

Form PTO-1595 (Rev. 07/05)
OMB No: 0651-0027 (exp. 6/30/2008)

U.S. DEPARTMENT OF COMMERCE
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NG (DSD) 8393

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

1. Name of conveying party(ies)

Philip Richard Minarik (3/6/07) Jesse James Kramer (4/4/07)
Frederick Ray Selter (3/8/07)
Dawn Lenore Bohlin (3/6/07)
Sung-shik Yoo (3/7/07)

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance/Execution Date(s):

Execution Date(s) 3/6/07, 3/8/07, 3/6/07, 3/7/07, 4/4/07

- ☒ Assignment ☐ Merger
☐ Security Agreement ☐ Change of Name
☐ Joint Research Agreement
☐ Government Interest Assignment
☐ Executive Order 9424, Confirmatory License
☐ Other _____

2. Name and address of receiving party(ies)

Name: Northrop Grumman Systems Corporation

Internal Address: _____

Street Address: 1840 Century Park East

City: Los Angeles

State: California

Country: USA Zip: 90067

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application or patent number(s):

☐ This document is being filed together with a new application.

A. Patent Application No.(s)

B. Patent No.(s)

U.S. Serial No. 11/681,398

Filed: 2 March 2007

Additional numbers attached? ☐ Yes ☒ No

5. Name and address to whom correspondence concerning document should be mailed:

Name: Christopher P. Harris

Internal Address: Tarolli, Sundheim, Covell & Tummino LLP

Street Address: 1300 East Ninth Street

Suite 1700

City: Cleveland

State: OH Zip: 44114

Phone Number: (216)621-2234 ext. 104

Fax Number: (216)621-4072

Email Address: charris@tarolli.com

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 1.21(h) & 3.41) \$40.00

- ☒ Authorized to be charged by credit card
☐ Authorized to be charged to deposit account
☐ Enclosed
☐ None required (government interest not affecting title)

8. Payment Information

a. Credit Card Last 4 Numbers 1074
Expiration Date 01/11

b. Deposit Account Number _____

Authorized User Name Christopher P. Harris

9. Signature: CPH

Signature

10 April 2007

Date

Christopher P. Harris, Reg. No. 43,660

Name of Person Signing

Total number of pages including cover sheet, attachments, and documents: 4

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O. Box 1450, Alexandria, V.A. 22313-1450

700319671

PATENT
REEL: 019150 FRAME: 0073

OP \$40.00 11681398

ASSIGNMENT

WHEREAS, I, Phillip Richard Minarik, hereinafter referred to as Assignor, together with Frederick Ray Seiter, Dawn Lenore Bohlin, Sung-shik Yoo and Jesse James Kramer, have jointly invented certain new and useful improvements in Efficient Calculation of Ensquared Energy in an Imaging System, described in an application for United States Letters Patent, executed by me on the date as stated below;

WHEREAS, Northrop Grumman Systems Corporation, a Delaware corporation, having its principal place of business at 1840 Century Park East, Los Angeles, California 90067, hereinafter referred to as Assignee, is desirous of acquiring the entire right, title and interest in, to and under said improvements and said application:

NOW, THEREFORE, in consideration of Assignor's obligations to Northrop Grumman Systems Corporation, and for other good and valuable consideration, the receipt and sufficiency is hereby acknowledged, Assignor has sold, assigned, transferred and set over, and by these presents does hereby sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, Assignor's entire right, title and interest in, to and under said improvements, and said application and all divisions, renewals, continuations, and continuations-in-part thereof, and all United States Letters patent which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may hereafter be filed for said improvements in any country or countries foreign to the United States, including the full right to claim for any such application the priority benefits of the International Convention for the Protection of Industrial Property and other priority-conferring treaties, and all Letters Patent which may be granted for said improvements in any country or countries foreign to the United States and all extensions, divisions, continuations, continuations-in-part, renewals and reissues thereof; and Assignor hereby authorizes and requests the Commissioner of Patents and Trademarks of the United States, and any official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said improvements to said Assignee, its successors, legal representatives and assigns, in accordance with the terms of this instrument;

Assignor hereby acknowledges that at the time of making the improvements herein identified, Assignor was under an obligation to assign to Assignee Assignor's entire right, title and interest in, to and under said improvements;

Assignor hereby covenants that Assignor has full right to convey the interest herein assigned, and that Assignor has not executed, and will not execute, any agreement in conflict herewith and that Assignee, Northrop Grumman Systems Corporation, its successors, assigns and other legal representatives shall have the right to hold and enjoy for its and their own use and benefit, to the end of the term or terms for which such Letters Patent shall or may be granted, reissued or extended as fully and completely as the same right or could have been held and enjoyed by Assignor had this Assignment not been made.

Assignor hereby further covenants and agrees to communicate to Assignee, its successors, legal representatives and assigns, any and all facts known to Assignor respecting said improvements; to promptly provide Assignor with all documents relating to said improvements, said invention, and said Letters Patent as may be known or accessible to Assignor; to testify as to the same in any interference or litigation or other legal proceedings related thereto; to sign all lawful papers, execute all extensions, continuations, continuations-in-part, divisional and reissue applications; and to make all rightful oaths or declarations and generally do everything possible to aid Assignee, its successors, legal representatives and assigns in obtaining and enforcing all the rights herein conveyed for said improvements in all countries without further compensation, but at the expense of Assignee, its successors, legal representatives and assigns.

IN WITNESS WHEREOF, the undersigned has executed and delivered this instrument this 6th day of MARCH, 2007, and has executed the referenced patent application on the 6th day of MARCH, 2007.

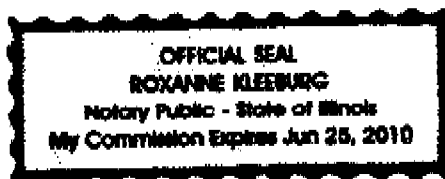
Phillip Richard Minarik

STATE OF ILLINOIS
COUNTY OF COOK) SS

On 3/6/07 before me, Roxanne Kleeburg, personally appeared Phillip Richard Minarik, personally known to me - or - proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to this instrument and acknowledge to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s) on the instrument to be the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal

Roxanne Kleeburg
Notary's Signature



(Seal)

PATENT
REEL: 019150 FRAME: 0074

IN WITNESS WHEREOF, the undersigned has executed and delivered this instrument this 8th day of March, 2007, and has executed the referenced patent application on the 8th day of March, 2007.

Frederick Ray Seiter
Frederick Ray Seiter

STATE OF ILLINOIS
COUNTY OF COOK) ss

On 3/8/07 before me, Roxanne Kleeburg, personally appeared Frederick Ray Seiter, personally known to me – or – proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to this instrument and acknowledge to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument to be the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal

Roxanne Kleeburg
Notary's Signature



(Seal)

IN WITNESS WHEREOF, the undersigned has executed and delivered this instrument this 6th day of March, 2007, and has executed the referenced patent application on the 6th day of March, 2007.

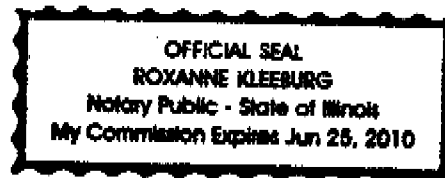
Dawn Lenore Bohlin
Dawn Lenore Bohlin

STATE OF ILLINOIS
COUNTY OF COOK) ss

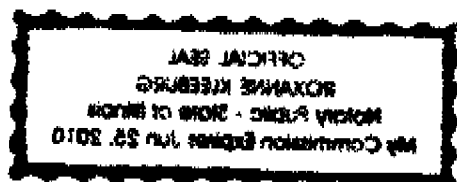
On 3/6/07 before me, Roxanne Kleeburg, personally appeared Dawn Lenore Bohlin, personally known to me – or – proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to this instrument and acknowledge to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument to be the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal

Roxanne Kleeburg
Notary's Signature



(Seal)



IN WITNESS WHEREOF, the undersigned has executed and delivered this instrument this 7th day of March, 2007, and has executed the referenced patent application on the 7th day of March, 2007.

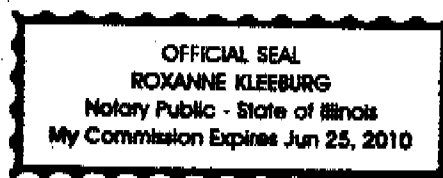
Sung-shik Yoo
Sung-shik Yoo

STATE OF ILLINOIS
COUNTY OF COOK } ss

On 3/7/06 before me, Roxanne Kleeburg, personally appeared Sung-shik Yoo, personally known to me – or – proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to this instrument and acknowledge to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument to be the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal

Roxanne Kleeburg
Notary's Signature



(Seal)

IN WITNESS WHEREOF, the undersigned has executed and delivered this instrument this 04 day of APRIL, 2007, and has executed the referenced patent application on the 04 day of APRIL, 2007.

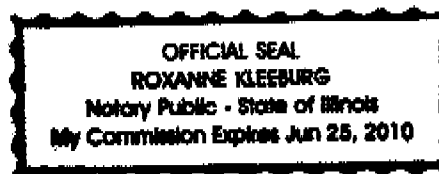
Jesse James Kramer
Jesse James Kramer

STATE OF ILLINOIS
COUNTY OF COOK } ss

On 4/4/07 before me, Roxanne Kleeburg, personally appeared Jesse James Kramer, personally known to me – or – proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to this instrument and acknowledge to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument to be the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal

Roxanne Kleeburg
Notary's Signature



(Seal)