

PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT										
NATURE OF CONVEYANCE:	ASSIGNMENT										
CONVEYING PARTY DATA											
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Abdel Hakim S. Alhussien</td> <td>01/30/2013</td> </tr> <tr> <td>Erich F. Haratsch</td> <td>01/30/2013</td> </tr> <tr> <td>Zongwang Li</td> <td>01/30/2013</td> </tr> <tr> <td>Fan Zhang</td> <td>01/30/2013</td> </tr> </tbody> </table>		Name	Execution Date	Abdel Hakim S. Alhussien	01/30/2013	Erich F. Haratsch	01/30/2013	Zongwang Li	01/30/2013	Fan Zhang	01/30/2013
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Zongwang Li	01/30/2013										
Fan Zhang	01/30/2013										
RECEIVING PARTY DATA											
Name:	LSI Corporation										
Street Address:	1320 Ridder Park Drive										
City:	San Jose										
State/Country:	CALIFORNIA										
Postal Code:	95131										
PROPERTY NUMBERS Total: 1											
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13755676</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13755676						
Property Type	Number										
Application Number:	13755676										
CORRESPONDENCE DATA											
Fax Number:	2032556570										
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>											
Phone:	2032556560										
Email:	tm@rml-law.com										
Correspondent Name:	Kevin M. Mason										
Address Line 1:	Ryan, Mason & Lewis, LLP										
Address Line 2:	1300 Post Road - Suite 205										
Address Line 4:	Fairfield, CONNECTICUT 06824										
ATTORNEY DOCKET NUMBER:	L12-0284US1 (1150-1983)										
NAME OF SUBMITTER:	Kevin M. Mason										
Total Attachments: 3 source=1150-1983_Assignment_1-31-13#page1.tif source=1150-1983_Assignment_1-31-13#page2.tif source=1150-1983_Assignment_1-31-13#page3.tif											

OP \$40.00 13755676

**RECORDATION FORM COVER SHEET
PATENTS ONLY**


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

1. Name of conveying party(ies): Abdel Hakim S. Alhussien; Erich F. Haratsch; Zongwang Li; and Fan Zhang Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Name and address of receiving party(ies) Name: <u>LSI Corporation</u> Internal Address: Street Address: <u>1320 Ridder Park Drive</u> City: <u>San Jose</u> State: <u>CA</u> ZIP: <u>95131</u> Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3. Nature of conveyance: <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name <input type="checkbox"/> Other Execution Date: January 30, 2013	

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: January 30, 2013 A. Patent Application No.(s) B. Patent No.(s) Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
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5. Name and address of party to whom correspondence concerning document should be mailed: Name: Kevin M. Mason Internal Address: Ryan, Mason & Lewis, LLP Street Address: 1300 Post Road, Suite 205 City: Fairfield State: CT ZIP: 06824	6. Total number of applications and patents involved: <u>1</u>
	7. Total Fee (37 CFR 3.41)..... \$ <u>40.00</u> <input type="checkbox"/> Enclosed <input checked="" type="checkbox"/> Authorized to be charged to credit card
	8. Deposit account number <u>50-0762</u>

DO NOT USE THIS SPACE

9. Statement and signature. <i>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.</i>		
Kevin M. Mason Reg. No. 36,597	 Signature	January 31, 2013 Date
Total number of pages including cover sheet, attachments, and document: <u>3</u>		

Mail documents to be recorded with required cover sheet information to:
Commissioner of Patents & Trademarks, Box Assignments
Washington, DC 20231

ASSIGNMENT AGREEMENT

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I/We, **Abdel Hakim Alhussien, Erich F. Haratsch, Zongwang Li, and Fan Zhang**, hereby sell, assign and transfer to **LSI Corporation**, a corporation of the State of Delaware, having an office at 1320 Ridder Park Drive, San Jose, CA 95131, United States of America, and its successors, assigns and legal representatives (collectively "Assignee"), the entire right, title and interest, for the United States and all foreign countries, in and to any and all inventions and improvements ("Inventions") as described and/or claimed in an application for Letters Patent of the United States of America entitled **ENCODING AND DECODING IN FLASH MEMORIES USING CONVOLUTIONAL-TYPE LOW PARITY DENSITY CHECK CODES** and assigned attorney docket number **L12-0284US1**, and in and to the application and all divisional, continuing, substitute, renewal, reissue, reexamination and all other applications for Letters Patent which have been or shall be filed in the United States and all foreign countries for the Inventions, and all the rights and privileges under any and all Letters Patent that may be granted therefore including any reissues, reexaminations and extensions thereof.


I/We agree that when requested will, without charge to Assignee but at its expense, sign all papers, take all rightful oaths, make all rightful declarations and do all acts which may be necessary, desirable or convenient for securing and maintaining patents or other forms of protection for the Inventions in any and all countries and for vesting title thereto in Assignee.

I/We authorize and empower Assignee to make applications for patent or other form of protection for the Inventions in Assignee's own name in any and all countries, and to invoke and claim for any application for patent or other form of protection for the Inventions filed by Assignee the benefit of all rights of priority provided by any and all treaties, conventions or agreements without further written or oral authorization.

I/We hereby consent that a copy of this Assignment Agreement shall be deemed a full legal and formal equivalent of any assignment, consent to file or similar document which may be required in any country for any purpose, including proof of the right of Assignee to apply for patent or other form of protection for the Inventions and to claim the aforesaid benefit of the right of priority.

IN WITNESS WHEREOF, I/we have hereunto signed my/our name(s) on the day and year set forth below.

INVENTOR



Abdel Hakim S. Alhussien

 1/30/2013
 Date

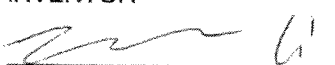
INVENTOR



Erich F. Haratsch

 01/30/2013
 Date

INVENTOR



Zongwang Li

 01/30/2013
 Date

INVENTOR



Fan Zhang

 1/30/2013
 Date

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

State of California
County of Santa Clara

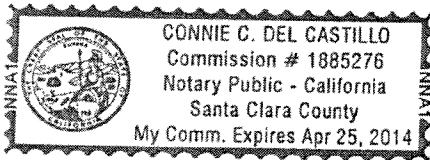
On January 30, 2013 before me, Connie C. del Castillo, Notary Public,
Date Here Insert Name and Title of the Officer
personally appeared Abdel Hakim S. Alhussien, Erich F. Haratsch,
Zongwang Li and Fan Zhang
Name of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature *Connie C. del Castillo*
Signature of Notary Public



Place Notary Seal Above