

**PATENT ASSIGNMENT**

Electronic Version v1.1  
 Stylesheet Version v1.1

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
General Instrument Equity Corporation	04/04/2001
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	Corvis Corporation
<b>Street Address:</b>	7015 Albert Einstein Drive
<b>City:</b>	Columbia
<b>State/Country:</b>	MARYLAND
<b>Postal Code:</b>	21046-9400
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Patent Number:	5222089
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(720)888-5619
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>	
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<b>ATTORNEY DOCKET NUMBER:</b>	0330-US-01
<b>NAME OF SUBMITTER:</b>	Jonathan C Siekmann

**Total Attachments: 46**  
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**PATENT**  
**REEL: 025943 FRAME: 0487**



## FIRST AMENDMENT TO THE LICENSE AND SALE AGREEMENT

FIRST AMENDMENT (this "First Amendment"), to the License and Sale Agreement, dated as of September 21, 1999 (as amended, supplemented, or otherwise modified from time to time, the "Agreement"), among GENERAL INSTRUMENT EQUITY CORPORATION, a Delaware corporation ("GIEC"), GENERAL INSTRUMENT CORPORATION, a Delaware corporation ("GI") and CORVIS CORPORATION, a Delaware corporation ("Corvis"), hereinafter collectively "the Parties".

### W I T N E S S E T H:

WHEREAS, GIEC, GI and Corvis are Parties to the Agreement.

WHEREAS, the Parties are willing to agree to amend the Agreement, subject to the terms and conditions set forth herein;

NOW, THEREFORE, in consideration of the premises and mutual covenants contained herein, the Parties hereby agree as follows:

1. Defined Terms. Unless otherwise defined herein, capitalized terms which are defined in the Agreement are used herein as therein defined.
2. Amendment to Article I (Defined Terms). Article I of the Agreement is hereby amended by replacing the following definitions:

"GI Intellectual Property" means all intellectual property within the scope of the items of Intellectual Property listed in Sections 1, 2, 3 and 4 of Attachment A.

"Remaining License Term" shall mean the period of time commencing on IPO and ending on the effective date of this First Amendment.
3. Election Notice. Corvis hereby elects ownership of the GI Intellectual Property, and this First Amendment shall serve as Corvis' Election Notice under Section 2.4(b) of the Agreement. Corvis declines transfer of the GI-Ciena Agreements at this time, and GI and GIEC agree that Corvis may elect to have the GI-Ciena Agreements transferred to Corvis at any agreed time within five (5) years from the effective date of this First Amendment. Section 2.4(c) of the Agreement is hereby deleted.
4. Assignment; GI-Ciena Agreements not assigned. GIEC's interest in the GI Intellectual Property is hereby assigned to Corvis. Nothing herein shall be deemed to be an assignment of the GI-Ciena Agreements. GIEC hereby confirms, reaffirms and restates its obligations set forth in Sections 5.1, 5.2, 5.3 and 5.4(c) of the Agreement. The Parties agree that Sections 5.4(a) and (b) of the Agreement are deleted.
5. Further Actions if Necessary. GIEC and GI will execute reasonably necessary additional documents to effectuate the intent of the Parties. Additionally, GIEC and GI will reasonably cooperate with Corvis to ensure smooth transition of docketing and similar

administrative matters relating to the GI Intellectual Property. GI shall provide notice to all attorneys and agents used to prosecute and maintain the GI Intellectual Property instructing the attorneys and agents to send all future correspondence to Corvis. GI shall provide Corvis with an electronic listing including all relevant contact information for attorneys and agents used to prosecute and maintain the GI Intellectual Property and a docket report for the GI Intellectual Property prosecution and maintenance schedules covering the next twelve (12) months.

6. Cooperation and Indemnification. The Parties agree to use commercially reasonable efforts to cooperate in any disputes which may arise with third parties relating to this First Amendment, and hereby amend Section 7.1 of the Agreement by replacing "During the GI License Term" with "Until March 31, 2006". The Parties further agree that the indemnification provided by Corvis to GI and its Affiliates in Section 8.4 shall not extend to claims arising out of or in connection with this First Amendment.

7. Effectiveness. This First Amendment shall become effective as of the date upon which this First Amendment is duly executed by the Parties.


8. Continuing Effect of the Agreement. This First Amendment shall not constitute an amendment of any other provision of the Agreement not expressly referred to herein. Except as expressly amended hereby, the provisions of the Agreement are and shall remain in full force and effect.

9. Counterparts. This First Amendment may be executed by the Parties hereto in any number of separate counterparts, each of which shall be deemed to be an original, and all of which taken together shall be deemed to constitute one and the same instrument.

10. Governing Law. This First Amendment shall be governed by, and construed and interpreted in accordance with, the laws of the State of Delaware, and all provisions of sections 9.1, 9.2, 9.3, 9.4, and 9.5 of the Agreement shall apply to this First Amendment.

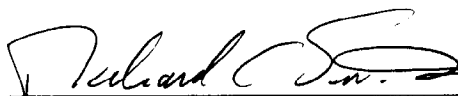
IN WITNESS WHEREOF, and intending to be legally bound, the Parties hereto have caused this First Amendment to be duly executed and delivered by their respective proper and duly authorized officers as of the day and year below written.

GENERAL INSTRUMENT EQUITY CORPORATION

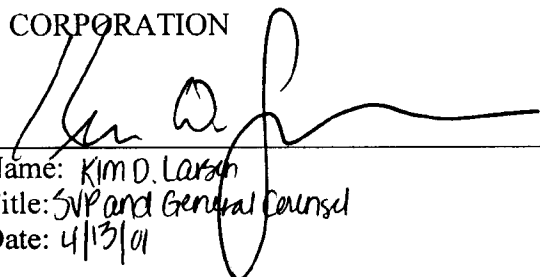
By:   
Name: Richard C. Smith  
Title: President  
Date: 4-4-01

GENERAL INSTRUMENT CORPORATION

Only as to its obligations under Paragraphs 3, 5 and 6

By:   
Name: Richard C. Smith  
Title: Vice President  
Date: 4-4-01

CORVIS CORPORATION

By:   
Name: Kim D. Larson  
Title: SVP and General Counsel  
Date: 4/13/01

## LICENSE AND SALE AGREEMENT

THIS LICENSE AND SALE AGREEMENT, effective as of September 21, 1999 ("Effective Date"), is made by and between General Instrument Equity Corporation, a Delaware corporation, having a place of business at 1105 North Market Street, Suite 1300, Wilmington, DE 19801 (hereinafter referred to as "GI"), and Corvis Corporation, a Delaware corporation, having a place of business at 7015 Albert Einstein Drive, Columbia, Maryland 21046-9400 (hereinafter referred to as "Corvis").

### RECITALS

- A. GI is the owner or licensee of Intellectual Property (as defined herein), including patents, patent applications and other proprietary technology, developed by and under the direction of Dr. David R. Huber while an employee of GI, and conveyed or licensed to GI under certain related agreements.
- B. Corvis desires to license such Intellectual Property and to obtain ownership to such intellectual property at the times and on the terms and conditions specified in this Agreement.

NOW, THEREFORE, in consideration of the foregoing premises and the covenants and promises contained herein, the parties hereto agree as follows:

### ARTICLE I

#### DEFINITIONS

For the purposes of this Agreement the following definitions shall apply:

"Affiliate" means, with respect to any person or entity, any other person or entity that directly, or indirectly through one or more intermediaries, Controls or is Controlled by or is under common Control with such person or entity.

"Control" means with respect to a person or entity, the power, directly or indirectly, to:

- (a) (i) with respect to an entity with securities listed on a national securities exchange, vote 35% of the securities having ordinary voting power for the election of directors or warrants to purchase such securities (whether or not exercisable) of such person or entity in question or (ii) with respect to an entity with securities that are not listed on a national securities exchange, vote 50% of the securities having ordinary voting power for the election of directors or warrants to purchase such securities (whether or not exercisable) of such person or entity in question; or
- (b) direct or cause the direction of the management and policies of such person or entity in question whether by contract or otherwise; or

- (c) ownership by such person or entity of more than 50% of capital stock or economic interest of the person or entity in question.

“Change of Control Event ” shall have the meaning set forth in the Warrant.

“Existing GI Products” shall mean, as of the date of a GI Change of Control, (i) any products or services utilizing the Intellectual Property that are offered or sold by GI or its Affiliates prior to a GI Change of Control, (ii) any products or services utilizing, or contemplating utilization of, the Intellectual Property that are actually in GI’s or its Affiliate’s product development prior to a GI Change of Control, (iii) any products or services that result from improvements to the products and services described in sub-clauses (i) or (ii) of this definition; provided, however, an Existing GI Product under this clause (iii) shall not include (A) any product or service utilized in the Telecommunications Field which, after such GI Change of Control, combines products or services of GI and its Affiliates utilized in the Telecommunications Field with products or services of such Listed Company utilized in the Telecommunications Field (unless the majority of products or services in such combined product or services are products or services that are described in clauses (i) and (ii) of this definition) or (B) any products or services offered or sold prior to such GI Change of Control by the Listed Company with which such GI Change of Control has been effected.

“Fair Market Value” as used herein shall be determined in good faith by the majority of the board of directors of Corvis in a resolution certified by the Secretary of Corvis delivered to GI. Such certified resolution shall be conclusive unless within thirty (30) business days after the delivery to GI of such certified resolution GI delivers a notice (a “Valuation Dispute Notice”) to Corvis that it has a good faith dispute with the determination of Fair Market Value. The Valuation Dispute Notice shall include the names of three nationally recognized independent investment bankers selected by GI. If GI has delivered the Valuation Dispute Notice, Fair Market Value as used herein shall be conclusively determined by one of the investment bankers as selected by Corvis from the list of investment bankers set forth in the Valuation Dispute Notice. The costs of the investment banker shall be borne equally by Corvis and GI. Corvis will, and will instruct its employees to, provide all information to GI and to the investment bankers reasonably necessary for the determination of Fair Market Value.

“GI Change of Control” means a merger or consolidation or similar transaction with a Listed Company in which the holders of the capital stock of General Instrument Corporation immediately prior to such transaction hold less than 50% of the capital stock of the surviving corporation immediately after such transaction.

“GI-Ciena Agreements” means the agreements listed in Section 6 of Attachment A.

“GI Intellectual Property” means all intellectual property within the scope of the items of Intellectual Property listed in Sections 1, 2, 3, 4 and 6 of Attachment A.

“GI License Term” means the Interim License Term and the Remaining License Term.

“Interim License Term” means the period of time commencing upon the Effective Date and ending upon the earlier of an IPO or a Change of Control Event.

“Initial Public Offering” or “IPO” means the consummation of a underwritten public offering of the securities of Corvis pursuant to a registration statement filed with the Securities and Exchange Commission pursuant to the Securities Act of 1933, as amended or any successor thereto, where the aggregate gross proceeds resulting from the sale of such securities (after deduction of underwriting discounts and expenses of sale) are not less than Thirty-Five Million Dollars (\$35,000,000).

“Intellectual Property” means the GI Intellectual Property and the Other Inventions and Intellectual Property.

“Listed Company” means any company listed on Attachment B.

“Other Inventions and Intellectual Property” means all intellectual property within the scope of the items of Intellectual Property listed in Section 5 of Attachment A, which is not GI Intellectual Property and to which GI has the right to grant the rights and licenses contemplated herein.

“Remaining License Term” means the five-year period commencing upon the earlier of an IPO or Change in Control.

“Telecommunications Field” means the business of providing transport and switching products and services for inter-exchange networks.

“Year” means any 12-month period commencing on the January 1 and ending on December 31.

## ARTICLE II

### LICENSE GRANTS AND TRANSFER OF OWNERSHIP

- 2.1. Grant of License to GI Intellectual Property. Upon the Effective Date of this Agreement, GI hereby grants to Corvis and Corvis accepts from GI, subject to the terms and conditions of this Agreement and any other agreements regarding the GI Intellectual Property, an exclusive (except as provided in Section 2.3 below), worldwide right and license under the GI Intellectual Property to make, have made, use, improve, have improved, sell, offer to sell, sublicense, lease, rent, or otherwise transfer the GI Intellectual Property as part of products or services offered by Corvis for the GI License Term. This license shall convert to a non-exclusive license in the event that either party elects to exercise its rights pursuant to and subject to the provisions in Article IV, and, in such an event, the term of this license shall be for the duration of the term of this Agreement. Any sublicenses granted by Corvis shall be subject to termination in the event that the exclusive license granted herein is converted to a non-exclusive license pursuant to the provisions in Sections 4.1 or 4.2.
- 2.2. Grant of Sublicense to Other Inventions and Intellectual Property. Upon the Effective Date of this Agreement, GI hereby grants to Corvis and Corvis accepts from GI, subject to the terms and conditions of this Agreement and any other agreement regarding the Other Inventions and Intellectual Property, an exclusive



(except as provided in Section 2.3 below), worldwide right and sublicense to all Other Inventions and Intellectual Property to make, use, sell, offer to sell, improve, have improved, lease, rent, or otherwise transfer the Other Inventions and Intellectual Property as part of products or services offered by Corvis for the GI License Term, provided that Corvis shall have no right to sublicense the rights granted hereunder. This sublicense shall convert to a non-exclusive sublicense in the event that either party elects to exercise its rights pursuant to and subject to the provisions in Article IV, and, in such an event, the term of this sublicense shall be for the term of the Agreement.

2.3. Reservation of Rights.

(a) Notwithstanding anything to the contrary in Section 2.1 or Section 2.2, GI and its Affiliates (except for any Affiliate excluded by GI) hereby retain a non-exclusive license to the Intellectual Property to same extent and of the same scope that Corvis is granted an exclusive license pursuant to such Sections.

(b) Notwithstanding the foregoing Section 2.3(a), GI shall not grant any license under any GI Intellectual Property or sublicense under any Other Inventions and Intellectual Property during the GI License Term except as provided in Article V; and

(c) Upon a GI Change of Control, the rights and licenses retained by GI and its Affiliates pursuant to Section 2.3(a) shall not extend to products and services sold by GI and its Affiliates for utilization in the Telecommunications Field; provided, however nothing in this Section 2.3(c) shall limit the rights in Section 2.3(a) with respect to any Existing GI Products.

2.4. Transfer of GI Intellectual Property and GI-Ciena Agreements.

(a) Ownership to all laboratory books identified in Section 3 of Attachment A shall be conveyed automatically as of the Effective Date of this Agreement, provided that any Intellectual Property contained in such laboratory books shall remain the property of GI until the transfer of such rights as contemplated in Section 2.4(b) below and provided further that the ownership of such laboratory books are subject to a reversion in accordance with Article IV; and

(b) On or within thirty (30) days prior to the last day of the Remaining License Term, Corvis shall have the option of either (i) electing that, except as provided in Section 2.3(a), ownership to all Intellectual Property, including the GI-Ciena Agreements, shall be assigned or otherwise transferred to Corvis at the end of the Remaining License Term or (ii) declining such transfer. Corvis shall notify GI of its decision to elect for or decline such transfer by providing to GI written notice (the "Election Notice") of such decision. Such transfer of Intellectual Property shall take place through a mode of transfer to be mutually agreed by the parties.

(c) If Corvis fails to provide the Election Notice to GI in accordance with Section 2.4(b) or if Corvis elects to decline the transfer contemplated by Section 2.4(b), then, within five (5) business days after the last day of the Remaining License Term, GI will transfer to Corvis either (i) \$2,000,000 in cash or (ii) consideration of the same type as the consideration received by GI pursuant to the Warrant with a total value of \$2,000,000 (such value to be determined as of the date, and on the same basis as, such consideration was valued pursuant to the Warrant at the time of the transfer of such consideration to GI). For the avoidance of doubt, the decision as to whether to transfer the consideration contemplated in clause (i) or clause (ii) of the foregoing sentence shall be at the sole discretion of GI.

(d) Upon payment to Corvis of the consideration contemplated by Section 2.4(c), (1) all sublicenses granted by Corvis pursuant to the provisions in Section 2.1 and all licenses and sublicenses granted by GI pursuant to Section 5.1 shall automatically terminate; (2) all rights and obligations set out in Article V will be automatically terminated; (3) all rights under Section 2.3(a) shall automatically revert to GI and Corvis shall return all laboratory notebooks (and all copies and portions thereof) within a reasonable period of time after GI's election and shall have no further rights regarding the laboratory notebooks or the intellectual property contained therein; and (4) all rights granted under Section 2.4(b) shall terminate.

(e) As soon as practicable after a GI Change of Control, GI will place such documentation as is reasonably sufficient to determine Existing GI Products into escrow with a mutually agreeable third party.

2.5. License After Transfer.

(a) Upon the transfer contemplated in Section 2.4(b), Corvis shall grant to GI and/or its Affiliates as designated by GI a non-exclusive, non-sublicensable, royalty-free, worldwide right and license under all Intellectual Property to make, have made, improve, have improved, develop, have developed, use, sell, have sold, offer to sell, lease, rent, or otherwise transfer products or services currently or in the future offered by GI and its Affiliates that incorporate the Intellectual Property.

(b) Upon a GI Change of Control, the rights granted to GI and its Affiliates pursuant to Section 2.5(a) shall not extend to products and services sold by GI and its Affiliates for utilization in the Telecommunications Field; provided, however nothing in this Section 2.5(b) shall limit the rights in Section 2.5(a) with respect to any Existing GI Products.

2.6. Covenants Not to Sue.

(a) Corvis will not prosecute or assist in the prosecution of any claim, demand, action or cause of action against GI, its Affiliates and/or their successors,

assigns, customers or any of their respective directors, officers or employees, for, on account of, or arising out of any claim of misappropriation of trade secrets, infringement of copyrights, or infringement of any Intellectual Property or infringement of any improvements to the Intellectual Property arising as of or prior to the transfer contemplated in Section 2.4(b).

(b) GI will not prosecute or assist in the prosecution of any claim, demand, action or cause of action against Corvis, its Affiliates and/or their successors, assigns, customers or any of their respective directors, officers or employees, for, on account of, or arising out of any claim of misappropriation of trade secrets, infringement of copyrights, or infringement of any Intellectual Property or infringement of any improvements to the Intellectual Property arising as of or after the transfer contemplated in Section 2.4(b).

- 2.7. Confidential Information. The subject matter of this Agreement and the terms herein, including without limitation the existence of this Agreement itself, are subject to the terms of the Non-Disclosure Agreement between the parties dated December 18, 1997 which shall remain in effect during the term of this Agreement.

### ARTICLE III

#### Warrant and Cash Payments

In consideration of the promises and commitments herein, Corvis shall pay to GI, subject to the terms and conditions of this Agreement, the following:

- (a) A Warrant in the form attached hereto as Attachment C; and
- (b) Cash payments (the "Quarterly Payment") of \$250,000 for each 90-day period commencing upon the Effective Date for the GI License Term, provided that in the event of an IPO or Change of Control Event the obligation of Corvis to make such payments shall cease as of an IPO or Change of Control Event, and provided further that in no event shall the aggregate Quarterly Payments exceed \$4,000,000. Each Quarterly Payment shall be due and payable at the end of each 90-day period during which such Quarterly Payment accrues.

### ARTICLE IV

#### Termination of Warrant

- 4.1. Termination of Warrant by GI. If no IPO or Change of Control Event occurs on or before April 30, 2001 (the "GI Threshold Date"), at the written election of GI the exclusive license granted by GI to Corvis under Section 2.1 may be converted into a non-exclusive license and the exclusive sublicense granted by GI under Section 2.2 may be converted into a non-exclusive sublicense, provided that the grant of such non-exclusive rights shall be in effect only if Corvis continues to make the Quarterly Payments contemplated in Article III. In the event that GI

elects to exercise its rights in this Section, (1) all sublicenses granted by Corvis pursuant to the provisions in Section 2.1 and all licenses and sublicenses granted by GI pursuant to Section 5.1 shall automatically terminate; (2) all rights and obligations set out in Article V shall automatically terminate; (3) the Warrant will be automatically canceled; (4) all rights under Section 2.4(a) shall automatically revert to GI and Corvis shall return all laboratory notebooks (and all copies and portions thereof) within a reasonable period of time after GI's election and shall have no further rights regarding the laboratory notebooks or the intellectual property contained therein; and (5) all rights granted under Section 2.4(b) shall terminate.

4.2. Termination of Warrant by Corvis. If no IPO or Change of Control Event occurs on or before December 31, 2001 (the "Corvis Threshold Date"), at the written election of Corvis (which may be made at any time after the Corvis Threshold Date provided that Corvis' Fair Market Value is below \$500 million at the time of election) the exclusive license granted by GI to Corvis under Section 2.1 may be converted into a non-exclusive license and the exclusive sublicense granted by GI under Section 2.2 may be converted into a non-exclusive sublicense, provided that the grant of such non-exclusive rights shall remain in effect so long as Corvis makes the Quarterly Payments contemplated in Article III. In the event that GI elects to exercise its rights in this Section, (1) all sublicenses granted by Corvis pursuant to the provisions in Section 2.1 and all licenses and sublicenses granted by GI pursuant to Section 5.1 shall automatically terminate; (2) all rights and obligations set out in Article V shall automatically terminate; (3) the Warrant will be automatically canceled; (4) all rights under Section 2.4(a) shall automatically revert to GI and Corvis shall return all laboratory notebooks within a reasonable period of time after Corvis' election and shall have no further rights regarding the laboratory notebooks or the intellectual property contained therein; and (5) all rights granted under Section 2.4(b) shall terminate.

4.3. Extensions.

(a) If on or prior to the Corvis Threshold Date, Corvis shall have filed with the Securities and Exchange Commission a registration statement, then the Corvis Threshold Date shall be extended until the earlier of (i) the consummation of an IPO (in which case GI shall receive the consideration contemplated by the Warrant as provided in this Agreement and the Warrant) or (ii) the termination or withdrawal of such registration statement by Corvis.

(b) If on or prior to the Corvis Threshold Date, Corvis shall have entered into an agreement with a third party relating to a transaction that, if completed, would result in a Change of Control Event, then the Corvis Threshold Date shall be extended until the earlier of (i) the consummation of such Change of Control Event (in which case GI shall receive the consideration contemplated by the Warrant as provided in this Agreement and the Warrant) or (ii) the termination of such agreement.

## ARTICLE V

### GI Actions under the GI-Ciena Agreements

- 5.1. GI Grant of Licenses and Sublicenses. Subject to all applicable laws and provided that GI has the right to grant the licenses and sublicenses contemplated herein, during the GI License Term: (a) GI will grant a license under the GI Intellectual Property to entities specified by Corvis to make, have made, use, sell, offer to sell, sublicense, lease, rent, or otherwise transfer the GI Intellectual Property as part of products or services offered by such entities for the GI License Term, and (b) GI will grant a sublicense under the Other Inventions and Intellectual Property to entities specified by Corvis to make, use, sell, offer to sell, sublicense, lease, rent, or otherwise transfer the Other Inventions and Intellectual Property as part of products or services offered by such entities for the GI License Term.
- 5.2. Conveyance of Information. GI will use all reasonable efforts to pass to Corvis all notices received from Ciena pursuant to the GI-Ciena Agreements. GI shall not be obligated to pass to Corvis information received from Ciena that is not disclosed pursuant to specific disclosure obligations or election rights contained in the GI-Ciena Agreements or that is confidential information subject to restrictions on disclosure.
- 5.3. Actions by GI. GI shall use all reasonable efforts to (i) hold discussions with Corvis prior to taking any action or making any election pursuant to any notification received from Ciena pursuant to Section 5.2 hereof and (ii) avoid taking any action or making any election pursuant to any notification received from Ciena pursuant to Section 5.2 hereof that is contrary to GI's obligations to Corvis under this Agreement.
- 5.4. Royalty and Fee Division.
  - (a) During the Interim License Term, GI will pay to Corvis 50% of any royalties it receives from sublicensees of the GI Intellectual Property and 50% of any amounts received from Ciena related to the Other Inventions and Intellectual Property; provided the aggregate amount of such payments shall not exceed the aggregate amount of Quarterly Payments received by GI.

(b) During the Remaining License Term, GI will pay to Corvis (i) 50% of any royalties it receives from sublicensees of the GI Intellectual Property and 50% of any amounts received from Ciena related to the Other Inventions and Intellectual Property; provided that such payments shall not exceed the difference between (x) \$4,000,000 and (y) the aggregate amount Quarterly Payments received by GI (such difference being the "Royalty Threshold") and (ii) 100% of any royalties it receives from sublicensees of the GI Intellectual Property and 100% of any amounts received from Ciena related to the Other Inventions and Intellectual Property after GI has paid or is required to pay to Corvis pursuant to sub-clause (i) of this Section 5.4(b) an amount equal to the Royalty Threshold

(c) After transfer of the GI Intellectual Property to Corvis pursuant to the provisions in Section 2.4(b), GI will also transfer to Corvis any patent maintenance or other related fees it receives from Ciena.

5.5. Identification of Licensees and Sublicensees. Attached hereto as Attachment D is a list of entities of which GI has knowledge that are currently licensees or sublicensees of the Intellectual Property other than those contemplated in Section 5.1, subject to any restrictions or limitations on GI regarding disclosure of such information.

5.6. Maintenance of Patents.

(a) During the GI License Term, GI will have the right, but not the obligation, to prepare, file, prosecute, maintain and extend patent applications and patents concerning all GI Intellectual Property in countries of GI's choice throughout the world. If GI elects not to file, prosecute or maintain any GI Intellectual Property or any applications for patents with respect to GI Intellectual Property, GI will use its reasonable efforts to notify Corvis of such decision, provided that any failure of GI to notify Corvis of its decision or any failure of GI to prepare, file, prosecute, maintain and extend patent applications and patents concerning the Intellectual Property shall not be considered a material breach of this Agreement. Corvis will then have the right, at its sole cost and expense, to file any patent application based on GI Intellectual Property or to continue the prosecution of any pending GI patent applications or to maintain such patents and patent applications with appropriate credit to GI's representatives, including the naming of such parties as inventors in accordance with law. Any patent issued as a result of such action by Corvis shall become the property of Corvis and Corvis shall grant to GI the rights in the issued patent as set forth in Section 2.5(a).

(b) After the GI License Term, Corvis shall have the responsibility to prepare, file, prosecute, maintain and extend patent applications and patents concerning all GI Intellectual Property in countries of Corvis' choice throughout the world. If Corvis elects not to file, prosecute or maintain any GI Intellectual Property or any applications for patents with respect to GI Intellectual Property, Corvis will use its reasonable efforts to notify GI of such decision, provided that any failure of Corvis to notify GI of its decision or any failure of Corvis to prepare, file, prosecute, maintain and extend patent applications and patents concerning the Intellectual Property shall not be considered a material breach of this Agreement. Each party shall, at its own expense, provide reasonable assistance to the other party and shall execute all documents deemed necessary or desirable therefore.

## ARTICLE VI

### Term and Termination

- 6.1. Term. The Agreement shall commence on the Effective Date and, unless terminated earlier pursuant to Section 6.2 below, shall continue in perpetuity, except in the case of any patents in the Intellectual Property, in whole or in part, in which case the license granted in this Agreement with respect to any such patents shall terminate upon the expiration or termination of each such patent.
- 6.2. Termination of Agreement. Subject to the provisions of Section 9.10, if either party at any time materially defaults on any provision hereunder, or commits any material breach of any covenant contained herein, and fails to remedy any such default or breach within thirty (30) days after written notice thereof by the other party or to commence reasonable actions to cure such default or breach within such time period, the party not in default may, at its option, terminate this Agreement and the licenses and sublicenses granted herein by giving written notice of such termination to the other party.
- 6.3. Force Majeure. A party shall not be liable for delays or defaults in performing any of the obligations hereunder if such delays or defaults are due to causes beyond their control, and without the fault or negligence, of such party including acts of nature or of a public enemy; acts of a federal government or any state or political subdivision thereof; fires, floods, explosions, or other catastrophes; labor disturbances; freight embargoes; or delays of a supplier or subcontractor due to such causes. In such event, the delayed party shall promptly notify the other party of such occurrence and the responsibilities of the delayed party shall be suspended for the duration of the circumstance and the time for performance shall be extended on a day-to-day-basis. If the time for performance of the delayed party is or would be extended for more than thirty (30) days for payment obligations and more than one hundred eighty (180) days for performance obligations hereunder the other party may, in the sole discretion of such other party, terminate this Agreement.

6.4. Bankruptcy. If at any time during the term of this Agreement and before it has completed its obligations under this Agreement a party to this Agreement files a petition in bankruptcy or for reorganization under any law relating to bankruptcy or insolvency, or is adjudicated bankrupt or insolvent, or enters into any compromise with its creditors, or makes an assignment for the benefit of its creditors, or if a receiver is appointed for such party, or if a party avails itself of any other statutory right for relief of its creditors, or if a party begins any proceeding for the liquidation or closing of its business or for the termination of its corporate charter (each a "Bankruptcy Event"), the other party may, by giving written notice, forthwith terminate this Agreement and the licenses and sublicenses granted pursuant to this Agreement. If at any time during the Remaining License Term a Bankruptcy Event occurs with respect to GI, then the transfer from GI to Corvis pursuant to Section 2.4(a) and (b) shall take place immediately upon such event.

6.5. Effect of Termination.

(a) Except as expressly provided herein, upon termination of this Agreement for any reason, all rights granted hereunder shall revert to the party granting such right, and each party shall make no further use of any Intellectual Property licensed to such party. Notwithstanding the foregoing, termination of this Agreement for any reason shall not release either party hereto from any liability which, at the time of such termination, has already accrued to the other party or which is attributable to a period prior to such termination, nor preclude either party from pursuing any rights, indemnities and remedies it may have hereunder or at law or in equity with respect to any breach of this Agreement.

(b) In the event that this Agreement is terminated for any reason, each party shall promptly return or destroy at the written request of the other party all Confidential Information (as such term is defined in the Non-Disclosure Agreement) received from the other party (except one copy of which may be retained for legal archival purposes, such copy to remain subject to the confidentiality obligations in the Non-Disclosure Agreement).

## ARTICLE VII

### ENFORCEMENT, DEFENSE AND MAINTENANCE

7.1. Cooperation in Litigation. During the GI License Term, each of GI and Corvis will (i) cooperate with regard to any infringement litigation involving the Intellectual Property; (ii) provide each other with reasonable access, during normal business hours, to records and other information relevant to any infringement litigation concerning the Intellectual Property; and (iii) notify the other party of any infringement or acts suspected to constitute infringement of the Intellectual Property.



7.2. Infringement Actions.

(a) During the GI License Term, upon notification pursuant to Section 7.1 of this Article, GI shall have the first right, but not the obligation, to bring, at its own expense, an infringement action or file any other appropriate action or claim related to infringement of such Intellectual Property to which it is entitled to bring such action or claim. If GI does not commence a particular infringement action within ninety (90) days after it receives written notice of such infringement, Corvis shall have the option, in its sole discretion, to decide whether to assert or defend any patent constituting the GI Intellectual Property. The party bringing the action contemplated above shall be entitled to retain all damages, attorney fees, support staff costs and other costs awarded in its favor as a result of such assertion or defense. In the event that Corvis exercises the foregoing right, to the extent that it is legally necessary that any such action be brought in GI's name or that of a GI Affiliate, GI or such Affiliate shall bring such action and Corvis shall reimburse GI for all litigation costs, including outside attorney fees and support staff costs arising from such suit, and Corvis shall be entitled to retain all damages, attorney fees, and other costs awarded in its favor as a result of such assertion or defense.

(b) After the GI License Term, upon notification pursuant to Section 7.1 of this Article, Corvis shall have the first right, but not the obligation, to bring, at its own expense, an infringement action or file any other appropriate action or claim related to infringement of such Intellectual Property to which it is entitled to bring such action or claim. If Corvis does not commence a particular infringement action within ninety (90) days after it receives written notice of such infringement, GI shall have the option, in its sole discretion, to decide whether to assert or defend any patent constituting the Intellectual Property. The party bringing the action contemplated above shall be entitled to retain all damages, attorney fees, support staff costs and other costs awarded in its favor as a result of such assertion or defense. In the event that GI exercises the foregoing right, to the extent that it is legally necessary that any such action be brought in Corvis' name or that of a Corvis Affiliate, Corvis or such Affiliate shall bring such action and GI shall reimburse Corvis for all litigation costs, including outside attorney fees and support staff costs arising from such suit, and GI shall be entitled to retain all damages, attorney fees, and other costs awarded in its favor as a result of such assertion or defense.

7.3. Control of Litigation, Assistance and Settlement. The party conducting any action pursuant to foregoing Section 7.2 shall be entitled to bring and control the action through counsel of its choice at its own expense. The other party may participate in the action at its own expense. No settlement or consent judgment or other voluntary final disposition of any suit defended or action brought by one party pursuant to this Section may be entered into without the consent of the other party if such settlement would require the non-settling party to be subject to an injunction or to make a monetary payment or would adversely affect the non-settling party's rights under this Agreement; provided, that entering into a non-

exclusive cross license (where such cross license shall be subject to the terms, conditions and limitations contained in this Agreement, including the termination provisions pursuant to Sections 4.1 and 4.2 hereof) as part of any such settlement shall not be deemed for purposes of this Section 7.3 to adversely affect the non-settling party's rights under this Agreement.

- 7.4. Maintenance Obligations. During the GI License Term, GI shall make all reasonable efforts to pay all maintenance fees required to maintain the patents constituting the GI Intellectual Property in force prior to the transfer of such patents pursuant to Section 2.4(b), except in the event of any patent issued to Corvis under Section 5.6, in which case Corvis shall pay all maintenance and other fees regarding any such patents.

## ARTICLE VIII

### GENERAL WARRANTIES

- 8.1. Disclaimer of Representation and Warranties. NEITHER PARTY MAKES ANY REPRESENTATIONS OR WARRANTIES REGARDING THE INTELLECTUAL PROPERTY TO THE OTHER PARTY OR TO ANY LICENSEE OR SUBLICENSEE TO WHICH IT LICENSES OR SUBLICENSES THE INTELLECTUAL PROPERTY PURSUANT TO THIS AGREEMENT. EACH PARTY DISCLAIMS ANY AND ALL REPRESENTATIONS OR WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR THAT ANYTHING MADE, USED, SOLD OR OTHERWISE DISPOSED OF UNDER ANY LICENSE GRANTED BY EITHER PARTY IN THIS AGREEMENT IS OR WILL BE FREE FROM INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OF THIRD PARTIES. EACH PARTY SPECIFICALLY DISCLAIMS ANY REPRESENTATION OR WARRANTY CONCERNING ITS RIGHTS TO SUBLICENSE THE OTHER INVENTIONS AND INTELLECTUAL PROPERTY TO THE OTHER PARTY OR ANY ENTITY SPECIFIED BY CORVIS. EXCEPT AS EXPRESSLY PROVIDED IN SECTION 8.2, NOTHING IN THIS AGREEMENT SHALL BE DEEMED TO BE A REPRESENTATION OR WARRANTY.
- 8.2. Authorization. Subject to the provisions of Section 8.1, each of the parties hereto represents and warrants that it has the right to enter into this Agreement and to fulfill its obligations hereunder.
- 8.3. Disclaimer. NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING LOSS OF PROFITS, ARISING FROM OR RELATED TO THE PERFORMANCE OR NONPERFORMANCE OF THIS AGREEMENT INCLUDING, WITHOUT LIMITATION, DAMAGES ARISING FROM LOSS OF REVENUE OR PROFITS, OR CLAIMS AGAINST

EITHER PARTY BY ANY THIRD PARTY WHETHER THE SAME SHALL BE ALLEGED TO ARISE IN WARRANTY, CONTRACT, NEGLIGENCE, OR OTHERWISE, EVEN IF THE OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. EXCEPT FOR ANY SPECIFIC PERFORMANCE RIGHTS TO WHICH CORVIS OR GI MAY BE ENTITLED TO EXERCISE WITH RESPECT TO SECTIONS 2.1, 2.2, 2.3, 2.4 AND 2.5 AND ARTICLE V, GI'S TOTAL LIABILITY FOR ANY SUCH PERFORMANCE OR NON-PERFORMANCE SHALL BE NO MORE THAN THE SUM OF THE QUARTERLY PAYMENTS RECEIVED BY GI AT THE TIME OF SUCH PERFORMANCE OR NON-PERFORMANCE. NOTWITHSTANDING ANYTHING TO THE CONTRARY, THIS SECTION STATES EACH PARTIES' SOLE AND EXCLUSIVE REMEDY FOR ANY SUCH PERFORMANCE OR NON-PERFORMANCE BY SUCH PARTY OR ITS AFFILIATES.

- 8.4. Indemnification. Subject only to the limitations in Section 8.1 and 8.3, Corvis agrees to indemnify, defend and hold GI and its Affiliates, and their directors, officers, employees and agents (the "Indemnified Parties") harmless from and against any and all losses, costs, claims, damages, liabilities and expenses (including without limitation, fees and disbursements of counsel incurred by the indemnified parties in any action or proceeding between the parties and/or either of the parties and any third party or otherwise) arising out of, in connection with or relating to any claims relating to Corvis' use of the Intellectual Property, this Agreement or the transactions contemplated hereunder.

## ARTICLE IX

### GENERAL PROVISIONS

- 9.1. Applicable Law. This Agreement and the relationships between the parties shall be governed in all respects by the law of the State of Delaware, without regard to the conflict of laws provisions thereto except that questions affecting the construction and effect of any patent shall be determined by the patent laws of the United States of America or such other country issuing such patent. All actions, claims or legal proceedings in any way pertaining to this Agreement shall be commenced and maintained in the courts of the State of Delaware or in a federal court located in such state and in no other court or tribunal whatsoever.
- 9.2. Assignment. Either party shall not assign or transfer this Agreement nor any of the responsibilities, duties, or rights hereunder to any institution, individual, firm, corporation, or association without the prior written consent of the other party, which shall not be unreasonably withheld, except that either party may, without obtaining the consent of the other party, assign this Agreement to (i) any Affiliate or (ii) any third party in connection with a merger, consolidation, or change in control, or to which it may transfer all or substantially all of its assets of the business to which this Agreement relates, provided that the assigning party shall notify the other party of any such assignment and the assignee agrees in writing to

be bound by the terms of this Agreement including without limitation, the confidentiality information discussed in Section 2.7; provided, however, clause (ii) of this sentence with respect to GI shall only apply to a merger, consolidation, change of control or transfer involving all or substantially all of the stock, business or assets of General Instrument Corporation and its Affiliates.

- 9.3. Binding upon Successors. This Agreement shall be binding upon and shall inure to the benefit of the parties and their respective successors and permitted assigns.
- 9.4. Notice. Any notice under this Agreement shall be deemed to have been sufficiently given when, if given to GI, such notice is addressed to (i) President, General Instrument Equity Corporation, 1105 North Market Street, Suite 1300, Wilmington, DE 19801, with a copy to (ii) Patent Counsel, General Instrument Corporation, 101 Tournament Drive, Horsham, PA 19044 and, if given to Corvis, such notice is addressed to General Counsel, Corvis Corporation, 7015 Albert Einstein Drive, Columbia, Maryland 21046-9400. The date of mailing shall be deemed to be the date on which such notice has been given, provided notice by telex, facsimile, or equivalent transmittal is sent on the same date therewith. Otherwise such notice shall be deemed as given as of the date of receipt by the addressee thereof. Each party shall give prompt written notice to the other party of any change in its address or corporate name and, after notice of any change has been given, any notice to such party by the other party shall be addressed in accordance with that change.
- 9.5. Remedies. Waiver by either party of any breach of, or failure to comply by the other party with a provision of this Agreement shall not be construed as, or constitute, a continuing waiver of such provision, or a waiver of any other breach or failure to comply with any other provision of this Agreement. In the event any provision of this Agreement shall be held unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect unless such unenforceable provision shall materially affect the essence of the Agreement and the party benefiting from said unenforceable provisions does not waive its rights to benefit therefrom.
- 9.6. Headings. The headings in this Agreement have been inserted for convenience of reference only and shall not control or affect the meaning or construction of any of the terms and provisions hereof.
- 9.7. Entire Agreement. This Agreement, the Warrant and the Non-Disclosure Agreement set forth the entire agreement and understanding between the parties as to the subject matter of the Agreement and merge all prior discussions between them, and neither of the parties shall be bound by any conditions, definitions, warranties, or representations with respect to the subject matter of this Agreement, the Warrant and the Non-Disclosure Agreement other than as expressly provided in this Agreement, the Warrant and the Non-Disclosure Agreement or as duly set forth on or subsequent to the date hereof in writing and signed by a proper and duly authorized officer of the party to be bound thereby.

9.8. Charges or Commitments. Except as contemplated by Article 7, at no time shall either party make commitments or incur any charges or expenses for or in the name of the other party without prior approval of the other party.

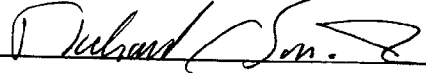
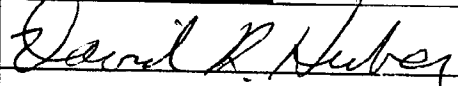
9.9. Mutual Release.

(a) Release by GI. GI, for itself and all its Affiliates, and their successors, assigns, customers or any of their respective directors, officers or employees and all others who may take any interest in the matters herein released, hereby fully and forever releases, acquits and discharges Corvis and its Affiliates, and their successors, assigns, customers or any of their respective directors, officers or employees from any and all claims, demands, damages, losses, rights and causes of action known or unknown to GI that GI may have against Corvis that arise from the use of the Intellectual Property or any other intellectual property rights in connection with the design, manufacture, sale or use of any products or services used by Corvis as of or prior to the Effective Date of this Agreement.

(b) Release by Corvis. Corvis, for itself and all its Affiliates, and their successors, assigns, customers or any of their respective directors, officers or employees and all others who may take any interest in the matters herein released, hereby fully and forever releases, acquits and discharges GI and its Affiliates, and their successors, assigns, customers or any of their respective directors, officers or employees, from any and all claims, demands, damages, losses, rights and causes of action known or unknown to Corvis that Corvis may have against GI that arise from the use of the Intellectual Property or any other intellectual property rights in connection with the design, manufacture, sale or use of any product or service used by GI as of or prior to the Effective Date of this Agreement.

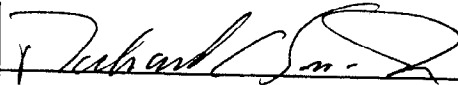
9.10. Obligation to Discuss. If either party believes the other party has breached this Agreement, then a senior level executive with responsibilities in the appropriate area (the "Senior Executive") of the party claiming breach shall provide written notice of such alleged breach to the Senior Executive of the party allegedly in breach. Within fifteen (15) days of receipt of such notice, the Senior Executive of GI and Senior Executive of Corvis shall meet in person or by telephone to seek to resolve the situation in a mutually agreeable manner. If the Senior Executives are unable to resolve the problem in good faith within forty-five (45) days after the Senior Executive of the party allegedly in breach has received the forgoing notice, then the party claiming breach may commence any actions to which it is entitled under the terms of this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed in their names by their duly authorized officers or representatives as of the Effective Date hereof or in the name of the other party without prior approval of the other party.

	<b>General Instrument Equity Corp.</b>		<b>Corvis Corporation</b>
Signature:		Signature:	
By:	Richard C. Smith	By:	David R. Huber
Title:	President	Title:	President and CEO
Date:	September 21, 1999	Date:	SEP 22 1999

If at any time during the GI License Term, General Instrument Equity Corporation sells, assigns or transfers any significant portion of its shares of Corvis Corporation's Series F Preferred Stock (or any common stock or other consideration into which such Series F Preferred Stock is subsequently converted) to a another person or entity, then, prior to such sale, assignment or transfer, General Instrument Corporation shall either (i) obtain the prior written consent of Corvis or (ii) enter into a mutually acceptable guaranty of the performance by General Instrument Equity Corporation of its obligations under this Agreement.

GENERAL INSTRUMENT CORPORATION

Signature:			
By:	Richard C. Smith		
Title:	Senior Vice President		
Date:	September 21, 1999		

ATTACHMENT A

[See Separate File]

ATTACHMENT A

1. Patents

Each of the following patents including any divisions, reissues, continuations, continuations-in-part, reexaminations, substitutions, extensions, and foreign equivalents of such patents; and any patent issuing on the foregoing foreign patent applications.

<u>FILE #</u>	<u>USP#</u>	<u>EXPIRATION</u>	<u>DESCRIPTION/NAME</u>	<u>FOREIGN PATENT #</u>	<u>EXPIRATION DATE</u>
D756-Div-Cip	5,825,520	27 July 2012	Demultiplexers with grating reflectors		
D754	5,416,629	16 May 2012	Intensity modulated digital optical communications using a frequency modulated signal laser		
D779	5,400,166	21 Mar 2012	Communication of signals sharing a single optical source		
D766	5,373,389	13 Dec 2011	Method for linearizing an unbalanced Mach Zehnder optical frequency discriminator	AU: 661253	18 Oct 2013
				EPO <sup>1</sup> : 0595140	16 Oct 2013
				HK: 1008453	16 Oct 2013
				MX: 184453	27 Oct 2013
				NZ: 250051	26 Oct 2013
				TW: NI071566	27 Oct 2013
D556-Div	5,331,449	19 July 2011	Optical fiber tree and branch network for AM signal distribution		
D705	5,321,707	14 June 2011	Remote pumping for active optical devices		

<sup>1</sup> EPO consists of France, Germany and United Kingdom.

Note: This Attachment A may be updated in good faith by GI.



<u>E #</u>	<u>USP#</u>	<u>EXPIRATION</u>	<u>DESCRIPTION/NAME</u>	<u>FOREIGN PATENT #</u>	<u>EXPIRATION DATE</u>
D768	5,321,543	14 June 2011	Apparatus and method for linearizing an external optical modulator	AU: 658806	18 Oct 2013
				EPO <sup>2</sup> : 0594088	16 Oct 2013
				MX: 182947	20 Oct 2013
				NZ: 248982	18 Oct 2013
				TW: NI-73045	16 Oct 2013
D556 Div	5,301,054	05 Apr 2011	Transmission of AM-VSB video signals over an optical fiber		
D614-Cip	5,295,209	15 Mar 2011	Spontaneous emission source having high spectral density at a desired wavelength	CA-C <sup>*</sup> : 2102644	08 Nov 2013
				JP-C <sup>*</sup> : 5-303314	10 Nov 2013
				MX-C: 185906	10 Nov 2013
				S.KO <sup>*</sup> : 706560/1996	20 Nov 2016
				TW-C: NI-070342	09 Nov 2013
D707	5,293,545	8 Mar 2011	Optical source with reduced relative intensity noise		
D756	5,283,686	01 Feb 2011	Optical systems with grating reflector		
D756-Div	08/152,315	Pending on Appeal	Optical systems with grating reflector <sup>3</sup>		

<sup>2</sup> EPO consists of Greece, Spain, France, Germany and United Kingdom.

<sup>3</sup> Outside counsel : Marshall O'Toole Gerstein Murray & Borun of Chicago, IL.

<u>LE #</u>	<u>USP#</u>	<u>EXPIRATION</u>	<u>DESCRIPTION/NAME</u>	<u>FOREIGN PATENT #</u>	<u>EXPIRATION DATE</u>
D757	5,271,024	14 Dec 2010	Optical fiber amplifier and laser with flattened gain slope	CA <sup>*</sup> : 2101364	27 July 2013
				EPO <sup>4</sup> : 0582860	20 July 2013
				JP <sup>*</sup> : 5-203764	27 July 2013
				MX: 182613	26 July 2013
				TW: NI-66879	07 Sept 2013
D767	5,268,910	07 Dec 2010	Superluminescent optical source	EPO <sup>5</sup> : 0524558	18 July 2012
D658	5,257,124	26 Oct 2010	Low distortion laser system for AM fiber optic communication	CA <sup>*</sup> : 2075387	06 Aug 2012
				MX: 178093	14 Aug 2012
D581-Div	5,243,609	07 Sept 2010	Laser with longitudinal mode selection	EPO-C <sup>6</sup> : 0575750	19 May 2013
				CA-C <sup>*</sup> : 2096799	21 May 2013
				JP-C <sup>*</sup> : 5-144285	24 May 2014
				MX-C: 181939	21 May 2013
				NO-C <sup>*</sup> : 931850	21 May 2013
				HK-C: 1008405	19 May 2013
D727	5,222,089	22 June 2010	Optical signal source for overcoming distortion generated by an optical amplifier		
D567	5,212,579	18 May 2010	Method and apparatus for communicating amplitude modulated signals over an optical communication path		
D556	5,210,631	11 May 2010	Transmission of AM-VSB video signals over an optical fiber		

<sup>4</sup> EPO consists of Austria, Belgium, Denmark, France, Germany, Greece, Holland, Ireland, Sweden, Switzerland, Italy, Liechtenstein, United Kingdom and Spain.

<sup>5</sup> EPO consists of Italy, Sweden, Switzerland, United Kingdom, Belgium, France, Germany and Holland.

EPO consists of Belgium, France, Germany, Holland, Italy, Sweden, Switzerland and United Kingdom.

<u>LE #</u>	<u>USP#</u>	<u>EXPIRATION</u>	<u>DESCRIPTION/NAME</u>	<u>FOREIGN PATENT #</u>	<u>EXPIRATION DATE</u>
D738	5,208,819	04 May 2010	Optical source with frequency locked to an in-fiber grating resonator	CA <sup>*</sup> : 2079863	05 Oct 2012
				EPO <sup>7</sup> : 0552415	06 Oct 2012
				JP <sup>*</sup> : 5-17847	11 Jan 2013
				MX: 180639	22 Jan 2013
				TW: NI-57550	01 Aug 2007
				HK: 606-1997	06 Oct 2012
D614-Cip	5,200,964	06 Apr 2010	Broad linewidth lasers for optical fiber communication systems	CA Div <sup>*</sup> : 2202304	10 Mar 2012
				CA: 2062605	10 Mar 2012
				EPO <sup>8</sup> : 0503579	11 Mar 2012
				EPO Div <sup>*</sup> : 96117554.4	11 Mar 2012
				EPO Div (2) <sup>*</sup> : 97114204.7	11 Mar 2012
				ISREAL: 101204	11 Mar 2012
				JP <sup>*</sup> : 4-86096	10 Mar 2012
				MX: 179136	11 Mar 2012
				TW: NI-070917	09 Mar 2012
HK: 1011158	11 Mar 2012				

<sup>7</sup> EPO consists of France, Germany, Ireland, Italy and United Kingdom.

<sup>8</sup> EPO consists of France, Germany and United Kingdom.

<u>FILE #</u>	<u>USP#</u>	<u>EXPIRATION</u>	<u>DESCRIPTION/NAME</u>	<u>FOREIGN PATENT #</u>	<u>EXPIRATION DATE</u>
D676	5,191,586	02 Mar 2010	Narrow band incoherent optical carrier generator	EPO <sup>9</sup> : 0523484	03 July 2012
				CA: 2072815	30 June 2012
				NO*: P922855	17 July 2012
				MX: 180294	15 July 2012
				JP*: 4-212299	17 July 2012
				HK: 1004932	03 July 2012
D708	5,187,760	16 Feb 2010	Wavelength selective coupler for high power optical communications	TW: NI-65158	14 Feb 2012
D614	5,166,821	24 Nov 2009	Reduction of non-linear effects in optical fiber communication systems and method of using same		
D613	5,159,601	27 Oct 2009	Method for producing a tunable erbium fiber laser		
D574	5,153,762	06 Oct 2009	Method and apparatus for recovering AM channel signals distributed on an optical fiber		

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<sup>9</sup> EPO consists of Germany, United Kingdom, France and Liechtenstein.

<u>LE #</u>	<u>USP#</u>	<u>EXPIRATION</u>	<u>DESCRIPTION/NAME</u>	<u>FOREIGN PATENT #</u>	<u>EXPIRATION DATE</u>
D581	5,151,908	29 Sept 2009	Laser with longitudinal mode selection	EPO <sup>10</sup> : 0486930	13 Nov 2011
				CA: 2055324	13 Nov 2011
				HK: 1008404	13 Nov 2011
				JP <sup>*</sup> : 3-331263	20 Nov 2011
				MX: 179130	19 Nov 2011
				NO <sup>*</sup> : P914521	19 Nov 2011
D675	5,140,456	18 Aug 2009	Low noise high power optical fiber amplifier	CA: 2062606	10 Mar 2012
				EPO <sup>11</sup> : 0508149	13 Mar 2012
				HK: 666/1997	13 Mar 2012
				ISREAL: 101094	28 Feb 2012
				JP: 2568145	16 Mar 2012
				MX: 179302	08 Apr 2012
D581	5,134,620	28 July 2009	Laser with longitudinal mode selection		
D578	5,107,360	21 Apr 2009	Optical transmission of RF subcarriers in adjacent signal bands	JP-C: 2,911,074	05 Nov 2011

## 2. Patent Applications

See as indicated above.

## 3. Laboratory Notebooks

All laboratory and telephone books kept by Dr. David R. Huber while an employee of GI.

<sup>10</sup> EPO consists of Belgium, France, Germany, Holland, Italy, Sweden, Switzerland and United Kingdom.

<sup>11</sup> EPO consists of France, Germany and United Kingdom.

Denotes pending applications.

#### 4. Technology

All unpatented inventions, trade secrets and other information developed under the direction of Dr. David R. Huber while an employee of General Instrument.

#### 5. Licenses and Sub-licenses

Each of the following patents including any divisions, reissues, continuations, continuations-in-part, reexaminations, substitutions, extensions, and foreign equivalents of such patents; and any patent issuing on the foregoing foreign patent applications.

- 5,701,186 Optical cable TV system
- 5,659,351 Switch and insertion networks in optical cable TV system
- 5,600,473 Optical amplifier systems with add/drop multiplexing
- 5,579,143 Optical system with tunable in-fiber gratings
- 5,557,442 Optical amplifiers with flattened gain curves
- 5,555,118 Method for removing and inserting optical carriers in a WDM optical communication system
- 5,467,212 Addressable grating modulation system for optical cable TV system

Licenses to improvements, including patents, patent applications, and any technology constituting an improvement to the technology identified in Sections 1-4 & 6 of this Attachment A, granted under the Agreement dated January 11, 1993 between GI Corporation and Hydralite Incorporated.

#### 6. Agreements

Letter from Shawn L. McClintock of GI to Stephen R. Whitt of Ciena Corporation dated October 2, 1998 and agreed to by Ciena on October 9, 1998

Supplemental Agreement dated December 15, 1997 between NEXTLEVEL SYSTEMS, INC., and Ciena Corporation

Co-Ownership Agreement dated March 4, 1997 between General Instrument Corporation of Delaware, Agreement dated December 11, 1996 between General Instrument Corporation of Delaware and Ciena Corporation

Agreement dated January 11, 1993 between GI Corporation and Hydralite Incorporated (collectively referred to as the "GI-Ciena Agreements").

ATTACHMENT B

Listed Companies

Nortel Networks Corporation

Lucent Technologies, Inc.

Alcatel Alsthom S.A.

Pirelli S.p.A.

Siemens AG

Telefonaktiebolaget LM Ericsson

Hitachi, Ltd.

NEC Corporation

Tyco International Ltd.

And each Affiliate of such companies except to the extent an entity is an Affiliate due solely to clause (b) of the definition of Control.

ATTACHMENT C  
Form of Warrant



ATTACHMENT D

List of Licenses and Sublicenses

All licenses and sublicenses listed in Attachment A, Section 6 of this Agreement together with the joint development agreement with BT&D Technologies-America, dated September 6, 1990.

**CONFIDENTIAL****CO-OWNERSHIP AGREEMENT**

This Co-Ownership Agreement is entered into between **GENERAL INSTRUMENT CORPORATION OF DELAWARE**, a Delaware corporation located at 8770 West Bryn Mawr Avenue, Chicago Illinois 60631 (referred to herein as "Assignor") and **CIENA CORPORATION**, a Delaware corporation, located at 8530 Corridor Road, Savage, Maryland 20763 (referred to herein as "Assignee") this ~~11~~ day of March, 1997 (the "Effective Date"). Assignor and Assignee are referred to herein collectively as "the Parties."

**WHEREAS** Assignor is the record owner of the below-listed United States Patents, as well as corresponding foreign patents and applications, herein referred to as "the Patents:"

No. 5,119,447	No. 5,210,633	No. 5,373,389	No. 5,293,545
No. 5,134,620	No. 5,159,601	No. 5,166,821	No. 5,140,456
No. 5,321,707	No. 5,268,910	No. 5,191,586	No. 5,153,762
No. 5,400,166	No. 5,321,543	No. 5,271,024	No. 5,208,819
No. 5,187,760	No. 5,222,089	No. 5,212,579	No. 5,107,360
No. 5,151,908	No. 5,243,609	No. 5,200,964	No. 5,257,124
No. 5,295,209	No. 5,257,125	No. 5,416,629	No. 5,283,686

**WHEREAS** Assignee is licensee to the Patents pursuant to a Prior Agreement between the Parties dated December 11, 1996 ("Prior Agreement"), which contemplated that Assignee would have rights to take legal action against infringers of the Patents;

**WHEREAS** the Parties are desirous of perfecting and clarifying those rights;

**NOW, THEREFORE**, in consideration of the premises and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties, intending to be bound, agree as follows:

1. It is the intent of the Parties that this Co-Ownership Agreement be construed to give standing for Assignee to bring and maintain any suits Assignee chooses to bring and maintain under any of the Patents pursuant to rights under this Co-Ownership Agreement, while Assignor continues to have standing to bring and maintain any suits Assignor chooses to bring and maintain under any of the Patents pursuant to its ownership rights therein, subject to the rights set forth in this Co-Ownership Agreement.
2. To this end, Assignor hereby assigns to Assignee an undivided interest in and to each of the Patents.

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3. Assignor hereby confirms that it has granted and hereby does grant to Assignee the right to bring suit for past, present, and/or future infringement of any of the Patents, while Assignor also maintains such right for its own account, subject to the rights of Assignee set forth in this Co-Ownership Agreement.

4. Each party shall promptly inform the other party of any infringement or reasonably suspected infringement of any of the Patents by third parties. Assignee shall have and is hereby granted the unilateral right and option to elect to take legal action against and to bring suit against such infringers without Assignor joining, and if Assignee so elects, damage awards or other proceeds resulting from such legal action, if any, shall belong to Assignee. If a court nevertheless determines that the absence of Assignor is an impediment to any such suit, Assignor agrees, 1) to be joined in the suit as a party, or 2) to grant Assignee the right to sue in Assignor's name. Should Assignor be joined to a suit brought by or against Assignee in relation to the Patents, Assignee agrees to reimburse Assignor for all litigation costs, including outside attorney fees, arising in such suit. However, Assignee shall not be obligated to indemnify Assignor under any claims or counterclaims of infringement by a third party against Assignor.

5. Nothing herein shall obligate Assignee to take legal action against alleged infringement of any of the Patents; provided, however, that if Assignee fails to take action against any infringer within ninety (90) days after the date of any notice given in accordance herewith, Assignor shall only thereupon have the right, but not the obligation to take legal action against and to bring suit against such infringers, and if Assignor so exercises such right, damages awards or other proceeds resulting from such legal action, if any, shall belong to Assignor. Assignee shall cooperate with Assignor in such endeavor, and if a court determines that the absence of Assignee is an impediment to any such suit, Assignee agrees, 1) to be joined in the suit as a party, or 2) to grant Assignor the right to sue in Assignee's name. Should Assignee be joined to a suit brought by or against Assignor in relation to the Patents, Assignor agrees to reimburse Assignee for all litigation costs, including outside attorney fees, arising from such suit. However, Assignor shall not be obligated to indemnify Assignee under any claims or counterclaims of infringement by a third party against Assignee.

6. Assignor shall, within thirty (30) days of Assignee's request, execute suitable short form documents for recording Assignee's Co-Ownership rights in the Patents.

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7. The rights and obligations of the Parties under the Prior Agreement shall continue except as expressly modified herein.

IN WITNESS WHEREOF, the Parties hereto have executed this Co-Ownership Agreement as of the Effective Date set forth above.

GENERAL INSTRUMENT  
CORPORATION OF DELAWARE

CIENA CORPORATION

By: Ralph Pyszanski

By: [Signature]

Title: VP and Controller

Title: VP and General Counsel

Date: MARCH 10, 1997

Date: MARCH 4, 1997

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## AGREEMENT

This Agreement is entered into between **GENERAL INSTRUMENT CORPORATION OF DELAWARE** (Formerly GI Corporation), a Delaware corporation located at 8770 West Bryn Mawr Avenue, Chicago, Illinois 60631 (the "Licensor") and **CIENA CORPORATION** (formerly Hydralite Incorporated), a Delaware corporation, located at 8530 Corridor Road, Savage, Maryland 20763 (the "Licensee") this 11th day of December, 1996 (the "Effective Date").

**WHEREAS**, Licensor is the owner of certain intellectual property, including U.S. and foreign patents and patent applications relating to Fiber Optic Technology, trade secrets and Know-How; and

**WHEREAS**, Licensee desires to Make, Use and/or Sell Licensed Products for transmitting, amplifying, or processing fiber optic signals utilizing Fiber Optic Technology, and intends to design, Make, Use and/or Sell such Licensed Products as defined herein; and

**WHEREAS**, Licensor is willing to extend a license and Licensee wishes to acquire a license under GI Corporation U.S. and corresponding foreign patents; and

**WHEREAS**, Licensor and Licensee were parties to an "Agreement" dated January 11, 1993 and a corresponding but since terminated "Supply Agreement" dated April 30, 1993 (collectively, the "Prior Agreements"), which the parties desire to replace with this Agreement.

**NOW, THEREFORE**, in consideration of the mutual covenants contained herein, the parties hereby agree as follows:

### 1. DEFINITIONS

1.1 "Affiliate" shall mean:

- (a) any business entity directly or indirectly owning or controlling at least fifty percent (50%) of the voting stock of Licensor or Licensee; or
- (b) any business entity in which Licensor or Licensee directly or indirectly owns, controls or has a partnership interest in at least fifty percent (50%) of the assets or voting stock of that entity.

1.2 "Components" shall mean functional parts and devices which are functionally incorporated in optical amplifiers such as optical isolators, pump lasers, erbium-doped fibers, couplers, control electronic systems and the like. The term does

## CONFIDENTIAL

not include materials except to the extent they are used for or incorporated in the manufacture of optical amplifiers and/or components thereof.

1.3 "Fiber Optic Technology" shall mean all Licensor's technical information relating to optical systems and associated Components, whether patented or not, and includes both Know-How and Patents.

1.4 "Improvements" shall mean any modification by Licensor in or to products utilizing Fiber Optic Technology, whether or not patentable, which depends upon a Licensed Product for its use or effectiveness or which increases the effectiveness of a License Product, including, without limitation, any modification of a part, component or assembly intended to perform or produce results similar to those performed or produced by a Licensed Product.

1.5 "Intellectual Property Rights" shall mean Patents, Know-How and information necessary to design Licensed Products including the following rights related to such Patents and Know-How: registered designs and applications therefor, copyrights, rights in mask works, trade secrets and other exclusionary rights.

1.6 "Know-How" shall mean technical information which is unpatented and trade secrets, and shall include the general and specific knowledge, experience and information, not in written or printed form, applicable to the design, manufacture, assembly, testing or sale of Licensed Products.

1.7 "Licensed Products" shall mean those products listed in Attachment 1 hereto utilizing Fiber Optic Technology, together with all Improvements of and to said products at the time that such Improvements are put into standard commercial production and available for sale, or any other product utilizing Fiber Optic Technology.

1.8 "Licensee Venture" shall mean any business enterprise organized to Make, Use and/or Sell Licensed Products in accordance with this Agreement.

1.9 "Make, Use and/or Sell" shall include the following: manufacture, use, sale, lease, design, operations, servicing, repair, fabrication, assembly, application, structure and composition.

1.10 "Patents" shall mean those letters patent and patent applications set forth in Attachment 2, attached hereto and made a part hereof, and any international counterparts thereof.

1.12 "Technology" shall mean all technical information relating to optical amplifiers, contributed or developed under a joint development agreement between and among Licensor, BT&D Technologies and BT&D Technologies-America, dated September 6, 1990 (the "BT&D Agreement"), whether patented or not and whether developed within or outside the operation of said joint development agreement, and includes both Know-How and Patents.

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## 2. CASH PAYMENT

On or after January 1, 1997 but no later than January 8, 1997, Licensee will deliver to Licensor a check in the amount of \$2,000,000.

## 3. LICENSES GRANTED

3.1 Licensor hereby grants to Licensee, and Licensee hereby accepts a perpetual, nonexclusive, irrevocable, royalty-free, paid up right and license, with the right to grant sublicenses, to use the Intellectual Property Rights to Make, Use and/or Sell Licensed Products or any other products worldwide.

3.2 Licensor hereby grants the right to Licensee to enter into one or more nonexclusive cross-license agreements with any third party which has asserted a claim of infringement against Licensor or Licensee, and in which the intellectual property of such third party cross-licensee is licensed to Licensee in exchange for a grant of the Intellectual Property Rights of Licensor to such cross-licensee third party.

3.3 In the event that Licensee sublicenses any rights under Section 3.1 above, Licensee shall pay to Licensor fifty percent (50%) of any monies received by Licensee for such sublicenses. Licensee shall pay Licensor any such monies annually in arrears on the anniversary date of this Agreement.

3.4 The parties agree that no monies shall be due from Licensee to Licensor for any cross license entered into by Licensee as contemplated under Section 3.2 above.

## 4. INFRINGEMENT BY THIRD PARTIES

Each party shall promptly inform the other party of any infringement or reasonably suspected infringement, of Licensed Patents by third parties. Licensee shall have the first right and option to elect to take legal action against such infringers, and if it so elects, damage awards or other proceeds resulting from such legal action, if any, shall belong to Licensee. Nothing herein shall obligate Licensee to take legal action against alleged infringement of any Licensed Patent; provided, however, that if Licensee fails to take action against any infringer within ninety (90) days after the date of any notice given in accordance herewith, Licensor shall thereupon have the right, but not the obligation to take such action at its own expense, and if Licensor so exercises such right, damage awards or other proceeds resulting from such legal action, if any, shall belong to Licensor. Licensee shall cooperate with Licensor in such endeavor; provided, however, that Licensor shall reimburse Licensee for its out of pocket expenditures incurred in the course of such cooperation

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## 5. ASSIGNMENT

Either party may assign this Agreement upon the prior written consent of the other party, such consent not to be unreasonably withheld or delayed. Notwithstanding the foregoing, either party may assign this Agreement without the consent of the other party, to any entity (i) which acquires or gains control of fifty percent (50%) or more of its voting stock, or (ii) which purchases substantially all of its assets.

## 6. PATENT PROSECUTION

Licensor shall not be obligated to file any Patent, or continue the prosecution of any pending Patent application, or to maintain any issued Patent in force. In the event that Licensor declines to file any Patent, or continue the prosecution of any pending Patent application, or to maintain any issued Patent in force, then Licensor shall provide notice of such intention to Licensee, and Licensee shall have the option to file, prosecute, or maintain such Patent in force, in Licensee's name, and at Licensee's expense. For all such Patents in which Licensee exercises the option pursuant to this paragraph, Licensee hereby grants to Licensor a worldwide, non-exclusive, royalty free license with the right to sublicense in accordance with paragraph 3, in and to any Patents filed, prosecuted or maintained by Licensee.

## 7. NOTICES

All notices, reports and other communications which are required or permitted to be given hereunder shall be given in writing and shall be deemed to have been given upon delivery in person; or upon sending of a wire or a cable; or five (5) days after sending by certified or registered mail, postage prepaid, to the other party at the addresses specified below. Such addresses may be changed at any time by either party by giving notice to the other as provided herein.

If to Licensee:

G. Eric Georgatos, General Counsel  
Ciena Corporation  
8580 Corridor Road  
Savage, Maryland 20763

If to Licensor:

General Instrument Corporation of Delaware  
8770 West Bryn Mawr Avenue

Chicago, Ill 60631

Attention: General Counsel



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## 8. PATENT MARKING

Licensee shall attach or cause to be attached to each Licensed Product a marking or label giving notice of the patent and patent number or numbers applicable to each such Licensed Product.

## 9. ATTORNEYS' FEES

In the event either party brings any action or suit against the other party alleging any breach of any of the provisions hereof by such other party, and a court determines that any party is a prevailing party with respect to such action, then the non-prevailing party shall pay all of the costs and expenses (including reasonable attorneys' fees and fees of expert witnesses) incurred by the prevailing party in connection with such action or suit. Whether or not a party is a prevailing party for these purposes shall be determined by a court to which the matter involved is referred for adjudication and shall be specified in the decisions thereof.

## 10. WAIVER

The failure of any party to insist upon the performance of any of the terms, covenants, conditions or provisions of this Agreement shall not be considered a waiver or relinquishment of future compliance with such terms, covenants, conditions or provisions; nor shall a party's waiver of a breach of any term, covenant, condition or provision be deemed such a waiver or relinquishment.

## 11. COUNTERPARTS

This Agreement may be executed in or more counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

## 12. MUTUAL RELEASE

Each party, on behalf of itself, its directors, officers, employees, affiliates, successors and assigns (collectively the "Releasing Parties"), releases and fully discharges the other party, its directors, officers, employees, affiliates, successors and assigns (collectively, the "Released Parties") from all claims, debts, suits, demands, actions, causes of action, accounts, sums of money, bills, covenants, reckonings, contracts, controversies, agreements, promises, damages, executions, judgments, bonds and all other liabilities of every kind and nature whatsoever, in law and in equity, foreseen or unforeseen, patent or latent, which any Releasing Party ever had or now has arising out of or in connection with the Prior Agreements. This release is intended as a reciprocal, full and general release of the matters specified but is not intended to apply to or otherwise affect rights or obligations of the parties arising out of or in

# CONFIDENTIAL

connection with (a) this Agreement after the date hereof, and (b) any other written contract which the parties may enter into on this date or in the future.

## 13. MERGER AND SEVERABILITY

This Agreement contains the full and final agreement of the parties, and merges and supersedes any and all other agreements, including the Prior Agreements, promises and representations, prior to or contemporaneous with this Agreement, relating to the subject matter hereof. This Agreement shall not be amended or modified in any manner except by a writing signed by authorized representatives of both parties, and referring expressly to this Agreement. In the event that any portion of this Agreement is held invalid or unenforceable by a court of competent jurisdiction, it is the express intention of the parties hereto that the remaining portions hereof shall remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the Effective Date first set forth above.

### GENERAL INSTRUMENT

CORPORATION OF DELAWARE

CIENA CORPORATION

By: *[Signature]*

By: *[Signature]*

Title: VP. for CONTROLLER

Title: VP. AND GENERAL COUNSEL

Date: December 11, 1996

Date: December 11, 1996

Attachment 1 - Licensed Products

- . Solid State Laser
- . Distribution Optical Amplifier
- . Video Switch
- . External Modulator
- . Linear Optical Amplifier
- . Brilllioun Reduction
- . Block Converter
- . Remote Pump
- . Video Phone
- . Optical Frequency Reference
- . Laser Transmitter

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PATENT USE IN HYDRALITE PRODUCTS product.pat

PATENT	Solid Laser	Distrib Opt Amp	Video Switch	External Modulator	Linear Opt Amp	Brillioum Reduction	Block Converter	Remote Pump	Video Phone	Optical Fre Ref	Laser Transmit
D/556					X						
D/574			X				X				
D/581	X										
D/612				X							X
D/613	X										X
D/614	X					X			X		X
D/640				X							
D/675					X						
D/676								X			
D/705	X				X			X	X		X
D/707		X		X							
D/708	X							X			
D/727				X	X						
D/738	X				X					X	X
D/749					X					X	
D/750											
D/752	X										X
D/753									X		
D/754											X
D/755	X				X						
D/756		X									
D/757		X			X						
D/766											
D/767	X							X	X		
D/768				X							
D/778				X							
D/779											
D/783	X										X
D/787	X								X		
UCSD				X					X		X

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Attachment 2 -Licensed Patents

D/556  
BRL TRANSMISSION OF AM-VSB VIDEO  
SIGNALS OVER AN OPTICAL FIBER

SN:454,772  
FD:12/22/89

US PAT NO:  
ISSUED:

COMBINED WITH D/577  
STATUS: PENDING PATENT APPLICATION

D/581  
BRL LASER WITH LONGITUDINAL  
MODE SELECTION

SN:616,024  
FD:11/20/90

US PAT NO:5,134,620  
ISSUED:07/28/92

STATUS: ISSUED PATENT

D/613  
BRL METHOD FOR PRODUCING A TUNABLE  
ERBIUM FIBER LASER

SN:731,535  
FD:07/17/91

US PAT NO:5,159,601  
ISSUED:10/27/92

STATUS: ISSUED PATENT

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SN:  
FD:  
S PAT NO:  
ISSUED:

D/783  
LOW LOSS REFLECTOR FOR FIBER LASER

SN:  
FD:

US PAT NO:  
ISSUED:

STATUS: NEW DISCLOSURE NOT EVALUATED

D/614  
BRL REDUCTION OF NON-LINEAR EFFECTS IN  
OPTICAL FIBER COMMUNICATIONS  
SYSTEMS

SN:668,027  
FD:03/12/91

US PAT NO:5,166,821  
ISSUED:11/24/92

STATUS: ISSUED PATENT

D/675  
BRL LOW NOISE HIGH POWER OPTICAL  
FIBER AMPLIFIER

SN:681,986  
FD:04/08/91

US PAT NO:5,140,456  
ISSUED:08/18/92

STATUS: ISSUED PATENT

D/779  
BRL OPTICAL SOURCE SHARING FOR EXTERNAL  
MODULATORS

SN:963,461  
FD:10/20/92

US PAT NO:  
ISSUED:

STATUS: PENDING PATENT APPLICATION

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D/768  
BRL OPTICALLY LINEARIZED EXTERNAL  
MODULATOR SN:963,460  
FD:10/20/92  
US PAT NO:  
ISSUED:  
STATUS: PENDING PATENT APPLICATION

D/778  
METHOD FOR CONTROLLING SECOND ORDER  
DISTORTION IN EXTERNALLY MODULATED  
OPTICAL COMMUNICATION SYSTEM SN:  
FD:  
US PAT NO:  
ISSUED:  
STATUS: NEW DISCLOSURE NOT EVALUATED

D/757  
BRL USE OF BRAGG GRATING REFLECTOR TO  
MODIFY (FLATTEN) THE GAIN SLOPE OF  
AN ERBIUM FIBER AMPLIFIER SN:919,921  
FD:07/27/92  
US PAT NO:  
ISSUED:  
STATUS: PENDING PATENT APPLICATION

D/738  
BRL OPTICAL SOURCE WITH FREQUENCY  
LOCKED TO AN IN-FIBER GRATING  
RESONATOR SN:822,581  
FD:01/23/92  
US PAT NO:  
ISSUED:  
STATUS: PENDING PATENT APPLICATION

D/640  
BRL APPARATUS AND METHOD FOR EXTERNALLY  
MODULATING AN OPTICAL CARRIER SN:609,808  
FD:11/06/90  
US PAT NO:5,119,447  
ISSUED:06/02/92  
STATUS: ISSUED PATENT

D/612  
BRL APPARATUS AND METHOD FOR LINEARIZ-  
ING THE OPERATION OF AN EXTERNAL  
OPTICAL MODULATOR SN:581,015  
FD:09/12/90  
US PAT NO:  
ISSUED:  
STATUS: PENDING PATENT APPLICATION

D/756  
IO NARROW BAND OPTICAL FILTER-UPDATE SN:919,823  
FD:07/27/92  
US PAT NO:  
ISSUED:  
STATUS: PENDING PATENT APPLICATION

G/0480

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D/707 OPTICAL SOURCE WITH REDUCED PENDING PATENT APPLICATION  
RELATIVE INTENSITY NOISE S/N:919,924 F/D:07/27/92  
USP: I/D:

D/705 REMOTE PUMPING ERBIUM AMPLIFIER SN:919,920  
BRL FD:07/27/92  
US PAT NO:  
ISSUED:

STATUS: PENDING PATENT APPLICATION

D/708 WAVELENGTH SELECTIVE COUPLER FOR PENDING PATENT APPLICATION  
HIGH POWER OPTICAL COMMUNICATIONS S/N:822,582 F/D:01/23/92  
USP: I/D:

D/767 SUPERLUMINESCENT OPTICAL SOURCE PENDING PATENT APPLICATION  
**HydraLite** S/N:919,922 F/D:07/27/92  
**Confidential** USP: I/D:

D/676 NARROW BANDWIDTH INCOHERENT OPTICAL PENDING PATENT APPLICATION  
SOURCE S/N:732,097 F/D:07/18/91  
USP: I/D:

D/766 METHOD FOR LINEARIZING AN FILED, RECEIPT FROM PTO REQ'D  
UNBALANCED MACH ZEHNDER OPTICAL S/N: F/D:  
FREQUENCY DISCRIMINATOR USP: I/D:

D/754 DIRECT DETECTION INTENSITY FILED, RECEIPT FROM PTO REQ'D  
MODULATED SYSTEM USING A FREQUENCY S/N: F/D:  
MODULATED SIGNAL LASER USP: I/D:

G/0480

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CASE NO	US PATENT NO & file date	TITLE	INVENTORS
D/727	01/08/92	AN OPTICAL COMMUNICATION SYSTEM WHICH HAS IMMUNITY TO SECOND ORDER DISTOR GENERATED BY AN ERBIUM FIBER AMP WITH NON-ZERO GAIN SLOPE STATUS: PENDING PATENT APPLICATION	HUBER
D/749		GEOGRAPHICALLY DENSE STAR DISTRIBUTION OF CATV USING OPTICAL AMPLIFIERS IN A NEW CONFIGURATION STATUS: NO US FILING, FOREIGN FILED ONLY	HUBER
E/750		TREE AND BRANCH ARCHITECTURE WITH LOGICAL STAR FOR CATV DISTRIBUTION STATUS: NEW DISCLOSURE NOT EVALUATED	HUBER
D/752		PUMP LASER SHARING FOR OPTICAL COMMUNICATION SYSTEMS STATUS: NEW DISCLOSURE NOT EVALUATED	HUBER
D/753		WAVELENGTH DIVISION MULTIPLEXED RETURN PATH FOR LIGHTWAVE COMMUNICATION SYSTEMS STATUS: NEW DISCLOSURE NOT EVALUATED	HUBER
D/755		REDUNDANCY FOR RELIABLE FIBER OPTIC SYSTEMS STATUS: NEW DISCLOSURE NOT EVALUATED	HUBER
574	5,153,762 03/19/90	METHOD AND APPARATUS FOR RECOVERING AM CHANNEL SIGNALS DISTRIBUTED ON AN OPTICAL FIBER STATUS: ISSUED PATENT	HUBER

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