Title: METHOD FOR COUNTING BEYOND ENDURANCE LIMITATIONS OF NON-VOLATILE MEMORIES

(57) Abstract: A digital counter (e.g., Fig. 1) that uses non-volatile memories (12, 14, 16, 18, ...) as storage cells, wherein the storage cells are subdivided into two groups, one for the implementation of a rotary counter (20, 22) that keeps track of the less significant part of the count and a binary counter (10) that keeps track of the more significant part of the count. The rotary counter implements a counting method that maximizes the count that can be obtained before the endurance limit of the memory is reached by making sure that each change of state of each cell is recorded as one count and that all cells in the rotary counter experience two change of state in every cycle. The binary counter (10) records the number of cycles the rotary counter has gone through.
— as to the applicant’s entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations

Published:
— with international search report
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US03/40000

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G05M 3/00
US CL : 377/3
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)
U.S. : 377/3, 34, 26, 28

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>US 6,249,562 B1 (WELLS) 19 June 2001 (19.06.2001), see entire document.</td>
<td>1-16</td>
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[] Further documents are listed in the continuation of Box C.  [] See patent family annex.

Date of the actual completion of the international search: 12 June 2004 (12.06.2004)

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