

AKAI

SERVICE MANUAL

Model:

LC-27HAB

Safety Instructions
Production specification.
Block Diagram
Circuit Diagram
Disassembly
Pin Descriptions
LCD Panel specification
Exploded View Diagram
Spare parts list
V-chip password and software upgrade

This manual is the latest at the time of printing, and does not include the modification which may be made after the printing, by the constant improvement of product.

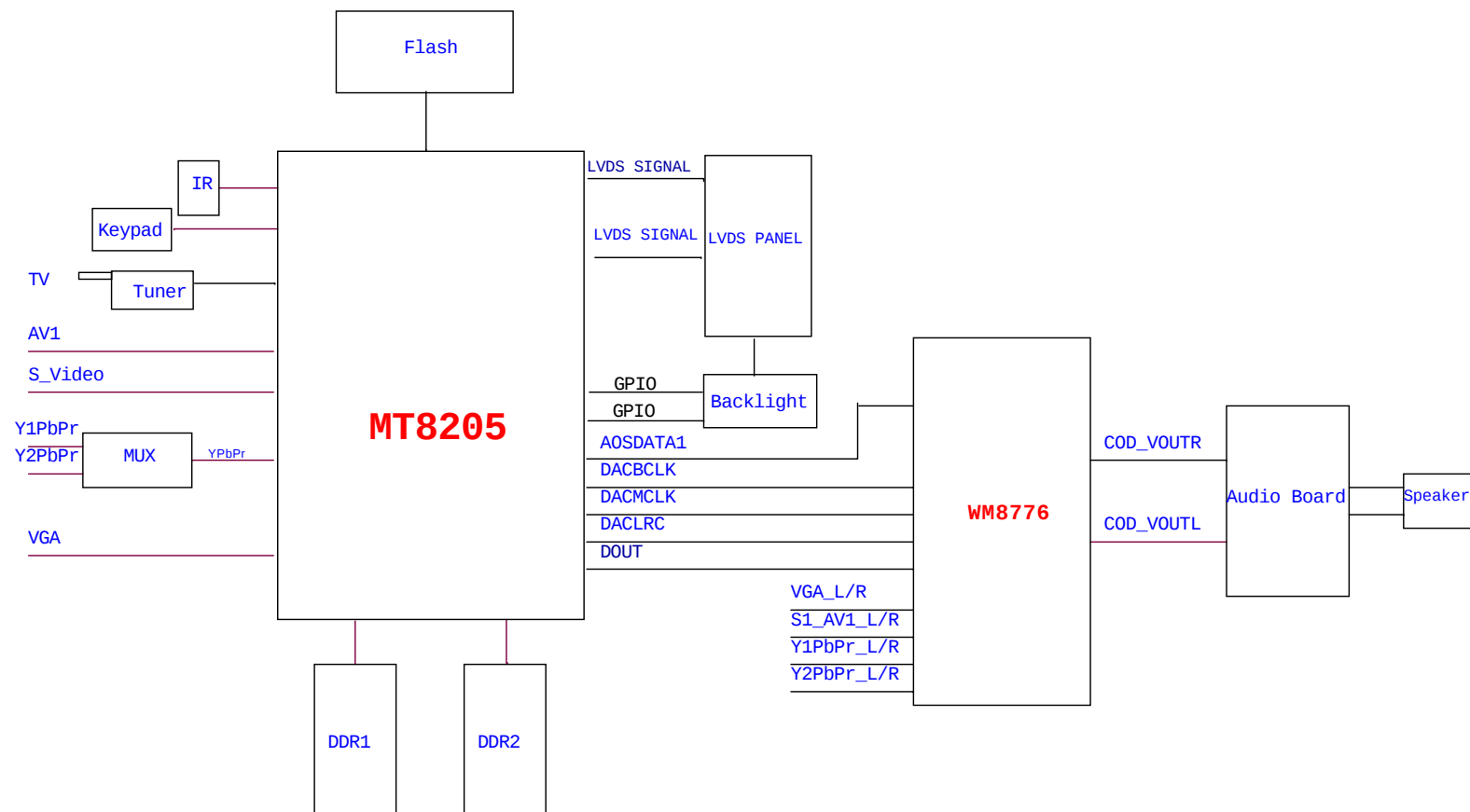
KAWA ELECTRONIC RESEARCH & DEVELOPMENT CENTRE

Reference No : LC27HAB001
Revision : 0
Date : 2005.8.1
Page : P. 8 of 8

Test Condition

All tests shall be performed under the following conditions unless otherwise specified

1	Picture Modulation	87.5%
2	Sound Modulation	27KHz Dev. For DK/I/BG 15KHz Dev. For M/N
3	Picture to Sound Ratio	10dB
4	Sound Artificial Load Resistor	8 ohm
5	Video signal	Stair and Special
6	Audio signal	1KHz sine wave 0.5Vrms
7	Other conditions: A. Switch LCD-TV on and let it warm up for more than 30 minutes. Viewing distance: 3H (H: Panel High) in front of LCD, about 2M. Ambient light: $\leq 0.1 \text{ cd/m}^2$ B. Brightness, Contrast, Saturation, Tint, sharpness set at normal. C. Connect RMS volt meter to speaker terminals and adjust the LCD volume to get 500mW RMS power at each terminals. D. With image sticking protection of LCD module. The luminance will descend by time on a same still screen and rapidly go down in 5 minutes, when measuring the color tracking and luminance of a same still screen, be sure to accomplish the measurement in one minute to ensure its accuracy. E. Due to the structure of LCD module. The extra-high-bright same screen should not hold over 5 minutes for fear of branding on the panel. F. RF test point: Video output.	
8	Note: *(1) Now this project cannot fit the limited spec. the typical audio input level is 1.0 Vrms, *(2) The audio out level is controlled by the volume level, the range is from 0 to 0.5Vrms.	

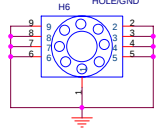
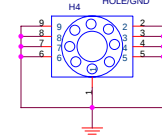
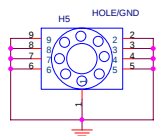
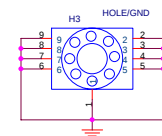
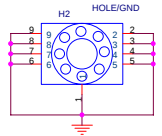
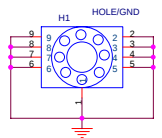


MT8205P1V3.2

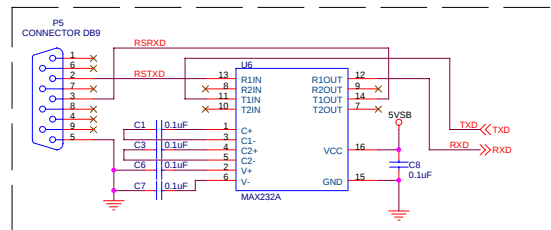
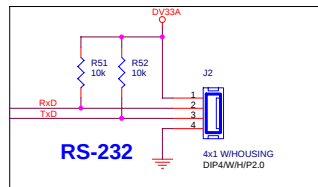
MT8205E (PBGA388) LCDTV BOARD 4 LAYERS

1. INDEX
2. LDO
3. MT8205E PBGA388
4. MT8205 ANALOG DECOUPLING
5. MT8205 DIGITAL DECOUPLING
6. ICE I/F
7. DDR MEMORY & FLASH
8. DVI INPUT
9. AD9883
10. VGA IN & PC AUDIO IN
11. VIDEO IN & TUNER I/O
12. AUDIO / VIDEO IN CIRCUIT
13. WM8776 AUDIO CODEC
14. LVDS / CRT / TTL OUT
15. BACK LIGHT / KEYPAD
16. READER CARD I/F

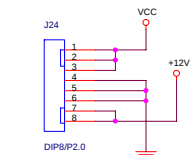
UP3_0 BLACKLIGHT ON/OFF
MUTE<-->UP1_5



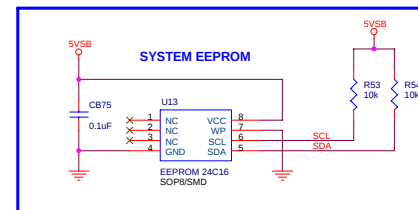
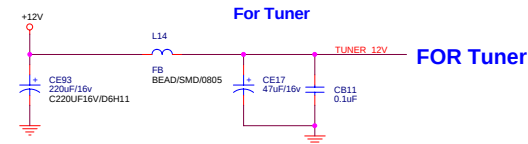
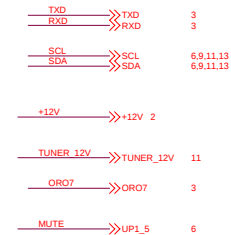
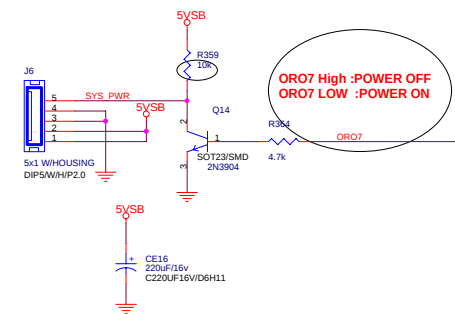
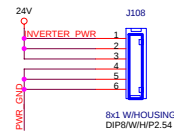
AUDIO INOUT GND ANALOG INPUT GND DIGITAL GND



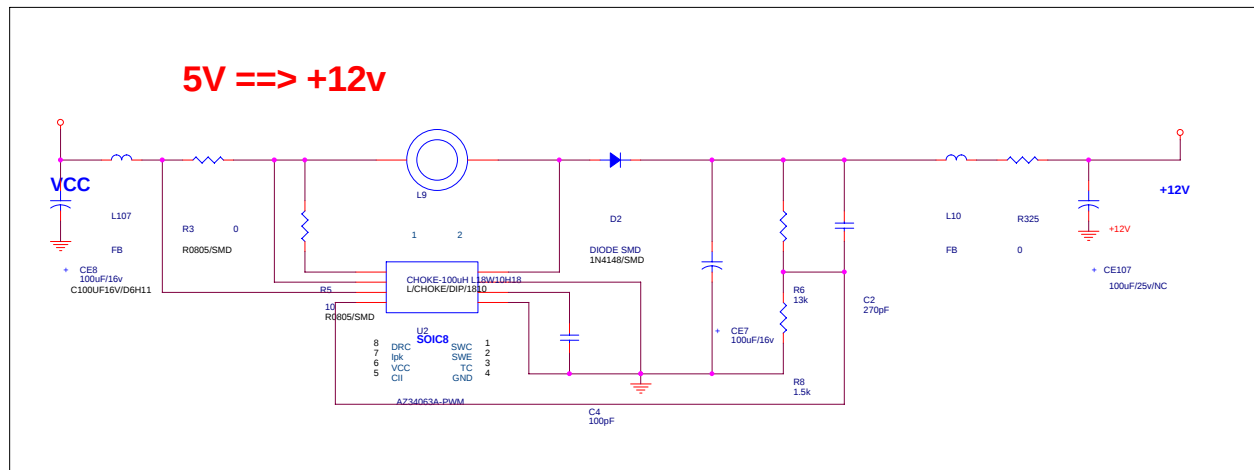
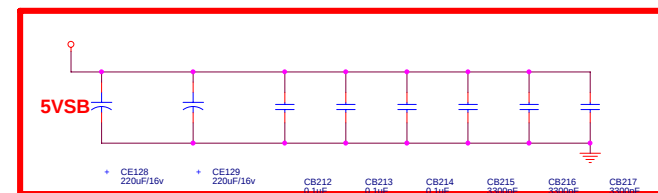
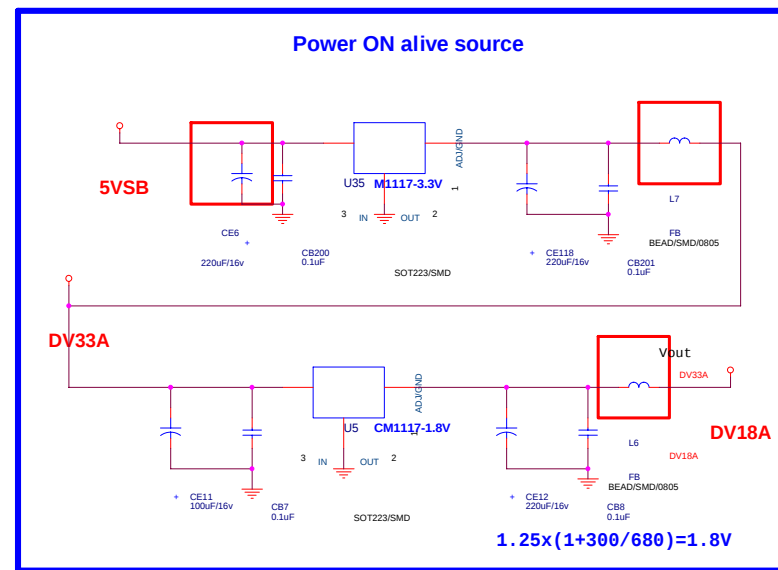
Rev	History	P#	Date
V0.1	1.FIRST VERSION		2004/11/29
V0.2	1. 2.5V use 5VSB conversion. All 0402 change to 0603 2. LED_RED/GRN CIRCUIT CHANGE 3. Change Power on/off circuit(ORO7 CTRL PIN) 4. WM8776 DVDD Needed 5. Del the Si9936 LVDS Parts 6. Del DVI&AD9883 PARTS		2005/03/09



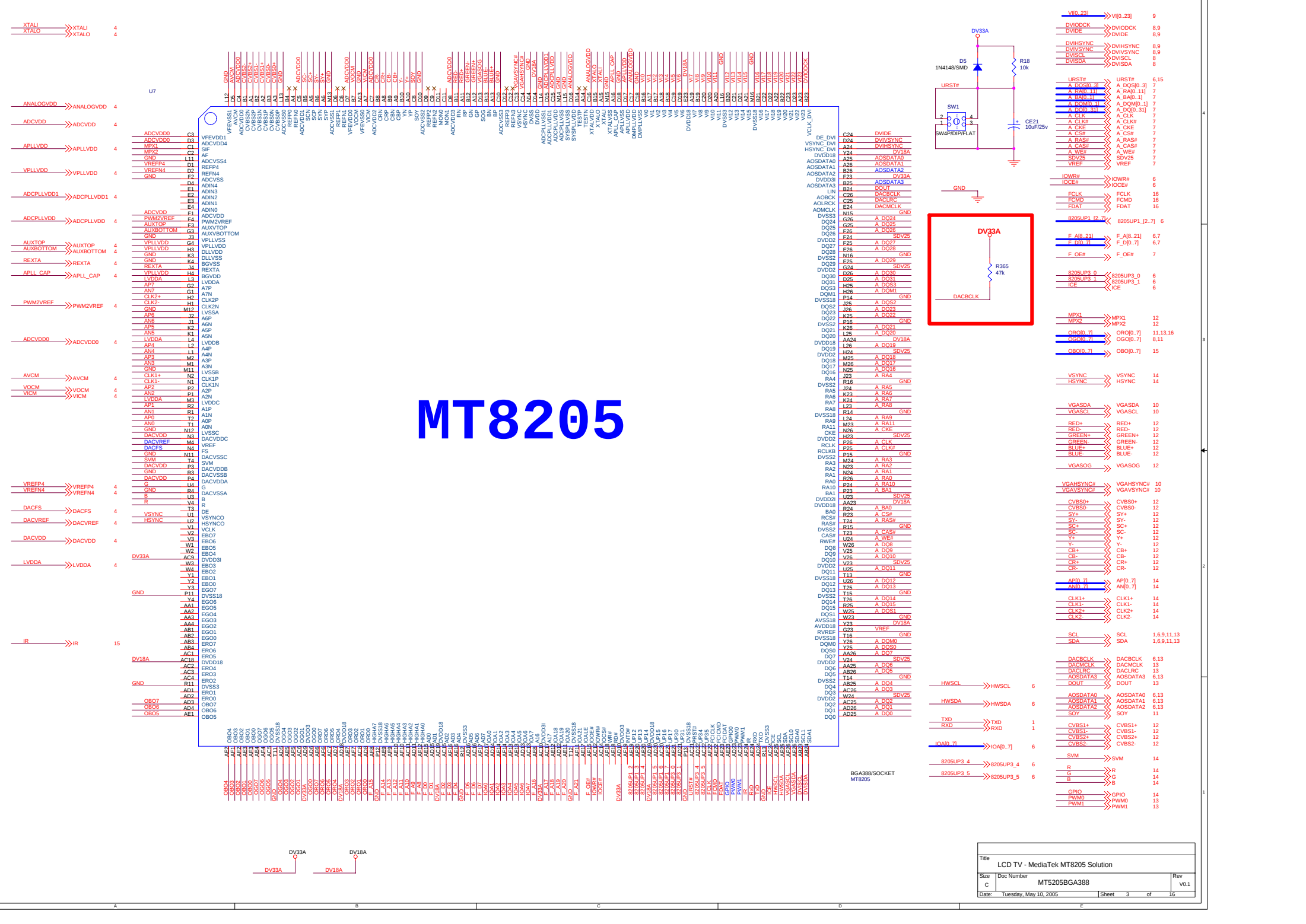
T0 Power BD



Title			
LCD TV - MediaTek MT8205 Solution			
Size	Doc Number	Rev	
C	INDEX	V0.1	
Date: Tuesday, May 10, 2005		Sheet	1 of 16

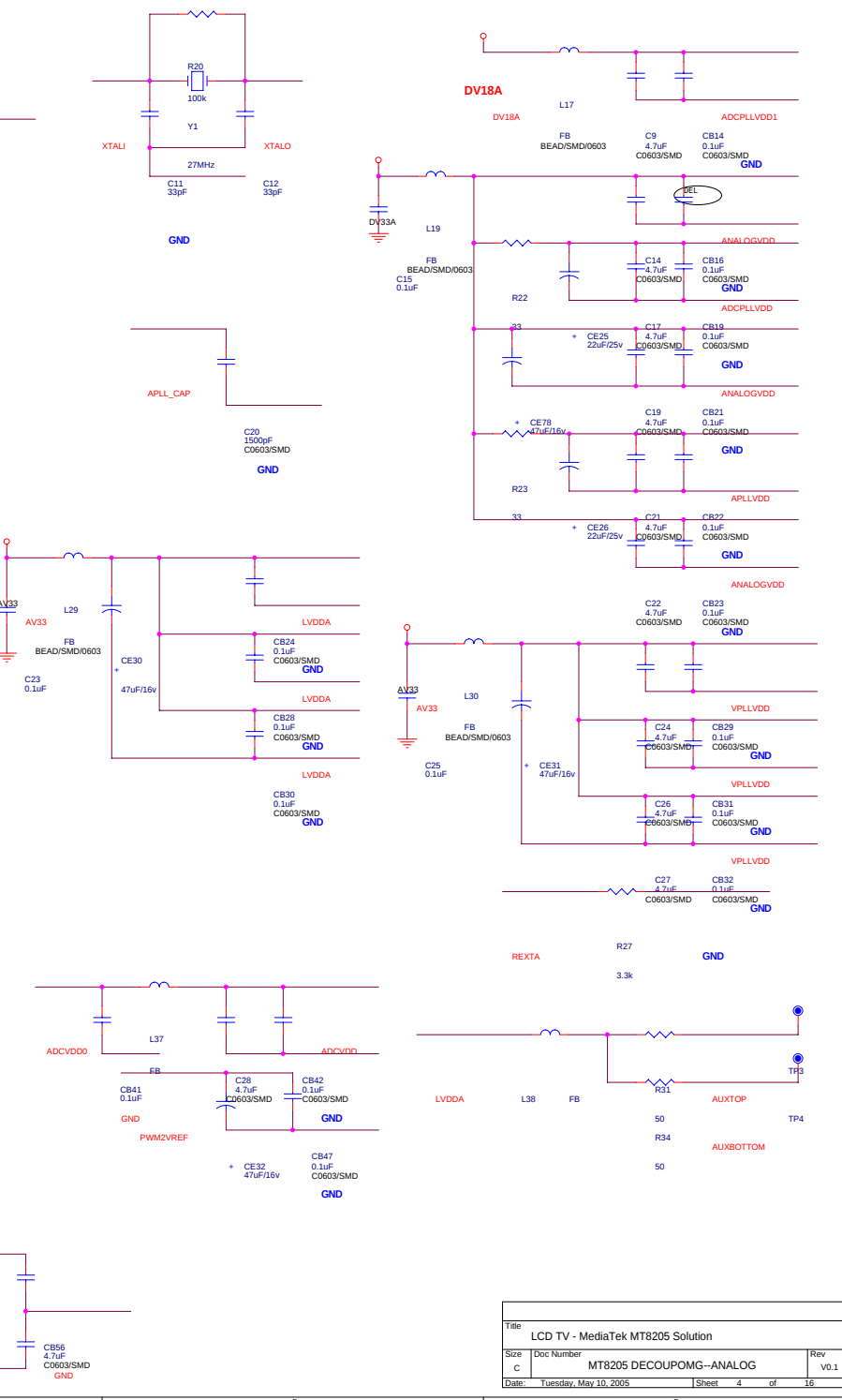
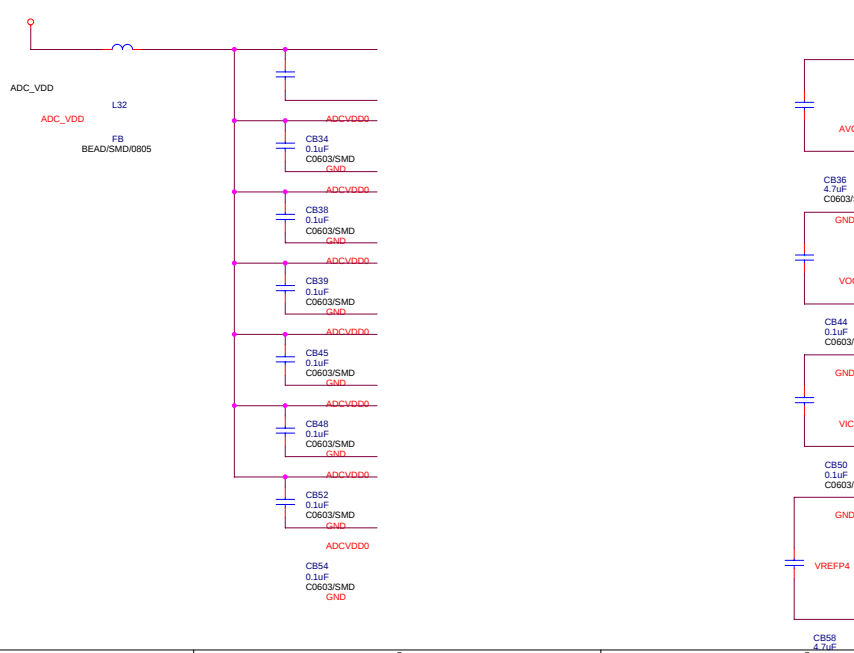
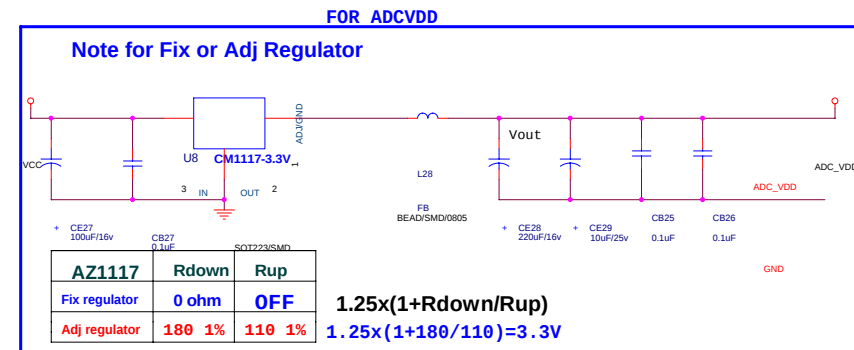
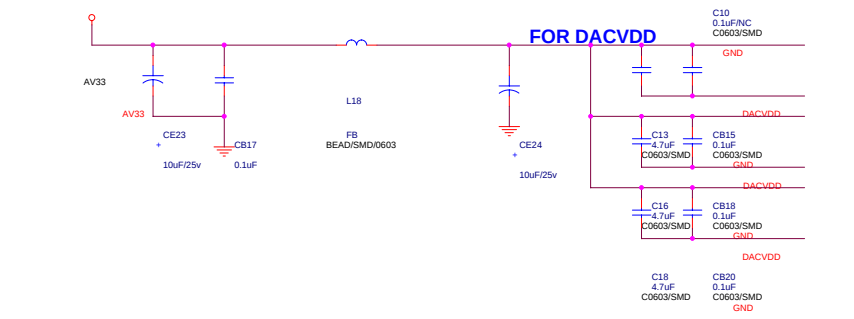


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LCD TV - MediaTek MT8205 Solution			
Size	Doc Number	Rev	
C	LDO	V0	
Date:	Tuesday, May 10, 2005	Sheet 2 of 16	



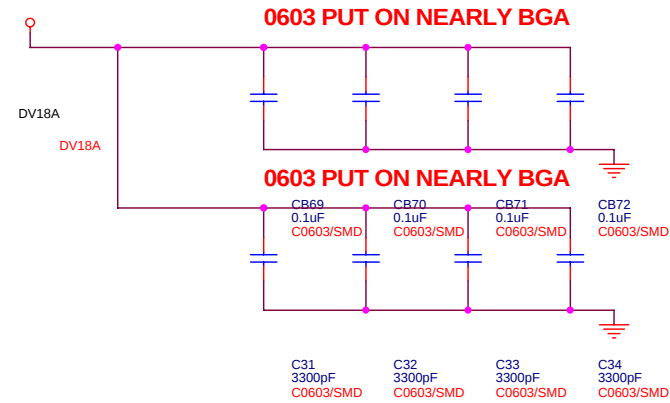
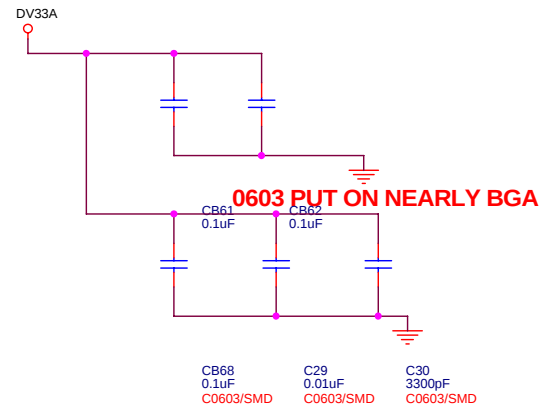
MT8205 ANALOG DECOUPLING

- DACVREF 3
- DACFS 3
- ADCPDLLVD1 3
- ADCPDLLVD 3
- APLLVD 3
- ANALOGVDD 3
- VPLLVD 3
- LVDDA 3
- ADCVDD 3
- DACVDD 3
- AVCM 3
- VOCM 3
- VICM 3
- VREFP4 3
- VREFN4 3
- ADCVD0 3
- PWM2VREF 3
- AUXTOP 3
- AUXBOTTOM 3
- REXTA 3
- APLL_CAP 3
- XTALI 3
- XTALO 3



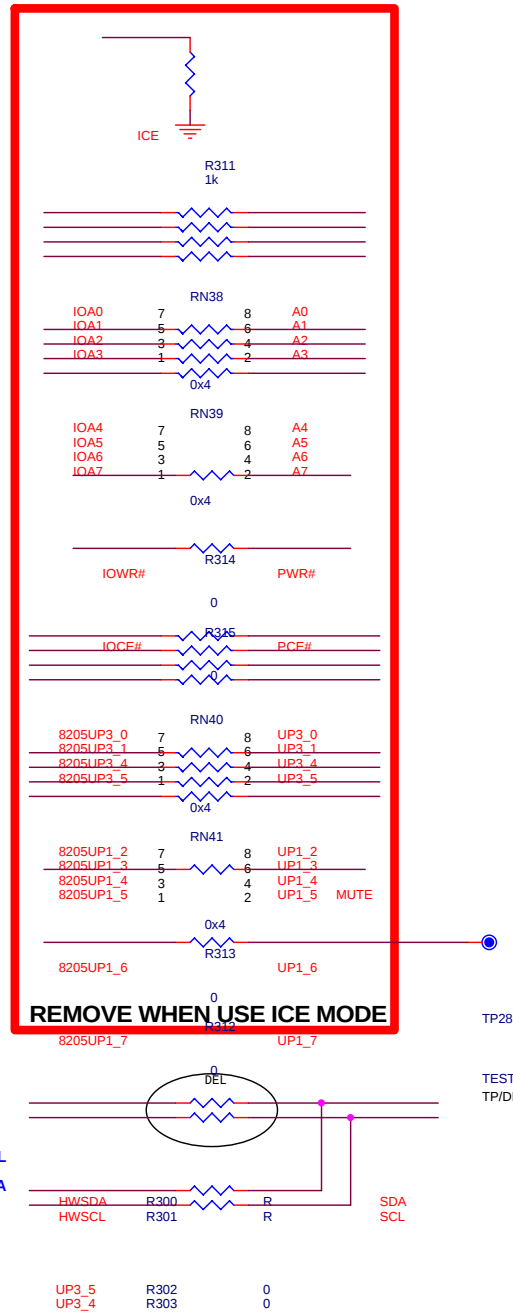
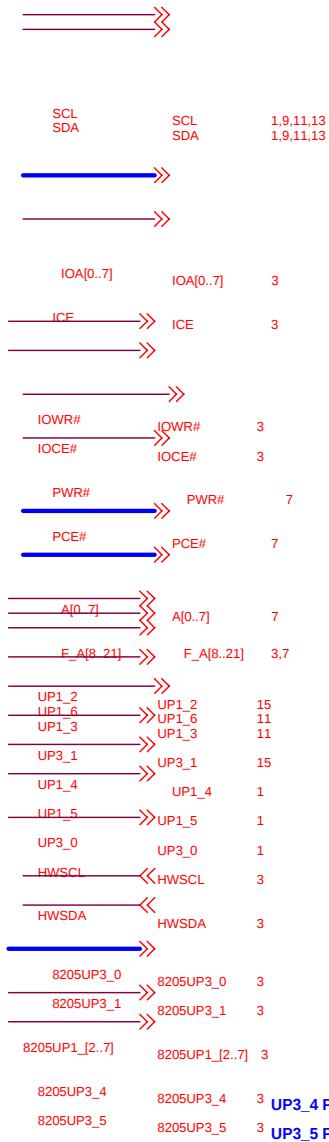
Title			
LCD TV - MediaTek MT8205 Solution			
Size	Doc Number	Rev	
C	MT8205 DECOUPOMG--ANALOG	V0.1	
Date	Tuesday, May 10, 2005	Sheet	4 of 16

MT8205 DIGITAL POWER & DECOUPLING



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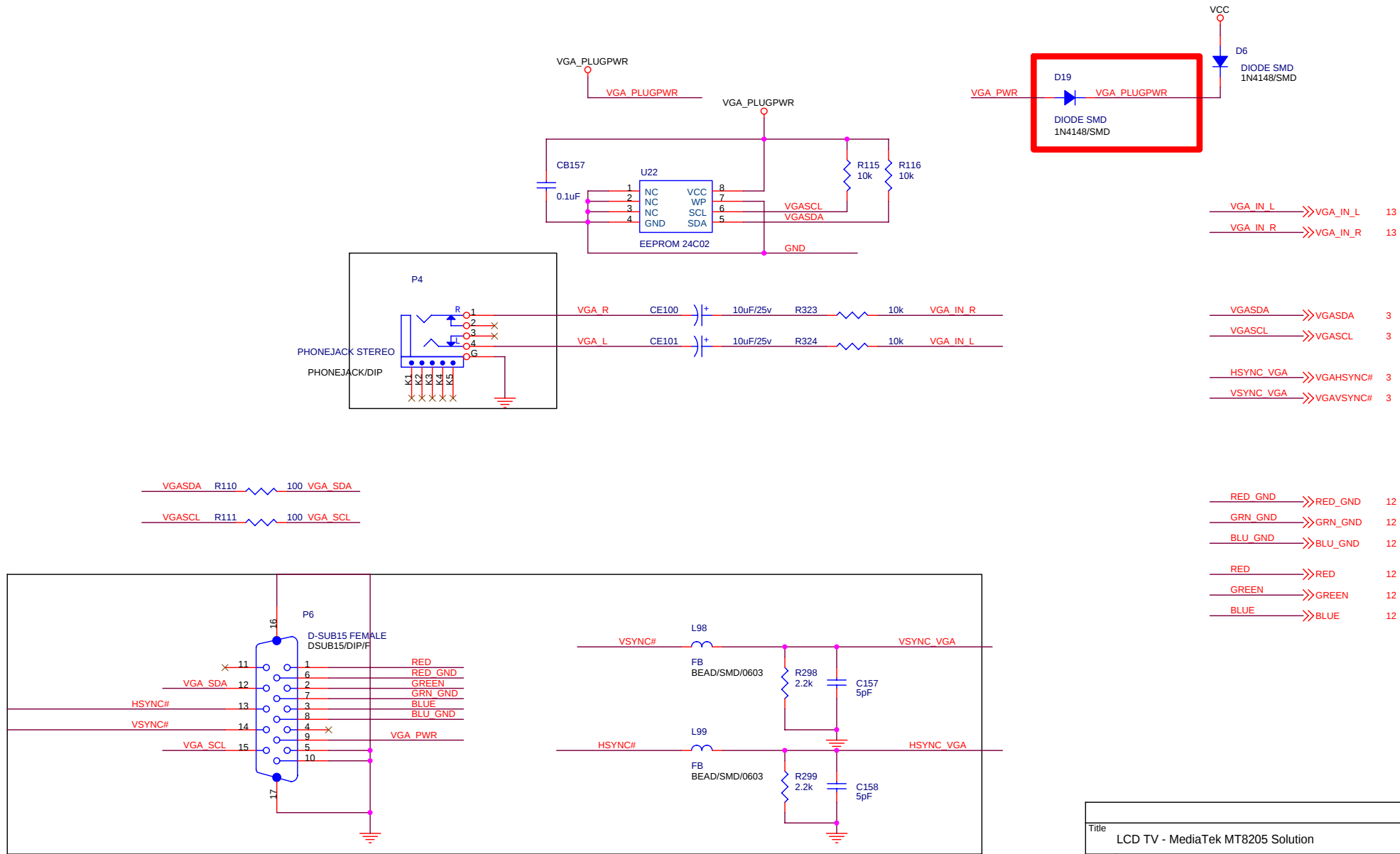
Title		
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Size	Doc Number	Rev
B	MT8205 DECOUPOMG--DIGITAL	V0.1
Date:	Tuesday, May 10, 2005	Sheet 5 of 16



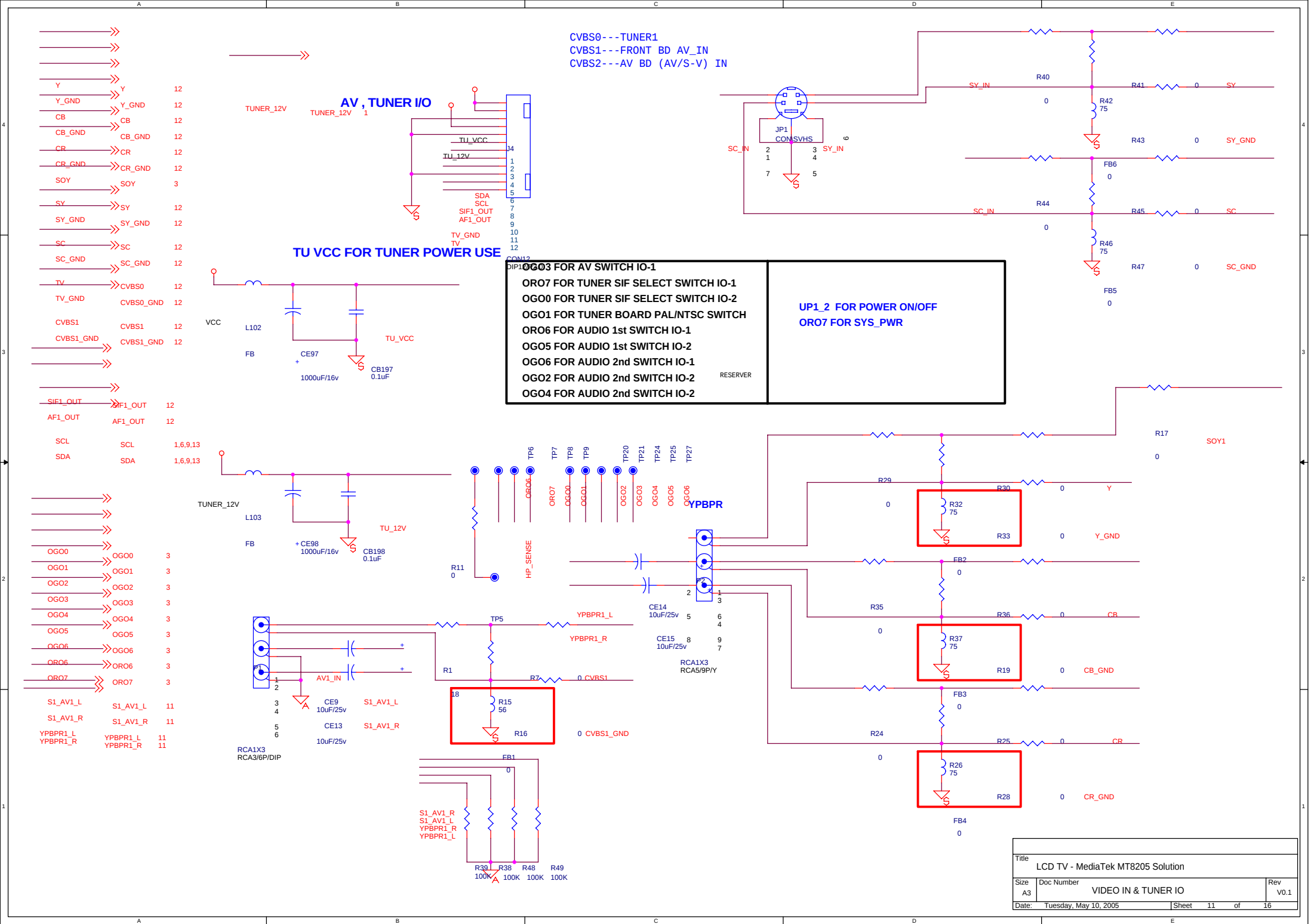
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LCD TV - MediaTek MT8205 Solution		
Size	Doc Number	Rev
B	MT8205 DECOUPOMG--DIGITAL	V0.1
Date:	Tuesday, May 10, 2005	Sheet 6 of 16

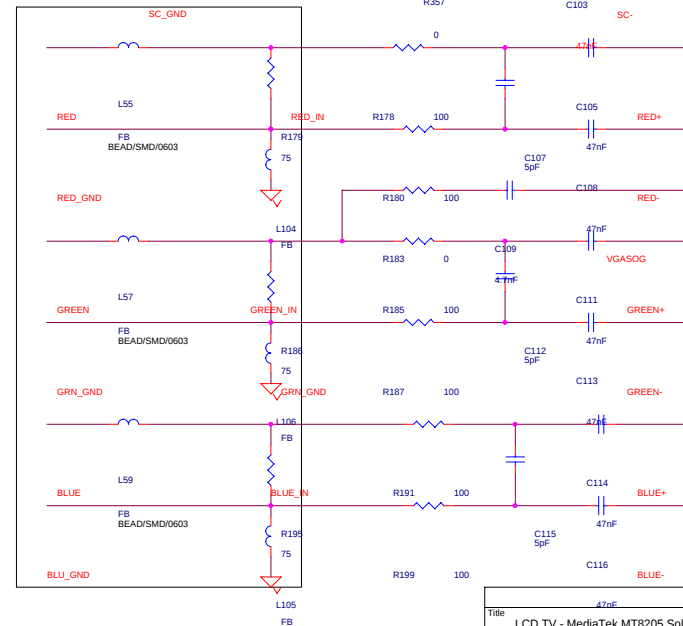
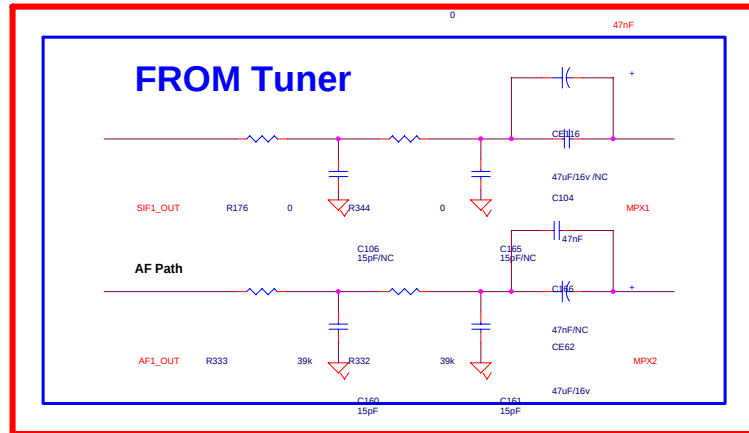
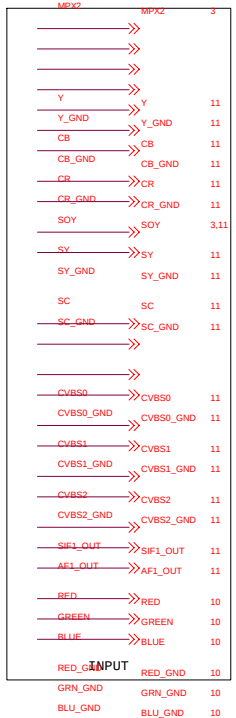
Change to 47 ohm

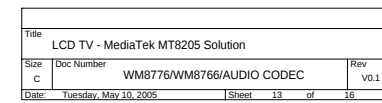
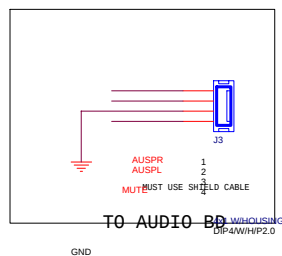
0402 PUT ON NEARLY BGA

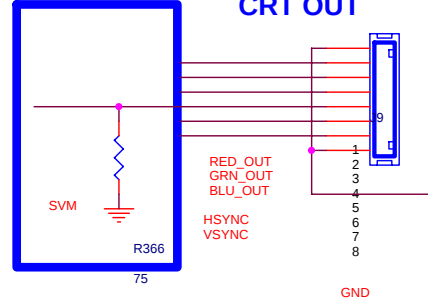
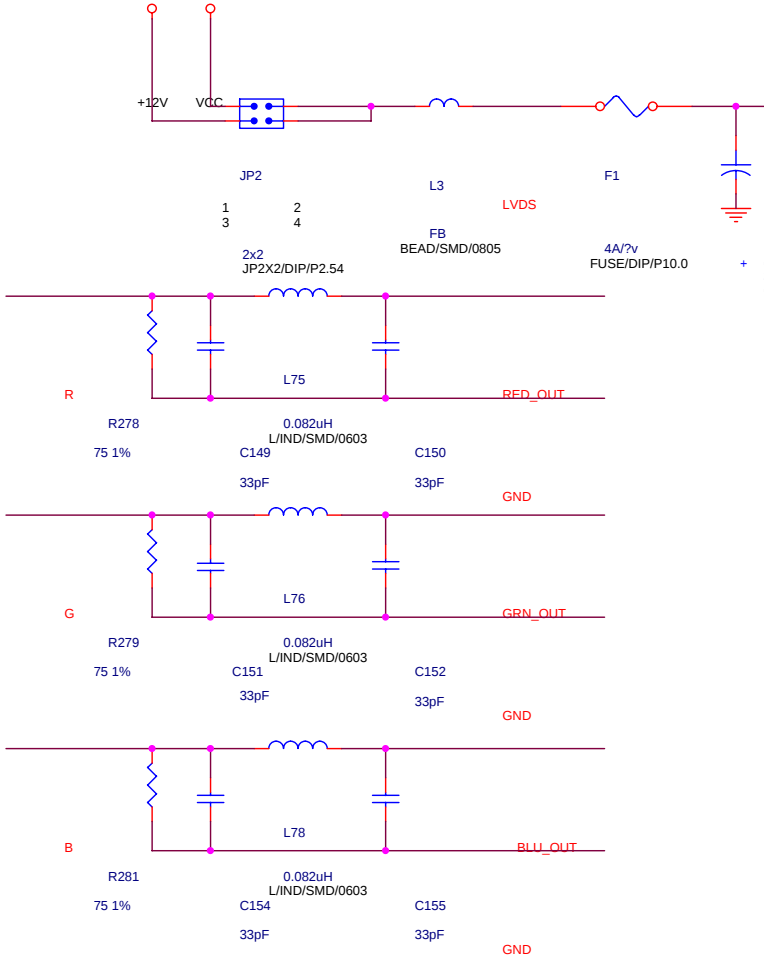
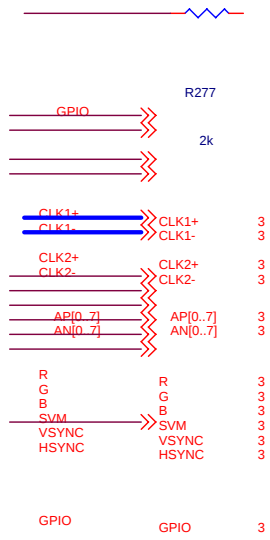


Title		
LCD TV - MediaTek MT8205 Solution		
Size	Doc Number	Rev
B	VGA IN&PC AUDIO IN	V0.1
Date:	Tuesday, May 10, 2005	Sheet 10 of 16

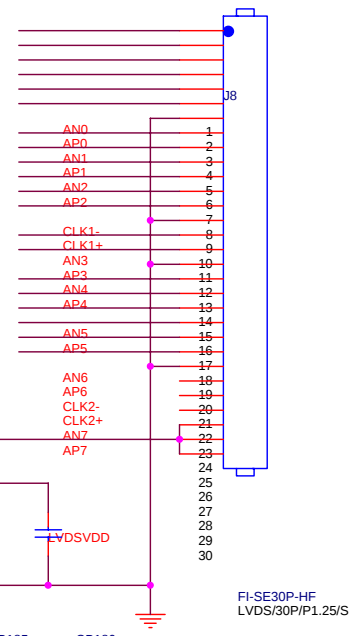




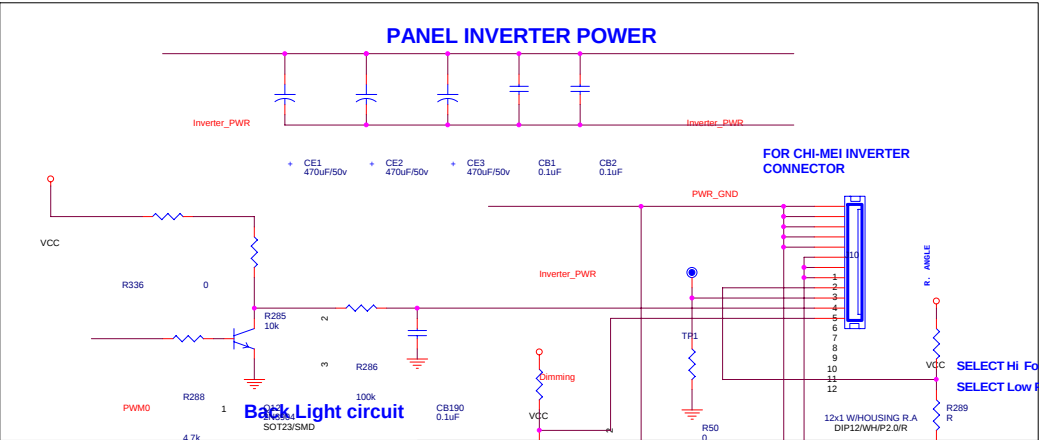
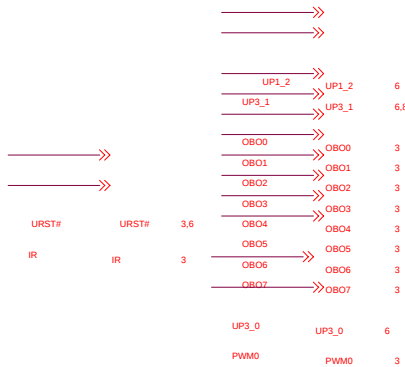




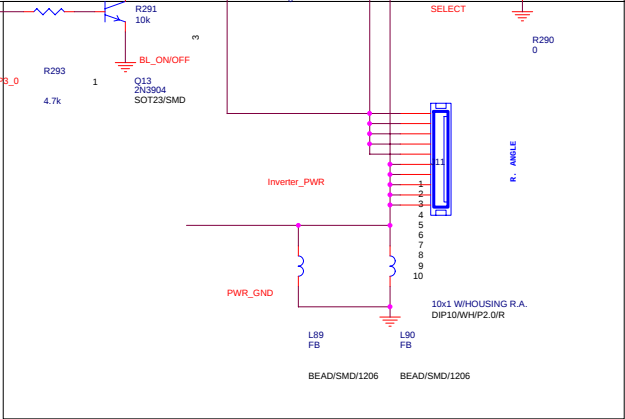
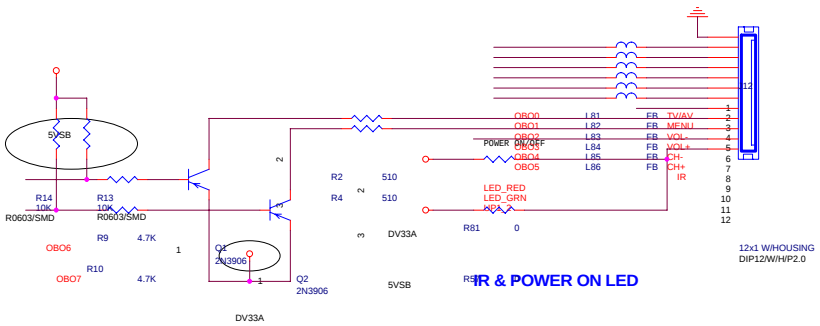
LVDS OUT



Title			
LCD TV - MediaTek MT8205 Solution			
Size	Doc Number		Rev
B	LVDS/CRT OUT		V0.1
Date:	Tuesday, May 10, 2005	Sheet	14 of 16

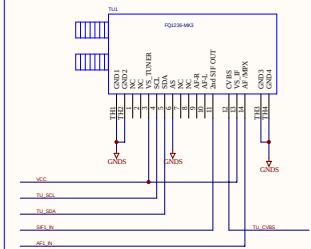


KEYPAD - MAX 8-KEYS

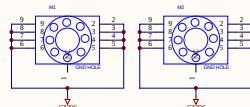
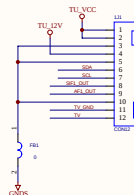
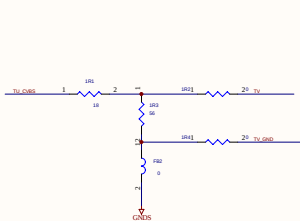


TUNER1

FQJ236 / : NTSC TV



AV_TUNER IO



TUNER1 SIF1 BPF
NTSC 4.5MHz PAL 6MHz

