



To the Honorable Commissioner of Patent

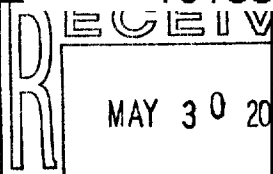
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and original documents or copy thereof.

1. Name of conveying party(ies):

Jung-bae Lee
Woo-pyo Jeong

Handwritten: 5-30-00



Name and address of receiving party(ies):

Name: Samsung Electronics, Co., Ltd.

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: 416, Maetan-dong, Paldal-gu,
Suwon-city, Kyungki-do, Republic of Korea

City: _____ State: _____ ZIP: _____

Execution Date: April 21, 2000 & May 3, 2000

Additional name(s) & address attached? ☐ Yes ☒ No

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

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

A. Patent Application No.(s)

B. Patent No.(s)

09/498,858, filed February 7, 2000

Additional numbers attached? ☐ Yes ☒ No

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

Name: Steven M. Mills, Esq.

Internal Address: _____

Samuels, Gauthier & Stevens LLP

Street Address: 225 Franklin Street, Suite 3300

City: Boston State: MA ZIP: 02110

6. Total number of applications and registrations involved 1

7. Total fee (37 CFR 3.41)..... \$40.00

☒ Enclosed

☐ Authorized to be charged to deposit account

8. Deposit Account Number:

(Attach duplicate copy of this page if paying by deposit account)

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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.

Steven M. Mills, Reg. No. 36,610

Name of Person Signing

Signature
Signature

Date
Date

Total number of pages including cover sheet, attachments, and document 3

ASSIGNMENT

We, Jung-bae Lee of 407-1001, Jugong Apt., Chungmyung Maeul, Youngtong-dong, Paldal-gu, Suwon-city, Kyungki-do, Republic of Korea and Woo-pyo Jeong of 201-203, Dongshin Apt., Jeongja-dong, Jangan-gu, Suwon-city, Kyungki-do, Republic of Korea, having invented improvements in SEMICONDUCTOR MEMORY DEVICE COLUMN SELECT CIRCUIT AND METHOD FOR MINIMIZING LOAD TO DATA INPUT/OUTPUT LINES described in an application for Letters Patent of the United States, Serial No. 09/498,858, filed on February 7, 2000, for good and valuable consideration, receipt of which is hereby acknowledged from Samsung Electronics Co., Ltd., a Korean corporation having a place of business at 416, Maetan-dong, Paldal-gu, Suwon-city, Kyungki-do, Republic of Korea (and hereinafter called the Assignee, which term shall include its successors and assigns), do hereby sell, assign and transfer unto the Assignee our entire right, title, and interest in and throughout the United States of America (including its territories and dependencies) and all countries foreign thereto, in and to and under said application (which term shall include hereinafter where the context so admits all divisional, continuing, reissue and other patent applications based thereon) and the inventions (which term shall include each and every such invention, or part thereof) therein described, and any and all patents and like rights of exclusion (including extensions thereof) of any country which may be granted on or for said inventions or on said application;

And for the same consideration We do also hereby sell, assign, and transfer unto the Assignee, all our rights under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, and all other treaties of like purpose in respect of said inventions and said application, and We do hereby authorize the Assignee to apply in our name or its own name or its designee for patents and like rights of exclusion on or for said inventions in all countries, claiming (if the Assignee so desires) the priority of the filing date of said application under the provisions of said Convention, Treaty or any such other Convention or Treaty;

And for the same consideration, We do hereby agree for ourselves and for our heirs, executors, and administrators, promptly upon request of the Assignee to execute and deliver without further compensation any power of attorney, assignment, original, divisional, continuing, reissue or other application or applications for patent or patents or like rights of exclusion of any country, or other lawful documents and any further assurances that may be deemed necessary or desirable by the Assignee, fully to secure to it said right, title, and interest as aforesaid in and to said inventions, applications, and said several patents and like rights of exclusion (including extensions thereof) or any of them, all, however, at the expense of the Assignee, its successors, or assigns;

And We do hereby authorize and request the Commissioner of Patents and Trademarks of the United States of America and the corresponding Official of each country foreign thereto to issue to the Assignee, any and all patents and like rights of exclusion which may be granted in any country upon said United States application on or for said inventions;

And We do hereby covenant for ourselves and our legal representatives and agree with the Assignee, that We have granted no right or license to make, use, or sell said inventions to anyone except the Assignee, that prior to the execution of this deed our right, title, and interest in and to said inventions has not been otherwise encumbered by us, and that We have not executed and will not execute any instruments in conflict herewith.

First or Sole Inventor:

Signature: Jung-bae Lee
Jung-bae Lee

Date: Apr. 21, 2000

Second Joint Inventor:

Signature: Woo-pyo Jeong
Woo-pyo Jeong

Date: May. 3, 2000

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