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| PATENT ASSIGNMENT COVER SHEET |
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| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| CONVEYING PARTY DATA | |
| Name | Execution Date |
| TADASHI AMINO | 09/05/2015 |
| JONG HEE KIM | 06/02/2015 |
| MASATAKA KANO | 06/04/2015 |
| JUN HYUN PARK | 06/04/2015 |
| RECEIVING PARTY DATA | |
| Name: | SAMSUNG DISPLAY CO., LTD. |
| Street Address: | 1, SAMSUNG-RO, GIHEUNG-GU |
| City: | YONGIN-SI, GYEONGGI-DO |
| State/Country: | KOREA, REPUBLIC OF |
| PROPERTY NUMBERS Total: 1 | |
| Property Type | Number |
| Application Number: | 14862388 |
| CORRESPONDENCE DATA | |
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| NAME OF SUBMITTER: | ROBERT E. BUSHNELL |
| SIGNATURE: | /Robert E. Bushnell/ |
| DATE SIGNED: | 09/30/2015 |
| Total Attachments: 3 | |
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| source=P60352_Assignment_9-30-15#page2.tif | |
| source=P60352_Assignment_9-30-15#page3.tif | |

COMBINED ASSIGNMENT AND DECLARATION (One of Three)**ASSIGNMENT**

AS A BELOW NAMED INVENTOR, I, and each of us, individually hereby declare that: IN CONSIDERATION of the sum of TEN (\$10.00) dollars or the equivalent thereof, and other good and valuable consideration, the receipt and sufficiency of which from the hereinafter named Assignee is hereby acknowledged, I do hereby sell, assign and forever grant and convey unto:

ASSIGNEE: SAMSUNG DISPLAY CO., LTD.,
a corporation chartered in and existing under the laws of the Republic of Korea,
ADDRESS: 1, Samsung-ro, Gijang-gu, Yangin-si,
Gyeonggi-do, 17113, Korea

Who is my Assignee, and to the successors and assigns of my Assignee, all my right, title and interest in and for the United States of America and all other countries, including all rights of priority, including all rights to claim priority, and including the right to sue or otherwise bring action and to collect and receive damages therefrom, for past infringement thereof, and all rights to claim priority under all available International Agreements, Treaties and Conventions for the protection of intellectual property in its various forms in every participating country, and the right to collect reasonable royalties for per-grant U.S. patent application publications, in and to the invention entitled:

TITLE: GATE DRIVING CIRCUIT, DRIVING METHOD FOR GATE DRIVING CIRCUIT AND DISPLAY PANEL USING THE SAME

invented by me (if only one inventor is named below) or us (if more than one inventor is named below) and described in an application for a United States patent the specification of which is either attached hereto or otherwise accompanies this Assignment, or is more particularly identified as:

- executed on even date herewith, or
 Serial No. 14/862,388 filed in the U.S. Patent & Trademark Office on 23 September 2015, or
 executed on

and in and to all United States patents which may be granted thereon and therefore, and in and to all certificates of corrections, divisions, continuations, reissued and re-examined patents, and to any extensions thereof, said interest being the entire ownership of the patent when granted, to be held and enjoyed by said Samsung Display Co., Ltd., my Assignee, its successors, assigns or other legal representatives, to the full end of the term, terms, or any extension or renewal thereof, for which said patent or patents may be granted, as fully and entirely as the same would have been held and enjoyed by me or us if this assignment, sale and conveyance had not been made:

AND I grant full power of attorney to my Assignee to submit this Deed of Assignment, including any Annex, to the U.S. Patent & Trademark Office, and to request the U.S. Patent & Trademark Office to record this assignment of the legal title to the Assigned Patents from Assignee to Assignee among the Assignment Records maintained by the U.S. Patent & Trademark Office;

AND I hereby covenant and agree to sign and execute, without receiving any money or other consideration, any further documents or instruments which may from time-to-time be either necessary, lawful, proper or requested by the Assignee, in the prosecution of the above-named application or in the preparation and prosecution of all substitute applications, certificate of correction, division, continuation, reissue, re-examination, in any amendment, extension, or interference proceeding, whether administrative or judicial, or otherwise, to secure the title hereto in said Assignee, together with the right of priority under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreement or treaty to which the United States of America adheres;

AND I do hereby authorize and request the Commissioner of Patent & Trademarks to issue said Patent or Patents to the Assignee, and I hereby appoint as my, or our attorney, and authorize and request R. E. Bushnell, Reg. No. 27,774, to insert on this Assignment any further identification or to complete such identification which may be either necessary or desirable in order to comply the rules of the United States Patent & Trademark Office for recordation of this document.

COMBINED ASSIGNMENT AND DECLARATION (Two of Three)**DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION
USING AN APPLICATION DATA SHEET (37 CFR 1.76)**

As the below named inventor, I hereby declare that this declaration is directed to:

- The attached application, or
 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 state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to patentability and to the examination of this application in accordance with Title 37 of the Code of Federal Regulations § 1.56. I hereby claim foreign priority benefits under Title 35, U.S. Code § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, or § 119(e) of any United States provisional application(s), listed below and have also identified below any foreign applications for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Priority Claimed:

10-2015-0009413 Republic of Korea 20 January 2015 Yes [X] No []
(Application Number) (Country) (Day/Month/Year filed)

I hereby claim the benefit under Title 35, U.S. Code, § 120, of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application(s) in the manner provided by the first paragraph of Title 35, U.S. Code, § 112, I acknowledge the duty to disclose information material to patentability as defined in Title 37, The Code of Federal Regulations, § 1.56(a) which became available between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.) (Filing Date) (STATUS: patented, pending, abandoned)

IN WITNESS WHEREOF, 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.

I hereby revoke all previously granted powers of attorney and appoint the following attorneys: Robert E. Bushnell, Reg. No. 27774, Michael D Parker, Reg. No. 34973, Joseph G Secher, Reg. No. 27719, Matthew J Lestina, Reg. No. 44437, George N. Stevens, Reg. No. 36,938, Young James Kim, Reg. No. 56213, Mark Komieczny, Reg. No. 47715, Michael A. Van Lente, Reg. No. 52,314, Xin Li, Reg. No. 72446, Tomoko Yota, Limited Recognition No. L0565, and Chiyu B. Yau, Reg. No. 71330 to prosecute this application and to transact all business in the U.S. Patent & Trademark Office connected therewith and with any divisional, continuation, continuation-in-part, reissue or re-examination application, with full power of appointment and with full power to substitute an associate attorney or agent, and to receive all patents which may issue thereon, and request that all correspondence be addressed to:

Robert E. Bushnell,
 Attorney-at-Law
 Suite 600, 2029 "K" Street, N.W.

Customer No. 008439

Inventors are being named on separately numbered sheets attached hereto.

COMBINED ASSIGNMENT AND DECLARATION (Three of Three)

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION
USING AN APPLICATION DATA SHEET (37 CFR 1.76)

| LEGAL NAME OF INVENTOR(S) | Date Signed (Optional) | Witness(es) |
|---|------------------------|-------------|
| 1) <u>Tadashi Amino</u> (Seal) Tadashi AMINO | <u>5th Sep. 2015</u> | _____ |
| 2) <u>Jong Hee Kim</u> (Seal) Jong Hee KIM | <u>6.2.2015</u> | _____ |
| 3) <u>Masataka Kano</u> (Seal) Masataka KANO | <u>6.4.2015</u> | _____ |
| 4) <u>Jun Hyun Park</u> (Seal) Jun Hyun PARK | <u>6.4.2015</u> | _____ |

PATENT-2015-09-30-11-003