

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5886872

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST
CONVEYING PARTY DATA	
Name	Execution Date
TIME WARNER CABLE ENTERPRISES, LLC	12/09/2019
CHARTER COMMUNICATIONS OPERATING, LLC	12/09/2019
RECEIVING PARTY DATA	
Name:	WELLS FARGO TRUST COMPANY, N.A.
Street Address:	299 SOUTH MAIN STREET
Internal Address:	5TH FLOOR
City:	SALT LAKE CITY
State/Country:	UTAH
Postal Code:	84111
PROPERTY NUMBERS Total: 191	
Property Type	Number
Application Number:	16380795
Application Number:	16115976
Application Number:	16525436
Application Number:	16459364
Application Number:	16113806
Application Number:	16380793
Application Number:	16524151
Application Number:	16357199
Application Number:	16165991
Application Number:	16058520
Application Number:	16221951
Application Number:	16270513
Application Number:	16517654
Application Number:	62737014
Application Number:	62753642
Application Number:	16372681
Application Number:	16401019
Application Number:	16162802

PATENT

Property Type	Number
Application Number:	16151154
Application Number:	16393745
Application Number:	16366049
Application Number:	16144643
Application Number:	16296396
Application Number:	16248993
Application Number:	16416000
Application Number:	16398000
Application Number:	16287385
Application Number:	16427186
Application Number:	62799454
Application Number:	16477546
Application Number:	16527939
Application Number:	16277740
Application Number:	16372920
Application Number:	16404094
Application Number:	16510596
Application Number:	16394911
Application Number:	16543877
Application Number:	62826906
Application Number:	16277748
Application Number:	16428782
Application Number:	16413538
Application Number:	16378954
Application Number:	16260877
Application Number:	16514837
Application Number:	16518017
Application Number:	16506590
Application Number:	16055872
Application Number:	16435099
Application Number:	16383472
Application Number:	62750229
Application Number:	16113873
Application Number:	16157507
Application Number:	16130715
Application Number:	16200629
Application Number:	16130998
Application Number:	16216835

Property Type	Number
Application Number:	16261234
Application Number:	16384706
Application Number:	16384561
Application Number:	16384805
Application Number:	16384701
Application Number:	16426167
Application Number:	16175785
Application Number:	16214070
Application Number:	16419644
Application Number:	16103662
Application Number:	16276603
Application Number:	15999262
Application Number:	15999202
Application Number:	16112567
Application Number:	16178513
Application Number:	16233965
Application Number:	16207162
Application Number:	16118073
Application Number:	16155364
Application Number:	15999266
Application Number:	16167766
Application Number:	16112561
Application Number:	16112585
Application Number:	16112596
Application Number:	62713519
Application Number:	16128659
Application Number:	16133348
Application Number:	16211828
Application Number:	62745065
Application Number:	62752002
Application Number:	16213971
Application Number:	16235499
Application Number:	16164890
Application Number:	16112613
Application Number:	16251999
Application Number:	62715562
Application Number:	16230830
Application Number:	16217023

Property Type	Number
Application Number:	16366741
Application Number:	16404014
Application Number:	16271849
Application Number:	16441607
Application Number:	16438379
Application Number:	16546828
Application Number:	16276490
Application Number:	62805844
Application Number:	16439795
Application Number:	16543525
Application Number:	16550796
Application Number:	62873141
Application Number:	16503771
Application Number:	16525479
Application Number:	16525483
Application Number:	16523847
Application Number:	16529241
Application Number:	16531355
Application Number:	16399899
Application Number:	62824225
Application Number:	62868988
Application Number:	16402200
Application Number:	16399072
Application Number:	16556787
Application Number:	16541855
Application Number:	16541685
Application Number:	16422632
Application Number:	16539892
Application Number:	16246423
Application Number:	16186345
Application Number:	16286200
Application Number:	16410396
Application Number:	16430279
Application Number:	16237807
Application Number:	16538714
Application Number:	16174687
Application Number:	16121626
Application Number:	16518825

Property Type	Number
Application Number:	16518746
Application Number:	16292056
Application Number:	16422417
Application Number:	16292124
Application Number:	16384752
Application Number:	16459384
Application Number:	16208299
Application Number:	16435229
Application Number:	16544558
Application Number:	16543812
Application Number:	16372077
Application Number:	16440473
Application Number:	16391090
Application Number:	16518971
Application Number:	16532329
Application Number:	16418320
Application Number:	16443718
Application Number:	16459454
Patent Number:	10341714
Application Number:	16241857
Application Number:	16186269
Application Number:	16208046
Application Number:	16160790
Application Number:	16105890
Application Number:	16110582
Application Number:	16199409
Application Number:	16136127
Application Number:	16102506
Application Number:	16195408
Application Number:	16409591
Application Number:	16154615
Application Number:	16267103
Application Number:	16236115
Application Number:	16397975
Application Number:	16377187
Application Number:	16102487
Application Number:	16206774
Application Number:	16154488

Property Type	Number
Application Number:	16132456
Application Number:	16154619
Application Number:	16222078
Application Number:	16126834
Application Number:	16103574
Application Number:	16261164
Application Number:	16236089
Application Number:	16240762
Application Number:	16207831
Application Number:	16134011
Application Number:	16280500
Application Number:	16119959
Application Number:	16280417
Application Number:	16173996
Application Number:	16280473
Application Number:	16231076
Application Number:	16191183
Patent Number:	9967568
Application Number:	16051323
Application Number:	16036779
Patent Number:	9137557

CORRESPONDENCE DATA

Fax Number: (215)832-5619

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 2155695619

Email: pecsenye@blankrome.com

Correspondent Name: TIMOTHY D. PECSENYE

Address Line 1: ONE LOGAN SQUARE

Address Line 2: 8TH FLOOR

Address Line 4: PHILADELPHIA, PENNSYLVANIA 19103

ATTORNEY DOCKET NUMBER:	111910-00540
NAME OF SUBMITTER:	TIMOTHY D. PECSENYE
SIGNATURE:	/Timothy D. Pecsénye/
DATE SIGNED:	12/27/2019

Total Attachments: 13

source=CTL-Charter Patent Security Agreement#page1.tif

source=CTL-Charter Patent Security Agreement#page2.tif

source=CTL-Charter Patent Security Agreement#page3.tif

source=CTL-Charter Patent Security Agreement#page4.tif
source=CTL-Charter Patent Security Agreement#page5.tif
source=CTL-Charter Patent Security Agreement#page6.tif
source=CTL-Charter Patent Security Agreement#page7.tif
source=CTL-Charter Patent Security Agreement#page8.tif
source=CTL-Charter Patent Security Agreement#page9.tif
source=CTL-Charter Patent Security Agreement#page10.tif
source=CTL-Charter Patent Security Agreement#page11.tif
source=CTL-Charter Patent Security Agreement#page12.tif
source=CTL-Charter Patent Security Agreement#page13.tif

Supplemental Patent Security Agreement

Supplemental Patent Security Agreement, dated as of December 9, 2019 (the "Supplemental Patent Security Agreement"), by the entities identified as Grantors on the signature pages hereto (individually, a "Grantor" and, collectively, the "Grantors"), in favor of WELLS FARGO TRUST COMPANY, N.A., AS TRUSTEE in its capacity as collateral agent pursuant to the Guarantee and Collateral Agreement (defined below) (in such capacity, the "Collateral Agent").

WITNESSETH:

WHEREAS, the Grantors are party to that certain Guarantee and Collateral Agreement, dated as of July 16, 2018 (the "Guarantee and Collateral Agreement") and amended by that certain Amendment No. 1 as of April 15, 2019, by and among CHARTER COMMUNICATIONS OPERATING, LLC, a Delaware limited liability company, as Borrower, CCO HOLDINGS, LLC, a Delaware limited liability company, as Holdings and certain subsidiaries of the Borrower listed on the signature pages thereto, in favor of WELLS FARGO TRUST COMPANY N.A., AS TRUSTEE, as Trustee of the CTL 2018-12 Trust (Charter Communications), a special purpose Delaware trust, created pursuant to a Trust Agreement dated as of July 16, 2018, as collateral agent for the Gateway Beneficial Owners (as defined in the Guarantee and Collateral Agreement) pursuant to which the Grantors are required to execute and deliver this Supplemental Patent Security Agreement;

WHEREAS, pursuant to the Collateral Agreement, that certain Patent Security Agreement, dated as of July 16, 2018, was recorded with the U.S. Patent and Trademark Office on July 25, 2018 at Reel/Frame 46630/0193; and

NOW, THEREFORE, in consideration of the premises and to induce the Collateral Agent, for the benefit of the Secured Parties, to enter into the Guarantee and Collateral Agreement, the Grantors hereby agree with the Collateral Agent as follows:

SECTION 1. Defined Terms. Unless otherwise defined herein, terms defined in the Guarantee and Collateral Agreement and used herein have the meaning given to them in the Guarantee and Collateral Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. Each Grantor hereby pledges and grants to the Collateral Agent for the benefit of the Secured Parties a lien on and security interest in and to all of its right, title and interest in, to and under all the following Collateral of such Grantor (subject to the last paragraph of Section 3 of the Guarantee and Collateral Agreement, collectively, the "Patent Collateral"):

- (a) Patents of such Grantor, including those listed on Schedule I attached hereto; and
- (b) all Proceeds of any and all of the foregoing.

SECTION 3. Guarantee and Collateral Agreement. The security interest granted pursuant to this Supplemental Patent Security Agreement is granted in conjunction with the

security interest granted to the Collateral Agent pursuant to the Guarantee and Collateral Agreement and each of the Grantors hereby acknowledges and affirms that the rights and remedies of the Collateral Agent with respect to the security interest in the Patent Collateral made and granted hereby are more fully set forth in the Guarantee and Collateral Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Supplemental Patent Security Agreement is deemed to conflict with the Guarantee and Collateral Agreement, the provisions of the Guarantee and Collateral Agreement shall control.

SECTION 4. Termination. Upon the payment in full of the Guaranteed Obligations and termination of the Guarantee and Collateral Agreement, at the request of any Grantor the Collateral Agent shall, at Grantors' sole cost and expense, execute, acknowledge, and deliver to the Grantors an instrument in writing in recordable form releasing the collateral pledge, grant, assignment, lien and security interest in the Patent Collateral under this Supplemental Patent Security Agreement.

SECTION 5. Counterparts. This Supplemental Patent Security Agreement may be executed in any number of counterparts, all of which shall constitute one and the same instrument, and any party hereto may execute this Supplemental Patent Security Agreement by signing and delivering one or more counterparts.

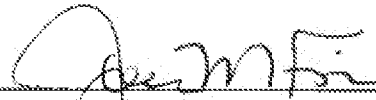
SECTION 6. Governing Law. This Supplemental Patent Security Agreement and the transactions contemplated hereby, and all disputes between the parties under or relating to this Supplemental Patent Security Agreement or the facts or circumstances leading to its execution, whether in contract, tort or otherwise, shall be construed in accordance with and governed by the laws (including statutes of limitation) of the State of New York, without regard to conflicts of law principles that would require the application of the laws of another jurisdiction.

[signature page follows]

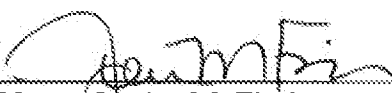
IN WITNESS WHEREOF, the Grantors have caused this Supplemental Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

Very truly yours,

TIME WARNER CABLE ENTERPRISES,
LLC, as a Grantor

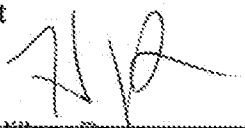
By: 
Name: Jessica M. Fischer
Title: Senior Vice President - Finance
and Corporate Treasurer

CHARTER COMMUNICATIONS
OPERATING, LLC, as a Grantor

By: 
Name: Jessica M. Fischer
Title: Senior Vice President - Finance
and Corporate Treasurer

Accepted and Agreed:

WELL FARGO TRUST COMPANY, N.A.,
as Collateral Agent

By: 
Name: Hillary Pavia
Title: Vice President

[Signature Page to Supplemental Patent Security Agreement]

PATENT
REEL: 051433 FRAME: 0664

SCHEDULE 1
to
SUPPLEMENTAL PATENT SECURITY AGREEMENT

Owner	Title	Status	Filed Date	Application Number	Grant Date	Patent No.
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-04-10	16/380,795		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-29	16/115,976		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-07-29	16/525,436		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-07-01	16/459,364		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-27	16/113,806		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-04-10	16/380,793		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-07-28	16/524,151		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-03-18	16/357,199		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-10-19	16/165,991		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-08	16/058,520		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-12-17	16/221,951		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-02-01	16/270,513		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-07-21	16/517,654		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-09-26	62/737,014		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-10-31	62/753,642		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-04-02	16/372,681		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-05-01	16/401,019		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-10-17	16/162,802		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-10-03	16/151,154		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-04-24	16/393,745		

Owner	Title	Status	Filed Date	Application Number	Grant Date	Patent No.
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-03-27	16/366,049		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-09-27	16/144,643		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-03-08	16/296,396		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-01-16	16/248,993		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-05-17	16/416,000		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-04-29	16/398,000		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-02-27	16/287,385		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-05-30	16/427,186		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-01-31	62/799,454		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-06-20	16/447,546		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-07-31	16/527,939		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-02-15	16/277,740		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-04-02	16/372,920		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-05-06	16/404,094		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-07-12	16/510,596		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-04-25	16/394,911		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-08-19	16/543,877		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-03-29	62/826,906		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-02-15	16/277,748		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-05-31	16/428,782		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-05-15	16/413,538		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-04-09	16/378,954		

Owner	Title	Status	Filed Date	Application Number	Grant Date	Patent No.
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-01-29	16/260,877		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-07-17	16/514,837		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-07-22	16/518,017		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-07-09	16/506,590		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-06	16/055,872		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-06-07	16/435,099		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-04-12	16/383,472		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-10-24	62/750,229		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-27	16/113,873		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-10-11	16/157,507		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-09-13	16/130,715		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-11-26	16/200,629		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-09-13	16/130,998		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-12-11	16/216,835		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-01-29	16/261,234		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-04-15	16/384,706		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-04-15	16/384,561		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-04-15	16/384,805		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-04-15	16/384,701		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-05-30	16/426,167		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-10-30	16/175,785		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-12-08	16/214,070		

Owner	Title	Status	Filed Date	Application Number	Grant Date	Patent No.
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-05-22	16/419,644		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-14	16/103,662		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-02-14	16/276,603		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-17	15/999,262		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-17	15/999,202		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-24	16/112,567		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-11-01	16/178,513		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-12-27	16/233,965		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-12-02	16/207,162		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-30	16/118,073		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-10-09	16/155,364		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-17	15/999,266		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-10-23	16/167,766		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-24	16/112,561		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-24	16/112,585		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-24	16/112,596		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-01	62/713,519		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-09-12	16/128,659		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-09-17	16/133,348		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-12-06	16/211,828		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-10-12	62/745,065		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-10-29	62/752,002		

Owner	Title	Status	Filed Date	Application Number	Grant Date	Patent No.
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-12-07	16/213,971		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-12-28	16/235,499		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-10-19	16/164,890		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-24	16/112,613		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-01-18	16/251,999		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-08-07	62/715,562		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-12-22	16/230,830		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2018-12-11	16/217,023		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-03-27	16/366,741		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-05-06	16/404,014		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-02-10	16/271,849		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-06-14	16/441,607		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-06-11	16/438,379		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-08-21	16/546,828		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-02-14	16/276,490		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-02-14	62/805,844		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-06-13	16/439,795		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-08-17	16/543,525		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-08-26	16/550,796		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-07-11	62/873,141		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-07-05	16/503,771		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-07-29	16/525,479		

Owner	Title	Status	Filed Date	Application Number	Grant Date	Patent No.
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-07-29	16/525,483		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-07-29	16/525,485		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-07-26	16/523,847		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-08-01	16/529,241		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-08-05	16/531,355		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-04-30	16/399,899		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-03-26	62/824,225		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-06-30	62/868,988		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-05-02	16/402,200		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-04-30	16/399,072		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-08-30	16/556,787		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-08-15	16/541,855		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-08-15	16/541,865		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-05-24	16/422,632		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-08-13	16/539,892		
CHARTER COMMUNICATIONS OPERATING, LLC		Application	2019-01-11	16/245,423		
CHARTER COMMUNICATIONS OPERATING, LLC	Time-Based Dynamic Secondary Content Placement Calls In Time-Shifted Content	Published	2018-11-09	16/186,345		
CHARTER COMMUNICATIONS OPERATING, LLC	Apparatus And Methods For Packetized Content Routing And Delivery	Published	2019-02-26	16/286,200		
CHARTER COMMUNICATIONS OPERATING, LLC	Method And System For Network Discovery And Management And Associated E-Commerce	Published	2019-05-13	16/410,396		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-06-03	16/430,279		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-01-02	16/237,807		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-08-12	16/538,714		

Owner	Title	Status	Filed Date	Application Number	Grant Date	Patent No.
TIME WARNER CABLE ENTERPRISES LLC		Application	2018-10-30	16/174,687		
TIME WARNER CABLE ENTERPRISES LLC		Application	2018-09-05	16/121,626		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-07-22	16/518,825		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-07-22	16/518,746		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-03-04	16/292,056		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-05-24	16/422,617		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-03-04	16/292,124		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-04-15	16/384,752		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-07-01	16/459,384		
TIME WARNER CABLE ENTERPRISES LLC		Application	2018-12-03	16/208,299		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-06-07	16/435,229		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-08-19	16/544,558		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-08-19	16/543,812		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-04-01	16/372,077		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-06-13	16/440,473		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-04-22	16/391,090		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-07-22	16/518,971		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-08-05	16/532,329		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-05-21	16/418,320		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-06-17	16/443,718		
TIME WARNER CABLE ENTERPRISES LLC		Application	2019-07-01	16/459,454		
TIME WARNER CABLE ENTERPRISES LLC	Synchronization Of Multiple Audio Assets And Video Data	Granted	2017-09-01	15/693,626	2019-07-02	10,341,714

Owner	Title	Status	Filed Date	Application Number	Grant Date	Patent No.
TIME WARNER CABLE ENTERPRISES LLC	Technique For Securely Communicating And Storing Programming Material In A Trusted Domain	Published	2019-01-07	16/241,857		
TIME WARNER CABLE ENTERPRISES LLC	Methods And Apparatus For Providing Virtual Content Over A Network	Published	2018-11-09	16/186,269		
TIME WARNER CABLE ENTERPRISES LLC	Broadband Optical Network Apparatus And Method	Published	2018-12-03	16/208,046		
TIME WARNER CABLE ENTERPRISES LLC	Methods And Apparatus For Software Provisioning Of A Network Device	Published	2018-10-15	16/160,790		
TIME WARNER CABLE ENTERPRISES LLC	Methods And Apparatus For Predictive Delivery Of Content Over A Network	Published	2018-08-20	16/105,890		
TIME WARNER CABLE ENTERPRISES LLC	Personal Media Channel Apparatus And Methods	Published	2018-08-23	16/110,582		
TIME WARNER CABLE ENTERPRISES LLC	System And Method For Tailored Video-On-Demand Catalogs	Published	2018-11-26	16/199,409		
TIME WARNER CABLE ENTERPRISES LLC	Scheduling Trigger Apparatus And Method	Published	2018-09-19	16/136,127		
TIME WARNER CABLE ENTERPRISES LLC	Method And Apparatus For Targeted Secondary Content Insertion,	Published	2018-08-13	16/102,506		
TIME WARNER CABLE ENTERPRISES LLC	Apparatus And Methods For Content Delivery And Message Exchange Across Multiple Content Delivery Networks	Published	2018-11-19	16/195,408		
TIME WARNER CABLE ENTERPRISES LLC	Apparatus And Methods For Dynamic Secondary Content And Data Insertion And Delivery	Published	2019-05-10	16/409,591		
TIME WARNER CABLE ENTERPRISES LLC	Apparatus And Methods For Device Authorization In A Premises Network	Published	2018-10-08	16/154,615		
TIME WARNER CABLE ENTERPRISES LLC	Digital Domain Content Processing And Distribution Apparatus And Methods	Published	2019-02-04	16/267,103		
TIME WARNER CABLE ENTERPRISES LLC	Apparatus And Methods For Managing Delivery Of Content In A Network With Limited Bandwidth Using Pre-Caching	Published	2018-12-28	16/236,115		
TIME WARNER CABLE ENTERPRISES LLC	Apparatus And Methods For Enabling Location-Based Services Within A Premises	Published	2019-04-29	16/397,975		
TIME WARNER CABLE ENTERPRISES LLC	Tv Playlist	Published	2019-04-06	16/377,187		
TIME WARNER CABLE ENTERPRISES LLC	Apparatus And Methods For Content Transfer Protection	Published	2018-08-13	16/102,487		
TIME WARNER CABLE ENTERPRISES LLC	System And Method For Delivering Media Based On Viewer Behavior	Published	2018-11-30	16/206,774		
TIME WARNER CABLE ENTERPRISES LLC	Apparatus And Methods For Managing Service Delivery Telemetry	Published	2018-10-08	16/154,488		
TIME WARNER CABLE ENTERPRISES LLC	Access Control, Establishing Trust In A Wireless Network	Published	2018-09-16	16/132,456		
TIME WARNER CABLE ENTERPRISES LLC	Methods And Apparatus For Enhancing Network Reliability And/Or Enabling Phased Deployment Of Video Services	Published	2018-10-08	16/154,619		
TIME WARNER CABLE ENTERPRISES LLC	Space Efficiency And Management Of Content	Published	2018-12-17	16/222,078		

Owner	Title	Status	Filed Date	Application Number	Grant Date	Patent No.
TIME WARNER CABLE ENTERPRISES LLC	Apparatus And Methods For Intelligent Deployment Of Network Infrastructure Based On Tunneling Of Ethernet Ring Protection	Published	2018-09-10	16/126,834		
TIME WARNER CABLE ENTERPRISES LLC	Network Management, Monitoring, And Flow Control	Published	2018-08-14	16/103,574		
TIME WARNER CABLE ENTERPRISES LLC	Apparatus And Methods For Recording A Media Stream	Published	2019-01-29	16/261,164		
TIME WARNER CABLE ENTERPRISES LLC	Apparatus And Methods For Managing Quality Of Experience During The Delivery Of Content	Published	2018-12-28	16/236,089		
TIME WARNER CABLE ENTERPRISES LLC	Timestamp Normalized Counter Data	Published	2019-01-06	16/240,762		
TIME WARNER CABLE ENTERPRISES LLC	Apparatus And Methods For Recording, Accessing, And Delivering Packetized Content	Published	2018-12-03	16/207,831		
TIME WARNER CABLE ENTERPRISES LLC	Map Information Management And Correction Of Geodata	Published	2018-09-18	16/134,011		
TIME WARNER CABLE ENTERPRISES LLC	Wireless Access Point Resource Availability, Notification, And Network Management	Published	2019-02-20	16/280,500		
TIME WARNER CABLE ENTERPRISES LLC	Packetized Content Delivery Apparatus And Methods	Published	2018-08-31	16/119,959		
TIME WARNER CABLE ENTERPRISES LLC	Neighbor List Management And Connection Control In A Network Environment	Published	2019-02-20	16/280,417		
TIME WARNER CABLE ENTERPRISES LLC	Apparatus And Methods For Data Collection, Analysis And Service Modification Based On Online Activity	Published	2018-10-29	16/173,996		
TIME WARNER CABLE ENTERPRISES LLC	Method And Apparatus For Automatic Geoaware Access Point Provisioning	Published	2019-02-20	16/280,473		
TIME WARNER CABLE ENTERPRISES LLC	Apparatus And Methods For Monitoring And Diagnosing A Wireless Network	Published	2018-12-21	16/231,076		
TIME WARNER CABLE ENTERPRISES LLC	Network Management And Wireless Channel Adjustment	Published	2018-11-14	16/191,183		
TIME WARNER CABLE ENTERPRISES LLC	Upsampling and downsampling of motion maps and other auxiliary maps in a tiered signal quality hierarchy	Granted	04/05/2017	15/479966	05/08/2018	9967568
TIME WARNER CABLE ENTERPRISES LLC	Methods and apparatus for asymmetric distribution of mixed content via a network	Published	07/31/2018	16/051323		
TIME WARNER CABLE ENTERPRISES LLC	Apparatus and methods for enabling presence-based and use-based services	Published	07/16/2018	16/036779		
TIME WARNER CABLE ENTERPRISES LLC	Systems and methods for implementing a dynamic and/or interactive media campaign	Granted	07/31/2009	12/533431	09/15/2015	9137557