

(19)
(12)

(KR)
(B1)

(51) 。 Int. Cl. 7
H04B 10/02

(45)
(11)
(24)

2002 12 11
10 - 0363885
2002 11 25

(21) 10 - 2000 - 0077643
(22) 2000 12 18

(65) 2002 - 0048230
(43) 2002 06 22

(73) 206

가 161

(72) 21/6226 - 36

1103 - 4 302 - 1301

(74)
:

(54)

ATM - PON, CATV(cable TV)
, NRZ R
Z NRZ (11); RZ
(12)
, CDR ,
, 가 .

1b

1a

1b 1a

1 ,

1c 1a

2 ,

2 1

,

3 1

,

4 1

NRZ - RZ

5 1

,

*

11 : 110 :

111 : /

112a,112b : NRZ(nonreturn - to - zero) - RZ(return - to - zero)

113a,113b : 12 :

116 : 117 : 가

122a,122b :

, ATM - PON, CATV(cable TV)
CDR
가

가

가

(point - to - point) 가 ATM - PON

ATM

dle time) , "1", "0" , (1) (i)

, (2) 가 가 , (3)

(1) , 가 ,

, (2) , (preamble)

, (3) , (payload)

, 249816 , 가 1.5dB

0.5dB

, 가 가

, 가 1Gbps 155Mbps/622Mbps

가 Tbps , Gbps

CDR(clock and data recovery) (chip)

CDR(clock data recover

y)

1 NRZ (11); R
RZ NRZ (12)
가 .

2 NRZ ;
RZ NRZ

1a (11) (12) 가 (11) / (111), NRZ - RZ
(112a,112b) (110) .

RZ (110) , NRZ - RZ (112a,112b) NRZ
NRZ - RZ

(110) 가 1b 1c (113a,113b) , , 1b ,
(114)

1b (11) 2 .
(1) NRZ / (111) , '0100101
0011 가 가 .
(22). (21).

(2) / (111) NRZ - RZ (112a,112b) , RZ , 2 "
22" NRZ "21" NRZ "23" RZ , 2 "
AND NRZ "24" RZ (41) 2 가 (42) 4 AND
(43).

(3) RZ , RZ

(4) , RZ 가 (25).

1c (11) (110) 1b
(110)

RZ (115) 가 (117)
, RZ (116) 가 (117)
, RZ (112a) 가 "1" 가
(117) 가 "1" , RZ (112b) 가 "1"
(117) "2" 가

RZ (12) NRZ

(12) (121), (122a,122b), (123), (124),
(125) (121) , (122a,122b)
(124) (123) , (123)
(125) (123)

(12) 3

(1) RZ 가 (31) ,

(2) "32" 가 2 (122a,122b) , (32,33) , 3
2 "24" "23" 3 "33"

(3) (122a,122b) (123)
가 "34" 가 ,
(123) (123) "0" "1" (125) (124)
(123) "0" "1" 0

(4) (124) , "35" , 가
(124)

(5) (125) (123) (124)
NRZ (36).
(125) 5 D - (flip - flop)
NRZ , '01001010011'

CDR

CDR

CDR

(57)

1.

NRZ

RZ

(11);

RZ

NRZ

(12)

2.

1

(11) :

/ (111);

/

NRZ

RZ

NRZ - RZ

(112a,112b);

NRZ - RZ

RZ

(110)

3.

2 ,

(110):

NRZ - RZ (112a,112b)
(113a,113b);

(114)

4.

2 ,

(110):

NRZ - RZ (112a,112b) (115);

NRZ - RZ (112a,112b) (117)
(116);

(115) (116)
가 (117)

5.

1 ,

(125) :

(121);

(122a,122b);

(123);

(123) 2
(124);

(124) (123) (125)

6.

3 ,

7.

4 ,

가 (117) , NRZ 가 "1" "0"
RZ

8.

3 4 ,

NRZ - RZ (112a,112b) 가 f NRZ (41) 가
2f (42) RZ (43) 2 - AND

9.

5 ,

(112a,112b)

10.

5 ,

(125) D -

11.

NRZ

RZ

;

RZ

NRZ

12.

11 ,

:

NRZ 1 ; 1 2

1 2 RZ 2 ;

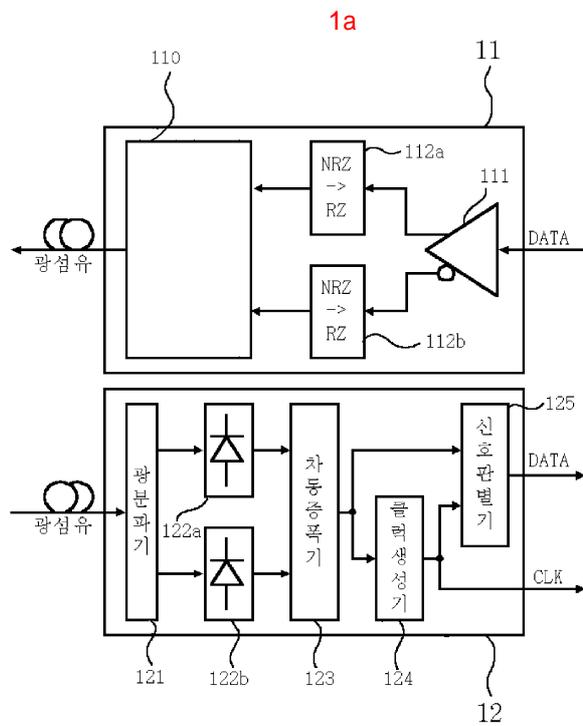
2 3 ;

3 4

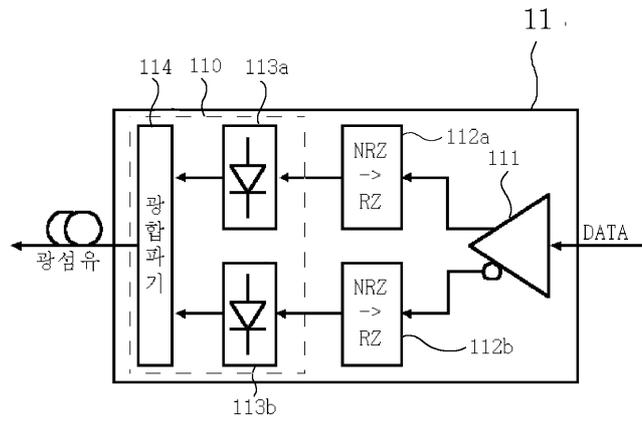
13.

11

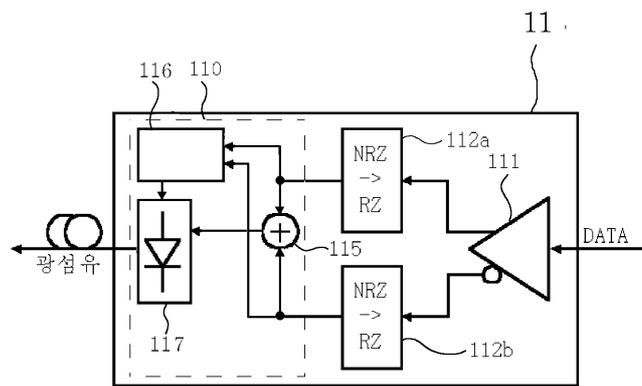
3 4 5 ;
 3 4 6 ;
 6 7 ;
 7 8 ;
 7 8 9



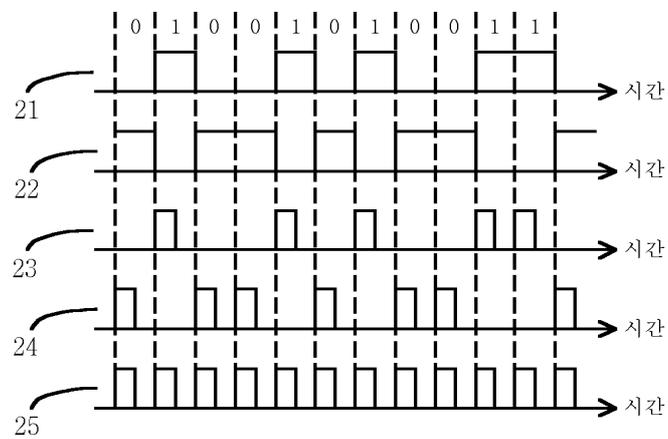
1b



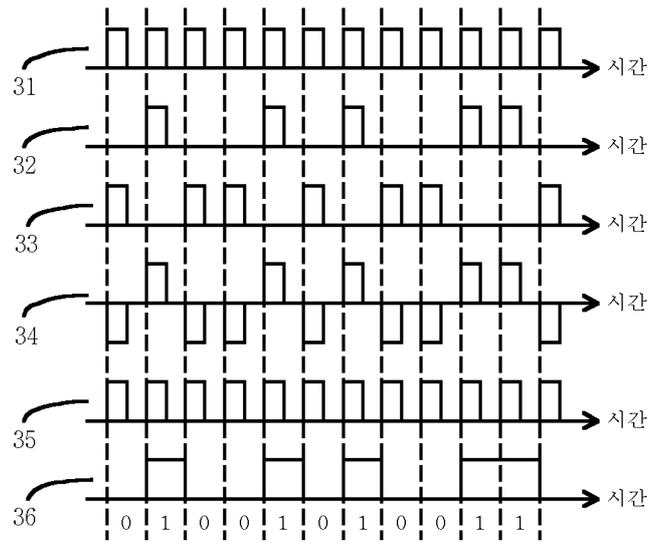
1c



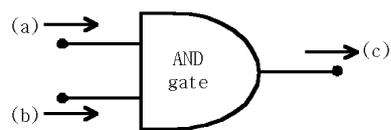
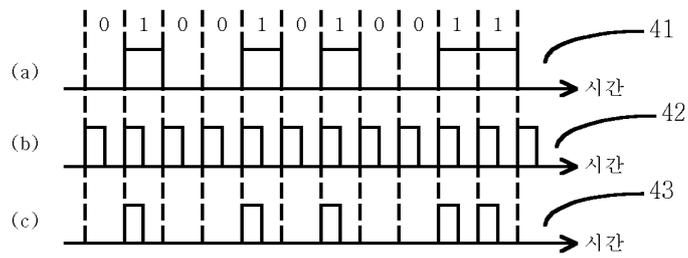
2



3



4



5

