

Form PTO-1595 (Rev. 09/04)  
OMB No. 0651-0027 (exp. 6/30/2005)

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**RECORDATION FORM COVER SHEET  
PATENTS ONLY**

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

**1. Name of conveying party(ies)/Execution Date(s):**

Zarlink Semiconductor Inc.

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

Name: 1021 Technologies KK

Internal Address: \_\_\_\_\_

Street Address: 77-12 Gumyoji, Minami-KU

City: Yokohama-city

State: \_\_\_\_\_

Country: Japan Zip: 232 0067

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

Execution Date(s) October 4, 2004

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

**3. Nature of conveyance:**

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Government Interest Assignment  
☐ Executive Order 9424, Confirmatory License  
☐ Other \_\_\_\_\_

**4. Application or patent number(s):**

☐ This document is being filed together with a new application.

A. Patent Application No.(s)

09/791,608

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

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

Name: Thomas Adams

Internal Address: \_\_\_\_\_

Street Address: P.O. Box 11100, Station H

City: Ottawa

State: Ontario, Canada Zip: K2H 7T8

Phone Number: 613 254 9111

Fax Number: 613 254 9222

Email Address: mail@adamspatent.ca

**6. Total number of applications and patents involved:**

1

**7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00**

- ☐ Authorized to be charged by credit card  
☒ Authorized to be charged to deposit account  
☐ Enclosed  
☐ None required (government interest not affecting title)

**8. Payment Information**

a. Credit Card Last 4 Numbers \_\_\_\_\_

Expiration Date \_\_\_\_\_

b. Deposit Account Number 20-0771

Authorized User Name Thomas Adams

**9. Signature:**



Signature

December 21, 2004

Date

Thomas Adams 31078

Name of Person Signing

Total number of pages including cover sheet, attachments, and documents:

6

Documents to be recorded (including cover sheet) should be faxed to (703) 306-5995, or mailed to:  
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O. Box 1450, Alexandria, V.A. 22313-1450

CH \$40.00 200771 09791608

## **ASSIGNMENT**

In consideration of one dollar and other good and valuable consideration, receipt of which is hereby acknowledged, Zarlink Semiconductor Inc. ("Assignor") whose post office address is 400 March Road, Ottawa, Ontario, Canada K2K 3H4 hereby sells, assigns and transfers to 1021 Technologies KK ("Assignee") whose post office address is 77-12 Gumyoji, Minami-Ku, Yokohama-city, Japan 232-0067 on an "as is" basis all its rights, title and interest to the extent that any such rights, title or interest may exist in and to the following thirteen (13) inventions entitled

**Timing Recovery With Minimum Jitter Movement**

**DMT Bit Allocation with Imperfect TEQ**

**A Simple Implementation of Turbo Decoder**

**Efficient Implementation of Large Size FFT**

**Method And Apparatus for Connecting Broadband Voice And Data Signals to Telephone Systems**

**Parallel Turbo Trellis-Coded Modulation**

**Turbo Trellis-Coded Modulation**

**Combination Reed-Solomon and Turbo Coding**

**Method and Apparatus for Connecting Broadband Voice and Data Signals to Telephone Systems**

**DMT Peak Reduction Without Affecting Transmission Signal**

**Flexible Bit Selection Using Turbo Trellis-Coded Modulation**

**Fast Fourier Transform Signal Processing****Protection of Subscriber Line Interface Circuits (SLICS) without Degradation in Longitudinal Balance**

which were the subject of certain patent applications and/or issued patents in certain countries as identified and listed in Schedule A attached hereto and forming part hereof together with any rights, title and interest in and to any patents which may be re-issued based upon such patent applications and/or issued patents identified and listed in Schedule A.

And Assignor also agrees to do all such lawful acts and to execute without further consideration such further assurances, assignments, applications and other instruments as may reasonably be required by Assignee at Assignee's expense to vest such patent applications and/or issued patents identified and listed in Schedule A in Assignee.

By this Assignment, Assignee acknowledges that it assumes all responsibility for such patent applications and/or issued patents identified and listed in Schedule A commencing on the date this Assignment is executed by the parties.

SIGNED at Ottawa, Ontario this 4<sup>th</sup> day of October, 2004.

**ZARLINK SEMICONDUCTOR INC.**

By: 

Name: Desmond Byrne

Title: Vice President, Legal

**STATEMENT OF WITNESS**

I, Gail Casselman, whose full post office address is 5 Glenmoriston Ave., Ottawa, Ontario K2L 2S3 was personally present and did see Desmond Byrne who is known to me, execute this Assignment.

By: 

(signature of witness)

SIGNED at Ottawa  
this 4<sup>th</sup> day of October, 2004.

1021 TECHNOLOGIES KK

By: [Signature]

Name: Ping-Ya Zhao

Position: CTO & VP R&D

STATEMENT OF WITNESS

I, WENTAO LI, whose full post office address is 17 Portadown Crescent  
Kanata, ON K2W 1E8  
was personally present and did see  
who is known to me, execute the above Assignment.

By: [Signature]  
(signature of witness)

**SCHEDULE A**

Invention Title	Country	Date Filed	Application Serial No.	Patent No.
Timing Recovery with Minimum Jitter Movement	Great Britain	24-Oct-97		2330738
	France	19-Oct-98	9813231	
	US	30-Sep-98		6,138,244
DMT Bit Allocation with Imperfect TEQ	Great Britain	23-Dec-99		2357937
	US	20-Dec-00	09/739,979	
	China	23-Jun-02	817662.0	
A Simple Implementation of Turbo Decoder	US	26-Feb-01	09/791,608	
	US	31-Aug-01	09/942,628	
	China	04-Sep-01	1131035.9	
Efficient Implementation of Large Size FFT	US	12-Apr-01	09/832,980	
	Germany	24-Apr-01	101 20 197.4	
	US	01-May-00		6,757,859
Parallel Turbo Trellis-Coded Modulation	China	27-Apr-01	1115658.9	
	France	27-Apr-01	01 05764	
	US	01-May-00		6,671,327
Turbo Trellis-Coded Modulation	France	27-Apr-01	01 05763	
	Great Britain	10-Aug-00		2386159
	US	10-Aug-01	09/925,485	
Combination Reed-Solomon and Turbo Coding	Germany	09-Aug-01	10139116.1	
	France	10-Aug-01	01 10707	
	Great Britain	26-Jun-00		2364200
Method and Apparatus for Connecting Broadband Voice and Data Signals to Telephone Systems	US	21-Jun-01		6,674,845
	Germany	25-Jun-01	101 30 029.8	
	France	26-Jun-01	108389	
DMT Peak Reduction Without Affecting Transmission Signal	US	01-Mar-02	10/085,061	
	France	01-Mar-02	02 02603	
	Japan	01-Mar-02	2002-104528	
Flexible Bit Selection Using Turbo Trellis-Coded Modulation	Great Britain	23-Mar-01	107295.8	
	US	18-Mar-02	10/098,474	
	France	22-Mar-02	02 03602	

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**SCHEDULE A**

Invention Title	Country	Date Filed	Application Serial No.	Patent No.
Fast Fourier Transform Signal Processing	US	30-Jan-03	10/353,983	
	Europe	30-Jan-03	3100197.7	
Protection of Subscriber Line Interface Circuits (SLICS) without Degradation in Longitudinal Balance	US	29-Jan-01	09/770,610	