

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT7809439

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	TERMINATION AND RELEASE OF INTELLECTUAL PROPERTY SECURITY AGREEMENT (REEL/FRAME 056982/0194)
CONVEYING PARTY DATA	
Name	Execution Date
MORGAN STANLEY SENIOR FUNDING, INC.	02/21/2023
RECEIVING PARTY DATA	
Name:	ROKU, INC.
Street Address:	150 WINCHESTER CIRCLE
City:	LOS GATOS
State/Country:	CALIFORNIA
Postal Code:	95032
Name:	ROKU DX HOLDINGS, INC.
Street Address:	150 WINCHESTER CIRCLE
City:	LOS GATOS
State/Country:	CALIFORNIA
Postal Code:	95032
PROPERTY NUMBERS Total: 490	
Property Type	Number
Patent Number:	10939185
Patent Number:	10484758
Patent Number:	10841665
Patent Number:	10972203
Patent Number:	10972204
Patent Number:	9992533
Patent Number:	9924222
Patent Number:	10063918
Patent Number:	9930406
Patent Number:	10045073
Patent Number:	10104426
Patent Number:	10045074
Patent Number:	10149007
Patent Number:	10057638
Patent Number:	10567835

PATENT

Property Type	Number
Patent Number:	10523999
Patent Number:	10524000
Patent Number:	10440430
Patent Number:	10412448
Patent Number:	10419814
Patent Number:	10225605
Patent Number:	10531150
Patent Number:	10575052
Patent Number:	10848820
Patent Number:	10536746
Patent Number:	10631049
Patent Number:	10567836
Patent Number:	10972786
Patent Number:	11012738
Patent Number:	10805673
Patent Number:	10939162
Patent Number:	11012743
Patent Number:	8020000
Patent Number:	8660267
Patent Number:	9066114
Patent Number:	9407962
Patent Number:	9479831
Patent Number:	9712853
Patent Number:	10045054
Patent Number:	10250916
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Patent Number:	9998767
Patent Number:	9706233
Patent Number:	10250919
Patent Number:	10341697
Patent Number:	10979742
Patent Number:	10972763
Patent Number:	10972764
Patent Number:	10701410
Patent Number:	10735782
Patent Number:	10701411

Property Type	Number
Patent Number:	10715841
Patent Number:	10701412
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Patent Number:	8863165
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Patent Number:	8406607
Patent Number:	9143718
Patent Number:	9414008
Patent Number:	9736549
Patent Number:	9794644
Patent Number:	9986306
Patent Number:	10555052
Patent Number:	10945049
Patent Number:	10924816
Patent Number:	9495451
Patent Number:	10866988
Patent Number:	9323840
Patent Number:	9794642
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Patent Number:	9465995

Property Type	Number
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Application Number:	16819657
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Application Number:	17228850
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PCT Number:	US2020042906
PCT Number:	US2020046922
PCT Number:	US2020049374
PCT Number:	US2020049362
PCT Number:	US2021018997

CORRESPONDENCE DATA

Fax Number:

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: 8004945225

Email: ipteam@cogencyglobal.com

Correspondent Name: STEWART WALSH

Address Line 1: 1025 CONNECTICUT AVE NW, SUITE 712

Address Line 2: COGENCY GLOBAL INC.

Address Line 4: WASHINGTON, D.C. 20036

ATTORNEY DOCKET NUMBER:	1914510 PAT H
NAME OF SUBMITTER:	JENNY LIM
SIGNATURE:	/Jenny Lim/
DATE SIGNED:	02/22/2023

Total Attachments: 175

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**TERMINATION AND RELEASE OF
INTELLECTUAL PROPERTY SECURITY AGREEMENT**

This **TERMINATION AND RELEASE OF INTELLECTUAL PROPERTY SECURITY AGREEMENT** (this “*Termination and Release*”) is dated as of February 21, 2023, by **MORGAN STANLEY SENIOR FUNDING, INC.** (“*Bank*”), in favor of **ROKU, INC.**, a Delaware corporation, **TOH INTERMEDIATE HOLDINGS, LLC**, a Delaware limited liability company, **THIS OLD HOUSE VENTURES, LLC**, a Delaware limited liability company, **THIS OLD HOUSE PRODUCTIONS, LLC**, a Delaware limited liability company, **ROKU DX HOLDINGS, INC.**, a Delaware corporation, **PURPLE TAG ENTERPRISES, LLC**, a Delaware limited liability company and **QUIBI HOLDINGS, LLC**, a Delaware limited liability company (each a “*Grantor*”).

WHEREAS, pursuant to a Guaranty and Security Agreement (as amended, restated, supplemented or otherwise modified prior to the date hereof, the “*Guaranty and Security Agreement*”) dated as of February 19, 2019, by and between Grantor and Bank, Grantor executed and delivered (a) a Copyright Security Agreement (as amended, restated, supplemented or otherwise modified prior to the date hereof) dated as of February 19, 2019, granting, assigning and pledging to the Bank a continuing security interest in all of Grantor’s right, title and interest in, to certain intellectual property, which was recorded with the United States Copyright Office (“*USCO*”) at Volume 9972 Doc No. 611; (b) a Patent Security Agreement (as amended, restated, supplemented or otherwise modified prior to the date hereof) dated as of February 19, 2019, granting, assigning and pledging to the Bank a continuing security interest in all of Grantor’s right, title and interest in, to certain intellectual property, which was recorded with the Patent division of the United States Patent and Trademark Office (“*USPTO*”) at Reel 048385, Frame 0375; and (c) a Trademark Security Agreement (as amended, restated, supplemented or otherwise modified prior to the date hereof) dated as of February 19, 2019, granting, assigning and pledging to the Bank a continuing security interest in all of Grantor’s right, title and interest in, to certain intellectual property, which was recorded with the Trademark division of the USPTO at Reel 6575, Frame 0087;

WHEREAS, pursuant to the Guaranty and Security Agreement, certain Grantors executed and delivered (a) a Patent Security Agreement (as amended, restated, supplemented or otherwise modified prior to the date hereof) dated as of December 13, 2019, granting, assigning and pledging to the Bank a continuing security interest in all of Grantor’s right, title and interest in, to certain intellectual property, which was recorded with the Patent division of the USPTO at Reel 051300, Frame 0931, and (b) a Trademark Security Agreement (as amended, restated, supplemented or otherwise modified prior to the date hereof) dated as of December 13, 2019, granting, assigning and pledging to the Bank a continuing security interest in all of Grantor’s right, title and interest in, to certain intellectual property, which was recorded with the Trademark division of the USPTO at Reel 6816, Frame 0570;

WHEREAS, pursuant to the Guaranty and Security Agreement, certain Grantors executed and delivered a Trademark Security Agreement (as amended, restated, supplemented or otherwise modified prior to the date hereof) dated as of February 5, 2021, granting, assigning and pledging to the Bank a continuing security interest in all of Grantor’s right, title and interest in,

to certain intellectual property, which was recorded with the Trademark division of the USPTO at Reel 7184, Frame 0863;

WHEREAS, pursuant to the Guaranty and Security Agreement, certain Grantors executed and delivered (a) a Copyright Security Agreement (as amended, restated, supplemented or otherwise modified prior to the date hereof) dated as of April 16, 2021, granting, assigning and pledging to the Bank a continuing security interest in all of Grantor's right, title and interest in, to certain intellectual property, which was recorded with the USCO at Volume 15001, Doc No. 789, and (b) a Trademark Security Agreement (as amended, restated, supplemented or otherwise modified prior to the date hereof) dated as of April 16, 2021, granting, assigning and pledging to the Bank a continuing security interest in all of Grantor's right, title and interest in, to certain intellectual property, which was recorded with the Trademark division of the USPTO at Reel 7260, Frame 0641;

WHEREAS, pursuant to the Guaranty and Security Agreement, certain Grantors executed and delivered (a) a Patent Security Agreement Supplement (as amended, restated, supplemented or otherwise modified prior to the date hereof) dated as of June 22, 2021, granting, assigning and pledging to the Bank a continuing security interest in all of Grantor's right, title and interest in, to certain intellectual property, which was recorded with the Patent division of the USPTO at Reel 056982, Frame 0194, and (b) a Trademark Security Agreement Supplement (as amended, restated, supplemented or otherwise modified prior to the date hereof) dated as of June 22, 2021, granting, assigning and pledging to the Bank a continuing security interest in all of Grantor's right, title and interest in, to certain intellectual property, which was recorded with the Trademark division of the USPTO at Reel 7338, Frame 0626;

WHEREAS, Grantor has requested that Bank hereby terminate the Intellectual Property Security Agreement as herein provided; and

WHEREAS, Grantor has requested that the Bank provide a document suitable for recording with the USPTO and USCO to evidence the termination of the Intellectual Property Security Agreement as herein provided.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Bank hereby:

1. terminates the Intellectual Property Security Agreement and releases, terminates and discharges the liens on and security interests in Grantor's right, title and interest in, to and under the intellectual property as granted in the Intellectual Property Security Agreement, including those copyrights and copyright applications, patents and patent applications, and trademarks and trademark applications identified in Schedule I hereto; and
2. authorizes and requests that this Termination and Release be recorded with the USPTO and USCO.

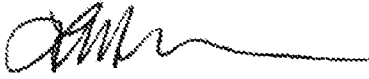
THIS TERMINATION AND RELEASE SHALL BE GOVERNED BY, AND CONSTRUED AND INTERPRETED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK (INCLUDING, WITHOUT LIMITATION, SECTION 5-1401

OF THE GENERAL OBLIGATIONS LAW) WITHOUT REGARD TO CONFLICTS
OF LAW PRINCIPLES.

[Signature page follows]

IN WITNESS WHEREOF, the undersigned has executed this Termination and Release by its duly authorized officer as of the date first above written.

MORGAN STANLEY SENIOR FUNDING, INC.,
as Bank

By: 
Name: Lisa Hanson
Title: Vice President

SCHEDULE I TO
TERMINATION AND RELEASE OF INTELLECTUAL PROPERTY SECURITY
AGREEMENT

COPYRIGHTS

VOLUME/DOC No.: 9972/611

COPYRIGHT REGISTRATIONS

Grantor	Country	Copyright	Registration No.	Registration Date
Roku, Inc.	United States	ROKU XD.	VA0001793137	November 7, 2011
Roku, Inc.	United States	ROKU XDS.	VA0001793140	November 7, 2011

COPYRIGHT LICENSES

None.

VOLUME/DOC No.: 15001/789

Registrations:

Owner	Title	Registration Number
This Old House Ventures, LLC	This old house source book / the editors of This Old House magazine.	TX0004628461
This Old House Ventures, LLC	This old house '97	PA0000971538
This Old House Ventures, LLC	Essential power tools : 19 tools to renovate and repair your home.	TX0005093700
This Old House Ventures, LLC	Essential hand tools : 26 tools to renovate and repair your home.	TX0005093699
This Old House Ventures, LLC	Essential home repair : a seasonal guide to maintaining your home.	TX0005093701
This Old House Ventures, LLC	Essential paint techniques : improving your home with paint.	TX0005093698
This Old House Ventures, Inc.	THIS OLD HOUSE	TX0008498150
This Old House Ventures, Inc.	THIS OLD HOUSE	TX0008506774
This Old House Ventures, Inc.	THIS OLD HOUSE	TX0008273571
This Old House Ventures, Inc.	THIS OLD HOUSE	TX0008273556
This Old House Ventures, Inc.	THIS OLD HOUSE	TX0008284069
This Old House Ventures, LLC	This old house: creating a new kitchen: plumbing and electricity & 355 other titles.	V3480D294

Owner	Title	Registration Number
This Old House Ventures, LLC	This Old House.	CSN0145407
This Old House Ventures, LLC	Kitchen & bath : trends, products & plans.	CSN0146460
This Old House Ventures, LLC	This Old House.	CSN0145407
This Old House Ventures, LLC	This Old House.	CSN0145407
This Old House Ventures, LLC	Kitchen & bath : trends, products & plans.	CSN0146460
This Old House Ventures, LLC	This Old House.	CSN0145407
This Old House Ventures, LLC	This Old House.	CSN0145407
This Old House Ventures, LLC	This Old House.	CSN0145407
This Old House Ventures, LLC	This Old House.	CSN0145407
This Old House Ventures, LLC	THIS OLD HOUSE. [Published: 2011-08-26 to 2011-09- 30. Issues: vol. 16, no. 8, September 2011 to vol. 16, no. 9, October 2011]	TX0007509596
This Old House Ventures, LLC	This Old House.	CSN0145407
This Old House Ventures, LLC	THIS OLD HOUSE. [Published: 2012-05-11 to 2012-07- 20. Issues: vol. 17, no. 5, June 2012 to vol. 17, no. 7, August 2012]	TX0007604784
This Old House Ventures, LLC	THIS OLD HOUSE. [Published: 2012-11-02 to 2012-12- 14. Issues: vol. 17, no. 10, November/December 2012 to vol. 18, no. 1, January/February 2013]	TX0007682589
This Old House Ventures, LLC	THIS OLD HOUSE. [Published: 2012-02-03 to 2012-04- 13. Issues: vol. 17, no. 2, March 2012 to vol. 17, no. 4, May 2012]	TX0007566930
This Old House Ventures, LLC	THIS OLD HOUSE. [Published: 2013-02-01 to 2013-04- 12. Issues: vol. 18, no. 2, March 2013 to vol. 18, no. 4, May 2013]	TX0007738086
This Old House Ventures, LLC	THIS OLD HOUSE. [Published: 2013-08-23 to 2013-10- 04. Issues: vol. 18, no. 8, September 2013 to vol. 18, no. 9, October 2013]	TX0007844572
This Old House Ventures, LLC	THIS OLD HOUSE. [Published: 2013-11-08 to 2013-12-13. Issues: vol. 18, no. 10, Nov/Dec 2013 to vol. 19, no. 1, Jan/Feb 2014]	TX0007855240
This Old House Ventures, LLC	THIS OLD HOUSE. [Published: 2014-01-31 to 2014- 03-07. Issues: vol. 19, no. 2, March 2014 to vol. 19, no. 3,	TX0007934974

Owner	Title	Registration Number
This Old House Ventures, LLC	THIS OLD HOUSE. [Published: 2014-11-07 to 2014-12-12. Issues: vol. 19, no. 10, November/December 2014 to vol. 20, no. 1, January/February 2015]	TX0007994127
This Old House Ventures, LLC	THIS OLD HOUSE. [Published: 2014-07-18 to 2014- 10-03. Issues: vol. 19, no. 7, August 2014 to vol. 19, no. 9, October 2014]	TX0007994075
This Old House Ventures, LLC	THIS OLD HOUSE. [Published: 2015-01-30 to 2015- 04-10. Issues: vol. 20, no. 2, March 2015 to vol. 20, no. 4,	TX0008105072
This Old House Ventures, LLC	THIS OLD HOUSE. [Published: 2015-05-15 to 2015-07-24. Issues: vol. 20, no. 5, June 2015 to vol. 20, no. 7, August 2015]	TX0008125172
This Old House Ventures, LLC	THIS OLD HOUSE. [Published: 2014-04-11 to 2014-06-13. Issues: vol. 19, no. 4, May 2014 to vol. 19, no. 6, July 2014]	TX0007948257
This Old House Ventures, LLC	This old house--Creating a new kitchen: plumbing and electricity	PA 714-148
This Old House Ventures, LLC	This old house--Creating a new kitchen II: cabinets, appliances, countertops and flooring	PA 714-163
This Old House Ventures, LLC	All new this old house; 100 series, 26 episodes	PA 392-551
This Old House Ventures, LLC	This old house / Episode 101.	PA 804-124
This Old House Ventures, LLC	This old house / Episode 102.	PA 804-129
This Old House Ventures, LLC	This old house / Episode 103.	PA 804-151
This Old House Ventures, LLC	This old house / Episode 104.	PA 304-127
This Old House Ventures, LLC	This old house / Episode 105.	PA 804-128
This Old House Ventures, LLC	This old house / Episode 106.	PA 804-252
This Old House Ventures, LLC	This old house / Episode 107.	PA 804-257
This Old House Ventures, LLC	This old house / Episode 108.	PA 804-126
This Old House Ventures, LLC	This old house / Episode 109.	PA 804-125
This Old House Ventures, LLC	This old house / Episode 110.	PA 807-906
This Old House Ventures, LLC	This old house / Episode 111.	PA 804-118
This Old House Ventures, LLC	This old house / Episode 112.	PA 804-148
This Old House Ventures, LLC	This old house / Episode 113.	PA 804-137

Owner	Title	Registration Number
This Old House Ventures, LLC	This old house / Episode 114.	PA 804-119
This Old House Ventures, LLC	This old house / Episode 115.	PA 803-996
This Old House Ventures, LLC	This old house / Episode 116.	PA 804-135
This Old House Ventures, LLC	This old house / Episode 117.	PA 804-136
This Old House Ventures, LLC	This old house / Episode 118.	PA 804-139
This Old House Ventures, LLC	This old house / Episode 119.	PA 804-132
This Old House Ventures, LLC	This old house / Episode 120.	PA 803-995
This Old House Ventures, LLC	This old house / Episode 121.	PA 804-122
This Old House Ventures, LLC	This old house / Episode 122.	PA 804-134
This Old House Ventures, LLC	This old house / Episode 123.	PA 804-161
This Old House Ventures, LLC	This old house / Episode 124.	PA 803-955
This Old House Ventures, LLC	This old house / Episode 125.	PA 807-896
This Old House Ventures, LLC	This old house / Episode 126.	PA 804-163
This Old House Ventures, LLC	This old house / Episode 127.	PA 804-162
This Old House Ventures, LLC	This old house / Episode 128.	PA 803-953
This Old House Ventures, LLC	This old house / Episode 129.	PA 803-956
This Old House Ventures, LLC	This old house / Episode 130.	PA 803-954
This Old House Ventures, LLC	This old house / Episode 131.	PA 803-957
This Old House Ventures, LLC	This old house / Episode 132.	PA 803-952
This Old House Ventures, LLC	This old house / Episode 133.	PA 804-164
This Old House Ventures, LLC	This old house / Episode 134.	PA 803-993
This Old House Ventures, LLC	This old house / Episode 135.	PA 804-123
This Old House Ventures, LLC	This old house / Episode 136.	PA 803-994
This Old House Ventures, LLC	This old house / Episode 137.	PA 804-147
This Old House Ventures, LLC	This old house / Episode 138.	PA 804-155

Owner	Title	Registration Number
LLC		
This Old House Ventures, LLC	This old house / Episode 139.	PA 804-140
This Old House Ventures, LLC	This old house / Episode 140.	PA 804-138
This Old House Ventures, LLC	This old house / Episode 201.	PA 807-895
This Old House Ventures, LLC	This old house / Episode 202.	PA 804-041
This Old House Ventures, LLC	This old house / Episode 203.	PA 807-905
This Old House Ventures, LLC	This old house / Episode 204.	PA 804-040
This Old House Ventures, LLC	This old house / Episode 205.	PA 804-043
This Old House Ventures, LLC	This old house / Episode 206.	PA 804-044
This Old House Ventures, LLC	This old house / Episode 207.	PA 804-042
This Old House Ventures, LLC	This old house / Episode 208.	PA 804-045
This Old House Ventures, LLC	This old house / Episode 209.	PA 804-046
This Old House Ventures, LLC	This old house / Episode 210.	PA 804-047
This Old House Ventures, LLC	This old house / Episode 211.	PA 804-048
This Old House Ventures, LLC	This old house / Episode 212.	PA 804-038
This Old House Ventures, LLC	This old house / Episode 213.	PA 804-039
This Old House Ventures, LLC	This old house / Episode 301.	PA 804-355
This Old House Ventures, LLC	This old house / Episode 302.	PA 804-359
This Old House Ventures, LLC	This old house / Episode 303.	PA 804-360
This Old House Ventures, LLC	This old house / Episode 304.	PA 804-388
This Old House Ventures, LLC	This old house / Episode 305.	PA 804-325
This Old House Ventures, LLC	This old house / Episode 306.	PA 827-327
This Old House Ventures, LLC	This old house / Episode 307.	PA 804-361
This Old House Ventures, LLC	This old house / Episode 308.	PA 804-356
This Old House Ventures, LLC	This old house / Episode 309.	PA 804-362

Owner	Title	Registration Number
This Old House Ventures, LLC	This old house / Episode 310.	PA 804-494
This Old House Ventures, LLC	This old house / Episode 311.	PA 804-481
This Old House Ventures, LLC	This old house / Episode 312.	PA 804-357
This Old House Ventures, LLC	This old house / Episode 313.	PA 804-354
This Old House Ventures, LLC	This old house / Episode 314.	PA 804-358
This Old House Ventures, LLC	This old house / Episode 315.	PA 827-324
This Old House Ventures, LLC	This old house / Episode 316.	PA 804-154
This Old House Ventures, LLC	This old house / Episode 317.	PA 804-146
This Old House Ventures, LLC	This old house / Episode 318.	PA 749-253
This Old House Ventures, LLC	This old house / Episode 319.	PA 804-133
This Old House Ventures, LLC	This old house / Episode 320.	PA 804-145
This Old House Ventures, LLC	This old house / Episode 321.	PA 804-144
This Old House Ventures, LLC	This old house / Episode 322.	PA 804-121
This Old House Ventures, LLC	This old house / Episode 323.	PA 804-120
This Old House Ventures, LLC	This old house / Episode 324.	PA 749-252
This Old House Ventures, LLC	This old house / Episode 325.	PA 804-152
This Old House Ventures, LLC	This old house / Episode 326.	PA 804-149
This Old House Ventures, LLC	This old house; 400 series, 26 episodes	PA 896-451
This Old House Ventures, LLC	This old house; 500 series, 26 episodes	PA 896-300
This Old House Ventures, LLC	This old house; 600 series, 26 episodes	PA 10-810-251
This Old House Ventures, LLC	This old house; 700 series, 26 episodes	PA 400-879
This Old House Ventures, LLC	This old house; 800 series, 26 episodes	PA 454-902
This Old House Ventures, LLC	This old house; 900 series, 26 episodes	PA 480-787
This Old House Ventures, LLC	This old house; 1000 series, 26 episodes	PA 514-501
This Old House Ventures, LLC	This old house / Episode 1101.	PA 625-549

Owner	Title	Registration Number
LLC		
This Old House Ventures, LLC	This old house / Episode 1102.	PA 629-522
This Old House Ventures, LLC	This old house / Episode 1103.	PA 629-521
This Old House Ventures, LLC	This old house / Episode 1104.	PA 629-525
This Old House Ventures, LLC	This old house / Episode 1105.	PA 629-550
This Old House Ventures, LLC	This old house / Episode 1106.	PA 629-548
This Old House Ventures, LLC	This old house / Episode 1107.	PA 629-545
This Old House Ventures, LLC	This old house / Episode 1108.	PA 629-523
This Old House Ventures, LLC	This old house / Episode 1109.	PA 629-528
This Old House Ventures, LLC	This old house / Episode 1110.	PA 629-527
This Old House Ventures, LLC	This old house / Episode 1111.	PA 629-552
This Old House Ventures, LLC	This old house / Episode 1112.	PA 629-551
This Old House Ventures, LLC	This old house / Episode 1113.	PA 629-555
This Old House Ventures, LLC	This old house / Episode 1114.	PA 629-547
This Old House Ventures, LLC	This old house / Episode 1115.	PA 629-557
This Old House Ventures, LLC	This old house / Episode 1116.	PA 629-556
This Old House Ventures, LLC	This old house / Episode 1117.	PA 629-542
This Old House Ventures, LLC	This old house / Episode 1118.	PA 692-541
This Old House Ventures, LLC	This old house / Episode 1119.	PA 729-388
This Old House Ventures, LLC	This old house / Episode 1120.	PA 729-415
This Old House Ventures, LLC	This old house / Episode 1121.	PA 629-554
This Old House Ventures, LLC	This old house / Episode 1122.	PA 629-553
This Old House Ventures, LLC	This old house / Episode 1123.	PA 629-546
This Old House Ventures, LLC	This old house / Episode 1124.	PA 629-544
This Old House Ventures, LLC	This old house / Episode 1125.	PA 629-543

Owner	Title	Registration Number
This Old House Ventures, LLC	This old house / Episode 1126.	PA 729-390
This Old House Ventures, LLC	This old house / Episode 1201.	PA 802-726
This Old House Ventures, LLC	This old house / Episode 1202.	PA 802-725
This Old House Ventures, LLC	This old house / Episode 1203.	PA 802-724
This Old House Ventures, LLC	This old house / Episode 1204.	PA 802-723
This Old House Ventures, LLC	This old house / Episode 1205.	PA 802-722
This Old House Ventures, LLC	This old house / Episode 1206.	PA 802-720
This Old House Ventures, LLC	This old house / Episode 1207.	PA 802-721
This Old House Ventures, LLC	This old house / Episode 1208.	PA 802-719
This Old House Ventures, LLC	This old house / Episode 1209.	PA 802-718
This Old House Ventures, LLC	This old house / Episode 1210.	PA 802-716
This Old House Ventures, LLC	This old house / Episode 1211.	PA 802-715
This Old House Ventures, LLC	This old house / Episode 1212.	PA 802-683
This Old House Ventures, LLC	This old house / Episode 1213.	PA 802-682
This Old House Ventures, LLC	This old house / Episode 1214.	PA 802-684
This Old House Ventures, LLC	This old house / Episode 1215.	PA 802-685
This Old House Ventures, LLC	This old house / Episode 1216.	PA 802-686
This Old House Ventures, LLC	This old house / Episode 1217.	PA 802-687
This Old House Ventures, LLC	This old house / Episode 1218.	PA 802-688
This Old House Ventures, LLC	This old house / Episode 1219.	PA 802-689
This Old House Ventures, LLC	This old house / Episode 1220.	PA 802-690
This Old House Ventures, LLC	This old house / Episode 1221.	PA 802-691
This Old House Ventures, LLC	This old house / Episode 1222.	PA 802-692
This Old House Ventures, LLC	This old house / Episode 1223.	PA 802-493
This Old House Ventures, LLC	This old house / Episode 1224.	PA 802-492

Owner	Title	Registration Number
LLC		
This Old House Ventures, LLC	This old house / Episode 1225.	PA 802-491
This Old House Ventures, LLC	This old house / Episode 1226.	PA 802-495
This Old House Ventures, LLC	This old house / Episode 1301.	PA 802-494
This Old House Ventures, LLC	This old house / Episode 1302.	PA 802-490
This Old House Ventures, LLC	This old house / Episode 1303.	PA 802-487
This Old House Ventures, LLC	This old house / Episode 1304.	PA 802-486
This Old House Ventures, LLC	This old house / Episode 1305.	PA 802-489
This Old House Ventures, LLC	This old house / Episode 1306.	PA 802-488
This Old House Ventures, LLC	This old house / Episode 1307.	PA 802-484
This Old House Ventures, LLC	This old house / Episode 1308.	PA 802-485
This Old House Ventures, LLC	This old house / Episode 1309.	PA 798-787
This Old House Ventures, LLC	This old house / Episode 1310.	PA 798-785
This Old House Ventures, LLC	This old house / Episode 1311.	PA 798-788
This Old House Ventures, LLC	This old house / Episode 1312.	PA 798-780
This Old House Ventures, LLC	This old house / Episode 1313.	PA 798-778
This Old House Ventures, LLC	This old house / Episode 1314.	PA 798-779
This Old House Ventures, LLC	This old house / Episode 1315.	PA 798-783
This Old House Ventures, LLC	This old house / Episode 1316.	PA 798-781
This Old House Ventures, LLC	This old house / Episode 1317.	PA 798-784
This Old House Ventures, LLC	This old house / Episode 1318.	PA 798-786
This Old House Ventures, LLC	This old house / Episode 1319.	PA 798-745
This Old House Ventures, LLC	This old house / Episode 1320.	PA 798-744
This Old House Ventures, LLC	This old house / Episode 1321.	PA 798-743
This Old House Ventures, LLC	This old house / Episode 1322.	PA 798-742

Owner	Title	Registration Number
This Old House Ventures, LLC	This old house / Episode 1323.	PA 798-741
This Old House Ventures, LLC	This old house / Episode 1324.	PA 798-740
This Old House Ventures, LLC	This old house / Episode 1325.	PA 798-736
This Old House Ventures, LLC	This old house / Episode 1326.	PA 798-739
This Old House Ventures, LLC	This old house / Episode 1401.	PA 798-735
This Old House Ventures, LLC	This old house / Episode 1402.	PA 798-737
This Old House Ventures, LLC	This old house / Episode 1403.	PA 798-738
This Old House Ventures, LLC	This old house / Episode 1404.	PA 798-775
This Old House Ventures, LLC	This old house / Episode 1405.	PA 798-776
This Old House Ventures, LLC	This old house / Episode 1406.	PA 797-653
This Old House Ventures, LLC	This old house / Episode 1407.	PA 797-651
This Old House Ventures, LLC	This old house / Episode 1408.	PA 797-650
This Old House Ventures, LLC	This old house / Episode 1409.	PA 797-649
This Old House Ventures, LLC	This old house / Episode 1410.	PA 797-648
This Old House Ventures, LLC	This old house / Episode 1411.	PA 797-646
This Old House Ventures, LLC	This old house / Episode 1412.	PA 797-645
This Old House Ventures, LLC	This old house / Episode 1413.	PA 797-647
This Old House Ventures, LLC	This old house / Episode 1414.	PA 797-655
This Old House Ventures, LLC	This old house / Episode 1415.	PA 797-652
This Old House Ventures, LLC	This old house / Episode 1416.	PA 797-769
This Old House Ventures, LLC	This old house / Episode 1417.	PA 797-661
This Old House Ventures, LLC	This old house / Episode 1418.	PA 797-659
This Old House Ventures, LLC	This old house / Episode 1419.	PA 797-658
This Old House Ventures, LLC	This old house / Episode 1420.	PA 797-664
This Old House Ventures, LLC	This old house / Episode 1421.	PA 797-662

Owner	Title	Registration Number
LLC		
This Old House Ventures, LLC	This old house / Episode 1422.	PA 797-665
This Old House Ventures, LLC	This old house / Episode 1423.	PA 797-663
This Old House Ventures, LLC	This old house / Episode 1424.	PA 797-666
This Old House Ventures, LLC	This old house / Episode 1425.	PA 797-667
This Old House Ventures, LLC	This old house / Episode 1426.	PA 797-657
This Old House Ventures, LLC	This old house / Episode 1501.	PA 797-668
This Old House Ventures, LLC	This old house / Episode 1502.	PA 797-660
This Old House Ventures, LLC	This old house / Episode 1503.	PA 798-782
This Old House Ventures, LLC	This old house / Episode 1504.	PA 862-556
This Old House Ventures, LLC	This old house / Episode 1505.	PA 798-762
This Old House Ventures, LLC	This old house / Episode 1506.	PA 798-763
This Old House Ventures, LLC	This old house / Episode 1507.	PA 798-761
This Old House Ventures, LLC	This old house / Episode 1508.	PA 798-780
This Old House Ventures, LLC	This old house / Episode 1509.	PA 798-759
This Old House Ventures, LLC	This old house / Episode 1510.	PA 798-757
This Old House Ventures, LLC	This old house / Episode 1511.	PA 798-755
This Old House Ventures, LLC	This old house / Episode 1512.	PA 798-756
This Old House Ventures, LLC	This old house / Episode 1513.	PA 798-758
This Old House Ventures, LLC	This old house / Episode 1514.	PA 793-754
This Old House Ventures, LLC	This old house / Episode 1515.	PA 797-766
This Old House Ventures, LLC	This old house / Episode 1516.	PA 797-762
This Old House Ventures, LLC	This old house / Episode 1517.	PA 797-763
This Old House Ventures, LLC	This old house / Episode 1518.	PA 797-765
This Old House Ventures, LLC	This old house / Episode 1519.	PA 797-764

Owner	Title	Registration Number
This Old House Ventures, LLC	This old house / Episode 1520.	PA 797-767
This Old House Ventures, LLC	This old house / Episode 1521.	PA 797-785
This Old House Ventures, LLC	This old house / Episode 1522.	PA 797-768
This Old House Ventures, LLC	This old house / Episode 1523.	PA 802-755
This Old House Ventures, LLC	This old house / Episode 1524.	PA 797-783
This Old House Ventures, LLC	This old house / Episode 1525.	PA 797-784
This Old House Ventures, LLC	This old house / Episode 1526.	PA 797-761
This Old House Ventures, LLC	This old house / Episode 1601.	PA 845-225
This Old House Ventures, LLC	This old house / Episode 1425.	PA 797-667
This Old House Ventures, LLC	This old house / Episode 1426.	PA 797-657
This Old House Ventures, LLC	This old house / Episode 1501.	PA 797-668
This Old House Ventures, LLC	This old house / Episode 1502.	PA 797-660
This Old House Ventures, LLC	This old house / Episode 1503.	PA 798-782
This Old House Ventures, LLC	This old house / Episode 1504.	PA 862-556
This Old House Ventures, LLC	This old house / Episode 1505.	PA 798-762
This Old House Ventures, LLC	This old house / Episode 1506.	PA 798-763
This Old House Ventures, LLC	This old house / Episode 1507.	PA 798-761
This Old House Ventures, LLC	This old house / Episode 1508.	PA 798-780
This Old House Ventures, LLC	This old house / Episode 1509.	PA 798-759
This Old House Ventures, LLC	This old house / Episode 1510.	PA 798-757
This Old House Ventures, LLC	This old house / Episode 1511.	PA 798-755
This Old House Ventures, LLC	This old house / Episode 1512.	PA 798-756
This Old House Ventures, LLC	This old house / Episode 1513.	PA 798-758
This Old House Ventures, LLC	This old house / Episode 1514.	PA 793-754
This Old House Ventures, LLC	This old house / Episode 1515.	PA 797-766

Owner	Title	Registration Number
LLC		
This Old House Ventures, LLC	This old house / Episode 1516.	PA 797-762
This Old House Ventures, LLC	This old house / Episode 1517.	PA 797-763
This Old House Ventures, LLC	This old house / Episode 1518.	PA 797-765
This Old House Ventures, LLC	This old house / Episode 1519.	PA 797-764
This Old House Ventures, LLC	This old house / Episode 1520.	PA 797-767
This Old House Ventures, LLC	This old house / Episode 1521.	PA 797-785
This Old House Ventures, LLC	This old house / Episode 1522.	PA 797-768
This Old House Ventures, LLC	This old house / Episode 1523.	PA 802-755
This Old House Ventures, LLC	This old house / Episode 1524.	PA 797-783
This Old House Ventures, LLC	This old house / Episode 1525.	PA 797-784
This Old House Ventures, LLC	This old house / Episode 1526.	PA 797-761
This Old House Ventures, LLC	This old house / Episode 1601.	PA 845-225
This Old House Ventures, LLC	This old house / Episode 1602.	PA 845-223
This Old House Ventures, LLC	This old house / Episode 1603.	PA 845-227
This Old House Ventures, LLC	This old house / Episode 1604.	PA 845-224
This Old House Ventures, LLC	This old house / Episode 1605.	PA 845-221
This Old House Ventures, LLC	This old house / Episode 1606.	PA 845-222
This Old House Ventures, LLC	This old house / Episode 1607.	PA 845-219
This Old House Ventures, LLC	This old house / Episode 1608.	PA 845-218
This Old House Ventures, LLC	This old house / Episode 1609.	PA 845-220
This Old House Ventures, LLC	This old house / Episode 1610.	PA 845-217
This Old House Ventures, LLC	This old house / Episode 1611.	PA 845-216
This Old House Ventures, LLC	This old house / Episode 1612.	PA 857-464
This Old House Ventures, LLC	This old house / Episode 1613.	PA 845-287

Owner	Title	Registration Number
This Old House Ventures, LLC	This old house / Episode 1614.	PA 845-288
This Old House Ventures, LLC	This old house / Episode 1615.	PA 845-284
This Old House Ventures, LLC	This old house / Episode 1616.	PA 845-286
This Old House Ventures, LLC	This old house / Episode 1617.	PA 845-285
This Old House Ventures, LLC	This old house / Episode 1618.	PA 845-282
This Old House Ventures, LLC	This old house / Episode 1619.	PA 845-283
This Old House Ventures, LLC	This old house / Episode 1620.	PA 845-281
This Old House Ventures, LLC	This old house / Episode 1621.	PA 845-280
This Old House Ventures, LLC	This old house / Episode 1622.	PA 845-279
This Old House Ventures, LLC	This old house / Episode 1623.	PA 845-278
This Old House Ventures, LLC	This old house / Episode 1624.	PA 850-975
This Old House Ventures, LLC	This old house / Episode 1625.	PA 850-978
This Old House Ventures, LLC	This old house / Episode 1626.	PA 850-980
This Old House Ventures, LLC	This old house / Episode 1701.	PA 920-828
This Old House Ventures, LLC	This old house / Episode 1702.	PA 920-831
This Old House Ventures, LLC	This old house / Episode 1703.	PA 920-838
This Old House Ventures, LLC	This old house / Episode 1704.	PA 920-832
This Old House Ventures, LLC	This old house / Episode 1602.	PA 845-223
This Old House Ventures, LLC	This old house / Episode 1603.	PA 845-227
This Old House Ventures, LLC	This old house / Episode 1604.	PA 845-224
This Old House Ventures, LLC	This old house / Episode 1605.	PA 845-221
This Old House Ventures, LLC	This old house / Episode 1606.	PA 845-222
This Old House Ventures, LLC	This old house / Episode 1607.	PA 845-219
This Old House Ventures, LLC	This old house / Episode 1608.	PA 845-218
This Old House Ventures, LLC	This old house / Episode 1609.	PA 845-220

Owner	Title	Registration Number
LLC		
This Old House Ventures, LLC	This old house / Episode 1610.	PA 845-217
This Old House Ventures, LLC	This old house / Episode 1611.	PA 845-216
This Old House Ventures, LLC	This old house / Episode 1612.	PA 857-464
This Old House Ventures, LLC	This old house / Episode 1613.	PA 845-287
This Old House Ventures, LLC	This old house / Episode 1614.	PA 845-288
This Old House Ventures, LLC	This old house / Episode 1615.	PA 845-284
This Old House Ventures, LLC	This old house / Episode 1616.	PA 845-286
This Old House Ventures, LLC	This old house / Episode 1617.	PA 845-285
This Old House Ventures, LLC	This old house / Episode 1618.	PA 845-282
This Old House Ventures, LLC	This old house / Episode 1619.	PA 845-283
This Old House Ventures, LLC	This old house / Episode 1620.	PA 845-281
This Old House Ventures, LLC	This old house / Episode 1621.	PA 845-280
This Old House Ventures, LLC	This old house / Episode 1622.	PA 845-279
This Old House Ventures, LLC	This old house / Episode 1623.	PA 845-278
This Old House Ventures, LLC	This old house / Episode 1624.	PA 850-975
This Old House Ventures, LLC	This old house / Episode 1625.	PA 850-978
This Old House Ventures, LLC	This old house / Episode 1626.	PA 850-980
This Old House Ventures, LLC	This old house / Episode 1701.	PA 920-828
This Old House Ventures, LLC	This old house / Episode 1702.	PA 920-831
This Old House Ventures, LLC	This old house / Episode 1703.	PA 920-838
This Old House Ventures, LLC	This old house / Episode 1704.	PA 920-832
This Old House Ventures, LLC	This old house / Episode 1705.	PA 920-833
This Old House Ventures, LLC	This old house / Episode 1706.	PA 920-837
This Old House Ventures, LLC	This old house / Episode 1707.	PA 920-834

Owner	Title	Registration Number
This Old House Ventures, LLC	This old house / Episode 1708.	PA 920-829
This Old House Ventures, LLC	This old house / Episode 1709.	PA 920-830
This Old House Ventures, LLC	This old house / Episode 1710.	PA 920-836
This Old House Ventures, LLC	This old house / Episode 1711.	PA 920-835
This Old House Ventures, LLC	This old house / Episode 1712.	PA 920-842
This Old House Ventures, LLC	This old house / Episode 1713.	PA 920-843
This Old House Ventures, LLC	This old house / Episode 1714.	PA 920-845
This Old House Ventures, LLC	This old house / Episode 1715.	PA 920-844
This Old House Ventures, LLC	This old house / Episode 1716.	PA 920-847
This Old House Ventures, LLC	This old house / Episode 1717.	PA 920-846
This Old House Ventures, LLC	This old house / Episode 1718.	PA 920-848
This Old House Ventures, LLC	This old house / Episode 1719.	PA 920-849
This Old House Ventures, LLC	This old house / Episode 1720.	PA 920-840
This Old House Ventures, LLC	This old house / Episode 1721.	PA 920-841
This Old House Ventures, LLC	This old house / Episode 1722.	PA 920-839
This Old House Ventures, LLC	This old house / Episode 1723.	PA 911-950
This Old House Ventures, LLC	This old house / Episode 1724.	PA 911-951
This Old House Ventures, LLC	This old house / Episode 1725.	PA 911-952
This Old House Ventures, LLC	This old house / Episode 1726.	PA 911-954
This Old House Ventures, LLC	This old house / Episode 1801.	PA 957-819
This Old House Ventures, LLC	This old house / Episode 1802.	PA 957-820
This Old House Ventures, LLC	This old house / Episode 1803.	PA 957-821
This Old House Ventures, LLC	This old house / Episode 1804.	PA 957-822
This Old House Ventures, LLC	This old house / Episode 1805.	PA 957-823
This Old House Ventures, LLC	This old house / Episode 1806.	PA 957-824

Owner	Title	Registration Number
LLC		
This Old House Ventures, LLC	This old house / Episode 1807.	PA 957-825
This Old House Ventures, LLC	This old house / Episode 1808.	PA 957-826
This Old House Ventures, LLC	This old house / Episode 1809.	PA 957-827
This Old House Ventures, LLC	This old house / Episode 1810.	PA 957-828
This Old House Ventures, LLC	This old house / Episode 1811.	PA 957-829
This Old House Ventures, LLC	This old house / Episode 1812.	PA 957-830
This Old House Ventures, LLC	This old house / Episode 1813.	PA 957-831
This Old House Ventures, LLC	This old house / Episode 1814.	PA 957-832
This Old House Ventures, LLC	This old house / Episode 1815.	PA 957-833
This Old House Ventures, LLC	This old house / Episode 1816.	PA 957-834
This Old House Ventures, LLC	This old house / Episode 1817.	PA 957-835
This Old House Ventures, LLC	This old house / Episode 1818.	PA 957-836
This Old House Ventures, LLC	This old house / Episode 1819.	PA 957-837
This Old House Ventures, LLC	This old house / Episode 1820.	PA 957-838
This Old House Ventures, LLC	This old house / Episode 1821.	PA 957-839
This Old House Ventures, LLC	This old house / Episode 1822.	PA 957-840
This Old House Ventures, LLC	This old house / Episode 1823.	PA 957-841
This Old House Ventures, LLC	This old house / Episode 1824.	PA 957-842
This Old House Ventures, LLC	This old house / Episode 1825.	PA 957-843
This Old House Ventures, LLC	This old house / Episode 1826.	PA 957-844
This Old House Ventures, LLC	This old house / Episode 1901.	PA 999-640
This Old House Ventures, LLC	This old house / Episode 1902.	PA 999-641
This Old House Ventures, LLC	This old house / Episode 1903.	PA 999-642
This Old House Ventures, LLC	This old house / Episode 1904.	PA 999-643

Owner	Title	Registration Number
This Old House Ventures, LLC	This old house / Episode 1905.	PA 999-644
This Old House Ventures, LLC	This old house / Episode 1906.	PA 999-645
This Old House Ventures, LLC	This old house / Episode 1907.	PA 999-646
This Old House Ventures, LLC	This old house / Episode 1908.	PA 999-647
This Old House Ventures, LLC	This old house / Episode 1909.	PA 999-648
This Old House Ventures, LLC	This old house / Episode 1910.	PA 999-649
This Old House Ventures, LLC	This old house / Episode 1911.	PA 999-650
This Old House Ventures, LLC	This old house / Episode 1912.	PA 999-651
This Old House Ventures, LLC	This old house / Episode 1913.	PA 999-652
This Old House Ventures, LLC	This old house / Episode 1914.	PA 999-653
This Old House Ventures, LLC	This old house / Episode 1915.	PA 999-654
This Old House Ventures, LLC	This old house / Episode 1916.	PA 999-655
This Old House Ventures, LLC	This old house / Episode 1917.	PA 999-656
This Old House Ventures, LLC	This old house / Episode 1918.	PA 999-657
This Old House Ventures, LLC	This old house / Episode 1919.	PA 999-658
This Old House Ventures, LLC	This old house / Episode 1920.	PA 999-659
This Old House Ventures, LLC	This old house / Episode 1921.	PA 999-660
This Old House Ventures, LLC	This old house / Episode 1922.	PA 999-661
This Old House Ventures, LLC	This old house / Episode 1923.	PA 999-662
This Old House Ventures, LLC	This old house / Episode 1924.	PA 999-663
This Old House Ventures, LLC	This old house / Episode 1925.	PA 999-664
This Old House Ventures, LLC	This old house / Episode 1926.	PA 999-665
This Old House Ventures, LLC	This old house / Episode 2001.	PA 1-047-749
This Old House Ventures, LLC	This old house / Episode 2002.	PA 1-047-750
This Old House Ventures, LLC	This old house / Episode 2003.	PA 1-047-751

Owner	Title	Registration Number
LLC		
This Old House Ventures, LLC	This old house / Episode 2004.	PA 1-047-752
This Old House Ventures, LLC	This old house / Episode 2005.	PA 1-047-753
This Old House Ventures, LLC	This old house / Episode 2006.	PA 1-047-754
This Old House Ventures, LLC	This old house / Episode 2007.	PA 1-047-755
This Old House Ventures, LLC	This old house / Episode 2008.	PA 1-047-756
This Old House Ventures, LLC	This old house / Episode 2009.	PA 1-047-757
This Old House Ventures, LLC	This old house / Episode 2010.	PA 1-047-758
This Old House Ventures, LLC	This old house / Episode 2011.	PA 1-047-759
This Old House Ventures, LLC	This old house / Episode 2012.	PA 1-047-914
This Old House Ventures, LLC	This old house / Episode 2013.	PA 1-047-915
This Old House Ventures, LLC	This old house / Episode 2014.	PA 1-047-916
This Old House Ventures, LLC	This old house / Episode 2015.	PA 1-066-304
This Old House Ventures, LLC	This old house / Episode 2016.	PA 1-047-918
This Old House Ventures, LLC	This old house / Episode 2017.	PA 1-047-919
This Old House Ventures, LLC	This old house / Episode 2018.	PA 1-047-920
This Old House Ventures, LLC	This old house / Episode 2019.	PA 1-047-921
This Old House Ventures, LLC	This old house / Episode 2020.	PA 1-047-922
This Old House Ventures, LLC	This old house / Episode 2021.	PA 1-047-923
This Old House Ventures, LLC	This old house / Episode 2022.	PA 1-047-924
This Old House Ventures, LLC	This old house / Episode 2023.	PA 1-047-925
This Old House Ventures, LLC	This old house / Episode 2024.	PA 1-047-926
This Old House Ventures, LLC	This old house / Episode 2025.	PA 1-047-760
This Old House Ventures, LLC	This old house / Episode 2026.	PA 1-047-761
This Old House Ventures, LLC	This old house--Restoring, rehabilitating, and renovating an older house	TX 607-806

Owner	Title	Registration Number
This Old House Ventures, LLC	Bob Vila's This old house	TX 700-621
This Old House Ventures, LLC	This old house kitchens: a guide to design and renovation	TX 322-785
This Old House Ventures, LLC	This old house bathrooms; a guide to design and renovation	TX 3481-210
This Old House Ventures, LLC	This old house heating, ventilation, and air conditioning: a guide to the invisible comforts of your home	TX 3-722-858
This Old House Ventures, LLC	This old house; a guide to American homes.	V3480D294
This Old House Ventures, LLC	This old house kitchens; CD-ROM.	V3480D294
This Old House Ventures, LLC	This Old House Easy Upgrades: Kitchens	TX0007470700
This Old House Ventures, LLC	This Old House Salvage-Style Projects	TX0007470696
This Old House Ventures, LLC	This Old House Easy Upgrades: Bathrooms	TX0007311411
This Old House Ventures, LLC	This Old House Fun Family Projects	TX0007286748
This Old House Ventures, LLC	This Old House Easy Upgrades: Built-Ins, Shelves & Storage	TX0007628861

Applications:

None

SCHEDULE I TO
TERMINATION AND RELEASE OF INTELLECTUAL PROPERTY SECURITY AGREEMENT

PATENTS

REEL/FRAME: 048385/0375

UNITED STATES PATENTS:

Patent No.	Issue Date	Application No.	Filing Date	Name	Owner
9,807,462	10/31/2017	13/082,256	04/07/2011	APPARATUS AND METHOD FOR AGGREGATING MEDIA CONTENT	Roku, Inc.
9,875,002	01/23/2018	13/778,105	02/26/2013	METHOD AND APPARATUS FOR CONTENT BROWSING AND SELECTION	Roku, Inc.
D546,337	07/10/2007	29/213,529	09/17/2004	GRAPHICAL USER INTERFACE COMPUTER ICON FOR A MONITOR DISPLAY	Roku, LLC
D558,781	01/01/2008	29/220,974	01/07/2005	UNIVERSAL MUSIC PLAYER	Roku, LLC
9,473,940	10/18/2016	14/668,528	03/25/2015	AUTHENTICATION OF A BROWSER-LESS DATA STREAMING DEVICE TO A NETWORK WITH AN EXTERNAL BROWSER	Roku, Inc.
9,667,630	05/30/2017	15/280,091	09/29/2016	AUTHENTICATION OF A BROWSER-LESS DATA STREAMING DEVICE TO A NETWORK WITH AN EXTERNAL BROWSER	Roku, Inc.
9,131,260	09/08/2015	13/340,507	12/29/2011	STREAMING MEDIA SYSTEM	Roku, Inc.
9,286,854	03/15/2016	13/347,619	01/10/2012	INTERNET ACCESS CARD	Roku, Inc.

Patent No.	Issue Date	Application No.	Filing Date	Name	Owner
				FOR DEPLOYMENT WITHIN A TELEVISION	
9,544,654	1/10/2017	14/839,379	8/28/2015	STREAMING MEDIA SYSTEM	Roku, Inc.
9,848,231	12/19/2017	15/043,115	02/12/2016	MULTI-INTERFACE STREAMING MEDIA SYSTEM	Roku, Inc.
8,938,755	01/20/2015	13/431,886	03/27/2012	METHOD AND APPARATUS FOR RECURRING CONTENT SEARCHES AND VIEWING WINDOW NOTIFICATION	Roku, Inc.
8,977,721	03/10/2015	13/431,910	03/27/2012	METHOD AND APPARATUS FOR DYNAMIC PRIORITIZATION OF CONTENT THROUGH INTERACTIVE BROWSING	Roku, Inc.
9,137,578	09/15/2015	13/778,068	02/26/2013	METHOD AND APPARATUS FOR SHARING CONTENT	Roku, Inc.
9,519,645	12/13/2016	14/536,339	11/07/2014	SYSTEM AND METHOD FOR SEARCHING MULTIMEDIA	Roku, Inc.
8,627,388	01/07/2014	13/431,937	03/27/2012	METHOD AND APPARATUS FOR CHANNEL PRIORITIZATION	Roku, Inc.
9,288,547	03/15/2016	14/148,564	01/06/2014	METHOD AND APPARATUS FOR CHANNEL PRIORITIZATION	Roku, Inc.
D676,005	02/12/2013	29/425,373	06/21/2012	SET TOP BOX	Roku, Inc.
8,788,578	07/22/2014	13/180,375	07/11/2011	METHOD AND APPARATUS FOR CUSTOMIZED PROVISIONING OF ON-LINE APPLICATION CHANNELS	Roku, Inc.
9,705,947	07/11/2017	14/336,480	07/21/2014	METHOD AND APPARATUS FOR CUSTOMIZED PROVISIONING OF ON-LINE APPLICATION CHANNELS	Roku, Inc.

Patent No.	Issue Date	Application No.	Filing Date	Name	Owner
D679,680	04/09/2013	29/397,869	07/21/2011	REMOTE CONTROL	Roku, Inc.
8,539,286	09/17/2013	13/778,088	02/26/2013	METHOD AND APPARATUS OF ERROR REPORTING	Roku, Inc.
8,839,050	09/16/2014	14/028,428	09/16/2013	METHOD AND APPARATUS OF ERROR REPORTING	Roku, Inc.
9,363,575	06/07/2016	13/778,094	02/26/2013	METHOD AND APPARATUS FOR VIEWING INSTANT REPLAY	Roku, Inc.
8,959,562	02/17/2015	13/778,100	02/26/2013	METHOD AND APPARATUS FOR AUTOMATIC Input and Output Devices ENGAGEMENT	Roku, Inc.
9,185,446	11/10/2015	14/582,113	12/23/2014	METHOD AND APPARATUS FOR AUTOMATIC Input and Output Devices ENGAGEMENT	Roku, Inc.
9,479,813	10/25/2016	14/923,061	10/26/2015	METHOD AND APPARATUS FOR AUTOMATIC Input and Output Devices ENGAGEMENT	Roku, Inc.
D748,649	02/02/2016	29/447,539	03/04/2013	DISPLAY SCREEN WITH AN ANIMATED ELECTRONIC PROGRAM GUIDE	Roku, Inc.
D750,120	2/23/2016	29/534,717	07/30/2015	DISPLAY SCREEN WITH AN ANIMATED ELECTRONIC PROGRAM GUIDE	Roku, Inc.
D748,131	1/26/2016	29/534,716	07/30/2015	DISPLAY SCREEN WITH AN ANIMATED ELECTRONIC PROGRAM GUIDE	Roku, Inc.
9,805,033	10/31/2017	14/216,867	03/17/2014	METHOD AND APPARATUS FOR POPULATION OF CUSTOMIZED CHANNELS	Roku, Inc.
9,420,338	08/16/2016	14/582,117	12/23/2014	APPARATUS AND METHOD FOR PROVIDING POWER ON AND POWER OFF FOR A DISPLAY DEVICE	Roku, Inc.

Patent No.	Issue Date	Application No.	Filing Date	Name	Owner
9,693,003	06/27/2017	14/582,120	12/23/2014	APPARATUS AND METHOD FOR TIMER-BASED CONTROL OF AUDIOVISUAL OUTPUT DEVICES	Roku, Inc.
9,613,586	4/4/2017	14/755,753	06/30/2015	APPARATUS AND METHOD FOR NAMING A DEVICE CONNECTED TO A TELEVISION	Roku, Inc.
9,865,225	1/9/2018	15/436,041	2/17/2017	PROVIDING A REPRESENTATION FOR A DEVICE CONNECTED TO A DISPLAY DEVICE	Roku, Inc.
9,794,883	10/17/2017	14/582,132	12/23/2014	WIRELESS STREAMING SYSTEM WITH LOW POWER MODE AND ASSOCIATED REMOTE CONTROL	Roku, Inc.
10,114,661	10/30/2018	14/536,481	11/07/2014	SYSTEM AND METHOD FOR FAST STARTING AN APPLICATION	Roku, Inc.
10,122,781	11/06/2018	15/010,788	01/29/2016	SELECTION OF VIDEO SEGMENTS FOR ADAPTIVE STREAMING	Roku, Inc.
9,894,400	2/13/2018	14/710,226	5/12/2015	PROFILE DRIVEN COMMUNICATION POLLING FOR REMOTE CONTROL	Roku, Inc.
9,601,006	3/21/2017	14/814,217	7/30/2015	A UNIVERSAL REMOTE CONTROL WITH AUTOMATIC STATE SYNCHRONIZATION	Roku, Inc.
10,091,581	10/2/2018	14/813,628	7/30/2015	AUDIO PREFERENCES FOR MEDIA CONTENT PLAYERS	Roku, Inc.
10,048,936 B2	8/14/2018	14/857,876	9/18/2015	AUDIO COMMAND INTERFACE FOR A	Roku, Inc.

Patent No.	Issue Date	Application No.	Filing Date	Name	Owner
				MULTIMEDIA DEVICE	
9,681,198	06/13/2017	14/840,962	8/31/2015	DYNAMIC GENERATION OF TRICK MODE DATA	Roku, Inc.
9,967,634	05/08/2018	15/588,314	5/5/2017	CROWD SOURCED DYNAMIC GENERATION OF TRICK MODE DATA	Roku, Inc.
9,270,563	02/23/2016	14/552,202	11/24/2014	APPARATUS AND METHOD FOR CONTENT PLAYBACK UTILIZING CROWD SOURCED STATISTICS	Roku, Inc.
9,794,150	10/17/2017	15/049,348	02/22/2016	APPARATUS AND METHOD FOR CONTENT PLAYBACK UTILIZING CROWD SOURCED STATISTICS	Roku, Inc.
9,621,989	4/11/2017	14/926,713	10/29/2015	AUDIO DEVICE WITH AUTOMATIC FAN CONTROL BASED ON A VOLUME LEVEL OF AUDIO CONTENT	Roku, Inc.
9,788,111	10/10/2017	15/455,520	3/10/2017	AUDIO DEVICE WITH AUTOMATIC FAN CONTROL BASED ON A VOLUME LEVEL OF AUDIO CONTENT	Roku, Inc.
D783,552	4/11/2017	29/548,956	12/17/2015	ELECTRONIC DEVICE DISPLAY SCREEN OR PORTION THEREOF WITH GRAPHICAL USER INTERFACE	Roku, Inc.
D797,121	9/12/2017	29/556,309	2/29/2016	DISPLAY SCREEN OR PORTION THEREOF WITH GRAPHICAL USER INTERFACE	Roku, Inc.
D795,271	8/22/2017	29/556,311	2/29/2016	DISPLAY SCREEN OR PORTION THEREOF WITH GRAPHICAL USER INTERFACE	Roku, Inc.
10,127,371	11/13/2018	14/966,576	12/11/2015	USER IDENTIFICATION BASED ON THE MOTION OF	Roku, Inc.

Patent No.	Issue Date	Application No.	Filing Date	Name	Owner
				A DEVICE	
9,723,258	8/1/2017	14/984,526	12/30/2015	ORIENTATION ADJUSTMENT FOR CASTING VIDEOS	Roku, Inc.
10,021,341	7/10/2018	15/633,954	6/27/2017	ORIENTATION ADJUSTMENT FOR CASTING VIDEOS	Roku, Inc.
9,936,263	4/3/2018	15/283,932	10/3/2016	CONTROLLING DISPLAY OF MEDIA CONTENT	Roku, Inc.
D781,911	3/21/2017	29/556,313	2/29/2016	DISPLAY SCREEN OR PORTION THEREOF WITH ANIMATED GRAPHICAL USER INTERFACE	Roku, Inc.
9,996,311	6/12/2018	15/070,800	3/15/2016	EFFICIENT COMMUNICATION INTERFACE FOR CASTING INTERACTIVELY CONTROLLED VISUAL CONTENT	Roku, Inc.
10,057,654	8/21/2018	15/010,857	1/29/2016	SELECTION AND ALIGNMENT OF VIDEO SEGMENTS FOR ADAPTIVE STREAMING	Roku, Inc.
9,866,904	1/9/2018	15/348,592	11/10/2016	INTERACTION RECOGNITION OF A TELEVISION CONTENT INTERACTION DEVICE	Roku, Inc.
10,110,943	10/23/2018	15/225,338	8/1/2016	FLEXIBLE OUTPUT OF STREAMING MEDIA	Roku, Inc.
9,749,700	8/29/2017	15/357,319	11/21/2016	AUTOMATIC DISPLAY OF CLOSED CAPTIONING INFORMATION	Roku, Inc.
10,003,834	6/19/2018	15/363,263	11/29/2016	ENHANCED TRICK MODE TO ENABLE PRESENTATION OF INFORMATION RELATED TO	Roku, Inc.

Patent No.	Issue Date	Application No.	Filing Date	Name	Owner
				CONTENT BEING STREAMED	
10,110,887	10/23/2018	15/465,147	3/21/2017	DISPLAY DIAGNOSTICS FOR ENHANCING PERFORMANCE OF DISPLAY DEVICES	Roku, Inc.
10,158,960	12/18/2018	15/915,740	3/8/2018	DYNAMIC MULTI-SPEAKER OPTIMIZATION	Roku, Inc.
7,979,877	7/12/2011	10/745,899	12/23/2003	ADVERTISING METHODS FOR ADVERTISING TIME SLOTS AND EMBEDDED OBJECTS	Roku, Inc.
8,522,273	8/27/2013	13/175,663	7/12/2011	ADVERTISING METHODS FOR ADVERTISING TIME SLOTS AND EMBEDDED OBJECTS	Roku, Inc.
9,865,017	1/9/2018	13/621,733	9/17/2012	SYSTEM AND METHOD FOR PROVIDING INTERACTIVE ADVERTISEMENT	Roku, Inc.
10,032,192	7/24/2018	13/621,794	9/17/2012	AUTOMATIC LOCALIZATION OF ADVERTISEMENTS	Roku, Inc.
9,154,852	10/6/2015	13/950,234	7/24/2013	ADVERTISING METHODS FOR ADVERTISING TIME SLOTS AND EMBEDDED OBJECTS	Roku, Inc.

Pending Applications:

Application No.	Filing Date	Name	Owner
15/784,900	10/16/2017	AGGREGATING MEDIA CONTENT IN NON-TEMPORAL FORMAT	Roku, Inc.
15/812,698	11/14/2017	MULTI-INTERFACE STREAMING MEDIA SYSTEM	Roku, Inc.
14/558,648	12/02/2014	SYSTEM AND METHOD FOR SEARCHING MULTIMEDIA	Roku, Inc.

Application No.	Filing Date	Name	Owner
15/343,426	11/04/2016	SEARCHING MULTIMEDIA BASED ON TRIGGER EVENTS	Roku, Inc.
15/332,743	10/24/2016	METHOD AND APPARATUS FOR AUTOMATIC Input and Output Devices ENGAGEMENT	Roku, Inc.
15/631,508	06/23/2017	APPARATUS AND METHOD FOR TIMER-BASED CONTROL OF AUDIOVISUAL OUTPUT DEVICES	Roku, Inc.
15/829,256	12/1/2017	PROVIDING A REPRESENTATION FOR A DEVICE CONNECTED TO A DISPLAY DEVICE	Roku, Inc.
14/755,833	06/30/2015	APPARATUS AND METHOD FOR RESTORING A DISABLED TELEVISION SPEAKER	Roku, Inc.
15/728,875	10/10/2017	WIRELESS STREAMING SYSTEM WITH LOW POWER MODE AND ASSOCIATED REMOTE CONTROL	Roku, Inc.
14/536,463	11/07/2014	SYSTEM AND METHOD FOR COLLECTING DATA	Roku, Inc.
16/155,617	10/09/2018	SELECTION OF VIDEO SEGMENTS FOR ADAPTIVE STREAMING	Roku, Inc.
15/868,622	1/11/2018	PROFILE DRIVEN COMMUNICATION POLLING FOR REMOTE CONTROL	Roku, Inc.
16/148,366	10/1/2018	AUDIO PREFERENCES FOR MEDIA CONTENT PLAYERS	Roku, Inc.
14/813,584	7/30/2015	SOLID-STATE CAPTURE OF BROADCAST MEDIA	Roku, Inc.
14/813,766	7/30/2015	MOBILE DEVICE BASED CONTROL DEVICE LOCATOR	Roku, Inc.
15/249,985	8/29/2016	CROWD SOURCED INDEXING AND/OR SEARCHING OF CONTENT	Roku, Inc.
14/813,703	7/30/2015	DETECTION OF SMARTPHONE TO ENABLE CONTENT	Roku, Inc.
14/958,283	12/3/2015	DETECTION OF A MOBILE DEVICE TO	Roku, Inc.

Application No.	Filing Date	Name	Owner
		IDENTIFY USER PREFERENCES AND PROVIDE CUSTOMIZED FUNCTIONALITY OR CONTENT	
16/103,487	8/14/2018	AUDIO COMMAND INTERFACE FOR A MULTIMEDIA DEVICE	Roku, Inc.
16842748.2	3/13/2018	DYNAMIC GENERATION OF TRICK MODE DATA	Roku, Inc.
15/966,346	4/30/2018	CROWD SOURCED DYNAMIC GENERATION OF TRICK MODE DATA	Roku, Inc.
15/690,112	08/29/2017	GENERATING PLAYBACK CONFIGURATIONS BASED ON AGGREGATED CROWD-SOURCED STATISTICS	Roku, Inc.
29/556,306	2/29/2016	DISPLAY SCREEN OR PORTION THEREOF WITH ANIMATED GRAPHICAL USER INTERFACE	Roku, Inc.
15/076,162	3/21/2016	CONTROLLING TELEVISION SETTINGS FROM A MOBILE DEVICE	Roku, Inc.
16/131,378	9/14/2018	USER IDENTIFICATION BASED ON THE MOTION OF A DEVICE	Roku, Inc.
14/984,292	12/30/2015	PROVIDING ROLLING UPDATES OF DISTRIBUTED SYSTEMS WITH A SHARED CACHE	Roku, Inc.
15/986,206	5/22/2018	ORIENTATION ADJUSTMENT FOR CASTING VIDEOS	Roku, Inc.
15/220,696	7/27/2016	STREAMING SYNCHRONIZED MEDIA CONTENT TO SEPARATE DEVICES	Roku, Inc.
PCT/US2017/025910	4/4/2017	STREAMING SYNCHRONIZED MEDIA CONTENT TO SEPARATE DEVICES	Roku, Inc.
16/036,043	7/16/2018	SELECTION AND ALIGNMENT OF VIDEO SEGMENTS FOR ADAPTIVE STREAMING	Roku, Inc.
15/010,916	1/29/2016	EXTENDED SELECTION AND ALIGNMENT OF VIDEO SEGMENTS	Roku, Inc.

Application No.	Filing Date	Name	Owner
		FOR ADAPTIVE STREAMING	
15/070,491	3/15/2016	BROWN OUT DETECTION	Roku, Inc.
15/830,689	12/4/2017	INTERACTION RECOGNITION OF A TELEVISION CONTENT INTERACTION DEVICE	Roku, Inc.
15/233,207	8/10/2016	DISTRIBUTED NETWORK VOICE PROCESSING SYSTEM	Roku, Inc.
15/689,271	8/29/2017	AUTOMATIC DISPLAY OF CLOSED CAPTIONING INFORMATION	Roku, Inc.
15/359,747	11/23/2016	PREDICTIVE APPLICATION CACHING	Roku, Inc.
15/357,595	11/21/2016	STREAMING CONTENT BASED ON SKIP HISTORIES	Roku, Inc.
15/357,289	11/21/2016	RECOMMENDING CONTENT BASED ON USER BEHAVIOR TRACKING AND ANALYSIS	Roku, Inc.
15/341,552	11/2/2016	IMPROVED RECEPTION OF AUDIO COMMANDS	Roku, Inc.
15/363,236	11/29/2016	SKIPPING CONTENT OF LESSER INTEREST WHEN STREAMING MEDIA	Roku, Inc.
15/478,413	4/4/2017	TIME AND CONTENT RESTRICTIONS BASED ON USER-IDENTIFICATION	Roku, Inc.
PCT/US18/26032	4/4/2018	TIME AND CONTENT RESTRICTIONS BASED ON USER-IDENTIFICATION	Roku, Inc.
		INTERACTIVE CONTENT WHEN THE SECONDARY CONTENT IS SERVER STITCHED	
16/047,804	7/27/2018	CLIENT SIDE STITCHING OF SECONDARY CONTENT	Roku, Inc.
16/047,822	7/27/2018	WEAVE STREAMING CONTENT INTO A LINEAR VIEWING EXPERIENCE	Roku, Inc.
16/047,832	7/27/2018	NETWORK-BASED USER IDENTIFICATION	Roku, Inc.
15/478,444	4/4/2017	NETWORK-BASED USER IDENTIFICATION	Roku, Inc.
PCT/US18/26033	4/4/2018	NETWORK-BASED USER IDENTIFICATION	Roku, Inc.

Application No.	Filing Date	Name	Owner
		IDENTIFICATION	
15/477,275	4/3/2017	REMOTE CONTROL WITH CONFIGURABLE BUTTONS	Roku, Inc.
PCT/US18/24507	3/27/2018	REMOTE CONTROL WITH CONFIGURABLE BUTTONS	Roku, Inc.
15/455,561	3/10/2017	CONNECTOR DEVICE WITH ANTENNA CONNECTION	Roku, Inc.
PCT/US18/21705	3/9/2018	CONNECTOR DEVICE WITH ANTENNA CONNECTION	Roku, Inc.
PCT/US18/23101	3/19/2018	DISPLAY DIAGNOSTICS FOR ENHANCING PERFORMANCE OF DISPLAY DEVICES	Roku, Inc.
15/478,448	4/4/2017	INTERACTION-BASED USER IDENTIFICATION	Roku, Inc.
PCT/US18/26034	4/4/2018	INTERACTION-BASED USER IDENTIFICATION	Roku, Inc.
16/102,957	8/14/2018	MESSAGE PROCESSING USING A CLIENT-SIDE CONTROL GROUP	Roku, Inc.
15/962,478	4/25/2018	REMOTE CONTROL WITH PRESENCE SENSOR	Roku, Inc.
15/646,275	7/11/2017	AUTOMATIC DETERMINATION OF DISPLAY DEVICE FUNCTIONALITY	Roku, Inc.
15/646,379	7/11/2017	CONTROLLING VISUAL INDICATORS IN AN AUDIO RESPONSIVE ELECTRONIC DEVICE, AND CAPTURING AND PROVIDING AUDIO USING AN API, BY NATIVE AND NON-NATIVE COMPUTING DEVICES AND SERVICES	Roku, Inc.
16/032,730	7/11/2018	AUDIO RESPONSIVE DEVICE WITH PLAY/STOP AND TELL ME SOMETHING BUTTONS	Roku, Inc.
16/044,748	7/25/2018	INTELLIGENT DOWNLOAD OF CONTENT	Roku, Inc.

Application No.	Filing Date	Name	Owner
29/612,494	8/1/2017	DISPLAY SCREEN OR PORTION THEREOF WITH ANIMATED GRAPHICAL USER INTERFACE	Roku, Inc.
29/612,495	8/1/2017	DISPLAY SCREEN OR PORTION THEREOF WITH ANIMATED GRAPHICAL USER INTERFACE	Roku, Inc.
15/806,379	11/8/2017	ENHANCED PLAYBACK BAR	Roku, Inc.
15/806,384	11/8/2017	AUTOMATICALLY AND PROGRAMMATICALLY GENERATING SCENE CHANGE MARKERS	Roku, Inc.
15/940,386	3/29/2018	CROWDSOURCED MOVIE AND TV TRAILERS	Roku, Inc.
16/032,868	7/11/2018	LOCAL AND CLOUD SPEECH RECOGNITION	Roku, Inc.
16/032,724	7/11/2018	MEDIA SYSTEM WITH MULTIPLE DIGITAL ASSISTANTS	Roku, Inc.
15/802,719	11/3/2017	TRACKING PROXIMITIES OF DEVICES AND/OR OBJECTS	Roku, Inc.
PCT/US18/58649	11/1/2018	TRACKING PROXIMITIES OF DEVICES AND/OR OBJECTS	Roku, Inc.
15/849,103	12/20/2017	MASS INSERTION INTO SINGLE-THREADED DATABASES	Roku, Inc.
15/896,369	2/14/2018	PRODUCTION CONSOLE AUTHORIZATION PERMISSIONS	Roku, Inc.
15/994,362	5/31/2018	REAL-TIME ASSESSMENT OF MULTIMEDIA SERVICE IN A PARTICULAR ENVIRONMENT	Roku, Inc.
15/994,382	5/31/2018	SYSTEM AND METHOD FOR CONFIGURING AN EXTENDER DEVICE	Roku, Inc.
15/960,638	4/24/2018	CUSTOMIZING A GUI BASED ON USER BIOMETRICS	Roku, Inc.
15/895,047	2/13/2018	TRIGGER WORD DETECTION WITH MULTIPLE DIGITAL ASSISTANTS	Roku, Inc.

Application No.	Filing Date	Name	Owner
15/961,054	4/24/2018	CROWDSOURCED PREDICTION OF CDN PERFORMANCE FOR ZERO BUFFER DELIVERY OF CONTENT	Roku, Inc.
15/962,030	4/25/2018	CLIENT SIDE STITCHING OF CONTENT INTO A MULTIMEDIA STREAM	Roku, Inc.
16/184,400	11/8/2018	DYNAMIC MULTI-SPEAKER OPTIMIZATION	Roku, Inc.
16/133,811	9/18/2018	AUDIO SYNCHRONIZATION OF A DUMB SPEAKER AND A SMART SPEAKER USING A SPREAD CODE	Roku, Inc.
13/621,782	9/17/2012	SYSTEM AND METHOD FOR OFFERING AND BILLING ADVERTISEMENT OPPORTUNITIES	Roku, Inc.
15/845,595	12/18/2017	SYSTEM AND METHOD FOR PROVIDING INTERACTIVE ADVERTISEMENT	Roku, Inc.
62/646,994	3/23/2018	MEDIA DEVICE UPGRADING SYSTEM	Roku, Inc.
16/133,797	9/18/2018	AUDIO CANCELLATION AND CONTENT RECOGNITION OF AUDIO RECEIVED OVER HDMI/ARC	Roku, Inc.
16/133,802	9/18/2018	DYNAMICALLY SWITCHING TO/FROM A FIRST NETWORK DURING AUDIO PLAYBACK OVER HDMI/ARC	Roku, Inc.
16/133,813	9/18/2018	WIRELESS AUDIO SYNCHRONIZATION USING A SPREAD CODE	Roku, Inc.
16/133,817	9/18/2018	IDENTIFYING AUDIO CHARACTERISTICS OF A ROOM USING A SPREAD CODE	Roku, Inc.
62/741,060	10/4/2018	REMOTE CONTROL FOR WIRELESS SPEAKERS	Roku, Inc.
16/049,976	7/31/2018	MORE SECURE DEVICE PAIRING	Roku, Inc.
16/025,376	7/2/2018	INTELLIGENT POWER REDUCTION IN	Roku, Inc.

Application No.	Filing Date	Name	Owner
		AUDIO AMPLIFIERS	
15/547,111	1/27/2016	AUDIO TIME SYNCHRONIZATION USING PRIORITIZED SCHEDULE	Roku, Inc.
15/547,093	1/27/2016	SELF-ORGANIZING AUDIO SYNCHRONIZATION	Roku, Inc.
15/547,106	1/27/2016	SYNCHRONIZATION IN AUDIO PLAYBACK NETWORK INDEPENDENT OF SYSTEM CLOCK	Roku, Inc.
16/319,991	1/23/2019	SYNCHRONIZATION WITH SYNTHESIZED AUDIO CLOCK	Roku, Inc.
16/128,565	9/12/2018	ADAPTIVE SWITCHING IN A WHILE HOME ENTERTAINMENT SYSTEM	Roku, Inc.
		POST-PRODUCTION DE-MURA OF A TELEVISION USING A MOBILE DEVICE	Roku, Inc.
16/157,676	10/11/2018	DYNAMICALLY ADJUSTING VIDEO TO IMPROVE SYNCHRONIZATION WITH AUDIO	Roku, Inc.
16/128,624	9/12/2018	TUNABLE NARROW-BAND INFRARED RECEIVER	Roku, Inc.
15/999,022	8/20/2018	NON-TELEVISION EXPERIENCE TRIGGERS	Roku, Inc.
16/194,893	11/19/2018	AD-HOC LIGHTWEIGHT mPOS REMOTE CONTROL	Roku, Inc.
62/769,981	11/20/2018	PROVIDING OVER-THE-AIR CONTENT TO ANY DEVICE	Roku, Inc.
62/775,453	12/5/2018	LOW LATENCY DISTRIBUTION OF AUDIO USING A SINGLE RADIO	Roku, Inc.
62/775,450	12/5/2018	AUDIO SEARCH RESULTS IN A MULTI-CONTENT SOURCE ENVIRONMENT	Roku, Inc.
62/779,698	12/14/2018	DOWNLOADABLE AVOD CONTENT	Roku, Inc.
62/775,452	12/5/2018	ADVANCED LAYOUT EDITOR	Roku, Inc.
16/220,080	12/14/2018		Roku, Inc.

Patent Licenses

None.

REEL/FRAME: 051300/0931

Patents

Grantor	Patent	Application/ Patent No.	Filing Date
Roku, Inc.	DISPLAY SCREEN OR PORTION THEREOF WITH ANIMATED GRAPHICAL USER INTERFACE	D849,759	8/1/2017
Roku, Inc.	DISPLAY SCREEN OR PORTION THEREOF WITH ANIMATED GRAPHICAL USER INTERFACE	D849,760	8/1/2017
Roku, Inc.	AUTOMATIC DISPLAY OF CLOSED CAPTIONING INFORMATION	10,194,209	8/29/2017
Roku, Inc.	RECEPTION OF AUDIO COMMANDS	10,210,863	11/2/2016
Roku, Inc.	REMOTE CONTROL WITH CONFIGURABLE BUTTONS	10,217,577	4/3/2017
Roku, Inc.	EXTENDED SELECTION AND ALIGNMENT OF VIDEO SEGMENTS FOR ADAPTIVE STREAMING	10,218,755	1/29/2016
Roku, Inc.	MULTI-INTERFACE STREAMING MEDIA SYSTEM	10,219,030	11/14/2017

Grantor	Patent	Application/ Patent No.	Filing Date
Roku, Inc.	PROVIDING ROLLING UPDATES OF DISTRIBUTED SYSTEMS WITH A SHARED CACHE	10,229,058	12/30/2015
Roku, Inc.	TRACKING PROXIMITIES OF DEVICES AND/OR OBJECTS	10,237,686	11/3/2017
Roku, Inc.	SEARCHING MULTIMEDIA BASED ON TRIGGER EVENTS	10,261,999	11/4/2016
Roku, Inc.	ENHANCED PLAYBACK BAR	10,334,326	11/8/2017
Roku, Inc.	TIMER-BASED CONTROL OF AUDIOVISUAL OUTPUT DEVICES	10,349,131	6/23/2017
Roku, Inc.	TUNABLE NARROWBAND INFRARED RECEIVER	10,361,788	8/20/2018
Roku, Inc.	SYSTEM AND METHOD FOR COLLECTING DATA	10,368,121	11/7/2014
Roku, Inc.	SYSTEM AND METHOD FOR OFFERING AND BILLING ADVERTISEMENT OPPORTUNITIES	10,387,920	9/17/2012
Roku, Inc.	SYSTEM AND METHOD FOR PROVIDING INTERACTIVE ADVERTISEMENT	10,387,949	12/18/2017
Roku, Inc.	DISTRIBUTED VOICE PROCESSING SYSTEM	10,388,273	8/10/2016
Roku, Inc.	RECOMMENDING CONTENT BASED ON USER BEHAVIOR TRACKING AND ANALYSIS	10,390,062	11/21/2016
Roku, Inc.	PROFILE DRIVEN COMMUNICATION POLLING FOR REMOTE CONTROL	10,390,073	1/11/2018
Roku, Inc.	INTERACTION RECOGNITION	10,390,086	12/4/2017

Grantor	Patent	Application/ Patent No.	Filing Date
	OF A TELEVISION CONTENT INTERACTION DEVICE		
Roku, Inc.	AUTOMATICALLY AND PROGRAMMATICALLY GENERATING CROWDSOURCED TRAILERS	10,390,110	3/29/2018
Roku, Inc.	MOBILE DEVICE BASED CONTROL DEVICE LOCATOR	10,401,473	7/30/2015
Roku, Inc.	WIRELESS STREAMING SYSTEM WITH LOW POWER MODE AND ASSOCIATED REMOTE CONTROL	10,412,676	10/10/2017
Roku, Inc.	NETWORK-BASED USER IDENTIFICATION	10,425,981	4/4/2017
Roku, Inc.	BROWN OUT CONDITION DETECTION AND DEVICE CALIBRATION	10,437,304	3/15/2016
Roku, Inc.	AUTOMATIC DETERMINATION OF DISPLAY DEVICE FUNCTIONALITY	10,447,537	7/11/2017
Roku, Inc.	INTERACTION-BASED USER IDENTIFICATION	10,452,350	4/4/2017
Roku, Inc.	REMOTE CONTROL WITH PRESENCE SENSOR	10,455,322	4/25/2018
Roku, Inc.	CONGESTION CONTROL METHOD FOR DYNAMICALLY MAXIMIZING COMMUNICATION LINK THROUGHPUT	9,306,860	10/14/2013
Roku, Inc.	METHOD OF STABILIZED ADAPTIVE VIDEO	10,021,159	5/16/2017

Grantor	Patent	Application/ Patent No.	Filing Date
	STREAMING FOR HIGH DYNAMIC RANGE (HDR)		
Roku DX Holdings, Inc.	DECISION DASHBOARD BALANCING COMPETING OBJECTIVES	9,482,442	4/24/2015
Roku, Inc.	EXTENDED SELECTION AND ALIGNMENT OF VIDEO SEGMENTS FOR ADAPTIVE STREAMING	16/266,402	2/4/2019
Roku, Inc.	MULTI-INTERFACE STREAMING MEDIA SYSTEM	16/272,164	2/11/2019
Roku, Inc.	PROVIDING ROLLING UPDATES OF DISTRIBUTED SYSTEMS WITH A SHARED CACHE	16/281,885	2/21/2019
Roku, Inc.	TRACKING PROXIMITIES OF DEVICES AND/OR OBJECTS	16/281,901	2/21/2019
Roku, Inc.	MEDIA DEVICE UPGRADING SYSTEM	16/357,740	3/19/2019
Roku, Inc.	PROVIDING OVER-THE-AIR CONTENT TO ANY DEVICE	16/430,982	6/4/2019
Roku, Inc.	DOWNLOADABLE AVOD CONTENT	16/430,990	6/4/2019
Roku, Inc.	BROWN OUT CONDITION DETECTION AND DEVICE CALIBRATION	16/448,203	6/21/2019

Grantor	Patent	Application/ Patent No.	Filing Date
Roku, Inc.	RECOMMENDING CONTENT BASED ON USER BEHAVIOR TRACKING AND ANALYSIS	16/459,722	7/2/2019
Roku, Inc.	NETWORK-BASED USER IDENTIFICATION	16/459,728	7/2/2019
Roku, Inc.	AUTOMATICALLY AND PROGRAMMATICALLY GENERATING CROWDSOURCED TRAILERS	16/459,730	7/2/2019
Roku, Inc.	SYSTEM AND METHOD FOR COLLECTING DATA	16/524,969	7/29/2019
Roku, Inc.	MULTI-AGENT RING BUFFER	16/542,915	8/16/2019
Roku, Inc.	MOBILE DEVICE BASED CONTROL DEVICE LOCATOR	16/545,426	8/20/2019
Roku, Inc.	USING NON-AUDIO DATA EMBEDDED IN AN AUDIO SIGNAL	16/553,579	8/28/2019
Roku, Inc.	WIRELESS STREAMING SYSTEM WITH LOW POWER MODE AND ASSOCIATED REMOTE CONTROL	16/556,513	8/30/2019
Roku, Inc.	SMART REMOTE CONTROL FOR AUDIO RESPONSIVE MEDIA DEVICE	16/566,513	9/10/2019

Grantor	Patent	Application/ Patent No.	Filing Date
Roku, Inc.	AUTOMATIC DETERMINATION OF DISPLAY DEVICE FUNCTIONALITY	16/653,118	07/11/2017
Roku, Inc.	MEASURING AND EVALUATING A TEST SIGNAL GENERATED BY A DEVICE UNDER TEST(DUT)	16/662,785	10/24/2019
Roku, Inc.	AD-HOC LIGHTWEIGHT MPOS REMOTE CONTROL	16/669,664	10/31/2019
Roku, Inc.	AUDIO SEARCH RESULTS IN A MULTI-CONTENT SOURCE ENVIRONMENT	16/686,966	11/18/2019
Roku, Inc.	DO NOT DISTURB FUNCTIONALITY FOR VOICE RESPONSIVE DEVICES	62/862,735	6/18/2019
Roku, Inc.	USB-BASED MEDIA DEVICE UPGRADING SYSTEM	62/900,913	9/16/2019
Roku, Inc.	NETWORK-BASED MEDIA DEVICE UPGRADING SYSTEM	62/900,919	9/16/2019
Roku, Inc.	ENHANCED TRICK MODE TO ENABLE PRESENTATION OF INFORMATION RELATED TO CONTENT BEING STREAMED	PCT/US2017/060339	11/7/2017
Roku, Inc.	AUTOMATIC DISPLAY OF CLOSED CAPTIONING INFORMATION	PCT/US2017/060344	11/7/2017

Grantor	Patent	Application/ Patent No.	Filing Date
Roku, Inc.	PREDICTIVE APPLICATION CACHING	PCT/US2017/060547	11/8/2017
Roku, Inc.	SKIPPING CONTENT OF LESSER INTEREST WHEN STREAMING MEDIA	PCT/US2017/060549	11/8/2017
Roku, Inc.	RECOMMENDING CONTENT BASED ON USER BEHAVIOR TRACKING AND ANALYSIS	PCT/US2017/060575	11/8/2017
Roku, Inc.	STREAMING CONTENT BASED ON SKIP HISTORIES	PCT/US2017/061536	11/21/2016
Roku, Inc.	MESSAGE PROCESSING USING A CLIENT-SIDE CONTROL GROUP	PCT/US2018/000255	8/17/2018
Roku, Inc.	REMOTE CONTROL WITH PRESENCE SENSOR	PCT/US2018/000260	8/17/2018
Roku, Inc.	INTELLIGENT DOWNLOAD OF CONTENT	PCT/US2018/000262	8/17/2018
Roku, Inc.	CONNECTOR DEVICE WITH ANTENNA CONNECTION	PCT/US2018/021705	3/9/2018
Roku, Inc.	DISPLAY DIAGNOSTICS FOR ENHANCING PERFORMANCE OF DISPLAY DEVICES	PCT/US2018/023101	3/19/2018
Roku, Inc.	REMOTE CONTROL WITH CONFIGURABLE BUTTONS	PCT/US2018/024507	3/27/2018

Grantor	Patent	Application/ Patent No.	Filing Date
Roku, Inc.	TIME AND CONTENT RESTRICTIONS BASED ON USER-IDENTIFICATION	PCT/US2018/026032	4/4/2018
Roku, Inc.	NETWORK-BASED USER IDENTIFICATION	PCT/US2018/026033	4/4/2018
Roku, Inc.	INTERACTION-BASED USER IDENTIFICATION	PCT/US2018/026034	4/4/2018
Roku, Inc.	AUTOMATIC DETERMINATION OF DISPLAY DEVICE FUNCTIONALITY	PCT/US2018/041401	7/10/2018
Roku, Inc.	CONTROLLING VISUAL INDICATORS IN AN AUDIO RESPONSIVE ELECTRONIC DEVICE, AND CAPTURING AND PROVIDING AUDIO USING AN API	PCT/US2018/041402	7/10/2018
Roku, Inc.	LOCAL AND CLOUD SPEECH RECOGNITION	PCT/US2018/048101	8/27/2018
Roku, Inc.	AUDIO RESPONSIVE DEVICE WITH PLAY/STOP AND TELL ME SOMETHING BUTTONS	PCT/US2018/048104	8/27/2018
Roku, Inc.	MEDIA SYSTEM WITH MULTIPLE DIGITAL ASSISTANTS	PCT/US2018/048106	8/27/2018
Roku, Inc.	CLIENT SIDE STITCHING OF SECONDARY CONTENT	PCT/US2018/048754	8/30/2018

Grantor	Patent	Application/ Patent No.	Filing Date
Roku, Inc.	INTERACTIVE CONTENT WHEN THE SECONDARY CONTENT IS SERVER STITCHED	PCT/US2018/048757	8/30/2018
Roku, Inc.	WEAVE STREAMING CONTENT INTO A LINEAR VIEWING EXPERIENCE	PCT/US2018/048760	8/30/2018
Roku, Inc.	TRACKING PROXIMITIES OF DEVICES AND/OR OBJECTS	PCT/US2018/058649	11/1/2018
Roku, Inc.	AUTOMATICALLY AND PROGRAMMATICALLY GENERATING SCENE CHANGE MARKERS	PCT/US2018/059519	11/7/2018
Roku, Inc.	ENHANCED PLAYBACK BAR	PCT/US2018/059521	11/7/2018
Roku, Inc.	MASS INSERTION INTO SINGLE-THREADED DATABASES	PCT/US2018/062562	11/27/2018
Roku, Inc.	PRODUCTION CONSOLE AUTHORIZATION PERMISSIONS	PCT/US2019/017428	2/11/2019
Roku, Inc.	TRIGGER WORD DETECTION WITH MULTIPLE DIGITAL ASSISTANTS	PCT/US2019/017429	2/11/2019
Roku, Inc.	DYNAMIC MULTI-SPEAKER OPTIMIZATION	PCT/US2019/021262	3/8/2019

Grantor	Patent	Application/ Patent No.	Filing Date
Roku, Inc.	MEDIA DEVICE UPGRADING SYSTEM	PCT/US2019/023102	3/20/2019
Roku, Inc.	CROWDSOURCED PREDICTION OF CDN PERFORMANCE FOR ZERO BUFFER DELIVERY OF CONTENT	PCT/US2019/028892	4/24/2019
Roku, Inc.	CLIENT SIDE STITCHING OF CONTENT INTO A MULTIMEDIA STREAM	PCT/US2019/028893	4/24/2019
Roku, Inc.	REAL-TIME ASSESSMENT OF MULTIMEDIA SERVICE IN A PARTICULAR ENVIRONMENT	PCT/US2019/034873	5/31/2019
Roku, Inc.	SYSTEM AND METHOD FOR CONFIGURING AN EXTENDER DEVICE	PCT/US2019/034876	5/31/2019
Roku, Inc.	INTELLIGENT POWER REDUCTION IN AUDIO AMPLIFIERS	PCT/US2019/040287	7/2/2019
Roku, Inc.	MORE SECURE DEVICE PAIRING	PCT/US2019/041956	7/16/2019
Roku, Inc.	TUNABLE NARROWBAND INFRARED RECEIVER	PCT/US2019/047139	8/20/2019
Roku, Inc.	ADAPTIVE SWITCHING IN A WHOLE HOME ENTERTAINMENT SYSTEM	PCT/US2019/050316	9/10/2019

Grantor	Patent	Application/ Patent No.	Filing Date
Roku, Inc.	DYNAMICALLY ADJUSTING VIDEO TO IMPROVE SYNCHRONIZATION WITH AUDIO	PCT/US2019/050317	9/10/2019
Roku, Inc.	AUDIO SYNCHRONIZATION OF A DUMB SPEAKER AND A SMART SPEAKER USING A SPREAD CODE	PCT/US2019/051249	9/16/2019
Roku, Inc.	AUDIO CANCELLATION AND CONTENT RECOGNITION OF AUDIO RECEIVED OVER HDMI/ARC	PCT/US2019/051250	9/16/2019
Roku, Inc.	DYNAMICALLY SWITCHING TO/FROM A FIRST NETWORK DURING AUDIO PLAYBACK OVER HDMI/ARC	PCT/US2019/051252	9/16/2019
Roku, Inc.	WIRELESS AUDIO SYNCHRONIZATION USING A SPREAD CODE	PCT/US2019/051397	9/17/2019
Roku, Inc.	IDENTIFYING AUDIO CHARACTERISTICS OF A ROOM USING A SPREAD CODE	PCT/US2019/051398	9/17/2019
Roku, Inc.	SMART REMOTE CONTROL FOR AUDIO RESPONSIVE MEDIA DEVICE	PCT/US2019/053992	10/1/2019

Grantor	Patent	Application/ Patent No.	Filing Date
Roku, Inc.	POST-PRODUCTION DEMURA OF A TELEVISION USING A MOBILE DEVICE	PCT/US2019/055367	10/9/2019
Roku, Inc.	NON-TELEVISION EXPERIENCE TRIGGERS	PCT/US2019/062131	11/19/2019
Roku DX Holdings, Inc.	USING COMPETITIVE ALGORITHMS FOR THE PREDICTION AND PRICING OF ONLINE ADVERTISEMENT OPPORTUNITIES	12/856,554	8/13/2010
Roku DX Holdings, Inc.	PREDICTIVE PLATFORM FOR DETERMINING INCREMENTAL LIFT	62/882,382	8/2/2019
Roku DX Holdings, Inc.	METHODS AND SYSTEMS FOR USING CONSUMER ALIASES AND IDENTIFIERS	14/057,188	10/18/2013
Roku DX Holdings, Inc.	CREATION AND USAGE OF SYNTHETIC USER IDENTIFIERS WITHIN AN ADVERTISEMENT PLACEMENT FACILITY	13/537,991	6/29/2012
Roku DX Holdings, Inc.	DYNAMIC TARGETING ALGORITHMS FOR REAL-TIME VALUATION OF ADVERTISING PLACEMENTS	12/856,547	8/13/2010

Grantor	Patent	Application/ Patent No.	Filing Date
Roku DX Holdings, Inc.	MACHINE LEARNING FOR COMPUTING AND TARGETING BIDS FOR THE PLACEMENT OF ADVERTISEMENTS	12/856,552	8/13/2010
Roku DX Holdings, Inc.	LEARNING SYSTEM FOR ADVERTISING BIDDING AND VALUATION OF THIRD PARTY DATA	12/856,560	8/13/2010
Roku DX Holdings, Inc.	LEARNING SYSTEM FOR THE USE OF COMPETING VALUATION MODELS FOR REAL-TIME ADVERTISEMENT BIDDING	12/856,565	8/13/2010

REEL/FRAME: 056982/0194

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN102-AVA-CN01	Computing System with Channel-Change-Based Trigger Feature	China	Published	201780008900.	1/5/2017	108604252	9/28/2018	N/A	N/A	Gracenote
Roku, Inc.	GN102-AVA-CN02	Computing System with Content-Characteristic-Based Trigger Feature	China	Published	201780009065.	1/5/2017	108605150	9/28/2018	N/A	N/A	Gracenote
Roku, Inc.	GN102-AVA-EP01	Computing System with Channel-Change-Based Trigger Feature	European Patent	Published	17736335.5	1/5/2017	3400545	11/14/2018	N/A	N/A	Gracenote
Roku, Inc.	GN102-AVA-EP02	Computing System with Content-Characteristic-Based Trigger Feature	European Patent	Published	17736337.1	1/5/2017	3400709	11/14/2018	N/A	N/A	Gracenote

Roku, Inc.	GN102-AVA-HK01	Computing System with Channel-Change-Based Trigger Feature	Hong Kong	Published	19122959.0	1/5/2017	N/A	1/24/2020	N/A	N/A	Gracenote
Roku, Inc.	GN102-AVA-HK02	Computing System with Channel-Change-Based Trigger Feature	Hong Kong	Published	19122961.6	1/5/2017	N/A	1/24/2020	N/A	N/A	Gracenote
Roku, Inc.	GN102-AVA-JP01	Computing System with Channel-Change-Based Trigger Feature	Japan	Granted	2018-535099	1/5/2017	2019-503139	1/31/2019	6707138	5/21/2020	Gracenote
Roku, Inc.	GN102-AVA-JP02	Computing System with Content-Characteristic-Based Trigger Feature	Japan	Granted	2018-535104	1/5/2017	2019-507526	3/14/2019	6707139	5/21/2020	Gracenote
Roku, Inc.	GN102-AVA-JP03	Computing System with Content-Characteristic-Based Trigger Feature	Japan	Published	2020-087364	5/19/2020	2020-14121	9/3/2020	N/A	N/A	Gracenote
Roku, Inc.	GN102-AVA-JP04	Computing System with Channel-Change-Based Trigger Feature	Japan	Published	2020-087363	5/19/2020	2020-141420	9/3/2020	N/A	N/A	Gracenote
Roku, Inc.	GN102-AVA-KR01	Computing System with Channel-Change-Based Trigger Feature	Korea, Republic of (KR)	Granted	10-2018-7021995	1/5/2017	N/A	N/A	2107499	4/28/2020	Gracenote
Roku, Inc.	GN102-AVA-KR02	Computing System with Content-Characteristic-Based Trigger Feature	Korea, Republic of (KR)	Granted	10-2018-7021994	1/5/2017	N/A	N/A	2084510	2/27/2020	Gracenote

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN102-AVA-KR03	Computing System with Content-Characteristic-Based Trigger Feature	Korea, Republic of (KR)	Granted	2020-7005587	1/5/2017	N/A	N/A	2165080	10/6/2020	Gracenote
Roku, Inc.	GN102-AVA-KR04	Computing System with Channel-Change-Based Trigger Feature	Korea, Republic of (KR)	Granted	2020-7012347	1/5/2017	N/A	N/A	2169466	10/19/2020	Gracenote
Roku, Inc.	GN102-AVA-KR05	Computing System with Content-Characteristic-Based Trigger Feature	Korea, Republic of (KR)	Granted	2020-7028625	10/6/2020	N/A	N/A	10-2203496	1/11/2021	Gracenote
Roku, Inc.	GN102-AVA-KR06	Computing System with Channel-Change-Based Trigger Feature	Korea, Republic of (KR)	Application	2020-7029929	10/19/2020	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN102-AVA-US02	Computing System with Channel-Change-Based Trigger Feature	United States of America	Granted	15/399,404	1/5/2017	US-2017-0195714	7/6/2017	10,939,185	3/2/2021	Gracenote
Roku, Inc.	GN102-AVA-US03	Computing System with Content-Characteristic-Based Trigger Feature	United States of America	Granted	15/399,415	1/5/2017	US-2017-0195752	7/6/2017	10,484,758	11/19/2019	Gracenote
Roku, Inc.	GN102-AVA-US05	Computing System with Content-Characteristic-Based Trigger Feature	United States of America	Granted	16/597,597	10/9/2019	US-2020-0045380	2/6/2020	10,841,665	11/17/2020	Gracenote
Roku, Inc.	GN102-AVA-US06	Computing System with Content-Characteristic-Based Trigger Feature	United States of America	Application	17/066,028	10/8/2020	N/A	N/A	N/A	N/A	Gracenote

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN111-AVA-CN01	Detecting and Responding to Rendering of Interactive Video Content	China	Published	201880038769.	5/11/2018	110731085	1/24/2020	N/A	N/A	Gracenote
Roku, Inc.	GN111-AVA-EP01	Detecting and Responding to Rendering of Interactive Video Content	European Patent	Published	18816920.5	5/11/2018	3639522	4/22/2020	N/A	N/A	Gracenote
Roku, Inc.	GN111-AVA-HK01	Detecting and Responding to Rendering of Interactive Video Content	Hong Kong	Published	62020006472.8	4/24/2020	40017015A	9/18/2020	N/A	N/A	Gracenote
Roku, Inc.	GN111-AVA-JP01	Detecting and Responding to Rendering of Interactive Video Content	Japan	Published	2019-568685	5/11/2018	2020-523871	8/6/2020	N/A	N/A	Gracenote
Roku, Inc.	GN111-AVA-KR01	Detecting and Responding to Rendering of Interactive Video Content	Korea, Republic of (KR)	Application	2019-7036619	5/11/2018	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN111-AVA-US01	Detecting and Responding to Rendering of Interactive Video Content	United States of America	Granted	15/620.440	6/12/2017	US-2018-0359040	12/13/2018	10,972,203	4/6/2021	Gracenote
Roku, Inc.	GN111-AVA-US02	Detecting and Responding to Rendering of Interactive Video Content	United States of America	Granted	16/015,771	6/22/2018	US-2018-0359041	12/13/2018	10,972,204	4/6/2021	Gracenote
Roku, Inc.	GN117-AVA-CN02	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Location	China	Granted	201780013808.	2/28/2017	108702524	10/23/2018	108702524	6/11/2019	Gracenote
Roku, Inc.	GN117-AVA-CN03	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	China	Granted	201780013813.	2/28/2017	108702525	10/23/2018	108702525	9/27/2019	Gracenote

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN117-AVA-CN04	Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Audio Fingerprint	China	Granted	201780014047.5	2/28/2017	108702543	10/23/2018	ZL201780014047.5	8/30/2019	Gracenote
Roku, Inc.	GN117-AVA-CN05	Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Time of Broadcast	China	Granted	201780013817.7	2/28/2017	CN108713321A	10/26/2018	ZL201780013811.7	6/11/2019	Gracenote
Roku, Inc.	GN117-AVA-CN06	Media Channel Identification and Actionwith Multi-Match Detection Based on Reference Stream Comparison	China	Granted	201780013817.4	2/28/2017	108702531	10/23/2018	ZL201780013817.4	7/14/2020	Gracenote
Roku, Inc.	GN117-AVA-CN07	Method and System for Detecting and Responding to Changing of Media Channel	China	Granted	201780014054.5	2/28/2017	108702545	10/23/2018	ZL201780014054.5	12/25/2020	Gracenote
Roku, Inc.		Media Channel Identification and Action with Multi-Media Detection and Disambiguation Based on Matching with Differential Reference-Fingerprint Feature									
	GN117-AVA-CN08										
Roku, Inc.		Media Chanel Identification with Video Multi-Match Detection and Disambiguation Based on Time of Broadcast	China	Granted	201780014008.5	2/28/2017	108885629	11/23/2018	108885629	11/11/2019	Gracenote
Roku, Inc.	GN117-AVA-CN09		China	Published	201910491796.8	2/28/2017	110149162	8/20/2019	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-CN10	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Location	China	Published	201910492421.3	2/28/2017	110266418	9/20/2019	N/A	N/A	Gracenote
Roku, Inc.		Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Audio Fingerprint									
	GN117-AVA-CN11		China	Published	201910743945.5	2/28/2017	CN110516111A	11/29/2019	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-CN12	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	China	Published	201910849752.8	9/9/2019	110650356	1/3/2020	N/A	N/A	Gracenote
Roku, Inc.		Media Channel Identification and Action with Multi-Media Detection and Disambiguation Based on Matching with Differential Reference-Fingerprint Feature									
	GN117-AVA-CN13		China	Published	201911035354.9	10/29/2019	CN110891186A	3/17/2020	N/A	N/A	Gracenote

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Roku, Inc.	GN117-AVA-CN14	Media Channel Identification and Action with Multi-Match Detection Based on Reference Stream Comparison	China	Published	202010710569.2	7/22/2020	CN111954026A	11/17/2020	N/A	N/A	Gracenote
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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN117-AVA-CN15	Method and System for Detecting and Responding to Changing of Media Channel	China	Application	20201160627.3	12/30/2020	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-DE01	Media Channel Identification and Action with Multi-Match Detection Based on Reference Stream Comparison	Germany (Federal Republic of)	Granted	17760624.1	2/28/2017	3424221	1/9/2019	3424221	9/23/2020	Gracenote
Roku, Inc.	GN117-AVA-DE02	Method and System for Detecting and Responding to Changing of Media Channel	Germany (Federal Republic of)	Granted	17760641.5	2/28/2017	N/A	N/A	3424226	12/23/2020	Gracenote
Roku, Inc.	GN117-AVA-EP02	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Location	European Patent	Published	17760596.1	2/28/2017	3424218	1/9/2019	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-EP03	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	European Patent	Granted	17760606.8	2/28/2017	3424219	1/9/2019	3424219	1/20/2021	Gracenote
Roku, Inc.	GN117-AVA-EP04	Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Audio Fingerprint	European Patent	Published	17760594.6	2/28/2017	3424224	1/9/2019	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-EP05	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Time of Broadcast	European Patent	Published	17760609.2	2/28/2017	3424220	1/9/2019	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-EP08	Media Channel Identification and Action with Multi-Match Detection Based on Reference Stream Comparison	European Patent	Application	20197250.2	2/28/2017	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-FR01	Media Channel Identification and Action with Multi-Match Detection Based on Reference Stream Comparison	France	Granted	17760624.1	2/28/2017	3424221	1/9/2019	3424221	9/23/2020	Gracenote
Roku, Inc.	GN117-AVA-FR02	Method and System for Detecting and Responding to Changing of Media Channel	France	Granted	17760641.5	2/28/2017	N/A	N/A	3424226	12/23/2020	Gracenote
Roku, Inc.	GN117-AVA-GB01	Media Channel Identification and Action with Multi-Match Detection Based on Reference Stream Comparison	United Kingdom	Granted	17760624.1	2/28/2017	3424221	1/9/2019	3424221	9/23/2020	Gracenote

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN117-AVA-GB02	Method and System for Detecting and Responding to Changing of Media Channel	United Kingdom	Granted	1776064.5	2/28/2017	N/A	N/A	3424226	12/23/2020	Gracenote
Roku, Inc.		Media Channel Identification and Action with Multi-Media Detection and Disambiguation Based on Matching with Differential Reference-Fingerprint Feature									
	GN117-AVA-HK01		Hong Kong	Granted	18116199.5	2/28/2017	1257063	10/11/2019	HK1257063	8/14/2020	Gracenote
Roku, Inc.		Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Audio Fingerprint									
	GN117-AVA-HK02		Hong Kong	Granted	18115982.8	12/12/2018	1256881	10/4/2019	1256881	7/3/2020	Gracenote
Roku, Inc.	GN117-AVA-HK03	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Location	Hong Kong	Granted	18116198.6	2/28/2017	1257062	10/11/2019	HK1257062	6/5/2020	Gracenote
Roku, Inc.	GN117-AVA-HK04	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	Hong Kong	Granted	18115983.7	12/12/2018	1256882	7/3/2020	1256882	7/3/2020	Gracenote
Roku, Inc.		Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Time of Broadcast									
	GN117-AVA-HK05		Hong Kong	Granted	18116196.8	2/28/2017	1257060	6/5/2020	1257060	6/5/2020	Gracenote
Roku, Inc.	GN117-AVA-HK06	Media Channel Identification and Action with Multi-Match Detection Based on Reference Stream Comparison	Hong Kong	Published	18116030.8	12/13/2018	1256916	10/4/2019	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-HK07	Method and System for Detecting and Responding to Changing of Media Channel	Hong Kong	Published	18116197.7	2/28/2017	1257061	10/11/2019	N/A	N/A	Gracenote
Roku, Inc.		Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Time of Broadcast									
	GN117-AVA-HK08		Hong Kong	Published	19129352.1	2/28/2017	40005878	5/15/2020	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-HK09	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Location	Hong Kong	Published	19131577.9	10/28/2019	40007997	6/5/2020	N/A	N/A	Gracenote

Roku, Inc.	GN117-AVA-HK10	Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Audio Fingerprint	Hong Kong	Published	42019000110.7	12/9/2019	40010385	7/3/2020	N/A	N/A	Gracenote
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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN117-AVA-HK11	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	Hong Kong	Published	42020003832.1	3/6/2020	40013816	8/14/2020	N/A	N/A	Gracenote
Roku, Inc.		Media Channel Identification and Action with Multi-Media Detection and Disambiguation Based on Matching with Differential Reference-Fingerprint Feature									
	GN117-AVA-HK12		Hong Kong	Published	42020006281.8	4/22/2020	40016289	9/11/2020	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-HK13	Media Channel Identification and Action with Multi-Match Detection Based on Reference Stream Comparison	Hong Kong	Application	42020022125.7	12/15/2020	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-JP02	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Location	Japan	Granted	2018-532652	2/28/2017	2019/511138	4/18/2019	6556366	7/19/2019	Gracenote
Roku, Inc.	GN117-AVA-JP03	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	Japan	Granted	2018-532558	2/28/2017	2019-508923	3/28/2019	6556364	7/19/2019	Gracenote
Roku, Inc.		Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Audio Fingerprint									
	GN117-AVA-JP04		Japan	Granted	2018-532651	2/28/2017	2019-507515	3/14/2019	6556365	7/19/2019	Gracenote
Roku, Inc.		Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Time of Broadcast									
	GN117-AVA-JP05		Japan	Granted	2018-532646	2/28/2017	N/A	N/A	6490874	3/8/2019	Gracenote
Roku, Inc.	GN117-AVA-JP06	Media Channel Identification and Action with Multi-Match Detection Based on Reference Stream Comparison	Japan	Granted	2018-532653	2/28/2017	2019-507516	3/14/2019	6707137	5/21/2020	Gracenote
Roku, Inc.	GN117-AVA-JP07	Method and System for Detecting and Responding to Changing of Media Channel	Japan	Granted	2018-532647	2/28/2017	N/A	N/A	6490875	3/8/2019	Gracenote
Roku, Inc.	GN117-AVA-JP08	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Time of Broadcast									
			Japan	Published	2019-033878	6/21/2016	2019-146168	8/29/2019	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-JP09	Method and System for Detecting and Responding to Changing of Media Channel									
			Japan	Published	2019-033879	6/21/2018	2019-146169	8/29/2019	N/A	N/A	Gracenote

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Roku, Inc.	GN117-AVA-JP10	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	Japan	Published	2019-127486	7/9/2019	2019-216425	12/19/2019	N/A	N/A	Gracenote
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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN117-AVA-JP11	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Location	Japan	Published	2019-127487	2/28/2017	2019-201415	11/21/2019	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-JP12	Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Audio Fingerprint	Japan	Published	2019-127485	7/9/2019	2019-220958	12/26/2019	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-JP13	Media Channel Identification and Action with Multi-Media Detection and Disambiguation Based on Matching with Differential Reference-Fingerprint Feature	Japan	Published	2020-087362	5/19/2020	2020-145722	9/10/2020	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-JP14	Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Audio Fingerprint	Japan	Application	2020-216275	12/25/2020	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-KR02	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Location	Korea, Republic of (KR)	Granted	10-2018-7026917	2/28/2017	10-2018-0105748	9/28/2018	10-1994204	6/24/2019	Gracenote
Roku, Inc.	GN117-AVA-KR03	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	Korea, Republic of (KR)	Granted	10-2018-7026919	2/28/2017	10-2018-0105749	9/28/2018	10-1992705	6/19/2019	Gracenote
Roku, Inc.	GN117-AVA-KR04	Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Audio Fingerprint	Korea, Republic of (KR)	Granted	10-2018-7026928	2/28/2017	N/A	N/A	10-2024105	9/17/2019	Gracenote
Roku, Inc.	GN117-AVA-KR05	Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Time of Broadcast	Korea, Republic of (KR)	Granted	10-2018-7026922	2/28/2017	N/A	N/A	1985826	5/29/2019	Gracenote
Roku, Inc.	GN117-AVA-KR06	Media Channel Identification and Action with Multi-Match Detection Based on Reference Stream Comparison	Korea, Republic of (KR)	Granted	2018-7026930	2/28/2017	N/A	N/A	10-2127851	6/23/2020	Gracenote
Roku, Inc.	GN117-AVA-KR07	Method and System for Detecting and Responding to Changing of Media Channel	Korea, Republic of (KR)	Granted	10-2018-7026927	2/28/2017	N/A	N/A	1922997	11/22/2018	Gracenote

Roku, Inc.	GN117-AVA-KR08	Method And System For Detecting And Responding To Changing Of Media Channel	Korea, Republic of (KR)	Granted	2018-7033849	2/28/2017	20180128085	11/30/2018	1969812	4/11/2019	Gracenote
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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN117-AVA-KR09	Method and System for Detecting and Responding to Changing of Media Channel	Korea, Republic of (KR)	Granted	2019-7010400	2/28/2017	N/A	N/A	2000130	7/9/2019	Gracenote
Roku, Inc.	GN117-AVA-KR10	Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Time of Broadcast	Korea, Republic of (KR)	Granted	2019-7015434	5/29/2019	N/A	N/A	2073679	1/30/2020	Gracenote
Roku, Inc.	GN117-AVA-KR11	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Location	Korea, Republic of (KR)	Granted	2019-7018143	6/24/2019	N/A	N/A	2075447	2/4/2020	Gracenote
Roku, Inc.	GN117-AVA-KR12	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	Korea, Republic of (KR)	Granted	2019-7017586	6/19/2019	N/A	N/A	2131125	7/1/2020	Gracenote
Roku, Inc.	GN117-AVA-KR13	Method and System for Detecting and Responding to Changing of Media Channel	Korea, Republic of (KR)	Granted	2019-7019883	2/28/2017	N/A	N/A	2034031	10/14/2019	Gracenote
Roku, Inc.	GN117-AVA-KR14	Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Audio Fingerprint	Korea, Republic of (KR)	Application	2019-7027093	2/28/2017	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-KR15	Method and System for Detecting and Responding to Changing of Media Channel	Korea, Republic of (KR)	Application	2019-7030056	7/9/2019	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-KR16	Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Time of Broadcast	Korea, Republic of (KR)	Application	2020-7002893	1/30/2020	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-KR17	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Location	Korea, Republic of (KR)	Granted	2020-7003274	2/4/2020	N/A	N/A	2108895	5/4/2020	Gracenote
Roku, Inc.	GN117-AVA-KR18	Media Channel Identification and Action with Multi-Media Detection and Disambiguation Based on Matching with Differential Reference-Fingerprint Feature	Korea, Republic of (KR)	Application	2020-7012779	5/4/2020	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-KR19	Media Channel Identification and Action with Multi-Match Detection Based on Reference Stream Comparison	Korea, Republic of (KR)	Application	2020-7018119	6/23/2020	N/A	N/A	N/A	N/A	Gracenote

Roku, Inc.	GN117-AVA-KR20	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	Korea, Republic of (KR)	Application	2020-7019002	7/1/2020	N/A	N/A	N/A	N/A	Gracenote
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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.		Media Channel Identification and Action with Multi-Media Detection and Disambiguation Based on Matching with Differential Reference-Fingerprint Feature	United States of America	Granted	15/442,114	2/24/2017	US-2017-0251250	8/31/2017	9,992,533	6/5/2018	Gracenote
Roku, Inc.	GN117-AVA-US04	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Location	United States of America	Granted	15/179,143	6/10/2016	US-2017-0251280	8/31/2017	9,924,222	3/20/2018	Gracenote
Roku, Inc.	GN117-AVA-US06	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	United States of America	Granted	15/222,405	7/28/2016	US-2017-0251248	8/31/2017	10,063,918	8/28/2018	Gracenote
Roku, Inc.	GN117-AVA-US07	Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Audio Fingerprint	United States of America	Granted	15/253,354	8/31/2016	US-2017-0251249	8/31/2017	9,930,406	3/27/2018	Gracenote
Roku, Inc.	GN117-AVA-US08	Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Time of Broadcast	United States of America	Granted	15/343,895	11/4/2016	US-2017-0251281	8/31/2017	10,045,073	8/7/2018	Gracenote
Roku, Inc.	GN117-AVA-US09	Media Channel Identification and Action with Multi-Match DetectionBased on Reference Stream Comparison	United States of America	Granted	15/443,580	2/27/2017	US-2017-0251251	8/31/2017	10,104,426	10/16/2018	Gracenote
Roku, Inc.	GN117-AVA-US10	Method and System for Detecting and Responding to Changing of Media Channel	United States of America	Granted	15/443,615	2/27/2017	US-2017-0251247	8/31/2017	10,045,074	8/7/2018	Gracenote

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN117-AVA-US11	Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Audio Fingerprint	United States of America	Granted	15/842,189	12/14/2017	US-2018-0109841	4/19/2018	10,149,007	12/4/2018	Gracenote
Roku, Inc.	GN117-AVA-US12	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Location	United States of America	Granted	15/842,206	12/14/2017	US-2018-0109839	4/19/2018	10,057,638	8/21/2018	Gracenote
Roku, Inc.	GN117-AVA-US13	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	United States of America	Granted	16/015,783	6/22/2018	US-2018-0316967	11/1/2018	10,567,835	2/18/2020	Gracenote
Roku, Inc.		Media Channel Identification and Action with Multi-Match Detection and Disambiguation Based on Matching with Differential Reference-Fingerprint Feature	United States of America	Granted	15/982,437	5/17/2018	US-2018-0270529	9/20/2018	10,523,999	12/31/2019	Gracenote
Roku, Inc.	GN117-AVA-US14	Media Channel Identification and Action with Multi-Match Detection and Disambiguation Based on Matching with Differential Reference-Fingerprint Feature	United States of America	Granted	16/017,190	6/25/2018	US-2018-0310053	10/25/2018	10,524,000	12/31/2019	Gracenote
Roku, Inc.	GN117-AVA-US16	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Audio Fingerprint	United States of America	Granted	16/017,203	6/25/2018	US-2018-0310057	10/25/2018	10,440,430	10/8/2019	Gracenote
Roku, Inc.	GN117-AVA-US17	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Location	United States of America	Granted	16/017,218	6/25/2018	US-2018-0310054	10/25/2018	10,412,448	9/10/2019	Gracenote
Roku, Inc.	GN117-AVA-US18	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Time of Broadcast	United States of America	Granted	16/015,800	6/22/2018	US-2018-0302668	10/18/2018	10,419,814	9/17/2019	Gracenote
Roku, Inc.	GN117-AVA-US19	Media Channel Identification and Action with Multi-Match Detection Based on Reference Stream Comparison	United States of America	Granted	16/015,811	6/22/2018	US-2018-0302669	10/18/2018	10,225,605	3/5/2019	Gracenote
Roku, Inc.	GN117-AVA-US20	Method and System for Detecting and Responding to Changing Of Media Channel	United States of America	Granted	16/015,827	6/22/2018	US-2018-0302670	10/18/2018	10,531,150	1/7/2020	Gracenote
Roku, Inc.	GN117-AVA-US21	Media Channel Identification and Action with Multi-Match Detection Based on Reference Stream Comparison	United States of America	Granted	16/246,746	1/14/2019	US-2019-0149877	5/16/2019	10,575,052	2/25/2020	Gracenote

Roku, Inc.	GN117-AVA-US22	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Time of Broadcast	United States of America	Granted	16/276,050	2/14/2019	US-2019-0182540	6/13/2019	10,848,820	11/24/2020	Gracenote
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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN117-AVA-US23	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Location	United States of America	Granted	16/274,975	2/13/2019	US-2019-0182539	6/13/2019	10,536,746	1/14/2020	Gracenote
Roku, Inc.	GN117-AVA-US24	Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Audio Fingerprint	United States of America	Granted	16/274,966	2/13/2019	US-2019-0182541	6/13/2019	10,631,049	4/21/2020	Gracenote
Roku, Inc.	GN117-AVA-US25	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	United States of America	Granted	16/276,061	2/14/2019	US-2019-0182542	6/13/2019	10,567,836	2/18/2020	Gracenote
Roku, Inc.	GN117-AVA-US26	Media Channel Identification and Action with Multi-Match Detection and Disambiguation Based on Matching with Differential Reference-Fingerprint Feature	United States of America	Granted	15/929,180	12/5/2019	US-2020-0154164	5/14/2020	10,972,786	4/6/2021	Gracenote
Roku, Inc.	GN117-AVA-US27	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Location	United States of America	Granted	15/929,167	11/19/2019	15/929167	3/19/2020	11,012,738	5/18/2021	Gracenote
Roku, Inc.	GN117-AVA-US28	Method and System for Detecting and Responding to Changing of Media Channel	United States of America	Granted	15/929,179	12/5/2019	US-2020-0149290	5/14/2020	10,805,673	10/13/2020	Gracenote
Roku, Inc.	GN117-AVA-US29	Media Channel Identification and Action with Multi-Match Detection Based on Reference Stream Comparison	United States of America	Granted	15/929,193	12/19/2019	US-2020-0128295	4/23/2020	10,939,162	3/2/2021	Gracenote
Roku, Inc.	GN117-AVA-US30	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	United States of America	Granted	15/929,203	1/10/2020	US-2020-0267444	8/20/2020	11,012,743	5/18/2021	Gracenote
Roku, Inc.	GN117-AVA-US31	Media Channel Identification with Video Multi-Match Detection and Disambiguation Based on Audio Fingerprint	United States of America	Published	16/819,657	3/16/2020	US-2020-0221173	7/9/2020	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-US32	Method and System for Detecting and Responding to Changing of Media Channel	United States of America	Published	16/946,888	7/10/2020	US-2020-0344521	10/29/2020	N/A	N/A	Gracenote
Roku, Inc.	GN117-AVA-US33	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Time of Broadcast	United States of America	Application	16/949,183	10/19/2020	N/A	N/A	N/A	N/A	Gracenote

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN119-AVA-US01	Method and Device for Generating and Detecting a Fingerprint Functioning as a Trigger Marker in a Multimedia Signal	United States of America	Granted	10/564,297	1/10/2006	US-2006-0190776	8/24/2006	8,020,000	9/13/2011	Gracenote
Roku, Inc.	GN119-AVA-US02	Method and Device for Generating and Detecting a Fingerprint Functioning as a Trigger Marker in a Multimedia Signal	United States of America	Granted	13/220,267	8/29/2011	US-2012-0016876	1/19/2012	8,660,267	2/25/2014	Gracenote
Roku, Inc.	GN119-AVA-US03	Method and Device for Generating and Detecting a Fingerprint Functioning as a Trigger Marker in a Multimedia Signal	United States of America	Granted	14/151,879	1/10/2014	US-2014-0130077	5/8/2014	9,066,114	6/23/2015	Gracenote

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN119-AVA-US04	Method and Device for Generating and Detecting a Fingerprint Functioning as a Trigger Marker in a Multimedia Signal	United States of America	Granted	14/659,044	3/16/2015	US-2015-0189380	7/2/2015	9,407,962	8/2/2016	Gracenote
Roku, Inc.	GN119-AVA-US05	Method and Device for Generating and Detecting a Fingerprint Functioning as a Trigger Marker in a Multimedia Signal	United States of America	Granted	15/164,605	5/25/2016	US-2016-0269780	9/15/2016	9,479,831	10/25/2016	Gracenote
Roku, Inc.	GN119-AVA-US06	Method and Device for Generating and Detecting a Fingerprint Functioning as a Trigger Marker in a Multimedia Signal	United States of America	Granted	15/273,185	9/22/2016	US-2017-0013291	1/12/2017	9,712,853	7/18/2017	Gracenote
Roku, Inc.	GN119-AVA-US07	Method and Device for Generating and Detecting a Fingerprint Functioning as a Trigger Marker in a Multimedia Signal	United States of America	Granted	15/622,024	6/13/2017	US-2017-0289590	10/5/2017	10,045,054	8/7/2018	Gracenote
Roku, Inc.	GN119-AVA-US08	Method and Device for Generating and Detecting a Fingerprint Functioning as a Trigger Marker in a Multimedia Signal	United States of America	Granted	16/018,022	6/25/2018	US-2019-0045240	2/7/2019	10,250,916	4/2/2019	Gracenote
Roku, Inc.	GN119-AVA-US09	Method and Device for Generating and Detecting a Fingerprint Functioning as a Trigger Marker in a Multimedia Signal	United States of America	Granted	16/264,134	1/31/2019	US-2019-0327502	10/24/2019	10,595,053	3/17/2020	Gracenote
Roku, Inc.	GN119-AVA-US10	Method and Device for Generating and Detecting a Fingerprint Functioning as a Trigger Marker in a Multimedia Signal	United States of America	Published	16/815,720	3/11/2020	US-2020-0322653	10/8/2020	N/A	N/A	Gracenote
Roku, Inc.	GN123-AVA-US03	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Granted	12/760,004	4/14/2010	US-2010-0269128	10/21/2010	9,015,741	4/21/2015	Bulldog
Roku, Inc.	GN123-AVA-US04	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Granted	14/659,971	3/17/2015	US-2015-0195597	7/9/2015	9,992,518	6/5/2018	Bulldog
Roku, Inc.	GN123-AVA-US05	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Granted	15/287,116	10/6/2016	US-2017-0026697	1/26/2017	9,998,767	6/12/2018	Bulldog

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN123-AVA-US06	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Granted	15/292,705	10/13/2016	US-2017-0034549	2/2/2017	9,706,233	7/11/2017	Bulldog
Roku, Inc.	GN123-AVA-US07	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Granted	15/614,566	6/5/2017	US-2017-0280176	9/28/2017	10,250,919	4/2/2019	Bulldog
Roku, Inc.	GN123-AVA-US08	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Granted	16/018,050	6/26/2018	US-2019-0007712	1/3/2019	10,341,697	7/2/2019	Bulldog
Roku, Inc.	GN123-AVA-US09	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Granted	16/390,595	4/22/2019	US-2019-0306546	10/3/2019	10,979,742	4/13/2021	Bulldog
Roku, Inc.	GN123-AVA-US10	Method and System for Remotely Controlling Consumer Electronic Device	United States of America	Granted	16/390,627	4/22/2019	US-2019-0261034	8/22/2019	10,972,763	4/6/2021	Bulldog
Roku, Inc.	GN123-AVA-US11	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Granted	16/390,631	4/22/2019	US-2019-0261035	8/22/2019	10,972,764	4/6/2021	Bulldog
Roku, Inc.	GN123-AVA-US12	Method and System for Remotely Controlling Consumer Electronic Device	United States of America	Granted	16/390,644	4/22/2019	US-2019-0261036	8/22/2019	10,701,410	6/30/2020	Bulldog
Roku, Inc.	GN123-AVA-US13	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Application	16/403,075	5/3/2019	N/A	N/A	N/A	N/A	Bulldog
Roku, Inc.	GN123-AVA-US14	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Published	16/403,084	5/3/2019	US-2019-0268636	8/29/2019	N/A	N/A	Bulldog
Roku, Inc.	GN123-AVA-US15	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Granted	16/403,089	5/3/2019	US-2019-0268637	8/29/2019	10,735,782	8/4/2020	Bulldog
Roku, Inc.	GN123-AVA-US16	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Published	16/403,096	5/3/2019	US-2019-0306547	10/3/2019	N/A	N/A	Bulldog
Roku, Inc.	GN123-AVA-US17	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Published	16/403,105	5/3/2019	US-2019-0268638	8/29/2019	N/A	N/A	Bulldog

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Roku, Inc.	GN123-A/A-US18	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Published	16/403,111	5/3/2019	US-2019-0268639	8/29/2019	N/A	N/A	Bulldog
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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN123-AVA-US19	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Granted	16/568,407	9/12/2019	US-2020-0007908	1/2/2020	10,701,411	6/30/2020	Bulldog
Roku, Inc.	GN123-AVA-US20	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Granted	16/568,414	9/12/2019	US-2020-0007909	1/2/2020	10,715,841	7/14/2020	Bulldog
Roku, Inc.	GN123-AVA-US21	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Granted	16/568,438	9/12/2019	US-2020-0007910	1/2/2020	10,701,412	6/30/2020	Bulldog
Roku, Inc.	GN123-AVA-US22	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Granted	16/568,445	9/12/2019	US-2020-0007911	1/2/2020	10,904,589	1/26/2021	Bulldog
Roku, Inc.	GN123-AVA-US23	Method and System for Remotely Controlling Consumer Electronic Device	United States of America	Granted	16/775,126	1/28/2020	US-2020-0177933	6/4/2020	10,972,766	4/6/2021	Bulldog
Roku, Inc.	GN123-AVA-US25	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Published	16/828,522	3/24/2020	US-2020-0236409	7/23/2020	N/A	N/A	Bulldog
Roku, Inc.	GN123-AVA-US26	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Published	16/845,392	4/10/2020	US-2020-0252665	8/6/2020	N/A	N/A	Bulldog
Roku, Inc.	GN123-AVA-US27	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Published	16/836,280	3/31/2020	US-2020-0245007	7/30/2020	N/A	N/A	Bulldog
Roku, Inc.	GN123-AVA-US28	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Published	16/836,417	3/31/2020	US-2020-0245008	7/30/2020	N/A	N/A	Bulldog
Roku, Inc.	GN123-AVA-US29	Method and System for Remotely Controlling Consumer Electronic Devices	United States of America	Published	16/881,397	5/22/2020	US-2020-0344503	10/29/2020	N/A	N/A	Bulldog
Roku, Inc.	GN124-AVA-US02	Method and System for Presenting Additional Content at a Media System	United States of America	Granted	13/286,138	10/31/2011	US-2012-017584	5/10/2012	8,863,165	10/14/2014	Bulldog

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN124-AVA-US04	Method and System for Presenting Additional Content at a Media System	United States of America	Granted	15/375,698	12/12/2016	US-2017-0094351	3/30/2017	10,506,291	12/10/2019	Bulldog
Roku, Inc.	GN124-AVA-US05	Method and System for Presenting Additional Content at a Media System	United States of America	Published	16/017,900	6/25/2018	US-2018-0310058	10/25/2018	N/A	N/A	Bulldog
Roku, Inc.	GN124-AVA-US06	Method and System for Presenting Additional Content at a Media System	United States of America	Granted	16/017,910	6/25/2018	US-2018-0302672	10/18/2018	10,341,734	7/2/2019	Bulldog
Roku, Inc.	GN124-AVA-US07	Method and System for Presenting Additional Content at a Media System	United States of America	Published	16/017,926	6/25/2018	US-2018-0302673	10/18/2018	N/A	N/A	Bulldog
Roku, Inc.	GN124-AVA-US08	Method and System for Presenting Additional Content at a Media System	United States of America	Published	16/670,954	10/31/2019	US-2020-0068256	2/27/2020	N/A	N/A	Bulldog
Roku, Inc.	GN124-AVA-US09	Method and System for Presenting Additional Content at a Media System	United States of America	Granted	16/670,956	10/31/2019	US-2020-0068257	2/27/2020	10,904,629	1/26/2021	Bulldog
Roku, Inc.	GN124-AVA-US10	Method and System for Presenting Additional Content at a Media System	United States of America	Published	16/670,961	10/31/2019	US-2020-0068258	2/27/2020	N/A	N/A	Bulldog
Roku, Inc.	GN124-AVA-US11	Method and System for Presenting Additional Content at a Media System	United States of America	Granted	16/670,965	10/31/2019	US-2020-0068259	2/27/2020	10,979,772	4/13/2021	Bulldog
Roku, Inc.	GN124-AVA-US12	Method and System for Presenting Additional Content at a Media System	United States of America	Granted	16/670,983	10/31/2019	US-2020-0068260	2/27/2020	10,869,095	12/15/2020	Bulldog
Roku, Inc.	GN124-AVA-US13	Method and System for Presenting Additional Content at a Media System	United States of America	Published	16/835,201	3/30/2020	US-2020-0228870	7/16/2020	N/A	N/A	Bulldog
Roku, Inc.	GN124-AVA-US14	Method and System for Presenting Additional Content at a Media System	United States of America	Published	16/835,203	3/30/2020	US-2020-0228871	7/16/2020	N/A	N/A	Bulldog
Roku, Inc.	GN124-AVA-US15	Method and System for Presenting Additional Content at a Media System	United States of America	Published	16/835,204	3/30/2020	US-2020-0236435	7/23/2020	N/A	N/A	Bulldog

Roku, Inc.	GN124-AVA-US16	Method and System for Presenting Additional Content at a Media System	United States of America	Published	16/835,206	3/30/2020	US-2020-0228872	7/16/2020	N/A	N/A	Bulldog
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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN124-AVA-US17	Method and System for Presenting Additional Content at a Media System	United States of America	Published	16/835,209	3/30/2020	US-2020-0228873	7/16/2020	N/A	N/A	Bulldog
Roku, Inc.	GN124-AVA-US18	Method and System for Presenting Additional Content at a Media System	United States of America	Published	16/835,213	3/30/2020	US-2020-0228874	7/16/2020	N/A	N/A	Bulldog
Roku, Inc.	GN124-AVA-US19	Method and System for Presenting Additional Content at a Media System	United States of America	Published	16/835,215	3/30/2020	US-2020-0228875	7/16/2020	N/A	N/A	Bulldog
Roku, Inc.	GN124-AVA-US20	Method and System for Presenting Additional Content at a Media System	United States of America	Published	16/835,217	3/30/2020	US-2020-0228876	7/16/2020	N/A	N/A	Bulldog
Roku, Inc.	GN125-AVA-DE01	Selection of Content from a Stream of Video or Audio Data	Germany (Federal Republic of)	Granted	5773404.8	8/9/2005	N/A	N/A	1779659	10/7/2020	Gracenote
Roku, Inc.	GN125-AVA-US01	Selection of Content from a Stream of Video or Audio Data	United States of America	Granted	11/573,455	2/9/2007	US-2009-0226148	9/10/2009	8,406,607	3/26/2013	Gracenote
Roku, Inc.	GN125-AVA-US02	Method and Apparatus for Selection of Content from a Stream of Data	United States of America	Granted	13/778,439	2/27/2013	US-2013-0302011	11/14/2013	9,143,718	9/22/2015	Gracenote
Roku, Inc.	GN125-AVA-US03	Method and Apparatus for Selection of Content from a Stream of Data	United States of America	Granted	14/789,048	7/11/2015	US-2015-0304597	10/22/2015	9,414,008	8/9/2016	Gracenote
Roku, Inc.	GN125-AVA-US04	Method and Apparatus for Selection of Content from a Stream of Data	United States of America	Granted	15/204,366	7/7/2016	US-2016-0323533	11/3/2016	9,736,549	8/15/2017	Gracenote

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN125-AVA-US05	Method and Apparatus for Selection of Content from a Stream of Data	United States of America	Granted	15/285,056	10/4/2016	US-2017-0026716	1/26/2017	9,794,644	10/17/2017	Gracenote
Roku, Inc.	GN125-AVA-US06	Method and Apparatus for Selection of Content from a Stream of Data	United States of America	Granted	15/703,687	9/13/2017	US-2018-0014088	1/11/2018	9,986,306	5/29/2018	Gracenote
Roku, Inc.	GN125-AVA-US07	Method and Apparatus for Selection of Content from a Stream of Data	United States of America	Granted	15/971,608	5/4/2018	US-2018-0316986	11/11/2018	10,555,052	2/4/2020	Gracenote
Roku, Inc.	GN125-AVA-US08	Method and Apparatus for Selection of Content from a Stream of Data	United States of America	Granted	16/734,081	1/3/2020	US-2020-0145731	5/7/2020	10,945,049	3/9/2021	Gracenote
Roku, Inc.	GN125-AVA-US09	Method and Apparatus for Selection of Content from a Stream of Data	United States of America	Granted	16/734,283	1/3/2020	US-2020-0145732	5/7/2020	10,924,816	2/16/2021	Gracenote
Roku, Inc.	GN125-AVA-US10	Method and Apparatus for Selection of Content from a Stream of Video or Audio Data	United States of America	Application	17/148,700	1/14/2021	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN126-AVA-US01	Identifying Video Content Via Fingerprint Matching	United States of America	Granted	13/735,426	1/7/2013	US-2014-0195548	7/10/2014	9,495,451	11/15/2016	Gracenote
Roku, Inc.	GN126-AVA-US02	Identifying Media Content Via Fingerprint Matching	United States of America	Granted	15/287,063	10/6/2016	US-2017-0024470	1/26/2017	10,866,988	12/15/2020	Gracenote
Roku, Inc.	GN126-AVA-US03	Video Fingerprinting	United States of America	Granted	14/263,647	4/28/2014	US-2014-0236988	8/21/2014	9,323,840	4/26/2016	Gracenote
Roku, Inc.	GN126-AVA-US04	Video Fingerprinting	United States of America	Published	15/136,412	4/22/2016	US-2016-0267180	9/15/2016	N/A	N/A	Gracenote
Roku, Inc.	GN126-AVA-US05	Identifying Media Content Via Fingerprint Matching	United States of America	Application	17/096,826	11/12/2020	N/A	N/A	N/A	N/A	Gracenote

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN127-AVA-US02	Inserting Advertisements into Video Content	United States of America	Granted	13/626,282	3/14/2013	US-2014-0196085	7/10/2014	9,794,642	10/17/2017	Gracenote
Roku, Inc.	GN127-AVA-US03	Inserting Advertisements into Video Content	United States of America	Granted	15/700,054	9/8/2017	US-2018-0020265	1/18/2018	10,110,970	10/23/2018	Gracenote
Roku, Inc.	GN127-AVA-US04	Inserting Advertisements into Video Content	United States of America	Granted	16/018,056	6/26/2018	US-2019-0007748	1/3/2019	10,565,097	3/17/2020	Gracenote
Roku, Inc.	GN127-AVA-US05	Inserting Advertisements into Video Content	United States of America	Published	16/779,547	1/31/2020	US-2020-0245034	7/30/2020	N/A	N/A	Gracenote
Roku, Inc.	GN128-AVA-AU01	Authorizing Devices Based on IdentifyingContent Distributor	Australia	Granted	2013371482.0	12/18/2013	2013371482	8/20/2015	2013371482	12/18/2017	Gracenote
Roku, Inc.	GN128-AVA-DE01	Authorizing Devices Based on IdentifyingContent Distributor	Germany (Federal Republic of)	Granted	13870108.1	12/18/2013	2944051	11/18/2015	2944051	6/5/2019	Gracenote
Roku, Inc.	GN128-AVA-EP01	Authorizing Devices Based on IdentifyingContent Distributor	European Patent	Expired	13870108.1	12/18/2013	2944051	11/18/2015	2944051	6/5/2019	Gracenote
Roku, Inc.	GN128-AVA-FR01	Authorizing Devices Based on IdentifyingContent Distributor	France	Granted	13870108.1	12/18/2013	2944051	11/18/2015	2944051	6/5/2019	Gracenote
Roku, Inc.	GN128-AVA-GB01	Authorizing Devices Based on IdentifyingContent Distributor	United Kingdom	Granted	13870108.1	12/18/2013	2944051	11/18/2015	2944051	6/5/2019	Gracenote
Roku, Inc.	GN128-AVA-HK01	Authorizing Devices Based on IdentifyingContent Distributor	Hong Kong	Granted	16105674.4	5/17/2016	HK1217835	1/20/2017	1217835	4/29/2020	Gracenote
Roku, Inc.	GN128-AVA-KR01	Authorizing Devices Based on IdentifyingContent Distributor	Korea, Republic of (KR)	Granted	2015-7021476	12/18/2013	10-2015-0106904	9/22/2015	10-2017602	8/28/2019	Gracenote

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Roku, Inc.	GN128-A/A-KR02	Authorizing Devices Based on Identifying Content Distributor	Korea, Republic of (KR)	Granted	2019-7025227	12/18/2013	N/A	N/A	10-2094651	3/23/2020	Gracenote
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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN128-AVA-KR03	Authorizing Devices Based onIdentifying Content Distr butor	Korea, Republic of (KR)	Application	2020-7008195	3/20/2020	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN128-AVA-US02	Authorizing Devices Based on Identifying Content Distributor	United States of America	Granted	13/826,606	3/14/2013	US-2014-0196077	7/10/2014	8,997,164	3/31/2015	Gracenote
Roku, Inc.	GN128-AVA-US03	Authorizing Devices Based on IdentifyingContent Distributor	United States of America	Granted	14/640,253	3/6/2015	US-2015-0181263	6/25/2015	9,596,490	3/14/2017	Gracenote
Roku, Inc.	GN128-AVA-US05	Authorizing Devices Based onIdentifying Content Distr butor	United States of America	Published	16/947,748	8/14/2020	US-2020-0374569	11/26/2020	N/A	N/A	Gracenote
Roku, Inc.	GN129-AVA-US01	Detecting An Event Within Interactive Media Including Spatialized Multi-Channel Audio Content	United States of America	Granted	13/795,877	3/12/2013	US-2014-0274353	9/18/2014	9,372,531	6/21/2016	Gracenote
Roku, Inc.	GN129-AVA-US02	Detecting an Event within Interactive Media Including Spatialized Multi-Channel Audio Content	United States of America	Granted	15/003,658	1/21/2016	US-2016-0139756	5/19/2016	10,055,010	8/21/2018	Gracenote
Roku, Inc.	GN129-AVA-US03	Detecting an Event Within Interactive Media	United States of America	Granted	16/017,170	6/25/2018	US-2018-0307300	10/25/2018	10,156,894	12/18/2018	Gracenote
Roku, Inc.	GN129-AVA-US04	Detecting and Responding to an Event Within an Interactive Videogame	United States of America	Granted	16/168,412	10/23/2018	US-2019-0056778	2/21/2019	10,345,892	7/9/2019	Gracenote
Roku, Inc.	GN129-AVA-US05	Detecting and Responding to an Event Within an Interactive Videogame	United States of America	Granted	16/425,490	5/29/2019	US-2019-0278366	9/12/2019	10,824,222	11/3/2020	Gracenote
Roku, Inc.	GN129-AVA-US06	Detecting and Responding to an Event within an Interactive Videogame	United States of America	Published	16/947,969	8/26/2020	US-2020-0379549	12/3/2020	N/A	N/A	Gracenote

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN130-AVA-US02	Search And Identification Of Video Content	United States of America	Granted	13/839,782	3/15/2013	US-2014-0193027	7/10/2014	9,146,990	9/29/2015	Gracenote
Roku, Inc.	GN130-AVA-US03	Search And Identification Of Video Content	United States of America	Granted	14/828,293	8/17/2015	US-2015-0356178	12/10/2015	9,959,345	5/1/2018	Gracenote
Roku, Inc.	GN131-AVA-US01	Displaying An Actionable Element Over Playing Content	United States of America	Granted	14/020,295	9/6/2013	US-2015-0074703	3/12/2015	10,965,991	3/30/2021	Gracenote
Roku, Inc.	GN131-AVA-US02	Displaying an Actionable Element Over Playing Content	United States of America	Granted	16/124,928	9/7/2018	US-2019-0007741	1/3/2019	10,979,771	4/13/2021	Gracenote
Roku, Inc.	GN131-AVA-US03	Displaying an Actionable Element Over Playing Content	United States of America	Published	16/126,771	9/10/2018	US-2019-0007742	1/3/2019	N/A	N/A	Gracenote
Roku, Inc.	GN131-AVA-US04	Displaying an Actionable Element Over Playing Content	United States of America	Granted	16/178,116	11/1/2018	US-2019-0075362	3/7/2019	10,965,992	3/30/2021	Gracenote
Roku, Inc.	GN132-AVA-US01	Identifying Video Content Via Color-Based Fingerprint Matching	United States of America	Granted	14/061,043	10/23/2013	US-2015-0110340	4/23/2015	9,465,995	10/11/2016	Gracenote
Roku, Inc.	GN132-AVA-US02	Identifying Video Content Via Color-Based Fingerprint Matching	United States of America	Granted	15/286,787	10/6/2016	US-2017-0091524	3/30/2017	10,503,956	12/10/2019	Gracenote
Roku, Inc.	GN132-AVA-US03	Identifying Video Content Via Color-Based Fingerprint Matching	United States of America	Published	16/692,124	11/22/2019	US-2020-0089934	3/19/2020	N/A	N/A	Gracenote
Roku, Inc.	GN137-AVA-CN01	Dynamic Video Overlays	China	Granted	201680074415.	12/16/2016	CN10846368A	9/4/2018	ZL201680074415.0	11/24/2020	Gracenote
Roku, Inc.	GN137-AVA-CN02	Dynamic Video Overlays	China	Application	202011252640.	11/11/2020	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN137-AVA-CN03	Dynamic Video Overlays	China	Application	202011254676.	11/11/2020	N/A	N/A	N/A	N/A	Gracenote

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN137-AVA-CN04	Dynamic Video Overlays	China	Application	202011252620.	11/11/2020	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN137-AVA-CN05	Dynamic Video Overlays	China	Application	202011257196.	11/11/2020	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN137-AVA-EP01	Dynamic Video Overlays	European Patent	Published	16876800.0	12/16/2016	3391651	10/24/2018	N/A	N/A	Gracenote
Roku, Inc.	GN137-AVA-JP01	Dynamic Video Overlays	Japan	Published	2018-531572	12/16/2016	2018-537925	12/20/2018	N/A	N/A	Gracenote
Roku, Inc.	GN137-AVA-KR01	Dynamic Video Overlays	Korea, Republic of (KR)	Granted	2018-7019944	12/16/2016	N/A	N/A	2147230	8/18/2020	Gracenote
Roku, Inc.	GN137-AVA-KR02	Dynamic Video Overlays	Korea, Republic of (KR)	Granted	2020-7023726	12/16/2016	N/A	N/A	2185022	11/25/2020	Gracenote
Roku, Inc.	GN137-AVA-KR03	Dynamic Video Overlays	Korea, Republic of (KR)	Application	2020-7033924	11/25/2020	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN137-AVA-US02	Dynamic Video Overlays	United Statesof America	Granted	15/381,496	12/16/2016	US-2017-0150213	5/25/2017	10,142,680	11/27/2018	Gracenote
Roku, Inc.	GN137-AVA-US03	Dynamic Video Overlays	United Statesof America	Granted	15/381,497	12/16/2016	US-2017-0180792	6/22/2017	10,785,530	9/22/2020	Gracenote
Roku, Inc.	GN137-AVA-US04	Dynamic Video Overlays	United Statesof America	Granted	15/381,513	12/16/2016	US-2017-0180793	6/22/2017	10,412,447	9/10/2019	Gracenote
Roku, Inc.	GN137-AVA-US05	Dynamic Video Overlays	United Statesof America	Granted	15/381,556	12/16/2016	US-2017-0180794	6/22/2017	10,136,183	11/20/2018	Gracenote
Roku, Inc.	GN137-AVA-US06	Dynamic Video Overlays	United Statesof America	Granted	15/381,572	12/16/2016	US-2017-0180795	6/22/2017	10,123,073	11/6/2018	Gracenote

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN137-AVA-US07	Dynamic Video Overlays	United States of America	Granted	16/140,539	9/25/2018	US-2019-0132641	5/2/2019	10,893,320	1/12/2021	Gracenote
Roku, Inc.	GN137-AVA-US08	Dynamic Video Overlays	United States of America	Granted	16/520,294	7/23/2019	US-2020-0053422	2/13/2020	10,869,086	12/15/2020	Gracenote
Roku, Inc.	GN137-AVA-US09	Dynamic Video Overlays	United States of America	Application	16/928,683	7/14/2020	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN137-AVA-US10	Dynamic Video Overlays	United States of America	Application	17/098,409	11/15/2020	N/A	N/A	N/A	N/A	Gracenote
Roku, Inc.	GN141-AVA-US02	Digital Video Content Fingerprinting Using Image Pixel Intensity and Color Information	United States of America	Granted	12/955,416	11/29/2010	N/A	N/A	8,666,152	3/4/2014	Zettera
Roku, Inc.	GN142-AVA-US02	Scalable, Adaptable, and Manageable System for Multimedialdentification	United States of America	Granted	13/102,479	5/6/2011	N/A	N/A	8,655,878	2/18/2014	Zettera

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN142-AVA-US03	Scalable, Adaptable, and Manageable System for Multimedial Identification	United States of America	Granted	14/151,335	1/9/2014	N/A	N/A	9,058,355	6/16/2015	Zeiterra
Roku, Inc.	GN142-AVA-US04	Scalable, Adaptable, and Manageable System for Multimedial Identification	United States of America	Granted	14/151,294	1/9/2014	N/A	N/A	8,965,863	2/24/2015	Zeiterra
Roku, Inc.	GN142-AVA-US05	Scalable, Adaptable, and Manageable System for Multimedia Identification	United States of America	Granted	14/718,218	5/21/2015	US-2015-0254344	9/10/2015	9,785,708	10/10/2017	Zeiterra
Roku, Inc.	GN142-AVA-US06	Scalable, Adaptable, and Manageable System for Multimedia Identification	United States of America	Application	16/597,648	10/9/2019	N/A	N/A	N/A	N/A	Zeiterra
Roku, Inc.	GN143-AVA-US02	Digital Video Content Fingerprinting Based on Scale Invariant Interest Region Detection with an Array of Anisotropic Filters	United States of America	Granted	12/612,729	11/5/2009	US-2010-0303338	12/2/2010	8,189,945	5/29/2012	Zeiterra

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.		Digital Video Content Fingerprinting Based on Scale Invariant Interest Region Detection with an Array of Anisotropic Filters	United States of America	Granted	13/455,560	4/25/2012	US-2012-0207402	8/16/2012	8,781,245	7/15/2014	Zeitera
Roku, Inc.	GN143-AVA-US03	Digital Video Content Fingerprinting Based on Scale Invariant Interest Region Detection with an Array of Anisotropic Filters	United States of America	Granted	14/298,261	6/6/2014	US-2015-0003731	1/1/2015	9,396,393	7/19/2016	Zeitera
Roku, Inc.	GN143-AVA-US04	Digital Video Content Fingerprinting Based on Scale Invariant Interest Region Detection with an Array of Anisotropic Filters	United States of America	Granted	15/186,901	6/20/2016	US-2016-0307037	10/20/2016	9,652,672	5/16/2017	Zeitera
Roku, Inc.	GN143-AVA-US05	Digital Video Content Fingerprinting Based on Scale Invariant Interest Region Detection with an Array of Anisotropic Filters	United States of America	Granted	12/141,163	6/18/2008	US-2008-0310731	12/18/2008	8,229,227	7/24/2012	Zeitera
Roku, Inc.	GN144-AVA-US02	Methods and Apparatus for Providing a Scalable Identification of Digital Video Sequences	United States of America	Granted	13/488,568	6/5/2012	US-2012-0237129	9/20/2012	8,666,168	3/4/2014	Zeitera

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN145-AVA-US02	Method And Apparatus For Multi-Dimensional Content Search And Video Identification	United States of America	Granted	12/141,337	6/18/2008	US-2008-0313140	12/18/2008	8,171,030	5/1/2012	Zettera
Roku, Inc.	GN145-AVA-US03	Method And Apparatus For Multi-Dimensional Content Search And Video Identification	United States of America	Granted	13/432,914	3/28/2012	US-2012-0207387	8/16/2012	9,323,841	4/26/2016	Zettera
Roku, Inc.	GN145-AVA-US04	Method And Apparatus For Multi-Dimensional Content Search And Video Identification	United States of America	Granted	15/078,056	3/23/2016	US-2016-0275084	9/22/2016	9,489,455	11/8/2016	Zettera
Roku, Inc.	GN145-AVA-US05	Method And Apparatus For Multi-Dimensional Content Search And Video Identification	United States of America	Granted	15/290,364	10/11/2016	US2017-0192980	7/6/2017	10,210,252	2/19/2019	Zettera
Roku, Inc.	GN145-AVA-US06	Method and Apparatus for Multi-Dimensional Content Search and Video Identification	United States of America	Granted	16/240,859	1/7/2019	US-2019-0272290	9/5/2019	10977307	4/13/2021	Zettera

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN145-AVA-US07	Method and Apparatus for Multi-Dimensional Content Search and Video Identification	United States of America	Published	16/442,006	6/14/2019	US-2020-0004779	1/2/2020	N/A	N/A	Zettera
Roku, Inc.	GN145-AVA-US08	Method and Apparatus for Multi-Dimensional Content Search and Video Identification	United States of America	Published	16/442,398	6/14/2019	US-2020-0004780	1/2/2020	N/A	N/A	Zettera
Roku, Inc.	GN145-AVA-US09	Method and Apparatus for Multi-Dimensional Content Search and Video Identification	United States of America	Published	16/442,404	6/14/2019	US02020-0004781	1/2/2020	N/A	N/A	Zettera
Roku, Inc.	GN145-AVA-US10	Method and Apparatus for Multi-Dimensional Content Search and Video Identification	United States of America	Published	16/442,414	6/14/2019	US-2020-0004782	1/2/2020	N/A	N/A	Zettera
Roku, Inc.	GN145-AVA-US11	Method and Apparatus for Multi-Dimensional Content Search and Video Identification	United States of America	Application	17/017,589	9/10/2020	N/A	N/A	N/A	N/A	Zettera
Roku, Inc.	GN147-AVA-US02	Digital Video Fingerprinting Based on ResulantWeighted Gradient Orientation Computation	United States of America	Granted	12/491,896	6/25/2009	US-2010-0007797	1/14/2010	8,385,644	2/26/2013	Zettera

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN148-AVA-US02	Media Fingerprinting And IdentificationSystem	United States of America	Granted	12/772,566	5/3/2010	US-2010-0318515	12/16/2010	8,195,689	6/5/2012	Zeiterra
Roku, Inc.	GN148-AVA-US03	Media Fingerprinting and Identification System	United States of America	Granted	13/463,137	5/3/2012	US-2012-0215789	8/23/2012	8,364,703	1/29/2013	Zeiterra
Roku, Inc.	GN148-AVA-US04	Media Fingerprinting and Identification System	United States of America	Granted	13/719,603	12/19/2012	US-2013-0179452	7/11/2013	8,688,731	4/1/2014	Zeiterra
Roku, Inc.	GN148-AVA-US05	Media Fingerprintingand Identification System	United States of America	Granted	14/059,688	10/22/2013	US-2014-0052737	2/20/2014	9,053,104	6/9/2015	Zeiterra
Roku, Inc.	GN148-AVA-US06	Media Fingerprinting and Identification System	United States of America	Granted	14/711,054	5/13/2015	US-2015-0242399	8/27/2015	9,195,663	11/24/2015	Zeiterra
Roku, Inc.	GN148-AVA-US07	Media Fingerprinting and Identification System	United States of America	Granted	14/885,110	10/16/2015	US-2016-0034452	2/4/2016	9,323,754	4/26/2016	Zeiterra
Roku, Inc.	GN148-AVA-US08	Media Fingerprinting and Identification System	United States of America	Granted	15/073,858	3/18/2016	US-2016-0267079	9/15/2016	9,471,674	10/18/2016	Zeiterra

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN148-AVA-US09	Media Fingerprinting and Identification System	United States of America	Granted	15/265,002	9/14/2016	US-2017-0066671	3/9/2017	10,402,443	9/3/2019	Zeitera
Roku, Inc.	GN148-AVA-US10	Media Fingerprinting and Identification System	United States of America	Published	16/383,473	4/12/2019	US-2019-0251111	8/15/2019	N/A	N/A	Zeitera
Roku, Inc.	GN148-AVA-US11	Media Fingerprinting and Identification System	United States of America	Granted	16/355,727	3/16/2019	US-2019-0213210	7/11/2019	10,423,654	9/24/2019	Zeitera
Roku, Inc.	GN148-AVA-US12	Media Fingerprinting and Identification System	United States of America	Published	16/385,575	4/16/2019	US-2019-0251112	8/15/2019	N/A	N/A	Zeitera
Roku, Inc.	GN148-AVA-US14	Media Fingerprinting and Identification System	United States of America	Published	16/387,443	4/17/2019	US-2019-0243851	8/8/2019	N/A	N/A	Zeitera
Roku, Inc.	GN148-AVA-US15	Media Fingerprinting and Identification System	United States of America	Published	16/387,448	4/17/2019	US-2019-0251113	8/15/2019	N/A	N/A	Zeitera
Roku, Inc.	GN148-AVA-US16	Media Fingerprinting and Identification System	United States of America	Published	16/387,456	4/17/2019	US-2019-0251114	8/15/2019	N/A	N/A	Zeitera
Roku, Inc.	GN148-AVA-US17	Media Fingerprinting and Identification System	United States of America	Published	16/365,577	3/26/2019	US-2019-0220478	7/18/2019	N/A	N/A	Zeitera
Roku, Inc.	GN148-AVA-US18	Media Fingerprinting and Identification System	United States of America	Published	16/367,921	3/28/2019	US-2019-0228030	7/25/2019	N/A	N/A	Zeitera
Roku, Inc.	GN148-AVA-US19	Media Fingerprinting and Identification System	United States of America	Published	16/388,740	4/18/2019	US-2019-0251115	8/15/2019	N/A	N/A	Zeitera
Roku, Inc.	GN148-AVA-US20	Media Fingerprinting and Identification System	United States of America	Granted	16/388,747	4/18/2019	US-2019-0243852	8/8/2019	10,387,482	8/20/2019	Zeitera
Roku, Inc.	GN148-AVA-US21	Media Fingerprinting and Identification System	United States of America	Published	16/388,750	4/18/2019	US-2019-0251116	8/15/2019	N/A	N/A	Zeitera

Roku, Inc.	GN148-AVA-US22	Media Fingerprinting and Identification System	United States of America	Application	16/502,857	7/3/2019	N/A	N/A	N/A	N/A	Zeitera
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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN148-AVA-US23	Media Fingerprinting and Identification System	United States of America	Published	16/553,658	8/28/2019	US-2019-0384786	12/19/2019	N/A	N/A	Zeitera
Roku, Inc.	GN148-AVA-US24	Media Fingerprinting and Identification System	United States of America	Granted	16/596,291	10/8/2019	N/A	N/A	10,579,668	3/3/2020	Zeitera
Roku, Inc.	GN148-AVA-US25	Media Fingerprinting and Identification System	United States of America	Application	16/874,896	5/15/2020	N/A	N/A	N/A	N/A	Zeitera
Roku, Inc.	GN148-AVA-US26	Media Fingerprinting and Identification System	United States of America	Published	16/869,214	5/7/2020	US-2020-0265079	8/20/2020	N/A	N/A	Zeitera
Roku, Inc.	GN149-AVA-US02	Multi-Media Content Identification Using Multi-Level Content Signature Correlation and Fast Similarity Search	United States of America	Granted	12/788,796	5/27/2010	US-2010-0306193	12/2/2010	8,335,786	12/18/2012	Zeitera
Roku, Inc.	GN150-AVA-US02	Distributed and Tiered Architecture for Content Search and Content Monitoring	United States of America	Granted	13/276,110	10/18/2011	US-2012-0095958	4/19/2012	8,959,108	2/17/2015	Zeitera
Roku, Inc.	GN150-AVA-US03	Distributed and Tiered Architecture for Content Search and Content Monitoring	United States of America	Granted	14/589,366	1/5/2015	US-2015-0112988	4/23/2015	9,262,421	2/16/2016	Zeitera

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN150-AVA-US04	Distributed and Tiered Architecture for Content Search and Content Monitoring	United States of America	Granted	14/990,565	1/7/2016	US-2016-0132500	5/12/2016	9,436,689	9/6/2016	Zettera
Roku, Inc.	GN150-AVA-US05	Distributed and Tiered Architecture for Content Search and Content Monitoring	United States of America	Granted	15/163,004	5/24/2016	US-2016-0371269	12/22/2016	9,646,007	5/9/2017	Zettera
Roku, Inc.	GN150-AVA-US05	Distributed and Tiered Architecture for Content Search and Content Monitoring	United States of America	Granted	15/163,004	5/24/2016	US-2016-0371269	12/22/2016	9,646,007	5/9/2017	Zettera
Roku, Inc.	GN151-AVA-US02	TV Content Segmentation, Categorization and Identification and Time-Aligned Applications	United States of America	Granted	13/327,359	12/15/2011	N/A	N/A	9,510,044	11/29/2016	Zettera

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REEL: 062826 FRAME: 0774

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN152-AVA-US02	Media Content Identification on Mobile Devices	United States of America	Granted	13/590,701	8/21/2012	N/A	N/A	9,313,359	4/12/2016	Zeitera
Roku, Inc.	GN152-AVA-US03	Media Content Identification on Mobile Devices	United States of America	Published	15/053,064	2/25/2016	US-2016-0249093	8/25/2016	N/A	N/A	Zeitera
Roku, Inc.	GN152-AVA-US04	Media Content Identification on Mobile Devices	United States of America	Published	16/441,924	6/14/2019	US-2019-0373311	12/5/2019	N/A	N/A	Zeitera
Roku, Inc.	GN152-AVA-US05	Media Content Identification on Mobile Devices	United States of America	Published	16/441,936	6/14/2019	US-2019-0373312	12/5/2019	N/A	N/A	Zeitera
Roku, Inc.	GN152-AVA-US06	Media Content Identification on Mobile Devices	United States of America	Published	16/441,949	6/14/2019	US-2019-0379927	12/12/2019	N/A	N/A	Zeitera
Roku, Inc.	GN152-AVA-US07	Media Content Identification on Mobile Devices	United States of America	Granted	16/441,956	6/14/2019	US-2019-0387273	12/19/2019	10986399	4/20/2021	Zeitera

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REEL: 062826 FRAME: 0775

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN152-AVA-US08	Media Content Identification on Mobile Devices	United States of America	Published	16/441,967	6/14/2019	US-2019-0379928	12/12/2019	N/A	N/A	Zeitera
Roku, Inc.	GN152-AVA-US09	Media Content Identification on Mobile Devices	United States of America	Published	16/441,987	6/14/2019	US-2019-0379929	12/12/2019	N/A	N/A	Zeitera
Roku, Inc.	GN152-AVA-US10	Media Content Identification on Mobile Devices	United States of America	Published	16/441,996	6/14/2019	US-2019-0379930	12/12/2019	N/A	N/A	Zeitera
Roku, Inc.	GN152-AVA-US11	Media Content Identification on Mobile Devices	United States of America	Published	16/442,392	6/14/2019	US-2019-0379931	12/12/2019	N/A	N/A	Zeitera

PATENT

REEL: 062826 FRAME: 0776

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.		AUDIO CONTENT FINGERPRINTING BASED ON TWO-DIMENSIONAL CONSTANT 1-FACTOR TRANSFORM REPRESENTATION AND ROBUST	United States of America	Granted	13/647,996	10/9/2012	N/A	N/A	9,299,364	3/29/2016	Zeitera
	GN153-AVA-US03	AUDIO IDENTIFICATION FOR TIME-ALIGNED APPLICATIONS	United States of America	Granted	15/050,123	2/22/2016	N/A	N/A	9,798,513	10/24/2017	Zeitera
Roku, Inc.		AUDIO CONTENT FINGERPRINTING BASED ON TWO-DIMENSIONAL CONSTANT 1-FACTOR TRANSFORM REPRESENTATION AND ROBUST	United States of America	Granted	13/826,502	3/14/2013	US-2013-0246457	9/19/2013	9,367,544	6/14/2016	Zeitera
	GN153-AVA-US04	AUDIO IDENTIFICATION FOR TIME-ALIGNED APPLICATIONS	United States of America	Granted							
Roku, Inc.		Method for Efficient DataBase Formation and Search on Portable Media Devices Acting Synchronously with Television Programming	United States of America	Granted							
	GN154-AVA-US02										

PATENT

REEL: 062826 FRAME: 0777

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN156-AVA-US02	Robust Audio Identification with Interference Cancellation	United States of America	Granted	15/456,859	3/13/2017	N/A	N/A	10,360,905	7/23/2019	Zettera
Roku, Inc.	GN156-AVA-US03	Robust Audio Identification with Interference Cancellation	United States of America	Application	16/140,538	9/25/2018	N/A	N/A	N/A	N/A	Zettera
Roku, Inc.	GN159-AVA-US02	Method To Differentiate And Classify Fingerprints Using Fingerprint Neighborhood Analysis	United States of America	Granted	15/456,861	3/13/2017	N/A	N/A	10,956,484	3/23/2021	Zettera

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REEL: 062826 FRAME: 0778

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN159-AVA-US03	Method to Differentiate and Classify Fingerprints Using Fingerprint Neighborhood Analysis	United States of America	Granted	16/140,531	9/24/2018	N/A	N/A	10,970,328	4/6/2021	Zettera
Roku, Inc.	GN159-AVA-US04	Method to Differentiate and Classify Fingerprints Using Fingerprint Neighborhood Analysis	United States of America	Application	16/929,858	7/15/2020	N/A	N/A	N/A	N/A	Zettera
Roku, Inc.	GN160-AVA-US02	Digital Video Fingerprinting Using Motion Segmentation	United States of America	Granted	15/456,856	3/13/2017	N/A	N/A	10,318,813	6/11/2019	Zettera
Roku, Inc.	GN160-AVA-US03	Digital Video Fingerprinting Using Motion Segmentation	United States of America	Granted	16/140,534	9/25/2018	US-2019-0138813	5/9/2019	10,733,985	8/4/2020	Zettera
Roku, Inc.	GN160-AVA-US04	Digital Video Fingerprinting Using Motion Segmentation	United States of America	Published	16/916,179	6/30/2020	US-2021-0020171	1/21/2021	N/A	N/A	Zettera

PATENT

REEL: 062826 FRAME: 0779

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
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PATENT
REEL: 062826 FRAME: 0780

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN190-AVA-TW01	Modifying Playback of Replacement Content Responsive to Detection of Remote Control Signals That Modify Operation of the Playback Device	Taiwan	Published	108122258.0	6/26/2019	202007174	2/1/2020	N/A	N/A	Organic
Roku, Inc.	GN190-AVA-US02	Modifying Playback of Replacement Content Responsive to Detection of Remote Control Signals That Modify Operation of the Playback Device	United States of America	Granted	16/181,961	11/6/2018	US-2020-0021789	1/16/2020	10,791,312	9/29/2020	Organic
Roku, Inc.	GN190-AVA-US03	Modifying Playback of Replacement Content Responsive to Detection of Remote Control Signals that Modify Operation of the Playback Device	United States of America	Published	17/003,203	8/26/2020	US-2020-0389637	12/10/2020	N/A	N/A	Organic
Roku, Inc.	GN191-AVA-TW01	Modifying Playback of Replacement Content Responsive to Detection of Remote Control Signals That Control a Device Providing Video to the Playback Device	Taiwan	Published	108122259.0	6/26/2019	202008790	2/16/2020	N/A	N/A	Organic

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REEL: 062826 FRAME: 0781

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.		Modifying Playback of Replacement Content Responsive to Detection of Remote Control Signals That Control a Device Providing Video to the Playback Device	United States of America	Granted	16/181,978	11/6/2018	US-2020-0029129	1/23/2020	10,827,224	11/3/2020	Organic
Roku, Inc.	GN191-AVA-US02	Modifying Playback of Replacement Content Responsive to Detection of Remote Control Signals That Control a Device Providing Video to the Playback Device	United States of America	Published	17/003,211	8/26/2020	US2020-0396513	12/17/2020	N/A	N/A	Organic
Roku, Inc.	GN192-AVA-TW01	Modifying Playback of Replacement Content Based on Control Messages	Taiwan	Published	108122260.0	6/26/2019	202008795	2/16/2020	N/A	N/A	Organic
Roku, Inc.	GN192-AVA-US02	Modifying Playback of Replacement Content Based on Control Messages	United States of America	Published	16/182,201	11/6/2018	US-2020-0029118	1/23/2020	N/A	N/A	Organic
Roku, Inc.	GN193-AVA-CN01	Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Playback Content	China	Published	201980001136.5	6/7/2019	CN110959293A	4/3/2020	N/A	N/A	Organic
Roku, Inc.	GN193-AVA-CN03	Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Playback Content (Client Side)	China	Published	201980001137.X	6/7/2019	111183650	5/19/2020	N/A	N/A	Organic
Roku, Inc.	GN193-AVA-TW01	Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Playback Content	Taiwan	Granted	108122190.0	6/25/2019	202007179	2/1/2020	1701947	8/11/2020	Organic
Roku, Inc.	GN193-AVA-TW03	Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Playback Content (Client Side)	Taiwan	Published	108122899.0	6/28/2019	202007180	2/1/2020	N/A	N/A	Organic

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN193-AVA-TW04	Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Playback Content	Taiwan	Published	109126783.0	8/7/2020	202044845	12/1/2020	N/A	N/A	Organic
Roku, Inc.	GN193-AVA-TW05	Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Media Content	Taiwan	Application	109146501.0	12/28/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN193-AVA-US02	Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Media Content	United States of America	Granted	16/166,561	10/22/2018	N/A	N/A	10,506,275	12/10/2019	Organic
Roku, Inc.	GN193-AVA-US03	Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Media Content	United States of America	Granted	16/166,948	10/22/2018	US-2020-0021877	1/16/2020	10,623,800	4/14/2020	Organic
Roku, Inc.	GN193-AVA-US05	Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Media Content	United States of America	Granted	16/674,652	11/5/2019	US-2020-0068248	2/27/2020	10,979,758	4/13/2021	Organic
Roku, Inc.	GN193-AVA-US06	Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Media Content	United States of America	Granted	16/790,335	2/13/2020	US-2020-0186860	6/11/2020	10,992,981	4/27/2021	Organic
Roku, Inc.	GN194-AVA-CN01	Advanced Preparation for Content Revision Based on Expected Latency in Obtaining New Content	China	Published	201980001148.8	6/7/2019	CN111034204A	4/17/2020	N/A	N/A	Organic
Roku, Inc.	GN194-AVA-TW01	Advanced Preparation for Content Revision Based on Expected Latency in Obtaining New Content	Taiwan	Published	108122188.0	6/25/2019	202008793	2/16/2020	N/A	N/A	Organic
Roku, Inc.	GN194-AVA-US02	Advanced Preparation for Content Revision Based on Expected Latency in Obtaining New Content	United States of America	Granted	16/166,962	10/22/2018	US-2020-0029107	1/23/2020	10,820,020	10/27/2020	Organic

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN194-AVA-US03	Advanced Preparation for Content Revision Based on Expected Latency in Obtaining New Content	United States of America	Published	16/924,806	7/9/2020	US-2020-0344506	10/29/2020	N/A	N/A	Organic
Roku, Inc.	GN195-AVA-CN01	Establishment and Use of Time Mapping Based on Interpolation Using Low-Rate Fingerprinting, to Help Facilitate Frame-Accurate Content Revision	China	Published	201980001147.3	6/7/2019	110999311	4/10/2020	N/A	N/A	Organic
Roku, Inc.	GN195-AVA-CN02	Establishment and Use of Time Mapping Based on Interpolation Using Low-Rate Fingerprinting, to Help Facilitate Frame-Accurate Content Revision (Client Side)	China	Published	201980001138.4	6/7/2019	111213385	5/29/2020	N/A	N/A	Organic
Roku, Inc.	GN195-AVA-TW01	Establishment and Use of Time Mapping Based on Interpolation Using Low-Rate Fingerprinting, to Help Facilitate Frame-Accurate Content Revision	Taiwan	Published	108122189.0	6/25/2019	202008794	2/16/2020	N/A	N/A	Organic
Roku, Inc.	GN195-AVA-TW02	Establishment and Use of Time Mapping Based on Interpolation Using Low-Rate Fingerprinting, to Help Facilitate Frame-Accurate Content Revision (Client Side)	Taiwan	Published	1081222901.0	6/28/2019	202008796	2/16/2020	N/A	N/A	Organic
Roku, Inc.	GN195-AVA-US02	Establishment and Use of Time Mapping Based on Interpolation Using Low-Rate Fingerprinting, to Help Facilitate Frame-Accurate Content Revision	United States of America	Granted	16/166,971	10/22/2018	US-2020-0029108	1/23/2020	10,904,587	1/26/2021	Organic
Roku, Inc.	GN195-AVA-US03	Establishment and Use of Time Mapping Based on Interpolation Using Low-Rate Fingerprinting, to Help Facilitate Frame-Accurate Content Revision	United States of America	Granted	16/166,981	10/22/2018	US-2020-0029115	1/23/2020	10,715,840	7/14/2020	Organic
Roku, Inc.	GN195-AVA-US04	Establishment and Use of Time Mapping Based on Interpolation Using Low-Rate Fingerprinting, to Help Facilitate Frame-Accurate Content Revision	United States of America	Published	16/690,592	6/2/2020	US-2020-0296436	9/17/2020	N/A	N/A	Organic

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.		Establishment and Use of Time Mapping Based on Interpolation Using Low-Rate Fingerprinting, to Help Facilitate Frame-Accurate Content Revision	United States of America	Application	17/247,517	12/15/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN195-AVA-US05										
Roku, Inc.	GN204-AVA-CN01	Dynamic Playback of Transition Frames while Transitioning Between Playback of Media Streams	China	Published	201980001149.2	6/7/2019	111418215	7/14/2020	N/A	N/A	Organic
Roku, Inc.	GN204-AVA-TW01	Dynamic Playback of Transition Frames while Transitioning Between Playback of Media Streams	Taiwan	Published	108122594.0	6/27/2019	202010313	3/1/2020	N/A	N/A	Organic
Roku, Inc.	GN204-AVA-TW02	Dynamic Playback of Transition Frames while Transitioning Between Playback of Media Streams	Taiwan	Application	109145505.0	12/22/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN204-AVA-US02	Dynamic Playback of Transition Frames while Transitioning Between Playback of Media Streams	United States of America	Published	16/183,185	11/7/2018	US-2020-0059691	2/20/2020	N/A	N/A	Organic
Roku, Inc.	GN204-AVA-WO01	Dynamic Playback of Transition Frames while Transitioning Between Playback of Media Streams	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2019/035996	6/7/2019	WO2020/036667	2/20/2020	N/A	N/A	Organic
Roku, Inc.		Dynamic Reduction in Playback of Replacement Content to Help Align End of Replacement Content with End of Replacement Content									
Roku, Inc.	GN205-AVA-CN01		China	Published	201980001150.5	6/7/2019	CN111316659A	6/19/2020	N/A	N/A	Organic
Roku, Inc.		Dynamic Reduction in Playback of Replacement Content to Help Align End of Replacement Content with End of Replacement Content									
Roku, Inc.	GN205-AVA-TW01		Taiwan	Published	108122595.0	6/27/2019	202010314	3/1/2020	N/A	N/A	Organic

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN205-AVA-TW02	Dynamic Reduction in Playback of Replacement Content to Help Align End of Replacement Content	Taiwan	Application	109145507.0	12/22/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN205-AVA-US02	Dynamic Reduction in Playback of Replacement Content to Help Align End of Replacement Content With End of Replaced Content	United States of America	Published	16/183,266	11/7/2018	US-2020-0059692	2/20/2020	N/A	N/A	Organic
Roku, Inc.	GN205-AVA-WO01	Dynamic Reduction in Playback of Replacement Content to Help Align End of Replacement Content with End of Replaced Content	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2019/036001	6/7/2019	WO2020/036668	2/20/2020	N/A	N/A	Organic
Roku, Inc.	GN216-AVA-TW01	Detection of Mute and Compensation Therefor During Media Replacement Event	Taiwan	Published	108141307.0	11/14/2019	202021371	6/1/2020	N/A	N/A	Organic
Roku, Inc.	GN216-AVA-TW02	Detection of Mute and Compensation Therefor During Media Replacement Event	Taiwan	Application	110100332.0	1/6/2021	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN216-AVA-US02	Detection of Mute and Compensation Therefor During Media Replacement Event	United States of America	Published	16/433,530	6/6/2019	US-2020-0162788	5/21/2020	N/A	N/A	Organic
Roku, Inc.	GN216-AVA-US03	Detection of Mute and Compensation Therefor During Media Replacement Event	United States of America	Published	16/847,532	4/13/2020	US-2020-0245024	7/30/2020	N/A	N/A	Organic
Roku, Inc.	GN216-AVA-WO01	Detection of Mute and Compensation Therefor During Media Replacement Event	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2019/054798	10/4/2019	WO2020/101819	5/22/2020	N/A	N/A	Organic

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REEL: 062826 FRAME: 0786

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN217-AVA-TW01	Volume Edge Case for DAI – Detect Volume Adjustments Using Loudness Level Profile	Taiwan	Published	108141663.0	11/15/2019	202034705	9/16/2020	N/A	N/A	Organic
Roku, Inc.	GN217-AVA-TW02	Detection of Media Playback Audio Volume Level and Corresponding Adjustment to Audio During Media Replacement Event	Taiwan	Published	108141593.0	11/15/2019	202027513	7/16/2020	N/A	N/A	Organic
Roku, Inc.	GN217-AVA-US02	Detection of Media Playback Loudness Level and Corresponding Adjustment to Audio During Media Replacement Event	United States of America	Published	16/673,859	11/4/2019	US-2020-0159489	5/21/2020	N/A	N/A	Organic
Roku, Inc.	GN217-AVA-US04	Monitoring Loudness Level During Media Replacement Event Using Shorter Time Constant	United States of America	Published	16/684,514	11/14/2019	US-2020-0162048	5/21/2020	N/A	N/A	Organic
Roku, Inc.	GN217-AVA-US05	Detection of Volume Adjustments During Media Replacement Events Using Loudness Level Profiles	United States of America	Published	16/684,510	11/14/2019	US-2020-0162049	5/21/2020	N/A	N/A	Organic
Roku, Inc.	GN217-AVA-WO01	Volume Edge Case For Dai – Monitor Loudness Level During Media Content Replacement Event Using Shorter Time Co	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2019/061632	11/15/2019	WO2020/102632	5/22/2020	N/A	N/A	Organic
Roku, Inc.	GN217-AVA-WO02	Volume Edge Case for DAI – Detect Volume Adjustments Using Loudness Level Profile	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2019/061633	11/15/2019	WO2020/102633	5/22/2020	N/A	N/A	Organic
Roku, Inc.	GN217-AVA-WO03	Detection of Media Playback Audio Volume Level and Corresponding Adjustment to Audio During Media Replacement Event	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2019/059882	11/5/2019	WO2020/101951	5/22/2020	N/A	N/A	Organic
Roku, Inc.	GN221-AVA-TW01	Method and System for Use of Automatic Content Recognition to Trigger Dynamic Ad Insertion in Response to Repeat Playout of Ad	Taiwan	Application	109132960.0	9/23/2020	N/A	N/A	N/A	N/A	Organic

PATENT

REEL: 062826 FRAME: 0787

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN221-AVA-US01	Method and System for Use of Automatic Content Recognition to Trigger Dynamic Ad Insertion in Response to Repeat Playout of Ad	United States of America	Application	16/668,833	10/30/2019	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN221-AVA-WO01	Method and System for Use of Automatic Content Recognition to Trigger Dynamic Ad Insertion in Response to Repeat Playout of Ad	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/049356	9/4/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN228-AVA-US02	Method and System for Use of Earlier and/or Later Single-Match as Basis to Disambiguate Channel Multi-Match with Non-Matching Programs	United States of America	Published	16/586,552	9/27/2019	US-2021-0021893	1/21/2021	N/A	N/A	Organic
Roku, Inc.	GN228-AVA-WO01	Method and System for Use of Earlier and/or Later Single-Match as Basis to Disambiguate Channel Multi-Match with Non-Matching Programs	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/042743	7/20/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN229-AVA-US02	Method and System for Use of Network Affiliation as Basis to Determine Channel Rendered by Content Presentation Device	United States of America	Published	16/586,542	9/27/2019	US02021-0021884	1/21/2021	N/A	N/A	Organic
Roku, Inc.	GN229-AVA-WO01	Method and System for Use of Network Affiliation as Basis to Determine Channel Rendered by Content Presentation Device	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/042742	7/20/2020	N/A	N/A	N/A	N/A	Organic

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.		Use of Steganographically-Encoded Data as Basis to Control Dynamic Content Modification as to at Least One Modifiable Content Segment Identified Based on Fingerprint Analysis	United States of America	Published	15/929,225	2/14/2020	US-2020-0404371	12/24/2020	N/A	N/A	Organic
	GN232-AVA-US02										
Roku, Inc.		Use of Steganographically-Encoded Data as Basis to Control Dynamic Content Modification as to at Least One Modifiable Content Segment Identified Based on Fingerprint Analysis	United States of America	within 30 months of PCT filing	PCT/US2020/037884	6/16/2020	WO2020/257163	12/24/2020	N/A	N/A	Organic
	GN232-AVA-WO01										
Roku, Inc.		Content-Modification System with Determination of Input-Buffer Switching Delay Feature	United States of America	Published	16/905,172	6/18/2020	US-2020-0404216	12/24/2020	N/A	N/A	Organic
	GN234-AVA-US02										
Roku, Inc.		Content-Modification System with Determination of Input-Buffer Switching Delay Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/038387	6/18/2020	WO2020/257424	12/24/2020	N/A	N/A	Organic
	GN234-AVA-WO01										
Roku, Inc.		Use of Watermarking to Trigger Fingerprint-Related Action	Taiwan	Application	109120280.0	6/16/2020	N/A	N/A	N/A	N/A	Organic
	GN245-AVA-TW01										
Roku, Inc.		Use of Watermarking to Trigger Fingerprint-Related Action	United States of America	Published	15/929,219	2/6/2020	US-2020-0275168	8/27/2020	N/A	N/A	Organic
	GN245-AVA-US03										
Roku, Inc.		Use of Watermarking to Trigger Fingerprint-Related Action	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/037898	6/16/2020	WO2020/263621	12/30/2020	N/A	N/A	Organic
	GN245-AVA-WO01										
Roku, Inc.		Use of Watermarking to Control Abandonment of Dynamic Content Modification	United States of America	Application	15/929,212	1/29/2020	N/A	N/A	11,006,191	5/11/2021	Organic
	GN246-AVA-US02										

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN246-AVA-WO01	Use of Watermarking to Control Abandonment of Dynamic Content Modification	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/044762	8/3/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN247-AVA-US01	Responding to Emergency-Alert Audio Tone by Abandoning Dynamic Content Modification	United States of America	Application	16/947,182	7/22/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN255-AVA-US01	Media Channel Identification and Action with Multi-Match Disambiguation Feature	United States of America	Application	63/126,383	12/16/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN255-AVA-US02	Media Channel Identification and Action with Multi-Match Disambiguation Feature	United States of America	Application	63/126,384	12/16/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN258-AVA-TW01	Content-Modification System with Delay Buffer Feature	Taiwan	Application	109138014.0	11/12/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN258-AVA-US02	Content Modification System with Buffer Feature	United States of America	Application	17/086,119	10/30/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN258-AVA-WO01	Content-Modification System with Delay Buffer Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/058399	10/30/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN262-AVA-US02	Content-Modification System with Client-Side Advertisement Caching	United States of America	Application	16/949,515	10/31/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN262-AVA-WO01	Content-Modification System with Client-Side Advertisement Caching	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/070730	10/31/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN263-AVA-TW01	Dynamic Ad Insertion Decision-making for Linear Live TV	Taiwan	Application	109135184.0	10/12/2020	N/A	N/A	N/A	N/A	Organic

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	GN263-AVA-US02	Dynamic Ad Insertion Decision-Making for Linear Live TV	United States of America	Application	16/949,014	10/9/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN263-AVA-WO01	Dynamic Ad Insertion Decision-making for Linear Live TV	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/070645	10/9/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN266-AVA-US01	Content-Modification System with Local Avail Detection Feature	United States of America	Application	63/109,208	11/3/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN269-AVA-US01	Content-Modification System with Jitter Effect Mitigation Feature	United States of America	Application	63/046,014	6/30/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN270-AVA-US01	Content-Modification System with Jitter Effect Mitigation Feature	United States of America	Application	63/046,022	6/30/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN271-AVA-US01	Content-Modification System with Jitter Effect Mitigation Feature	United States of America	Application	63/046,028	6/30/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN272-AVA-US01	Content-Modification System with Jitter Effect Mitigation Feature	United States of America	Application	63/046,035	6/30/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN273-AVA-US01	Content-Modification System with Jitter Effect Mitigation Feature	United States of America	Application	63/046,043	6/30/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	GN280-AVA-US01	Detecting that Query Fingerprints Represent Standard-Definition Media Content, to Facilitate Standard-Definition Dynamic Content Revision	United States of America	Application	63/199,110	12/7/2020	N/A	N/A	N/A	N/A	Organic
Roku, Inc.	SOR001-AVA-US02	Content Management of a Feed	United States of America	Granted	14/820,476	8/6/2015	N/A	N/A	9,641,870	5/2/2017	Sorenson
Roku, Inc.	SOR001-AVA-US03	Content Management of a Content Feed	United States of America	Granted	15/459,627	3/15/2017	N/A	N/A	10,395,277	8/27/2019	Sorenson
Roku, Inc.	SOR001-AVA-US04	Content Management of a Content Feed	United States of America	Published	16/295,626	3/7/2019	US-2019-0272563	9/5/2019	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR002-AVA-US02	Automatic Content Recognition (ACR) Fingerprinting and Video Encoding	United States of America	Granted	14/839,339	8/28/2015	N/A	N/A	9,628,830	4/18/2017	Sorenson
Roku, Inc.	SOR002-AVA-US03	Automatic Content Recognition (ACR) Fingerprinting and Video Encoding	United States of America	Granted	15/457,483	3/13/2017	N/A	N/A	10,687,092	6/16/2020	Sorenson
Roku, Inc.	SOR002-AVA-US04	Automatic Content Recognition (ACR) Fingerprinting and Video Encoding	United States of America	Application	16/868,651	5/7/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR003-AVA-US02	Content Replacement with Onscreen Displays	United States of America	Granted	14/820,490	8/6/2015	US-2016-0234564	8/11/2016	9,743,153	8/22/2017	Sorenson
Roku, Inc.	SOR003-AVA-US03	Content Replacement with Onscreen Displays	United States of America	Granted	15/658,345	7/24/2017	US-2018-0014087	1/11/2018	10,057,657	8/21/2018	Sorenson
Roku, Inc.	SOR004-AVA-CN01	Detecting Channel Change in Automatic Content Recognition FingerprintMatching	China	Granted	201680043941.0	5/26/2016	107852252	3/27/2018	107852252	10/22/2019	Sorenson
Roku, Inc.	SOR004-AVA-CN02	Detecting Channel Change in Automatic Content Recognition Fingerprint Matching	China	Published	201910904897.3	5/26/2016	110830843	2/21/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR004-AVA-CN03	Detecting Channel Change in Automatic Content Recognition FingerprintMatching	China	Published	201910905526.7	9/24/2019	110730361	1/24/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR004-AVA-EP01	Detecting Channel Change in Automatic Content Recognition Fingerprint Matching	European Patent	Published	16808025.7	5/26/2016	3308480	4/18/2018	N/A	N/A	Sorenson
Roku, Inc.	SOR004-AVA-HK01	Detecting Channel Change in Automatic Content Recognition FingerprintMatching	Hong Kong	Published	42020004698.5	3/23/2020	40014843A	8/28/2020	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR004-AVA-HK02	Detecting Channel Change in Automatic Content Recognition Fingerprint Matching	Hong Kong	Published	42020004690 2	3/23/2020	40014838A	8/28/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR004-AVA-JP01	Detecting Channel Change in Automatic Content Recognition Fingerprint Matching	Japan	Granted	2018-517124	5/26/2016	2018-523433	8/16/2018	6672454	3/6/2020	Sorenson
Roku, Inc.	SOR004-AVA-JP02	Detecting Channel Change in Automatic Content Recognition Fingerprint Matching	Japan	Published	2019-094709	5/26/2016	2019-179557	10/17/2019	N/A	N/A	Sorenson
Roku, Inc.	SOR004-AVA-KR01	Detecting Channel Change in Automatic Content Recognition Fingerprint Matching	Korea, Republic of (KR)	Granted	10-2018-7001098	5/26/2016	10-2018-0035790	4/6/2018	10-2054912	12/5/2019	Sorenson
Roku, Inc.	SOR004-AVA-KR02	Detecting Channel Change in Automatic Content Recognition Fingerprint Matching	Korea, Republic of (KR)	Granted	10-2019-7036058	5/26/2016	10-2197311	1/5/2021	10-2197311	12/24/2020	Sorenson
Roku, Inc.	SOR004-AVA-KR03	Detecting Channel Change in Automatic Content Recognition Fingerprint Matching	Korea, Republic of (KR)	Application	10-2020-7037208	12/23/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR004-AVA-US02	Detecting Channel Change in Automatic Content Recognition Fingerprint Matching	United States of America	Granted	14/815,256	7/31/2015	US-2016-0366474	12/15/2016	9,516,377	12/6/2016	Sorenson
Roku, Inc.	SOR004-AVA-US03	Detecting Channel Change in Automatic Content Recognition Fingerprint Matching	United States of America	Granted	15/266,524	9/15/2016	US-2017-0013324	1/12/2017	9,706,261	7/11/2017	Sorenson
Roku, Inc.	SOR004-AVA-US04	Detecting Channel Change in Automatic Content Recognition Fingerprint Matching	United States of America	Granted	15/617,591	6/8/2017	US-2017-0272836	9/21/2017	9,877,085	1/23/2018	Sorenson
Roku, Inc.	SOR005-AVA-US01	Overlay Content and Aggregation of Viewing Data	United States of America	Granted	14/820,484	8/6/2015	N/A	N/A	9,380,325	6/28/2016	Sorenson
Roku, Inc.	SOR005-AVA-US02	Overlay Content and Aggregation of Viewing Data	United States of America	Granted	15/182,229	6/14/2016	N/A	N/A	9,661,385	5/23/2017	Sorenson

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR005-AVA-US03	Overlay Content and Aggregation of Viewing Data	United States of America	Granted	15/483,762	4/10/2017	N/A	N/A	9,912,991	3/6/2018	Sorenson
Roku, Inc.	SOR005-AVA-US04	Overlay Content and Aggregation of Viewing Data	United States of America	Granted	15/695,775	2/13/2018	US-2018-0184166	6/26/2018	10,313,753	6/4/2019	Sorenson
Roku, Inc.	SOR005-AVA-US05	Providing Restricted Overlay Content to an Authorized Client Device	United States of America	Granted	16/411,533	5/14/2019	US-2019-0268657	8/29/2019	10,798,448	10/6/2020	Sorenson
Roku, Inc.	SOR005-AVA-US06	Criteria Verification to Facilitate Providing of Highest Cross per Mile (CPM) Overlays to Client Devices	United States of America	Granted	16/411,602	5/14/2019	US-2019-0268658	8/29/2019	10,757,477	8/25/2020	Sorenson
Roku, Inc.	SOR005-AVA-US07	Providing Restricted Overlay Content to an Authorized Client Device	United States of America	Published	16/928,770	7/14/2020	US-2020-0344524	10/29/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR006-AVA-CN01	Devices and Non-Transitory Machine-Readable Storage Medium for Sequentially Overlaying Media Content	China	Granted	201680063089.3	9/27/2016	108353201	7/31/2018	108353201	11/24/2020	Sorenson
Roku, Inc.	SOR006-AVA-CN02	Devices and Non-Transitory Machine-Readable Storage Medium for Sequentially Overlaying Media Content	China	Application 2	202011279263.	11/16/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR006-AVA-GB01	Sequentially Overlaying Media Content	United Kingdom	Published	1805115.1	9/27/2016	GB2556850	6/6/2018	N/A	N/A	Sorenson
Roku, Inc.	SOR006-AVA-HK01	Sequentially Overlaying Media Content	Hong Kong	Published	19101474.2	9/27/2016	1258989A	11/22/2019	N/A	N/A	Sorenson
Roku, Inc.	SOR006-AVA-KR01	Sequentially Overlaying Media Content	Korea, Republic of (KR)	Granted	10-2018-7012371	9/27/2016	10-2018-0084765	7/25/2017	10-2076642	2/6/2020	Sorenson
Roku, Inc.	SOR006-AVA-KR02	Sequentially Overlaying Media Content	Korea, Republic of (KR)	Application	10-2020-7003558	2/6/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR006-AVA-MX01	Sequentially Overlaying Media Content	Mexico	Published	MX/a/2018/003808	9/27/2016	N/A	1/14/2019	N/A	N/A	Sorenson

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Roku, Inc.	SOR006-AVA-US03	Sequentially Overlaying Media Content	United States of America	Granted	15/130,823	4/15/2016	US-2017-0099506	4/6/2017	9,848,214	12/19/2017	Sorenson
Roku, Inc.	SOR006-AVA-US04	Sequentially Overlaying Media Content	United States of America	Granted	15/842,750	12/14/2017	US-2018-0109822	4/19/2018	10,334,286	6/25/2019	Sorenson
Roku, Inc.	SOR006-AVA-US05	Sequentially Overlaying Media Content	United States of America	Published	16/399,267	4/30/2019	US-2019-0261030	8/22/2019	N/A	N/A	Sorenson
Roku, Inc.	SOR006-AVA-US06	Sequentially Overlaying Media Content	United States of America	Published	16/399,354	4/30/2019	US-2019-0261031	8/22/2019	10,979,756	4/13/2021	Sorenson
Roku, Inc.	SOR006-AVA-US07	Sequentially Overlaying Media Content	United States of America	Published	16/399,401	4/30/2019	US-2019-0261032	8/22/2019	N/A	N/A	Sorenson
Roku, Inc.	SOR006-AVA-US08	Sequentially Overlaying Media Content	United States of America	Published	16/399,450	4/30/2019	US-2019-0261033	8/22/2019	N/A	N/A	Sorenson
Roku, Inc.	SOR007-AVA-CN01	Frequency Capping for Multimedia Content	China	Published	201680062705.3	9/27/2016	108351857	7/31/2018	N/A	N/A	Sorenson
Roku, Inc.	SOR007-AVA-GB01	Frequency Capping for Multimedia Content	United Kingdom	Published	1805116.9	9/27/2016	GB2558453	7/11/2018	N/A	N/A	Sorenson
Roku, Inc.	SOR007-AVA-HK01	Frequency Capping for Multimedia Content	Hong Kong	Published	19101472.4	9/27/2016	1258987A	11/22/2019	N/A	N/A	Sorenson
Roku, Inc.	SOR007-AVA-KR01	Frequency Capping for Multimedia Content	Korea, Republic of (KR)	Granted	10-2018-7012363	9/27/2016	10-2018-0084764	7/25/2018	10-1993913	6/21/2019	Sorenson
Roku, Inc.	SOR007-AVA-KR02	Frequency Capping for Multimedia Content	Korea, Republic of (KR)	Application	10-2019-7017960	9/27/2018	N/A	N/A	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR007-AVA-MX01	Frequency Capping for Multimedia Content	Mexico	Application	MX/a/2018/003 807	9/27/2016	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR007-AVA-US01	Frequency Capping for Media Content	United States of America	Granted	15/164,682	5/25/2016	US-2017-0099511	4/6/2017	9,723,347	8/1/2017	Sorenson
Roku, Inc.	SOR007-AVA-US02	Frequency Capping for Media Content	United States of America	Granted	15/641,796	7/5/2017	US-2017-0302984	10/19/2017	10,187,682	1/22/2019	Sorenson
Roku, Inc.	SOR008-AVA-CN01	Dynamic Video Advertisement Replacement	China	Published	201680057676.1	8/16/2016	108140199	6/8/2018	N/A	N/A	Sorenson
Roku, Inc.	SOR008-AVA-GB01	Dynamic Video Advertisement Replacement	United Kingdom	Published	1805117.7	8/16/2016	2557531	6/20/2018	N/A	N/A	Sorenson
Roku, Inc.	SOR008-AVA-KR01	Dynamic Video Advertisement Replacement	Korea, Republic of (KR)	Granted	10-2018-7009915	8/16/2016	10-2018-0082427	7/18/2018	10-2075512	2/4/2020	Sorenson
Roku, Inc.	SOR008-AVA-KR02	Dynamic Video Advertisement Replacement	Korea, Republic of (KR)	Application	10-2020-7003289	2/4/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR008-AVA-MX01	Dynamic Video Advertisement Replacement	Mexico	Application	MX/a/2018/002 966	8/16/2016	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR008-AVA-US02	Dynamic Video Advertisement Replacement	United States of America	Granted	15/058,750	3/2/2016	US-2017-0070789	3/9/2017	9,743,154	8/22/2017	Sorenson
Roku, Inc.	SOR008-AVA-US03	Dynamic Video Advertisement Replacement	United States of America	Granted	15/650,425	7/14/2017	US-2017-0325005	11/9/2017	10,110,969	10/23/2018	Sorenson
Roku, Inc.	SOR008-AVA-US04	Dynamic Video Advertisement Replacement	United States of America	Granted	16/144,361	9/27/2018	US-2019-0028778	1/24/2019	10,728,627	7/28/2020	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR008-AVA-US05	Dynamic Video Advertisement Replacement	United States of America	Granted	16/399,525	4/30/2019	US-2019-0261059	8/22/2019	10,728,628	7/28/2020	Sorenson
Roku, Inc.	SOR008-AVA-US06	Dynamic Video Advertisement Replacement	United States of America	Granted	16/399,548	4/30/2019	US-2019-0261060	8/22/2019	10,728,629	7/28/2020	Sorenson
Roku, Inc.	SOR008-AVA-US07	Dynamic Video Advertisement Replacement	United States of America	Published	16/908,677	6/22/2020	US-2020-0322695	10/8/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR009-AVA-US01	Creating and Fulfilling Dynamic Advertisement Replacement Inventory	United States of America	Granted	15/058,819	3/2/2016	N/A	N/A	9,854,326	12/26/2017	Sorenson
Roku, Inc.	SOR009-AVA-US02	Creating and Fulfilling Dynamic Advertisement Replacement Inventory	United States of America	Granted	15/831,838	12/5/2017	US-2018-0098133	4/5/2018	10,771,858	9/8/2020	Sorenson
Roku, Inc.	SOR009-AVA-US03	Creating and Fulfilling Dynamic Advertisement Replacement Inventory	United States of America	Granted	16/399,577	4/30/2019	US-2019-0261061	8/22/2019	10,764,653	9/1/2020	Sorenson
Roku, Inc.	SOR009-AVAUS04	Creating and Fulfilling Dynamic Advertisement Replacement Inventory	United States of America	Published	16/931,402	7/20/2020	US-2020-0351571	11/5/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR010-AVA-CN01	Media Content Matching and Indexing	China	Published	201680062405.	9/27/2016	108352914	7/31/2018	N/A	N/A	Sorenson
Roku, Inc.	SOR010-AVA-GB01	Media Content Matching and Indexing	United Kingdom	Published	1805125,0	9/27/2016	2557156	6/13/2018	N/A	N/A	Sorenson
Roku, Inc.	SOR010-AVA-HK01	Media Content Matching and Indexing	Hong Kong	Published	19101473,3	9/27/2016	1258988A	11/22/2019	N/A	N/A	Sorenson
Roku, Inc.	SOR010-AVA-KR01	Media Content Matching and Indexing	Korea, Republic of (KR)	Granted	10-2018-7014587	9/27/2016	10-2018-0084812	7/25/2018	10-2083996	2/26/2020	Sorenson
Roku, Inc.	SOR010-AVA-KR02	Media Content Matching and Indexing	Korea, Republic of (KR)	Application	10-2020-7005598	2/26/2020	N/A	N/A	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR010-AVA-MX01	Media Content Matching and Indexing	Mexico	Application	MX/a/2018/003806	9/27/2016	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR010-AVA-US02	Media Content Matching and Indexing	United States of America	Granted	15/081,738	3/25/2016	US-2017-0118538	4/27/2017	9,813,781	11/7/2017	Sorenson
Roku, Inc.	SOR010-AVA-US03	Media Content Matching and Indexing	United States of America	Granted	15/728,687	10/10/2017	US-2018-0035175	2/1/2018	10,187,705	1/22/2019	Sorenson
Roku, Inc.	SOR010-AVA-US04	Media Content Matching and Indexing	United States of America	Granted	16/217,980	12/12/2018	US-2019-0200101	6/27/2019	10,827,234	11/3/2020	Sorenson
Roku, Inc.	SOR010-AVA-US05	Media Content Matching and Indexing	United States of America	Published	16/948,766	9/30/2020	US-2021-0014577	1/14/2021	N/A	N/A	Sorenson
Roku, Inc.	SOR011-AVA-CN01	Digital Overlay Offers on Connected Media Devices	China	Published	201680054373.4	9/13/2016	108141563	6/8/2018	N/A	N/A	Sorenson
Roku, Inc.	SOR011-AVA-GB01	Digital Overlay Offers on Connected Media Devices	United Kingdom	Published	1805114.4	9/13/2016	2556849	6/6/2018	N/A	N/A	Sorenson
Roku, Inc.	SOR011-AVA-KR01	Digital Overlay Offers on Connected Media Devices	Korea, Republic of (KR)	Granted	10-2018-7010846	9/13/2016	10-2018-0084750	7/25/2018	2123108	6/9/2020	Sorenson
Roku, Inc.	SOR011-AVA-KR02	Digital Overlay Offers on Connected Media Devices	Korea, Republic of (KR)	Application	10-2020-7016540	6/9/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR011-AVA-MX01	Digital Overlay Offers on Connected Media Devices	Mexico	Application	MX/a/2018/003399	9/13/2016	N/A	N/A	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR011-AVA-US02	Digital Overlay Offers on Connected Media Devices	United States of America	Granted	15/130,639	4/15/2016	US-2017-0085934	3/23/2017	10,075,755	9/11/2018	Sorenson
Roku, Inc.	SOR011-AVA-US03	Digital Overlay Offers on Connected Media Devices	United States of America	Granted	15/418,439	1/27/2017	US-2017-0142464	5/18/2017	10,341,705	7/2/2019	Sorenson
Roku, Inc.	SOR011-AVA-US04	Digital Overlay Offers on Connected Media Devices	United States of America	Granted	16/052,267	8/1/2018	US-2018-0343483	11/29/2018	10,341,706	7/2/2019	Sorenson
Roku, Inc.	SOR011-AVA-US05	Digital Overlay Offers on Connected Media Devices	United States of America	Granted	16/388,070	4/18/2019	US-2019-0281338	9/12/2019	10,863,222	12/8/2020	Sorenson
Roku, Inc.	SOR011-AVA-US06	Digital Overlay Offers on Connected Media Devices	United States of America	Granted	16/388,081	4/18/2019	US-2019-0246156	8/8/2019	10,863,223	12/8/2020	Sorenson
Roku, Inc.	SOR011-AVA-US07	Digital Overlay Offers on Connected Media Devices	United States of America	Granted	16/388,097	4/18/2019	US-2019-0246157	8/8/2019	10,869,078	12/15/2020	Sorenson
Roku, Inc.	SOR011-AVA-US08	Digital Overlay Offers on Connected Media Devices	United States of America	Application	17/090,126	11/5/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR012-AVA-US02	Video Fingerprinting Based on Fourier Transform of Histogram	United States of America	Granted	15/098,135	4/13/2016	N/A	N/A	9,848,235	12/19/2017	Sorenson
Roku, Inc.	SOR012-AVA-US03	Video Fingerprinting Based on Fourier Transform of Histogram	United States of America	Granted	15/826,044	11/29/2017	US-2018-0084303	3/22/2018	10,390,083	8/20/2019	Sorenson
Roku, Inc.	SOR012-AVA-US04	Video Fingerprinting Based on Fourier Transform of Histogram	United States of America	Published	16/502,649	7/3/2019	US-2019-0327525	10/24/2019	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR013-AVA-US02	Fingerprinting Media Content Using Hashing	United States of America	Granted	15/138,678	4/26/2016	US-2017-0244999	8/24/2017	9,906,831	2/27/2018	Sorenson
Roku, Inc.	SOR013-AVA-US03	Fingerprinting Media Content Using Hashing	United States of America	Granted	15/886,848	2/2/2018	US-2018-0160169	6/7/2018	10,116,987	10/30/2018	Sorenson
Roku, Inc.	SOR013-AVA-US04	Fingerprinting Media Content Using Hashing	United States of America	Application	16/802,820	2/27/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR014-AVA-CN01	Fingerprint Layouts for Content Fingerprinting	China	Published	201780064956, X	3/9/2017	CN109906611A	6/18/2019	N/A	N/A	Sorenson
Roku, Inc.	SOR014-AVA-EP01	Fingerprint Layouts for Content Fingerprinting	European Patent	Published	17844056.6	3/9/2017	3500943	6/26/2019	N/A	N/A	Sorenson
Roku, Inc.	SOR014-AVA-HK01	Fingerprint Layouts for Content Fingerprinting	Hong Kong	Published	19127286.3	3/9/2017	N/A	4/17/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR014-AVA-JP01	Fingerprint Layouts for Content Fingerprinting	Japan	Granted	2019-511582	3/9/2017	2019-532560	11/7/2019	6750103	8/14/2020	Sorenson
Roku, Inc.	SOR014-AVA-JP02	Fingerprint Layouts for Content Fingerprinting	Japan	Published	2020-136267	8/12/2020	2020-205594	12/24/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR014-AVA-KR01	Fingerprint Layouts for Content Fingerprinting	Korea, Republic of (KR)	Granted	2019-7007862	3/9/2017	N/A	N/A	10-2173417	10/28/2020	Sorenson
Roku, Inc.	SOR014-AVA-KR02	Fingerprint Layouts for Content Fingerprinting	Korea, Republic of (KR)	Application	2020-7031089	10/28/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR014-AVA-KR03	Fingerprint Layouts for Content Fingerprinting	Korea, Republic of (KR)	Application	2020-7031093	10/28/2020	N/A	N/A	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR014-AVA-US02	Fingerprint Layouts for Content Fingerprinting	United States of America	Granted	15/243,658	8/22/2016	US-2017-0272814	9/21/2017	10,063,917	8/28/2018	Sorenson
Roku, Inc.	SOR014-AVA-US03	Fingerprint Layouts for Content Fingerprinting	United States of America	Granted	16/035,051	7/13/2018	US-2018-0343494	11/29/2018	10,257,570	4/9/2019	Sorenson
Roku, Inc.	SOR014-AVA-US04	Fingerprint Layouts for Content Fingerprinting	United States of America	Granted	16/287,752	2/27/2019	US-2019-0215560	7/11/2019	10,743,062	8/11/2020	Sorenson
Roku, Inc.	SOR014-AVA-US05	Fingerprint Layouts for Content Fingerprinting	United States of America	Published	16/925,730	7/10/2020	US-2020-0413132	12/31/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR015-AVA-US02	Interweaving Media Content	United States of America	Granted	14/881,852	10/13/2015	N/A	N/A	10,194,177	1/29/2019	Sorenson
Roku, Inc.	SOR015-AVA-US03	Interweaving Media Content	United States of America	Published	16/217,852	12/12/2018	US-2019-0222873	7/18/2019	N/A	N/A	Sorenson
Roku, Inc.	SOR016-AVA-US01	Automatic Content Recognition Search Optimization	United States of America	Granted	14/736,158	6/10/2015	N/A	N/A	10,509,824	12/17/2019	Sorenson
Roku, Inc.	SOR016-AVA-US02	Automatic Content Recognition Search Optimization	United States of America	Published	16/588,211	9/30/2019	US-2020-0026730	1/23/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR017-AVA-CN01	Automatic Content Recognition Fingerprint Sequence Matching	China	Published	201680023388.4	4/21/2016	107851103	3/27/2018	N/A	N/A	Sorenson
Roku, Inc.	SOR017-AVA-EP01	Automatic Content Recognition Fingerprint Sequence Matching	European Patent	Published	16783829.1	4/21/2016	3286669	2/28/2018	N/A	N/A	Sorenson

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR017-AVA-JP01	Automatic Content Recognition Fingerprint Sequence Matching	Japan	Granted	2018-506796	4/21/2016	2018-521601	8/2/2018	6438628	11/22/2018	Sorenson
Roku, Inc.	SOR017-AVA-KR01	Automatic Content Recognition Fingerprint Sequence Matching	Korea, Republic of (KR)	Granted	10-2017-7033908	4/21/2016	10-2018-0036647	4/9/2018	10-2063117	12/31/2019	Sorenson
Roku, Inc.	SOR017-AVA-KR02	Automatic Content Recognition Fingerprint Sequence Matching	Korea, Republic of (KR)	Application	10-2019-7038947	12/31/2019	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR017-AVA-US02	Automatic Content Recognition with local Matching	United States of America	Granted	14/813,416	7/30/2015	US-2016-0316262	10/27/2016	10,750,236	8/18/2020	Sorenson
Roku, Inc.	SOR017-AVA-US03	Automatic Content Recognition with local Matching	United States of America	Published	16/924,119	7/8/2020	US-2020-0344520	10/29/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR018-AVA-CN01	Automatic Content Recognition Fingerprint Sequence Matching	China	Published	201680023473.0	4/25/2016	107851104	3/27/2018	N/A	N/A	Sorenson
Roku, Inc.	SOR018-AVA-EP01	Automatic Content Recognition Fingerprint Sequence Matching	European Patent	Published	16784091.7	4/25/2016	3286673	2/28/2018	N/A	N/A	Sorenson
Roku, Inc.	SOR018-AVA-JP01	Automatic Content Recognition Fingerprint Sequence Matching	Japan	Granted	2018-506816	4/25/2016	2018-523419	8/16/2018	6612432	11/8/2019	Sorenson
Roku, Inc.	SOR018-AVA-JP02	Automatic Content Recognition Fingerprint Sequence Matching	Japan	Published	2019-197011	10/30/2019	2020-025322	2/13/2020	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR019-AVA-US02	Content Comparison Testing on Linear Media Streams	United States of America	Granted	15/164,714	5/25/2016	US-2017-0238037	8/17/2017	10,432,994	10/1/2019	Sorenson
Roku, Inc.	SOR019-AVA-US03	Content Comparison Testing on Linear Media Streams	United States of America	Granted	16/555,507	8/29/2019	US-2019-0387266	12/19/2019	10,721,515	7/21/2020	Sorenson
Roku, Inc.	SOR019-AVA-US04	Content Comparison Testing on Linear Media Streams	United States of America	Published	16/899,261	6/11/2020	US-2020-0304857	9/24/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR020-AVA-US02	Interactive Overlays to Determine Viewer Data	United States of America	Granted	15/938,049	3/28/2018	US-2018-0288473	10/4/2018	10,462,514	10/29/2019	Sorenson
Roku, Inc.	SOR020-AVA-US03	Interactive Overlays to Determine Viewer Data	United States of America	Granted	16/574,858	9/18/2019	US-2020-0014972	1/9/2020	10,869,083	12/15/2020	Sorenson
Roku, Inc.	SOR020-AVA-US04	Interactive Overlays to Determine Viewer Data	United States of America	Application	17/094,150	11/10/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR021-AVA-CN01	Targeted Content Placement Using Overlays	China	Published	201880022785.9	3/28/2018	110476428	11/19/2019	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR021-AVA-EP01	Targeted Content Placement Using Overlays	European Patent	Published	18717816.5	3/28/2018	3603079	2/5/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR021-AVA-HK01	Targeted Content Placement Using Overlays	Hong Kong	Published	62020011726.0	7/20/2020	40022724A	11/20/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR021-AVA-JP01	Targeted Content Placement Using Overlays	Japan	Published	2019-553182	3/28/2018	2020-512775	4/23/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR021-AVA-KR01	Targeted Content Placement Using Overlays	Korea, Republic of (KR)	Application	2019-7028430	3/28/2018	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR021-AVA-US02	Targeted Content Placement Using Overlays	United States of America	Granted	15/938,167	3/28/2018	US-2018-0288494	10/4/2018	10,542,326	1/21/2020	Sorenson
Roku, Inc.	SOR021-AVA-US03	Targeted Content Placement Using Overlays	United States of America	Published	16/704,356	12/5/2019	US-2020-0107082	4/2/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR022-AVA-US02	Employing Automatic Content Recognition to Allow Resumption of Watching Interrupted Media Program from Television Broadcast	United States of America	Published	15/933,899	3/23/2018	US-2018-0278973	9/27/2018	N/A	N/A	Sorenson
Roku, Inc.	SOR023-AVA-KR01	Enabling Interactive Control of Live Television Broadcast Streams	Korea, Republic of (KR)	Granted	2019-7027609	3/23/2018	N/A	N/A	2117922	5/27/2020	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.		Media Channel Identification and Action with Multi-Media Detection and Disambiguation Based on Matching with Differential Reference-Fingerprint Feature	Korea, Republic of (KR)	Application	2020-7015181	5/27/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR023-AVA-KR02										
Roku, Inc.	SOR023-AVA-US02	Enabling Interactive Control of Live Television Broadcast Streams	United States of America	Granted	15/834,753	3/23/2018	US-2018-0279005	9/27/2018	10,182,263	1/15/2019	Sorenson
Roku, Inc.	SOR023-AVA-US03	Enabling Interactive Control of Live Television Broadcast Streams	United States of America	Published	16/495,337	9/18/2019	US-2020-0021858	1/16/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR024-AVA-US01	Obtaining Viewer Demographics Through Advertisement Selections	United States of America	Granted	15/725,260	10/4/2017	US-2019-0104344	4/4/2019	10,277,958	4/30/2019	Sorenson
Roku, Inc.	SOR024-AVA-US02	Obtaining Viewer Demographics Through Advertisement Selections	United States of America	Granted	16/366,790	3/27/2019	US-2019-0327537	10/24/2019	10,897,657	1/19/2021	Sorenson
Roku, Inc.	SOR024-AVA-US03	Obtaining Viewer Demographics Through Advertisement Selections	United States of America	Application	17/128,860	12/21/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR025-AVA-AU01	Cold Matching by Automatic Content Recognition	Australia	Published	2018331314.0	9/10/2018	N/A	1/28/2021	N/A	N/A	Sorenson
Roku, Inc.	SOR025-AVA-BR01	Cold Matching by Automatic Content Recognition	Brazil	Published	1120200050849.0	9/10/2018	N/A	9/15/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR025-AVA-CA01	Cold Matching by Automatic Content Recognition	Canada	Application	3075730.0	9/10/2018	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR025-AVA-CN01	Cold Matching by Automatic Content Recognition	China	Published	201880059344.6	9/10/2018	CN111133765A	5/8/2020	N/A	N/A	Sorenson

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR025-AVA-EP01	Cold Matching by Automatic Content Recognition	European Patent	Published	18782578.1	9/10/2018	3682644	7/22/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR025-AVA-JP01	Cold Matching by Automatic Content Recognition	Japan	Published	2020-515170	9/10/2018	2020-533918	11/19/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR025-AVA-KR01	Cold Matching by Automatic Content Recognition	Korea, Republic of (KR)	Application	2020-7010283	9/10/2018	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR025-AVA-US01	Cold Matching by Automatic Content Recognition	United States of America	Granted	15/7/03,684	9/13/2017	US-2019-0079961	3/14/2019	10,803,038	10/13/2020	Sorenson
Roku, Inc.	SOR025-AVA-US02	Cold Matching by Automatic Content Recognition	United States of America	Published	16/946,862	7/9/2020	US-2020-0341960	10/29/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR026-AVA-AU01	Flagging Advertisement Frames for Automatic Content Recognition	Australia	Granted	2018331308.0	9/10/2018	N/A	N/A	2018331308	1/7/2021	Sorenson
Roku, Inc.	SOR026-AVA-BR01	Flagging Advertisement Frames for Automatic Content Recognition	Brazil	Published	1120200050865.0	9/10/2018	N/A	8/18/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR026-AVA-CA01	Flagging Advertisement Frames for Automatic Content Recognition	Canada	Published	3075620.0	9/10/2018	3075620	3/21/2019	N/A	N/A	Sorenson
Roku, Inc.	SOR026-AVA-CN01	Flagging Advertisement Frames for Automatic Content Recognition	China	Published	201880059810.0	9/10/2018	CN111095940A	5/1/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR026-AVA-EP01	Flagging Advertisement Frames for Automatic Content Recognition	European Patent	Published	18782247.3	9/10/2018	3682643	7/22/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR026-AVA-JP01	Flagging Advertisement Frames for Automatic Content Recognition	Japan	Published	2020-515215	9/10/2018	2020-533920	11/19/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR026-AVA-KR01	Flagging Advertisement Frames for Automatic Content Recognition	Korea, Republic of (KR)	Granted	2020-7008760	9/10/2018	N/A	N/A	10-2148248	8/20/2020	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR026-AVA-KR02	Flagging Advertisement Frames for Automatic Content Recognition	Korea, Republic of (KR)	Application	2020-7023993	8/20/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR026-AVA-US01	Flagging Advertisement Frames for Automatic Content Recognition	United States of America	Granted	15/7/03,391	9/13/2017	US-2019-0082231	3/14/2019	10,306,333	5/28/2019	Sorenson
Roku, Inc.	SOR026-AVA-US02	Flagging Advertisement Frames for Automatic Content Recognition	United States of America	Granted	16/409,733	5/10/2019	US-2019-0266670	8/29/2019	10,887,667	1/5/2021	Sorenson
Roku, Inc.	SOR026-AVA-US03	Flagging Advertisement Frames for Automatic Content Recognition	United States of America	Application	17/247,070	11/27/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR027-AVA-CN01	Frame Certainty for Automatic Content Recognition	China	Published	201880025752.X	6/29/2018	110537371	12/3/2019	N/A	N/A	Sorenson
Roku, Inc.	SOR027-AVA-EP01	Frame Certainty for Automatic Content Recognition	European Patent	Published	18752314.7	6/29/2018	3646197	5/6/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR027-AVA-HK01	Frame Certainty for Automatic Content Recognition	Hong Kong	Application	62020007501.3	5/14/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR027-AVA-JP01	Frame Certainty for Automatic Content Recognition	Japan	Published	2019-552201	6/29/2018	2020-511880	4/16/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR027-AVA-KR01	Frame Certainty for Automatic Content Recognition	Korea, Republic of (KR)	Application	2019-7027218	6/29/2018	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR027-AVA-US02	Frame Certainty for Automatic Content Recognition	United States of America	Granted	16/023,555	6/29/2018	US-2019-0007733	1/3/2019	10,715,863	7/14/2020	Sorenson
Roku, Inc.	SOR027-AVA-US03	Frame Certainty for Automatic Content Recognition	United States of America	Published	16/925,552	7/10/2020	US-2020-0413131	12/31/2020	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR028-AVA-US01	Scene Frame Matching for Automatic Content Recognition	United States of America	Granted	15/726,987	10/6/2017	US-2019-0108401	4/11/2019	10,922,551	2/16/2021	Sorenson
Roku, Inc.	SOR028-AVA-US02	Scene Frame Matching for Automatic Content Recognition	United States of America	Granted	16/390,410	4/22/2019	US-2019-0251361	8/15/2019	10,963,699	3/30/2021	Sorenson
Roku, Inc.	SOR028-AVA-US03	Scene Frame Matching for Automatic Content Recognition	United States of America	Published	16/447,344	6/20/2019	US-2019-0303681	10/3/2019	N/A	N/A	Sorenson
Roku, Inc.	SOR028-AVA-US04	Scene Frame Matching for Automatic Content Recognition	United States of America	Application	17/142,619	1/6/2021	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR029-AVA-US01	Method and System for Image Compression Using Block Size Heuristics	United States of America	Granted	10/029,142	12/20/2001	US-2003-0118101	6/26/2003	6,909,748	6/21/2005	Sorenson
Roku, Inc.	SOR031-AVA-US01	Method, Graphical Interface and Computer-Readable Medium for Forming a Batch Job	United States of America	Granted	11/140,773	5/31/2005	US-2006-0288294	12/21/2006	7,885,979	2/8/2011	Sorenson
Roku, Inc.	SOR032-AVA-US01	Method, Graphical Interface and Computer-Readable Medium for Reformating Data	United States of America	Granted	11/141,434	5/31/2005	US-2006-0271848	11/30/2006	7,975,219	7/5/2011	Sorenson
Roku, Inc.	SOR033-AVA-US01	Method, Graphical Interface and Computer-Readable Medium for Generating a Preview of a Reformatted Preview Segment	United States of America	Granted	11/140,784	5/31/2005	US-2006-0271836	11/30/2006	8,296,649	10/23/2012	Sorenson
Roku, Inc.	SOR034-AVA-US02	Client-Side Video Advertisement Replacement Using Automatic Content Recognition	United States of America	Granted	14/468,080	8/25/2014	N/A	N/A	10,825,056	11/3/2020	Sorenson
Roku, Inc.	SOR034-AVA-US03	Client-Side Video Advertisement Replacement Using Automatic Content Recognition	United States of America	Granted	16/395,509	4/26/2019	US-2019-0251602	8/15/2019	10,810,629	10/20/2020	Sorenson
Roku, Inc.	SOR034-AVA-US04	Client-Side Video Advertisement Replacement Using Automatic Content Recognition	United States of America	Published	16/930,087	7/15/2020	US-2020-0349612	11/5/2020	N/A	N/A	Sorenson

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR035-AVA-US02	Content-Modification System with Broadcast Schedule Utilization Feature	United States of America	Published	16/895,794	6/8/2020	US-2020-0389681	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR035-AVA-WO01	Schedule-Assisted ReplacementContent Advanced Delivery	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/036622	6/8/2020	WO2020/247919	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR036-AVA-US02	Content Modification System with In-Band Message Data Utilization Feature	United States of America	Published	16/895,806	6/8/2020	US-2020-0389688	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR036-AVA-WO01	Content-Modification System with In-Band Message Data Utilization Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/036632	6/8/2020	WO2020/247921	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR037-AVA-TW01	Content-Modification System with Content-Presentation Device Grouping Feature	Taiwan	Application	109119092.0	6/5/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR037-AVA-US02	Content-Modification System with Content-Presentation Device Grouping Feature	United States of America	Published	16/892,131	6/3/2020	US-2020-0389687	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR037-AVA-WO01	Content-Modification System with Content-Presentation Device Grouping Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/036443	6/5/2020	WO2020/247833	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR038-AVA-TW01	Content-Modification System with Responsive Transmission of Reference Fingerprint Data Feature	Taiwan	Published	109115458.0	5/8/2020	202046137	12/16/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR038-AVA-US02	Content Modification System with Responsive Transmission of Reference Fingerprint Data Feature	United States of America	Published	16/870,451	5/8/2020	US-2020-0359065	11/12/2020	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR038-AVA-WO01	Content-Modification System with Responsive Transmission of Reference Fingerprint Data Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/032106	5/8/2020	WO2020/231813	11/19/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR039-AVA-TW01	Content-Modification System with Technical Characteristic-Based Selection Feature	Taiwan	Application	109119088.0	6/5/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR039-AVA-US02	Content-Modification System with Technical Characteristic-Based Selection Feature	United States of America	Published	16/835,935	3/31/2020	US-2020-0389694	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR039-AVA-WO01	Content-Modification System with Technical Characteristic-Based Selection Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/036448	6/5/2020	WO2020/247838	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR040-AVA-US02	Content-Modification System With Geographic Area-Based Feature	United States of America	Granted	16/836,034	3/31/2020	US-2020-0356755	11/12/2020	10,846,506	11/24/2020	Sorenson
Roku, Inc.	SOR040-AVA-US03	Content-Modification System With Geographic Area-Based Feature	United States of America	Application	17/069,356	10/13/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR040-AVA-WO01	Content-Modification System with Geographic Area-Based Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/032110	5/8/2020	WO2020/231814	11/19/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR041-AVA-US02	Content-Modification System With Geographic Area-Based Feature	United States of America	Published	16/836,090	3/31/2020	US-2020-0356756	11/12/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR041-AVA-WO01	Content-Modification System With Geographic Area-Based Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/032143	5/8/2020	WO2020/231829	11/19/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR042-AVA-TW01	Content-Modification System with Determination of Input-Buffer Switch Delay Feature	Taiwan	Application	109115457.0	5/8/2020	N/A	N/A	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR042-AVA-US02	Content-Modification System with Determination of Input-Buffer Switch Delay Feature	United States of America	Published	16/870,482	5/8/2020	US-2020-0359089	11/12/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR042-AVA-WO01	Content-Modification System with Determination of Input-Buffer Switch Delay Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/032120	5/8/2020	WO2020/231817	11/19/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR043-AVA-US02	Content-Modification System with Geographic Area-Based Feature	United States of America	Published	16/836,253	3/31/2020	US-2020-0356757	11/12/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR043-AVA-WO01	Content-Modification System With Geographic Area-Based Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/032122	5/8/2020	WO2020/231818	11/19/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR044-AVA-US02	Content Modification System with Responsive Transmission of ReferenceFingerprint Data Feature	United States of America	Published	16/872,073	5/11/2020	US-2020-0359110	11/12/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR044-AVA-WO01	Content-Modification System with Responsive Transmission of Reference Fingerprint Data Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/032350	5/11/2020	WO2020/231927	11/19/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR045-AVA-TW01	Content Modification System with Fingerprint Data Match and Mismatch Detection Feature	Taiwan	Application	109115459.0	5/8/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR045-AVA-US02	Content Modification System with Fingerprint Data Match and Mismatch Detection Feature	United States of America	Published	16/869,860	5/8/2020	US-2020-0356758	11/12/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR045-AVA-WO01	Content Modification System with Fingerprint Data Match and Mismatch Detection Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/032127	5/8/2020	WO2020/231821	11/19/2020	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR047-AVA-TW01	Content-Modification System with Use of Multiple Fingerprint Data Types Feature	Taiwan	Application	109115461.0	5/8/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR047-AVA-US02	Content-Modification System with Use of Multiple Fingerprint Data Types Feature	United States of America	Granted	16/836,170	3/31/2020	N/A	N/A	10,796,159	10/6/2020	Sorenson
Roku, Inc.	SOR047-AVA-US03	Content-Modification System with Use of Multiple Fingerprint Data Types Feature	United States of America	Published	16/994,033	8/14/2020	US-2020-0372256	11/26/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR047-AVA-WO01	Content-Modification System with Use of Multiple Fingerprint Data Types Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/032133	5/8/2020	WO2020/231823	11/19/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR048-AVA-TW01	Content-Modification System with Overlay Handling Feature	Taiwan	Application	109119090.0	6/5/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR048-AVA-US02	Content-Modification System With Overlay Handling Feature	United States of America	Published	16/855,268	4/22/2020	US-2020-0389685	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR048-AVA-WO01	Content-Modification System with Overlay Handling Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/036451	6/5/2020	WO2020/247840	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR049-AVA-US02	Content Modification System with Fingerprint Data Mismatch and Responsive Action Feature	United States of America	Published	16/870,583	5/8/2020	US-2020-0356759	11/12/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR049-AVA-WO01	Content-Modification System with Fingerprint Data Mismatch and Responsive Action Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/032113	5/8/2020	WO2020/231815	11/19/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR050-AVA-TW01	Content Modification System with Issue Detection and Responsive Action Feature	Taiwan	Application	109115462.0	5/8/2020	N/A	N/A	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR050-AVA-US02	Content Modification System with Issue Detection and Responsive Action Feature	United States of America	Published	16/835,569	3/31/2020	US-2020-0359080	11/12/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR050-AVA-WO01	Content-Modification System with Issue Detection and Responsive Action Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/032135	5/8/2020	WO2020/231824	11/19/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR051-AVA-TW01	Content-Modification System with Volume Level Adjustment Feature	Taiwan	Application	109115456.0	5/8/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR051-AVA-US02	Content Modification System with Volume Level Adjustment Feature	United States of America	Published	16/835,635	3/31/2020	US-2020-0359082	11/12/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR051-AVA-WO01	Content-Modification System with Volume Level Adjustment Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/032138	5/8/2020	WO2020/231826	11/19/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR056-AVA-TW01	Content-Modification System with Responsive Transmission of Reference Fingerprint Data Feature	Taiwan	Published	109115460.0	5/8/2020	202046742	12/16/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR056-AVA-US02	Content Modification System with Responsive Transmission of Reference Fingerprint Data Feature	United States of America	Published	16/870,460	5/8/2020	US-2020-0359066	11/12/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR056-AVA-WO01	Content-Modification System with Responsive Transmission of Reference Fingerprint Data Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/032139	5/8/2020	WO2020/231827	11/19/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR057-AVA-US02	Content-Modification System With Transmission Delay-Based Feature	United States of America	Granted	16/636,098	3/31/2020	US-2020-0359092	11/12/2020	10,972,794	4/6/2021	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR057-AVA-US03	Content-Modification System With Transmission Delay-Based Feature	United States of America	Published	16/836,082	3/31/2020	US-2020-0359091	11/12/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR057-AVA-WO01	Content-Modification System with Transmission Delay-Based Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/032118	5/8/2020	WO2020/231816	11/19/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR058-AVA-US02	Content Modification System with Testing and Reporting Feature	United States of America	Published	16/850,499	4/16/2020	US2020-0389695	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR058-AVA-WO01	Content-Modification System with Testing and Reporting Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/036445	6/5/2020	WO2020/247835	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR059-AVA-US02	Content-Modification System With System Resource Request Feature	United States of America	Granted	16/895,685	6/8/2020	US-2020-0389680	12/10/2020	10,986,382	4/20/2021	Sorenson
Roku, Inc.	SOR059-AVA-WO01	Content-Modification System with System Resource Request Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/036633	6/8/2020	WO2020/247922	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR060-AVA-US02	Content-Modification System With Probability-Based Selection Feature	United States of America	Published	16/853,932	4/21/2020	US-2020-0389684	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR060-AVA-WO01	Content-Modification System with Probability-Based Selection Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/036456	6/5/2020	WO2020/247845	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR061-AVA-TW01	Content-Modification System with Supplemental Content Stitching Feature	Taiwan	Application	109119089.0	6/5/2020	202106032	2/1/2021	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR061-AVA-US02	Content-Modification System with Supplemental Content Stitching Feature	United States of America	Published	16/866,005	5/4/2020	US-2020-0389689	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR061-AVA-WO01	Content-Modification System with Supplemental Content Stitching Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/036459	6/5/2020	WO2020/247847	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR062-AVA-TW01	Content-Modification System with Unscheduling Feature	Taiwan	Application	109119087.0	6/5/2020	202106032	2/1/2021	N/A	N/A	Sorenson
Roku, Inc.	SOR062-AVA-US02	Content-Modification System with Unscheduling Feature	United States of America	Published	16/866,023	5/4/2020	US-2020-0389686	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR062-AVA-WO01	Content-Modification System with Unscheduling Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/036461	6/5/2020	WO2020/247849	12/10/2020	N/A	N/A	Sorenson
Roku, Inc.	SOR063-AVA-TW01	Content-Modification System with Broadcast Schedule Utilization Feature	Taiwan	Application	109124819.0	7/22/2020	202106038	2/1/2021	N/A	N/A	Sorenson
Roku, Inc.	SOR063-AVA-US02	Content-Modification System with Broadcast Schedule Utilization Feature	United States of America	Application	16/934,972	7/21/2020	US-2021-0029398-A1	1/28/2021	N/A	N/A	Sorenson
Roku, Inc.	SOR063-AVA-WO01	Content-Modification System with Broadcast Schedule Utilization Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/042990	7/22/2020	WO2021016303	1/28/2021	N/A	N/A	Sorenson
Roku, Inc.	SOR064-AVA-TW01	Content-Modification System with Broadcast Schedule Utilization Feature	Taiwan	Application	109124820.0	7/22/2020	202106039	2/1/2021	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR064-AVA-US02	Content Modification System with Broadcast Schedule Utilization Feature	United States of America	Application	16/934,974	7/21/2020	US-2021-0029399-A1	1/28/2021	N/A	N/A	Sorenson
Roku, Inc.	SOR064-AVA-WO01	Content-Modification System with Broadcast Schedule Utilization Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/042906	7/21/2020	WO2021016255	1/28/21	N/A	N/A	Sorenson
Roku, Inc.	SOR067-AVA-TW01	Content-Modification System with Broadcast Schedule Utilization Feature	Taiwan	Application	109128205.0	8/19/2020	202110200	3/1/2021	N/A	N/A	Sorenson
Roku, Inc.	SOR067-AVA-US04	Content Modification System with Broadcast Schedule Utilization Feature	United States of America	Application	16/996,701	8/18/2020	US-2021-0058674-A1	2/25/2021	N/A	N/A	Sorenson
Roku, Inc.	SOR067-AVA-WO01	Content-Modification System with Broadcast Schedule Utilization Feature	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/046922	8/19/2020	WO2021034892	2/25/2021	N/A	N/A	Sorenson
Roku, Inc.	SOR068-AVA-TW01	Use of In-Band Metadata as Basis to Access Reference Fingerprints to Facilitate Content-Related Action	Taiwan	Application	109131270.0	9/11/2020	202114432	4/1/2021	N/A	N/A	Sorenson
Roku, Inc.	SOR068-AVA-US02	Use of In-Band Metadata as Basis to Access Reference Fingerprints to Facilitate Content-Related Action	United States of America	Application	15/929,210	1/28/2020	US-2021-0084091-A1	3/18/2021	N/A	N/A	Sorenson
Roku, Inc.	SOR068-AVA-WO01	Use of In-Band Metadata as Basis to Access Reference Fingerprints to Facilitate Content-Related Action	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/049374	9/4/2020	WO2021050376	3/18/2021	N/A	N/A	Sorenson

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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR069-AVA-TW01	Method and System for Re-Uniting Metadata with Media-Stream Content at a Media Client, to Facilitate Action by the Media Client	Taiwan	Application	109131266.0	9/11/2020	202114434	4/1/2021	N/A	N/A	Sorenson
Roku, Inc.	SOR069-AVA-US02	Method and System for Re-Uniting Metadata with Media-Stream Content at a Media Client, to Facilitate Action by the Media Client	United States of America	Application	15/929,211	1/28/2020	US-2021-0084345-A1	3/18/2021	N/A	N/A	Sorenson
Roku, Inc.	SOR069-AVA-WO01	Method and System for Re-Uniting Metadata with Media-Stream Content at a Media Client, to Facilitate Action by the Media Client	Patent Cooperation Treaty	within 30 months of PCT filing	PCT/US2020/049362	9/4/2020	WO2021050374	3/18/2021	N/A	N/A	Sorenson
Roku, Inc.	SOR070-AVA-US01	Content-Modification System With Feature For Managing Multiple Content-Modification Requests	United States of America	Application	17/146,569	1/12/2021	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR073-AVA-US01	Real-time Guaranteed Campaign Delivery Optimization Using Broadcast Schedules And Historic Viewing Data	United States of America	Application	63/056,988	7/27/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR073-AVA-US02	Real-time Guaranteed Campaign Delivery Optimization Using Broadcast Schedules and Historic Viewing Data	United States of America	Application	17/089,930	11/5/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR074-AVA-US01	Advertising Campaign To Viewing Device Suitability Matching	United States of America	Application	63/059,118	7/30/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR074-AVA-US02	Advertising Campaign to Viewing Device Suitability Matching	United States of America	Application	17/115,363	12/8/2020	N/A	N/A	N/A	N/A	Sorenson

Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR076-AVA-US01	Automated Replacement of Unwanted and Unethical Adverts in Linear TV Streams	United States of America	Application	63/198,593	10/29/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR077-AVA-US01	Replacement Advertising Selection Using Viewer Switching Behavior And Pay Points	United States of America	Application	63/053,998	7/20/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR077-AVA-US02	Replacement Advertising Selection Using Viewer Switching Behavior and Pay Points	United States of America	Application	17/076,404	10/21/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR078-AVA-US01	Viewer Retention Through Targeted Advertisements Based On Viewer Behavior	United States of America	Application	63/056,990	7/27/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR078-AVA-US02	Viewer Retention Through Targeted Advertisements Based on Viewer Behavior	United States of America	Application	17/096,542	11/12/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR079-AVA-US01	Increasing Advertisement Revenue By Repeated Re-Evaluation Of Value Of Advertisement Spot	United States of America	Application	63/057,834	7/28/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR079-AVA-US02	Increasing Advertisement Revenue by Repeated Re-Evaluation of Value of Advertisement Spot	United States of America	Application	17/108,281	12/1/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR080-AVA-US01	Replacement Advertisement Selection After Channel Changes	United States of America	Application	63/059,119	7/30/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR080-AVA-US02	Replacement Advertisement Selection After Channel Changes	United States of America	Application	17/118,400	12/10/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR081-AVA-US01	Adjustment of Supplemental Content Duration to Avoid Pauses in Consecutive Content-Modification Operations	United States of America	Application	63/198,595	10/29/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR082-AVA-US01	Adjustment of Supplemental Content Duration to Avoid Flash Frames	United States of America	Application	63/198,596	10/29/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR083-AVA-US01	Using Multiple Video Buffers to Increase Success Rate of Content-Modification Operations	United States of America	Application	63/198,594	10/29/2020	N/A	N/A	N/A	N/A	Sorenson

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Roku, Inc.	SOR084-AVA-US01	Content-Modification System With Multiple Video Buffers Feature	United States of America	Application	16/951,180	11/18/2020	N/A	N/A	N/A	N/A	Sorenson
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Grantors	Patent Reference	Application Title	Country	Record Status	Application Number	Application Filing Date	Publication Number	Publication Date	Patent Number	Issue Date	Source
Roku, Inc.	SOR085-AVA-US01	Content-Modification System With Content Segment Frequency Feature	United States of America	Application	63/119,225	11/30/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR086-AVA-US01	Server-side Matching of Supplemental Content Audio to Perceived Audio by End-user	United States of America	Application	63/117,670	11/24/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.	SOR091-AVA-US01	Content-Modification System	United States of America	Application	63/082,892	9/24/2020	N/A	N/A	N/A	N/A	Sorenson
Roku, Inc.		Method and System for Remotely Controlling Consumer Electronic	United States of America	Application	16/942,711	7/29/2020	US-2020-0366945-A1	2020-11-19	N/A	N/A	Gracenothe
Roku, Inc.		Computing System with Channel-Change-Based Trigger Feature	United States of America	Application	17/175,788	2/15/2021	N/A	N/A	N/A	N/A	Gracenothe
Roku, Inc.		Displaying an Actionable Element Over Playing Content	United States of America	Application	17/190,859	3/3/2021	N/A	N/A	N/A	N/A	Gracenothe
Roku, Inc.		Displaying an Actionable Element Over Playing Content	United States of America	Application	17/190,870	3/3/2021	N/A	N/A	N/A	N/A	Gracenothe
Roku, Inc.		Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Media Content	United States of America	Application	17/196,762	3/9/2021	N/A	N/A	N/A	N/A	Gracenothe
Roku, Inc.		Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Media Content	United States of America	Application	17/213,921	3/26/2021	N/A	N/A	N/A	N/A	Gracenothe
Roku, Inc.		Content-Modification System with Broadcast Schedule Utilization Feature	United States of America	Application	PCT/US2020/042990	7/22/2020	WO2021016303	1/28/2021	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Feature for Detecting and Responding to a Content Modification by a Tuner Device	United States of America	Application	PCT/US2021/018974	2/22/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Feature for Detecting And Responding to a Content Modification by a Tuner Device	United States of America	Application	PCT/US2021/018995	2/22/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Criteria Verification to Facilitate Providing of Highest Cost Per Mile (Cpm) Overlays to Client Devices	United States of America	Application	16/928,765	7/14/2020	US-2020-0344523-A1	10/29/2020	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Feature for Detecting and Responding to a Content Modification by a Tuner Device	United States of America	Application	17/162,299	1/29/2021	N/A	N/A	N/A	N/A	Nielsen

Roku, Inc.		Content-Modification System with Feature for Detecting and Responding to a Content Modification by a Tuner Device	United States of America	Application	17/162,310	1/29/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Feature for Detecting and Responding to a Content Modification by a Tuner Devices	United States of America	Application	17/162,490	1/29/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Jitter Effect Mitigation Feature	United States of America	Application	17/180,213	2/19/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Jitter Effect Mitigation Feature	United States of America	Application	17/180,231	2/19/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Jitter Effect Mitigation Feature	United States of America	Application	17/180,242	2/19/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Jitter Effect Mitigation Feature	United States of America	Application	17/180,263	2/19/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Jitter Effect Mitigation Feature	United States of America	Application	17/180,289	2/19/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Transmission Delay-Based Feature	United States of America	Application	17/191,372	3/3/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with System Resource Request Feature	United States of America	Application	17/201,322	3/15/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Use of Video Frame Format as Basis for Differential Handling of Automatic Content Recognition and Associated Action	United States of America	Application	17/208,283	3/22/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Advertisement Revenue Optimization and Viewer Retention Features	United States of America	Application	17/223,223	4/6/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Use of Watermarking to Control Abandonment of Dynamic Content Modification	United States of America	Application	17/301,705	4/12/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System With Advertisement Reconciliation Feature	United States of America	Application	63/148,219	2/11/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Feature for Exposing Multiple Devices in a Household to The Same Advertisement	United States of America	Application	63/148,220	2/11/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Feature for Controlling Viewer Exposure to Spoilers in Advertisements	United States of America	Application	63/148,221	2/11/2021	N/A	N/A	N/A	N/A	Nielsen

Roku, Inc.		Content-Modification System with Advertisement Revenue Optimization and Viewer Retention Features	United States of America	Application	63/148,223	2/11/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Volume-Level Detection Feature	United States of America	Application	63/148,268	2/11/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content Modification System with Viewer Behavior-Based Content Delivery Selection Feature	United States of America	Application	63/148,568	2/11/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content Modification System with Prioritized Content Delivery Feature	United States of America	Application	63/148,575	2/11/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with User Experience Analysis Feature	United States of America	Application	63/148,582	2/11/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Household Coordination Feature	United States of America	Application	63/149,532	2/15/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Quiet Content Detection Feature	United States of America	Application	63/150,490	2/17/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Content-Modification System with Feature for Prioritizing Channels Used in Channel Identification	United States of America	Application	63/166,052	3/25/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Use of Scte Data to Facilitate Ad Harvesting for Dynamic Ad Replacement	United States of America	Application	63/200,090	2/12/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Centralized Application of Policy Rules to Dynamically Define Ad-Inventories for Dynamic Ad Replacement	United States of America	Application	63/200,092	2/12/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.		Use of Scte Data to Correct Schedule Drift	United States of America	Application	63/200,093	2/12/2021	N/A	N/A	N/A	N/A	Nielsen
Roku, Inc.	16-197-CON4	Media Channel Identification and Action with Multi-Match Detection Based on Reference Stream Comparison	United States of America	Application	17/248,352	1/21/2021	US-2021-0144435-A1	5/13/2021	N/A	N/A	
Roku, Inc.	18-1020-WO-CN	Modifying Playback of Replacement Content Based on Control Messages	China	Application	201980047554.8	1/15/2021	CN112514409A	3/16/2021	N/A	N/A	
Roku, Inc.	18-1018-WO-CN	Modifying Playback of Replacement Content Responsive to Detection of Remote Control Signals that Modify Operation of the Playback Device	China	Application	201980047223.4	1/14/2021	CN112470486A	3/9/2021	N/A	N/A	
Roku, Inc.	18-1019-WO-CN	Modifying Playback of Replacement Content Responsive to Detection of Remote Control Signals That Control a Device Providing Video to the Playback Device	China	Application	201980047693.0	1/15/2021	CN112425182A	2/26/2021	N/A	N/A	

Roku, Inc.	19-247-EP-HK	Flagging Advertisement Frames for Automatic Content Recognition	Hong Kong	Application	62021024068.0	1/21/2021	40033929	4/16/2021	N/A	N/A	
Roku, Inc.	19-246-EP-HK	Cold Matching by Automatic Content Recognition	Hong Kong	Application	62021024067.2	1/21/2021	40033928	4/16/2021	N/A	N/A	
Roku, Inc.	16-195-EP-DIV	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	European Patent	Application	21152181.0	1/18/2021	3829181	6/2/2021	N/A	N/A	
Roku, Inc.	16-214-EP-DIV	Method and System for Detecting and Responding to Changing of Media Channel	European Patent	Application	20216175.8	12/21/2021	3829179	6/2/2021	N/A	N/A	
Roku, Inc.	18-1020-WO-EP	Modifying Playback of Replacement Content Based on Control Messages	European Patent	Application	19838621.1	2/18/2021	3824648	5/26/2021	N/A	N/A	
Roku, Inc.	18-1019-WO-EP	Modifying Playback of Replacement Content Responsive to Detection of Remote Control Signals That Control a Device Providing Video to the Playback Device	European Patent	Application	19838103.0	2/18/2021	3824647	5/26/2021	N/A	N/A	
Roku, Inc.	18-1018-WO-EP	Modifying Playback of Replacement Content Responsive to Detection of Remote Control Signals that Modify Operation of the Playback Device	European Patent	Application	19838101.4	2/15/2021	3824646	5/26/2021	N/A	N/A	
Roku, Inc.	18-1017-WO-EP	Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Playback Content	European Patent	Application	19838757.3	2/15/2021	3824642	5/26/2021	N/A	N/A	
Roku, Inc.	18-1227-WO-EP	Establishment and Use of Time Mapping Based on Interpolation Using Low-Rate Fingerprinting, to Help Facilitate Frame-Accurate Content Revision	European Patent	Application	19837362.3	2/15/2021	3824641	5/26/2021	N/A	N/A	
Roku, Inc.	18-1051-WO-EP	Establishment and Use of Time Mapping Based on Interpolation Using Low-Rate Fingerprinting, to Help Facilitate Frame-Accurate Content Revision	European Patent	Application	19837119.7	2/18/2021	3824640	5/26/2021	N/A	N/A	
Roku, Inc.	18-1050-WO-EP	Advanced Preparation for Content Revision Based on Expected Latency in Obtaining New Content	European Patent	Application	19838379.6	2/18/2021	3824638	5/26/2021	N/A	N/A	
Roku, Inc.	19-229-GB-DIV	Dynamic Video Advertisement Replacement	United Kingdom	Application	2019630.9	8/16/2016	2588048	4/14/2021	N/A	N/A	
Roku, Inc.	19-239-JP-DIV2	Automatic Recognition Fingerprint Sequence Matching	Japan	Application	2020-218559	12/28/2020	2021-064960	4/22/2021	N/A	N/A	
Roku, Inc.	16-006-KR-DIV3	Computing System with Channel-Change-Based Trigger Feature	Korea, Republic of (KR)	Application	2021-7002549	1/5/2017	N/A	N/A	N/A	N/A	
Roku, Inc.	16-1850-KR-DIV3	Computing System with Content-Characteristic-Based Trigger Feature	Korea, Republic of (KR)	Granted	2021-7000757	1/11/2021	N/A	N/A	2246597	4/26/2021	
Roku, Inc.	16-1850-KR-DIV4	Computing System with Content-Characteristic-Based Trigger Feature	Korea, Republic of (KR)	Application	2021-7012397	4/26/2021	N/A	N/A	N/A	N/A	

Roku, Inc.	16-190-CON4	Media Channel Identification and Action with Multi-Media Detection and Disambiguation Based on Matching with Differential Reference-Fingerprint Feature	United States of America	Application	17/249,107	2/19/2021	US-2021-0176523-A1	6/10/2021	N/A	N/A	
Roku, Inc.	16-194-CON5	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Location	United States of America	Application	17/301,787	4/14/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	16-195-CON4	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	United States of America	Application	17/301,825	4/15/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	16-195-JP-DIV2	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Single-Match	Japan	Application	2021-021605	2/15/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	16-196-JP-DIV2	Media Channel Identification with Multi-Match Detection and Disambiguation Based on Time of Broadcast	Japan	Application	2021-025105	2/28/2017	N/A	N/A	N/A	N/A	
Roku, Inc.	16-214-JP-DIV2	Method and System for Detecting and Responding to Changing of Media Channel	Japan	Application	2021-067530	2/28/2017	N/A	N/A	N/A	N/A	
Roku, Inc.	17-129-CON2	Detecting and Responding to Rendering of Interactive Video Content	United States of America	Application	17/249,318	2/26/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	17-129-KR-DIV	Detecting and Responding to Rendering of Interactive Video Content	Korea, Republic of (KR)	Application	2021-7011026	4/14/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	17-383-KR-DIV3	Authorizing Devices Based on Identifying Content Distributor	Korea, Republic of (KR)	Application	2021-7014280	5/12/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	17-392-KR-DIV3	Dynamic Video Overlays	Korea, Republic of (KR)	Application	2021-7006944	3/8/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1017-TW-DIV2	CDynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Media Content	Taiwan	Application	110113406	4/14/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1017-WO-JP	Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Playback Content	Japan	Application	2021-502404	1/15/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1017-WO-KR	Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Playback Content	Korea, Republic of (KR)	Application	2021-7004195	2/10/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1018-WO-JP	Modifying Playback of Replacement Content Responsive to Detection of Remote Control Signals that Modify Operation of the Playback Device	Japan	Application	2021-502622	1/15/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1018-WO-KR	Modifying Playback of Replacement Content Responsive to Detection of Remote Control Signals that Modify Operation of the Playback Device	Korea, Republic of (KR)	Application	2021-7004194	2/10/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1019-TW-DIV	Modifying Playback of Replacement Content Responsive to Detection of Remote Control Signals That Control a Device Providing Video to the Playback Device	Taiwan	Application	110114901	4/26/2021	N/A	N/A	N/A	N/A	

Roku, Inc.	18-1019-WO-JP	Modifying Playback of Replacement Content Responsive to Detection of Remote Control Signals That Control a Device Providing Video to the Playback Device	Japan	Application	2021-503047	1/19/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1019-WO-KR	Modifying Playback of Replacement Content Responsive to Detection of Remote Control Signals That Control a Device Providing Video to the Playback Device	Korea, Republic of (KR)	Application	2021-7004196	2/10/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1020-WO-JP	Modifying Playback of Replacement Content Based on Control Messages	Japan	Application	2021-503046	1/19/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1020-WO-KR	Modifying Playback of Replacement Content Based on Control Messages	Korea, Republic of (KR)	Application	2021-7004197	2/10/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1050-TW-DIV	Advanced Preparation for Content Revision Based on Expected Latency in Obtaining New Content	Taiwan	Application	110103493	1/29/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1050-WO-JP	Advanced Preparation for Content Revision Based on Expected Latency in Obtaining New Content	Japan	Application	2021-502952	1/19/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1050-WO-KR	Advanced Preparation for Content Revision Based on Expected Latency in Obtaining New Content	Korea, Republic of (KR)	Application	2021-7004200	2/10/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1051-WO-JP	Establishment and Use of Time Mapping Based on Interpolation Using Low-Rate Fingerprinting, to Help Facilitate Frame-Accurate Content Revision	Japan	Application	2021-502961	1/19/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1051-WO-KR	Establishment and Use of Time Mapping Based on Interpolation Using Low-Rate Fingerprinting, to Help Facilitate Frame-Accurate Content Revision	Korea, Republic of (KR)	Application	2021-7004201	2/10/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1165-WO-EP	Dynamic Playout of Transition Frames while Transitioning Between Playout of Media Streams	European Patent	Application	19849629.1	3/15/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1165-WO-KR	Dynamic Playout of Transition Frames while Transitioning Between Playout of Media Streams	Korea, Republic of (KR)	Application	2021-7006327	3/2/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1166-WO-KR	Dynamic Reduction in Playout of Replacement Content to Help Align End of Replacement Content with End of Replaced Content	Korea, Republic of (KR)	Application	2021-7006324	3/2/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1225-WO-EP	Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Media Content	European Patent	Application	19838759.9	6/7/2019	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1225-WO-JP	Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Media Content	Japan	Application	2021-502405	1/15/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1225-WO-KR	Dynamic Control of Fingerprinting Rate to Facilitate Time-Accurate Revision of Media Content	Korea, Republic of (KR)	Application	2021-7004198	2/10/2021	N/A	N/A	N/A	N/A	

Roku, Inc.	18-1227-US-CON2	Establishment and Use of Time Mapping Based on Interpolation Using Low-Rate Fingerprinting, to Help Facilitate Frame-Accurate Content Revision	United States of America	Application	17/302,720	5/11/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1227-WO-JP	Establishment and Use of Time Mapping Based on Interpolation Using Low-Rate Fingerprinting, to Help Facilitate Frame-Accurate Content Revision	Japan	Application	2021-503012	1/19/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1227-WO-KR	Establishment and Use of Time Mapping Based on Interpolation Using Low-Rate Fingerprinting, to Help Facilitate Frame-Accurate Content Revision	Korea, Republic of (KR)	Application	2021-7004199	2/10/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1866-TW-DIV	DETECTION OF MEDIA PLAYBACK LOUDNESS LEVEL AND CORRESPONDING ADJUSTMENT TO AUDIO DURING MEDIA REPLACEMENT EVENT	Taiwan	Application	110107028	2/26/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	18-1866-US2-CON	Monitoring Loudness Level During Media Replacement Event Using Shorter Time Constant	United States of America	Application	17/325,075	5/19/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	19-225-EP-DIV	Detecting Channel Change in Automatic Content Recognition Fingerprint Matching	European Patent	Application	21151892.3	1/15/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	19-225-JP-DIV2	Detecting Channel Change in Automatic Content Recognition Fingerprint Matching	Japan	Application	2021-035979	5/26/2016	N/A	N/A	N/A	N/A	
Roku, Inc.	19-231-CN-DIV	Media Content Matching and Indexing	China	Application	202110191670.6	2/19/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	19-232-CN-DIV1	Flagging Advertisement Frames for Automatic Content Recognition	China	Application	202110164240.5	2/5/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	19-232-CN-DIV2	Flagging Advertisement Frames for Automatic Content Recognition	China	Application	202110163371.1	2/5/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	19-232-GB-DIV	Digital Overlay Offers on Connected Media Devices	United Kingdom	Application	2101328.9	2/1/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	19-232-GB-DIV2	Digital Overlay Offers on Connected Media Devices	United Kingdom	Application	2106444.9	5/6/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	19-244-KR-DIV2	Enabling Interactive Control of Live Television Broadcast Streams	Korea, Republic of (KR)	Application	2021-7007089	3/9/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	19-246-AU-DIV	Cold Matching by Automatic Content Recognition	Australia	Application	2021201776	3/22/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	19-247-AU-DIV	Flagging Advertisement Frames for Automatic Content Recognition	Australia	Application	2020289863	12/18/2020	N/A	N/A	N/A	N/A	
Roku, Inc.	20-333-WO3	Content-Modification System With Feature For Detecting And Responding To Content Modifications By Tuner	Patent Cooperation Treaty	Application	PCT/US2021/018997	2/22/2021	N/A	N/A	N/A	N/A	

		Devices									
Roku, Inc.	21-0202-US	Content Modification System With Viewer Behavior-Based Content Delivery Selection Feature	United States of America	Application	17/229117	4/13/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	21-0205-US	Content-Modification System with Feature For Controlling Viewer Exposure To Spoilers In Advertisements	United States of America	Application	17/228850	4/13/2021	N/A	N/A	N/A	N/A	
Roku, Inc.	21-0208-US	Content Modification System with Viewer Behavior-Based Content Delivery Selection Feature	United States of America	Application	17/229129	4/13/2021	N/A	N/A	N/A	N/A	

SCHEDULE I TO
TERMINATION AND RELEASE OF INTELLECTUAL PROPERTY SECURITY
AGREEMENT

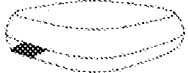
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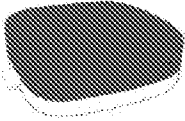
REEL/FRAME: 6575/0087

Trademark Registrations/Applications

UNITED STATES TRADEMARKS:

Registrations:

Trademark Name	Owner	Class	App. Number	Reg. Number	Filing Date	Reg. Date
	Roku, Inc.	9, 38, 41, 42	86347739	5151588	7/25/2014	2/28/2017
	Roku, Inc.	9, 38, 41, 42	86347740	4937515	7/25/2014	4/12/2016
	Roku, Inc.	9, 38, 41, 42	86347736	4937514	7/25/2014	4/12/2016
ROKU	Roku, Inc.	9, 38, 41, 42	86347734	4937513	7/25/2014	4/12/2016
	Roku, Inc.	9	86372743	4843920	8/20/2014	11/3/2015
	Roku, Inc.	9	86372745	4839473	8/20/2014	10/27/2015
STREAMING STICK	Roku, Inc.	9, 28	86282756	4618984	5/15/2014	10/7/2014
	Roku, Inc.	9	85691596	4329666	7/31/2012	4/30/2013
	Roku, Inc.	9	85690425	4336488	7/30/2012	5/14/2013

Trademark Name	Owner	Class	App. Number	Reg. Number	Filing Date	Reg. Date
	Roku, Inc.	9	85688053	4329664	7/26/2012	4/30/2013
	Roku, Inc.	9	85688052	4329663	7/26/2012	4/30/2013
	Roku, Inc.	9	85671642	4314899	7/9/2012	4/2/2013
	Roku, Inc.	9	85660716	4286059	6/25/2012	2/5/2013
	Roku, Inc.	9	85660714	4286058	6/25/2012	2/5/2013
ROKU READY	Roku, Inc.	9	85659333	4318939	6/22/2012	4/9/2013
ROKU	Roku, L.L.C.	9	78279128	3177666	7/25/2003	11/28/2006

Applications:

Trademark Name	Owner	Class	App. Number	Filing Date
ROKU	Roku, Inc.	9	88039902	7/16/2018
ROKU TOUCH	Roku, Inc.	9	88039898	7/16/2018

REEL/FRAME: 6816/0570

Trademark Registrations/Applications

Grantor	Mark	Application/ Registration No.	App/Reg Date
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Grantor	Mark	Application/ Registration No.	App/Reg Date
Roku, Inc.	ROKU	88039902	10/15/2019
Roku, Inc.	ROKU TOUCH	88039898	10/15/2019
Roku, Inc. (pending recordation of assignment from Giraffie Technologies Ltd.)	AVA	1263330	2/9/2016
Roku, Inc. (pending recordation of assignment from Giraffie Technologies Ltd.)	4KVA	1288156	7/5/2016
Roku DX Holdings, Inc.	POWERED BY DATA. INSPIRED BY YOU	87669968	6/5/2018
Roku DX Holdings, Inc.	CLEAR SIGHT	87554793	3/6/2018
Roku DX Holdings, Inc.	DATA XU DATA. INSIGHT. ACTION.	86887936	8/1/2017
Roku DX Holdings, Inc.	ACTIVE ANALYTICS	86416779	5/19/2015
Roku DX Holdings, Inc.	DATA.INSIGHT.ACTION.	85839420	9/17/2013
Roku DX Holdings, Inc.	DATA XU	77788458	3/2/2010
Roku, Inc.	ROKU READY	88432598	5/15/2019
Roku, Inc.	Purple Housing (top of device) Design Mark	88432600	5/15/2019
Roku, Inc.	Purple Housing (bottom of device) Design Mark	88432602	5/15/2019
Roku, Inc.	Purple Housing (entire device) Design Mark	88432599	5/15/2019
Roku, Inc.	D-Pad Design Mark	88434630	5/17/2019
Roku DX Holdings, Inc.	TOTAL TV SYNC	88567884	8/6/2019
Roku DX Holdings, Inc.	ONEVIEW	88079210	8/15/2018

REEL/FRAME: 7184/0863

Trademark Registrations/Applications

Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
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Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
QUIBI Serial No: 88/112,870 Reg. No. 6,075,674	United States of America	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: 1968837 Reg. No. 1968837	Australia	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: 1930532 Reg. No.	Canada	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Pending
QUIBI Serial No: 2018121596 Reg. No. 2018121596	Turkey	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: 3784128 Reg. No. Pending	Argentina	Class 09	Quibi Holdings LLC	Pending
QUIBI Serial No: 3784129 Reg. No. Pending	Argentina	Class 41	Quibi Holdings LLC	Pending
QUIBI Serial No: 916887413 Reg. No. 916887413	Brazil	Class 09	Quibi Holdings LLC	Registered
QUIBI Serial No: 916887448 Reg. No. 916887448	Brazil	Class 38	Quibi Holdings LLC	Registered
QUIBI Serial No: 916887561 Reg. No. 916887561	Brazil	Class 41	Quibi Holdings LLC	Registered
QUIBI Serial No: 916887618 Reg. No. 916887618	Brazil	Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: 1316863 Reg. No. 1310630	Chile	Class 09 Class 41	Quibi Holdings LLC	Registered

Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
QUIBI Serial No: 36737001 Reg. No.	China	Class 09	Quibi Holdings LLC	Pending Opposition filed by Dragon Entertainment Media Invalidation Action filed against application for QUIBI in the name of Dragon Entertainment Media on 01/17/2020
QUIBI Serial No: 36737000 Reg. No. 36737000	China	Class 38	Quibi Holdings LLC	Registered
QUIBI Serial No: 36736999 Reg. No.	China	Class 41	Quibi Holdings LLC	Pending Opposition filed by Dragon Entertainment Media Invalidation Action filed against application for QUIBI in the name of Dragon Entertainment Media on 01/17/2020
QUIBI Serial No: 36736998 Reg. No. 36736998	China	Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: 304852189 Reg. No. 304852189	Hong Kong	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: 2019008080 Reg. No.	Malaysia	Class 09	Quibi Holdings LLC	Refused on the basis of lack of distinctiveness; Response to office action filed; examination pending
QUIBI Serial No: 2019008081 Reg. No.	Malaysia	Class 38	Quibi Holdings LLC	Pending
QUIBI Serial No: 2019008082 Reg. No.	Malaysia	Class 41	Quibi Holdings LLC	Refused on the basis of lack of distinctiveness; Response to office action filed; examination pending

Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
QUIBI Serial No: 2019008083 Reg. No.	Malaysia	Class 42	Quibi Holdings LLC	Pending
QUIBI Serial No: 788463 Reg. No. 24053	Peru	Class 09 Class 41	Quibi Holdings LLC	Registered
QUIBI Serial No: 184135 Reg. No: 1440023509	Saudi Arabia	Class 09	Quibi Holdings LLC	Registered
QUIBI Serial No: 184136 Reg. No: 1440023510	Saudi Arabia	Class 41	Quibi Holdings LLC	Registered
QUIBI Serial No: 108013828 Reg. No. 2012796	Taiwan	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: 311069 Reg. No. 311069	United Arab Emirates	Class 09	Quibi Holdings LLC	Registered
QUIBI Serial No: 311070 Reg. No. 311070	United Arab Emirates	Class 41	Quibi Holdings LLC	Registered
QUIBI Serial No: 201906268 Reg. No. Pending	South Africa	Class 09	Quibi Holdings LLC	Pending
QUIBI Serial No: 201906269 Reg. No. Pending	South Africa	Class 41	Quibi Holdings LLC	Pending
QUIBI Serial No: FTM2019145332 Reg. No.	Nigeria	Class 09	Quibi Holdings LLC	Pending
QUIBI Serial No: FTM2019145333 Reg. No.	Nigeria	Class 41	Quibi Holdings LLC	Pending

Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
QUIBI Serial No: IR1476360 Reg. No. IR1476360	Madrid Protocol Switzerland Colombia Egypt European Union Indonesia Israel India Iceland Republic of Korea Mexico Norway New Zealand African Intellectual Property Organisation Philippines Russian Federation Singapore Thailand Turkey See specific country below for current status.	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: IR1476360 Reg. No.	Colombia	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Pending
QUIBI Serial No: IR1476360 Reg. No.	Egypt	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Pending
QUIBI Serial No: IR1476360 Reg. No. IR1476360	European Union	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: IR1476360 Reg. No. IR1476360	Iceland	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered

Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
QUIBI Serial No: IR1476360 Reg. No: IR1476360	India	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: IR1476360 Reg. No. IR1476360	Indonesia	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: IR1476360 Reg. No. IR1476360	Israel	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: IR1476360 Reg. No. IR1476360	Japan	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Abandonment pending
QUIBI Serial No: IR1476360 Reg. No.	Mexico	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Pending
QUIBI Serial No: IR1476360 Reg. No. IR1476360	New Zealand	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: IR1476360 Reg. No. IR1476360	Norway	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: IR1476360 Reg. No.	Republic of Korea	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Pending
QUIBI Serial No: IR1476360 Reg. No. IR1476360	Russian Federation	Class 38 Class 41	Quibi Holdings LLC	Registered

Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
QUIBI Serial No: IR1476360 Reg. No. IR1476360	Singapore	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: IR1476360 Reg. No. IR1476360	Switzerland	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: IR1476360 Reg. No.	Thailand	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Pending
QUIBI Serial No: IR1476360 Reg. No.	Turkey	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Pending
QUIBI Serial No: IR1476360 Reg. No. IR1476360	African Intellectual Property Organisation	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
QUIBI Serial No: IR1476360 Reg. No. IR1476360	Philippines	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
Q QUIBI (STYLIZED) Serial No: 88/207,188 Reg. No. 6,081,050 	United States of America	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: 88/207,233 Reg. No. 6,081,051 	United States of America	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Registered

Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
Q (STYLIZED) Serial No: 1962111 Reg. No. 	Canada	Class 09 Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: 3801096 Reg. No. Pending 	Argentina	Class 09	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: 3801097 Reg. No. Pending 	Argentina	Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: 917289862 Reg. No. 917289862 	Brazil	Class 09	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: 917289927 Reg. No. 917289927 	Brazil	Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: 1323916 Reg. No. 1324590 	Chile	Class 09 Class 41	Quibi Holdings LLC	Registered

Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
Q (STYLIZED) Serial No: 304918780 Reg. No. 304918780 	Hong Kong	Class 09 Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: 2019017515 Reg. No. Pending 	Malaysia	Class 09	Quibi Holdings LLC	Pending
Q (STYLIZED) Serial No: 2019017517 Reg. No: Pending 	Malaysia	Class 41	Quibi Holdings LLC	Pending
Q (STYLIZED) Serial No: 796778 Reg. No. 24540 	Peru	Class 09	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: 184137 Reg. No: 1440023511 	Saudi Arabia	Class 09	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: 184138 Reg. No: 1440023512 	Saudi Arabia	Class 41	Quibi Holdings LLC	Registered

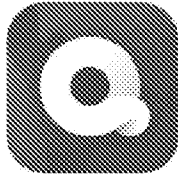
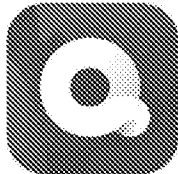
Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
Q (STYLIZED) Serial No: 108029534 Reg. No. 2021659 	Taiwan	Class 09 Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: 311177 Reg. No. 311177 	United Arab Emirates	Class 09	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: 311178 Reg. No. 311178 	United Arab Emirates	Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: 201912884 Reg. No. Pending 	South Africa	Class 09	Quibi Holdings LLC	Pending
Q (STYLIZED) Serial No: 201912885 Reg. No. Pending 	South Africa	Class 41	Quibi Holdings LLC	Pending
Q (STYLIZED) Serial No: FTMO2019149293 Reg. No. 	Nigeria	Class 09	Quibi Holdings LLC	Pending

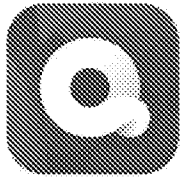
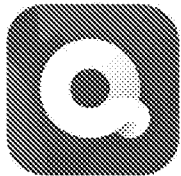
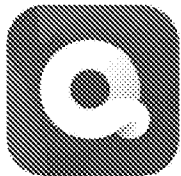
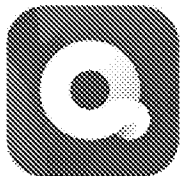
Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
Q (STYLIZED) Serial No: FTMO2019149294 Reg. No. 	Nigeria	Class 41	Quibi Holdings LLC	Pending
Q (STYLIZED) Serial No: IR1481328 Reg. No. IR1481328 	Madrid Protocol Australia Switzerland China Colombia Egypt European Union Indonesia Israel India Iceland Japan Republic of Korea Mexico Norway New Zealand African Intellectual Property Organisation Philippines Russian Federation Singapore Thailand Turkey See specific country below for current status.	Class 09 Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: IR1481328 Reg. No. IR1481328 	Australia	Class 09 Class 41	Quibi Holdings LLC	Registered

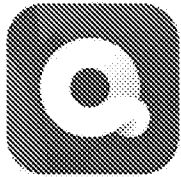
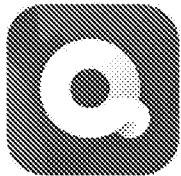
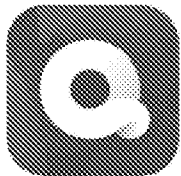
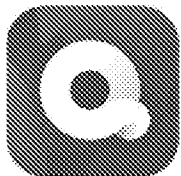
Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
Q (STYLIZED) Serial No: IR1481328 Reg. No. IR1481328 	China	Class 09 Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: IR1481328 Reg. No. 	European Union	Class 09 Class 41	Quibi Holdings LLC	Pending Opposition filed by Sky UK Limited Cooling-off period expires: 01/31/2022
Q (STYLIZED) Serial No: IR1481328 Reg. No. IR1481328 	Colombia	Class Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: IR1481328 Reg. No. 	Egypt	Class 09 Class 41	Quibi Holdings LLC	Pending
Q (STYLIZED) Serial No: IR1481328 Reg. No. IR1481328 	Iceland	Class 09 Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: IR1481328 Reg. No. IR1481328 	India	Class 09 Class 41	Quibi Holdings LLC	Registered

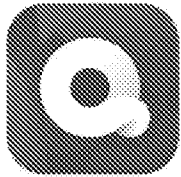
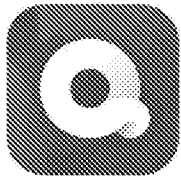
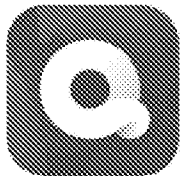
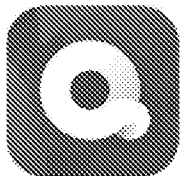
Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
Q (STYLIZED) Serial No: IR1481328 Reg. No. IR1481328 	Indonesia	Class 09 Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: IR1481328 Reg. No. IR1481328 	Israel	Class 09 Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: IR1481328 Reg. No. 	Japan	Class 09 Class 41	Quibi Holdings LLC	Examination pending Examiner objected to description of goods/services. Examiner's proposed amendments accepted in amendment filed through WIPO.
Q (STYLIZED) Serial No: IR1481328 Reg. No. 	Mexico	Class 09 Class 41	Quibi Holdings LLC	Examination pending
Q (STYLIZED) Serial No: IR1481328 Reg. No. IR1481328 	New Zealand	Class 09 Class 41	Quibi Holdings LLC	Pending
Q (STYLIZED) Serial No: IR1481328 Reg. No. IR1481328 	Norway	Class 09 Class 41	Quibi Holdings LLC	Registered

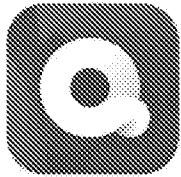
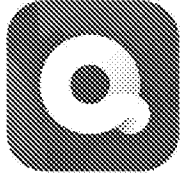
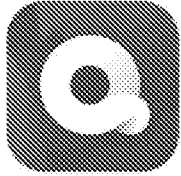
Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
Q (STYLIZED) Serial No: IR1481328 Reg. No. IR1481328 	Republic of Korea	Class 09 Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: IR1481328 Reg. No. IR1481328 	Russian Federation	Class 09 Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: IR1481328 Reg. No. IR1481328 	Singapore	Class 09 Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: IR1481328 Reg. No. IR1481328 	Switzerland	Class 09 Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: IR1481328 Reg. No. 	Thailand	Class 09 Class 41	Quibi Holdings LLC	Provisional refusal issued based on a finding that the description of goods and services in Classes 9 and 41 is overly broad and/or vague
Q (STYLIZED) Serial No: IR1481328 Reg. No. 	Turkey	Class 09 Class 41	Quibi Holdings LLC	Designated protection pending

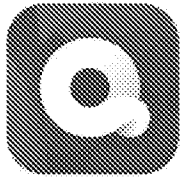
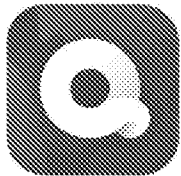
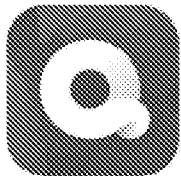
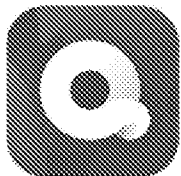
Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
Q (STYLIZED) Serial No: IR1481328 Reg. No. IR1481328 	African Intellectual Property Organisation	Class 09 Class 41	Quibi Holdings LLC	Registered
Q (STYLIZED) Serial No: IR1481328 Reg. No. IR1481328 	Philippines	Class 09 Class 41	Quibi Holdings LLC	Registered
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: 88/697,890 Reg. No. 6,126,414 	United States of America	Class 09 Class 38 Class 41	Quibi Holdings LLC	Registered
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: 2012758 Reg. No.  Application pending	Canada	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Pending

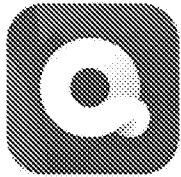
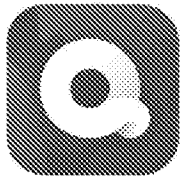
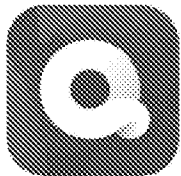
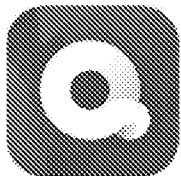
Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: 3893808 Reg. No. 	Argentina	Class 09	Quibi Holdings LLC	Pending
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: 3893809 Reg. No. 	Argentina	Class 38	Quibi Holdings LLC	Pending
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: 3893810 Reg. No. 	Argentina	Class 41	Quibi Holdings LLC	Pending
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: 305271741 Reg. No: 	Hong Kong	Class 09 Class 38 Class 42	Quibi Holdings LLC	Pending

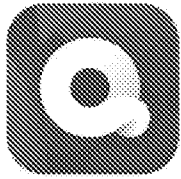
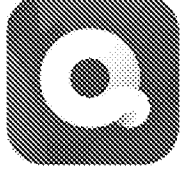
Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: 229583 Reg. No: 	Saudi Arabia	Class 09	Quibi Holdings LLC	Refused on basis of likelihood of confusion with registration for Q design owned by Qualcomm. Appeal not filed; abandonment pending
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: 229584 Reg. No: 1441025726 	Saudi Arabia	Class 38	Quibi Holdings LLC	Registered
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: 229585 Reg. No: 1441025727 	Saudi Arabia	Class 41	Quibi Holdings LLC	Registered
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: 202010150 Reg. No: 	South Africa	Class 09	Quibi Holdings LLC	Office action issued requesting association of applications; response due: 02/19/2021

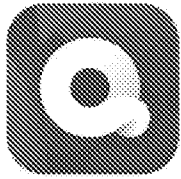
Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: 202010151 Reg. No:	South Africa	Class 38	Quibi Holdings LLC	Office action issued requesting association of applications; response due: 02/19/2021
				
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: 202010152 Reg. No:	South Africa	Class 41	Quibi Holdings LLC	Office action issued requesting association of applications; response due: 02/19/2021
				
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: 329810 Reg. No: 329810	United Arab Emirates	Class 09	Quibi Holdings LLC	Registered
				
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: 329811 Reg. No: 329811	United Arab Emirates	Class 38	Quibi Holdings LLC	Registered
				

Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: 329812 Reg. No: 329812 	United Arab Emirates	Class 41	Quibi Holdings LLC	Registered
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: IR1544115 	Madrid Protocol Australia Brazil Switzerland China European Union Indonesia Israel India Mexico Malaysia Norway New Zealand Philippines Russian Federation Singapore Thailand See specific country below for current status.	Class 09 Class 38 Class 41	Quibi Holdings LLC	Registered
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: 	Australia	Class 09 Class 38 Class 41	Quibi Holdings LLC	Application published for opposition; opposition period expired 12/30/2020

Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: 	Brazil	Class 09 Class 38 Class 41	Quibi Holdings LLC	
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: IR1544115 	China	Class 09 Class 38 Class 41	Quibi Holdings LLC	Registered
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: 	European Union	Class 09 Class 38 Class 41	Quibi Holdings LLC	Pending
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: 	India	Class 09 Class 38 Class 41	Quibi Holdings LLC	Provisional refusal on basis of likelihood of confusion with existing Q design registrations. Response to provisional refusal filed; examination pending

Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: 	Indonesia	Class 09 Class 38 Class 41	Quibi Holdings LLC	Pending
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: 	Israel	Class 09 Class 38 Class 41	Quibi Holdings LLC	Application published for opposition; opposition period expires: 02/28/2021
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: 	Malaysia	Class 09 Class 38 Class 41	Quibi Holdings LLC	Pending
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: 	Mexico	Class 09 Class 38 Class 41	Quibi Holdings LLC	Pending

Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: 	New Zealand	Class 09 Class 38 Class 41	Quibi Holdings LLC	Pending
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: 	Norway	Class 09 Class 38 Class 41	Quibi Holdings LLC	Pending
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: 	Philippines	Class 09 Class 38 Class 41	Quibi Holdings LLC	Provisional refusal issued on basis of likelihood of confusion with existing registration for Q design owned by Salesforce; response due: 02/15/2021
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: IR1544115 	Russian Federation	Class 09 Class 38 Class 41	Quibi Holdings LLC	Registered

Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: 	Singapore	Class 09 Class 38 Class 41	Quibi Holdings LLC	Partial provisional refusal issued relating to description of goods/services; amendment filed to address refusal
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: 	Switzerland	Class 09 Class 38 Class 41	Quibi Holdings LLC	Pending
Q STYLIZED IN PURPLE SQUARE DESIGN Serial No: IR1544115 Reg. No: 	Thailand	Class 09 Class 38 Class 41	Quibi Holdings LLC	Pending
QUICK BITES Serial No: 88/771,522 Reg. No.	United States of America	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Suspended Advisory issued on basis of likelihood of confusion with pending application for QUICKBITES owned by Pauline Altman. Opposition to Altman's mark is pending.

Mark/Serial Number/Registration Number	Country	Class	Registrant / Applicant	Status
QUICK BITES Serial No: 2012799 Reg. No.	Canada	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Pending
QUICK BITES BIG STORIES Serial No: 88/771,507 Reg. No.	United States of America	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Suspended Advisory issued on basis of likelihood of confusion with pending application for QUICKBITES owned by Pauline Altman. Opposition to Altman's mark is pending.
QUICK BITES BIG STORIES Serial No: 2012839 Reg. No.	Canada	Class 09 Class 38 Class 41 Class 42	Quibi Holdings LLC	Pending

REEL/FRAME: 7260/0641

Trademark Registrations/Applications

Owner	Trademark	Country	Application No.	Registration No.	Registration Date	Int. Classes	Trademark Status
This Old House Ventures, LLC		United States of America	75050758	2088753	Aug 19 1997	16	Registered
This Old House Ventures, LLC	ASK THIS OLD HOUSE	United States of America	76449571	2841226	May 11 2004	41	Registered
This Old House Ventures, LLC	BUILD YOUR DREAM, DO IT RIGHT	United States of America	87193430	5656267	Jan 15 2019	16	Registered
This Old House Ventures,	BUILD YOUR DREAM, DO	United States of	87977773	5671574	Feb 5 2019	35, 37, 38, 41,	Registered

LLC	IT RIGHT	America				42, 44	
This Old House Ventures, LLC	HOUSE ONE	Canada	1830875	TMA1071909	Feb 6 2020	9, 16, 35, 37, 38, 41	Registered
This Old House Ventures, LLC	HOUSE ONE	EU	016548596			9, 16, 35, 37, 38, 41	Pending
This Old House Ventures, LLC	HOUSE ONE	United States of America	87978927	5789397	Jun 25 2019	35, 37, 38, 41, 42, 44	Registered
This Old House Ventures, LLC	HOUSE ONE	United States of America	90241605			41	Pending
This Old House Ventures, LLC	THIS OLD HOUSE	Canada	0772080	TMA465118	Oct 25 1996		Registered
This Old House Ventures, LLC	THIS OLD HOUSE	Canada	0804584	TMA507711	Feb 8 1999	8, 9, 16, 21, 25, 41, 42	Registered
This Old House Ventures, LLC	 House	EU	016601353	016601353	Sep 29 2017	9, 16, 35, 37, 38, 41	Registered
This Old House Ventures, LLC	 House	United Kingdom	UK00916601353	UK00916601353	Sep 29 2017	9, 16, 35, 37, 38, 41	Registered
This Old House Ventures, LLC	THIS OLD HOUSE	United States of America	74583909	1992003	Aug 6 1996	16	Registered
This Old House Ventures, LLC	THIS OLD HOUSE	United States of America	75050759	2019384	Nov 26 1996	16	Registered
This Old House	THIS OLD	United States of	76417092	2693188	Mar 4 2003	25	Registered

Ventures, LLC	HOUSE	America					
This Old House Ventures, LLC	THIS OLD HOUSE	United States of America	77470201	3553590	Dec 30 2008	9	Registered
This Old House Ventures, LLC	THIS OLD HOUSE	United States of America	78753407	3145567	Sep 19 2006	37	Registered
This Old House Ventures, LLC	THIS OLD HOUSE	United States of America	85408214	4227312	Oct 16 2012	9	Registered
This Old House Ventures, LLC	THIS OLD HOUSE	United States of America	86026346	4497564	Mar 18 2014	35	Registered
This Old House Ventures, LLC	THIS OLD HOUSE	United States of America	87193632	5313302	Oct 17 2017	9, 16, 35, 37, 38, 41, 42, 43, 44	Registered
This Old House Ventures, LLC		Canada	0804828	TMA207705	Feb 8 1999		Registered
This Old House Ventures, LLC		United Kingdom	UK00002121106	UK00002121106	Jan 17 1997	16, 41	Registered
This Old House Ventures, LLC		EU	002922474	002922474	Feb 26 2004	9, 16, 37, 41, 42	Registered
This Old House Ventures, LLC		United Kingdom	UK00002288735	UK00002288735	Dec 21 2001	9	Registered
This Old House Ventures, LLC		United Kingdom	UK00902922474	UK00902922474	Feb 26 2004	9, 16, 37, 41, 42	Registered

This Old House Ventures, LLC		United States of America	75451306	2238871	Apr 13 1999	16	Registered
This Old House Ventures, LLC	THIS OLD HOUSE INSIDER	United States of America	87192156	5278039	Aug 29 2017	35, 38	Registered
This Old House Ventures, LLC		Canada	0804563	TMA507710	Feb 8 1999		Registered
This Old House Ventures, LLC		United States of America	74678429	2080589	Jul 22 1997	16	Registered
This Old House Ventures, LLC		United States of America	75078417	2113480	Nov 18 1997	9, 37,41	Registered

REEL/FRAME: 7338/0626

Trademark Registrations/Applications

Grantor	Mark	Country	Record Status	Application Number	Application Filing Date	International Class No(s).	Registration Number	Reg. Date
Roku, Inc.	SORENSEN SQUEEZE	US	Granted	76280703	7/5/2001	9	2,714,373	5/6/2003
Roku, Inc.	SORENSEN MEDIA	US	Granted	76016542	4/3/2000	38	2,729,675	6/24/2003
Roku, Inc.	SORENSEN SPARK	US	Granted	76468221	11/20/2002	9	2,769,101	9/30/2003
Roku, Inc.	SQUEEZE	US	Granted	76650238	11/14/2005	9	3,250,180	6/12/2007
Roku, Inc.	ZAMPLE	US	Granted	86208135	2/28/2014	42	4,620,489	10/14/2014
Roku, Inc.	ZAMPLE	US	Granted	86208127	2/28/2014	9	4,613,539	9/30/2014