

(19)
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10-0432651
2004 05 12

(21) 10-2002-0033995
(22) 2002 06 18

(65)
(43)

10-2003-0096900
2003 12 31

(73)

575

(72)

1 969-37

(74)

:

(54)

EL(electro - luminescence) , 가 (pixel
) .

가 , ,
1 .

가 . ,

5

EL(electro - luminescence), , ,

1 .
2

3 .

4 3 .

5 4 .

6a 6c 5 4
 7a 7d 6a 5 가
 8a 8d 6b 5 가
 9a 9d 6c 5 가
 10
 11a 11c 6a 6c 10

()

M1~M16 :

Cst :

OLED :

Data[n] : n

Scan1[m], Scan2[m] : m

uminescence) 가 , 가 (pixel) , EL(electro-l
 (active matrix)
 EL
 가 (OLED : organic light emitting diode) E
 가 가
 가 EL
 가 가
 TFT : thin film transistor) ((thresho
 Id voltage) 가 가
 1 가
 1 가
 1 가
 (Scan)가 가 (cyc
 (Cst) (OLED), 4 (Idat
 (M1~M4
 (Scan) 가 (M2, M3)가
 (OLED) (M4)
 (Idata) (M3)
 (M1) 가 (M1)
 (Idata) (M2)
 (Cst) (M1)
 가 (M2, M3) (M4) (M2)
 (M1) (floating) (Cst)
 (M1) (M4) (OLED)
 (OLED) 가

가 , ,
 , mobility) 가 , 가 .
 가 2
 2
 가 , (cycle) (Scan1, Scan2)가
 가 (Idata) (current mirror) 2 (M1, M2),
 (OLED), (Cst) (Idata) (M3, M4),
 (Scan1, Scan2) (M3, M4)
 가 (M2) 가 (M2)
 (Idata) (M2) (M4)
 (Idata) (Cst) (M2) (fl
 oating) , (M1) (Cst) 가 (Cst)가 (M1)
 (OLED)가 , 가
 th) (M1) (M2) (M1) (M2) (channel wid
 (M1) (M2) (M2) 가
 (parasitic capacitance) 가 ,
 on) , 가 , (bottom emissi

;
 , 1 2
 ;
 , 2 , 1
 ;
 1 2 가 가 ; ,
 가 ,
 1 가
 가
 3
 3

가 1 2 , 1
 (, 2) 1 2 ,
 가 1 2 가 2 , 3, 4
 , 1 4
 가 ,
 가 ,
 가 ,
 가 ,
 4 3 ,
 4 , (ldata)가 가
 , (Scan1, Scan2)가 가 , 4 (M1~M4),
 (Cst), (OLED)가 , (Scan1)가 가 1
 , (scan2)가 가 2 ,
 (FET : field effect transistor)가 , 가 ,
 , 4 PMOS , PMOS
 NMOS , (OLED) (cathode) (Vcathode) 가 ,
 (anode) (M1) (Cst)가 (M2)
 (Vdd) 가 , (Vdd) 가 ,
 (M1, M2) (current mirror) , (M1, M2)
 (M4) (M4) 2
 (M3) (M2) (M3) ,
 (M3) 1 가 가 가 1 2 (,
 M3, M4)가 (ON) , (M3) (ON) (M4) (OFF) (ON)
 (M3, M4)가 (OFF) , (M3) (OFF) (M4) (ON)
 가 , 4
 , (M3, M4)가 (ON) , (M2, M3)가 가 ,
 (M2) (M2) (M4)
 (Cst) (M1) (Cst) (M1) 가 ,
 (M1) (M1)
 (OLED)가 (M4) (M4)가
 (M3) (M2) - (Cst) ,
 (M2, M3)가 가 ,
 , (M3, M4)가 (M1)
 (Cst) (M4)
 (OLED) (M3) (Cst) (M4) (M2)
 (M3) (Cst) (M4) (M2)
 , 2
 , 2
 (white balance) 2
 , 5 9 , n
 5 m (m+3) 1 2 4 가 4 가 ,
 ,

3가 , , 가 1 가 , 가 2 가 , 가 3 가 , 가 3 가 , 6a 6c 5 , 6a , (Sc an1[m], Scan1[m+1]) m (m+1) (Scan2[m], Scan2[m+1]) (Scan1[m], Scan1[m+1]) '[m]' m , 'scan1' 1 , 'Scan2' 2 6a , m (m+1) 1 6b , m (m+1) 1 (m+1) 1 6c m , m (m+1) 2 1 6b 6c , 1 (Scan1)가 1 (dummy pixel) 가 1 4 (M2, M3) 1 1 7 9 6a , 6a 6c , 8 6b , 9 6c 7a 6a , 7a (1, 2, 3) 가 7b 7 d 7a Scan2[m] 가 1 1 Scan1[m], Scan1[m+1] 가 1 4 (M3, M4)가 , (m+1) 가 7b , m (M7) (m+1) 1/2 , m 4 (ldata) m (M4) 7a 1 m 7b , M2 M6, M3 M7 M3 M7 가 , 0 가 1/2 M2 M1 1/2 (M1, M2) 가 , 가 (M1, M2) 가 , 가 , 가 , 7a 2 , 1 Scan1[m], Scan1[m+1] 가 , 2 S can2[m+1] 가 (ldata)가 m (m+1) , (m+1) 가 7a 3 , 1 Scan1[m+2], Scan1[m+3] 가 , 2 Scan2[m+2] 가 (ldata)가 (m+2) (m+3) , (m+2) 3 가 8a 6b , 8a (1, 2, 3) 가 8b 8 d , 8a , m (m+1) 1 1 8a , 1 1 2 1 2 7a , 1 2 ,

Scan1[m], Scan1[m+1] 가 8a 8b Scan2[m+1] 가 1 1
 (Idata)가 m (m+1)
 Scan1[m+1], Scan1[m+2] 가 8a 8c Scan2[m+2]
 (Idata)가
 Scan1[m+2], Scan1[m+3] 가
 Scan2[m+3] 가
 (Idata)가 (m+2) (m+3)
 1/2
 (1, 2, 3) 가 9b 9
 (m+1) 1 1
 2 9a
 1 2 1
 7a 1 2
 Scan1[m], Scan1[m+1] 가 9a 9b Scan2[m] 가 1 1
 (Idata)가 m (m+1)
 Scan1[m+1], Scan1[m+2] 가 9a 9c Scan2[m+1]
 (Idata)가 (m+1)
 Scan1[m+2], Scan1[m+3] 가
 (Idata)가 (m+2) (m+3)
 1/2
 (Cst)
 11b Scan1[0] 6a, 6b, 6c 11c Scan1[M+1] 11a, 11b, 11c 1 1

(57)

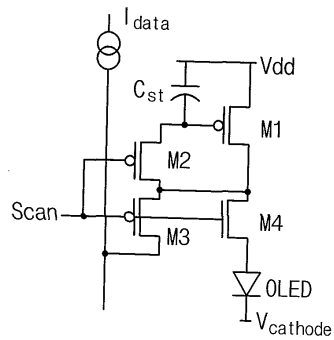
1.

;
 1 2
 ;
 1
 2
 ;
 1 2 가 ; ,
 가

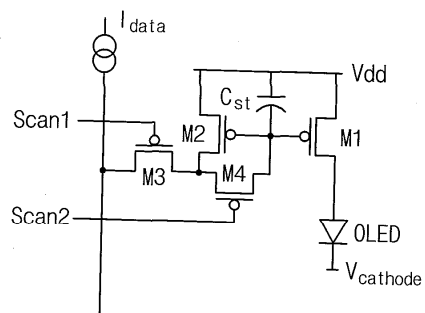
2.

1 1 , 2
.
3.
1 , 1
가 , 가
2 가
4.
3 , 가 가 ,
2 가
가
5.
4 , 가 2 가
6.
3 ,
7.
1 , , 1 ; 2
1 , 1
;
1 ;
2 , 1 3
;
1 ,
4 ; ,
4
8.
7 ,
9.
7 , 4
10.
1 , 가 1 ;
가 , 2 , ; 1
가 , 가 1 ;
3 3 ; 가 4
; , 가 , 가 , 4
11.
10 , 2 가 3 가 2 가 , 가
1 2 가 3 (ON) 가 , 2 (ON) 가
3 (OFF) (OFF) 3 , 2 3 가 (OFF) , 2
(OFF) (OFF) 3 (ON) 가 .

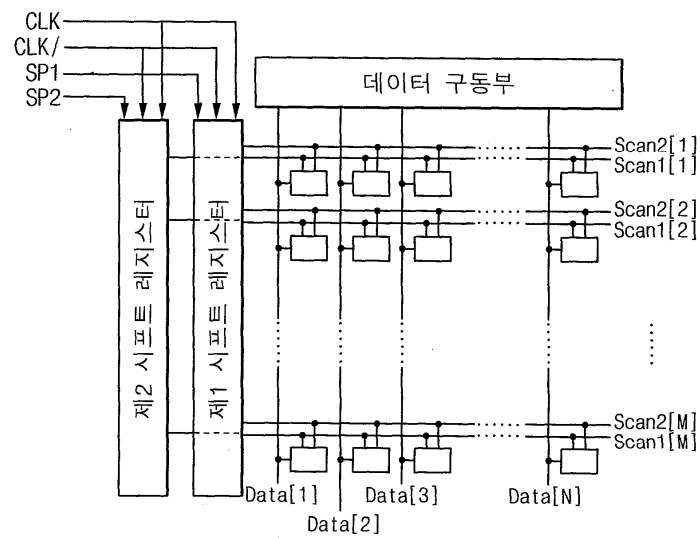
1



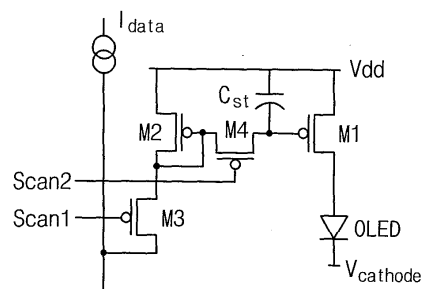
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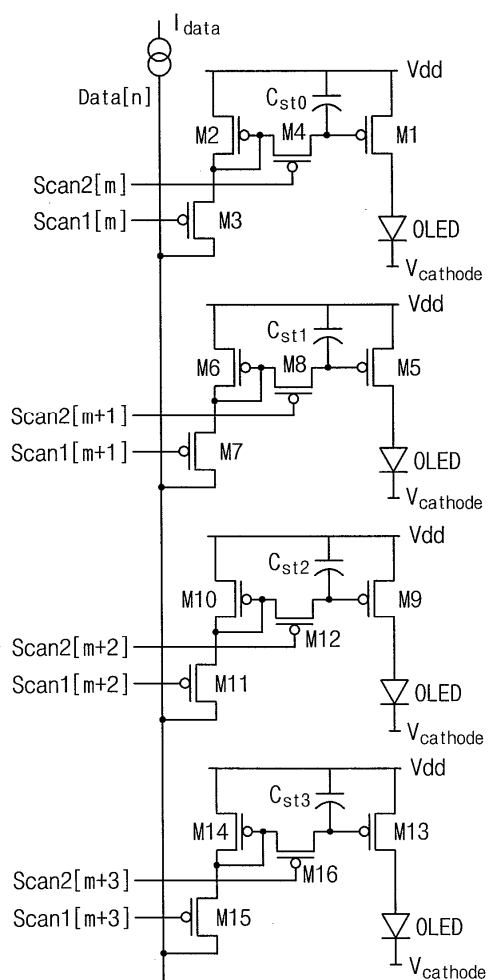
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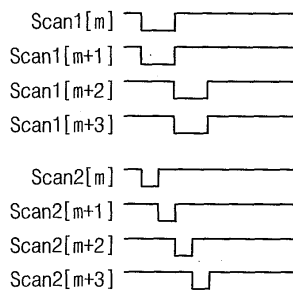
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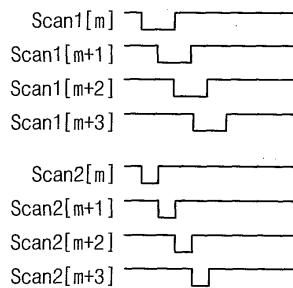
5



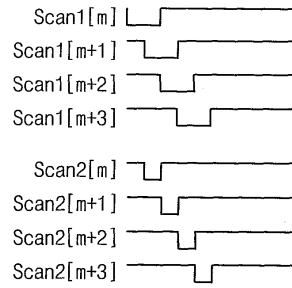
6a



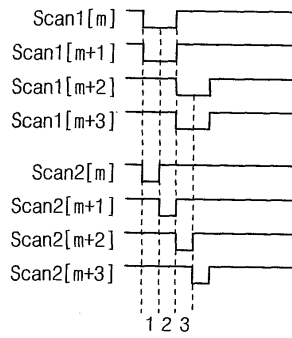
6b



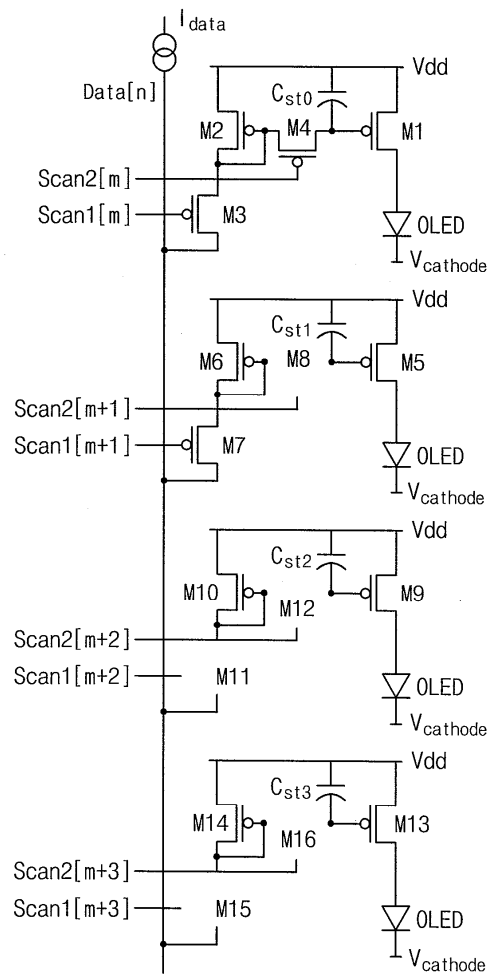
6c



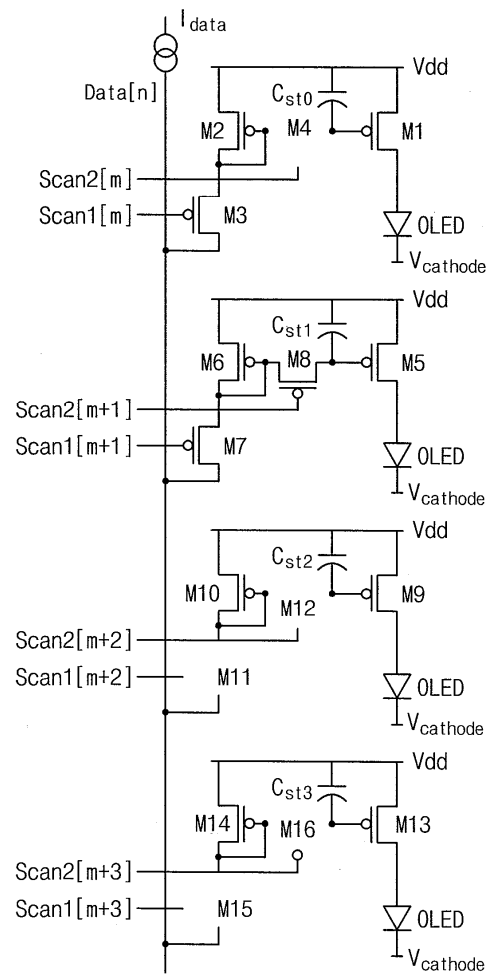
7a



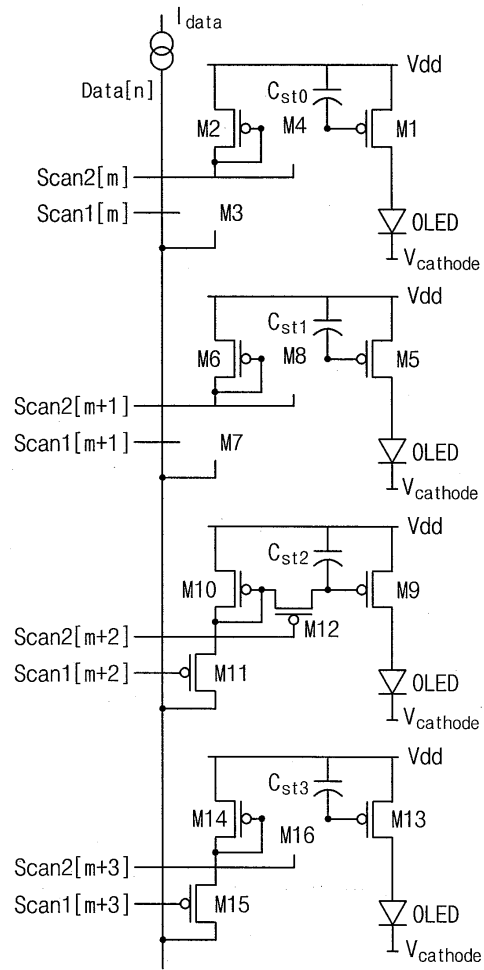
7b



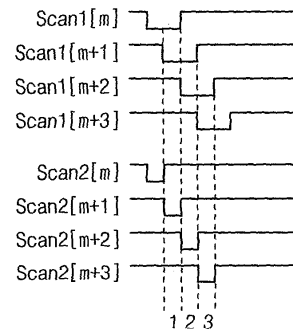
7c

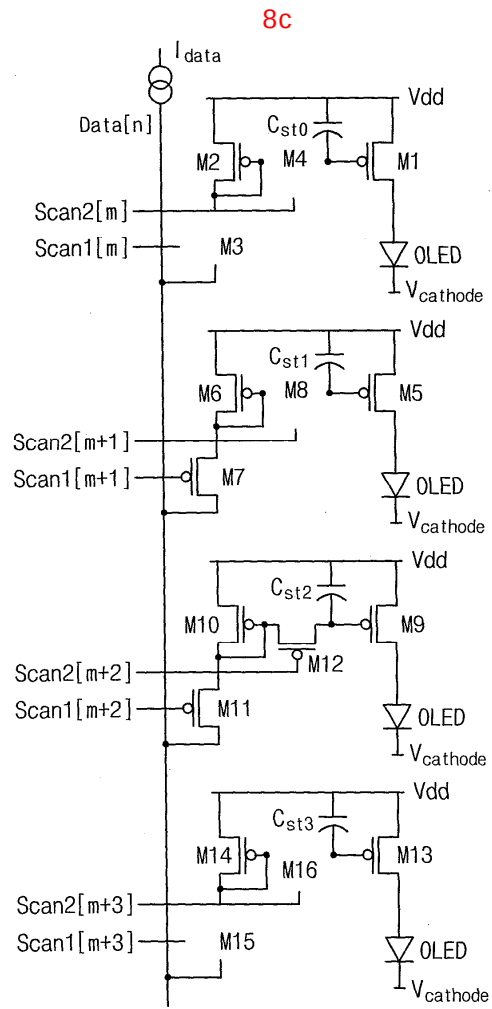


7d

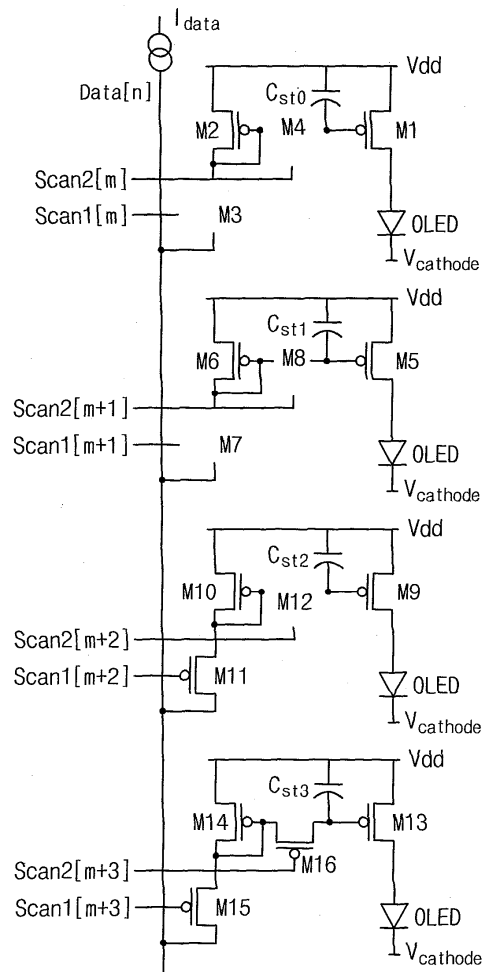


8a

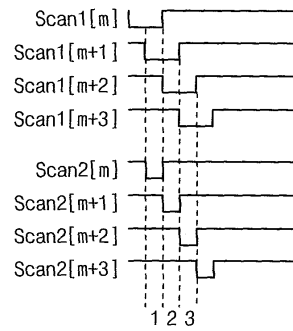




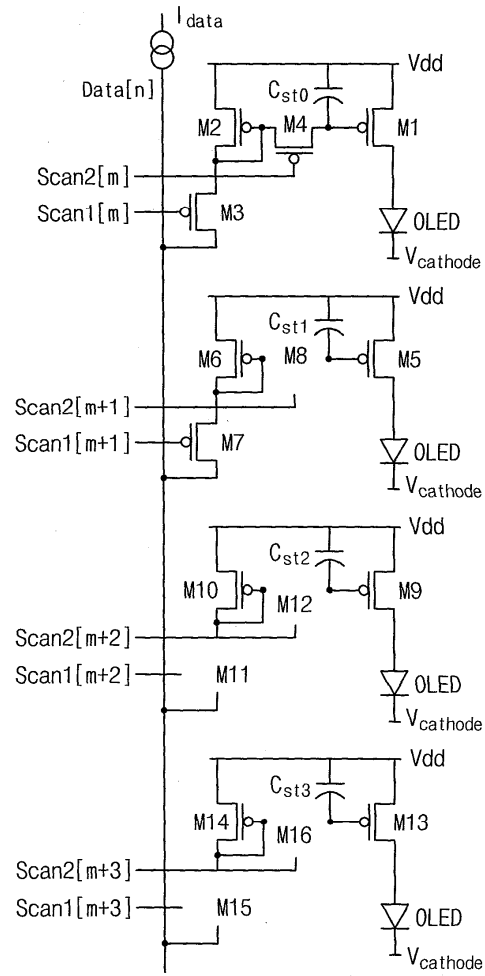
8d



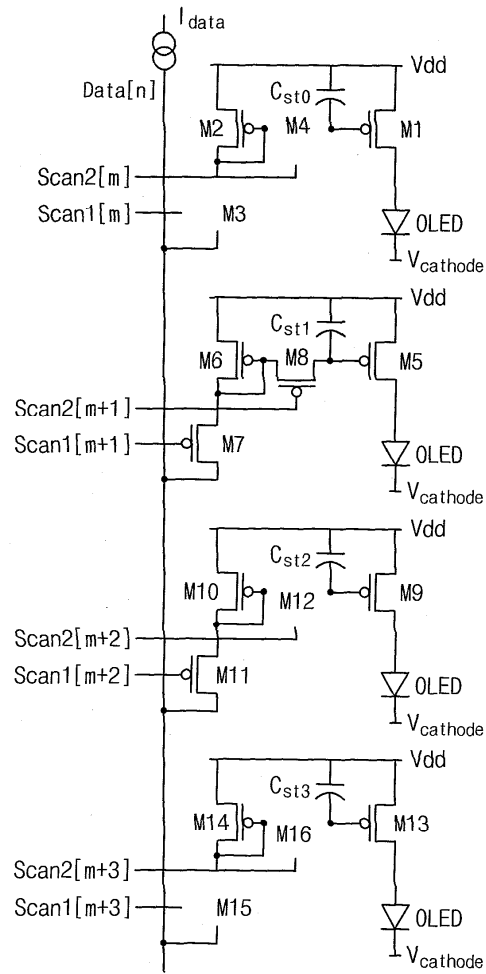
9a



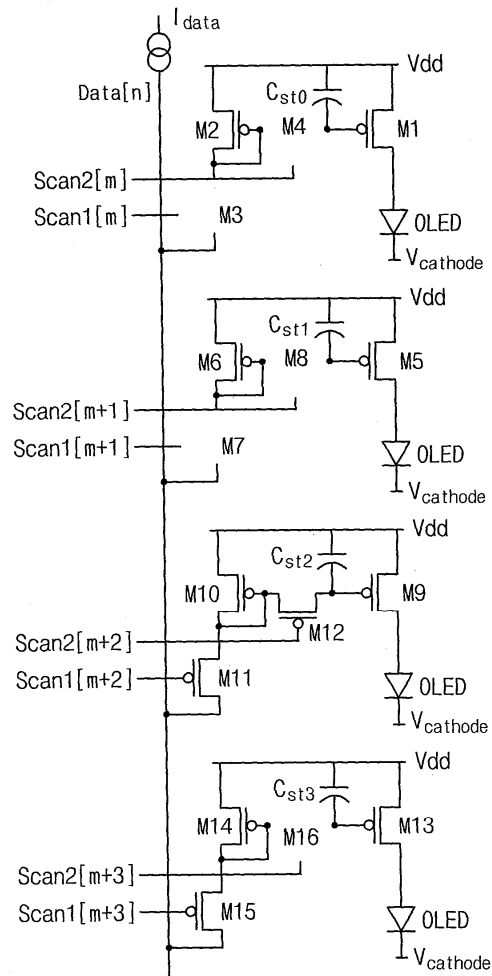
9b



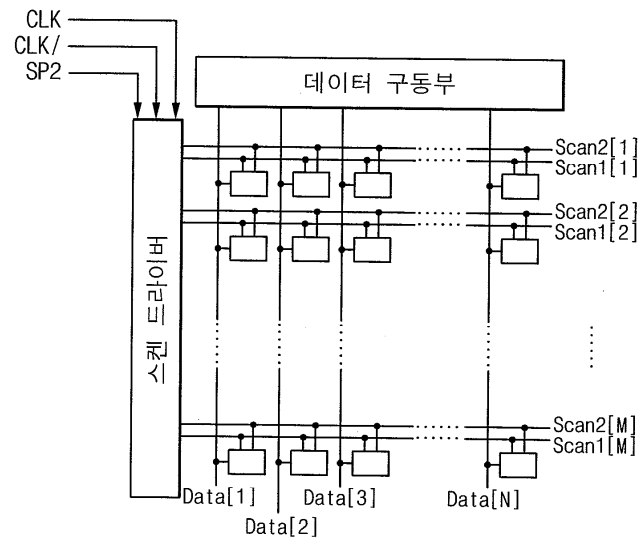
9c



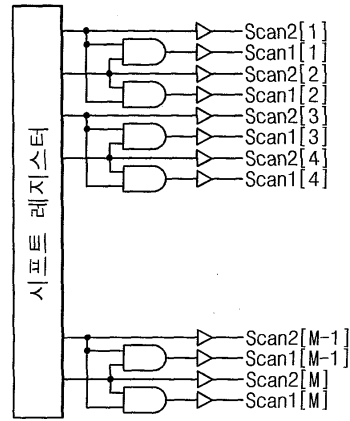
9d



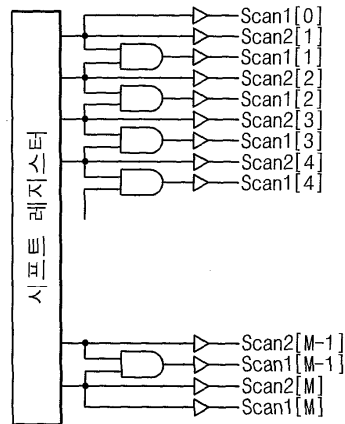
10



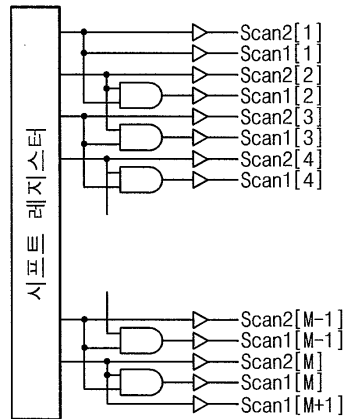
11a



11b



11c



专利名称(译)	图像显示装置		
公开(公告)号	KR100432651B1	公开(公告)日	2004-05-22
申请号	KR1020020033995	申请日	2002-06-18
申请(专利权)人(译)	三星SD眼有限公司		
当前申请(专利权)人(译)	三星SD眼有限公司		
[标]发明人	SHIN DONGYONG		
发明人	SHIN,DONGYONG		
IPC分类号	G09G3/22 G09G3/30 H01L51/50 G09G3/32 G09G3/20		
CPC分类号	G09G2300/0465 G09G2300/0842 G09G2310/0262 G09G3/3266 G09G3/3241 G09G2310/0205 G09G2310/0208 G09G2310/021 G09G2320/0223		
代理人(译)	您是我的专利和法律公司		
其他公开文献	KR1020030096900A		
外部链接	Espacenet		

摘要(译)

公开了一种图像显示装置，在每个像素中具有诸如有机电致发光（EL）元件的发光元件，其亮度由电流控制。该图像显示装置包括在像素中形成电流镜并使用具有两条扫描线的像素结构的晶体管，以便同时选择至少两行的像素，将施加到数据线的电流分配给用于记录显示的像素信息和相邻像素，并将显示信息记录在所选像素中不超过一行的像素上。这极大地增加了用于驱动数据线的电流并减小了在像素中形成电流镜的晶体管的尺寸。

