

02-22-1999



FR SHEET  
ILY

U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office

Tab settings => => =>

To the Honorable Commissione

100970663

Record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Doyle T. Nichols  
Srinath Kalluri  
Michael G. Wickham

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

2. Name and address of receiving party(ies):

Name: TRW Inc.

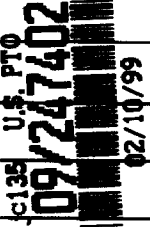
Internal Address: Law Dept.

Bldg. E2/6072

Street Address: One Space Park

City: Redondo Beach State: CA ZIP: 90278

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



3. Nature of conveyance: MPO 2-1-99

- Assignment  Merger
- Security Agreement  Change of Name
- Other \_\_\_\_\_

Execution Date: February 5, 1999

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: February 10, 1999

A. Patent Application No.(s)

B. Patent No.(s)

Additional numbers attached?  Yes  No

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

Name: TRW Inc.

Internal Address: Law Dept.

Bldg. E2/6072

Street Address: One Space Park

City: Redondo Beach State: CA ZIP: 90278

6. Total number of applications and patents involved:

7. Total fee (37 CFR 3.41) ..... \$ 40

Enclosed

Authorized to be charged to deposit account

8. Deposit account number:

20-1515

(Attach duplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Michael S. Yatsko

Name of Person Signing

*Michael S. Yatsko*

Signature

February 10, 1999

Date

Total number of pages including cover sheet, attachments, and document:

Mail documents to be recorded with required cover sheet information to:  
Commissioner of Patents & Trademarks, Box Assignments  
Washington, D.C. 20231

(Form PTO--1595--Recordation Form Cover Sheet - page 1 of 3)

PATENT  
REEL: 9763 FRAME: 0656

02/18/1999 09:00:00 14 20-1515 0927402 01 FC:581

Attachment to Form PTO - 1595  
Recordation Form Cover Sheet

Additional Conveying Parties

- Timothy A. Vang
- Michael P. Nesnidal
- Robert W. Lodenkamper

Additional Dates of Conveyance

- February 5, 1999
- February 5, 1999
- February 5, 1999
- February 5, 1999

ASSIGNMENT

For valuable consideration, the adequacy and receipt of which are hereby acknowledged, we Doyle T. Nichols, Srinath (NMI) Kalluri, Michael G. Wickham, Timothy A. Vang, Michael P. Nesnidal, and Robert W. Lodenkamper respectively, of Ellicott City, Maryland; Culver City, California; Rancho Palos Verdes, California; San Dimas, California; Madison, Wisconsin and Rancho Palos Verdes, California

do hereby sell and assign to TRW Inc., One Space Park, Redondo Beach, California, an Ohio corporation, its successors and assigns, the entire right, title and interest in and to the improvements in HIGH POWER SINGLE MODE SEMICONDUCTOR LASERS AND OPTICAL AMPLIFIERS USING 2D BRAGG

GRATINGS which has been invented by us, as described in the application for United States Patent which we executed respectively, on

February 5, 1999, February 5, 1999, February 5, 1999, February 5, 1999, February 5, 1999, and February 5, 1999

and any and all applications for patent and patents therefore in any and all countries, including all divisions, reissues, continuations, and extensions thereof, and the right to claim the priority date of the first filed application in the United States, and authorize and request any official whose duty it is to issue patents, to issue any patent on said improvements or resulting therefrom to said TRW Inc., or its successors or assigns, and agree that on request and without further consideration, but at the expense of TRW Inc., we will communicate to TRW Inc. or its representatives or nominees any facts known to us respecting said improvements and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, and reissue applications, make all rightful oaths, and generally do everything possible to aid TRW Inc., its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

5 FEBRUARY, 1999

Inventor:   
Doyle T. Nichols

\_\_\_\_\_, 1999

Inventor: \_\_\_\_\_  
Srinath (NMI) Kalluri

\_\_\_\_\_, 1999

Inventor: \_\_\_\_\_  
Michael G. Wickham

\_\_\_\_\_, 1999

Inventor: \_\_\_\_\_  
Timothy A. Vang

ASSIGNMENT

For valuable consideration, the adequacy and receipt of which are hereby acknowledged, we Doyle T. Nichols, Srinath (NMI) Kalluri, Michael G. Wickham, Timothy A. Vang, Michael P. Nesnidal, and Robert W. Lodenkamper respectively, of Ellicott City, Maryland; Culver City, California; Rancho Palos Verdes, California; San Dimas, California; Madison, Wisconsin and Rancho Palos Verdes, California

do hereby sell and assign to TRW Inc., One Space Park, Redondo Beach, California, an Ohio corporation, its successors and assigns, the entire right, title and interest in and to the improvements in HIGH POWER SINGLE MODE SEMICONDUCTOR LASERS AND OPTICAL AMPLIFIERS USING 2D BRAGG GRATINGS which has been invented by us, as described in the application for United States Patent which we executed respectively, on

\_\_\_\_\_, and \_\_\_\_\_, and any and all applications for patent and patents therefore in any and all countries, including all divisions, reissues, continuations, and extensions thereof, and the right to claim the priority date of the first filed application in the United States, and authorize and request any official whose duty it is to issue patents, to issue any patent on said improvements or resulting therefrom to said TRW Inc., or its successors or assigns, and agree that on request and without further consideration, but at the expense of TRW Inc., we will communicate to TRW Inc. or its representatives or nominees any facts known to us respecting said improvements and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, and reissue applications, make all rightful oaths, and generally do everything possible to aid TRW Inc., its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

\_\_\_\_\_, 1999 Inventor: Doyle T. Nichols


Feb 5, 1999 Inventor: Srinath Kalluri  
Srinath (NMI) Kalluri

Feb 5, 1999 Inventor: Michael G. Wickham  
Michael G. Wickham

Feb. 5, 1999 Inventor: Timothy A. Vang  
Timothy A. Vang

Feb. 5, 1999

Inventor:

  
Michael P. Nesnidal

\_\_\_\_\_, 1999

Inventor:

Robert W. Lodenkamper

STATE OF MARYLAND

)

) ss

COUNTY OF

)

On \_\_\_\_\_ before me, Lorna L. Schott  
personally appeared Doyle T. Nichols  
\_\_\_\_\_ personally known to me -or- \_\_\_\_\_ proved to me on the basis of  
satisfactory evidence to be the person whose name is subscribed to the  
within instrument and acknowledged to me the he/she executed the same in  
his/her authorized capacity, and that by his/her signature on the  
instrument the person, or the entity upon behalf of which the person acted,  
executed the instrument.

WITNESS my hand and official seal.

\_\_\_\_\_  
Notary Public

(SEAL)

\_\_\_\_\_, 1999

Inventor: Michael P. Nesnidal

Feb 05, 1999

Inventor: Robert W. Lodenkamper  
Robert W. Lodenkamper

STATE OF MARYLAND )  
 ) ss  
COUNTY OF )

On \_\_\_\_\_ before me, Lorna L. Schott  
personally appeared Doyle T. Nichols  
\_\_\_\_\_ personally known to me -or- \_\_\_\_\_ proved to me on the basis of  
satisfactory evidence to be the person whose name is subscribed to the  
within instrument and acknowledged to me the he/she executed the same in  
his/her authorized capacity, and that by his/her signature on the  
instrument the person, or the entity upon behalf of which the person acted,  
executed the instrument.

WITNESS my hand and official seal.

\_\_\_\_\_  
Notary Public

(SEAL)

\_\_\_\_\_, 1999

Inventor: \_\_\_\_\_  
Michael P. Nesnidal

\_\_\_\_\_, 1999

Inventor: \_\_\_\_\_  
Robert W. Lodenkamper

STATE OF MARYLAND

COUNTY OF Howard

)  
) ss  
)

Dawn C. Milne

On 5 February before me, Lorna L. Schott  
personally appeared Doyle T. Nichols

\_\_\_\_\_ personally known to me -or- \_\_\_\_\_ proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me the he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

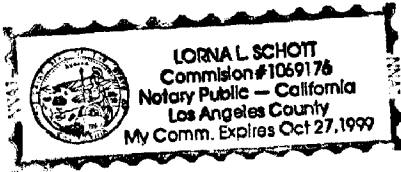
Dawn C. Milne  
Notary Public

(SEAL)

NOTARY PUBLIC STATE OF MARYLAND  
My Commission Expires 11/01/2003

STATE OF CALIFORNIA )  
 ) ss  
COUNTY OF LOS ANGELES )

On February 5, 1999 before me, Lorna L. Schott  
personally appeared Srinath (NMI) Kalluri  
~~personally known to me -or- X~~ proved to me on the basis of  
satisfactory evidence to be the person whose name is subscribed to the  
within instrument and acknowledged to me the he/she executed the same in  
his/her authorized capacity, and that by his/her signature on the  
instrument the person, or the entity upon behalf of which the person acted,  
executed the instrument.



WITNESS my hand and official seal.

*Lorna L. Schott*

Notary Public

(SEAL)

STATE OF CALIFORNIA )  
 ) ss  
COUNTY OF LOS ANGELES )

On February 5, 1999 before me, Lorna L. Schott  
personally appeared Michael G. Wickham  
~~X~~ personally known to me -or- ~~proved to me on the basis of~~  
~~satisfactory evidence~~ to be the person whose name is subscribed to the  
within instrument and acknowledged to me the he/she executed the same in  
his/her authorized capacity, and that by his/her signature on the  
instrument the person, or the entity upon behalf of which the person acted,  
executed the instrument.



WITNESS my hand and official seal.

*Lorna L. Schott*

Notary Public

(SEAL)



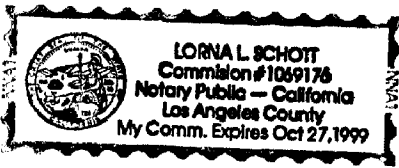
STATE OF CALIFORNIA )  
 ) ss  
COUNTY OF LOS ANGELES )

On February 5, 1999 before me, Lorna L. Schott  
personally appeared Timothy A. Vang

~~personally known to me~~ -or- ~~X~~ proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me the he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Lorna L. Schott  
Notary Public



(SEAL)

STATE OF WISCONSIN )  
 ) ss  
COUNTY OF )

On \_\_\_\_\_ before me, \_\_\_\_\_  
personally appeared Michael P. Nesnidal  
\_\_\_\_\_ personally known to me -or- \_\_\_\_\_ proved to me on the basis of

satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me the he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

\_\_\_\_\_  
Notary Public

STATE OF CALIFORNIA )  
 ) ss  
COUNTY OF LOS ANGELES )

On \_\_\_\_\_ before me, \_\_\_\_\_  
personally appeared Timothy A. Vang  
\_\_\_\_\_ personally known to me -or- \_\_\_\_\_ proved to me on the basis of  
satisfactory evidence to be the person whose name is subscribed to the  
within instrument and acknowledged to me the he/she executed the same in  
his/her authorized capacity, and that by his/her signature on the  
instrument the person, or the entity upon behalf of which the person acted,  
executed the instrument.

WITNESS my hand and official seal.

\_\_\_\_\_  
Notary Public

(SEAL)

STATE OF WISCONSIN )  
 ) ss  
COUNTY OF DANE )

On 2/5/99 before me, Edward W. Slotten  
personally appeared Michael P. Nesnidal  
 personally known to me -or- \_\_\_\_\_ proved to me on the basis of  
satisfactory evidence to be the person whose name is subscribed to the  
within instrument and acknowledged to me the he/she executed the same in  
his/her authorized capacity, and that by his/her signature on the  
instrument the person, or the entity upon behalf of which the person acted,  
executed the instrument.

WITNESS my hand and official seal.

Edward W. Slotten  
Notary Public

STATE OF CALIFORNIA

)

) ss

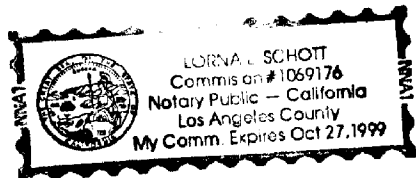
COUNTY OF LOS ANGELES

)

On February 5, 1999 before me, Lorna L. Schott  
personally appeared Robert W. Lodenkamper

~~personally known to me~~ -or-  proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me the he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.



Lorna L. Schott  
Notary Public