02-22-1999 FOF √ PTO-1595 R SHEET U.S. DEPARTMENT OF COMMERCE OMB No. 0651-0071 (exp. 4/94) ILY Patent and Trademark Office Tab settings ⇒ ⇒ ⇒ ▼ 100970663 To the Honorable Commissions cord the attached original documents or copy thereof. 2. Name and address of receiving party(ies): 1. Name of conveying party(ies): Doyle T. Nichols Name: TRW Inc. Srinath Kalluri Internal Address: Law Dept. Michael G. Wickham X Yes No Additional name(s) of conveying party(ies) attached? Bldg. E2/6072 3. Nature of conveyance: MRD 2 - 1-98 X Assignment Street Address: One Space Park Security Agreement Change of Name Other City: Redondo Beach State: CA ZIP: 90278 Execution Date: February 5, 1999 Additional name(s) & address(es) attached? ☐ Yes X No 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) X No l Yes Additional numbers attached? 5. Name and address of party to whom correspondence concerning document should be mailed: 6. Total number of applications and patents involved: Name: TRW Inc. Internal Address: Law Dept. Enclosed Bldg. E2/6072 X Authorized to be charged to deposit account Street Address: One Space Park 8. Deposit account number: 20-1515 City: Redondo Beach __ State: CA ZIP: 90278 (Attach duplicate copy of this page if paying y 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 copies is true copy of the original document. February 10, 1999 Michael S. Yatsko Name of Person Signing 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)

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 considerat: | ion, the adequacy and receipt of which | are |
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| hereby acknowledged, we <u>Doyle T.</u> | Nichols, Srinath (NMI) Kalluri, Micha | <u>el</u> |
| G. Wickham, Timothy A. Vang, Micha | ael P. Nesnidal, and Robert W. | |
| <u>Lodenkamper</u> respectively, of <u>Ell</u> | licott City, Maryland; Culver City, | |
| California; Rancho Palos Verdes, (| California; San Dimas, California; | |
| Madison, Wisconsin and Rancho Pal | | |
| do hereby sell and assign to TRW 1 | Inc., One Space Park, Redondo Beach, | |
| California, an Ohio corporation, | its successors and assigns, the entire | |
| right, title and interest in and t | to the improvements in HIGH POWER SING | GLE |
| MODE SEMICONDUCTOR LASERS AND OPTI | | |
| | by us, as described in the application | for |
| United States Patent which we exec February 5, 1999, February 5, 1999 | February 5, 1999, February 5, 1999 | |
| rebruary 5, 1999 | and February 5, 1999 | |
| and any and all applications for p | patent and patents therefore in any and | d |
| all countries, including all divi | isions, reissues, continuations, and | |
| extensions thereof, and the right | to claim the priority date of the first | st |
| filed application in the United St | tates, and authorize and request any | |
| official whose duty it is to issue | e patents, to issue any patent on said | |
| improvements or resulting thereir | om to said TRW Inc., or its successors | or |
| assigns, and agree that on request | t and without further consideration, by | ut |
| at the expense of TRW Inc., we will | II communicate to TRW inc. or its | |
| representatives or nominees any fa | acts known to us respecting said | |
| execute all divisional continuing | egal proceeding, sign all lawful papers g, and reissue applications, make all | s, |
| rightful oatha and generally do a | everything possible to aid TRW Inc., is | |
| | to obtain and enforce proper patent | LS |
| protection for said invention in a | | |
| | f() a f' f() | |
| 5 FEBRUALY, 1999 | Inventor: Wayler William | |
| | Doyle f. Nichols | |
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| , 1999 | Inventor: | |
| | Srinath (NMI) Kalluri | |
| | | |
| , 1999 | Inventor: | |
| | Michael G. Wickham | |
| | | |
| 1000 | Inventor | |
| , 1999 | Inventor: | |

ASSIGNMENT

| For valuable consideration, the adequacy and receipt of which are |
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| hereby acknowledged, we <u>Doyle T. Nichols, Srinath (NMI) Kalluri, Michael</u> |
| 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: |
| Feb 5, 1999 Inventor: Sminath Kalluri Srinath (NMI) Kalluri |
| Feb 5, 1999 Inventor: Michael G. Wickham |
| Tib. 5, 1999 Inventor: Janoby A. Vang |

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| Feb. 5 , 1999 | Inventor: | |
| | | Michael P. Nesnidal |
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| , 1999 | Inventor: | |
| | inventor: | Robert W. Lodenkamper |
| | | Robert W. Hodenkamper |
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| On | before me, | Lorna L. Schott |
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| | Notary Pul | olic |

| , 1999 | Inventor: | Michael P. Nesnidal |
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| | | Michael P. Nesnidal |
| Feb 05, 1999 | Inventor: | Robert W. Lodenkamper |
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| , 1999 | Inventor: | Michael P. Nesnidal |
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| , 1999 | Inventor: | Robert W. Lodenkamper |
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| | Notary Public |

COUNTY OF LOS ANGELES

On Following 199 before me, 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,

LORNAL SCHOTT
Commis on #1069176
Notary Public - California
Las Angeles County
My Comm. Expires Oct 27,1999

executed the instrument.

WITNESS my hand and official seal.

Notary Public

PATENT REEL: 9763 FRAME: 0666

RECORDED: 02/10/1999