

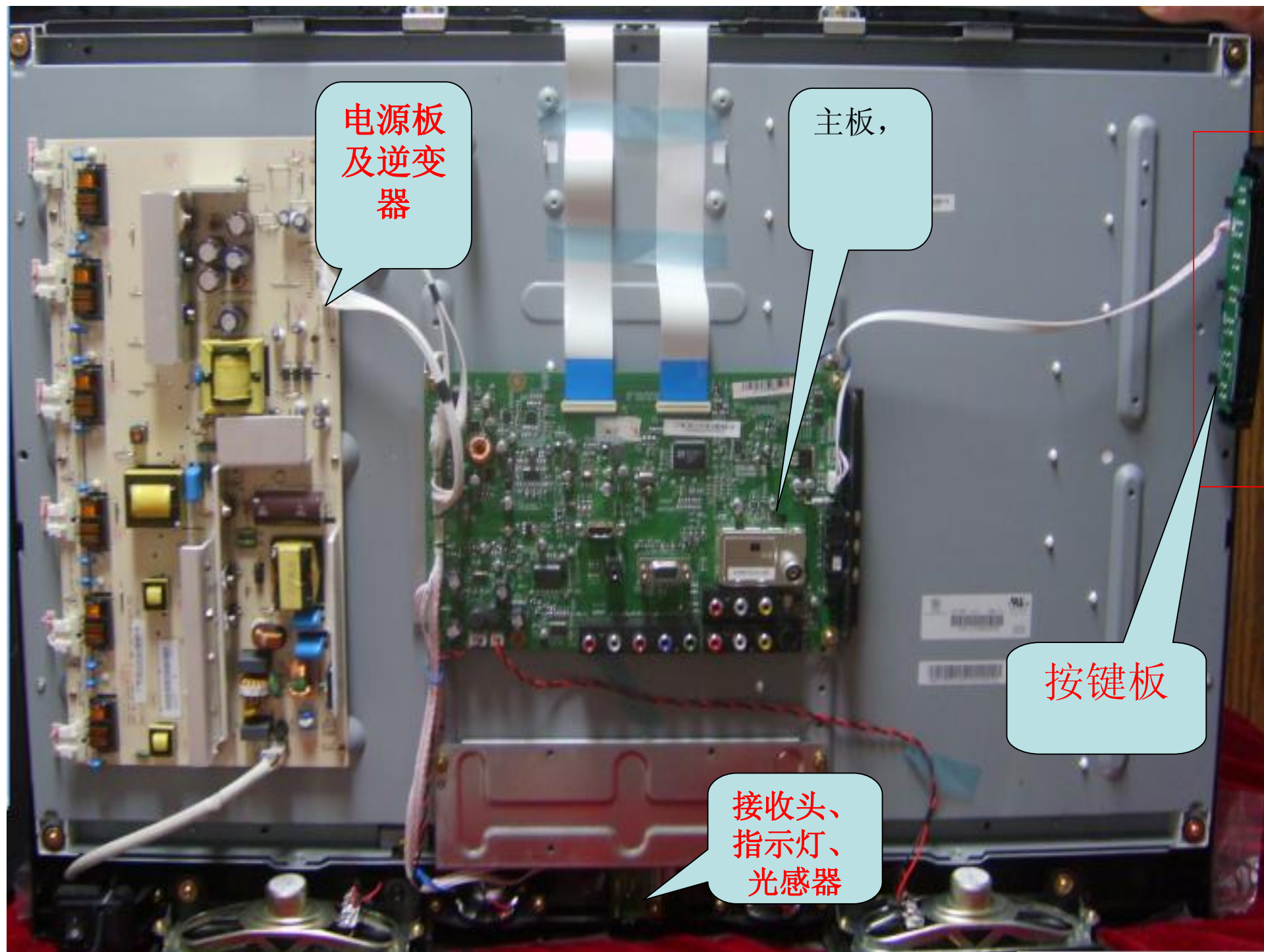


LS23简介



代表机型

- 710系列
- LT32710、LT37710、
- 610系列
- LT26610、LT22610 、LT19610
- 特别提示：LT42710、LT47710为LS20A机芯



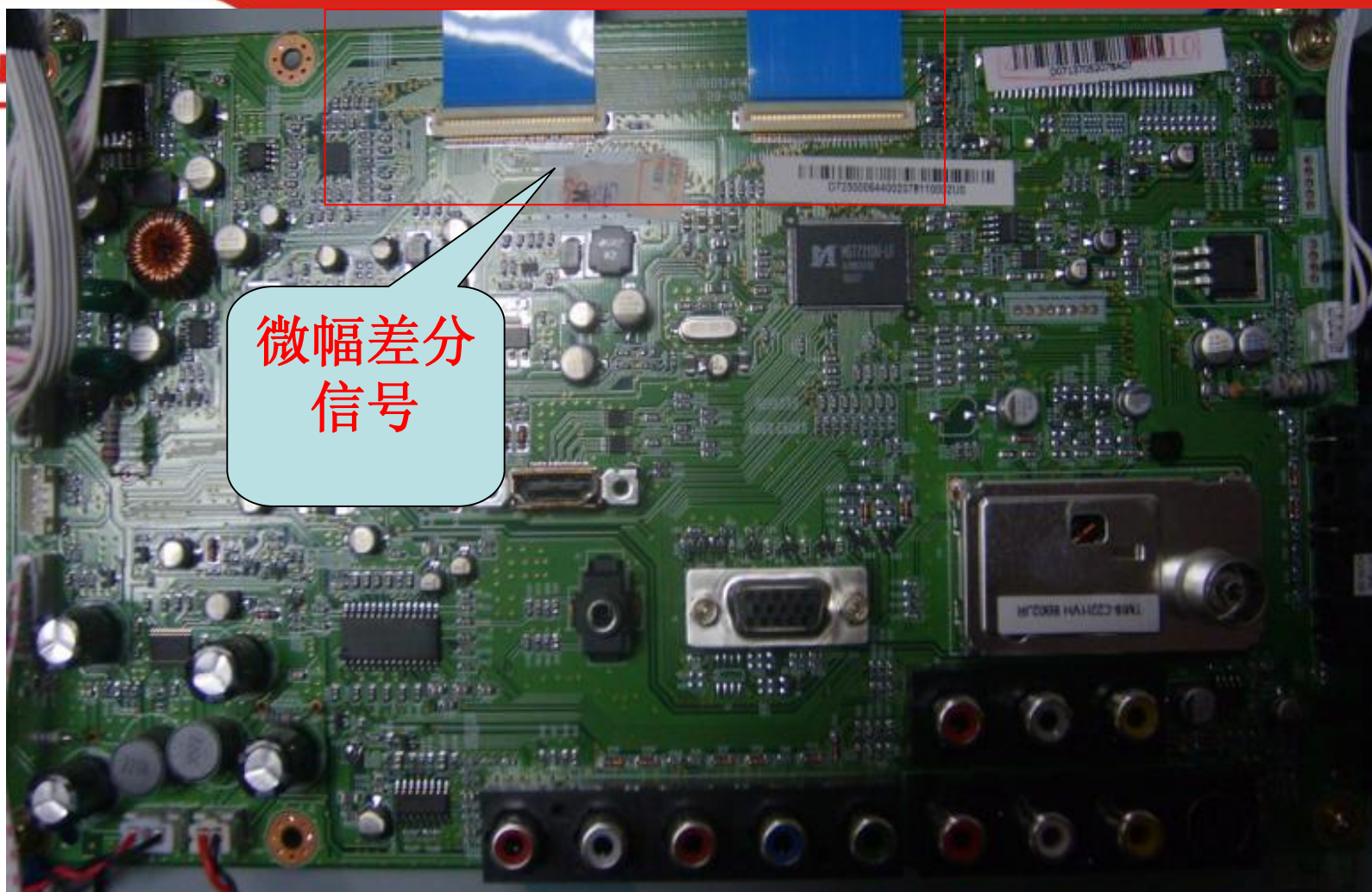
电源板
及逆变器

主板，

按键板

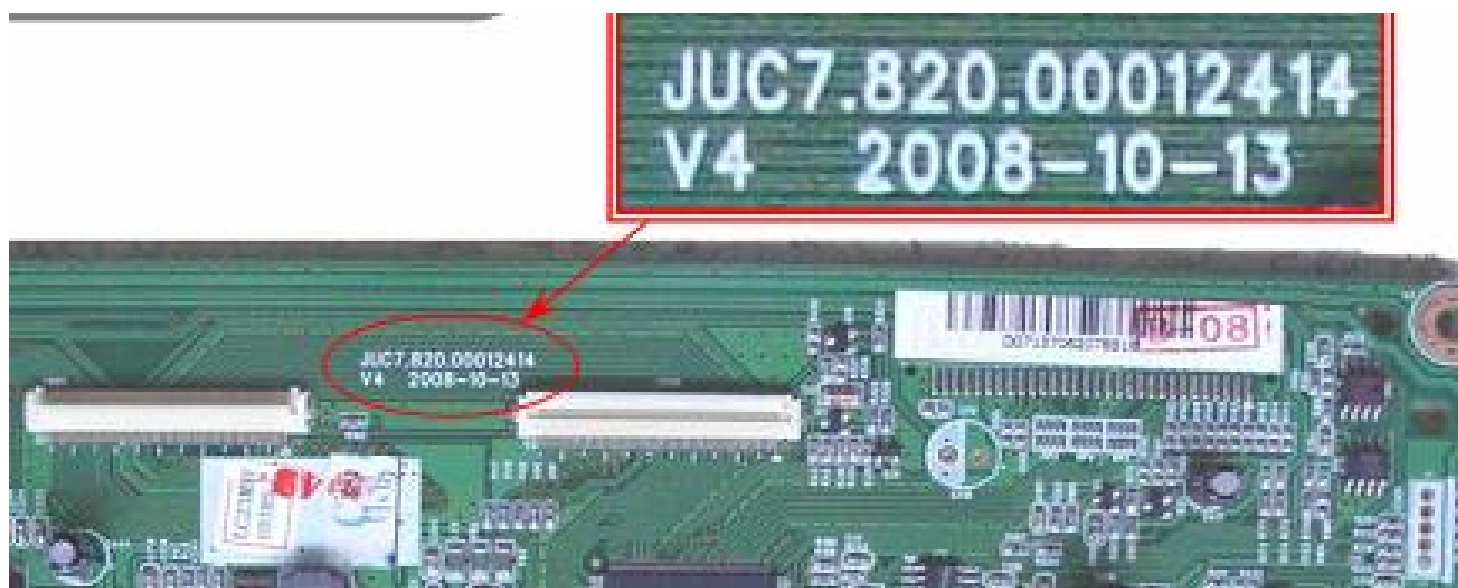
接收头、
指示灯、
光感器

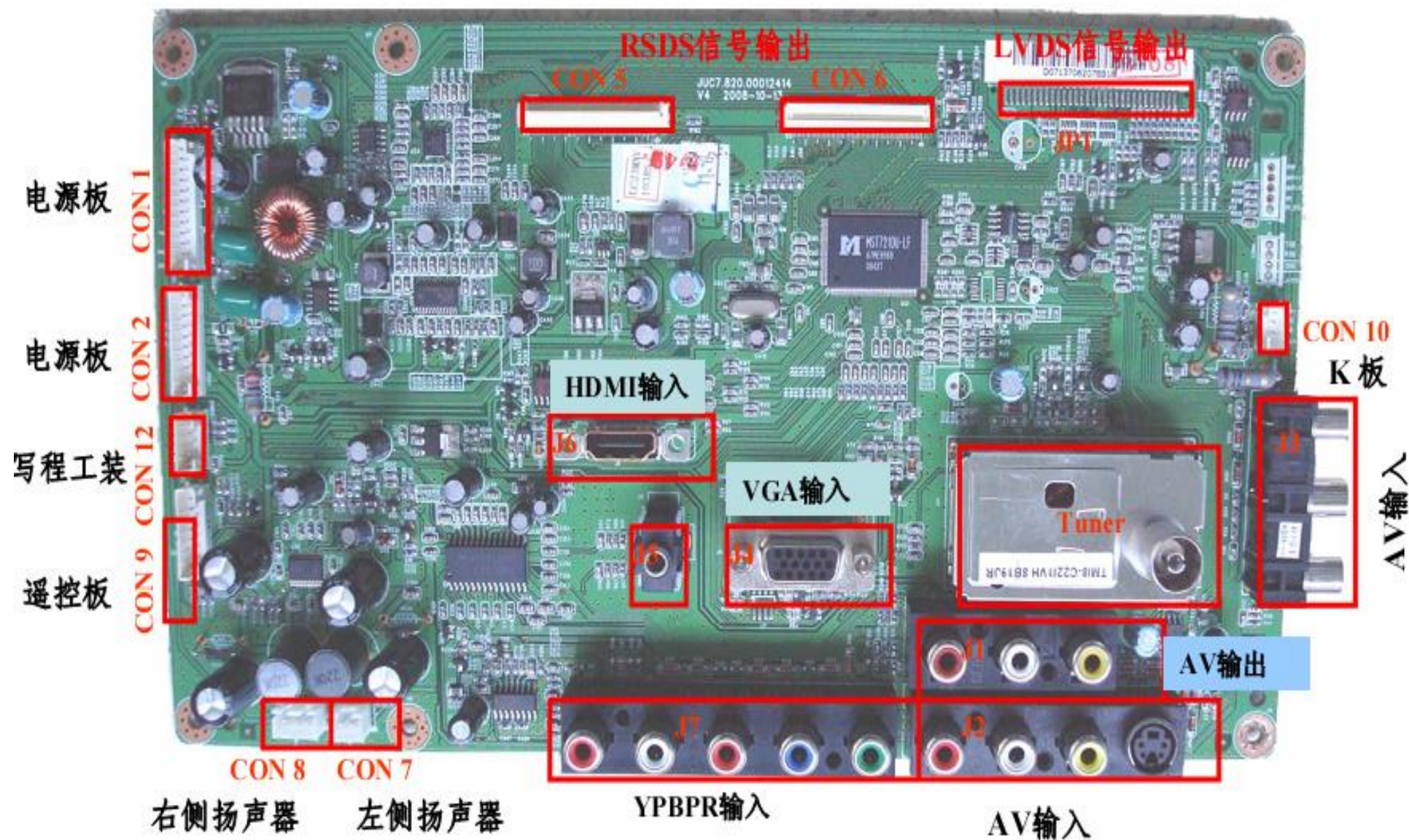
产品物理参数	分辨率:	1366×768	最大 ☐	最佳 ☐
	显示色彩:	1670万		
	亮度:	450cd/m ² (典型)	最大 ☐	典型 ☐
	对比度:	2500:1 (典型)	最大 ☐	典型 ☐
	视角:	176水平/176垂直		
	响应时间:	6.5ms	灰到灰 ☒	全程 ☐ 单程 ☐
	使用寿命:	>15000小时		
产品整机参数	彩色制式:	PAL、NTSC、SECAM		
	伴音制式:	D/K、B/G、I、M		
	音效模式:	标准、新闻、音乐、用户		
	伴音功率:	2×5W		
	额定功耗:	140W	最大 ☐	额定 ☐
	待机功耗:	≤3W		
	电源范围:	100-240V (50/60Hz)		
产品接口	输入:	RF 1路、AV 1路、S端子1路、VGA 1路、YPbPr 1路、HDMI 1路 (后置)	AV 1路	(侧置)
	输出:	AV 1路 (后置)		(侧置)
	其它:	YCbCr ☐ DVI ☐ 耳机 ☐ 音箱 ☐ RS232 ☐	Power开关	(右后置)
产品颜色	面框:	珍珠黑 (仿高光)		
	后盖:	黑色 (皮纹效果)		
	音箱:	黑色 (隐藏)		
	底座:	黑色 (钢化玻璃)		
配套	遥控器:	RP57B		



LS23机芯将主板和T-con板整合在一起，采用奇美屏时，从CON5、CON6接口输出RSDS信号送到屏驱动电路；若采用LG屏，则从JP1接口输出LVDS信号送到T-con（Timing Control）板（液晶时序控制器）。LVDS和RSDS其实就是两个IC，T-con板前期未集成该功能，它们就得一对一使用。

32寸





U3
(LM2596SX-12)

D56
(TL431)

U23 (ISL24822IRTZ)
Gamma电压生成电路

U13 (MST721DU-LF)
视频处理主芯片

U16 (W25X40)
Flash, 程序存储器

U26 (TPS65161)
液晶屏数字驱动部分供电

U15 (AT24C04)
存储HDMI的HDCP数据

U4
(IRF7314)

U8\U9 (R CLAMP0514M)
HDMI接口的ESD保护

U14 (AT24C32)
存储用户设置信息

U20 (TPA3121D2)
音频处理集成电路

U19 (R2A15908SP)
各路音频信号切换以及音效设置

U10 (AT24C02N)
用于保存HDMI的EDID数据

U21 (SN74LV4052)
逻辑集成电路

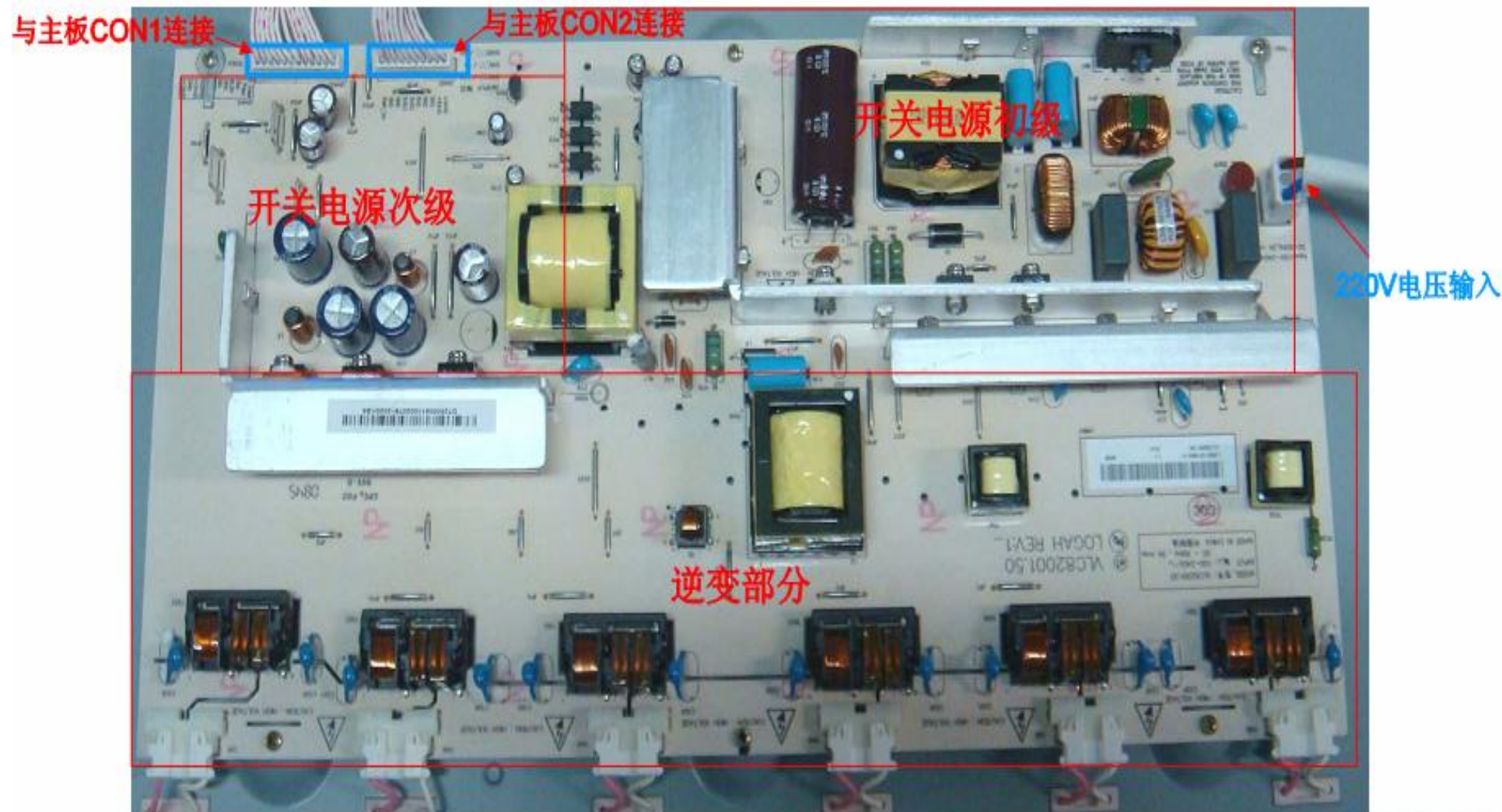
U5 (FMS6143)
视频处理集成电路

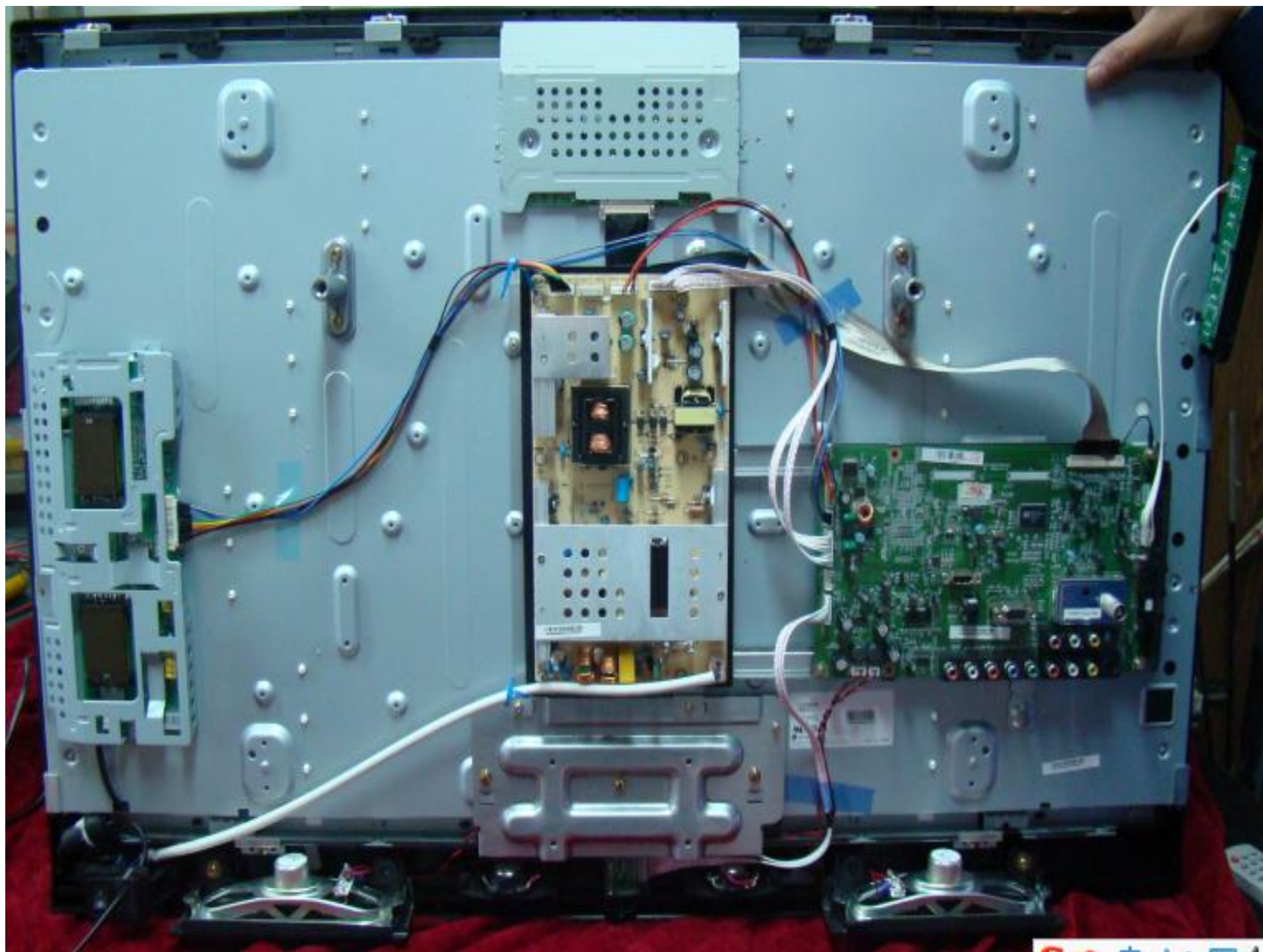
U18 (CS4344)
数字音频转换为模拟音频



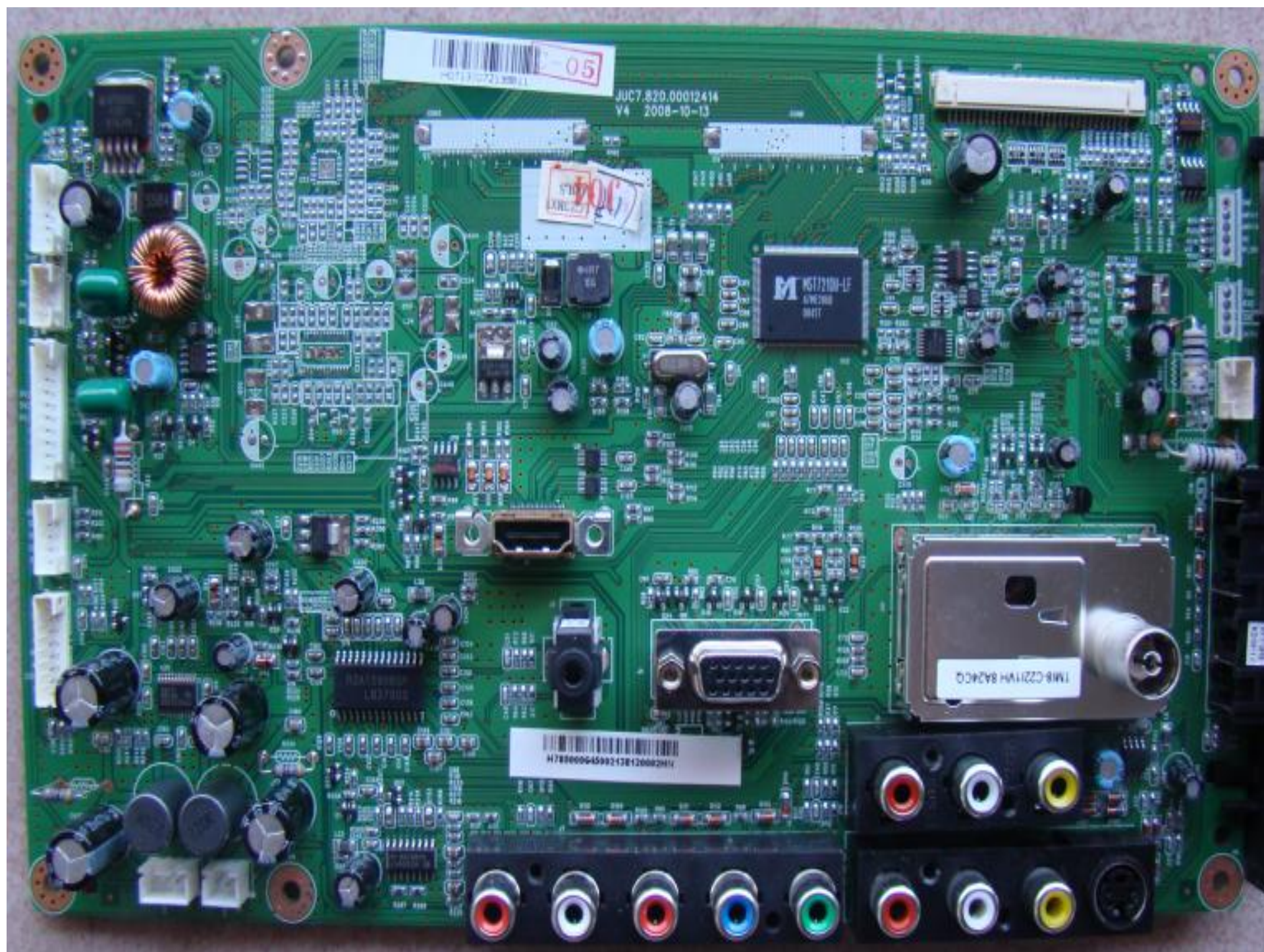
LT32710: LM32-V315B3-V1、FSP160-3PI01（配不同屏的电源，不可互换）。

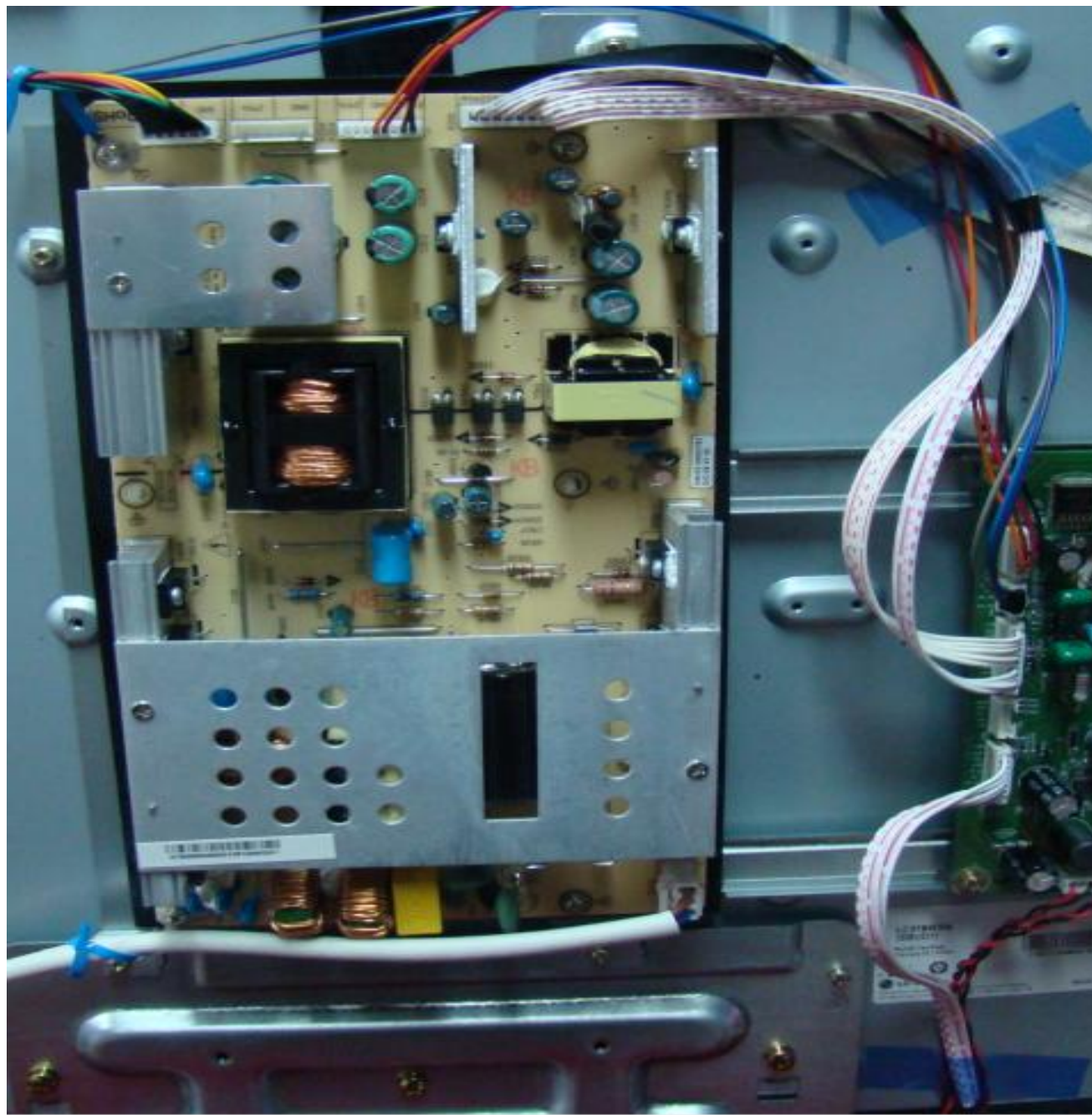
LT37710: FSP306-4F01、HS308-4N01（可互换使用）。





产品物理参数	分辨率:	1366×768	最大□	最佳□
	显示色彩:	1670万		
	亮度:	500cd/m ²	最大□	典型□
	对比度:	1200:1	最大□	典型□
	视角:	178水平/178垂直		
	响应时间:	5ms	灰到灰■	全程□ 单程□
	使用寿命:	>15000小时		
产品整机参数	彩色制式:	PAL、NTSC、SECAM		
	伴音制式:	D/K、B/G、I、M		
	音效模式:	标准、新闻、音乐、用户		
	伴音功率:	2×5W		
	额定功耗:	180W	最大□	额定□
	待机功耗:	≤3W		
	电源范围:	100-240V (50/60Hz)		
产品接口	输入:	RF 1路、AV 1路、S端子1路、VGA 1路、YPbPr 1路、HDMI 1路 (后置)	AV1路 1路	(侧置)
	输出:	AV 1路 (后置)		(侧置)
	其它:	YCbCr□ DVI□ 耳机□ 音箱□ RS232□		
产品颜色	面框:	珍珠黑 (仿高光)		
	后盖:	黑色 (皮纹效果)		
	音箱:	黑色 (隐藏)		
	底座:	黑色 (钢化玻璃)		
遥控器	遥控器:	RP57B		





FSP306-4F01、HS308-4N01

机密

快乐创造  生活

序号	名称	组件代码	组件号	印制板号	备注
1	主板组件	850011770	JUC6.790.00012668	JUC7.820.00012414	LT32710(CM0)
2	主板组件	850011777	JUC6.790.00012666	JUC7.820.00012414	LT37710(LGD)
3	按键板组件	850011928	JUC6.794.00012538	JUC7.820.00012538	
4	遥控板组件	850011890	JUC6.795.00012610	JUC7.820.00012229	
5	LIPS电源组件	850012212	LM32-V315B3-V1		LT32710(CM0)
6	LIPS电源组件	850014793	FSP160-3PI01		LT32710(LGD)
7	内置电源	810114465	HS308-4N01		LT37710(LGD)
8	内置电源	850006042	FSP306-4F01		LT37710(LGD)
9	遥控器	810138862	RP57B		
10	LCD液晶屏	850011560	V315B3-LN1		LT32710(CM0)
11	LCD液晶屏	850014008	LC320WXE-BB1		LT32710(LGD)
12	LCD液晶屏	850012431	LC370WXN-SBD1		LT37710(LGD)

不定时黑屏解决方法

- 软件升级
- 总线设置
- 如下页：



进入总线方法

- 用RP57B遥控器,
- 按静音-菜单-7-2-1-7

PANEL TYPE

LG_L_37

SOURCE

TV

VOLUME

4

BALANCE

50

COLOR.SYS

AUTO

SOUND.SYS

D/K

AUTO SCAN

CLEAR EEPROM

SYSTEM

WHITE BALANCE

ADC ADJ

D MODE

EXIT

LS LEVEL

0

ver:LSC23-MXX-V1.03-LS

Nov 20 2008

13:22:12

D MODE

LOGO VALID	▲	1	▲
BL VALID	▲	0	▲
LS VALID	▲	0	▲
HVSYNC PATCH	▲	0	▲
POWER MODE	▲	TWICE	▲
DEF LANG.	▲	CHINESE	▲
DEF SND SYS	▲	D/K	▲
CHANNEL BLACK	▲	1	▲

LS23 机芯原理图

```

ESP_M0 -- QP008, P0005 (AT32C52 EEPROM Write Protect, High-Write Stable)
ESP_M0T -- QP004, P0003 (EEPROM Read Protect, Low-Write)
AES_KEY -- QP025, P0004 (Audio API Rate, High-Route)
LED -- QP005, P0004 (Power to LED, High-On)
PWR_ON_OFF -- P0002, P0024 (External Power, Low-On)
CLK_P0 -- QP008, P0005 (Panel power on, Low-On)
CLK_P0ACK -- QP007, P0003 (Panel light on, Low-On)
CLK_P0N -- QP008, P0003 (P003 bypass control for Comb. Div. High-Bypass)
CLK_P0N_M0 -- QP008, P0003 (Set Comb. Div. Standby, Low-Standby)
USB_DETECT -- QP004, P0003 (USB Near Current, Low-Over Current)
CLK_S0 -- QP008, P0005 (Power on USB supply, High-UV Low-On)
FPGA_M0 -- S040, P0022 (Flash write protect, High-Protect)
FPGA_M0T -- P0003 (Panel light write control)
T_0T -- S042, P0020 (T0020 Reset/Reset/AF Feed back)
HMC_CRC -- QP004, P0014 (HMC04-CRC control)
HMC_S0 -- QP008, P0005 (HMC04 Switch control)
HMC_S0T -- QP002, P0012 (HMC04 Switch control)
HMC_P0 -- QP002, P0010 (HMC04 Switch control)
HMC_P0T -- QP002, P0010 (HMC04 Switch control)
HMC_P01 -- QP002, P0010 (HMC04 Switch control)

```

```
Video/Audio in:

ATSC TV---Parallel TS Port

NTSC TV---CVBS0

Video in---CVBS1

Video in---YCBCR with audio in---LINE IN2

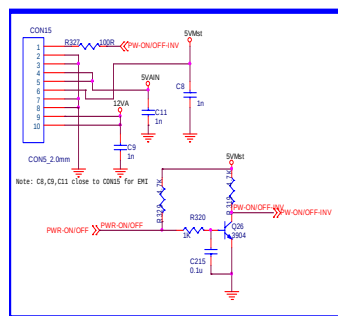
YPbPr---ADC0 with audio in---LINE IN3

VGA---ADC1 with audio in---LINE IN1
```

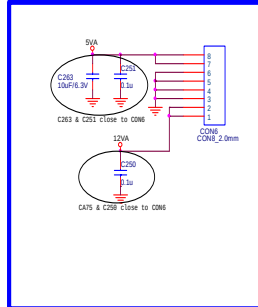
Version	Modify Content	DATE
30B	Initial Version	2007-08-02
30C	1.增加220V LNB 2.HDMI 接口再改进 3.增加1080i 2 接口电视支持 4.HDMI 电子流控制芯片 一个下接的5.0A电源	2007-10-17
30C_v3	changhong modified: 1.Changed the Air ports	2007-11-28

 深圳市高新区南区科技南十路国际技术创新研究院C座 TEL:0755-26996865 FAX:0755-26996830	
Title	SYS-FLOW
Size	Document Number
Date	Tue day, November 20, 2007
Sheet	1 of 12

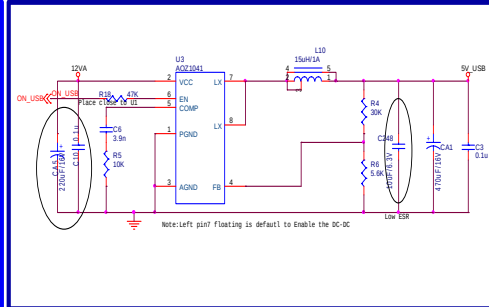
POWER INPUT



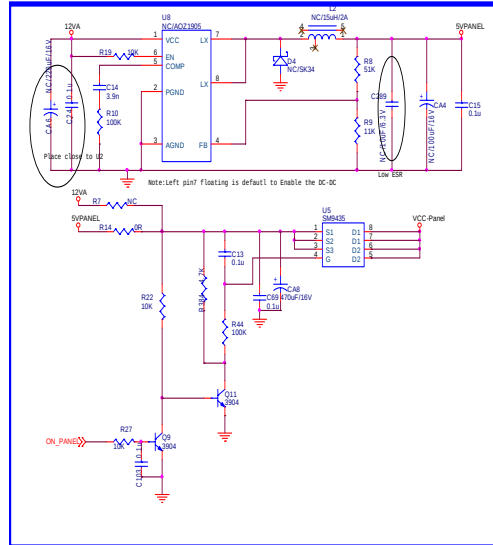
DVD Power Interface



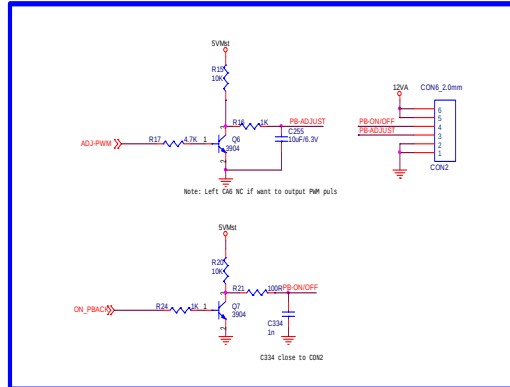
5V USB



PANEL POWER



TO INVERTER



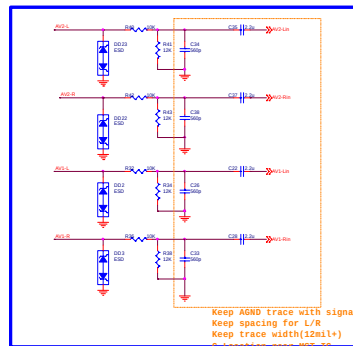
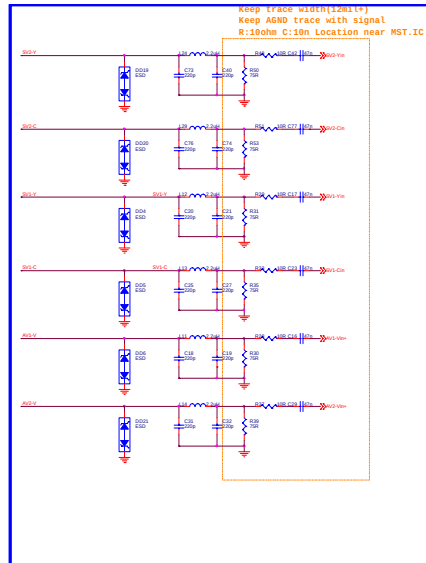
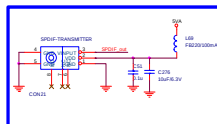
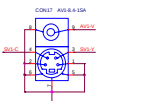
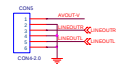
Option for only +12V and 5Vstb
Power supply



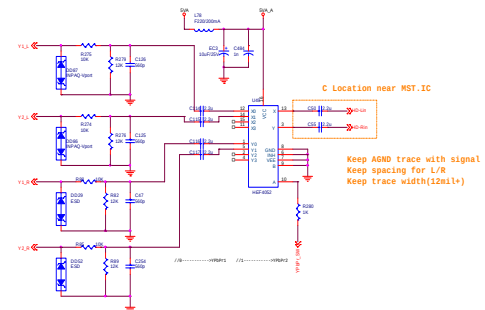
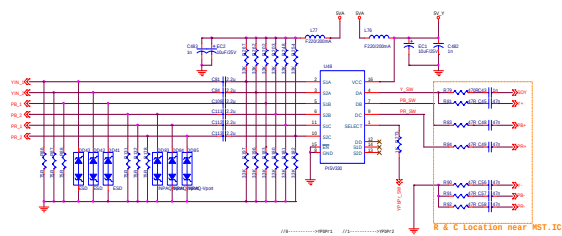
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Title: SYS-POWER			
Size:	Document Number		Rev: 1.0
Date:	Wednesday, January 02, 2008	Sheet	2 of 12

PbPr INPUT

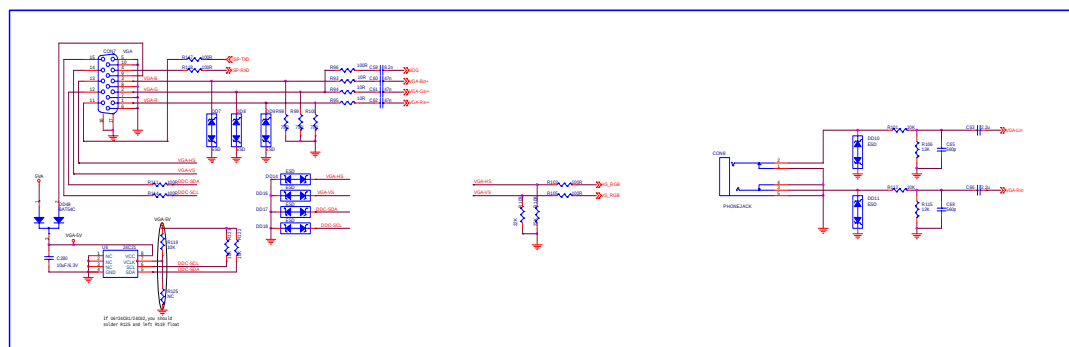
AV INPUT/OUTPUT



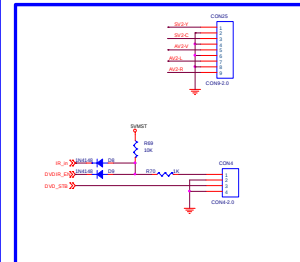
YPbPr INPUT



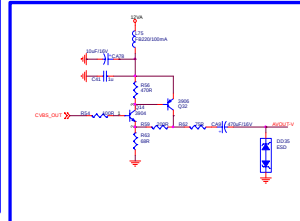
VGA INPUT



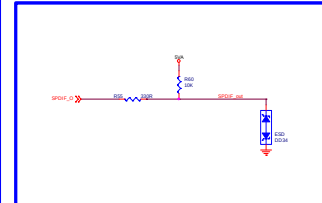
DVD CONNECTOR OR PDP CONTROL



VIDEO_OUT

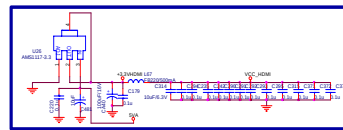
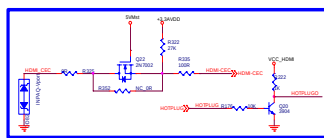
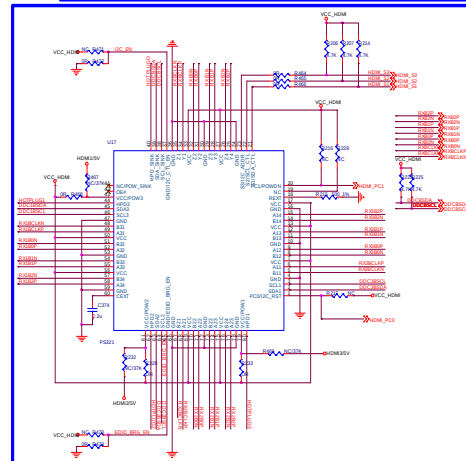
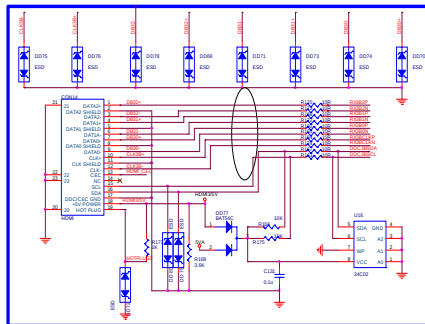
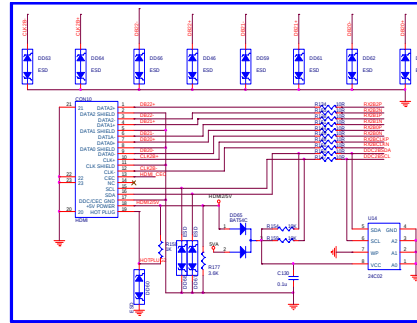
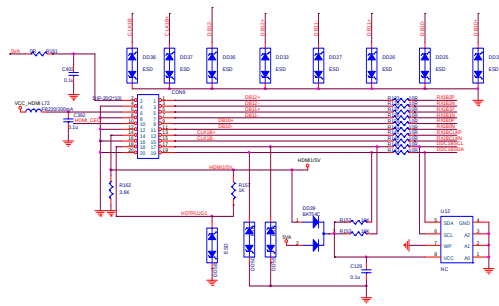


SPDIF_OUT



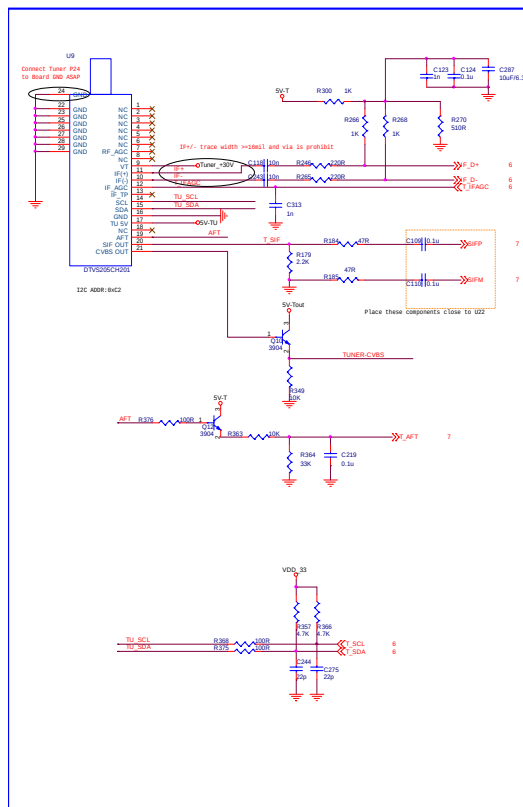
 深圳市高新区南区科技南十路国际技术创新研究院C座4楼 TEL: 0755-26996895 FAX: 0755-26996330	
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日期:	文件编号:
日期: Wednesday, January 02, 2008	页码: 2 of 22

 深圳市高新区南区科技园十楼10A05技术创新孵化中心 TEL: 0755-26996886 FAX: 0755-26996886	
地址: HDTV	
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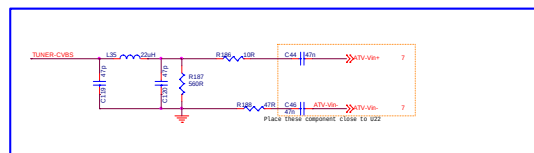


Hstar HONGKONG STAR ELECTRONICS		深圳市福田区科技园十路国际技术创新研究院C404室
TEL: 0755-26998895 FAX: 0755-26998830		
Doc	Document Number	Rev
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Date: Sunday, December 10, 2006		Printed: 10 of 32

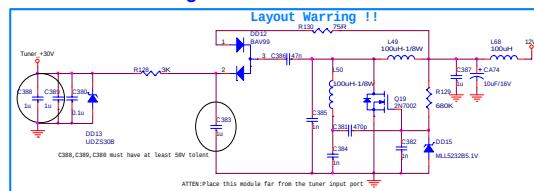
SAMSUNG TUNER



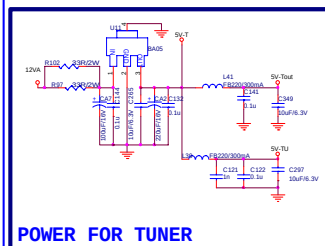
LOW PASS FILTER



+30V Tune Voltage

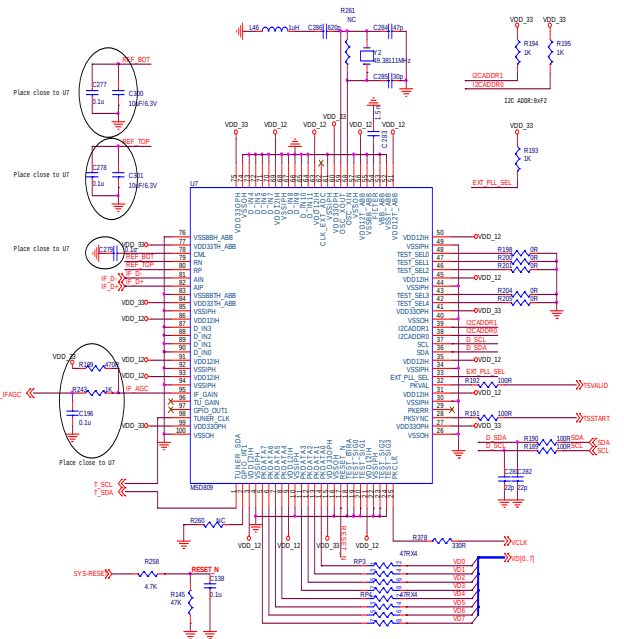


POWER Supply

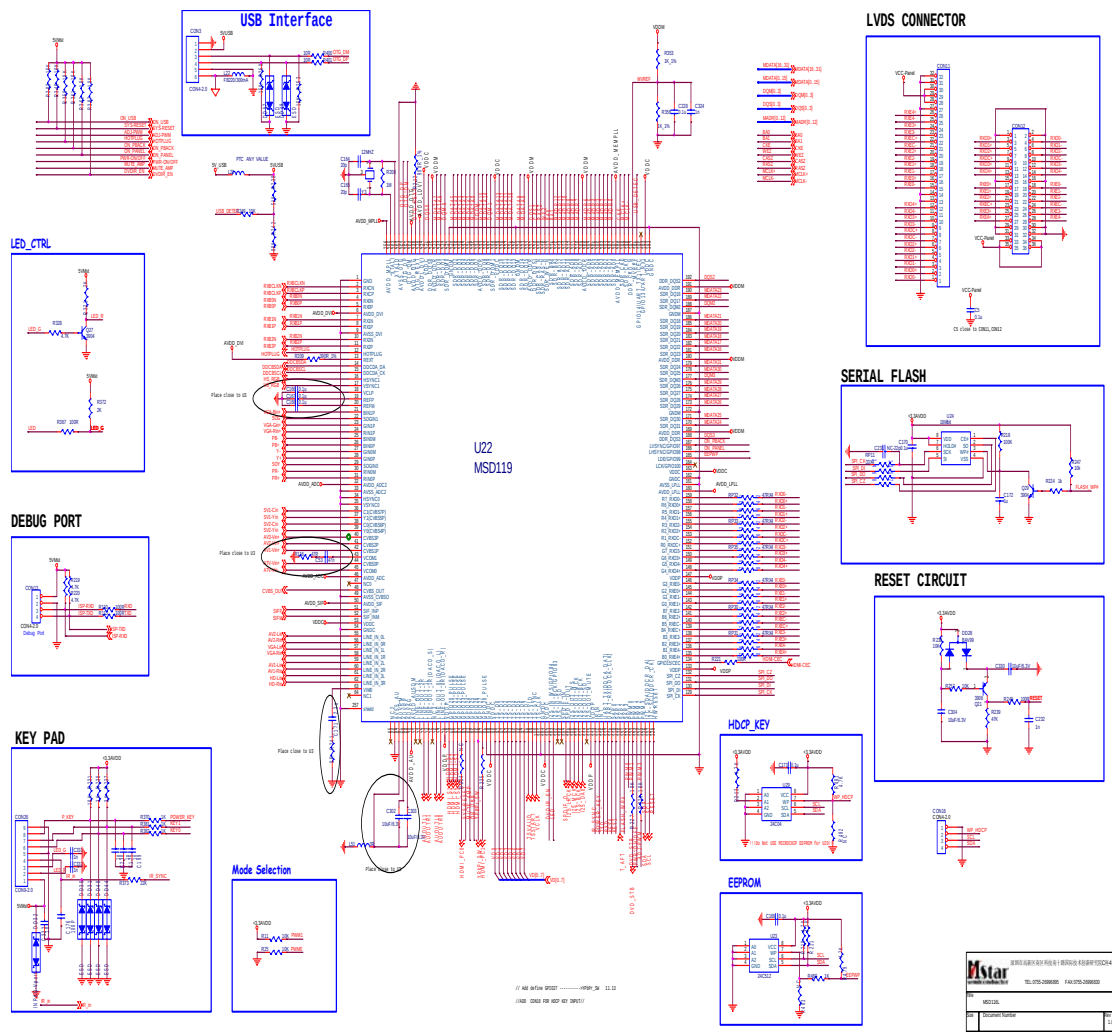


POWER FOR TUNER

Hstar HONGKONG STAR ELECTRONICS		深圳市福田区科技园十路国际技术创新研究院C404室
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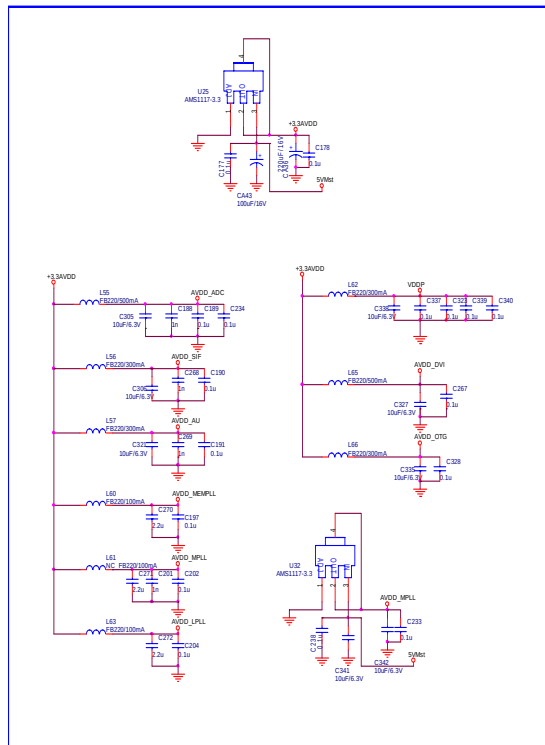


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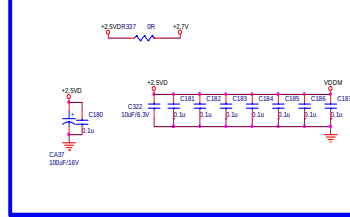


 3950 昌隆街 4 楼 401 室 401 室 昌隆街 4 楼 401 室 3950 昌隆街 4 楼 401 室 401 室 昌隆街 4 楼 401 室 TEL: 0755-25555555 FAX: 0755-25555555	
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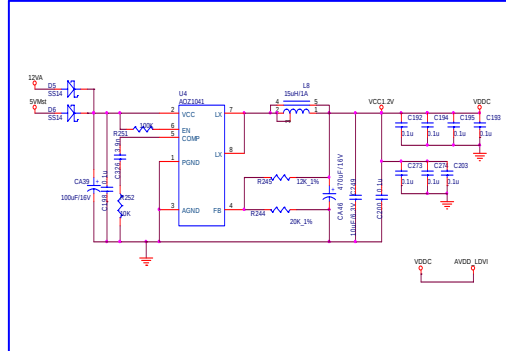
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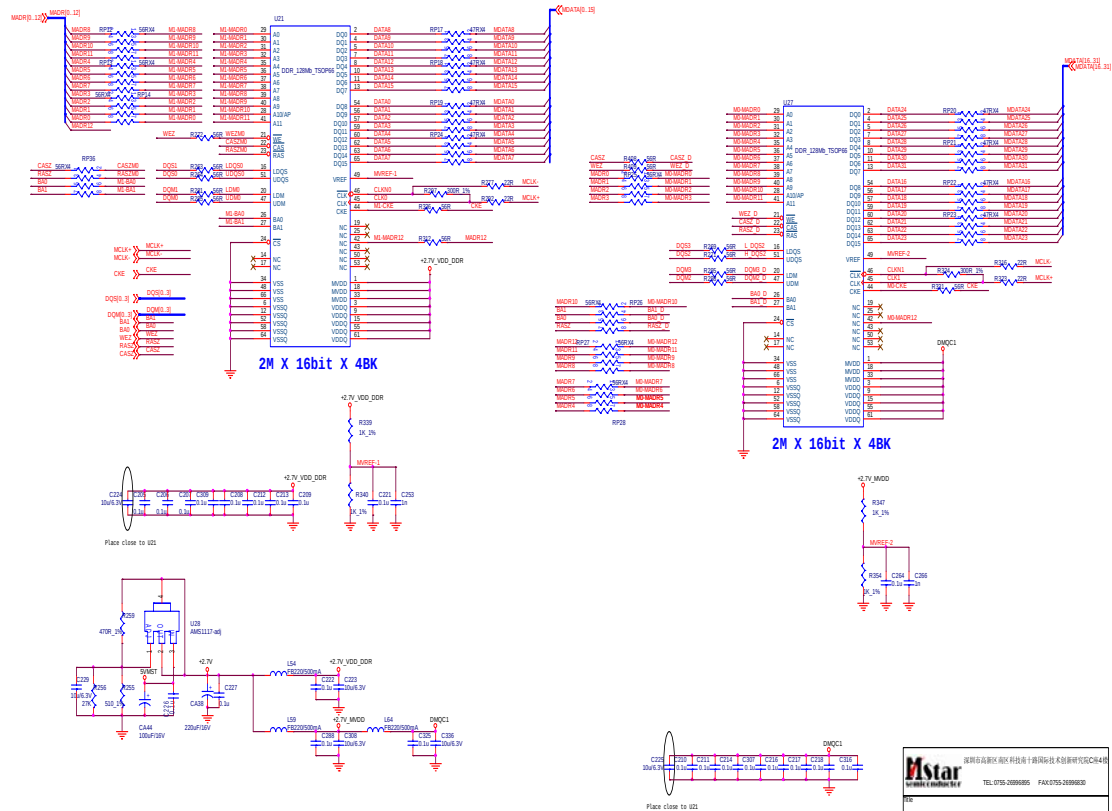
+2.5V FOR DDR



+1.2V FOR MST CORE



Mstar	
Mstar Electronics Co., Ltd.	
TEL: 0755-26995885 FAX: 0755-26995880	
POWER FOR MSD1225	
Doc	Document Number
Rev	1.0
Date	Sunday, November 18, 2007
Print	9 of 15



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The diagrams show four 2x2 multiplexers and a 2x2 decoder. Each multiplexer has two data inputs (A and B), two select inputs (S0 and S1), and two data outputs (Y0 and Y1). The decoder has two select inputs (S0 and S1) and four data outputs (Y0, Y1, Y2, Y3). The outputs are labeled with their corresponding minterms: Y0 is m_0 , Y1 is m_1 , Y2 is m_2 , and Y3 is m_3 .

