

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
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EPAS ID: PAT4487647

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
VINCENT C KORTHUIS	10/28/2014
DONALD J MILLIGAN	10/29/2014
DENNIS SCHLOEMAN	10/29/2014
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	Hewlett-Packard Development Company, L.P.
<b>Street Address:</b>	11445 Compaq Center Drive West
<b>City:</b>	Houston
<b>State/Country:</b>	TEXAS
<b>Postal Code:</b>	77070
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>PCT Number:</b>	US1462930
<b>CORRESPONDENCE DATA</b>	
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<b>Phone:</b>	(541)715-8443
<b>Email:</b>	ipa.mail@hp.com
<b>Correspondent Name:</b>	HEWLETT-PACKARD COMPANY
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<b>Address Line 2:</b>	INTELLECTUAL PROPERTY ADMINISTRATION
<b>Address Line 4:</b>	FORT COLLINS, COLORADO 80528
<b>ATTORNEY DOCKET NUMBER:</b>	84619611
<b>NAME OF SUBMITTER:</b>	KUBAE KIM
<b>SIGNATURE:</b>	/Kubae Kim/
<b>DATE SIGNED:</b>	06/30/2017
<b>Total Attachments: 3</b>	
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HEWLETT-PACKARD COMPANY  
Intellectual Property Administrator  
3404 E. Harmony Road  
Mail Stop 35  
Fort Collins, Colorado 80528

PATENT APPLICATION

RECORD ID: 84042091

### ASSIGNMENT OF PATENT APPLICATION

I/We, the undersigned (each), for good and valuable consideration, the receipt of which is hereby acknowledged, and in furtherance of my/our obligations to HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas Limited Partnership having its principal place of business in Houston, Texas, (hereinafter HPDC), and to its subsidiaries and affiliates, agree to assign and transfer and hereby assign and transfer to HPDC, its successors and assigns, the entire right, title and interest, including the right of priority, in, to and under an application for Patent entitled:

### MULTI-DIRECTIONAL SINGLE PASS PRINTING

Filing Date: 29Oct2014 Application No.: PCT/US2014/062930

and the invention(s) and improvement(s) set forth therein, and any and all continuations, continuations-in-part (C-I-P's), divisionals, and renewals of and substitutes for said application for said Patent, and any and all other Patent of any countries thereto which may be granted thereon or therefore; and any reissues, or reexaminations, or extensions of said Patent.

I/we additionally authorize HPDC to file applications in my/our name for Patent in any country, to be held and enjoyed by HPDC, its successors, assigns, nominees or legal representatives, to the full end of the term or terms for which said Patent respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by me/us had this assignment, and transfer not been made;

AND I/we hereby covenant that I/we have full right to convey the entire interest herein assigned, and that I/we have not executed and will not execute any agreement in conflict herewith, and I/we further covenant and agree that I/we will, each time a request is made, and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to said invention(s) or improvement(s), said application and said Patent, to HPDC, its successors, assigns, nominees or legal representatives, and I/we agree to communicate to HPDC, or to its nominee, all known facts respecting said invention(s) or improvement(s), said application and said Patent, to testify in any legal proceedings, to sign all lawful papers, to execute all disclaimers and divisionals, continuations, C-I-P's, reissue and foreign applications, to make all rightful oaths and declarations, and generally to do everything possible to aid HPDC, its successors, assigns, nominees and legal representatives to obtain and enforce, for its or their own benefit, proper patent protection for said invention(s) or improvement(s) in any and all countries provided the expenses which may be incurred by me/us in lending such cooperation and assistance are paid by HPDC;

AND I/we hereby authorize and request the official of any country or countries whose duty it is to issue patents on applications as aforesaid, to issue to HPDC, as assignee of the entire right, title and interest, any and all Patent for said invention(s) or improvement(s) which may be issued and granted on or as a result of the application aforesaid, in accordance with the terms of this assignment.

I/we further authorize and direct the attorneys of record to insert the filing date and application number of said application for Patent, now identified by the Record ID and title set forth above, as soon as the same shall have been made known to them.

IN WITNESS WHEREOF, I/we hereunto set my/our hand(s) and seal(s):

 10/28/14  
Inventor's Signature Date

Vincent C. KORTHUIS  
First/Middle Name Last Name

\_\_\_\_\_  
Inventor's Signature Date

Donald J. MILLIGAN  
First/Middle Name Last Name

HEWLETT-PACKARD COMPANY  
Intellectual Property Administrator  
3404 E. Harmony Road  
Mail Stop 35  
Fort Collins, Colorado 80528

PATENT APPLICATION

RECORD ID: 84042091

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MULTI-DIRECTIONAL SINGLE PASS PRINTING

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I/we further authorize and direct the attorneys of record to insert the filing date and application number of said application for Patent, now identified by the Record ID and title set forth above, as soon as the same shall have been made known to them.

IN WITNESS WHEREOF, I/we hereunto set my/our hand(s) and seal(s):

Inventor's Signature

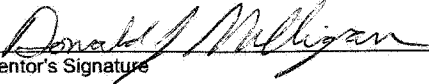
Date

Vincent C.

KORTHUIS

First/Middle Name

Last Name



Inventor's Signature

Date

Oct 29, 2014

Donald J.

MILLIGAN

First/Middle Name


Last Name

HEWLETT-PACKARD COMPANY  
Intellectual Property Administrator  
3404 E. Harmony Road  
Mail Stop 35  
Fort Collins, Colorado 80528

PATENT APPLICATION

RECORD ID: 84042091

ASSIGNMENT OF PATENT APPLICATION (cont.)

  
Inventor's Signature

October 29, 2014  
Date

Dennis SCHLOEMAN  
First/Middle Name Last Name

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Inventor's Signature

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Date

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First/Middle Name Last Name

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Inventor's Signature

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Date

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Date

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