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

1. Name of conveying party(ies):

   KEN PFEIFFER 3-23-99
   GREG VERDICT 3-23-99

   Additional name(s) of conveying party(ies) attached? Yes  No

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

   Name: Applied Materials, Inc.

   Internal Address: P.O. Box 450-A

   Street Address:

   City: Santa Clara  State: CA  Zip: 95052

   Additional name(s) & address(es) attached? Yes  No

3. Nature of conveyance:

   X Assignment  ___ Merger
   ___ Security Agreement  ___ Change of Name
   ___ Other

   Execution Date:

4. Application number(s) or registration number(s):

   If this document is being filed together with a new application, the execution date of the application is: 3-23-99 (Date of Filing)

   A. Patent Application No.(s)
   B. Patent No.(s)

   Additional numbers attached? Yes  No

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

   Name: Patent Counsel

   Internal Address: APPLIED MATERIALS, INC.

   Street Address: P.O. Box 450-A

   City: Santa Clara  State: CA  Zip: 95052

6. Total number of applications and patents involved: 1

7. Total fee (37 C.F.R. 3.41)--------------------- $ 40.00

   ___ Enclosed
   X Authorized to be charged to deposit account

   01-1651

8. Deposit account number:

   01-1651


   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.

   ROBERT W. MULCAHY  [Signature]

   Name of Person Signing  Date

   Total number of pages including cover sheet, attachments and document: 3

Mail documents to be recorded with required cover sheet information to:
Commissioner of Patents & Trademarks, Box Assignments
Washington, D.C. 20231
ASSIGNMENT FOR APPLICATION FOR PATENT

WHEREAS:

Names and Addresses
of Inventors:

<table>
<thead>
<tr>
<th>1)  KEN PFEIFFER</th>
<th>2)  GREG VERDICT</th>
</tr>
</thead>
<tbody>
<tr>
<td>3802 Carmel Drive</td>
<td>6805 Wood Holow Drive, Apt. 239</td>
</tr>
<tr>
<td>Round Rock, Texas 78681</td>
<td>Austin, Texas 78731</td>
</tr>
</tbody>
</table>

(hereinafter referred to as Assignors), have invented a certain invention entitled:

MODULAR SUBSTRATE CASSETTE

for which application for Letters Patent in the United States was filed on ,
under Serial No. , executed on even date herewith; and

WHEREAS, Applied Materials, Inc., a corporation of the State of Delaware, having a place of business at 3050 Bowers Avenue, Santa Clara, California 95054 (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said application (hereinafter referred to as Application), and the invention disclosed therein (hereinafter referred to as Invention), and in and to all embodiments of the Invention, heretofore conceived, made or discovered by said Assignors, and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter referred to as Patents) thereon granted in any and all countries and groups of countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Assignors to have been received in full from said Assignee:

1. Said Assignors hereby sell, assign, transfer and convey to Assignee the full and exclusive right, title and interest (a) in and to said Application and said Invention; (b) in and to all rights to apply for patents on said Invention in any and all countries pursuant to the International Convention for the Protection of Industrial Property or otherwise; (c) in and to any and all Applications filed and any and all Patents granted on said Invention in any and all countries and groups of countries, including each and every Application filed and each and every Patent granted on any application which is a division, substitution, or continuation of said Application; and (d) in and to each and every reissue or extension of any of said Patents.

2. Said Assignors hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest to said Invention herein conveyed in any and all countries and groups of countries. Such cooperation by said Assignors shall include prompt production of pertinent facts and documents, giving testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of said applications; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said Invention; (d) for filing and prosecuting applications for reissuance of any of said Patents; (e) for interference or other priority proceedings involving said Invention; and (f) for legal proceedings involving said Invention and any application therefor and any Patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use
proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Assignors in providing such cooperation shall be paid for by said Assignee.

3. The term and covenants of this agreement shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Assignors, their respective heirs, legal representatives and assigns.

4. Said Assignors hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

IN WITNESS WHEREOF, the said Assignors have executed and delivered this instrument to said Assignee on the dates indicated below.

1) 3/2, 1999  
KEN PFEIFFER  
2) 3/2, 1999  
GREG VERDICT