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FORM PTO-1596  
1-31-92

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DOCKET NO.: DUKE-0238

102356812  
PATENTS ONLY

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereto:

1. Name of conveying party(ies):

Sangrok LEE, James MORIZIO and Kristina JOHNSON

1-31-03

2. Name and address of receiving party(ies):

Name: Duke University

Internal Address:

Additional name(s) of conveying party(ies) attached? Yes  No

3. Nature of conveyance:

Assignment                       Merger  
 Security Agreement               Change of Name  
 Other

Street Address: 2020 West Main Street, Box 90083

City: Durham

State/Country: North Carolina ZIP: 27708

Execution Date: January 21, 2003, January 21, 2003 and January 16, 2003, respectively

Additional name(s) & address(es) attached?  Yes  No

4. Application number(s) or patent number(s):

If the document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_

A. Patent Application No(s). 10/289,459  
Filed: November 7, 2002

B. Patent No(s)

Additional numbers attached? Yes  No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: FLESHNER & KIM, LLP

Internal Address:

Street Address: P. O. Box 221200

City: Chantilly State: VA ZIP: 20153-1200

6. Total number of applications and patents involved: 1

7. Total fee (37 C.F.R. 3.41)..... \$40.00

Enclosed (Check No. 8793)

Authorized to be charged to deposit account

8. Deposit account number:

16-0607

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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.*

Rene A. Vazquez, Reg. No. 38,647  
Name and Registration No. of Person Signing

Signature

January 31, 2003  
Date

Total number of pages including cover sheet: 2

CMB No. 0851-0011 (exp. 4/94)

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ASSIGNMENT

In consideration of the premises and other good and valuable consideration in hand paid, the receipt and sufficiency of which is hereby acknowledged, the undersigned,

- (1) Sangrok LEE (4) \_\_\_\_\_
- (2) James C. MORIZIO (5) \_\_\_\_\_
- (3) Kristina M. JOHNSON (6) \_\_\_\_\_

who have made a certain new and useful invention, hereby sell, assign and transfer unto

DUKE UNIVERSITY

2020 West Main Street

Box 90083

Durham, NC 27708

its successors and assigns (hereinafter designated "ASSIGNEE") the entire right, title and interest for the United States of America as defined in 35 U.S.C. 100 in the invention entitled

FRAME BUFFER PIXEL CIRCUIT FOR LIQUID CRYSTAL DISPLAY

- (a) for which an application for United States Letters Patent was filed on 11/7/02 and identified by United States Serial No. 10/289,459; or
- (b) for which an application for United States Letters Patent was executed on \_\_\_\_\_,

and the undersigned hereby authorize and request the United States Commissioner of Patents and Trademarks to issue any and all United States Letters Patent which may be granted therefor and/or that claim priority thereto and any and all extensions, divisions, reissues, substitutes, renewals, continuations, or continuations-in-part thereof and/or that claim priority thereto, and the right to all benefits under the International Convention for the Protection of Industrial Property to the said ASSIGNEE, for its interest as ASSIGNEE, its successors, assigns and legal representatives; the undersigned agree that the attorneys of record in said application shall hereafter act on behalf of said ASSIGNEE;

AND the undersigned hereby agree to transfer a like interest, and to render all necessary assistance in making application for and obtaining original, divisional, reissued or extended Letters Patent of the United States, upon request of the said ASSIGNEE, its successors, assigns and legal representatives, and without further remuneration, in and to any improvements, and applications for patent based thereon, growing out of or related to the said invention; and to execute any papers by the said ASSIGNEE, its successors, assigns and legal representatives, deemed essential to ASSIGNEE's full protection and title in and to the invention hereby transferred.

AND the undersigned hereby grants the firm of PLESHNER & KIM, LLP the power to insert on this assignment any further identification that may be necessary or desirable in order to comply with the rules of any issuing authority, including the United States Patent and Trademark Office, for recordation of this document.

SIGNED on the dates indicated aside our signatures:

INVENTORS

DATE SIGNED

1) [Signature]  
Name: Sangrok LEE

11/21/03

2) [Signature]  
Name: James C. MORIZIO

11/21/03

3) [Signature]  
Name: Kristina M. JOHNSON

[Signature] 11/16/03

4) \_\_\_\_\_  
Name: \_\_\_\_\_

\_\_\_\_\_

5) \_\_\_\_\_  
Name: \_\_\_\_\_

\_\_\_\_\_

6) \_\_\_\_\_  
Name: \_\_\_\_\_

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