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FORM PTO-1596
1-31-92

102357511
PATENTS ONLY

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

Docket No.: 57454-881

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

1. Name of Conveying Party(ies):
Takafumi TAKATSUKA, Hirotoshi SATO and Masaki TSUKUDE
1-28-03
Additional name(s) of conveying party(ies) attached? Yes

2. Name and address of receiving party(ies):
Name: **MITSUBISHI DENKI KABUSHIKI KAISHA**
Address: 2-3, Marunouchi 2-chome,
Chiyoda-ku,
Tokyo 100-8310 JAPAN
Additional name(s) & address(es) attached? Yes

J1135 U.S. PTO
10/352218
01/28/03

3. Nature of Conveyance:
 Assignment Merger
 Security Agreement Change of Name
 Other
Execution Date: December 27, 2002

4. Application number(s) or patent number(s): *10352218*
If the document is being filed together with a new application, the execution date of the application is: December 27, 2002
A. Patent Application No(s).
B. Patent No(s).

Additional numbers attached? Yes

5. Name and address of party to whom correspondence concerning document should be mailed:
Name: **MCDERMOTT, WILL & EMERY**
Internal Address:
Street Address: 600 13th Street, N.W.
City: Washington State: DC Zip: 20005

6. Total number of applications and patents involved:
7. Total fee (37 CFR 3.41) \$40.00
 Enclosed
 Authorized to be charged to deposit account
8. Deposit account number:
500417

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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 A. Becker, 26,527 *[Signature]* January 28, 2003

Name and Registration No. of Person Signing Signature Date
Total number of pages comprising cover sheet: 1

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

02/05/2003 DBYRNE 00000005 500417 10352218
01 FC:8021 40.00 CH

PATENT
REEL: 013716 FRAME: 0470

ASSIGNMENT

WHEREAS, Takafumi TAKATSUKA, Hirotooshi SATO and
Masaki TSUKUDE
hereinafter called the "Assignors," have jointly invented a new and useful invention
entitled FULLY-HIDDEN REFRESH DYNAMIC RANDOM ACCESS MEMORY
_____, for which he has:

- (a) filed an application for United States Letters Patent on _____ as (Serial No. _____); or
- (b) executed an application for United States Letters Patent on December 27, 2002; or
- (c) filed a provisional application on _____ as (Serial No. _____); and

WHEREAS, Mitsubishi Denki Kabushiki Kaisha, a corporation organized and existing under the laws of Japan, having a place of business at: 2-3. Marunouchi 2-chome, Chiyoda-ku, TOKYO 100-8310 JAPAN, hereinafter called the "Assignee," is desirous of acquiring the entire right, title and interest in and to said invention, the application above identified, and in, to and under any Letters Patent which may be obtained to said invention, as hereinafter more fully set forth;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, be it known that for and in consideration of the sum of One Dollar (\$1.00), and other valuable and legally sufficient considerations, the receipt of which by said Assignors from the said Assignee is hereby acknowledged, the said Assignors have sold, assigned and transferred, and by these presents do sell, assign and transfer unto the said Assignee, the entire, right, title and interest for the United States in and to the invention and application hereinabove identified, and any Letters Patent of the United States that may issue for said invention, together with the entire right, title and interest in and to said invention and applications for Letters Patent and Letters Patent therefor, in all countries foreign to the United States, including the full right to claim for any such application all benefits and priority rights under any applicable convention; to have and to hold for the sole and exclusive use and benefit of the said Assignee, its successors and assigns, to the full end of the term or terms for which any and all of said Letters Patent for said inventions may issue.

And the said Assignors do hereby covenant and agree, for himself and his legal representatives, that he will assist the said Assignee in the prosecution of the application herein identified; in the making and prosecution of any other applications for Letters Patent that the said Assignee may elect to make covering the invention herein identified, as hereinabove set forth; in vesting in the said Assignee like exclusive title in and to all such other applications and Letters Patent; and in the prosecution of any interference which may arise involving said invention, or any application or Letters Patent herein contemplated; and that they will execute and deliver to the said Assignee any and all additional papers which may be requested by the said Assignee to fully carry out the terms of this Assignment.

The undersigned hereby grant(s) the attorneys of McDermott, Will & Emery 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 and Trademark Office for recordation of this document.

And the Commissioner of Patents and Trademarks is hereby authorized and requested to issue Letters Patent to the said Assignee in accordance with the terms of this Assignment.

IN TESTIMONY WHEREOF, the said Assignors have hereunto set his hands and affixed his seal.

Date: December 27, 2002
(Seal)

Takafumi Takatsuka
Takafumi TAKATSUKA

Date: December 27, 2002
(Seal)

Hirotooshi Sato
Hirotooshi SATO

Date: December 27, 2002
(Seal)

Masaki Tsukude
Masaki TSUKUDE

Date: _____
(Seal)
