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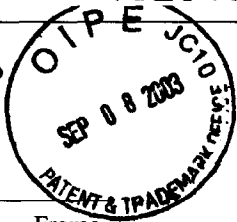
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1. Submission Type

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2. Conveyance Type:

- Assignment
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- Change of Name
- Other:

3. Names of conveying parties:

Execution Date:

Hongyu Liao August 27, 2003  
 Mrinal K. Mandal August 26, 2003  
 Bruce F. Cockburn August 26, 2003

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

4. Name and address of receiving party:

Name: Telecommunications Research Laboratories  
 Address: 7th Floor, 9107 - 116 Street NW  
 Edmonton, Alberta, Canada, T6G 2V4

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

5. Application number(s) and/or patent number(s):

A. Patent Application No. 10/435,499

B. Patent No(s).

Additional numbers attached?  Yes  No

If this document is being filed together with a new patent application, enter the date the patent application was signed by the first named executing inventor: \_\_\_\_\_

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

Kevan L. Morgan, Esq.  
**Customer No. 26389**  
 CHRISTENSEN O'CONNOR  
 JOHNSON KINDNESS<sup>PLLC</sup>  
 1420 Fifth Avenue, Suite 2800  
 Seattle, WA 98101-2347  
 206.682.8100

7. Total number of applications and/or patents involved: 1

8. Total fee (37 C.F.R. 3.41):..... \$40.00

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9.  The fee is authorized to be charged to Deposit Account No. 03-1740. (A duplicate copy of this page is enclosed.)

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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.

Kevan L. Morgan  
 Name of Attorney or Agent  
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 Direct Dial 206.695.1712

*Kevan L. Morgan*  
Signature

2 SEPTEMBER 2003  
Date

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Date: September 2, 2003

Kevin Zett

klm:lpz

PATENT  
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ASSIGNMENT

WHEREAS we, (1) **Bruce F. Cockburn**, whose address is **11704 - 32A Avenue, Edmonton, Alberta, T6J 3G8, Canada**, (2) **Mrinal K. Mandal**, whose address is **#1105, 10635 - 47 Avenue, Edmonton, Alberta, T6H 4R8, Canada**, and (3) **Hongyu Liao**, whose address is **#111, 10555 - 93 Street, Edmonton, Alberta, T5H 4C1, Canada**, have made an invention entitled: **IMPLEMENTATION OF DISCRETE WAVELET TRANSFORM USING LIFTING STEPS** for which an application for United States Letters Patent, serial No. 10/435,499 was filed May 9, 2003, and for which an application for Canadian Letters Patent, serial No. 2,428,393 was filed May 9, 2003.


AND WHEREAS **Telecommunications Research Laboratories**, an Alberta corporation, of **7th Floor, 9107 - 116 Street, NW, Edmonton, Alberta, T6G 2V4, Canada** (Assignee) has acquired from us the whole right, title, and interest for the United States of America and all other countries in the invention and in any Letters Patent that may be obtained for the invention and in the applications;


NOW THEREFORE, in consideration of the sum of Ten Dollars, and other good and valuable consideration, the receipt of all of which is hereby acknowledged, we each confirm that we have assigned to the Assignee and do hereby assign to the Assignee all of our interest in the invention in the United States of America and all other countries and all of our interest in any Letters Patent which may be granted for the invention, and all of our interest in the applications, and in any divisions, continuations, continuations-in-part and extensions of the applications.

We each agree that we will without further consideration, but at the expense of Assignee, do all such things and execute all such documents as may be necessary or desirable to obtain and maintain patents for said invention and for additions and modifications thereto in any and all countries, and to vest title thereto in said assignee, its successors, assigns and legal representatives or nominees and we authorize the Assignee to claim all rights of priority.

SIGNED at Edmonton, Alberta, Canada

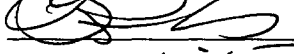
Aug 26, 2003  
Date

  
\_\_\_\_\_  
**Bruce F. Cockburn**

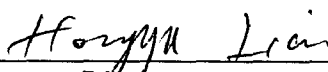
Witness:   
Print witness name: *Linda Richens*

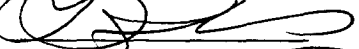
Aug 26, 2003  
Date

  
\_\_\_\_\_  
**Mrinal K. Mandal**

Witness:   
Print witness name: *Linda Richens*

Aug 27, 2003  
Date

  
\_\_\_\_\_  
**Hongyu Liao**

Witness:   
Print witness name: *Linda Richens*