

TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

ETAS ID: TM483465

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	Guarantor Joinder and Assumption Agreement		
CONVEYING PARTY DATA			
Name	Formerly	Execution Date	Entity Type
Spectrum Systems, Inc.		07/24/2018	Corporation: FLORIDA
RECEIVING PARTY DATA			
Name:	PNC Bank, National Association		
Street Address:	300 Fifth Avenue		
Internal Address:	The Tower at PNC Plaza		
City:	Pittsburgh		
State/Country:	PENNSYLVANIA		
Postal Code:	15222		
Entity Type:	National Banking Association: UNITED STATES		
PROPERTY NUMBERS Total: 2			
Property Type	Number	Word Mark	
Registration Number:	2008389	SPECTRAVIEW	
Registration Number:	2365763	SPECTRUM 41	
CORRESPONDENCE DATA			
Fax Number:	4125621041		
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>			
Phone:	412-562-1637		
Email:	vicki.cremonese@bipc.com		
Correspondent Name:	Michael L. Dever		
Address Line 1:	301 Grant Street		
Address Line 2:	20th Floor		
Address Line 4:	Pittsburgh, PENNSYLVANIA 15219		
ATTORNEY DOCKET NUMBER:	0011046-302108		
NAME OF SUBMITTER:	Michael L. Dever		
SIGNATURE:	/Michael L. Dever/		
DATE SIGNED:	07/26/2018		
Total Attachments: 36			
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source=pnc-spectrum systems guarantor joinder agreement 7.24.18#page2.tif			

CH \$65.00 2008389

GUARANTOR JOINDER AND ASSUMPTION AGREEMENT

THIS GUARANTOR JOINDER AND ASSUMPTION AGREEMENT is made as of July 24, 2018, by SPECTRUM SYSTEMS, INC., a Florida corporation (the "**New Guarantor**").

Background

Reference is made to (i) the Amended and Restated Credit Agreement dated as of October 6, 2016 (as the same may be modified, supplemented, or amended, the "**Credit Agreement**") by and among TSI Incorporated, a Minnesota corporation (the "**Borrower**"), PNC Bank, National Association, in its capacity as administrative agent for the Lenders party thereto (in such capacity, the "**Administrative Agent**"), the Guarantors party thereto (the "**Guarantors**") and the Lenders party thereto, (ii) the Continuing Agreement of Guaranty and Suretyship dated as of October 6, 2016 (as the same may be modified, supplemented, or amended, the "**Guaranty**") of Guarantors issued to the Lenders and the Administrative Agent, (iii) the Patent, Trademark and Copyright Security Agreement dated as of October 6, 2016 (as the same may be modified, supplemented, or amended, the "**IP Security Agreement**"), among the Pledgors (as defined therein) and the Administrative Agent, (iv) the Pledge Agreement dated as of October 6, 2016 (as the same may be modified, supplemented, or amended, the "**Pledge Agreement**") among the Pledgor(s) (as defined therein) and the Administrative Agent, (v) the Security Agreement dated as of October 6, 2016 (as the same may be modified, supplemented, or amended, the "**Security Agreement**") among the Debtors (as defined therein) and the Administrative Agent, and (vi) the other Loan Documents referred to in the Credit Agreement, as the same may be modified, supplemented, or amended.

Agreement

Capitalized terms defined in the Credit Agreement are used herein as defined therein. In consideration of the New Guarantor becoming a Guarantor under the terms of the Credit Agreement and in consideration of the value of the direct and indirect benefits received by New Guarantor as a result of becoming affiliated with the Borrower and the Guarantors, the New Guarantor hereby agrees that effective as of the date hereof it hereby is, and shall be deemed to be, a Guarantor under the Credit Agreement, the Guaranty and each of the other Loan Documents to which the Guarantors are a party, a Pledgor under the IP Security Agreement and the Pledge Agreement, a Debtor under the Security Agreement and agrees that from the date hereof and so long as any Loan or any Commitment of any Lender shall remain outstanding and until the Payment In Full, New Guarantor has assumed the joint and several obligations of a "Guarantor" under, and New Guarantor shall perform, comply with and be subject to and bound by, jointly and severally, each of the terms, provisions and waivers of the Credit Agreement and the Guaranty, the IP Security Agreement, the Pledge Agreement, the Security Agreement and each of the other Loan Documents which are stated to apply to or are made by a "Guarantor". Without limiting the generality of the foregoing, the New Guarantor hereby represents and warrants that (i) each of the representations and warranties set forth in Article 6 of the Credit Agreement applicable to New Guarantor as a Guarantor is true and correct as to New Guarantor on and as of the date hereof, and (ii) New Guarantor has heretofore received a true and correct copy of the Credit Agreement, the Guaranty, and each of the other Loan Documents (including any modifications thereof or supplements or waivers thereto) in effect on the date hereof.

New Guarantor hereby makes, affirms, and ratifies in favor of the Lenders and the Administrative Agent the Credit Agreement, the Guaranty and each of the other Loan Documents given by the Guarantors to Administrative Agent and any of the Lenders.

New Guarantor is simultaneously delivering to the Administrative Agent the following documents together with the Guarantor Joinder required under Section 8.2.9 [Subsidiaries]:

Updated Schedules to Credit Agreement. [Note: updates to schedules do not cure any breach of warranties].

<u>Schedule No. and Description</u>	<u>Delivered</u>	<u>Not Delivered</u>
Schedule 6.1.2 - Subsidiaries	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schedule 6.1.11 – Registered Patents, Trademarks and Copyrights	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Opinion of Counsel (Schedule 7.1.1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IP Security Agreement Schedules	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Security Agreement Schedules	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Pledge Agreement Schedules	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Any other Schedules to Credit Agreement that necessitate updates after giving effect to this Guarantor Joinder and Assumption Agreement	<input type="checkbox"/>	<input checked="" type="checkbox"/>

In furtherance of the foregoing, New Guarantor shall execute and deliver or cause to be executed and delivered at any time and from time to time such further instruments and documents and do or cause to be done such further acts as may be reasonably necessary in the reasonable opinion of the Administrative Agent to carry out more effectively the provisions and purposes of this Guarantor Joinder and Assumption Agreement.

This Guarantor Joinder and Assumption Agreement may be executed in any number of counterparts, and by different parties hereto in separate counterparts, each of which, when so executed, shall be deemed an original, but all such counterparts shall constitute one and the same instrument. New Guarantor acknowledges and agrees that a telecopy transmission to the Administrative Agent or any Lender of signature pages hereof purporting to be signed on behalf of New Guarantor shall constitute effective and binding execution and delivery hereof by New Guarantor.

IN WITNESS WHEREOF, and intending to be legally bound hereby, the New Guarantor has duly executed this Guarantor Joinder and Assumption Agreement and delivered the same to the Administrative Agent for the benefit of the Lenders, as of the date and year first above written.

SPECTRUM SYSTEMS, INC.

By: Mark Schwirtz
Name: Mark Schwirtz
Title: VP & CFO

Acknowledged and accepted:

PNC BANK, NATIONAL ASSOCIATION,
as Administrative Agent

By: _____
Name: _____
Title: _____

IN WITNESS WHEREOF, and intending to be legally bound hereby, the New Guarantor has duly executed this Guarantor Joinder and Assumption Agreement and delivered the same to the Administrative Agent for the benefit of the Lenders, as of the date and year first above written.

SPECTRUM SYSTEMS, INC.

By: _____
Name: _____
Title: _____

Acknowledged and accepted:

PNC BANK, NATIONAL ASSOCIATION,
as Administrative Agent

By: *Bridget Anderson*
Name: Bridget Anderson
Title: Assistant Vice President

AMENDED AND RESTATED PATENT, TRADEMARK AND COPYRIGHT SECURITY AGREEMENT

This Amended and Restated Patent, Trademark and Copyright Security Agreement (the "**Agreement**"), dated as of October 6, 2016 is entered into by and among **EACH OF THE PERSONS LISTED ON THE SIGNATURE PAGES HERETO AND EACH OF THE OTHER PERSONS WHICH BECOME PLEDGORS HEREUNDER FROM TIME TO TIME** (each a "**Pledgor**" and collectively, the "**Pledgors**") and **PNC BANK, NATIONAL ASSOCIATION**, as administrative agent for the Lenders referred to below (the "**Administrative Agent**").

WHEREAS, pursuant to that certain Amended and Restated Credit Agreement (as amended, restated, modified or supplemented from time to time, the "**Credit Agreement**") of even date herewith by and among TSI Incorporated (the "**Borrower**"), the Guarantors a party thereto (the "**Guarantors**"), the Lenders a party thereto (the "**Lenders**") and the Administrative Agent, the Administrative Agent and the Lenders have agreed to provide certain loans to the Borrower, and the Pledgors have agreed, among other things, to grant a security interest to the Administrative Agent in certain patents, trademarks, copyrights and other property as security for such loans and other obligations as more fully described herein.

NOW, THEREFORE, intending to be legally bound hereby, the parties hereto agree as follows:

1. Defined Terms.

(a) Except as otherwise expressly provided herein, (i) capitalized terms used in this Agreement shall have the respective meanings assigned to them in the Credit Agreement and (ii) the rules of construction set forth in Section 1.2 [Construction] of the Credit Agreement shall apply to this Agreement. Where applicable and except as otherwise expressly provided herein, terms used herein (whether or not capitalized) shall have the respective meanings assigned to them in the Uniform Commercial Code as enacted in Minnesota as amended from time to time (the "**Code**").

(b) "**Patents, Trademarks and Copyrights**" shall mean and include all of each Pledgor's present and future right, title and interest in and to the following: all trade names, patent applications, patents, trademark applications, trademarks and copyrights, whether now owned or hereafter acquired by each Pledgor, including, without limitation, those listed on Schedule A hereto, including all proceeds thereof (such as, by way of example, license royalties and proceeds of infringement suits), the right to sue for past, present and future infringements, all rights corresponding thereto throughout the world and all reissues, divisions, continuations, renewals, extensions and continuations-in-part thereof, and the goodwill of the business to which any of the patents, trademarks and copyrights relate.

(c) "**Secured Obligations**" shall mean and include the following: (i) all now existing and hereafter arising Indebtedness and Obligations of each and every Pledgor to the Administrative Agent, the Lenders, any Rate Protection Provider or any provider of any Other Lender Provided Financial Service Product under the Credit Agreement or any of the other Loan

Documents, including all obligations, liabilities, and indebtedness, whether for principal, interest, fees, expenses or otherwise, of each and every of the Pledgors to the Administrative Agent, the Lenders, any Rate Protection Provider or any provider of any Other Lender Provided Financial Service Product, now existing or hereafter incurred under the Credit Agreement or the Notes or the Guaranty Agreement or any of the other Loan Documents as any of the same or any one or more of them may from time to time be amended, restated, modified, or supplemented, together with any and all extensions, renewals, refinancings, and refundings thereof in whole or in part (and including obligations, liabilities, and indebtedness arising or accruing after the commencement of any bankruptcy, insolvency, reorganization, or similar proceeding with respect to the Borrower or which would have arisen or accrued but for the commencement of such proceeding, even if the claim for such obligation, liability or indebtedness is not enforceable or allowable in such proceeding, and including all obligations, liabilities and indebtedness arising from any extensions of credit under or in connection with the Loan Documents from time to time, regardless whether any such extensions of credit are in excess of the amount committed under or contemplated by the Loan Documents or are made in circumstances in which any condition to extension of credit is not satisfied); (ii) all reimbursement obligations of each and every Pledgor with respect to any one or more Letters of Credit issued by Administrative Agent or any Lender; (iii) all indebtedness, loans, obligations, expenses and liabilities of each and every of the Pledgors to the Administrative Agent or any of the Lenders, Rate Protection Obligations or of any obligations incurred in connection with any Other Lender Provided Financial Service Product provided by the Administrative Agent or such Lenders pursuant to the Credit Agreement; and (iv) any sums advanced by the Administrative Agent or the Lenders or which may otherwise become due pursuant to the provisions of the Credit Agreement, the Notes, this Agreement, or any other Loan Documents or pursuant to any other document or instrument at any time delivered to the Administrative Agent in connection therewith, including commitment, letter of credit, agent or other fees and charges, and indemnification obligations under any such document or instrument, together with all interest payable on any of the foregoing, whether such sums are advanced or otherwise become due before or after the entry of any judgment for foreclosure or any judgment on any Loan Document or with respect to any default under any of the Secured Obligations. Notwithstanding anything to the contrary contained herein, Secured Obligations shall specifically exclude any and all Excluded Hedge Liabilities.

2. To secure the full payment and performance of all Secured Obligations, each Pledgor hereby grants and conveys a security interest to the Administrative Agent, for itself and the benefit of the Lenders and their respective affiliates, in the entire right, title and interest of such Pledgor in and to all of its Patents, Trademarks and Copyrights.

3. Each Pledgor jointly and severally represents and warrants, and covenants that:

(a) the Patents, Trademarks and Copyrights are subsisting and have not been adjudged invalid or unenforceable, in whole or in part;

(b) to the best of such Pledgor's knowledge, each of the material Patents, Trademarks and Copyrights is valid and enforceable, except as would not have a material adverse effect on the Pledgor's business as currently operated;

8. If any Event of Default shall have occurred and be continuing, each Pledgor hereby authorizes and empowers the Administrative Agent to make, constitute and appoint any officer or agent of the Administrative Agent, as the Administrative Agent may select in its exclusive discretion, as such Pledgor's true and lawful attorney-in-fact, with the power to endorse such Pledgor's name on all applications, documents, papers and instruments necessary for the Administrative Agent to use the Patents, Trademarks and Copyrights, or to grant or issue, on commercially reasonable terms, any exclusive or nonexclusive license under the Patents, Trademarks and Copyrights to any third person, or necessary for the Administrative Agent to assign, pledge, convey or otherwise transfer title in or dispose, on commercially reasonable terms, of the Patents, Trademarks and Copyrights to any third Person. Each Pledgor hereby ratifies all that such attorney shall lawfully do or cause to be done by virtue hereof. This power of attorney, being coupled with an interest, shall be irrevocable for the life of this Agreement.

9. At such time as all of the Secured Obligations shall have been Paid In Full and all Commitments shall have been terminated and all Letters of Credit, Rate Protection Obligations and any Other Lender Provided Financial Service Products have expired or been terminated, this Agreement shall terminate and the Administrative Agent shall execute and deliver to the Pledgors all deeds, assignments and other instruments as may be necessary or proper to re-vest in the Pledgors full title to the Patents, Trademarks and Copyrights, subject to any disposition thereof which may have been made by the Administrative Agent pursuant hereto.

10. Any and all fees, costs and expenses, of whatever kind or nature, including reasonable attorneys' fees and expenses incurred by Administrative Agent in connection with the preparation of this Agreement and all other documents relating hereto and the consummation of this transaction, the filing or recording of any documents (including all taxes in connection therewith) in public offices, the payment or discharge of any taxes, counsel fees, maintenance fees, encumbrances, the protection, maintenance or preservation of the Patents, Trademarks and Copyrights, or the defense or prosecution of any actions or proceedings arising out of or related to the Patents, Trademarks and Copyrights, shall be borne and paid by the Pledgors within fifteen (15) days of demand by Administrative Agent, and if not paid within such time, shall be added to the principal amount of the Secured Obligations and shall bear interest at the highest rate prescribed in the Credit Agreement.

11. Each Pledgor shall have the duty to prosecute diligently any patent applications of the Patents, Trademarks and Copyrights pending as of the date of this Agreement if commercially reasonable or thereafter until the Secured Obligations shall have been indefeasibly paid in full and the Commitments shall have terminated, and the Letters of Credit, Rate Protection Obligations and any Other Lender Provided Financial Service Products have expired or been terminated, to make application on unpatented but patentable inventions (whenever it is commercially reasonable in the reasonable judgment of such Pledgor to do so) and to preserve and maintain all rights in patent applications and patents of the Patents, including the payment of all maintenance fees, unless in the reasonable judgment of Pledgor it is commercially reasonable to discontinue payment. Any expenses incurred in connection with such an application shall be borne by the Pledgors. No Pledgor shall abandon any material Patent, Trademark or Copyright without the consent of the Administrative Agent, which shall not be unreasonably withheld.

12. Each Pledgor shall have the right to bring suit, action or other proceeding in its own name, and, with the consent of the Administrative Agent, to join the Administrative Agent, if necessary, as a party to such suit so long as the Administrative Agent is satisfied that such joinder will not subject it to any risk of liability, to enforce the Patents, Trademarks and Copyrights and any licenses thereunder. Each Pledgor shall promptly, upon demand, reimburse and indemnify the Administrative Agent for all damages, costs and expenses, including reasonable legal fees, incurred by the Administrative Agent as a result of such suit or joinder by such Pledgor.

13. No course of dealing between any Pledgor and the Administrative Agent, nor any failure to exercise nor any delay in exercising, on the part of the Administrative Agent, any right, remedy, power or privilege of the Administrative Agent hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any right, remedy, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, remedy, power or privilege. No waiver of a single Event of Default shall be deemed a waiver of a subsequent Event of Default.

14. All of the Administrative Agent's rights and remedies with respect to the Patents, Trademarks and Copyrights, whether established hereby or by the Credit Agreement or by any other agreements or by Law, shall be cumulative and not exclusive of any rights or remedies which it may otherwise have under the other Loan Documents, under the Rate Protection Agreement or any Other Lender Provided Financial Service Products or by Law, and the Administrative Agent may enforce any one or more remedies hereunder successively or concurrently at its option.

(a) (a) It is the intention of the parties that this Agreement be enforceable to the fullest extent permissible under applicable Law, but that the unenforceability (or modification to conform to such Law) of any provision or provisions hereof shall not render unenforceable, or impair, the remainder hereof. If any provision in this Agreement shall be held invalid or unenforceable in whole or in part in any jurisdiction, this Agreement shall, as to such jurisdiction, be deemed amended to modify or delete, as necessary, the offending provision or provisions and to alter the bounds thereof in order to render it or them valid and enforceable to the maximum extent permitted by applicable Law, without in any manner affecting the validity or enforceability of such provision or provisions in any other jurisdiction or the remaining provisions hereof in any jurisdiction without invalidating the remaining provisions hereof.

(b) Without limitation of the preceding Subsection (a), to the extent that applicable Law (including applicable Laws pertaining to fraudulent conveyance or fraudulent or preferential transfer) otherwise would render the full amount of any Pledgor's obligations hereunder invalid, voidable, or unenforceable on account of the amount of a Pledgor's aggregate liability under this Agreement, then, notwithstanding any other provision of this Agreement to the contrary, the aggregate amount of such liability shall, without any further action by the Administrative Agent or any of the Lenders or such Pledgor or any other Person, be automatically limited and reduced to the highest amount which is valid and enforceable as determined in such action or proceeding, which (without limiting the generality of the foregoing) may be an amount which is equal to the greater of:

(i) the fair consideration actually received by such Pledgor under the terms and as a result of the Loan Documents and the Rate Protection Agreement or any Other Lender Provided Financial Service Products and the value of the benefits described in Paragraph 24 hereof, including (and to the extent not inconsistent with applicable federal and state laws affecting the enforceability of guaranties) distributions, commitments, and advances made to or for the benefit of such Pledgor with the proceeds of any credit extended under the Loan Documents or the Rate Protection Agreement any Other Lender Provided Financial Service Products, or

(ii) the excess of (1) the amount of the fair value of the assets of such Pledgor as of the date of this Agreement as determined in accordance with applicable federal and state laws governing determinations of the insolvency of debtors as in effect on the date hereof, over (2) the amount of all liabilities of such Pledgor as of the date of this Agreement, also as determined on the basis of applicable federal and state laws governing the insolvency of debtors as in effect on the date hereof.

(c) Notwithstanding anything to the contrary in this Section or elsewhere in this Agreement, this Agreement shall be presumptively valid and enforceable to its full extent in accordance with its terms, as if this Section (and references elsewhere in this Agreement to enforceability to the fullest extent permitted by Law) were not a part of this Agreement, and in any related litigation, the burden of proof shall be on the party asserting the invalidity or unenforceability of any provision hereof or asserting any limitation on any Pledgor's obligations hereunder as to each element of such assertion.

16. This Agreement supersedes all prior understandings and agreements, whether written or oral, between the parties hereto relating to a grant of a security interest in the Patents, Trademarks and Copyrights by any Pledgor. This Agreement is subject to waiver, modification, supplement or amendment only by a writing signed by the parties, except as provided in Paragraph 6 and Paragraph 26 hereof with respect to additions and supplements to Schedule A hereto.

17. Each Pledgor hereby agrees to be bound by the provisions of Section 5.9 of the Credit Agreement and shall make all payments free and clear of Taxes as provided therein.

18. The benefits and burdens of this Agreement shall inure to the benefit of and be binding upon the respective successors and permitted assigns of the parties, provided, however, that no Pledgor may assign or transfer any of its rights or obligations hereunder or any interest herein, and any such purported assignment or transfer shall be null and void.

19. This Agreement shall be governed by, construed, and enforced in accordance with the internal laws of the State of New York, without regard to its conflict of laws principles, except to the extent the validity or perfection of the security interests or the remedies hereunder in respect of any Patents, Trademarks or Copyrights are governed by the law of a jurisdiction other than the State of New York.

20. Each Pledgor hereby irrevocably submits to the nonexclusive jurisdiction of any New York state or federal court sitting in New York County, in any action or proceeding arising

out of or relating to this Agreement, and each Pledgor hereby irrevocably agrees that all claims in respect of such action or proceeding may be heard and determined in such New York state or federal court. Each Pledgor hereby waives to the fullest extent it may effectively do so, the defense of an inconvenient forum to the maintenance of any such action or proceeding. Each Pledgor hereby appoints the process agent identified below (the "Process Agent") as its agent to receive on behalf of such party and its respective property service of copies of the summons and complaint and any other process which may be served in any action or proceeding. Such service may be made by mailing or delivering a copy of such process to the Pledgor in care of the Process Agent at the Process Agent's address, and each Pledgor hereby authorizes and directs the Process Agent to receive such service on its behalf. Each Pledgor agrees that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions (or any political subdivision thereof) by suit on the judgment or in any other manner provided at law. Each Pledgor further agrees that it shall, for so long as any commitment or any obligation of any Loan Party to any Lender remains outstanding, continue to retain Process Agent for the purposes set forth in this Section 20. The Process Agent is the Borrower, with an office on the date hereof as set forth in the Credit Agreement. The Process Agent hereby accepts the appointment of Process Agent by the Pledgors and agrees to act as Process Agent on behalf of the Pledgors.

21. This Agreement may be executed by different parties hereto on any number of separate counterparts, each of which, when so executed and delivered, shall be deemed an original, and all such counterparts shall together constitute one and the same instrument. Each Pledgor acknowledges and agrees that a telecopy or electronic transmission to the Administrative Agent or any Lender of the signature page hereof purporting to be signed on behalf of such Pledgor shall constitute effective and binding execution and delivery hereof by such Pledgor.

22. EACH PLEDGOR HEREBY IRREVOCABLY WAIVES TRIAL BY JURY IN ANY ACTION, SUIT, PROCEEDING OR COUNTERCLAIM OF ANY KIND ARISING OUT OF OR RELATED TO THIS AGREEMENT, THE CREDIT AGREEMENT, ANY OTHER LOAN DOCUMENT OR THE PATENTS, TRADEMARKS AND COPYRIGHTS TO THE FULLEST EXTENT PERMITTED BY LAW.

23. All notices, statements, requests, demands, directions and other communications (collectively, "notices") given to or made upon any party hereto under the provisions of this Agreement shall be given to the applicable party hereto at the address set forth on a Schedule 1.1(B) to, or in a Guarantor Joinder given under, the Credit Agreement and in the manner provided in Section 11.5 [Notices; Effectiveness; Electronic Communication] of the Credit Agreement. The Administrative Agent and the Lenders may rely on any notice (whether or not made in the manner contemplated by this Agreement) purportedly made by or on behalf of any Pledgor, and the Administrative Agent and the Lenders shall have no duty to verify the identity or authority of the Person giving such notice.

24. Each Pledgor acknowledges and agrees that, in addition to the other rights of the Administrative Agent hereunder and under the other Loan Documents, because the Administrative Agent's remedies at law for failure of such Pledgor to comply with the provisions hereof relating to the Administrative Agent's rights (i) to inspect the books and records related to the Patents, Trademarks and Copyrights, (ii) to receive the various notifications such Pledgor is

required to deliver hereunder, (iii) to obtain copies of agreements and documents as provided herein with respect to the Patents, Trademarks and Copyrights, (iv) to enforce the provisions hereof pursuant to which such Pledgor has appointed the Administrative Agent its attorney-in-fact, and (v) to enforce the Administrative Agent's remedies hereunder, would be inadequate and that any such failure would not be adequately compensable in damages, such Pledgor agrees that each such provision hereof may be specifically enforced.

25. Each Pledgor hereby acknowledges, represents, and warrants that it receives synergistic benefits by virtue of its affiliation with the Borrower and/or the other Pledgors and that it will receive direct and indirect benefits from the financing arrangements contemplated by the Credit Agreement and that such benefits, together with the rights of contribution and subrogation that may arise in connection herewith are a reasonably equivalent exchange of value in return for providing this Agreement.

26. At any time after the initial execution and delivery of this Agreement to the Administrative Agent and the Lenders, additional Persons may become parties to this Agreement and thereby acquire the duties and rights of being Pledgors hereunder by executing and delivering to the Administrative Agent and the Lenders a Guarantor Joinder pursuant to the Credit Agreement and, in addition, a new Schedule A hereto shall be provided to the Administrative Agent with respect to such new Pledgor. No notice of the addition of any Pledgor shall be required to be given to any pre-existing Pledgor and each Pledgor hereby consents thereto.

27. This Agreement hereby replaces in its entirety, that certain Patent, Trademark and Copyright Security Agreement dated as of June 20, 2012, by and among the Borrower, the Guarantors party thereto, and the Administrative Agent (as thereafter amended, supplemented, restated or modified from time to time, the "Original Patent, Trademark and Copyright Security Agreement Agreement"), and the Debtors acknowledge and agree that the amendment and restatement of the Original Patent, Trademark and Copyright Security Agreement by this Agreement is not intended to constitute, nor does it constitute, a novation, interruption, suspension of continuity, satisfaction, discharge or termination of the obligations, liabilities, or indebtedness under the Original Patent, Trademark and Copyright Security Agreement and this Agreement is entitled to all rights and benefits originally pertaining to the Original Patent, Trademark and Copyright Security Agreement Agreement.

[SIGNATURES APPEAR ON FOLLOWING PAGES]

[SIGNATURE PAGE 1 OF 3 TO AMENDED AND RESTATED PATENT,
TRADEMARK AND COPYRIGHT SECURITY AGREEMENT]

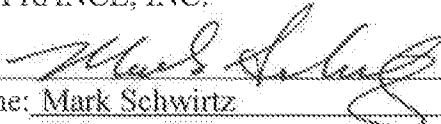
IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed
by their respective officers or agents thereunto duly authorized, as of the date first above written.

PLEDGORS:

TSI INCORPORATED

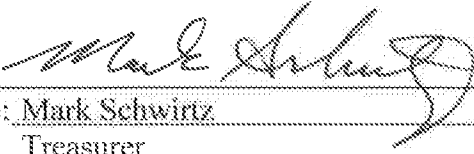
By: 
Name: Mark Schwartz
Title: Chief Financial Officer

TSI FRANCE, INC.

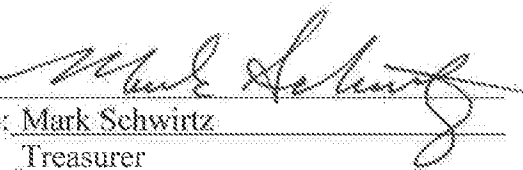
By: 
Name: Mark Schwartz
Title: Treasurer

[SIGNATURE PAGE 2 OF 3 TO AMENDED AND RESTATED PATENT,
TRADEMARK AND COPYRIGHT SECURITY AGREEMENT]

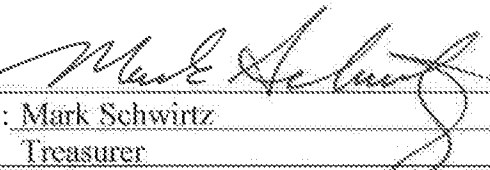
ENVIRONMENTAL SYSTEMS CORPORATION

By: 
Name: Mark Schwartz
Title: Treasurer

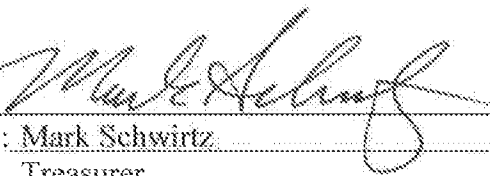
DICKEY-JOHN CORPORATION

By: 
Name: Mark Schwartz
Title: Treasurer

DICKEY-JOHN INTERNATIONAL, INC.

By: 
Name: Mark Schwartz
Title: Treasurer

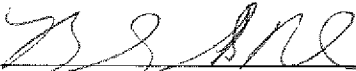
TEKRAN USA, INC.

By: 
Name: Mark Schwartz
Title: Treasurer

**[SIGNATURE PAGE 3 OF 3 TO AMENDED AND RESTATED PATENT,
TRADEMARK AND COPYRIGHT SECURITY AGREEMENT]**

ADMINISTRATIVE AGENT:

PNC BANK, NATIONAL ASSOCIATION, as
Administrative Agent

By: 
Name: Blanton S. Norder
Title: Vice President

**SCHEDULE A
TO
PATENT, TRADEMARK AND COPYRIGHT SECURITY AGREEMENT**

**LIST OF REGISTERED PATENTS, TRADEMARKS,
TRADE NAMES AND COPYRIGHTS**

(as of July 16, 2018)

1. Registered Patents:

TSI/D-j	Title	Number	Issue	Filing	Inventor	Active
TSI	Fluorescent Biological Particle Detection System	US5895922	4/20/1999	5/23/1997	Ho	Active
TSI	Apparatus for Determining Powder Flowability	US5959222	9/28/1999	4/1/1998	Poole	Active
TSI	System for Detecting Fluorescing Components in Aerosols	US5999250	11/25/2003	3/20/1998	Hairston Quant	Active
TSI	Respirator Fit-Testing With Size Selected Aerosol	US6125845	10/3/2000	8/29/1997	Halvorsen Keady	Active
TSI	Instrument for Measuring and Classifying Nanometer Aerosols	US6230572B1	5/15/2001	2/12/1999	Pui Chen Quant Sem Fissen Hummes Dorman	Active
TSI	Airflow Measurement Device	US6244144B1	6/12/2001	9/30/1998	Kowal Blond	Active
TSI	Aerosol Charge Adjusting Apparatus Employing a Corona Discharge	US6544484B1	4/8/2003	6/16/2000	Kaufman Dorman	Active
TSI	Evaporative Electrical Detector	US6568245B2	5/27/2003	3/13/2002	Kaufman	Active
TSI	Laser Diode-Excited Biological Particle Detection Systems	US6831279B2	12/14/2004	11/27/2001	Jim Ho	Active
TSI	Aerosol Charge Altering Device	US7031133B2	4/18/2006	10/15/2004	Ulrich Reibel	Active
TSI	Analysis Systems Detecting Particle Size Fluorescence	US7057712B2	6/6/2006	6/24/2003	Beck Hairston Kaufman	Active
TSI	Integrating Electrometer Amplifying Circuit	US7230431B2	6/12/2007	1/27/2004	Mirme	Active
TSI	Circumferential Slot Virtual Impactor for Concentrating Aerosols	US7261007B2	8/28/2007	11/22/2004	Haglund McFarland	Active

TSI	Air Pump for Particle Sensing Using Regenerative Fan, And Associated Methods	US6167107	12/26/2000	7/16/1999	Bates	Active
TSI	Stereo Multiplexed Holographic Particle Image Velocimeter	US5548419	8/20/1996	6/20/1994	Adrian Barnhart Papen	Active
TSI	Peak Detector	US7180335B2	2/7/2007	7/20/2005	Hill	Active
TSI	Peak Detector	GB2416595B	3/5/2008	7/27/2004	Hill	Active
TSI	Particle Counter for Liquids	GB2411002B	12/20/2006	2/11/2004	Hill	Active
TSI	Apparatus and Method for Minimizing Performance Degradation in a Laser Device	US5907575	5/25/1999	7/17/1997	Sandberg	Active
TSI	Method of Noise Cancellation in an Unpolarized Laser Instrument	US7079243B2	7/18/2006	7/16/2003	Sandberg Turchette	Active
TSI	Method for Noise Cancellation by Spectral Flattening of Laser Output in a Multi-Line Laser Instrument	US7295585B2	11/13/2007	7/16/2003	Sandberg Turchette	Active
TSI	Particle Surface Treatment for Promoting Condensation	7,407,531	8/5/2008	5/9/2005	Richard C. Flagan Stanley L. Kaufman Gilmore J. Sem	Active
TSI	Instruments for Measuring Nanoparticle Exposure	US7812306	10/12/2010	5/23/2006	Fissan Trampe Pui Kaufman	Active
D-j	SYNCHRONIZATION OF A TWIN ROW PLANTING SYSTEM	US9,320,192	04/26/2016	11/12/2013	Steffen Kuhnel	Active
D-j	Fault-tolerant Sensing and Monitoring Communications Bus System for Agricultural Applications	US9,307,694	4/12/2016	1/7/2013	Kuhnel Miller	Active
D-j	Apparatus and Method for Sensing a Full Level Condition for a Large Basket REceptacle or the LIke	US5770865	6/23/1998	3/21/1997	Ron Steffen John Galman	Active
D-j	Universal Control System with Alarm History Tracking for Mobile Material Distribution Apparatus	US5801948	9/1/1998	8/22/1996	John Wood Joel Morton	Active
D-j	Apparatus and Method for Sensing Material Build-Up	US5819512	10/13/1998	3/20/1997	Ron Steffen Ernie Poani David Steffen	Active

D-j	Boom Configuration Monitoring and Control System for Mobile Material Distribution Apparatus	US5884205	3/16/1999	8/22/1996	Thomas Elmore Joel Morton Ron Steffen	Active
D-j	Universal Modular Control System for Mobile Material Distribution Apparatus	US5897600	4/27/1999	8/22/1996	Tom Elmore John Wood Ron Steffen Joel Morton	Active
D-j	Control System for a Mobile Material Distribution Device	US5911362	6/15/1999	2/26/1997	John Wood Joel Morton	Active
D-j	Viscometer Module with Crystal Resonator-Type Sensor	US6141625	10/31/2000	6/4/1998	Ron Smith Mark Lovik	Active
D-j	Infrared Reflective Article Counting/Detecting Device	US6373057	4/16/2002	9/23/1998	Barry Penfold	Active
TSI	Size Segregated Aerosol Mass Concentration Measurement Device	US7,932,490	4/26/2011	8/7/2008	Wang, Agarwal, Chancellor, Evanstad	Active
TSI	Method and Apparatus for Continuously Determining the Inclination and Draft of a Waterborne Floating Vessel	US5,547,327	8/20/1996	9/1/1995	Bachalo, Isakovic	Active
TSI	Instrument for measuring and classifying nanometer aerosols	US6230572B1	5/15/2001	2/12/1999	Pui	Active
TSI	Analysis of Signal Oscillation Patterns	US7362421	4/22/2008	9/1/2006	Gang Pan	Active
TSI	Aerosol Charge Conditioner	7,796,727 B1	9/14/2010	3/25/2009	Kaufman	Active
TSI	Laser Diode-Excited Biological Particle Detection System	CA 2,363,853	1/13/2009		Ho	Active
TSI	Laser Diode-Excited Biological Particle Detection System	6,831,279	12/14/2004	11/27/2001	Ho	Active
TSI	Fluorescent Biological Particle Detection System	5,701,012	12/23/1997	3/19/1996	Ho	Active
TSI	Smart Sensor Module	US6032109	2/29/2000	10/21/1997	Ritmiller	Active
TSI	Transducer Assembly with Smart Connector	US6243654	6/5/2001	10/7/1998	Johnson	Active
TSI	Smart Remote Monitoring System and Method	6553336	4/22/2003	6/26/2000	Johnson et al	Active
TSI	Device and Method for Separating and Increasing the Concentration of Charged Particles in a Sampled Aerosol	8,192,523	6/5/2012	2/23/2009	Kaufman Kolb Holm	Active
TSI	Size Segregated Aerosol Mass Concentration Measurement with Inlet Conditioners and Multiple Detectors	8,047,055	11/01/2011	2/10/2010	Wang Agarwal Chancellor Evanstad Hase Avula Farnsworth	Active

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TSI	Size Segregated Aerosol Mass Concentration Measurement with Inlet Conditioners and Multiple Detectors	8,534,116	9/17/2013	9/23/2011	Wang Agarwal Chancellor Evanstad Hase Avula Farnsworth Lieder	Active* Original assignment to PNC Bank NA
TSI	Automated Qualitative Mask Fit Tester	8,276,587	10/2/2012	2/17/2009	Zhang, Zanto, Shi, Olson, Poeschl, Majkowski, Olstad	Active
TSI	Respirator Test Accessory	8,312,761	11/20/2012	6/24/2009	Montividas Remiarz Johnson Carideo	Active
TSI	Respirator Test Accessory	8,621,914	1/7/2014	11/14/2012	Montividas Remiarz Johnson Carideo	Active
TSI	Nebulizer Waste Pressure Reducer for HPLC Systems	8,292,990	11/23/2012	9/8/2009	Schumacher Montevidas	Active
TSI	Method and System for Significantly Improving Charge Probabilities of Nanometer Aerosol Particles	9,035,242	5/19/2015	7/15/2014	Han	Active
TSI	Spark Emission Particle Detector	9,140,653	9/22/2015	10/8/2011	Buckley Lithgow	Active
TSI	Apparatus and Method for Improving Particle Count Accuracy in Low Pressure Applications	9,222,859	12/29/2015	4/12/2012	Caldow Kerrigan Johnson Scheckman	Active
TSI	SYSTEM AND METHOD FOR CONVERTING OPTICAL DIAMETERS OF AEROSOL PARTICLES TO MOBILITY AND AERODYNAMIC DIAMETERS	9,335,244	05/10/2016	08/09/2011	Han	Active
TSI	Methods and Apparatus for detecting airborne molecular contaminants	10,006,871	06/26/2018	09/21/2011	Kaufman	Active

TSI	System and Apparatus for using a wireless smart device to perform field calculations	9,933,401	04/03/2018	10/19/2011	Poecher, Bark, Menon	Active
TSI	Electrospray with soft X-ray neutralizer	9,925,547	03/27/2018	07/26/2015	Scheckman, Quant	Hase
TSI	Seed Sensor with Lightpipt photodetect Assembly	9,913,425	03/13/2018	05/06/2015	Steffen, Qi, Miller	Active
TSI	System and method for converting optical diameters of aerosol particles to mobility and aerodynamic diameters	9,891,154	2/13/18	03/31/2016	Han	Active
TSI	Apparatus and system for simultaneously measuring particle concentration and biocontaminants in an aerosol particle flow	9,880,097	01/30/2018	03/18/2014	Evenstad, Qi, Hairston, Niccum	Active
TSI	Sampling heads for handheld RAMAN spectroscopy devices	9,869,586	01/16/2018	05/13/2016	Lam, Pan	Active
TSI	Electromagnetic seed sensor assembly for seed tube planting applications	9,863,894	01/09/2018	01/30/2017	Itagi, Wiwel, Oberg	Active
TSI	Method and system for significantly improving charge probabilities of nanometer aerosol particles	9,863,862	01/09/2018	03/13/2014	Han	Active
TSI	System and method of conducting particle monitoring using low cost particle sensors	9,726,579	08/8/2017	12/30/2014	Han, Farnsworth, Caldwell	Active
TSI/Aerosol Dynamics	System and method for the concentrated collection of airborne particles	9,658,139	05/23/2017	07/28/2013	Hering, Lewis, Eiguren, Quant, Farmer,	Active
TSI	Electromagnetic seed sensor assembly for seed tube planting applications	9,557,278	01/31/2017	03/14/2013	Itagi, Wiwel, Oberg	Active
TSI	High speed spectroscopic sensor assembly and system	9,557,216	01/31/2017	02/05/2015	Buckley, Farmer, Niccum	Active
TSI	Handheld laser induced breakdown spectroscopy device	9,506,869	11/29/2016	10/14/2014	Quant, Farmer, Tan, Stipe, Buckley, Stockinger, Jensen	Active

Name of Owner	Patent	Country	Patent No.	Issue Date
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MSP Corporation	Volumetric Flow Controller For Aerosol Classifier	US	5006227	04/09/91
MSP Corporation	High Output Monodisperse Aerosol Generator	US	5160664	11/03/92
MSP Corporation	Low Particle Loss Cascade Impactor	US	5343767	09/06/94
MSP Corporation	Air and Gas Cooling and Filtration Apparatus	US	5453107	09/26/95
MSP Corporation	Method and Apparatus for Depositing Particles on Surfaces	US	5534309	07/09/96
MSP Corporation	Diesel Particle Virtual Impactor Sampler	US	5498271	04/12/96
MSP Corporation	High Output PSL Aerosol Generator	US	5609798	04/11/97
MSP Corporation	Method and Apparatus for Controlled Particle Deposition on Surfaces	US	5916640	06/29/99
MSP Corporation	Method and Apparatus for Thin Film Deposition on Large Area Substrates	US	6349668	02/26/02
MSP Corporation	A Compact Electrostatic Precipitator for Droplet Aerosol Collection	US	6221136	04/24/01
MSP Corporation		US	6527821	04/04/03
MSP Corporation		US	6364941	04/02/02
MSP Corporation		EP, IT, DE, FR, GB	1131162	02/22/06
MSP Corporation	Efficient High-Productivity Cascade Impactors	US	6453758	09/24/02
MSP Corporation		GB	2351155	07/02/03
MSP Corporation		DE	10028599	02/22/06
MSP Corporation	High Accuracy Aerosol Impactor and Monitor	US	6431014	08/13/02
MSP Corporation	Method and Apparatus for Vapor Generation and Film Deposition	US	6409839	06/25/02
MSP Corporation	Sampler for Eliminating Particle-Related Artifacts for Flue Gas Measurement	US	6561045	05/13/03
MSP Corporation		EP, FR, DE	1277035	04/25/01

MSP Corporation	Method and Apparatus for Impactor Sample Recovery for Chemical Analysis	US	6723568	04/20/04
MSP Corporation		GB	2371861	07/14/04
MSP Corporation	Method and Apparatus for Deposition of Particles on Surfaces	US	6607597	08/19/03
MSP Corporation		JP	4139112	06/13/08
MSP Corporation	Method and Apparatus for Verifying Integrity of Cascade Impactors	US	6647758	11/18/03
MSP Corporation		GB	2372719	08/18/04
MSP Corporation	Pre-Separator for Inlets of Cascade Impactors	US	6595368	07/22/03
MSP Corporation		GB	2371001	01/14/04
MSP Corporation	Impactor Nozzle Plate	US	6543301	04/08/03
MSP Corporation		GB	2371247	12/10/03
MSP Corporation	Mixing Devices for Sample Recovery From a USP Induction Port on a Pre-Separator	US	6520673	02/18/03
MSP Corporation		GB	2369784	04/16/05
MSP Corporation	Suspended Particle Container for an Atomizer	US	6601777	08/05/03
MSP Corporation		JP	4063543	01/11/08
MSP Corporation	Scanning Deposition Head for Depositing Particles on a Wafer	US	6746539	06/08/04
MSP Corporation	Cascade Impactor with Individually Driven Impactor Plats	US	7082811	08/01/06
MSP Corporation		EP, DE, FR	1660863	01/06/10
MSP Corporation		JP	4519842	05/28/10
MSP Corporation	Electrostatic Precipitator for Diesel Blow-By	US	7267711	09/11/07

MSP Corporation	Personal Mask Test System	US	7325441	02/05/08
MSP Corporation	Method and Apparatus for Generating Charged Particles for Deposition on a Surface	US	7882799	02/08/11
MSP Corporation	High Accuracy Vapor Generation and Delivery for Thin Film Deposition	EP, DE Validation	1844178	03/09/16
MSP Corporation	Aerosol Measurement by Dilution and Particle Counting	US	7363828	04/29/08
MSP Corporation	Method and Apparatus for Liquid Precursor Atomization	US	8132793	03/13/12
MSP Corporation		US	8393599	03/12/13
MSP Corporation		KR	10-1502415	03/09/15
MSP Corporation	Method for Liquid Precursor Atomization	US	8529985	09/10/13
MSP Corporation	Method and Apparatus for Controlled Particle Deposition Wafers	EP	0766604	09/18/02
MSP Corporation		JP	3947217	04/20/07
MSP Corporation		KR	0359886	10/24/02
MSP Corporation		DE	P695282662	09/18/02
MSP Corporation	Method and Apparatus for Automated Operation of Impactors	EP, DE, GB	1379853	04/09/08
MSP Corporation	High Stability and High Capacity Precursor Vapor Generation for Thin Film Deposition	US	8603580	12/10/13
MSP Corporation	Method and Apparatus for Particle Filtration and Enhancing Tool Performance in Film Deposition	US	8297223	10/30/12
MSP Corporation		KR	1510787	04/03/15
MSP Corporation	Apparatus for Filtration and Gas-Vapor Mixing in Thin Film Deposition	KR	10-1626839	05/27/15

MSP Corporation	Apparatus for High-Accuracy Fiber Counting in Air	US	7830510	11/09/10
MSP Corporation		JP	5443787	12/27/13
MSP Corporation		GB	2487690	10/30/13
MSP Corporation	Method for Counting Particles in a Gas	US	8465791	08/31/13
MSP Corporation		US	8711338	04/26/14
MSP Corporation	Apparatus for Counting Particles in a Gas	US	8603247	12/10/13
MSP Corporation	Method and Apparatus for Counting Particles in a Gas	GB	2502746	03/12/14
MSP Corporation	Method and Apparatus for Generating Vapor at High Rates	US	8554064	10/08/13
MSP Corporation	Fine Droplet Atomizer for Liquid Precursor Vaporization	US	8511583	08/20/13
MSP Corporation		US	8986784	03/24/15
MSP Corporation		KR	10-1387634	04/15/14
MSP Corporation		JP	5781546	07/24/15
MSP Corporation	Electrical Ionizer for Aerosol Charge Conditioning and Measurement	JP	5932229	05/13/16
MSP Corporation	Liquid Flow Control for Film Deposition	US	8783652	07/22/14
MSP Corporation		KR	10-1432243	08/13/14
MSP Corporation		JP	5725482	04/10/15
MSP Corporation	Apparatus for Vapor Condensation and Recovery	US	8728240	05/20/14
MSP Corporation		KR	10-1387632	04/15/14
MSP Corporation	Laser Diffraction Process and Apparatus for Width Measurement of Elongated Objects	US	7072051	04/15/03

MSP Corporation	System and Method for Generating Sprays and Using Electric Fields	US	8421006	04/16/13
MSP Corporation	Method and Apparatus for Vapor Generation and Wafer Cleaning	US	8945281	02/03/15
MSP Corporation	Method and Apparatus for Vapor and Gas Filtration	US	9089800	07/28/15
	Compact, high-efficiency condensation nucleus counter	US	6829044	12/07/04
	Method and apparatus for vapor generation and film deposition	US	6805907	10/19/04
	Wide-range particle counter	US	6639671	10/28/03
	Method and apparatus for surface inspection in a chamber	US	5940175	08/17/99
	Electrostatic precipitator with internal power supply	US	6902604	06/07/05

2. Patent Applications:

TSI

Status	Application Number	Application Date
Pending	14/012,818	8/28/2013
Pending	12822091.0	8/8/2012
Pending	15/087,268	3/31/2016
Pending	13/879,841	4/17/2013
Pending	12833801.9	9/18/2012
Pending	14/345,478	3/18/2014
Pending	14/209,179	3/13/2014
Pending	14787377.2	10/15/2014
Pending	PCT/US14/60611	10/15/2014
Pending	14/514,294	10/14/2014
Pending	PCT/US15/36617	6/19/2015
Pending	14/835,990	8/26/2015
Pending	201480054413.6	7/31/2014
Pending	14750939.2	7/31/2014
Pending	PCT/US14/49062	7/31/2014
Pending	14/909,213	2/1/2016
Pending	14/837,650	8/27/2015

Pending	PCT/US16/17930	2/15/2016
Pending	201520776902.4	9/30/2015
Pending	14/586,122	12/30/2014
Pending	15/154,224	5/13/2016
Pending	62/276,579	1/8/2016
Pending	2.0168E+11	23-Feb-16
Pending	2017-562961	23-Feb-16
Pending	10-2017-7026788	23-Feb-16
Pending	62/119,558	23-Feb-15
Pending	15/552,396	21-Aug-17
Pending	PCT/US2016/019083	23-Feb-16
Pending	62/317,102	1-Apr-16
Pending	PCT/US2017/025403	31-Mar-17
Pending	62/415,333	31-Oct-16
Pending	PCT/US2017/059016	30-Oct-17
Pending	62/394,723	14-Sep-16
Pending	PCT/US2017/051615	14-Sep-17
Pending	62/486,234	17-Apr-17
Pending	PCT/US2018/027815	16-Apr-18
Pending	62/569,726	9-Oct-17
Pending	62/677,622	29-May-18
Pending	2.0168E+11	23-Feb-16
Pending	2017-562961	23-Feb-16
Pending	10-2017-7026788	23-Feb-16
Pending	62/119,558	23-Feb-15
Pending	15/552,396	21-Aug-17
Pending	PCT/US2016/019083	23-Feb-16
Pending	62/317,102	1-Apr-16
Pending	PCT/US2017/025403	31-Mar-17
Pending	62/415,333	31-Oct-16
Pending	62/682,962	10-Jun-18
Pending	62/682,973	10-Jun-18

DICKEY-john Corporation

Status	Application Number	Application Date
Pending	13733907.3	1/7/2013



Pending	15/095,618	4/11/2016
Pending	2013309064	8/27/2013
Pending	BR1120150043569	8/27/2013
Pending	13832677.2	8/27/2013
Pending	14/424,131	2/26/2015
Pending	2015/02074	8/27/2013
Pending	14/265,957	4/30/2014
Pending	14192624.6	11/11/2014
Pending	13/827,677	3/14/2013
Pending	PCT/US15/44800	8/12/2015

MSP Corporation

Status	Application Number	Application Date
Pending – allowed	14/031,661	9/19/2013
Pending – on appeal	12/902,871	10/12/2010
Pending	12/985,105	1/5/2011
Pending	14/107718	
Pending	DE 12010004056	
Pending	DE 112011100462.1	
Pending	KR 10-2013-0012148	
Pending	KR 10-2015-0150463	
Pending	DE 10392592.9	
Pending	DE 1120050025411	
Pending	EPO 13158156.3	
Pending	EPO 1316822.4	
Pending	103139353	
Pending	14/636890	
Pending	14599451	
Pending	14/709055	
Pending	15/135,132	
Pending	62/195,520	

3. Registered Trademarks:


TSI, Incorporated

TRADEMARK	COUNTRY	APP/ REG # DATE	STATUS/ACTION DUE
ACCUBALANCE 	US	1,796,909 10/05/1993	REGISTERED: Renewal Due 10/05/2023
ACCUBALANCE	US	4,567,966 7/15/2014	REGISTERED: 8&15 Due 7/20/2020
ACCUBALANCE	EUROPEAN UNION	12437711 04/30/2014	REGISTERED: Renewal Due 12/17/2023
AERODYNAMIC PARTICLE SIZER 	US	1,698,818 07/07/1992	REGISTERED: Renewal Due 07/07/2022
AEROSOL INSTRUMENT MANAGER	US	2,233,548 3/23/1999	REGISTERED: Renewal Due 3/23/2019
AEROTRAK	US	3,668,528 8/18/2009	REGISTERED: Renewal Due 8/18/2019
AIRGUARD	US	1,717,733 9/22/1992	REGISTERED: Renewal Due 9/22/2022
AIRPRO	US	Application Serial No. 87/094,109	Filed as Intent to Use: July 6, 2016
ALNOR	AUSTRALIA	246851 3/17/1991	REGISTERED: Renewal Due 3/17/2025
ALNOR	CANADA	8275 1/14/1937	REGISTERED: Renewal Due 1/14/2027
ALNOR	INDIA	1364069 06/15/20015	REGISTERED: Renewal Due 6/15/2025
ALNOR	JAPAN	1095713 11/11/1974	REGISTERED: Renewal Due 11/11/2024
ALNOR	US	832,183 7/18/1967	REGISTERED: Renewal Due 7/18/2027
ASSURX	US	4,155,232 06/05/2012	
BALOMETER	US	1,273,405 4/10/1984	REGISTERED: Renewal Due 4/10/2024
BALOMETER	EUROPEAN UNION	9623381 5/27/2011	REGISTERED: Renewal Due 12/24/2020
BIOTRAK	US	4,255,269 12/4/2012	REGISTERED: Renewal Due 12/4/2022
BIOTRAK	EUROPEAN UNION	10667079 4/19/2012	REGISTERED: Renewal Due 2/22/2022

CHEM LOGIX	US	4,775,366 7/21/2015	REGISTERED: 8&15 Due 7/21/2021
CHEMREVEAL	US	4,552,804 6/17/2014	REGISTERED: 8&15 Due 6/17/2020
COMPUFLOW	US	1,363,060 10/1/1985	Allow to Lapse
EXRARAMAN	US	4,028,769 09/20/2011	REGISTERED: Renewal Due
GASRAMAN	US	4,440,593 11/26/2013	REGISTERED: Renewal Due
LIQUITRAK	GERMANY	2,037,654 6/4/1993	REGISTERED: Renewal Due 12/16/2021
LIQUITRAK	US	1,692,726 6/9/1992	REGISTERED: Renewal Due 6/9/2022
POLYMAX	US	86/585,585	REGISTERED: 8/15/ Due 11/10/2020
PORTACOUNT AND DESIGN 	US	1,565,713 11/14/1989	REGISTERED: Renewal Due 11/14/2019
P-TRAK	US	2,429,508 2/20/2001	REGISTERED: Renewal Due 2/20/2021
RAMANREADER	US	4,127,932 04/17/2012	REGISTERED: Renewal Due
TSI	FRANCE	1419425 7/25/1977	REGISTERED: Renewal Due 7/25/2017
TSI	GERMANY	1,161,241 7/20/1990	REGISTERED: Renewal Due 7/27/2017
TSI	EUROPEAN UNION	8532558 3/1/2010	REGISTERED: Renewal Due 9/7/2019
TSI & LOGO (DIAMOND) 	US	3,651,680 7/07/2009	REGISTERED: Renewal Due 7/7/2019
TSI & LOGO (DIAMOND)	INTERNATIONAL	943,735 8/22/2007	REGISTERED: Renewal Due 8/22/2027

TSI & LOGO (DIAMOND)	CHINA	7207174 11/20/2013	REGISTERED: Renewal Due 11/20/2023
TSI & LOGO (DIAMOND)	SINGAPORE	T09/01608G 1/03/2012	REGISTERED: Renewal Due 2/17/2019
TSI & LOGO (DIAMOND)	CANADA	TMA841,542 1/29/2013	REGISTERED: Renewal Due 1/29/2028
TSI AIRFLOW & DESIGN			
TSI AIRFLOW	US	3,968,345 5/31/2011	REGISTERED: Renewal Due 5/31/2021
TSI AND DESIGN			
	US	1,408,297 9/9/1986	REGISTERED: Renewal Due 9/09/2016 ALLOW TO LAPSE?
TSI AND DESIGN	CANADA	476120 5/12/1997	REGISTERED: Renewal Due 5/12/2027 ALLOW TO LAPSE?
TSI AND DESIGN	CHINA	1313879 9/14/1999	REGISTERED: Renewal Due 9/14/2019 ALLOW TO LAPSE?
TSI AND DESIGN	EUROPEAN UNION	313999 10/19/1998	Allow to Lapse
TSI AND DESIGN	FRANCE	1420892 7/31/1987	REGISTERED: Renewal Due 7/31/2017 ALLOW TO LAPSE?
TSI AND DESIGN	GREAT BRITAIN	1280220 9/24/1986	REGISTERED: Renewal Due 9/24/2017 ALLOW TO LAPSE?
TSI AND DESIGN	INDIA	1364070 6/15/2005	Allow to Lapse
TSI AND LOGO DESIGN (MN STATE)	MN State	27,781 9/8/1998	REGISTERED: Renewal Due 9/8/2018 ALLOW TO LAPSE?
VELOCICALC			
	US	1,530,707 03/21/1989	REGISTERED: Renewal Due 3/21/2019
VELOCICHECK (2 nd)	US	4,099,680 5/7/2010	REGISTERED: Renewal Due 2/4/2018
VELOMETER	US	1,232,587 3/29/1983	REGISTERED: Renewal Due 3/29/2023
VELOMETER JR.	US	1,035,246 3/9/1976	Allow to Lapse
N95 COMPANION	US	87551611 8/1/2017	REGISTERED: 5,426,886 3/20/2018
FitPro Link	US	87555141 08/03/2017	

DICKEY-john Corporation

TRADEMARK	COUNTRY	REG NO/ DATE	STATUS/ ACTION DUE
CONTROL POINT	US	2,183,560 8/25/1998	REGISTERED: Renewal Due: 8/25/2018
CONTROL POINT	CANADA	TMA506921 1/21/1999	REGISTERED: Renewal Due 1/21/2029
DESIGN	MEXICO	206834 10/1/1977	REGISTERED: Renewal Due 1/12/2022
DESIGN HEXAGON 	US	2,231,209 3/9/1999	REGISTERED: Renewal Due 3/9/2019
DESIGN HEXAGON	ARGENTINA	1708080 12/4/1998	REGISTERED: Renewal Due 12/4/2018
DESIGN HEXAGON	AUSTRALIA	A745539 10/31/1997	REGISTERED: Renewal Due 10/31/2017
DESIGN HEXAGON	CANADA	TMA511428 5/3/1999	REGISTERED: Renewal Due 5/3/2029
DESIGN HEXAGON	CHINA	1356218 1/21/2000	REGISTERED: Renewal Due 1/21/2020
DESIGN HEXAGON	EUROPEAN UNION	646836 11/18/1999	REGISTERED: Renewal Due 9/29/2017
DESIGN HEXAGON	HUNGARY	152487 6/22/1998	REGISTERED: Renewal Due 10/8/2017
DESIGN HEXAGON	MEXICO	635097 12/1/1999	REGISTERED: Renewal Due 10/21/2017
DESIGN HEXAGON	NEW ZEALAND	283223 9/15/1998	REGISTERED: Renewal Due 4/8/2017
DESIGN HEXAGON	RUSSIA	173069 3/17/1999	REGISTERED: Renewal Due 10/8/2017
DESIGN HEXAGON	SOUTH AFRICA	97/15293 10/9/1997	REGISTERED: Renewal Due 10/9/2017
DESIGN HEXAGON	UKRAINE	20296 8/15/2001	REGISTERED: Renewal Due 10/15/2017
DICKEY-JOHN (Electronic equipment for agriculture...)	US	1,029,978 1/13/1976	REGISTERED: Renewal Due 1/13/2026
DICKEY-JOHN (Monitors for air operated seed planters...)	US	1038741 5/4/1976	REGISTERED: Renewal Due 5/4/2026
DICKEY-JOHN	AUSTRALIA	B291851 9/18/1978	REGISTERED: Renewal Due 11/5/2026
DICKEY-JOHN	BENELUX	336601 3/2/1976	REGISTERED: Renewal Due 5/12/2026

DICKEY-JOHN	BRAZIL	6463460 9/25/1976	REGISTERED: Renewal Due 9/25/2026
DICKEY-JOHN	CANADA	224099 11/10/1977	REGISTERED: Renewal Due 11/10/2022
DICKEY-JOHN	CANADA	186674 11/17/1972	REGISTERED: Renewal Due 11/17/2017
DICKEY-JOHN	INDIA	1513521 12/15/2006	REGISTERED: Renewal Due 12/15/2016
DICKEY-JOHN	INTERNATIONAL	908913 12/5/2006	REGISTERED: Renewal Due 12/5/2026
DICKEY-JOHN	JAPAN	2451602 9/30/1992	REGISTERED: Renewal Due 9/30/2022
DICKEY-JOHN	KAZAKHSTAN	26031 8/11/2008	REGISTERED: Renewal Due 12/21/2016
DICKEY-JOHN	NEW ZEALAND	B113682 11/3/1975	REGISTERED: Renewal Due 11/3/2020
DICKEY-JOHN	NORWAY	908913 12/5/2006	REGISTERED: Renewal Due 12/5/2016
DICKEY-JOHN	RUSSIA	908913 12/5/2006	REGISTERED: Renewal Due 12/5/2016
DICKEY-JOHN	SOUTH AFRICA	B76/3844 11/11/1977	REGISTERED: Renewal Due 7/27/2026
DICKEY-JOHN	SWITZERLAND	908913 12/5/2006	REGISTERED: Renewal Due 12/5/2016
DICKEY-JOHN	TURKEY	908913 12/5/2006	REGISTERED: Renewal Due 12/5/2016
DICKEY-JOHN	UKRAINE	908913 12/5/2006	REGISTERED: Renewal Due 12/5/2016
DICKEY-JOHN & Hexagon Design	TURKEY	2005/43975 10/12/2005	REGISTERED: Renewal Due 10/12/2025
DICKEY-JOHN stylized	US	923,503 11/9/1971	REGISTERED: Renewal Due 11/9/2021
DICKEY-JOHN stylized	ARGENTINA	1703545 10/20/1978	REGISTERED: Renewal Due 9/30/2019
DICKEY-JOHN stylized	MEXICO	195630 6/7/1976	Cancelled
GAC	US	2877556 8/24/2004	REGISTERED: Renewal Due 8/24/2024
GAC	ARGENTINA	2045052 9/30/2005	REGISTERED: Renewal Due 9/30/2025
GAC	AUSTRALIA	984987 5/26/2004	REGISTERED: Renewal Due 1/15/2024
GAC	BRAZIL	826231535 12/11/2007	REGISTERED: Renewal Due 12/11/2017
GAC	CANADA	640547: 5/26/2005	REGISTERED: Renewal Due 5/26/2020
GAC	CHINA	6608035 5/7/2010	REGISTERED: Renewal Due 5/7/2020

GAC	EUROPEAN UNION	3618436 6/23/2005	REGISTERED: Renewal Due 1/15/2024
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TRADEMARK	COUNTRY	REG NO/ DATE	STATUS/ ACTION DUE
GAC	INDIA	1513520 12/15/2006	REGISTERED: Renewal Due 12/14/2016
GAC	INTERNATIONAL	907191 12/5/2006	REGISTERED: Renewal Due 12/5/2016
GAC	KAZAKHSTAN	26033 8/11/2008	REGISTERED: Renewal Due 12/21/2016
GAC	MEXICO	907191 12/5/2006	REGISTERED: Renewal Due 12/5/2016
GAC	NORWAY	907191 12/5/2006	REGISTERED: Renewal Due 12/5/2016
GAC	RUSSIA	907191 12/5/2006	REGISTERED: Renewal Due 12/5/2016
GAC	SOUTH AFRICA	2006/30014 12/8/2006	REGISTERED: Renewal Due 12/8/2016
GAC	SWITZERLAND	907191 12/5/2006	REGISTERED: Renewal Due 12/5/2016
GAC	TURKEY	907191 12/5/2006	REGISTERED: Renewal Due 12/5/2016
GAC	UKRAINE	907191 12/5/2006	REGISTERED: Renewal Due 12/5/2016
GAC III	US	1284152 7/3/1984	REGISTERED: Renewal Due 7/3/2024
GAC III	JAPAN	2131431 4/28/1989	REGISTERED: Renewal Due 4/28/2019
INSTALAB	US	1,385,852 3/11/1986	REGISTERED: Renewal Due 3/11/2026
INSTALAB	AUSTRALIA	907195 12/5/2006	REGISTERED: Renewal Due 12/5/2016
INSTALAB	EUROPEAN UNION	907195 12/5/2006	REGISTERED: Renewal Due 12/5/2016
INSTALAB	INDIA	1513520 12/14/2006	REGISTERED: Renewal Due 12/14/2016
INSTALAB	INTERNATIONAL	907195 12/5/2006	REGISTERED: Renewal Due 12/5/2016
INSTALAB	JAPAN	2168442 9/29/1989	REGISTERED: Renewal Due 9/29/2019
INSTALAB	KAZAKHSTAN	26032 8/11/2008	REGISTERED: Renewal Due 12/21/2016
INSTALAB	NEW ZEALAND	760307 6/7/2007	REGISTERED: Renewal Due 6/7/2017
INSTALAB	NORWAY	907195 12/5/2006	REGISTERED: Renewal Due 12/5/2016
INSTALAB	RUSSIA	907195 12/5/2006	REGISTERED: Renewal Due 12/5/2016
INSTALAB	SOUTH AFRICA	2006/30013 12/8/2006	REGISTERED: Renewal Due 12/8/2016
INSTALAB	SWITZERLAND	907195 12/5/2006	REGISTERED: Renewal Due 12/5/2016

INSTALAB	TURKEY	907195 12/5/2006	REGISTERED: Renewal Due 12/5/2016
INSTALAB	UKRAINE	907195 12/5/2006	REGISTERED: Renewal Due 12/5/2016
		REG NO/ DATE	STATUS/ ACTION
INTELLIAG	US	3,476,260 7/29/2008	REGISTERED: Renewal Due 7/29/2018
INTELLIAG	ARGENTINA	2280583 4/7/2009	REGISTERED: Renewal Due 4/7/2019
INTELLIAG	AUSTRALIA	958919 3/8/2008	REGISTERED: Renewal Due 3/8/2018
INTELLIAG	BRAZIL	829.917.110 11/2/2010	REGISTERED: Renewal Due 11/9/2020
INTELLIAG	COLUMBIA	367.447 11/28/2008	REGISTERED: Renewal Due 11/28/2018
INTELLIAG	EQUADOR	566-09 11/25/2008	REGISTERED: Renewal Due 11/25/2018
INTELLIAG	EUROPEAN UNION	958919 3/7/2008	REGISTERED: Renewal Due 3/7/2018
INTELLIAG	INTERNATION AL	958919 3/7/2008	REGISTERED: Renewal Due 3/7/2018
INTELLIAG	JAPAN	958919 3/10/2008	REGISTERED: Renewal Due 3/10/2018
INTELLIAG	KAZAKHSTAN	29616 8/14/2009	REGISTERED: Renewal Due 4/2/2018
INTELLIAG	NEW ZEALAND	786853 12/21/2007	REGISTERED: Renewal Due 10/2/2017
INTELLIAG	NORWAY	958919 3/12/2008	REGISTERED: Renewal Due 3/12/2018
INTELLIAG	PARAGUAY	333027 5/31/2010	REGISTERED: Renewal Due 5/31/2020
INTELLIAG	RUSSIA	958919 3/13/2008	REGISTERED: Renewal Due 3/13/2018
INTELLIAG	SOUTH AFRICA	2008/07312 4/2/2008	REGISTERED: Renewal Due 4/2/2018
INTELLIAG	SWITZERLAND	958919 3/14/2008	REGISTERED: Renewal Due 3/14/2018
INTELLIAG	UKRAINE	958919 3/11/2008	REGISTERED: Renewal Due 3/11/2018
INTELLIAG	Uruguay	390.53 11/3/2009	REGISTERED: Renewal Due 11/3/2019
INTELLIAG	UZBEKISTAN	958919 3/15/2008	REGISTERED: Renewal Due 3/13/2018
INTELLIAG	VENZUELA	310017 9/3/2009	REGISTERED: Renewal Due 9/3/2024
ISPEED	US	3,058,269 2/7/2006	REGISTERED: Renewal Due 2/7/2026
LAND MANAGER	US	2,118,373 12/2/1977	REGISTERED: Renewal Due 12/2/2017
LAND MANAGER	EUROPEAN UNION	726737 6/8/1999	REGISTERED: Renewal Due 1/19/2018
M-20P	US	3,010,663 11/1/2005	REGISTERED: Renewal Due 11/1/2025

M-20P	ARGENTINA	205644 12/7/2005	REGISTERED: Renewal Due 12/7/2025
M-20P	BRAZIL	826479073 5/10/2004	REGISTERED: Renewal Due 3/3/2018
		REG NO/ DATE	STATUS/ ACTION
M-20P	CANADA	632346 2/9/2005	REGISTERED: Renewal Due 2/9/2020
M-20P	CHINA	408938 1/28/2009	REGISTERED: Renewal Due 1/28/2019
M-3G	US	3,010,662 11/1/2005	REGISTERED: Renewal Pending
M-3G	ARGENTINA	205643 12/7/2005	REGISTERED: Renewal Due 12/7/2025
M-3G	CANADA	632828 2/9/2005	REGISTERED: Renewal Due 2/9/2020
M-3G	CHINA	4083957 1/28/2009	REGISTERED: Renewal Due 1/28/2019
MODEL 919	US	1,150,254 4/7/1981	REGISTERED: Renewal Due 4/7/2021
MOTOMCO	CANADA	TMA359890 9/1/1989	REGISTERED: Renewal Due 9/1/2019
MOTOMCO	US	1,132,135 4/1/1980	REGISTERED: Renewal Due 4/1/2020
PCS	EUROPEAN UNION	715086 5/5/2000	REGISTERED: Renewal Due 1/5/2018
SEED CHECK	EUROPEAN UNION	1164722 5/11/2004	REGISTERED: Renewal Due 5/6/2019
SEED MANAGER	US	2,219,689 1/19/1999	REGISTERED: Renewal Due 1/19/2019
SEED MANAGER	ARGENTINA	1708344 12/4/1998	REGISTERED: Renewal Due 12/4/2018
SEED MANAGER	AUSTRALIA	745551 10/1/1997	REGISTERED: Renewal Due 10/1/2017
SEED MANAGER	BRAZIL	820428671 11/22/2011	REGISTERED: Renewal Due 11/22/2021
SEED MANAGER	EUROPEAN UNION	646885 8/2/2000	REGISTERED: Renewal Due 9/29/2017
SEED MANAGER	MEXICO	572923 3/26/1998	REGISTERED: Renewal Due 10/10/2017
SEED SMART	US	2,231,208 3/9/1999	REGISTERED: Renewal Due 3/9/2019
SEED SMART	AUSTRALIA	741692 8/31/1998	REGISTERED: Renewal Due 8/19/2017
SEED SMART	BRAZIL	820250376 11/9/1999	REGISTERED: Renewal Due 11/9/2019
SEED SMART	EUROPEAN UNION	614305 5/5/2000	REGISTERED: Renewal Due 8/18/2017
SEED SMART	MEXICO	579200 6/26/1998	REGISTERED: Renewal Due 8/27/2017
TRI-GRAIN	US	1,625,816 12/4/1990	REGISTERED: Renewal Due 12/4/2020
VIGILENSE	US	3,674,257 8/25/2009	REGISTERED: Renewal Due 8/25/2019

VIGILENSE	BRAZIL	830070249 12/14/2010	REGISTERED: Renewal Due 12/14/2020
VIGILENSE	CANADA	TMA755,917 12/22/2009	REGISTERED: Renewal Due 12/22/2024

TRADEMARK	COUNTRY	REG NO/ DATE	STATUS/ ACTION DUE
VIGILENSE	INTERNATIONAL	980 203 9/22/2008	REGISTERED: Renewal Due 9/22/2018
VIGILENSE	NEW ZEALAND	796566 9/24/2008	REGISTERED: Renewal Due 9/24/2018
VIGILENSE	SOUTH AFRICA	2008/22580 9/25/2008	REGISTERED: Renewal Due 9/25/2018
VIGILENSE	Uruguay	396353 2/2/2011	REGISTERED: Renewal Due 2/2/2021

Environmental Systems Corporation

Trademarks				
CTY	TRADEMARK	APP NO	REG NO	STATUS
US	STACKVISION	78/349,209	3,163,436	REGISTERED
US	CEMSCAPE	78/784,579	3,320,903	REGISTERED
US	eKNOW	77/233,506	3,521,884	REGISTERED
US	SAFE PASSAGE PROGRAM	77/442,398	3,533,779	REGISTERED
US	ESC FLEETVISION	77/111,660	3,524,847	REGISTERED
US	CIMVISION	77/896,434	3,929,803	REGISTERED
US	ESC REMOTE HOSTING	77/896,438	3,929,804	REGISTERED
US	ESC & DESIGN (41)	78/925,633	3,258,279	REGISTERED
US	ESC & DESIGN (9)	78/925,625	3,258,278	REGISTERED
US	ESC & DESIGN (42)	78/925,642	3,258,280	REGISTERED

MSP Corporation

Name of Owner	Mark	Country	Registration/File No.	Registration Date
MSP Corporation	Logo Sphere with letters MSP	US	3192196	01/02/07
		JP	911595	

Spectrum Systems, Inc.

Name of Owner	Mark	Country	Registration/File No.	Registration Date
Spectrum Systems, Inc.	Spectraview	US	2008389	10/5/96
Spectrum Systems, Inc.	Spectrum 41	US	2365763	7/11/00

4. Registered Trade Names:

None.

5. Registered Copyrights:

None.