

## TRADEMARK ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	Purchase Agreement		
CONVEYING PARTY DATA			
Name	Formerly	Execution Date	Entity Type
Boeing Management Company		02/28/2005	CORPORATION:
RECEIVING PARTY DATA			
Name:	Boeing Electron Dynamic Devices, Inc.		
Street Address:	3100 W. Lomita Blvd.		
City:	Torrance		
State/Country:	CALIFORNIA		
Postal Code:	90505		
Entity Type:	CORPORATION:		
PROPERTY NUMBERS Total: 1			
Property Type	Number	Word Mark	
Serial Number:	75865658	XIPS	
CORRESPONDENCE DATA			
Fax Number:	(617)526-9899		
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>			
Phone:	617-526-9600		
Email:	sallen@proskauer.com		
Correspondent Name:	Proskauer Rose LLP		
Address Line 1:	One International Place		
Address Line 4:	Boston, MASSACHUSETTS 02110		
NAME OF SUBMITTER:	Erik Saarmaa		
Signature:	/Erik Saarmaa/		
Date:	11/19/2007		
Total Attachments: 41 source=04-Intellectual Property Agreement#page1.tif			

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## **INTELLECTUAL PROPERTY AGREEMENT**

**THIS INTELLECTUAL PROPERTY AGREEMENT** (as the same may be amended from time to time, this "Agreement"), dated as of February 28, 2005, ("Effective Date"), among The Boeing Company, on behalf of it and its Affiliates ("Boeing"), Boeing Satellite Systems, Inc., a Delaware corporation ("BSS" or "Seller"), and Boeing Management Company ("BMC"), a wholly owned subsidiary of Boeing, on the first part (Boeing, BSS, BMC, and to the extent applicable, any Affiliate of Boeing which may own or use Intellectual Property to be transferred or licensed herein may be collectively referred to as "Boeing and its Affiliates"), and Boeing Electron Dynamic Devices, Inc., a Delaware corporation ("EDD"), a Delaware corporation, on the second part. Boeing, BSS, EDD and BMC are referred to herein individually as a "Party" and collectively as the "Parties."

### **RECITALS**

WHEREAS, pursuant to the terms of the Stock Purchase Agreement dated as of November 20, 2004, as amended (the "Purchase Agreement"), L-3 Communications Corporation ("L-3") is buying or has bought from BSS, a wholly owned subsidiary of Boeing, all the stock of EDD;

WHEREAS, BMC is a wholly owned subsidiary of Boeing and is responsible for the disposition and management of intellectual property belonging to Boeing;

WHEREAS, Boeing and its Affiliates are, in accordance with the Purchase Agreement, transferring ownership of all the stock of EDD to L-3, as well as certain associated assets including Intellectual Property to EDD; and

WHEREAS, Boeing and its Affiliates on the first part and EDD on the second part are entering into this Agreement in support of the Purchase Agreement.

NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which hereby are acknowledged, the Parties agree as follows:

### **ARTICLE I**

#### **DEFINITIONS**

Except as otherwise set forth herein, capitalized terms used in this Agreement shall have the same meanings ascribed to them in the Purchase Agreement. For purposes of this Agreement, the following capitalized terms shall have the meanings assigned to them below:

1.1 **"EDD Field of Use"** as used herein means researching, designing, producing, selling, using and otherwise fully commercially exploiting and maintaining products and services in connection with (i) the operation of the Business, now and as it may naturally evolve after the Closing Date; and (ii) the fields of space TWTs, space TWTAs, linearized TWTs, linearized

TWTAs, passive microwave devices, military TWTs, and Xenon ion propulsion (“XIPS”) devices comprising thrusters, neutralizers and electronic power conditioners. For the purposes of this Agreement, (x) “TWT” means traveling wave tubes; and (y) “TWTA” means traveling wave tube amplifier.

1.2 **“EDD Intellectual Property”** means the Intellectual Property owned or controlled by Boeing or its Affiliates immediately prior to the Closing (as defined in the Purchase Agreement) that (a) is exclusively or primarily used, held for use or practiced in EDD, or (b) was originated, developed or created in or for EDD, including but not limited to the Intellectual Property identified in Schedules 1.2(a) and 1.2 (b) hereto.

1.3 **“EDD Marks”** means the Marks used in connection with EDD that are identified in Schedule 1.3 hereto, together with all good will related to the foregoing.

1.4 **“Hughes Intellectual Property”** means the Hughes owned patents listed on Schedule 1.4.

1.5 **“Intellectual Property”** means (a) computer software and databases and related documentation (the “Software”); and (b) Patents, trademarks (excluding Boeing Mark), domain names (together with all good will related thereto), copyrights, know-how, trade secrets, inventions, processes, procedures, drawings, specifications, designs, plans, proposals, technical data, copyrightable works, financial, marketing, and business data, pricing and cost information, business and marketing plans, customer and supplier lists and information, other confidential and proprietary information, manufacturing and production processes and techniques, molds, dies, casts and product configurations.

1.6 **“Licensed Boeing Intellectual Property”** means, as of the Closing Date, all Intellectual Property used in or practiced by EDD in the EDD Field of Use (but which is not EDD Intellectual Property) which is also concurrently being used by Boeing or its Affiliates outside of the EDD Field of Use. The Licensed Boeing Intellectual Property is set forth on Schedule 1.6 and may be updated by the parties as set forth in Section 3.4.

1.7 **“Licensee Party”** means EDD, with respect to the Licensed Boeing Intellectual Property, and Boeing and its Affiliates, with respect to certain EDD Intellectual Property.

1.8 **“Licensor Party”** means Boeing or its Affiliates, with respect to the Licensed Boeing Intellectual Property and EDD with respect to certain EDD Intellectual Property.

1.9 **“Marks”** mean fictional business names, trade names, trade dress rights, registered and unregistered trademarks and service marks and logos, including any Internet domain names, and applications therefor.

1.10 **“Plasma Field of Use”** means researching, designing, producing, selling, using and otherwise fully commercially exploiting and maintaining products and services relating to plasma devices comprising plasma wave microwave tubes, plasma switch tubes and plasma-cathode electron guns used in high power microwave (HPM) and directed energy (DE) systems.

## ARTICLE II

### ASSIGNMENT OF EDD INTELLECTUAL PROPERTY

2.1 Assignment of EDD Intellectual Property. Each of Boeing and its Affiliates, on behalf of itself and its Affiliates, hereby sells, assigns, transfers and conveys to EDD, as of the Closing Date, all right, title and interest of Boeing and its Affiliates in and to the EDD Intellectual Property and to the EDD Marks. This Assignment includes all of Boeing and its Affiliates' rights to sue or recover for, and obtain injunctions against, any and all past, present and future infringement or misappropriation of EDD Intellectual Property and EDD Marks so assigned, to be held and enjoyed as fully and exclusively as such rights would have been by such selling parties on the Closing Date had this assignment and transfer not been made.

2.2 Further Assurances. Promptly upon the request of EDD, each of Boeing and its Affiliates, on behalf of itself and its Affiliates, further agrees to execute and deliver, such additional documents and take such other action as may be reasonably necessary to continue, secure, defend, register, confirm, evidence and otherwise give full effect to and to perfect the rights of EDD under this Agreement, and hereby authorizes and appoints and grants EDD full power of attorney to execute, in the name and on behalf of Boeing and its Affiliates, all such documents necessary to perfect, affirm, record and maintain title in EDD, its successors, assigns or other legal representatives to any of the EDD Intellectual Property or the EDD Marks, including all documents necessary to register in the name of EDD the assignment of (i) each Patent, patent application, and invention disclosure in the appropriate country or countries, and (ii) each trademark, registration and application and trade name.

2.3 Authorization to Record. Each of Boeing and its Affiliates, on behalf of itself and its Affiliates, hereby authorizes and requests that the Commissioner of Patents and Trademarks of the United States and each official holding a corresponding position of authority in any country in which any such entity owns one or more patent or trademark registrations or has pending one or more patent or trademark applications to issue and to record the title of EDD as owner of all right, title and interest in and to the patents, patent applications and invention disclosures and Marks identified in Schedules 1.2(a), 1.2(b) and 1.3 hereto.

2.4 Additional Patents to be Assigned. The Parties recognize and agree that the Hughes Intellectual Property listed on Schedule 1.4 is not currently owned by Boeing or its Affiliates. However, promptly after the Effective Date, Boeing and its Affiliates shall use their reasonable best efforts so that Hughes assigns the Hughes Intellectual Property to Boeing or its Affiliates pursuant to the inadvertent omission provisions that form a part of the agreements between Boeing and Hughes whereby Boeing acquired the Hughes Space and Communications business, including EDD. If and to the extent Boeing or its Affiliates are successful in obtaining such an assignment from Hughes, Boeing and its Affiliates shall promptly reassign such Hughes Intellectual Property to EDD as EDD Intellectual Property. If and to the extent Boeing or its Affiliates are only successful in obtaining a license, such Hughes Intellectual Property shall be licensed to EDD via an exclusive pass through license which is the same as that granted by Hughes to Boeing or its Affiliates, and shall otherwise be deemed to be Licensed Boeing Intellectual Property. Notwithstanding the foregoing, Boeing and its Affiliates shall not be obligated to pay any license fees in order to obtain such assignments of licenses from Hughes. If

after having used its reasonable best efforts Boeing is not successful in obtaining an assignment or license of the Hughes Intellectual Property, then EDD may elect to continue to pursue this effort, and Boeing and its Affiliates, at EDD's expense, shall give all reasonable assistance to EDD in furtherance of such effort.

### ARTICLE III

### LICENSES

3.1 License Grant by Boeing and its Affiliates. Each of Boeing and its Affiliates, on behalf of itself and its Affiliates, hereby grants to EDD under the Licensed Boeing Intellectual Property: (i) within the EDD Field of Use an exclusive (even as to Boeing and its Affiliates), irrevocable, worldwide, perpetual, royalty-free license, with the right to grant sublicenses of the same scope and to the extent provided in Section 3.2(b): to make, have made, use (including operate and maintain), copy, have copied, display, perform, import, sell, offer to sell, create derivative works and modifications, distribute or otherwise dispose of, in any manner and to any Person, products, including without limitation any product included within the EDD Field of Use and perform or have performed services which incorporate or otherwise use the Licensed Boeing Intellectual Property, including to practice any method or process for use in the manufacture of any such products or provide or have provided such services; and (ii) within the Plasma Field of Use, a non-exclusive, irrevocable, worldwide, perpetual, royalty-free license, with the right to grant sublicenses of the same scope and to the extent provided in Section 3.2(b): to make, have made, use (including operate and maintain), copy, have copied, display, perform, import, sell, offer to sell, create derivative works and modifications, distribute or otherwise dispose of, in any manner and to any Person, products, including any product included within the Plasma Field of Use and perform or have performed services which incorporate or otherwise use the Licensed Boeing Intellectual Property, including to practice any method or process for use in the manufacture of any such products or provide or have provided such services.

3.2 Sublicenses by EDD.

(a) The licenses of the Licensed Boeing Intellectual Property granted by Boeing and its Affiliates in Section 3.1 shall include the right to sublicense Affiliates (including subsidiaries) of EDD, joint venture partners and other third parties, whether or not such parties are participating in a teaming or other cooperative agreement or arrangement involving the products or technologies of such third parties and EDD or independent contractors that have been engaged by EDD to assist in the design or development of products or the provision of related services. Any such sublicense agreement entered into by a party shall be consistent with the terms of this Agreement.

(b) Notwithstanding Section 3.2(a), sublicenses shall be effective only if the permitted sublicensee has agreed in writing to be bound by all of the limitations imposed under this Agreement with respect to proprietary information and the scope of the license granted hereunder. Any sublicense so granted shall be transferable to a purchaser of substantially all of the business of a sublicensed party (whether such purchase is made by a purchase of assets or stock, a merger or otherwise); provided that such purchaser agrees in writing to be bound by all

of the limitations imposed under this Agreement with respect to Proprietary Information and the scope of the license granted hereunder.

3.3 Reservation of Rights. All rights not expressly granted by the Parties hereunder are reserved to the Parties. Without limiting the generality of the foregoing, the Parties expressly acknowledge that nothing contained herein shall be construed or interpreted as a grant, by implication or otherwise, of any licenses other than the licenses specified in Sections 3.1 and 3.5 hereof and the sublicenses specified in Section 3.2 hereof.

3.4 Inadvertent Omission. Any Intellectual Property that can be demonstrated by any party to have been inadvertently omitted from Schedule 1.2(a), 1.2(b), 1.3 or 1.6 of this Agreement shall be deemed included in the EDD Intellectual Property or the Licensed Boeing Intellectual Property or the EDD Marks, as applicable, and the rights and licenses granted hereunder shall apply thereto without the need for any additional consideration. The provisions of this Agreement shall apply thereto, including Sections 2.2 and 2.3.

3.5 License to Boeing. In the event that there is EDD Intellectual Property which is as of the Closing Date (i) primarily used in the Business, and (ii) used by Boeing or its Affiliates outside of the EDD Field of Use, then EDD shall grant to Boeing a non-exclusive, irrevocable, worldwide, perpetual, non-exclusive, nontransferable, royalty-free license under that relevant portion of the EDD Intellectual Property and then, except as specified in Sections 7.7.2.5 and 7.7.2.6 of the Purchase Agreement, solely outside of the EDD Field of Use and not in violation of BSS's agreements and covenants in the Stock Purchase Agreement, to make, have made, use (including operate and maintain), copy, display, perform, import, sell, offer to sell, create derivative works and modifications, distribute or otherwise dispose of, in any manner and to any Person, products and perform or have performed services which incorporate or otherwise use such relevant portion of the EDD Intellectual Property, including without limitation to practice any method or process for use in the manufacture of such products or provide or have provided such services, except that the foregoing license (a) shall not include any right to disclose any proprietary information other than as set forth below in this Agreement, (b) shall be solely outside of the EDD Field of Use, and (c) shall not permit Boeing or its Affiliates to use such relevant portion of the EDD Intellectual Property to engage in any business which competes with the Business. For the avoidance of doubt, the parties agree that the foregoing license grant does not include any right to use the EDD Marks. The license to such relevant portion of the EDD Intellectual Property which may be granted to Boeing under this Section 3.5 shall include the right to sublicense only Boeing customers, suppliers, strategic partners, team members and the like for the benefit of Boeing in the ordinary course of Boeing's business, but not for commercial licensing purposes. Sublicensees shall be effective only if the permitted sublicensee has agreed in writing to be bound by all of the limitations imposed under this Agreement with respect to Proprietary Information and the scope of the license granted hereunder. Any sublicense so granted shall be transferable to a purchaser of substantially all of the business of a sublicensed party (whether such purchase is made by a purchase of assets or stock, a merger or otherwise); provided that such purchaser agrees in writing to be bound by all of the limitations imposed under this Agreement with respect to proprietary information and the scope of the license granted hereunder. Notwithstanding the foregoing, the above license to Boeing to use the Plasma Patents (defined below) shall not be predicated on Boeing or its Affiliates' prior or current use of such Plasma Patents, provided that all other limitations delineated herein shall apply.

3.6 Plasma Patents; Inadvertent Omission. Subject to hereafter becoming deemed EDD Intellectual Property pursuant to the provisions of Section 2.4 of this Agreement, Schedule 3.6 sets forth Intellectual Property which relates to the Plasma Field of Use (the "Plasma Patents"), which EDD hereby licenses to Boeing (effective upon the acquisition by EDD pursuant thereof to Section 2.4) solely in the Plasma Field of Use pursuant to the license grant set forth above in Section 3.5. In the event that any EDD Intellectual Property that can be demonstrated by Boeing or its Affiliates to have been inadvertently omitted from Schedule 3.6 of this Agreement (i.e., such EDD Intellectual Property solely relates to the Plasma Field of Use), then such EDD Intellectual Property shall be deemed to be included on Schedule 3.6, and the rights and licenses granted hereunder shall apply thereto without the need for any additional consideration.

3.7 Pre-Existing Licenses to Third Parties. The licenses set forth in Sections 3.1 and 3.5 are subject to all pre-existing licenses and rights granted to third parties, including Governmental rights in Subject Inventions (as defined in the Federal Acquisition Regulations). With respect to the license grant set forth in Section 3.1, Boeing represents and warrants that all such pre-existing licenses and rights are set forth on Schedule 3.6 hereto. Subject inventions forming a part of EDD Intellectual Property are listed in Schedule 7.1(e).

3.8 Third Party Licensed Intellectual Property. Boeing and its Affiliates shall not be liable for any transfer fees or any other costs or fees or sublicense fees associated with obtaining any such consents in the event there is Software or technology which is the subject of Section 7.1(j).

3.9 As Is License. Other than as set forth herein or in the Stock Purchase Agreement, EDD will accept the Licensed Boeing Intellectual Property "as is." With respect to the Licensed Boeing Intellectual Property, and other than as set forth in the Transition Services Agreement, Boeing and its Affiliates will not provide any maintenance, installation, debugging, improvements, upgrades, revisions or any other support services in connection with the Licensed Boeing Intellectual Property, nor shall Boeing and its Affiliates have any obligations hereunder to provide any technical assistance with respect to the Licensed Boeing Intellectual Property.

3.10 Own and Use. Upon consummation of the transactions contemplated by the Purchase Agreement, EDD will either own or have the right to use all Intellectual Property that is both owned by Boeing and its Affiliates and necessary for or used in the conduct of the Business as conducted as of the Closing Date.

3.11 Covenant Not To Sue. To the extent that Intellectual Property is as of the Closing Date used in the EDD Field of Use, each of Boeing and its Affiliates, on behalf of itself and its Affiliates, hereby covenants not to sue or enforce against EDD, permitted sublicensees or its customers any rights of Boeing or such Affiliates in such Intellectual Property for infringements that occur as the result of such parties' operations within the EDD Field of Use. The foregoing shall be binding on the successors and assigns of Boeing and its Affiliates.



## **ARTICLE IV**

### **PROPRIETARY INFORMATION**

4.1 PIA. The parties agree that the provisions of the Proprietary Information Agreement between the parties thereto entered as of the date hereof shall govern their disclosures under this Agreement (including any proprietary information).

## **ARTICLE V**

### **PROSECUTION AND ENFORCEMENT; NON-IMPAIRMENT**

5.1 Each of Boeing and its Affiliates agrees to maintain in force all issued patents included in the Licensed Boeing Intellectual Property (each a “Covered Boeing Patent”) and to diligently prosecute all patent applications included in the Licensed Boeing Intellectual Property (each a “Covered Boeing Patent Application”), all at the sole cost and expense of Boeing and its Affiliates. The drafting, filing, and prosecution of any Covered Boeing Patent Application shall be Boeing’s and its Affiliates’ responsibility and shall be carried out by it in its reasonable discretion. Notwithstanding the foregoing, if any of Boeing and its Affiliates elects to allow any of the Covered Boeing Patents or Covered Boeing Patent Applications to lapse or become otherwise abandoned or forfeited, Boeing will notify EDD of its intention to do so at least sixty (60) days prior to the date on which the applicable patent or application included in the Licensed Boeing Intellectual Property is due to lapse or become abandoned or forfeited. EDD shall have the right to assume control of the applicable Covered Boeing Patent or Covered Boeing Patent Application at its own expense by providing Boeing written notice to such effect prior to the date such patent or application lapses or otherwise becomes abandoned or forfeited. If EDD elects to assume control of the applicable patent or application pursuant to this Section 5.1, then Boeing and its Affiliates, as applicable, shall, at EDD’s expense, assign to EDD its entire right, title and interest, legal and equitable, to the applicable Covered Boeing Patent or Covered Boeing Patent Application, subject to retention of a license of the same scope as that retained by Boeing in Section 3.1.

(a) EDD shall have the right to enforce, at EDD’s expense (and shall indemnify and hold harmless Boeing and its Affiliates for all costs incurred by Boeing and its Affiliates in connection therewith), all EDD Intellectual Property and any Licensed Boeing Intellectual Property within the EDD Field of Use. Boeing and its Affiliates shall at EDD’s expense give all reasonable cooperation to EDD with respect to EDD’s right to enforce, including but not limited to Boeing or its Affiliates being joined as a party thereto in a lawsuit with respect to such right, where such joinder is deemed necessary or indispensable by a court, the expense of such cooperation to be borne by EDD. Any such expenses that are to be billed to EDD pursuant to the preceding sentence are to be billed to EDD at cost, with no profit to Boeing or its Affiliates included.

(b) Boeing and its Affiliates shall be under no obligation to: (a) obtain patent protection for the inventions disclosed in the patent applications or invention disclosures included as part of the EDD Intellectual Property; (b) maintain any patents included in the EDD

Intellectual Property; (c) obtain or maintain any copyrights or mask works included in the EDD Intellectual Property; or (d) obtain or maintain any other EDD Intellectual Property.

(c) Boeing and its Affiliates shall reasonably cooperate with EDD in the filing, prosecution, maintenance or other attempts to protect EDD Intellectual Property including, without limitation, by executing those documents as each party may require from time to time to ensure that all right, title and interest in and to EDD Intellectual Property continues to reside with such EDD. All costs associated with any such action shall be at EDD's expense.

## **ARTICLE VI**

### **TAXES**

EDD assumes the obligation to pay taxes imposed related to EDD's use of the Licensed Boeing Intellectual Property under this Agreement. Taxes means sales, use, excise, value added taxes, goods and services taxes, provincial services taxes, gross receipts or royalty withholdings imposed by, or payable to, the taxing authorities, instrumentalities or agencies (including any related interest or penalties), but does not include taxes based on the income or properties of Boeing or its Affiliates.

## **ARTICLE VII**

### **REPRESENTATIONS AND WARRANTIES; INDEMNIFICATION**

#### **7.1 Representations and Warranties of Boeing and its Affiliates.**

(a) (i) The EDD Intellectual Property, the Licensed Boeing Intellectual Property and EDD Marks include all of the Intellectual Property which is both owned and used by Boeing and its Affiliates in the Business; (ii) the EDD Intellectual Property, the Licensed Boeing Intellectual Property and the EDD Marks includes all third party rights licensed to Boeing and its Affiliates and used in the Business; and (iii) to the Knowledge of Boeing and its Affiliates, there is no Intellectual Property which is necessary for or used in the Business which is not included in EDD Intellectual Property, the Licensed Boeing Intellectual Property or EDD Marks.

(b) There is no pending Proceeding or claim against Boeing or its Affiliates, nor to the Knowledge of Boeing and its Affiliates, threatened challenging the ownership of or use of any EDD Intellectual Property, Licensed Boeing Intellectual Property, or EDD Marks. To the Knowledge of Boeing and its Affiliates, the conduct of the Business and the use of EDD Intellectual Property, Licensed Boeing Intellectual Property, and EDD Marks in the conduct of the Business as operated on the Closing Date does not infringe or misappropriate any Intellectual Property rights of any third party. To the Knowledge of Boeing and its Affiliates, all of the rights in EDD Intellectual Property, Licensed Boeing Intellectual Property and EDD Marks are valid, subsisting and enforceable and Boeing and its Affiliates have all necessary right, title and interest in and to EDD Intellectual Property and Licensed Boeing Intellectual Property in order to grant the rights granted hereunder. To the Knowledge of Boeing and its Affiliates Boeing and its

Affiliates have all necessary right, title and interest in and to the EDD Marks in order to grant the rights hereunder.

(c) Except as disclosed herein, Boeing and its Affiliates are the owners of record, free and clear of any Encumbrances of all EDD Intellectual Property and Licensed Boeing Intellectual Property. To the Knowledge of Boeing and its Affiliates, the EDD Marks are free and clear of any Encumbrances.

(d) To the Knowledge of Boeing and its Affiliates, no third party is misappropriating, infringing or otherwise violating any of EDD Intellectual Property, Licensed Boeing Intellectual Property, or EDD Marks.

(e) Neither Boeing nor its Affiliates has granted or has agreed to grant any exclusive licenses to third parties to use EDD Intellectual Property, EDD Marks, or the Licensed Boeing Intellectual Property, and neither Boeing nor its Affiliates is obligated to grant any future licenses to third parties, except as it may relate to the US Government as disclosed to EDD hereunder in Schedule 7.1(e), to use EDD Intellectual Property, the Licensed Boeing Intellectual Property, or EDD Marks.

(f) Each of Boeing and its Affiliates follows commercially reasonable procedures for the protection of its trade secrets.

(g) Except as disclosed herein, all of EDD Intellectual Property and Licensed Boeing Intellectual Property is owned by Boeing and its Affiliates, and no third party (including employees and former employees) can reasonably make a claim with respect to the ownership or rights to use any such Intellectual Property. To the Knowledge of Boeing and its Affiliates, the EDD Marks are owned by Boeing and its Affiliates, and no third party (including employees and former employees) can reasonably make a claim with respect to the ownership or rights to use any such EDD marks.

(h) To the Knowledge of Boeing and its Affiliates, the content of Schedules 1.2 (a), 1.2(b), 1.3, and 1.5 represents all of the EDD Intellectual Property, EDD Marks, and the Licensed Boeing Intellectual Property as of the date hereof.

(i) The Hughes Intellectual Property is not currently being used by EDD.

(j) To the Knowledge of Boeing and its Affiliates, other than commercial off-the-shelf software, there is no software or technology that is owned by a third party and licensed to Boeing or its Affiliates (i) for use or held for use by EDD; or (ii) which is as of the Closing Date used by EDD.

(k) There are no licenses or other agreements where Boeing or its Affiliates have licensed to a third party (or otherwise allowed a third party to use) any of the EDD Intellectual Property or EDD Marks, other than customer contracts in the ordinary course of business.

7.2 EXCEPT AS SPECIFICALLY PROVIDED ABOVE AND IN THE PURCHASE AGREEMENT, NEITHER PARTY HERETO MAKES ANY GUARANTEES,

REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY REPRESENTATION OR WARRANTY WITH RESPECT TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE ASSIGNED AND LICENSED INTELLECTUAL PROPERTY OR WITH RESPECT TO THE VALIDITY, SCOPE OR ENFORCEABILITY OF THE ASSIGNED AND LICENSED INTELLECTUAL PROPERTY OR WITH RESPECT TO THE NON-INFRINGEMENT OF THE INTELLECTUAL PROPERTY RIGHTS OF THIRD PARTIES.

7.3 Indemnification. Each of Boeing and its Affiliates shall indemnify, defend and hold EDD, EDD's Affiliates, their respective directors, officers, attorneys, consultants, agents and employees and the successors and assigns of any of the foregoing (the "EDD Indemnified Parties") harmless from and against any and all Liabilities and Expenses incurred by the EDD Indemnified Parties in connection with, relating to or arising from (a) any actions or inactions of Boeing or its Affiliates under or resulting from this Agreement, including but not limited to breaches of representations, warranties, covenants or agreements, (b) misappropriation or infringement of third party Intellectual Property by Boeing or its Affiliates, or (c) any claim, demand, cause of action, suit, action or proceeding by, or any dispute with, any Person who asserts an ownership or other interest, or a purported or alleged ownership or other interest, in any of the EDD Intellectual Property listed on Schedule 7.3. For purposes of this Section 7.3, the scope of indemnification obligations of Boeing and its Affiliates shall expressly include the obligation to indemnify EDD Indemnified Parties against any Liabilities or Expenses incurred by any and all agents, contractors, subcontractors, sublicensees or other persons working for or on behalf of Boeing and its Affiliates to the same extent as each of Boeing and its Affiliates is obligated to provide indemnification for EDD Indemnified Parties under this Section 7.3.

## **ARTICLE VIII**

### **DELIVERY OF INTELLECTUAL PROPERTY**

8.1 Each of Boeing and its Affiliates, on behalf of itself and its Affiliates, will deliver to EDD the Licensed Boeing Intellectual Property, EDD Intellectual Property, EDD Marks and all documentation listed in the Schedules hereto via electronic mail transmission or such other method of delivery as the parties may mutually agree to such addresses and addressed as EDD may reasonably request.

## **ARTICLE IX**

### **TERM**

9.1 Term. This Agreement shall commence upon the Closing Date and continue in perpetuity; provided that the terms hereof shall not apply to any issued Patent included in the Licensed Boeing Intellectual Property or EDD Intellectual Property that has expired or lapsed.

9.2 Termination. This Agreement and each license granted hereunder shall not be terminable by a Licensor Party and the rights granted under this Agreement shall continue in full force and effect, notwithstanding any material breach of any term hereof by a Licensee Party. In the event of a breach of any term of this Agreement by a Licensee Party or a Licensor Party (the

breaching party being referred to as the “Breaching Party”), the other Party (the “Non-Breaching Party”) may bring any action against the Breaching Party and may seek any and all relief and remedies, including damages (including monetary, punitive or enhanced damages), injunctive relief and equitable relief.

## ARTICLE X

### MISCELLANEOUS

10.1 Purchase Agreement. Reference is made to and includes the Purchase Agreement, including the representations, warranties, covenants and agreements set forth therein.

10.2 Counterparts. This Agreement may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed to be an original and all of which taken together shall constitute one and the same instrument.

10.3 Notices. All notices or other communications hereunder shall be in writing, signed by the party providing such notice, and shall be considered properly given or made and shall be deemed to have been duly given on the date of delivery, when delivered personally or transmitted and received by telecopier/facsimile transmitter, receipt acknowledged or confirmed during normal business hours, or in the case of registered or certified mail, return receipt requested, postage prepaid, on the date shown on such return receipt.

Any notices to Boeing shall be sent as follows (or to such other address as Boeing may specify in writing to EDD):

Boeing Satellite Systems, Inc.  
c/o The Boeing Company  
Corporate Headquarters  
M/C 5003-1001  
100 N. Riverside Plaza  
Chicago, IL 60606-1596  
Attention: General Counsel  
Facsimile: (312) 544-2829

with copies to:

DLA Piper Rudnick Gray Cary US LLP  
1999 Avenue of the Stars, 4<sup>th</sup> Floor  
Los Angeles, CA 90067-6022  
Attention: Jeffrey M. Weiner, Esq.  
Facsimile: (310) 595-3300

And

Boeing Management Company  
15460 Laguna Canyon Road  
M/C 1650-7007  
Irvine, CA 92618  
Attention: Contracts Manager  
Facsimile: (949) 790-1399

Any notices to EDD shall be sent as follows (or to such other address as EDD may specify in writing to Boeing):

L-3 Communications Corporation  
600 Third Avenue  
New York, NY 10016  
Attention: Christopher C. Cambria, Esq.  
Fax no.: (212) 805-5494

with a mandatory copy to:

Proskauer Rose LLP  
1585 Broadway  
New York, NY 10036  
Attention: James P. Gerkis, Esq.  
Fax no.: (212) 969-2900

10.4 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware regardless of the laws that might otherwise govern under principles of conflicts of laws applicable thereto.

10.5 Relationship of the Parties. Except as expressly set forth herein, neither Party shall have any power or express or implied right or authority to assume or create any obligations on behalf of or in the name of the other party or to bind the other party in any manner whatsoever, including to any other contract, agreement or undertaking with any third party.

10.6 Assignment, License and Transfer.

(a) This Agreement, the license rights granted to EDD hereunder, and the license rights which may be granted to Boeing and its Affiliates as set forth herein, are personal and shall not in any manner whatsoever be assigned, hypothecated, mortgaged, divided or otherwise encumbered by any of Boeing and its Affiliates or EDD, as the case may be, to or with any other person or entity without Boeing's or EDD's, as the case may be, prior written approval (it being understood that, unless otherwise agreed in writing, no such assignment shall release an assigning or licensing Party from any of its obligations or liabilities hereunder). Notwithstanding the foregoing and Sections 3.1 and 3.5, such licenses may be transferred or sublicensed to facilitate a merger, acquisition, divestiture or other transaction involving the transfer of substantially all of the assets of the portion of the business to which the license pertains, subject to the other restrictions and provisions of this Agreement. Any attempted assignment in

violation of the provisions hereof shall be void ab initio and the assignee shall obtain no rights by reason thereof.

(b) This Agreement and the provisions hereof shall be binding at all times upon and inure to the benefit of the parties, their successors and permitted assigns and the EDD Indemnified Parties (solely with respect to the provisions of Section 7.3 (“Indemnification”)).

10.7 Severability. In case any one or more of the provisions contained in this Agreement shall be held invalid, illegal or unenforceable in any respect by a court of competent jurisdiction or a qualified arbitrator or other person involved any dispute resolution procedure applicable to the Parties, the validity, legality and enforceability of the remaining provisions contained herein and other applications thereof shall not in any way be diminished.

10.8 Entire Agreement; Amendments. This Agreement and the Purchase Agreement constitute the entire agreements of the parties, and supersede all other pre-existing agreements, with respect to the matters expressly provided for in this Agreement and in the Purchase Agreement. This Agreement may be amended or modified only by mutual agreement in writing signed by authorized representatives of all the parties hereto.

10.9 Remedies. Parties’ rights and remedies pursuant to this Agreement shall, subject to the provisions hereof, be cumulative and nonexclusive of any other rights and remedies which they may have pursuant to any other agreement, by operation of law, or otherwise.

10.10 Descriptive Headings. The article, section and clause headings in this Agreement are for reference purposes only and shall not affect the meaning or interpretation of this Agreement.

10.11 Order of Precedence. The parties agree that if any terms of this Agreement conflict with terms in the Purchase Agreement, the terms of this Agreement shall govern with respect to the resolution of such conflict.

10.12 Force Majeure. In the event that either party shall be rendered wholly or partially unable to carry out its obligations under this Agreement by war (whether or not declared), sabotage, insurrection, rebellion, riot or other act of civil disobedience, act of a public enemy, act of any government or any agency or subdivision thereof, fire, accident, explosion, epidemic, quarantine, restrictions, storm, flood, earthquake or other act of God, which could not be reasonably expected to be avoided, then the performance of either party or both parties, as they are affected by such cause, shall be excused during the continuance of any inability so caused, but such inability shall be remedied with all reasonable dispatch.

10.13 Rules of Construction. As used herein, the words “include”, “includes”, “including” and “such as” shall be construed as if followed by the phrase “without limitation”.

10.14 No Subrogation or Contribution. None of Boeing and its Affiliates shall have any right of contribution or subrogation against EDD with respect to any breach by any of Boeing and its Affiliates of any of its representations, warranties, covenants or agreements.

IN WITNESS WHEREOF, Boeing, BSS, BMC and EDD have each caused this Agreement to be duly signed and delivered to the other parties hereto.

**THE BOEING COMPANY**

By: David L. Ryan  
Name: David L. Ryan, Authorized Signatory

**BOEING SATELLITE SYSTEMS, INC.**

By: David L. Ryan  
Name: David L. Ryan, Vice President and  
General Manager

**BOEING MANAGEMENT COMPANY**

By: David L. Ryan  
Name: David L. Ryan, Authorized Signatory

**BOEING ELECTRON DYNAMIC DEVICES,  
INC.**

By: David L. Ryan  
Name: David L. Ryan, President



**SCHEDULE 1.2a**

**EXCLUSIVELY USED EDD INTELLECTUAL PROPERTY**

Discl. No.	Subj	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/P	Subj Invent
82206		8/11/82	TEMPERATURE COMPENSATED MICROWAVE RESONATOR	Filed	Granted	BSS	6809447	12/16/1985	4,677,403	6/30/1987	6/30/2004	Kich, Rolf	E	N
83354		10/21/1983	DUAL MODE WAVEGUIDE FILTER EMPLOYING COUPLING ELEMENT FOR ASYMMETRIC RESPONSE	Filed	Granted	BSS	6902810	9/2/1986	4,721,933	1/26/1988	1/26/2005	Hendrick, Louis W Elliott, Joseph A Schwartz, Craig N	E	N
84153		4/4/1984	PROBE COUPLED WAVEGUIDE MULTIPLEXER	Filed	Granted	BSS	6929459	11/12/1986	4,780,693	10/25/1988	10/25/2005	Elliott, Joseph A Kich, Rolf	E	N
86521		11/18/1986	MODE SELECTIVE BAND PASS FILTER	Filed	Granted	BSS	7156119	2/16/1988	4,802,234	1/31/1989	1/31/2006	Kich, Rolf Tatomir, Paul J	E	N
87005		1/7/1987	DIRECTIONAL FILTER SYSTEM	Filed	Granted	BSS	7124328	11/23/1987	4,780,694	10/25/1988	10/25/2005	Kich, Rolf Tatomir, Paul J	E	N
87092			METHOD AND APPARATUS FOR MANUFACTURING SLOW-WAVE STRUCTURES FOR TRAVELING-WAVE TUBES	Filed	Granted	BSS	07116927	11/4/1987	4,792,654	12/20/1988	11/4/2007		E	N
88022		1/28/1988	GAS PRESSURE MEASUREMENT DEVICE	Filed	Granted	BSS	7190700	5/5/1988	4,833,921	5/30/1989	5/30/2006	Adler, Edward A Longo, Robert T	E	Y
88080		2/29/1988	TRAVELING WAVE TUBE WITH GAIN FLATTENING SLOW WAVE STRUCTURE	Filed	Granted	BSS	7563582	8/6/1990	5,162,697	11/10/1992	11/10/2009	Tammaru, Ivo	E	N

Discl. No.	Sub:	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/P	Subj Invent
88135		4/12/1988	TRAVELLING-WAVE TUBE WITH THERMALLY CONDUCTIVE MECHANICAL SUPPORT COMPRISING RESILIENTLY BIASED SPRINGS	Filed	Granted	BSS	7402723	9/5/1989	5,051,656	9/24/1991	9/24/2008	Hollister, Roger S	E	Y
89135		3/16/1989	SELF-ALIGNED GATE PROCESS FOR FABRICATING FIELD EMITTER ARRAYS	Filed	Granted	BSS	7393199	8/14/1989	4,943,343	7/24/1990	7/24/2007	Longo, Robert T	E	N
89163		3/29/1989	SWITCHABLE DUAL MODE DIRECTIONAL FILTER SYSTEM	Filed	Granted	BSS	7832877	2/10/1992	5,184,098	2/2/1993	2/10/2012	Kich, Rolf Tatomir, Paul J	E	N
89311		6/8/1989	FIELD EMITTER STRUCTURE AND FABRICATION PROCESS	Filed	Granted	BSS	7457208	12/26/1989	5,038,070	8/6/1991	8/6/2008	Longo, Robert T	E	N
89312	A	6/8/1989	FIELD EMITTER STRUCTURE PROVIDING PASSAGEWAYS FOR VENTING OF OUTGASSED MATERIALS FROM ACTIVE ELECTRONIC AREA	Filed	Granted	BSS	7711222	6/6/1991	5,083,958	1/28/1992	1/28/2009	Longo, Robert T	E	N
89312		6/8/89	FIELD EMITTER STRUCTURE PROVIDING PASSAGEWAYS FOR VENTING OF OUTGASSED MATERIALS FROM ACTIVE ELECTRONIC AREA	Filed	Granted	BSS	07/552,643	16-Jul-90	5,063,323	05-Nov-91	11/5/08	Longo, Robert T	E	N
89547		11/1/1989	Stress Relieved Iris	Filed	Granted	BSS	07/669,252	3/14/1991	5,179,363	1/12/1993	3/14/2011	Schwartz, Craig N	E	N

Discl. No.	Subj	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/P	Subj Invent
90106		3/12/1990	SPUTTERED SCANDATE COATINGS FOR DISPENSER CATHODES	Filed	Granted	BSS	07/632,194	12/21/1990	5,041,757	8/20/1991	8/20/2008	Longo, Robert T	E	N
90106	A	3/12/1990	SPUTTERED SCANDATE COATINGS FOR DISPENSER CATHODES	Filed	Granted	BSS	07/696,399	5/6/1991	5,065,070	11/12/1991	11/12/2008	Longo, Robert T	E	N
90221			Photolithographic Method For Making Helices For Traveling Wave Tubes and Other Cylindrical Objects	Filed	Granted	BSS	07/619,541	11/29/1990	5,112,438	5/12/1992	11/29/2010	Manoly, Arthur E. Sauseng, Otto Benton, John T.	E	N
9322		7/17/1990	VELOCITY MODULATION MICROWAVE AMPLIFIER WITH MULTIPLE BAND INTERACTION STRUCTURES	Filed	Granted	BSS	7657570	2/19/1991	5,162,747	11/10/1992	11/10/2009	Tammaru, Ivo	E	N
90497		10/16/1990	SURFACE COATED RF CIRCUIT ELEMENT AND METHOD	Filed	Granted	BSS	7736844	7/29/1991	5,130,206	7/14/1992	7/14/2009	Tammaru, Ivo	E	N
91084		2/5/1991	COAXIAL TO-WAVEGUIDE TRANSDUCER WITH IMPROVED MATCHING	Filed	Granted	BSS	7714550	6/11/1991	5,148,131	9/15/1992	6/11/2011	Hart, Stephen L	E	N
91535		9/17/1991	TEMPERATURE-COMPENSATED WAVEGUIDE ISOLATOR	Filed	Granted	BSS	7996206	12/23/1992	5,285,174	2/8/1994	2/8/2011	Al-Bundak, Omar M Luna, Antonio A	E	N
970323			COMPACT WAVEGUIDE "T" SWITCH	Filed	Granted	BSS						M. N. ANDO Kich, Rolf	E	N
91582		10/14/1991	ROTARY VANE VARIABLE POWER DIVIDER	Filed	Granted	BSS	8110604	8/23/1993	5,376,905	12/27/1994	12/27/2011	Kich, Rolf	E	N
91583		10/14/1991	NON-CONTACTING WAVEGUIDE "T"	Filed	Granted	BSS	7995482	12/23/1992	5,347,243	9/13/1994	9/13/2011	Al-Bundak, Omar M Kich, Rolf	E	N

Discl. No.	Subj	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/P	Subj Invent
			SWITCH											
91671		11/13/1991	D.C. CHOPPER REGULATING METHOD AND APPARATUS INCORPORATING BILATERAL REGULATING VOLTAGE PATH	Filed	Granted	BSS	7845074	3/3/1992	5,218,522	6/8/1993	3/3/2012	Phelps, Thomas K Cardwell, Gilbert Le, Khanh T	E	N
92339		6/1/1992	CYLINDRICAL WAVEGUIDE RESONATOR FILTER SECTION HAVING INCREASED BANDWIDTH	Filed	Granted	BSS	8156116	11/22/1993	5,418,510	5/23/1995	5/23/2012	Gray, Devon J	E	N
93011		1/11/1993	LINEAR-BEAM CAVITY CIRCUITS WITH NON-RESONANT RF LOSS SLABS	Filed	Granted	BSS	08/171,292	12/21/1993	5,477,107	12/19/1995	12/19/2012	Hollister, Roger Ripley, Robert G Tammaru, Ivo Thoma, Christine G	E	N
93125		3/10/1993	MICROWAVE WAVEGUIDE MULTIPLEXER	Filed	Granted	BSS	08/198,420	2/22/1994	5,428,322	6/27/1995	6/27/2012	Hendrick, Louis W Schwartz, Craig N	E	N
93350	A	8/25/1993	BICONICAL MULTIMODE RESONATOR	Filed	Granted	BSS	8405423	3/15/1995	5,614,877	3/25/1997	3/25/2014	Tatomir, Paul J Kich, Rolf	E	N
93372		9/2/1993	TRAVELING WAVETUBE WITH EXPANDING RESILIENT SUPPORT ELEMENTS	Filed	Granted	BSS	8518631	8/23/1995	5,959,406	9/28/1999	9/28/2016	Reed Jr, Elmer E Hart, Stephen L	E	N
94049		2/16/1994	MODULAR CONTIGUOUS OUTPUT MULTIPLEXER	Filed	Granted	BSS	8608163	2/28/1996	5,604,747	2/18/1997	2/18/2014	CALLAS, MIKE C	E	N
94112		3/23/1994	VERTICAL GROUNDED COPLANAR WAVEGUIDE H-BEND INTERCONNECTION APPARATUS	Filed	Granted	BSS	8463327	6/5/1995	5,561,405	10/1/1996	10/1/2013	Quan, Clifton	E	N

Discl. No.	Subj. b.	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/P	Subj Invent
94205		5/12/1994	HERMETICALLY SEALED ELECTROMAGNETIC WINDOW AND METHOD OF FORMING THE SAME	Filed	Granted	BSS	8523706	9/5/1995	5,600,290	2/4/1997	2/4/2014	Anderson II, Theodore G	E	N
94319		7/28/1994	MICROWAVE FILTER ASSEMBLY HAVING A NONSYMMETRICAL WAVEGUIDE AND AN ANTENNA	Filed	Granted	BSS	8298630	8/31/1994	5,534,881	7/9/1996	7/9/2013	Loi, Keith N Hendrick, Louis W	E	N
94388		9/22/1994	TWT WITH MISMATCHED SECTION FOR CONTROLLED GAIN VARIATION WITH FREQUENCY	Filed	Granted	BSS	8925930	9/8/1997	6,049,249	4/11/2000	4/11/2017	Hansen, James W Tammaru, Ivo	E	Y
94511		12/1/1994	RF AMPLIFIER INCLUDING TRAVELING WAVE TUBE WITH SEQUENTIAL STAGES	Filed	Granted	BSS	8554651	11/8/1995	5,834,971	11/10/1998	11/10/2015	Gianfortune, Paula	E	N
94512		12/2/1994	DIE AND METHOD FOR APPLYING RADIAL FORCES TO AN ECCENTRIC WORKPIECE	Filed	Granted	BSS	8526428	9/11/1995	5,658,181	8/19/1997	8/19/2014	Brown II, Richard A	E	N
95163		4/24/1995	NON-UNIFORM Q SELF AMPLITUDE EQUALIZED BANDPASS FILTER	Filed	Granted	BSS	8501595	7/12/1995	5,760,667	6/2/1998	6/2/2015	Loi, Keith N Bennett, Richard L	E	N
95208		5/30/1995	SELF-BIASING COLLECTOR ELEMENTS FOR LINEAR-BEAM MICROWAVE TUBES	Filed	Granted	BSS	8924201	9/5/1997	6,060,832	5/9/2000	5/9/2017	Adler, Edward A	E	N
95246		7/17/1995	CIRCUMFERENTIAL LY-SEGMENTED TWT COLLECTOR	Filed	Pending	BSS	08/944,652	10/6/1997				Brown II, Richard A	E	Y

Discl. No.	Subj. b.	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/P	Subj Invent
95246	A	7/17/1995	CIRCUMFERENTIAL LY-SEGMENTED TWT COLLECTOR	Filed	Granted	BSS	09/352,587	7/13/1999	6,208,079	3/27/2001	7/13/2019	Brown II, Richard A	E	Y
95353		9/14/1995	MICROWAVE SWITCHES AND REDUNDANT SWITCHING SYSTEMS	Filed	Granted	BSS	8870148	6/5/1997	5,828,268	10/27/1998	10/27/2015	Steidel, Clinton F	E	N
95441		11/22/1995	SIMULTANEOUS COUPLING BANDPASS FILTER AND METHOD	Filed	Granted	BSS	8637967	4/30/1996	5,699,029	12/16/1997	12/16/2014	Bennett, Richard L Loi, Keith N	E	N
96040	A	2/2/1996	METHOD OF TUNING AND TEMPERATURE COMPENSATING A VARIABLE TOPOGRAPHY ELECTROMAGNETIC WAVE DEVICE	Filed	Granted	BSS	9311441	5/14/1999	6,057,748	5/2/2000	5/2/2017	Tatomir, Paul J	E	N
96040		2/2/1996	METHOD OF TUNING AND TEMPERATURE COMPENSATING A VARIABLE TOPOGRAPHY ELECTROMAGNETIC WAVE DEVICE	Filed	Granted	BSS	08/898,134	7/22/1997	5,977,849	11/2/1999	11/2/2016	Tatomir, Paul J	E	N
96102		3/26/1996	HIGH VOLTAGE ISOLATED RELAY DRIVER	Filed	Granted	BSS	09/507,622	2/21/2000	6,335,854	1/1/2002	2/21/2020	Stickelmaier, John F	E	N
96137		4/19/1996	PARALLEL AXIS CYLINDRICAL MICROWAVE FILTER	Filed	Granted	BSS	8829634	3/31/1997	5,774,030	6/30/1998	6/30/2015	Gray, Devon J	E	N
96164		5/2/1996	ION THRUSTER WITH LONG-LIFETIME ION-OPTICS SYSTEM	Filed	Granted	BSS	8767920	12/17/1996	5,924,277	7/20/1999	7/20/2016	Williams, John D	E	N
96167		5/3/1996	MULTIPLEXER/DEMULTIPLEXER STRUCTURES AND METHODS	Filed	Granted	BSS	09/083,456	5/22/1998	6,201,949 B1	3/13/2001	5/22/2018	Gray, Devon J Kich, Rolf	E	N

Discl. No.	Subj. b.	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/P	Subj Invent
96168		5/3/1996	THREE DIMENSIONAL POLYHEDRAL-SHAPED MICROWAVE SWITCHES	Filed	Granted	BSS	08/974,932	11/20/1997	5,936,482	8/10/1999	8/10/2016	Steidel, Clinton F	E	N
96184		5/22/1996	DUAL MODE CAVITY RESONATOR WITH COUPLING GROOVES	Filed	Granted	BSS	8920103	8/26/1997	5,796,319	8/18/1998	8/18/2015	Kich, Rolf	E	N
96295		8/12/1996	REFLECTIVE WAVEGUIDE VARIABLE POWER DIVIDER/COMBINER	Filed	Granted	BSS	09/167,053	10/6/1998	6,181,221 B1	1/30/2001	10/6/2018	Barker, James M Kich, Rolf	E	N
96299		8/16/1996	TRANSVERSE-ELECTRIC MODE FILTERS AND METHODS	Filed	Granted	BSS	09/067,913	4/28/1998	6,118,978	9/12/2000	9/12/2017	Ihmels, Ralf R	E	N
200267		8/28/2000	NEW CATHODE DESIGN	Filed	Pending	BSS	09/949,480	9/7/2001				Reed Jr, Elmer E Precht, David W Longo, Robert T	E	N
200309		9/29/2000	IMPROVED ION THRUSTER GRID CLEAR	Filed	Pending	BSS	10/200,658	7/22/2002				Stickelmaier, John F	E	N
960516		12/20/1996	ELECTRO-THERMAL BI-STABLE ACTUATOR	Filed	Granted	BSS	09/126,898	7/31/1998	5,977,858	11/2/1999	11/2/2016	Morgen, Robert Yee, Harold H	E	N
970017		1/14/1997	TRANSVERSE FIELD COLLECTOR	Filed	Granted	BSS	8896102	7/17/1997	5,952,785	9/14/1999	9/14/2016	Komm, David S Zhai, Xiaoling	E	N
970079		2/24/1997	MICROWAVE FILTER HAVING CASCADED SUBFILTERS WITH PRESET ELECTRICAL RESPONSES	Filed	Granted	BSS	09/153,121	9/15/1998	6,046,658	4/4/2000	4/4/2017	Tatomir, Paul J Hendrick, Louis W Loi, Keith N	E	N
970101		3/11/1997	MICROWAVE CAVITY HAVING A REMOVABLE END WALL	Filed	Granted	BSS	09/154,488	9/16/1998	6,118,356	9/12/2000	9/12/2017	Loi, Keith N Tatomir, Paul J	E	N

Discl. No.	Sub:	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/P	Subj Invent
970124	A:	3/27/1997	COUPLING MECHANISM FOR AND FILTER USING TE(011) AND TE(01Q) MODE RESONATORS	Filed	Granted	BSS	09/304,328	5/3/1999	6,150,907	11/21/2000	5/3/2019	Loi, Keith N Tatomir, Paul J	E	N
970124		3/27/1997	COUPLING MECHANISM FOR AND FILTER USING TE(011) AND TE(01Q) MODE RESONATORS	Filed	Granted	BSS	09/304,458	5/3/1999	6,304,160	10/16/2001	5/3/2019	Tatomir, Paul J Loi, Keith N	E	N
970133		4/4/1997	TRAVELING WAVE TUBE SYSTEM WITH OUTPUT WAVEGUIDE-COUPLER TERMINATION	Filed	Granted	BSS	09/426,666	10/25/1999	6,483,242	11/19/2002	10/25/2019	Benton, Robert Komm, David S	E	N
970147		4/10/1997	METHOD OF HEAT SHRINK ASSEMBLY OF TRAVELING WAVE TUBE	Filed	Granted	BSS	08/990,357	12/15/1997	5,964,633	10/12/1999	10/12/2016	Adler, Edward A Brown II, Richard A	E	N
970148		4/10/1997	OPTIMALLY DESIGNED TRAVELING WAVE TUBE FOR OPERATION BACKED OFF FROM SATURATION	Filed	Granted	BSS	08/869,841	6/5/1997	5,932,971	8/3/1999	8/3/2016	Adler, Edward A Goebel, Dan M	E	N
970149		4/10/1997	EFFICIENT, HIGHLY LINEAR TRAVELING WAVE TUBE USING COLLECTOR WITH HIGH BACKSTREAMING CURRENT UNDER SATURATED DRIVE	Filed	Granted	BSS	08/869,842	6/5/1997	5,942,852	8/24/1999	8/24/2016	Adler, Edward A Menninger, William L Goebel, Dan M	E	N
970177		4/23/1997	SYSTEM AND METHOD FOR RECOVERING POWER FROM A TRAVELING WAVE TUBE	Filed	Granted	BSS	9127518	7/31/1998	6,111,358	8/29/2000	8/29/2017	Zhai, Xiaoling Collins, John A Cardwell, Gilbert Phelps, Thomas K	E	N



Discl. No.	Subj	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/P	Subj Invent
970191		5/2/1997	HIGH EFFICIENCY COLLECTOR FOR TRAVELING WAVE TUBES WITH HIGH PERVEANCE BEAMS USING FOCUSING LENS EFFECTS	Filed	Granted	BSS	8869843	6/5/1997	6,094,009	7/25/2000	7/25/2017	Goebel, Dan M	E	N
970272		6/10/1997	WAVEGUIDE SWITCH MATRIX USING JUNCTIONS MATCHED IN ONLY ONE STATE	Filed	Granted	BSS	09/160,807	9/25/1998	6,118,911	9/12/2000	9/12/2017	Kershner, David M Bennett, Richard L	E	N
970361		7/15/1997	RESONATOR CAVITY END WALL ASSEMBLY	Filed	Granted	BSS	09/032,406	2/27/1998	6,002,310	12/14/1999	12/14/2016	Gray, Devon J	E	N
970457		9/8/1997	COAXIALLY CONFIGURED OMT-MULTIPLEXER ASSEMBLY	Filed	Granted	BSS	09/156,245	9/18/1998	6,031,434	2/29/2000	2/28/2017	Loi, Keith N Tatomir, Paul J Hoppe, Daniel J	E	N
970625		11/17/1997	HIGH VOLTAGE ISOLATION OF COMPONENTS IN A DENSE ENVIRONMENT	Filed	Granted	BSS	9187250	11/6/1998	6,058,023	5/2/2000	5/2/2017	Ahn, James J Stickelmaier, John F	E	N
970629		11/18/1997	VARIABLE ISO ATTENUATOR USING ABSORPTIVE/REFLECTIVE ELEMENTS AND LATCHING	Filed	Granted	BSS	9132994	8/12/1998	6,066,992	5/23/2000	5/23/2017	Ihmels, Ralf R Jacobsen, Christopher Sadaka, Tarak C	E	Y
970651		12/2/1997	FABRICATION OF TRAVELING WAVETUBE BARRELS USING PRECISION TRACK FORMING	Filed	Granted	BSS	9295702	4/21/1999	6,048,242	4/11/2000	4/11/2017	Kirkman, George F Reinhardt, Nicholas	E	N
980017		1/23/1998	CLOSED MICROWAVE DEVICE WITH EXTERNALLY MOUNTED THERMAL EXPANSION COMPENSATION ELEMENT	Filed	Granted	BSS	09/233,386	1/19/1999	6,169,468	1/2/2001	1/19/2019	Chavez, John T	E	N

Discl. No.	Subj	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/P	Subj Invent
980037		3/3/1998	ANODE CONTROLLER CIRCUIT FOR A TRAVELING WAVE TUBE	Filed	Granted	BSS	9233395	1/19/1999	6,044,001	3/28/2000	3/28/2017	Lee, James	E	N
980058		4/1/1998	VOLTAGE BOOST CIRCUIT FOR A HIGH VOLTAGE CONVERTER	Filed	Granted	BSS	09/212,665	12/16/1998	5,982,644	11/9/1999	11/9/2016	Lee, James Hulsey, Stephen J	E	N
980167		7/29/1998	COAXIAL "M" SWITCH	Filed	Granted	BSS	09/267,837	3/12/1999	5,952,902	9/14/1999	9/14/2016	Bennett, Richard L	E	N
980261		12/18/1998	PROTECTION CIRCUIT FOR TRAVELING WAVE TUBES HAVING MULTIPLE INPUT TONES	Filed	Granted	BSS	09/422,876	10/21/1999	6,324,041	11/27/2001	10/21/2019	Liou, Ronglin Goebel, Dan M Lewis, David E	E	N
990022		1/20/1999	VARIABLE POWER DIVIDER/COMBINER	Filed	Granted	BSS	09/528,604	3/20/2000	6,377,133	4/23/2002	3/20/2020	Trammell, C L Ihmels, Ralf R	E	N
990057		2/16/1999	ELECTRONIC POWER CONDITIONER ANODE VOLTAGE CONTROL	Filed	Granted	BSS	09/426,665	10/25/1999	6,229,262	5/8/2001	10/25/2019	Lee, James Hulsey, Stephen J	E	N
990111		4/14/1999	ION THRUSTER HAVING A HOLLOW CATHODE ASSEMBLY WITH AN ENCAPSULATED HEATER, AND ITS FABRICATION	Filed	Granted	BSS	09/496,889	2/2/2000	6,336,318	1/8/2002	2/2/2020	Beattie, John R Falce, Louis R	E	N
990112		4/14/1999	ION THRUSTER HAVING GRIDS MADE OF ORIENTED PYROLYTIC GRAPHITE	Filed	Granted	BSS	09/496,888	2/2/2000	6,318,069	11/20/2001	2/2/2020	Beattie, John R Falce, Louis R	E	N
990160		6/16/1999	POWER SUPPLY CIRCUIT FOR AN ION ENGINE HAVING SEQUENTIALLY OPERATED POWER INVERTERS	Filed	Granted	BSS	09/351,572	7/12/1999	6,154,383	11/28/2000	7/12/2019	Cardwell, Gilbert I	E	Y

Discl. No.	Sub	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/P	Subj Invent
990161		6/16/1999	STARTER CIRCUIT FOR AN ION ENGINE	Filed	Granted	BSS	09/352,011	7/12/1999	6,304,040	10/16/2001	7/12/2019	Cardwell, Gilbert I Phelps, Thomas K	E	Y
990161	B	6/16/1999	STARTER CIRCUIT FOR AN ION ENGINE	Filed	Granted	BSS	09/934,628	8/22/2001	6,369,520	4/9/2002	8/22/2021	Phelps, Thomas K Cardwell, Gilbert I	E	Y
990161	A	6/16/1999	STARTER CIRCUIT FOR AN ION ENGINE	Filed	Granted	BSS	09/935,189	8/22/2001	6,369,521	4/9/2002	8/22/2021	Phelps, Thomas K Cardwell, Gilbert I	E	Y
990162		6/16/1999	MULTIPLE OUTPUT POWER SUPPLY CIRCUIT FOR AN ION ENGINE WITH SHARED UPPER INVERTER	Filed	Granted	BSS	09/351,738	7/12/1999	6,181,585 B1	1/30/2001	7/12/2019	Phelps, Thomas K Cardwell, Gilbert I	E	Y
990174		7/12/1999	TRAVELING WAVE TUBE AND METHOD AND APPARATUS FOR FABRICATING THREE DIMENSIONAL TRAVELING WAVE TUBE CIRCUIT ELEMENTS USING LASER LITHOGRAPHY	Filed	Granted	BSS	09/591,697	6/9/2000	6,584,675	7/1/2003	6/9/2020	Dayton Jr, James A Rajan, Sunder S	E	N
990207		8/11/1999	ELECTRIC THRUSTER THERMAL MANAGEMENT	Filed	Granted	BSS	10/011,159	12/5/2001	6,619,028	9/16/2003	12/5/2021	Beattie, John R	E	N
990208		8/11/1999	ION THRUSTER WITH ION-EXTRACTION GRIDS HAVING COMPOUND CONTOUR SHAPES	Filed	Granted	BSS	09/569,708	5/9/2000	6,250,070	6/26/2001	5/9/2020	Beattie, John R	E	N
990261		10/25/1999	AUTOMATIC ACCEL VOLTAGE TRACKING TECHNIQUE TO MAXIMIZE ION THRUSTER LIFETIME, MINIMIZE ACCEL GRID EROSION, AND PROVIDE LIFE TIME	Filed	Pending	BSS	10/011,387	12/4/2001				Beattie, John R Williams, John D Soni, Prakash C	E	N

Discl. No.	Subj	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/P	Subj Invent
			MONITORING CAPABILITY											
990283		11/10/1999	E PLANE OFFSET TRANSITIONS AND THERE APPLICATION IN A SWITCHABLE MAGIC TEE	Filed	Granted	BSS	09/815,179	3/21/2001	6,448,869	9/10/2002	3/21/2021	Bennett, Richard L Barker, James M	E	N
990284		11/10/1999	H PLANE OFFSET WAVEGUIDE TRANSITIONS AND THEIR APPLICATION IN A "T" SWITCH FUNCTION	Filed	Granted	BSS	09/814,914	3/21/2001	6,489,858	12/3/2002	3/21/2021	Barker, James M Bennett, Richard L	E	N
00-381		11/10/2000	Frequency Adjustable Multiple Resonant Load Structure	Filed	Granted	BSS	09/960,816	9/21/2001	6,549,088	4/15/2003	9/21/2021	Tatomir, Paul J Trammell, C L	E	N
81081	A	3/31/81	Microwave directional filter with quasi-elliptic response	Filed	Granted	BSS	07/058,597	6/1/1987	4,725,797	2/16/1988	6/1/07	Thompson, J D Levinson, David S.	E	N
87480		11/2/87	Simplified process for fabricating dispenser cathodes	Filed	Granted	BSS	07/174,262	3/28/1988	4,837,480	6/6/1989	3/28/08	Breeze, Glenn S. Baird, Robert M.	E	N
87186		5/6/87	Electrostatic ion thruster with improved thrust modulation	Filed	Granted	BSS	07/131,978	12/11/1987	4,838,021	6/13/1989	12/11/07	Beattie, John R.	E	N
87339		8/6/87	Traveling-wave tube with confined-flow periodic permanent magnet focusing	Filed	Granted	BSS	07/182,632	4/18/1988	4,942,336	7/17/1990	4/18/08	Amboss, Kurt Davis, Jon A.	E	Y

Discl. No.	Subj. b.	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/P	Subj Invent
87305			Traveling-wave tube slow-wave structure with integral conductively-loaded barrel and method of making same	Filed	Granted	BSS		3/24/1988	4,947,467	8/7/1990	3/24/08	Manoly, Arthur E. Sauseng, Otto Benton, John T.	E	N
86242		5/23/86	Low-loss wide-band microwave filter	Filed	Granted	BSS	07/092,347	9/2/1987	5,012,211	4/30/1991	4/30/08	Young, Frederick A. Rikimaru, Roy K.	E	N
89088		2/15/89	Dielectric resonator support system for a waveguide	Filed	Abandoned	BSS	07/468,487	1/23/1990	5,034,711	7/23/1991	7/23/08	Hendrick, Louis W. Levinson, David S.	E	N
88080		2/29/88	Traveling wave tube with gain flattening slow wave structure	Filed	Granted	BSS	07/563,582	8/6/1990	5,162,697	11/10/1992	8/6/10	Davis, Jon A. Tammaru, Ivo	E	N
89054		2/3/89	Slow-wave structure having block supported helix structure	Filed	Granted	BSS	07/577,164	9/4/1990	5,173,669	12/22/1992	9/4/10	Manoly, Arthur E.	E	N
90304		7/5/90	Utilizing thermal conductors to increase operating power of coaxial microwave devices	Filed	Granted	BSS	07/776,011	10/15/1991	5,247,267	9/21/1993	10/15/11	Yee, Harold H. Morgen, Robert	E	N
90261		6/8/90	High power waveguide switch and method	Filed	Granted	BSS	07/878,592	5/5/1992	5,257,872	11/2/1993	5/5/12	Morgen, Robert Levinson, David S.	E	N
96165		5/2/96	Aperured nonplanar electrodes and forming methods	Filed	Granted	BSS	08/833,742	4/11/1997	5,934,965	8/10/1999	8/10/16	Beattie, John R.	E	N
990207		8/11/99	Electric thruster made with surface treatments for improved thermal management	Filed	Granted	BSS	10/011,159	12/5/2001	6,619,028	9/16/2003	12/5/21	Kreiner, Kurt B. Beattie, John R.	E	N
00-458		12/18/00	Microwave Waveguide Filter having Rectangular	Filed	Granted	BSS	10/132,949	4/26/2002	6,657,521	12/2/2003	4/26/22	Tatomir, Paul J. Barker, James M. Loi, Keith N.	E	N

Discl. No.	Subj	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/P	Subj Invent
			Cavities, and Method for its Fabrication									Bennett, Richard L. Hendrick, Louis W.		
200267		8/28/00	Cathode design	Filed	Granted	BSS	09/949,480	9/7/2001	6,771,014	8/3/2004	9/7/21	Longo, Robert T. Reed Jr., Elmer E. Precht, David W.	E	N
200309		9/29/00	Ion thruster grid clear	Filed	Granted	BSS	10/200,658	7/22/2002	6,786,035	9/7/2004	7/22/22	Stickelmaier, John F.	E	N
970401		7-Aug-97	RIDGED THICK WALLED CAPACITIVE SLOT	Filed	Granted	BSS	09/167,075	06-Oct-98	6,104,262	15-Aug-00	15-Aug-17	Kich, Rolf	E	N
00-381		10-Nov-00	Frequency Adjustable Multipole Resonant Waveguide Load Structure	Filed	Granted	BSS	09/960,816	9/21/2001	6,549,088	08/15/00	9/21/21	Trammell, Christopher L. Kich, Rolf Tatomir, Paul J.	E	N
04-0195			Alpha Travelling Wave Tube	Filed	Pending	BSS	10/910,166	8/3/2004					E	N
980079		4/20/1998	FERRITE VARIABLE POWER DIVIDER	Filed	Pending	BSS		12/20/2002	6822533	11/23/2004		Trammell, C Ihmels, Ralf R	E	N

#### DISCLOSURES

96185		5/22/1996	TEMPERATURE COMPENSATING CAPACITIVELY LOADED COAX RESONATOR	Filed	Pending	BSS	09/426,664	10/25/1999				Kich, Rolf	E	N

Discl. No.	Subj	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/P	Subj Invent
01-105			Redundancy Unit for Xenon Ion Propulsion System	Authorized		BSS						Stickelmaier, John F Tholen, Robert J	E	N
02-0389			Dual Aperture Coupling to and between Cylindrical Cavity Resonators for Enhanced Waveguide Filter Performances	Authorized		BSS						Barker, James M Loi, Keith N Bennett, Richard L Hendrick, Louis W Tatomir, Paul J	E	N
200284		9/18/00	Self ignition plasma power supply for Xenon Ion Thruster	Authorized		BSS						Stickelmaier, John F Soni, Prakash	E	N
03-0899			Lateral Flow High Voltage Propellant Isolator	Pending		BSS						HART, STEPHEN L	E	N
03-1283			Active Screen Grid to Accel Grid Arc Circuit	Pending		BSS						Wiseman, Steven L.	E	N
03-1285			Multiphase High Power Factor Multiplier	Pending		BSS						Wiseman, Steven L.	E	N
00-421		10/25/00	Method and Apparatus of Composite Grid System for Ion Sources	Authorized		BSS						Wei Ronghua Hairapetian Garnick Beattie John R Chang David T.	E	N

**SCHEDULE 1.2b**  
**PRIMARILY USED EDD INTELLECTUAL PROPERTY**

Discl. No.	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/P	Subj Invention
94056	2/24/1994	SPHERICAL CAVITY MODE TRANSCENDENTAL CONTROL METHODS AND SYSTEMS	Filed	Granted	BSS	8593774	1/29/1996	5,731,750	3/24/1998	3/24/2015	Kich, Rolf Kent, Kuulei C Tatomir, Paul J	P	N
990041	2/9/1999	LOW PIM COAXIAL DIPLEXER INTERFACE	Filed	Granted	BSS	09/458,260	12/9/1999	6,366,183	4/2/2002	12/9/2019	Hendrick, Louis W	P	N
200072	3/7/2000	MULTIPLE TWTA EPC WITH CENTRALIZED LOW VOLTAGE AND DISTRIBUTED HIGH VOLTAGE	Filed	Granted	BSS	09/755,392	1/5/2001	6,489,842	12/3/2002	1/5/2021	Eng, John E	P	N



**SCHEDULE 1.3**

**EDD MARKS**

**Trademarks:**      **EDD - unregistered**  
                         **ELECTRON DYNAMIC DEVICES - unregistered**  
                         **XIPS®**

**Domain Names:**    **electrondynamicdevices.com**  
                         **twtas.com**

#### SCHEDULE 1.4

#### HUGHES INTELLECTUAL PROPERTY

Assignee	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Inventor	E/NE
Hughes Aircraft Company	Method for securing a slow-wave structure in enveloping structure with crimped spacers						4,712,293	12/15/1987	Manoly, Arthur E.	E
Hughes Aircraft Company (Plasma)	Plasma wave tube amplifier/primed oscillator						5,523,651	6/4/1996	Santoru, Joseph Butler, Jennifer M.	E
Hughes Aircraft Company (Plasma)	RF source including slow wave tube with lateral output ports						5,525,864	6/11/1996	Butler, Jennifer M. Eisenhart, Robert L.	E
Hughes Aircraft Company (Plasma)	High-current, low pressure plasma-cathode electron gun						5,537,005	7/16/1996	Goebel, Dan M. Schumacher, Robert W.	E
Hughes Electronics (Plasma)	Plasma-assisted tube with helical slow-wave structure						5,668,442	9/16/1997	Goebel, Dan M. Butler, Jennifer M. Eisenhart, Robert L.	E
Hughes Aircraft Company (Plasma)	Plasma-assisted high-power microwave generator						4,912,367	3/27/1990	Schumacher, R.W. et al	E
Hughes Aircraft Company (Plasma)	Plasma-and-magnetic field-assisted, high power microwave source and method						5,694,005	12/2/1997	Goebel, Dan M.	E

# SCHEDULE 1.6

## LICENSED BOEING INTELLECTUAL PROPERTY

Discl. No.	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/NE	Subj Invent
85352	9/23/1985	LEAKAGE REGULATOR CIRCUIT FOR A FIELD EFFECT TRANSISTOR	Filed	Granted	BSS	7005716	1/21/1987	4,785,207	11/15/1988	11/15/2005	Eng, John E	NE	N
89463	9/12/1989	A HIGH EFFICIENCY POWER CONVERTER EMPLOYING A SYNCHRONIZED SWITCHING SYSTEM	Filed	Granted	BSS	07/468,514	1/23/1990	5,072,171	12/10/1991	1/23/2010	Eng, John E	NE	N
970019	1/15/1997	ELECTROSTATIC PROPULSION SYSTEMS AND METHODS	Filed	Granted	BSS	8890477	7/9/1997	5,947,421	9/7/1999	9/7/2016	Beattie, John R	NE	N
990028	1/27/1999	THREE-SWITCH ADD/SUBTRACT DC TO DC CONVERTER	Filed	Granted	BSS	09/586,166	6/1/2000	6,198,640	3/6/2001	6/1/2020	Wiseman, Steven L	NE	N
990036	2/4/1999	LINEAR TRAVELING WAVE TUBE AMPLIFIER UTILIZING INPUT DRIVE LIMITER FOR OPTIMIZATION	Filed	Granted	BSS	09/295,720	4/21/1999	6,369,648	4/9/2002	4/21/2019	Kirkman, George F	NE	N
096027 A	1/23/96	PASSIVE MICROWAVE STRUCTURES AND METHODS HAVING REDUCED PASSIVE INTERMODULATION	Filed	Granted	BSS	09/057,945	9-Apr-98	6,044,538	4/4/2000	20-Aug-16	GRALL, MICHAEL J. COLEMAN, LEE E. CAMPBELL, RONALD M.	NE	N
96027	1/23/96	PASSIVE MICROWAVE STRUCTURE AND METHODS HAVING REDUCED PASSIVE INTERMODULATION	Filed	Granted	BSS	08/699,748	20-Aug-96	5,834,993	10-Nov-98	10-Nov-15	GRALL, MICHAEL J. COLEMAN, LEE E. CAMPBELL, RONALD M.	NE	N

Discl. No.	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/ NE	Subj Invent
990204	8/4/1999	TWO SWITCH WIDE RANGE CONVERTER	Filed	Granted	BSS	10/038,432	1/4/2002	6,466,457	10/15/2002	1/4/2022	Wiseman, Steven L.	NE	N
990235	9/14/99	Linearized traveling wave tube circuit with pre-distortion linearizer	Filed	Granted	BSS	09/615,019	7/13/2000	6,781,454	8/24/2004	9/20/2020	Kirkman, George F.	NE	N

## SCHEDULE 3.7

### PRE-EXISTING LICENSES AND RIGHTS

#### INTELLECTUAL PROPERTY AGREEMENT

THIS INTELLECTUAL PROPERTY AGREEMENT (as the same may be amended from time to time, this "Agreement"), dated as of October 6, 2000 ("Effective Date"), among Hughes Electronics Corporation, a Delaware corporation ("HEC"), Hughes Space and Communications Company, a Delaware corporation ("HSC") and The Boeing Company, a Delaware corporation ("Boeing"). HEC, HSC and Boeing are referred to herein individually as a "Party" and collectively as the "Parties."

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1.4 **"HSC Intellectual Property"** means the Intellectual Property owned or Controlled by HEC or any Subsidiary thereof (other than HSC and its subsidiaries) existing on the Closing Date (as defined in the Purchase Agreement) that is used or practiced in or was originated, developed or created in or for the Satellite Business, including without limitation the Patents and invention disclosures identified in Schedule A hereto, but excluding any Excluded HEC Intellectual Property and Licensed HEC Intellectual Property.

1.6 **"Intellectual Property"** means all rights in, to, or arising under or out of any (i) Patents or invention disclosures; (ii) copyrights or copyright applications and registrations; (iii) Trade Secrets and (iv) all other intellectual or industrial property of any kind or nature, in each case arising under or protected by the laws of any country anywhere the world, but excluding any Marks.

1.15 **"Patents"** means all classes or types of patents, utility models and design patents (including, without limitation, originals, divisions, continuations, continuations-in-part, extensions, re-examinations or reissues), and applications for these classes or types of patent rights in all countries of the world.

1.16 **"Retained Businesses"** means the telecommunications and space, information, Internet-related, electronics, entertainment and automotive businesses heretofore conducted by HEC or any of its Subsidiaries (other than HSC and its subsidiaries), including any expanded, but related businesses that are natural extensions of any of the foregoing such businesses, including all products and technology under current research and development, but in all events excluding the Satellite Business.

1.17 **“Satellite Business”** means the business of designing, developing, making, assembling, testing, selling and maintaining satellites, and satellite ground control stations, including without limitation components and subsystems of any of the foregoing, for both commercial customers and government agencies, as such business heretofore has been or is currently being conducted by HSC and/or its Subsidiaries, including all products and technology under current research or development, but in all events excluding the Retained Businesses.

## ASSIGNMENT OF HSC INTELLECTUAL PROPERTY

2.1 Assignment of HSC Intellectual Property. Subject to Section 3.1, HEC hereby sells, assigns, transfers and conveys to Boeing, and agrees to cause each of its Subsidiaries other than HSC and the Subsidiaries thereof to sell, assign, transfer and convey to Boeing, as of the Closing Date, all right, title and interest of HEC and such Subsidiaries in and to the HSC Intellectual Property, and to the HSC Marks, together with all appurtenant goodwill relating thereto.

## LICENSES

3.1 License Retention by HEC. The assignment of the HEC Intellectual Property to Boeing in Section 2.1 is subject to retention by HEC of an irrevocable, worldwide, perpetual, non-exclusive, nontransferable (except as provided in Section 8.4), royalty-free license, with the right to sublicense to the extent provided in Section 3.3(a), under the HSC Intellectual Property solely in the Retained Businesses:

to make, have made, use (including operate and maintain), copy, display, perform, import, sell, offer to sell, create derivative works and modifications, distribute or otherwise dispose of, in any manner and to any Person, products and perform or have performed services which incorporate or otherwise use the HSC Intellectual Property, including without limitation to practice any method or process for use in the manufacture of such products or provide or have provided such services except that the foregoing license shall not include any right to use or disclose any HSC Confidential Information to make or have made any products or provide or have provided services (other than operation and maintenance) included within the Satellite Business and until January 1, 2004, shall not include any right under any Patents to make or have made any products or provide or have provided services (other than operation and maintenance) within the Satellite Business.

The Parties agree that the make and have made license retained by HEC hereunder is not intended to cover the manufacturing of any products or the provision of any services included within the Satellite Business for sale to or for the benefit of a third party on a stand-alone basis and is only intended to cover the manufacture of such products for inclusion in larger products or systems or services sold by HEC and its Subsidiaries in the Retained Businesses.

3.2 License Grant by HEC. HEC hereby grants to HSC, and agrees to cause any Subsidiary of HEC (other than HSC or any Subsidiary thereof) that owns or Controls any Licensed HEC Intellectual Property to grant, a worldwide, perpetual, non-transferable (except as provided in Section 8.4), royalty-free license, with the right to sublicense to the extent provided in Section 3.3(b), under the Licensed HEC Intellectual Property:

to make, have made, use (including operate and maintain), copy, have copied, display, perform, import, sell, offer to sell, create derivative works and modifications, distribute or otherwise dispose of, in any manner and to any Person, including without limitation any product included within the Satellite Business and perform or have performed services which incorporate or otherwise use the Licensed HEC Intellectual Property, including without limitation to practice any method or process for use in the manufacture of any such products, excluding in any event any larger products or systems or services of the Retained Businesses (but not excluding operation and maintenance of satellites and satellite ground control stations).

3.3 Sublicenses.

(a) The license of the HSC Intellectual Property retained by HEC in Section 3.1 shall include the right to sublicense Subsidiaries and joint venture partners. Any sublicense agreement entered into by a Party shall be consistent with the terms of this Agreement.

(b) The license of the Licensed HEC Intellectual Property granted by HEC and its Subsidiaries in Section 3.2 shall include the right to sublicense Subsidiaries, joint venture partners and other third parties that are participating in a teaming or other cooperative agreement or arrangement involving the products or technologies of such third parties and HSC or independent contractors that have been engaged by HSC to assist in the design or development of products for HSC or the provision of related services. Any sublicense agreement entered into by a party shall be consistent with the terms of this Agreement.

(c) Notwithstanding Sections 3.3(a) and (b), sublicenses shall be effective only if the permitted sublicensee has agreed in writing to be bound by all of the limitations imposed under this Agreement with respect to Confidential Information and the scope of the license granted hereunder. Upon written request of the Licensors Party, the Licensee Party will give the Licensors Party written notice identifying any Subsidiary or other Person to which the Licensee Party believes a sublicense has been effectively granted by the Licensee Party hereunder. Any sublicense so granted shall be transferable to a purchaser of substantially all of the assets of a sublicensed Subsidiary; provided that such purchaser agrees in writing to be bound by all of the limitations imposed under this Agreement with respect to Confidential Information and the scope of the license granted hereunder.

3.4 Reservation of Rights. All rights not expressly granted by the Parties hereunder are reserved to the parties. Without limiting the generality of the foregoing, the Parties expressly acknowledge that nothing contained herein shall be construed or interpreted as a grant, by implication or otherwise, of any licenses other than the licenses specified in Sections 3.1 and 3.2 hereof and the sublicenses specified in Section 3.3 hereof.

3.5 Inadvertent Omission. Any Intellectual Property that can be demonstrated by any party to have been inadvertently omitted from Schedules A through F of this Agreement shall be deemed included in the HSC Intellectual Property or the Licensed HEC Intellectual Property, as applicable, and the rights and licenses granted hereunder shall apply thereto. Any Intellectual Property that originated in or was first created for the Satellite Business shall be rebuttably presumed to be HSC Intellectual Property. Similarly, any Intellectual Property that originated outside of or was not first created for the Satellite Business shall be rebuttably presumed to not be Licensed HEC Intellectual Property or HSC Intellectual Property.

3.6 Pre-Existing Licenses to Third Parties. The licenses retained or granted in Sections 3.1 or 3.2 are subject to all pre-existing licenses and rights granted to third parties.

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8.4 Assignment and Transfer.

(a) This Agreement, the license rights granted to HEC hereunder, and the license rights granted to HSC hereunder, are personal and shall not in any manner whatsoever be assigned, hypothecated, mortgaged, divided or otherwise encumbered by HEC or HSC, as the case may be, to or with any other person or entity without HEC's or HSC's, as the case may be, prior written approval (it being understood that, unless otherwise agreed in writing, no such assignment shall release the assigning party from any of its obligations or liabilities hereunder). Notwithstanding the foregoing and Sections 3.1 and 3.2, such licenses may be transferred or sublicensed to facilitate a merger, acquisition or divestiture or to a purchaser of substantially all of the assets of the portion of the business to which the license pertains, subject to the other restrictions and provisions of this Agreement. Any attempted assignment in violation of the provisions hereof shall be void ab initio and the assignee shall obtain no rights by reason thereof.

(b) This Agreement and the provisions hereof shall be binding at all times upon and inure to the benefit of the parties, their successors and permitted assigns.



**SCHEDULE 7.1(e)**

**SUBJECT INVENTIONS**

Discl. No.	Sub	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/NE	Subj Invention
87339		8/6/87	Traveling-wave tube with confined-flow periodic permanent magnet focusing	Filed	Granted	BSS	07/182,632	4/18/1988	4,942,336	7/17/1990	4/18/08	Amboss, Kurt Davis, Jon A.	E	Y
88022		1/28/1988	GAS PRESSURE MEASUREMENT DEVICE	Filed	Granted	BSS	7190700	5/5/1988	4,833,921	5/30/1989	5/30/2006	Adler, Edward A Longo, Robert T	E	Y
88135		4/12/1988	TRAVELLING-WAVE TUBE WITH THERMALLY CONDUCTIVE MECHANICAL SUPPORT COMPRISING RESILIENTLY BIASED SPRINGS	Filed	Granted	BSS	7402723	9/5/1989	5,051,656	9/24/1991	9/24/2008	Hollister, Roger S	E	Y
94388		9/22/1994	TWT WITH MISMATCHED SECTION FOR CONTROLLED GAIN VARIATION WITH FREQUENCY	Filed	Granted	BSS	8925930	9/8/1997	6,049,249	4/11/2000	4/11/2017	Hansen, James W Tammaru, Ivo	E	Y
95246		7/17/1995	CIRCUMFERENTIALLY-SEGMENTED TWT COLLECTOR	Filed	Pending	BSS	08/944,652	10/6/1997				Brown II, Richard A	E	Y
95246	A	7/17/1995	CIRCUMFERENTIALLY-SEGMENTED TWT COLLECTOR	Filed	Granted	BSS	09/352,587	7/13/1999	6,208,079	3/27/2001	7/13/2019	Brown II, Richard A	E	Y
970629		11/18/1997	VARIABLE ISO ATTENUATOR USING ABSORPTIVE/REFLECTIVE ELEMENTS AND LATCHING	Filed	Granted	BSS	9132994	8/12/1998	6,066,992	5/23/2000	5/23/2017	Ihmels, Ralf R Jacobsen, Christopher Sadaka, Tarak C	E	Y

Discl. No.	Sub	Discl. Date	Invention Title	Discl. Status	Filing Status	Bus. Unit	Appl. No.	Filing Date	Patent No.	Issue Date	Exp. Date of Patent	Inventor	E/NE	Subj Invention
990160		6/16/1999	POWER SUPPLY CIRCUIT FOR AN ION ENGINE HAVING SEQUENTIALLY OPERATED POWER INVERTERS	Filed	Granted	BSS	09/351,572	7/12/1999	6,154,383	11/28/2000	7/12/2019	Cardwell, Gilbert I	E	Y
990161		6/16/1999	STARTER CIRCUIT FOR AN ION ENGINE	Filed	Granted	BSS	09/352,011	7/12/1999	6,304,040	10/16/2001	7/12/2019	Cardwell, Gilbert I Phelps, Thomas K	E	Y
990161	B	6/16/1999	STARTER CIRCUIT FOR AN ION ENGINE	Filed	Granted	BSS	09/934,628	8/22/2001	6,369,520	4/9/2002	8/22/2021	Phelps, Thomas K Cardwell, Gilbert I	E	Y
990161	A	6/16/1999	STARTER CIRCUIT FOR AN ION ENGINE	Filed	Granted	BSS	09/935,189	8/22/2001	6,369,521	4/9/2002	8/22/2021	Phelps, Thomas K Cardwell, Gilbert I	E	Y
990162		6/16/1999	MULTIPLE OUTPUT POWER SUPPLY CIRCUIT FOR AN ION ENGINE WITH SHARED UPPER INVERTER	Filed	Granted	BSS	09/351,738	7/12/1999	6,181,585 B1	1/30/2001	7/12/2019	Phelps, Thomas K Cardwell, Gilbert I	E	Y

### **SCHEDULE 7.3**

#### **ASSIGNMENT ISSUES**

<b>PATENT NO.</b>	<b>ISSUE</b>
5,083,958 (89312)	Under review
5,065,070 (90106)	Under review
6,150,907 (970124A)	Under review
5,936,482 (96168)	Under review
5,964,633 (970147)	Under review
4,785,207 (85352)	Ordered File History
6,111,358 (970177)	Ordered File History
4,725,797 (81081)	Ordered File History
5,173,669 (89054)	Ordered File History
6,208,079 (95246A)	Ordered File History