

PATENT ASSIGNMENT

Electronic Version v1.1
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SUBMISSION TYPE:	NEW ASSIGNMENT								
NATURE OF CONVEYANCE:	ASSIGNMENT								
CONVEYING PARTY DATA									
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Mustafa Eroz</td> <td>08/16/1999</td> </tr> <tr> <td>A. Roger Hammons Jr.</td> <td>08/16/1999</td> </tr> <tr> <td>Feng-Wen Sun</td> <td>08/13/1999</td> </tr> </tbody> </table>		Name	Execution Date	Mustafa Eroz	08/16/1999	A. Roger Hammons Jr.	08/16/1999	Feng-Wen Sun	08/13/1999
Name	Execution Date								
Mustafa Eroz	08/16/1999								
A. Roger Hammons Jr.	08/16/1999								
Feng-Wen Sun	08/13/1999								
RECEIVING PARTY DATA									
Name:	Hughes Electronics Corporation								
Street Address:	2230 E. Imperial Highway								
City:	El Segundo								
State/Country:	CALIFORNIA								
Postal Code:	90245								
PROPERTY NUMBERS Total: 1									
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>11980917</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	11980917				
Property Type	Number								
Application Number:	11980917								
CORRESPONDENCE DATA									
Fax Number:	(310)964-0941								
Email:	janet.shibata@directv.com								
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>									
Correspondent Name:	The DIRECTV Group, Inc.								
Address Line 1:	2230 E. Imperial Highway								
Address Line 2:	CA/LA1/A109								
Address Line 4:	El Segundo, CALIFORNIA 90245								
ATTORNEY DOCKET NUMBER:	PD-980173D								
NAME OF SUBMITTER:	Janet Shibata								
Total Attachments: 2 source=PD-980173-ASN#page1.tif source=PD-980173-ASN#page2.tif									

CH \$40.00 11980917

ASSIGNMENT

WHEREAS, I, as below named sole inventor (if only one name is listed below) or joint inventor (if plural names are listed below) of the city and state as stated below next to my name, have invented a **Turbo Code Interleaver With Near Optimal Performance** for which application for Letters Patent of the United States has been executed by me on this day, or (if the following is completed) filed on _____ as Serial No. _____; and

WHEREAS, **HUGHES ELECTRONICS CORPORATION**, (hereinafter referred to as **HUGHES**), 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 therefor 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 HUGHES, 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 HUGHES, 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 HUGHES, 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 HUGHES, 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 HUGHES, 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 HUGHES, its successors, assigns or other legal representatives.

IN WITNESS WHEREOF, I have executed this instrument.

FULL NAME OF SOLE OR JOINT INVENTOR Mustafa EroZ	INVENTOR'S SIGNATURE <i>Mustafa EroZ</i>	DATE 8/16/1999
RESIDENCE (CITY AND STATE) Germantown, Maryland		INVENTION AGREEMENT DATE
FULL NAME OF SOLE OR JOINT INVENTOR A. Roger Hammons, Jr.	INVENTOR'S SIGNATURE <i>A. R. Hammons Jr.</i>	DATE 8/16/99
RESIDENCE (CITY AND STATE) North Potomac, Maryland		INVENTION AGREEMENT DATE
FULL NAME OF SOLE OR JOINT INVENTOR Feng-Wen Sun	INVENTOR'S SIGNATURE <i>Feng-Wen Sun</i>	DATE 8-13-99
RESIDENCE (CITY AND STATE) Germantown, Maryland		INVENTION AGREEMENT DATE

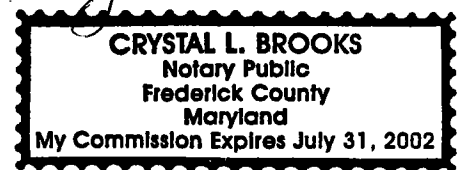
STATE OF Maryland)
COUNTY OF Frederick) SS:

On Aug. 16, 1999 before me, Crystal L. Brooks,
a Notary Public in and for said State, personally appeared Mustafa EroZ and A. Roger Hammons, Jr.

personally known to me or 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.

WITNESS my hand and official seal.

Notary Public Crystal L. Brooks



STATE OF Maryland)
COUNTY OF Frederick) SS:

On Aug. 13, 1999 before me, Crystal L. Brooks,
a Notary Public in and for said State, personally appeared Feng-Wen Sun

personally known to me or 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.

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Notary Public Crystal L. Brooks

