506273371 09/27/2020

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
HSING-HUNG HSIEH	11/06/2018
CHI HAO CHANG	11/06/2018
ANN ALEJANDRO VILLEGAS	11/07/2018

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:	17042155

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.

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

Correspondent Name: HP INC.

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

ATTORNEY DOCKET NUMBER:	85932048
NAME OF SUBMITTER:	CARRIE A. MILANO
SIGNATURE:	/Carrie A. Milano/
DATE SIGNED:	09/27/2020

Total Attachments: 3

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PATENT 506273371 REEL: 053895 FRAME: 0548

HP Inc. 3390 E. Harmony Road Mail Stop 35 Fort Collins, Colorado 80528

RECORD ID:	85017337
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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

transfer and hereby assign and transfer to HEWLETT-PACKARD DE having its principal place of business in Houston, Texas, (hereinaft title, and interest, including all rights of priority, in, to, and under parentheses if said application for patent is in another language):	er "HPDC"), i	ts successors, and its	assigns, my entire right,
ARRAYS OF ELECTRODES TO CONTROL PIXEL CONTRAS	ΓAT DISPLA	Y DEVICES	
Filing Date: November 14, 2018 Application No.:	PCT/U	S2018/061092	Patent Office: US
the subject matter, including any and all inventions, improvements, a herein "patent" refers to any form of intellectual property protection in design rights, and utility model rights) (hereinafter "Inventions"); all country or region or under any international agreement for any of salpatent, any and all applications for patent directly or indirectly claims said Inventions, any and all applications for patent from which any indirectly claims priority or benefit, and any and all continuation applied (divisional applications of, national-phase applications of, regions application for patent for any of said Inventions) (hereinafter "Application or as a result of said Applications for Patent (hereinafter "Patents of said Applications for Patents.	cluding, without and all exited and all exited and all exited and priority to contact application of contact and all exited applications for Pate applicat	ut limitation, invention isting and future appli (including, without limiter benefit of any applic for patent for any of softimuation-in-part applications of, renewals oent"); any and all pater	rights, utility patent rights, cations for patent of any tation, said application for ation for patent for any of said Inventions directly or cations (hereinafter CIPs) f, and substitutes for any its which may be granted
HEREBY represent that I convey my full rights in all countrie entire right, title, and interest herein assigned and transferred, and the conflict herewith;			
AND I HEREBY authorize HPDC, its successors, its assign Applications for Patent in its name or in my name in any country authorize HPDC, its successors, its assigns, its nominees, and it number, and patent office of said application for patent, now identifi- them;	or region or i s legal repre	under any internationa sentatives to insert th	al agreement, and further ne filing date, application
AND I HEREBY authorize and request the officials of all countri duty it is to issue patents, to issue to HPDC, its successors, or its a Patents, in accordance with the terms of this assignment and transfe	ssigns, as ass		
AND I HEREBY covenant and agree that I will, each time a requisuch papers as may be necessary or desirable to perfect the title HPDC, its successors, or its assigns; communicate to HPDC, its succell known facts respecting said Inventions. Applications for Patent, and sign all lawful papers (including, without limitation, divisional applications) relating to said Inventions, Applications for Patent, and generally to do everything possible to aid HPDC, its successors, its maintain, and enforce, for its or their own benefit, proper intellectual pand Patents, provided the expenses which may be incurred by me in its successors, its assigns, its nominees, or its legal representatives.	in said Inver cessors, its as and Patents; to applications d Patents; an assigns, its no property protect	ntions, Applications for signs, its nominees, or estify in any legal or a continuation applicated and make all rightful oa prinees, and its legal ction for said invention	r Patent, and Patents to r its legal representatives, dministrative proceedings tions, CIPs, and reissue ths and declarations and representatives to obtain, s. Applications for Patent,
IN WITNESS WHEREOF, I hereunto set my hand and seal:	L		~11R
Inventor's Standard	Day	Month	Year
Hsing-Hung Hsieh	56 *		tiet mis
Given (First and Middle) Name(s) Family Name			

Rev 8/2018 (HPDC Assignment)

HP Inc. 3390 E. Harmony Road Mail Stop 35 Fort Collins, Colorado 60528 PATENT APPLICATION

RECORD ID: 85017337

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 Houston, 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):

parentheses if	est, including all n said application for	gnts or priority, patent is in and	in, to, and under other language):	an application	on for patent entit	led (English-language title in
ARRAYS OF	ELECTRODES T	O CONTROL	PIXEL CONTRAST	AT DISPLA	Y DEVICES	
Filing Date:	November 14, 20	18	Application No.:	PCT/US20	18/061092	Patent Office: US
design rights, country or regit patent, any and said inventions indirectly claim of, divisional a application for on or as a resu	refers to any form a and utility model if on or under any int d all applications fo is any and all appli s priority or benefit, pplications of, natic patent for any of sa	of intellectual prights) (hereinaf emational agre- r patent directly ications for pat and any and a phal-phase app aid inventions) ons for Patent (operly protection inc ter "Inventions"); an ement for any of sale or indirectly claimin ent from which any Il continuation applic lications of, regional thereinafter "Applica	sluding, without all exit of inventions griority to complication is ations of, complete applications for Paternal or Paternal	out limitation, inven- isting and future a (including, without or benefit of any ag- for patent for any ntinuation-in-part a cations of, renewa and by any and all o	application for patent (as used tion rights, utility patent rights applications for patent of any polication, said application for patent for any of of said inventions directly or polications (hereinafter CIPs) is of, and substitutes for any atents which may be granted examinations, and extensions
I HEREBY entire right, title conflict herewit), and interest here	onvey my full r in assigned and	ights in all countries I transferred, and the	and regions at I have not	s and under all int executed and will r	ernational agreements to the not execute any agreement in
Applications for authorize HPD	r Patent in its nam C. its successors,	ie or in my nai its assigns, its	me in any country o s nominees, and its	r region or i legal repre	under any internat sentatives to inse	representatives to file said ional agreement, and further it the filing date, application t forth above, when known to
duty it is to issu	ue patents, to issue	to HPDC, its s	fficials of all countrie successors, or its as inment and transfer;	signs, as ass	s and under all inte signee of my entire	arnational agreements whose right, title, and interest, said
such papers as HPDC, its succ all known facts and sign all la applications) re generally to do maintain, and e and Patents, pr	s may be necessal essors, or its assign respecting said in- wiful papers (inclu- lating to said inver- everything possible inforce, for its or the	ry or desirable ns; communicat ventions. Applic ding. without lintions, Applicat to aid HPDC, itr own benefit, as which may be	to perfect the title e to HPDC, its succi- ations for Patent, ar- mitation, divisional- ions for Patent, and its successors, its a proper intellectual pre- e incurred by me in	in said Inver essors, its as ad Patents, it applications, Patents; an ssigns, its no openty protes	ations, Applications signs, its nominee estify in any legal of continuation app id make all rightfu ominees, and its le otion for said inven	delay, execute and deliver all is for Patent, and Patents, to s, or its legal representatives, or administrative proceedings dications, CIPs, and reissue I oaths and declarations and gal representatives to obtain, tions, Applications for Patent, issistance are paid by HPDC,
in withe	ss whereof, i.h. Haq a	ereunto set my	hand and seat:	Ь	Nov	>018
Inventor's Signa	ature	1		Day	Month	Year
Chi Hao Given (First and	Middle) Name(s)	Chang Family Name				
ALLEN (L NOT SUICE	ments hames)	Laumy Mame				

Rev 8/2018 (MPDC Assignment)

HP Inc. 3390 E. Harmony Road Mail Stop 35 Fort Collins, Colorado 80528

RECORD	ID:	85017337	
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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 transfer and hereby assign and transfer to HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas Limited Partnership having its principal place of business in Houston, 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):

ARRAYS OF ELECTRODES TO CONTROL PIXEL CONTRAST AT DISPLAY DEVICES

Filing Date:	November 14, 2018	Application No.:	PCT/US2018/061092	Patent Office: US
herein "patent" design rights, country or reg patent, any an said Invention indirectly claim of, divisional application for on or as a res	"refers to any form of intellectual and utility model rights) (herein ion or under any international age of all applications for patent directs, any and all applications for patent or priority or benefit, and any anapplications of, national-phase as patent for any of said Invention	I property protection inc nafter "Inventions"); any greement for any of said city or indirectly claiming patent from which any d all continuation applic applications of, regional- s) (hereinafter "Application (hereinafter "Patents"	d discoveries, set forth in said ap- luding, without limitation, invention y and all existing and future ap- it Inventions (including, without ling g priority to or benefit of any app- application for patent for any of ations of, continuation-in-part app- phase applications of, renewals ions for Patent"); any and all pat b); and any and all reissues, reex-	plication for patent (as used n rights, utility patent rights, olications for patent of any nitation, said application for lication for patent for any of said Inventions directly or olications (hereinafter CIPs) of, and substitutes for any ents 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 caths 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 he	ereunto set my hand and seal:			
Chyl_	*	07	11	2018
Inventor's Signature		Day	Month	Year
Ann Alejandro	Villegas			
Given (First and Middle) Name(s)	Family Name			

Rev 8/2018 (HPDC Assignment)

PATENT REEL: 053895 FRAME: 0551