PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JOHN L. NORIN	05/29/2014
ROBERT F. POPOLI	10/24/2013
DIPAK M. SHAH	10/24/2013

RECEIVING PARTY DATA

Name:	The DIRECTV Group, Inc.	
Street Address:	et Address: 2230 E. Imperial Highway	
City:	El Segundo	
State/Country:	CALIFORNIA	
Postal Code:	90245	

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	13923996	

CORRESPONDENCE DATA

Fax Number: (310)964-0941

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: janet.shibata@directv.com

Correspondent Name: THE DIRECTV GROUP, INC.

Address Line 1: 2230 E. IMPERIAL HIGHWAY

Address Line 2: CA/LA5/A109

Address Line 4: EL SEGUNDO, CALIFORNIA 90245

ATTORNEY DOCKET NUMBER:	PD-212009
NAME OF SUBMITTER:	JANET SHIBATA
SIGNATURE:	/Janet Shibata/
DATE SIGNED:	05/29/2014

Total Attachments: 3

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PATENT 502828690 REEL: 032986 FRAME: 0189



ASSIGNMENT

WHEREAS, JOHN L. NORIN, ROBERT F. POPOLI and DIPAK M. SHAH, as below named joint inventors of the city and state as stated below next to our names, have invented a(an) ROTATION POINTED ANTENNA FOR FIXED WIRELESS WIDE AREA NETWORKS for which application for Letters Patent of the United States was filled on June 21, 2013 as U.S. Patent Application Serial No. 13/923,996, and which application is a continuation-in-part of U.S. Patent Application Serial Nos. 12/797,412 filled June 9, 2010 and 12/797,570 filled June 9, 2010.

WHEREAS, The DIRECTV Group, Inc. (hereinafter referred to as the "Company"), a Delaware Corporation, having its principal place of business in El Segundo, California, is desirous of acquiring the entire and exclusive right, little and interest in, to and under said invention, said application and any and all Letters Patent that may be granted therefore in the United States and throughout the world;

NOW, THEREFORE, in consideration of the obligations voluntarily assumed by us and set forth in invention agreements between us and our employer, affective the date as stated below next to our names, and other good and valuable consideration, receipt of which is hereby acknowledged, we do hereby sell, assign and transfer to the Company, its successors, assigns or other legal representatives, the entire and exclusive right, title and interest in and to said invention invented by us, 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 therefore 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 Company, 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 the Company, its successors, assigns or other legal representatives, upon request and at no cost or expense to us, any facts known by us 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 the Company, 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 the Company, 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 the Company, its successors, assigns or other legal representatives.

> PATENT REEL: 032986 FRAME: 0190

IN WITNESS WHEREOF, we have executed this instrument.

	FULL NAME OF SOLE OR JOINT INVENTOR	LINVENTOR'S SIGNATURE	DATE			
	JOHN L. NORIN	4 July	9/29/2014			
	RESIDENCE (CITY AND STATE)	1	7 7 7			
	Redondo Beach, California					

	FULL NAME OF SOLE OR JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE			
	ROBERT F. POPOLI	VX-A. J. Park	10/24/2013			
	RESIDENCE (CITY AND STATE)					
	Rancho Palos Verdes, California	·				
	FULL NAME OF SOLE OR JOINT INVENTOR	LINVENTOR'S SIGNATURE	DATE			
	DIPAK M. SHAH	1 2746/11 (1661)	OCE, 24,2013			
-delease	RESIDENCE (CITY AND STATE)		had been been been been been been been bee			
-	Westminster, California					
	STATE OF CALIFORNIA					
) SS:					
	COUNTY OF LOS ANGELES)					
	on May 29, 2014 before me	, Janet E. Shibata, a Notary Public in and	for said State			
	personally appeared JOHN L. NORIN, who 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/she/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.					
	I certify under PENALTY OF PERJURY under the	e laws of the State of California that the for	regaing			
	paragraph is true and correct.					
	WITNESS my hand and official seal.	promise and the second				
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		/ Notary Public	(annual annual a			
		Same.				



STATE OF CALIFORNIA

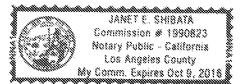
) SS:

COUNTY OF LOS ANGELES

On October 24, 2013 before me, Janet E. Shibata, a Notary Public in and for said State, personally appeared ROBERT F. POPOLI, who 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/she/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.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Notary Public

STATE OF CALIFORNIA

) SS:

COUNTY OF LOS ANGELES

On October 24, 2013, before me, Janet E. Shibata, a Notary Public in and for said State, personally appeared DIPAK M. SHAH, who 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/she/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.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Notary Public - California Los Angeles County My Comm. Expires Oct 9, 2016

JANET E. SHIBATA Commission # 1990823 Notary Public

PATENT REEL: 032986 FRAME: 0192

RECORDED: 05/29/2014