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U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

OMB NO. 0551- 011 (0xp. 4/94) TRW DOCKET 100941230 as⇒⇒⇒▼NO. 35-0012 ▼ To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof. 1. Name of conveying party(ies): George C. Hughes, 2. Name and address of receiving party(ies) Michael J. Wehner, Mark L. Hanson, D. Hobson TRW Inc. Lane, Paul A. Lavoie, Warren H. Taylor, Name: Bryan H. Kang, Paul (NMI) Steiner, Arnold J. Law Dept. Galloway, Michael S. Busby
Additional name(s) of conveying pany(les) attached?

Yes XX No Internal Address: Bldg. E2/6072 MRD 10.26.98 3. Nature of conveyance: One Space Park XX Assignment □ Merger Street Address: □ Security Agreement ☐ Change of Name ZIP: 90278 Redondo Beach Other __ Execution Date: 8/17/98, 8/18/98 and 10/16/98 Additional name(s) & address(es) attached? O Yes XX No. 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: A. Patent Application No.(s) B. Patent No.(s) 09/135,884, filed Aug. 18, 1998 Additional numbers attached?

Yes No 6. Total number of applications and patents involved: 5. Name and address of party to whom correspondence concerning document should be mailed: Patent Counsel TRW Inc. Name: 7. Total fee (37 CFR 3.41)..........\$______ Internal Address: Law Dept. C Enclosed Bldg. E2/6072 Authorized to be charged to deposit account Street Address: One Space Park 8. Deposit account number: 20-1515 City: Redondo Beach State: CA (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

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

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ASSIGNMENT

For valuable consideration, the adequacy and receipt of which are hereby acknowledged, we George C. Hughes, Michael J. Wehner, Mark L. Hanson, D. Hobson Lane, Paul A. Lavoie, Warren H. Taylor, Bryan H. Kang, Paul (NMI) Steiner, Arnold J. Galloway, and Michael (NMI) Busby, respectively, of Manhattan Beach, California; Hawthorne, California; Rancho Palos
Redondo Beach, California; La Mirada. California; Rancho Palos
Verdes, California; Los Angeles, California; and Hawthorne, 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 METHOD AND SYSTEM
FOR SPACE NAVIGATION 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.

Aug 17, 1998.	1998	Inventor:	George C. Hughes
	1998	Inventor:	Mulaco J Wenner
August 17	1998	Inventor:	Mark D. Hanson
August 17	1998	Inventor:	D. Hobson Lane

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AJgus / , 1998	Inventor: Youl U. Lavrie
August 17, 1998	Inventor: Warren H. Taylor
August 17, 1998	Inventor: Sugan hus tand
AUGUST 17, 1998	Inventor: faul Steiner Paul (NMI) Steiner
AUGUST 18, 1998	Inventor: July Julianos
Octobe, 1t , 1998	Inventor: Michael (Not) Busby
	51/mg
STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss)
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KATHLEEN R. TAIT Commission # 1133065

WITNESS my hand and official seal.

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES)
on August 17, 1998 before me, Kathleen R. Tait personally appeared Michael J. Wehner
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. KATHLEEN R. TAIT Commission # 1133065 Notary Rubic — Conformic Los Angeles County
Notary Rubic Conformic Los Argeles Courty My Comm. Expires Acré, 2001 Notary Public (SEAL)
STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES)
on August 1,1998 before me, Kathleen R. Tait personally appeared Mark L. Hanson personally known to me -or proved to me on the basis of
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.
KANLEEN R. TAIT Commission # 1133045 Notary Rubic — Contornia Los Angeles County My Comm. Expires Apr 6, 2001 Kaltleen R. Taut Notary Public

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES)
on August 17, 1998 before me, Kathleen R. Tait personally appeared D. Hobson Lane 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.
KATHLEEN R. TAIT Commission # 1133068 Noticy Public — Cottomic Los Angeles County My Comm. Expires Apr 6, 2001 WITNESS my hand and official seal. WITNESS my hand and official seal. WITNESS my hand and official seal.
(SEAL)
STATE OF CALIFORNIA) COUNTY OF LOS ANGELES)
On August 17, 1998 before me, Kathleen R. Tait personally appeared Paul A. Lavoie 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.
KATHLEEN R. TAIT Commission # 1133065 Noticy Public — Conformic Los Angeles County My Comm. Expires Apr 6, 2001 Kathleen R. Tait WITNESS my hand and official seal. WITNESS my hand and official seal.
Notary Public (SEAL)

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On Avacst 17, 1998 before me, Kathleen R. Tait personally appeared Warren H. Taylor — 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. On Avacst 17, 1998 before me, Kathleen R. Tait personally appeared Bryan H. Kang 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,		
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(SEAL) STATE OF CALIFORNIA COUNTY OF LOS ANGELES On AUGUST 17, 1998 Defore me, Kathleen R. Tait personally appeared Bryan H. Kang 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. WITNESS my hand and official seal. WITNESS my hand and official seal.	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	
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KATHLEEN R. TAIT Commission # 1133066	my hand and official seal. Heen R. Tait Public
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STATE OF CALIFORNIA)	
COUNTY OF LOS ANGELES)	
on August 18, 1998 before me, personally appeared Arnold J. Gallowa	Kathleen R. Tait
personally known to me -or- prestisfactory evidence to be the person whe within instrument and acknowledged to me his/her authorized capacity, and that by instrument the person, or the entity upon executed the instrument.	oved to me on the basis of ose name is subscribed to the the the he/she executed the same in his/her signature on the
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KAPILEEN R. TAIT Commission # 1133065 Notary Public — Colfornio Los Argeles County My Comm. Expires Apr 4, 2001 Notary	Meen R. Tait

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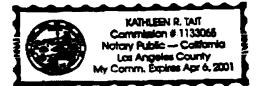
COUNTY OF LOS ANGELES

Kathleen R. Tait

before me,

personally appeared MichaelS.(NMI) Busby

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.

een R. Tait