



To the Honorable Commissioner of

102781995

attached original documents or copy thereof.

1. Name of conveying party(ies):

Jong-doo Joo  
Gyu-hong Kim

6-2304

Additional name(s) of conveying party(ies) attached?

☐ Yes ☒ No

3. Nature of conveyance:

☒ Assignment

☐ Merger

☐ Security Agreement

☐ Change of Name

☐ Other

Execution Date: June 10, 2004

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

Name: Samsung Electronics, Co., Ltd.

Internal Address: \_\_\_\_\_

Street Address: 416, Maetan-dong, Yeongtong-gu,,  
Suwon-si, Gyeonggi-do, Republic of Korea

City: \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

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:

June 10, 2004

A. Patent Application No.(s)

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

10874604

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

Name: Steven M. Mills

Internal Address: MILLS & ONELLO LLP

Street Address: Eleven Beacon Street, Suite 605

City: Boston State MA ZIP 02108

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)

06/30/2004 LMUELLER 00000089 10874604

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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

Steven M. Mills  
Signature

June 23, 2004  
Date

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

3

Mail documents to be recorded with required cover sheet information to:  
Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

## ASSIGNMENT

We, Jong-doo Joo, of 303-306, Woosung Apt., Sangrok Maeul, Jeongja-dong, Bundang-gu, Sungnam-si, Gyeonggi-do, Republic of Korea; and Gyu-hong Kim, of 511-802, Samsung 5-cha Apt., Jinsan Maeul, 1161, Bojeong-ri, Guseong-myun, Yongin-si, Gyeonggi-do, Republic of Korea, having invented improvements in LOW POWER CONSUMPTION DATA INPUT/OUTPUT CIRCUIT OF EMBEDDED MEMORY DEVICE AND DATA INPUT/OUTPUT METHOD OF THE CIRCUIT, described in an application for Letters Patent of the United States, executed by us on even date herewith, 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, Yeongtong-gu, Suwon-si, Gyeonggi-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

Reference No.:SAM-0567

instruments in conflict herewith.

First or Sole Inventor:

Signature: Jong Doo Joo  
Jong-doo Joo

Date: 10, June, 2004

Second Joint Inventor:

Signature: Gyu-hong Kim  
Gyu-hong Kim

Date: 10 June, 2004

REFERENCE NO. : SAM-0567  
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