504556355 09/20/2017

### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4603065

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
NORITAKA KISHI	09/02/2017
HIROYUKI FURUKAWA	08/31/2017
KATSUYA OTOI	08/29/2017
KAZUYOSHI YOSHIYAMA	09/04/2017
TAMOTSU SAKAI	09/04/2017
NAOKO GOTOH	09/01/2017

#### **RECEIVING PARTY DATA**

Name:	SHARP KABUSHIKI KAISHA
Street Address:	1, TAKUMI-CHO, SAKAI-KU
City:	SAKAI CITY, OSAKA
State/Country:	JAPAN
Postal Code:	590-8522

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15559883

#### **CORRESPONDENCE DATA**

Fax Number: (571)313-7421

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.

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Email: cdalakuras@kbiplaw.com **KEATING & BENNETT, LLP Correspondent Name:** Address Line 1: 1800 ALEXANDER BELL DR.

Address Line 2: SUITE 200

Address Line 4: RESTON, VIRGINIA 20191

ATTORNEY DOCKET NUMBER:	70404.3648/SH	
NAME OF SUBMITTER:	CHRISTY DALAKURAS	
SIGNATURE:	/AMD/cd/	
DATE SIGNED:	09/20/2017	
	This document serves as an Oath/Declaration (37 CFR 1.63).	

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**REEL: 043639 FRAME: 0308** 

#### **Total Attachments: 6**

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## COMBINED DECLARATION/ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION

THE DISPLAT DAVICE AND DRIVE METHOD THEREFOR		
As a below named INVENTOR/ASSIGNOR, I hereby declare that:		
This declaration 🗌 The attached application, or		
is directed to:		
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 state that I have reviewed and understand the contents of the above-identified specification, including the claims,		
I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56.		
WHEREAS, Sharp Kabushiki Kaisha (hereinafter referred to as "ASSIGNEE") having places of business at: 1, Takumi-cho. Sakai-ku, Sakai City. Osaka 590-8522, Japan, is desirous of acquiring the entire right, title, and interest in, to, and under said invention and any Letters Patent that may be granted therefore in the United States and in any and all foreign countries;		
NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that in consideration of the payment by ASSIGNEE to ASSIGNOR of the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged, and for other good and valuable consideration, ASSIGNOR hereby sells, assigns, and transfers to ASSIGNEE the full and exclusive right, title, and interest to the said invention and all Letters Patent of the United States to be obtained therefore on said application or any continuation, division, renewal, substitute, or reissue thereof for the full term or terms for which the same may be granted; and all Letters Patent and applications therefore through the world, including all the rights accruing by virtue of the International Convention for the Protection of Industrial Property or other relevant International Treaties and Arrangements.		
ASSIGNOR hereby covenants that no assignment, sale, agreement, or encumbrance has been or will be made or entered into which would conflict with this assignment and sale;		
ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said application, said invention, and said Letters Patent as may be known and accessible to ASSIGNOR and will testify as to the same in any interference or litigation related thereto and will promptly execute and deliver to ASSIGNEE or its legal representative any and all papers, instruments, or affidavits required to apply for, obtain, maintain, and enforce said application, said invention, and said Letters Patent which may be necessary or desirable to carry out the purposes hereof.		
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		
LEGAL NAME OF FIRST INVENTOR/ASSIGNOR		
Inventor: Noritaka KISHI Date: 2 X September X 2017		
Signature: Nortaba Wishi LEGAL NAME OF SECOND INVENTOR/ASSIGNOR		
Inventor: Hiroyuki FURUKAWA Date:		
Signature:		

LEGAL NAME OF THIRD INVENTOR/ASSIGNOR		
Inventor: Katsuya OTOI	Date:	
Cignotaria		
Signature:		
LEGAL NAME OF FOURTH INVENTOR/ASSIGNOR		
Inventor: Kazuyoshi YOSHIYAMA	Date:	
Cignothypo		<del>-</del>
Signature:		
LEGAL NAME OF FIFTH INVENTOR/ASSIGNOR		
·		
Inventor: _Tamotsu SAKAI	Date:	
Signature:		
LEGAL NAME OF SIXTH INVENTOR/ASSIGNOR	3.35.50.40.40.40.40.40.40.40.40.40.40.40.40.40	
Y AND COMOVY	<b>~</b> .	
Inventor: Naoko GOTOH	Date:	
Signature:		
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### COMBINED DECLARATION/ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION

Title DISPLAY DEVICE AND DRIVE METHOD THEREFOR		
As a below named INVENTOR/ASSIGNOR, I hereby declare that:		
This declaration $\square$ The attached application, or		
is directed to: United States application or PCT international application number PCT/JP2016/058642 filed on March 18, 2016		
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 state that I have reviewed and understand the contents of the above-identified specification, including the claims.		
I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR $\S$ 1.56.		
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NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that in consideration of the payment by ASSIGNEE to ASSIGNOR of the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged, and for other good and valuable consideration, ASSIGNOR hereby sells, assigns, and transfers to ASSIGNEE the full and exclusive right, title, and interest to the said invention and all Letters Patent of the United States to be obtained therefore on said application or any continuation, division, renewal, substitute, or reissue thereof for the full term or terms for which the same may be granted; and all Letters Patent and applications therefore through the world, including all the rights accruing by virtue of the International Convention for the Protection of Industrial Property or other relevant International Treaties and Arrangements.		
ASSIGNOR hereby covenants that no assignment, sale, agreement, or encumbrance has been or will be made or entered into which would conflict with this assignment and sale;		
ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said application, said invention, and said Letters Patent as may be known and accessible to ASSIGNOR and will testify as to the same in any interference or litigation related thereto and will promptly execute and deliver to ASSIGNEE or its legal representative any and all papers, instruments, or affidavits required to apply for, obtain, maintain, and enforce said application, said invention, and said Letters Patent which may be necessary or desirable to carry out the purposes hereof.		
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.		
LEGAL NAME OF FIRST INVENTOR/ASSIGNOR		
Inventor: Noritaka KISHI Date:		
Signature:		
LEGAL NAME OF SECOND INVENTOR/ASSIGNOR		
Inventor: Hiroyuki FURUKAWA Date: 31, August, 2017		
Signature: Hiroyuki Onorupawa		

LEGAL NAME OF THIRD INVENTOR/ASSIGNOR		11
Inventor: Katsuya OTOI	Date:	
Signature:		
LEGAL NAME OF FOURTH INVENTOR/ASSIGNOR		
Inventor: Kazuyoshi YOSHIYAMA	Date:	4, September, 2017
Signature: Kanuyashi Yeshiyama LEGAL NAME OF FIFTH INVENTOR/ASSIGNOR		, , , , , , , , , , , , , , , , , , , ,
LEGAL NAME ÓF FIFTH INVENTOR/ASSIGNOR		
Inventor: Tamotsu SAKAI	Date:	4th September 2017
Signature: Jamottu Sakai		
LEGAL NAME OF SIXTH INVENTOR/ASSIGNOR		
Inventor: Naoko GOTOH	Date:	1st September 2017
Signature: Naoko Goto		, , , , , , , , , , , , , , , , , , , ,

# ${\bf COMBINED\ DECLARATION/ASSIGNMENT\ FOR\ UTILITY\ OR\ DESIGN\ APPLICATION}$

Title DISPLAY DEVICE AND DRIVE METHOD THEREFOR		
As a below named INVENTOR/ASSIGNOR, I hereby declare that:		
This declaration   The attached application, or		
is directed to: United States application or PCT international application number <a href="PCT/JP2016/058642">PCT/JP2016/058642</a> filed on <a href="March 18">March 18</a> , 2016  .		
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 state that I have reviewed and understand the contents of the above-identified specification, including the claims.		
I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56.		
WHEREAS, Sharp Kabushiki Kaisha (hereinafter referred to as "ASSIGNEE") having places of business at: 1, Takumi-cho, Sakai-ku, Sakai City, Osaka 590-8522, Japan, is desirous of acquiring the entire right, title, and interest in, to, and under said invention and any Letters Patent that may be granted therefore in the United States and in any and all foreign countries;		
NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that in consideration of the payment by ASSIGNEE to ASSIGNOR of the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged, and for other good and valuable consideration, ASSIGNOR hereby sells, assigns, and transfers to ASSIGNEE the full and exclusive right, title, and interest to the said invention and all Letters Patent of the United States to be obtained therefore on said application or any continuation, division, renewal, substitute, or reissue thereof for the full term or terms for which the same may be granted; and all Letters Patent and applications therefore through the world, including all the rights accruing by virtue of the International Convention for the Protection of Industrial Property or other relevant International Treaties and Arrangements.		
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ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said application, said invention, and said Letters Patent as may be known and accessible to ASSIGNOR and will testify as to the same in any interference or litigation related thereto and will promptly execute and deliver to ASSIGNEE or its legal representative any and all papers, instruments, or affidavits required to apply for, obtain, maintain, and enforce said application, said invention, and said Letters Patent which may be necessary or desirable to carry out the purposes hereof.		
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.		
LEGAL NAME OF FIRST INVENTOR/ASSIGNOR		
Inventor: Noritaka KISHI Date:		
Signature:		
LEGAL NAME OF SECOND INVENTOR/ASSIGNOR		
Inventor: Hiroyuki FURUKAWA Date:		
Signature:		

LEGAL NAME OF THIRD INVENTOR/ASSIGNOR	0/8/
Inventor: Katsuya OTOI	Date: 29 X Juyat / Jel 7
Signature: Katsunga (Hai	
LEGAL NAME OF FOURTH INVENTOR/ASSIGNOR	
Inventor: Kazuyoshi YOSHIYAMA	Date:
Signature:	
LEGAL NAME OF FIFTH INVENTOR/ASSIGNOR	
Inventor: Tamotsu SAKAI	Date:
Signature:	
LEGAL NAME OF SIXTH INVENTOR/ASSIGNOR	
Inventor: Naoko GOTOH	Date:
Signature:	

PATENT REEL: 043639 FRAME: 0315

**RECORDED: 09/20/2017**