

(19)
(12)

(KR)
(B1)

(51) 。 Int. Cl. ⁶
G06F 17/50

(45)
(11)
(24)

2002 07 18
10 - 0337407
2002 05 08

(21)
(22)

10 - 1997 - 0054014
1997 10 21

(65)
(43)

1998 - 0063534
1998 10 07

(30)

96 - 350186

1996 12 27

(JP)

(73)

가

가

1 7 12

(72)

1 7 12

가

가

1 7 12

가

가

(74)

:

(54) LSI

, CAD

가

가

20 H - .

21 .

22 .

23 .

* *

1 : LSI 2 :

3 : / 120 :

130 - 1 130 - 6 :

140 - 1 140 - 6 :

, LSI CAD (Co
mputer Aided Design) LSI , LSI

- LSI CAD
가 . ,
()
LSI
,
가 .

18 21 LSI L
SI . , 18 21

18 19 " " (4) (" ") LSI (1) LSI 18 19 ,
(3) (가) (2) /
18 , / (3) (5 - 1) (5 - 2) (
" ") (4) 가 (5 - 1)
(5 - 2) (4) , 가 (4)
가 19 , (8 - 1) (8 - 4)
(4) 가 19

(7) (8 - 1) (8 - 4) 가
(4) (6)

20 21 " " 20 H -
(51) (11) H - (51) (11)
(51) (leading ends) (12 - 1) (12 - 4) H - (5
2) (55) (52) (55)
(11) 가 21
(14 - 1) (14 - 4) (13) (13)
(14 - 4) (61) (14 - 1) (14
- 4) 가 (14 - 4)
(15 - 1) (15 - 3) (62) (11)
(13) 가

가 22 23

(20 - 1) (20 - 2) 22 (2)
CPU
(20 - 1) (20 - 2) 22
(4) 22 L
가

23 (20 - 3) / (3) (21)
(20 - 3) / (3)
(21)

, LSI

가 LS

H -

가

가

H -

H -

가
(aligning)

가

가

가

1

CAD

S0

가

가

가

가
가

가

가

(

 $)$

S0

가 S1 가 .

2 2 LSI (1)
2 , / (3)

(120) (120) (2)

#1 #6
가 가

H - 2 ,

#1 #6
가

가

가

S2

3 4 3 2 #1
S0 4 - 3 4

(130 - 1) (1

30 - 6) 3
(140 - 1) (140 - 6) 4

(130 - 2), (130 - 3), (130 - 5) (130 - 6) v1 v4
0 - 5) (140 - 6)

3 , h1 h4
(140 - 1), (140 - 3), (14

4 3 (145) S0 ,
(130 - 1) (130 - 2) (137) 가

(135) (140 - 1) (140 - 3)
(130 - 2), (140 - 1) (140 - 3)
(130 - 1) (140 - 2) ,

(3 4) 가

가 가

#1 , #2 #6
(2)

가

S2 S3

#1 #6
#1 #6

가

C1 h1, h3, v1 v3
(

3
130 - 2), (130 - 5), (140 - 1) , (140 - 5) C1

C2 h2, h4, v2 , v4

(130 - 3), (130 - 6), (140 - 3) , (140 - 6) C2

(the degree of freedom)

가

#1 #6 S4
#1 #6 #1
#6 5

(111), (112), (113), (114),
(115) , (116) #1, #2, #3, #4, #5 , #6

#1 #6 가 S5
가 (

#1 #6
#1 3
#3 2
#5 2
0 1
S0

#2 2
#4 2
#6 3

가

#1 #6 가 S6

6(a) 가 6(a)

가
2 #3 가 (151) . , 가 2 가 2 #4 #5 #
가 (152) . (1
61) (162) - (151) (152) .
(161) (162) 가 (151) (152) , (, 가 (151)
#2 #3) . 가 (151) (152) (,
 , 가
 #2 #5 2) (161) (162) 가
 . , 가 (151) (152) 3 .
가 , .

가 , 6 가 ,
가 가 가 (151), 가 (152) , #1 #6 ,
가 3 #1 가 (151) 가 (153) , 가 3 ,
#6 가 (152) 가 (154) .
(163) (164) - (153) (154)
(163) (164) 가 (153) (154)
 . 가 (153) (154)
 , 가 (가 (151), (152)
 , #1 #6 3) (163) (164)
가 , 가 (153) (154) 4 .
(165) . (165)

가 , ,
(1) .

(161) (165) , #1 #6
5 . , (165) (171)
(163) (164) . (163) (172)
(111) (161) . , (161) (112) (113)
(173) (162) . , (164) (175) (116)
(162) . , (162) (176) (114) (115)
 . , #1 #6
 . , (165) #1 #6 가
 . , (171) (1
76) S2 S3 . ,
가 가 가 , 가
 . , 가 L 가
S0 L 가 . 가 L
 , 가 가 ,
L . ,

, (120)

, #1 #6 - 가 S7
 . , - S1
 , S4 S6
 가
 , - .

, #1 #6 S8 .
 , , H -
 , S2 S3
 가

LSI

, () 가 S9 .
 S2 ,
 ,
 ()
 S10 가 ,

, S10 , 가 가 , #1 #6
 (1) (가 S0 S9 LSI)
 가 , 가
 S6 가 , (),
 가 S6
 , #1 #6
 ,
 #1 #6 ((161) (165)
)
 #1 #6
 , #1 #6
 LSI (1) 가 ,

가 가 7 8
 LSI (1) 8
 H -
 7 S4
 (211) (216) CS1 #11 #16
 CS2 #18 (218)
 #12, #13, #14, #15, #17
 (212), (213), (214), (215), (217)
 CS1 CS2 S3
 (S4
 S3
 C1 C2 8 S3
 C1 C2
 C1 3 h1, h3, v1, v3
 C2 h2, h4, v2, v4 h1
 h3 (130 - 2) (130 - 5) C1 (220)
 (221) (224) (231)
 , v1 v3 (140 - 1) (140 - 5) (232)
 (233) , h2 h4 (130 - 3) (130 - 6)
 C2 (240) (241) (244)
 (251) , v2 v4 (1
 40 - 3) (140 - 6) (252) (253) S3
 가

9 16 H - 9 10
 H - (311) 가 (301)
 10 H - (312) 가 (302)
 9 H - (314) 10 H -
 (315) H -
 가 3 (H -
 가 8), 9 10 16
 #1 #6 가
 11 H -
 가 y 가 x (= 2y) (322)
 H -
 가 x (320) H - 가 (321) 가
 (320) H - 가
 H (323) 가 (321)
 322) (320)

가 (324) 가 , 3
 가 (325) 가 12 .

, 13 , 가 y 가 x (= 4y) (353)
 H - ,
 x (350) H - 가 , (351), (352) ,
 (354) 가 (350) H - 가
 , H , (355) 가
 (353) (350) (351), (352)
 , (354) (356)
 , 3 가 (357) 가 14

11 14 x y 가 x = y (n 1)
 , y = x
 y = 2x , 15 (365) 가 y = 4x , 16
 (375) 가

, H- #1 #6 , 가
 가 S1 ,
 가

, ,
 ,
 , 3 , 3 가 (130 - 2) 4 (140 - 1)
 (130 - 2) 1
 (140 - 1) 2 .

, S2 ,

S6 S8

가 ,

CAD ,

CPU .

, 17 CAD (503) , (505), (507), (509),

(511), (513) (515) (505) , S0
 , S7 - , S9
 (503)
 (515) (507) S2 S3
 (507) (507)
 (505) (515)
 (515)
 (517) (509) , S4, S5, S6 S8 ,
 (507)
 (509) , (505) (515)
 (511) S6 S8
 (511) (505) (515)
 (513) S10
 S1 S9 , 17
 S1 S9
 가 (505) S1 S9
 ,

가

가

가

, H

가

H -

H -

, H -

가

가

(57)

1.

LSI

가 LSI

LSI

2.

1

, H -

LSI

3.

2

2^n

가

H -

H -
LSI

4.

1 ,

,

LSI

5.

4 ,

, H -

LSI

6.

5 ,

2^n

가

H -

;

H -
LSI

7.

1 ,

,

LSI

8.

7 ,

H -

LSI

9.

8 ,

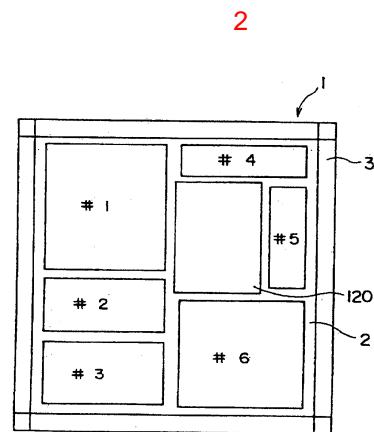
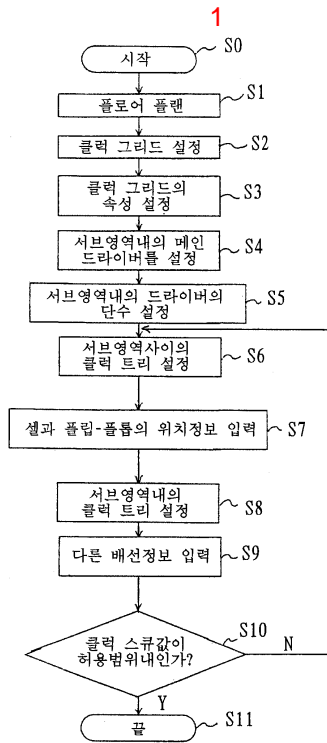
2^n

가

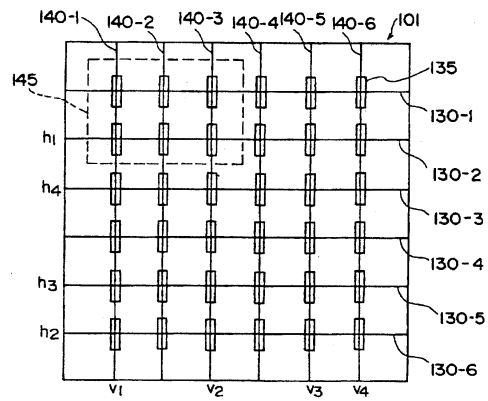
H -

;

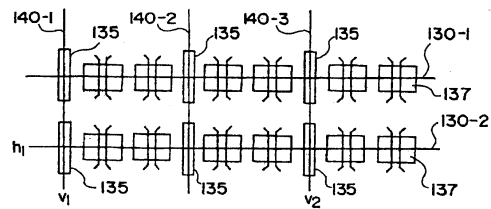
H -
LSI



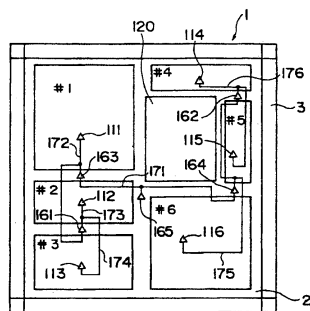
3



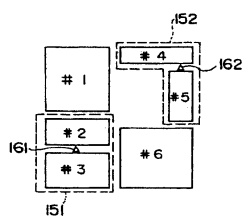
4



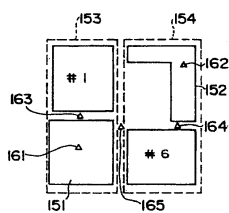
5



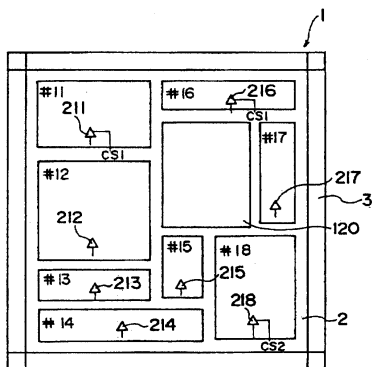
6a



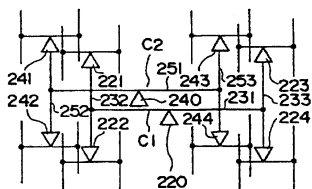
6b



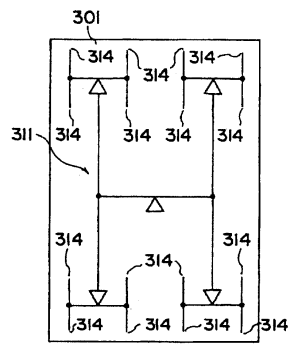
7



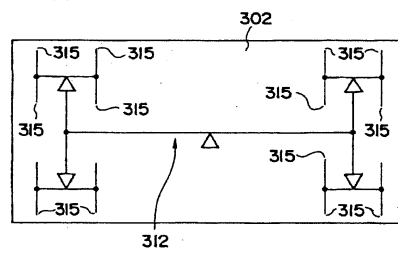
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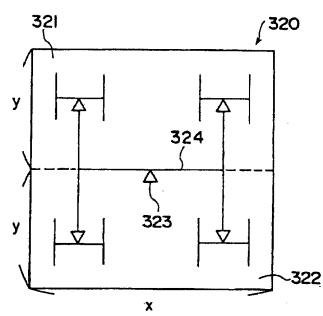
9



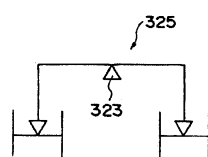
10



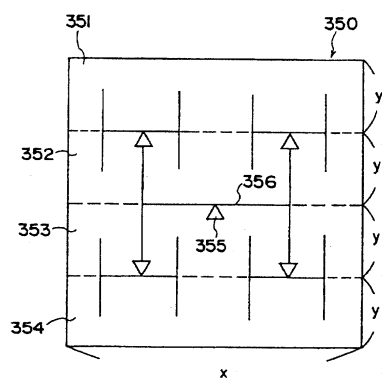
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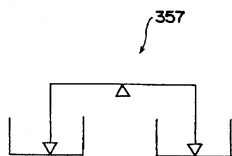
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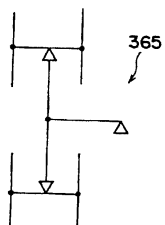
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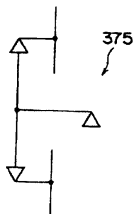
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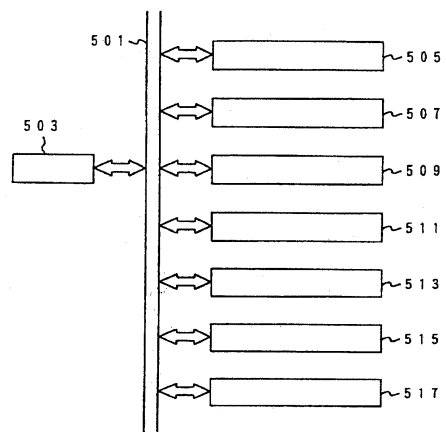
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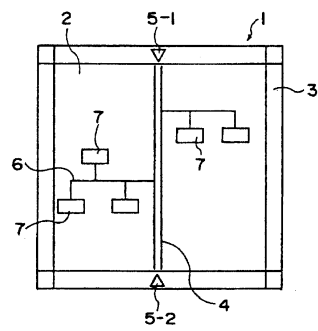
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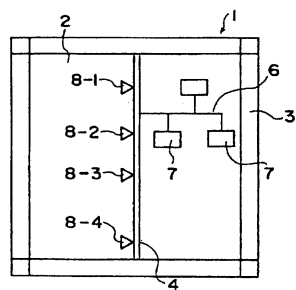
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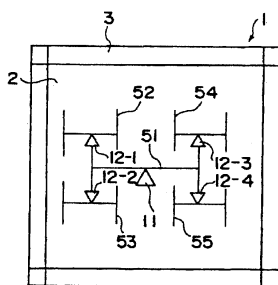
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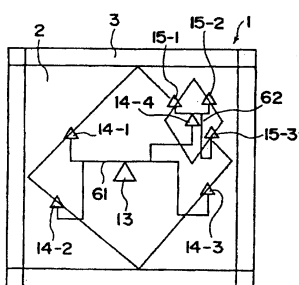
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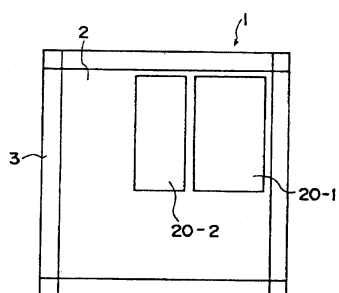
20



21



22



23

