

United States Patent [19]

Murakami et al.

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[54] **ONE-CHIP MICROCOMPUTER**

[75] Inventors: **Jyoji Murakami, Kawasaki; Tsuyoshi Watanabe, Yokohama, both of Japan**

[73] Assignee: **Fujitsu Limited, Kawasaki, Japan**

[21] Appl. No.: **359,818**

[22] Filed: **Mar. 19, 1982**

[30] **Foreign Application Priority Data**

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 Mar. 25, 1981 [JP] Japan 56-43503

[51] Int. Cl.³ **G06F 13/06**
 [52] U.S. Cl. **364/200**
 [58] Field of Search **364/200 MS File**

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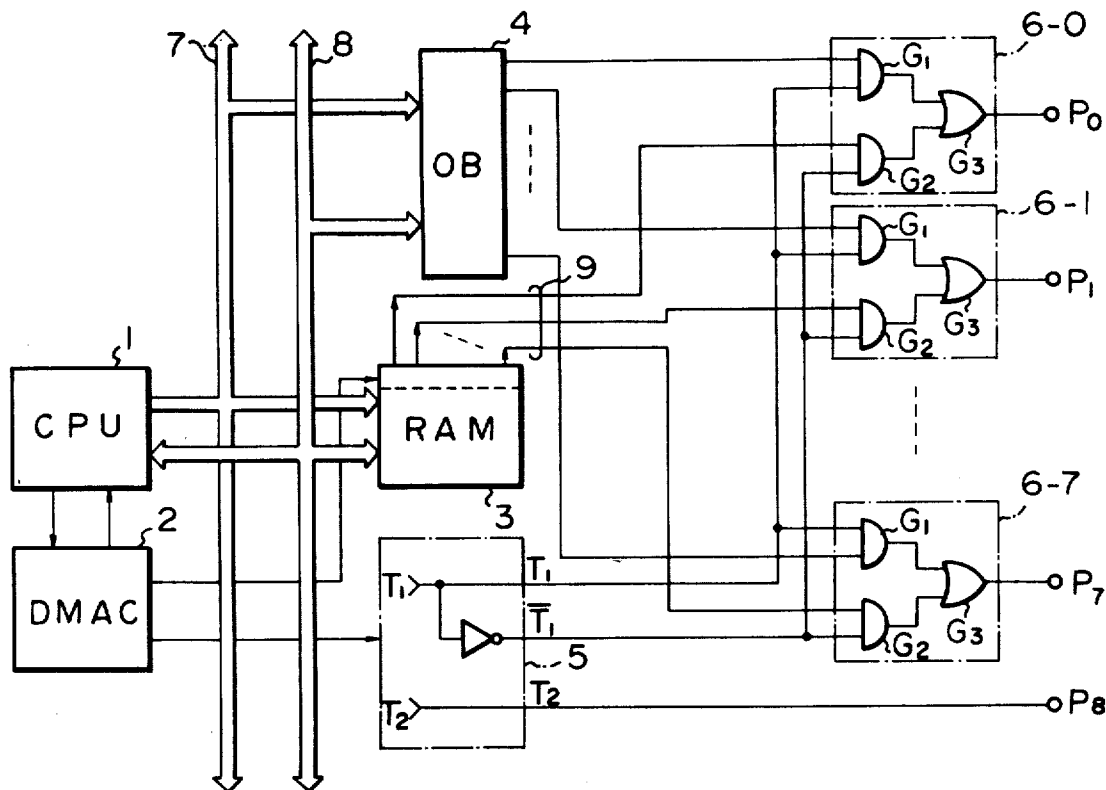
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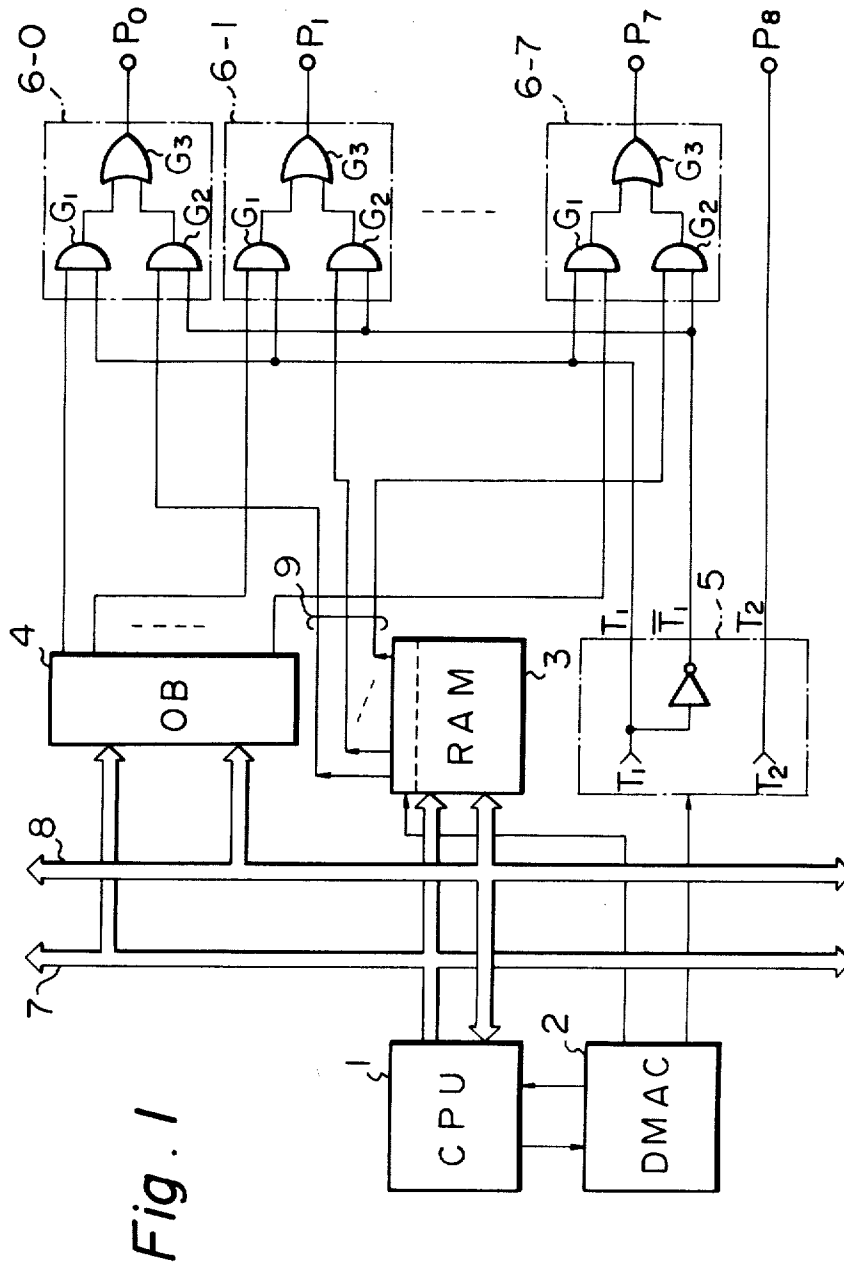
Primary Examiner—Raulfe B. Zache
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[57] **ABSTRACT**

A one-chip microcomputer including a central processing unit, a direct memory access controller and a random-access memory. In a DMA operation mode, data stored in the random-access memory is transmitted through common terminals to the exterior by means of a time-division control circuit or registers for parallel-serial conversion. The common terminals are also used for a CPU operation mode.

12 Claims, 20 Drawing Figures





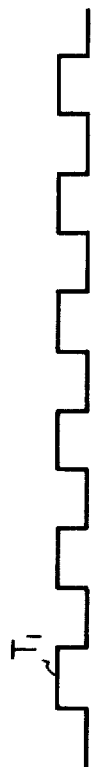


Fig. 2A



Fig. 2B

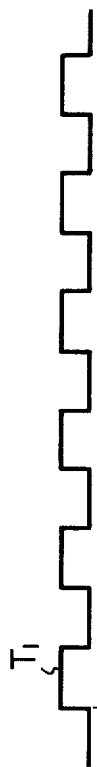


Fig. 4A

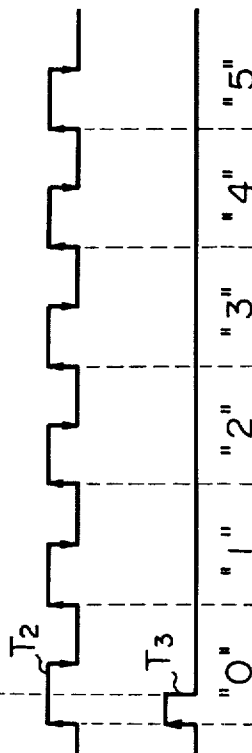


Fig. 4B

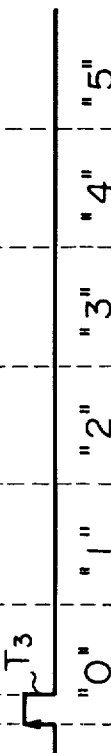


Fig. 4C

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