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(54) Title: METHOD AND APPARATUS OF PROVIDING THE SECURITY AND ERROR CORRECTION CAPABILITY
FOR MEMORY STORAGE DEVICES

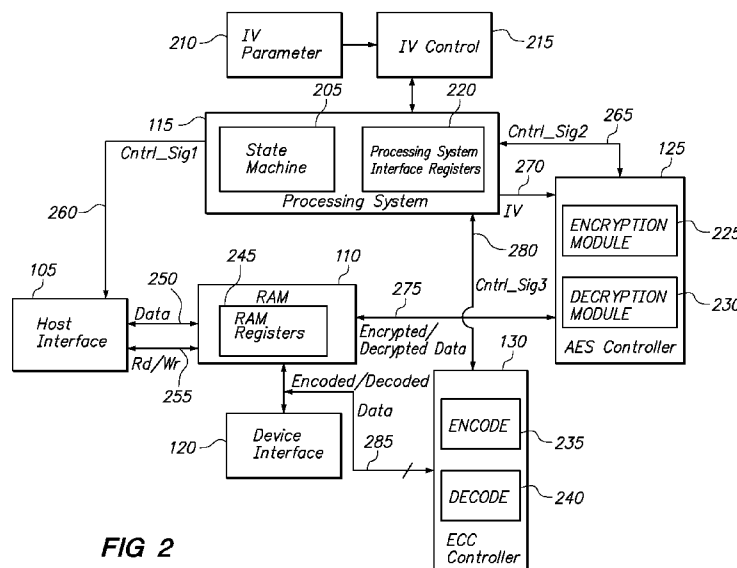
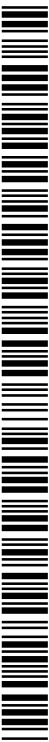


FIG 2

(57) Abstract: A method and apparatus of configuring the byte structure of a memory storage device, to enhance the security and error correction capability is described. The method includes increasing the security of data stored in the storage device by encrypting data with a unique initialization vector and storing the initialization vector in the storage device. The apparatus includes an AES controller that includes encryption and decryption modules to encrypt and decrypt data prior to writing data to or reading from the storage device.



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INTERNATIONAL SEARCH REPORT

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PCT/US2008/083253**A. CLASSIFICATION OF SUBJECT MATTER***G06F 12/14(2006.01)i, G06F 12/06(2006.01)i, G06F 11/00(2006.01)i*

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)

IPC : G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility models and applications for Utility models since 1975
Japanese Utility models and applications for Utility models since 1975

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

eKIPASS(KIPO internal) "security", "memory", "error correction"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003-0002665 A1 (SAKO, Y. et al.) 02 January 2003 See Abstract, Claims 1-5, 11-14, 20, Paragraphs [0005-0038, 0083, 0232], Figures 2-23 and their descriptions.	1-51
A	US 2005-0198492 A1 (GAUR, S. P. et al.) 08 September 2005 See Abstract and Claim 1.	1-51
A	US 2005-0100163 A1 (BUER, M.) 12 May 2005 See Abstract and Claim 1.	1-51
A	US 2004-0029562 A1 (SHARON, O. et al.) 12 February 2004 See Abstract and Claim 1.	1-51

 Further documents are listed in the continuation of Box C. See patent family annex.

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2003-0002665 A1	02.01.2003	CN 1394409 A EP 1237320 A1 JP 2002-202719 A KR 10-2002-0067599 A WO 02-37747 A1	29.01.2003 04.09.2002 19.07.2002 22.08.2002 10.05.2002
US 2005-0198492 A1	08.09.2005	None	
US 2005-0100163 A1	12.05.2005	EP 1536308 A2 EP 1536308 A3	01.06.2005 31.05.2006
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