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Aono

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(54) **ADDRESS RESOLUTION UNIT AND ADDRESS RESOLUTION METHOD FOR A MULTIPROCESSOR SYSTEM**

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(30) **Foreign Application Priority Data**

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(52) **U.S. Cl.** **712/11**; 712/14; 712/17; 712/18; 712/30; 712/244; 711/210; 711/206; 709/248; 709/249

(58) **Field of Search** 709/251.7, 252, 709/314, 313, 215, 219, 230, 213, 249, 238, 216; 711/145, 144, 214, 163, 221, 216, 210, 206; 714/12, 27; 712/10, 12, 13, 14, 15, 16, 17, 23, 28, 29, 36, 11, 20, 18, 30, 31; 710/40, 39, 129, 200, 240, 220, 244, 23

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,694,396 A * 9/1987 Weisshaar et al. 709/313
5,574,849 A * 11/1996 Sonnier et al. 714/12

FOREIGN PATENT DOCUMENTS

JP 62-67665 3/1987
JP 3-132845 6/1991
JP 9-146903 6/1997
JP 9-179771 7/1997

OTHER PUBLICATIONS

Japanese Office Action dated Oct. 31, 2000 with partial translation.

* cited by examiner

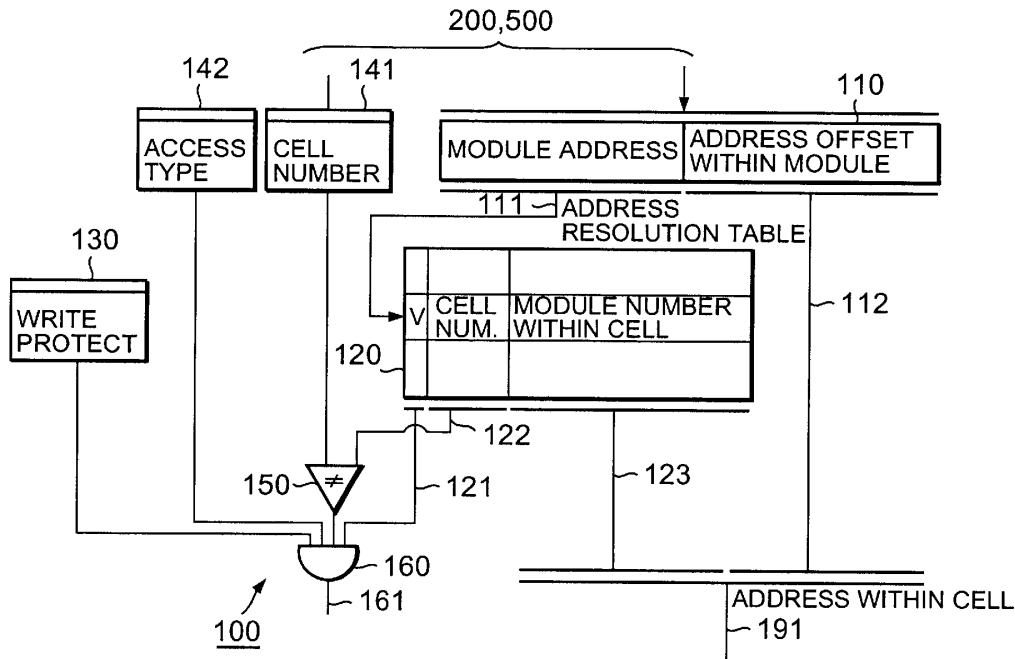
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(57) **ABSTRACT**

The present invention provides an address resolution method for use in a multiprocessor system with distributed shared memory. The method allows users to change a memory configuration and a system configuration to increase system operation flexibility and to isolate errors. A cell controller indexes into an address resolution table using the high-order part of a processor-specified address. A write protection flag specifies whether to permit write access from other cells. An attempt to write-access a cell inhibited for write access causes a logical circuit to output an access exception signal.

9 Claims, 11 Drawing Sheets



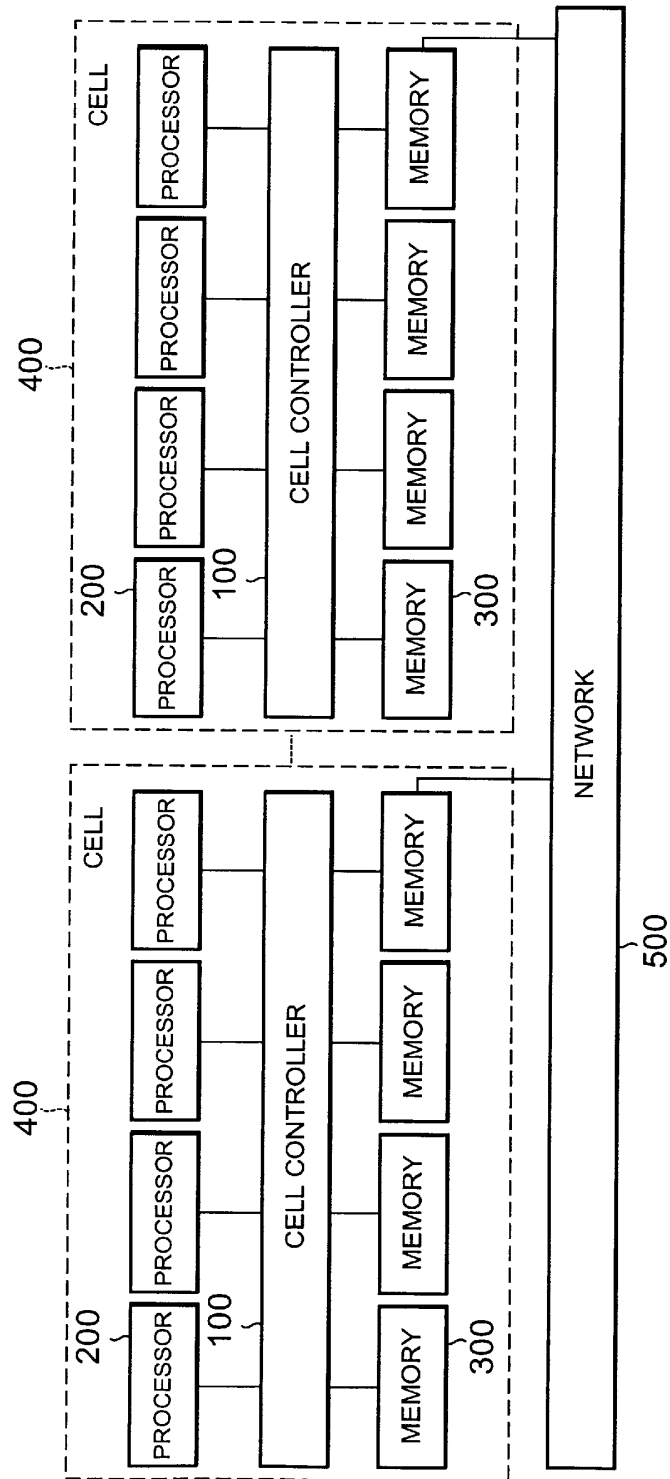


FIG. 1

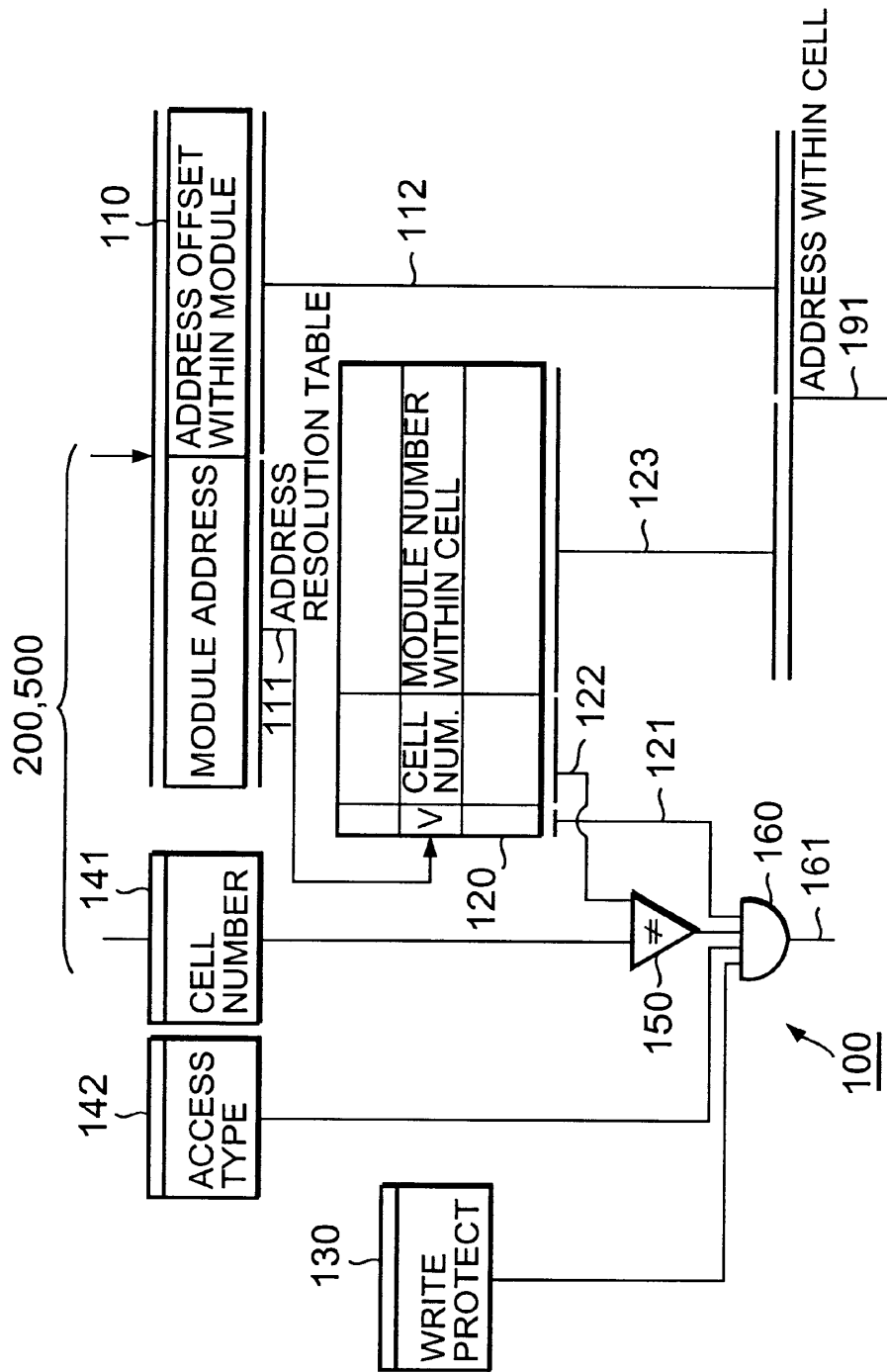


FIG. 2

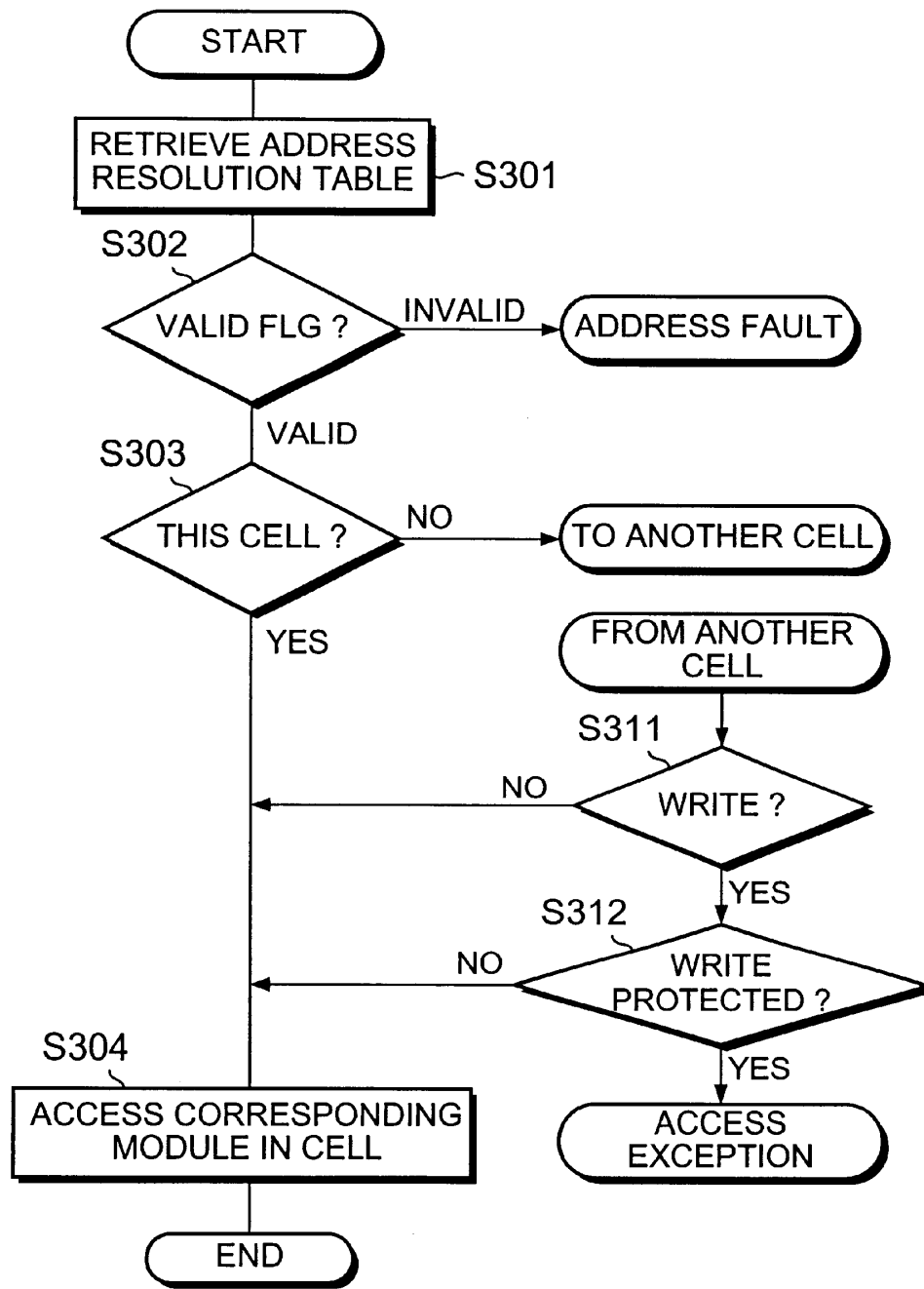


FIG. 3

0	1	0	0	0	1	1	0	0	1	2	0	0	1	3	0						
1	1	0	1	1	1	1	1	1	1	2	1	1	1	3	1						
2	1	0	2	2	1	1	2	2	1	2	2	2	1	3	2						
3	1	0	3	3	1	0	3	3	1	0	3	3	1	0	3						
4	1	1	3	4	1	1	3	4	1	1	3	4	1	1	3						
5	1	2	3	5	1	2	3	5	1	2	3	5	1	2	3						
6	1	3	3	6	1	3	3	6	1	3	3	6	1	3	3						
7	0	-	-	7	0	-	-	7	0	-	-	7	0	-	-						
8	0	-	-	8	0	-	-	8	0	-	-	8	0	-	-						
9	0	-	-	9	0	-	-	9	0	-	-	9	0	-	-						
A	0	-	-	A	0	-	-	A	0	-	-	A	0	-	-						
B	0	-	-	B	0	-	-	B	0	-	-	B	0	-	-						
C	0	-	-	C	0	-	-	C	0	-	-	C	0	-	-						
D	0	-	-	D	0	-	-	D	0	-	-	D	0	-	-						
E	0	-	-	E	0	-	-	E	0	-	-	E	0	-	-						
F	0	-	-	F	0	-	-	F	0	-	-	F	0	-	-						
	NODE#0						NODE#1						NODE#2						NODE#3		

FIG. 4

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