

# PATENT ASSIGNMENT

Electronic Version v1.1

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
Robert F. Popoli	01/06/2010
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	The DIRECTV Group, Inc.
<b>Street Address:</b>	2230 E. Imperial Highway
<b>City:</b>	El Segundo
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	90245
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	12683270
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(310)964-0941
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>	
<b>Email:</b>	janet.shibata@directv.com
<b>Correspondent Name:</b>	The DIRECTV Group, Inc.
<b>Address Line 1:</b>	2230 E. Imperial Highway
<b>Address Line 2:</b>	CA/LA1/A109
<b>Address Line 4:</b>	El Segundo, CALIFORNIA 90245
<b>ATTORNEY DOCKET NUMBER:</b>	PD-208066
<b>NAME OF SUBMITTER:</b>	Janet Shibata
<b>Total Attachments: 2</b> source=PD-208066-ASN#page1.tif source=PD-208066-ASN#page2.tif	

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**PATENT**  
**REEL: 023744 FRAME: 0818**



## ASSIGNMENT


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PD-208066

WHEREAS, I, ROBERT F. POPOLI, as below named sole inventor, of the city and state as stated below next to my name, have invented a(an) **FREQUENCY DRIFT ESTIMATION FOR LOW COST OUTDOOR UNIT FREQUENCY CONVERSIONS AND SYSTEM DIAGNOSTICS** for which application for Letters Patent of the United States has been executed by me on this day, filed on January 6, 2010 as Serial No. 12/683,270; and which application claims benefit of U.S. provisional application Serial No. 61/142,865 filed on January 6, 2009.

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 therefore 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.

IN WITNESS WHEREOF, I have executed this instrument.

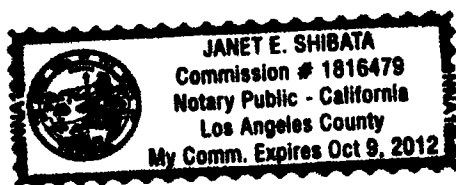
FULL NAME OF SOLE OR JOINT INVENTOR	INVENTOR'S SIGNATURE	DATE
ROBERT F. POPOLI		1/6/2010
RESIDENCE (CITY AND STATE)		
Rancho Palos Verdes, California		


STATE OF CALIFORNIA )  
 ) SS:  
COUNTY OF LOS ANGELES )

On January 6, 2010, 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