

PATENT ASSIGNMENT

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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>JEFF DICKMAN</td> <td>12/11/2012</td> </tr> <tr> <td>MATHEW A. COSGROVE</td> <td>12/11/2012</td> </tr> </tbody> </table>		Name	Execution Date	JEFF DICKMAN	12/11/2012	MATHEW A. COSGROVE	12/11/2012				
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<table border="1"> <tr> <td>Name:</td> <td>NORTHROP GRUMMAN GUIDANCE AND ELECTRONICS COMPANY, INC.</td> </tr> <tr> <td>Street Address:</td> <td>21240 BURBANK BLVD.</td> </tr> <tr> <td>City:</td> <td>WOODLAND HILLS</td> </tr> <tr> <td>State/Country:</td> <td>CALIFORNIA</td> </tr> <tr> <td>Postal Code:</td> <td>91367-6675</td> </tr> </table>		Name:	NORTHROP GRUMMAN GUIDANCE AND ELECTRONICS COMPANY, INC.	Street Address:	21240 BURBANK BLVD.	City:	WOODLAND HILLS	State/Country:	CALIFORNIA	Postal Code:	91367-6675
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CORRESPONDENCE DATA											
<p>Fax Number: 2166214072</p> <p><i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: 216-621-2234</p> <p>Email: lpringle@tarolli.com</p> <p>Correspondent Name: Christopher P. Harris</p> <p>Address Line 1: Tarolli, Sundheim, Covell & Tummino LLP</p> <p>Address Line 2: 1300 East Ninth Street, Suite 1700</p> <p>Address Line 4: Cleveland, OHIO 44114</p>											
ATTORNEY DOCKET NUMBER:	NG(NSD)020991 US ORD										
NAME OF SUBMITTER:	Christopher P. Harris										
<p>Total Attachments: 2</p> <p>source=NSD020991Assignment#page1.tif</p> <p>source=NSD020991Assignment#page2.tif</p>											

OP \$40.00 13712633

ASSIGNMENT

WHEREAS, I, Jeff Dickman, together with Mathew A. Cosgrove, hereinafter referred to as Assignor, have jointly invented certain new and useful improvements in DIGITAL BEAMFORMING FOR SIMULTANEOUSLY MITIGATING WEAK AND STRONG INTERFERENCE IN A NAVIGATION SYSTEM, described in an application for United States Letters Patent, executed by me on the date as stated below:

WHEREAS, Northrop Grumman Guidance and Electronic Company, Inc., a corporation, having its principal place of business at 21240 Burbank Blvd., Woodland Hills, CA 91367-6675, United States of America, 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 Guidance and Electronic Company, Inc., and for other good and valuable consideration, the receipt and sufficiency of which 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 that may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent that 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 that 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 Guidance and Electronic Company, Inc., 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 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 Assignee 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 11th day of DECEMBER, 2012, and has executed the referenced patent application on the 11th day of DECEMBER, 2012.

Jeff Dickman
JEFF DICKMAN

STATE OF CALIFORNIA)

COUNTY OF Los Angeles) ss

On DECEMBER 11, 2012 before me, LAURA LEIGH SAGE, Notary Public, personally appeared JEFF DICKMAN, proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to this instrument and acknowledged 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.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Laura Leigh Sage



(SEAL)

PATENT

REEL: 029456 FRAME: 0204

IN WITNESS WHEREOF, the undersigned has executed and delivered this instrument this 11th day of DECEMBER, 2012, and has executed the referenced patent application on the 11th day of DECEMBER, 2012.

Matthew A. Cosgrove
MATHEW A. COSGROVE

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss

On DECEMBER 11, 2012 before me, LAURA LEIGH SAGE, Notary Public, personally appeared MATHEW A. COSGROVE, proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to this instrument and acknowledged 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.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

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Laura Leigh Sage



(SEAL)