To the Director of the U.S. Patent and Tradema To the Director of the U.S. Patent and Tradema To the Director of the U.S. Patent and Tradema 1. Name of conveying party(les) Vincent Michael Contarino, Pavio Molchanov Contarino, Pavio Molchanov	E PTO 1808 (D 07/05)	11/801771 04/26/2007 U.S. DEPARTMENT OF COMMERC
To the Director of the U.S. Patent and Tradem 1. Name of conveying party(lea) Vincent Michael Contarino, Pavio Molchanov 1. Name and address of receiving party(les) Vincent Michael Contarino, Pavio Molchanov 1. Name and address: NAWC-AD Additional name(e) of conveying party(les) attached? Yee V No 3. Nature of conveying party(les) attached? Yee V No 3. Nature of conveying party(les) attached? Yee V No 3. Nature of conveying party(les) attached? Yee V No 3. Nature of conveying party(les) Vincent Michael Contarino, Pavio Molchanov Internal Address: NaWC-AD Additional name(e) of conveying party(les) Street Address: 47076 Lillencrantz Rd City: Patuxent River	Form PTO-1595 (Rev. 07/05) OMB No. 0651-0027 (exp. 6/30/2008)	I Island States Detect and Trademark
1. Name of conveying party(les) Vincent Michael Contarino, Pavlo Motchanov 1. Name of conveying party(les) Vincent Michael Contarino, Pavlo Motchanov 1. Name of conveying party(les) Vincent Michael Contarino, Pavlo Motchanov 1. Name and address of receiving party(les) Name:Dopt of Navy Internal Address: NAWC-AD 3. Nature of conveyance/Execution Date(s): Execution Date(s)04/23/2007 2. Name and address:NAWC-AD 3. Nature of conveyance/Execution Date(s): Execution Date(s)04/23/2007 3. Nature of conveyance/Execution Date(s): 3. Street Address:47076 Lillencrantz Rd 4. Application or patent number(s): 4. Application No.(s) 5. Name and address to whom correspondence concerning document should be malled: Name:Mark Glut 1. Name and address to whom correspondence concerning document should be malled: Name:Mark Glut 1. Name:	RECOI	- -
To the Director of the U.S. Patent and Tradem 1. Name of conveying party(les) Vincent Michael Contarino, Pavlo Michaenov 2. Name and address of receiving party(les) Name: _Dept of Navy Internal Address: NAWC-AD		
1. Name of conveying party(les) Vincent Micheel Contarino, Pavlo Molchanov Name: _Dept of Navy Internal Address: NAWC-AD		
Name:	1. Name of conveying party(ies)	
Additional name(e) of conveying party(ies) attached?	Vincent Michael Contarino, Pavlo Molchanov	,
3. Nature of conveyance/Execution Date(s): Execution Date(s) 04/23/2007 Assignment		Internal Address: NAWC-AD
Street Address: 47076 Lillencrantz Rd	Additional name(s) of conveying party(jes) attached?	77 No.
Execution Date(s) 04/23/2007 Assignment		
Assignment	• •	
Security Agreement		
Joint Research Agreement Government Interest Assignment Executive Order 9424, Confirmatory License Other Additional name(s) & address(es) attached? Yes		City: Patuxent River
Government Interest Assignment Executive Order 9424, Confirmatory License Other 4. Application or patent number(s): A. Patent Application No.(s) 7. Devent Occurred Social 18801771 21. 40.00 BA Additional numbers attached? Yes No 5. Name and address to whom correspondence concerning document should be mailed: Name: Mark Glut Internal Address: Office of Counsel, NAVAIR, NAWC-AD Street Address: 47076 Lillencrantz Rd B435, Suite A City: Patuxent River State: MD Phone Number: 301-757-0582 Fax Number: 301-342-1840 Email Address: mark.glot@nevy.mil 9. Signature Country: USA Zip: 20670 Additional name(s) & address(es) attached? Yes Sandarders Involved: B. Patent No.(s) 6. Total number of applications and patents Involved: 7. Total fee (37 CFR 1.21(h) & 3.41) \$80 Authorized to be charged by credit card Authorized to be charged to deposit account Enclosed None required (government interest not affecting a. Credit Card Last 4 Numbers Expiration Date b. Deposit Account Number 500938 Authorized User Name Glut Signature Signature		
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Email Address: mark.gkt@navy.mil 9. Signature: Deposit Account Number 500938		Expiration Date
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9. Signature: Signature Date		Authorized User Name Glut
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	9. Signature:	4/24/57
-	Signature	Date
Mark O. Glut Total number of pages including cover sheet attachments and documents:		Total number of pages including cover

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Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

REEL: 019377 FRAME: 0824

	SECNAVINST 5870.3C
ASSIGNMENT OF INVENTI	ON
WHEREAS, I (we) Vincent	Michael Contarino
	of
tile amplement by the Concernment of the I	Inited States of America having the state of
made an invention entitled	United States of America, hereinafter referred to as the Government, have Large Area Hybrid Photomultiplier Tube
identified as Navy Case No. 97940 America executed by me (us) on 4/23	and described in application for Letters Patent of the United States of
WHEREAS, the conditions under with Paragraph 1(a) of Executive Order 10096 to	hich the invention was made are such as to entitle the Government under the entire right, title, and interest therein, including foreign rights; and
WHEREAS, the Government is desi- disclosed in said application within the United benefits herein granted; and	irous of obtaining the entire right, title and interest in and to the invention d States of America, its territories and possessions and other rights and
WHEREAS, as to foreign rights, the	Government desires an option to obtain such rights;
which is hereby acknowledged, I (we) hereby Secretary of the Navy the entire right, title, an territories and possessions, and the entire righ substitution thereof, and such Letters Patent a application and Letters Patent to be held by th	on of the premises and other good and valuable consideration the receipt of assign and transfer to the United States of America as represented by the id interest in and to said invention within the United States of America, its lift, title, and interest in and to said application and any confinuation, division of as may issue therefrom and any reissue or extensions thereof, said invention be United States of America as represented by the Secretary of the Navy to ent may be granted, as fully and entirely as the same would have been held lie.
nvention and all patent applications, patents a of America within eight months of the filing data such option to be exercised by a written notifical countries in which the Government will file or convention; and that the rights in the foreign count conexclusive, irrevocable, royalty-free license to the invention in any foreign country, including and/or in furtherance of the foreign policies of the (We) hereby further agree to make, ex- fidavits, statements, or other instruments that	xecute, and deliyer to the Government, any and all papers, documents, may be necessary in the prosecution of the application and of any
assist the Government in every way in protect rough such efforts will be paid by the Government	ication, or any application for reissue or extension of said Letters Patent, and ting the invention as may be requested, provided that any expense arising ment.
IN TESTIMONY WHEREOF, I (we) hav	ve set my (our) hand(s) and affixed my (our) seal(s).
23 APRO7	Wint Michael Contino Seal
(date)	Vincent Michael Contarino
(date)	Seal
(date)	Seal

NAVONR 5870/34 (Rev. 6-97)

PATENT REEL: 019377 FRAME: 0825

Previous issues of this form are obsolete.

	SECNAVINST 5870.3C
ASSIGNMENT OF INVENT	ION
. WHEREAS, I (we)	
	of
while employed by the Government of the I	United States of America, hereinafter referred to as the Government, have
made an invention entitled	Large Area Hybrid Photomultiplier Tube
identified as Navy Case No. 97940	and described in application for Letters Patent of the United States of
America executed by me (us) on4	23 2007 19 and
aragraph 1(a) of Executive Order 10096 to WHEREAS, the Government is desi	which the invention was made are such as to entitle the Government under of the entire right, title, and interest therein, including foreign rights; and sirous of obtaining the entire right, title and interest in and to the invention
lisclosed in said application within the United enefits herein granted; and	d States of America, its territories and possessions and other rights and
WHEREAS, as to foreign rights, the	Government desires an option to obtain such rights;
nich is hereby acknowledged, I (we) hereby acretary of the Navy the entire right, title, and intories and possessions, and the entire right bstitution thereof, and such Letters Patent a plication and Letters Patent to be held by the end of the term for which said Letters Pate me (us) had this assignment not been made	
ention and all patent applications, patents at merica within eight months of the filing date in option to be exercised by a written notificantries in which the Government will file or cantion; and that the rights in the foreign countexclusive, irrevocable, royally-free license to	Government, the option to take the entire right, title, and interest in and to the and other forms of protection thereon in countries foreign to the United States e of any application for United States Letters Patent covering the invention; ation to me (us) within such eight months identifying the specific foreign ause to be filed an application for patent or other form of protection on the nitries not exercised under the option are left to me(us) subject to a the Government in any patent or other form of protection which may issue go the power to issue sub-licenses for use in behalf of the Government ne Government.
avits, statements, or other instruments that r inuation, division or substitution of the applic	Recute, and deliver to the Government, any and all papers, documents, may be necessary in the prosecution of the application and of any cation, or any application for reissue or extension of said Letters Patent, and ting the invention as may be requested, provided that any expense arising nent.
IN TESTIMONY WHEREOF, I (we) have	e set my (our) hand(s) and affixed my (our) seal(s).
Amil 23 2002	

IN TESTIMONY WHEREOF, I (we) have set my (our) hand(s) and affixed my four) seal(s).

April 23 2007

(date)

Seal

(date)

Seal

(date)

Seal

NAVONR 5870/34 (Rev. 6-97)

Previous issues of this form are obsolete.

VVMPKPAS I (WE)	hael Contarino
WHEREAS, I (we) Vincent Mich	of
while employed by the Government of the United S made an invention entitled	States of America, hereinafter referred to as the Government, have rge Area Hybrid Photomultiplier Tube
identified as Navy Case No. 97940 America executed by me (us) on 4/23/2007	and described in application for Letters Patent of the United States 19; and
WHEREAS, the conditions under which the Paragraph 1(a) of Executive Order 10096 to the ent	invention was made are such as to entitle the Government under ire right, title, and interest therein, including foreign rights; and
WHEREAS, the Government is desirous of disclosed in said application within the United States benefits herein granted; and	obtaining the entire right, title and interest in and to the invention of America, its territories and possessions and other rights and
WHEREAS, as to foreign rights, the Govern	ment desires an option to obtain such rights;
which is hereby acknowledged, I (we) hereby assign Secretary of the Navy the entire right, title, and interest territories and possessions, and the entire right, title, a	premises and other good and valuable consideration the receipt and transfer to the United States of America as represented by the stin and to said invention within the United States of America, its and interest in and to said application and any continuation, division
substitution thereof, and such Letters Patent as may i application and Letters Patent to be held by the Unite	issue therefrom and any reissue or extensions thereof, said invent d States of America as represented by the Secretary of the Navy be granted, as fully and entirely as the same would have been he
I (We) do hereby also grant unto the Governm nvention and all patent applications, patents and other of America within eight months of the filing date of any	nent, the option to take the entire right, title, and interest in and to right, of protection thereon in countries foreign to the United States Lotter Retent and the United S
such option to be exercised by a written notification to a countries in which the Government will file or cause to anyention; and that the rights in the foreign countries no conexclusive, irrevocable, royalty-free license to the Go	me (us) within such eight months identifying the specific foreign be filed an application for patent or other form of protection on the of exercised under the option are left to me(us) subject to a overnment in any patent or other form of protection which may iss ower to issue sub-licenses for use in behalf of the Government
such option to be exercised by a written notification to a countries in which the Government will file or cause to nevention; and that the rights in the foreign countries no conexclusive, irrevocable, royalty-free license to the Go in the invention in any foreign country, including the po- and/or in furtherance of the foreign policies of the Gove I (We) hereby further agree to make, execute, a filidavits, statements, or other instruments that may be continuation, division or substitution of the application, or	me (us) within such eight months identifying the specific foreign be filed an application for patent or other form of protection on the of exercised under the option are left to me(us) subject to a overnment in any patent or other form of protection which may issower to issue sub-licenses for use in behalf of the Government enment. and deliver to the Government, any and all papers, documents, necessary in the prosecution of the application and of any or any application for reissue or extension of said Letters Patent.
such option to be exercised by a written notification to countries in which the Government will file or cause to overtion; and that the rights in the foreign countries not onexclusive, irrevocable, royalty-free license to the Government in any foreign country, including the pond/or in furtherance of the foreign policies of the Government in the foreign policies of the Governments, or other instruments that may be ontinuation, division or substitution of the application, or assist the Government in every way in protecting the	me (us) within such eight months identifying the specific foreign be filed an application for patent or other form of protection on the of exercised under the option are left to me(us) subject to a overnment in any patent or other form of protection which may issower to issue sub-licenses for use in behalf of the Government emment. and deliver to the Government, any and all papers, documents, necessary in the prosecution of the application and of any or any application for reissue or extension of said Letters Patent, a invention as may be requested, provided that any expense arising
such option to be exercised by a written notification to countries in which the Government will file or cause to invention; and that the rights in the foreign countries not conexclusive, irrevocable, royalty-free license to the Govern the invention in any foreign country, including the pond/or in furtherance of the foreign policies of the Governd/or in furtherance of the foreign policies of the Governments (We) hereby further agree to make, execute, a flidavits, statements, or other instruments that may be ontinuation, division or substitution of the application, or assist the Government in every way in protecting the rough such efforts will be paid by the Government.	me (us) within such eight months identifying the specific foreign be filed an application for patent or other form of protection on the of exercised under the option are left to me(us) subject to a overnment in any patent or other form of protection which may issower to issue sub-licenses for use in behalf of the Government emment. and deliver to the Government, any and all papers, documents, necessary in the prosecution of the application and of any or any application for reissue or extension of said Letters Patent, a invention as may be requested, provided that any expense arising
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such option to be exercised by a written notification to countries in which the Government will file or cause to ovention; and that the rights in the foreign countries not onexclusive, irrevocable, royalty-free license to the Government in any foreign country, including the pond/or in furtherance of the foreign policies of the Government (We) hereby further agree to make, execute, a fidavits, statements, or other instruments that may be ontinuation, division or substitution of the application, or assist the Government in every way in protecting the rough such efforts will be paid by the Government. IN TESTIMONY WHEREOF, I (we) have set my (date)	me (us) within such eight months identifying the specific foreign be filed an application for patent or other form of protection on the of exercised under the option are left to me(us) subject to a overnment in any patent or other form of protection which may issower to issue sub-licenses for use in behalf of the Government emment. and deliver to the Government, any and all papers, documents, necessary in the prosecution of the application and of any or any application for reissue or extension of said Letters Patent, a invention as may be requested, provided that any expense arising (our) hand(s) and affixed my (our) seal(s).
such option to be exercised by a written notification to countries in which the Government will file or cause to overtion; and that the rights in the foreign countries not onexclusive, irrevocable, royalty-free license to the Government in any foreign country, including the pond/or in furtherance of the foreign policies of the Governd/or in furtherance of the foreign policies of the Governments, or other instruments that may be ontinuation, division or substitution of the application, or assist the Government in every way in protecting the rough such efforts will be paid by the Government. IN TESTIMONY WHEREOF, I (we) have set my	me (us) within such eight months identifying the specific foreign be filed an application for patent or other form of protection on the of exercised under the option are left to me(us) subject to a overnment in any patent or other form of protection which may issower to issue sub-licenses for use in behalf of the Government emment. and deliver to the Government, any and all papers, documents, necessary in the prosecution of the application and of any or any application for reissue or extension of said Letters Patent, a invention as may be requested, provided that any expense arising (our) hand(s) and affixed my (our) seal(s). Wincent Michael Contarino
such option to be exercised by a written notification to countries in which the Government will file or cause to invention; and that the rights in the foreign countries not conexclusive, irrevocable, royalty-free license to the Government in any foreign country, including the point/or in furtherance of the foreign policies of the Governd/or in furtherance of the foreign policies of the Government (We) hereby further agree to make, execute, a flidavits, statements, or other instruments that may be continuation, division or substitution of the application, or assist the Government in every way in protecting the rough such efforts will be paid by the Government. IN TESTIMONY WHEREOF, I (we) have set my (date)	me (us) within such eight months identifying the specific foreign be filed an application for patent or other form of protection on the of exercised under the option are left to me(us) subject to a overnment in any patent or other form of protection which may issower to issue sub-licenses for use in behalf of the Government emment. and deliver to the Government, any and all papers, documents, necessary in the prosecution of the application and of any or any application for reissue or extension of said Letters Patent, a invention as may be requested, provided that any expense arising (our) hand(s) and affixed my (our) seal(s). Wincent Michael Contarino

Previous issues of this form are obsolete.

AALLLK LW:	S, I (we)	Davila !	Molchanov		
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identified as Navy Ci America executed by		and description	ibed in application	for Letters Patent of t	he United Sta
WHEREAS, Paragraph 1(a) of Ex	the conditions under recutive Order 10096	which the invention to the entire right, t	was made are sucitle, and interest the	th as to entitle the Go trein, including foreign	vernment und rights; and
WHEREAS, disclosed in said application benefits herein grante	ication within the Un	esirous of oblaining ited States of Ameri	the entire right, title a, Its territories an	and interest in and to d possessions and of	o the invention her rights and
WHEREAS, a	as to foreign rights, th	ne Government desi	res an option to obt	ain such rights;	
which is hereby acknown Secretary of the Navy territories and possess substitution thereof, an application and Letters the end of the term for the me (us) had this asset	the entire right, title, ions, and the entire of d such Letters Pater Patent to be held by which said Letters Pa	and inlerest in and t ight, title, and inlere It as may issue then the United Stales o atent may be grante	o said invention with st in and to said ap afrom and any reiss f America as repres	hin the United States plication and any con ue or extensions the cented by the Secreta	of America, its finuation, divis reof, said inves
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