

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT2618231

SUBMISSION TYPE:	NEW ASSIGNMENT										
NATURE OF CONVEYANCE:	ASSIGNMENT										
CONVEYING PARTY DATA											
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>DANIEL CARTER</td> <td>09/09/2013</td> </tr> <tr> <td>DANIEL J. HOFFMAN</td> <td>08/30/2013</td> </tr> <tr> <td>VICTOR BROUK</td> <td>09/03/2013</td> </tr> <tr> <td>DMITRI KOVALEVSKII</td> <td>11/11/2013</td> </tr> </tbody> </table>		Name	Execution Date	DANIEL CARTER	09/09/2013	DANIEL J. HOFFMAN	08/30/2013	VICTOR BROUK	09/03/2013	DMITRI KOVALEVSKII	11/11/2013
Name	Execution Date										
DANIEL CARTER	09/09/2013										
DANIEL J. HOFFMAN	08/30/2013										
VICTOR BROUK	09/03/2013										
DMITRI KOVALEVSKII	11/11/2013										
RECEIVING PARTY DATA											
<table border="1"> <tr> <td>Name:</td> <td>ADVANCED ENERGY INDUSTRIES, INC.</td> </tr> <tr> <td>Street Address:</td> <td>1625 SHARP POINT DRIVE</td> </tr> <tr> <td>City:</td> <td>FORT COLLINS</td> </tr> <tr> <td>State/Country:</td> <td>COLORADO</td> </tr> <tr> <td>Postal Code:</td> <td>80525</td> </tr> </table>		Name:	ADVANCED ENERGY INDUSTRIES, INC.	Street Address:	1625 SHARP POINT DRIVE	City:	FORT COLLINS	State/Country:	COLORADO	Postal Code:	80525
Name:	ADVANCED ENERGY INDUSTRIES, INC.										
Street Address:	1625 SHARP POINT DRIVE										
City:	FORT COLLINS										
State/Country:	COLORADO										
Postal Code:	80525										
PROPERTY NUMBERS Total: 1											
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>14011305</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	14011305						
Property Type	Number										
Application Number:	14011305										
CORRESPONDENCE DATA											
<p>Fax Number: (720)536-4910</p> <p>Phone: 7205364900</p> <p>Email: rene@nodiplay.com</p> <p><i>Correspondence will be sent via US Mail when the email attempt is unsuccessful.</i></p> <p>Correspondent Name: NEUGEBOREN O'DOWD PC</p> <p>Address Line 1: 1227 SPRUCE STREET</p> <p>Address Line 2: SUITE 200</p> <p>Address Line 4: BOULDER, COLORADO 80302</p>											
ATTORNEY DOCKET NUMBER:	AE2012-013US										
NAME OF SUBMITTER:	STEPHEN S. GRUBER										

Signature:	/Stephen S. Gruber/
Date:	11/18/2013
<b>Total Attachments: 3</b> source=AE2012-013US_Assignment_Signed_09092013#page1.tif source=AE2012-013US_Assignment_Signed_09092013#page2.tif source=AE2012-013US_Assignment_Signed_09092013#page3.tif	

# ASSIGNMENT OF PATENT APPLICATION

FOR GOOD AND VALUABLE CONSIDERATION,

We, the undersigned (each) have agreed and hereby agree to assign for good and valuable consideration, receipt of which is hereby expressly acknowledged, and do hereby sell, assign and transfer unto

Advanced Energy Industries, Inc.

a corporation organized under the laws of the state of Delaware as Assignee, and its successors, assigns and legal representatives, the entire right, title and interest, for all countries in and to certain inventions relating to

WIDE DYNAMIC RANGE ION ENERGY BIAS CONTROL; FAST ION ENERGY SWITCHING; ION ENERGY CONTROL AND A PULSED BIAS SUPPLY; AND A VIRTUAL FRONT PANEL

described in an application for Letters Patent of the United States, identified as Attorney Docket No. AE2012-013US, at Neugeboren O'Dowd PC, 1227 Spruce Street, Suite 200, Boulder, CO 80302 and filed on 8/27/2013, as Application Serial No. 14011305, and the invention(s) and improvement(s) set forth therein, and any and all continuations, continuations-in-part, divisionals, and renewals of and substitutes for said application for said Letters Patent, and all the rights and privileges under any and all Letters Patent that may be granted therefor in any country, and any reissues, or reexaminations, or extensions of said Letters Patent. We request that any and all Letters Patent for said inventions be issued to said Assignee, its successors, assigns and legal representatives, or to such nominees as it may designate.


We agree that, when requested, we will, without charge to said Assignee but at its expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for securing and maintaining patents for said inventions in any and all countries and for vesting title thereto in said Assignee, its successors, assigns and legal representatives or nominees.

We authorize and empower the said Assignee, its successors, assigns and legal representatives or nominees, to invoke and claim for any application for patent or other form of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from us.

We hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document which may be required in any country for any purpose and more particularly in proof of the right of the said Assignee or nominee to claim the aforesaid benefit of the right of priority provided by the International convention which may henceforth be substituted for it.

We covenant with said Assignee, its successors, assigns and legal representatives, that the rights and property herein conveyed are free and clear of any encumbrance, and that we have full right to convey the same as herein expressed.

IN WITNESS WHEREOF, we have hereunto signed our names on the day and year set forth below.

  
Inventor's Signature

9-9-13  
DATE

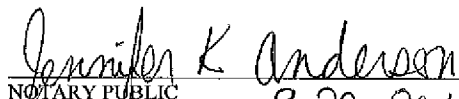
Daniel Carter  
Inventor's Printed Name

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ ) SS

**JENNIFER K. ANDERSON**  
NOTARY PUBLIC  
STATE OF COLORADO  
NOTARY ID 20054037136  
COMMISSION EXPIRES 09/23/2017

On this 9th day of September, 2013, before me personally came the above named Daniel Carter who is personally known by me or proved to me on the basis of satisfactory evidence to be the same individual who executed the foregoing assignment, and who acknowledged to me that he/she executed the same of his/her own free will for the use and purposes therein set forth.

**JENNIFER K. ANDERSON**  
NOTARY PUBLIC  
STATE OF COLORADO  
NOTARY ID 20054037136  
MY COMMISSION EXPIRES 09/23/2017

  
NOTARY PUBLIC  
My Commission Expires: 9-23-2017

Daniel J. Hoffman  
Inventor's Signature

8-20-13  
DATE

Daniel J. Hoffman  
Inventor's Printed Name

JENNIFER K. ANDERSON  
NOTARY PUBLIC  
STATE OF COLORADO  
NOTARY ID 20054037136  
MY COMMISSION EXPIRES 09/23/2017

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ ) SS

On this 30th day of August, 2013, before me personally came the above named Daniel J. Hoffman who is personally known by me or proved to me on the basis of satisfactory evidence to be the same individual who executed the foregoing assignment, and who acknowledged to me that he/she executed the same of his/her own free will for the use and purposes therein set forth.

Jennifer K. Anderson  
NOTARY PUBLIC  
My Commission Expires: 9-23-2017

V. Brunk  
Inventor's Signature

9/3/13  
DATE

Victor Brunk  
Inventor's Printed Name

JENNIFER K. ANDERSON  
NOTARY PUBLIC  
STATE OF COLORADO  
NOTARY ID 20054037136  
MY COMMISSION EXPIRES 09/23/2017

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ ) SS

On this 3rd day of September, 2013, before me personally came the above named Victor Brunk who is personally known by me or proved to me on the basis of satisfactory evidence to be the same individual who executed the foregoing assignment, and who acknowledged to me that he/she executed the same of his/her own free will for the use and purposes therein set forth.

Jennifer K. Anderson  
NOTARY PUBLIC  
My Commission Expires: 9-23-2017

\_\_\_\_\_  
Inventor's Signature

\_\_\_\_\_  
DATE

Demitri Dax Widener  
Inventor's Printed Name

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ ) SS

On this \_\_\_\_\_ day of \_\_\_\_\_, before me personally came the above named Demitri Dax Widener who is personally known by me or proved to me on the basis of satisfactory evidence to be the same individual who executed the foregoing assignment, and who acknowledged to me that he/she executed the same of his/her own free will for the use and purposes therein set forth.

\_\_\_\_\_  
NOTARY PUBLIC  
My Commission Expires: \_\_\_\_\_

# ASSIGNMENT OF PATENT APPLICATION

FOR GOOD AND VALUABLE CONSIDERATION,

I, the undersigned hereby agree to assign for good and valuable consideration, receipt of which is hereby expressly acknowledged, and do hereby sell, assign and transfer unto

Advanced Energy Industries, Inc.

a corporation organized under the laws of the state of Delaware as Assignee, and its successors, assigns and legal representatives, the entire right, title and interest, for all countries in and to certain inventions relating to

WIDE DYNAMIC RANGE ION ENERGY BIAS CONTROL; FAST ION ENERGY SWITCHING; ION ENERGY CONTROL AND A PULSED BIAS SUPPLY; AND A VIRTUAL FRONT PANEL

described in an application for Letters Patent of the United States, identified as Attorney Docket No. AE2012-013US, at Neugeboren O'Dowd PC, 1227 Spruce Street, Suite 200, Boulder, CO 80302 and filed on August 27, 2013, as Application Serial No. 14011305, and the invention(s) and improvement(s) set forth therein, and any and all continuations, continuations-in-part, divisionals, and renewals of and substitutes for said application for said Letters Patent, and all the rights and privileges under any and all Letters Patent that may be granted therefor in any country, and any reissues, or reexaminations, or extensions of said Letters Patent. I request that any and all Letters Patent for said inventions be issued to said Assignee, its successors, assigns and legal representatives, or to such nominees as it may designate.

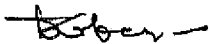
I agree that, when requested, I will, without charge to said Assignee but at its expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for securing and maintaining patents for said inventions in any and all countries and for vesting title thereto in said Assignee, its successors, assigns and legal representatives or nominees.

I authorize and empower the said Assignee, its successors, assigns and legal representatives or nominees, to invoke and claim for any application for patent or other form of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from me.

I hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document which may be required in any country for any purpose and more particularly in proof of the right of the said Assignee or nominee to claim the aforesaid benefit of the right of priority provided by the International convention which may henceforth be substituted for it.

I covenant with said Assignee, its successors, assigns and legal representatives, that the rights and property herein conveyed are free and clear of any encumbrance, and that I have full right to convey the same as herein expressed.

IN WITNESS WHEREOF, I have hereunto signed my name on the day and year set forth below.



11-11-2013

Inventor's Signature

DATE

Dmitri Kovalevskii

Inventor's Printed Name

STATE OF )  
 ) SS  
COUNTY OF )

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me personally came the above named Dmitri Kovalevskii who is personally known by me or proved to me on the basis of satisfactory evidence to be the same individual who executed the foregoing assignment, and who acknowledged to me that he/she executed the same of his/her own free will for the use and purposes therein set forth.

NOTARY PUBLIC \_\_\_\_\_

My Commission Expires: \_\_\_\_\_