

UNITED STATES INTERNATIONAL TRADE COMMISSION  
WASHINGTON, D.C.

In the Matter of

CERTAIN LIQUID CRYSTAL DISPLAY  
MODULES AND PRODUCTS CONTAINING  
THE SAME, AND METHODS FOR MAKING  
THE SAME

Investigation No. 337-TA-

**COMPLAINT OF SHARP CORPORATION  
UNDER SECTION 337 OF THE TARIFF ACT OF 1930, AS AMENDED**

Complainant:

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## I. INTRODUCTION

1.1 Complainant Sharp Corporation (“Sharp”) requests 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 within the United States after importation of certain liquid crystal display (“LCD”) modules and products containing the same (collectively referred to as “the accused products”) that infringe valid and enforceable United States patent(s) owned by Sharp.

1.2 The proposed respondents are Samsung Electronics Co. Ltd. (“Samsung”), Samsung Electronics America, Inc. (“SEA”), and Samsung Semiconductor, Inc. (“SSI”) (collectively “Samsung” or “Respondents”). On information and belief, the Respondents’ unfair acts under Section 337 include the unlicensed importation into the United States, sale for importation into the United States, and/or sale within the United States after importation of accused products that infringe one or more claims of United States Patent Nos. 7,379,140 (“the ’140 patent”), 6,141,075 (“the ’075 patent”), 7,283,192 (“the ’192 patent”), 5,670,994 (“the ’994 patent”), and 7,408,588 (“the ’588 patent”) (collectively, “the Sharp Patents” or “the patents-in-suit”).

1.3 Sharp asserts that the accused products directly infringe, contributorily infringe, and/or induce the infringement of at least claims 1, 2, and 3 of the ’140 patent, claims 22, 23, 28-31, and 36-38 of the ’075 patent, claims 1 and 11 of the ’192 patent, claims 5, 6, 12, 13, and 15 of the ’994 patent, and/or claims 1, 3, 5, 29, and 32 of the ’588 patent.

1.4 Certified copies of the Sharp Patents accompany this Complaint as **Exhibits 1, 2, 3, 4 and 5**. Sharp owns by assignment the entire right, title, and interest in and to these patents. A certified copy of each of the recorded assignments accompanies this Complaint as **Exhibit 6**.

1.5 As required by Section 337(a)(2) and defined by section 337(a)(3), an industry in the United States exists relating to articles covered by the patents-in-suit.

1.6 Sharp requests that, after an investigation, the Commission issue (a) a limited exclusion order pursuant to Section 337(d) prohibiting the entry into the United States of all of proposed Respondents' accused products that infringe one or more claims of the patents-in-suit; and (b) a cease and desist order pursuant to Section 337(f) directing the proposed Respondents and their agents and distributors to cease and desist from importing, offering for sale, marketing, advertising, demonstrating, warehousing, distributing, selling and/or using such accused products in the United States.

## **II. COMPLAINANT**

2.1 Sharp Corporation ("Sharp") is a corporation organized under the laws of Japan, with its principal place of business at 22-22 Nagaike-cho, Abeno-ku, Osaka 545-8522, Japan. Sharp and its subsidiaries have facilities worldwide, including offices and laboratories in the United States, Japan, Canada, China, Great Britain, Korea and Taiwan. Sharp engages in research, manufacturing and marketing of advanced electronic and electrical products, including information and communications equipment and systems, electronic components, and household appliances. Additional information concerning Sharp can be obtained from its most recent Annual Report, which accompanies this Complaint as **Exhibit 7**.

## **III. THE TECHNOLOGIES AND PRODUCTS AT ISSUE**

3.1 The technologies at issue relate generally to various aspects of liquid crystal display modules.

3.2 The accused articles and the Sharp products that practice the patents-in-suit are LCD modules and products containing said modules. Such products include, but are not limited to LCD televisions and LCD monitors.

#### **IV. THE PATENTS-IN-SUIT**

##### **A. THE '140 PATENT**

###### **1. Identification of the Patent and Ownership by Sharp**

4.1 U.S. Patent No. 7,379,140, “Liquid Crystal Display Device Operating in a Vertically Aligned Mode Comprising an Optically Biaxial Retardation Film,” issued on May 27, 2008. The '140 patent issued from U.S. Patent Application Serial No. 11/433,972, which is a division of U.S. Patent Application Serial No. 10/667,566, filed September 22, 2003, now U.S. Patent No. 7,075,609, which is a division of U.S. Patent Application Serial No. 08/939,822, filed September 29, 1997, now U.S. Patent No. 6,642,981. The '140 patent identifies Katsufumi Ohmuro, Yoshio Koike, Takahiro Sasaki, Hideaki Tsuda, and Hideo Chida as the inventors. A certified copy of the '140 patent is attached hereto as **Exhibit 1**.

4.2 Complainant Sharp is the owner, by valid assignment, of the entire right, title and interest in and to the '140 patent. See Exhibit 6A. The '140 patent is valid, enforceable, and currently in full force and effect.

4.3 As discussed below in section VIII, Respondents are infringing at least claims 1, 2 and 3 of the '140 patent.

4.4 Pursuant to Commission Rule 210.12(c) of the Commission’s Rules of Practice and Procedure, this Complaint is accompanied by an original and three copies of the certified prosecution history of the '140 patent, and four copies of each reference mentioned in the prosecution history. The prosecution history copies may be found at **Appendix A**; the reference copies may be found in **Appendix F**.

###### **2. Non-Technical Description of the Patented Invention<sup>1</sup>**

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<sup>1</sup> The text in this paragraph (i.e., “Non-Technical Description of the Patented Invention”), does not, and is not intended to, construe or limit either the specification or claims of the patent.

4.5 The '140 patent generally relates to a Vertically Aligned (“VA”) LCD device that provides improved viewing angle and better contrast. Maintaining contrast at wide viewing angles is important for many viewing applications, including television viewing. In prior VA LCDs, the contrast between dark and light images on a screen could be reduced at wider viewing angles. Ideally, the image seen by a person seated directly in front of a LCD should not differ significantly from the image at seen by a person seated at an angle to the LCD including television viewing. In one embodiment, this is accomplished through the use of an optically biaxial retardation film oriented parallel or perpendicular to the absorption axes of the polarizers of the liquid crystal display.

### 3. Foreign Counterparts to the '140 patent

4.6 The following is a list of foreign counterparts to the '140 patent:

<b>Jurisdiction</b>	<b>App. No.</b>	<b>Filing Date</b>	<b>Status</b>
Japan	8-259872	Sept. 30, 1996	Abandoned
Taiwan	86114216	Sept. 30, 1997	Patent No. 174285
Korea	97-50089	Sept. 30, 1997	Patent No. 259111
Korea	97-77601	Dec. 30, 1997	Patent No. 233889
Japan	1999-338713	Nov. 29, 1999	Patent No. 3330574
Japan	1997-266889	Sept. 30, 1997	Abandoned
Japan	1997-361165	Dec. 26, 1997	Patent No. 3027805
Japan	1999-338713	Nov. 29, 1999	Patent No. 3330574

4.7 To the best of Sharp’s knowledge, information, and belief, there are no other foreign patents or foreign patent applications pending, filed, abandoned, withdrawn or rejected corresponding to the '140 patent.

## **B. THE '075 PATENT**

### **1. Identification of the Patent and Ownership by Sharp**

4.8 U.S. Patent No. 6,141,075, “Liquid Crystal Display Device Operating in a Vertically Aligned Mode,” issued on October 31, 2000. The '075 patent issued from U.S. Patent Application Serial No. 08/804,798. The '075 patent identifies Katsufumi Ohmuro, Yoshio Koike, Takahiro Sasaki, Hideaki Tsuda, and Hideo Chida as the inventors. A certified copy of the '075 patent is attached hereto as **Exhibit 2**.

4.9 Complainant Sharp is the owner, by valid assignment, of the entire right, title and interest in and to the '075 patent. See Exhibit 6B. The '075 patent is valid, enforceable, and is currently in full force and effect.

4.10 As discussed below in section VIII, Respondents are infringing at least claims 22, 23, 28-31, and 36-38 of the '075 patent.

4.11 Pursuant to Commission Rule 210.12(c) of the Commission’s Rules of Practice and Procedure, this Complaint is accompanied by an original and three copies of the certified prosecution history of the '075 patent, and four copies of each reference mentioned in the prosecution history. The prosecution history copies may be found at **Appendix B**; the reference copies may be found in **Appendix G**.

### **2. Non-Technical Description of the Patented Invention<sup>2</sup>**

4.12 The '075 patent generally relates to a Vertically Aligned (“VA”) LCD device that provides improved viewing angle and better contrast. Maintaining contrast at wide viewing angles is important for many viewing applications, including television viewing. In prior VA LCDs, the contrast between dark and light images on a screen could be reduced at wider viewing

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<sup>2</sup> The text in this paragraph (i.e., “Non-Technical Description of the Patented Invention”), does not, and is not intended to, construe or limit either the specification or claims of the patent.

angles. Ideally, the image seen by a person seated directly in front of a LCD should not differ significantly from the image at seen by a person seated at an angle to the LCD including television viewing. In one embodiment, this is accomplished through the use of an optically biaxial retardation layer having a refractive index in a direction perpendicular to first and second substrates of the LCD device that is smaller than the refractive index of the optically biaxial retardation layer in any other direction.

### 3. Foreign Counterparts to the '075 patent

4.13 The following is a list of foreign counterparts to the '075 patent:

Jurisdiction	App. No.	Filing Date	Status
Taiwan	86102447	Feb. 27, 1997	Patent No. 111996
Korea	97-6222	Feb. 27, 1997	Patent No. 267156
Japan	1996-041926	Feb. 28, 1996	Abandoned
Japan	1996-232301	Sept. 2, 1996	Abandoned
Japan	2001-265105	Aug. 31, 2001	Patent No. 3728409
Japan	1997-029455	Feb. 13, 1997	Patent No. 3282986
EP	97301228	Feb. 25, 1997	Abandoned
Germany	199738796	Feb. 25, 1997	Patent No. 69738796
Britain	97301228.9	Feb. 25, 1997	Patent No. 0793133
France	97301228.9	Feb. 25, 1997	Patent No. 0793133

4.14 To the best of Sharp's knowledge, information, and belief, there are no other foreign patents or foreign patent applications pending, filed, abandoned, withdrawn or rejected corresponding to the '075 patent.

## C. THE '192 PATENT

### 1. Identification of the Patent and Ownership by Sharp

4.15 U.S. Patent No. 7,283,192, "Liquid Crystal Display," issued on October 16, 2007. The '192 patent issued from U.S. Patent Application Serial No. 11/407,253, filed April 20, 2006, which is a continuation of U.S. Patent Application Serial No. 11/130,261, filed on May 17, 2005, now U.S. Patent No. 7,079,214, which is a division of U.S. Patent Application Serial No. 10/455,440, filed on June 6, 2003, now U.S. Patent No. 6,958,791. The '192 patent identifies Fumikazu Shimoshikiryo as the inventor. A certified copy of the '192 patent is attached hereto as **Exhibit 3**.

4.16 Complainant Sharp is the owner, by valid assignment, of the entire right, title and interest in and to the '192 patent. See Exhibit 6C. The '192 patent is valid, enforceable, and is currently in full force and effect.

4.17 As discussed below in section VIII, Respondents are infringing at least claims 1 and 11 of the '192 patent.

4.18 Pursuant to Commission Rule 210.12(c) of the Commission's Rules of Practice and Procedure, this Complaint is accompanied by an original and three copies of the certified prosecution history of the '192 patent, and four copies of each reference mentioned in the prosecution history. The prosecution history copies may be found at **Appendix C**; the reference copies may be found at **Appendix H**.

### 2. Non-Technical Description of the Patented Invention<sup>3</sup>

4.19 The '192 patent generally relates to an LCD device having improved  $\gamma$  characteristics at wide viewing angles. The  $\gamma$  characteristics of a display concern the brightness

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<sup>3</sup> The text in this paragraph (i.e., "Non-Technical Description of the Patented Invention"), does not, and is not intended to, construe or limit either the specification or claims of the patent.

and/or color contrast of an image displayed on the screen. More specifically, they relate to the difference between the desired brightness of a display at a certain voltage level and the actual brightness of the display. Improving  $\gamma$  characteristics of a display allows for an improved picture by providing a more accurate representation of brightness and color. In one embodiment of the '192 patent,  $\gamma$  characteristics at wide viewing angles are improved by utilizing pixels having first and second pixel electrodes that can apply mutually different voltages to their respective liquid crystal layers. In another embodiment, the difference between the voltages on each pixel electrode may decrease as the desired brightness of the pixel increases.

**3. Foreign Counterparts to the '192 Patent**

4.20 The following is a list of foreign counterparts to the '192 patent, including priority applications:

Jurisdiction	App. No.	Filing Date	Status
Japan	2002-165185	Jun. 6, 2002	Abandoned
Japan	2003-105334	Apr. 9, 2003	Patent No. 4342200
Korea	2003-0036030	Jun. 4, 2003	Patent No. 551212
Korea	2007-0015747	Feb. 15, 2007	Patent No. 798746
Korea	2005-0107579	Nov. 10, 2005	Patent No. 754968
Japan	2009-113638	May 8, 2009	Pending
China	200810125159	Jun. 4, 2003	Pending
China	2003147217	Jun. 4, 2003	Patent No. 3147217.6

4.21 To the best of Sharp's knowledge, information and belief, there are no other foreign patents or foreign patent applications pending, filed, abandoned, withdrawn or rejected corresponding to the '192 patent.

## **D. THE '994 PATENT**

### **1. Identification of the Patent and Ownership by Sharp**

4.22 U.S. Patent No. 5,670,994, "Assembly Structure of a Flat Type Device Including a Panel Having Electrode Terminals Disposed on a Peripheral Portion," issued on September 23, 1997, as a division of Application No. 186,455, filed January 25, 1994, now Pat. No. 5,592,199. The '994 patent identifies Hisao Kawaguchi, Shinichi Sugamoto, and Yasunobu Tagusa as the inventors. A certified copy of the '994 patent is attached hereto as **Exhibit 4**.

4.23 Complainant Sharp is the owner, by valid assignment, of the entire right, title and interest in and to the '994 patent. See Exhibit 6D. The '994 patent is valid, enforceable, and is currently in full force and effect.

4.24 As discussed below in section VIII, Respondents are infringing at least claims 5, 6, 12, 13 and 15 of the '994 patent.

4.25 Pursuant to Commission Rule 210.12(c) of the Commission's Rules of Practice and Procedure, this Complaint is accompanied by an original and three copies of the certified prosecution history of the '994 patent, and four copies of each reference mentioned in the prosecution history. The prosecution history copies may be found at **Appendix D**; the reference copies may be found at **Appendix I**.

### **2. Non-Technical Description of the Patented Invention<sup>4</sup>**

4.26 The '994 patent generally relates to an LCD device having improved weight, reliability, size, and cost. Display designers are under increased pressure to produce reliable displays having large screen sizes but low weight and overall size. The reliability of a device can be improved, for example, by reducing the number of connections in a device or by making

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<sup>4</sup> The text in this paragraph (i.e., "Non-Technical Description of the Patented Invention"), does not, and is not intended to, construe or limit either the specification or claims of the patent.

connections that are less prone to break under stress. The size and weight of a device can be reduced, for example, by minimizing the peripheral area of an LCD (the area that does not display a picture) and by using flexible components that can be folded and/or manipulated. In one embodiment of the '994 patent, flexible wiring boards having driver integrated circuits ("driver ICs") for driving signals to data and gate lines in the active display area are overlaid on the peripheral region outside of the active display area of the TFT substrate. Output terminals from flexible wiring board are electrically connected to electrode terminals formed on the peripheral region of the TFT substrate, allowing, for example, signals from the driver IC to be transmitted to the active display region. The flexible wiring boards are lightweight and can be folded behind the TFT substrate without substantially increasing the size of the device.

### 3. Foreign Counterparts to the '994 patent

4.27 The following is a list of foreign counterparts to the '994 patent:

Jurisdiction	App. No.	Filing Date	Status
Japan	1993 – 000011728	Jan. 27, 1993	Patent No. 2911082
Japan	1993 – 000020295	Feb. 8, 1993	Patent No. 2865968
Japan	1993 – 000196416	Aug. 6, 1993	Patent No. 3285168
Korea	KR9710272B1	Jan. 27, 1994	Patent No. 129871
Europe	02076246	Jan. 27, 1994	Pending
Europe	94300593	Jan. 27, 1994	Abandoned
Germany	199431265	Jan. 27, 1994	Patent No. 69431265
Britain	94300593.4	Jan. 27, 1994	Patent No. 0609074

4.28 To the best of Sharp's knowledge, information and belief, there are no other foreign patents or foreign patent applications pending, filed, abandoned, withdrawn or rejected corresponding to the '994 patent.

## **E. THE '588 PATENT**

### **1. Identification of the Patent and Ownership by Sharp**

4.29 U.S. Patent No. 7,408,588, "Image Processing Circuit, Image Display Device, and an Image Processing Method," issued on August 5, 2008. The '588 patent issued from U.S. Application Serial No. 11/407,891, filed April 21, 2006, which was a continuation of application No. 10/128,946, filed on April 24, 2002, now U.S. Pat. No. 7,068,320. The '588 patent identifies Kazunari Tomizawa, Makato Shiomi, Hidekazu Miyata, Koichi Miyachi, and Akihito Jinda as the inventors. A certified copy of the '588 patent is attached hereto as **Exhibit 5**.

4.30 Complainant Sharp is the owner, by valid assignment, of the entire right, title and interest in and to the '588 patent. See Exhibit 6E. The '588 patent is valid, enforceable, and is currently in full force and effect.

4.31 As discussed below in section VIII, Respondents are infringing at least claims 1, 3, 5, 29, and 32 of the '588 patent.

4.32 Pursuant to Commission Rule 210.12(c) of the Commission's Rules of Practice and Procedure, this Complaint is accompanied by an original and three copies of the certified prosecution history of the '588 patent, and four copies of each reference mentioned in the prosecution history. The prosecution history copies may be found at **Appendix E**; the reference copies may be found at **Appendix J**.

### **2. Non-Technical Description of the Patented Invention<sup>5</sup>**

4.33 The '588 patent generally relates to image processing circuitry. Image data supplied to image display devices is commonly subject to various image processing steps. Additionally, the response speed of some LCD devices can be improved using overdrive

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<sup>5</sup> The text in this paragraph (i.e., "Non-Technical Description of the Patented Invention"), does not, and is not intended to, construe or limit either the specification or claims of the patent.

methods. Using an overdrive method in conjunction with image processing of interlaced image data can result, however, in a deterioration of a displayed image. Accordingly, at least one exemplary embodiment of the '588 patent relates to an image processing circuit including an interlace/progressive conversion section to convert received interlace image data to progressive image data for a first field and a field preceding the first field, and an image processing section to conduct image processing using the progressive image data. By converting interlace image data to progressive image data and then conducting image processing using the progressive image data, the exemplary embodiment is able to improve the precision of the image processing. Improving the image processing can result in improved image quality.

### 3. Foreign Counterparts to the '588 Patent

4.34 The following is a list of foreign counterparts to the '588 patent:

Jurisdiction	App. No.	Filing Date	Status
Japan	2001-133564	Apr. 27, 2001	Abandoned
Japan	2002-89845	Mar. 27, 2002	Patent No. 3715249
Taiwan	91108437	Apr. 24, 2002	Patent No. 202792
Korea	2002-0022973	Apr. 26, 2002	Patent No. 571132
Japan	2008-076857	Mar. 24, 2008	Pending
Japan	2005-348434	Jul. 19, 2005	Pending

4.35 To the best of Sharp's knowledge, information and belief, there are no other foreign patents or foreign patent applications pending, filed, abandoned, withdrawn or rejected corresponding to the '588 patent.

### V. PROPOSED RESPONDENTS

5.1 On information and belief, proposed respondent Samsung Electronics Co. Ltd. ("Samsung") is a limited liability corporation organized under the laws of Korea, with its principal place of business at 250, Taepyeongno 2-ga, Jung-gu, Seoul 100-742, Korea. On

information and belief, Samsung designs, develops and manufactures LCD modules abroad and directs those products to the United States through established distribution channels involving various third parties, knowing that these third parties will use their respective nationwide contacts and distribution channels to import into, sell, offer for sale, and/or use these LCD modules, and LCD products incorporating such LCD modules, in the United States. See Exhibit 8 (Samsung Ltd. Annual Report) and **Exhibit 9** (Hoover Report for Samsung).

5.2 On information and belief, proposed respondent Samsung Electronics America, Inc. (“SEA”) is a corporation organized under the laws of New York, with a principal place of business at 105 Challenger Road, Ridgefield Park, New Jersey 07660. SEA is a direct or indirect subsidiary of Samsung and either directly or indirectly unlawfully imports into, sells, and/or offers for sale LCD products in the United States. See Exhibit 10 (Hoover report for SEA).

5.3 On information and belief, proposed respondent Samsung Semiconductor, Inc. (“SSI”) is a corporation organized under the laws of California, with its principal place of business at 3655 North First Street, San Jose, California 95134. On information and belief, SSI is a direct subsidiary of SEA and an indirect subsidiary of Samsung and either directly or indirectly unlawfully imports into, sells, and/or offers for sale LCD products in the United States. See Exhibits 11 and 12 (Hoover report for SSI and SSI Product Selection Guide, respectively).

## **VI. UNLAWFUL AND UNFAIR ACTS OF THE PROPOSED RESPONDENTS**

6.1 In this complaint, Sharp is asserting five patents: (1) the ’140 patent, (2) the ’075 patent, (3) the ’192 patent, (4) the ’994 patent, and (5) the ’588 patent.

6.2 On information and belief, the accused LCD modules and products containing the accused LCD modules infringe at least claims 1, 2 and 3 of the ’140 patent, claims 22, 23, 28-31, and 36-38 of the ’075 patent, claims 1 and 11 of the ’192 patent, claims 5, 6, 12, 13 and 15 of the ’994 patent, and/or claims 1, 3, 5, 29, and 32 of the ’588 patent. On information and belief, the

accused LCD modules and products containing said accused LCD modules are manufactured, assembled and/or packaged and tested outside of the United States. These same LCD modules and products are then imported into the United States, sold for importation into the United States, and/or sold after importation in the United States. The aforesaid acts of Respondents constitute direct, contributory and/or infringement by inducement of at least claims 1, 2 and 3 of the '140 patent, claims 22, 23, 28-31, and 36-38 of the '075 patent, claims 1 and 11 of the '192 patent, claims 5, 6, 12, 13, and 15 of the '994 patent, and/or claims 1, 3, 5, 29, and 32 of the '588 patent. The importation into the United States, sale for importation into the United States, and/or sale after importation in the United States of the accused LCD modules and products containing the accused LCD modules directly infringe the asserted claims of the '140 patent, the '075 patent, the '192 patent, the '994 patent, and/or the '588 patent. In addition, Samsung is a contributory infringer of the asserted claims because its accused LCD modules are incorporated into products that practice the claimed inventions, are not staple articles or commodities of commerce suitable for substantial non-infringing use, and are known by Samsung to be specially adapted for use in practicing the inventions of the patents-in-suit. Samsung actively induces others to infringe the asserted claims through the sale of its LCD modules for incorporation into products containing such LCD modules such as LCD televisions, professional displays and computer monitors that infringe the asserted claims. Each of the Respondents further actively induces others to infringe the asserted claims through the sale of products containing such LCD modules such as LCD televisions, professional displays and computer monitors along with directions, demonstrations, guides, manuals, training for use, and other materials that encourage the infringing use of the accused LCD modules and products containing such LCD modules. Further discovery may

reveal that additional claims of the patents-in-suit are infringed by the accused LCD modules and products containing the accused LCD modules.

6.3 The accused Samsung modules that infringe one or more asserted claims of the Sharp Patents include at least the following: Samsung LTF400HA08, LTF460HF08 and LTF400HF12 modules (collectively the "Samsung LCD Modules"). The Samsung LCD Modules are incorporated into the LN40B550, UN46B7000 and LN40B630 televisions (collectively, "the Samsung LCD Products"), respectively. Further discovery may reveal additional infringing modules, products and/or models. Photographs of the representative LTF400HA08, LTF460HF08 and LTF400HF12 modules and UN46B7000, LN40B550 and LN40B630 televisions are attached to this complaint as **Exhibit 13**. A copy of the user manuals for the representative UN46B7000, LN40B550 and LN40B630 televisions are attached to this complaint as **Exhibit 14**.

6.4 Samsung is being given actual notice of its infringement of the patents-in-suit by Sharp's service of this Complaint, which is being served on Samsung at the time of filing with the U.S. International Trade Commission.

6.5 Claim charts for each patent, demonstrating how each asserted independent claim from each patent reads on one of more representative device(s), are attached as **Exhibits 15-19**.

## **VII. SPECIFIC INSTANCES OF UNFAIR IMPORTATION AND SALE**

7.1 On information and belief, Samsung LCD Modules and Samsung LCD Products are manufactured abroad. On information and belief, the Samsung LCD Products incorporating Samsung LCD Modules are manufactured in Mexico, China and/or Korea and sold in the United States through various retailers. Samsung, and/or others on its behalf, manufacture the accused products in at least Korea, China, and Mexico and then import them into the United States, sell them for importation into the United States and/or sell them after importation into the United

States. For example, attached **Exhibit 20** contains descriptions of the representative UN46B7000, LN40B550 and LN40B630 televisions on Samsung's website along with links to retailers selling the products on Samsung's behalf.

7.2 In September 2009, several of the accused products containing Samsung LCD modules were purchased via internet from retailer websites including [www.amazon.com](http://www.amazon.com), [www.vanns.com](http://www.vanns.com) and Best Buy, and shipped to a domestic address. Receipts and packing slips from such purchases are attached as **Exhibit 21**. Labels on the UN46B7000, LN40B550 and LN40B630 televisions indicate that they were manufactured in Mexico, and that the Samsung LCD Modules incorporated in these products were manufactured in Korea. Photographs of the origination labels as they appear on the representative UN46B7000, LN40B550 and LN40B630 televisions are attached as **Exhibit 22**. As of January 5, 2010, the representative UN46B7000, LN40B550 and LN40B630 televisions have been and continue to be offered for sale in the United States. For example, attached as **Exhibit 23** are descriptions of offers for sale of the UN46B7000, LN40B550 and LN40B630 televisions on a retail vendor's ([www.vanns.com](http://www.vanns.com)) internet website on January 5, 2010.

7.3 Upon information and belief, additional LCD modules and products containing LCD modules imported, sold for importation, or sold after importation by Respondents infringes one or more of the patents-in-suit. Sharp believes it is likely that, after a reasonable opportunity for further investigation and discovery, Sharp will be able to show that additional LCD modules and LCD products containing said LCD modules of Respondents infringe one or more of the patents-in-suit under circumstances that would give rise to further violations of Section 337.

7.4 Sharp believes that further discovery likely will reveal other specific acts of Respondents' importation, sale for importation, and sale after importation of LCD modules and

products containing LCD modules that infringe the patents-in-suit including, but not limited to, additional LCD modules and corresponding model numbers of LCD Products.

7.5 The subject products of the proposed Respondents are believed to fall within at least the following classifications of the Harmonized Tariff Schedules (“HTS”) of the United States: 8528.72.28.00, 8528.72.32.05-8528.72.32.90, 8528.72.62.00, 8528.72.68.00, and 8528.72.72.50. These HTS numbers are intended to be for illustration only and are not intended to be restrictive of the products accused.

#### **VIII. LICENSES**

8.1 Sharp has licensed one or more of the patents-in-suit to the licensees identified in **Confidential Exhibit 24**.

#### **IX. THE DOMESTIC INDUSTRY**

9.1 There is a domestic industry, as defined under 19 U.S.C. § 1337(a)(3). Although Sharp does not manufacture LCD modules or products containing such modules in the United States, a domestic industry exists based upon the substantial investment of Sharp’s subsidiaries in research and development, testing, repair, refurbishment, customer support and other after-market activities in the United States related to the patents-in-suit.

##### **A. SHARP’S TECHNICAL USE OF THE INVENTIONS OF THE PATENTS-IN-SUIT**

9.2 Sharp branded LCD TVs and LCD monitors are covered by the patents-in-suit.<sup>6</sup> Descriptions of the exemplary Sharp LCD TVs from Sharp’s website ([www.sharppusa.com](http://www.sharppusa.com)) are attached as **Exhibit 25**. Copies of the user manuals for Sharp LCD products are attached as **Exhibit 26**. Claim charts applying representative claim 1 of the ’140 patent, representative claim

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<sup>6</sup> Sharp’s LCD TVs 26” and greater practice the claims of the ’075, ’192, ’994, and ’588 patents. Sharp’s 65” AQUOS TVs practice the claims of all asserted patents.

22 of the '075 patent, representative claim 1 of the '192 patent, representative claim 5 of the '994 patent and representative claim 1 of the '588 patent to a Sharp LCC6577UM LCD TV, a Sharp LC-40E67UN LCD TV, and a Sharp LC-40E77UN LCD TV are attached hereto as **Confidential Exhibits 27-31**, respectively.

**B. SHARP'S DOMESTIC INVESTMENT RELATED TO THE PATENTS-IN-SUIT**

9.3 Sharp Electronics Corporation ("SEC") is a wholly-owned U.S. sales and marketing subsidiary of Sharp. SEC is headquartered in Mahwah, New Jersey, and engages in the manufacturing and sales of consumer electronics, office equipment, and electronic components. Sharp Laboratories of America, Inc. ("SLA") is a wholly-owned subsidiary of SEC and is headquartered in Camas, Washington. SLA is a corporate research laboratory which has become a leader in foreseeing trends and creating advanced technologies in such areas as flat panel displays, consumer electronics, and digital information technology.

9.4 SEC and SLA conduct significant domestic industry activities in the U.S. relating to the products practicing the patents-in-suit. These activities include SLA's domestic research, development, engineering and testing of LCD technology, LCD modules and LCD products covered by the asserted patents, SEC's technical support services to consumers, and SEC's other activities in the United States as described below.

9.5 SLA has been and continues to be engaged in research, development, engineering and/or testing of LCD technology, modules and products covered by the asserted patents. SLA's LCD process technology lab in Camas, Washington was established in 1994. Since its inception, this LCD process technology lab has developed or assisted with the development of several significant advancements in LCD technology that have enabled the next generation of LCD modules and products. For example, SLA has performed extensive research regarding LCD

backlights, and was heavily involved in the first research to improve the viewing angle of Sharp's large screen televisions. Today, SLA's research activities include, *inter alia*, LCD manufacturing process simulation and modeling, the design, simulation and modeling of both optical and electrical devices for use in LCDs and other products, and development and testing of coatings, including coatings for LCD products. A more detailed description of SLA's research activities related to LCD technology, modules and products covered by the asserted patents is provided in **Confidential Exhibit 32**.

9.6 At its Camas facility, SLA employs, both directly and through subcontracting arrangements, substantial scientific, technical, administrative and support personnel in its research, development and engineering of the LCD technology, modules and products covered by the asserted patents. The majority of the researchers employed by SLA possess advanced degrees, including Ph.D.s. The extent of SLA's labor attributable to the domestic industry activities exploiting the patents-in-suit are set forth in **Confidential Exhibit 33**. The extent of SLA's average yearly investment in research and development attributable to the domestic industry activities exploiting the patents-in-suit is also set forth in **Confidential Exhibit 33**.

9.7 SLA has also made a significant investment in facilities and equipment. SLA owns a large facility in Camas, Washington, and utilizes space, including a large clean room facility devoted to LCD research, in another Camas building owned by SEC. The extent to which SLA's investment in facilities can be attributed to domestic industry activities exploiting the patents-in-suit is set forth in **Confidential Exhibit 34**.

9.8 SEC provides significant customer support services to customers in the United States for LCD modules and LCD products covered by the patents-in-suit. The Service and Solutions Group ("SSG") of SEC is headquartered in Romeoville, Illinois. SSG employs

substantial technical, administrative and support personnel in providing support services to consumers of Sharp's LCD products covered by the claims of the asserted patents. SSG's employees oversee return and refurbishment of Sharp products and circuit board repair, and are responsible for field engineering support. SSG employees also manage a national parts center, a customer assistance center which handles Sharp's customer call centers as well as questions submitted by e-mail and regular mail, and a service delivery department that oversees warranty administration. Although SSG is based in Romeoville, it also utilizes personnel located in Mahwah, New Jersey, Huntington Beach, California, and McAllen, Texas. The extent of SSG's labor at its U.S. facilities that is attributable to domestic activities exploiting the patents-in-suit is set forth in **Confidential Exhibit 33**. The extent to which SSG's investment in facilities and equipment can be attributed to domestic industry activities exploiting the patents-in-suit is set forth in **Confidential Exhibit 34**.

9.9 Through numerous authorized field service and depot centers in the United States, including service centers associated with major retailers like Best Buy, SSG supports warranty repairs and refurbishment of LCD modules and LCD products that practice the claims of the asserted patents. The extent of SEC's investment in warranty repairs and refurbishing for LCD modules and LCD products that practice the claims of the asserted patents is set forth in **Confidential Exhibit 35**.

9.10 SSG's investment in its call centers attributable to support of products that practice the claims of the asserted patents is set forth in **Confidential Exhibit 36**. SEC employs two subcontractors, AFFINA, LLC, and Adecco, USA, Inc. which provide call centers—one in Peoria, Illinois and the other in Romeoville, Illinois – that handle consumer calls related to Sharp products, including LCD products that practice the claims of the asserted patents.

9.11 In addition to the services described above, the Technical Services Group of SSG provides technical testing and analyses of Sharp's products, including LCD modules and LCD products covered by the asserted patents, prior to the products' introduction to U.S. markets. A team located in Mahwah, New Jersey is primarily responsible for testing and evaluating new products prior to launch. This group evaluates products as a whole for serviceability, studies the impacts of aging and extended use, and analyzes numerous other product features. Once products are accepted for release, a team in Huntington Beach, California is responsible for conducting inspections of incoming products to insure initial quality. Field engineers located at several locations throughout the country and a team in Romeoville, Illinois are responsible for ensuring continued field support after product launch.

9.12 The Technical Services Group of SSG employs significant scientific, technical, administrative and support personnel in support of its evaluation efforts. The extent of the Technical Services Group's labor attributable to the domestic industry activities exploiting the patents-in-suit is described in **Confidential Exhibit 33**. SEC's total operational service costs, including operation of the Customer Assistance Centers attributable to the domestic industry activities exploiting the patents-in-suit are described in **Confidential Exhibit 37**.

## **X. RELATED LITIGATION**

10.1 None of the patents-in-suit has been previously asserted in any other court or agency litigation.

10.2 On August 6, 2007, Sharp Corporation initiated a lawsuit against Samsung Electronics Co., Ltd. and certain Samsung subsidiaries in the United States District Court for the Eastern District of Texas, and Samsung subsequently filed counterclaims. That action, titled *Sharp Corp. v. Samsung Electronics, Co. Ltd. et al.*, Civil Action No. 2:07-CV-330 (the "Texas

Action”), involves patents related to LCD technology. None of the patents asserted in this complaint is involved in the Texas Action.

10.3 In addition, on December 21, 2007, Samsung Electronics Co., Ltd. filed a Complaint under Section 337 of the Tariff Act of 1930, *as amended*, with the International Trade Commission, titled *In the matter of Certain Liquid Crystal Display Devices and Products Containing the Same*. The Commission issued a Notice of Investigation for this Investigation on January 18, 2008, instituting Inv. No. 337-TA-631 (“631 Investigation”), and assigned the Investigation to Chief Administrative Law Judge Paul J. Luckern. *See* Commission’s Notice of Investigation, *In the Matter of Certain Liquid Crystal Display Devices and Products Containing the Same*, USITC Inv. No. 337-TA-631, published in the *Federal Register* on January 25, 2008. On the same day that it filed the complaint in the ITC, Samsung Electronics Co., Ltd. filed an action against the same Sharp entities and on the same patents in the United States District Court for the District of Delaware, entitled *Samsung Electronics Co. Ltd. v. Sharp Corporation et al.*, Civil Action No. 1:07-CV-843 (the “Delaware Action”). The Commission’s Final Determination in the 631 Investigation is currently on appeal to the United States Court of Appeals for the Federal Circuit. None of the patents asserted in this Complaint are involved in the Samsung ITC Action or the Delaware Action.

10.4 On January 30, 2008, Sharp filed a Complaint under Section 337 of the Tariff Act of 1930, *as amended*, with the International Trade Commission, titled *In the Matter of Certain Liquid Crystal Display Modules, Products Containing Same and Methods for Using the Same* naming as proposed respondents Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Samsung Semiconductor, Inc., USITC Inv. No. 337-TA-634. The Commission issued a Notice of Investigation on February 27, 2009, instituting Inv. No. 337-TA-634 (“634

Investigation”), and assigned the investigation to Administrative Law Judge Paul J. Luckern. See Commission’s Notice of Investigation, *In the Matter of Certain Liquid Crystal Display Modules, Products Containing Same, and Methods for Using the Same*, USITC Inv. No. 337-TA-634, published in the *Federal Register* on March 4, 2008. On February 8, 2008, Sharp filed counterclaims in the Delaware Action asserting the same patents asserted in the 634 Investigation. None of the patents asserted in this Complaint are involved in the Sharp ITC Action or the Delaware Action.

10.5 On December 1, 2009, Samsung Electronics Co., Ltd. filed a Complaint under Section 337 of the Tariff Act of 1930, *as amended*, with the International Trade Commission, titled *In the matter of Certain Liquid Crystal Display Devices and Products Containing the Same*. On December 30, 2009 the Commission issued a Notice of Investigation for this Investigation, and the investigation was assigned to administrative law judge Charles E. Bullock USITC Inv. No. 337-TA-699 (“699 Investigation”). On December 2, 2009, Samsung Electronics Co., Ltd. filed an action against the same Sharp entities as are named as Respondents in the 699 Investigation and on the same patents in the District Court for the District of Delaware, entitled *Samsung Electronics Co. Ltd. v. Sharp Corporation et al.*, Civil Action No. 1:09-CV-920 (the “Second Delaware Action”). None of the patents asserted in this Complaint are involved, at this time, in any of the actions described above.

## **XI. RELIEF REQUESTED**

11.1 WHEREFORE, by reason of the foregoing, Complainant requests that the United States International Trade Commission:

a) institute an immediate Investigation pursuant to 19 U.S.C.

§ 1337(a)(1)(B)(i) and (b)(1) into the violations of those sections based on Respondents’ unlawful importation into the United States, sale for importation into the United States,

and/or sale in the United States after importation of certain LCD modules and products containing such LCD modules that infringe, directly, contributorily or by inducement, one or more claims of U.S. Patent Nos. 7,379,140, 6,141,075, 7,283,192, 5,670,994, and 7,408,588.

b) determine that there has been a violation of Section 337;

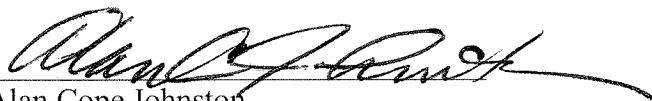
c) issue a limited exclusion order pursuant to 19 U.S.C. § 1337(d), excluding from entry into the United States all of Respondents' LCD modules, and products containing such LCD modules, within the scope of the Investigation instituted pursuant to this Complaint that infringe, directly, contributorily or by inducement, one or more claims of U.S. Patent Nos. 7,379,140, 6,141,075, 7,283,192, 5,670,994, and 7,408,588.

d) issue a permanent order pursuant to 19 U.S.C. § 1337(f) directing Respondents to cease and desist from importing, marketing, advertising, demonstrating, warehousing, distributing, selling, offering to sell, and/or using Respondents' LCD modules, and products containing such LCD modules, that infringe one or more claims of the patents-in-suit; and

e) grant such other and further relief as the Commission deems appropriate and just under the law, based on the facts complained of herein and determined by the Investigation.

Dated: January 8, 2010

Respectfully submitted,



Alan Cope Johnston

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*Counsel for Complainant Sharp Corporation*

## VERIFICATION OF COMPLAINT

I, Yoshio Kubota, am Group Deputy General Manager, Intellectual Property Group, for Sharp Corporation and am duly authorized to execute the foregoing Complaint under Section 337 of the Tariff Act of 1930, as amended (the "Complaint") on behalf of Sharp. I have read the Complaint and am aware of its contents. In accordance with 19 C.F.R. §§ 210.4 and 210.12(a), I declare that the following statements are true:

1. To the best of my knowledge, information, and belief, formed after a reasonable inquiry, the allegations of this Complaint are well grounded in fact and have evidentiary support, or are likely to have evidentiary support after a reasonable opportunity for further investigation or discovery;
2. To the best of my knowledge, information, and belief, formed after a reasonable inquiry, the claims and other legal contentions set forth in the Complaint are warranted by existing law or by a good faith argument for the extension, modification, or reversal of existing law; and
3. The Complaint is not being filed for any improper purpose, such as to harass or cause unnecessary delay or needless increase in the cost of the investigation.

I declare under penalty of perjury that the foregoing is true and correct.

Date: January 8, 2010

By: *Yoshio Kubota*  
Yoshio Kubota  
Group Deputy General Manager  
Intellectual Property Group  
Sharp Corporation