507264789 05/03/2022

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT7311710

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
KAN MAN WONG	04/08/2022
VISHAL NEERALIKE	04/07/2022
SHIQIANG CHU	04/07/2022
ARAM SEMERJYAN	04/08/2022
ANTHONY BOND	04/07/2022
MICHAEL SONG	04/07/2022
ANTHONY KALLAS	04/07/2022
DERICK WONG	04/07/2022

RECEIVING PARTY DATA

Name:	DISH NETWORK L.L.C.	
Street Address:	9601 S. MERIDIAN BLVD.	
City:	ENGLEWOOD	
State/Country:	COLORADO	
Postal Code:	80112	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17735851

CORRESPONDENCE DATA

(303)291-2400 Fax Number:

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PERKINS COIE LLP **Correspondent Name:** P.O. BOX 1247 Address Line 1:

Address Line 4: SEATTLE, WASHINGTON 98111-1247

ATTORNEY DOCKET NUMBER: 120299-8014.US01	
NAME OF SUBMITTER:	SHANNON SERRANO
SIGNATURE: /Shannon Serrano/	

PATENT REEL: 059801 FRAME: 0490

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DATE SIGNED:	05/03/2022
Total Attachments: 10	
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PATENT REEL: 059801 FRAME: 0491

ASSIGNMENT AND AGREEMENT IN AN APPLICATION FOR LETTERS PATENT OF THE UNITED STATES OF AMERICA

WHEREAS, Manuel Novoa III, Kan Man Wong, Vishal Neeralike, Shiqiang Chu, Aram Semerjyan, Anthony Bond, Michael Song, Anthony Kallas and Derick Wong (hereinafter, singularly and collectively "Assignor") has solely and/or have jointly (as appropriate) invented and/or discovered certain new and useful invention, process, machine, manufacture, or composition of matter, or any new and useful improvement in an invention as described in an application for Letters Patent entitled "METHODS AND SYSTEMS FOR DISCOVERY OF A PROCESSING OFFLOADER" filed in and/or with the United States Patent and Trademark Office on December 23, 2019, and which has been assigned Application Serial Number 16/726,094 and which is further identified by the DISH Docket No. set forth above (hereinafter, the "Invention"); and

WHEREAS, DISH Network, L.L.C., a limited liability company organized and existing under the laws of the State of Colorado, United States of America and having a principal place of business of 9601 S. Meridian Blvd., Englewood, Colorado 80112 (hereinafter, the "Assignee") desires to acquire all rights, title and interest in and to the Invention, including, but not limited to, all rights, title and interest in and to past, present and future damages, injunctive relief and to any and all other additional rights, title, interest, relief and/or remedies granted by any legislative, judicial, quasi-judicial, administrative or other body, or otherwise; and

WHEREAS, Assignor, to the extent they own any right, title and interest in and to the Invention are desirous of assigning any and all such rights, title and/or interest to Assignee.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Assignor hereby sells, assigns, transfers and sets over unto Assignee and its legal representatives, successor and assigns, the entire right, title and interest, including any all rights in and/or to past, present and future damages, injunctive relief and/or any other remedy and relief granted by a legislative, judicial, quasi-judicial or administrative body, in and to said Invention, said application, for any and all non-provisional, national, international, foreign, and regional applications corresponding and/or claiming priority thereto, any divisions, continuations, continuation-in-parts, reissues, reexaminations, renewals, and extensions thereof, and the Letters Patent, both foreign and domestic, that may or shall issue thereon, and does request the Commissioner of Patents to issue said Letters Patent to the Assignee, consistent with the terms of this agreement.

Assignor hereby authorizes Assignee to insert in this instrument the filing date and Application Serial Number in the above fields if not already present at the time of execution of this instrument.

Assignor hereby declares that he/she is the sole inventor (if only one inventor is named herein) or an original, first and joint inventor (if plural inventors are named herein) of the Invention. UPON SAID CONSIDERATION, Assignor hereby covenants and agrees with Assignee that they will not execute any writing or do any act whatsoever conflicting with these presents, and agrees that, when requested, he/she will, without charge to Assignee but at its expense, execute such additional assignments, declarations and other writings and do such additional acts as said

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Assignee may deem necessary or desirable to perfect the Assignee's enjoyment of this grant, and render all necessary assistance in making application for and obtaining original, continuation, continuation-in-part, divisional, renewal, reissued or extended Letters Patent of the United States, or of any and all foreign countries, on said invention, and in enforcing any rights or chooses in action accruing as a result of such applications or patents, by giving testimony in any proceedings or transactions involving such applications or patents, and by executing preliminary statements and other affidavits, it being understood that the foregoing covenant and agreement shall bind, and inure to the benefit of, the assigns and legal representatives of both parties.

Assignor agrees that he/she will communicate to Assignee or its representatives any facts known to Assignor respecting said inventions within a reasonable time of discovering or coming into possession of the same.

Assignor authorizes and empowers Assignee, its successors, assigns or nominees, to make application for patent or other form of protection for said inventions in its or their own name, or in Assignor's name, in any and all countries to invoke and claim for any application for patent or other form of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from me.

Assignor hereby consent that a copy of this Assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document which may be required in any country for any purpose and more particularly in proof of the right of Assignee or its successors, assigns or nominees to apply for patent or other proper protection for said inventions, and to claim the aforesaid benefits of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it.

Assignor covenants with Assignee, its successors, assigns, legal representatives, and nominees, that to the best of Assignor's knowledge the right, title and interest herein conveyed are free and clear of any encumbrance, and that Assignor has the full right to convey the same as herein expressed.

This Agreement and Assignment supersedes all other assignments, agreements and addendums related to the above-identified application.

JOINT Inventor (1):	Manuel Novoa III Name of inventor Date	(Signature in Full)
JOINT Inventor (2):	Kan Man Wong Name of inventor Date	(Signature in Full)
JOINT Inventor (3):	Vishal Neeralike Name of inventor Date	(Signature in Full)
JOINT Inventor (4):	Shiqiang Chu Name of inventor Date	(Signature in Full)
JOINT Inventor (5):	Aram Semerjyan Name of inventor OTA OR - Z-2 Date	(Signapare in Full)

JOINT Inventor (1):	Manuel Novoa III Name of inventor	(Signature in Full)	
	Date		
JOINT Inventor (2):	Kan Man Wong Name of inventor	(Signature in Full)	
	Date		
JOINT Inventor (3):	Vishal Neeralike Name of inventor	(Signature in Full)	
	04/07/2022 Date	_	
JOINT Inventor (4):	Shiqiang Chu Name of inventor	(Signature in Full)	
	Date		
JOINT Inventor (5):	Aram Semerjyan Name of inventor	(Signature in Full)	
	Date	<u> </u>	

JOINT Inventor (1):	Manuel Novoa III	
	Name of inventor	(Signature in Full)
	Date	
JOINT		
Inventor (2):	Kan Man Wong	
	Name of inventor	(Signature in Full)
	Date	
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Inventor (3):	Vishal Neeralike	
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Inventor (4):	Shiqiang Chu	======================================
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	4/7/2022 Date	
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JOINT Inventor (5):	Aram Semerjyan	
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	Date	

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Inventor (6):	Anthony Bond	
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	4/7/22	
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JOINT	Service of Service	
Inventor (7):	Michael Song	
	Name of inventor	(Signature in Full)
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JOINT	A 3323 35". 38	
Inventor (8):	Anthony Kallas Name of inventor	20 20 31
	INDING OF HINGHOU	(Signature in Full)
	Date	
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JOINT		
Inventor (9):	Derick Wong	
aruma (yy	Name of inventor	(Signature in Full)
		(anguman in a ma)
	Date	
ASSIGNEE:		
energy and the call.	DISH Network L.L.C.	
	Name of Assignce	Max Gratton
	Section 2010 Committee Com	Director & Senior Corporate Counsel, IP
	Date	

JOINT Inventor (6):	Anthony Bond Name of inventor	(Signature in Full)
	Date	
JOINT Inventor (7):	Michael Song Name of inventor 04/07/2022 Date	Mingris Song (Signature in Full)
JOINT Inventor (8):	Anthony Kallas Name of inventor Date	(Signature in Full)
JOINT Inventor (9):	Derick Wong Name of inventor Date	(Signature in Full)
ASSIGNEE:	DISH Network L.L.C. Name of Assignee	Max Gratton Director & Senior Corporate Counsel, IP
	Date	

JOINT		
Inventor (6):	Anthony Bond Name of inventor	(Signature in Full)
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JOINT		
Inventor (7):	Michael Song	
	Name of inventor	(Signature in Full)
	Date	
JOINT		Author Kalla
Inventor (8):	Anthony Kallas Name of inventor	Anthony Kallas (Signature in Full)
	Name of inventor	(Signature at I-un)
	04/07/2022	
	Date	
JOINT		
Inventor (9):	Derick Wong	
	Name of inventor	(Signature in Full)
	Date	
ASSIGNEE:		
	DISH Network L.L.C.	_
	Name of Assignee	Max Gratton Director & Senior Corporate Counsel, IP
		
	Date	

JOINT Inventor (6):	Anthony Bond Name of inventor	(Signature in Full)
	Date	
JOINT Inventor (7):	Michael Song	
	Name of inventor	(Signature in Full)
	Date	
JOINT Inventor (8):	Anthony Kallas Name of inventor	(Signature in Full)
	Date	
JOINT Inventor (9):	Derick Wong	Rudeh Jorg (Signature in Full)
	Name of inventor $\frac{4/1/2022}{\text{Date}}$	(Signature in Full)
ASSIGNEE:	DISH Narroccel J. J. C.	
	DISH Network L.L.C. Name of Assignee	Max Gratton Director & Senior Corporate Counsel, IP
	Date	

Page 4 of 4

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JOINT Inventor (6):	Anthony Bond Name of inventor Date	(Signature in Full)
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JOINT Inventor (7):	Michael Song Name of inventor	(Signature in Full)
	Date	
JOINT Inventor (8):	Anthony Kallas Name of inventor	(Signature in Full)
	Date	
JOINT Inventor (9):	Derick Wong Name of inventor	(Signature in Full)
	Date	
ASSIGNEE:	DISH Network L.L.C. Name of Assignee 4/11/2022 Date	Max Gratton Director & Senior Corporate Counsel, IP