

(19)  
(12)

(KR)  
(B1)

(51) 。 Int. Cl.<sup>7</sup>  
H04B 3/56

(45)  
(11)  
(24)

2004 02 18  
10-0419138  
2004 02 04

(21) 10-2002-0005632  
(22) 2002 01 31

(65)  
(43)

10-2003-0065147  
2003 08 06

(73) 4 873-29 4

(72) 329-1 105 1501

(74)  
:

(54)

가

가

(Rising Edge) ; (Zero - Cross) ;  
;

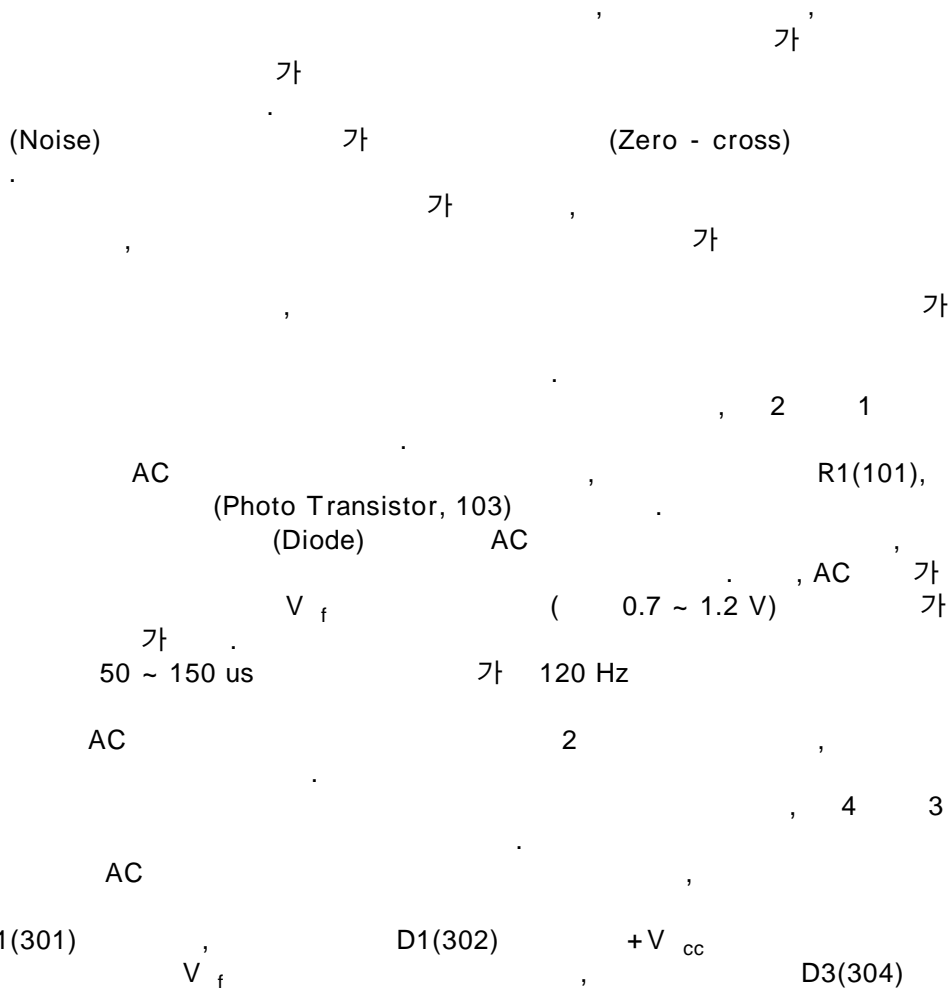
5

1  
2 1  
3  
4 3

5	1
6	5
7	2
8	7

101, 301, 305 :

102 :	103 :
302, 303 :	304 :
501, 701 :	(Falling Edge Detector),
503, 703 :	(Rising Edge Detector)
504, 704 :	(Oscillator) 505 : (Counter)
506, 711 :	(Shift Register)
507, 712 :	508, 713 : (Divider)
509 : (Comparator)	510 : (Edge Detector)
705 : 1	706 : 2
707 :	(Data Selector) 708 : 1
709 :	710 : (Flip/Flop)
714 : 2	715 : 1
716 : 3	717 : 2
718 :	(OR)



Hz,  $-V_f$ , R2(305), 60  
 AC '1' '0' 가 AC '1'

AC  
 가

(Zero - Cross)  
 (Falling Edge) (Falling Edge Detec  
 (Rising Edge) (Rising Edge Detector)

(Counter);  
 (Shift Register);

(Edge Detector)  
 '1'  
 2 ; 1 2  
 (Data Selector);

1 ;  
 2 ; 1 2

(Rising Edge) (Zero - Cross)

'1' '0' ; '1'

(PLC : Power Line Communication)

5 1 , 120 Hz (Falling Edge Detector, 501), (Rising Edge Detector, 503), (Oscillator, 504), (Counter, 505), (Shift Register, 506), (507), (Divider, 508), (Comparator, 509) (Edge Detector, 510)

(501) (504) (505) (504)

(505) (506) (508)

(507) (508)

1/2 B (508) B

(509) A가 B (505) (510)가 A

6 5 (a) (b) (c) (d) (505) (e) (508) (f) (509) (g) (509) (h) (510)

7 2 , 60 Hz (Falling Edge Detector, 701), (Rising Edge Detector, 703), (Data Selector, 707), (Shift Register, 711), (716), 2 (717) (Oscillator, 704), 1 (Comparator, 708), (712), (Divider, 713), 2 (714), 1 (715), 3 (718)

(701) (703) (704) 1 (705) 2 (706) '1' '0' (705) 2 (706) (704)

(705) 1 (705) '1' (706) '0' (709) A, B A, B

C (710) 60Hz( 가 (711) (713) 1/2

'1' '0' E '1' '0' E '1' '0' 가

E (708) A, B (714) D E D가 E (715) 1

F D (717) 3 (120 Hz) 8.33 ms D F F (716) E F 2 (OR, 718)

8 7 (a) (b) (701) (c) (703) (d) 1 (705) A (e) 2 (706) B (f) (709) C (g) F E (h) 2 (717)

4) , (k) 2 , (i) 3 (716) , (j) 1 (715)  
 , 1 , (l) 120 Hz , 2  
 60Hz  
 가  
 가 1  
 가  
 가

(57)

1.

(Zero - Cross)  
 (Falling Edge)  
 (Rising Edge)  
 (Counter);  
 (Falling Edge Detector);  
 (Rising Edge Detector);  
 (Shift Register);  
 (Edge Detector)

2.

1 , (Oscilla  
 tor)

3.

1 , ; , 1/2  
 (Divider)

4.

1 ,

5.

1 ; '1'  
 2 ; '0'  
 1 2 ; ;  
 1 2 ; ;  
 1 2 ; (Data Selector);  
 1 ;

1 2 ;

6. 1 2 1

5 1 2 1

2 7. 5 ;

8. 5 ; , 1/2

lip/Flop) 1 (F

9. (Zero - Cross) (Rising Edge) ; ;

10. 9 ;

11. 9 ; ( 가 ) , 1/2

12. 9 ;

13. ; '1' '0' ; ; '1' '0' ; ; ;

14. 13 ;

15.

13

( 가 )

, 1/2

16.

(Zero - Cross)

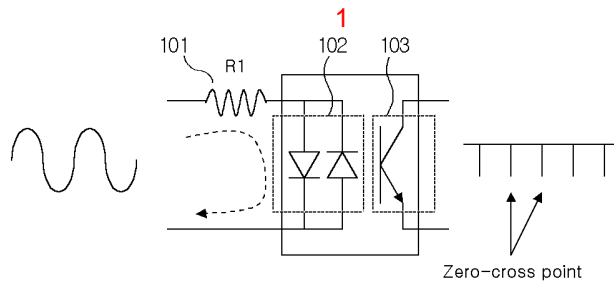
(Rising Edge)

17.

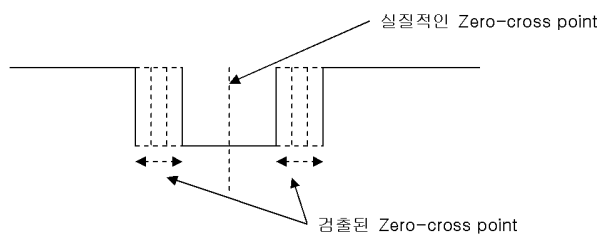
'1' '0'

'1' '0'

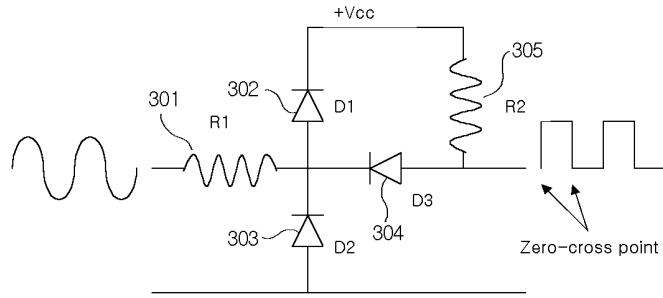
'1' '0'



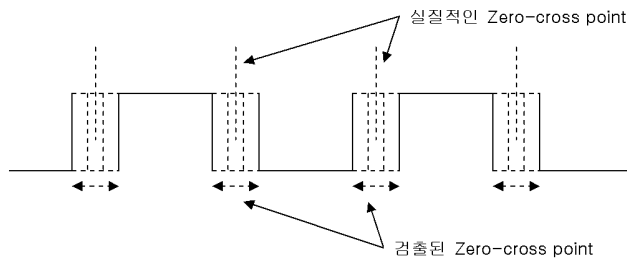
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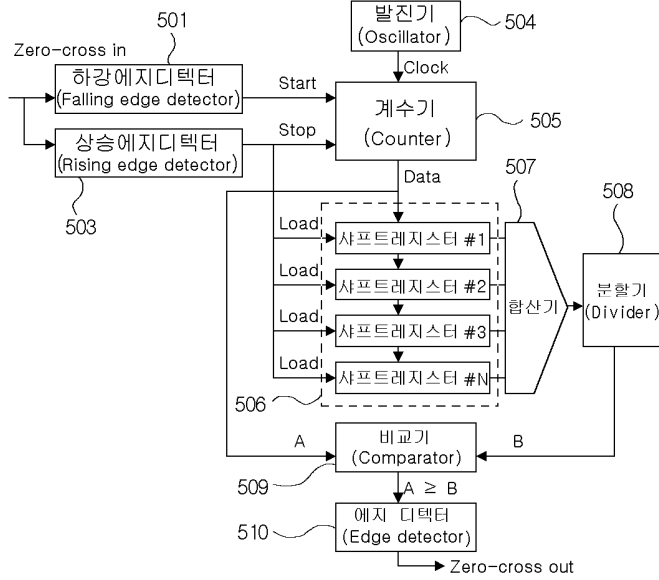
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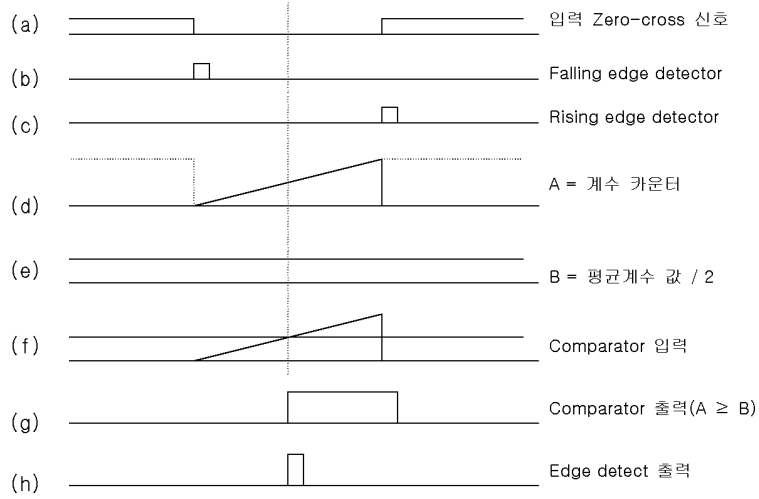


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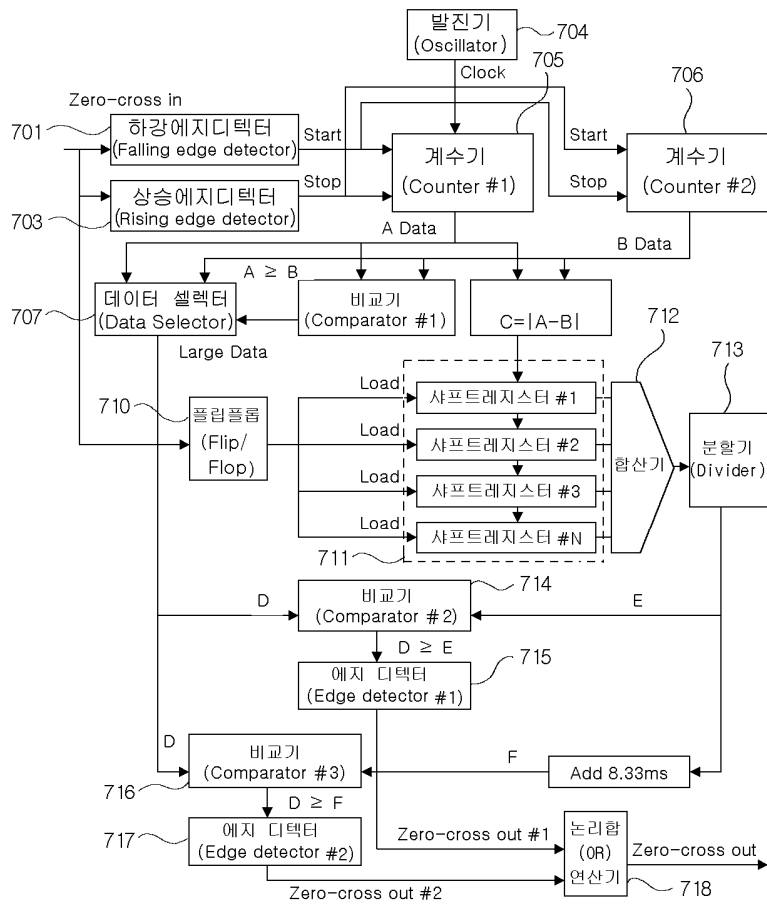




6



7



8

