

(19)  
(12)

(KR)  
(B1)

(51) 。 Int. Cl. <sup>6</sup>  
H04N 9/44

(45)  
(11)  
(24)

2002 10 31  
10 - 0335618  
2002 04 23

(21) 10 - 1995 - 0042614  
(22) 1995 11 21

(65) 1997 - 0032182  
(43) 1997 06 26

(73) 3 416

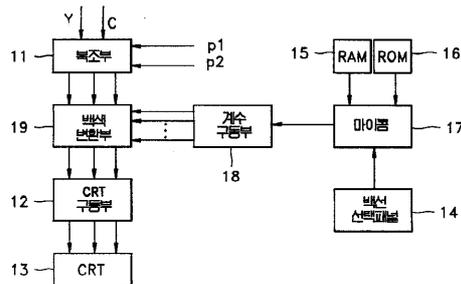
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(54)

, 가

제 1 도



1

2 1

3 1

4

5 1

\*

11 ... 12 ... CRT

13 ... CRT 14 ...

15 ... RAM 16 ... ROM

17 ... 18 ...

19 ...

) 가 (

NTSC, PAL, SECAM  
(CIE)

6504 ° K D65  
(TV)

5700 ° K 13700 ° K  
9300 ° K

TV 가

(1993 IS& T/SID  
가

). 가  
TV

(R,G,B)

, TV

TV

TV  
가

( , , )  
TV

CIEXYZ

)

US 5,257,096

(CRT)

RGB

(  
RGB

RGB

CRT

CRT

CRT

RGB

TV

가

RGB

RGB

가

CRT

CRT

가

, CRT

가

가

가

;

가

가

RGB  
RGB

;

가

;

;

CRT

가

RGB/

xy

xy

가

/RGB

RGB/ , /RGB  
 ; ,  
 가  
 ,  
 1 , TV  
 1 , ( ), Y/C ( ), (11). CRT (12), CRT(1  
 3), (14), (15), (16), (17), (18) (19)  
 2 1 (19) , RGB/ (112), (113)  
 /RGB (114)  
 3 1 (18) (19) , (18) (17)  
 (19) (124) / (121) , (122)  
 (125) , (19) 3 (123), 9 가 (124) 3 가 /  
 4 , 가  
 ( 41 47 ) ,  
 ( 49 )  
 5 1 (17) , RGB/ ,  
 ( 51 53 )<sup>xy</sup> , 가 ( 54 )  
 ), /RGB ( 55 ) , RGB/  
 , /RGB ( 56 )  
 , 1 5  
 1 , TV ( ) / (Y/C) ( )  
 (11) , P1 P2 CRT (12) , RGB  
 CRT(13) CRT  
 (17) TV (14) (R  
 OM;15) (RAM;16) , (18)  
 (19) 가 .

(19) 2 , RGB/ (112)  
 RGB (113)  
 , /RGB (114) RGB  
 (18) (19) 3  
 , (19) 3 (123)  
 , 9 가 (124) 3 가 / (125) 3x3  
 , (19) 3 가 (weighted sum)  
 , (18) (17) / (19) (1  
 21) (124) (123)  
 (14) 가 , 가  
 (17)  
 (16) 가 가 ,  
 CRT(13) , RGB(Y,R - Y,B - Y YIQ)/ , CRT NTSC " C" ( , /R  
 GB (CIEXYZ LMS)  
 4  
 41 (14) , (17) 가 , 5000 ° K 13000 °  
 K (16) ( 43 ) . 45 가 800  
 0 ° K 가 가 45 가  
 가 가 ( 47 ) , (18) (19) 9  
 , (124) 가 ( 49 ) , , (19) 가  
 , NTSC , NTSC RGB 가 TV  
 TV CRT  
 , 5  
 RGB (CIEXYZ) (1) . 2 RGB/  
 (112)

$$\begin{bmatrix} X_1 \\ Y_1 \\ Z_1 \end{bmatrix} = \begin{bmatrix} X_R & X_G & X_B \\ Y_R & Y_G & Y_B \\ Z_R & Z_G & Z_B \end{bmatrix} \begin{bmatrix} R \\ G \\ B \end{bmatrix} = [M] \begin{bmatrix} R \\ G \\ B \end{bmatrix} \dots (1)$$

(1) 3x3 M NTSC RCB( TV CRT RGB) " C" (  
 TV CRT ) RGB/ TV CRT R=G=B=

113) ) (X<sub>1</sub>, Y<sub>1</sub>, Z<sub>1</sub>) ( ) , ( )  
 (X<sub>2</sub>, Y<sub>2</sub>, Z<sub>2</sub>) (2) . 2 ( )

$$\begin{bmatrix} X_2 \\ Y_2 \\ Z_2 \end{bmatrix} = \begin{bmatrix} X_{2W}/X_{1W} & 0 & 0 \\ 0 & Y_{2W}/Y_{1W} & 0 \\ 0 & 0 & Z_{2W}/Z_{1W} \end{bmatrix} \begin{bmatrix} X_1 \\ Y_1 \\ Z_1 \end{bmatrix} = [W] \begin{bmatrix} X_1 \\ Y_1 \\ Z_1 \end{bmatrix} \dots (2)$$

(2) W (3)

$$\begin{bmatrix} X_2 \\ Y_2 \\ Z_2 \end{bmatrix} = \begin{bmatrix} LMS/XYZ \\ XYZ \\ \text{행렬} \end{bmatrix} \begin{bmatrix} L_{2W}/L_{1W} & 0 & 0 \\ 0 & M_{2W}/M_{1W} & 0 \\ 0 & 0 & S_{2W}/S_{1W} \end{bmatrix} \begin{bmatrix} XYZ \\ LMS \\ \text{행렬} \end{bmatrix} \begin{bmatrix} X_1 \\ Y_1 \\ Z_1 \end{bmatrix} = [W] \begin{bmatrix} X_1 \\ Y_1 \\ Z_1 \end{bmatrix} \dots (3)$$

(3) LMS (fundamental tristimulus value)

, 2 RGB /RGB (114) (4) M

$$\begin{bmatrix} R' \\ G' \\ B' \end{bmatrix} = \begin{bmatrix} X_R & X_G & X_B \\ Y_R & Y_G & Y_B \\ Z_R & Z_G & Z_B \end{bmatrix} \begin{bmatrix} R \\ G \\ B \end{bmatrix} = [M^{-1}] \begin{bmatrix} X_2 \\ Y_2 \\ Z_2 \end{bmatrix} \dots (4)$$

(1) , (2) ( (3) ) (4) 5)

$$\begin{bmatrix} R' \\ G' \\ B' \end{bmatrix} = [M^{-1}] [W] [M] \begin{bmatrix} R \\ G \\ B \end{bmatrix} = [CO] \begin{bmatrix} R \\ G \\ B \end{bmatrix} \dots (5)$$

(5) CO RGB 가 R', G', B' 가 M M M W  
 M 가 (5) (16)  
 , 가 CIExyY xy (16)

( 표 1 )

색온도	색좌표 (CIE xyY)	
	X	Y
5,500° K	0.331	0.302
6,500° K	0.310	0.316
7,500° K	0.304	0.310
8,500° K	0.290	0.305
.	.	.
.	.	.
13,500° K	0.268	0.272

, xy

XYZ 3

(6)

$$X_w = (x_w/y_w)Y_w, Y_w = 1, Z_w = ((1-x_w-y_w)/y_w)Y_w \dots (6)$$

가 가 , 가

(57)

1.

가 , 가 ;

가 , 가 RGB  
RGB

가 ;

;

CRT

가

2.

1

RGB/ xy , xy ,

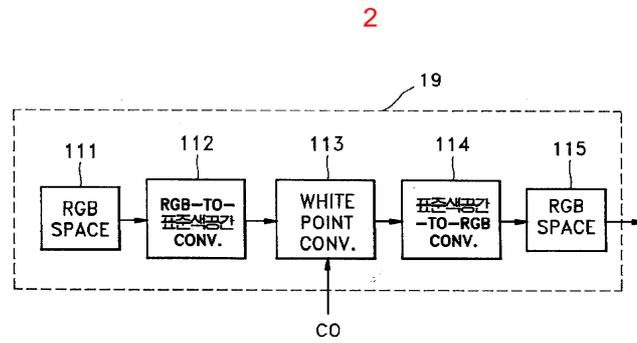
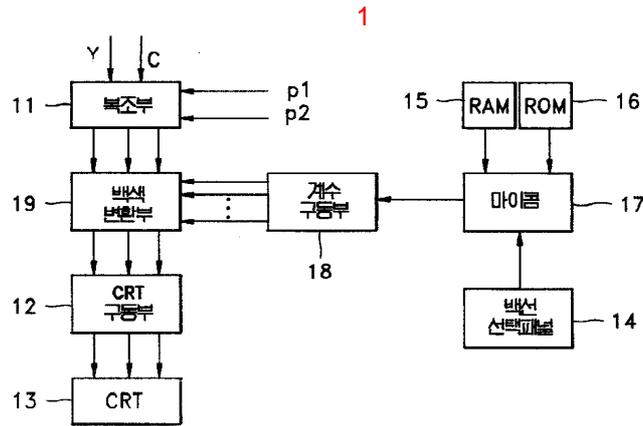
가 ;

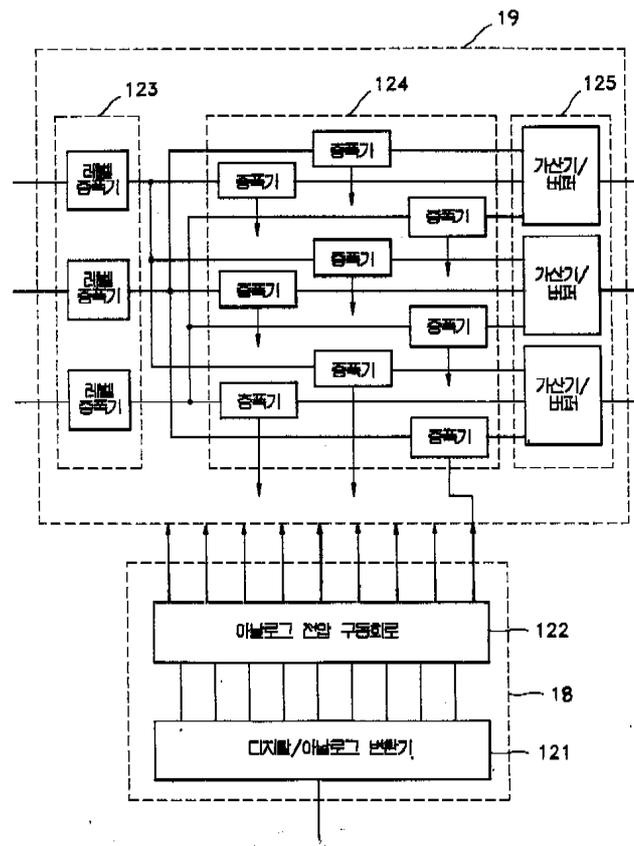
/RGB ;

RGB/ , /RGB

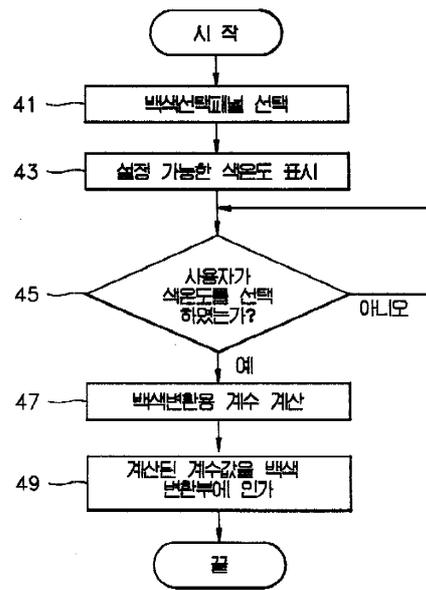
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가





4



5

