

(12) United States Patent
Apostol, Jr. et al.

(10) Patent No.: US 6,247,084 B1
(45) Date of Patent: Jun. 12, 2001

(54) INTEGRATED CIRCUIT WITH UNIFIED MEMORY SYSTEM AND DUAL BUS ARCHITECTURE

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/166,262

(22) Filed: Oct. 5, 1998

Related U.S. Application Data

(60) Provisional application No. 60/061,489, filed on Oct. 8, 1997.

(51) Int. Cl.⁷ G06F 13/00

(52) U.S. Cl. 710/108; 710/100; 710/240; 711/147; 711/149; 711/150

(58) Field of Search 711/149, 147, 711/150; 710/240, 100, 108

(56) References Cited

U.S. PATENT DOCUMENTS

5,561,777	10/1996	Kao et al.	395/405
5,805,905	* 9/1998	Biswas et al.	710/244
5,822,768	* 10/1998	Shakkarwar	711/149
5,854,638	* 12/1998	Tung	345/512

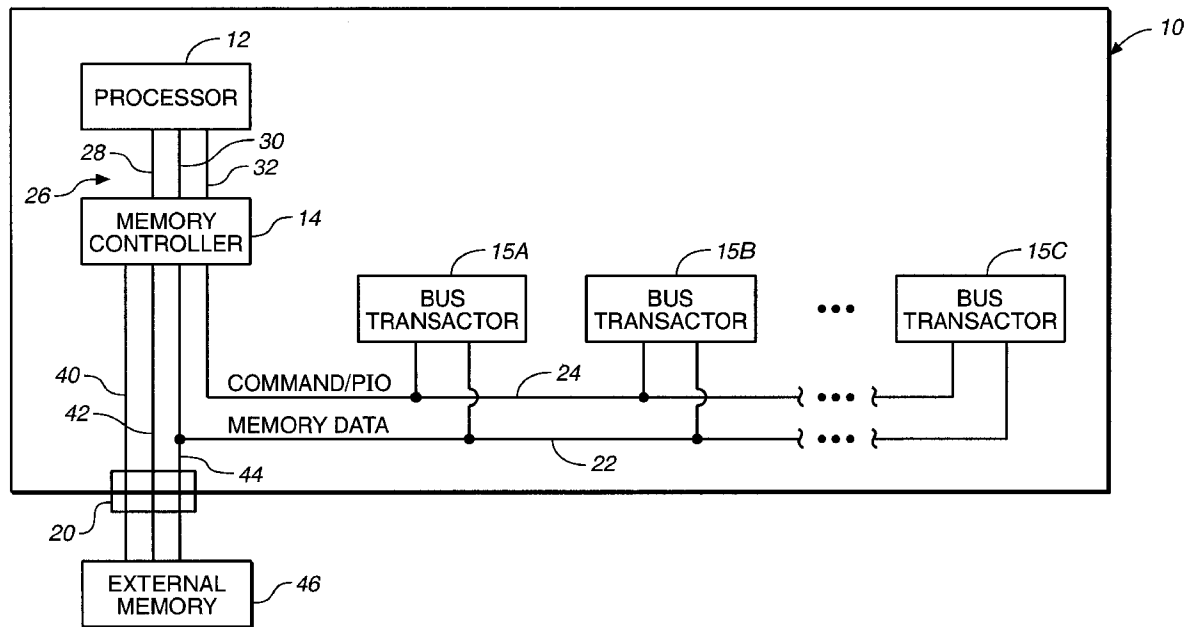
* cited by examiner

Primary Examiner—Rupal D. Dharra

(57) ABSTRACT

A unified memory system includes a processor, a memory controller, a plurality of bus transactor circuits and a shared memory port. A processor bus is coupled between the processor and the memory controller. A first multiple-bit, bidirectional system bus is coupled between the shared memory port, the memory controller and the plurality of bus transactor circuits. A second multiple-bit, bidirectional system bus is coupled between the memory controller and the plurality of bus transactor circuits.

19 Claims, 36 Drawing Sheets



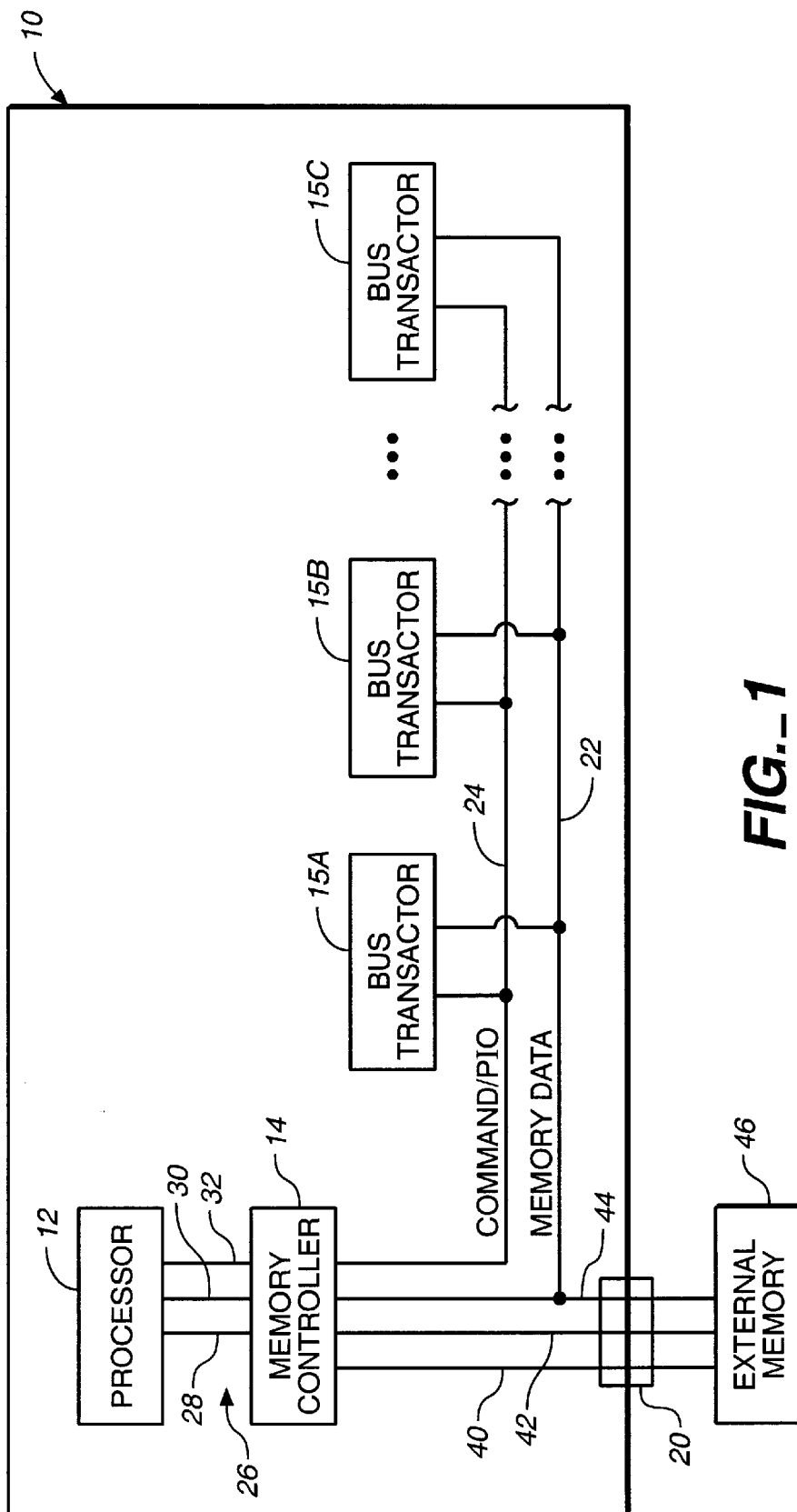


FIG. 1

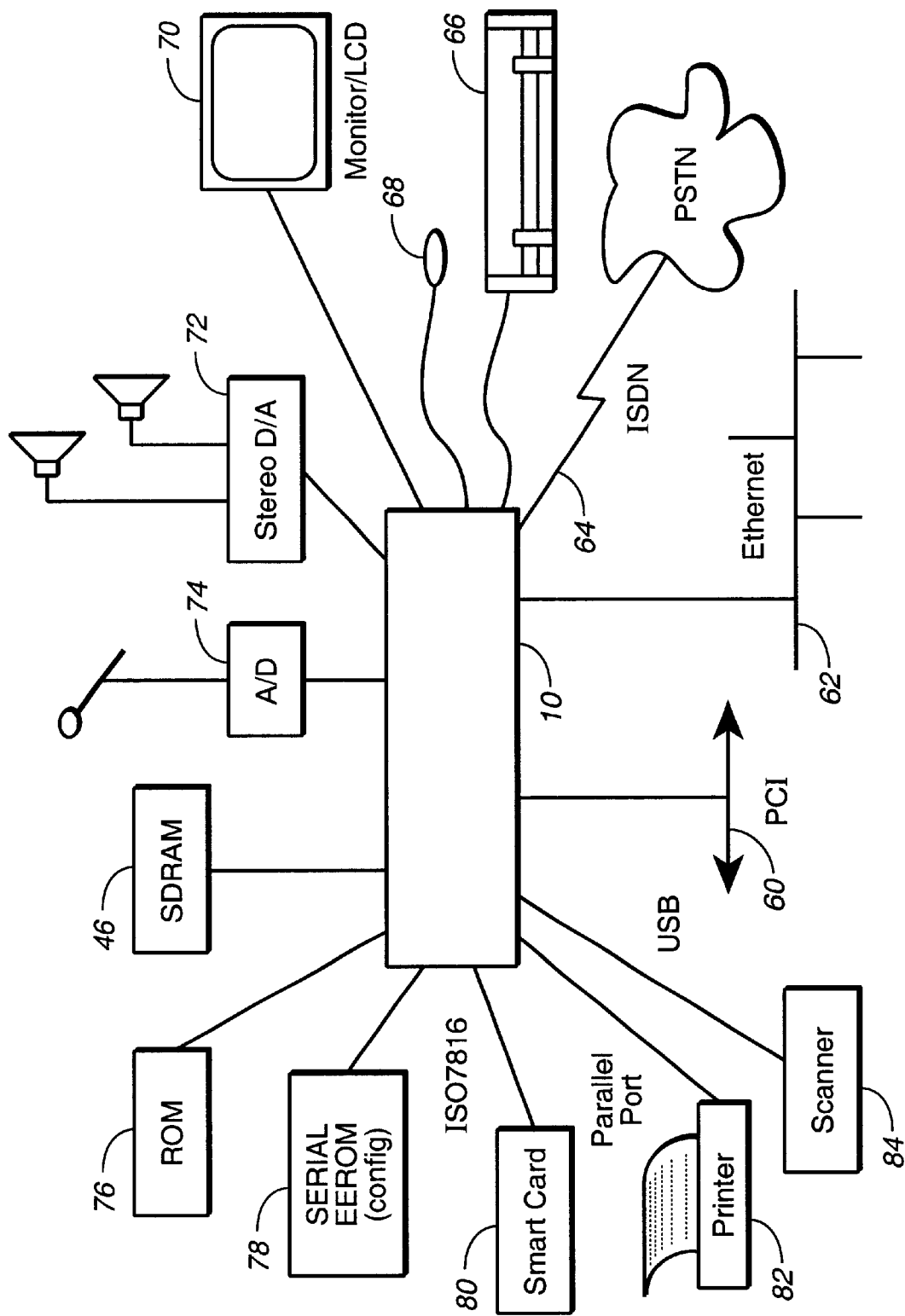


FIG. 2

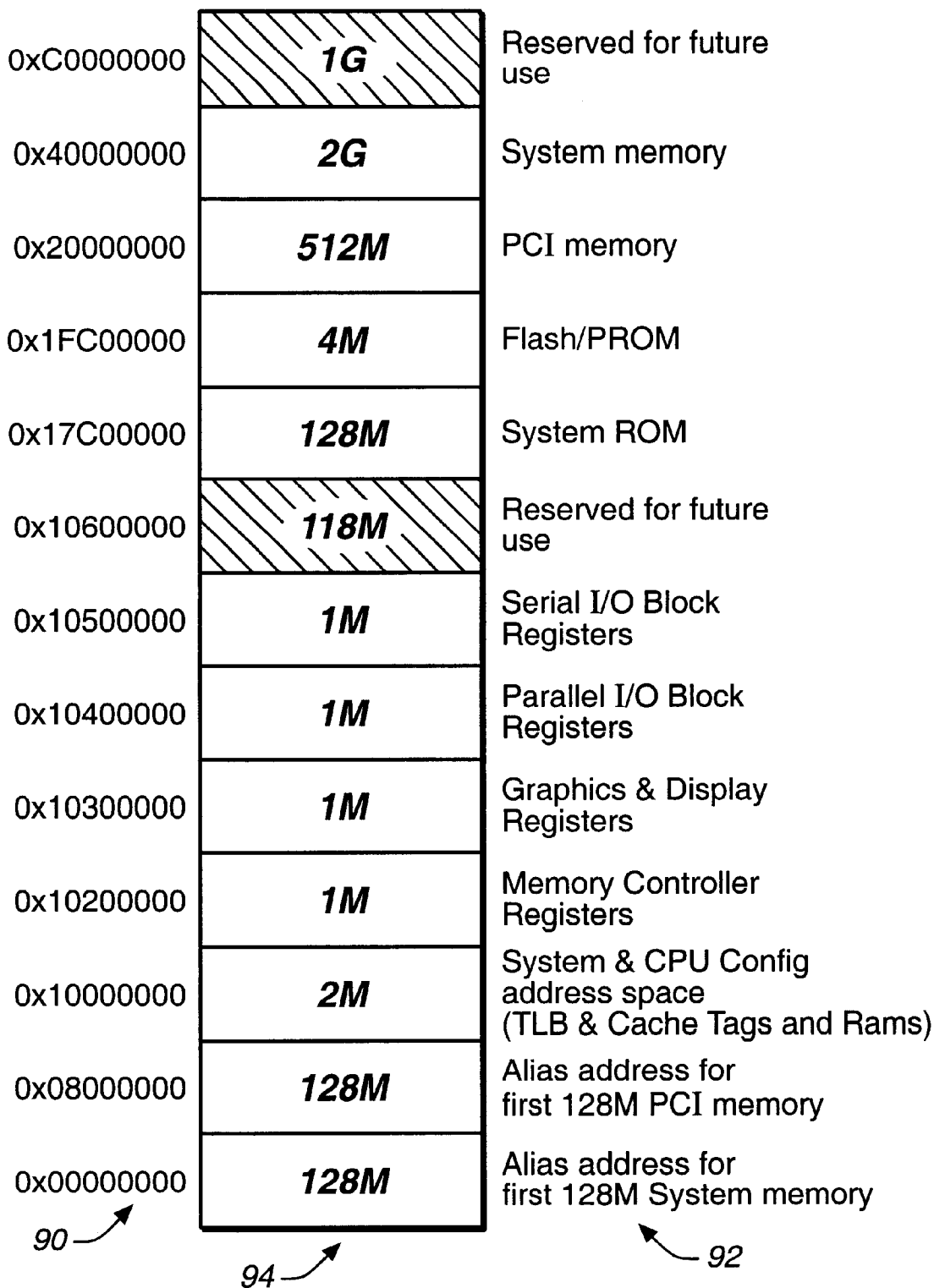


FIG._3

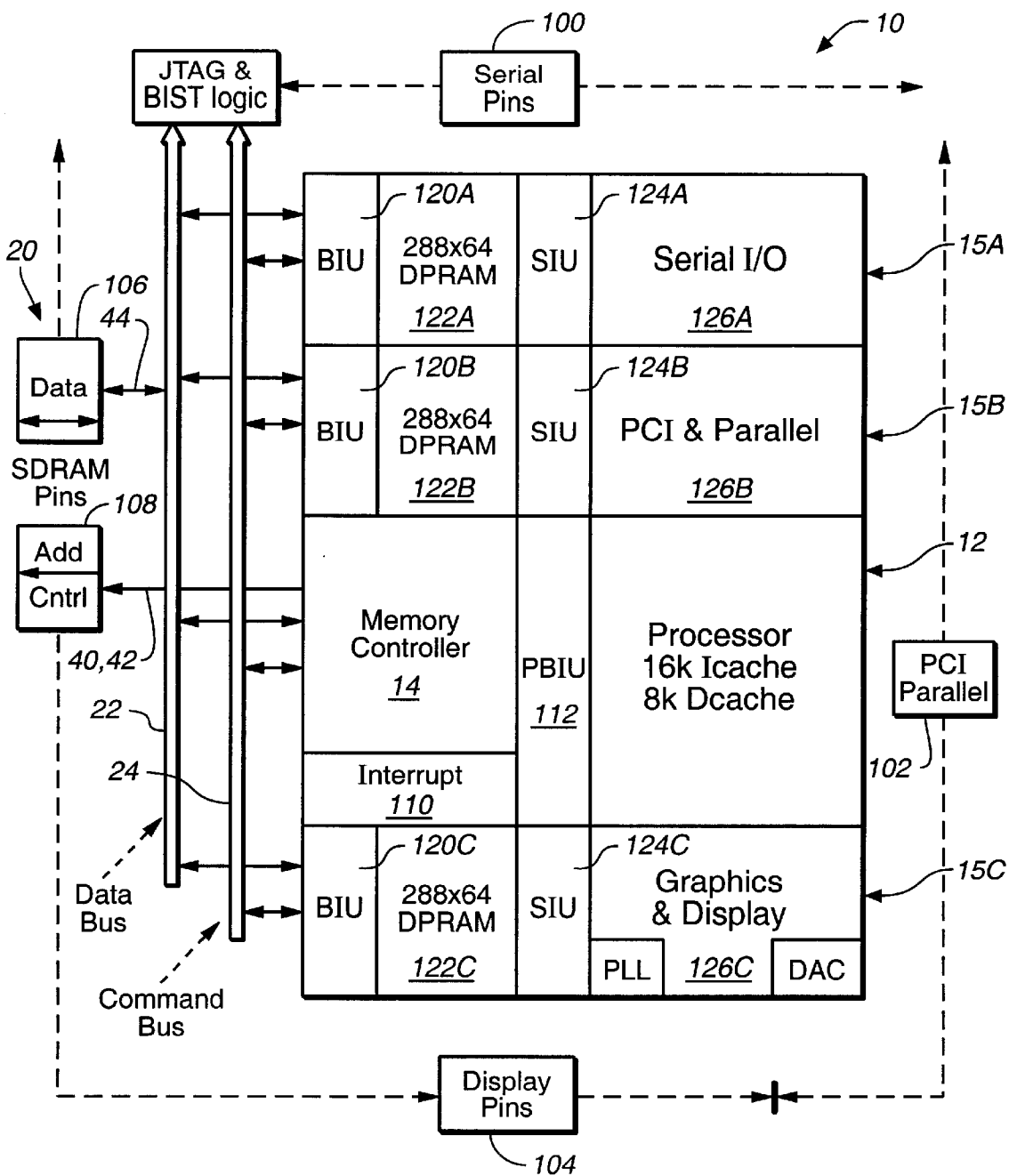


FIG. 4

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