

**PATENT ASSIGNMENT**

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
Name	Execution Date
Edward F. Stephens IV	12/05/2011
Frank L. Struempf	12/05/2011
Jeremy S. Junghans	12/05/2011
<b>RECEIVING PARTY DATA</b>	
Name:	Northrop Grumman Systems Corp.
Street Address:	1840 Century Park East
City:	Los Angeles
State/Country:	CALIFORNIA
Postal Code:	90067
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	13310432
<b>CORRESPONDENCE DATA</b>	
Fax Number:	(312)425-3909
Email:	kfreeh@nixonpeabody.com
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>	
Correspondent Name:	Wayne Tang
Address Line 1:	300 S. Riverside Plaza
Address Line 2:	Suite 1600
Address Line 4:	Chicago, ILLINOIS 60606
ATTORNEY DOCKET NUMBER:	247080-000063USPT
NAME OF SUBMITTER:	Wayne Tang
Total Attachments: 5 source=Assignments_ss#page1.tif source=Assignments_ss#page2.tif source=Assignments_ss#page3.tif source=Assignments_ss#page4.tif source=Assignments_ss#page5.tif	

**CH \$40.00 13310432**

ASSIGNMENT

WHEREAS, I, Edward F. Stephens IV  
together with Frank L. Struempf and Jeremy Scott Junghans,  
hereinafter referred to as Assignor, have jointly invented certain new and useful improvements  
in:

**METHODS OF FABRICATION OF HIGH-DENSITY LASER DIODE STACKS**

described in a utility application for United States Letters Patent filed herewith, executed  
by us on the date as stated;

WHEREAS, Northrop Grumman Systems Corp., a Delaware corporation, having  
its principal place of business at

1840 Century Park East  
Los Angeles, CA 90067  
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 Systems Corp., 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 Systems Corp., 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 5th day of December, 2011, and has executed the referenced patent application on the 5th day of DECEMBER, 2011.

Edward F. Stephens IV  
Edward F. Stephens IV

STATE OF MISSOURI )  
COUNTY OF St. Louis ) ss

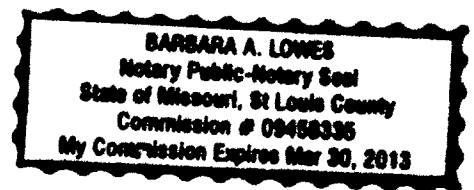
On December 5th, 2011 before me, BARBARA A. LOWES, personally appeared Edward F. STEPHENS IV, proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to this instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized 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 Missouri that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Barbara A. Lowes  
Notary's Signature

(SEAL)





IN WITNESS WHEREOF, the undersigned has executed and delivered this instrument this 5th day of DECEMBER, 2011, and has executed the referenced patent application on the 5th day of DECEMBER, 2011.

Jeremy S Junghans  
Jeremy Scott Junghans

STATE OF MISSOURI )  
COUNTY OF St. Louis ) ss

On DECEMBER 5, 2011 before me, BARBARA A. LOWES, personally appeared JEREMY SCOTT JUNGHANS, 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 Missouri that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Barbara A. Lowes  
Notary's Signature

(SEAL)

