) for vesting the entire right, title and interest therein and thereto solely in said Assignee, its successors and assigns, or such nominee(s) as Assignee may designate. Assignor authorizes and empowers said Assignee, Assignee's successors and assigns, or such nominee(s) as Assignee may designate, to invoke and claim in any application in the Patent Family Rights, and in any and all other applications for patent or other form of protection for said inventions filed by or for it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any treaty or convention which may henceforth be substituted for or be an alternative to the Convention, and to invoke and claim such right of priority without further written or oral authorization from Assignor.

This Assignment grants said Assignee (or Assignee's successors and assigns, or nominee(s) as Assignee may designate) the sole right (a) to pursue in its own name any past, present, or future actions (including, without limitation, claims of infringement) based on any and all rights and privileges that may be issued, granted or otherwise arise from, or relate to, in any country, any and all said inventions (such rights and privileges including, without limitation, any and all patent rights, other protections arising from patent applications, and other proprietary rights) and (b) to exclusively retain any awards, settlements, or other remedies therefrom, as fully and as entirely as we would have had the right to pursue and to retain had this assignment and sale not been made.

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> PATENT REEL: 039111 FRAME: 0104

Assignor hereby consents that a copy of this Assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file, or like document which may be required in any country for any purpose and, more particularly, in proof of the right of said Assignee (or Assignee's successors and assigns, or nominee(s) as Assignee may designate) to claim the aforesaid benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any treaty or convention which may henceforth be substituted for the Convention. Assignor covenants, with said Assignee, Assignee's successors and assigns, that the rights and property herein conveyed are free and clear of any encumbrance, and that Assignor has full right to convey the same as herein expressed.

Assignor agrees that Assignor will not execute any assignment, encumbrance or other writing, or do any other act, that conflicts (a) with this Assignment or (b) without limiting the generality of the foregoing, with any provision set forth herein.

Assignor hereby acknowledges that Assignor was obliged to assign all rights, title and interest in and to the Patent Family Rights to Assignee at the time said Inventions were made.

IN WITNESS WHEREOF, Assignor hereunto signs Assignors' respective names below

HYUNG-SUK KIM

6/28/2016

DATE

6/28/2016

DATE

DATE

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Assignor hereby consents that a copy of this Assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file, or like document which may be required in any country for any purpose and, more particularly, in proof of the right of said Assignee (or Assignee's successors and assigns, or nominee(s) as Assignee may designate) to claim the aforesaid benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any treaty or convention which may henceforth be substituted for the Convention. Assignor covenants, with said Assignee, Assignee's successors and assigns, that the rights and property herein conveyed are free and clear of any encumbrance, and that Assignor has full right to convey the same as herein expressed.

Assignor agrees that Assignor will not execute any assignment, encumbrance or other writing, or do any other act, that conflicts (a) with this Assignment or (b) without limiting the generality of the foregoing, with any provision set forth herein.

Assignor hereby acknowledges that Assignor was obliged to assign all rights, title and interest in and to the Patent Family Rights to Assignee at the time said Inventions were made.

IN WITNESS WHEREOF, Assignor hereunto signs Assignors' respective names below on the day and year indicated.

HARVEY D. THORNBURG	DATE
lete Mpy	23 June 2016
PETER A/RAFFENSPERGER	DATE
HYUNG-SUK KIM	DATE

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> PATENT REEL: 039111 FRAME: 0106

RECORDED: 07/08/2016