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(Rev. (	710-1393 )3/01) No. 0651-0027 (exp. 5/31/2002)		IEET U.S. DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office
Tab se	ettings⇒ ⇒ τ . 10203800	02	τ τ τ
	To the Honorable Commissioner of Patents and Trademarks:	Please re	ecoru ure attached original documents or copy thereof.
1.	Name of conveying party(ies):	2.	Name and address of receiving party(ies)
	Optinel Systems, Inc. 3.36.03		Novak Biddle Venture Partners II, Name: L.P.
			Internal Address:
Additio	onal name(s) of conveying party(ies) attached?   Yes  No	]	
3.	Nature of conveyance:		Street Address: 7501 Wisconsin Avenue
	☐ Assignment ☐ Merger		Suite 1380
	⊠ Security Agreement		·
	☐ Other	}	City: Bethesda State: MD Zip: 20814
Exec	ution Date: 1/18/2002		Additional name(s) & address(es) attached? ⊠ Yes □ No
,	A. Patent Application No.(s)  - 09/957,022; 60/334,060; 60/327,779; 09/938,534; 60/334,057; 60/327,778; 09/929,339; 60/333,739; 60/327,777; 09/808,222; 60/330,948; 60/292,913; 60/337,170; 60/329,516; 60,334,061; 60/334,954;  Additional numbers	attached	B. Patent No.(s)  7007 ( 7 )  7 Yes ⊠ No
5.		6.	Total number of applications and patents involved: 16
J.	Name and address of party to whom correspondence concerning document should be mailed:		Total fee (37 CFR 3.41)
	Name: Mark D. Spoto		
	Internal Address:		⊠ Enclosed
	Cooley Godward LLP		Authorized to be charged to deposit account
į	Street Address: 11951 Freedom Drive	8.	Deposit account number:
_		_	
	City: Reston State: VA Zip: 20190		(Attach duplicate copy of this page if paying by deposit account)
<del>/2002</del>	IBIA71 00000187 09957022 DO NOT US	SE THIS	SPACE
<del>1581</del> 9.	Statement and signature.		
	To the best of my knowledge and belief, the foregoing info copy of the original document.	rmation i	is true and correct and any attached copy is a true
		lah Sig	March 26, 2002  gnature  Date
	Total number of pages including cover	•	

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents & Trademarks, Box Assignments Washington, D.C. 20231

(Rev. (3/01)	U.S. DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office						
CONTINUATION OF NUMBER 2. RECEIVING PARTIES							
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To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.							
1 Name of conveying party(ies):	2 Name and address of receiving party(ies)						
Optinel Systems, Inc.	Name: Optinel Capital Group LLC Internal Address:						
Additional name(s) of conveying party(ies) attached? ☐ Yes ☑ No	Street Address: 9212 Berger Road  City: Columbia State: MD Zip: 21046  Additional name(s) & address(es) attached?  Yes \( \) No						

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents & Trademarks, Box Assignments Washington, D.C. 20231

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Form <b>PTO-1595</b> (Rev. 03/01)	ECORDATION FOR	M COVER S	SHEET	U.S. DEPARTMENT OF COMMERCE		
OMB No. 0651-0027 (exp. 5/31/2002)	PATENTS	SONLY		U.S. Patent and Trademark Office		
CONTINUATION OF NUMBER 2. RECEIVING PARTIES						
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To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.						
3 Name of conveying party(ies):		4 Name	and addres	ss of receiving party(ies)		
Optinel Systems, Inc.		Name: Chalcedony LLC				
		Interna	al Adcress:			
Additional name(s) of conveying party(ies) attac	hed? ☐ Yes ☒ No					
		Street	Address:	6862 Elm Street, Suite 720		
		*******				
			Mal aan	Olala, VA 7: 00404		
		City:	McLean	State: <b>VA</b> Zip: <b>22101</b>		
		Additio	onal name(s) &	address(es) attached? □ Yes 🗵 No		

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#### INTELLECTUAL PROPERTY SECURITY AGREEMENT

THIS INTELLECTUAL PROPERTY SECURITY AGREEMENT is entered into as of January 18, 2002 by and among OPTINEL SYSTEMS, INC., a Delaware corporation (the "Grantor") and OPTICAL CAPITAL GROUP, LLC, NOVAK BIDDLE VENTURE PARTNERS II, L.P. and the other parties named on the signature pages hereto (collectively, the "Secured Parties").

#### RECITALS

- A. Secured Parties have agreed to make certain advances of money and to extend certain financial accommodations to Grantor (the "Loans") in the amounts and manner set forth in that certain Note and Warrant Purchase Agreement by and among Secured Parties and Grantor dated as of January 18, 2002 (as the same may be amended, modified or supplemented from time to time, the "Loan Agreement").
- **B.** Secured Parties are willing to make the Loans to Grantor, but only upon the condition, among others, that Grantor shall grant to Secured Parties a security interest in, among other things, certain Copyrights, Trademarks and Patents to secure the obligations of Grantor under the Loan Agreement.

Now, Therefore, for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, and intending to be legally bound, as collateral security for the prompt and complete payment when due of its obligations under the Loan Agreement, Grantor hereby represents, warrants, covenants and agrees as follows:

#### **AGREEMENT**

To secure its obligations under the Loan Agreement, and under any other agreement now existing or hereafter arising by and among Secured Parties and Grantor, Grantor grants and pledges to Secured Parties a security interest in all of Grantor's right, title and interest in, to and under its Copyrights, Patents and Trademarks listed on Schedules A, B and C hereto, together with all goodwill of the business symbolized by the Trademarks, the right to sue for past, present and future infringements, all rights corresponding thereto throughout the world and all re-issues, divisions continuations, renewals, extensions and continuations-in-part thereof, and all proceeds of each of the foregoing (including, without limitation, all license royalties and proceeds of infringement suits).

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1.

As used herein the following terms shall have the meanings set forth below:

"Copyrights" means all of the following now owned or hereafter acquired or created (as a work for hire for the benefit of Grantor) by Grantor or in which Grantor now holds or hereafter acquires or receives any right or interest, in whole or in part: (a) all copyrights, whether registered or unregistered, held pursuant to the laws of the United States, any State thereof or any other country; (b) registrations, applications, recordings and proceedings in the United States Copyright Office or in any similar office or agency of the United States, any State thereof or any other country; (c) any continuations, renewals or extensions thereof; (d) any registrations to be issued in any pending applications, and shall include any right or interest in and to work protectable by any of the foregoing which are presently or in the future owned, created or authorized (as a work for hire for the benefit of Grantor) or acquired by Grantor, in whole or in part; (e) prior versions of works covered by copyright and all works based upon, derived from or incorporating such works; (f) income, royalties, damages, claims and payments now and hereafter due and/or payable with respect to copyrights, including, without limitation, damages, claims and recoveries for past, present or future infringement; (g) rights to sue for past, present and future infringements of any copyright; and (h) any other rights corresponding to any of the foregoing rights throughout the world.

"Patents" means all of the following in which Grantor now holds or hereafter acquires any interest: (a) all letters patent of the United States or any other country, all registrations and recordings thereof and all applications for letters patent of the United States or any other country, including, without limitation, registrations, recordings and applications in the United States Patent and Trademark Office or in any similar office or agency of the United States, any State thereof or any other country; (b) all reissues, divisions, continuations, renewals, continuations-in-part or extensions thereof; (c) all petty patents, divisionals and patents of addition; (d) all patents to issue in any such applications; (e) income, royalties, damages, claims and payments now and hereafter due and/or payable with respect to patents, including, without limitation, damages, claims and recoveries for past, present or future infringement; and (f) rights to sue for past, present and future infringements of any patent.

"Trademarks" means any of the following in which Grantor now holds or hereafter acquires any interest: (a) any trademarks, tradenames, corporate names, company names, business names, trade styles, service marks, logos, other source or business identifiers, prints and labels on which any of the foregoing have appeared or appear, designs and general intangibles of like nature, now existing or hereafter adopted or acquired, all registrations and recordings thereof and any applications in connection therewith, including, without limitation, registrations, recordings and applications in the United States Patent and Trademark Office or in any similar office or agency of the United States, any State thereof or any other country (collectively, the "Marks"); (b) any reissues, extensions or renewals thereof; (c) the goodwill of the business symbolized by or associated with the Marks; (d) income, royalties, damages, claims and payments now and hereafter due and/or payable with respect to the Marks, including, without limitation, damages, claims and recoveries for past, present or future infringement; and (e) rights to sue for past, present and future infringements of the Marks.

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This security interest is granted in conjunction with the security interest granted to Secured Parties under the Loan Agreement. The rights and remedies of Secured Parties 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 Parties as a matter of law or equity. Each right, power and remedy of Secured Parties provided herein or in the Loan Agreement or any of the 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 Parties of any one or more of the rights, powers or remedies provided for in this Intellectual Property Security 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 Parties, of any or all other rights, powers or remedies.

Grantor represents and warrants that Exhibits A, B, and C attached hereto set forth any and all intellectual property rights in connection to which Grantor has registered or filed an application with either the United States Patent and Trademark Office or the United States Copyright Office, as applicable.

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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.

**GRANTOR:** 

Title:

OPTINEL SYSTEMS, INC.
By: SANDER VOHRA Title: CTO + PRESIDENT
SECURED PARTIES:
OPTICAL CAPITAL GROUP LLC
By: Name: Title:
Novak Biddle Venture Partners II, L.P.
By: Name:

125644 v1/RE 2\_Y401!.DOC 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.

	GRANTOR:
Address of Grantor:	OPTINEL SYSTEMS, INC.
6835 Deerpath Road	
Elkridge, MD 21075	By:
	Name:
	Title:
	SECURED PARTIES:
Addresses of Secured Parties:	OPTICAL CAPITAL GROUP LLC
9212 Berger Road	0) 4
Columbia, MD 21046	By: Alan Og
	Name. Sechanik Rose or s
	Name: Stephant Rosers Title: Vice President, Private Egul
	NOVAK BIDDLE VENTURE PARTNERS II, L.P.
7501 Wisconsin Ave., Suite 1380	
Bethesda, MD 20814	By:
•	Name:
	Title:

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.

	GRANTOR:
Address of Grantor:	OPTINEL SYSTEMS, INC.
6835 Deer; ath Road	
Elkridge, MD 21075	Ву:
<b>.</b>	Name:
	Title:
	SECURED PARTIES:
Addresses of Secured Parties:	OPTICAL CAPITAL GROUP LLC
9212 Berger Road	
Columbia, MD 21046	Ву:
•	Name:
	Title:
	Novak <b>Knabliki Venur Re<u>in Bar</u>gin</b> ers II., L.P.
	General Partner, Nevak Biddle Company N, LL.
7501 Wisconsin Ave., Suite 1380	
Bethesda, MD 20814	By: De Histophy Thappe
	Name: E. ROGERS NOVARW
	Title: General Partner

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# SECURED PARTIES: (continued)

Addresses of Secured Parties:

6862 Elm Street, Suite 720 McLean, VA 22101 CHALCEDONY LLC \*

By: 5 Name: Zoid Masri Title: President

\* Signing pursuant to Section 2.3 of the Loan Agreement as of February 28, 2002

## EXHIBIT A

## **COPYRIGHTS**

Registration Registration
Description Number Date

None

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#### Ехнівіт В

## **PATENTS**

Description	Registration/ Application Number	Registration/ Application Date
	00/00/0 222	2/15/2001
Optical channel monitor with continuous gas cell calibration	09/808,222	3/15/2001
Dynamically reconfigurable add/drop multiplexer with low coherent cross-talk for optical communications networks	60/292,913	5/24/2001
Optical channel monitor utilizing multiple Fabry-Perot filter	09/929,339	8/15/2001
brands	( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (	0/15/2001
Efficient enhancement of waveguide photosensitivity	09/938,534	8/27/2001
Tunable Dispersion Compensating Bandwidth Device for Fiber	09/957,022	9/21/2001
Optics Systems		
Method for long distance transmission of high dynamic range	60/327,777	10/10/2001
signals		
Method for consolidation of services, equipment and content	60/327,778	10/10/2001
using spectrally efficient transport	60/202 370	10/10/2001
Method for switching and routing large bandwidth, continuous data streams from a centralized location	60/327,779	10/10/2001
Efficient optical transmission system	60/329,516	10/17/2001
Configurable optical add/drop multiplexer with partial or	60/330,948	11/5/2001
complete wavelength drop capability	,	
Amplitude balancing for multilevel signal transmission	60/333,739	11/29/2001
An optical device composite temperature compensating assembly	60/334,060	11/30/2001
A temperature compensated package for DWDM optical devices	60,334,061	11/30/2001
A tunable dispersion compensator based on a fiber Bragg	60/334,057	11/30/2001
grating  Method for transmitting multilevel signals through dispersive media	pw 283347	12/4/2001
Efficient multi-format optical transport of broadband signals for DWDM cable TV networks	60/334,954	12/4/2001
Interferometric Wavelength Meter with Phase Corrected Demodulation	60/337,170	12/10/2001
Method for inducing a temperature gradient to produce a tunable chirp on a fiber grating for chromatic dispersion compensation	pw 283346	12/11/2001
Efficient and scaleable data transport for DWDM Cable TV Networks	pw 283351	12/17/2001
Wavelength tunable filter device for fiber optic systems	pw 281094	12/20/2001

pw indicates Pillsbury Winthrop reference number, others are USPTO

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#### Ехнівіт С

## **TRADEMARKS**

	Registration/	Registration/	
	Application	<b>Application</b>	
Description	Number	Date	

None

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**RECORDED: 03/26/2002**