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| 981624 PD-204062 ad original documents or copy thereof. | |
| 2. Name and address of receiving party(ies): | |
| Name: The DIRECTV Group, Inc. Internal Address: RE/R11/A109 P. O. Box 956 El Segundo, CA 90245-0956 | |
| Street Address: 2250 E. Imperial Highway El Segundo, California 90245 | |
| ☐ Security Agreement ☐ Change of Name ☐ Other Additional name(s) & address(es) attached? ☐ yes tion Date: March 31, 2005 plication number(s) or patent number(s): | |
| lication, the execution date of the application is: March 31, 2005 B. Patent No.(s) | |
| numbers attached? □ yes 图 no | |
| 6. Total number of applications and patents involved: [1] | |
| 7. Total fee (37 CFR 3.41): \$40.00 ☐ Enclosed ☑ Authorized to be charged to deposit account | |
| 8. Deposit account number: | |
| 50-0383 | |
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| g information is true and correct and any attached copy is a true | |
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PATENT

REEL: 016475 FRAME: 0888



ASSIGNMENT

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WHEREAS, I, as below named joint inventor of the city and state as stated below next to my name, have invented a NARROW BANDWIDTH SIGNAL DELIVERY SYSTEM for which application for Letters Patent of the United States has been executed by me on this day, or (if the following is completed) filed on as Serial No. ______.

WHEREAS, **THE DIRECTV GROUP, INC.**, (hereinafter referred to as **DIRECTV**), a Delaware Corporation, having its principal place of business in El Segundo, California, 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 DIRECTV, 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 DIRECTV, 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 DIRECTV, 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 DIRECTV, 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 DIRECTV, 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 DIRECTV, its successors, assigns or other legal representatives.

> PATENT REEL: 016475 FRAME: 0889

IN WITNESS WHEREOF, I have executed this instrument.

RECORDED: 04/01/2005

| FULL NAME OF SOLE OR JOINT INVENTOR | INVENTOR'S SIGNATURE | DATE | |
|---|--|-------------------|--|
| Thomas H. James | | manch 31,200 | |
| RESIDENCE (CITY AND STATE) 1010 Fiske Street Pacific Palisades, California 90272 | | | |
| FULL NAME OF SOLE OR JOINT INVENTOR | INVENTOR'S SIGNATURA | DATE | |
| Dipak M. Shah | Rahshah | mar 31,200 | |
| RESIDENCE (CITY AND STATE) 8666 Brooke Avenue Westminster, California 92683 | | | |
| FULL NAME OF SOLE OR JOINT INVENTOR | INVENTOR'S SIGNATURE | DATE | |
| RESIDENCE (CITY AND STATE) | | <u> </u> | |
| FULL NAME OF SOLE OR JOINT INVENTOR | INVENTOR'S SIGNATURE | DATE | |
| RESIDENCE (CITY AND STATE) | ! | <u></u> | |
| FULL NAME OF SOLE OR JOINT INVENTOR | INVENTOR'S SIGNATURE | DATE | |
| RESIDENCE (CITY AND STATE) | | | |
| STATE OFCALIFORNIA) | | | |
| COUNTY OF LOS ANGELES |) SS:) | | |
| On March 31, 2005 before | e meJANET_E. SHIBATA | | |
| a Notary Public in and for said State, person THOMAS H. JAMES and | | | |
| name(s) is/are subscribed to the within ins | o me on the basis of satisfactory evidence to be the trument and acknowledged to me that he/she/they and that by his/her/their signature(s) on the instrume(s) acted, executed the instrument. | executed the same | |
| WITNESS my hand and official seal | Janut E. Sa | ihb | |
| JANET E SHIBATA COMM, # 1487989 NOTARY PUBLIC-CALIFORNIA LOS ANGELES COUNTY () COMM. EXP. MAY 4, 2008 | Notary Public | | |

PATENT REEL: 016475 FRAME: 0890