05-18-2001

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To the Honorable Commissioner of Patents and Tridemarks. Please record the attached original documents or copy thereof.  1. Name of conveying party:  Sahing-Ik JUN  Additional fame(s) of conveying party(ies) attached?  yes In no  Street Address: 416 Maetan-dong, Paldal-ku  City: Suwon-city State: Kyungki-do Zip Code:  Country: Korea  Additional name(s) & address(es) attached?  yes In no  3. Nature of Conveyance:  Additional name(s) & address(es) attached?  yes In no  Merger  Security Agreement  Change of Name  Country: Korea  Additional name(s) & address(es) attached?  yes In no  Additional number:  If this document is being filed peether with a new application, the execution date of the application is May 8, 2001  4. Application number:  If this document is being filed peether with a new application, the execution date of the application is May 8, 2001  Additional numbers attached?  yes In no  5. Name and address of party to whom correspondence concerning document should be mailed:  Name: HOWREY SIMON ARNOLD & WHITE, LLP  Internal Address:  Box No. 34  1299 Pennsylvania Ave, NW  DYNGHY: Windringston an Sanger DC  All.  Street Address:  Do Not USE THIS SPACE  ON NOT USE THIS SPACE  PARTY OF The best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.  Michael J. Bell  Name of Person Signing  For Signature  Name: Samsung Electronics Co., Ltd.  Street Address:  416 Maetan-dong, Paldal-ku  City: Suwon-city State: Kyungki-do Zip Code:  Ountry: Korea  Additional name(s) & address(es) attached?  yes In no  6. Total number of applications and patents involved  6. Total number of applications and patents involved  Benclosed  Authorized to be charged to Deposit Account Number: 08-3038  Street Address:  Party Windringston and Sanger Country Street and		ET
2. Name and address of receiving party(ies):  Sahng-lk JUN  Additional fame(s) of conveying party(ies) attached?  yes I no  Street Address: 416 Maetan-dong, Paldal-ku  City: Suwon-city State: Kyungki-do Zip Code:  Country: Korea  Additional name(s) & address(es) attached?  yes I no  3. Nature of Conveyance:    Assignment		
Name: Samsung Electronics Co., Ltd.		
Street Address: 416 Maetan-dong, Paldal-ku  City: Suwon-city State: Kyungki-do Zip Code:  Country: Korea  Additional name(s) & address(es) attached? yes in no  Nature of Conveyance:  Additional name(s) & address(es) attached? yes in no  Additional name(s) & address(es) attached? yes in no  Additional number:  Additional name(s) & address(es) attached? yes in no  Additional name(s) & addres		
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Additional name(s) & address(es) attached? yes in no  Country: Korea  Additional name(s) & address(es) attached? yes in no  Country: Korea  Additional name(s) & address(es) attached? yes in no  Security Agreement	05/11/0/	
Additional name(s) & address(es) attached?  yes Inc.    Assignment	Additional name(s) of conveying party(ies) attached?  yes 🗵 no	
3. Nature of Conveyance:    Security Agreement		
Execution Dates: May 8, 2001  4. Application number:  If this document is being filed together with a new application, the execution date of the application is May 8, 2001  A. Patent Application No.  B. Patent No(s).  Additional numbers attached? □ yes ☒ no  5. Name and address of party to whom correspondence concerning document should be mailed:  Name: HOWREY SIMON ARNOLD & WHITE, LLP  Internal Address:  Street Address:  Box No. 34 1299 Pennsylvania Ave, NW  YXXIV: Windingson 36,8487 DC Zi Code: 20004-2402  YXXIV: Windingson 36,8487 DC Zi Code: 20004-2402  9. Statement and signature.  To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.  Michael J. Bell Name of Person Signing  Name of Person Signing  Name of Person Signing  Name I Name of Person Signing  Name I Name of Person Signing  Name I Name of Person Signing		Additional name(s) & address(es) attached? \( \text{\text{U}} \) yes \( \text{\text{N}} \) no
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If this document is being filed together with a new application, the execution date of the application is May 8, 2001  A. Patent Application No.  B. Patent No(s).  Additional numbers attached?  yes ■ no  6. Total number of applications and patents involved  1. Total fee (37 C.F.R. § 3.41)\$ 40.00  ■ Enclosed  □ Authorized to be charged to Deposit Account  Street Address:  Box No. 34 1299 Pennsylvania Ave, NW  YPGITY: Washington 38 50457 DC Zi Code: 20004-2402  9. Statement and signature.  To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.  Michael J. Bell Name of Person Signing  Total patent No(s).  B. Patent No(s).  B. Patent No(s).  6. Total number of applications and patents involved  7. Total fee (37 C.F.R. § 3.41)\$ 40.00  ■ Enclosed  □ Authorized to be charged to Deposit Account  Number: 08-3038  **Supplied in formation is true and correct and any attached copy is a true copy of the original document.  Michael J. Bell Name of Person Signing		2///
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Michael J. Bell Name of Person Signing  Name of Person Signing  Name of Person Signing  Name of Person Signing  Teal number of pages including cover sheet, attachments and document 3		
Name of Person Signing 70% Signature Treal number of pages including cover sheet, attachments and document 3	Michael J. Bell	May 11, 2001 Date
	Name of Person Signing Registration No. 39,604	Total number of pages including cover sheet, attachments and document 3
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OMB NO. 0651-0011 (exp.4/94)  Mail documents to be recorded with required cover sheet information to:  Commissioner of Patents and Trademarks, Box Assignments	Commissioner of Patent Wash	sington, D.C. 20231

## **ASSIGNMENT**

In consideration of the sum of One Dollar (\$1.00) or equivalent and other good and valuable consideration paid to each of the undersigned: Snhng-lk JUN the undersigned hereby sell and assign to Samsung Electronics Co., Ltd. (the Assignee), his/her entire right, title and interest

check applicable box(es) (as for the United States of America (as defined in 35 U.S.C. § 100).

and throughout the world,

in the invention(s) known as THIN FILM TRANSISTOR ARRAY SUBSTRATE FOR A LIQUID CRYSTAL DISPLAY AND METHOD FOR FABRICATING THE SAME, for which application(s) for patent in the United States of America has (have) been executed by the undersigned on (also known as United States Application No.

filed ), in any and all applications thereon, in any and all Letters Patent(s) therefor, and in any and all reissues, extensions, renewals, reexaminations of such applications or Letters Patent(s) and divisional and continuation applications thereof, to the full end of the term or terms for which such Letters Patent(s) issue, including all claims, if any, that may have arisen for infringement prior to the date of this assignment, such entire right, title and interest to be held and enjoyed by the above-named Assignee to the same extent as they would have been held and enjoyed by the undersigned had this assignment and sale not been made.

The undersigned agree(s) to execute all papers necessary in connection with the application(s) and any continuing (continuation, divisional, or continuation-in-part), reissue, reexamination or corresponding application(s) thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

The undersigned agree(s) to execute all papers necessary in connection with any interference that may be declared concerning the application(s) or any continuing (continuation, divisional, or continuation-in-part), reissue or reexamination application thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.

The undersigned hereby represents that the undersigned has full right to convey the entire interest herein assigned, and that the undersigned has not executed, and will not execute, any agreement in conflict therewith.

The undersigned hereby grant(s)

Jason C. Abair, Reg. No. 44,007 Michael J. Bell, Reg. No. 39,604 John A. Bendrick, Reg. No. 41,612 Andrew S. Brenc, Reg. No. 45,534 Celine T. Callahan, Reg. No. 34,301 Jenny W. Chen, Reg. 44,604 Mary S. Consalvi, Rog. No. 32,212 Thomas E. Coverstone, Reg. No. 36,492 Ben M. Davidson, Rcg. No. 38,424 Ross E. Davidson, Reg. No. 41,698 James F. Davis, Rcg. No. 21,072 Thomas M. Dunham, Reg. No. 39,965 Alan M. Grimaldi, Reg. No. 26,599 J. Jay Guiliano, Reg. No. 41,810 Albert P. Halluin, Reg. No. 25,227 Derek J. Jardieu, Reg. No. 44,483 Christopher L. Kelley, Reg. No. 42,714

Brian S.Y. Kim, Reg. No. 41,114 Viola T. Kung, Reg. No. 41,131 Robert C. Laurenson, Reg. No. 34,206 Joseph P. Lavelle, Reg. No. 31,036 Don F. Livornese, Reg. No. 32,040 Christopher A. Mathews, Reg. No. 35,944 Matthew J. Moore, Reg. No. 42,012 Andrew Y. Piatnicia, Reg. No. 40,772 Glenn W. Rhodes, Reg. No. 31,790 Richard M. San Pictro, Reg. No. 45,071 Charles Bret Scaton, Reg. No. 46,171 Michael J. Stimson, Reg. No. 45,429 Jennifer A. Tipsord, Reg. No. 40,205 William K. West, Reg. No. 22,057 Adam K. Whiting, Reg. No. 44,400 Jayna R. Whitt, Reg. No. 47,175 Karen K. Wong, Reg. No. 44,409 Wallace Wu, Reg. No. 45,380 Matthew S. Zises, Reg. No. 47,246

of HOWREY SIMON ARNOLD & WHITE, LLP, Box No. 34, 1299 Pennsylvania Ave., NW, Washington, DC 20004-2402, power to insert in this Assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

IN WITNESS WHEREOF, executed by the undersigned on the date(s) opposite their name(s).

Date:	2001.05.08	Signature of Inventor:	Sahng ik jun Sahng-Ik JUN	
Date:		Signature of Inventor:		

- Page 2 of 2 -

PATENT REEL: 011800 FRAME: 0685

**RECORDED: 05/11/2001**