

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF PENNSYLVANIA

LAMBETH MAGNETIC STRUCTURES, LLC,

Plaintiff,

v.

TOSHIBA CORPORATION, TOSHIBA
AMERICA INFORMATION SYSTEMS, INC.,
TOSHIBA AMERICA ELECTRONIC
COMPONENTS, INC., TOSHIBA OF CANADA,
LTD., SAE MAGNETICS H.K. LTD.,
HEADWAY TECHNOLOGIES, INC., TDK
CORPORATION, TDK U.S.A. CORPORATION,
TDK CORPORATION OF AMERICA,

Defendants.

Civil Action

No. 2:14-cv-01526-CB

Judge Cathy Bissoon

Electronically Filed

THIRD AMENDED COMPLAINT AND DEMAND FOR TRIAL BY JURY

Plaintiff Lambeth Magnetic Structures, LLC, with a principal place of business at 1230 Squirrel Hill Avenue, Pittsburgh, PA 15217 (“Lambeth Magnetic Structures”), alleges the following for its Third Amended Complaint against defendants Toshiba Corporation, Toshiba America Information Systems, Inc., Toshiba America Electronic Components, Inc., Toshiba of Canada, Ltd., SAE Magnetics (H.K.) Ltd., Headway Technologies, Inc., TDK Corporation, TDK U.S.A. Corporation, and TDK Corporation of America:

NATURE OF ACTION

1. This is a civil action for infringement of United States Patent No. 7,128,988. The action arises under the laws of the United States related to patents, including 35 U.S.C. § 281.

PARTIES

2. Lambeth Magnetic Structures is a limited liability company organized and existing under the laws of Pennsylvania, with an address and having its principal place of business at 1230 Squirrel Hill Avenue, Pittsburgh, PA 15217.

3. Toshiba Corporation is a corporation formed under the laws of the country of Japan, with a principal place of business at 1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, Japan.

4. Toshiba America Information Systems, Inc. (“TAIS”) is a corporation formed under the laws of California, with a principal place of business at 9740 Irvine Boulevard, Irvine, California 92618.

5. Toshiba America Electronic Components, Inc. (“TAEC”) is a corporation formed under the laws of California, with a principal place of business at 9740 Irvine Boulevard, Irvine, California 92618.

6. Toshiba of Canada, Ltd. (“Toshiba Canada”) is a limited liability company formed under the laws of Canada, with a principal place of business at 75 Tiverton Court, Markham, ON, L3R 4M8.

7. Toshiba Corporation, Toshiba America Information Systems, Inc., Toshiba America Electronic Components, Inc., and Toshiba of Canada, Ltd., are hereinafter collectively referred to as “Toshiba.”

8. SAE Magnetics (H.K.) Ltd (“SAE”), is a company formed under the laws of Hong Kong headquartered at SAE Technology Center, 6 Science Park East Avenue, Hong Kong Science Park, Shatin, N.T. Hong Kong.

9. Headway Technologies, Inc. (“Headway“) is a corporation formed under the laws of California with a principal place of business at 682 South Hillview Drive, Milpitas, CA 95035.

10. TDK Corporation is a corporation formed under the laws of Japan with a principal place of business at Shibaura Renasite Tower, 3-9-1 Shibaura, Minato-ku, Tokyo 108-0023, Japan.

11. TDK U.S.A. Corporation (“TDK USA”) is a corporation formed under the laws of New York with a principal place of business at 455 RXR Plaza Uniondale, NY 11556.

12. TDK Corporation of America (“TDK America”), is a corporation formed under the laws of Illinois with a principal place of business at 475 West Half Day Road, Suite 300, Lincolnshire, IL 60069 U.S.A.

13. TDK Corporation is the parent company of TDK USA and TDK America. TDK Corporation, TDK USA, and TDK America are herein collectively referred to as “TDK.”

JURISDICTION AND VENUE

14. Subject matter jurisdiction is conferred upon this Court under 28 U.S.C § 1331 and 1338(a) because this action is for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 1 et *seq.*

15. Venue is proper in this district pursuant to 28 U.S.C. §§ 1391(b), 1391(c), and 1400(b).

16. Toshiba Corporation is subject to this Court's specific and general personal jurisdiction as it is regularly doing or soliciting business in this judicial district and committing the infringements alleged against it below in this judicial district.

17. TAIS is subject to this Court's specific and general personal jurisdiction as it is regularly doing or soliciting business in this judicial district and committing the infringements alleged against it below in this judicial district.

18. TAEC is subject to this Court's specific and general personal jurisdiction as it is regularly doing or soliciting business in this judicial district and committing the infringements alleged against it below in this judicial district.

19. Toshiba Canada is subject to this Court's specific and general personal jurisdiction as it is regularly doing or soliciting business in this judicial district and committing the infringements alleged against it below in this judicial district.

20. SAE is subject to this Court's personal jurisdiction because it has committed and continues to commit acts of infringement in violation of 35 U.S.C. §271, has participated in mediation in connection with this case in this district, and has purposefully availed itself of this jurisdiction by placing infringing instrumentalities such as magnetic heads for use in perpendicular magnetic recording ("PMR heads"), wafers containing PMR heads ("PMR wafers"), sliders containing PMR heads ("PMR sliders") and/or head gimbal assemblies for use in perpendicular magnetic recording ("PMR HGAs") into the stream of commerce with the knowledge and expectation that those PMR heads, PMR wafers, PMR sliders, and/or PMR HGAs are incorporated in hard disk drives, computers and/or servers will be purchased by consumers in this judicial district, including through websites. For example, SAE places infringing instrumentalities such as PMR heads, PMR wafers, PMR sliders, and/or PMR HGAs into the stream of commerce with the knowledge and expectation that those PMR heads, PMR wafers, PMR sliders, and/or PMR HGAs (i) will be incorporated into hard disk drives by hard disk drive manufacturers, *e.g.*, Toshiba, and sold to consumers in this judicial district; (ii) will be

incorporated into hard disk drives by hard disk drive manufacturers, *e.g.*, Toshiba, which will be provided to computer manufacturers, *e.g.*, Dell, Network Attached Storage (“NAS”) manufacturers, and/or electronic games and entertainment equipment manufacturers, and incorporated into computers, NAS, electronic games and entertainment equipment, *e.g.*, PlayStations, DVRs, and/or automobiles, sold in this district. Toshiba hard drives and Dell computers can be purchased in retail stores, *e.g.*, Staples or online by consumers in this district. SAE is further subject to personal jurisdiction because it has contracted with Carnegie Mellon University’s Data Storage Systems Center to fund research into technologies that, upon information and belief, is or will be incorporated into infringing instrumentalities sold in this judicial district.

21. Headway is subject to this Court’s personal jurisdiction because it has committed and continues to commit acts of infringement in violation of 35 U.S.C. §271, has participated in mediation in connection with this case in this district, and has purposefully availed itself of this jurisdiction by placing infringing instrumentalities such as PMR heads, PMR wafers, and/or PMR sliders into the stream of commerce with the knowledge and expectation that those PMR heads, PMR wafers, and/or PMR sliders incorporated in hard disk drives, computers and/or servers will be purchased by consumers in this judicial district, including through websites. For example, Headway places infringing instrumentalities such as PMR heads, PMR wafers, and/or PMR sliders into the stream of commerce with the knowledge and expectation that those PMR heads, PMR wafers, and/or PMR sliders (i) will be incorporated into hard disk drives by hard disk drive manufacturers, *e.g.*, Toshiba, and sold to consumers in this judicial district; (ii) will be incorporated into hard disk drives by hard disk drive manufacturers, *e.g.*, Toshiba, which will be provided to computer manufacturers, *e.g.*, Dell, Network Attached Storage (“NAS”)

manufacturers, and/or electronic games and entertainment equipment manufacturers, and incorporated into computers, NAS, electronic games and entertainment equipment, *e.g.*, PlayStations, DVRs, and/or automobiles, sold in this district. Toshiba hard drives and Dell computers can be purchased in retail stores, *e.g.*, Staples or online by consumers in this district. Headway is further subject to personal jurisdiction because it has contracted with Carnegie Mellon University's Data Storage Systems Center to fund research into technologies that, upon information and belief, is or will be incorporated into infringing instrumentalities sold in this judicial district.

22. TDK is subject to this Court's personal jurisdiction because it has committed and continues to commit acts of infringement in violation of 35 U.S.C. §271, and has purposefully availed itself of this jurisdiction by placing infringing instrumentalities such as PMR HGAs into the stream of commerce with the knowledge and expectation that those PMR HGAs incorporated in hard disk drives, computers and/or servers will be purchased by consumers in this judicial district, including through websites. For example, TDK places infringing instrumentalities such as PMR HGAs into the stream of commerce with the knowledge and expectation that those PMR HGAs (i) will be incorporated into hard disk drives by hard disk drive manufacturers, *e.g.*, Toshiba, and sold to consumers in this judicial district; (ii) will be incorporated into hard disk drives by hard disk drive manufacturers, *e.g.*, Toshiba, which will be provided to computer manufacturers, *e.g.*, Dell, Network Attached Storage ("NAS") manufacturers, and/or electronic games and entertainment equipment manufacturers, and incorporated into computers, NAS, electronic games and entertainment equipment, *e.g.*, PlayStations, DVRs, and/or automobiles, sold in this district. Toshiba hard drives and Dell computers can be purchased in retail stores, *e.g.*, Staples or online by consumers in this district. TDK Corporation is further subject to this

Court's personal jurisdiction because it has participated in mediation in connection with this case in this district. TDK is further subject to personal jurisdiction because it has contracted with Carnegie Mellon University's Data Storage Systems Center to fund research into technologies that, upon information and belief, is or will be incorporated into infringing instrumentalities sold in this judicial district.

BACKGROUND

23. Lambeth Magnetic Structures is an entity formed to license patents invented by Dr. David N. Lambeth, a retired Carnegie Mellon professor and recognized pioneer in the area of materials science, and magnetic devices, specifically magnetic structures and devices for computer memory devices, included electronic hard disk drives (also referred to herein as "magnetic disk drives").

24. One of Lambeth's patents, United States Patent No. 7,128,988 ("the '988 Patent"), entitled "Magnetic Material Structures, Devices and Methods," was issued on October 31, 2006. (A copy of the '988 Patent was attached to the original complaint.)

25. The current owner of '988 Patent, by assignment, is Lambeth Magnetic Structures, which has the right to sue and recover damages for infringement thereof.

26. Our modern society runs on computers. A central attribute of computers is the ability to store and retrieve information accurately. Every year, the amount of information that needs to be stored grows exponentially, requiring more and more storage capacity for individuals and companies alike. For many computers, the information is stored on hard disk drives. Hence, the storage capacity of hard disk drives continually needs to be increased.

27. A major requirement to accommodate the growing need for data storage without increasing the size of the hard disk drives is to shrink the physical size of the datum unit on the

storage medium. While it would be possible to make hard disk drives physically larger to store more data, if the storage density had not increased over the years, (that is, allowing more data to be stored in the same footprint), it would have taken hard disk drives the size of a house to store a small music library.

28. Hard disk drives store much of the digital information (data) in the world today. Central to the operation of hard disk drives is the storage medium, which is implemented on a set of spinning magnetic platters. A magnetic head is mounted to an actuator to move it across the spinning platters, reading and writing the data.

29. The magnetic head is composed of various materials and structures which play a vital role in determining the hard disk drive storage capacity. It is important that the structures be as small as possible and the materials be sufficiently potent to perform the required function of changing the states of very small areas of magnetic material on the platter, *i.e.*, magnetic media. At the same time, the materials in the media disk must also be sufficiently potent to accept, retain and enable retrieval of the information. This changing of the magnetized state on the magnetic disk platter is equivalent to modifying or writing the 0's and 1's representing data stored on the platter.

30. For ease of reference, but without limitation, as used herein, the reference to “Hard Disk Drive Devices” shall include computers, electronic equipment, and hard disk drives with magnetic heads and perpendicular magnetic recording media, including but not limited to: hard disk drives, including hard disk drives for inclusion in computers; stand-alone drives and portable drives; laptop and desktop computers with hard disk drives; media players and sound or video recording devices with hard disk drives; gaming systems with hard disk drives; servers and enterprise storage computers; hard disk drive storage devices in automotive vehicles and

machinery; and other devices with hard disk drives, including the components and media for such drives.

31. In connection with the '988 Patent, Dr. Lambeth invented a new magnetic structure for Hard Disk Drive Devices comprised of the following elements:

a substrate;

at least one bcc-d layer which is magnetic, forming a uniaxial symmetry broken structure; and

at least one layer providing a (111) textured hexagonal atomic template disposed between said substrate and said bcc-d layer.

32. Independent claims 1 and 27 of the '988 Patent claim a magnetic material and a magnetic device, respectively, comprising the above structure.

33. This structure allows higher storage capacity Hard Disk Drive Devices to be made than before without increasing their physical size, allowing the ever-increasing miniaturization of computers and the concomitant increase of data storage capacity to continue.

FIRST CLAIM FOR RELIEF
Patent Infringement of United States Patent No. 7,128,988

34. The foregoing allegations are restated and incorporated by reference as though fully set forth herein.

Allegations Regarding Toshiba Corporation

35. Toshiba makes Hard Disk Drive Devices, and offers to sell, sells and/or exports such hard disk drives to the United States and this District. One of such Hard Disk Drive Devices is the Canvio Desk Desktop External Hard Drive. A photograph of the label of such drive, indicating that it is made by or for Toshiba Corporation is shown below:



36. Upon information and belief, past and current generations of this and other Toshiba Corporation Hard Disk Drive Devices have magnetic heads and/or media that have the following structure, or equivalents thereto:

a substrate;

at least one bcc-d layer which is magnetic, forming a uniaxial symmetry broken structure; and

at least one layer providing a (111) textured hexagonal atomic template disposed between said substrate and said bcc-d layer.

37. Toshiba Corporation makes, uses, sells, or offers to sell structures and devices incorporating such structures that infringe at least claims 1 and 27 of the '988 Patent, and dependent claims thereof.

38. Accordingly, Toshiba Corporation is in violation of 35 U.S.C. § 271(a), and has been and continues to directly infringe at least claims 1 and 27 of the '988 Patent, and dependent claims thereof, literally or under the doctrine of equivalents, by making, using, selling, offering to sell, and/or importing Hard Disk Drive Devices with the above structures in and to the United States and this District.

39. At least as early as November 19, 2014, Toshiba Corporation was aware of the '988 Patent, and the alleged infringement thereof.

40. Upon information and belief, Toshiba Corporation actively and knowingly aided other manufacturers, including, Toshiba America Information Systems, Inc., Toshiba America Electronic Components, Inc., and/or Toshiba of Canada, Ltd. to make, use, sell, offer to sell and/or import computers and devices that incorporate structures that infringe at least claims 1 and 27 of the '988 Patent, as well as claims dependent therefrom.

41. A photograph of a Toshiba Corporation labeled Hard Disk Drive Device, which was taken out of a Dell computer, is shown below. Upon information and belief, Toshiba Corporation supplies Hard Disk Drive Devices to Dell for their computers for sale to and into the United States and has done so after being on notice of its infringement of the '988 Patent.



42. Upon information and belief, Toshiba Corporation knowingly sells Hard Disk Drive Devices that incorporate structures that infringe claims 1 and 27 of the '988 Patent and dependent claims thereof, to Dell, Inc. and other manufacturers, with the knowledge that these Hard Disk Drive Devices would be included in third-party computers, including Dell computers

and other devices manufactured outside of the United States and are then sold and/or imported into the United States, thereby infringing at least claims 1 and 27 of the '988 Patent, as well as claims dependent therefrom.

43. Upon information and belief, Toshiba Corporation is in violation of 35 U.S.C. § 271(b), by inducing and continuing to induce others to infringe, at least claims 1 and 27 of the '988 Patent, and dependent claims thereof, literally or under the doctrine of equivalents, by inducing others to make, use, sell, and/or offer to sell Hard Disk Drive Devices with the above structures in and to the United States and this District.

Allegations Regarding Toshiba America Information Systems, Inc. (“TAIS”)

44. Toshiba America Information Systems, Inc. (TAIS) is headquartered in Irvine California. TAIS makes and sells Hard Disk Drive Devices. One of such Hard Disk Drive Devices is the Canvio Desk Desktop External Hard Drive. A photograph of the package for such drives is below, identifying TAIS as the supplier:



45. Upon information and belief, past and current generations of this and other TAIS Hard Disk Drive Devices have magnetic heads and/or media that have the following structure, or equivalents thereto:

a substrate;

at least one bcc-d layer which is magnetic, forming a uniaxial symmetry broken structure; and

at least one layer providing a (111) textured hexagonal atomic template disposed between said substrate and said bcc-d layer.

46. TAIS makes, uses, sells, or offers to sell structures and devices incorporating such structures that infringe at least claims 1 and 27 of the '988 Patent, and dependent claims thereof.

47. Accordingly, TAIS is in violation of 35 U.S.C. § 271(a), and has been and continues to directly infringe at least claims 1 and 27 of the '988 Patent, and dependent claims thereof, literally or under the doctrine of equivalents, by making, using, selling, offering to sell, and/or importing Hard Disk Drive Devices with the above structures in and to the United States and this District.

48. Upon information and belief, at least as early as December 11, 2014, TAIS was aware of the '988 Patent, and the alleged infringement thereof.

49. Upon information and belief, TAIS actively and knowingly aided other manufacturers and/or retailers, including Staples and Best Buy to sell and offer to sell Hard Disk Drive Devices that infringe at least claims 1 and 27 of the '988 Patent, as well as claims dependent therefrom.

50. Upon information and belief, TAIS knowingly sells Hard Disk Drive Devices that infringe claims 1 and 27 of the '988 Patent to retailers such as Staples and Best Buy, with the knowledge that these Hard Disk Drive Devices would be sold and/or imported into the United

States, thereby infringing at least claims 1 and 27 of the '988 Patent, as well as claims dependent therefrom.

51. Upon information and belief, TAIS is in violation of 35 U.S.C. § 271(b), by inducing and continuing to induce others to infringe, at least claims 1 and 27 of the '988 Patent and dependent claims thereof, literally or under the doctrine of equivalents, by inducing others to make, use, sell, and/or offer to sell Hard Disk Drive Devices with the above structures in and to the United States and this District.

Allegations Regarding Toshiba America Electronic Components, Inc. (“TAEC”)

52. Toshiba America Electronic Components, Inc. (TAEC) makes, sells, and/or imports Hard Disk Drive Devices in or to the United States.

53. Based on the advertisement on TAEC's web-site, such Hard Disk Drive Devices include, but are not limited to hard disk drives such as: DT01ACA300 / DT01ACA200 / DT01ACA100 / DT01ACA050.

54. Upon information and belief, past and current generations of these and other TAEC Hard Disk Drive Devices have magnetic heads and/or media that have the following structure, or equivalents thereto:

a substrate;

at least one bcc-d layer which is magnetic, forming a uniaxial symmetry broken structure; and

at least one layer providing a (111) textured hexagonal atomic template disposed between said substrate and said bcc-d layer.

55. TAEC makes, uses, sells, or offers to sell structures and devices incorporating such structures that infringe at least claims 1 and 27 of the '988 Patent, and dependent claims thereof.

56. Accordingly, TAEC is in violation of 35 U.S.C. § 271(a), and has been and continues to directly infringe at least claims 1 and 27 of the '988 Patent, and dependent claims thereof, literally or under the doctrine of equivalents, by making, using, selling, offering to sell, and/or importing Hard Disk Drive Devices with the above structures in and to the United States and this District.

57. Upon information and belief, at least as early as December 11, 2014, TAEC was aware of the '988 Patent, and the alleged infringement thereof.

58. Upon information and belief, TAEC actively and knowingly aided other manufacturers and/or retailers, including D&H to sell and offer to sell Hard Disk Drive Devices in or to this District that infringe at least claims 1 and 27 of the '988 Patent, as well as claims dependent therefrom.

59. Upon information and belief, TAEC knowingly sells Hard Disk Drive Devices to retailers such as D&H that infringe claims 1 and 27 of the '988 Patent, and dependent claims thereof, with the knowledge that these Hard Disk Drive Devices would be sold and/or imported into the United States, thereby infringing at least claims 1 and 27 of the '988 Patent, as well as claims dependent therefrom.

60. Upon information and belief, TAEC is in violation of 35 U.S.C. § 271(b), by inducing and continuing to induce others to infringe, at least claims 1 and 27 of the '988 Patent, and dependent claims thereof, literally or under the doctrine of equivalents, by inducing others to make, use, sell, and/or offer to sell Hard Disk Drive Devices with the above structures in and to the United States and this District.

Allegations Regarding Toshiba of Canada, Ltd. (“Toshiba Canada”)

61. Toshiba of Canada, Ltd. (Toshiba Canada) makes, sells, and/or imports into the United States Hard Disk Drive Devices. One of such Hard Disk Drive Devices is the Canvio Desk Desktop External Hard Drive. A photograph of the package for such drives is below, identifying Toshiba Canada as the importer:



62. Upon information and belief, past and current generations of this and other Toshiba Canada Hard Disk Drive Devices have magnetic heads and/or media that have the following structure, or equivalents thereto:

a substrate;

at least one bcc-d layer which is magnetic, forming a uniaxial symmetry broken structure; and

at least one layer providing a (111) textured hexagonal atomic template disposed between said substrate and said bcc-d layer.

63. Toshiba Canada makes, uses, sells, or offers to sell structures and devices incorporating such structures that infringe at least claims 1 and 27 of the '988 Patent, and dependent claims thereof.

64. Accordingly, Toshiba Canada is in violation of 35 U.S.C. § 271(a), and has been and continues to directly infringe at least claims 1 and 27 of the '988 Patent, and dependent claims thereof, literally or under the doctrine of equivalents, by making, using, selling, offering to sell, and/or importing Hard Disk Drive Devices with the above structures in and to the United States and this District.

65. Upon information and belief, at least as early as December 11, 2014, Toshiba Canada was aware of the '988 Patent, and the alleged infringement thereof.

66. Upon information and belief, Toshiba Canada actively and knowingly aided other manufacturers and/or retailers, including Staples and Best Buy to sell and offer to sell Hard Disk Drive Devices that infringe at least claims 1 and 27 of the '988 Patent, as well as claims dependent therefrom.

67. Upon information and belief, Toshiba Canada knowingly sells Hard Disk Drive Devices to retailers such as Staples and Best Buy that infringe claims 1 and 27 of the '988 Patent, and dependent claims thereof, with the knowledge that these Hard Disk Drive Devices would be sold and/or imported into the United States, thereby infringing at least claims 1 and 27 of the '988 Patent, as well as claims dependent therefrom.

68. Upon information and belief, Toshiba Canada is in violation of 35 U.S.C. § 271(b), by inducing and continuing to induce others to infringe, at least claims 1 and 27 of the '988 Patent, and dependent claims thereof, literally or under the doctrine of equivalents, by

inducing others to make, use, sell, and/or offer to sell Hard Disk Drive Devices with the above structures in and to the United States and this District.

Allegations Common to All Toshiba Defendants

69. Lambeth Magnetic Structures has been damaged by Toshiba's infringement of the '988 Patent, and is suffering and will continue to suffer irreparable harm and damage as a result of this infringement unless such infringement is enjoined by this Court.

70. Upon information and belief, employees of Toshiba involved in the manufacture of its Hard Disk Drive Devices had knowledge, prior to the filing of this complaint, of the inventor of the '988 Patent, David N. Lambeth, and his career and innovations in the field of magnetic material structures and devices used in hard disk drives.

71. Toshiba Corporation has been on actual notice of the '988 Patent and their alleged infringement of such at least as early as November 19, 2014, and Toshiba America Information Systems, Inc., Toshiba America Electronic Components, Inc., and Toshiba of Canada, Ltd. have been on actual notice of the '988 Patent and their alleged infringement of such at least as early as December 11, 2014.

72. Lambeth Magnetic Structures has no adequate remedy at law.

Allegations Regarding SAE

73. The allegations stated in paragraphs 1-33 are incorporated by reference as though fully set herein.

74. SAE manufactures PMR heads, PMR wafers and/or PMR sliders containing PMR heads with magnetic multi-layer structures.

75. SAE designs and manufactures instrumentalities containing PMR magnetic heads, *e.g.*, PMR HGAs.

76. SAE offers for sale and/or sells these instrumentalities containing magnetic heads, *e.g.*, PMR HGAs, to Toshiba Corporation and other hard disk drive manufacturers.

77. The PMR heads, PMR wafers, and/or PMR sliders that SAE integrates within these instrumentalities, *e.g.*, PMR HGAs, and provides to Toshiba Corporation are incorporated in Hard Disk Drive Devices, including without limitation certain Toshiba Corporation Hard Disk Drive Devices, including without limitation MK3253GSX, MK5065GSX, MK5065GSY, MK6465GSK, MQ01ABD100, DT01ACA300, DT01ACA200, DT01ACA100, and DT01ACA050.

78. SAE makes, uses, offers to sell, sells, and/or imports into the United States PMR heads, PMR wafers, PMR sliders, and/or PMR HGAs, which are incorporated into Hard Disk Drive Devices including the accused Toshiba Hard Disk Drive Devices and Hard Disk Drive Devices of other hard disk drive manufacturers.

79. Each of the PMR heads, PMR wafers, PMR sliders, and/or PMR HGAs that SAE makes, uses, offers to sell, sells, and/or imports into the United States include at least one magnetic head for writing data to the surface(s) of the magnetic hard disk.

80. SAE infringes the '988 Patent by making, using, offering to sell, selling, and/or importing into the United States Hard Disk Drive PMR heads, PMR wafers, PMR sliders, and/or PMR HGAs that incorporate magnetic materials having the following structure, or equivalents thereto:

- a substrate;
- at least one bcc-d layer which is magnetic, forming a uniaxial symmetry broken structure; and
- at least one layer providing a (111) textured hexagonal atomic template disposed between said substrate and said bcc-d layer.

81. More specifically, the SAE PMR heads, PMR wafers, PMR sliders, and/or PMR HGAs use a magnetic layer made from at least iron cobalt (Fe,Co) or an FeCo alloy having a bcc-d structure and forming a uniaxial symmetry broken structure as claimed in the '988 Patent.

82. The SAE PMR heads, PMR wafers, PMR sliders, and/or PMR HGAs also use at least one layer of material made from Ruthenium (Ru) or some other seedlayer material, disposed between a substrate in the magnetic head and a magnetic layer having a uniaxial symmetry broken structure, as set forth above. This material facilitates the formation of a magnetic layer by providing a (111) textured hexagonal atomic template as claimed in the '988 Patent.

83. The magnetic material structures in the PMR heads, PMR wafers, PMR sliders, and/or PMR HGAs that SAE makes, uses, offers to sell, sells, and/or imports into the United States infringe at least claims 1 and 27 of the '988 Patent, and dependent claims thereof, including claims 3, 6, 7, 8, 9, 11, 13, 17, 18, 19, 23, 28, and 29, literally or under the doctrine of equivalents in violation of 35 U.S.C. § 271(a).

84. Upon information and belief, SAE was aware of the '988 Patent and its alleged infringement of the '988 Patent at least as early as November 6, 2014, but in no event later than October 5, 2015, when its parent company, TDK Corporation, filed an *inter partes* review petition seeking to invalidate the '988 Patent, wherein SAE was listed as a real party-in-interest.

85. Upon information and belief, SAE actively and knowingly aided through sales and marketing activity other entities, including, Headway, Toshiba Corporation, Toshiba America Information Systems, Inc., Toshiba America Electronic Components, Inc., Toshiba of Canada, Ltd., and/or other hard disk drive manufacturers (collectively, "SAE's Suppliers and Customers") to make, use, offer to sell, sell, and/or import into the United States PMR heads,

PMR wafers, PMR sliders, PMR HGAs, hard disk drives, computers, and/or devices that incorporate structures that infringe at least claims 1 and 27 of the '988 Patent, as well as claims dependent therefrom, including claims 3, 6, 7, 8, 9, 11, 13, 17, 18, 19, 23, 28, and 29 to Toshiba and other hard disk drive manufacturers, with the knowledge that these PMR heads, PMR wafers, PMR sliders, and/or PMR HGAs would be included in third-party Hard Disk Drive Devices and computers, including Dell computers and other devices manufactured outside of the United States and are then sold and/or imported into the United States.

86. SAE is in violation of 35 U.S.C. § 271(b), by inducing and continuing to induce others to infringe, at least claims 1 and 27 of the '988 Patent, and dependent claims thereof, including claims 3, 6, 7, 8, 9, 11, 13, 17, 18, 19, 23, 28, and 29, literally or under the doctrine of equivalents. Among SAE's Suppliers and Customers whom SAE induces to directly infringe these claims of the '988 Patent are Headway as well as manufacturers of Hard Disk Drive Devices, including without limitation Toshiba, as well as the OEMs who incorporate Hard Disk Drive Devices in their computers, servers, and/or game consoles, including without limitation Dell.

87. Lambeth Magnetic Structures has been damaged by SAE's infringement of the '988 Patent, and is suffering and will continue to suffer irreparable harm and damage as a result of this infringement unless such infringement is enjoined by this Court.

88. Upon information and belief, employees of SAE involved in the making, using, selling, offering to sell, and/or importing into the United States of these PMR heads, PMR wafers, PMR sliders, and/or PMR HGAs had knowledge, prior to the filing of this complaint, of the inventor of the '988 Patent, David N. Lambeth, and his career and innovations in the field of magnetic material structures and devices used in hard disk drives.

89. SAE has been and is currently infringing at least claims 1 and 27 of the '988 Patent, and dependent claims thereof, including claims 3, 6, 7, 8, 9, 11, 13, 17, 18, 19, 23, 28, and 29 by making, using, offering to sell, selling, and/or importing into the United States, and/or actively encouraging its customers and suppliers to make, use, sell, offer to sell, and/or import into the United States infringing PMR heads, PMR wafers, PMR sliders, and/or PMR HGAs despite an objectively high likelihood that SAE's actions constituted infringement of the '988 Patent. This objectively high risk of infringement was either known by SAE or so obvious that it should have been known by SAE.

90. Upon information and belief, and based upon paragraphs 88-89, SAE has been on actual notice of the '988 Patent and its alleged infringement of such at least as early as November 6, 2014, but in no event later than October 5, 2015, and its acts of infringement since at least this time are willful and deliberate under 35 U.S.C. § 284. This action is exceptional within the meaning of 35 U.S.C. § 285.

Allegations Regarding Headway

91. The allegations stated in paragraphs 1-33 are incorporated by reference as though fully set herein.

92. Headway designs and manufactures PMR heads, PMR wafers, and/or PMR sliders containing PMR heads for high performance hard disk drives in the United States.

93. Headway makes and/or uses PMR heads, PMR wafers, and/or PMR sliders, which are incorporated into Hard Disk Drive Devices including the accused Toshiba Hard Disk Drive Devices and Hard Disk Drive Devices of other hard disk drive manufacturers.

94. Headway manufactures the PMR heads, PMR wafers, and/or PMR sliders that are incorporated in Hard Disk Drive Devices, including without limitation certain Toshiba

Corporation Hard Disk Drive Devices, including without limitation MK3253GSX, MK5065GSX, MK5065GSY, MK6465GSK, MQ01ABD100, DT01ACA300, DT01ACA200, DT01ACA100, and DT01ACA050.

95. Each of the PMR heads, PMR wafers, and/or PMR sliders that Headway makes and/or uses include at least one magnetic head for writing data to the surface(s) of the magnetic hard disk.

96. Headway infringes the '988 Patent by making and/or using PMR heads, PMR wafers, and/or PMR sliders that incorporate magnetic materials having the following structure, or equivalents thereto:

a substrate;
at least one bcc-d layer which is magnetic, forming a uniaxial symmetry broken structure; and
at least one layer providing a (111) textured hexagonal atomic template disposed between said substrate and said bcc-d layer.

97. More specifically, the Headway PMR heads, PMR wafers, and/or PMR sliders use a magnetic layer made from at least iron cobalt (Fe,Co) or an FeCo alloy having a bcc-d structure and forming a uniaxial symmetry broken structure as claimed in the '988 Patent.

98. The Headway PMR heads, PMR wafers, and/or PMR sliders also use at least one layer of material made from Ruthenium (Ru) or some other seedlayer material, disposed between a substrate in the magnetic head and a magnetic layer having a uniaxial symmetry broken structure, as set forth above. This material facilitates the formation of a magnetic layer by providing a (111) textured hexagonal atomic template as claimed in the '988 Patent.

99. The magnetic material structures in the PMR heads, PMR wafers, PMR sliders that Headway makes and/or uses infringe at least claims 1 and 27 of the '988 Patent, and

dependent claims thereof, including claims 3, 6, 7, 8, 9, 11, 13, 17, 18, 19, 23, 28, and 29, literally or under the doctrine of equivalents in violation of 35 U.S.C. § 271(a).

100. Upon information and belief, Headway was aware of the '988 Patent and its alleged infringement of the '988 Patent at least as early as November 6, 2014, but in no event later than August 24, 2015, when it received a subpoena to produce documents in this case.

101. Upon information and belief, Headway actively and knowingly aided through sales and marketing activity other entities, including, SAE, TDK, Toshiba Corporation, Toshiba America Information Systems, Inc., Toshiba America Electronic Components, Inc., Toshiba of Canada, Ltd., and/or other hard disk drive manufacturers (collectively, "Headway's Customers") to make, use, offer to sell, sell, and/or import into the United States PMR heads, PMR wafers, PMR sliders, PMR HGAs, hard drives, computers and devices that incorporate structures that infringe at least claims 1 and 27 of the '988 Patent, as well as claims dependent therefrom, including claims 3, 6, 7, 8, 9, 11, 13, 17, 18, 19, 23, 28, and 29 to Toshiba and other hard disk drive manufacturers, with the knowledge that these PMR heads, PMR wafers, and/or PMR sliders would be included in third-party Hard Disk Drive Devices and computers, including Dell computers and other devices manufactured outside of the United States and are then sold and/or imported into the United States.

102. Headway is in violation of 35 U.S.C. § 271(b), by inducing and continuing to induce others to infringe, at least claims 1 and 27 of the '988 Patent, and dependent claims thereof, including claims 3, 6, 7, 8, 9, 11, 13, 17, 18, 19, 23, 28, and 29, literally or under the doctrine of equivalents. Among Headway's Customers whom Headway induces to directly infringe these claims of the '988 Patent are manufacturers of Hard Disk Drive Devices, including

without limitation Toshiba, as well as the OEMs who incorporate Hard Disk Drive Devices in their computers, servers, and/or game consoles, including without limitation Dell.

103. Lambeth Magnetic Structures has been damaged by Headway's infringement of the '988 Patent, and is suffering and will continue to suffer irreparable harm and damage as a result of this infringement unless such infringement is enjoined by this Court.

104. Upon information and belief, employees of Headway involved in the making and/or using of their PMR heads, PMR wafers, and/or PMR sliders had knowledge, prior to the filing of this complaint, of the inventor of the '988 Patent, David N. Lambeth, and his career and innovations in the field of magnetic material structures and devices used in hard disk drives.

105. Headway has been and is currently infringing at least claims 1 and 27 of the '988 Patent, and dependent claims thereof, including claims 3, 6, 7, 8, 9, 11, 13, 17, 18, 19, 23, 28, and 29 by making and/or using and/or encouraging its customers and suppliers to make, use, sell, offer to sell, and/or import into the United States infringing PMR heads, PMR wafers, and/or PMR sliders despite an objectively high likelihood that Headway's actions constituted infringement of the '988 Patent. This objectively high risk of infringement was either known by Headway or so obvious that it should have been known by Headway.

106. Upon information and belief, and based upon paragraphs 104-105, Headway has been on actual notice of the '988 Patent and its alleged infringement of such at least as early as November 6, 2014, but in no event later than August 24, 2015, and its acts of infringement since at least this time are willful and deliberate under 35 U.S.C. § 284. This action is exceptional within the meaning of 35 U.S.C. § 285.

Allegations Regarding TDK

107. The allegations stated in paragraphs 1-33 are incorporated by reference as though fully set herein.

108. TDK provides instrumentalities containing PMR heads, *e.g.*, PMR HGAs, to hard disk drive manufacturers.

109. TDK offers to sell, sells, and/or imports into the United States PMR HGAs, which are incorporated into Hard Disk Drive Devices including the accused Toshiba Hard Disk Drive Devices and Hard Disk Drive Devices of other hard disk drive manufacturers.

110. The instrumentalities that TDK provides to Toshiba Corporation are incorporated in Hard Disk Drive Devices, including without limitation certain Toshiba Corporation Hard Disk Drive Device, including without limitation MK3253GSX, MK5065GSX, MK5065GSY, MK6465GSK, MQ01ABD100, DT01ACA300, DT01ACA200, DT01ACA100, and DT01ACA050..

111. SAE and Headway are wholly-owned subsidiaries of TDK Corporation. Upon information and belief, TDK Corporation: (i) exercises control and/or provides instruction to SAE and Headway; (ii) has integrated its sales and distribution systems with those of SAE and Headways; and (iii) possesses a unified marketing image, including common branding of products, trademarks, and logos.

112. Upon information and belief, TDK Corporation, through the actions of its wholly-owned subsidiaries, including Headway and SAE, makes, uses, offers to sell, sells, and/or imports into the United States PMR heads, PMR wafers, PMR sliders, and/or PMR HGAs, which are incorporated into Hard Disk Drive Devices including the accused Toshiba Hard Disk Drive Devices and Hard Disk Drive Devices of other hard disk drive manufacturers

113. Each of the PMR heads, PMR wafers, PMR sliders, and/or PMR HGAs that TDK offers to sell, sells, and/or imports into the United States either directly or through its wholly-owned subsidiaries, including Headway and SAE, include at least one magnetic head for writing data to the surface(s) of the magnetic hard disk.

114. TDK infringes the '988 Patent by offering to sell, selling, and/or importing into the United States PMR HGAs that contain PMR heads. TDK further infringes the '988 Patent, through the actions of its wholly-owned subsidiaries, including Headway and SAE, by making, using, offering to sell, selling, and/or importing into the United States PMR heads, PMR wafers, PMR sliders, and/or PMR HGAs. These TDK instrumentalities incorporate magnetic materials having the following structure:

- a substrate;
- at least one bcc-d layer which is magnetic, forming a uniaxial symmetry broken structure; and
- at least one layer providing a (111) textured hexagonal atomic template disposed between said substrate and said bcc-d layer.

115. More specifically, the TDK instrumentalities use a magnetic layer made from at least iron cobalt (Fe,Co) or an FeCo alloy having a bcc-d structure and forming a uniaxial symmetry broken structure as claimed in the '988 Patent.

116. The TDK instrumentalities also use at least one layer of material made from Ruthenium (Ru) or some other seedlayer material, disposed between a substrate in the magnetic head and a magnetic layer having a uniaxial symmetry broken structure, as set forth above. This material facilitates the formation of a magnetic layer by providing a (111) textured hexagonal atomic template as claimed in the '988 Patent.

117. These magnetic material structures in the TDK PMR HGAs that TDK offers to sell, sells, and/or imports into the United States, and that TDK Corporation, through the actions

of its wholly-owned subsidiaries, including Headway and SAE, makes, uses, offers to sell, sells, and/or imports into the United States infringe at least claims 1 and 27 of the ‘988 Patent, and dependent claims thereof, including claims 3, 6, 7, 8, 9, 11, 13, 17, 18, 19, 23, 28, and 29, literally or under the doctrine of equivalents in violation of 35 U.S.C. § 271(a).

118. Upon information and belief, TDK was aware of the ‘988 Patent and its alleged infringement of the ‘988 Patent at least as early as November 6, 2014, and for TDK USA and TDK America, in no event later than August 24, 2015, when they each received subpoenas to produce documents in this case, and for TDK Corporation, in no event later than October 5, 2015, when it filed an *inter partes* review Petition to invalidate the ‘988 Patent.

119. Upon information and belief, TDK actively and knowingly aided through sales and marketing activity other entities, including, Headway, SAE, Toshiba Corporation, Toshiba America Information Systems, Inc., Toshiba America Electronic Components, Inc., and/or Toshiba of Canada, Ltd., and/or other hard disk drive manufacturers (collectively, “TDK’s Suppliers and Customers”) to make, use, offer to sell, sell, and/or import into the United States PMR heads, PMR wafers, PMR sliders, PMR HGAs, hard disk drives, computers, and/or devices that incorporate structures that infringe at least claims 1 and 27 of the ‘988 Patent, as well as claims dependent therefrom, including claims 3, 6, 7, 8, 9, 11, 13, 17, 18, 19, 23, 28, and 29 to Toshiba and other hard disk drive manufacturers, with the knowledge that these PMR heads would be included in third-party Hard Disk Devices and computers, including Dell computers and other devices manufactured outside of the United States and are then sold and/or imported into the United States.

120. TDK is in violation of 35 U.S.C. § 271(b), by inducing and continuing to induce others to infringe, at least claims 1 and 27 of the ‘988 Patent, and dependent claims thereof,

including claims 3, 6, 7, 8, 9, 11, 13, 17, 18, 19, 23, 28, and 29, literally or under the doctrine of equivalents. Among TDK's Suppliers and Customers whom TDK induces to directly infringe these claims of the '988 Patent are Headway and SAE as well as manufacturers of Hard Disk Drive Devices, including without limitation Toshiba, as well as the OEMs who incorporate Hard Disk Drive Devices in their computers, servers, and/or game consoles, including without limitation Dell.

121. Lambeth Magnetic Structures has been damaged by TDK's infringement of the '988 Patent, and is suffering and will continue to suffer irreparable harm and damage as a result of this infringement unless such infringement is enjoined by this Court.

122. Upon information and belief, employees of TDK, or employees of wholly-owned subsidiaries of TDK Corporation such as Headway and SAE, involved in the offering to sell, selling, and/or importing of PMR HGAs had knowledge, prior to the filing of this complaint, of the inventor of the '988 Patent, David N. Lambeth, and his career and innovations in the field of magnetic material structures and devices used in hard disk drives.

123. TDK has been and is currently infringing at least claims 1 and 27 of the '988 Patent, and dependent claims thereof, including claims 3, 6, 7, 8, 9, 11, 13, 17, 18, 19, 23, 28, and 29 by making and/or using and/or encouraging its customers and suppliers to make, use, sell, offer to sell, and/or import into the United States infringing PMR heads, PMR wafers, PMR sliders, and/or PMR HGAs despite an objectively high likelihood that TDK's actions constituted infringement of the '988 Patent. This objectively high risk of infringement was either known by TDK or so obvious that it should have been known by TDK.

124. Upon information and belief, and based upon paragraphs 122-123, TDK has been on actual notice of the '988 Patent and its alleged infringement of such at least as early as

November 6, 2014, and for TDK USA and TDK America, in no event later than August 24, 2015, and for TDK Corporation, in no event later than October 5, 2015, and its acts of infringement since at least this time are willful and deliberate under 35 U.S.C. § 284. This action is exceptional within the meaning of 35 U.S.C. § 285.

JURY DEMAND

Pursuant to Fed. R. Civ. P. 38(b), Lambeth Magnetic Structures hereby demands a jury trial on all issues so triable raised in this action.

REQUESTED RELIEF

WHEREFORE, Lambeth Magnetic Structures demands judgment as follows:

- A. An order adjudging Toshiba, SAE, Headway, and TDK to have infringed the '988 Patent;
- B. A permanent injunction enjoining Toshiba, SAE, Headway, and TDK with its respective officers, agents, servants, employees, and attorneys, and all persons in active concert or participation with any of them who receive actual notice of the order by personal service or otherwise, from infringing the '988 Patent;
- C. An award of damages adequate to compensate Lambeth Magnetic Structures for the infringement by Toshiba, SAE, Headway, and TDK, along with the prejudgment and post-judgment interest, but in no event less than a reasonable royalty, such damages to be trebled pursuant to the provision of 35 U.S.C. § 284;
- D. An award of Lambeth Magnetic Structure's reasonable attorney fees and expenses pursuant to the provisions of 35 U.S.C. § 285;
- E. An award of Lambeth Magnetic Structure's costs; and
- F. Such other and further relief as this Court may deem just and proper.

Dated: June 24, 2016

Respectfully Submitted,

/s/ David C. Radulescu

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***Counsel for Plaintiff Lambeth Magnetic
Structures, LLC***

CERTIFICATE OF SERVICE

I hereby certify that on this 24th day of June, 2016, I electronically filed the foregoing **THIRD AMENDED COMPLAINT AND DEMAND FOR TRIAL BY JURY** with the Clerk of Court using the CM/ECF system which sent notification upon all counsel of record.

/s/ David C. Radulescu

David C. Radulescu