

PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

EPAS ID: PAT3852614

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
Name		Execution Date
FRANCE BREVET		02/29/2016
RECEIVING PARTY DATA		
Name:	HARMONIC INC.	
Street Address:	4300 NORTH FIRST STREET	
City:	SAN JOSE	
State/Country:	CALIFORNIA	
Postal Code:	95134	
PROPERTY NUMBERS Total: 17		
Property Type	Number	
Patent Number:	7971220	
Patent Number:	8437403	
Patent Number:	6654416	
Patent Number:	7379604	
Patent Number:	8335234	
Patent Number:	7907666	
Patent Number:	6108351	
Patent Number:	5793426	
Patent Number:	6243495	
Patent Number:	7561568	
Patent Number:	8464308	
Patent Number:	8879893	
Application Number:	14433401	
Application Number:	14651772	
Application Number:	14338591	
Application Number:	14310047	
Application Number:	14906081	
CORRESPONDENCE DATA		
Fax Number:	(609)454-3597	
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent</i>		
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using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Email: tehrhart@meagheremanuel.com
Correspondent Name: MEAGHER EMANUEL LAKS GOLDBERG & LIAO
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NAME OF SUBMITTER:	TAMMY EHRHART
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SIGNATURE:	/Tammy Ehrhart/
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DATE SIGNED:	04/29/2016
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Total Attachments: 7

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ASSIGNMENT OF PATENT RIGHTS

This Assignment of Patent Rights is made from **FRANCE BREVETS**, a company duly organized and existing under the laws of France, registered under n° 531 129 195 RCS Paris and having its registered office at 47, rue de la Victoire, 75009 Paris, represented by Jean-Charles Hourcade duly empowered to that effect ("**Transferring Party**"), to **HARMONIC INC.**, a corporation organized under the laws of the State of Delaware (United States of America), having its registered office at 4300 North First Street, San Jose, CA 95134, United States of America duly represented by Mr. Patrick Harshman ("**Transferee**").

Capitalized terms used herein but not defined herein shall have the meanings set forth in the Agreement.

WHEREAS, Transferring Party and Kepler have entered into an Agreement dated as of December 9, 2015, for the transfer by the Transferring Party to the Transferee of Transferred Intellectual Property (as defined in the Agreement); and

WHEREAS, in connection with the Agreement, the Transferring Party desires to assign and transfer to the Transferee, and the Transferee desires to acquire, all of the Transferring Party's right, title and interest in and to the patents and patent applications, and the inventions claimed therein, set forth in Schedule 1 hereto (collectively, the "**Patent Rights**").

NOW THEREFORE, for good and valuable consideration, including the execution of the Agreement by Kepler, the receipt and sufficiency of which are hereby acknowledged, the Transferring Party and the Transferee are entering into this Assignment of Patent Rights ("**Assignment of Patent Rights**") and hereby agree as follows:

1. Assignment of Patent Rights. Subject to existing rights and licenses (and associated obligations) of third parties, the Transferring Party does hereby sell, assign, transfer and convey unto the Transferee or its designees, (i) all of the Transferring Party's right, title and interest in and to the said Patent Rights, and all inventions claimed therein, including without limitation, all rights of the Transferring Party to collect royalties under such Patent Rights (ii) any patent, registration, or certificate of invention issuing on, granted for or as a result thereof, (iii) all priority rights, convention rights and other benefits accruing or to accrue with respect to the filing of applications or patents or the issuance of patents in all countries in respect of the said Patent Rights, including the right to claim the priority from the Patent Rights and applications as provided by the Paris Convention of 1883, (iv) any and all counterpart United States, international and foreign patents, applications and certificates of invention based upon or covering any portion of the said Patent Rights, and (v) any reissue, re-examination, divisional, renewal, extension, continuation or continuation-in-part of the said Patent Rights; the same to be held and enjoyed by the Transferee, its successors, assigns, nominees or legal representative thereof, to the full end of the term or terms for which said patents respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by the Transferring Party had this assignment, sale and transfer not been made.

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With respect to any of the Patent Rights which have lapsed or have been abandoned, and are consequently no longer in force, and for which further proceeding, restitution proceeding, appeal or any other recourse before a patent office or a court of law is no longer available ("**Lapsed Patent Rights**"), subject to existing rights and licenses (and associated obligations) of third parties, the Transferring Party does hereby sell, assign, transfer and convey unto the Transferee or its designees, all of the Transferring Party's right, title and interest in and to the Lapsed Patent Rights and all causes of action and enforcement rights for the Lapsed Patent Rights, including all rights to pursue damages, injunctive relief and other remedies for past infringement of the Lapsed Patent Rights.

With respect to the Patent Rights which are not Lapsed Patent Rights, the Transferring Party further agrees to and hereby does sell, assign, transfer and convey unto the Transferee all right, title and interest the Transferring Party has: (i) in and to all causes of action and enforcement rights, whether currently pending, filed, or otherwise, for such Patent Rights which are not Lapsed Patent Rights, and all inventions claimed therein, including without limitation all rights to pursue damages, injunctive relief and other remedies for past, current and future infringement of such Patent Rights which are not Lapsed Patent Rights, and (ii) to apply in any or all countries of the world for patents, certificates of invention or other governmental grants for such Patent Rights which are not Lapsed Patent Rights, including without limitation under the Paris Convention for the Protection of Industrial Property, the International Patent Cooperation Treaty, or any other convention, treaty, agreement or understanding.

The Transferring Party also hereby authorizes the respective patent office or governmental agency in each jurisdiction to issue any and all patents or certificates of invention which may be granted upon any of the Patent Rights in the name of the Transferee, as the assignee to the entire interest therein.

2. Further Cooperation. At the reasonable written request of the Transferee, the Transferring Party will endeavor to execute and deliver such other documents and/or instruments as may be reasonably necessary or desirable for the Transferee to effect completely the consummation of the transactions contemplated hereby, including without limitation for the Transferee to obtain and properly record all previously executed assignments for the Patents Rights and Abandoned Patent Rights, as necessary to fully perfect its rights and title therein in accordance with governing law and regulations in each respective jurisdiction, including, without limitation, cooperating fully with the Transferee to perfect the transfer of the Patent Rights and Abandoned Patent Rights hereunder.

3. Effective Date. This Assignment of Patent Rights shall come into force on the date of signature by the Transferring Party hereto.

4. Governing Law. This Assignment of Patent Rights shall be subject to, governed by and construed in accordance with the laws of France, without giving effect to its conflicts of law provisions.

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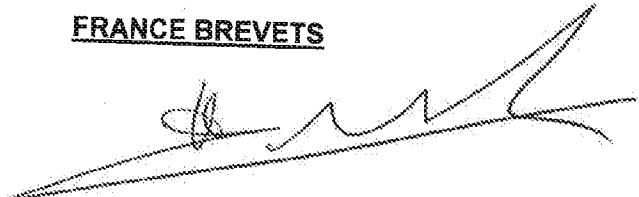
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5. Successors and Assigns. The terms and conditions of this Assignment of Patent Rights shall be binding on, and shall inure to the benefit of, the parties hereto and their respective successors and assigns.

IN WITNESS WHEREOF, the Transferring Party and the Transferee have caused this Assignment of Patent Rights to be executed by its authorized representative on the date entered hereinbelow.

TRANSFERRING PARTY:

FRANCE BREVETS



By: President

Name: Jean-Charles Hourcade

Date: February 29th, 2016

En accord avec les termes de l'acte
présent, le C.C.
procède à la
empêcher
addition et
à la détermination

TRANSFEREE:

HARMONIC INC.



By: President and Chief Executive Officer

Name: Patrick Harshman

Date: February 29th, 2016

Schedule 1:

Patents Rights

Patent No.	Patent No.	Title	Inventor(s)	Cy	Patent No.	Filing Date	Publication No.	Grant Date
TBM02004	063125 US	SYSTEM, METHOD, COMPUTER PROGRAM PRODUCT, AND APPARATUS FOR AUTOMATICALLY ENSURING CONSISTENCY BETWEEN PROGRAM AND SYSTEM INFORMATION PROTOCOL TABLES AND PROGRAM SPECIFIC INFORMATION TABLES IN A DIGITAL TELEVISION STREAM	Frédéric Bernard GRENIER et alii	US	US10/424749	29/04/03		US7971220 28/06/11
TBM03002	063224 FR	METHOD AND SYSTEM FOR MONITORING MULTIMEDIA FILES	JACQUES LE MANCQ; THIERRY FILOCHE; HERVE CONGARD; Frédéric LE MOINE	FR	FR0313050	06/11/03	FR2862146	FR0313050 01/04/11
PF050002	067755 US	DEVICE AND METHOD FOR ANALYSING IMAGES BY CALCULATING THE VARIANCE OF EACH PIXEL OF A HIGH FREQUENCY IMAGE	Jean-Yves BABONNEAU et alii	US	US11/324857	04/01/06	US2006-0176958	US8437403 07/05/13
PF990006	067764 US	DEVICE AND PROCESS FOR REGULATING BIT RATE IN SYSTEM FOR THE STATISTICAL MULTIPLEXING OF IMAGE STREAMS CODED ACCORDING TO THE MPEG2 CODING	Patrice ALEXANDRE et alii	US	US09/520205	07/03/00		US6654416 25/11/03
PF010105	067766 WO US	Device and process for coding video images by motion compensation	Patrice ALEXANDRE et alii	US	US10/488920	22/08/02		US7379604 27/05/08
PF080131	067778 US	SYNCHRONISED CONTROL METHOD OF A PLURALITY OF FORMATTING EQUIPMENT AND STREAMFORMATTING EQUIPMENT	Stéphane FILLOD et alii	US	US12/589471	23/10/09	US2010/0103955	US8335234 18/12/12
PF020010	067782 WO US	DEVICE AND METHOD FOR RECORDING A VIDEO DATA STREAM	Xavier DUCLOUX et alii	US	US10/504105	10/02/03	US2005/0254791	US7907666 15/03/11
PF950049	067783 WO US	NON LINEARITY ESTIMATION DEVICE AND METHOD	Patrick HARDY et alii	US	US08/875318	07/11/95		US6108351 22/08/00
GVC02108	067788 US	VIDEO COMPRESSION ENHANCEMENT	Philip CROSBY et alii	US	US08/669064	24/06/96		US5793426 11/08/98
GVC02129	067790 US	METHOD A GROUP OF PICTURE STRUCTURE IN MPEG VIDEO	Thumpudi NAVEEN et alii	US	US09/023805	13/02/98		US6243495 05/06/01
PF040099	067800 US	DEVICE AND METHOD FOR MULTIPLEXING ASSOCIATED WITH A CODING DEVICE	Jean-Luc SOULARD et alii	US	US11/154915	16/06/05	US2006/0002410	US7561568 14/07/09
PF080062	067801 US	METHOD FOR PROCESSING A CHANNEL REQUEST IN AN IPTV SYSTEM	Patrick LE PRINCE et alii	US	US12/455932	08/06/09	US2010/0100913	US8464308 11/06/13

Patent	Applicant	Title	Inventor(s)	Cy	Pub No	Pub Date	Publication No	Grant No	Grant Date
PF080094	067803 WO US	SCRAMBLING AND DESCRAMBLING METHOD FOR THE TRANSPORT OF MPEG2 AUDIO VIDEO DATA STREAMS	Pascal GRAVOILLE	US	US12/737299	29/06/09	US2011-0158609	US8879893	04/11/14

Patent	Applicant	Title	Inventor(s)	Cy	Pub No	Pub Date	Publication No	Grant No	Grant Date
PATEN00000188	068107 FR	METHOD FOR FORMATTING A VIDEO STREAM FOR MOBILE TERMINALS	MARC COGNAULT; Franck LE MOUËL; Jean-Yves QUINTARD	FR	FR1202664	05/10/12	FR2996707	FR1202664	28/08/15
PATEN00000188	068107 WO CN			CN	CN201380058979.1	03/10/13	CN104995921A		
PATEN00000188	068107 WO EP			EP	EP13771501.7	03/10/13	EP2904810		
PATEN00000188	068107 WO US			US	US14/433401	03/10/13	US2015-0264409		
PATEN000000203	068473 FR	METHOD FOR DYNAMICALLY ADAPTING ENCODING OF AN AUDIO/VIDEO STREAM TRANSMITTED TO A DEVICE	Xavier DUCLOUX	FR	FR1261932	12/12/12	FR2999373		
PATEN000000203	068473 WO CN			CN	CN201380070080.1	12/12/13	CN104904212A		
PATEN000000203	068473 WO EP			EP	EP13815705.2	12/12/13	EP2932717		
PATEN000000203	068473 WO KR			KR	KR2015-7018625	12/12/13			
PATEN000000203	068473 WO US			US	US14/651772	12/12/13	US2015-0326887		
PATEN000000207	068676 EP	SYSTEM AND METHOD TO TRANSMIT DATA CONTAINING VIDEO STREAMS IN A DEFINED FLOW RATE CHANNEL	MARC COGNAULT; Jean-Pierre MOSSET; Franck LE MOUËL	EP	EP14178047.8	22/07/14	EP2830319		
PATEN000000207	068676 FR			FR	FR1357281	24/07/13	FR3009153	FR1357281	21/08/15
PATEN000000207	068676 US			US	US14/338591	23/07/14	US2015-0029842		
Paten000000208	068677 EP	DEVICE AND METHOD FOR COMPOSING VIDEO PROGRAMS FROM DIFFERENT SOURCES IN BASEBAND	Claude PERRON; Benoît GUERIN; Guillaume CORNARD	EP	EP14173041.6	18/06/14	EP2816808		
Paten000000208	068677 FR			FR	FR1355957	21/06/13	FR3007614	FR1355957	26/06/15
Paten000000208	068677 US			US	US14/310047	20/06/14			
PATEN000000211	068829 FR	METHOD FOR ADAPTATIVE DISTRIBUTION OF MULTIMEDIA STREAMS USING AN ENERGY INDEX	Xavier DUCLOUX; Patrick GENDRON	FR	FR1357127	19/07/13	FR3008838		
PATEN000000211	068829 FR #1			FR	FR1450092	07/01/14	FR3008839		
PATEN000000211	068829 FR #2			FR	FR1452560	26/03/14	FR3008842		
PATEN000000211	068829 WO CN			CN					
PATEN000000211	068829 WO BR			BR	112016001150-3	17/07/14			
PATEN000000211	068829 WO EP			EP	EP14739490.2	17/07/14			
PATEN000000211	068829 WO IN			IN	IN201637001785	17/07/14			
PATEN000000211	068829 WO US			US	US14/906081	17/07/14			
PATEN120	069121 FR	VIDEO SEQUENCE CODING SCHEME WITH A CHANGE IN THE DIVISION OF THE IMAGES TO BE CODED	Stéphane ALLIE; Christophe BERTHELOT; Alain SORIN	FR	FR1456029	27/06/14	FR3023045		
PATEN120	069121 WO			QT	PCT/EP2015/064580	26/06/15	WO2015/197843		
PATEN000000217	069131 EP	AN APPARATUS FOR ENCODING AN ULTRA-HIGH DEFINITION VIDEO SEQUENCE	Nicolas OHLAND; Xavier DUCLOUX	EP	EP14305200.9	14/02/14	EP2908524		
PATEN000000217	069131 WO			QT	PCT/EP2015/052225	03/02/15	WO2015/121112		
PATEN000000217	069131 EP HK			HK	HK16101878.7	19/02/16			

Patent No.	Pub. No.	Title	Inventor(s)	App. No.	Pub. Date	Pub. No.	App. No.	Pub. Date
PATEN00000215	069190 FR	VIDEO SEQUENCE CODING SCHEME COMPRISING A LOAD BALANCING MECHANISM	Marc AMSTOUTZ; Bruno GUESDON; Nicolas KERMEN	FR	FR1456030	27/06/14	FR3023046	
PATEN00000216	069191 FR	VIDEO SEQUENCE CODING SCHEME USING ENLARGED CODING AREAS	Xavier DUCLOUX; Frédéric LANDAIS	FR	FR1455104	05/06/14	FR3022053	
PATEN00000216	069191 WO			QT	PCT/EP2015/062612	05/06/15	WO2015/185742	
PATEN00000219	059357 FR	METHOD FOR CONTROLLING PRESENTATION OF SUB-TITLES	Xavier BESNARD; Michel JOUAN	FR	FR1458793	17/09/14		
PATEN00000219	069357 WO			QT	PCT/EP2015/070829	11/09/15		
PATEN00000218	069358 FR	METHOD FOR CONTROLLING SUB-TITLES DISPLAY VELOCITY	Xavier BESNARD; Michel JOUAN	FR	FR1458794	17/09/14		
PATEN00000218	069358 WO			QT	PCT/EP2015/070841	11/09/15		
PATEN00000223	069639 EP	ADAPTIVE RESOLUTION VIDEO DECODER	Patrick GENDRON; Xavier DUCLOUX; Claude PERRON	EP	EP15305190.9	10/02/15		
Patent 220	069665 EP	SYSTEM FOR MANAGING INTERACTIONS BETWEEN A PLURALITY OF PERSONS AND OBJECTS	Eric AUFFRET	EP	EP15305503.3	03/04/15		
PATEN00000229	069708 EP	A METHOD AND DEVICE FOR JUST-IN-TIME TRANSCODING	Claude PERRON; Marc AMSTOUTZ; Stéphane ALLIE	EP	EP15305550.4	14/04/15		
PATEN232	069943 EP	METHOD FOR DETERMINING A COMPUTING CAPACITY OF ONE OF A PHYSICAL OR A VIRTUAL MACHINE	Eric LE BARS; Arnaud MAHE; Christophe BERTHELOT; David HENRY	EP	EP15306385.4	11/09/15		
PATEN233	069944 EP	A PROGRAM, DEVICE AND METHOD FOR DISPATCHING THE PROCESSING OF A COMPUTER PROCESS AMONGST A PLURALITY OF VIRTUAL MACHINES	Eric LE BARS; Arnaud MAHE; David HENRY	EP	EP15306393.8	11/09/15		
PATEN234	69445 EP	OPTIMIZATION OF AV FILE TRANSCODING IN VIRTUAL MACHINES	Eric LE BARS; Arnaud MAHE; David HENRY	EP	EP15307158.4	29/12/15		
PATEN235	69446 EP	DYNAMIC PROVISIONING OF RESOURCES FOR AUDIOVISUAL TRANSCODING	Eric LE BARS; Arnaud MAHE; Christophe BERTHELOT	EP	EP15307162.6	29/12/15		
PATEN241	070025 EP	VIDEO PROCESSING WITH DYNAMIC RESOLUTION CHANGES	Claude PERRON; Patrick GENDRON	EP	EP15306451.4	17/09/15		
PATEN239	070048 EP	MULTI REPRESENTATION EDGE SERVER WITH ENHANCED OPEN-GOP COMPRESSION	Xavier DUCLOUX; Patrick GENDRON; Claude PERRON	EP	EP15306681.6	20/10/15		

Patent No.	App. No.	Title	Inventor(s)	App. No.	App. No.	App. Date	Publication No.	Grant No.	Grant Date
PATEN241	070169 EP	UNCOMPRESSED- COMPRESSED SPACING WITH PICTURE SYNCHRONIZATION	ERIC BARS; Samuel VERMEULEN; Benoit OGIER	EP	EP15307113.9	22/12/15			