### PATENT ASSIGNMENT

# Electronic Version v1.1

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SUBMISSION TYPE:	IISSION TYPE: NEW ASSIGNMENT				
NATURE OF CONVEYANCE:	EYANCE: ASSIGNMENT				
CONVEYING PARTY DATA					
	Name Execution Date				
The DIRECTV Group, Inc.		05/12/2009			
RECEIVING PARTY DATA					
Name: The DIRECTV	Group, Inc.				
Street Address: 2230 E. Imperi					
City: El Segundo					
State/Country: CALIFORNIA					
Postal Code: 90245					
Name: DTVG Licensir	ng, Inc.				
Street Address: 2230 E. Imperi	2230 E. Imperial Highway				
Internal Address: CA/LA1/A109					
City: El Segundo					
State/Country: CALIFORNIA					
Postal Code: 90245					
PROPERTY NUMBERS Total: 1					
Property Type		Number			
Application Number: 1	2753528				
CORRESPONDENCE DATA					
Fax Number: 31096409	941				
Correspondence will be sent via US N	lail when the fax attempt is ເ	insuccessful.			
	ata@directv.com				
-	CTV Group, Inc.				
Address Line 1: 2230 E. Ir Address Line 2: CA/LA1/A	mperial Highway				
	do, CALIFORNIA 90245				
ATTORNEY DOCKET NUMBER:	PD-204040A	DATENT			
502106970	I	<u>PATENT</u> REEL: 029190 FRAME: 0689			

#### Total Attachments: 5

source=Confirmatory Assignment of Patents from The DIRECTV Group to DTVG Licensing#page1.tif source=Confirmatory Assignment of Patents from The DIRECTV Group to DTVG Licensing#page2.tif source=Confirmatory Assignment of Patents from The DIRECTV Group to DTVG Licensing#page3.tif source=Confirmatory Assignment of Patents from The DIRECTV Group to DTVG Licensing#page4.tif source=Confirmatory Assignment of Patents from The DIRECTV Group to DTVG Licensing#page4.tif

#### CONFIRMATORY ASSIGNMENT OF PATENTS

WHEREAS, The DIRECTV Group, Inc., a Delaware corporation having a place of business at 2230 East Imperial Highway, El Segundo, California 90245 ("<u>Assignor</u>"), was the owner of the patent registrations and patent applications listed on <u>Schedule A</u> hereto (the "<u>Assigned Patents</u>");

WHEREAS, by contractual agreement effective on or about August 14, 2008 Assignor assigned to DTVG LICENSING, INC., a California corporation having a place of business at 2230 East Imperial Highway, El Segundo, California 90245 ("<u>Assignee</u>"), certain assets including Assignor's right, title and interest in and to the Assigned Patents, as further specified below; and

WHEREAS, Assignor desires to confirm the sale, assignment, transfer and conveyance of such right, title and interest in and to the Assigned Patents, as further specified below, to Assignee.

NOW, THEREFORE, for good and valuable consideration provided by Assignee, the receipt of which is hereby acknowledged, Assignor hereby confirms the sale, assignment, transfer and conveyance to Assignee of Assignor's right, title and interest in and to the Assigned Patents, and all Letters Patent of The United States of America and any foreign jurisdictions which may be granted thereon, and any continuations, continuations-in-part, reissues, reexaminations, extensions or the like subsequently arising therefrom, all subject to certain retained rights and other exceptions as set forth in associated contractual agreements between Assignor and Assignee.

IN WITNESS WHEREOF, the undersigned have caused this instrument to be signed as of this <u>12th</u> day of <u>May</u> 2009.

On behalf of: The DIRECTV Group, Inc.

Z-D.M

Name: Larry D. Hunter

Title: Executive Vice President

Page 1 of 2

PATENT REEL: 029190 FRAME: 0691

#### ACKNOWLEDGEMENT

STATE OF	California	)	
		)	SS:
COUNTY OF	Los Angeles	)	

On <u>May 12, 2009</u>, before me, Janet E. Shibata, a Notary Public in and for said State, personally appeared LARRY D. HUNTER, 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

Page 2 of 2

# SCHEDULE A to CONFIRMATORY ASSIGNMENT OF PATENTS

### PATENTS

Country	Patent Number	Issue Date	Title
US	7,161,988	Jan 09 2007	METHOD AND APPARATUS FOR MINIMIZING CO-CHANNEL INTERFERENCE
US	7,234,098	Jun 19 2007	METHOD AND APPARATUS FOR PROVIDING REDUCED MEMORY LOW DENSITY PARITY CHECK (LDPC) CODES
US	7,237,174	Jun 26 2007	METHOD AND SYSTEM FOR PROVIDING SHORT BLOCK LENGTH LOW DENSITY PARITY CHECK (LDPC) CODES IN SUPPORT OF BROADBAND SATELLITE APPLICATIONS
US	7,296,208	Nov 13 2007	METHOD AND SYSTEM FOR GENERATING PARALLEL DECODABLE LOW DENSITY PARITY CHECK (LDPC) CODES
US	7,334,181	Feb 19 2008	METHOD AND SYSTEM FOR PROVIDING SHORT BLOCK LENGTH LOW DENSITY PARITY CHECK (LDPC) CODES
US	7,369,633	May 06 2008	METHOD AND APPARATUS FOR PROVIDING CARRIER SYNCHRONIZATION IN DIGITAL BROADCAST AND INTERACTIVE SYSTEMS
US	7,376,883	May 20 2008	METHOD AND SYSTEM FOR PROVIDING LONG AND SHORT BLOCK LENGTH LOW DENSITY PARITY CHECK (LDPC) CODES
US	7,403,574	Jul 22 2008	SIMPLIFIED SCRAMBLING SCHEME FRO SATELLITE BROADCASTING SYSTEMS
US	7,430,396	Sep 30 2008	ENCODING LOW DENSITY PARITY CHECK (LDPC) CODES THROUGH AN LDPC DECODEI
US	7,461,325	Dec 02 2008	METHOD AND SYSTEM FOR PROVIDING SHORT BLOCK LENGTH LOW DENSITY PARITY CHECK (LDPC) CODES IN SUPPORT OF BROADBAND SATELLITE APPLICATIONS
US	7,483,496	Jan 27 2009	METHOD AND SYSTEM FOR PROVIDING LONG AND SHORT BLOCK LENGTH LOW DENSITY PARITY CHECK (LDPC) CODES

## SCHEDULE A to CONFIRMATORY ASSIGNMENT OF PATENT APPLICATIONS

PENDING APPLICATIONS

atent Applicat Country	Patent Application Number	Filing Date	Title
US	10816385	Apr 01 2004	FRAMING STRUCTURE FOR DIGITAL BROADCASTING AND INTERACTIVE SERVICES
US	10819668	Apr 07 2004	METHOD AND APPARATUS FOR PROVIDING SIGNAL ACQUISITION AND FRAME SYNCHRONIZATION IN A HIERARCHICAL MODULATION SCHEME
US	11009333	Dec 10 2004	METHOD AND APPARATUS FOR MINIMIZING CO-CHANNEL INTERFERENCE BY SCRAMBLING
US	11201796	Aug 11 2005	CODE DESIGN AND IMPLEMENTATION IMPROVEMENTS FOR LOW DENSITY PARITY CHECK CODES FOR MULTIPLE-INPUT MULTIPLE-OUTPUT CHANNELS
US	11449912	Jun 09 2006	METHOD AND APPARATUS FOR MINIMIZING CO-CHANNEL INTERFERENCE
US	11805616	May 24 2007	METHOD AND APPARATUS FOR PROVIDING REDUCED MEMORY LOW DENSITY PARITY CHECK (LDPC) CODES
US	11937997	Nov 09 2007	METHOD AND SYSTEM FOR PROVIDING SHORT BLOCK LENGTH LOW DENSITY PARITY CHECK (LDPC) CODES
US	11938095	Nov 09 2007	METHOD AND SYSTEM FOR GENERATING PARALLEL DECODABLE LOW DENSITY PARITY CHECK (LDPC) CODES
US	12079377	Mar 26 2008	METHOD AND APPARATUS FOR PROVIDING CARRIER SYNCHRONIZATION IN DIGITAL BROADCAST AND INTERACTIVE SYSTEMS
US	12186485	Aug 05 2008	ENCODING LOW DENSITY PARITY CHECK (LDPC) CODES THROUGH AN LDPC DECODE

# SCHEDULE A to CONFIRMATORY ASSIGNMENT OF PATENT APPLICATIONS

### PENDING APPLICATIONS

Country	Patent Application Number	Filing Date	Title
US	12252216	Oct 15 2008	METHOD AND SYSTEM FOR PROVIDING SHORT BLOCK LENGTH LOW DENSITY PARITY CHECK (LDPC) CODES IN SUPPORT OF BROADBAND SATELLITE APPLICATIONS
US	12355694	Jan 16 2009	METHOD AND SYSTEM FOR PROVIDING LONG AND SHORT BLOCK LENGTH LOW DENSITY PARITY CHECK (LDPC) CODES

3 of 3

# PATENT REEL: 029190 FRAME: 0695

RECORDED: 10/25/2012