| F6III F10-1393   | -20-2002 U.S. DEPARTMENT OF COMM  |
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| (Rev. 03/01) OMB No. 0651-0027 (exp. 5/31/2002)  | U.S. Patent and Trademark   |
| ▼-t  |   |
| To the Honorable Commissioner of Patents and Tradel  | 2203107 original documents or copy thereof.   |
| Name of conveying party(ies):  | Name and address of receiving party(ies)  |
| Christopher W. Walker Holly C. Osborne   |   |
| Holly C. Osborne   | Internal Address: Space & Electronics   |
|  |   |
| Additional name(s) of conveying party(ies) attached?   | No  |
| Nature of conveyance:  |   |
| Assignment   | Chroat Address. One Space Ports E2/6051   |
| ☐ Security Agreement ☐ Change of Na  | Street Address: One Space Park, E2/6051   |
| ☐ Other  |   |
|  | City: Redondo Beach State: CA Zip: 902  |
|  |   |
| Execution Date: October 18, 2001   | Additional name(s) & address(es) attached?   Yes  |
| 4. Application number(s) or patent number(s):  |   |
| If this document is being filed together with a new  | w application, the execution date of the application is:  |
| A. Patent Application No.(s)   | B. Patent No.(s)  |
| 10/000,650 (filed 10/23/2001)  |   |
| Additional num   | bers attached? 🖵 Yes 🏝 No   |
| <ol><li>Name and address of party to whom correspondence concerning document should be mailed:</li></ol>   | ence 6. Total number of applications and patents involved   |
| Name:Patent Counsel  | 7. Total fee (37 CFR 3.41)\$\frac{40.00}{20.00}   |
| Internal Address: TRW Inc.   | ☐ Enclosed  |
| Space & Electronics  | Authorized to be charged to deposit account   |
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| 002 TBIAZ1 00000016 201515 10000650  | 8. Deposit account number:  |
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| 002 TBIAZ1 00000016 201515 10000650  Sa1 40.00 CH  City: Redondo Beach State: CA Zip 90278  DO NO  9. Statement and signature.   | 8. Deposit account number:  20-1515  (Attach duplicate copy of this page if paying by deposit account number:         |
| O02 TBIAZ1 O0000016 201515 10000650  Sa1 40.00 CH  City: Redondo Beach State: CA Zip: 90278  DO NO  9. Statement and signature.  To the best of my knowledge and belief, the foreg | 8. Deposit account number:  20-1515  (Attach duplicate copy of this page if paying by deposit account number:         |

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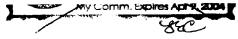
For valuable consideration, the adequacy and receipt of which are hereby acknowledged, we <u>Christopher W. Walker and Holly C. Osborne</u> respectively, of Stevenson Ranch, California and Redondo Beach, California do hereby sell and assign to TRW Inc., One Space Park, Redondo Beach, California, an Ohio corporation, its successors and assigns, the entire right, title and interest in and to the improvements in IMPROVED CONSTELLATION MAPPING FOR MODULATED COMMUNICATIONS which has been invented by us, as described in the application for United States Patent which we executed respectively, on July 17, 2002, and October 18, 2001, and any and all applications for patent and patents therefor 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. 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 countries.

July 17, 2002

Inventor: Christopher W. Walker

October 18, 2001

Inventor: Tholly C. Osborne
Holly C. Osborne



Notary Public

(SEAL)

STATE OF CALIFORNIA

)ss

LYNN E CABILES

Comm. Busines Apr 7, 2004

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PTO/SB/21 (08-00)

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| Application Number     | 10/000,650   |
| Filing Date            | October 23, 2001   |
| First Named Inventor   | Christopher W. Walker  |
| Group Art Unit         | N/A  |
| Examiner Name          | Unassigned   |
| Attorney Docket Number | 12 1244  |

|   |  |       | ENCLOSURES (check  | all t     | hat apply)  |  |
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| Affidavits/de   | eclaration(s)                              | نِــا | Potition to Convert to a<br>Provisional Application                  |           | Status Letter   |  |
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| Signature   | Avel 7                                     | 1/4   | al   |           |   |  |
| Date  | 8/13/02                                    | ,     |  | - <u></u> |   |  |
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