

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

LONGHORN HD LLC.,)	
)	Case No.
Plaintiff,)	
)	<u>JURY TRIAL DEMANDED</u>
v.)	
)	
ELITEGROUP COMPUTER SYSTEMS CO. LTD.,)	
)	
Defendant.)	

PLAINTIFF’S ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Longhorn HD LLC. (“LHD” or “Plaintiff”), for its Complaint against Defendant Elitegroup Computer Systems Co. Ltd., (“ECS” or “Defendant”), alleges as follows:

THE PARTIES

1. LHD is a limited liability company, organized and existing under the laws of the State of Texas, with its principal place of business located at 203 East Travis Street, Marshall, Texas 75670.

2. Upon information and belief, Defendant ECS is a corporation organized and existing under the laws of China, with its principal place of business located at Section 2, 239, Tinting Road, Neihu District, Taipei, Taiwan, and may be served pursuant to the provisions of the Hague Convention. ECS is a leading manufacturer and seller of computers, laptops, and servers in the world and in the United States. Upon information and belief, ECS does business in Texas and in the Eastern District of Texas, directly or through its subsidiaries.

JURISDICTION

3. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 1, *et seq.* This Court has jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

4. This Court has personal jurisdiction over Defendant. Defendant regularly conducts business and has committed acts of patent infringement and/or has induced acts of patent infringement by others in this Judicial District and/or has contributed to patent infringement by others in this Judicial District, the State of Texas, and elsewhere in the United States.

5. Venue is proper in this Judicial District as to Defendant pursuant to 28 U.S.C. § 1391 because, among other things, ECS is not a resident in the United States, and thus may be sued in any judicial district pursuant to 28 U.S.C. § 1391(c)(3).

6. Defendant is subject to this Court's jurisdiction pursuant to due process and/or the Texas Long Arm Statute due at least to its substantial business in this State and Judicial District, including (a) at least part of its past infringing activities, (b) regularly doing or soliciting business in Texas, and/or (c) engaging in persistent conduct and/or deriving substantial revenue from goods and services provided to customers in Texas.

PATENTS-IN-SUIT

7. On May 22, 2001, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 6,237,112 (the "'112 Patent") entitled "SCSI Device Available for Breakdown Prediction and Self-Examination and a Method Thereof." A true and correct copy of the '112 Patent is available at: <http://pdfpiw.uspto.gov/.piw?PageNum=0&docid=06237112>.

8. On May 11, 2004, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 6,734,597 (the “’597 Patent”) entitled “Thermomechanical In-Plane Microactuator.” A true and correct copy of the ’597 Patent is available at: <http://pdfpiw.uspto.gov/.piw?Docid=06734597>.

9. On September 6, 2011, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,015,444 (the “’444 Patent”) entitled “Protection of Non-Volatile Memory Component Against Data Corruption Due to Physical Shock.” A true and correct copy of the ’444 Patent is available at: <http://pdfpiw.uspto.gov/.piw?Docid=08015444>.

10. LHD is the sole and exclusive owner of all right, title, and interest in the ’112 Patent, the ’597 Patent, and the ’444 Patent (collectively, the “Patents-in-Suit”), and holds the exclusive right to take all actions necessary to enforce its rights to the Patents-in-Suit, including the filing of this patent infringement lawsuit. LHD also has the right to recover all damages for past, present, and future infringement of the Patents-in-Suit and to seek injunctive relief as appropriate under the law.

11. LHD has at all times complied with the marking provisions of 35 U.S.C. § 287 with respect to the Patents-in-Suit. On information and belief, prior assignees and licensees have also complied with the marking provisions of 35 U.S.C. § 287.

FACTUAL ALLEGATIONS

12. The Patents-in-Suit generally cover systems and methods for use in computer and server storage and structure.

13. The ’112 Patent generally relates to technology for breakdown prediction and self-examination of computer peripherals, such as computer and server disk drives. The technology described by the ’112 Patent was developed by inventors Seung-Wha Yoo, In-Ho Lee, Hyung-Sun

Kim, Moon-Young Lee, and Chan-Soo Kim at SamSung in Korea. For example, this technology is implemented today in Self-Monitoring Analysis and Report Technology (SMART) functionality included in hard disk drives. Infringing SMART enabled hard disk drives include the ability to monitor status including temperature, motor, and power status, among other features.

14. The '597 Patent generally relates to technology for utilizing miniature piezoelectric elements to move shuttles in a direction perpendicular to the piezoelectric element. The technology described in the '597 Patent was developed by inventors Larry L. Howell and Scott Lyon at Brigham Young University. For example, this technology is implemented at least in hard disk drives as technology referred to as “micro-actuators” and/or “dual-stage actuators.”

15. Third-parties Western Digital (“WD”) and Hitachi Global Storage Technologies (“HGST”) supply Hard Disk Drives (“HDDs”) that implement the infringing micro-actuator technologies. These hard drives include WD Blue, Black, Red, Purple, and Gold drives, as well as HGST Ultrastar, Travelstar, Deskstar, Endurastar, and Cinemastar drives. Upon information and belief, ECS makes, uses, sells, and/or imports computers and servers, such as the ECS SF 100, 110, SKM-U, LIVA ONE, LIVE Z3E, LIVE ONE PLUS, and LIVA ZE series PCs, which include or utilize one or more WD and/or HGST HDDs.

16. The '444, Patent generally relates to novel systems and methods for protecting non-volatile memory from errors caused by falls. The technology described in the '444 Patent was developed by Jakke Mäkelä and Marko Ahvenainen at Spyder Navigations L.L.C. Upon information and belief, ECS makes, uses, sells, and/or imports infringing computers, such as the ECS NU, CF, MF, and SF series Laptops. Upon information and belief, these infringing ECS laptop products include fall sensors that detect falling conditions and cease write operations to prevent damage or data loss.

17. ECS has infringed and is continuing to infringe one or more of the Patents-in-Suit by making, using, selling, offering to sell, and/or importing, and by actively inducing others to make, use, sell, offer to sell, and/or import, products including computers, and servers that utilize hard disk drives (“HDDs”), solid state drives (“SSDs”), and associated software that infringes the Patents-in-Suit.

COUNT I
(Infringement of the '112 Patent)

18. Paragraphs 1 through 17 are incorporated by reference as if fully set forth herein.

19. LHD has not licensed or otherwise authorized Defendant to make, use, offer for sale, sell, or import any products that embody the inventions of the '112 Patent.

20. Defendant has directly infringed the '112 Patent, either literally or under the doctrine of equivalents, without authority and in violation of 35 U.S.C. § 271, by making, using, offering to sell, selling, and/or importing into the United States products that satisfy each and every limitation of one or more claims of the '112 Patent. Such products include computer devices, such as laptops, desktops, and servers, that utilize SMART enabled hard drives. On information and belief, such ECS products include at least the ECS SF 100, 110, SKM-U, LIVA ONE, LIVE Z3E, LIVE ONE PLUS, and LIVA ZE series PCs that include one or more WD and/or HGST HDDs.

21. For example, Defendant has directly infringed at least claim 7 of the '112 Patent by making, using, offering to sell, selling, and/or importing into the United States products that include SMART enabled hard drives.

22. The hard drives include a small computer system interface (SCSI) device or the equivalent thereof. The hard drives perform the steps of monitoring an internal temperature and motor driving status of a SCSI device, monitoring SCSI device power, remotely switching the SCSI device on/off, monitoring a SCSI device status by using a SMART sensor, reporting the

results to an I2C processor, reporting all previous status reports, error reports and SMART functions to a master I2C processor through a SCSI controller, and reporting a fault to said master I2C processor through a SCSI channel or an I2C channel, when it is determined, by analyzing said results of each of said monitoring steps, that said I2C processor cannot correct said fault.

23. The ECS products include a temperature and motor driving sensor which monitors an inside temperature of the SCSI device and the driving status of a motor of the SCSI device. The ECS products further include an I2C processor, such as a microcontroller or processor, within the hard drive or associated I2C interface. The ECS products further include a power sensor which monitors SCSI device power and receives a command from the master I2C processor through a I2C processor and monitors a power on/off switch to switch on/off the SCSI device power. The ECS products further include a self-monitoring analysis and report technology (SMART) sensor which monitors a SCSI device status. The ECS products further include device control logic which reports all previous status reports, error reports and SMART functions to a master I2C processor through a SCSI controller or the equivalent thereof. The ECS products further include an I2C processor, which reports a fault to the master I2C processor through a SCSI channel or an I2C channel, when it is determined, by analyzing all information detected by said temperature and motor driving sensor, said power sensor, said power on/off switch and said SMART sensor, that said I2C processor cannot correct said fault.

24. Defendant has indirectly infringed one or more claims of the '112 Patent by knowingly and intentionally inducing others, including ECS customers and end-users, to directly infringe, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling, and/or importing into the United States products that include infringing technology, such as laptops, desktops, and servers, that utilize SMART enabled hard drives.

25. Defendant, with knowledge that these products, or the use thereof, infringed the '112 Patent, knowingly and intentionally induced direct infringement of the '112 Patent by providing these products to end users for use in an infringing manner.

26. Defendant induced infringement by others, including end-users, with the intent to cause infringing acts by others or, in the alternative, with the belief that there was a high probability that others, including end-users, infringe the '112 Patent, but while remaining willfully blind to the infringement.

27. LHD has suffered damages as a result of Defendant's direct and indirect infringement of the '112 Patent in an amount to be proved at trial.

COUNT II
(Infringement of the '597 Patent)

28. Paragraphs 1 through 17 are incorporated by reference as if fully set forth herein.

29. LHD has not licensed or otherwise authorized Defendant to make, use, offer for sale, sell, or import any products that embody the inventions of the '597 Patent.

30. Defendant has and continues to directly infringe the '597 Patent, either literally or under the doctrine of equivalents, without authority, and in violation of 35 U.S.C. § 271, by making, using, offering to sell, selling, and/or importing into the United States products that satisfy each and every limitation of one or more claims of the '597 Patent. Such products include ECS storage solutions, that utilize HDDs that include microactuators, such as dual stage actuators (DSA). On information and belief, such ECS products include at least ECS ECS SF 100, 110, SKM-U, LIVA ONE, LIVE Z3E, LIVE ONE PLUS, and LIVA ZE series PCs and/or other ECS products that include one or more HGST and/or WD hard drives.

31. For example, Defendant has and continues to directly and/or indirectly infringe at least Claim 44 of the '597 Patent by making, using, offering to sell, selling, and/or importing into

the United States products that include hard disk drives that include microactuators, such as drives, which include Dual-Stage Actuators.

32. Hard drives which, upon information and belief, are included in one or more of Defendant's computers include one or more Dual-Stage Actuators that, when utilized, employ a method for actuating a micromechanism, the micromechanism comprises an expansion member having a first end coupled to a base member and a second end coupled to a drivable shuttle. For example, the Dual Stage Actuator includes a substantially straight expansion member comprising a first and a second end. The Dual Stage Actuator further includes a base member attached to the first end of the substantially straight expansion member. When utilized, the Dual Stage Actuator elongates the expansion member in the elongation direction. The Dual Stage Actuator further elastically buckles the expansion member against the shuttle. The Dual Stage Actuator further applies a biasing force resulting from buckling of the expansion member to the shuttle, a portion of the biasing force urging the shuttle in a direction substantially different from the elongation direction.¹

33. Defendant has and continues to indirectly infringe one or more claims of the '597 Patent by knowingly and intentionally inducing others, including Defendant's customers and end-users, to directly infringe, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling, and/or importing into the United States products that include infringing technology, such as laptops and desktops that utilize hard drives that include microactuators.

¹ For example, such hard drives include functionality set forth in *e.g.*, https://documents.westerndigital.com/content/dam/doc-library/en_us/assets/public/western-digital/collateral/tech-brief/tech-brief-western-digital-micro-actuator.pdf

34. Defendant, with knowledge that these products, or the use thereof, infringe the '597 Patent, knowingly and intentionally induced direct infringement of the '597 Patent by providing these products to end-users for use in an infringing manner.

35. Defendant induced infringement by others, including end-users, with the intent to cause infringing acts by others or, in the alternative, with the belief that there was a high probability that others, including end-users, infringe the '597 Patent, but while remaining willfully blind to the infringement.

36. LHD has suffered damages as a result of Defendant's direct and indirect infringement of the '597 Patent in an amount to be proved at trial.

COUNT III
(Infringement of the '444 Patent)

37. Paragraphs 1 through 17 are incorporated by reference as if fully set forth herein.

38. LHD has not licensed or otherwise authorized Defendant to make, use, offer for sale, sell, or import any products that embody the inventions of the '444 Patent.

39. Defendant has and continues to directly infringe the '444 Patent, either literally or under the doctrine of equivalents, without authority and in violation of 35 U.S.C. § 271, by making, using, offering to sell, selling, and/or importing into the United States products that satisfy each and every limitation of one or more claims of the '444 Patent. Such products include computer devices, such as laptops, desktops, and servers, that utilize disk drives with a fall sensor, such as the ECS NU, CF, MF, and SF series Laptops.

40. For example, Defendant has and continues to directly infringe at least claim 14 of the '444 Patent by making, using, offering to sell, selling, and/or importing into the United States products that include SSDs, fall sensors, and associated software.

41. On information and belief, ECS laptop computers are electronic devices that includes a processor, a fall sensor, and one or more SSD. On information and belief, Asus laptops include software in the form of a computer-readable storage medium including computer-readable instructions stored therein that, upon execution by the processor, perform operations comprising initiating a write operation of data to an SSD. On information and belief, during the initiated write operation, the software monitors the sensor to determine if the electronic device is accelerating. On information and belief, the monitoring occurs at a sampling rate selected based on at least one of a type of the solid-state memory device, an amount of time to execute a solid-state memory device shutdown procedure, or a threshold distance over which the electronic device can move. On information and belief, the software further determines if the ECS products are accelerating and interrupts the initiated write operation and executes the solid-state memory device shutdown procedure.

42. Defendant has and continues to indirectly infringe one or more claims of the '444 Patent by knowingly and intentionally inducing others, including ECS customers and end-users, to directly infringe, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling, and/or importing into the United States products that include infringing technology, such as laptops that include fall sensors.

43. Defendant, with knowledge that these products, or the use thereof, infringe the '444 Patent at least as of the date of this Complaint, knowingly and intentionally induced, and continues to knowingly and intentionally induce, direct infringement of the '444 Patent by providing these products to end-users for use in an infringing manner.

44. Defendant induced infringement by others, including end-users, with the intent to cause infringing acts by others or, in the alternative, with the belief that there was a high probability

that others, including end-users, infringe the '444 Patent, but while remaining willfully blind to the infringement.

45. LHD has suffered damages as a result of Defendant's direct and indirect infringement of the '444 Patent in an amount to be proved at trial.

46. LHD has suffered, and will continue to suffer, irreparable harm as a result of Defendant's infringement of the '444 Patent, for which there is no adequate remedy at law, unless Defendant's infringement is enjoined by this Court.

DEMAND FOR JURY TRIAL

Plaintiff hereby demands a jury for all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, LHD prays for relief against Defendant as follows:

- a. Entry of judgment declaring that Defendant has directly and/or indirectly infringed one or more claims of each of the Patents-in-Suit;
- b. An order pursuant to 35 U.S.C. § 283 permanently enjoining Defendant, its officers, agents, servants, employees, attorneys, and those persons in active concert or participation with it, from further acts of infringement one or more of the Patents-in-Suit;
- c. An order awarding damages sufficient to compensate LHD for Defendant's infringement of the Patents-in-Suit, but in no event less than a reasonable royalty, together with interest and costs;
- d. Entry of judgment declaring that this case is exceptional and awarding LHD its costs and reasonable attorney fees under 35 U.S.C. § 285; and
- e. Such other and further relief as the Court deems just and proper.

Dated: July 23, 2021

Respectfully submitted,

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