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2003-0070265  
2003 08 30

(21) 10-2002-0009732  
(22) 2002 02 23

(71) 3 416

(72) 222 601

(74)

:

(54) (s l e w r a t e)

(slew rate)

2

가

1

1

1

2

가

가

가 가

가 가

3

1  
 2 1  
 3  
 4 3  
 5 3

가 ( 가 ) 가  
 1 6 가  
 가 가 가

1  
 2 1  
 1 (130), (140) (100) (110), 1 (120), 2  
 (150)  
 (110) (MCLK) 1 (120) 가 ( (130  
 MCLK) ) 1 (140) 2 (120) (DATA)가 1 (DATA) 1 (CLK1) (VGMA)  
 (DATA) (DATA)가 (130) (DATA) (150) 가  
 (DATA) (POL) (YDATA) (160)  
 (150) (YDATA) (Slew Rate)가  
 us~15us UXGA(Ultra Extended Graphics Array) (YDATA) 가 3us 13  
 (150) (YDATA) (Slew Rate) (160)  
 (100) (160)

2 , (POL) (150) (YDATA) (YDATA) 1 (CLK1) (VCOM)

(130) (YDATA)가 1 (CLK1) , 1 (CLK1) 2 2  
 가 (130) 가 (150) . 2 (YDATA) .

가 가 가 . 가

, 가 가 가 가

, 가 가 가 가

1

, 1

가 . 2

1 , 2 . 1

1 , 1

가 1 , 1

2 1 ,

, 1 , 1 1

, 1 1 1

1 2 , 2 1 2

1 1 1 1

1 2 1 , 1 1

2 , 2 2 1 , 2  
 , 2 , 2 3 3  
 1 3 .  
 2 , 1 2 1 1 SR 1  
 SR , 2 1 2 .  
 2 2 .  
 , 1  
 2 가 .  
 1 1 , ,  
 1 가 1 , 2  
 , 1 1 2  
 , 1 ,  
 1 , 2 3 , ,  
 1 1 2  
 1 1 2  
 1 2  
 가 . 2  
 1 , 2 . 1  
 , 1 , 1 1 1  
 1 , 1 1 2  
 2 , 2 2  
 1 3 3 .  
 1 3  
 2 1

R , 2 1 1 SR , S

가 , (a) (b)

1 2 가

(a) (a1) , (a2)

1 (a2) (a3) 1 (a22) (a21) , (a24)

, (a23) (a22) 1 , (a25) (a23) (a24) 1

(b) (b1) , (b2) , (b3)

, (b4) 2 가 2

(b3) (b31) , (b32) (b31) (b32) (b33) (b32)

1 2 1

3

4 3

5 3

3, 4 5 (300)

(380), (390) (395)

(CTRLS1) (380) (MCLK) (DATA) , 1

(DATA) (370) 가 (DATA) 2 (CTRLS

(395) (MCLK), (370) (YDATA)

(POL) 1 (CLK1) 1 (CTRLS1) 2 (CTRLS2)

1 (CTRLS1) (POL)

1 (CLK1)가 1 (CTRLS1) (POL)

2 (CTRLS2) (POL) (POL)

1 (CLK1) (PO

L)

(395) (MCLK) (POL)  
 (510), 1 (CLK) (POL)  
 1) (POL) 1 (CTRLS1) 1 (POL) 1 (CLK)  
 1 (CTRLS1) 1 (CLK1\_D) (POL) (POL), (510)  
 1 (CLK1) (POL) (POL)  
 2 (CTRLS2) 2 (530)

2 (530) (MCLK) 1 (CLK1)  
 1 (CLK1\_D) (536)

(510) 1 (520) 1 (CLK)  
 1) (POL) 1 2 (521, 522), 1  
 (521) 2 (522) 2 (523), 1  
 2 (523) 2 (524), 2 (524) 1  
 (CLK1) (525), (510) (511)  
 3 (513) (527)  
 3 (527) (525) 1 (CTRLS1)

2 (530) (POL) (510) 1  
 (531), 1 (531) 1 (CLK1\_D) 1  
 SR (532) SR (532) 2 (CTRLS2) 1 (535)

3, 4 5 1

(380) (MCLK) (DATA) 1  
 (CTRLS1) (DATA)

(320) (MCLK) (380) (310) 1  
 1 (320) 가 1 (320) (MCLK) (380)  
 (330) 1 (CTRLS1) (DATA) 2

4 (CTRLS1) (POL) (P)  
 OL) 1 (CLK1)가 1 (CTRLS1) (POL)  
 1 (CTRLS1) (395) (395)

1 (CTRLS1) (DATA) (380) (390) (  
 350) 4 (CTRLS1) (380) (390) (  
 DATA) (350) (350) (DATA)  
 (POL) (VCOM) (POL)  
 (CTRLS1) (CTRLS1)가 1 (CTRLS1) 1  
 (CTRLS1) (DATA)가 (350)

2) (390) (DATA) (380) (DATA) 2 (CTRLS  
 (370) 가

340) (380) (DATA) (390) (  
 (VCMA) 가 (DATA) (390) (DATA) (  
 (350) 가 (DATA)가 (350) 가 1 (  
 CTRLS1) 2 (CTRLS2) (390) (360) 1  
 (YDATA) (360) 2 (CTRLS2)가

2 (CTRLS2) (POL) (POL) (POL)

1 (POL) (CLK1)

2 (CTRLS2) (395) (395)

1 (CTRLS1) (DATA)가 (360) (360) (YDATA)가 2

(CTRLS2)가 (360)가 (CTRLS1) (YDATA)가

2 (CTRLS2) (360) (YDATA)가 (CTRLS1) (360) (3

(380) 가 (DATA) 2 (380) (CTRLS2)가 (DATA) 1 (CTR

70) (YDATA)가 (380) (CTRLS2)가 (DATA) (340)

LS1)가 2 (380) (DATA)

가

2 (CTRLS2)가 (390) (360) (YDATA)가 (370) 가

(100) (360) (380) (YDATA)가 (DATA) 1 (CLK1)

가 가 (340) (YDATA) (CLK1)가 (360) 2

(CTRLS2)가

(100) 1 (CLK1)가 (DATA)가 1 2

(380), (340) (340) (370) (CLK1)가 (YDAT

A) (340) (360) (370) (D

ATA)가 (Y

DATA)

1 (CTRLS1) 2 (CTRLS2) (395)

(395) (POL) 1 (MCLK), (370) (YDATA)

(CLK1) 1 (CTRLS1) 2 (CTRLS2)

(395) (510), 1 (520) 2 (530)

(510) (MCLK) (POL)

(510) (511, 512, 513, 514)

1 (520) 1 (CLK) (POL) (POL) (POL)

(CTRLS1) (520) 1 (520) 1 2 1 (CLK1) 1

(523, 527), (524, 526) 1 (525) (528) (521, 522),

1 2 (521, 522) 1 (CLK1) (POL)

2 2 (523) 가 1 (521) (POL)

2 (523) 가 2 (523) (524)

(525) (525) 1 (CLK1) 가

2 (524) 2 (523) 2 가 1

(521) 2 (522) (POL)가

2 (524) (525) 1 (CLK1) 가

1 (CLK1) (POL) (5)

10) (513) (511) (526) 3  
 (527) 1 (MCLK) (POL) 1 (CLK1)  
 (MCLK) (POL)가 (510) (511, 513) 3  
 (POL) (527) 가 (527)  
 3 (527) (528) 1 (CTRLS1)  
 (525) (525) 1 (CLK1) (CTRLS1)  
 (POL) (CLK1)가 1 (CTRLS1)  
 1 (CTRLS1) ( ) ( ) 4 ( ) ( ) 1 (CLK1)가  
 (100) (340) (360)  
 (POL) 3 (527) (CTRLS1)  
 (528) (525) 1 (POL)  
 (CTRLS1) (POL)  
 2 (530) (POL), (510) 1 (CLK1\_D)  
 (POL) 1 (CLK1)  
 (CTRLS2) (POL) (530) 1 (531), SR (532)  
 1 (535) 2 (530) (MCLK) 1 (536) (CLK1)  
 1 (CLK1\_D)  
 (POL) 1 (531) SR (5  
 32) SR (532) (POL) 1 (535) 2 (CTRLS2) (CTRLS  
 2) (POL) 1 (531)  
 (CLK1)가 (CTRLS2)  
 R (532) 1 (535) 2 (CLK1)가 S  
 2 (CTRLS2) (POL) 가 (POL)  
 L)  
 4 (510) 1 (CTRLS1) (POL)  
 가 1 (CTRLS1) (511) (513) 1 (CLK1)  
 2 (CTRLS2) (POL) 1 (CLK1) 1  
 (CLK1) (536)  
 1 (CTRLS1) 2 (CTRLS2) 1 (C  
 TRLS1)가 (380) 가 (DATA)가 (390) (340  
 ) 1 (CTRLS1)가 (360) 2 (CTRLS2)가 (YDATA) (370) 가  
 (360)  
 2 (CTRLS2)가 (DATA) 1 (CTRLS1)가 (100)  
 (380) (390) 가 (370) (YDATA)가 가 (100)  
 1 (CLK1)가 (370) 가 (YDATA)  
 (360) (370) 가 (YDATA)  
 )  
 (300)

가  
N-

(YDATA)

가  
가  
가  
가

1 (CTRLS1) 2 (CTRLS2)

2 (390) (300) (380)

(380) (MCLK) (DATA) 1  
(CTRLS1) (DATA)

2) (390) (DATA) (380) (370) 가 (DATA) 2 (CTRLS

1 (CTRLS1) (POL) (POL)

1 (CLK1)가 1 (CTRLS1) (POL)

2 (CTRLS2) (POL) (POL)

L) 1 (CLK1) (PO

가 2 (300)

20), 2 3 (330), (340), (350), (360) 1 (395) (3

1 (320) (MCLK) (DATA) 2  
(330) 1 (320) (DATA) (DATA) 1  
(CTRLS1) (DATA) (340) (VGMA)

2 (330) (DATA)가  
(350) 2 (340) (CTRLS2) (DATA) (350) (DATA) (370)

) 가 (395) (POL) 1 (MCLK), (370) (YDATA)  
(CLK1) 1 (CTRLS1) 2 (CTRLS2)

(395) (MCLK) (POL) (POL) (POL)  
(510), 1 (CLK1) (POL) 1 (CLK1) 1

(CTRLS1) 1 (520) (POL), (510)

1 (CLK1\_D) (POL) (POL)

1 (CLK1) (POL) (POL)

2 (CTRLS2) 2 (530)

2 (530) (MCLK) 1 (CLK1)

1 (CLK1) (536) (510)

(511, 512, 513, 514) 1 (520) 1 (CLK1) (POL)

) 22) 1 2 (521, 522), 1 (521) 2 (523) (5) (525), (513) (510) 2 (524), 2 (524) 1 (527) 3 (528) (527) (525) 1 3 (CTRLS1) (510) (531) 2 (CTRLS2) 1 (CLK1\_D) 1 (535) 2 (530) (531), SR (532), SR 1 (532) (POL) (510) 1 (300) 가 1 3 6 1 가 7 6 610 8 7 720 9 6 620 10 9 930 6 10 가 , 1 (600) 가 (610 ) (620 ) ) 1 (710 ), 1 (720 ) 1 (730 ) 0 , (820 ), 820 1 (810 ), 81 (830 ), (840 ), 830 840 1 (850 ) 620 (910 ), 1 (920 ), 2 (930 ) 2 가 (940 ) 930 (1010 ), 1010 1 (1020 ) 1020 2 (1030 ) 6 10 가 가 (600) 3

, 1 .(610 )

0 ) , .(71

1 1 ' .(720 ) , 1

1 가 1 .

1 2

1 , 1 (

810 ). 810 (820 ). 820 1 (

.(830 )

850 ). (840 ). 1 830 840 (

). 1 가 1 가 가 (730

가 . 2 가 (600) 1 , 2 1

가 2 가 1

가 (620 ). 2

, .(910

, 920 )

1 2 ' .(930 ) 2 1

2 ,

.(1010 ) 1010 1 1 (1030 )

.(1020 ) 2 1020

가 2 .(940 )

1 가 2 가 , 2 가

1 가 1 가

가 , 2 가 , 1 가 가 , 가

가 ,

가가 , 가

가

가가 ,

가

가가

(57)

1.

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1 1 2 , 2 ,

5. 4 , 2 , 1 1

6. 4 , ,

7. 4 , 1 , 1 2 ;

1 1 2 2 ;

2 2 ;

2 1 ;

3 ;

3 1

8. 4 , 2 , 1 ;

1 1 SR ;

SR 2 1

9. 가

(a) ; , 1

(b) 가 2 가

10.

9 , (a) ,

(a1) ;

(a2) 1 , ; 1

(a3) 1 가

11.

10 , (a2) ,

(a21) 1 , ;

(a22) (a21) ;

(a23) (a22) 1 ;

(a24) , ;

(a25) (a23) 가 (a24) 1 .

12.

9 , (b) ,

(b1) ;

(b2) ;

(b3) 2 , ; 1

(b4) 2 가 가

13.

12 , (b3) ,

(b31) , ;

(b32) (b31) 1 1 ;

(b33) (b32) 2 가 .

9 14. , 1 ,

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1 가 1

가

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9 15. , 2 ,

1

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가

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16.

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1

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2

가

16 17. , 1 ,

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1 가 1

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16 18. , 2 ,

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3 ;

3 1

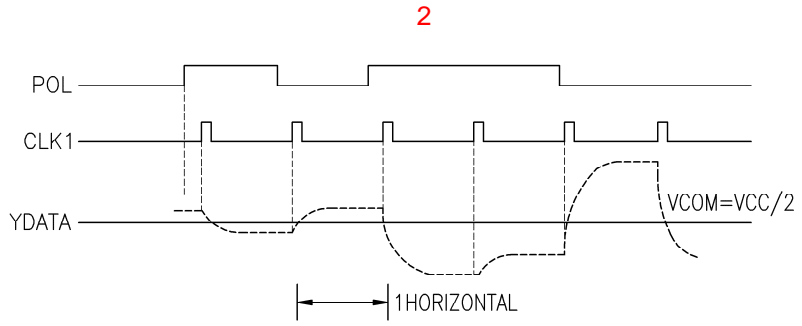
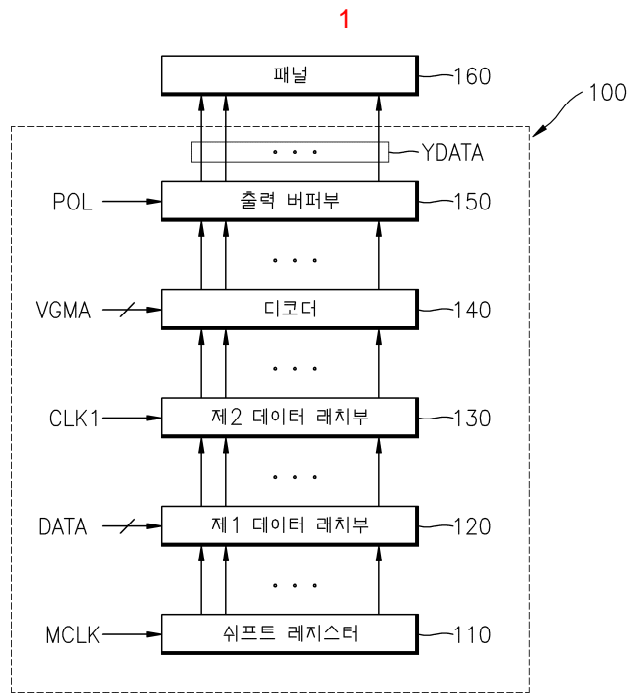
24.

19 , 2 ,

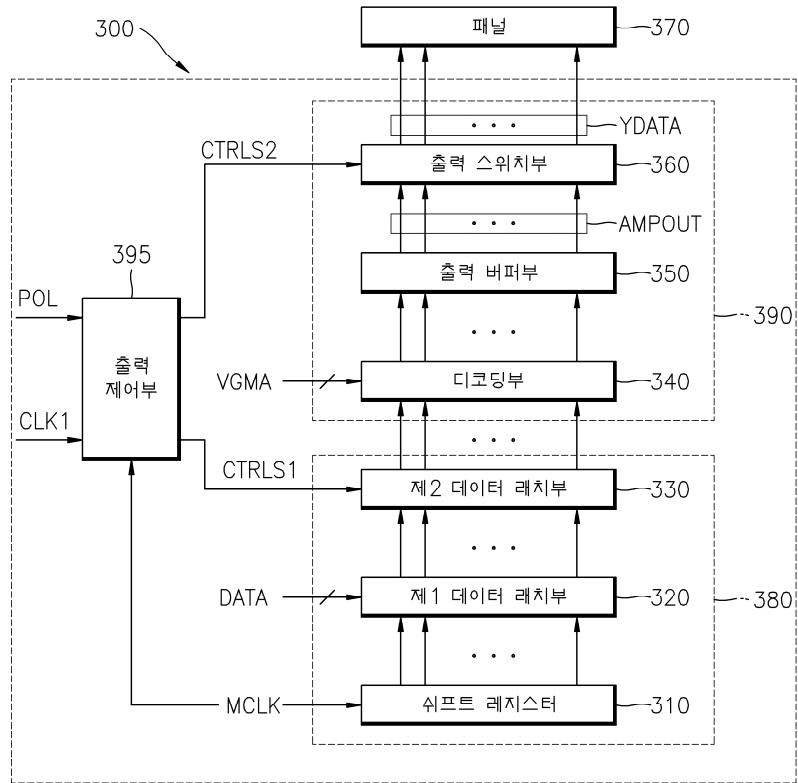
1 ;

SR ;

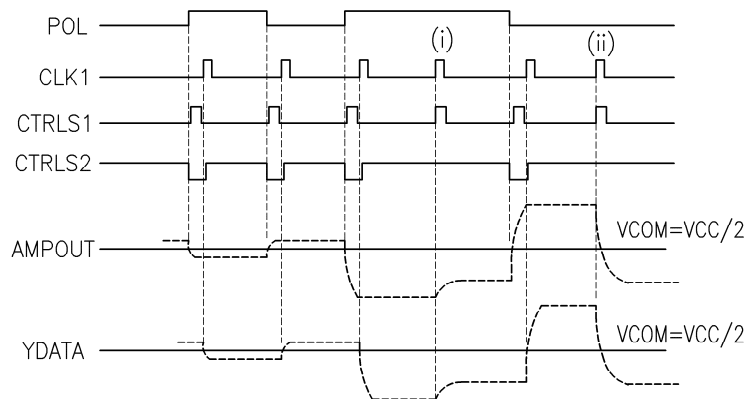
SR 2 1

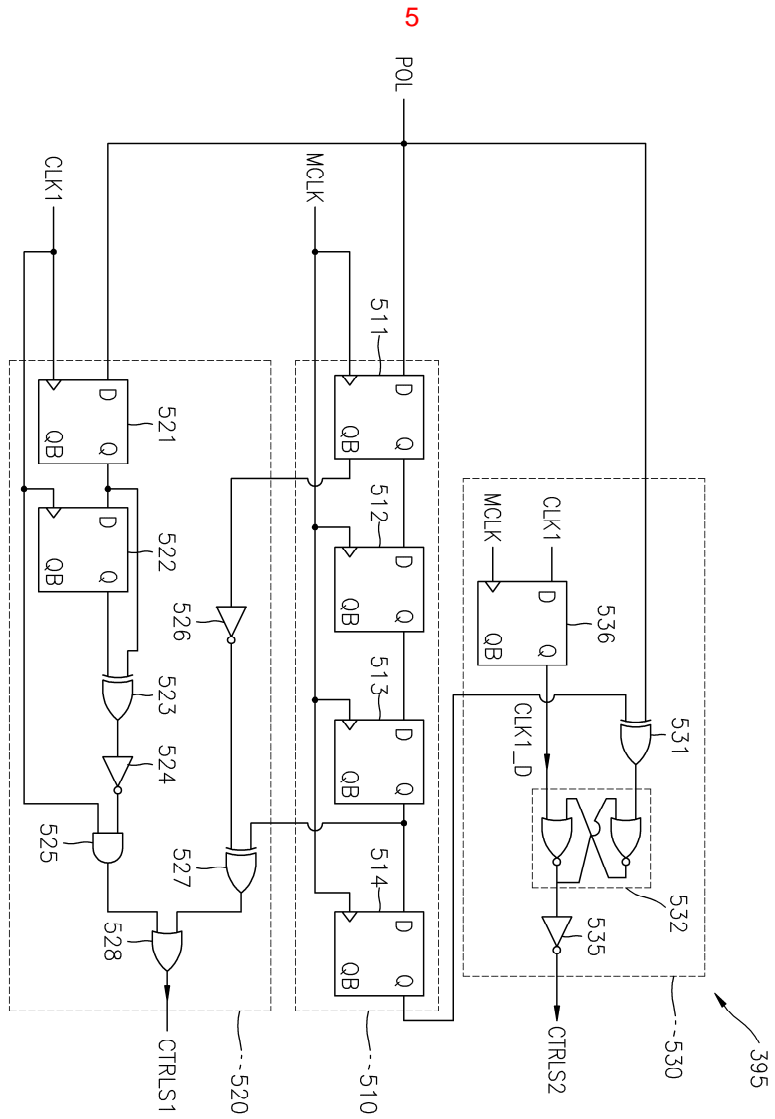


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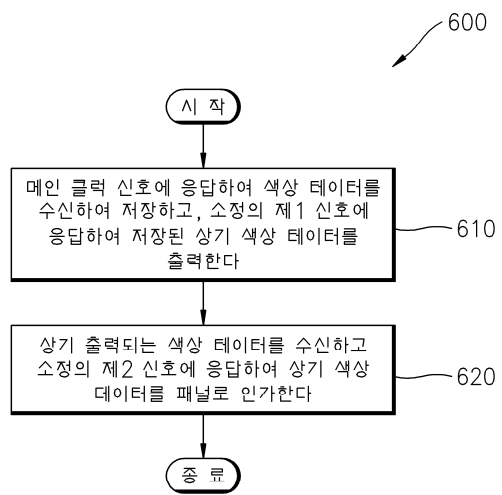


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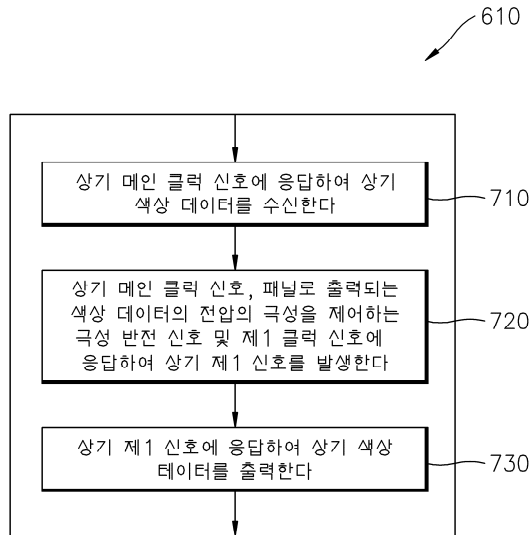




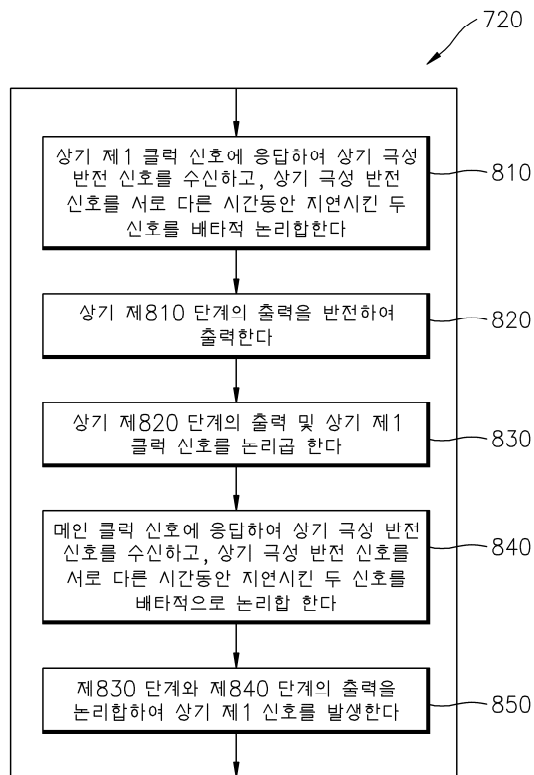
6



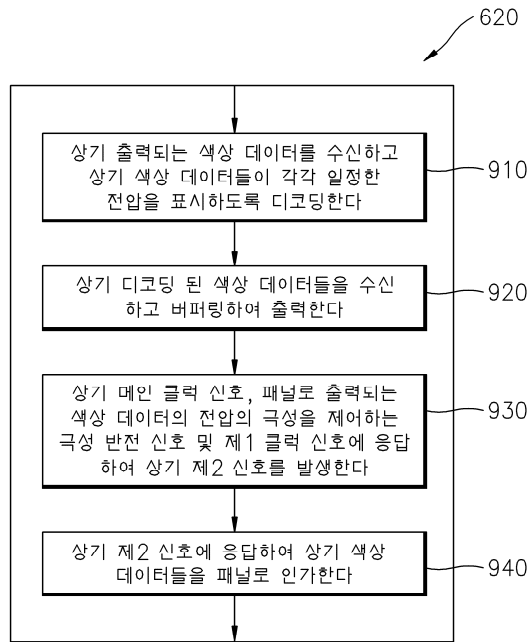
7



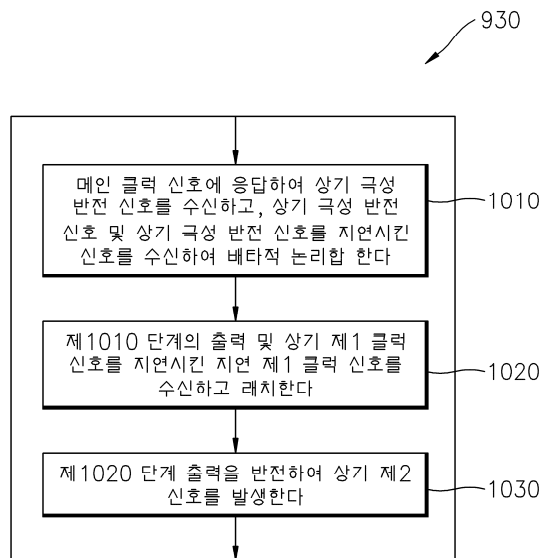
8



9



10



专利名称(译)	薄膜晶体管型液晶显示器件的源极驱动器，它降低了转换速率		
公开(公告)号	<a href="#">KR1020030070265A</a>	公开(公告)日	2003-08-30
申请号	KR1020020009732	申请日	2002-02-23
[标]申请(专利权)人(译)	三星电子株式会社		
申请(专利权)人(译)	三星电子有限公司		
当前申请(专利权)人(译)	三星电子有限公司		
[标]发明人	PARK SANGHO		
发明人	PARK,SANGHO		
IPC分类号	G09G3/36 G09G3/20 G09G5/18 G02F1/133		
CPC分类号	G09G5/18 G09G2320/0252 G09G3/3685 G09G3/3688		
代理人(译)	LEE , YOUNG PIL		
其他公开文献	KR100438785B1		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

公开了用于降低转换速率的液晶显示器的薄膜晶体管阵列的源极驱动器电路和方法。根据本发明的液晶显示器的薄膜晶体管阵列的源极驱动器电路包括数据锁存器，以及开关缓冲器部分和输出控制。数据锁存器响应主时钟信号接收颜色数据并存储。响应于预定的第一信号输出存储的颜色数据。从开关缓冲器部分输出的颜色数据是接收数据锁存器并且响应于到面板的预定第二信号而授权颜色数据。输出控制响应于极性反转信号和控制第一时钟信号的第一时钟信号产生第一信号和第二信号输出到主时钟信号的彩色数据电压的极性和面板。作为使用现有信号的面板降低所施加的颜色数据的转换速率的优点是根据本发明的源极驱动器电路和方法不会使来自半导体芯片的单独信号在外部。此外，根据本发明的源极驱动器电路具有以下优点：由于通过分散产生的切换电流使得在输出缓冲器部分中使用的驱动晶体管的转换速率降低，因此可以降低功耗和芯片面积。同时切换源极驱动器电路内部的移位寄存器和输出缓冲器部分，同时可以降低功耗小。

