

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

PHENIX LONGHORN LLC,

Plaintiff,

v.

AU OPTRONICS CORPORATION, and
HISENSE ELECTRONICA MEXICO, S.A.
DE C.V.,

Defendants.

CIVIL ACTION NO. 2:23-cv-00477

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Phenix Longhorn, LLC (“Phenix”) files this Complaint for infringement of U.S. Patent No. 7,233,305 (“the ’305 Patent”) and U.S. Patent No. 7,557,788 (“the ’788 Patent”) (collectively, the “Asserted Patents”) against Defendants AU Optronics Corporation (“AUO”) and Hisense Electronica Mexico, S.A. de C.V. (“Hisense Mexico”) (collectively, “Defendants”) and alleges as follows:

NATURE OF ACTION

1. This is a patent infringement action to remedy Defendants’ infringement of the Asserted Patents.
2. Phenix seeks injunctive relief and monetary damages.

THE PARTIES

3. Phenix is a limited liability company organized and existing under the laws of the State of Texas. Phenix maintains a registered agent and office located at 107 Austin Street, Martindale, Texas 78655.

4. On information and belief, Defendant AUO is a multi-national corporation organized under the laws of the Republic of China (R.O.C. or Taiwan), with its principal place of business located at No. 1, Li-Hsin Road 2, Hsinchu Science Park, Hsinchu, 30078 Taiwan.

5. On information and belief, Defendant AUO manufactures and sells LCD panel modules, including the LCD screen and the circuits that control the LCD screen. Defendant AUO sells its panels to manufacturers that incorporate Defendant AUO's panels into television sets sold and/or intended for sale throughout the United States, including the State of Texas and the Eastern District of Texas ("this District").

6. On information and belief, Defendant Hisense Mexico is a corporation organized and existing under the laws of the United Mexican States (Mexico) with a principal place of business at Boulevard Sharp 3510, Parque Industrial Rosarito, Playas de Rosarito, Baja California 22710 Mexico.

7. On information and belief, Defendant Hisense Mexico is a television manufacturer in the business of incorporating LCD panels into its products under at least the Hisense brand. On information and belief, Hisense Mexico sells the majority of its manufactured goods in the United States, including throughout the State of Texas, and within this District, and as set forth below, has committed and continues to commit, tortious acts of infringement within and outside the State of Texas and within this District.

8. On information and belief, Defendants place or contribute to placing infringing products, including one or more of those specifically accused of infringement below, into the stream of commerce via established distribution channels knowing or understanding that such products will be sold and used in the United States, including in this District.

9. On information and belief, Defendants have derived substantial revenue from infringing acts in this District, including from the sale and use of these infringing products like those specifically accused of infringement below.

10. Defendants are properly joined under 35 U.S.C. § 299(a)(2) because Defendants, through their own acts and/or through the acts of each other Defendant acting as its representative, alter ego, or agent, make, use, sell, and/or offer to sell in, and/or import into the United States the same or similar accused Pgamma chip for use in the same or similar television sets, such that questions of fact will arise that are common to all Defendants.

JURISDICTION AND VENUE

11. This is a civil action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1, including §§ 271 and 281-285.

12. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

13. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391(c). Defendants are foreign entities and may be sued in any judicial district under 28 U.S.C. §§ 1391(c)(3).

14. Personal jurisdiction exists generally over the Defendants because each has sufficient minimum contacts with the forum as a result of business conducted within the State of Texas and the Eastern District of Texas.

15. Personal jurisdiction exists over Defendants because they, directly or through affiliates, agents, subsidiaries, or intermediaries, make, use, sell, offer for sale, import, advertise, make available, and/or market products within the State of Texas and this District that infringe one or more claims of the Asserted Patents, as alleged more particularly below.

16. On information and belief, Defendant AUO owns and controls the subsidiary AU Optronics Corporation America, which maintains an active registration in the State of Texas under registration filing number 0800132316.

17. On information and belief, this Court has jurisdiction over the Defendants by virtue of their systematic and continuous contacts with this jurisdiction, as alleged herein, as well as because the injury to Phenix occurred in the State of Texas and the claim for relief possessed by Phenix against Defendants for this injury arose in the State of Texas. On information and belief, Defendants have purposely availed themselves of the privileges of conducting business within the State of Texas, such business including but not limited to: (i) at least a portion of the infringements alleged herein; (ii) purposely and voluntarily placing one or more infringing products into the stream of commerce through established distribution channels with the expectation, knowledge, and intent that those products be sold throughout the United States, including the State of Texas and this District; (iii) regularly transacting or soliciting business, engaging in other persistent courses of conduct, or deriving or attempting to derive substantial revenue and financial benefits from goods and services provided to individuals in the State of Texas and in this District. Thus, Defendants are subject to the Court's specific and general jurisdiction pursuant to due process and the Texas Long Arm Statute.

18. Personal jurisdiction also exists specifically over Hisense Mexico because Hisense Mexico, directly or through subsidiaries or intermediaries (including customers, distributors, retailers, and others), subsidiaries, alter egos, and/or agents – ships, distributes, offers for sale, sells, imports, advertises, or markets into the State of Texas and into this District, one or more products that infringe the patent-in-suit, as described particularly below. Hisense Mexico has purposefully and voluntarily placed one or more of its infringing products, as described below,

into the stream of commerce with the awareness and/or intent that these products will be purchased by consumers in this District. Hisense Mexico has knowingly and purposefully shipped infringing products into and within this District through an established distribution channel. These infringing products have been and continue to be purchased by consumers in this District.

19. Venue in this District is proper under 28 U.S.C. §§ 1400(b) and 1391(b) and (c) because Defendants are subject to personal jurisdiction in this District and have committed acts of infringement in this District. Defendants, through their own acts and/or through the acts of others acting as their representatives, alter egos, or agents, make, use, sell, and/or offer to sell infringing products within this District, have a continuing presence within the District, and have the requisite minimum contacts with the District such that this venue is a fair and reasonable one. On information and belief, Defendants have transacted, and at the time of the filing of the Complaint, are continuing to transact business within this District.

20. On information and belief, AUO is located in Taiwan, which is not a signatory to the Hague Service Convention or any other multilateral or bilateral agreement specifying an appropriate means of service. Therefore, AUO may be served outside the United States pursuant to Fed. R. Civ. P. 4(f)(2) or 4(f)(3).

21. On information and belief, Hisense Mexico is located in the State of Baja California within Mexico, which is a signatory to the Hague Service Convention. Therefore, Hisense Mexico may be served outside of the United States pursuant to Fed. R. Civ. P. 4(f)(1).

THE ASSERTED PATENTS

22. The USPTO duly issued the '305 Patent, entitled "Gamma Reference Voltage Generator," on June 19, 2007, after full and fair examination of Application No. 10/746,333, which was filed on June 11, 2003. Phenix is the owner, by assignment, of all rights, title, and interest in the '305 Patent. A true and accurate copy of the '305 Patent is attached as **Exhibit A**.

23. The '788 Patent is a continuation of the '305 Patent. The USPTO duly issued the '788 Patent, entitled "Gamma Reference Voltage Generator," on July 7, 2009, after full and fair examination of Application No. 10/746,333, which was filed on December 23, 2003. Phenix is the owner, by assignment, of all rights, title, and interest in the '788 Patent. A true and accurate copy of the '788 Patent is attached as **Exhibit B**.

BACKGROUND FACTS

24. The Asserted Patents are directed to LCD panels using gamma reference voltage generator integrated circuits, also known as programmable gamma integrated circuit or "Pgamma chips." These chips are components of LCD panels and contributed to innovations in manufacturing that brought us the high-quality and low-cost LCD television sets we have today.

25. The co-inventors of the Asserted Patents, Richard V. Orlando and Trevor A. Blyth, founded the semiconductor company Alta Analog, Inc. ("Alta") in Silicon Valley in March 2002. Alta pioneered and sold the first Pgamma chip capable of generating two or more gamma reference voltage display conditions for LCD displays using an integrated circuit that would be part of a new LCD architecture.

26. When fresh off the production line, the pictures produced from LCD panel displays vary noticeably, not only by batch, but also from display to display within the same batch. The problem is that the brightness of the pixels making up the LCD display is not a linear or straight-line function of the voltages applied. Compounding the problem is that the sensitivity of the human eye to light is also not linear. In order to obtain an acceptable LCD picture, a way is needed to drive the pixels with a voltage to correct for non-linear abnormalities. The correction is controlled by a set of voltages applied to the panel. These are gamma reference voltages, which refer to a

gamma function that describes how smoothly black transitions to white on a digital display and serve to improve color and contrast.

27. The gamma reference voltages are fed to column drivers connected to LCD panels. The term column driver is a name used in the industry to refer to a specialized integrated circuit with two sets of inputs. This first input is for the digital picture data to be converted into analog voltages applied on the display column containing red, green, and blue pixels. The second input is for the gamma reference voltages coming from the gamma circuit that is used to correct or adjust the conversion occurring on the first input, resulting in the desired display condition.

28. The gamma reference voltages produce changes to the example display below using different gamma correction values:



29. Prior to the invention, gamma correction values were generated using a gamma voltage circuit that used resistor ladders. Replacing the gamma voltage circuit that existed in 2002 with an integrated circuit was a significant improvement that streamlined and saved manufacturing costs while also improving picture quality. The '305 patent addressed the problem of providing a gamma correction solution to LCD panels by doing away with manually adjusted select-on-test resistors or other discrete components, such as, for example, microcontroller-based solutions, and

replacing these components with an integrated circuit. The incorporation of the Pgamma chip also required LCD panel makers to redesign their products to accommodate the new technology and, in addition, allowed panel makers to automate the testing of their LCD products on the production line, as described in the '788 Patent. As discussed below, Mr. Orlando made numerous trips to Asia to speak directly to Asian panel makers to promote this new LCD panel architecture.

30. Alta's innovations in panel architecture design and manufacturing processes were adopted in Japan by Sharp Corporation, also known as Sharp Kabushiki Kaisha ("Sharp Japan"). Between 2010 and 2011, Alta sold over 200,000 units of one type of Pgamma integrated circuit to Sharp Japan for inclusion in panels for LCD television sets sold in Japan.

31. Disruption to the Japanese consumer market for television sets following the March 11, 2011, earthquake, tsunami, and nuclear disaster negatively impacted the sales of Sharp Japan and led to Alta's bankruptcy in 2014. Alta's patents, including the '305 Patent and the '788 Patent, were subsequently assigned to Phenix, where co-inventor Mr. Orlando serves as the Director and President. The panel design promoted by Mr. Orlando and used by Sharp Japan was eventually adopted by the television industry.

32. On information and belief, Hisense Mexico was acquired from a Sharp Japan affiliate in July 2015 and began manufacturing television sets for export to the U.S. market. Hisense Mexico assembles and sells television sets to the U.S. market under the Hisense brand name and, for certain years, under the Sharp brand as well. These television sets have LCD screens and are popular consumer items sold through brick-and-mortar retail stores and over the Internet.

33. On information and belief, AUO manufactures LCD panel modules in Asia and sells them to Hisense Mexico and others, either directly or through intermediaries. These LCD panel modules are incorporated by Hisense Mexico and other manufacturers into television sets.

The LCD panel modules made by AUO include the LCD screen itself and electronic circuits to control the LCD screen. Electronic components that are part of the LCD panel module are mounted on one or more printed circuit boards (“PCBs” or “boards”). One of these PCBs is generally referred to as a timing control board or “T-Con” board, which is specially designed to accept one or more Pgamma integrated circuits. Placed inside the television housing, a T-Con board is mated to the LCD display and bundled together. The T-con board connects to a main circuit board and to the LCD screen that displays an image to a user. Most, if not all, of the intricate timing and data control signals required to form an image on the LCD screen is performed by the T-Con board. The T-con board can be a removable board, but some functions of the T-Con board, including Pgamma correction, may be located on boards permanently bonded into the LCD panel and not removable, depending on the manufacturing process.

DEFENDANT AUO’S KNOWLEDGE OF THE ASSERTED PATENTS

34. Defendant AUO’s infringement of the ’305 Patent and the ’788 Patent is willful because Defendant has had knowledge of the Asserted Patents for over ten years.

35. The provisional patent application that became the ’305 Patent was filed in June 2003, before Phenix’s predecessor-in-interest Alta began to engage AUO and AUO engineers in talks regarding the use of panel architecture using Pgamma devices.

36. Alta engaged with AUO and AUO engineers regarding the use of panel architecture using Pgamma devices in 2003, 2005, 2007, and 2008; at each point, AUO declined to adopt the technology.

37. In November 2007, Alta met with AUO to present a PowerPoint slide show that specifically identified the ’305 Patent.

38. On or about June 12, 2012, AUO received product data sheets from Alta that contained technical information and a list of patents that included the '305 Patent and the '788 Patent.

39. Defendant AUO had knowledge of, or was willfully blind to the knowledge of, the '305 Patent and the '788 Patent and its infringement is willful.

40. On information and belief, despite having knowledge of the Asserted Patents and knowledge that it is directly and/or indirectly infringing one or more claims of the Asserted Patents, Defendant AUO has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. Defendant AUO's infringing activities relative to the Asserted Patents have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

RELATED PROCEEDINGS

41. The '305 Patent was confirmed valid over an obviousness challenge brought before the Patent Trial and Appeal Board (PTAB) at the United States Patent & Trademark Office (USPTO). The challenger contended certain claims of the '305 Patent were obvious in view of four prior art references, either alone or in combination. The Board denied institution of the *Inter Partes* Review in its entirety. *Wistron Corporation v. Phenix Longhorn, LLC*, IPR2018-01255, Paper 14 (PTAB Jan. 24, 2019).

THE ACCUSED PRODUCTS

42. Defendants make, use, sell, and/or offer to sell in, and/or import into, the United States LCD panels that infringe one or more claims of the Asserted Patents.

43. On information and belief, Defendant AUO manufactures and sells LCD panels, including but not limited to at least the following: T550QVR07.0, T430HVN01.A, T500QVN03.0, T550QVR07.0, T430HVN01.A, T550HVN08.5, T500QVN03.0, T550QVR07.1 and T430QVN01.0 (collectively, the “Infringing Panels”).

44. On information and belief, Defendant AUO sells panels T550QVR07.0, T430HVN01.A, and T500QVN03.0 to Defendant Hisense Mexico, who incorporates the panels into certain finished television models intended for the United States, including but not limited to, the following: Hisense 43H7C, Hisense 43H7C2, Sharp LC-43N6100U, Sharp LC-43LB481U, Sharp LC-43LB601U, Toshiba 43L420U, Hisense 43H7C and Sharp LC-43N6100U (collectively, the “Hisense Infringing Models”).

45. On information and belief, in addition to the panels assembled into the Hisense Infringing Models enumerated above, Defendant AUO sells panels T550QVR07.0, T430HVN01.A, T550HVN08.5, T500QVN03.0, T550QVR07.1, and T430QVN01.0 to certain unknown OEMs and manufacturers, who incorporate the panel products into finished television models intended for the United States, including but not limited to, the following: Element E4ST4316H, Element ELST4316S, Vizio D55N-E2, Vizio E55-C1, Vizio E55-D0, Westinghouse WD43UD4530, Vizio E55U-D0, Vizio M55-D0, Vizio M55-E0, Insignia NS55DR710NA17, TCL 50UP120, Westinghouse WD50UT4300, Westinghouse WD50UT4490, Vizio M50-C1, and Vizio M50-D1 (collectively, the enumerated models manufactured by Hisense Mexico and by the unknown manufacturers are called the “Infringing Products”).

46. On information and belief, Defendant AUO supplies the Infringing Panels to at least Defendant Hisense Mexico that incorporates into Infringing Products sold throughout the United States, including the State of Texas and this District.

47. Defendant Hisense Mexico's finished television sets are designed to incorporate and incorporate receivers (or tuners) that conform with FCC requirements and are sold and/or intended for sale in the United States.¹

48. Defendant AUO knowingly makes, uses, offers for sell, and sells Infringing Panels to television manufacturers that incorporate the panels into Infringing Products, *e.g.*, assembled televisions, sold by brick-and-mortar and online retailers throughout the United States.

49. Defendant Hisense Mexico knowingly makes, uses, offers for sale, sells, and incorporates Defendant AUO's Infringing Panels into Infringing Products, *e.g.*, assembled televisions, that are sold by brick-and-mortar and online retailers throughout the United States.

**COUNT I: INDUCEMENT OF INFRINGEMENT OF THE '305 PATENT BY
DEFENDANT AUO**

50. Phenix realleges and incorporates herein the preceding allegations of this Complaint as if fully set forth herein.

51. Defendant AUO directly and/or through subsidiaries or intermediaries, has induced and continues to induce infringement (literally and/or under the doctrine of equivalents) of one or more claims of the '305 Patent. With knowledge of the '305 Patent, Defendant AUO's deliberate and/or willfully blind actions include, but are not limited to, actively marketing to, supplying, causing the supply to, encouraging, and instructing others such as businesses, distributors, agents, channel partners, resellers, sales representatives, and manufacturers to incorporate the Infringing Panels into consumer products. These actions, individually and collectively, have induced and

¹ The Advanced Television Systems Committee (ATSC) developed technical standards for digital television in the U.S. To comply, an LCD panel manufacturer supplies components designed to interface with an ATSC receiver (or tuner) required for the U.S. market. On information and belief, the Federal Communications Commission (FCC) mandated that after March 1, 2007, all televisions regardless of screen size, and all interfaces that include a tuner (*e.g.*, VCR, DVD player/recorder, DVR) must include a built-in ATSC DTV tuner.

continue to induce the direct infringement of the '305 Patent by others, such as television set manufacturers and assemblers, who import into the United States consumer products containing the Infringing Panels, including the Infringing Products. Defendant AUO knew and/or was willfully blind to the fact that the induced parties' use, testing, making available for another's use, promotion, marketing, distributing, importing, selling, and/or offering to sell the Infringing Products would infringe one or more claims of the '305 Patent.

52. Phenix is the owner of the '305 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the '305 Patent against infringers, and to collect damages for all relevant times.

53. The '305 Patent generally describes an integrated circuit used to calibrate LCDs to compensate for panel-to-panel manufacturing variations. The claims of the '305 Patent, including Claim 1, recite a novel and inventive apparatus for producing voltage signals on a plurality of outputs comprising non-volatile storage cells, programming circuits coupled to a multiplexer that address the many inputs, drivers connected to the storage cells and outputs, and inputs connected to the multiplexer to address the storage cells, where the gamma reference voltage signals determine the driving voltages of columns of a display, the non-volatile storage cells are organized into banks with a predetermined gamma reference voltage signal display condition, and the banks are able to be switched by external signals on the integrated circuit.

54. For example, Claim 1 of the '305 Patent recites:

An integrated circuit for producing Voltage signals on a plurality of outputs comprising:

a plurality of non-volatile storage cells;

circuits for programming coupled to a multiplexer for addressing and programming said storage cells, wherein the addressing is based on a plurality of inputs;

drivers connected to said storage cells and to the plurality of outputs; and

the plurality of inputs connected to said multiplexer for addressing said storage cells,

wherein said Voltage signals are gamma reference Voltage signals for determining actual driving Voltages of columns of a display, wherein said non-volatile storage cells are organized into two or more banks of cells wherein each bank contains a predetermined gamma reference Voltage signal display condition; and means to switch between the banks based on one or more external signals is provided on said integrated circuit.

55. The Infringing Panels, including Defendant AUO's T550QVR07.0 panel, contain at least one integrated circuit for producing voltage signals on a plurality of outputs with a plurality of non-volatile storage cells and circuits for programming coupled to a multiplexer for addressing and programming said storage cells, where the addressing is based on a plurality of inputs, the drivers connect to the storage cells and the outputs, the inputs connect to the multiplexer for addressing the storage cells, the voltage signals are gamma reference voltage signals for determining actual driving voltages of columns of display, the non-volatile storage cells are organized into banks of cells, each bank contains a predetermined gamma reference voltage signal display condition, and the banks are able to be switched by external signals on the integrated circuit.

56. In violation of 35 U.S.C. § 271(b), Defendant AUO has induced infringement and continues to induce infringement of one or more claims of the '305 Patent by one or more direct infringers, either literally or by the doctrine of equivalents. Defendant AUO supplies, distributes, offers for sale, or sells the Infringing Panels, including the T550QVR07.0 panel, to Hisense Mexico and others who without authority use, offer to sell, or sell Infringing Panels, within the United States, or import into the United States, in violation of 35 U.S.C. § 271(a).

57. Defendant AUO has made, and continues to make, unlawful gains and profits from infringing the '305 Patent.

58. As a consequence of Defendant AUO's past dealings with Alta that pre-dated the filing and service of this Complaint as described above, Defendant had knowledge of, or was willfully blind to knowledge of, the '305 Patent and its infringement of the '305 Patent before the filing of this lawsuit.

59. Defendant AUO has had knowledge of the '305 Patent since at least as early as November 2007. Defendant AUO has been willfully infringing the '305 Patent since it began designing, manufacturing, and selling its Infringing Panels.

60. Since at least as early as November 2007, Defendant AUO has actively, knowingly, and intentionally continued to induce infringement of the '305 Patent, literally or by the doctrine of equivalents, by selling the Infringing Panels to manufacturers, suppliers and/or distributors for use in the Infringing Products and, upon information and belief, distributing literature and materials inducing manufacturers, suppliers and/or distributors to use their Infringing Panels in a manner that infringes one or more claims of the '305 Patent.

**COUNT II: DIRECT INFRINGEMENT OF THE '305 PATENT BY DEFENDANT
HISENSE MEXICO**

61. Phenix realleges and incorporates herein the preceding allegations of this Complaint as if fully set forth herein.

62. Defendant Hisense Mexico makes, uses, sells, and/or offers to sell in, and/or imports into, the United States finished television sets that incorporate LCD panels that infringe one or more claims of the Asserted Patents, including at least Claims 1, 2, and 5 of the '305 Patent.

63. Phenix is the owner of the '305 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the '305 Patent against infringers, and to collect damages for all relevant times.

64. The '305 Patent generally describes an integrated circuit used to calibrate LCDs to compensate for panel-to-panel manufacturing variations. The claims of the '305 Patent, including Claim 1, recite a novel and inventive apparatus for producing voltage signals on a plurality of outputs comprising non-volatile storage cells, programming circuits coupled to a multiplexer that address the many inputs, drivers connected to the storage cells and outputs, and inputs connected to the multiplexer to address the storage cells, where the gamma reference voltage signals determine the driving voltages of columns of a display, the non-volatile storage cells are organized into banks with a predetermined gamma reference voltage signal display condition, and the banks are able to be switched by external signals on the integrated circuit.

65. For example, Claim 1 of the '305 Patent recites:

An integrated circuit for producing voltage signals on a plurality of outputs comprising:

a plurality of non-volatile storage cells;

circuits for programming coupled to a multiplexer for addressing and programming said storage cells, wherein the addressing is based on a plurality of inputs;

drivers connected to said storage cells and to the plurality of outputs; and

the plurality of inputs connected to said multiplexer for addressing said storage cells,

wherein said voltage signals are gamma reference voltage signals for determining actual driving voltages of columns of a display, wherein said non-volatile storage cells are organized into two or more banks of cells wherein each bank contains a predetermined gamma reference voltage signal display condition; and means to switch between the banks based on one or more external signals is provided on said integrated circuit.

66. Defendant Hisense Mexico's television models, including but not limited to the Hisense Infringing Models each incorporate one of Defendant AUO's T550QVR07.0, T430HVN01.A, or T500QVN03.0 panels, which contain an integrated circuit for producing voltage signals on a plurality of outputs with a plurality of non-volatile storage cells and circuits for programming coupled to a multiplexer for addressing and programming said storage cells, where the addressing is based on a plurality of inputs, the drivers connect to the storage cells and the outputs, the inputs connect to the multiplexer for addressing the storage cells, the voltage signals are gamma reference voltage signals for determining actual driving voltages of columns of display, the non-volatile storage cells are organized into banks of cells, each bank contains a predetermined gamma reference voltage signal display condition, and the banks are able to be switched by external signals on the integrated circuit.

67. In violation of 35 U.S.C. § 271(a), Defendant Hisense Mexico has directly infringed and continues to infringe the '305 Patent, either literally or by the doctrine of equivalents, by making, using, importing, supplying, distributing, offering for sale, or selling the Hisense Infringing Models that incorporate the Infringing Panels within the United States.

68. Defendant Hisense Mexico has made, and continues to make, unlawful gains and profits from infringing the '305 Patent.

69. Defendant Hisense Mexico has had knowledge of the '305 Patent and its infringement activities at least as early as the filing of this Complaint. Accordingly, Defendant has been willfully infringing the '305 Patent at least since Phenix filed this Complaint.

**COUNT III: INDUCEMENT OF INFRINGEMENT OF THE '788 PATENT BY
DEFENDANT AUO**

70. Phenix realleges and incorporates herein the preceding allegations of this Complaint as if fully set forth herein.

71. Defendant AUO directly and/or through subsidiaries or intermediaries, has induced and continues to induce infringement (literally and/or under the doctrine of equivalents) by others who make, use, sell, and/or offers to sell in, and/or import into, the United States LCD panels that infringe one or more claims of the Asserted Patents, including at least Claim 1 of the '788 Patent. With knowledge of the '788 Patent, Defendant AUO's deliberate and/or willfully blind actions include, but are not limited to, actively marketing to, supplying, causing the supply to, encouraging, and instructing others such as businesses, distributors, agents, channel partners, resellers, sales representatives, and manufacturers to incorporate the Infringing Panels into consumer products. These actions, individually and collectively, have induced and continue to induce the direct infringement of the '788 Patent by others, such as television set manufacturers and assemblers, who import to the United States consumer products containing the Infringing Panels, including the Infringing Products. Defendant AUO knew and/or was willfully blind to the fact that the induced parties' use, testing, making available for another's use, promotion, marketing, distributing, importing, selling and/or offering to sell the Infringing Products would infringe one or more claims of the '788 Patent.

72. Phenix is the owner of the '788 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the '788 Patent against infringers, and to collect damages for all relevant times.

73. The '788 Patent generally describes a method for calibrating an LCD to a desired gamma curve to compensate for panel-to-panel manufacturing variations. The claims of the '788 Patent, including Claim 1, recite a novel and inventive method for calibrating LCD to a desired gamma curve to compensate for manufacturing variations by providing a display with electrically reprogrammable and non-volatile gamma reference control capability, testing the display with a

sensor, varying the gamma reference voltage levels on columns of the display with a control circuit, optimizing the gamma reference voltage levels with predetermined algorithms, criteria, and data to achieve the desired gamma curve, and storing the gamma reference voltage levels.

74. For example, Claim 1 of the '788 Patent recites:

A method of calibrating a liquid crystal display to a desired gamma curve to compensate for panel to panel manufacturing variations comprising the steps:

providing said display with gamma reference control capability which is electrically reprogrammable and non-volatile;

testing said display with at least one sensor with optical input, wherein said sensor is separate from said display;

varying gamma reference voltage levels on columns of said display by a control circuit, where said control circuit is separate from said display;

optimizing said gamma reference voltage levels using means for executing a predetermined algorithm according to a predetermined criteria and data sensed by said at least one sensor, wherein said means for executing said predetermined algorithm is separate from said display to achieve the desired gamma curve; and

storing said gamma reference voltage levels in said gamma reference control capability.

75. The Infringing Panels are made using a method for calibrating LCD to a desired gamma curve to compensate for manufacturing variations by providing a display with electrically reprogrammable and non-volatile gamma reference control capability, testing the display with a sensor, varying the gamma reference voltage levels on columns of the display with a control circuit, optimizing the gamma reference voltage levels with predetermined algorithms, criteria, and data to achieve the desired gamma curve, and storing the gamma reference voltage levels.

76. In violation of 35 U.S.C. § 271(b), Defendant AUO has induced and continues to induce infringement of one or more claims of the '788 Patent by one or more direct infringers

either literally or by the doctrine of equivalents. By way of Defendant AUO's making the Infringing Panels using a process claimed by the '788 Patent, Defendant AUO has induced Hisense Mexico and others to without authority import into the United States or offer to sell, sell or use within the United States the Infringing Panels, making Hisense Mexico and others liable as infringers for importing, offering to sell, selling, or using the Infringing Panels during the term of the '788 Patent, in violation of 35 U.S.C. § 271(g).

77. Defendant AUO has made, and continues to make, unlawful gains and profits from infringing the '788 Patent.

78. As a consequence of Defendant AUO's past dealings with Alta that pre-dated the filing and service of this Complaint as described above, Defendant AUO had knowledge of, or was willfully blind to knowledge of, the '788 Patent and its infringement of the '788 Patent before the filing of this lawsuit.

79. Defendant AUO has had knowledge of the '788 Patent and its infringement activities since at least as early as June 2012. Accordingly, Defendant has been willfully infringing the '788 Patent since at least as early as June 2012.

80. Since at least as early as June 2012, Defendant has actively, knowingly, and intentionally continued to induce infringement of the '788 Patent, literally or by the doctrine of equivalents, by selling the Infringing Panels to manufacturers, suppliers and/or distributors for use in the Infringing Products and, upon information and belief, distributing literature and materials inducing its suppliers and distributors to use their Infringing Panels in a manner that infringes one or more claims of the '788 Patent.

**COUNT IV: DIRECT INFRINGEMENT OF THE '788 PATENT BY DEFENDANT
HISENSE MEXICO**

81. Phenix realleges and incorporates herein the preceding allegations of this Complaint as if fully set forth herein.

82. Defendant Hisense makes, uses, sells, and/or offers to sell in, and/or imports into, the United States the Hisense Infringing Models that infringe one or more claims of the Asserted Patents, including at least Claim 1 of the '788 Patent.

83. Phenix is the owner of the '788 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the '788 Patent against infringers, and to collect damages for all relevant times.

84. The '788 Patent generally describes a method for calibrating an LCD to a desired gamma curve to compensate for panel-to-panel manufacturing variations. The claims of the '788 Patent, including Claim 1, recite a novel and inventive method for calibrating LCD to a desired gamma curve to compensate for manufacturing variations by providing a display with electrically reprogrammable and non-volatile gamma reference control capability, testing the display with a sensor, varying the gamma reference voltage levels on columns of the display with a control circuit, optimizing the gamma reference voltage levels with predetermined algorithms, criteria, and data to achieve the desired gamma curve, and storing the gamma reference voltage levels.

85. For example, Claim 1 of the '788 Patent recites:

A method of calibrating a liquid crystal display to a desired gamma curve to compensate for panel to panel manufacturing variations comprising the steps:

providing said display with gamma reference control capability which is electrically reprogrammable and non-volatile;

testing said display with at least one sensor with optical input, wherein said sensor is separate from said display;

varying gamma reference voltage levels on columns of said display by a control circuit, where said control circuit is separate from said display;

optimizing said gamma reference voltage levels using means for executing a predetermined algorithm according to a predetermined criteria and data sensed by said at least one sensor, wherein said means for executing said predetermined algorithm is separate from said display to achieve the desired gamma curve; and

storing said gamma reference voltage levels in said gamma reference control capability.

86. The Hisense Infringing Models, each incorporate one of Defendant AUO's T550QVR07.0, T430HVN01.A, or T500QVN03.0 panels, that are made using a method for calibrating LCD to a desired gamma curve to compensate for manufacturing variations by providing a display with electrically reprogrammable and non-volatile gamma reference control capability, testing the display with a sensor, varying the gamma reference voltage levels on columns of the display with a control circuit, optimizing the gamma reference voltage levels with predetermined algorithms, criteria, and data to achieve the desired gamma curve, and storing the gamma reference voltage levels.

87. In violation of 35 U.S.C. § 271(g), Defendant Hisense Mexico has directly infringed and continues to infringe one or more claims of the '788 Patent, either literally or by the doctrine of equivalents, by without authority importing into the United States, offering to sell, selling, or using within the United States the Hisense Infringing Models which are made by a process patented in the '788 Patent.

88. Defendant Hisense Mexico has made, and continues to make, unlawful gains and profits from infringing the '788 Patent.

89. Defendant Hisense Mexico has had knowledge of the '788 Patent and its infringement activities since at least as early as the filing of this Complaint. Accordingly,

Defendant Hisense Mexico has been willfully infringing the '788 Patent at least since Phenix filed this Complaint.

ATTORNEYS' FEES

90. According to 35 U.S.C. § 285, Plaintiff is entitled to, and respectfully requests, its reasonable attorneys' fees in this case.

DEMAND FOR JURY TRIAL

91. According to Fed. R. Civ. P. 38(b), Plaintiff respectfully requests a trial by jury on all issues triable by a jury.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff prays for the following relief:

- a. that this Court declare that Defendant Hisense Mexico has directly infringed and continues to directly infringe one or more claims of the Asserted Patents under 35 U.S.C. § 271(a);
- b. that this Court declare that Defendant AUO has induced the infringement and continues to induce the infringement of one or more claims of the Asserted Patents under 35 U.S.C. § 271(b);
- c. that this Court award Plaintiff all damages adequate to compensate Plaintiff for Defendants' above-mentioned infringements; and that interest and costs be assessed against Defendants according to 35 U.S.C. §§ 154(d) and 284;
- d. that this Court declare Defendants' infringement was and is willful, and award treble damages for the period of the willful infringement of the Asserted Patents;
- e. that this Court declare this an exceptional case and order that Defendants pay Plaintiff its reasonable attorneys' fees and costs according to 35 U.S.C. § 285;

f. that Defendants, their officers, directors, agents, servants, employees, attorneys, affiliates, divisions, branches, parents, and those persons in active concert or participation with any of them, be permanently restrained and enjoined from infringing the Asserted Patents; and

g. that this Court award any additional relief to Plaintiff that this Court deems just and proper.

October 10, 2023

Respectfully submitted,

By: /s/ Eric H. Findlay

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