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PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5851556

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date	
XIN DUAN	06/30/2019	
HAO ZHU	06/30/2019	
JIEQIONG WANG	06/30/2019	
MING CHEN	06/30/2019	
XIBIN SHAO	06/30/2019	

RECEIVING PARTY DATA

BEIJING DISPLAY TECHNOLOGY CO., LTD.
NO. 118 JINGHAIYILU, BDA
BEIJING
CHINA
100176
BOE TECHNOLOGY GROUP CO., LTD.
NO. 10 JIUXIANQIAO RD.
CHAOYANG DISTRICT
BEIJING
CHINA
100015

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16619535

CORRESPONDENCE DATA

Fax Number: (216)241-0816

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: 216-622-8674

Email: ipdocket@calfee.com, kbuzinski@calfee.com

Correspondent Name: KENNETH J. SMITH

Address Line 1: CALFEE, HALTER & GRISWOLD LLP

Address Line 2: THE CALFEE BUILDING, 1405 EAST SIXTH ST.

Address Line 4: CLEVELAND, OHIO 44114-1607

PATENT REEL: 051187 FRAME: 0801

ATTORNEY DOCKET NUMBER:	31411/04775
NAME OF SUBMITTER:	KENNETH J. SMITH
SIGNATURE:	/ken smith/
DATE SIGNED:	12/05/2019

Total Attachments: 10

source=2019-12-x_-_31411-04775_-_executed_Oath_and_Assignment_as_filed_-_fpph17130344us#page1.tif source=2019-12-x_-_31411-04775_-_executed_Oath_and_Assignment_as_filed_-_fpph17130344us#page2.tif source=2019-12-x_-_31411-04775_-_executed_Oath_and_Assignment_as_filed_-_fpph17130344us#page3.tif source=2019-12-x_-_31411-04775_-_executed_Oath_and_Assignment_as_filed_-_fpph17130344us#page4.tif source=2019-12-x_-_31411-04775_-_executed_Oath_and_Assignment_as_filed_-_fpph17130344us#page5.tif source=2019-12-x_-_31411-04775_-_executed_Oath_and_Assignment_as_filed_-_fpph17130344us#page7.tif source=2019-12-x_-_31411-04775_-_executed_Oath_and_Assignment_as_filed_-_fpph17130344us#page7.tif source=2019-12-x_-_31411-04775_-_executed_Oath_and_Assignment_as_filed_-_fpph17130344us#page8.tif source=2019-12-x_-_31411-04775_-_executed_Oath_and_Assignment_as_filed_-_fpph17130344us#page9.tif source=2019-12-x_-_31411-04775_-_executed_Oath_and_Assignment_as_filed_-_fpph17130344us#page9.tif source=2019-12-x_-_31411-04775_-_executed_Oath_and_Assignment_as_filed_-_fpph17130344us#page9.tif

	Data transmission method, timing controller, source		
Title of Invention	driver and display device		
As a below named inventor, I hereby declare that:			
This decla	ration		
is directed to:			
United States application or PCT international application numberfiled on The above-identified application was made or authorized to be made by me.			
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.			
	knowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) th.		

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, each undersigned inventor (hereinafter referred to as "ASSIGNOR"), do hereby:

SELL, ASSIGN AND TRANSFER to Beijing BOE Display Technology Co., Ltd. ,having a place of business at No.118 Jinghaiyilu, BDA, Beijing, 100176, P.R. China , and BOE TECHNOLOGY GROUP CO., LTD. , having a place of business at No.10 Jiuxiangiao Rd., Chaoyang District, Beijing ,100015, P.R. China (each hereinafter referred to as "ASSIGNEE"), the entire right, title and interest for the United States and all foreign countries in and to any and all inventions which are disclosed in the above-identified application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, which claims priority to PCT/CN2018/089764 filed on Jun.04,2018; which in turn claims priority to CN201710434614.4 filed on Jun.09.2017; such applications and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such inventions; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

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COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such inventions; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such inventions and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such inventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions;

TO BE BINDING on the heirs: assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

CALFEE, HALTER & GRISWOLD LLP

ASSIGNOR HEREBY GRANTS to the agents and attorneys of _____ the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

The assignment of said invention is effective as of the earlier of (1) the date of execution shown below or (2) the filing date of the first filed of said patent applications.

STATEMENTS

I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent Office all information known to me to be material to patentability as defined in 37 C.F.R. 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part.

LEGAL NAME OF INVENTOR	
Inventor: Xin <u>DUAN</u>	Date: Jun. 30, 20/9
Signature: Xen DUAN	

Title of Invention	Data transmission method, timing controller, source driver and display device			
As a below	named inventor, I hereby declare that:			
This decla				
is directed	directed to:			
	United States application or PCT international application numberfiled on			
The above-i	dentified application was made or authorized to be made by me.			
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.				
	knowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) th.			

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, each undersigned inventor (hereinafter referred to as "ASSIGNOR"), do hereby:

SELL, ASSIGN AND TRANSFER to Beijing BOE Display Technology Co., Ltd. ,having a place of business at No.118 Jinghaivilu, BDA, Beijing, 100176, P.R. China , and BOE TECHNOLOGY GROUP CO., LTD. , having a place of business at No.10 Jiuxianqiao Rd., Chaoyang District, Beijing ,100015, P.R. China (each hereinafter referred to as "ASSIGNEE"), the entire right, title and interest for the United States and all foreign countries in and to any and all inventions which are disclosed in the above-identified application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, which claims priority to PCT/CN2018/089764 filed on Jun.04,2018; which in turn claims priority to_____ CN201710434614.4 filed on Jun.09.2017; such applications and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States and all foreign countries on any of such inventions; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such inventions; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

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COVENANT, when requested and at the expense of the Assignce, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such inventions; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such inventions and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such inventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions:

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CALFEE, HALTER & GRISWOLD LLP

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LEGAL NAME OF INVENTOR	
Inventor: Hao ZHU	Date: Jun. 30, 2019
Signature: Hao ZHU	•

2

Data transmission method, timing controller, source driver and display device			
named inventor, I hereby declare that:			
to: The attached application, or United States application or PCT international application			
numberfiled on identified application was made or authorized to be made by me.			
believe that I am the original inventor or an original joint inventor of a claimed invention in the application.			
knowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) with.			

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AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

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COVENANT, when requested and at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such inventions; execute all rightful oaths, declarations, assignments, powers of attorney and other papers; communicate to the Assignee all facts known to the undersigned relating to such inventions and the history thereof; and generally do everything possible which the Assignee shall consider desirable for vesting title to such inventions in the Assignee, and for securing, maintaining and enforcing proper patent protection for such inventions;

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CALFEE, HALTER & GRISWOLD LLP

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LEGAL NAME OF INVENTOR					-	
Inventor:Jieqiong WANG		Date:	Jun.	30,	2019	
Signature Viegiona	WANG					

Title of Invention	Data transmission method, timing controller, source driver and display device		
As a below	named inventor, I hereby declare that:		
This decla	The attached application or		
is directed	United States application or PCT international application number filed on		
The above-	dentified application was made or authorized to be made by me.		
believe that I am the original inventor or an original joint inventor of a claimed invention in the application.			
	knowledge that any willful false statement made in this declaration is under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) th.		

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AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such inventions to the Assignee;

1

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LEGAL NAME OF INVENTOR	1 30 30/8
Inventor: Ming CHEN	Date: 140. 30, 2019
Signature: Ming CHEN	

Title of Invention	Data transmission method, timing controller, source driver and display device		
As a below named inventor, I hereby declare that:			
This declaration			
is directed to:			
United States application or PCT international application number filed on The above-identified application was made or authorized to be made by me.			
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.			
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.			

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CALFEE, HALTER & GRISWOLD LLP

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LEGAL NAME OF INVENTOR	
Inventor: Xibin SHAO	Date: Jun. 30, 20/9
Signature: Xibbn SHAO	

2