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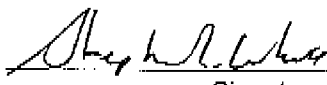
To the Director of the United States Patent and Trademark Office: Please record the attached original documents or copy thereof.

<p>1. Name of conveying party(ies): <b>Young-Seung KIM</b> <b>Chul-Sung PARK</b></p> <p>Additional names(s) of conveying party(ies)    <input type="checkbox"/> Yes    <input checked="" type="checkbox"/> No</p>	<p>2. Name and address of receiving party(ies):</p> <p>Name: <b>Samsung Electronics Co., Ltd.</b></p> <p>Address: <b>416, Maetan-dong, Yeongtong-gu, Suwon-si</b></p>						
<p>3. Nature of conveyance:</p> <p><input checked="" type="checkbox"/> Assignment                      <input type="checkbox"/> Merger</p> <p><input type="checkbox"/> Security Agreement              <input type="checkbox"/> Change of Name</p> <p><input type="checkbox"/> Other _____</p> <p>Execution Date: <b>July 27, 2007</b></p>	<p>City: <b>Gyeonggi-do</b>              State/Prov.: _____</p> <p>Country: <b>Republic of Korea</b>      ZIP: <b>442-742</b></p> <p>Additional name(s) &amp; address(es)              <input type="checkbox"/> Yes    <input checked="" type="checkbox"/> No</p>						
<p>4. Application number(s) or patent numbers(s):</p> <p>If this document is being filed together with a new application, the execution date of the application is: _____</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; border-bottom: 1px solid black;">Patent Application No.</td> <td style="width: 50%; border-bottom: 1px solid black;">Filing date</td> <td style="width: 50%; border-bottom: 1px solid black;">B. Patent No.(s)</td> </tr> <tr> <td style="border-bottom: 1px solid black;"><b>11/845,191</b></td> <td style="border-bottom: 1px solid black;"><b>August 27, 2007</b></td> <td style="border-bottom: 1px solid black;"> </td> </tr> </table> <p style="text-align: right;">Additional numbers                      <input type="checkbox"/> Yes    <input checked="" type="checkbox"/> No</p>		Patent Application No.	Filing date	B. Patent No.(s)	<b>11/845,191</b>	<b>August 27, 2007</b>	
Patent Application No.	Filing date	B. Patent No.(s)					
<b>11/845,191</b>	<b>August 27, 2007</b>						
<p>5. Name and address of party to whom correspondence concerning document should be mailed:</p> <p>Name: <b>STEPHEN R. WHITT</b></p> <p>Registration No. <b>34,753</b></p> <p>Address: <b>VOLENTINE &amp; WHITT, PLLC</b></p> <p><b>ONE FREEDOM SQUARE</b></p> <p><b>11951 FREEDOM DRIVE, SUITE 1260</b></p> <p>City: <b>RESTON</b>                      State/Prov.: <b>VA</b></p> <p>Country: <b>USA</b>                      ZIP: <b>20190</b></p>	<p>6. Total number of applications and patents involved: <b>1</b></p> <p>7. Total fee (37 CFR 3.41):.....\$ <b>40.00</b></p> <p><input type="checkbox"/> Enclosed - Any excess or insufficiency should be credited or debited to deposit account</p> <p><input checked="" type="checkbox"/> Authorized to be charged to deposit account</p> <p>8. Deposit account number:</p> <p><b>50-0238</b></p> <p>(Attach duplicate copy of this page if paying by deposit account)</p>						

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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.*

**STEPHEN R. WHITT**                                            **August 27, 2007**

Name of Person Signing                      Signature                      Date

Total number of pages including cover sheet, attachments, and document: **4**

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**PATENT**

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**ASSIGNMENT**

In consideration of the sum of One Dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned

**Insert****Name(s) of  
Inventor(s)**

- |                           |           |
|---------------------------|-----------|
| 1. <u>Young-Seung KIM</u> | 7. _____  |
| 2. <u>Chul-Sung PARK</u>  | 8. _____  |
| 3. _____                  | 9. _____  |
| 4. _____                  | 10. _____ |
| 5. _____                  | 11. _____ |
| 6. _____                  | 12. _____ |

**Insert****Name(s) of  
Assignee(s) &**

the undersigned hereby sell(s) and assign(s) to

**Address(es)**

SAMSUNG ELECTRONICS CO., LTD.  
416, Maetan-dong, Yeongtong-gu,  
Suwon-si, Gyeonggi-do 442-742, Republic of Korea

(hereinafter designated as the Assignee) the entire right, title and interest for the United States as defined in 35 USC 100, in the invention known as

**Title of  
Invention**

SEMICONDUCTOR MEMORY DEVICE CAPABLE OF SYNCHRONOUS/ASYNCHRONOUS  
OPERATION AND DATA INPUT/OUTPUT METHOD THEREOF

**Date of  
Signing of  
Application**

for which an application for patent in the United States of America has been executed by  
the undersigned on July 27, 2007

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

The undersigned agree(s) to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the Assignee.

The undersigned hereby grant(s) the practitioners associated with the CUSTOMER NUMBER 20987 the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent Office for recordation of this document.

The undersigned hereby authorize(s) and request(s) the Commissioner of Patents to issue any and all Letters Patents of the United States resulting from said application or any division or divisions or continuing or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) full right to convey the entire interest herein assigned, and that he has (they have) not executed, and will not execute, any agreement in conflict herewith.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date 2007. 07. 27 Signature of Inventor   
Young-Seung KIM

Date 2007. 07. 27 Signature of Inventor   
Chul-Sung PARK

Date \_\_\_\_\_ Signature of Inventor \_\_\_\_\_

Date \_\_\_\_\_ Signature of Inventor \_\_\_\_\_

Date \_\_\_\_\_ Signature of Inventor \_\_\_\_\_

Date \_\_\_\_\_ Signature of Inventor \_\_\_\_\_

(Note regarding Witnessing: It is recommended that the execution by the Inventor(s) be witnessed by at least two witnesses who sign here. However, the current practice of the U. S. Patent and Trademark Office is to record an Assignment even it has not been witnessed.)

Witness \_\_\_\_\_

Witness \_\_\_\_\_

Applicant Reference No. SOV-000348-US