

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of

**CERTAIN PROJECTORS WITH
CONTROLLED-ANGLE RETARDERS,
COMPONENTS THEREOF, AND
PRODUCTS CONTAINING SAME**

Inv. No. 337-TA-____

**COMPLAINT OF COMPOUND PHOTONICS LTD.
AND COMPOUND PHOTONICS U.S. CORPORATION
UNDER SECTION 337 OF THE TARIFF ACT OF 1930, AS AMENDED**

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EXHIBIT LIST

EXHIBIT	DESCRIPTION
Exhibit 1	Certified copy of U.S. Patent No. 6,829,027.
Exhibit 2	Certified copies of recorded assignments of U.S. Patent No. 6,829,027. Exhibit 2A: Assignment from Douglas McKnight to Colorado Microdisplay. Exhibit 2B: Change of name from Colorado Microdisplay to Zight Corporation. Exhibit 2C: Assignment from Zight Corporation to Three-Five Systems, Inc. Exhibit 2D: Assignment from Three-Five Systems, Inc. to Brillian Corporation Exhibit 2E: Change of name from Brillian Corporation to Syntax-Brillian Corporation. Exhibit 2F: Assignment from Syntax-Brillian Corporation to Compound Photonics U.S. Corporation. Exhibit 2G: Assignment from Compound Photonics U.S. Corporation to Compound Photonics Ltd.
Exhibit 3	Press release, Sony Electronics, Inc., "Sony Introduces World's First 4K Projector Design For High-End Home Theater Installations" (Sept. 8, 2011) (available at http://pro.sony.com/bbsccms/assets/files/mkt/digicinema/pressreleases/SONY_INTRODUCES_WORLDS_FIRST_4K_HOME_PROJECTOR.pdf (last visited Sept. 19, 2011)).
Exhibit 4	Sony Electronics, Inc., "SXR D 4K Projection: Technology for Visualization, Simulation, Auditoriums and Postproduction," http://pro.sony.com/bbsccms/assets/files/micro/sxrd/brochures/SXR D_White_Paper_v3-1.pdf (last visited Sept. 19, 2011).
Exhibit 5	Sony Electronics, Inc., "Sony's SXR D 4K Projectors help keep Ford Motor Company in the passing lane," http://pro.sony.com/bbsccms/assets/files/micro/sxrd/articles/3276-FordDesignCS_rev8-4.pdf (last visited Sept. 19, 2011).
Exhibit 6	Sony Corporation, "Reflective Liquid Crystal Display Technology for Use in Projection System: SXR D Creates Previously Unknown Smooth, Realistic Images," http://www.sony.net/Products/SC-HP/cx_news/vol41/pdf/featuring41.pdf (last visited Sept. 19, 2011).
Exhibit 7	Infringement Claim Charts for Representative Product - VPL-VW90ES projector.

- Exhibit 8 Infringement Claim Charts for Representative Product - SRX-S105 projector.
- Exhibit 9 Sony Electronics, Inc., Sony Digital Cinema 4K Fall 2011 Update, <http://pro.sony.com/bbsccms/assets/files/mkt/digicinema/brochures/3821-B-Dig-Cinema-4K-Fall-Update-3.pdf> (last visited Sept. 19, 2011).
- Exhibit 10 Sony Corporation, SXR4 4K Ultra High Projectors SRK-R110CE/SRX-R105CE, SRX-S110/SRX-S105.
- Exhibit 11 Sony Electronics, Inc., SRX-R110/SRX-R105, SRX-S110/SRX-S105, SXR4 Projectors for Large-Venue and High-Resolution Applications.
- Exhibit 12 Sony Corporation, Full HD 3D Home Cinema Projector, VPL-VW90ES 3D Home Cinema Projector.
- Exhibit 13 Sony Electronics, Inc., SRK-T110, SRX-T105, SXR4 4K Ultra-High Resolution Projectors.
- Exhibit 14 Press Release, Sony Corporation, "Sony Digital Cinema 4K Projection Systems are the Industry's 3D Home Cinema Projector First to Achieve Full Compliance with DCI Specification" (March 29, 2011) (available at http://pro.sony.com/bbsccms/assets/files/mkt/digicinema/pressreleases/Sony_4K-DCI_Press_Release-CinemaCon_2011.pdf (last visited Sept. 19, 2011)).
- Exhibit 15 Interview with Gary Johns, Senior Vice President of Sony Electronics Digital Cinema Solutions Group, Sony Professional Solutions of America, http://pro.sony.com/bbsccms/assets/files/mkt/digicinema/articles/Speaking_with_Sony_Gary_Johns_Digital_Cinema_Report-News_Perspective.pdf (last visited Oct. 5, 2011).
- Exhibit 16 Press Release, Sony Corporation, "Towards Growth in the Professional Solutions Business" (November 1, 2010) (available at <http://www.sony.net/SonyInfo/IR/news/20101105E.pdf> (last visited Oct. 7, 2011)).
- Exhibit 17 Photographs of the product packaging; copy of the sales receipt (REDACTED) for a Sony VPL-VW90ES projector purchased in the United States.
- Exhibit 18 Printouts from Amazon.com, CompSource, and Best Buy websites offering Accused Products, such as the VPL-VW90ES and VPL-HW30AES projectors, for sale in the United States.
- Exhibit 19 Sony, Authorized Resellers for its 4K SXR4 projection systems, <http://pro.sony.com/bbscc/ssr/micro-sxrdsite/resource.resellers.bbsccms-assets-micro-sxrd-resellers-SXR4ResellerBuyRent.shtml> (last visited Sept. 19, 2011).
- Exhibit 20 Letter from Gail A. Hamill, Chief, Tariff Classification and Marking Branch, to Mr. Sergio Langarica, Director, Trade Strategy and Compliance, Sony

Electronics, Inc. (April 23, 2010).

- Exhibit 21 **Confidential:** Declaration of Jonathan A. Sachs, President and Chief Executive Officer of Compound Photonics, Ltd. and Compound Photonics U.S. Corporation.
- Exhibit 22 **Confidential:** Claim Chart for a representative Compound Photonics Product.
- Exhibit 23 Photographs of Compound Photonics U.S. Corp.'s facility in Phoenix, Arizona.

APPENDICES

APPENDIX	DESCRIPTION
Appendix 1	Certified copy of the prosecution history for U.S. Patent No. 6,829,027.
Appendix 2	Certified copy of the prosecution history for U.S. Patent No. 6,587,172.
Appendix 3	Copy of the references cited in the prosecution history of U.S. Patent No. 6,829,027.
Appendix 4	Copy of the references cited in the prosecution history of U.S. Patent No. 6,587,172.

**COMPLAINT OF COMPOUND PHOTONICS LTD.
AND COMPOUND PHOTONICS U.S. CORPORATION**

I. INTRODUCTION

1. Complainants Compound Photonics Ltd. and Compound Photonics U.S. Corporation (collectively “Complainants”) request that the United States International Trade Commission commence an investigation pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337 (“Section 337”), to remedy the unlawful importation into the United States, sale for importation into the United States, and/or sale in the United States after importation of certain projectors with controlled-angle retarders, components thereof, and products containing the same (collectively, the “Accused Products”) that infringe one or more claims of U.S. Patent No. 6,829,027 (“the ’027 patent”). A certified copy of the ’027 patent, entitled “Controlled-Angle Retarder,” is attached as Exhibit 1. Certified copies of the ’027 patent and its prosecution history are being filed with this Complaint.

2. Compound Photonics Ltd. (“Compound Photonics UK”) is incorporated and located in the United Kingdom. Compound Photonics UK is the sole owner of the entire right, title, and interest in the ’027 patent.

3. Compound Photonics U.S. Corp. (“Compound Photonics U.S.”) is a wholly owned subsidiary of Compound Photonics UK and is incorporated and located in the United States. As discussed in Section IX below, a domestic industry relating to the subject matter of the ’027 patent exists in the United States or is in the process of being established under 19 U.S.C. § 1337(a)(2, 3), by virtue of Compound Photonics U.S.’s research, development, product engineering, investments in plant, equipment, capital, and personnel, and other activities.

4. The Proposed Respondents are Sony Corporation, Sony Corporation of America, and Sony Electronics, Inc. (collectively, “Sony” or “the Sony Respondents”). On information

and belief, the Sony Respondents are violating Section 337 by importing into the United States, selling for importation into the United States, or selling in the United States after importation without license or authority from Complainants certain projectors with controlled-angle retarders, components thereof (including infringing “light engines” or “optical engines”), or products containing the same (collectively the “Accused Products”) that directly or indirectly infringe one or more of claims 10-11 and 13-15 of the ’027 patent (“the Asserted Claims”).

5. Pursuant to Section 337, Complainants seek as relief a permanent limited exclusion order excluding the Accused Products from entry into the United States. Complainants further seek permanent cease and desist orders precluding the Sony Respondents from importing said Accused Products into the United States, selling said Accused Products for importation into the United States, or selling said Accused Products in the United States after importation, and from otherwise marketing, soliciting, distributing, advertising, warehousing, or promoting any of the Accused Products for distribution, sale, or use in the United States.

II. THE PARTIES

A. The Complainants

6. Complainant Compound Photonics UK is a company organized and incorporated under the laws of the United Kingdom, with its principal place of business at Gunpowder House, 66-68 Great Suffolk Street, Southwark, London, SE1-0BL United Kingdom.

7. Compound Photonics UK is the current sole assignee of the ’027 patent.

8. Complainant Compound Photonics U.S. is a wholly owned subsidiary of Compound Photonics UK and has its principal place of business at 1110 North 52nd Street, Phoenix, Arizona, 85008.

9. Since their inception, Complainants have been developing and planning to commercialize next-generation displays for projection technologies, including optically

addressed spatial light modulators, pico projectors, and three-path liquid crystal on silicon projectors. All of these display technologies use the invention disclosed and claimed in the '027 patent. Complainants perform their research, development, and engineering activities through Compound Photonics U.S., as discussed in Section IX ("Domestic Industry") below.

B. The Proposed Respondents

10. The Proposed Respondents are Sony Corporation, Sony Corporation of America, and Sony Electronics, Inc.

1. Sony Corporation

11. On information and belief, Proposed Respondent Sony Corporation ("Sony Corp.") is a Japanese corporation with its principal place of business at 1-7-1, Konan, Minato-ku, Tokyo, 108-0075 Japan. According to Sony Corp., it is one of the world's largest manufacturers of electronics and information technology products for the consumer and business markets.

12. Sony Corp. develops, manufactures, and markets projectors with controlled-angle retarders that infringe the '027 patent. On information and belief, and by way of example only, Sony Corp., either directly or through other parties acting under its direction, designs, develops, manufactures, tests, and packages the Accused Products outside the United States. On information and belief, Sony Corp., either directly or through others acting on its behalf, then imports the Accused Products into the United States, sells them for importation, or sells them in the United States after importation.

13. On information and belief, Sony Corp. owns and controls, directly or indirectly, the other Sony Respondents: Sony Corporation of America and Sony Electronics Inc.

2. Sony Corporation of America

14. On information and belief, Proposed Respondent Sony Corporation of America (“Sony America”) is a Delaware corporation with its principal place of business at 550 Madison Avenue, New York, New York, 10022.

15. On information and belief, Sony America is a wholly owned subsidiary of Sony Corp.

16. On information and belief, Sony America oversees Sony Corp.’s U.S. operations, including operations relating to the marketing, importation, sale for importation, or sale or distribution in the United States after importation of the Accused Products. On information and belief, Sony America performs these functions either directly or through other parties acting under its direction.

3. Sony Electronics Inc.

17. On information and belief, Proposed Respondent Sony Electronics Inc. (“Sony Electronics”) is a Delaware corporation with its principal place of business at 16530 Via Esprillo, San Diego, California, 92127.

18. On information and belief, Sony Electronics is a wholly owned subsidiary of Sony America.

19. On information and belief, Sony Electronics is responsible for research and development, sourcing, distribution, marketing, and sales activities relating to the Accused Products in the United States on behalf of Sony Corp. and Sony America. On information and belief, Sony Electronics performs these functions either directly or through other parties acting under its direction.

III. OWNERSHIP, ASSIGNMENTS, AND LICENSES TO THE '027 PATENT

20. The '027 patent issued on December 7, 2004, from Application No. 10/452,414 ("the '414 application"), filed on May 30, 2003. The '414 Application was a divisional of Application No. 09/564,473 ("the '473 application"), filed on May 3, 2000, and issued as U.S. Patent No. 6,587,172. Certified copies of the '027 patent and its prosecution history, including the file histories for both the '414 and '473 applications, are being filed with this Complaint.

A. Chain Of Title For The '027 Patent

21. The '027 patent issued on December 7, 2004 and named a sole inventor, Douglas McKnight. Compound Photonics UK is the present owner of the '027 patent by assignment, as follows. All right, title, and interest in the '027 patent were transferred from Douglas McKnight to Colorado MicroDisplay, Inc. (Exhibit 2A), which later changed its name to Zight Corporation (Exhibit 2B). All right, title, and interest in the '027 patent were later transferred from Zight Corporation to Three-Five Systems, Inc. (Exhibit 2C); from Three-Five Systems, Inc. to Brillian Corporation (which later changed its name to Syntax-Brillian Corporation) (Exhibits 2D, 2E); from Syntax-Brillian Corporation to Compound Photonics U.S. (Exhibit 2F); and finally from Compound Photonics U.S. to the present owner, Compound Photonics UK (Exhibit 2G). Certified copies of each assignment recorded at the U.S. Patent Office are collected in Exhibit 2.

B. Foreign Counterparts To The '027 Patent

22. Pursuant to Commission Rule 210.12(a)(9)(v), Complainants are not aware of any foreign counterparts to the '027 patent, whether they are foreign patents, foreign patent applications that have not issued as patents, or foreign patent applications that have been denied, abandoned, or withdrawn that correspond to the '027 patent at issue in this investigation.

C. Licenses Under The '027 Patent

23. Pursuant to 19 C.F.R. § 210.12(a)(9)(iii), Compound Photonics certifies that there are no licenses to the '027 patent.

IV. NON-TECHNICAL DESCRIPTION OF THE TECHNOLOGY AND INVENTION OF THE '027 PATENT¹

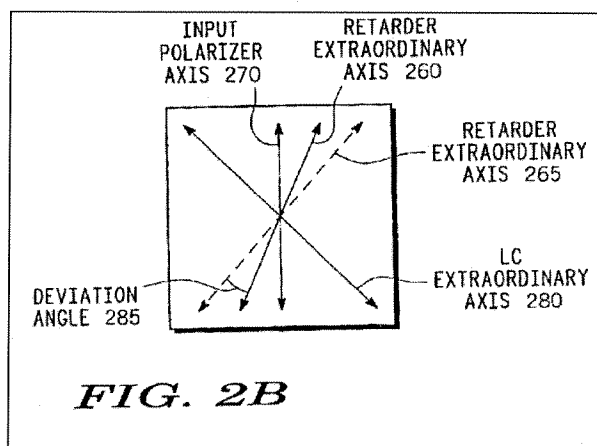
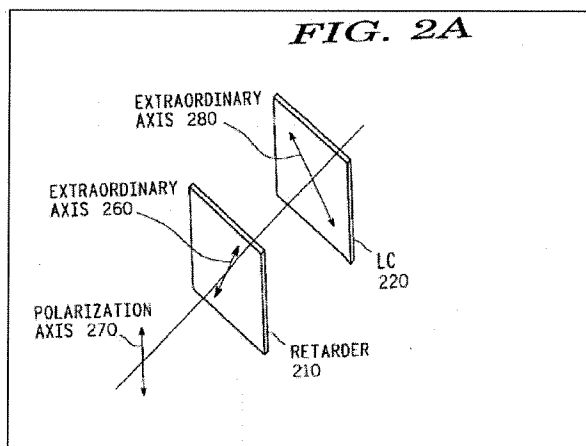
24. The '027 patent discloses and claims methods of fabricating a liquid crystal display ("LCD") device with a "controlled-angle retarder," comprising a liquid crystal cell and an adjustable retarder. (*See generally* Exhibit 1, '027 patent, at 2:43-3:6, abstract.) The invention makes it possible to adjust the combined retardance of this liquid crystal system in order to optimize the optical properties of the LCD device. (*See id.* at 3:59-4:13.)

25. Both the liquid crystal cell and the retarder can act as "retarders," in that they can slow one component of light passing through the material relative to a second, orthogonal component of light and thus create a delay between the two components of light. (*See generally id.* at 1:15-67, 2:17-18, 45-49). The amount of retardance determines the final polarization state of the light emerging from the cell.

26. A high quality image requires a high contrast ratio between the brightest and darkest states of the cells. A retarder may be positioned over the liquid crystal cell to help achieve a darker state. (*Id.* at 2:5-33.) The brightness of the cell is a function of the retardation of both the liquid crystal cell ($\Delta n d$) and the retarder (Γ). (*Id.* at 2:7-33.) A better contrast ratio can be achieved by adjusting the combined retardance of the retarder-liquid crystal cell. (*See id.* at 2:43-53.)

¹ Nothing in this Complaint is an admission regarding the scope, construction, or meaning of the '027 patent.

27. The '027 patent discloses and claims methods of fabricating a liquid crystal cell and retarder, in which the alignment angle of the retarder is adjusted relative to the liquid crystal cell in order to “tune” the effective retardance of the system and achieve the desired optical properties. (See, e.g., *id.* at 2:43-53, 2:66-3:6, 3:59-4:1, 6:58-7:7, 7:19-43, Fig. 7.) LCD designers thereby gain “an extra degree of freedom” to optimize the optical properties of the system or to match a retarder to the liquid crystal cell, even though the retarder may be selected “for completely different reasons, such as ease of manufacture, tolerance requirements, or simply [because] it is an off-the-self product.” (*Id.* at 4:7-13; see also, e.g., *id.* at 5:4-32, Figs. 1, 2A.) The '027 patent also describes adjusting the retardance for reflective and transmissive types of liquid crystal cells, and for three-color displays. (See *id.* at 5:57-6:29, 6:48-55, Figs. 3, 4, and 5.)



V. ASSERTED CLAIMS OF THE '027 PATENT

28. Compound Photonics is asserting independent claim 10 and dependent claims 11 and 13-15. Claims 10-11 and 13-15 are directed to methods of fabricating liquid crystal cell-retarder systems with controllable retarders, as follows:

- 10.** A method of making a liquid crystal combination comprising:
connecting a retarder to a liquid crystal cell loosely;

measuring a combined retardance of the retarder and liquid crystal cell which is less than the retardance of the retarder alone;

determining whether the combined retardance of the retarder and the liquid crystal cell is within a desired range; and

adjusting an alignment angle of the retarder to the liquid crystal cell until the combined retardance is within the desired range.

11. The method of claim 10 further comprising:

completing connection of the retarder to the liquid crystal cell when the combined retardance is within the desired range.

13. The method of claim 11 wherein:

the alignment angle resulting in the combined retardance being within the desired range is significantly different from an angle of 90 degrees between an extraordinary axis of the retarder and an extraordinary axis of the liquid crystal cell.

14. The method of claim 11 wherein:

an effective retardance of the retarder in the combined retardance is less than a specified retardance of the retarder.

15. The method of claim 14 further comprising:

coating the liquid crystal combination with an anti-reflective coating.

(Exhibit 1, '027 patent at 8:58-9:23 (claims 10-11 and 13-15).)

VI. THE ACCUSED SONY PRODUCTS

A. Identity Of Sony's Accused Products

29. The Accused Products include certain front-end projectors containing controlled-angle retarders that are being made, imported into the United States, sold for importation, or sold in the United States after importation by the Sony Respondents, as well as certain components thereof (particularly infringing light engines or optical engines), and products containing same.

30. On information and belief, the Accused Products include Sony's front-end projectors that incorporate its SXRD™ technology, which is described in more detail in the following section. The Accused Products include Sony's BRAVIA® 3D home cinema 2K, and

other projectors that use SXRD technology. These projectors, which are used principally in offices and home theaters, are believed to include Sony's VPL-GH10, VPL-HW10, VPL-HW15, VPL-VW80, VPL-VW85, VPL-VW200, VPL-VWPR01, VPL-VW90ES, VPL-VW1000ES, VPL-HW30ES, VPL-HW30AES, and VPL-HW90ES projectors. Sony is continuing to import new infringing models, as it plans to begin shipping the VPL-VW1000ES into the United States in December 2011. (Exhibit 3.)

31. On information and belief, the Accused Products also include Sony's 4K² projectors, which are believed to include Sony's SRX-R105, SRX-R110, SRX-R210, SRX-R220, SRX-R320, SRX-R320P, SRX-S105, SRX-S110, SRX-T105, SRX-T110, and SRX-T420 models. These projectors are ultra-high resolution projectors that are used for command and control applications, complex simulations, computer visualizations, museums, planetariums, exhibitions and trade shows, 3D/stereo virtual reality environments, and other large-venue, high-resolution applications. (See Exhibit 4 ("SXRD 4K Projection: Technology for Visualization, Simulation, Auditoriums and Postproduction," at 10-11).) For example, the SRX-R210, SRX-R220, and SRX-S320P projectors are used in cinemas and theaters, while the SRX-S105 and SRX-S110 models are used for high-end computer graphic-based projections. The Ford Motor Company, for instance, has installed three Sony SRX-S110 4K projectors in its Product Development Center in Dearborn, Michigan to display full-sized computer-rendered graphics of its automobile products to help develop new vehicle designs at lower cost. (See Exhibit 5 ("Sony's SXRD 4K Projectors help keep Ford Motor Company in the passing lane").)

² "4K" refers to a resolution of 4096 (horizontal) x 2160 (vertical) pixels.

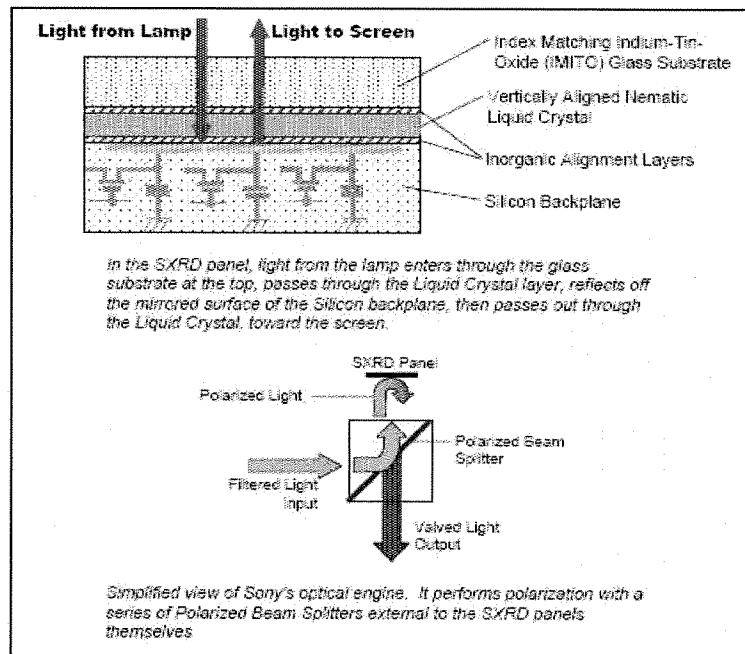
32. On information and belief, Sony may also be selling or importing infringing “light engines” (or “optical engines”) to third parties.

33. These lists of Accused Products are based on publicly available information, and may be supplemented or amended during the course of discovery.

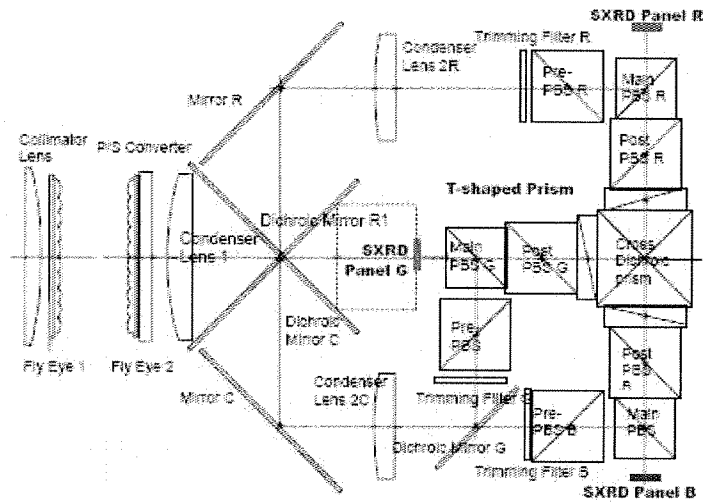
B. Sony’s Accused SXRD Technology

34. All of the Accused Sony Products incorporate Sony’s SXRD technology, which incorporates liquid crystal cells and retarder as disclosed and claimed in claims 10-11 and 13-15 of the ’027 patent. In particular, the SXRD panels use reflective-type liquid crystal cells resembling those depicted in Figures 4 and 5 of the ’027 patent.

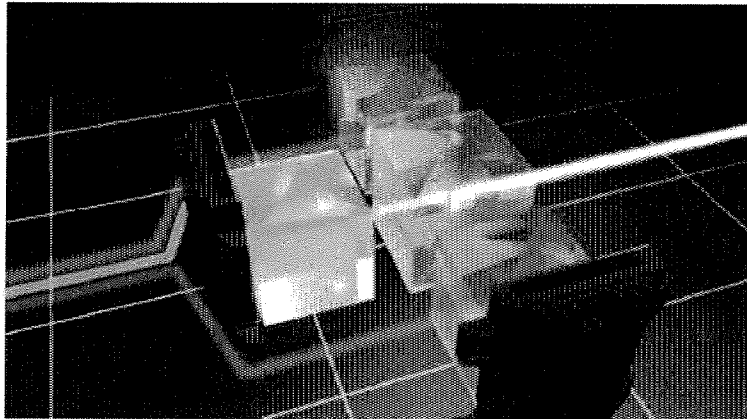
35. The infringing portion of Sony’s Accused Products is the “light engine” (or “optical engine”) in the projector. The light engine includes three SXRD panels, each of which has a liquid crystal cell and an associated retarder. SXRD, which stands for “Silicon X-tal (for Crystal) Reflective Display,” is Sony’s proprietary term for liquid crystal on silicon LCD technology. As shown in the figure below, an SXRD LCoS panel comprises an array of pixels, each containing a layer of liquid crystal sandwiched between a transparent substrate at top and a highly reflective mirrored surface at bottom, applied to the surface of a silicon chip. (See Exhibit 4 at 13-14.) Light passes through the top glass substrate and the liquid crystal material and is reflected back through the pixel by the mirror layer on the silicon chip. (*Id.* at 14.) The retardance of each pixel, and its brightness, can be individually controlled by changing the voltage to that pixel. The image is changed as the incoming video data rewrites the electrical signals to each pixel in each of the three LCD cells.



36. The SXR panels form part of the light engine in the projector. The light engine is the “heart” of a projector, according to Sony, because it receives a processed video signal and turns that data into an image on the screen. (See Exhibit 6 (Sony’s marketing material, “Reflective Liquid Crystal Display Technology for Use in Projection System: SXR Creates Previously Unknown Smooth, Realistic Images”).) Light traveling from the lamp (depicted by the white arrow at left) is split into three color paths – red, green, and blue – by a set of reflector/filter assemblies known as “dichroic mirrors.” Each color path is directed to one of the three SXR panels in the Accused Products, as shown in the figures below:



This schematic view of the Sony 4K light engine shows the three SXR panels and the nearly equal-length optical paths for Red, Green and Blue.



This simplified rendering shows the SXR panels, Main PBS blocks and the final Cross Dichroic Prism, where the three colors combine.

(Exhibit 4 at 25.)

37. After the light is reflected from the SXR panels, the three light paths are recombined by a combining prism. The combined image is then projected onto a screen.

38. Overlaying each of the SXR panels in the Accused Products, such as representative product VPL-VW90ES projector, is a retarder which is mounted in a frame. The frame can be rotated in a plane parallel to the LCD cell. On information and belief, the alignment angle of the retarder is adjusted with respect to the liquid crystal cell during

manufacturing until the desired optical property is achieved. Once the proper adjustment has been made, the frame holding the retarder is firmly affixed with respect to the liquid crystal cell using glue, solder, or some other means. (Exhibit 7 (providing an exemplary infringement analysis of the VPL-VW90ES projector).)

39. Other Accused Products, such as the SXR-S105 projector, have a similar configuration. For example, each SXR panel of an Accused Product is connected to a frame holding a retarder. This frame can be rotated in a plane parallel to the LCD cell. On information and belief, the alignment angle of the retarder is adjusted with respect to the LCD cell during manufacturing until the desired optical property is achieved. Once the proper adjustment has been made, the retarder is firmly affixed with respect to the liquid crystal cell using glue, solder, or some other means. (See Exhibit 8 (providing an exemplary infringement analysis of the SXR-S105 projector).)

40. On information and belief, in the SXR panels of the Accused Products, such as the VPL-VW90ES and the SXR-S105 projectors, the angle between the extraordinary axis of the retarder and an extraordinary axis of the liquid crystal cell is different from an angle of 90 degrees. Further, on information and belief, in the SXR panels of the Accused Products the effective retardance of the retarder in the combined retardance is less than a specified retardance of the retarder. On information and belief, each SXR liquid crystal combination is also coated with an anti-reflective coating.

VII. SONY RESPONDENTS' UNLAWFUL AND UNFAIR TRADE ACTS – INFRINGEMENT OF THE '027 PATENT

41. Proposed Respondents are violating Section 337 by importing into the United States, selling for importation, or selling in the United States after importation certain projectors,

components thereof, and products containing same that infringe one or more of claims 10-11 and 13-15 of the '027 patent.

42. On information and belief, Sony Corp. manufactures, assembles, packages, and tests its Accused Products overseas for importation into the United States. On information and belief, Sony Corp., acting with or through Sony America and/or Sony Electronics, imports the Accused Products into the United States, sells them for importation, and/or sells them within the United States after importation.

43. As mentioned above, each of Sony's Accused Products includes three SXR D panels, one for each of the colored light paths in the projector. Sony Corp. manufactures these SXR D panels found in the Accused Products. (*See* Exhibit 9, Sony Digital Cinema 4K Fall 2011 Update (stating that Sony manufactures the SXR D panels for Sony's Digital Cinema 4K projectors).) Each liquid crystal cell is overlaid with a retarder, which on information and belief, is adjusted by Sony Corp. during fabrication of the SXR D panels using methods that are covered by the Asserted Claims of the '027 patent. (*See, e.g.*, Exhibits 7, 8 (claim charts).)

44. A detailed exemplary infringement analysis of Sony's Digital Cinema Projectors SRX-S105 and VPL-VW90ES are attached as Exhibits 7 and 8. On information and belief, the SRX-S105 and VPL-VW90ES are representative of the Accused Products. A white paper for Sony's SXR D 4K projectors is attached as Exhibit 4. Additional descriptions of the SXR D technology are included in Exhibits 10-13. Complainants further note that these products are representative and that additional infringing products may be identified through discovery.

VIII. SPECIFIC INSTANCES OF UNLAWFUL IMPORTATION AND SALE

45. On information and belief, Sony manufactures the Accused Products outside the United States and imports them into the United States, sells them for importation into the United States, and/or sells them within the United States after importation. For example, Sony has

agreements to provide 4K cinema projection systems to customers in the United States, including at least Regal Entertainment Group theatres, AMC Entertainment Inc., and National Amusements. (See Exhibit 15 (Interview with Gary Johns, Senior Vice President of Sony Electronics' Digital Cinema Solutions Group, identifying customers of Sony's 4K cinema projection systems).) Further, Sony is shipping around 500-plus systems a month to the United States, and Sony estimates there will be 10,000 4K cinema projection systems in the United States by the end of 2011. (See *Id.*) Sony has also stated that it is working towards 40% global market share by 2013. (See Exhibit 16.)

46. Sony and others on its behalf offer for sale and sell the Accused Products in the United States. For example, a Sony VPL-VW90ES projector was purchased in the United States through the website "TheNerds.net." Photographs of the product packaging and a copy of the receipt are attached as Exhibit 17. Accused Products, such as VPL-VW90ES and VPL-HW30AES, are also offered for sale within the United States through various websites. (See Exhibit 18 (printouts documenting offers for sale from Amazon.com, CompSource, and Best Buy websites).) Sony's website also identifies authorized resellers of Sony's 4K SXRD projection systems located throughout the United States. (See Exhibit 19.)

47. Sony is importing the Accused Products into the United States for sale. For example, Sony petitioned U.S. Customs and Border Protection to identify the classification under the Harmonized Tariff Schedule for Sony's LMT-300 Media Block, which operates exclusively with Sony's SRX-R320 Digital Cinema Projector. (See Exhibit 20.)

IX. HARMONIZED TARIFF SCHEDULE ITEM NUMBERS

48. On information and belief, the Accused Products, components thereof, and products containing same may be imported under at least one or more of item numbers 8528.69.30, 9007.20.80, 9007.92.00, 9008.30.00, 9008.90.40, and 9008.90.80 of the Harmonized

Tariff Schedule of the United States. These classifications are based on publicly available information, are presented for illustrative purposes only, and are not intended to limit the scope of the Accused Products.

X. DOMESTIC INDUSTRY

49. Compound Photonics UK satisfies the requirements of 35 U.S.C. § 1337(a)(2), (a)(3) because a domestic industry relating to the technology protected by the '027 patent exists in the United States or is in the process of being established in the United States.

50. Compound Photonics UK has a wholly owned subsidiary Compound Photonics U.S., which is incorporated in the State of Delaware and has its principal place of business at its research, development, and production facility at 1110 North 52nd Street, Phoenix, Arizona, 85008. Compound Photonics U.S. also maintains an office at 314 West 15th Street, Vancouver, Washington, 98660, which focuses on developing drive electronics and circuit design.

51. Compound Photonics UK was co-founded in 2004 by Dr. Jonathan Sachs and Dr. Jerry Woodall and incorporated in the United Kingdom the following year. Dr. Sachs has founded a number of companies in the fields of liquid crystal displays and optics. Dr. Woodall, Chief Scientist for Compound Photonics U.S., has earned many technical honors and awards, including the National Medal of Technology, election to the National Academy of Engineering, and selection as an IBM Fellow. He was also named Director of the Burton D. Morgan Center for Entrepreneurship & Professor at Purdue University and the C. Baldwin Sawyer Professor of Electrical Engineering at Yale University. Dr. Woodall is the author of over 315 technical publications, and the inventor of more than 65 patents.

52. From its beginning, Compound Photonics U.K., through Compound Photonics U.S., has been designing, developing, and planning to commercialize next-generation displays

for projection technologies, including optically addressed spatial light modulators, pico projectors, and three-path liquid crystal on silicon projectors. The claimed '027 invention is foundational technology that is being incorporated into all of the products currently under development by Compound Photonics U.S. (Declaration of Jonathan Sachs, Ph.D. (Exhibit 21) ¶ 2.) Thus, all of Compound Photonics U.S.'s research, development, design, engineering, and other activities are directed to developing and commercializing technologies that use, incorporate, or rely upon the invention of the '027 patent. (*Id.*) Exhibit 22 provides an example of how a Compound Photonics U.S. product embodies the '027 invention.

53. Compound Photonics U.K. is performing its research, development, and engineering activities through Compound Photonics U.S., specifically at its Phoenix, Arizona facility. Compound Photonics UK, through Compound Photonics U.S., has made significant investments in plant and equipment, significant employment of labor and capital, and substantial investments in the exploitation of the '027 patent, including engineering, research, and development, pursuant to 19 U.S.C. § 1337(a)(3).

54. Compound Photonics UK, through Compound Photonics U.S., has made substantial investments, in the United States relating to the exploitation of the '027 patent, including engineering and research and development. (Exhibit 21 ¶ 3.) A major expenditure has been the Phoenix, Arizona facility, as it is Compound Photonics U.S.'s major center for research, development, and engineering activities relevant to the '027 patent at issue. (*Id.* ¶ 5; *see also* Exhibit 23 (photographs of Phoenix, Arizona facility).) Compound Photonics U.S. is planning to expand its Phoenix facility, and is increasing its expenditures on research, development, labor, and capital. (Exhibit 21 ¶ 7.)

55. A domestic industry exists or is in the process of being established because Compound Photonics UK, through Compound Photonics U.S., has made significant investments in plant and equipment in the United States relating to the subject matter of the '027 patent. After its incorporation in 2007, Compound Photonics U.S. leased a research facility in Tempe, Arizona and purchased equipment to support the design and development of its display products. (Exhibit 21 ¶ 4.) The continued growth of Compound Photonics U.S. and its progress toward development and commercial production led Compound Photonics U.S. to lease and relocate to a substantially larger and more advanced facility in Phoenix, Arizona, where it is currently located. Compound Photonics U.S.'s Phoenix facility is a world-class research, development, and manufacturing facility that includes over 270,000 square feet of commercial space, including a 35,000 square-foot clean room suitable for development and manufacturing. (*Id.* ¶ 5.) Compound Photonics U.S. has also acquired sophisticated research and production equipment for the continued development of display products that incorporate the '027 technology.

56. A domestic industry also exists or is in the process of being established because Compound Photonics UK, through Compound Photonics U.S., has engaged in significant employment of labor or capital in the United States relating to the subject matter of the '027 patent. (Exhibit 21 ¶ 6). Compound Photonics U.S. is also authorized to conduct and has conducted business in Arizona, Washington, Oregon, and Massachusetts. These labor and capital expenditures are almost entirely directed to research and development for Compound Photonics' display products, which use the patented invention. (*Id.*)

57. A domestic industry further exists or is in the process of being established because Compound Photonics UK, through Compound Photonics U.S. is continuing to make substantial investments in research and development and engineering relating to the subject

matter of the technology of '027 patent. Compound Photonics U.S. has already incorporated the invention of the '027 patent into the next-generation display products it currently has under development, such as the optically addressed spatial light modulator, the pico projector, and the three-path liquid crystal on silicon projector, and will continue to use that invention as it further develops and commercializes those products.

XI. RELATED LITIGATION

58. On October 20, 2011, Complainants filed a Complaint for patent infringement against Sony Corp. and Sony Electronics in the United States District Court for the Eastern District of Texas, Civil Action No. 6:11-cv-552.

59. In that Complaint, Complainants assert that Sony Corp. and Sony Electronics are making, using, selling, offering for sale, or importing into the United States products that infringe one or more claims of the '027 patent.

60. Other than the aforementioned action, there have been no other foreign or domestic court or agency litigations involving the '027 patent.

XII. RELIEF REQUESTED

WHEREFORE, by reason of the foregoing, Complainants Compound Photonics Ltd. and Compound Photonics U.S. Corporation respectfully request that the United States International Trade Commission –

- (a) Institute an immediate investigation pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, with respect to the Proposed Sony Respondents' violations of Section 337 based on their unlawful importation, sale for importation, or sale in the United States after importation of certain projectors with controlled-angle retarders, components thereof, and products containing

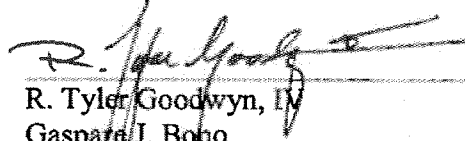
same that infringe one or more of claims 10-11 and 13-15 of U.S. Patent No. 6,829,027;

- (b) Set a target date of no more than fourteen months;
- (c) Schedule and conduct an evidentiary hearing on said unlawful acts, and following said hearing;
- (d) Determine that there has been a violation of Section 337;
- (e) Issue a permanent limited exclusion order, pursuant to 19 U.S.C. § 1337(d), prohibiting entry into the United States of Proposed Respondents Sony Corporation, Sony Corporation of America, and Sony Electronics, Inc.'s accused projectors with controlled-angle retarders, components thereof, and products containing same that infringe one or more of the asserted claims of U.S. Patent No. 6,829,027;
- (f) Issue permanent cease and desist orders, pursuant to 19 U.S.C. § 1337(f), prohibiting Proposed Respondents Sony Corporation, Sony Corporation of America, and Sony Electronics, Inc., their affiliates, and any others acting on their behalf from importing, selling for importation, marketing, distributing, offering for sale, selling in the United States after importation, or otherwise transferring within the United States projectors with controlled-angle retarders, components thereof, and products containing the same that infringe one or more of claims 10-11 and 13-15 of U.S. Patent No. 6,829,027; and
- (g) Issue such other and further relief as the Commission deems just and proper under law, based upon the facts as determined by the investigation and the authority of the Commission.

Respectfully submitted,

Date: October 21, 2011

By:



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