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61/129,608 8 July 2008 (08.07.2008) US(71) Applicant (for all designated States except US): **DENS-BITS TECHNOLOGIES LTD.** [IL/IL]; Building 30, Flr 3, Matam Industrial Park, P.O.Box 15111, 31015 Haifa (IL).

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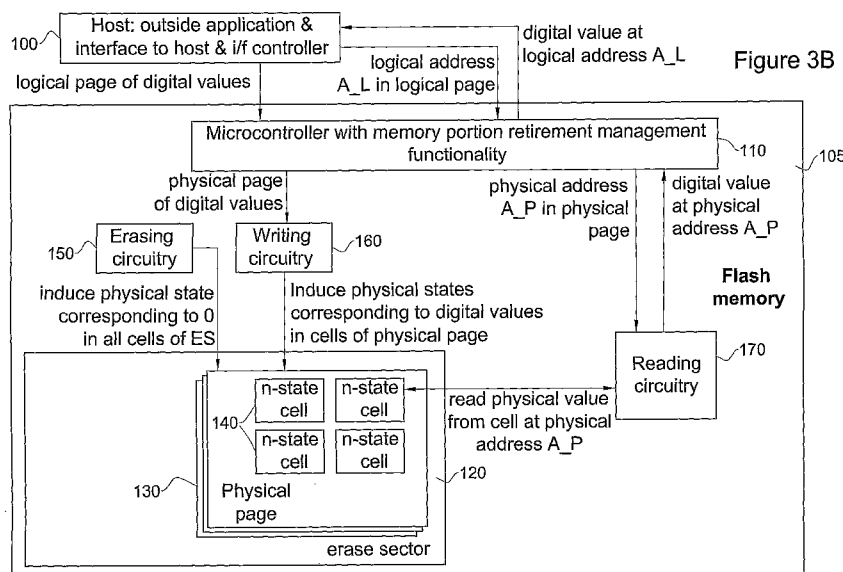
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(54) Title: SYSTEMS AND METHODS FOR TEMPORARILY RETIRING MEMORY PORTIONS



(57) Abstract: Flash memory apparatus including a plurality of memory portions, and a controller operative to reserve for data retention purposes, for at least a first duration of time, only certain portions from among said plurality of memory portions including allocating data, during the first duration of time, only to the certain portions, thereby to define at least one of the plurality of memory portions other than the certain portions as a retired memory portion for the first duration of time.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL 08/01230

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G06F 13/10 (2009.01)

USPC - 711/154

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

USPC: 711/154

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
USPC: 711/100, 100, 101, 154, 155, 209, 210; 714/1, 5, 6, 8

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PubWEST(USPT,PGPB,EPAB,JPAB); DialogPRO(Engineering); Google Scholar

Search Terms Used: flash, memory, controller, retention, active, NAND, reproduce, data, heat, application, deterioration, period, redundancy, error, trap, track, time, population, highest, NROM etc.

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X - Y	US 2007/0103992 A1 (Sakui et al.) 10 May 2007 (10.05.2007), abstract; para [0061], [0100]-[0109]	1-6, 8-9, 17-18, and 26 ----- 7, 10-16, 19-25, and 27
Y	US 2007/0063180 A1 (Asano et al.) 22 March 2007 (22.03.2007), para [0005], [0006], [0008]	7, 10-11, 14, 16, 21-24, and 27
Y	US 2007/0228449 A1 (Takano et al.) 04 October 2007 (04.10.2007), para [0010], [0018]	12-13, 15, and 19-20
Y	US 2005/0128811 A1 (Kato et al.) 16 June 2005 (16.06.2005), para [0018], [0330]	20 and 25

☐ Further documents are listed in the continuation of Box C.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

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