505963662 03/12/2020

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6010369

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JAMES MICHAEL GARDNER	04/23/2019
SCOTT A. LINN	04/23/2019
STEPHEN D. PANSHIN	04/23/2019
JEFFERSON P. WARD	05/01/2019
DAVID OWEN ROETHIG	04/24/2019
DAVID N. OLSEN	04/23/2019
ANTHONY D. STUDER	04/24/2019
MICHAEL W. CUMBIE	04/24/2019
SIRENA CHI LU	04/24/2019

RECEIVING PARTY DATA

Name:	Hewlett-Packard Development Company, L.P.	
Street Address:	10300 Energy Drive	
City:	Spring	
State/Country:	TEXAS	
Postal Code:	77389	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16728207

CORRESPONDENCE DATA

Fax Number: (970)778-4063

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.

using a lax number, ii provided; ii that is unsuccessiul, it will be sent via 05 Maii

Phone: (541)360-4450 **Email:** ipa.mail@hp.com

Correspondent Name: HP INC.

Address Line 1:3390 E. HARMONY ROAD MS 35Address Line 4:FORT COLLINS, COLORADO 80528

ATTORNEY DOCKET NUMBER:	85833903
NAME OF SUBMITTER:	JOSEPH T. JASPER

PATENT 505963662 REEL: 052093 FRAME: 0909

SIGNATURE:	/Joseph T. Jasper/		
DATE SIGNED:	03/12/2020		
Total Attachments: 9			
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PATENT REEL: 052093 FRAME: 0910 LOGIC CIRCUITRY

of said Applications for Patent or said Patents.

PATENT APPLICATION

RECORD	ID:	85721581

ASSIGNMENT OF PATENT APPLICATION

I, the undersigned, for good and valuable consideration, the receipt of which is hereby acknowledged, agree to assign and transfer and hereby assign and transfer to HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas Limited Partnership having its principal place of business in Spring, Texas, (hereinafter "HPDC"), its successors, and its assigns, my entire right, title, and interest, including all rights of priority, in, to, and under an application for patent entitled (English-language title in parentheses if said application for patent is in another language):

Filing Date: April 5, 2019	Application No.: PCT/US19/26133	Patent Office: US
herein "patent" refers to any form of intell design rights, and utility model rights) (country or region or under any internatio patent, any and all applications for pater said Inventions, any and all applications indirectly claims priority or benefit, and a of, divisional applications of, national-ph application for patent for any of said Inventional	inventions, improvements, and discoveries, set forth in saidectual property protection including, without limitation, inventional agreement for any of said Inventions (including, without directly or indirectly claiming priority to or benefit of any is for patent from which any application for patent for any and all continuation applications of, continuation-in-parallel applications of, regional-phase applications of, renewall applications (hereinafter "Applications for Patent"); any and all continuation applications for Patent"); any and all continuation (hereinafter "Applications for Patent"); any and all existing and future (hereinafter "Applications for Patent"); any and all existing and future (hereinafter "Applications for Patent"); any and all existing and future (hereinafter "Applications for Patent"); any and all existing and future (hereinafter "Applications for Patent"); any and all existing and future (hereinafter "Applications for Patent"); any and all existing and future (hereinafter "Applications for Patent"); any and all existing and future (hereinafter "Applications for Patent"); any and all existing any and all existing and future (hereinafter "Applications for Patent"); any and all existing and future (hereinafter "Applications for Patent"); any and all existing and future (hereinafter "Applications for Patent"); any and all existing any and all existing and all existing and all existing any	ention rights, utility patent rights, a applications for patent of any out limitation, said application for application for application for patent for any of said Inventions directly or t applications (hereinafter CIPs) wals of, and substitutes for any I patents which may be granted
oil of as a result of said Applications for	Patent (hereinafter "Patents"); and any and all reissues,	reexaminations, and extensions

I HEREBY represent that I convey my full rights in all countries and regions and under all international agreements to the entire right, title, and interest herein assigned and transferred, and that I have not executed and will not execute any agreement in conflict herewith;

AND I HEREBY authorize HPDC, its successors, its assigns, its nominees, and its legal representatives to file said Applications for Patent in its name or in my name in any country or region or under any international agreement, and further authorize HPDC, its successors, its assigns, its nominees, and its legal representatives to insert the filing date, application number, and patent office of said application for patent, now identified by the Record ID and title set forth above, when known to them;

AND I HEREBY authorize and request the officials of all countries and regions and under all international agreements whose duty it is to issue patents, to issue to HPDC, its successors, or its assigns, as assignee of my entire right, title, and interest, said Patents, in accordance with the terms of this assignment and transfer;

AND I HEREBY covenant and agree that I 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 in said Inventions, Applications for Patent, and Patents, to HPDC, its successors, or its assigns; communicate to HPDC, its successors, its assigns, its nominees, or its legal representatives, all known facts respecting said Inventions, Applications for Patent, and Patents; testify in any legal or administrative proceedings and sign all lawful papers (including, without limitation, divisional applications, continuation applications, CIPs, and reissue applications) relating to said Inventions, Applications for Patent, and Patents; and make all rightful oaths and declarations and generally to do everything possible to aid HPDC, its successors, its assigns, its nominees, and its legal representatives to obtain, maintain, and enforce, for its or their own benefit, proper intellectual property protection for said Inventions, Applications for Patent, and Patents, provided the expenses which may be incurred by me in lending such cooperation and assistance are paid by HPDC, its successors, its assigns, its nominees, or its legal representatives.

IN WITNESS WHEREOF, I.E.	ereunto set my hand and seal:	<i>2</i> 3	4	19
Inventor's Signature		Day	Month	Year
James Michael	GARDNER			
Given (First and Middle) Name(s)	Family Name			

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RECORD ID: 8	5721581
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Filing Date: April 5, 2019	Application No.: PCT/US19/26133	Patent Office: US
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Given (First and Middle) Name(s) Family Name

RECORD	ID:	85721581

ASSIGNMENT OF PATENT APPLICATION

I. the undersigned, for good and valuable consideration, the receipt of which is hereby acknowledged, agree to assign and qir le, ses

transfer and hereby assign and transfer to HEWLETT-PACKARD E having its principal place of business in Spring, Texas, (hereinafter and interest, including all rights of priority, in, to, and under an appli if said application for patent is in another language):	EVELOPMEN "HPDC"), its	NT COMPANY, L.P. successors, and its	, a Texas Limited Partnership assigns, my entire right, title.
LOGIC CIRCUITRY			
Filing Date: April 5, 2019 Application No.	: PCT/US19	/26133	Patent Office: US ;
the subject matter, including any and all inventions, improvements, herein "patent" refers to any form of intellectual property protection design rights, and utility model rights) (hereinafter "Inventions"); country or region or under any international agreement for any of spatent, any and all applications for patent directly or indirectly claims aid Inventions, any and all applications for patent from which as indirectly claims priority or benefit, and any and all continuation applicational applications of, national-phase applications of, region application for patent for any of said Inventions) (hereinafter "Appli on or as a result of said Applications for Patent (hereinafter "Patent of said Applications for Patents.	including, with any and all e aid Inventions ning priority to ny application olications of, c nal-phase app cations for Pa	nout limitation, inver existing and future is (including, without or benefit of any a for patent for any continuation-in-part olications of, renewantent"); any and all	tion rights, utility patent rights, applications for patent of any limitation, said application for pplication for patent for any of of said Inventions directly or applications (hereinafter CIPs) als of, and substitutes for any patents which may be granted
I HEREBY represent that I convey my full rights in all countrentire right, title, and interest herein assigned and transferred, and conflict herewith;	ies and regio that I have no	ns and under all in t executed and will	ternational agreements to the not execute any agreement in
AND I HEREBY authorize HPDC, its successors, its assig Applications for Patent in its name or in my name in any country authorize HPDC, its successors, its assigns, its nominees, and number, and patent office of said application for patent, now identithem;	/ or region or its legal repr	under any interna esentatives to inse	tional agreement, and further ert the filing date, application
AND I HEREBY authorize and request the officials of all count duty it is to issue patents, to issue to HPDC, its successors, or its Patents, in accordance with the terms of this assignment and transf	assigns, as a	ons and under all in ssignee of my entir	ternational agreements whose e right, title, and interest, said
AND I HEREBY covenant and agree that I will, each time a rec such papers as may be necessary or desirable to perfect the titl HPDC, its successors, or its assigns; communicate to HPDC, its su all known facts respecting said Inventions, Applications for Patent, and sign all lawful papers (including, without limitation, division applications) relating to said Inventions, Applications for Patent, a generally to do everything possible to aid HPDC, its successors, its maintain, and enforce, for its or their own benefit, proper intellectual and Patents, provided the expenses which may be incurred by me its successors, its assigns, its nominees, or its legal representatives	e in said Inveccessors, its a and Patents; al application and Patents; a sassigns, its in property protein lending successors.	entions, Application assigns, its nomined testify in any legal s, continuation ap and make all rightfu nominees, and its le ection for said Inver	is for Patent, and Patents, to es, or its legal representatives, or administrative proceedings plications, CIPs, and reissue all oaths and declarations and egal representatives to obtain, nations, Applications for Patent,
IN WITNESS WHEREOF, I hereunto set my hand and seal:			
Sup D. Paul.	23	April	2019
Inventbr's Signàture	Day	Month	Year
Stephen D. PANSHIN Given (First and Middle) Name(s) Family Name	_		
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RECORD	ID:	85721581	

ASSIGNMENT OF PATENT APPLICATION

I, the undersigned, for good and valuable consideration, the receipt of which is hereby acknowledged, agree to assign and transfer and hereby assign and transfer to HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas Limited Partnership having its principal place of business in Spring, Texas, (hereinafter "HPDC"), its successors, and its assigns, my entire right, title, and interest, including all rights of priority, in, to, and under an application for patent entitled (English-language title in parentheses if said application for patent is in another language):

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Filing Date:	April 5, 2019	Application No.:	PCT/US19	/26133	Patent Office: US
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Applications f authorize HPI	or Patent in its name DC, its successors, it	PDC, its successors, its assign or in my name in any country is assigns, its nominees, and it oplication for patent, now identifi	or region or ts legal repre	under any internessentatives to ins	ational agreement, and furthe sert the filing date, application
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IN WITN	ESS WHEREOF, I he	reunto set my hand and seat:			
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Inventor's Sig	nature		Day	Month	Year
Jefferson P.	······································	WARD			
Given (First an	id Middle) Name(s)	Family Name			

RECORD	ID:	85721581
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ASSIGNMENT OF PATENT APPLICATION

I, the undersigned, for good and valuable consitransfer and hereby assign and transfer to HEWLET having its principal place of business in Spring, Texa and interest, including all rights of priority, in, to, and if said application for patent is in another language):	T-PACKARD DE\ as, (hereinafter "F	/ELOPMEN IPDC"), its s	T COMPANY, L.P., a T uccessors, and its ass	exas Limited Partnership
LOGIC CIRCUITRY				
Filing Date: April 5, 2019 Ap	plication No.:	PCT/US19/	26133	_Patent Office: US _ ;
the subject matter, including any and all inventions, in herein "patent" refers to any form of intellectual proper design rights, and utility model rights) (hereinafter country or region or under any international agreement patent, any and all applications for patent directly or said Inventions, any and all applications for patent indirectly claims priority or benefit, and any and all confidered to divisional applications of, national-phase application for patent for any of said Inventions) (here on or as a result of said Applications for Patent (here of said Applications for Patents).	erty protection inc "Inventions"); any ent for any of said indirectly claimin from which any ontinuation applic tions of, regional reinafter "Applicat	luding, without and all extended in a lucustical extended extended in a lucustical extended in a lucustical extended exte	out limitation, invention isting and future applications and future applications are benefit of any applications are patent for any of sometimustion-in-part applications of renewals opent"); any and all pater	rights, utility patent rights cations for patent of any tation, said application for ation for patent for any o aid inventions directly or cations (hereinafter CIPs f, and substitutes for any this which may be granted
I HEREBY represent that I convey my full right entire right, title, and interest herein assigned and traconflict herewith;	ts in all countries ansferred, and the	and region t I have not	s and under all interna executed and will not e	itional agreements to the execute any agreement in
AND I HEREBY authorize HPDC, its success Applications for Patent in its name or in my name authorize HPDC, its successors, its assigns, its nonumber, and patent office of said application for patenthem;	in any country o ominees, and its	r region or legal repre	under any internationa sentatives to insert th	I agreement, and further
AND I HEREBY authorize and request the official duty it is to issue patents, to issue to HPDC, its succeptatents, in accordance with the terms of this assignment.	cessors, or its as:	s and region signs, as as:	s and under all interna signee of my entire rigi	tional agreements whose nt, title, and interest, said
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IN WITNESS WHEREOF, I hereunto set my han	nd and seal:			
Andley fothy		24	As. TO	2019
Inventor's Signature		Day	Month	Year
David Owen ROETHIG				- e em
Given (First and Middle) Name(s) Family Name				

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RECORD ID: 85	721581

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Filing Date: April 5,	2019	Application No :	PCT/US19/26133	Patant Office US
Thing Batter April 6,	2010	Application No.:	PC1/0319/26133	_Patent Office: <u>US</u>

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Dona MC	ereunto set my hand and seal:	<u>23</u>	4	2019
Inventor's Signature		Day	Month	Year
David N.	OLSEN			
Given (First and Middle) Name(s)	Family Name			

LOGIC CIRCUITRY

PATENT APPLICATION

RECORD	ID:_	85721581	

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Filing Date:	April 5, 2019	Application No.: PCT/US19/26133	Patent Office: US

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authon A	11	24	4	19
Inventor's Signature		Day	Month	Year
Anthony D.	STUDER			
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ASSIGNMENT OF PATENT APPLICATION

I, the undersigned, for good and valuable consideration, the receipt of which is hereby acknowledged, agree to assign and

and interest, in	icipal place of busine:	nsfer to HEWLETT-PAC ss in Spring, Texas, (he priority, in, to, and under	CKARD DE ereinafter '	VELOPMEN	IT COMPANY, L.P successors, and its	wiedged, agree to assign and ., a Texas Limited Partnership s assigns, my entire right, title, n-language title in parentheses
LOGIC CIRC	CUITRY					
Filing Date:	April 5, 2019	Applica	tion No.:	PCT/US19	/26133	Patent Office: US
nerein "patent design rights, country or reg patent, any ar said Invention indirectly clain of, divisional a application for on or as a res	" refers to any form of and utility model rig ion or under any inter ad all applications for is, any and all applic as priority or benefit, a applications of, nation patent for any of sai	intellectual property prints) (hereinafter "Invertrational agreement for patent directly or indire ations for patent from and any and all continuital-phase applications of Inventions) (hereinafters for Patent (hereinafters)	otection in ntions"); a rany of sa ctly claimi which any ation appli of, regiona er "Applica	cluding, with ny and all exid Inventions ng priority to application cations of, coll- phase app ations for Pa	out limitation, inver xisting and future (including, withou or benefit of any a for patent for any portinuation-in-part lications of, renew- tent"): any and all	application for patent (as used application for patent rights, applications for patent of any t limitation, said application for application for patent for any of of said Inventions directly or applications (hereinafter CIPs) als of, and substitutes for any patents which may be granted examinations, and extensions
I HEREB entire right, titl conflict herewi	e, and interest herein	nvey my full rights in a assigned and transferr	all countrie ed, and th	s and regior at I have not	is and under all in executed and will	ternational agreements to the not execute any agreement in
Applications to authorize HPI	or Patent in its name DC, its successors, i	or in my name in any ts assigns, its nomine	y country es, and it	or region or s legal repre	under any interna esentatives to inse	Il representatives to file said tional agreement, and further ert the filing date, application et forth above, when known to
duty it is to iss	sue patents, to issue	request the officials of to HPDC, its successor ns of this assignment ar	s, or its a	ssigns, as as	ns and under all in ssignee of my entir	ternational agreements whose e right, title, and interest, said
AND I HEREBY covenant and agree that I 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 in said Inventions, Applications for Patent, and Patents, to HPDC, its successors, or its assigns; communicate to HPDC, its successors, its assigns, its nominees, or its legal representatives, all known facts respecting said Inventions, Applications for Patent, and Patents; testify in any legal or administrative proceedings and sign all lawful papers (including, without limitation, divisional applications, continuation applications, CIPs, and reissue applications) relating to said Inventions, Applications for Patent, and Patents; and make all rightful oaths and declarations and generally to do everything possible to aid HPDC, its successors, its assigns, its nominees, and its legal representatives to obtain, maintain, and enforce, for its or their own benefit, proper intellectual property protection for said Inventions, Applications for Patent, and Patents, provided the expenses which may be incurred by me in lending such cooperation and assistance are paid by HPDC, its successors, its assigns, its nominees, or its legal representatives.						
IN WITNE	ESS WHEREOF, I he	reunto set my hand and	l seal:		1	
Mich	nel W. Cu	nlo	-	24	April	2019
Inventor's Sigr	nature			Day	Month	Year
Michael W.		CUMBIE				
Given (First and	d Middle) Name(s)	Family Name			•	

LOGIC CIRCUITRY

of said Applications for Patent or said Patents.

	APPI	

RECORD	ID:	85721581

ASSIGNMENT OF PATENT APPLICATION

I, the undersigned, for good and valuable consideration, the receipt of which is hereby acknowledged, agree to assign and transfer and hereby assign and transfer to HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas Limited Partnership having its principal place of business in Spring, Texas, (hereinafter "HPDC"), its successors, and its assigns, my entire right, title, and interest, including all rights of priority, in, to, and under an application for patent entitled (English-language title in parentheses if said application for patent is in another language):

Filing Date: April 5, 2019	Application No.:	PCT/US19/26133	Patent Office: US ;
the subject matter, including any and all in herein "patent" refers to any form of intelled design rights, and utility model rights) (I country or region or under any internation patent, any and all applications for patent said Inventions, any and all applications indirectly claims priority or benefit, and ar of, divisional applications of, national-pha application for patent for any of said Inve	ectual property protection in hereinafter "Inventions"); ar hal agreement for any of sai t directly or indirectly claimir for patent from which any my and all continuation applicase applications of, regiona	cluding, without limitation by and all existing and sid Inventions (including, ing priority to or benefit or application for patent for cations of, continuation-in-	n, invention rights, utility patent rights, future applications for patent of any without limitation, said application for fany application for patent for any of or any of said Inventions directly or n-part applications (hereinafter CIPs) renewals of and substitutes for any
on or as a result of said Applications for	Patent (hereinaffer "Patente	"" and any and all raise	nd an paterns which may be granted

I HEREBY represent that I convey my full rights in all countries and regions and under all international agreements to the entire right, title, and interest herein assigned and transferred, and that I have not executed and will not execute any agreement in conflict herewith;

AND I HEREBY authorize HPDC, its successors, its assigns, its nominees, and its legal representatives to file said Applications for Patent in its name or in my name in any country or region or under any international agreement, and further authorize HPDC, its successors, its assigns, its nominees, and its legal representatives to insert the filing date, application number, and patent office of said application for patent, now identified by the Record ID and title set forth above, when known to them;

AND I HEREBY authorize and request the officials of all countries and regions and under all international agreements whose duty it is to issue patents, to issue to HPDC, its successors, or its assigns, as assignee of my entire right, title, and interest, said Patents, in accordance with the terms of this assignment and transfer;

AND I HEREBY covenant and agree that I 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 in said Inventions, Applications for Patent, and Patents, to HPDC, its successors, or its assigns; communicate to HPDC, its successors, its assigns, its nominees, or its legal representatives, all known facts respecting said Inventions, Applications for Patent, and Patents; testify in any legal or administrative proceedings and sign all lawful papers (including, without limitation, divisional applications, continuation applications, CIPs, and reissue applications) relating to said Inventions, Applications for Patent, and Patents; and make all rightful oaths and declarations and generally to do everything possible to aid HPDC, its successors, its assigns, its nominees, and its legal representatives to obtain, maintain, and enforce, for its or their own benefit, proper intellectual property protection for said Inventions, Applications for Patent, and Patents, provided the expenses which may be incurred by me in lending such cooperation and assistance are paid by HPDC, its successors, its assigns, its nominees, or its legal representatives.

IN WITNESS WHEREOF, I hereunto set my hand and seal:

\mathcal{A}_{-}		24	4	2019
Inventor's Signature		Day	Month	Year
Sirena Chi	LU			
Given (First and Middle) Name(s)	Family Name			

Rev 8/2018 (HPDC Assignment)

RECORDED: 03/12/2020