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## Datasheet for the decision of 14 March 2014

**Case Number:** T 1862/10 - 3.5.05

**Application Number:** 05711276.5

**Publication Number:** 1716477

**IPC:** G06F3/06

**Language of the proceedings:** EN

**Title of invention:**
MASS STORAGE ACCELERATOR

**Applicant:**
SanDisk Technologies Inc.

**Headword:**
Dual media storage/SANDISK

**Relevant legal provisions:**
EPC Art. 56
RPBA Art. 12(4)

**Keyword:**

**Decisions cited:**

**Catchword:**

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**Case Number: T 1862/10 - 3.5.05**

# D E C I S I O N
# of Technical Board of Appeal 3.5.05
# of 14 March 2014

| | |
|---|---|
| **Appellant:** (Applicant) | SanDisk Technologies Inc.<br>Two Legacy Town Center<br>6900 North Dallas Parkway<br>Plano, Texas 75024 (US) |
| **Representative:** | Alton, Andrew<br>Urquhart-Dykes & Lord LLP<br>Tower North Central<br>Merrion Way<br>Leeds LS2 8PA (GB) |
| **Decision under appeal:** | **Decision of the Examining Division of the European Patent Office posted on 19 April 2010 refusing European patent application No. 05711276.5 pursuant to Article 97(2) EPC.** |

**Composition of the Board:**

**Chair:** A. Ritzka
**Members:** P. Cretaine
F. Blumer

## Summary of Facts and Submissions

I. This appeal is against the decision of the examining division, posted on 19 April 2010, refusing European patent application No. 05711276.5. The decision was based on the grounds that a main request and a first and a second auxiliary request did not meet the requirements of Article 123(2) EPC and that the claims of these requests did not involve an inventive step (Article 56 EPC) having regard to the disclosure of

D1: US 6 646 948 and

the common general knowledge of the skilled person, as illustrated by

D2: US 5 708 846,

D6: EP 0 902 354, and

D3: US 6 408 357.

II. Notice of appeal was filed by the applicant on 18 June 2010 and the appeal fee was paid on the same day. The statement setting out the grounds of appeal was submitted on 18 August 2010. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of claims 1 to 17 of a new main request filed with the statement setting out the grounds of appeal. The appellant also requested oral proceedings should the board be minded to reject the appeal without issuing a written communication.

III. A summons to oral proceedings scheduled for 14 March 2014 was issued on 6 December 2013. In an annex to this summons, pursuant to Article 15(1) RPBA,

the board expressed its preliminary opinion that the claims of the main request did not involve an inventive step, having regard to the disclosure of D1 and the common general knowledge of the skilled person, as illustrated by D6.

IV. By letter received on 27 February 2014, the appellant's representative informed the board that he would not attend the oral proceedings.

V. Oral proceedings were held as scheduled on 14 March 2014 in the absence of the appellant. After due deliberation on the basis of the written submissions, the board announced its decision.

VI. Claim 1 of the main request reads as follows:

"A data storage system (150) comprising:
a first non-volatile storage device (205);
a second non-volatile storage device (210) having a slower average access time and a higher capacity than the first storage device (205), wherein the slower average access time is the average delay that is necessary before the second non-volatile storage device (210) can begin to write data; and
a storage controller (245) operable to direct a first portion of a data fragment (305) to the first storage device (205) and a second portion of the data fragment (310) to the second storage device (210);
characterised in that upon receiving a write command (405) the storage controller (245) is arranged to determine the size of the first portion of the data fragment (305) on an as needed basis, to store the first portion of the data fragment (305) in the first storage device (205), to prepare the second storage device (210) to accept data prior to the completion of

storing the first portion of the data fragment (305) in the first storage device (205), and to present a new write command (435) to the second device (210) to reserve space (330) sufficient to accommodate the first portion of the data fragment (305); and
wherein the storage controller (245) is operable to direct the first storage device (205) to send the first portion of the data fragment (305) to the reserved space (330) in the second storage device (210) such that the entire data fragment (305, 310) is contiguous on the second storage device (210) and the address space (350) for the data storage system (150) is equal to the address space (315) for the second storage device (210)."

The main request comprises further independent claims directed to a corresponding method (claim 11) and program (claim 17).

## Reasons for the Decision

1. Admissibility of the appeal

The appeal complies with Articles 106 to 108 EPC (cf. point II above) and is therefore admissible.

2. Non-attendance at oral proceedings

Although the appellant's representative announced his intention not to attend, the appellant did not withdraw his request for oral proceedings. Pursuant to Article 15(3) RPBA, the board is not obliged to delay any step in the appeal proceedings, including its decision, by reason only of the absence at the oral proceedings of

any party duly summoned who may then be treated as relying only on its written case.

The appellant could reasonably have expected that during the oral proceedings the board would consider the objections and issues raised in the communication annexed to the summons to oral proceedings. In deciding not to attend the oral proceedings, the appellant chose to rely only on its arguments presented in the statement setting out the grounds of appeal.

3. Admissibility of the main request

The feature which was at the basis of the Article 123(2) EPC objection raised in the decision under appeal (see Reasons for the Decision, 2.) has been deleted from the independent claims. Moreover, features have been added to the independent claims with a view to overcoming the Article 56 EPC objection raised in the decision. Therefore the board decided to admit the main request into the appeal proceedings in the exercise of its discretionary power under Article 12(4) RPBA.

4. Article 123(2) EPC

In the board's judgement, the amendments made to the claims meet the requirements of Article 123(2) EPC.

5. Article 56 EPC

5.1 Prior art

The board concurs with the appellant in considering that D1 represents the closest prior art and discloses all the features of the preamble of claim 1.

From column 12, line 50, to column 14, line 7, in combination with Figure 12, D1 discloses a write access to the data storage system shown in Figure 1. D1 teaches that a first portion of a data fragment ("leading portion of the data") is directed to the first non-volatile storage device ("non-volatile memory 126") and that a second portion of the data fragment ("remaining portion") is directed to the second non-volatile storage device ("media 112"), divided in fixed-size
sectors.

The size of the leading portion is determined on the basis of the seek time between the sector of media 112 in which data was previously written and the next sector where data is to be written. The size of the first portion of data is thus, contrary to what the appellant argued in the statement setting out the grounds of appeal, determined "on an as needed basis" by the storage controller, as required by claim 1.

Moreover, since the next sector in media 112 is being sought while the leading portion is written in memory 126, the board concludes that the second storage device is prepared by the storage controller to accept data prior to the completion of storing the first portion of data in the first storage device, as also required by claim 1.

D1 further teaches (see column 6, lines 23 to 50) that memory 126 is used as a cache for data writes and that data stored in memory 126 may be written to media 112 during periods of non-access by the information device. Therefore the storage controller of D1 is operable to direct the first storage device, i.e. memory 126, to send the first portion of the data fragment, i.e. the

leading portion of data, to space in the second storage device, i.e. to media 112, as further required by claim 1. Since the whole data can then be stored in the second storage device, it is obvious that the address space for the data storage system is equal to the address space for the second storage system, as further required by claim 1.

5.2 The subject-matter of claim 1 therefore differs from the disclosure of D1 only in that:

- the storage controller is operable to present a new write command to the second device to **reserve space sufficient to accommodate the first portion of the data fragment**, and in that

- the first storage device sends the first portion of the data fragment **to the reserved space such that the entire data fragment is contiguous on the second storage device.**

The technical effect of these differences is that the whole data fragment may be stored en bloc in the second storage device and thus be read more rapidly.
The objective technical problem can thus be defined as how to improve the output performance of the data storage system.

Document D1 itself teaches in column 13, lines 9 to 16, that the use of consecutive sectors for storing a file results in shorter seek time for the read head, and thus in a shorter read time. Consequently, the skilled person starting from D1 would try to ensure that the leading portion of data, when transferred from memory 126 to media 112, is stored contiguously with the corresponding remaining data already stored in media

112. Since it is common knowledge in the field of data storage management to reserve contiguous space for future updating of a data file (as illustrated for instance by D6), the skilled person would consider it an obvious measure to reserve appropriate space for the leading portion of data, the size of which is already known to the storage controller (see section 5.1 above). The skilled person would thus arrive at the subject-matter of claim 1 without the exercise of inventive step.

Therefore, the board judges that claim 1 does not meet the requirement of Article 56 EPC, having regard to the disclosure of D1.

Independent claims 11 and 17 contain the same features as claim 1 but expressed in terms of a method claim and a claim for a computer program, respectively. Thus, claims 11 and 17 also do not meet the requirements of Article 56 EPC.

6. In conclusion, the main request is not allowable under Article 56 EPC. In the absence of an allowable request the appeal must be dismissed.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar: The Chair:

K. Götz A. Ritzka

Decision electronically authenticated