PATENT ASSIGNMENT COVER SHEET

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------------------|----------------|
| STEVEN MICHAEL CASAGRANDE | 08/05/2015 |
| CHRISTOPHER BOYD TIRPAK | 08/05/2015 |

RECEIVING PARTY DATA

| Name: | ECHOSTAR TECHNOLOGIES L.L.C. | |
|-----------------|------------------------------|--|
| Street Address: | 100 INVERNESS TERRACE EAST | |
| City: | ENGLEWOOD | |
| State/Country: | COLORADO | |
| Postal Code: | 80112 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 14818860 |

CORRESPONDENCE DATA

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Email: jslate@merchantgould.com **Correspondent Name:** MERCHANT & GOULD P.C.

Address Line 1: P.O. BOX 2903

Address Line 4: MINNEAPOLIS, MINNESOTA 55402-0903

| ATTORNEY DOCKET NUMBER: | 40706.0019US01 | |
|-------------------------|----------------------------|--|
| NAME OF SUBMITTER: | ANDREW T. POUZESHI, #67672 | |
| SIGNATURE: | /Andrew T. Pouzeshi/ | |
| DATE SIGNED: | 10/06/2016 | |

Total Attachments: 2

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PATENT 504038897 REEL: 039954 FRAME: 0513

ASSIGNMENT

WHEREAS, we, Steven Michael Casagrande and Christopher Boyd Tirpak, made certain new and useful inventions and improvements for which we filed an application with the United States Patent and Trademark Office on August 5, 2015, which is entitled HYBRID ELECTRONIC PROGRAM GUIDE.

The undersigned hereby authorizes and requests Assignee's legal representatives of Merchant & Gould P.C., who are associated with Customer No. 23552, to insert herein in parenthesis (U.S. Patent Application Serial No. 14/818,860 , filed on August 5, 2015 this application's serial number and filing date when known.

AND WHEREAS, EchoStar Technologies L.L.C., a limited liability company organized and existing under and by virtue of the laws of the State of Texas, and having an office and place of business at 100 Inverness Terrace East, Englewood, CO 80112 (hereinafter "Assignee") is desirous of acquiring the entire right, title and interest in and to said inventions, improvements and application and in and to the Letters Patent to be obtained therefor;

NOW THEREFORE, to all whom it may concern, be it known that for and in consideration of the sum of One Dollar and other good and valuable considerations, the receipt and sufficiency whereof is hereby acknowledged, we have sold, assigned, and transferred, and by these presents do sell, assign and transfer unto said Assignee, its successors or assigns, the entire right, title and interest for all countries in and to all inventions and improvements disclosed in the aforesaid application, and the right(s) to claim priority thereto, and in and to the application, all patent applications based upon said application, all divisions, continuations, or renewals thereof, all Letters Patent which may be granted therefrom, and all reissues or extensions of such patents, and in and to any and all applications which have been or shall be filed in any foreign countries for Letters Patent on the inventions and improvements, including an assignment of all rights under the provisions of the International Convention, and all Letters Patent of foreign countries which may be granted therefrom; and we do hereby authorize and request the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent for the aforesaid

PATENT REEL: 039954 FRAME: 0514 inventions and improvements to the Assignee as the assignee of the entire right, title and interest in and to the same, for the use of the Assignee, its successors and assigns.

AND, for the consideration aforesaid, we do hereby agree that we and our executors and legal representatives will make, execute and deliver any and all other instruments in writing including any and all further application papers, affidavits, assignments and other documents, and will communicate to said Assignee, its successors and representatives all facts known to us relating to said improvements and the history thereof and will testify in all legal proceedings and generally do all things which may be necessary or desirable more effectually to secure to and vest in said Assignee, its successors or assigns the entire right, title and interest in and to the improvements, inventions, applications, Letters Patent, rights, titles, benefits, privileges and advantages hereby sold, assigned and conveyed, or intended so to be.

AND, furthermore we covenant and agree with said Assignee, its successors and assigns, that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by us and that full right to convey the same as herein expressed is possessed by us.

| IN TESTIMONY V | VHEREOF, I have hereunto set my hand this day of |
|----------------|--|
| 1 , 2015. | |
| * | Shih Ca |
| | Steven Michael Casagrande |
| | |
| IN TESTIMONY V | VHEREOF, I have hereunto set my hand this 5 day of |
| August, 2015. | |
| | UCBALLA DE |
| | Christopher Boyd Tirpak |
| | <i>{</i> |