**RECORDATION FORM COVER SHEET**

**U.S. DEPARTMENT OF COMMERCE**
Patent and Trademark Office

**Mail Stop:**
Assignments Recordation Services
Director of the U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

**Attorney Docket No.** 110656

---

**1. A. Name of conveying party(ies):**
Halo LSI Design & Device Technology, Inc.

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

- [ ] Yes  - [x] No

---

**2. A. Name and address of receiving party:**
SEIKO EPSON CORPORATION
4-1, NISHI-SHINJIKU 2-CHOME
SHINJUKU-KU, TOKYO
JAPAN

B. Additional name(s) & address(es) attached?

- [ ] Yes  - [x] No

---

**3. A. Nature of conveyance:**

- [x] Assignment  - [ ] Merger
- [ ] Security Agreement  - [ ] Change of Name
- [ ] Other ______________

B. Execution Date: July 10, 2003

---

**4. A. If this document is being filed together with a new application, the execution date of the application is:**

B. Patent Application No.(s) **09/955,158, filed September 19, 2001**

C. Patent No. ______________

Additional numbers attached?

- [ ] Yes  - [x] No

---

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

Name: James A. Oliff

Address: OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, VA 22320
Phone Number: 703-836-6400
Fax Number: 703-836-2787

---

**6. Total number of applications and patents involved:** 1

---

**7. Please charge Deposit Account No. 15-0461 the total fee (37 CFR 3.41) in the amount of $40.00.**

---

**8. Credit any overpayment or charge any underpayment to deposit account number 15-0461.**

---

**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.

James A. Oliff, Registration No. 27,075
Holly N. N. Sy, Registration No. 50,212

Date: August 14, 2003
ASSIGNMENT

WHEREAS, Halo LSI Design & Device Technology, Inc., a company established under the laws of the United States whose address is 169 Myers Corners Road, Wappingers Falls, New York, 12590, (hereinafter called "Assignor") is joint owner by assignment duly recorded in the United States Patent and Trademark Office at the Reel and Frames indicated below of the following United States Letters Patent and/or patent application (hereinafter called "Patent Properties"):

<table>
<thead>
<tr>
<th>Application or Patent Number and Date of Filing or Issue</th>
<th>Named Inventors</th>
<th>Reel and Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>09/955,158, filed September 19, 2001</td>
<td>Masahiro KANAIl et al.</td>
<td>012353/0958, and 012918/0346</td>
</tr>
</tbody>
</table>

The undersigned has reviewed all the documents in the chain of title identified above; and to the best of the undersigned's knowledge and belief, title is in the Assignor. The undersigned is empowered to sign this Assignment on behalf of the Assignor.

WHEREAS, Seiko Epson Corporation, a company established under the laws of Japan, whose address is 4-1, Nishi-Shinjuku 2-chome, Shinjuku-ku, Tokyo, Japan, (hereinafter called "Assignee") is presently the other joint owner of the Patent Properties, and desirous of acquiring the entire right, title and interest for the United States, its territories, dependencies and possessions, in and to said Patent Properties (and/or patents that may be granted therefrom), and any confirmations, divisions, continuations, reexaminations, reissues or extensions of the same;

Now, To All Whom It May Concern: Be it known that for and in consideration of the sum of One Dollar ($1.00), and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignor has sold, assigned, transferred and set over, and does hereby sell, assign, transfer and set over, unto Assignee, its successors, assigns and legal representatives, the entire right, title and interest for the United States, its territories, dependencies and possessions, in and to said Patent Properties (and/or patents that may be granted therefrom), and any confirmations, divisions, continuations, reexaminations, reissues or extensions thereof; the same to be held and enjoyed by Assignee, its successors, assigns and legal representatives, as fully and entirely as the same would have been held and enjoyed by Assignor had this assignment and sale not been made, together with all claims for damages by reason of past infringement of said Patent Properties with the right to sue for and collect the same for its own use and for the use of its successors, assigns and legal representatives.

Assignor agrees that this assignment is binding on Assignor and its heirs, successors, assigns and legal representatives.
Assignor authorizes and requests the Commissioner of Patents and Trademarks of the United States to issue any Letters Patent of the United States, resulting from said Patent Properties and any confirmations, divisions, continuations, reexaminations, reissues or extensions thereof, to Assignee.

Assignor agrees to execute all papers necessary in connection with any interference which may be declared concerning said Patent Properties (and/or patents that may be granted therefrom), or any confirmation, division, continuation, reexamination or reissue thereof, and to cooperate with Assignee in every way possible in obtaining evidence and going forward with such interference.

Assignor covenants that it has full right to convey the interest herein assigned and that it has not executed and will not execute any agreement in conflict herewith.

Assignor agrees 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.

Assignor agrees to perform all affirmative acts which may be necessary to obtain, maintain or confirm by reissue or reexamination a grant of a valid United States patent to Assignee.

Assignor grants the firm of OLLIFF & BERRIDGE, PLC of Alexandria, Virginia 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.

This Assignment is effective as of the 10 day of July, 2003.

Witness

Signature
Officer of Assignor

Typewritten Name of Officer

Title of Officer

2 of 2

RECORDED: 08/14/2003
REEL: 013876 FRAME: 0516