

09-17-2002

FORM PTO-1595

1-31-92



102223800

2 SHEET

U.S. DEPARTMENT OF COMMERCE

Patent and Trademark Office

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

1. Name of conveying party(ies):

Hua-yu Liu, Weinong Lai, Xiaoyang Li

9-9-02

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

Name: Numerical Technologies, Inc.  
 Street Address: 70 West Plumeria Drive  
 City: State: Zip: San Jose, CA 95134-2134

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

3. Nature of conveyance:

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

Additional name(s) &amp; address(es) attached?

☐ Yes ☒ No

Execution Date: September 6, 2002

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: September 6, 2002

10237883

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: Edward J. Grundler  
 Park, Vaughan & Fleming LLP  
 508 Second Street, Suite 201  
 Davis, CA 95616

Attorney Docket No.: NMTC-0791

6. Total number of applications and patents involved: [1]

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

☒ Enclosed☐ Authorized to be charged to deposit account

8. Deposit account number:

## 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 original document.

Edward J. Grundler

Name of Person Signing

Signature

September 9, 2002

Date

Total number of pages including cover sheet, attachments and document: [4]

#corporate power of attorney

09/12/2002 WASFAW1 00000010 10237883

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40.00 OP

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PATENT  
 REEL: 013283 FRAME: 0410

**CORPORATE ASSIGNMENT**

WHEREAS, the undersigned,

Hua-yu Liu  
 Weinong Lai  
 Xiaoyang Li

3434 Waverly St., Palo Alto, CA 94306  
 1620 Walden Court, Fremont, CA 94539  
 39363 Wilford Street, Fremont, CA 94538

hereinafter termed "Inventor(s)", have invented certain new and useful improvements in

***HYBRID OPTICAL PROXIMITY CORRECTION FOR ALTERNATING APERTURE PHASE SHIFTING DESIGNS***

and have executed a declaration or oath for an application for a United States patent disclosing and identifying the invention:

X On the 6<sup>th</sup> day of SEPTEMBER, 2002;

Or

\_\_\_\_\_ Said application having Application Number\_\_ and filed on\_\_; and

WHEREAS, Numerical Technologies, Inc. a corporation of the State of Delaware, having a place of business at 70 West Plumeria Drive, San Jose, CA 95134-2134, (hereinafter termed "Assignee"), is desirous of acquiring the entire right, title and interest in and to said application and the invention disclosed therein, and in and to all embodiments of the invention, heretofore conceived, made or discovered jointly or severally by said Inventor(s) (all collectively hereinafter termed "said invention"), and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter termed "patents") thereon granted in the United States and foreign countries.

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

1. Said Inventor(s) do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said application and said invention; (b) in and to all rights to apply for foreign patents on said invention 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 the United States or any foreign country, including each and every application filed and each and every patent granted on any application which is a divisional, substitution, continuation, or continuation-in-part of any of said applications; and (d) in and to each and every reissue or extensions of any of said patents.

2. Said Inventor(s) hereby jointly and severally covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein conveyed in the United States and foreign countries. Such cooperation by said Inventor(s) shall include prompt production of pertinent facts and documents, giving of 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 said patents; (e) for interference or other priority proceedings involving said invention; and (f) for legal proceedings involving said invention and any applications therefor and any patents granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contests,

public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Inventor(s) in providing such cooperation shall be paid for by said Assignee.

3. The terms and covenants of this assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventor(s), their respective heirs, legal representatives and assigns.

4. Said Inventor(s) hereby jointly and severally warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

IN WITNESS WHEREOF, said Inventors have executed and delivered this instrument to said Assignee as of the dates written below.

*Hua-yu Liu*  
Hua-yu Liu

9/6/02  
Date

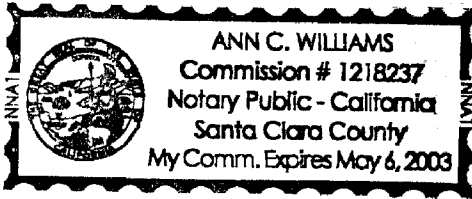
State of CALIFORNIA )

County of SANTA CLARA )

On 9/6/02, before me, Ann C. Williams, Notary Public,  
personally appeared Hua-yu Liu,

☒ personally known to me or ☐ proved to me on the basis of  
satisfactory evidence, to be the person whose name is subscribed to  
the within instrument and acknowledged to me that ~~he~~ she executed  
the same in ~~his~~ her authorized capacity, and that by ~~his~~ her  
signature on the instrument the person or the entity upon behalf of  
which the person acted, executed the instrument.

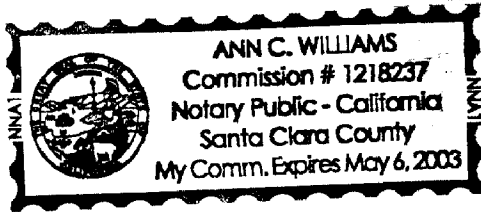
WITNESS my hand and official seal.



*Ann C. Williams*  
(Notary Public)

Weinong Lai  
Weinong Lai

9/6/02  
Date



State of CALIFORNIA )  
County of SANTA CLARA )

On 9/6/02, before me, Ann C. Williams, Notary Public,  
personally appeared Weinong Lai,

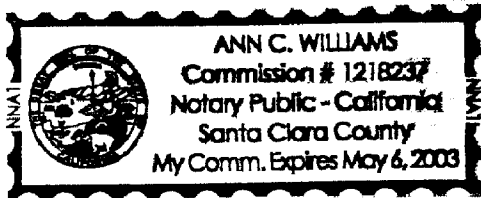
• personally known to me or ~~X~~proved to me on the basis of  
satisfactory evidence, to be the person whose name is subscribed to  
the within instrument and acknowledged to me that he/~~she~~ executed  
the same in his/~~her~~ authorized capacity, and that by his/~~her~~  
signature on the instrument the person or the entity upon behalf of  
which the person acted, executed the instrument.

WITNESS my hand and official seal.

Ann C. Williams  
(Notary Public)

Xiaoyang Li  
Xiaoyang Li

9/6/02  
Date



State of CALIFORNIA )  
County of SANTA CLARA )

On 9/6/02, before me, Ann C. Williams, Notary Public,  
personally appeared Xiaoyang Li,

• personally known to me or ~~X~~proved to me on the basis of  
satisfactory evidence, to be the person whose name is subscribed to  
the within instrument and acknowledged to me that he/~~she~~ executed  
the same in his/~~her~~ authorized capacity, and that by his/~~her~~  
signature on the instrument the person or the entity upon behalf of  
which the person acted, executed the instrument.

WITNESS my hand and official seal.

Ann C. Williams  
(Notary Public)