1. Name of conveying part/(ies) Joel Tupper 2. Name and address of receiving party(ies) Additional name(s) of conveying party(ies) attached? []Yes [X]No Name:	To the Honorable Commissione 10229	tached original documents or copy thereof.
Additional name(s) of conveying party(ites) attached? [] Yes [X] No Additional name(s) of conveying party(ites) attached? [] Yes [X] No 3. Nature of conveyance: [X] Assignment [] Merger [] Security Agreement [] Change of Name [] Other Execution Date: August 24, 2001 Additional name(s) & address(es) attached? [] Yes [X] 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) 10/264,972 6. Name and address of party to whom correspondence concerning document should be mailed: Name: David E. Huang, Esq. Internal Address: (X] Enclosed with application filing fee [X] Authorized to charge any deficiencies or credit at overpayment to deposit account [] Authorized to charge any deficiencies or credit at overpayment to deposit account [] Authorized to charge if paying by deposit [] ONOT USE THIS SPACE 9. Statement and signature. [] To be st of my knowle tige and belief, the foregoing information is true and correct and any attached copy is a true copy of th document. [] David E. Huang Maxture Name of Person Signing Signature	1. Name of conveying part /(ies)	
Additional name(s) of conveying party(ies) attached? [] Yes [X] No 3. Nature of conveyance: [X] Assignment [] Change of Name [] Security Agreement [] Change of Name [] Other Additional name(s) & address(es) attached? [] Yes [X] 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 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) B. Patent No.(s) 10/264.972 6. Total number of applications and patents involved." Name: David E. Huang, Esp. 1 Total Fee (37 C.F.R. 3.41)	Joel Tupper	Name: EMC Corporation
3. Nature of conveyance: [] Merger [] Security Agreement [] Change of Name [] Other		
3. Nature of conveyance: [] Merger [] Security Agreement [] Change of Name [] Other		
[X] Assignment [] Merger [] Security Agreement [] Change of Name [] Other	Additional name(s) of conveying party(ies) attached? [] Yes [X] No	
[] Security Agreement [] Change of Name [] Other		Street Address: 176 South Street
[] Other Additional name(s) & address(es) attached? [] Yes [X] 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: Image: Comparison of the application is: A. Application No.(s) B. Patent No.(s) B. Patent No.(s) 10/264,972 Comparison of the application is: Image: Comparison of the application is: Additional numbers attached? [] Yes [X] No 5. Name and address of party to whom correspondence concerning document should be mailed: 6. Total number of applications and patents involved: [] for the application filing fee Name: David E. Huang, Esq. 7. Total Fee (37 C.F.R. 3.41)		
Execution Date: August 24, 2001 Additional name(s) & address(es) attached? [] Yes [X] 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: Image: Comparison of this being filed together with a new application, the execution date of the application is: A. Patent Application No.(s) Image: Comparison of this being filed together with a new application, the execution date of the application is: Additional numbers attached? [] Yes [X] No 5. Name and address of party to whom correspondence concerning document should be mailed: 6. Total number of applications and patents involved: Name: David E. Huang, Est; 7. Total Fee (37 C.F.R. 3.41)	[] Security Agreement [] Change of Name	City: Hopkinton State: MA ZIP: 017
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) 10/264,972 Additional numbers attached? [] Yes [x] No 6. Name and address of party to whom correspondence concerning document should be mailed: Name: David E. Huang, Esq. [] Internal Address: [] Yes [] CHAPIN & HUANG, L.L.C. [] Authorized to charge any deficiencies or credit ar overpayment to deposit account [] Authorized to be charged to deposit account [] Authorized to be charge to deposit account [] Statement and signature. 50-0901 [] Westborough State: MA [] David E. Huang David E. Huang [] Name of Person Signing Signature November 13, joba		
If this document is being filed together with a new application, the execution date of the application is: Image: Constraint of the application is: A. Patent Application No.(s) Image: Constraint of the application is: Image: Constraint of applications and patents involved: S. Name and address of party to whom correspondence concerning document should be mailed: 6. Total number of applications and patents involved: Image: Concerning document should be mailed: Name: David E. Huang, Esq. 7. Total Fee (37 C.F.R. 3.41)	Execution Date: August 24, 2001	Additional name(s) & address(es) attached? [] Yes [X] No
If this document is being filed together with a new application, the execution date of the application is: Image: Constant of the application is: A. Patent Application No.(s) B. Patent No.(s) 10/264,972 Image: Constant of the application is: Additional numbers attached? [] Yes Additional numbers attached? [] Yes S. Name and address of party to whom correspondence concerning document should be mailed: 6. Total number of applications and patents involved: Name: David E. Huang, Esq. 7. Total Fee (37 C.F.R. 3.41)	4. Application number(s) or patent number(s):	the execution date of the application is:
Additional numbers attached? []Yes [x] No 5. Name and address of party to whom correspondence concerning document should be mailed: 6. Total number of applications and patents involved: []1 Name: David E. Huang, Esq. 7. Total Fee (37 C.F.R. 3.41)	If this document is being filed together with a new application,	the execution date of the application is:
Additional numbers attached? []Yes [x] No 5. Name and address of party to whom correspondence concerning document should be mailed: 6. Total number of applications and patents involved: []1 Name: David E. Huang, Esq. 7. Total Fee (37 C.F.R. 3.41)	A. Patent Application No.(s)	B. Patent No.(s)
Additional numbers attached? [] Yes [x] No 5. Name and address of party to whom correspondence concerning document should be mailed: 6. Total number of applications and patents involved: [] It Name: David E. Huang, Esq. 7. Total Fee (37 C.F.R. 3.41)	10/264,972	
5. Name and address of party to whom correspondence concerning document should be mailed: 6. Total number of applications and patents involved: [1] Name: David E. Huang, Esq. 7. Total Fee (37 C.F.R. 3.41)		
5. Name and address of party to whom correspondence concerning document should be mailed: 6. Total number of applications and patents involved: [1] Name: David E. Huang, Esq. 7. Total Fee (37 C.F.R. 3.41)	Additional numb	ers attached? []Yes [x]No
Internal Address: [X] Enclosed with application filing fee CHAPIN & HUANG, L.L.C. [X] Authorized to charge any deficiencies or credit ar overpayment to deposit account Street Address: Westborough Office Park 1700 West Park Drive 8. Deposit account number: City: Westborough State: MA ZIP: 01581 ON ONT USE THIS SPACE 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 document. David E. Huang Mathoditional Signature Name of Person Signing Signature		
CHAPIN & HUANG, L.L.C. [X] Authorized to charge any deficiencies or credit ar overpayment to deposit account Street Address: Westborough Office Park 1700 West Park Drive 8. Deposit account number: City: Westborough State: MA ZIP: 01581 ONOT USE THIS SPACE 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 document. David E. Huang Mathorized Signature Name of Person Signing Signature	Name: David E. Huang, Esq.	7. Total Fee (37 C.F.R. 3.41) \$ 40.00
CHAPIN & HUANG, L.L.C. overpayment to deposit account Street Address: Westborough Office Park 1700 West Park Drive 8. Deposit account number: City: Westborough State: MA ZIP: 01581 ONOT USE THIS SPACE 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 document. David E. Huang Mathematican Signature Name of Person Signing Signature	Internal Address:	
Street Address: Westborcugh Office Park 1700 West Park Drive 8. Deposit account number: City: Westborough State: MA ZIP: 01581 (Attach duplicate copy of this page if paying by deposit a Do NOT USE THIS SPACE 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 document. David E. Huang November 13, 2 Name of Person Signing Signature	CHAPIN & HUANG, L.L.C.	
1700 West Park Drive 50-0901 City: Westborough State: MA ZIP: 01581 (Attach duplicate copy of this page if paying by deposit a DO NOT USE THIS SPACE 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 document. David E. Huang Movember 13, 2 Name of Person Signing Signature		[] Authorized to be charged to deposit account
City: Westborough State: MA ZIP: 01581 (Attach duplicate copy of this page if paying by deposit) DO NOT USE THIS SPACE 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 document.	Street Address: Westborough Office Park	8. Deposit account number:
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 document. David E. Huang November 13, 2 Name of Person Signing Signature Date	1700 West Park Drive	50-0901
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 document.	City: Westborough State: MA ZIP: 01581	(Attach duplicate copy of this page if paying by deposit acco
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 document. David E. Huang November 13, 2 Name of Person Signing Signature Date	DO NOT	USE THIS SPACE
David E. Huang David E. Huang November 13, 2 Name of Person Signing Signature Date		ion is two and connect and any attacked and in the
Name of Person Signing Signature Date		$\frac{1}{1000}$ is the ana correct and any attached copy is a true copy of the or.
	David E. Huang	November 13, 2002
Total number of pages including cover sheet, attachments, and document: [3]	Name of Person Signing	Signature Date
vous number of pages metuding cover sheet, and eminents, and document. [J]	Total number of pages including a	over sheet attachments and document. [3]
2/2002 LAUELLER 00000194 10264972		

Attorney Docket No.: <u>EMC01-24(00072)</u> Sole

. .

ASSIGNMENT

WHEREAS I, Joel Tupper have invented a certain improvement TECHNIQUES FOR ACCESSING A CIRCUIT BOARD UTILIZING AN IMPROVED ADAPTOR described in an application for Letters Patent of the United States, the specification of which:

[X] is being executed on even date herewith and is about to be filed in the United States Patent Office;

[] was filed on _____as Application No.____;

[] was patented under U.S. Patent No. ______on_____.

WHEREAS EMC Corporation (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the Commonwealth of Massachusetts and having a usual place of business at 35 Parkwood Drive, Hopkinton, Massachusetts 01748 desires to acquire an interest therein in accordance with agreements duly entered into with me;

NOW, THEREFORE, to all whom it may concern get known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by me had this assignment and sale not been made; I hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. I hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

::

- 2 -

AND, I hereby further agree for myself and my executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

AND, I do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my seal the date set forth below.



State/Commonwealth

of <u>n</u> N County of <u>Lifebourg</u>h

Then personally appeared before me the above-named Joel Tupper and acknowledged that he/she executed the foregoing instrument as his/her free act and deed this \underline{AU} day of \underline{Cugaad} , 2001.

(SEAL)

Jean E. Hspiner (print name) My Commission expires バノみ フノ o S

PATENT REEL: 013505 FRAME: 0457

RECORDED: 11/13/2002