**Title:** HIGH RESOLUTION AND WIDE DYNAMIC RANGE INTEGRATOR

Integrators are electronic components used to condition received analog signals, for example prior to Analog to Digital Conversion. Wide dynamic range, high gain and fine resolution are required of integrators and Analog to Digital Converters in order to limit the effects of noise, including quantization noise. Conventional integrators preceding Analog to Digital Converters are not capable of effectively meeting these requirements. A novel phase domain integrator that can meet effectively these requirements and is superior to conventional integrators for a wide range of applications is disclosed.

**Abstract:**

![Diagram of the integrator circuit](image-url)
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC: G06G 7/18 (2006.01); G06G 7/186 (2006.01)

USPC: 327/336,344,345
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.: 327/336,344,345

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

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

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>X</td>
<td>US 6,794,922 B2 (Mashimo) 21 September 2004 (21.09.2004), Fig. 10, abstract</td>
<td>1, 6, 7, 15, 16</td>
</tr>
<tr>
<td>X</td>
<td>US 2002/0033714 A1 (Perrot) 21 March 2002 (21.03.2002), Fig. 3</td>
<td>1-13, 15, 16</td>
</tr>
<tr>
<td>Y</td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

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

* Special categories of cited documents:
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Date of the actual completion of the international search
27 May 2008 (27.05.2008)

Date of mailing of the international search report
11 JUN 2008

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