CLAIMS

1. A method for writing data in a multiple actuator multiple disk system, each actuator comprising a plurality of actuator arms, each arm supporting a respective suspension at the end of which is one or more heads, wherein each head of one of the multiple actuators is positioned with respect to a corresponding disk surface of one or more disks comprised in the multiple actuator multiple disk system, the corresponding disk surface being one that is positioned with only one head of the one of the multiple actuators, the method comprising:

receiving the data;

dividing the data into at least a first predetermined portion and a second predetermined portion; and

writing the first predetermined portion of the data onto a first disk surface of the multiple actuator multiple disk system using a first actuator of the multiple actuators while writing the second predetermined portion of the data onto a second disk surface of the multiple actuator multiple disk system using a second actuator of the multiple actuators, wherein the second actuator is located separately from the first actuator.

2. The method of claim 1, wherein the dividing step comprises dividing the data to optimize parallel data storage within the multiple actuator multiple disk system.

3. The method of claim 2, wherein dividing the data to optimize parallel data storage within the multiple actuator multiple disk system comprises dividing the data into a plurality of segments of equal size.

4. The method of claim 3, wherein dividing the data into a plurality of segments of equal size may comprise padding at least one of the segments in the plurality of segments to be of equal size to the other segments in the plurality of segments.

5. A method for reading data in a multiple actuator multiple disk system, each actuator comprising a plurality of actuator arms, each arm supporting a respective suspension at the end of which is one or more heads, wherein each head of one of the multiple actuators is positioned with respect to a corresponding disk surface of one or more disks comprised in the multiple actuator multiple disk system, the corresponding disk surface being one that is positioned with only one head of the one of the multiple actuators, the method comprising:

receiving information on where the data is stored;

reading a first predetermined portion of the data from a disk surface of disk of the multiple actuator multiple disk system using a first actuator of the multiple actuators while reading the second predetermined portion of the data from a disk surface of a disk of the multiple actuator multiple disk system using a second actuator of the multiple actuators, wherein the second actuator is located separately from the first actuator; and

combining at least the first predetermined portion of the data with the second predetermined portion of the data.

6. A method for reading read-data and writing write-data in a multiple actuator multiple disk system, each actuator comprising a plurality of actuator arms, each arm supporting a respective suspension at the end of which is one or more heads, wherein each head of one of the multiple actuators is positioned with respect to a corresponding disk surface of one or more disks comprised in the multiple actuator multiple disk system, the corresponding disk surface being one that is positioned with only one head of the one of the multiple actuators, the method comprising:

receiving information on where the read-data is stored, the read-data comprising a first predetermined portion;

reading the first predetermined portion of the read-data from a first disk surface of a disk of the multiple actuator multiple disk system using a first actuator of the multiple actuators;

receiving write-data comprising the first predetermined portion; and

writing the first predetermined portion of the write-data on a second disk surface of a disk of the multiple actuator multiple disk system using a second actuator of the multiple actuators, wherein the second actuator is located separately from the first actuator.

7. The method of claim 6, wherein the reading step and writing step occur at least partially concurrently.

8. The method of claim 6, wherein the read-data comprises a second predetermined portion, the method further comprising reading the second predetermined portion concurrently with writing the first predetermined portion.

9. A method for writing data in a multiple actuator multiple disk system, each actuator comprising a plurality of actuator arms, each arm supporting a respective suspension at the end of which is one or more heads, wherein each head of one of the multiple actuators is positioned with respect to a corresponding disk surface of one or more disks comprised in the multiple actuator multiple disk system, the corresponding disk surface being one that is positioned with only one head of the one of the multiple actuators, the method comprising:

receiving first data from a first interface;

receiving second data from a second interface; and

writing the first data onto a first disk surface of a disk of the multiple actuator multiple disk system using a first actuator of the multiple actuators coupled to the first interface while

writing the second data onto a second disk surface of a disk of the multiple actuator multiple disk system using a second actuator of the multiple actuators coupled to the second interface.

10. A method for reading data in a multiple actuator multiple disk system, each actuator comprising a plurality of actuator arms, each arm supporting a

respective suspension at the end of which is one or more heads, wherein each head of one of the multiple actuators is positioned with respect to a corresponding disk surface of one or more disks comprised in the multiple actuator multiple disk system, the corresponding disk surface being one that is positioned with only one head of the one of the multiple actuators, the method comprising:

receiving information on where the data is stored;

reading a first predetermined portion of the data from a first disk surface of a disk of the multiple actuator multiple disk system using a first actuator of the multiple actuators coupled to a first interface while reading a second predetermined portion of the data from a second disk surface of a disk of the multiple actuator multiple disk system using a second actuator of the multiple actuators coupled to a second interface; and

combining at least the first predetermined portion of the data and the second predetermined portion of the data.

11. The method of claim 5 or 10, wherein the combining step comprises combining the data to optimize reading of the data within the multiple actuator multiple disk system.

12. The method of claim 11, wherein combining the data to optimize reading of the data comprises combining the first predetermined portion of the data and the second predetermined portion of the data during reading of a third predetermined portion of the data from a disk surface of a disk of the multiple actuator multiple

disk system using the first actuator and reading of a fourth predetermined portion of the data from a disk surface of a disk of the multiple actuator multiple disk system using the second actuator.

13. A method for reading read-data and writing write-data in a multiple actuator multiple disk system, each actuator comprising a plurality of actuator arms, each arm supporting a respective suspension at the end of which is one or more heads, wherein each head of one of the multiple actuators is positioned with respect to a corresponding disk surface of one or more disks comprised in the multiple actuator multiple disk system, the corresponding disk surface being one that is positioned with only one head of the one of the multiple actuators, the method comprising:

receiving the write-data from a first interface;

receiving information on where the read-data is stored; and

writing the write-data onto a disk surface of a first disk of the multiple actuator multiple disk system using a first actuator of the multiple actuators coupled to the first interface while

reading the read-data from a second disk surface of a disk the multiple actuator multiple disk system using a second actuator of the multiple actuators coupled to the second interface.

14. The method of any one of claims 1, 6, 9, 10 and 13, wherein the first disk surface is different to the second disk surface.

15. The method of claim 14, wherein the first disk surface and second disk surface are opposed surfaces of a single disk in the multiple actuator multiple disk system.

16. The method of any one of claims 1, 6, 9 and 13, wherein the writing step further comprises writing parity information onto any one or more of the disk surfaces of the multiple actuator multiple disk system, to facilitate reconstruction of data stored on any one or more of the surfaces.

17. The method of claim 16, wherein the parity information is determined such that data accuracy can be computed using a checksum routine.

18. The method of claim 17, wherein the checksum routine employs XOR computation.

19. The method of any one of claims 1, 6, 9 and 13, wherein the data is written in a byte addressable and/or block addressable format.

20. The method of claim 6, wherein the data is read and written in a byte addressable and/or block addressable format.

21. The method of any one of claims 5, 6, 10 and 13, wherein the step of reading further comprises reading parity information from any one or more of the surfaces

of the multiple actuator multiple disk system, to facilitate reconstruction of data stored on any one or more of the surfaces.

22. The method of claim 21, wherein the data stored on any one or more of the surfaces is reconstructed using XOR computation of the parity information and one or more of the predetermined portions.

23. A single enclosure multi disk Hard Disk Drive (HDD) comprising:

a first disk surface;

a second disk surface;

a first actuator for writing to the first disk surface; and

a second actuator for writing to the second disk surface, the second actuator separately located and operating independently of the first actuator,

wherein each of the first actuator and second actuator comprises a plurality of actuator arms, each arm supporting a respective suspension at the end of which is one or more heads, wherein each head of one of the multiple actuators is positioned with respect to a corresponding disk surface of one or more disks comprised in the multi disk HDD, the corresponding disk surface being one that is positioned with only one head of the one of the multiple actuators,

wherein a logical block address (LBA) for the first disk surface is assigned differently than a LBA for the second disk surface, such that the LBA for the second disk surface can be determined from the LBA for the first disk surface.

24. The single enclosure multi disk HDD in accordance with claim 23, wherein the second actuator is located 180 degrees from the first actuator and the LBA for the first disk surface is located 180 degrees from the LBA for the second disk surface.