# United States Patent [19]

## Murakami et al.

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Aug. 21, 1984

[54]	ONE-CHIE	MICROCOMPUTER	tional Bus Circuit Environments",
. ,		Jyoji Murakami, Kawasaki; Tsuyoshi Watanabe, Yokohama, both of Japan	pers, Oct. 1980, pp. 155-157. Burton, D. et al., "Know a Microcc

[73] Assignee: Fujitsu Limited, Kawasaki, Japan

[21] Appl. No.: 359,818

[22] Filed: Mar. 19, 1982

[30] Foreign Application Priority Data

Mar. 20, 1981 [JP]		
Mar. 25, 1981 [JP]	Japan	 56-43503

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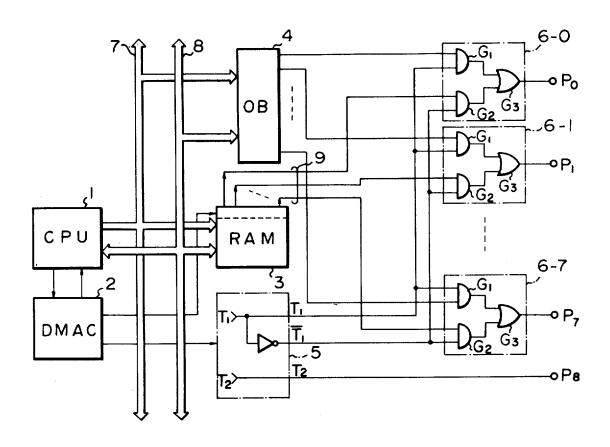
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Primary Examiner—Raulfe B. Zache Attorney, Agent, or Firm—Staas & Halsey

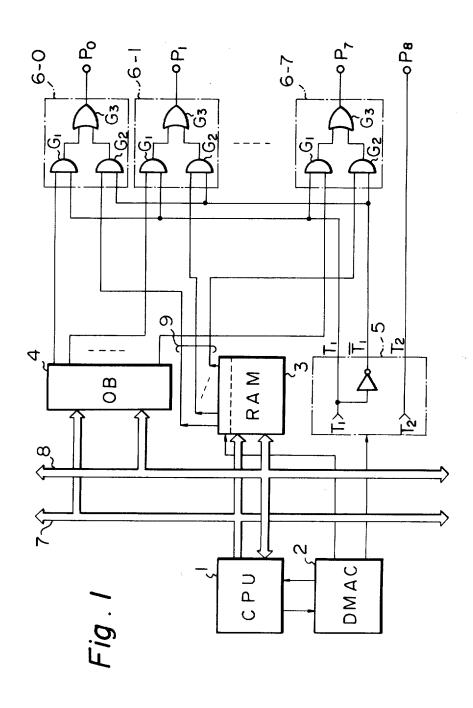
### [57] ABSTRACT

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.

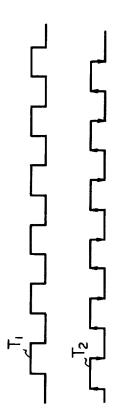
## 12 Claims, 20 Drawing Figures











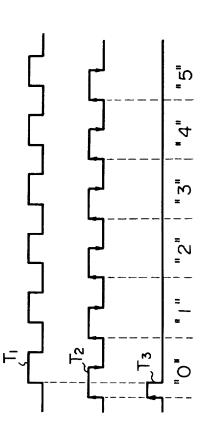
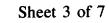
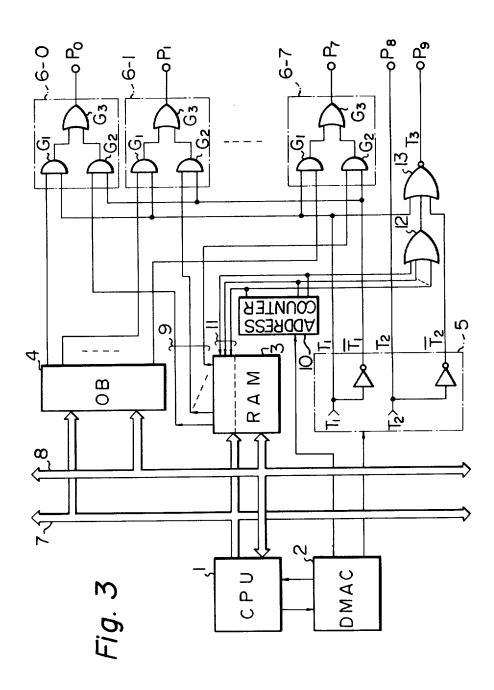


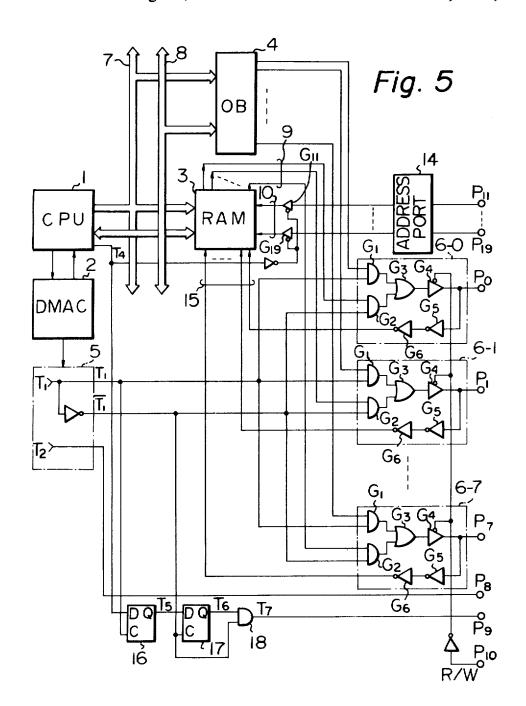
Fig. 2A

Fig. 4A

4,467,420







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