06-01-2005



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Form \$TO-1595 (Rev. 03-05) CMB No. 0651-0027 (exp. 6/30/2005)

Additional name(s) & address(es) 4. Application or patent number(s): A. Patent Application No.(s) 11/071,443 Additional numbers attached? Anditional number attached? Anditional numbers attached? Anditional number attach	PAIENIS	ONLI	
Michael M. DRISCOLL (05/02/2005), Karl M METZGER (05/03/2005), Norman G MATTHEWS (05/02/2005), and Additional rame(s) of conveying party(les) attached? X Yes No 3. Nature of conveyance/Execution Date(s): Execution Date(s): in parentheses after inventor name X Assignment Merger Change of Name Security Agreement Joint Research Agreement Government Interest Assignment Executive Order 9424, Confirmatory License Other 4. Application or patent number(s): A. Patent Application No.(s) 11/071,443 Additional numbers attached? 5. Name and address to whom correspondence concerning document should be mailed: Name: William L. Gates BIRCH, STEWART, KOLASCH & BIRCH, LLP Internal Address: Atty, Dkt.: 1215-0535PUS1 Street Address: 8110 Gatehouse Rd Suite 100 East P.O. Box 747 Phone Number: (703) 205-8000 Fax Number: (703) 205-8050 Email Address: mailroom@bskb.com Name: Northrop Grumman Corp. Internal Address: Street Address: Street Address: Street Address: Street Address: Street Address: Street Address: Name: Northrop Grumman Corp. Internal Address: Street Address: Street Address: Electronics Sensors Systems Div. Law Department P.O. Box 17319 MS A440 City: Baltimore City: Baltimore County: United States of America 2ip: 21203-73 Additional name(s) & address(es) Yes X No 8. Patent No.(s) 8. Patent No.(s) 7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00 Authorized to be charged to deposit account X Enclosed None required (government interest not affecting a Credit Card Last 4 Numbers Expiration Date D. Deposit Account Number Authorized User Name 9. Signature May 26, 2005 Date	To the Director of the U.S. Patent and Trademark Office: Please	record the attached documents or the new address(es) below.	
METZGER (05/03/2005), Norman G MATTHEWS (05/02/2005), and Additional name(s) of conveying party(ies) attached?	Name of conveying party(ies):	2. Name and address of receiving party(ies)	
ME L ZGER (Us/OS/ZOUS), Norman MAT THEWS (05/02/ZOUS), and Additional name(s) of conveyince party(les) attached? X Yes No 3. Nature of conveyance/Execution Date(s): Execution Date(s): in parentheses after inventor name X Assignment Merger Change of Name Government Interest Assignment Executive Order 9424, Confirmatory License Other 4. Application or patent number(s): A. Patent Application No.(s) 11/071,443 Additional numbers attached? S. Name and address to whom correspondence concerning document should be mailed: Name: William L. Gates BIRCH, STEWART, KOLASCH & BIRCH, LLP Internal Address: Alty, Dkt.: 1215-0535PUS1 Street Address: Milliam L. Gates P.O. Box 747 Phone Number: (703) 205-8000 Fax Number: (703) 205-8000 Fax Number: (703) 205-8050 Email Address: mailroom@bskb.com Signature Internal Address: Street Address: Street Address: Street Address: Manyland County: United States of America Zip: 21203-73 Additional name(s) & address(s) Yes X No 6. Total number of applications and patents involved: 7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00 Authorized to be charged to deposit account X Enclosed None required (government interest not affecting at the county of the		Name: Northrop Grumman Corp.	
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Security Agreement Joint Research Agreement Government Interest Assignment State: Maryland Country: United States of America Zip: 21203-73 Additional name(s) & address(es) Yes X No attached: 4. Application or patent number(s): A. Patent Application No.(s) 11/071,443 Additional numbers attached? 5. Name and address to whom correspondence concerning document should be mailed: Name: William L. Gates BIRCH, STEWART, KOLASCH & BIRCH, LLP Internal Address: Atty. Dkt.: 1215-0535PUS1 Street Address: 8110 Gatehouse Rd Suite 100 East P.O. Box 747 City: Falls Church State: VA Zip: 22040-0747 Phone Number: (703) 205-8000 Fax Number: (703) 205-8050 Email Address: mailroom@bskb.com Signature City: Baltimore Maryland Country: United States of America Zip: 21203-73 Additional name(s) & address(es) Yes X No 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 by credit card Authorized to be charged to deposit account X Enclosed None required (government interest not affecting at Country C			
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Fax Number: (703) 205-8050 b. Deposit Account Number Email Address: mailroom@bskb.com Authorized User Name 9. Signature: May 26, 2005 Signature Date			
9. Signature: William L Late Signature May 26, 2005 Date		Expiration Date	
9. Signature: William & Gate May 26, 2005 Signature Date		· · · · · · · · · · · · · · · · · · ·	
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William L. Gates - 20,848 Total number of pages including cover 1	Signature		
Name of Person Signing sheet, attachments, and documents:	William L. Gates - 20,848		
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Form PTO-1595 RECORDATION FORM COVER SHEET (continued)			
Additional Convey	ring Party(ies)/Execu	ution Date(s) (1. Continued):	
Christopher R VALE (05/02/2005)		
Additional Assigne	ees (2. Continued):		
Internal Address: Street Address:			
City:	State:	Country:	Zip:
Assignee Name:			
Internal Address: Street Address:			
City:	State:	Country:	Zip:
Internal Address: Street Address:			
City:	State:	Country:	Zip:
Additional Applica	tions and/or Patents	s (4. Continued):	
Additional Patent Application 4A. Continued:	on Numbers	Additional Patent Numbers 4B. Continued:	
	Additional numbers	attached? Yes No	

Docket No.: 1215-0535PUS1

ASSIGNMENT JOINT

In accordance with existing Employee Intellectual Property Agreement(s) and/or other undertaking(s) entered into for good and valuable consideration, receipt of which is hereby acknowledged, we, Michael M. DRISCOLL of Woodstock, MD 21163, Karl M. METZGER of Westminster, MD 21158, Christopher R. VALE of Elkridge, MD 21075, and Norman G. MATTHEWS of Pasadena, MD 21122 hereby sell and assign to NORTHROP GRUMMAN CORPORATION, a Corporation organized and existing under the laws of Delaware, U.S.A., having its principal place of business at 1840 Century Park East, Los Angeles, California 90067-2199, U.S.A., its successors, assigns, nominees, or other legal representatives, the entire right, title and interest in and to the invention in CRYSTAL OSCILLATOR WITH WIDE TUNING RANGE, invented by us and the application for United States patent therefor, executed on the same day as the assignment is executed and all original and reissued patents granted therefor, and all divisions and continuations thereof, including the subjects-matter of any and all claims which may be obtained in every such patent, and the right to apply for and obtain patents and Utility Model Registrations in countries foreign to the United States, and in and to any Letters Patent or Utility Model Registration which may be granted thereon in such foreign countries, and authorize and request 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 the said Letters Patent or Utility Model Registration to the said NORTHROP GRUMMAN CORPORATION its successors, assigns, nominees or other legal representatives, as assignee of the entire interest, and covenant that we have full right to convey the entire interest herein assigned and that we have not executed and will not execute any agreement in conflict herewith, and agree that we will communicate to said Corporation, its successors, assigns, nominees or other legal representatives, all facts known to us respecting said invention, whenever requested, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing and reissue applications, make all rightful oaths and do all lawful acts requisite for the application for such divisional, continuing or reissue applications, or the procuring thereof; and that if and when said NORTHROP GRUMMAN CORPORATION its successors, assigns, nominees or other legal representatives desire to file a disclaimer relating thereto, we will, upon request, sign all lawful papers requisite for the filing of such disclaimer, and we further covenant and agree that we will, at any time upon request, do everything legally possible to aid said Corporation, its successors, assigns, nominees or other legal representatives, either in its or their own name, to apply for, obtain and enforce proper patent and/or Utility Model protection for said invention in all countries, all without further consideration but at the expense of said NORTHROP GRUMMAN CORPORATION its successors, assigns, nominees or other legal representatives.

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal this 2nd day

of	<u>May</u> , 2005.
	Michael M. DRISCOLL
o£	IN TESTIMONY WHEREOF, I have hereunto set my hand and seal this $\frac{2M}{MMM}$ day MMM , 2005.
	Marl M. Metzger 190
	IN TESTIMONY WHEREOF, I have hereunto set my hand and seal this 2 day
of	May . 2005. Thusland Rolle
	Christopher R. VALE
	IN TESTIMONY WHEREOF, I have hereunto set my hand and seal this 2 day
of	May , 2005.

RECORDED: 05/26/2005

PATENT

Norman G. MATTHEWS

REEL: 016601 FRAME: 0382