

PATENT ASSIGNMENT

Electronic Version v1.1
 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
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NATURE OF CONVEYANCE:	SECURITY AGREEMENT
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CONVEYING PARTY DATA

Name	Execution Date
Wavesplitter Technologies, Inc.	07/05/2005

RECEIVING PARTY DATA

Name:	Silicon Valley Bank
Street Address:	3003 Tasman Drive
City:	Santa Clara
State/Country:	CALIFORNIA
Postal Code:	95054

PROPERTY NUMBERS Total: 31

Property Type	Number
Patent Number:	5809190
Patent Number:	5949936
Patent Number:	5987201
Patent Number:	6031948
Patent Number:	6081641
Patent Number:	6160932
Patent Number:	6256433
Patent Number:	6263128
Patent Number:	6324322
Patent Number:	6498879
Patent Number:	6618525
Patent Number:	6636661
Patent Number:	6643448
Patent Number:	6658181
Patent Number:	6701056

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Patent Number:	6703588
Patent Number:	6765172
Patent Number:	6768843
Patent Number:	6782157
Patent Number:	6829410
Patent Number:	6834141
Patent Number:	6836588
Patent Number:	6917760
Application Number:	09467733
Application Number:	09896010
Application Number:	09895275
Application Number:	09909660
Application Number:	09909661
Application Number:	09945428
Application Number:	10039245
Application Number:	10214839

CORRESPONDENCE DATA

Fax Number: (866)459-2899
Correspondence will be sent via US Mail when the fax attempt is unsuccessful.
Phone: 202-783-2700
Email: pagodoa@federalresearch.com
Correspondent Name: CBCInnovis dba Federal Research
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Address Line 2: attn: Penelope J.A. Agodoa
Address Line 4: Washington, DISTRICT OF COLUMBIA 20005

NAME OF SUBMITTER:	Penelope J.A. Agodoa
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Total Attachments: 14
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RECORDATION FORM COVER SHEET
PATENTS ONLY

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

<p>1. Name of conveying party(ies): WAVESPLITTER TECHNOLOGIES, INC.</p> <p>Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>3. Nature of conveyance: <input type="checkbox"/> Assignment <input type="checkbox"/> Merger <input checked="" type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name <input type="checkbox"/> Other _____</p> <p>Execution Date: 07/05/05</p>	<p>2. Name and address of receiving party(ies) Name: SILICON VALLEY BANK Internal Address: _____ Street Address: 3003 Tasman Drive City: Santa Clara State: CA Zip: 95054 Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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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) See Attached List
B. Patent No.(s) See Attached List
Additional numbers attached? Yes No

<p>5. Name and address of party to whom correspondence concerning document should be mailed: Name: FEDERAL RESEARCH CORPORATION Internal Address: _____ ATTN: PENELOPE AGODOA Street Address: 1030 15TH STREET, NW SUITE 920 City: Washington State: DC Zip: 20005</p>	<p>6. Total number of applications and patents involved: 31</p> <p>7. Total fee (37 CFR 3.41).....\$ 1240.00 <input checked="" type="checkbox"/> Enclosed <input type="checkbox"/> Authorized to be charged to deposit account</p> <p>8. Deposit account number: _____</p>
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9. Signature.
Robin C. Dunn _____ September 14, 2005
Name of Person Signing Signature Date
Total number of pages including cover sheet, attachments, and documents: **14**

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

Patents Issued by the US Patent Trademark Office

Date of Issuance	US Patent App. Serial No.	Attorney	Patent Number	Title	Inventor(s)	Related Product Family(ies)
1	9/15/98	PLG	U.S. Patent No. 5,809,190	Apparatus and Method of Making a Fused Dense Wavelength-Division Multiplexer	Peter Z. Chen	WavePump; WaveProcessor
2	9/7/99	SMMFF	U.S. Patent No. 5,949,936	Apparatus and Method of Making a Fused Dense Wavelength-Division Multiplexer (continuation of patent no. 5,809,190)	Peter Z. Chen	WavePump; WaveProcessor
3	11/16/99	SMMFF	U.S. Patent No. 5,987,201	Apparatus and Method of Making a Fused Dense Wavelength-Division Multiplexer	Peter Z. Chen	WavePump; WaveProcessor
4	2/29/00	SMMFF	U.S. Patent No. 6,031,948	Fused-Fiber Multi-Wavelength Division Multiplexer Using an Unbalanced Mach-Zehnder Interferometer and Method of Making Same	Peter Z. Chen	WaveProcessor
5	6/27/00	SMMFF	U.S. Patent No. 6,081,641	Thermal Compensated Fused-Fiber Dense Wavelength Division Multiplexer	Peter Z. Chen	WaveProcessor
6	12/12/00	SMMFF	U.S. Patent No. 6,160,932	Expandable Wavelength Division Multiplexer Based on Interferometric Devices	Chi-Hung Huang; Joseph Chon; Sheau-Sheng Chen	WaveProcessor
7	7/3/01	SMMFF	U.S. Patent No. 6,256,433	Expandable Interleaving Optical Add/Drop Filter Module	Huali Luo; Joseph C. Chon; Jerry R. Bautista; Sheau-Sheng Chen	WaveProcessor
8	7/17/01	SMMFF	U.S. Patent No. 6,263,128	Fiber Unbalanced Mach-Zehnder Interferometers with Flat-Top Spectral Response for Application in Wavelength Division Multiplexers	Chi-Hung Huang	WaveProcessor
9	11/27/01	SMMFF	U.S. Patent No. 6,324,322	Fused-Fiber Multi-Wavelength Filter Using Unbalanced Michelson Interferometer	Huali Luo; Chi-Hung Huang; Joseph C. Chon	WaveProcessor
10	12/24/02	SMMFF	U.S. Patent No. 6,498,879	Polarization-Independent, Environmentally Stable Optical Fiber Narrow Band Multi-Windows Wavelength Division Multiplexer Based on Biconical Tapered Fusion Coupler Technology	Chi-Hung Huang; Robert I. Huang; Joseph C. Chon	WavePump
11	9/9/03	BSTZ	U.S. Patent No. 6,618,525	Motorized Vacuum Twist Fixture	Tracy E. Brewer	WavePump
12	10/21/03	BSTZ	U.S. Patent No. 6,636,661	Optical Signal Interleaving Comb Filter with Reduced Chromatic Dispersion and Applications Therefor	Andrew Zeng	WaveProcessor
13	11/4/03	BSTZ	U.S. Patent No. 6,643,448	Optical Fiber Stripping Tool	Tracy E. Brewer; Marion Geronimo; Charles Chan; Sam Chan	WavePump; WaveProcessor
14	12/2/03	MFWPC	U.S. Patent No. 6,658,181	Polarization Interleaver	Yan Wang; Yuan P. Li	WaveProcessor
15	3/2/04	MFWPC	U.S. Patent No. 6,701,056	Modular, Variably Configurable Retainer Assembly for Optical Components	Denis Buret; George Mock	Modules
16	3/9/04	MFWPC	U.S. Patent No. 6,703,588	Compact, Thermally Stabilized Housing for Planar Lightguide Circuits	George F. Deveau; Francis A. Rotoloni	FLC - Generic

file: 2005.07.15 Patent Report
wb: Issued Patents

print date: 7/14/2005
print time: 10:21 AM

Patents Issued by the US Patent Trademark Office

	Date of Issuance	US Patent App. Serial No.	Attorney	Patent Number	Title	Inventor(s)	Related Product Family(ies)
17	7/20/04	10/308,306	BSTZ	U.S. Patent No. 6,765,172	Laser fusion based WDM coupler	Xu Liu, Tracy Brewer, Frank Liang	WavePump
18	7/27/04	10/222,303	MFWPC	U.S. Patent No. 6,768,843	Cascaded Fourier Filter Interleaver Having Enhanced Performance	Erkin Sidick	
19	8/24/04	10/038,882	MFWPC	U.S. Patent No. 6,782,157	Bidirectional Optical Interleaver	Ariel Luo; Kevin Sullivan	WaveProcessor
20	12/7/04	10/428,644	BSTZ	U.S. Patent No. 6,829,410	Optical Signal Interleaving Comb Filter with Reduced Chromatic Dispersion and Applications Therefor	Andrew Zeng	WaveProcessor
21	12/21/04	10/277,960	MFWPC	U.S. Patent No. 6,834,141	Wide Pass-Band Interferometric Optical Device Utilizing an Erkin Sidick Optical Ring-Resonator		PLC - Generic
22	12/28/04	10/428,646	BSTZ	U.S. Patent No. 6,836,588	Optical Signal Interleaving Comb Filter with Reduced Chromatic Dispersion and Applications Therefor	Andrew Zeng	WaveProcessor
23	7/12/05	10/039,242	MFWPC	U.S. Patent No. 6,917,760	Wide Passband Optical Interleaver	Yuan P. Li; Yan Wang; Bob Shine; Kevin Sullivan	WaveProcessor

Patents Filed with the US Patent Trademark Office

US Patent App.

File Date	Serial No.	Attorney	Title	Inventor(s)	Related Product Family(ies)
1 12/20/99	09/467,733	SMMFF	Protection of Optical Components From Moisture	Jerry R. Bautista; Sheau-Sheng Chen; Michael C. Feldman; Chi-Hung Huang	WavePump; WaveProcessor
2 6/28/01	09/896,010	BSTZ	Automatic Stop of Optical Fiber Fusion Machine Draw	Wenkang Qi; Frank Liang; Curtis V. Macchioni; Thomas T. Tolt	WavePump
3 6/29/01			Apparatus and Method of Alignment and Fusing of Polarization Maintaining Fibers	Russell M. Pon	PBC
4 6/29/01	09/895,275	BSTZ	Methods and Apparatuses for Manufacturing Fused Biconic Taper Couplers	Tracy E. Brewer; Philip C. Young	WavePump
5 6/29/01			Coupler Torch Position Indicator	Philip C. Young	WavePump
6 7/19/01	09/909,660	BSTZ	Laser Amplification System Using an Array Polarization Beamsplitter and Combiner	Alexander Jacobson	WavePump
7 7/19/01	09/909,661	BSTZ	Array Polarization Beamsplitter and Combiner	Alexander Jacobson	PBC
8 8/31/01	09/945,428	BSTZ	Optical Fiber Clamping Mechanism	Tracy E. Brewer	WavePump
9 12/31/01	10/039,245	MFWPC	Optical Components Having Reduced Insertion Loss	Yan Wang; Yuan P. Li	PLC - Generic
10 8/8/2002	10/214,839	MFWPC	Athermal Planar Waveguide Device Having a Polymer Upper Cladding	Christopher R. Moylan	PLC - Generic
11 6/9/2004			Fiber Optic Transceiver Module for 10 Gigabit Ethernet Communication Systems	Wei-long William Lee; Joseph C. Chon; Zaixin Jeff He; Tracy Everett Brewer	Transceiver
12 6/8/2005		MFWPC	Fiber Optic Transceiver Module Having Reduced Optical Loss Arising from Connector Stress	Tracy Everett Brewer; Joseph Chon, Xu Liu, Tobey Chen	Transceiver

INTELLECTUAL PROPERTY SECURITY AGREEMENT

This Intellectual Property Security Agreement is entered into as of ~~June~~^{JULY 5} __, 2005 by and between SILICON VALLEY BANK ("Secured Party") and WAVESPLITTER TECHNOLOGIES, INC. ("Grantor").

RECITALS

A. Secured Party and Grantor are entering into that certain Loan and Security Agreement of even date herewith (as the same may be amended, modified or supplemented from time to time, the "Loan Agreement"; capitalized terms used herein which are not defined, have the meanings set forth in the Loan Agreement).

B. Pursuant to the terms of the Loan Agreement, Grantor has granted to Secured Party a security interest in all of Grantor's right, title and interest, whether presently existing or hereafter acquired, in, to all Intellectual Property and all other Collateral.

NOW, THEREFORE, as collateral security for the payment and performance when due of all of the Obligations, Grantor hereby grants, represents, warrants, covenants and agrees as follows:

AGREEMENT

1. Grant of Security Interest. To secure all of the Obligations, Grantor grants and pledges to Secured Party a security interest in all of Grantor's right, title and interest in, to and under its Intellectual Property (as defined in the Loan Agreement), including without limitation the following:

(a) All of present and future United States registered copyrights and copyright registrations, including, without limitation, the registered copyrights, maskworks, software, computer programs and other works of authorship subject to United States copyright protection listed in Exhibit A-1 to this Agreement (and including all of the exclusive rights afforded a copyright registrant in the United States under 17 U.S.C. §106 and any exclusive rights which may in the future arise by act of Congress or otherwise) and all present and future applications for copyright registrations (including applications for copyright registrations of derivative works and compilations) (collectively, the "Registered Copyrights"), and any and all royalties, payments, and other amounts payable to Grantor in connection with the Registered Copyrights, together with all renewals and extensions of the Registered Copyrights, the right to recover for all past, present, and future infringements of the Registered Copyrights, and all computer programs, computer databases, computer program flow diagrams, source codes, object codes and all tangible property embodying or incorporating the Registered Copyrights, and all other rights of every kind whatsoever accruing thereunder or pertaining thereto.

(b) All present and future copyrights, maskworks, software, computer programs and other works of authorship subject to (or capable of becoming subject to) United States copyright protection which are not registered in the United States Copyright Office (the

"Unregistered Copyrights"), whether now owned or hereafter acquired, including without limitation the Unregistered Copyrights listed in Exhibit A-2 to this Agreement, and any and all royalties, payments, and other amounts payable to Grantor in connection with the Unregistered Copyrights, together with all renewals and extensions of the Unregistered Copyrights, the right to recover for all past, present, and future infringements of the Unregistered Copyrights, and all computer programs, computer databases, computer program flow diagrams, source codes, object codes and all tangible property embodying or incorporating the Unregistered Copyrights, and all other rights of every kind whatsoever accruing thereunder or pertaining thereto. The Registered Copyrights and the Unregistered Copyrights collectively are referred to herein as the "Copyrights."

(c) All right, title and interest in and to any and all present and future license agreements with respect to the Copyrights.

(d) All present and future accounts, accounts receivable, royalties, and other rights to payment arising from, in connection with or relating to the Copyrights.

(e) All patents, patent applications and like protections including, without limitation, improvements, divisions, continuations, renewals, reissues, extensions and continuations-in-part of the same, including without limitation the patents and patent applications set forth on Exhibit B attached hereto (collectively, the "Patents");

(f) All trademark and servicemark rights, whether registered or not, applications to register and registrations of the same and like protections, and the entire goodwill of the business of Grantor connected with and symbolized by such trademarks, including without limitation those set forth on Exhibit C attached hereto (collectively, the "Trademarks");

(g) Any and all claims for damages by way of past, present and future infringements of any of the rights included above, with the right, but not the obligation, to sue for and collect such damages for said use or infringement of the rights identified above;

(h) All licenses or other rights to use any of the Copyrights, Patents or Trademarks, and all license fees and royalties arising from such use to the extent permitted by such license or rights;

(i) All amendments, extensions, renewals and extensions of any of the Copyrights, Trademarks or Patents; and

(j) All proceeds and products of the foregoing, including without limitation all payments under insurance or any indemnity or warranty payable in respect of any of the foregoing, and all license royalties and proceeds of infringement suits, and all rights corresponding to the foregoing throughout the world and all re-issues, divisions continuations, renewals, extensions and continuations-in-part of the foregoing.

2. Loan Agreement. This security interest is granted in conjunction with the security interest granted to Secured Party under the Loan Agreement. The rights and remedies of Secured Party with respect to the security interest granted hereby are in addition to those set forth in the Loan Agreement and the other Loan Documents, and those which are now or hereafter available

to Secured Party as a matter of law or equity. Each right, power and remedy of Secured Party provided for herein or in the Loan Agreement or any of the other Loan Documents, or now or hereafter existing at law or in equity shall be cumulative and concurrent and shall be in addition to every right, power or remedy provided for herein and the exercise by Secured Party of any one or more of the rights, powers or remedies provided for in this Agreement, the Loan Agreement or any of the other Loan Documents, or now or hereafter existing at law or in equity, shall not preclude the simultaneous or later exercise by any person, including Secured Party, of any or all other rights, powers or remedies.

3. Covenants and Warranties. Grantor represents, warrants, covenants and agrees as follows:

(a) All of Grantor's present and future maskworks, software, computer programs and other works of authorship subject to (or capable of becoming subject to) United States copyright protection, the sale, licensing or other disposition of which results in royalties receivable, license fees receivable, accounts receivable or other sums owing to Grantor (collectively, "Accounts"), have been and shall be registered with the United States Copyright Office prior to the date Grantor requests or accepts any Loan from Secured Party with respect to such Accounts and prior to the date Grantor includes any such Accounts in any accounts receivable aging, borrowing base report or certificate or other similar report provided to Secured Party, and Grantor shall provide to Secured Party copies of all such registrations promptly upon the receipt of the same. Neither Grantor nor any of its subsidiaries has any present maskworks, software, computer programs and other works of authorship registered with the United States Copyright Office except as disclosed on Exhibit A-1 hereto.

(b) Grantor shall undertake all reasonable measures to cause its employees, agents and independent contractors to assign to Grantor all rights of authorship to any copyrighted material in which Grantor has or may subsequently acquire any right or interest.

(c) Grantor shall promptly advise Secured Party of any Trademark, Patent or Copyright not specified in this Agreement, which is hereafter acquired by Grantor.

(d) Grantor shall not register any maskworks, software, computer programs or other works of authorship subject to United States copyright protection with the United States Copyright Office without first complying with the following: (i) providing Secured Party with at least 15 days prior written notice thereof, (ii) providing Secured Party with a copy of the application for any such registration and (iii) executing and filing such other instruments, and taking such further actions as Secured Party may reasonably request from time to time to perfect or continue the perfection of Secured Party's interest in the Collateral, including without limitation the filing with the United States Copyright Office, simultaneously with the filing by Grantor of the application for any such registration, of a copy of this Agreement or a Supplement hereto in form acceptable to Secured Party identifying the maskworks, software, computer programs or other works of authorship being registered and confirming the grant of a security interest therein in favor of Secured Party

4. General. If any action relating to this Agreement is brought by either party hereto against the other party, the prevailing party shall be entitled to recover reasonable attorneys fees,

costs and disbursements. This Agreement may be amended only by a written instrument signed by both parties hereto. To the extent that any provision of this Agreement conflicts with any provision of the Loan Agreement, the provision giving Secured Party greater rights or remedies shall govern, it being understood that the purpose of this Agreement is to add to, and not detract from, the rights granted to Secured Party under the Loan Agreement. This Agreement, the Loan Agreement, and the other Loan Documents comprise the entire agreement of the parties with respect to the matters addressed in this Agreement. This Agreement shall be governed by the laws of the State of California, without regard for choice of law provisions. Grantor and Secured Party consent to the nonexclusive jurisdiction of any state or federal court located in Santa Clara County, California.

5. WAIVER OF RIGHT TO JURY TRIAL. SECURED PARTY AND GRANTOR EACH HEREBY WAIVE THE RIGHT TO TRIAL BY JURY IN ANY ACTION OR PROCEEDING BASED UPON, ARISING OUT OF, OR IN ANY WAY RELATING TO: (I) THIS AGREEMENT; OR (II) ANY OTHER PRESENT OR FUTURE INSTRUMENT OR AGREEMENT BETWEEN SECURED PARTY AND GRANTOR; OR (III) ANY CONDUCT, ACTS OR OMISSIONS OF SECURED PARTY OR GRANTOR OR ANY OF THEIR DIRECTORS, OFFICERS, EMPLOYEES, AGENTS, ATTORNEYS OR ANY OTHER PERSONS AFFILIATED WITH SECURED PARTY OR GRANTOR; IN EACH OF THE FOREGOING CASES, WHETHER SOUNDING IN CONTRACT OR TORT OR OTHERWISE.

IN WITNESS WHEREOF, the parties have cause this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

Address of Grantor:

3028 Oakmead Village Ct
Santa Clara, California 95051

Grantor:

WAVESPLITTER TECHNOLOGIES, INC.

By: 

Title: Chairman & C.E.O.

Name: SHEAU CHEW

Address of Secured Party:

3003 Tasman Drive
Santa Clara, California 95054

Secured Party:

SILICON VALLEY BANK

By: 

Title: RM

EXHIBIT A-1

REGISTERED COPYRIGHTS

(including copyrights that are the subject of an application for registration)

Description

Registration/
Application
Number

Registration/
Application
Date

EXHIBIT A-2

UNREGISTERED COPYRIGHTS

EXHIBIT B - PATENTS

Patents Issued by the US Patent Trademark Office

Date of Issuance	US Patent App. Serial No.	Attorney	Patent Number	Title	Inventor(s)	Related Product Family(ies)
1	9/15/98	PLG	U.S. Patent No. 5,809,190	Apparatus and Method of Making a Fused Dense Wavelength-Division Multiplexer	Peter Z. Chen	WavePump; WaveProcessor
2	9/7/99	SMMFF	U.S. Patent No. 5,949,936	Apparatus and Method of Making a Fused Dense Wavelength-Division Multiplexer (continuation of patent no. 5,809,190)	Peter Z. Chen	WavePump; WaveProcessor
3	11/16/99	SMMFF	U.S. Patent No. 5,987,201	Apparatus and Method of Making a Fused Dense Wavelength-Division Multiplexer	Peter Z. Chen	WavePump; WaveProcessor
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9	11/27/01	SMMFF	U.S. Patent No. 6,324,322	Fused-Fiber Multi-Window Wavelength Filter Using Unbalanced Michelson Interferometer	Huali Luo; Chi-Hung Huang; Joseph C. Chon	WaveProcessor
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EXHIBIT B - PATENTS

PATENT

REEL: 016536 FRAME: 0654

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Patents Filed with the US Patent Trademark Office

US Patent App.		Attorney Title		Inventor(s)	Related Product Family(ies)
File Date	Serial No.	SMMFF	Protection of Optical Components From Moisture	Jerry R. Bautista; Sheau-Sheng Chen; Michael C. Feldman; Chi-Hung Huang	WavePump; WaveProcessor
1	12/20/99	09/467,733			
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12	6/8/2005		MFWPC	Fiber Optic Transceiver Module Having Reduced Optical Loss Arising from Connector Stress Tracy Everett Brewer; Joseph Chou, Xu Lih; Tobey Chen	Transceiver

PATENT

REEL: 016536 FRAME: 0655

EXHIBIT C
TRADEMARKS

<u>Description</u>	<u>Registration/ Serial Number</u>	<u>Registration/ Serial Date</u>
WAVEMETRO	76038810	April 27, 2000
WAVESELECTOR	76211787	February 16, 2001
SCALABLE TECHNOLOGY FOR NEXT- GENERATION OPTICAL NETWORKS	2664769	September 16, 2002
WAVE SPLITTER	2665381	October 1, 2002
LIGHTING THE INTERNET ON FIRE	2595411	July 16, 2002
WAVEPROCESSOR	2521151	December 18, 2001
WAVEESSENTIALS	2532788	January 22, 2002
WAVESPLITTER	2665030	December 24, 2002
WAVEPUMP	2550413	March 19, 2002
WAVESPLITTER	2462072	June 19, 2001