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(54) **SLC-MLC COMBINATION FLASH STORAGE DEVICE**

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- (52) **U.S. Cl.** ..... **711/103**; 711/E12.001; 711/E12.008
- (57) **ABSTRACT**

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Flash memory drives and related methods are disclosed that operate to keep frequently written data, which results in frequently erased blocks, in SLC flash, and relatively static data in MLC flash. A flash drive according to the present disclosure keeps track of the number of times that data for each logical block address (LBA) has been written to the flash memory, and determines whether to store newly received data associated with a particular LBA in SLC flash or in MLC flash depending on the number of writes that have occurred for that particular LBA. For each logical block sent to the flash drive, a comparison is made of the write count of the associated LBA to a threshold. If the write count is above the threshold, the logical block is written to SLC flash. If the write count is below the threshold, the logical block is written to MLC flash.

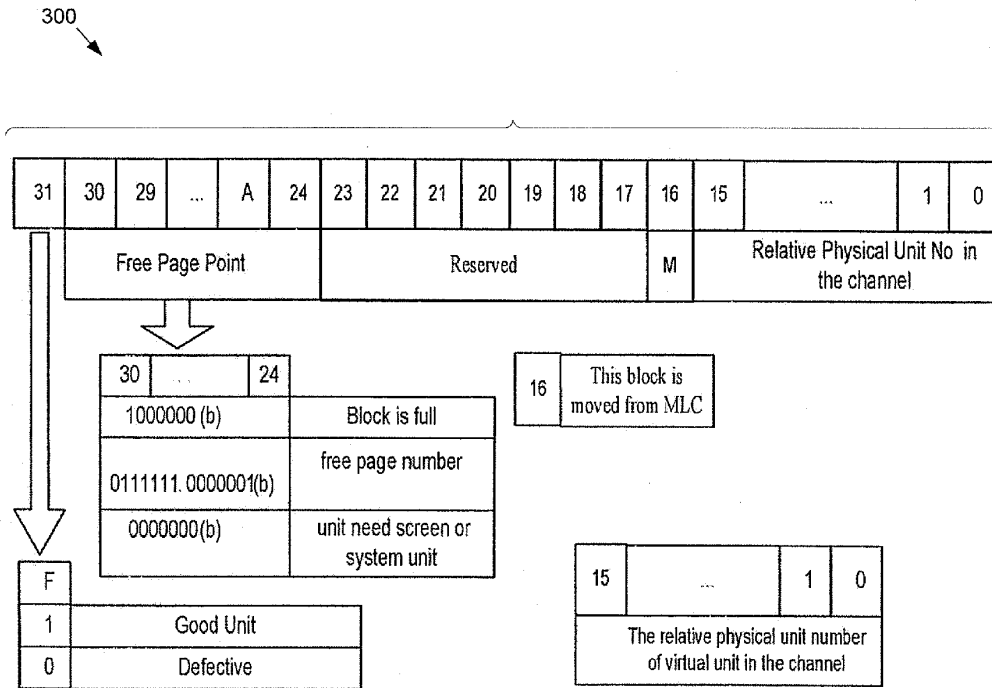
(73) Assignee: **STEC, INC.**, Santa Ana, CA (US)

(21) Appl. No.: **12/492,113**

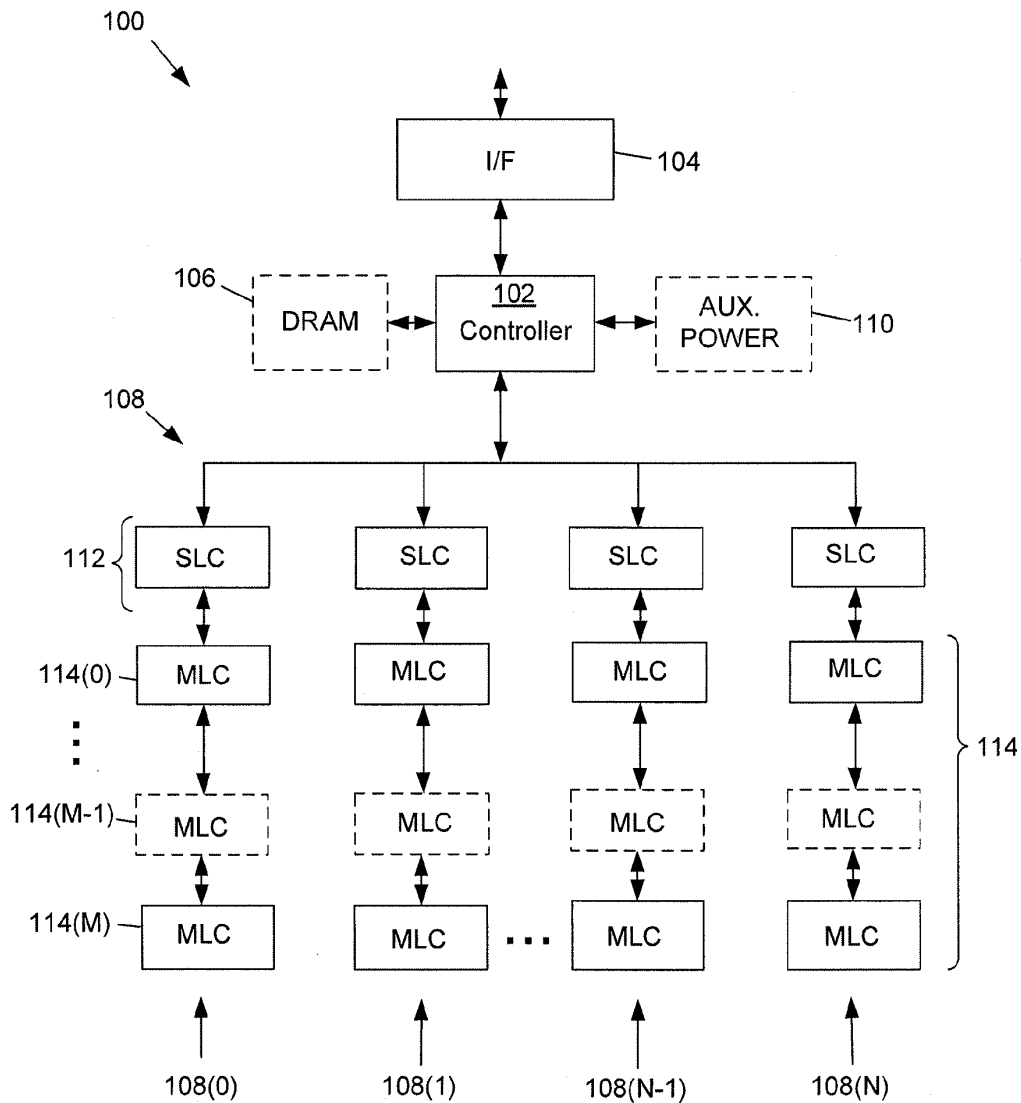
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**FIG. 1**



**FIG. 2**

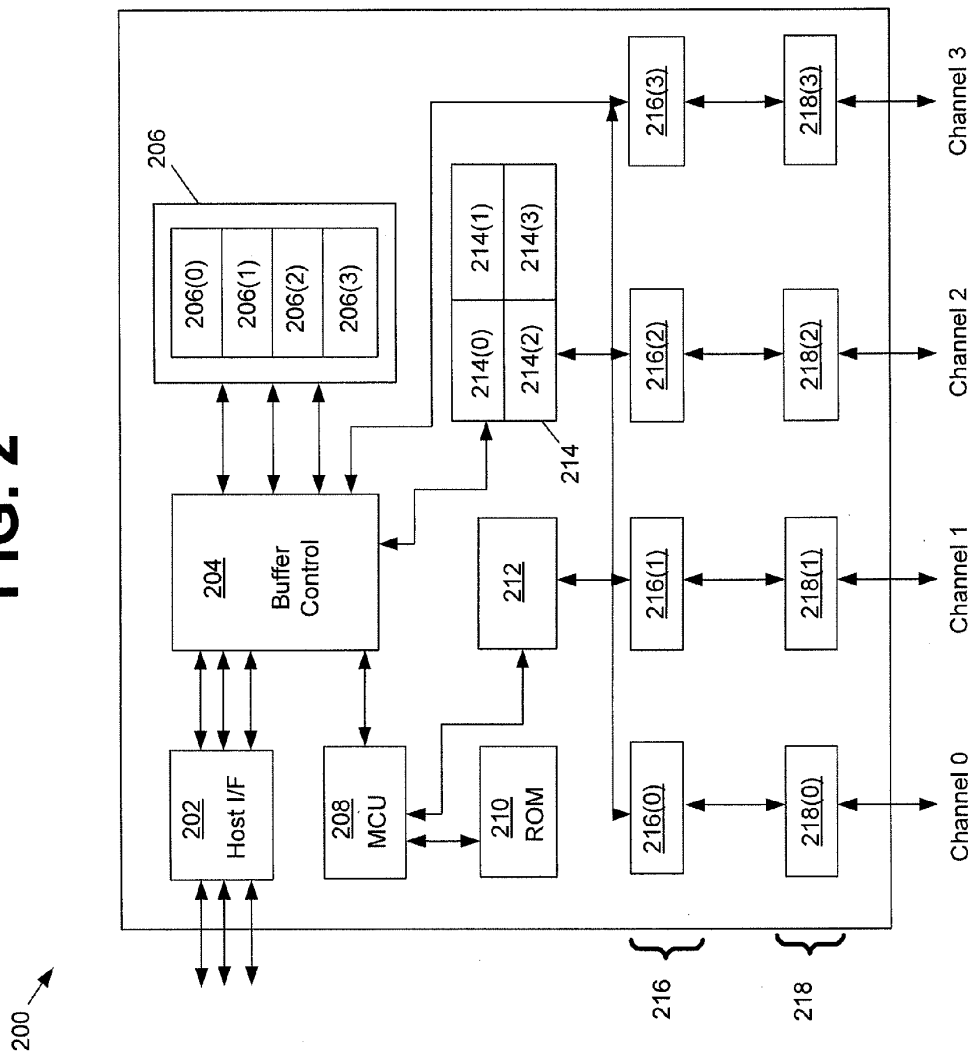


FIG. 3

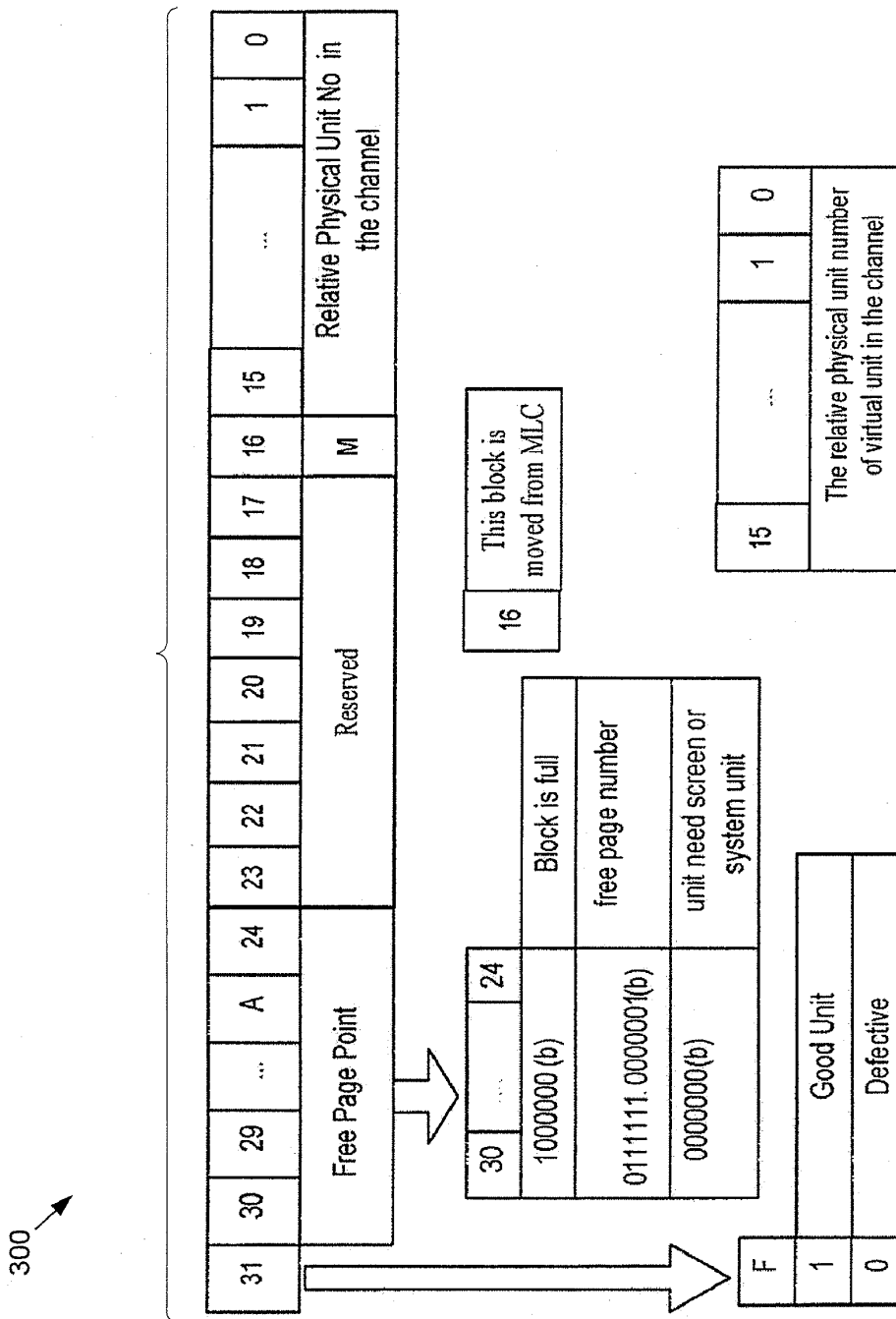
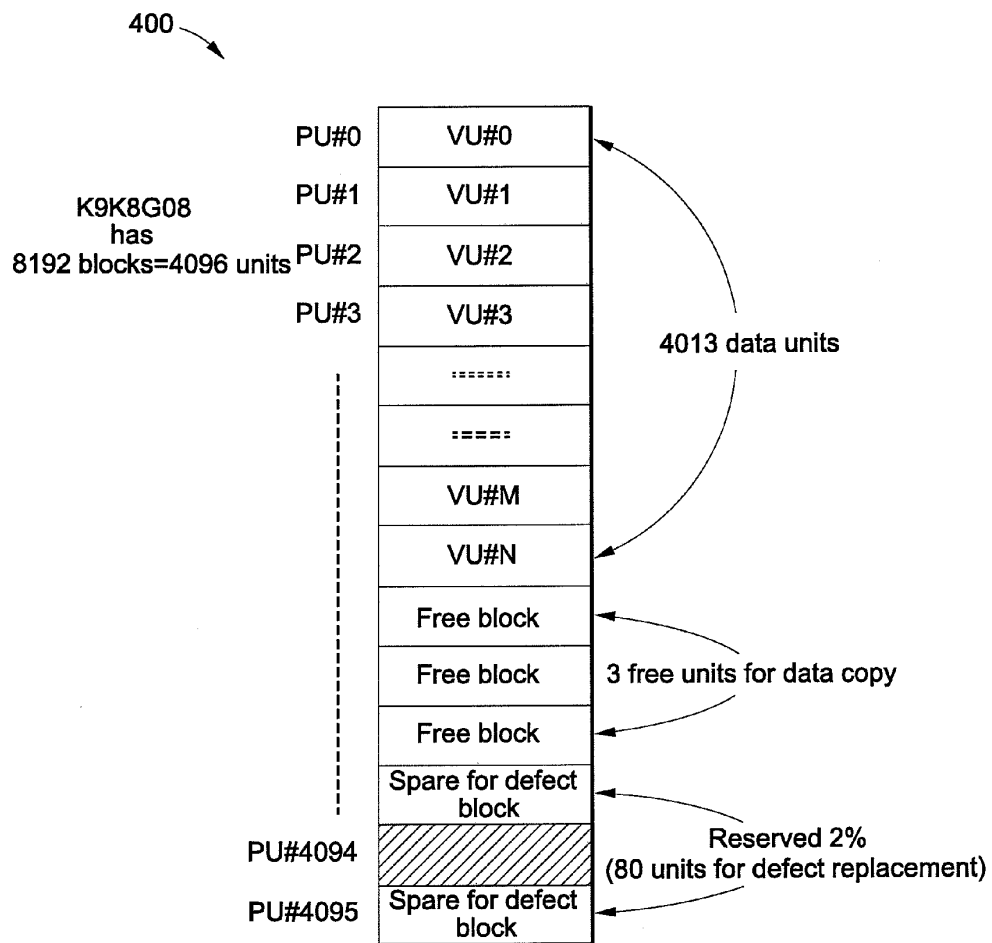


FIG. 4



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