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To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

## 1. Name of conveying party(ies):

Rajesh Chopra  
Shinichi Yoshioka  
Mark DebbageAdditional name(s) of conveying party(ies) attached? ☐ Yes ☐ No

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

Name: HITACHI LTD.

Internal Address:

## 3. Nature of conveyance:

☒ Assignment ☐ Merger☐ Security Agreement ☐ Change of Name☐ Other:

Execution Date: January 26, 2000

Street Address: 6 KANDA SURUGADAI, 4-CHOME

City: CHIYODA-KU, TOKYO Country: JAPAN ZIP:

Additional name(s) & address(es) 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)

09/410,505

## B. Patent No.(s)

Additional numbers attached? Yes ☐ No ☒

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

Name: Alan R. Loudermilk

Internal Address: Suite B

Street Address: 10950 N. Blaney Ave.

City: Cupertino: State: CA ZIP: 95014

## 6. Total number of applications and patents involved:

1

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

☐ Enclosed☒ Authorized to be charged to deposit account

## 8. Deposit account number:

50-0251

(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.

Name of Person Signing: Alan R. Loudermilk

Signature: Alan R. Loudermilk

Date: January 31, 2000

Total number of pages including cover sheet: 4

Attorney Docket No: 10-9906

Mail documents to be recorded with required cover sheet information to:  
Commissioner of Patents & Trademarks, Box Assignments  
Washington, D.C. 2023110950 North Blaney Avenue - Suite B - Cupertino, California, 95014  
phn: (408) 342-1866 - fax: (408) 342-1865

## ASSIGNMENT

Application Number: **09/410,505**

Filing Date: **October 1, 1999**

In consideration of One Dollar and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned inventor, or each inventor if more than one, hereby assigns to HITACHI LTD. having an address of 6 KANDA SURUGADAI, 4-CHOME, CHIYODA-KU, TOKYO, JAPAN, its successors and assigns (hereinafter called "said assignee"), the entire right, title and interest in the invention or improvements of the undersigned disclosed in the above-identified Application entitled MICROPROCESSOR HAVING IMPROVED MEMORY MANAGEMENT UNIT AND CACHE MEMORY, and in said applications and any and all other applications for patent or similar rights in any country, which the undersigned may file, either solely or jointly with others, on said invention or improvements, and in any and all Letters Patent or similar rights of the United States or any other country which may be obtained on any of said applications, and in any reissue or extension thereof.

The undersigned hereby authorizes and requests the Commissioner of Patents or other official of other countries to issue said Letters Patent or similar rights to said assignee.

The undersigned hereby authorizes and requests the attorneys of record in said application to insert in this assignment the date and serial number of said application.

For said consideration, the undersigned hereby agrees, upon the request and at the expense of said assignee, to execute any divisional, continuation or substitute application for said invention or improvements, and any oath, declaration or affidavit relating thereto, and any application for the reissue or extension of any Letters Patent or similar rights that may be granted upon said application, and, in the event of any application or Letters Patent or similar rights assigned herein becoming involved in interference or other proceedings relating thereto, to cooperate to the best of the ability of the undersigned in the matters of preparing and executing any preliminary statement or other documents as appropriate, and giving and producing evidence and/or testimony in support thereof. The undersigned agrees to perform, upon request, any affirmative acts to obtain, maintain, issue and enforce said Letters Patent or similar rights of the United States or any other country and vest in said assignee all rights therein, whereby said Letters Patent or similar rights will be held and enjoyed by said assignee, to the full end of the term for which said Letters Patent or similar rights may be granted as fully and entirely as the same would have been held and enjoyed by the undersigned if this assignment had not been made.

The undersigned hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

And for said consideration, the undersigned hereby assigns to said assignee the entire right, title and interest in said invention or improvements in the United States and all foreign countries, including all priority rights under the International Convention, and agrees to execute, at the request of said assignee, all documents in connection with any application for foreign letters patent therefor.

SIGNATURE(S) AND NOTARIZATION  
OF SIGNATURE(S) TO ASSIGNMENT

Signature of First Inventor: \_\_\_\_\_

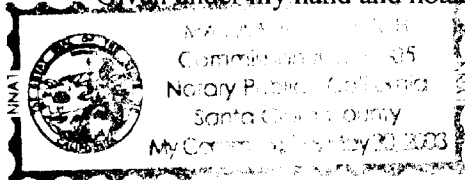
Name (printed) First Inventor: Rajesh Chopra

Date of Signature/Execution: 01/26/00

STATE OF California )  
 ) SS.  
COUNTY OF Santa Clara )

I, Maria Margaretich, a Notary Public in and for said county and state, do hereby certify that Rajesh Chopra, has proven to me to be the same person(s) whose name(s) is subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that he/she signed and delivered the said instrument as his/her free and voluntary act, for the uses and purposes therein set forth.

Given under my hand and notarial seal this 26<sup>th</sup> day of Jan, 2000.



Maria Margaretich  
NOTARY PUBLIC

Signature of Second Inventor: \_\_\_\_\_

Name (printed) Second Inventor: Shinichi Yoshioka

Date of Signature/Execution: 1/26/00

STATE OF California )  
 ) SS.  
COUNTY OF Santa Clara )

I, Maria Margaretich, a Notary Public in and for said county and state, do hereby certify that Shinichi Yoshioka, has proven to me to be the same person(s) whose name(s) is subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that he/she signed and delivered the said instrument as his/her free and voluntary act, for the uses and purposes therein set forth.

Given under my hand and notarial seal this 26<sup>th</sup> day of Jan, 2000.



Maria Margaretich  
NOTARY PUBLIC

Signature of Third Inventor: \_\_\_\_\_

Name (printed) Third Inventor: \_\_\_\_\_

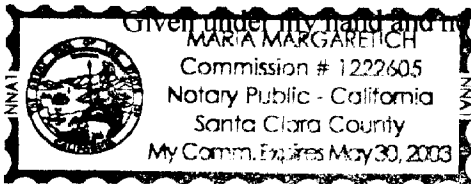
Mark Debbage

Date of Signature/Execution: \_\_\_\_\_

1/28/00

STATE OF California )  
 ) SS.  
COUNTY OF Santa Clara )

I, **Maria Margaretich**, a Notary Public in and for said county and state, do hereby certify that **Mark Debbage**, has proven to me to be the same person(s) whose name(s) is subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that he/she signed and delivered the said instrument as his/her free and voluntary act, for the uses and purposes therein set forth.



Given under my hand and notarial seal this 26<sup>th</sup> day of Jan, 2000.

Maria Margaretich  
NOTARY PUBLIC

Signature of Fourth Inventor: \_\_\_\_\_

Name (printed) Fourth Inventor: \_\_\_\_\_

Date of Signature/Execution: \_\_\_\_\_

STATE OF California )  
 ) SS.  
COUNTY OF Santa Clara )

I, **Maria Margaretich**, a Notary Public in and for said county and state, do hereby certify that \_\_\_\_\_, has proven to me to be the same person(s) whose name(s) is subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that he/she signed and delivered the said instrument as his/her free and voluntary act, for the uses and purposes therein set forth.

Given under my hand and notarial seal this \_\_\_ day of \_\_\_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC