503748550 03/22/2016

# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
GENERAL ELECTRIC COMPANY	11/02/2015

## **RECEIVING PARTY DATA**

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Postal Code:	92300	

### **PROPERTY NUMBERS Total: 1**

Property Type	Number		
Application Number:	13747507		

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SIGNATURE:	/AMANDA H. WILCOX/
DATE SIGNED:	03/22/2016

### **Total Attachments: 20**

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PATENT 503748550 REEL: 038067 FRAME: 0835

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PATENT REEL: 038067 FRAME: 0836

# PATENT ASSIGNMENT

This PATENT ASSIGNMENT (this "Patent Assignment") is made and entered into this 2<sup>nd</sup> day of November, 2015 by and between General Electric Company, a New York corporation ("GE"), acting solely through its transportation business (and for avoidance of doubt does not include GE acting through or on behalf of any business unit or division other than its transportation business) ("Assignor"), and Alstom Transport Technologies

incorporated under the Laws of France, having its registered office at 3 avenue André Malraux, 92300 Levallois Perret (France) and whose identification number is 752364778 ("Assignee"). Capitalized terms used herein but not defined otherwise shall have the respective meanings ascribed to such terms in the Purchase Agreement (as defined below).

WHEREAS, Assignor, ALSTOM, a société anonyme incorporated under the Laws of France, having its registered office at 3 avenue André Malraux, 92300 Levallois Perret (France) and whose identification number is 389 058 447, and ALSTOM Transport Holdings B.V., a besloten vennootschap incorporated under the Laws of The Netherlands, having its registered office at Ringdijk 390C, 2983 GS Ridderkerk, The Netherlands (ALSTOM and ALSTOM Transport Holdings B.V. are collectively hereinafter referred to as "Buyer"), are parties to that certain Master Purchase Agreement dated as of November 4, 2014 (as amended, modified or supplemented in accordance with its terms) the "Purchase Agreement"), pursuant to which Assignor has agreed to sell to Buyer or Buyer Designees (including Assignee), and Buyer has agreed to purchase, or cause Buyer Designees (including Assignee) to purchase, from Assignor and certain of its Affiliates, the Acquired Assets, including the Patents set forth on Schedule A hereto (collectively, the "Transferred Patents"), on the terms and subject to the conditions set forth in the Purchase Agreement;

WHEREAS, Assignor owns the Transferred Patents;

WHEREAS, Assignee desires to purchase all of Assignor's right, title and interest in and to the Transferred Patents; and

NOW THEREFORE, for the consideration stated in the Purchase Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Assignment. Effective upon the Closing, Assignor hereby assigns to Assignee: (a) all of Assignor's right, title and interest in and to the Transferred Patents, including all registrations and applications for registration thereof, all rights therein provided by international treaties or conventions, and all reissues, extensions and renewals thereof, the same to be held and enjoyed by Assignee for its own use and enjoyment and for the use and enjoyment of its successors, assigns or other legal representatives, as fully and entirely as the same would have been held and enjoyed by Assignor or a Subsidiary if this assignment and sale had not been made; (b) income and payments now or hereafter due or payable with respect to the Transferred Patents; (c) all causes of action against third parties used or held for use exclusively or predominantly in connection with the Business with respect to the Transferred Patents; and (d) the right to sue, counterclaim and recover for, past, present and future infringement and misappropriation of the rights assigned or to be assigned under this Patent Assignment.

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- 2. <u>No Representations or Warranties</u>. Except as expressly provided in the Purchase Agreement, Assignor makes no representations or warranties, express or implied, with respect to any Transferred Patent.
  - 3. Outstanding Rights.
- 4. Actions to Perfect the Interests. Assignor hereby covenants that Assignor shall and shall cause its Affiliates to, at the cost and expense of Assignee, take all reasonable actions and execute all reasonable documents as may be necessary or appropriate to perfect the interest of Assignee in and to the Transferred Patents as may be reasonably requested by Assignee, and shall not enter into any agreement or take any action in conflict with this Patent Assignment.

# 5. Notices.

- 6. Severability. If any term or provision of this Patent Assignment is held invalid, illegal or unenforceable in any respect under any applicable Law or as a matter of public policy, the validity, legality and enforceability of all other terms and provisions of this Patent Assignment will not in any way be affected or impaired. If the final judgment of a court of competent jurisdiction or other Government Authority declares that any term or provision hereof is invalid, illegal or unenforceable, the parties agree that the court making such determination will have the power to reduce the scope, duration, area or applicability of the term or provision, to delete specific words or phrases, or to replace any invalid, illegal or unenforceable term or provision with a term or provision that is valid, legal and enforceable and that comes closest to expressing the intention of the invalid, illegal or unenforceable term or provision.
  - 7. No Third-Party Beneficiaries.
  - 8. Amendments.
- 9. Governing Law. This Patent Assignment and any Action arising out of or relating in any way to this Patent Assignment, whether in contract, tort, common law, statutory law, equity, or otherwise, including any question regarding its existence, validity, or scope, shall be governed by, construed and enforced in accordance with the Laws of the State of New York without giving effect to any choice of law rules that would cause the application of Laws of any jurisdiction other than those of the State of New York.

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10. <u>Dispute Resolution; Remedies</u> .
11. Entire Agreement; Purchase Agreement Controls.

12. <u>Counterparts</u>. This Patent Assignment may be executed in counterparts, each of which shall be deemed an original, but all of which when taken together shall constitute one and the same instrument. Facsimiles, e-mail transmission of .pdf signatures or other electronic copies of signatures shall be deemed to be originals.

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PATENT

IN WITNESS WHEREOF, the parties have caused this Patent Assignment to be executed as of the date first written above by its duly authorized officer.

ASSIGNOR:

GENERAL ELECTRIC COMPANY, on behalf of itself and the Subsidiaries

By:

Name: Title:

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[Signature page to Patent Assignment]

ASSIGNEE:

ALSTOM TRANSPORT TECHNOLOGIES

By:

Name: Emanuelle Petrovic
Title: Authorized Signatury

[Signature page to Patent Assignment]

PATENT

# SCHEDULE A

Short title PAF	Country Code	Filing Number	Grant Number
ADVANCED COMMUNICATION-BASED VEHICLE CONTROL METHOD	CA	2413080	2413080
UN SISTEMA Y METODO PARA MONITOREAR LA CONDICION DE UN	мх	PA/a/2003/01 0949	242308
SYSTEM AND METHOD FOR MONITORING THE CONDITION OF A VEHICLE	US	10/159512	6985803
Wire chase rung	US	10/135160	6592082
Cab signal quality detecting and reporting system and method	AU	2003207490	2003207490
SISTEMA E MÉTODO PARA DETECTAR E REPORTAR A QUALIDADE DE UM SINAL DE CABINA	BR	Pl0307828-0	NA
NA	CN	03806625-4	03806625-4
Cab signal quality detecting and reporting system and method	us	10/294261	6763290
SWITCH MACHINE	CA	2378806	NA.
MAQUINA CAMBIADORA DE VIA	MX	PA/a/2002/00 3240	236981
Switch machine	US	10/099595	6691958
NA	CN	20041007145 8-2	2004100714 58-2
Method and apparatus for monitoring and controlling warning systems	US	10/248120	7098774
Method, system, and storage medium for integrating vehicle management, transportation and communications functions	US	10/631454	6958709

Short title PAF	Country Code	Filing Number	Grant Number
Rail and train monitoring system and method	AU	2004256027	2004256027
NA	CN	20048001824 5-1	NA
NA	RU	2006102369	2365517
Rail and train monitoring system and method	US	10/609832	6951132
Method and apparatus for light outage detection	US	09/585185	6222446
Digital train system for automatically detecting trains approaching a crossing	AU	2004210872	2004210872
SISTEMA DIGITAL FERROVIÁRIO PARA DETECTAR AUTOMATICAMENTE TRENS SE APROXIMANDO DE UM CRUZAMENTO	BR	PI0407219-7	NA
NA	CN	20048000412 0-3	2004800041 20-3
NA	RU	2005128503	2342274
Digital train system for automatically detecting trains approaching a crossing	US	10/743591	7254467
Electronically controlled grade crossing gate system and method	US	10/881959	7195211
Remote system for monitoring and controlling railroad wayside equipment	US	10/820499	7140577
Railway controller with improved application programming	AU	2005210648	2005210648
CONTROLADOR DE FERROVIAS COM PROGRAMAÇÃO DE APLICAÇÃO MELHORADA	BR	PI0506509-7	NA
NA	CN	20058000400 4-6	2005800040 04-6

Short title PAF	Country Code	Filing Number	Grant Number
Railway controller with improved application programming	GB	0615175-7	2426110
Railway controller with improved application programming	US	11/039643	73157 <b>7</b> 0
RAILWAY CONTROLLER WITH IMPROVED APPLICATION PROGRAMMING	ZA	2006/06875	2006/06875
Apparatus and method for monitoring the output of a warning or indicator light	US	10/882033	7154403
Switch machine with switch point connect switch point connectorsors	AU	2005217383	2005217383
MÁQUINA DE CHAVE COM CONECTORES PARA AS AGULHAS DA CHAVE	BR	PI0506612-3	NA
SWITCH MACHINE WITH SWITCH POINT CONNECTORS	CA	255572 <b>7</b>	2555727
NA	CN	20058000505 9-9	2005800050 59-9
Drehbare Verbinderanordnung für eine Eisenbahnweiche	DE	05712112-1	6020050037 96-9
Switch machine with switch point connectors	EP	07108998-1	NA
Pivoting connector assembly for a railroad switch	GB	05712112-1	1718803
NA	IN	4504/DELNP/ 2006	NA
pivoting connector assembly for a railroad switch	ΙT	05712112-1	1718803
NA	RU	2006133314	2358057
SWITCH MACHINE WITH SWITCH POINT CONNECTORS	ZA	2006/07346	2006/07346

Short title PAF	Country Code	Filing Number	Grant Number
Self powered railway monitoring system	US	11/005344	7364123
Rail based electric power generation system	US	11/005175	7148581
Apparatus and method for monitoring the output of a warning or indicator light	US	10/898774	7123165
System and method for monitoring status of a visual signal device	US	10/955631	7270442
System and method for providing access to wireless railroad data network	AU	2006203756	2006203756
NA	CN	20061013187 8-4	NA
System and method for providing access to wireless railroad data network	EP	06254933-2	NA
NA	IN	2044/DEL/200 6	NA
SYSTEM AND METHOD FO PROVIDING ACCESS TO WIRELESS RAILROAD DATA NETWORK	ZA	2006/07753	2006/07753
SYSTEM AND METHOD FOR PROVIDING SECURE ACESS TO A WAYSIDE RAIL NETWORK	CN	20151021820 9.X	
Machine for railway switching	US	10/988853	7300023
Movable point frog switching assembly	US	11/248725	7341226
System and method for detecting rail bre for detecting rail break/vehicle	AU	2006321820	2006321820
Methods and computer program product for monitoring integrity of a railroad train	AU	2006202620	2006202620
NA	iN	1385/DEL/200 6	NA

Short title PAF	Country Code	Filing Number	Grant Number
NA	RU	2006122617	2408490
Method and computer program product for monitoring integrity of railroad train	US	11/167015	7222003
METHOD AND COMPUTER PROGRAM PRODUCT FOR MONITORING INTEGRITY OF A RAILROAD	ZA	2006/04878	2006/04878
System and method for detecting rail break or vehicle	AU	2006329907	2006329907
NA	IN	5080/DELNP/ 2008	NA
NA	RU	2008130877	2419568
SYSTEM AND METHOD FOR DETECTING RAIL BREAK OR VEHICLE	ZA	2008/06064	2008/06064
Railroad wayside signal system	US	11/272336	7561066
System and method for monitoring train arrival and departure latencies	US	11/317533	7428453
NA	CN	20078003181 8-8	2007800318 18-8
NA	CN	20111018136 2-1	NA
motore idraulico per scambi ferroviari	IT	MI2006A0016 47	1375158
Hydraulic motor for railway switches	us	12/374432	8302915
Railway power supply system and method for powering an electrical device situated along a railway	US	11/350063	7547988
System and method for railroad wayside monitoring	US	11/651229	8245983

Short the PAF	Country Code	Filing Number	Grant Number
Method and apparatus for selectively disabling train location reports	US	11/342875	7797087
A system for a greaseless switch assembly	AU	2006323209	2006323209
SYSTEM FÜR EINE FETTFREIE WEICHENANORDNUNG	СН	06802761-4	1960244
NA	CN	20068004627 1-4	2006800462 71-4
SYSTEM FÜR EINE FETTFREIE WEICHENANORDNUNG	DE	06802761-4	6020060203 32-2
Järjestelmä voiteluaineetonta vaihdeyksikköä varten	FI	06802761-4	1960244
A system for a greaseless switch assembly	GB	06802761-4	1960244
NA	IN	4365/DELNP/ 2008	NA
a system for a greaseless switch assembly	IT	06802761-4	1960244
NA	RU	2008127425	2406634
Ett system för en smörjfri kopplingshopsättning	SE	06802761-4	1960244
NA	TR	06802761-4	2011/02193
System and method for temporary protection operation of a controller box for a railroad switch turnout	US	11/669271	7753318
System and method of multi-generation positive train control system	US	11/518250	8082071
Method of planning the movement of trains using pre- allocation of resources	US	11/591521	8433461

Short title PAF	Country Code	Filing Number	Grant Number
	Coue	1 mile lastiner	and and tallinger
Method, system and computer code for a track signaling system without insulated joints	AU		
system without insulated joints		2007345157	2007345157
Method and system for a track signaling system without	US		
insulated joints		11/626489	7815151
Method, computer software code, and system for			
determining a train direction at a railroad crossing	US	11/533384	7618010
		11/33330+	7010010
NA	CN	20091013932	2009101393
		7-6	27-6
System and method for aligning a railroad signaling	US		:
system		11/748549	7908114
Methods and system for jointless track circuits using			
passive signaling	AU	2007224227	2007224227
	<del> </del>	2007334237	2007334237
Methods and system for jointless track circuits using	US	:	
passive signaling		11/611536	7954770
System and method for sensing misalignment of a	US		
railroad signaling system	03	11/733807	7554457
sistema riscaldante per antenne a microonde montate a			
bordo di locomotori ferroviari	IT	MI2007A0006	
	<u> </u>	11	1382205
Methods and systems for testing a functional status of a	US		
light unit		11/796056	7652480
Methods and systems for verifying the operation of a			
railroad gate	US	11/757708	7789348
			.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
NA .	CN	20108004501	
	<u> </u>	7-9	NA
METHODS AND SYSTEMS FOR FAIL-SAFE	EP	•	
COMMUNICATION		10742342-8	NA
Method for fail-safe communication	US	12/511144	9229046
		12/511144	8228946
Methods and systems for variable rate communication timeout	US		
umeout		11/821665	7731129

Short title PAF	Country Code	Filing Number	Grant Number
Methods and system of automating track circuit calibration	AU	2009204324	2009204324
Methods and system of automating track circuit calibration	AU	2012201972	NA
NA	BR	PI0905666-1	NA
METHODS AND SYSTEMS OF AUTOMATING TRACK CIRCUIT CALIBRATION	ZA	2010/05280	2010/05280
Systems and methods for changing parameters of a controller	US	11/750486	8145799
Systems and method for communicating data in a railroad system	US	12/349996	8264330
System and method to provide communication-based train control system capabilities	US	12/324032	8224510
Methods and system for detecting railway vacancy	US	12/116792	8452466
Method and apparatus for remotely monitoring railroad equipment using network protocols	AU	2008305504	2008305504
NA	BR	PI0816039-2	NA
NA	CN	20088010964 8-5	NA NA
METHOD AND APPARATUS FOR REMOTELY MONITORING RAILROAD EQUIPMENT USING NETWORK PROTOCOLS	ΕP	08796413-6	NA
NA	IN	1715/DELNP/ 2010	NA
Systems and methods for determining an operating state using RFID	US	12/048403	8400270
Method and system for generating electricity	US	12/139967	8310070

Short the PAF	Country Code	Filing Number	Grant Number
SYSTEMS AND METHODS FOR DETERMINING WHETHER A TRANSPORTATION TRACK IS OCCUPIED	US	12/184014	NA
System, method and computer readable media for regulating the speed of a rail vehicle	US	12/046678	7647 <b>1</b> 42
Signal alignment monitoring system and method of assembling the same	US	12/402607	8149129
RAILWAY SENSOR COMMUNICATION SYSTEM AND METHOD	EP	09709162-3	NA
Railway sensor communication system and method	US	12/852073	8469319
RAILWAY SENSOR COMMUNICATION SYSTEM AND METHOD	ZA	2010/06003	2010/06003
System and method for operating train in the presence of multiple alternate routes	US	12/405654	8170732
Foreign track current suppression system and method	AU	2010355287	NA
Foreign track current suppression system and method	GB	1222599-1	NA
Foreign track current suppression system and method	US	12/818472	8376286
WARNING HORN CONTROL SYSTEM, RADAR SYSTEM, AND METHOD	US	12/830081	9019115
SIGNAL DETECTION SYSTEM AND METHOD	US	13/668507	NA
Einrichtung zur Begrenzung der axialen Last einer Endlosschraube	DE	99109609-0	69907065-1
CURRENT SENSOR	AU	2013101467	2013101467
Method and system for determining signal state	US	13/108379	8581499

Short title PAF	Country Code	Filling Number	Grant Number
TRANSPORTATION NETWORK SCHEDULING SYSTEM AND METHOD	AU	2014100418	2014100418
OMMUNICATION SYSTEMS AND METHOD FOR A RAIL VEHICLE OR OTHER POWERED SYSTEM	AU	2013101457	2013101457
NA	EA	201391517	NA
Communication systems and method for a rail vehicle or other powered system	US	13/311252	8731747
SYSTEMS AND METHOD FOR A CROSSING EQUIPMENT CONTROL	AU	2014100027	2014100027
APPARATUS AND METHOD FOR SAFE STATE RETENTION	AU	2013213662	NA
Apparatus and method for safe state retention	EP	13179262-4	NA
APPARATUS AND METHOD FOR SAFE STATE RETENTION	US	13/586909	NA
RAILWAY CODE GENERATION AND SIGNALING SYSTEM AND METHOD	US	14/066884	NA
Methods and system for crossing prediction	US	13/446659	8725405
Spread Spectrum Signals in ERTMS/ETCS Systems	US	13/747507	NA
Spread Spectrum Signals in ERTMS/ETCS Systems	EP	14152080.9	NA
Spread Spectrum Signals in ERTMS/ETCS Systems	iN	83/CHE/2014	NA
Spread Spectrum Signals in ERTMS/ETCS Systems	НК		
Algorithmic approach to optimize metro timetables in terms of energy consumption online and offline.	US	13/676279	8670890

Short title PAF	Country Code	Filing Number	Grant Number
Algorithmic approach to optimize metro timetables in terms of energy consumption online and offline.	AU	2013206546	NA
Algorithmic approach to optimize metro timetables in terms of energy consumption online and offline.	IN	1746/DEL/201 3	NA
Algorithmic approach to optimize metro timetables in terms of energy consumption online and offline.	EP	13174982.2	NA NA
Algorithmic approach to optimize metro timetables in terms of energy consumption online and offline.	нк	14102670.7	NA
METHODS AND SYSTEM OF AUTOMATING TRACK CIRCUIT CALIBRATION	US	13/478448	NA
METHODS AND SYSTEMS FOR SIGNAL FINGERPRINTING	us	13/851248	NA
ETCS Signals Fingerprinting	AU	2013206087	NA
ETCS Signals Fingerprinting	iN	1453/DEL/201 3	NA
ETCS Signals Fingerprinting	EP	13172266.2	NA
ETCS Signals Fingerprinting	нк	14102601.1	NA
SYSTEMS AND METHODS FOR MANAGEMENT OF CROSSINGS NEAR STATIONS	AU	2014100507	2014100507
SYSTEMS AND METHODS FOR MANAGEMENT OF CROSSINGS NEAR STATIONS	US	13/900649	NA
SYSTEMS AND METHODS FOR VEHICLE BRAKING CONTROL	AU	2013101329	2013101329
SYSTEMS AND METHODS FOR VEHICLE BRAKING CONTROL	US	14/049389	NA
SYSTEMS AND METHODS FOR PROVIDING CONSTANT WARNING TIME AT CROSSINGS	US	13/910412	9026360

Short thie PAF	Country Code	Filing Number	Grant Number
Systems and methods for providing constant warning time at crossings	AU		2014100563
SYSTEMS AND METHODS FOR MAINTAINING INTERLOCKINGS OF TRANSPORTATION NETWORKS	US	14/148864	14/148864
Systems and methods for maintaining interlockings of transportation networks	AU		2014100586
SYSTEMS AND METHODS FOR CONTROLLING WARNINGS AT VEHICLE CROSSINGS	US	14/146873	9126609
GE WIU tester with crossing functionality	AU	2014100628	2014100628
SYSTEMS AND METHODS FOR DETERMINING ROUTE LOCATION	AU	2014100528	2014100528
Systems and Methods for Determining Route Location	US	13/899821	8924066
Detection and position measurement system for cars in railways and other environments	US	14/154297	NA
SYSTEMS AND METHODS FOR VEHICLE POSITION DETECTION	wo	PCT/US2015/0 10392	
Systems and methods for controlling warnings at vehicle crossings	US	14/285231	14/285231
Systems and methods for controlling warnings at vehicle crossings	AU		2014100572
A METHOD AND SYSTEM FOR TIMETABLE OPTIMIZATION UTILIZING ENERGY CONSUMPTION FACTORS	wo	PCT/US2015/0 11972	
Cold Movement Detector Onboard Vehicle	wo	PCT/US2015/2 0081	
SYSTEMS AND METHODS FOR COLD MOVEMENT DETECTION	US	14/644764	
POINTS MACHINE MONITORING SYSTEM AND METHOD	AU	2014265085	NA

Short title PAF	Country Code	Filing Number	Grant Number
POINTS MACHINE MONITORING SYSTEM AND METHOD	BR	10201402918 0-6	NA
SYSTEMS AND METHODS FOR PREDICTIVE MAINTENANCE OF CROSSINGS	US	14/260338	NA
SYSTEMS AND METHODS FOR PREDICTIVE MAINTENANCE OF CROSSINGS	AU	2015200059.0	
SYSTEMS AND METHODS FOR PREDICTIVE MAINTENANCE OF CROSSINGS	BR	10201500042 9-0	
SYSTEM AND METHOD FOR TESTING INSULATED JOINTS IN TRACK SYSTEMS	US	14/631907	
PROTECTION FOR WIRELESS LINKS AT TRAIN CARRIAGE ROOFTOPS AGAINST JAMMING AND INTERFERENCE	US	62/115494	
PROTECTION FOR WIRELESS LINKS AT TRAIN CARRIAGE ROOFTOPS AGAINST JAMMING AND INTERFERENCE	US	14/678036	
ZONE-BASED SECURITY ARCHITECTURE FOR INTRA- VEHICULAR WIRELESS COMMUNICATION	US	14/540145	
VIBRATION MONITORING SYSTEM AND METHOD	US	14/501177	NA
LOCATION AND/OR DIRECTION OF TRAVEL DETECTION SYSTEM AND METHOD	US	14/698130	
SYSTEM, APPARATUS AND METHOD FOR MOUNTING A DEVICE	US	62/161583	
EQUIPMENT LIFE SPAN MONITORING SYSTEM AND METHOD	US	62/173418	
METHOD AND APPARATUS FOR SWITCHING DEVICE	wo	PCT/CN2015/ 076757	
VIBRATION MONITORING SYSTEM AND METHOD	US	62/161712	
INTEGRATED LAMP ASSEMBLY AND METHOD	US	62/161623	

Short title PAF	Country Code	Filing Number	Grant Number
Track Warrant Authority Validation and Allocation using an Associative Logical Node Topology	US	62/170250	
SYSTEM AND METHOD FOR CONTROLLING A WAYSIDE DEVICE	US	62/184936	
Dispositif de signalement a surete integree de materiau roulant	IT		2002FI0220
Wayside rail lubrication apparatus and method	US	10/023246	6854563
Wayside rail lubrication apparatus and method	US	11/054868	7121383
METHODS AND SYSTEM FOR JOINTLESS TRACK CIRCUITS USING PASSIVE SIGNALING	IN	35\$5/DELNP/ 2009	NA
DATA MANAGEMENT SYSTEM AND METHOD (Prototype pattern)	US	62/174586	
SYSTEMS AND METHODS FOR TESTING WAYSIDE UNITS	US	14/146882	NA
SURGE ARRESTOR UNIT	US	08/140678	5436787
FIXED DATA TRANSMISSION SYSTEM FOR CONTROLLING TRAIN MOVEMENT	US	08/259892	5452870
CLAMP MOUNT FOR CONCRETE TIES	US	08/261000	5507434
INCREMENTAL TRAIN CONTROL SYSTEM	US	08/293064	55336 <b>9</b> 5
ISLAND PRESENCE DETECTOR	US	08/939777	5924652
RAILROAD SWITCH POINT POSITION SENSING SYSTEM AND METHOD	US	08/816167	5806809
SYSTEM FOR ELECTRICALLY CONNECTING CONDUCTOR TO TRACK MEMBER	us	13/637266	8764461

Short title PAF	Country Code	Filing Number	Grant Number
SYSTEMS AND METHOD FOR A CROSSING EQUIPMENT CONTROLLER	US	13/448430	9/16/2014
CURRENT SENSOR	US	13/158235	9128128