

(30) 1999-29265 1999 02 05 (JP)
1999-102874 1999 04 09 (JP)
1999-141092 1999 05 21 (JP)

$$(72) \quad \begin{array}{ccc} 1 & 32 & 1 \end{array}$$

가 1 32 1

(74)

1

(54)

1	2					
2		3			3	
3	3		3			
4	3		3		S-	S-
5a	2			3		,
5b	2		3			.
6				1	3	.
7	6	3			S-	.
8		1	3		3	가 3
9	8	3				.
10a	9	'S'				.
10b	9	'R'				.
11		가 8 3				.
12	6 8		3		(calibration)	
13		가				.
14	n			n	2	
15	3			2		3
16	15					.
17a	16	'S'				.
17b	16	'R'				.
18	16	'L'				.
19		가		16		.
20	15			(3)		.
21		가			15	.
<		>				.
100 :						.
112 :						.
114 :						.
120 :						.
130, 132 :						.
134 :						.
140 :	DUT					.

3 ()
(dynamic range) (parameter)

12 (30) , 가 (28) (101). (open)', (short)' (load)' 3
 a) (32) . , , , , , , ,
 Ex Ex' , , , , , , , ,
 (46) , b(a (24) (102). DUT가 , , , , ,
 (18), Ex' , , , , , , , ,
 12 , Ex' , , , , , , , ,
 , a(Ed, ES Er (16)) (103). (104). , , , ,
 , a(44) (14)) 가 , , , , ,
 Ed, Es Er 3 , , , , , , ,
 , (44) 가 S11 , , a((14)) VR11

$$VR11 = Ed + ErS11 / (1 - EsS11)$$

, 가 (44)가 50 (44) () , a(44) S11=1
12 (105). 가 , ,
(1)

2

$$107), \quad , \quad \text{가} \quad , \quad a(44) \quad (\quad 106), \quad a(\quad , \quad 44) \quad S_{11=-1} \quad (\quad (1)$$

3

$$(1) \quad (109), \quad a(44) \quad \text{가} \quad () \quad (108), \quad a(44), \quad S11=0$$

4

, (110). 가 Et E1 (14 16) (1), (2) (3) . , 0 , . , 3가 . Ed, Es Er (44 46)가 .

5

6

Ed, Er Es가
 , 20 VR11 b(16) , a(44) E1
 , VR21 b(46) (111), a(14)
 110 Et E1
 111-113 (114), a(14) Et' E1'가
 (115). , a(14) VR11 c(18) a(44) c(48)가
 , a(14) c(18) VR31

7

8

15 3
 . 15 , (310) 2 3
), (26) (28) (12), (12) (14), 2 (14) (14 16), (24
 (32) (DUT)(40) DUT(40) 3
 (24)
 S- (26) (310) (28)
 .
 8), (330) (32), 3 (34, 36 38), 3 (44, 46 4
 (150) (152) (32) (DUT)(40) 3
 DUT(40) (34, 36 38) (310) 가 2 (14 16) DUT(40)
 (152) (152) (152) (152) 50 (DUT)
 16 15 DUT(40) , 가 DUT , a , 'S' (44) DUT (46)
 (152) DUT (16) 'R' , DUT(40) S- S13, S23 S33 e f (48) 'L'
 (152) DUT , DUT(40) S- 16 a-f S11, S21 S31 a b
 17-19 17(a) 16 'S' (330) (152) (152) 16 'L'
 16 'R' , 17(a) (50 52) , 17(b) (54 56) 17(a) 17(b)
 6 48) 10(a) (b) (330) (152) , DUT(40) (44, 4
 18 가 (330) (152) , DUT(40) (152) 16 'L'
 Ez) DUT가 16 (330) 9 S- S11, S12, S13, S21, S22, S23, S31, S3
 2, S33 15 , S- S- a-f 11
 20 (3) 20 21 DUT가 , DUT(40)
 가 a(400), (32) 가 (401). Ex (402).
 (16) Ex a(44) 가 (403). (14) (406).
 Ed, Es Er a (404). (405) (14) (408).
 (407), (14) (409).
 20 b(46) (5) (6) Et E1 (410), (16) Et E1 a(44)
 d, Es Er (410-412) , Ez가 (413), VR11 (14) a(44)
 c(48) 가 (14) (411), E (412).
 , (414).

가 .
가 ,
가

(57)

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DUT (DUT);
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DUT ,
DUT ,

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1 , DUT DUT (S-)

9.
1 , DUT

10.

(a) (DUT)

(b) DUT

(c) _____

(a) DUT

(e) 가

DUT

DUT

11. 10 , (a) , () ,

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(2)

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(3)

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DUT

가

21.

20 DUT ,

DUT

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DUT

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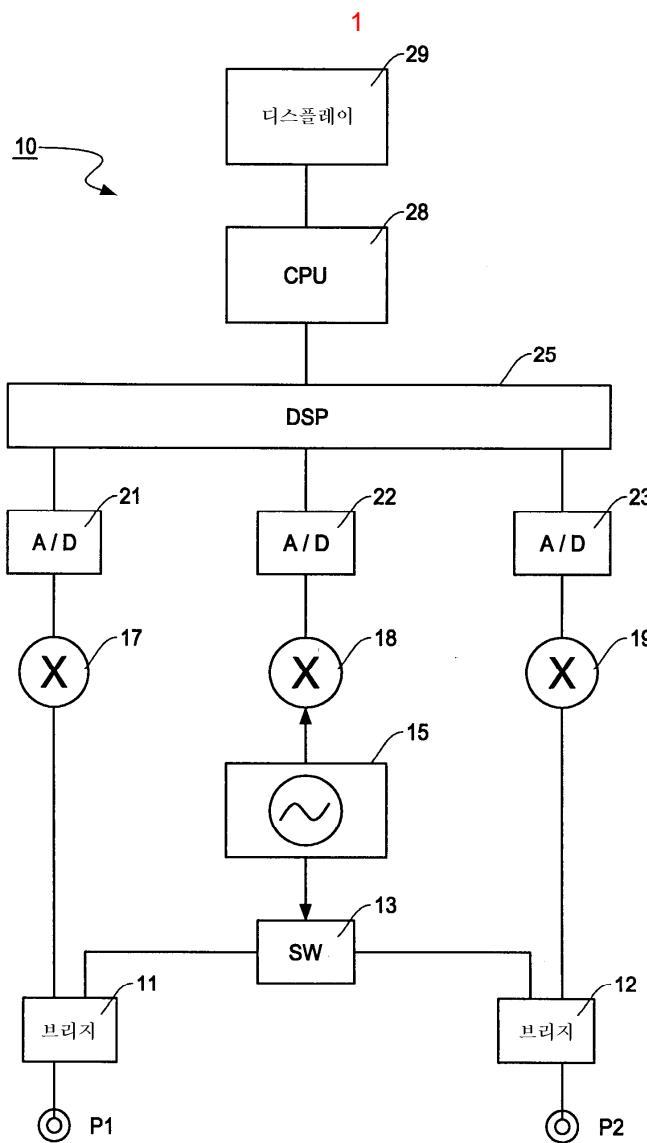
DUT
DUT

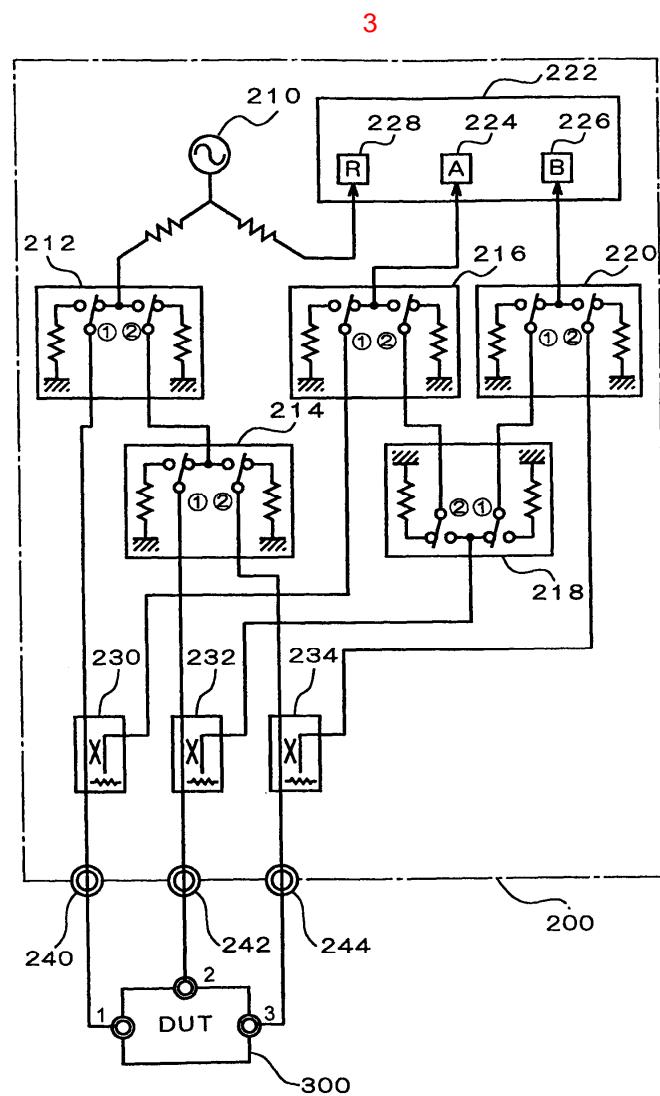
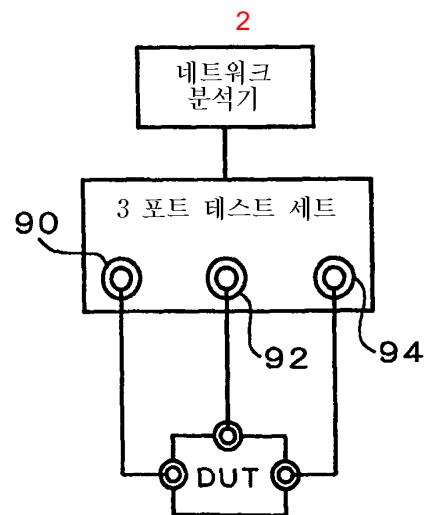
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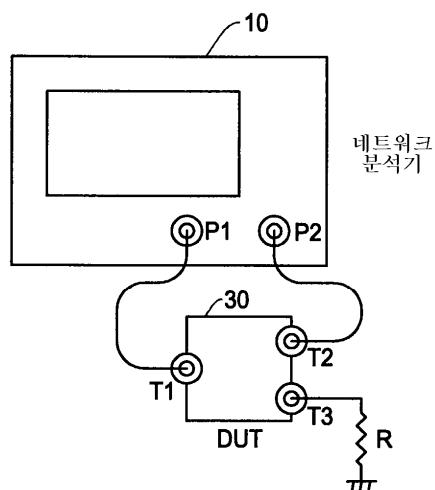




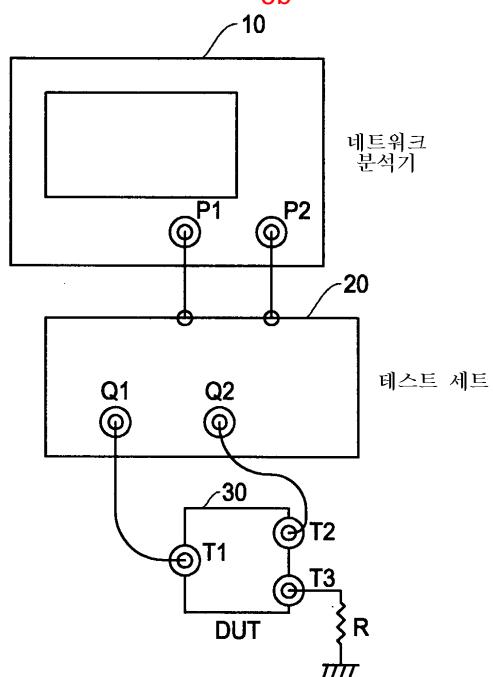
4

	S11	S21	S31	S12	S22	S32	S13	S23	S33
SW1	① 온 →			오프 →			오프 →		
	② 오프 →			온 →			온 →		
SW2	① 온 →			온 →			온 →		
	② 오프 →			오프 →			오프 →		
SW3	① 온 →			온 →			온 →		
	② 오프 →			오프 →			오프 →		
SW4	① 오프 →			오프 온 →			오프 온 →		
	② 온 →			온 오프 →			온 오프 →		
SW5	① 온 온 오프			온 온 오프			온 온 오프		
	② 오프 오프 온			오프 오프 온			오프 오프 온		
측정	A	B	B	A	B	B	A	B	B
스위프	2회			2회			2회		

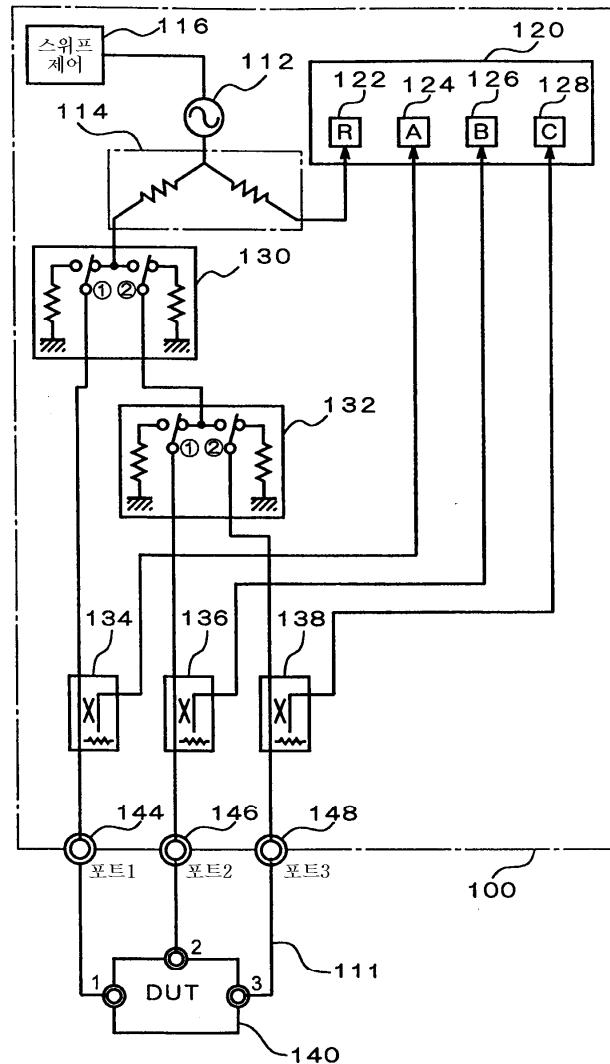
5a



5b



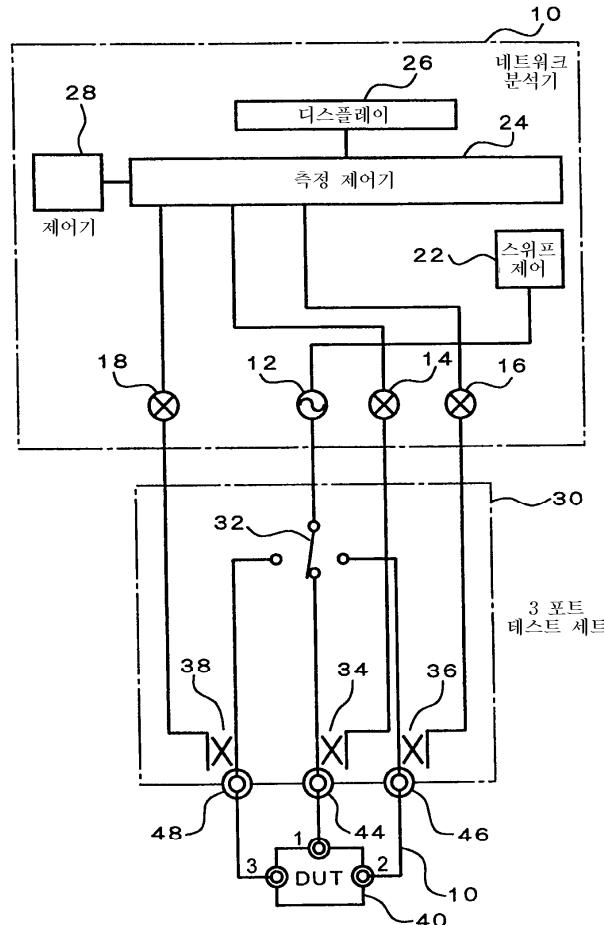
6



7

	S11	S21	S31	S12	S22	S32	S13	S23	S33
SW1	① 온	→	온	→	온	→	온	→	온
	②	온	→	온	→	온	→	온	→
SW2	①	온	→	온	→	온	→	온	→
	②	온	→	온	→	온	→	온	→
측정	A	B	C	A	B	C	A	B	C
스위치	1			1			1		

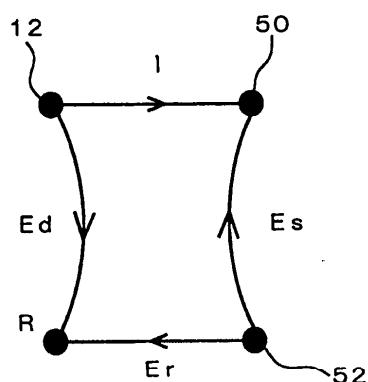
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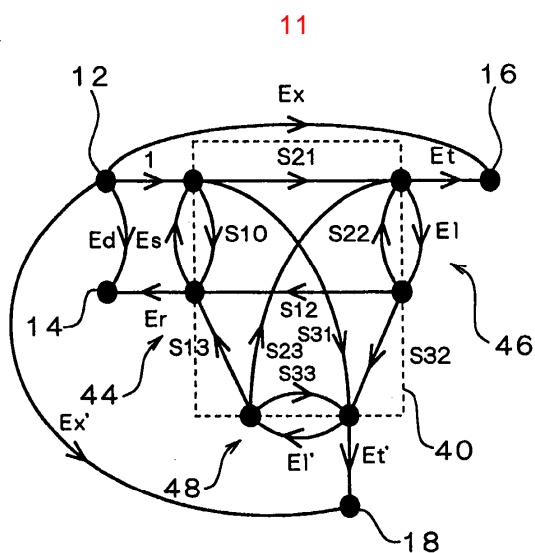
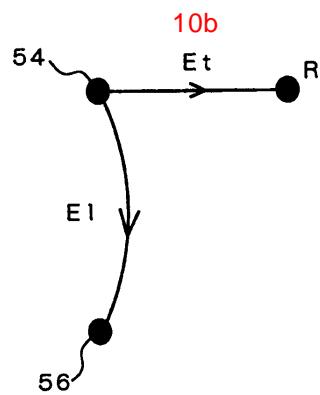


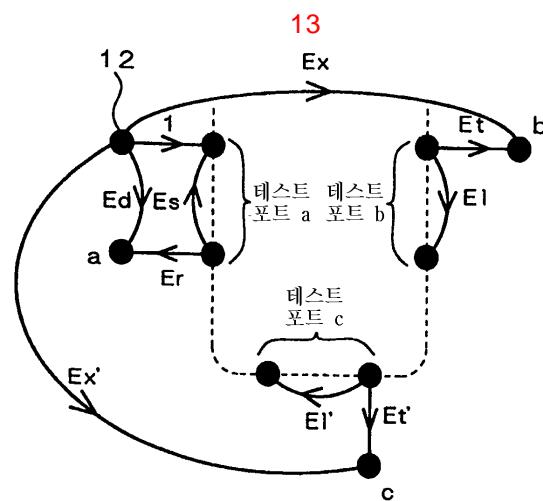
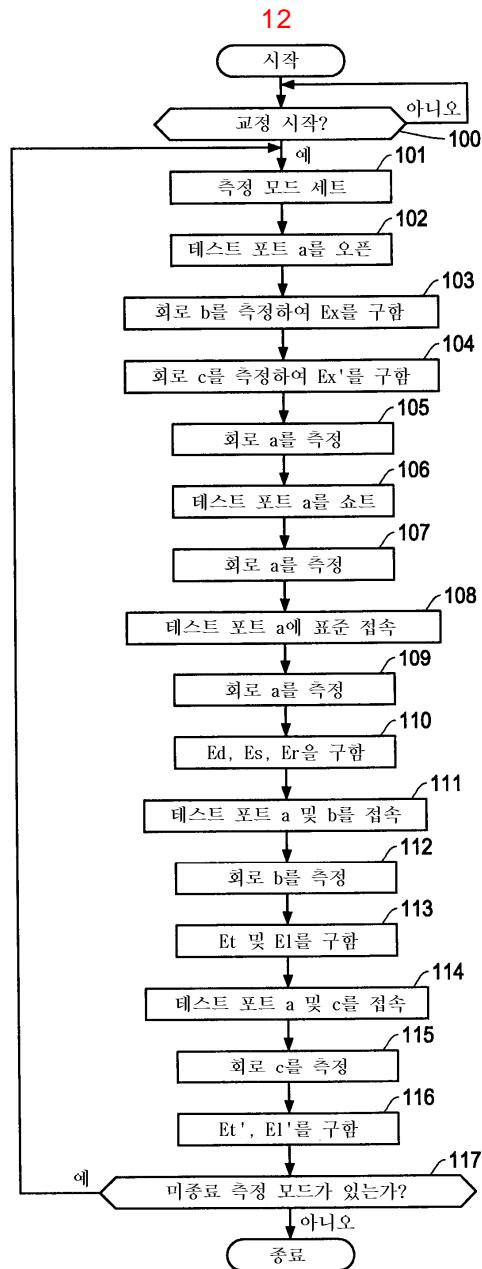
9

모드	테스트 포트 44	테스트 포트 46	테스트 포트 48
a	S	R	R
b	R	S	R
c	R	R	S

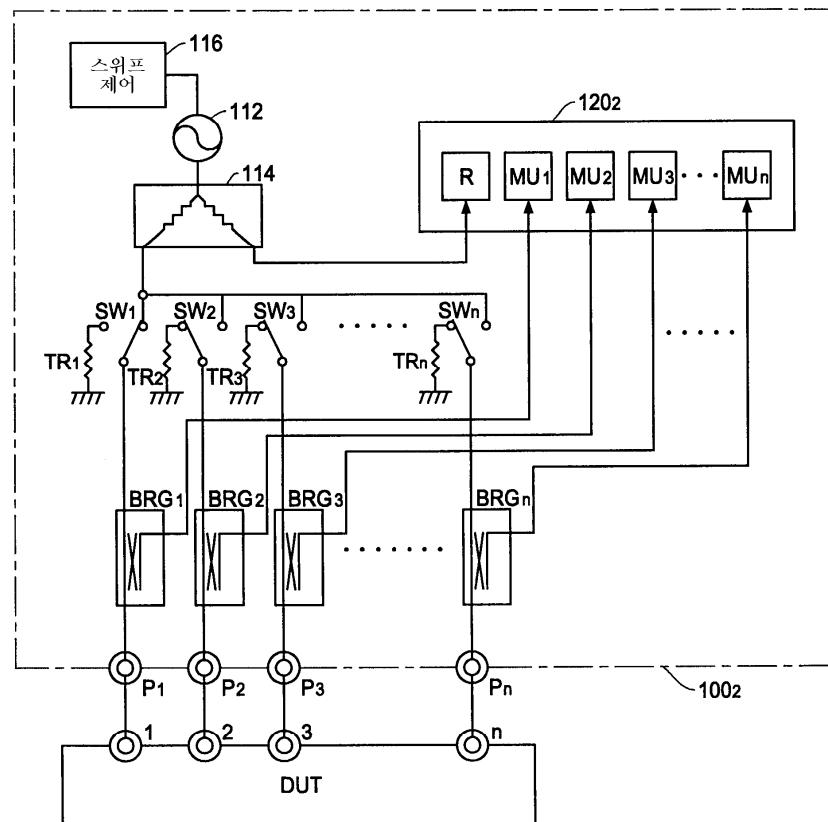
10a



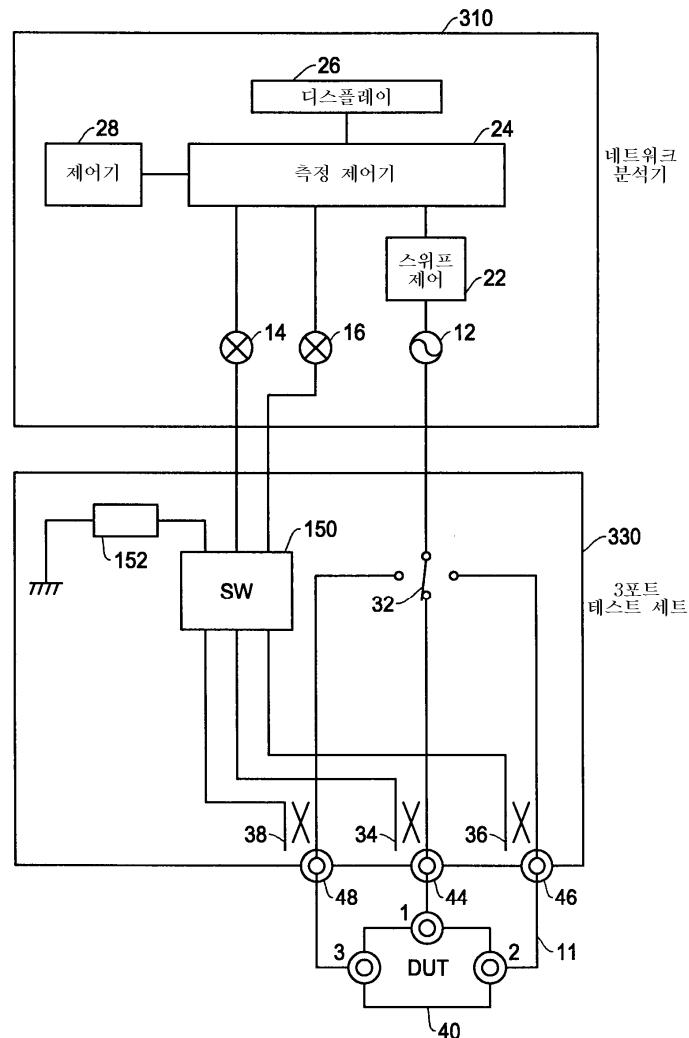




14



15



16

모드	테스트 포트 44	테스트 포트 46	테스트 포트 48
a	S	R	L
b	S	L	R
c	L	S	R
d	R	S	L
e	R	L	S
f	L	R	S

17a

