Docket No.: SEC.687 FORM PTO-1595 (Modified) U.S. DEPARTMENT OF COMMERCE 04-18-2000 ΞT (Rev. 6-93) Patent and Trademark Office OMP No. 0651-0011 (exp.4/94) Copyright 1996-97 LegalStar PCBA/REV02 Tab settings → → 101322945 attached original documents or copy thereof. To the Honorable Commissioner of Pate.... 2. Name and address of receiving party(ies): 1. Name of conveying party(ies): Kun-tae KIM Name: Samsung Electronics Co., Ltd. Jung-bae LEE Address: 416, Maetan-dong, Paldal-gu, Suwon-city ☐ Yes 🏿 No Additional names(s) of conveying party(ies) 3. Nature of conveyance: ★ Assignment ☐ Merger City: Kyungki-do Security Agreement ☐ Change of Name State/Prov.: Country: Republic of Korea Other _____ ZIP: Execution Date: March 28, 2000 Additional name(s) & address(es) ☐ Yes ■ No 4. Application number(s) or registration numbers(s): If this document is being filed together with a new application, the execution date of the application is: March 28, 2000 Filing date Patent Application No. B. Patent No.(s) ☐ Yes 🏿 No Additional numbers 5. Name and address of party to whom correspondence 6. Total number of applications and patents involved: concerning document should be mailed: Name: BRIAN C. ALTMILLER 7. Total fee (37 CFR 3.41):....\$ 40.00 Registration No. 37,271 Enclosed - Any excess or insufficiency should be credited or debited to deposit account Address: JONES VOLENTINE, L.L.P. ☐ Authorized to be charged to deposit account 12200 SUNRISE VALLEY DRIVE **SUITE 150** 8. Deposit account number: City: RESTON _____ State/Prov.: VA 50-0238 Country: U.S.A. ZIP: 20191 DO NOT USE THIS SPACE Statement and signature.

Signature

Total number of pages including cover sheet, attachments, and

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.

BRIAN C. ALTMILLER

Name of Person Signing

APRIL 5, 2000

Date

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L	L.P	14/	99;	

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) Kun-tae KIM of Inventor(s) Jung-bae LEE Insert Name(s) the undersigned hereby sell(s) and assign(s) to of Assignee(s) Samsung Electronics Co., Ltd. Address of 416, Maetan-dong, Paldal-gu, Suwon-city, Kyungki-do, 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 IMPROVING DATA PROCESSING SPEED AND EFFICIENCY OF DATA NPUT AND OUTPUT PIN AND METHOD FOR CONTROLLING READ AND WRITE THEREOF Date of Signing for which an application for patent in the United States of America has been executed by the undersigned of Application on Maken 28, 2000 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 continuation, 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 Assignce.

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.

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members of the firm of JONES	by grant(s) to Raymond C. Jones, Reg. No. 34,631 and Adam C. Volentine, Reg. No. 33,289, VOLENTINE, L.L.P. the power to insert on this assignment any further identification which may her to comply with the rules of the United States Patent Office for recordation of this document.			
	executed by the undersigned on the date(s) opposite the undersigned name(s).			
Date 2000. 3. 28	Name of Inventor Kum - tal Kim			
Date 2000. 3. 28	Name of Inventor June - Bac Lee			
Date				
	Name of Inventor			
	, Name of Inventor			
but not required. If no at least two witnesses record an Assignment Witness	essing and/or Acknowledgment: Acknowledgment before a United States Consul is preferred of acknowledged, then it is recommended that the execution by the Inventor(s) be witnessed by who sign here. However, the current practice of the U.S. Patent and Trademark Office is to even if it has not been acknowledged and/or witnessed.)			
William				
ACKNOWLEDGMENT				
	<pre></pre>			
This	day of, 19, before me personally came the above-			
named				
	individual(s) who executed the foregoing assignment, who did acknowledge to me that he (they) own free will for the purposes therein set forth.			
SEAL	Official Signature			
JEAU	Official Title			
****	************			
Applicant Reference No.: SS	-13462-US Atty Docket No.: SEC,687			
Serial No.:	Filing Date:			
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PATENT **REEL: 010692 FRAME: 0413**