502439884 07/30/2013

PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

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

CONVEYING PARTY DATA

| Name | Execution Date |
|------------------------|----------------|
| Richard James Zillman | 07/10/2013 |
| Kieran Gerard Larkin | 07/11/2013 |
| Peter Alleine Fletcher | 07/18/2013 |

RECEIVING PARTY DATA

| Name: | CANON KABUSHIKI KAISHA |
|-----------------|------------------------------------|
| Street Address: | 30-2, Shimomaruko 3-Chome, Ohta-Ku |
| City: | Tokyo |
| State/Country: | JAPAN |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 13863985 |

CORRESPONDENCE DATA

Fax Number: 9499323560

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone: 949-932-3329

Email: IPDocketing@cusa.canon.com

Correspondent Name: CANON U.S.A. INC. INTELLECTUAL PROPERTY

Address Line 1: 15975 ALTON PARKWAY

Address Line 4: IRVINE, CALIFORNIA 92618-3731

| ATTORNEY DOCKET NUMBER: | 2200-14963-CINC |
|-------------------------|-----------------|
| NAME OF SUBMITTER: | Alvin Fong |
| Signature: | /Alvin Fong/ |
| Date: | 07/30/2013 |

PATENT REEL: 030909 FRAME: 0058

Total Attachments: 4

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> PATENT REEL: 030909 FRAME: 0059

ASSIGNMENT

| RICHARD JAMES ZILLMAN | KIERAN GERARD LARKIN |
|------------------------|----------------------|
| PETER ALLEINE FLETCHER | |
| | |
| | · |
| | |

hereby sell, assign, transfer and convey unto CANON KABUSHIKI KAISHA a corporation of Japan

having a place of business at 30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, Japan

its successors, assigns and legal representatives (hereinafter called the "Assignee"), the entire right, title, and interest, for all countries, in and to certain inventions relating to

IMAGE RESAMPLING BY FREQUENCY UNWRAPPING

FOR VALUE RECEIVED. I/WE

and described in an application for Letters Patent of the United States executed by me/us, and filed on April 16, 2013 as United States Application No. 13/863985 or as PCT International Application No.

and in and to said application, and all divisions, renewals and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues and extensions thereof, and all applications for Letters Patent or other grants of protection of proprietary rights including, but not limited to, inventor's certificate, utility model, utility certificate, patent of importation, registration of patent and industrial design registration which may be filed, and which may be granted, upon said inventions in any countries or regions foreign to the United States, and all reissues, renewals and extensions thereof; and I/we hereby authorize and request the Commissioner for Patents and Trademarks of the United States, and all officials of countries or regions foreign to the United States having authority to do so, to issue all such Letters Patent or other grants of protection upon said inventions to the Assignee or to such nominees as it may designate.

AND I/we authorize and empower the said Assignee or nominees to invoke and claim for any application for such Letters Patent or other grants of protection for said inventions filed by 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 a convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from me/us.

AND I/we hereby consent that a copy of this assignment shall be deemed a full and formal equivalent of any assignment, consent to file or like document which may be required in any country or region for any purpose and

more particularly in proof of the right of the said Assignee or nominees 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 convention which may henceforth be substituted for it.

Page 1 of 2

PATENT REEL: 030909 FRAME: 0060 AND I/we hereby covenant that I/we have the full right to convey the entire right, title and interest herein assigned and that I/we have not executed and will not execute any agreement in conflict herewith.

AND I/we hereby covenant and agree that I/we will communicate to said Assignee or nominees all facts known to me/us pertaining to said inventions, and testify in all legal proceedings, sign all lawful papers, execute all divisional, continuing and reissue applications, make all rightful oaths and declarations and in general perform all lawful acts necessary or proper to aid said Assignee or nominees in obtaining, maintaining, and enforcing all lawful patent or other grants of protection of said inventions in any and all countries and regions.

| By: RICHARD JAMES ZILLMAN | Date: |
|------------------------------|--------------------|
| By: KIERAN GERARD LARKIN | Date: 11 July 2013 |
| PETER ALLEINE FLETCHER | Date: 18-7-2013. |
| Ву: | Date: |
| By: | Date: |
| Ву: | Date: |
| Ву: | Date: |

ASSIGNMENT

| RICHARD JAMES ZILLMAN | KIERAN GERARD LARKIN |
|------------------------|----------------------|
| PETER ALLEINE FLETCHER | |
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| | |
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and in and to said application, and all divisions, renewals and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues and extensions thereof, and all applications for Letters Patent or other grants of protection of proprietary rights including, but not limited to, inventor's certificate, utility model, utility certificate, patent of importation, registration of patent and industrial design registration which may be filed, and which may be granted, upon said inventions in any countries or regions foreign to the United States, and all reissues, renewals and extensions thereof; and I/we hereby authorize and request the Commissioner for Patents and Trademarks of the United States, and all officials of countries or regions foreign to the United States having authority to do so, to issue all such Letters Patent or other grants of protection upon said inventions to the Assignee or to such nominees as it may designate.

AND I/we authorize and empower the said Assignee or nominees to invoke and claim for any application for such letters Patent or other grants of protection for said inventions filed by 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 a convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from me/us.

AND I/we hereby consent that a copy of this assignment shall be deemed a full and formal equivalent of any assignment, consent to file or like document which may be required in any country or region for any purpose and

more particularly in proof of the right of the said Assignee or nominees 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 convention which may henceforth be substituted for it.

Page 1 of 2

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AND 1/we hereby covenant and agree that I/we will communicate to said Assignee or nominees all facts known to me/us pertaining to said inventions, and testify in all legal proceedings, sign all lawful papers, execute all divisional, continuing and reissue applications, make all rightful oaths and declarations and in general perform all lawful acts necessary or proper to aid said Assignee or nominees in obtaining, maintaining, and enforcing all lawful patent or other grants of protection of said inventions in any and all countries and regions.

| By: RICHARD JAMES ZILLMAN | Date: 10/7/2013 |
|----------------------------|-----------------|
| By:KIERAN GERARD LARKIN | Date: |
| By: PETER ALLEINE FLETCHER | Date: |
| Ву: | Date: |

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