IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

SONY CORPORATION and SONY ELECTRONICS INC., Plaintiffs, v. ARRIS INTERNATIONAL PLC, ARRIS GROUP, INC., ARRIS TECHNOLOGY, INC., ARRIS ENTERPRISES LLC, ARRIS SOLUTIONS, INC., ARRIS GLOBAL LTD., PACE AMERICAS HOLDINGS, INC., PACE AMERICAS, LLC, PACE USA LLC, and PACE AMERICAS INVESTMENTS, LLC Defendants.	Civil Action No. _____ **DEMAND FOR JURY TRIAL**

COMPLAINT AND DEMAND FOR TRIAL BY JURY

Plaintiffs Sony Corporation ("Sony Corp.") and Sony Electronics Inc. ("SEL") (collectively, "Sony" or "Plaintiffs") by its undersigned attorneys, hereby files this Complaint against Defendants ARRIS International plc ("ARRIS International"), ARRIS Group, Inc. ("ARRIS Group"), ARRIS Technology, Inc. ("ARRIS Technology"), ARRIS Enterprises LLC ("ARRIS Enterprises"), ARRIS Solutions, Inc. ("ARRIS Solutions"), ARRIS Global Ltd. ("ARRIS Global") (collectively, "ARRIS" or "ARRIS Defendants"), Pace Americas Holdings, Inc. ("Pace Americas Holdings), Pace Americas, LLC ("Pace Americas"), Pace USA

LLC ("Pace USA"), and Pace Americas Investments, LLC ("Pace Americas Investments") (collectively, "Pace" or "Pace Defendants") (collectively, "Defendants"), alleging as follows:

NATURE OF THE SUIT

1. This is an action for patent infringement under the United States Patent Statute, 35 U.S.C. §§ 1, *et seq.*, arising from Defendants' infringement of one or more claims of United States Patent Nos. RE45,126 ("the '126 patent"); 6,467,093 ("the '093 patent"); 8,032,919 ("the '919 patent"); 6,556,221 ("the '221 patent"); and 6,915,525 ("the '525 patent") (collectively, "the Asserted Patents") through the use and sale of certain digital cable and satellite products, set-top boxes, and gateways ("Accused Products"). Sony asserts that Defendants directly and/or indirectly infringe at least claim 26 of the '126 patent; at least claims 1, 3, and 8 of the '093 patent; at least claims 1-16 of the '919 patent; at least claims 1-6 and 12-16 of the '221 patent; and at least claims 1, 3-5, 7, 8, 34, 36, and 37 of the '525 patent (collectively, "the Asserted Claims").

THE PARTIES

2. Sony Corp. is a corporation organized under the laws of Japan with a principal place of business at 1-7-1, Konan, Minato-ku, Tokyo, Japan.

3. SEL is an indirect subsidiary of Sony Corp. It is a corporation organized under the laws of the United States with a principal place of business at

16530 Via Esprillo, San Diego, CA 92127.

4. On information and belief, ARRIS International is a corporation organized under the laws of England and Wales with a principal place of business at 3871 Lakefield Drive, Suwanee, Georgia 30024.

5. On information and belief, ARRIS Group is a wholly-owned subsidiary of ARRIS International. It is a corporation organized under the laws of England and Wales with a principal place of business at 3871 Lakefield Drive, Suwanee, Georgia 30024.

6. On information and belief, ARRIS Technology is an indirect wholly-owned subsidiary of ARRIS International and a subsidiary of ARRIS Group. It is a Delaware corporation with a principal place of business at 101 Tournament Drive, Horsham, Pennsylvania 19044.

7. On information and belief, ARRIS Enterprises is an indirect wholly-owned subsidiary of ARRIS International and a subsidiary of ARRIS Technology. It is a Delaware limited liability company with a principal place of business at 3871 Lakefield Drive, Suwanee, Georgia 30024.

8. On information and belief, ARRIS Solutions is an indirect wholly-owned subsidiary of ARRIS International and a subsidiary of ARRIS Enterprises. It is a Delaware corporation with a principal place of business at 3871 Lakefield Drive, Suwanee, Georgia 30024.

9. On information and belief, ARRIS Global (formerly Pace Ltd.) is a wholly-owned subsidiary of ARRIS International. It is a corporation organized under the laws of England and Wales with a principal place of business at Victoria Road, Saltaire, West Yorkshire BD18 3LF, England.

10. On information and belief, Pace Americas Holdings is an indirect wholly-owned subsidiary of ARRIS International and a subsidiary of ARRIS Global. It is a Delaware corporation with a principal place of business at 3701 FAU Boulevard, Suite 200, Boca Raton, FL 33431.

11. On information and belief, Pace Americas is an indirect wholly-owned subsidiary of ARRIS International and a subsidiary of Pace Americas Holdings. It is a corporation organized under the laws of England and Wales with a principal place of business at 3701 FAU Boulevard, Suite 200, Boca Raton, FL 33431.

12. On information and belief, Pace USA is an indirect wholly-owned subsidiary of ARRIS International and a subsidiary of Pace Americas. It is a Delaware limited liability company with a principal place of business at 3701 FAU Boulevard, Suite 200, Boca Raton, FL 33431.

13. On information and belief, Pace Americas Investments is an indirect wholly-owned subsidiary of ARRIS International and a subsidiary of Pace Americas Holdings. It is a Delaware limited liability company with a principal place of business at 3701 FAU Boulevard, Suite 200, Boca Raton, FL 33431.

14. On information and belief, ARRIS Group, Inc. acquired Pace plc (which became Pace Ltd. and is now ARRIS Global Ltd.), and its subsidiaries, on January 4, 2016.

JURISDICTION AND VENUE

15. This action arises under the patent laws of the United States, 35 U.S.C. §§ 1, *et seq*. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a). Venue is proper in this Court pursuant to 28 U.S.C. §§ 1391 and 1400.

16. More specifically, this action for patent infringement involves Defendants' use, sale, offer for sale, and/or importation into the United States of infringing digital cable and satellite products, set-top box products, and gateway products covered by one or more of the claims of the Asserted Patents. The Accused Products include, but are not limited to, certain ARRIS and Pace digital cable and satellite products, such as ARRIS and Pace digital cable set-top box products supplied to Comcast for Comcast's Xfinity brand (*e.g.*, ARRIS's AX013AN, MX011ANM, AX013AN, AX014A,N DCX3510-M, and DCX3501-M products and Pace's PX001AN, PX013ANM, PX032ANI, PX051AEI, PXD01ANI, PXD01ANi, and PX0022ANM products); ARRIS and Pace digital satellite set-top box products supplied to DIRECTV for DIRECTV's Genie brand (*e.g.*, ARRIS's HR54-700 and C61-700 products, and Pace's HR34-700, HR44-

700, C61K-700 products); and ARRIS media gateway products (*e.g.*, DCX3635) and telephony gateway products (*e.g.*, TG862G, TG1682G).

17. This Court has general personal jurisdiction over ARRIS International, ARRIS Group, ARRIS Enterprises and ARRIS Solutions, and venue is proper, because ARRIS International, ARRIS Group, ARRIS Enterprises and ARRIS Solutions, on information and belief, as each maintain a principle place of business in this judicial district.

18. This Court has specific personal jurisdiction over Defendants, and venue is proper, because, on information and belief, Defendants do continuous and systematic business in this district by providing infringing products to residents of this judicial district, by providing infringing products that it knew would be used within this judicial district, and/or by participating in the solicitation of business from residents of this judicial district. In addition, Defendants place the Accused Products in the stream of commerce, which is directed at this judicial district, with the knowledge and/or understanding that such products will be sold, leased, or otherwise provided to customers within this judicial district. Upon information and belief, the Accused Products are provided to customers in this judicial district. Exemplary instances of Defendants' jurisdictional activities with respect to each Asserted Patent follow.

A. <u>The ’126 Patent</u>

19. On information and belief, ARRIS makes, offers to sell, sells, and/or imports media gateways such as, for example, the ARRIS DCX3635. ARRIS makes known that such products are available throughout the United States, including in this judicial district, by advertising this product on their website at http://www.ARRIS.com/products/dcx-3635/.

20. On information and belief, ARRIS makes, offers to sell, sells, and/or imports telephony gateway products such as, for example, the ARRIS TG862G. For example, the ARRIS Xfinity TG862G is provided at least as a wireless gateway through Comcast, as shown through the below screenshot taken January 10, 2017 from https://www.xfinity.com/support/internet/about-the-wireless-

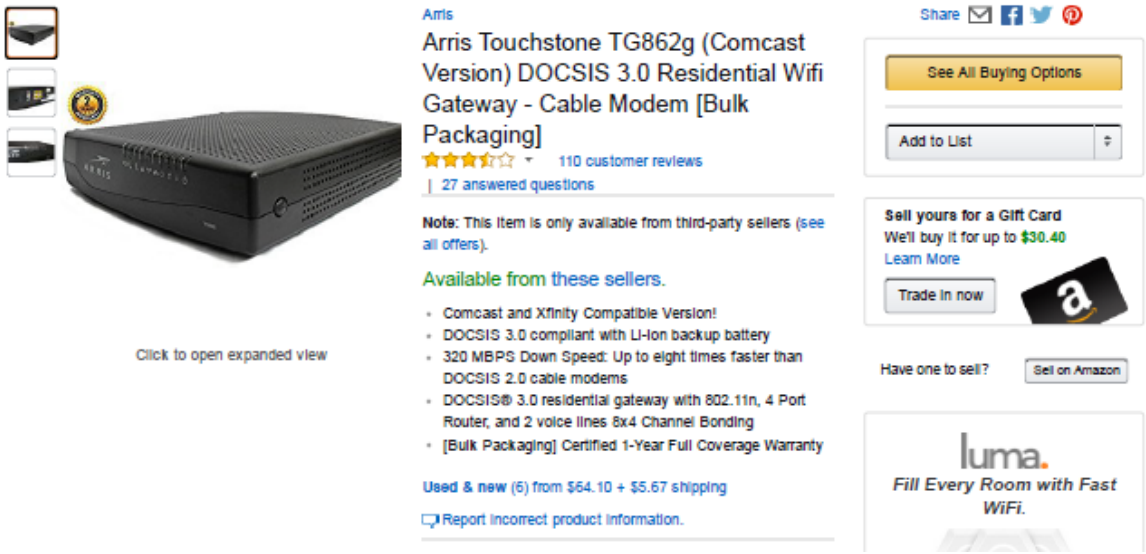
Does Comcast Offer More Than One Kind of Wireless Gateway?
Yes, there are three generations of wireless gateways from Comcast.

- Wireless Gateway 1 (Model TG852G, TG862G, SMCD3GNV, TC8305C)
- Wireless Gateway 2 (Model DPC3939, TC8706C) and Wireless Gateway 3 (Model DPC3941T, TC8717, TG1682G)

gateway/.

21. The ARRIS TG862G is also available through retailers such as Amazon, as shown in the below screenshot taken January 10, 2017 from https://www.amazon.com/TG862g-Comcast-Version-Residential-

Gateway/dp/B00Z1Q0UW6.



22. On information and belief, these products are available throughout the United States, including in this judicial district.

B. <u>The ’093 and ’919 Patents</u>

23. On information and belief, ARRIS makes, offers to sell, sells, and/or imports media gateways and set top Boxes, such as, for example, the DCX3635, DCX3510-M, and DCX3501-M. For example, each of the DCX3510-M, and DCX3501-M products are provided by, at least, Comcast, to its customers.

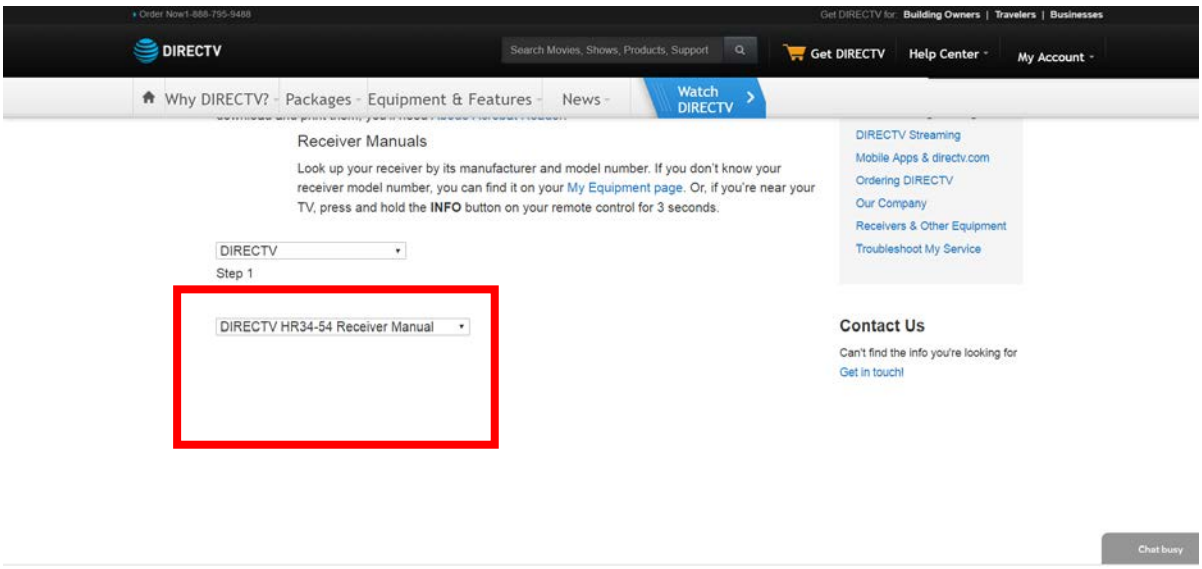
24. ARRIS makes known that such products are available throughout the United States, including in this judicial district, by advertising this product on their website at http://www.ARRIS.com/products/dcx-3635/, http://www.arris.com/products/dcx3510-m and

http://arris.force.com/consumers/ConsumerProductDetail?p=a0ha000000GNctxAAD&c=Cable%20Set-Top%20Box.

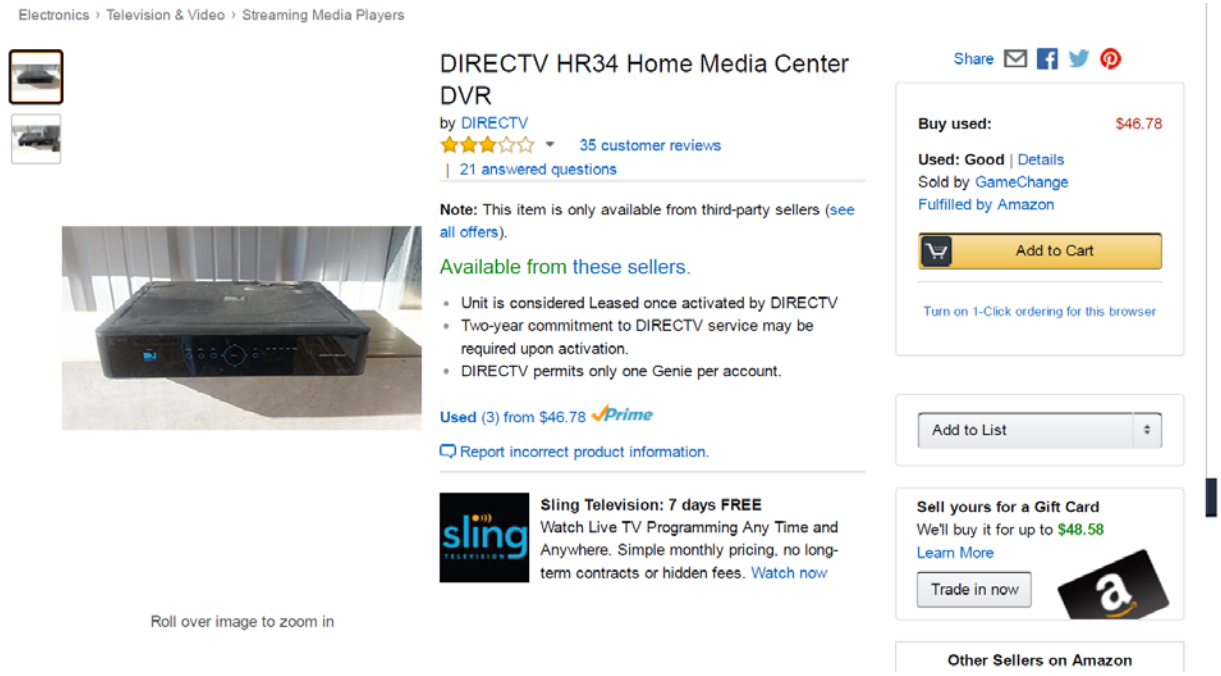
25. On information and belief, these products are available throughout the United States, including this judicial district.

C. <u>The '221 Patent</u>

26. On information and belief, Defendants make, offer to sell, sell, and/or imports Set Top Boxes, such as, for example the HR34-700 set top box. For example, the HR34-700 set top box is provided at least by DIRECTV as a Genie™ TV Box through DIRECTV, as evidenced by the fact that a manual for the HR-34 product line (as well as the HR-44 and -54 product lines, which all share the same user manual) is available on the DIRECTV website, as shown by the below screenshot taken January 11, 2017 from https://support.directv.com/equipment/3669.



27. The HR34-700 set top box is also available through retailers such as Amazon, as shown in the below screenshot taken January 11, 2017 from https://www.amazon.com/DIRECTV-HR34-Home-Media-Center/dp/B006YTAGBO.



28. On information and belief, these products are available throughout the United States, including this judicial district.

D. <u>The ’525 Patent</u>

29. On information and belief, Defendants make, offer to sell, sells, and/or imports set top box products such as, for example, the HR54-700 and C61-700. For example, the HR54-700 is provided at least as a Genie HD DVR set top box through DIRECTV, and the C61-700 is provided at least as a Genie Mini, as shown in the image below taken from the DirecTV Genie User Guide.

GENIE™ HD DVR

The DIRECTV Genie HD DVR is the most advanced DVR experience available and provides HD DVR service in every room without the need for additional receivers. A single Genie (models HR34, HR44, HR54, and above), together with Genie Minis (C51, C61, C61K, C61W, C41, C41W, C51,C61, C61K, and earlier models) or DIRECTV Ready TVs, can serve your entire home, allowing for more personalized viewing.

This chapter provides information on the many features and benefits of DIRECTV Genie HD DVR and its companion Genie Minis.

GENIE HD DVR - KEY FEATURES

- Record up to five programs simultaneously.

30. On information and belief, Defendants make, offer to sell, sell, and/or imports set top box products such as, for example, the MX011ANM and PX013AN. For example, these devices are provided at least as an XG1 DVR set-top box through Comcast, as shown in the below screenshot taken January 22, 2017 from http://forums.xfinity.com/t5/X1/X1-DVR-Capabilities-Update-Pace-XG1V1-Capabilities-Expanded/td-p/2555796https:/customer.xfinity.com/help-and-support/internet/about-the-wireless-gateway/.

Posted by ComcastTeds
07-09-2015 04:57 PM
Edited on : 01-28-2016 04:56 PM
Official Employee
View All
Member Since: 01-09-2012
Posts: 13,914
Message 1 of 1 (18,048 Views)

X1 DVR Capabilities (Update: Pace XG1V1 Capabilities Expanded)
X1 DVR Capabilities Expanded

Options

PDATE: Customers with Pace XG1v1 DVRs can now record up to 5 shows at once. With this update, there is no longer a dedicated tuner for live TV, allowing all tuners to be used for DVR recordings. Previously, customers could record up to 4 shows on these boxes.

With XFINITY on the X1 Entertainment Operating System DVR service, customers can record up to six shows at once. There is no longer a dedicated tuner for live TV, allowing all tuners to be used for DVR recordings. Previously, customers could record up to four shows at once, while watching a fifth show on a tuner dedicated to live TV. Please note that this applies to customers with all models of the XG1 DVR set-top box, **except for the Pace XG1v1, which can record up to 5 shows at once (as stated above)**.

The "STB Version" under "About" contains the model & software information.

Press the XFINITY button on the remote control, arrow over to the gear icon on the right, press OK, arrow down to About, press OK. The STB version line is what you are looking for.

For example " PX013AN_2.0.2p7s1_PROD_HYBse-signed"

" PX013AN" is the model number. In this case a Pace XG1v3.
"2.0.2p7s1_PROD_HYBse-signed" is the software version

Model	Box Type
MX011AN	Arris XG1v1
PX001AN	Pace XG1v1
PX013AN	Pace XG1v3
AX013AN	Arris XG1v3

Please note that any Xi devices (examples Xi3) in the home will reserve one tuner from the XG1 when streaming live video. This may reduce number of recordings that can occur simultaneously.

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I am an Official Comcast Employee.
Official Employees are from multiple teams within Comcast: Product, Support, Leadership.
We ask that you post publicly so people with similar questions may benefit from the conversation.
Was your question answered? Mark it as an accepted solution!

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31. On information and belief these products are available throughout the United States, including in this judicial district.

FACTUAL BACKGROUND

32. Founded in 1946, Sony Corp. is a world leader in the design, manufacture, and marketing of a wide variety of consumer electronics. Sony Corp. is renowned for its high-quality products and its innovations have become a part of mainstream culture.

33. SEL was founded in 1960, and, like Sony Corp., is a world leader in consumer electronics, with a particular emphasis on designing, developing, manufacturing, and marketing audio/video electronics and information technology

products for the consumer and professional markets in the United States. SEL is known for its wide range of consumer audio/visual products, such as its digital televisions.

34. Sony has a long history of investing in the research and development of new technologies for the consumer electronics industry, particularly with regard to digital televisions, and has become an influential part of mainstream culture in these technical areas. As a result of its ongoing investment in technology and innovation, Sony's patent portfolio has grown to over fifty thousand worldwide patents covering a wide range of consumer electronics technologies, including digital television technologies. Sony has also established a program for licensing its patents related to these technology areas, among others. Sony continues to fuel industry growth with the sales of innovative products, and vigorously defends its rights with regard to its patent portfolio in order to continue in its role as an industry leader.

35. On information and belief, Defendants are in the business of manufacturing and selling a broad range of telecommunications equipment, including but not limited to infringing digital cable and satellite products, set top boxes, and gateways.

COUNT I - Infringement of U.S. Patent No. RE45,126

36. The allegations of paragraphs 1-35 above are incorporated by reference

as if fully set forth herein.

37. The ’126 patent, entitled “Radio Communication Apparatus and Radio Communication Method, Radio Communication System, Recording Medium, and Computer Program,” was duly and legally issued by the U.S. Patent and Trademark Office on September 9, 2014. Sony Corp. is the assignee and sole owner of all right, title, and interest in the ’126 patent, including the sole and undivided right to sue for infringement and collect damages for past and future infringement. A true and correct copy of the ’126 patent is attached hereto as Exhibit A.

38. ARRIS infringes one or more claims of the ’126 patent, either literally or under the doctrine of equivalents, including at least claim 26. ARRIS infringes at least this claim by using, selling, offering to sell, and/or importing into the United States, media gateways such as, for example, the DCX3635, and telephony gateway products such as, for example, the TG862G and TG1682G, which meet each and every element of at least claim 26 of the ’126 patent, without Sony’s license or authority.

39. The ’126 patent is directed to communication devices that can connect to a counterpart communication device using a push button. Claim 26 of the ’126 patent is directed to a receiver apparatus that comprises (1) an antenna; (2) a push button; (3) a processor; (4) a non-transitory computer-readable medium storing

instructions for (a) receiving an inquiry signal; (b) detecting a user input from a push button; (c) sending a predetermined signal including a destination address subsequent to a source address within a predetermined period from detection of the user input; and (d) establishing a connection with a transmission apparatus.

40. Features of the asserted claim of the ’126 patent are disclosed in the Wi-Fi Alliance’s Wi-Fi Simple Configuration Technical Specification version 2.0.2, although the asserted claim is not essential to that industry standard.

41. On information and belief, ARRIS’s product documentation, the Wi-Fi Alliance’s product certifications for ARRIS’s products, and the Wi-Fi Alliance’s Wi-Fi Simple Configuration Technical Specification version 2.0.2, demonstrate that the use, sale, offer to sell, and/or importing into the United States of media gateways such as, for example, the DCX3635, and telephony gateway products such as, for example, the TG862G and TG1682G directly infringe at least claim 26 of the ’126 patent. ARRIS publishes user guides and technical specifications that describe the DCX3635, TG862G, and TG1682G products. The user guides and technical specifications are available on ARRIS’s website. *See, e.g.*, http://www.ARRIS.com/globalassets/resources/data-sheets/dcx_3635-final.pdf and http://surfboard.com/wp-content/uploads/2014/07/ARRIS_SURFboard_TG862G_Quick_Start_Guide.pdf. The Wi-Fi Alliance’s product certifications are available on the Wi-Fi Alliance’s

website. *See, e.g.*, http://www.wi-fi.org/product-finder-results?sort_by=default&sort_order=desc&keywords=TG862&companies=1327 and http://www.wi-fi.org/product-finder-results?sort_by=default&sort_order=desc&keywords=TG1682&companies=1327. The Wi-Fi Alliance's Wi-Fi Simple Configuration Technical Specification version 2.0.2 is attached as Exhibit B.

42. On information and belief, the user guides, technical specifications, and Wi-Fi Alliance product certifications show that the DCX3635, TG862G, and TG1682G products include a "WPS" button and conform to the Push Button Configuration of the Wi-Fi Alliance's Wi-Fi Simple Configuration Technical Specification version 2.0.2. Together, the user guides, technical specifications, Wi-Fi Alliance product certifications, and Wi-Fi Simple Configuration Technical Specification show that the DCX3635, TG862G, and TG1682G products include for example the (1) antenna; (2) push button; (3) processor; and (4) non-transitory computer-readable medium storing instructions for (a) receiving an inquiry signal; (b) detecting a user input from a push button; (c) sending a predetermined signal including a destination address subsequent to a source address within a predetermined period from detection of the user input; and (d) establishing a connection with a transmission apparatus. An exemplary claim chart applying claim 26 of the '126 patent to ARRIS's TG862G product, filed with the

International Trade Commission as Exhibit 12 concurrently with this Complaint and expressly incorporated by reference in its entirety herein, further shows how the TG862G product infringes claim 26. On information and belief, ARRIS's DCX3635 and TG1682G products infringe for the same reasons shown in the TG862G claim chart.

43. In view of the foregoing, ARRIS's use, sale, offer to sell, and/or importing into the United States of media gateways such as, for example, the DCX3635, and telephony gateway products such as, for example, the TG862G and TG1682G directly infringe at least claim 26 of the '126 patent under 35 U.S.C. § 271(a).

44. ARRIS has knowledge of the '126 patent at least as of the filing and/or service of this Complaint. Since at least as early as the filing and/or service of this Complaint, ARRIS's infringement has been willful.

45. Despite ARRIS's knowledge of and notice of the '126 patent and its ongoing infringement, ARRIS continues to use, sell, offer for sale, and/or import media gateways such as, for example, the DCX3635, and telephony gateway products such as, for example, the TG862G and TG1682G, in a manner that infringes the '126 patent, and continues to produce and disseminate promotional and marketing materials, supporting materials, instructions, and/or technical information related to the infringing aspects of such media gateway and telephony

gateway products. ARRIS lacks a justifiable belief that it does not infringe the ’126 patent, or that the ’126 patent is invalid, and has acted recklessly in its infringing activity, justifying an increase in the damages to be awarded Sony up to three time the amount found or assessed, in accordance with 35 U.S.C. § 284.

46. At least ARRIS’s willful infringement of the ’126 patent renders this case an exceptional case, justifying an award to Sony of its reasonable attorneys’ fees, in accordance with 35 U.S.C. § 285.

47. Sony has no adequate remedy at law for ARRIS’s acts of infringement. As a direct and proximate result of ARRIS’s acts of infringement, Sony has suffered and continues to suffer damages and irreparable harm. Unless ARRIS’s acts of infringement are enjoined by this Court, Sony will continue to be damaged and irreparably harmed.

COUNT II - Infringement of U.S. Patent No. 6,467,093

48. The allegations of paragraphs 1-47 above are incorporated by reference as if fully set forth herein.

49. The ’093 patent, entitled “Method and Apparatus for Receiving Digital Broadcasts,” was duly and legally issued by the U.S. Patent and Trademark Office on October 15, 2003. Sony Corp. is the assignee and sole owner, by valid assignment of all right, title and interest in and to the ’093 patent, including the sole and undivided right to sue for infringement and collect damages for past and

future infringement. A true and correct copy of the ’093 patent is attached hereto as Exhibit C.

50. ARRIS infringes one or more claims of the ’093 patent, either literally or under the doctrine of equivalents, including at least claims 1, 3, and 8. ARRIS infringes at least these claims by using, selling, offering to sell, and/or importing into the United States, digital cable products, such as digital cable products supplied to Comcast for Comcast’s Xfinity brand, including, for example the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes, which meet each and every element of at least claims 1, 3, and 8 of the ’093 patent, without Sony’s license or authority.

51. The ’093 patent is directed to digital broadcast receiving apparatuses that output digital broadcast signals in compressed and decompressed form to various types of digital external units. Claims 1 and 8 of the ’093 patent are directed to a digital broadcast receiving apparatus and method, respectively, that (1) extract compressed data from broadcast program signals; (2) decompress the compressed data; (3) output each of the compressed data and decompressed data; (4) control, based on an instruction from a user, the selection of an output from the compressed data and the decompressed data. Claim 3 depends from claim 1 and is directed to a digital broadcast receiving apparatus comprising all of the elements of claim 1 in which the compressed data is compressed by an MPEG method.

52. On information and belief, ARRIS's product documentation demonstrates that the use, sale, offer to sell, and/or importing into the United States of digital cable products, such as digital cable products supplied to Comcast for Comcast's Xfinity brand, including, for example the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes, directly infringe at least claims 1, 3, and 8 of the '093 patent. On information and belief, ARRIS publishes user guides and technical specifications that describe the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes products. *See, e.g.* https://fccid.io/document.php?id=2790429; http://www.arris.com/globalassets/resources/data-sheets/dcx_3635-final.pdf.

53. On information and belief, the user guides and technical specifications show that the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes are for example, digital broadcast receiving apparatuses that (1) extract compressed data from broadcast program signals; (2) decompress the compressed data; (3) output each of the compressed data and decompressed data; (4) control, based on an instruction from a user, the selection of an output from the compressed data and the decompressed data. An exemplary claim chart applying claims 1 and 8 of the '093 patent to the DCX3635 product, filed with the International Trade Commission as Exhibit 13 concurrently with this Complaint and expressly incorporated by reference in its entirety herein, further shows how

the DCX3635 product infringes claims 1 and 8. On information and belief, the DCX3501-M and DCX3510-M products infringe for the same reasons shown in the DCX3635 claim chart.

54. Regarding claim 3, the data sheets show that the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes are digital broadcast receiving apparatuses in which the compressed data is compressed by an MPEG method. For example, the DCX3635 data sheets describe the DCX3635 as decoding "MPEG-2, MPEG-4 AVC." *See, e.g.*, http://www.arris.com/globalassets/resources/data-sheets/dcx_3635-final.pdf.

55. In view of the foregoing, ARRIS's use, sale, offer to sell, and/or importing into the United States of digital cable products, such as digital cable products supplied to Comcast for Comcast's Xfinity brand, including, for example, the DCX3635 and DCX3501-M and DCX3510-M set top boxes directly infringe at least claims 1, 3, and 8 of the '093 patent under 35 U.S.C. § 271(a).

56. At least as early as January 13, 2017, ARRIS had knowledge of the '093 patent and notice of its infringement of the '093 patent through licensing negotiations conducted with the Sony in which the '093 patent was highlighted as applicable to the ARRIS's digital cable and satellite products.

57. Further, ARRIS has knowledge of the '093 patent at least as of the filing and/or service of this Complaint.

58. ARRIS has induced, and is inducing, the direct infringement of at least claim 8 of the ’093 patent by selling, providing support for, and/or providing instruction for the intended use of at least the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes in violation of 35 U.S.C. § 271(a).

59. ARRIS specifically intends third parties, such as end users of the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes to infringe at least claim 8 of the ’093 patent, or alternatively, has been willfully blind to the possibility that its inducing acts would cause infringement. For example, ARRIS induces infringement by continuing to disseminate products with the infringing functions, by providing instructions to show its direct and indirect customers how to use its digital cable products in an infringing manner, and producing or disseminating promotional and marketing materials, supporting materials, and technical information related to its digital cable products. For example, ARRIS’s actions that actively induce customers to directly infringe the ’093 patent include selling its digital cable products, providing use manuals regarding the use of its digital cable products, and providing technical support regarding the use of its digital cable products, where the use of its digital cable products during normal operation by end users of ARRIS’s digital cable products infringes at least claim 8 of the ’093 patent, at least by the end user’s use of the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes to

output both compressed data and decompressed data to a digital external unit.

60. ARRIS has contributorily infringed, and is contributorily infringing, at least claim 8 of the ’093 patent by selling at least the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes to third parties and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, and are not staple articles or commodities of commerce suitable for substantial non-infringing use in violation of 35 U.S.C. § 271(c). For example, ARRIS’s digital cable products constitute a material part of the claimed invention at least because they contain all of the components that allow them to output both compressed data and decompressed data to a digital external unit. ARRIS’s digital cable products were made or especially adapted for use in an infringement of the ’093 patent and have no substantial non-infringing uses at least because they contain components that allow them to output both compressed data and decompressed data to a digital external unit. The use of ARRIS’s digital cable products by end users during normal operation directly infringes the ’093 patent.

61. Further, since at least as early as January 13, 2017, or the filing and/or service of this Complaint, ARRIS’s infringement has been willful.

62. Despite ARRIS’s knowledge of and notice of the ’093 patent and its ongoing infringement, ARRIS continues to use, sell, offer for sale, and/or import

digital cable products, such as digital cable products supplied to Comcast for Comcast's Xfinity brand, including, for example, the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes, in a manner that infringes the '093 patent, and continues to produce and disseminate promotional and marketing materials, supporting materials, instructions, and/or technical information related to the infringing aspects of such digital cable products. ARRIS lacks a justifiable belief that they do not infringe the '093 patent, or that the '093 patent is invalid, and has acted recklessly in its infringing activity, justifying an increase in the damages to be awarded Sony up to three time the amount found or assessed, in accordance with 35 U.S.C. § 284.

63. At least ARRIS's willful infringement of the '093 patent renders this case an exceptional case, justifying an award to Sony of its reasonable attorneys' fees, in accordance with 35 U.S.C. § 285.

64. Sony has no adequate remedy at law for ARRIS's acts of infringement. As a direct and proximate result of ARRIS's acts of infringement, Sony has suffered and continues to suffer damages and irreparable harm. Unless ARRIS's acts of infringement are enjoined by this Court, Sony will continue to be damaged and irreparably harmed.

COUNT III - Infringement of U.S. Patent No. 8,032,919

65. The allegations of paragraphs 1-64 above are incorporated by reference

as if fully set forth herein.

66. The ’919 patent, entitled “Method and Apparatus for Receiving Digital Broadcasts,” was duly and legally issued by the U.S. Patent and Trademark Office on October 4, 2011. Sony Corp. is the assignee and sole owner, by valid assignment of all right, title and interest in and to the ’919 patent, including the sole and undivided right to sue for infringement and collect damages for past and future infringement. A true and correct copy of the ’919 patent is attached hereto as Exhibit D.

67. ARRIS infringes one or more claims of the ’919 patent, either literally or under the doctrine of equivalents, including at least claims 1-16. ARRIS infringes at least these claims by using, selling, offering to sell, and/or importing into the United States, digital cable products, such as digital cable products supplied to Comcast for Comcast’s Xfinity brand, including, for example, the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes, which meet each and every element of at least claims 1-16 of the ’919 patent, without Sony’s license or authority.

68. The ’919 patent is directed to digital broadcast receiving apparatuses that output digital broadcast signals in compressed and decompressed form to various types of digital external units. Claims 1 and 9 of the ’919 patent are directed to a digital broadcast receiving apparatus and method, respectively, that

(1) receive broadcast program signals; (2) extract compressed data from broadcast program signals; (3) decompress the compressed data; (4) output each of the compressed data and decompressed data; (5) control, based on an instruction from a user, the selection of an output from the compressed data and the decompressed data. Claims 2, 3, and 4 depend from claim 1, and claims 10, 11, and 12 depend from claim 9, and are directed to a digital broadcast receiving apparatus or method comprising all of the elements of claims 1 or 9 in which the broadcast program signals are received by a tuner, a front-end, or a tuner and a front end. Claims 5 and 13 depend from claims 1 and 9, respectively, and are directed to a digital broadcast receiving apparatus or method comprising all of the elements of claims 1 and 9 in which a demultiplexer extracts the compressed data. Claims 6 and 14 depend from claims 1 and 9, respectively, and are directed to a digital broadcast receiving apparatus or method comprising all of the elements of claims 1 or 9 in which an MPEG decoder decompresses the compressed data. Claims 7 and 15 depend from claims 6 and 14, respectively, and are directed to a digital broadcast receiving apparatus or method comprising all of the elements of claims 6 and 14 in which the MPEG decoder can perform an on-screen display function. Claim 8 depends from claim 1 and is directed to a digital broadcast receiving apparatus comprising all of the elements of claim 1 in which a central processing unit controls the selection of the output.

69. On information and belief, ARRIS's product documentation demonstrates that the use, sale, offer to sell, and/or importing into the United States of digital cable products, such as digital cable products supplied to Comcast for Comcast's Xfinity brand, including, for example, the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes, directly infringe at least claims 1-16 of the '919 patent. On information and belief, ARRIS publishes user guides and technical specifications that describe the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes. *See, e.g.*, http://www.arris.com/globalassets/resources/data-sheets/dcx_3635-final.pdf.

70. On information and belief, the user guides and technical specifications show that the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes are digital broadcast receiving apparatuses that (1) receive broadcast program signals; (2) extract compressed data from broadcast program signals; (3) decompress the compressed data; (4) output each of the compressed data and decompressed data; (5) control, based on an instruction from a user, the selection of an output from the compressed data and the decompressed data. An exemplary claim chart applying claims 1 and 9 of the '919 patent to the DCX3635 product, filed with the International Trade Commission as Exhibit 19 concurrently with this Complaint and expressly incorporated by reference herein in its entirety, further shows how the DCX3635 product infringes claims 1 and 9. On information and

belief, the DCX3501-M and DCX3510-M set top box products infringe for the same reasons shown in the DCX3635 claim chart.

71. Regarding claims 2-4 and claims 10-12, the data sheets show that the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes are digital broadcast receiving apparatuses in which the broadcast program signals are received by a tuner, a front-end, or a tuner and a front end. For example, the DCX3635 data sheet describes the DCX3635 media gateways as containing a "1GHz Full-Band Front End" and as a "six-tuner whole home system." *See, e.g.*, http://www.arris.com/globalassets/resources/data-sheets/dcx_3635-final.pdf.

72. Regarding claims 5 and 13, the data sheets show that the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes are digital broadcast receiving apparatuses in which a demultiplexer extracts the compressed data. For example, the DCX3635 data sheet describes the DCX3635 as outputting MPEG-2 and MPEG-4 audio and video. *See, e.g.*, http://www.arris.com/globalassets/resources/data-sheets/dcx_3635-final.pdf. On information and belief this MPEG-2 and MPEG-4 audio or video can correspond to a single program. Digital cable television signals provided by cable providers to subscribers have a standard format in which a single program is MPEG-2 or MPEG-4 encoded (*e.g.*, compressed) and multiplexed with other MPEG-2 or MPEG-4 encoded television programs, and in which the multiplexed signal is then

QAM modulated and delivered to a subscriber over a distribution network, such as a coaxial network. *See, e.g.*, http://www.scte.org/primers/What_is_Digital_Transmission/What%20is%20Content%20Transmission/What%20is%20Content%20Transmission.swf at slides 18, 20-22. Accordingly, in order to output MPEG-2 or MPEG-4 audio or video of single program, the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes have demultiplexers.

73. Regarding claims 6 and 14, the data sheets show that the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes are digital broadcast receivers in which in which an MPEG decoder decompresses the compressed data. For example, the DCX3635 data sheet describes the DCX3635 as having video and audio decoding (*e.g.*, decompressing) capability and outputting MPEG-2 and MPEG-4 audio and video. *See, e.g.*, http://www.arris.com/globalassets/resources/data-sheets/dcx_3635-final.pdf.

74. Regarding claims 7 and 15, the data sheets show that the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes are digital broadcast receiving apparatuses in which the MPEG decoder can perform an on-screen display function. For example, the DCX3635 data sheet describes the DCX3635 as outputting MPEG-2 and MPEG-4 audio and video. *See, e.g.*, http://www.arris.com/globalassets/resources/data-sheets/dcx_3635-final.pdf.

75. Regarding claim 8, the data sheets show that the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes are digital broadcast receiving apparatuses in which a central processing unit controls the selection of the output. For example, DCX3635 data sheet describes the DCX3635's "Memory," implying that there is a central processing unit that reads instructions from that memory to, for example, control the selection of the output. *See, e.g.*, http://www.arris.com/globalassets/resources/data-sheets/dcx_3635-final.pdf.

76. In view of the foregoing, ARRIS's use, sale, offer to sell, and/or importing into the United States of digital cable products, such as digital cable products supplied to Comcast for Comcast's Xfinity brand, including, for example, the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes directly infringe at least claims 1-16 of the '919 patent under 35 U.S.C. § 271(a).

77. At least as early as January 13, 2017, ARRIS had knowledge of the '919 patent and notice of their infringement of the '919 patent through licensing negotiations conducted with the Sony in which the '919 patent was highlighted as applicable to the ARRIS's digital cable and satellite products.

78. Further, ARRIS has knowledge of the '919 patent at least as of the filing and/or service of this Complaint.

79. ARRIS has induced, and is inducing, the direct infringement of at least claims 9-16 of the ’919 patent by selling, providing support for, and/or providing instruction for the intended use of at least the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes in violation of 35 U.S.C. § 271(a).

80. ARRIS specifically intends third parties, such as end users of the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes to infringe at least claims 8-16 of the ’919 patent, or alternatively, has been willfully blind to the possibility that its inducing acts would cause infringement. For example, ARRIS induces infringement by continuing to disseminate products with the infringing functions, by providing instructions to show its direct and indirect customers how to use its digital cable products in an infringing manner, and producing or disseminating promotional and marketing materials, supporting materials, and technical information related to its digital cable products. For example, ARRIS’s actions that actively induce customers to directly infringe the ’919 patent include selling its digital cable products, providing use manuals regarding the use of its digital cable products, and providing technical support regarding the use of its digital cable products, where the use of its digital cable products during normal operation by end users of ARRIS’s digital cable products infringes at least claims 9-16 of the ’919 patent, at least by the end user’s use of the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes to

output both compressed data and decompressed data to a digital external unit.

81. ARRIS has contributorily infringed, and is contributorily infringing, at least claims 9-16 of the ’919 patent by selling at least the DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes to third parties and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, and are not staple articles or commodities of commerce suitable for substantial non-infringing use in violation of 35 U.S.C. § 271(c). For example, ARRIS’s digital cable products constitute a material part of the claimed invention at least because they contain all of the components that allow them to output both compressed data and decompressed data to a digital external unit. ARRIS’s digital cable products were made or especially adapted for use in an infringement of the ’919 patent and have no substantial non-infringing uses at least because they contain components that allow them to output both compressed data and decompressed data to a digital external unit. The use of ARRIS’s digital cable products by end users during normal operation directly infringes the ’919 patent.

82. Since at least as early as January 13, 2017, or the filing and/or service of this Complaint, ARRIS’s infringement has been willful.

83. Despite ARRIS’s knowledge of and notice of the ’919 patent and its ongoing infringement, ARRIS continues to use, sell, offer for sale, and/or import

digital cable products, such as digital cable products supplied to Comcast for Comcast's Xfinity brand, including, for example, DCX3635 media gateways and the DCX3501-M and DCX3510-M set top boxes, in a manner that infringes the '919 patent, and continues to produce and disseminate promotional and marketing materials, supporting materials, instructions, and/or technical information related to the infringing aspects of such digital cable products. ARRIS lacks a justifiable belief that they do not infringe the '919 patent, or that the '919 patent is invalid, and has acted recklessly in its infringing activity, justifying an increase in the damages to be awarded Sony up to three time the amount found or assessed, in accordance with 35 U.S.C. § 284.

84. At least ARRIS's willful infringement of the '919 patent renders this case an exceptional case, justifying an award to Sony of its reasonable attorneys' fees, in accordance with 35 U.S.C. § 285.

85. Sony has no adequate remedy at law for ARRIS's acts of infringement. As a direct and proximate result of ARRIS's acts of infringement, Sony has suffered and continues to suffer damages and irreparable harm. Unless ARRIS's acts of infringement are enjoined by this Court, Sony will continue to be damaged and irreparably harmed.

COUNT IV - Infringement of U.S. Patent No. 6,556,221

86. The allegations of paragraphs 1-85 above are incorporated by reference

as if fully set forth herein.

87. The ’221 patent, entitled “Extended Elements and Mechanisms for Displaying a Rich Graphical User Interface in Panel Subunit,” was duly and legally issued by the U.S. Patent and Trademark Office on April 29, 2003. Sony Corp. is the assignee and sole owner of all right, title, and interest in the ’221 patent, including the sole and undivided right to sue for infringement and collect damages for past and future infringement. A true and correct copy of the ’221 patent is attached hereto as Exhibit E.

88. Defendants infringe one or more claims of the ’221 patent, either literally or under the doctrine of equivalents, including at least claims 1-6 and 12-16. Defendants infringe at least this claim by using, selling, offering to sell, and/or importing into the United States, digital satellite set top boxes, including RVU compliant digital satellite set top boxes supplied to DIRECTV for DIRECTV’s Genie brand, such as, for example, the HR34-700 and HR44-700, and HR54-700 products, which meet each and every element of at least claims 1-6 and 12-16 of the ’221 patent, without Sony’s license or authority.

89. The ’221 patent is directed to a system including a target device and a controller device in which the target device provides, to the controller device, a complex graphic user interface (“GUI”) having a button GUI element that defines the appearance of a button element displayed by the controller device. Claim 1 of

the ’221 patent is directed to a method in which (1) a controller device receives a button GUI element descriptor from a target device, where the button GUI element descriptor defines a button element to be displayed and defines a first bitmap to be displayed when the button element is out of focus and a second bitmap image to be displayed when the button element is in focus; and (2) the controller device displays the button element as part of an on-screen display, where the button element comprises the first bitmap image when it is out of focus and the second bitmap image when it is in focus. Claim 12 is directed to a target device that (1) stores a button GUI element descriptor where the button GUI element descriptor defines a button element to be displayed and defines a first bitmap to be displayed when the button element is out of focus and a second bitmap image to be displayed when the button element is in focus; and (2) sends the button GUI element descriptor to a controller device that displays the button element as part of an on-screen display, where the button element comprises the first bitmap image when it is out of focus and the second bitmap image when it is in focus.

90. Claims 2 and 3 depend from claim 1, and claims 13 and 14 depend from claim 12, and are directed to a method or target device comprising all of the elements of claims 1 and 12 in which the button GUI element descriptor defines a first button label to be displayed when the button element is out of focus, and a second button label to be displayed when the button element is in focus.

91. Claims 4 and 15 depend from claims 1 and 12, respectively, and are directed to a method or target device comprising all of the elements of claims 1 and 12 in which the on-screen display is an electronic program guide.

92. Claim 5 depends from claim 1 and is directed to a method in which the controller device is a digital television.

93. Claims 6 and 16 depend from claims 1 and 12, respectively, and are directed to a method or target device comprising all of the elements of claims 1 and 12 in which the target device is a set top box.

94. Features of the asserted claims of the ’221 patent are disclosed in the RVU Alliance’s RVU Protocol Specification, versions 1.0 and 2.0, although the asserted claims of the ’221 patent are not essential to that industry standard.

95. On information and belief, Defendants’ product documentation, DIRECTV’s Genie branded product documentation, and the RVU Alliance’s RVU Protocol Specification, versions 1.0 and 2.0, demonstrate that Defendants’ use, sale, offer to sell, and/or importing into the United States of digital satellite set top boxes, including RVU compliant digital satellite set top boxes supplied to DIRECTV for DIRECTV’s Genie brand, such as, for example, the HR34-700 and HR44-700, and HR54-700 products, directly infringe at least claims 12-16 of the ’221 patent, and that end users of Defendants’ RVU-compliant digital satellite set top boxes directly infringe at least claims 1-6 of the ’221 patent. DIRECTV

publishes users guides that describe the HR34-700 and HR44-700, and HR54-700 products. *See, e.g.*, https://www.att.com/ecms/dam/att/consumer/help/2016/directv/pdf/DIRECTV_Genie_and_Earlier_HD_DVR_User_Guide.pdf. The RVU Alliance's RVU Protocol Specification, versions 2.0, is attached as Exhibit F.

96. On information and belief, the user guides show that the HR34-700 and HR44-700, and HR54-700 conform to the RVU Protocol Specification. Together, the user guides and RVU Protocol Specification show that the HR34-700 and HR44-700, and HR54-700 products can be used by end-users in systems where (1) a controller device receives a button GUI element descriptor from a target device, where the button GUI element descriptor defines a button element to be displayed and defines a first bitmap to be displayed when the button element is in out of focus and a second bitmap image to be displayed when the button element is in focus; and (2) the controller device displays the button element as part of an on-screen display, where the button element comprises the first bitmap image when it is out of focus and the second bitmap image when it is in focus, as claim 1 recites. The user guides and RVU Protocol Specification also show that the HR34-700 and HR44-700, and HR54-700 products (1) store a button GUI element descriptor where the button GUI element descriptor defines a button element to be displayed and defines a first bitmap image to be displayed when the button element is in out

of focus and a second bitmap image to be displayed when the button element is in focus; and (2) send the button GUI element descriptor to a controller device that displays the button element as part of an on-screen display, where the button element comprises the first bitmap image when it is out of focus and the second bitmap image when it is in focus, as claim 12 recites. An exemplary claim chart applying claims 1 and 12 of the ’221 patent to Defendants’ HR34-700 product, filed with the International Trade Commission as Exhibit 14 concurrently with this Complaint and expressly incorporated by reference in its entirety herein, further shows how the use of the HR34-700 product and the HR34-700 product, respectively, infringe claims 1 and 12. On information and belief, use of Defendants’ HR44-700 and HR54-700 products infringe for the same reasons shown in the HR34-700 claim chart.

97. Regarding claims 2 and 3 and claims 13 and 14, testing of the HR34-700 product shows the button GUI element descriptor defines a first button label (“TV Apps”) to be displayed when the button element is out of focus, and a second button label (highlighted “TV Apps”) to be displayed when the button element is in focus:

98. Regarding claims 4 and 15, testing of the HR34-700 product shows that the on-screen display is an electronic program guide (e.g., the electronic programming guide having an "Extras" menu shown above).

99. Regarding claim 5, testing of the HR34-700 product shows the controller device is a digital television (e.g., the Samsung Smart TV shown above).

100. Regarding claims 6 and 16, the user guide shows that the HR34-700, HR44-700, and HR54-700 products are set top boxes. For example, the user guide describes these products as HD DVR Receivers. https://www.att.com/ecms/dam/att/consumer/help/2016/directv/pdf/DIRECTV_Genie_and_Earlier_HD_DVR_User_Guide.pdf.

101. In view of the foregoing, end user's use and Defendants' use, sale, offer to sell, and/or importing into the United States of digital satellite set top boxes, including RVU compliant digital satellite set top boxes supplied to DIRECTV for DIRECTV's Genie brand, such as, for example, the HR34-700 and HR44-700, and HR54-700 products directly infringe at least claims 1-6 and 12-16, respectively, of the '221 patent under 35 U.S.C. § 271(a).

102. At least as early as January 13, 2017, Defendants had knowledge of the ’221 patent and notice of their infringement of the ’221 patent through licensing negotiations conducted with the Sony in which the ’221 patent was highlighted as applicable to Defendants’ digital cable and satellite set top box products.

103. Further, Defendants’ have knowledge of the ’221 patent at least of the filing and/or service of this Complaint.

104. Defendants have induced, and are inducing, the direct infringement of at least claims 1-6 of the ’221 patent by selling, providing support for, and/or providing instruction for the intended use of at least the HR34-700, HR44-700, and HR54-700 in violation of 35 U.S.C. § 271(a).

105. Defendants specifically intend third parties, such as end users of the HR34-700, HR44-700, and HR54-700, to infringe at least claims 1-6 of the ’221 patent, or alternatively, have been willfully blind to the possibility that its inducing acts would cause infringement. For example, the Defendants induce infringement by continuing to disseminate products with the infringing functions, by providing instructions to show its direct and indirect customers how to use its set top boxes in an infringing manner, and producing or disseminating promotional and marketing materials, supporting materials, and technical information related to its digital satellite set top boxes. For example, Defendants’ actions that actively induce customers to directly infringe the ’221 patent include selling its digital satellite set

top boxes, providing use manuals regarding the use of its digital satellite set top boxes, and providing technical support regarding the use of its digital satellite set top boxes, where the use of its digital satellite set top boxes during normal operation by end users of Defendants' digital satellite set top boxes infringes at least claims 1-6 of the '221 patent, at least by the end user's use of the HR34-700, HR44-700, and HR54-700 to control the user interface on a digital television.

106. Defendants have contributorily infringed, and are contributorily infringing, at least claims 1-6 of the '221 patent by selling at least the HR34-700, HR44-700, and HR54-700 to third parties and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, and are not staple articles or commodities of commerce suitable for substantial non-infringing use in violation of 35 U.S.C. § 271(c). For example, Defendants' digital satellite set top boxes constitute a material part of the claimed invention at least because they contain all of the components that allow them to control the user interface on a digital television. Defendants' digital satellite set top boxes were made or especially adapted for use in an infringement of the '221 patent and have no substantial non-infringing uses at least because they contain components that allow them control the user interface on a digital television. The use of Defendants' digital satellite set top boxes by end users during normal operation directly infringes the '221 patent.

107. Since at least as early as January 13, 2017, or the filing and/or service of this Complaint, Defendants infringement has been willful.

108. Despite Defendants' knowledge of and notice of the '221 patent and its ongoing infringement, Defendants continues to use, sell, offer for sale, and/or import digital satellite set top boxes, including RVU compliant digital satellite set top boxes supplied to DIRECTV for DIRECTV's Genie brand, such as, for example, the HR34-700 and HR44-700, and HR54-700 products in a manner that infringes the '221 patent, and continues to produce and disseminate promotional and marketing materials, supporting materials, instructions, and/or technical information related to the infringing aspects of such products. Defendants lack a justifiable belief that it does not infringe the '221 patent, or that the '221 patent is invalid, and has acted recklessly in its infringing activity, justifying an increase in the damages to be awarded Sony up to three time the amount found or assessed, in accordance with 35 U.S.C. § 284.

109. At least Defendants' willful infringement of the '221 patent renders this case an exceptional case, justifying an award to Sony of its reasonable attorneys' fees, in accordance with 35 U.S.C. § 285.

110. Sony has no adequate remedy at law for Defendants' acts of infringement. As a direct and proximate result of Defendants' acts of infringement, Sony has suffered and continues to suffer damages and irreparable harm. Unless

Defendants' acts of infringement are enjoined by this Court, Sony will continue to be damaged and irreparably harmed.

COUNT V - Infringement of U.S. Patent No. 6,915,525

111. The allegations of paragraphs 1-110 above are incorporated by reference as if fully set forth herein.

112. The '525 patent, entitled "Method and Apparatus for Controlling Set-Top Box Hardware and Software Functions," was duly and legally issued by the U.S. Patent and Trademark Office on July 5, 2005. Sony Corp. and SEL are the assignees and co-owners of all right, title, and interest in the '525 patent, including the right to sue for infringement and collect damages for past and future infringement. A true and correct copy of the '525 patent is attached hereto as Exhibit G.

113. Defendants infringe one or more claims of the '525 patent, either literally or under the doctrine of equivalents, including at least claims 1, 3-5, 7, 8, 34, 36, and 37. Defendants infringe at least claim 5 by using, selling, offering to sell, and/or importing into the United States digital satellite set top boxes, including RVU-compliant digital satellite set top boxes supplied to DIRECTV for DIRECTV's Genie brand, such as ARRIS's HR54-700 and C61-700 products and Pace's HR34-700, HR44-700, and C61K-700 products, which meet each and every limitation of at least claim 5 of the '525 patent, without Sony's license or authority.

114. Defendants infringe at least claims 1, 3-5, 7, 8, 34, 36, and 37 by using, selling, offering to sell, and/or importing into the United States digital cable set top boxes, including set-top boxes complying with DLNA's VidiPath Guidelines, including digital cable set top boxes supplied to Comcast for Comcast's Xfinity brand, such as ARRIS's MX011ANM, AX11RAN, AX013AN, AX014AN products, and Pace's PX001AN, PX013ANM, PX032ANI, PX051AEI, PXD01ANI, PXD01ANi, and PX0022ANM products, which meet each and every limitation of at least these claims of the '525 patent, without Sony's license or authority.

115. The '525 patent is directed to controlling hardware and software set-top box functions, such as changing channels, through a browser. Claims 1 and 34 are directed to methods or electronic storage media storing instructions that (1) direct an HTTP request from a browser to a local microserver; (2) at the local microserver, parse the HTTP request and direct it to a target interface module; (3) at the target interface module, generate an API call; (4) send the API call to a middleware software module that controls a television tuner driver; and (5) control the television tuner using the television tuner driver, where (6) the HTTP request comprises a request to change a television channel and the API call directs the television tuner driver to change the television channel. Claim 5 is directed to a method that (1) directs a request from a browser to a local microserver; (2) at the

local microserver, parses the request and direct it to a target interface module; (3) at the target interface module, generates an application call; (4) sends the application call to a middleware software module that controls a television tuner driver; and (5) controls the television tuner using the television tuner driver, where (6) the request comprises a request to change a television channel and the application call directs the television tuner driver to change the television channel.

116. Claims 3, 7, and 35 depend from claims 1, 5, and 34, respectively, and comprise all the elements of those claims as well as further specifying that the HTTP request is directed to the HTTP microserver by a network stack.

117. Claims 4, 8, and 37 depend from claims 1, 5, and 34, respectively, and comprise all the elements of those claims as well as further specifying that the network stack comprises a TCP/IP network stack.

118. Features of the asserted claim of the ’525 patent are disclosed in the RVU Protocol Specification, although the asserted claim patent is not essential to that industry standard.

119. On information and belief, Defendants’ product documentation, DIRECTV’s Genie branded product documentation, and the RVU Alliance’s RVU Protocol Specification, versions 1.0 and 2.0, demonstrate that Defendants’ use, sale, offer to sell, and/or importing into the United States of digital satellite set top boxes, including RVU compliant digital satellite set top boxes supplied to

DIRECTV for DIRECTV's Genie brand, such as, for example, the HR34-700 and HR44-700, HR54-700, C61K-700, and C61-700 products, directly infringe at least claim 5 of the '525 patent, alone or in various combinations with each other. DIRECTV publishes users guides that describe the HR34-700 and HR44-700, and HR54-700 products. *See, e.g.*, https://www.att.com/ecms/dam/att/consumer/help/2016/directv/pdf/DIRECTV_Genie_and_Earlier_HD_DVR_User_Guide.pdf. The RVU Alliance's RVU Protocol Specification, version 2.0, is attached as Exhibit F.

120. On information and belief, the user guides show that the HR34-700 and HR44-700, HR54-700, C61K-700, and C61-700 conform to the RVU Protocol Specification. Together, the user guides and RVU Protocol Specification show that the HR34-700 and HR44-700, HR54-700, C61K-700, and C61-700 alone or in various combinations with each other, perform a method that, for example (1) directs a request from a browser to a local microserver; (2) at the local microserver, parses the request and direct it to a target interface module; (3) at the target interface module, generates an application call; (4) sends the application call to a middleware software module that controls a television tuner driver; and (5) controls the television tuner using the television tuner driver, where (6) the request comprises a request to change a television channel and the application call directs the television tuner driver to change the television channel as recited in claim 5.

Exemplary claim charts applying claim 5 of the ’525 patent to ARRIS’s HR54-700 product and to the combination of Pace’s HR34-700 and Pace’s C61K-700, filed with the International Trade Commission as Exhibits 15 and 16 concurrently with this Complaint and expressly incorporated by reference in their entirety herein, further shows how ARRIS’s HR54-700 product and the combination of Pace’s HR34-700 and Pace’s C61K-700 products, infringe claim 5. On information and belief, Pace’s HR34-700 and HR44-700 products infringe for the same reasons shown in the HR54-700 claim chart, and the combination of ARRIS’s HR54-700 and ARRIS’s C61K-700 infringes for the same reason shown in the HR34-700 plus C61K-700 claim chart.

121. In view of the foregoing, Defendants’ use, sale, offer to sell, and/or importing into the United States of digital satellite set top boxes, including RVU compliant digital satellite set top boxes supplied to DIRECTV for DIRECTV’s Genie brand, such as, for example, the HR34-700, HR44-700, HR54-700, C61K-700, and C61-700 products directly infringe at least claim 5 of the ’525 patent under 35 U.S.C. § 271(a).

122. Features of the asserted claims of the ’525 patent are also disclosed in DLNA’s VidiPath Guidelines, although the asserted claims of the ’525 patent are not essential to that industry standard.

123. On information and belief, Defendants’ product documentation,

Comcast's Xfinity branded product documentation, and DLNA's VidiPath Guidelines, demonstrates that Defendants' use, sale, offer to sell, and/or importing into the United States of digital cable set top boxes complying with DLNA's VidiPath Guidelines, including digital cable set top boxes supplied to Comcast for Comcast's Xfinity brand, such as ARRIS's MX011ANM, AX11RAN, AX013AN, and AX014AN products, and Pace's PX001AN, PX013ANM, PX032ANI, PX051AEI, PXD01ANI, PXD01ANi, and PX0022ANM products directly infringe at least claims 1, 3-5, 7, 8, 34, 36, and 37 of the '525 patent alone or in various combinations with each other. Comcast publishes information that describes ARRIS's ARRIS's MX011ANM, AX11RAN, AX013AN, and AX014AN products, and Pace's PX001AN, PX013ANM, PX032ANI, PX051AEI, PXD01ANI, PXD01ANi, and PX0022ANM products. *See, e.g.*, http://forums.xfinity.com/t5/X1/X1-DVR-Capabilities-Update-Pace-XG1V1-Capabilities-Expanded/td-p/2555796. Portions of DLNA's VidiPath Guidelines are attached as Exhibit H.

124. On information and belief, the Comcast published information shows that ARRIS's MX011ANM, AX11RAN, AX013AN, and AX014AN products, and Pace's PX001AN, PX013ANM, PX032ANI, PX051AEI, PXD01ANI, PXD01ANi, and PX0022ANM products conform to DLNA's VidiPath Guidlines. Together, the Comcast published information and DLNA's VidiPath Guidlines

show that ARRIS's MX011ANM, AX11RAN, AX013AN, and AX014AN products, and Pace's PX001AN, PX013ANM, PX032ANI, PX051AEI, PXD01ANI, PXD01ANi, and PX0022ANM products alone or in various combinations with each other, products perform a method that (1) directs an HTTP request from a browser to a local microserver; (2) at the local microserver, parses the HTTP request and direct it to a target interface module; (3) at the target interface module, generate an API call; (4) sends the API call to a middleware software module that controls a television tuner driver; and (5) controls the television tuner using the television tuner driver, where (6) the HTTP request comprises a request to change a television channel and the API call directs the television tuner driver to change the television channel, as recited in claims 1 and 34; and perform a method that (1) directs a request from a browser to a local microserver; (2) at the local microserver, parses the request and direct it to a target interface module; (3) at the target interface module, generates an application call; (4) sends the application call to a middleware software module that controls a television tuner driver; and (5) controls the television tuner using the television tuner driver, where (6) the request comprises a request to change a television channel and the application call directs the television tuner driver to change the television channel, as recited in claim 5. Exemplary claim charts applying claims 1, 5, and 34 of the '525 patent to Pace's PX013ANM products and to the

combination of Pace's PX013ANM and PX0022ANM products, filed with the International Trade Commission as Exhibits 17 and 18 concurrently with this Complaint and expressly incorporated by reference in their entirety herein, further shows how Pace's PX013ANM products and the combination of Pace's PX013ANM and PX0022ANM products, infringe claims 1, 5, and 34. On information and belief, ARRIS's MX011ANM AX11RAN, AX013AN, and AX014AN products, and Pace's PX001AN, PX032ANI, PX051AEI, PXD01ANI and products, alone or in various combinations, infringe for the same reasons shown in the PX013ANM and the combination of PX013ANM and PX0022ANM claim charts.

125. Regarding claims 3, 7, and 35, DLNA's VidiPath Guidelines show that the HTTP request is directed to the HTTP microserver by a network stack in ARRIS's MX011ANM, AX11RAN, AX013AN, and AX014AN products, and Pace's PX001AN, PX013ANM, PX032ANI, PX051AEI, PXD01ANI, PXD01ANi, and PX0022ANM products. For example, DLNA's VidiPath Guidelines show that RUI-H Transport clients communicate with RUI-H Transport servers using HTTP. ARRIS's MX011ANM, AX11RAN, AX013AN, and AX014AN products, and Pace's PX001AN, PX013ANM, PX032ANI, PX051AEI, PXD01ANI, PXD01ANi, and PX0022ANM products can act as RUI-H Transport clients and/or RUI-H Transport servers. On information and belief, a network stack

is used for communications in the HTTP format. Exhibit H.

126. Regarding claims 4, 8, and 37 DLNA's VidiPath Guidelines show that the network stack comprises a TCP/IP network stack in ARRIS's MX011ANM, AX11RAN, AX013AN, and AX014AN products, and Pace's PX001AN, PX013ANM, PX032ANI, PX051AEI, PXD01ANI, PXD01ANi, and PX0022ANM. For example, DLNA's VidiPath Guidelines show that RUI-H Transport clients communicate with RUI-H Transport servers communicate using HTTP. ARRIS's MX011ANM, AX11RAN, AX013AN, and AX014AN products, and Pace's PX001AN, PX013ANM, PX032ANI, PX051AEI, PXD01ANI, PXD01ANi, and PX0022ANM products can act as RUI-H Transport clients and/or RUI-H Transport servers. On information and belief, a TCP/IP network stack is used for communications in the HTTP format. Exhibit H.

127. In view of the foregoing, Defendants' use, sale, offer to sell, and/or importing into the United States of digital cable set top boxes complying with DLNA's VidiPath Guidelines, including digital cable set top boxes supplied to Comcast for Comcast's Xfinity brand, such as ARRIS's MX011ANM, AX11RAN, AX013AN, and AX014AN products, and Pace's PX001AN, PX013ANM, PX032ANI, PX051AEI, PXD01ANI, PXD01ANi, and PX0022ANM products, directly infringe at least claims 1, 3-5, 7, 8, 34, 36, and 37 of the '525 patent under 35 U.S.C. § 271(a).

128. At least as early as January 13, 2017, Defendants had knowledge of the ’525 patent and notice of their infringement of the ’525 patent through licensing negotiations conducted with the Sony in which the ’525 patent was highlighted as applicable to Defendants’ digital cable and satellite set top box products.

129. Further, Defendants have knowledge of the ’525 patent at least as of the filing and/or service of this Complaint.

130. Defendants have induced, and are inducing, the direct infringement of at least claims 1, 3-5, 7, 8, 34, 36, and 37 of the ’525 patent by selling, providing support for, and/or providing instruction for the intended use of at least the HR34-700, HR44-700, HR54-700, C61K-700, C61-700, MX011ANM, AX11RAN, AX013AN, AX014AN, PX001AN, PX013ANM, PX032ANI, PX051AEI, PXD01ANI, PXD01ANi, and PX0022ANM in violation of 35 U.S.C. § 271(a).

131. Defendants specifically intend third parties, such as end users of the HR34-700, HR44-700, HR54-700, C61K-700, C61-700, MX011ANM, AX11RAN, AX013AN, AX014AN, PX001AN, PX013ANM, PX032ANI, PX051AEI, PXD01ANI, PXD01ANi, and PX0022ANM, to infringe at least claims 1, 3-5, 7, 8, 34, 36, and 37 of the ’525 patent, or alternatively, have been willfully blind to the possibility that their inducing acts would cause infringement. For example, the Defendants induce infringement by continuing to disseminate products with the infringing functions, by providing instructions to show its direct

and indirect customers how to use its set top boxes in an infringing manner, and producing or disseminating promotional and marketing materials, supporting materials, and technical information related to its digital satellite set top boxes. For example, Defendants' actions that actively induce customers, RVU-compliant client manufacturers, and VidiPath-compliant client manufacturers to directly infringe the '525 patent include selling its digital cable and satellite set top boxes, providing use manuals regarding the use of its digital cable and satellite set top boxes, and providing technical support regarding the use of its digital cable and satellite set top boxes, where the use of its digital cable and satellite set top boxes during normal operation by end users, RVU-compliant client manufacturers, and VidiPath-compliant client manufacturers of Defendants' digital and cable satellite set top boxes infringes at least claims 1, 3-5, 7, 8, 34, 36, and 37 of the '525 patent, at least by the use of the HR34-700, HR44-700, HR54-700, C61K-700, C61-700, MX011ANM, AX11RAN, AX013AN, AX014AN, PX001AN, PX013ANM, PX032ANI, PX051AEI, PXD01ANI, PXD01ANi, and PX0022ANM to change a television channel using a local microserver.

132. Defendants have contributorily infringed, and are contributorily infringing, at least claims 1, 3-5, 7, 8, 34, 36, and 47 of the '525 patent by selling at least the HR34-700, HR44-700, HR54-700, C61K-700, C61-700, MX011ANM, AX11RAN, AX013AN, AX014AN, PX001AN, PX013ANM, PX032ANI,

PX051AEI, PXD01ANI, PXD01ANi, and PX0022ANM to third parties and their customers in the United States for use in practicing the patented methods, knowing that such products are material to practicing the claimed inventions, and are not staple articles or commodities of commerce suitable for substantial non-infringing use in violation of 35 U.S.C. § 271(c). For example, Defendants' digital cable and satellite set top boxes constitute a material part of the claimed invention at least because they contain all of the components that allow them to change a television channel using a local microserver. Defendants' digital cable and satellite set top boxes were made or especially adapted for use in an infringement of the '525 patent and have no substantial non-infringing uses at least because they contain components that allow them to change a channel using a local microserver. The use of Defendants' digital cable and satellite set top boxes by end users, RVU-compliant client manufacturers, and VidiPath-compliant client manufacturers during normal operation directly infringes the '525 patent.

133. Since at least as early as January 13, 2017, or the filing and/or service of this Complaint, Defendants' infringement has been willful.

134. Despite Defendants' knowledge of and notice of the '525 patent and its ongoing infringement, Defendants continues to use, sell, offer for sale, and/or import digital cable and satellite products in a manner that infringes the '525 patent, and continues to produce and disseminate promotional and marketing

materials, supporting materials, instructions, and/or technical information related to the infringing aspects of such products. Defendants lacks a justifiable belief that it does not infringe the ’525 patent, or that the ’525 patent is invalid, and have acted recklessly in its infringing activity, justifying an increase in the damages to be awarded Sony up to three time the amount found or assessed, in accordance with 35 U.S.C. § 284.

135. At least Defendants’ willful infringement of the ’525 patent renders this case an exceptional case, justifying an award to Sony of its reasonable attorneys’ fees, in accordance with 35 U.S.C. § 285.

136. Sony has no adequate remedy at law for Defendants’ acts of infringement. As a direct and proximate result of Defendants’ acts of infringement, Sony has suffered and continues to suffer damages and irreparable harm. Unless Defendants’ acts of infringement are enjoined by this Court, Sony will continue to be damaged and irreparably harmed.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs request that this Court enter judgment in its favor and award it relief including, but not limited to, the following:

A. A judgment that Defendants have infringed the Asserted Patents;

B. A judgment and order that permanently restrains and enjoins Defendants, its directors, officers, employees, servants, agents, affiliates,

subsidiaries, or others controlled by them, and all persons in active concert or participation with any of them, from further infringing the Asserted Patents in accordance with 35 U.S.C. § 283;

C. A judgment and order that requires Defendants to pay damages to Plaintiff adequate to compensate Plaintiff for Defendants' wrongful infringing acts, in accordance with 35 U.S.C. §§ 154(d), 284;

D. A judgment and order that requires Defendants to pay increased damages up to three times, in view of its willful and deliberate infringement of the Asserted Patents, in accordance with 35 U.S.C. § 284;

E. A finding in favor of Plaintiff that this is an exceptional case under 35 U.S.C. § 285, and an award to Plaintiff of its costs, including its reasonable attorney fees and other expenses incurred in connection with this action;

F. A judgment and order that require Defendants to pay to Plaintiff pre-judgment interest under 35 U.S.C. § 284, and post-judgment interest under 28 U.S.C. § 1961, on all damages awarded; and

G. Such other costs and further relief to which Plaintiff is entitled.

JURY DEMAND

Under Rule 38 of the Federal Rules of Civil Procedure, Plaintiff hereby demands a trial by jury of all issues so triable by a jury in this action.

Dated: March 10, 2017

Respectfully submitted,

/s/ Kara A. Specht

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