Form PTO-1595



U.S. DEPARTMENT OF COMMERCE

| (Rev. 03/01) | 905144 U.S. Patent and Trademark Office | | | |
|---|---|--|--|--|
| Tab settings | V V V | | | |
| To the Honorable Commissioner of Patents and Tradema | rks: Please record the attached original documents or copy thereof. | | | |
| 1. Name of conveying party(ies): | Name and address of receiving party(ies) | | | |
| Parthasarathy Ramanujam, Albert E. | Name: The Boeing Company | | | |
| Lyerly, Brian M. Park, Hussain Haddad, Laurston C. Wah | Internal Address: | | | |
| | . n | | | |
| Additional name(s) of conveying party(ies) attached? Yes Yes | No | | | |
| 3. Nature of conveyance: | | | | |
| Assignment | Street Address: 100 North Riverside Plaza | | | |
| Security Agreement | e | | | |
| Other | | | | |
| | City: Chicago State: IL Zip: 606060 | | | |
| Execution Date: | Additional name(s) & address(es) attached? 📮 Yes 🙀 No | | | |
| 4. Application number(s) or patent number(s): | | | | |
| If this document is being filed together with a new a | pplication, the execution date of the application is: | | | |
| A. Patent Application No.(s) | B. Patent No.(s) | | | |
| | rs attached? • Yes • No | | | |
| Additional number | | | | |
| 5. Name and address of party to whom corresponden | ce 6. Total number of applications and patents involved: 1 | | | |
| concerning document should be mailed: | 7. Total fee (37 CFR 3.41)\$_40.00 | | | |
| Name:Kevin G. Mierzwa | _ ☑ Enclosed | | | |
| Internal Address: | | | | |
| | Authorized to be charged to deposit account | | | |
| | a. D. sait account number: | | | |
| 20222 Tolegraph Road | 8. Deposit account number: | | | |
| Street Address: 28333 Telegraph Road | | | | |
| Suite 250 | | | | |
| City: Southfield State: MI Zip: 48034 | (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 | | | | |
| is a true copy of the original document. Kevin G. Mierzwa | 1/19/01 | | | |
| Name of Person Signing | Signatute | | | |
| Total number of pages including cover sheet, attachments, and documents: | | | | |

Mail documents to be recorded with required o

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Commissioner of Patents & Trademarks, Box Assignments Washington, D.C. 20231

PATENT REEL: 012326 FRAME: 0429

ASSIGNMENT

Page 1 of 4 PD-00-392

| WHEREAS, I, as below named sole inventor (if only one name is listed below) or joint inventor | (if plural names |
|---|------------------|
| are listed below) of the city and state as stated below next to my name, have invented a Sub | -Reflector For |
| Dual-Reflector Antenna System for which application for Letters Patent of the United St | ates has beer |
| executed by me on this day, or (if the following is completed) filed on | _ as Serial No |
| ; and | |

WHEREAS, The Boeing Company. (hereinafter referred to as BOEING), a Delaware Corporation, having its principal place of business in Chicago, Illinois, with a mailing address of 100 North Riverside Plaza, Chicago, Illinois 60606-1596, is desirous of acquiring the entire and exclusive right, title and interest in, to and under said invention, said application and any and all Letters Patent that may be granted therefor in the United States and throughout the world;

NOW, THEREFORE, in consideration of the obligations voluntarily assumed by me and set forth in an invention agreement between me and my employer, effective the date as stated below next to my name, and other good and valuable consideration, receipt of which is hereby acknowledged. I do hereby sell, assign and transfer to BOEING, its successors, assigns or other legal representatives, the entire and exclusive right, title and interest in and to said invention invented by me, to said application and any and all applications which are continuations, continuations-in- part, divisions or substitutes of said application and any and all Letters Patent that may be granted therefor in the United States and throughout the world on any of said applications and to any and all reexaminations, reissues, renewals or extensions of said Letters Patent in the United States and throughout the world for the full term or terms for which said Letters patent may be granted in the United States and throughout the world; authorize and request The Commissioner of Patents and Trademarks of the United States and all foreign countries to issue all such Letters Patent to said BOEING, its successors, assigns or other legal representatives; covenant that no assignment, sale, agreement, transfer or encumbrance has been, or will be, made or entered into which would conflict with this assignment, sale and transfer; and agree to communicate to BOEING, its successors, assigns or other legal representatives, upon request and at no cost or expense to me, any facts known by me respecting said Invention, do all lawful acts, including the execution and delivery of all papers and proper oaths and giving of testimony that is deemed necessary or desirable by BOEING, its successors, assigns or other legal representatives with regard to said invention for protecting, obtaining, maintaining and enforcing any and all of said letters Patent in the United States and throughout the world for said invention and for perfecting, affirming, recording and maintaining the title of BOEING, its successors, assigns or other legal representatives, and generally cooperate to the fullest extent in all matters pertaining to said invention, and any and all of said Letters Patent and the title thereto in BOEING, its successors, assigns or other legal representatives.

PATENT 682:60 1002-10-^0N
REEL: 012326 FRAME: 0430

| IN WITNESS WHEREOF, I have execute | d this instrument. | |
|---|--|---|
| FULL NAME OF SOLE OR JOINT INVENTOR | INVENTOR'S SIGNATURE | DATE |
| Parthasarathy Ramanujam | Partheraneth henevy | 10/25/01 |
| RESIDENCE (CITY AND STATE) | | INVENTION AGREEMENT DATE |
| 2601 Fisk Lane, Redondo Beach, CA 90 5417, CARMELYNN STY | 278 TORRANCE CA-90503 | 7(26)89 |
| STATE OF <u>California</u> COUNTY OF <u>Los Angeles</u> |))))) | |
| On 10-25-01 befo | ore mo. Kathleen M. Motta | |
| me or proved to me on the basis subscribed to the within instrument a | sonally appeared Parthasarathy Ramanuj of satisfactory evidence to be the person and acknowledged to me that he/she/that d that by his/hen/their signature(a) on the in h(a) acted, executed the instrument. | n(s) whose name(s) is/are ey executed the same in |
| WITNESS my hand and official sea | Notary P | Malla |
| KATHLEEN M. MOTTA Commission # 1192701 Notary Public - California Los Angeles County My Comm. Expires Aug 8, 2002 | | |
| FULL NAME OF SOLE OR JOINT INVENTOR | Wentor's SIGNATURE What E. Lyeny | 30 od 2001 |
| Albert E. Lyerly | - Carret 21 - Fe - 27 | INVENTION AGREEMENT DATE |
| RESIDENCE (CITY AND STATE) 1700 Victoria Drive, Fullerton, CA 9283 | -3024 | |
| STATE OF <u>California</u> COUNTY OF <u>Los Angeles</u> |)) SS: | |
| ta da as bot | ore me, Kathleen M. Motta, A | stary', |
| a Notary Public in and for said State, p | personally appeared Albert E. Lyerly, D pry evidence to be the person(s) whose name or me that he/she/they executed the same signature(s) on the instrument the person(s) | ne(s) is/are subscribed to the |
| WITNESS my hand and official se | eal. Kathleen N | 1.Molla |
| KATHLEEN M. MOTTA Commission # 1192701 Notary Public - California Las Angeles County And Courses Explains \$110.8 | Notary | PATENT |

PATENT wd87:60 1007-10-40N REEL: 012326 FRAME: 0431

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| FULL NAME OF SOLE OR JOINT INVENTOR | INVENTOR'S SIG | INATURE | | DATE |
|--|----------------|-----------------|------------------|--------------------|
| Brian M. Park | Bin | Pach | | 10/25/01 |
| RESIDENCE (CITY AND STATE) | | - Jan | INVENT | ION AGREEMENT DATE |
| 23518 Anza Avenue C, Torrance, CA 905 | 0 5 | | | |
| | | | | |
| STATE OF <u>California</u> COUNTY OF <u>Los Angeles</u> | | _) } | | |
| COUNTY OF Los Angeles | | , 33. .) | | |
| On 10-25-01 before | eme, Kath | ileen M.K | 10Ha | |
| a Notary Public in and for said State, personally appeared Brian M. Park. personally known to me or proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/shc/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument. | | | | |
| WITNESS my hand and official seal. | |) | | |
| | | Ch+llo | Notary Public | atta |
| KATHLEEN M. MOTTA Commission # 1192701 Notary Public - Californic Los Angeles County My Comm. Expires Aug 8, 20 | | | Notary Public | |
| FULL NAME OF SOLE OR JOINT INVENTOR | INVENTOR'S SIG | | _ | DATE |
| Hussain Haddad | Aussa | in Hadd | .ad | 10/25/2001 |
| RESIDENCE (CITY AND STATE) | | | INVENT | ON AGREEMENT DATE |
| 3909 S. Sepulveda Boulevard #409, Los A | ngeles, CA 900 |)49 | | |
| | | | | |
| STATE OF <u>California</u>) SS: COUNTY OF <u>Los Angeles</u> | | | | |
| 3 | | | | |
| on 10-25-01 before me, Kathleen M. Motta | | | | |
| 011 | | - Ulivaania Had | Had nersonally | y known to me or |
| a Notary Public in and for said State, personally appeared Hussain Haddad, personally known to me or a notary Public in and for said State, personally appeared Hussain Haddad, personally known to me or a notary Public in and for said State, personally appeared Hussain Haddad, personally known to me or a notary personally known to me or a notary subscribed to the person of the personally known to me or a notary subscribed to the personally known to me or a notary subscribed to the personally known to me or a notary subscribed to the personally known to me or a notary subscribed to the personally known to me or a notary subscribed to the personally known to me or a notary subscribed to the personally known to me or a notary subscribed to the personally known to me or a notary subscribed to the personally known to me or a notary subscribed to the personally known to me or a notary subscribed to the personally known to me or a notary subscribed to the personally known to me or a notary subscribed to the personally known to me or a notary subscribed to the personally known to me or a notary subscribed to the personally known to me or a notary subscribed to the personally known to me or a notary subscribed to the personally known to me or a notary subscribed to the personal known to me or a notary subscribed to the personal known to me or a notary subscribed to the personal known to me or a notary subscribed to the personal known to me or a notary subscribed to the personal known to me or a notary subscribed to the personal known to me or a notary subscribed to the personal known to me or a notary subscribed to the personal known to me or a notary subscribed to the personal known to me or a notary subscribed to the personal known to me or a notary subscribed to the personal known to me or a notary subscribed to the personal known to the persona | | | | |
| WITNESS my hand and official seal | l. | Sotlle | Notary Public | lla |
| KATHLEEN M. MOITA Commission # 1 192701 Notary Public - California Los Angeles County My Comm. Expires Aug 8, 20 | - | | | |

PATENT_{wd6Z:60 100Z-10-AoN}
REEL: 012326 FRAME: 0432

| FULL NAME OF SOLE OR JOINT INVENTOR | INVENTOR'S SIGNATURE | DATE |
|---|---|--------------------------------------|
| Laurston C. Wah | Javin CWA | 10/30/01 |
| RESIDENCE (CITY AND STATE) | | INVENTION AGREEMENT DATE |
| 2601 404 S. Prospect, Manhatten Beach, | CA 90266 | |
| STATE OF <u>California</u> COUNTY OF <u>Los Angeles</u> |)) SS: | |
| On | onally appeared Laurston C. Wah, Dpe evidence to be the person(s) whose name e that he/she/they executed the same in hature(s) on the instrument the person(s), | nis/h or/their authorized |
| WITNESS my hand and official sea | Lathlen M Notary | Motta |
| KATHLEEN M. MOTTA Commission # 1192701 Notary Public - Colifornia Los Angeles County My Comm. Expires Aug 8, 20 | | |