TV Productor Service Manual

DATE： 2014-02-21

YOUR COMPANY NAME:

YOUR MODEL NAME:

Production & Function Describtion:

Action：CV9202H-A39

Function： USB、VGA、PC AUDIO IN、COAX、
EARPHONE、YPBPR、
HDMI、CVBS/AUDIO、SCART、ATV、

TV System：PAL+SECAM

Approved Signatures:

Approved By Customer Project Leader	Reviewed By Project Leader	Issued By D.C.C.

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1. Basic Specifications

Working Temp：0～40℃
Storage Temp：-20～60℃
Humidity（Working）：10～90%
Humidity（Store）：10～90%
LED Lifespan（50 Lum，Tube current < Rating）：60000 hour（Il=4.5Ma 25℃）
MTBF:50000 hour (Panel Module NOT inculded)
Power requirement：Voltage 100~240 V 50 / 60 Hz
(Note: The above specifications are suitable for most of the TV models, and for your reference only.)

2. Maintenance & Safety

2.1 Safety Warning:
(1) The inside key components in the LED must be offered and replaced by qualified and
appointed manufacturer. Otherwise it may generate electricshocks, fires or other important unsafety cases.
(2) Don't try to change the circuits without authorized permission.
(3) Ensure to study the maintenance and service manual thoroughly before doing any of
the maintaining actions.
2.2 High Voltage Warning:
Please be highly noted the high voltages in the circuit.
2.3 Electricshocks and Fires Warning:
*Connect the insulate transformer between the AC current to the LED before repairing the panel.
*Take care of the Soldering Pad related to the high voltage circuit. When there occurs
short-circuit case, please replace the overheated components in time.
*All protective equipments must be re-installed according to the original design.
*Check the rosin joints, stack welds and the insulations, ensure there is no objection attached.
2.4 Antistatic Warning:
*The inner circuit boards in the LED TV are sensitive to the statics. Please take care of the
ESD protection when replace the circuit boards.
*The circuit boards must be packed by antistatic bags.
*Please wear antistatic ring and gloves when during repairing works.
2.5 Attention:
LVDS VDD – if the LED is in 5V, it must be switched to the setting of 5V. And if the LED is in 12V, it must be switched to the setting of 12V. (Switch setting:

CN9 -- 5V or 12V)

3. Instruments

3.1 Multimeter:
Max Input Current : over 1A / Max Input Voltage : 500Vdc
Measurement Range : 10Mvr~100Vdc / Accuracy : 0.03%
3.2 Oscillograph
Frequency Band : over 20M /Input Impedance : over 1M
Input Capacitance : below 30pF / Max Input Voltage : 250V
3.3 PC: XGA (1024X768@60Hz)
3.4 HD Singal Generator: 480P 576P 720P 1080i@50/60HZ
3.5 DVD Player: Audio/Video output, S-VIDEO output, HDMI output.
3.6 VGA cable, S-VIDEOcable, RCA cable, YpbPr cable and HDMI cable.

4. Software Upgrade

The chip inside the LED is designed with a FLASH ROM memory program: it can be erased
and reprogrammed, it can be also updated via the USB port. the program is related to the chip fucntion ---Different functions of chips need to be planted with different versions of prgrams.
Please ugrade the new software by the USB port the instruction steps below:
-------Please copy the new software to the USB
-------Power ON the TV and press MENU to display the main menu ,then press / to the
OPTION menu. And then select the software in the root of your USB memory , Press ENTER .then press to update and to cancel.
Remarks: When the first upgrading is finished, the action of turning on the tv will be a little slow. So when you turn on the TV at the first time, you need to press the "power" key on the remote control several times until you turn on the tv. Turning on the TV at the first time is very important, you need to operate it carefully to avoid the upgrading is not successful.

LED TV CONTROL BOARD SPECIFICATION

MODEL : CV9202H-A39

Approved by Cultraview		Approved by Customer	
AUTHOR :	GZ.Zeng	Comments :	
CHECKED BY :		CHECKED BY :	
APPROVED BY :		APPROVED BY:	
DATE:		DATE:	
Company's seal:			

Please return us one original approved by you with your signatures.
客户承认签章后敬请寄回正本一份

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THE CHANGE LIST OF UPGRADES（升级变更列表）

Version	Description	Page	Redaction	Checked	Date
V1.0	First Release	ALL	GZ.Zeng& SH.Zhu		Oct.08,2013
V1.1	Modify the features description	8	GZ.Zeng		Nov.05,2013

1. GENERAL DESCRIPTION（概述）

- **CV9202H-A39's** power part is an energy-efficient ultrathin DC-line switching power supply unit, with max 65W/115VAC input, 55 watts output. It fits to 26″ to 32″ LED backlight panel.

  CV9202H-A39方案的电源部分为高效率开关电源，最大输入功率为65W/115VAC，总输出功率为55W，支持26到32寸LED背光屏。

- **CV9202H-A39** is a digital and analogue TV board, it can receive the analogue television (PAL/SECAM) and digital television (DVB-T/C) signals. It is suitable for the market in Europe (include UK), Australia etc.

  CV9202H-A39是数模一体电视主板，它可以接收模拟电视(PAL / SECAM)和数字电视(DVB-T / C)信号。适用于欧洲（包括UK），澳洲等市场。

- Supports DVB-T MPEG-4 extended ASP up to 1080p@30fps.

  支持DVB-T MPEG-4 扩展ASP到1080p@30fps。

- Supports H.264 MP/HP@L4.1 for SD and HD decoding.

  支持 H.264 MP/HP@L4.1 SD 和 HD 解码。

- Supports USB 2.0 multimedia play, supports audio and video play; supports txt and picture browse.

  支持USB 2.0多媒体播放，支持音频和视频播放；支持文字、图片浏览。

- Analogue and digital HD port input signal largest support 1080P.

  模拟和数字高清端口输入信号最大支持1080p。

- Support analogue & digital 1000 Pages Teletext.

  支持模拟与数字 1000 页图文。

- The largest support various TFT-LCD 1920x1080 resolutions module.

  最大支持各种TFT-LCD 1920x1080分辨率模块。

- The HDMI supports 1.4, the HDCP supports 1.1.

  HDMI 支持1.4，HDCP支持1.1。

- Supports 3D Video Decoder NTSC-M,NTSC-J,NTSC-4.43,PAL I(B,G,H,D,N), PAL-M,PAL-N,PAL-60 and SECAM standards.

  支持3 D视频解码器NTSC-M，NTSC-J，NTSC-4.43，PAL I(B，G，H，D，N)，

PAL-M，PAL-N，PAL-60 和 SECAM制式标准。

- Enhanced motion adaptive 3D Y/C separation comb filter for NTSC/PAL system.

  增强动态自适应3D Y/C分离梳状滤波器的NTSC/PAL系统。

- Supports USB update.

  支持USB升级

- Supports Video SDTV at 480i/576i and 480p/576p.

  支持视频480i/576i 和480p/576p的标清电视。

- Supports Video HDTV at 720P and 1080i and 1080P.

  支持视频720P、1080i 和1080P的高清电视。

- Supports PC RGB input up to UXGA@60Hz(165MHz).

  PC RGB输入最大支持UXGA@60Hz(165MHz)。

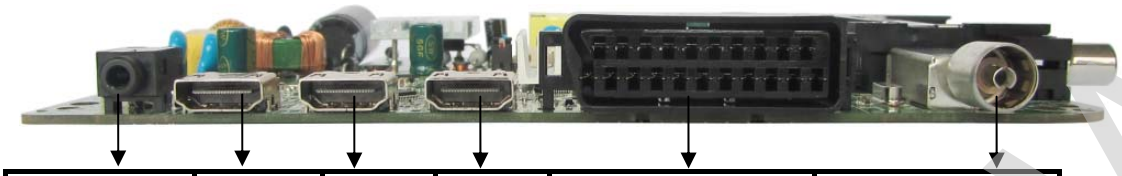
- Reliable EMC and ESD handle

  可靠的 EMC 和防静电处理

2. PICTURES（主板端口图片）

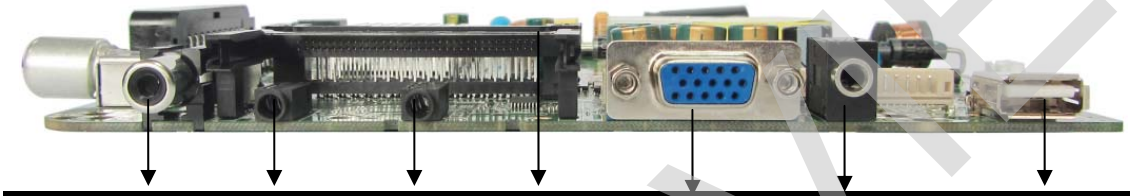
Europe Board Type（欧洲版型）:

FRONT VIEW （前视图）



EARPHONE	HDMI1	HDMI2	HDMI3	SCART	TV

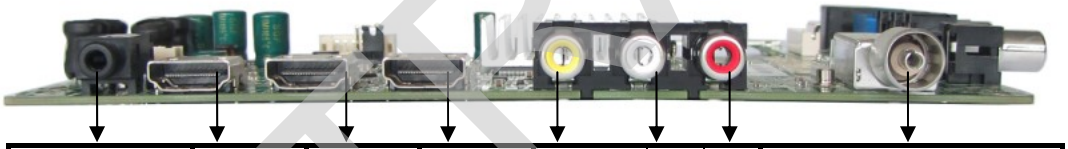
SIDE VIEW（侧视图）



SPDIF	MINI AV	MINI YPBPR	CI	VGA	PC AUDIO	USB

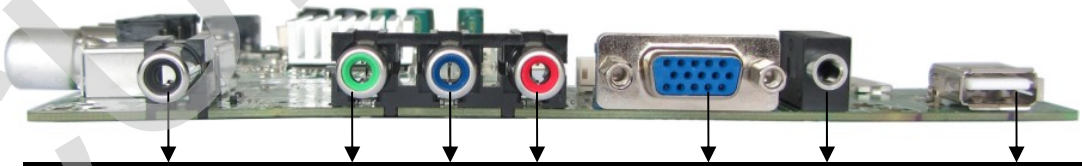
Australia Board Type（澳洲版型）:

FRONT VIEW （前视图）



EARPHONE	HDMI1	HDMI2	HDMI3	CVBS	L	R	TV
				AV			

SIDE VIEW（侧视图）



SPDIF	Y	Pb	Pr	VGA	PC AUDIO	USB
	YPbPr					

EXTERNAL CONNECTORS

YPBPR-IN	AV-IN
Y	CVBS
Pb(Cb)	Audio_L
Pr(Cr)	Audio_R
GND	GND

3. FEATURES（特性说明）

PANEL	Type（类型）	TFT-LCD/LED
	Resolution（最大分辨率）	Max. 1920X1080
	Interface（接口）	Single/ Double LVDS
ATV	Receiving range（接收范围）	48.25MHz – 863.25MHz
	Input Impedance（输入阻抗）	75Ω
	Video System（视频制式）	PAL ,SECAM ,NTSC
	Sound System（声音制式）	BG, DK, I
		NICAM/A2
DTV	Receiving range（接收范围）	VHF (174MHz – 230MHz)
		UHF (474MHz - 862MHz)
	Input Impedance（输入阻抗）	75Ω
	Bandwidth（带宽）	7MHz/8MHz
	Modulation（调制）	DVB-T:COFDM 2K/8K QPSK, 16QAM, 64QAM
		DVB-C:16QAM, 32QAM, 64QAM, 128QAM, 256QAM
	Video System（视频制式）	MPEG-2 MP@ML, MPEG-2 MP@HL, H.264
	Sound System（声音制式）	MPEG-1 Layer 1/2, MPEG-2 Layer 2, DD, DD+
RGB	Video Level（视频信号幅度）	0.7Vp-p@75ohm
	Format（格式）	Max 1920X1080@60Hz
AV	Color system（彩色制式）	PAL/NTSC/SECAM
	Video Level（视频信号幅度）	1Vp-p@75ohm
YpbPr	Video Level（视频信号幅度）	Y:1Vp-p@75ohm, PbPr:0.7Vp-p@75ohm
	Format（格式）	480i, 480p, 576i, 576p, 720p, 1080i, 1080p
HDMI	Format（格式）	480i, 480p, 576i, 576p, 720p, 1080i, 1080p
SCART	Video（视频）	CVBS&RGB input, CVBS output
	Video output/input（视频输出/输入）	RBG: 0.7Vp-p@75ohm
		CVBS: 1Vp-p@75ohm
	Audio output/input	500mVrms

	（音频输出/输入）		
AUDIO INPUT	PC Audio	Audio Level	0.2----2 Vrms
	CVBS Audio		
	Component audio		
AUDIO OUTPUT	Max Output Power （最大输出功率）	2 X8W @ 8ohm THD<10%	
Keyboard	Power，Menu，Source，CH+，CH-，VOL-，VOL+ 电源，菜单，信号源，频点+，频道-，声音+，声音-		

4. PRESET MODE FOR USB（USB 多媒体支持格式 ）

USB FORMAT MODE

Media （媒体）	**File Exit.** （扩展名）	**Codec** （编码解调器）		**Remark**
		Video（视频）	**Audio**（音频）	
MOVIE	**.avi**	MJPEG	MP3, WMA, AAC MP2, PCM **(AC3 Need license)** **(DTS Need license)**	The Max Resolution And Frame Rate: 640X480@30fps Max Data Rate: 10 Mbps
		Xvid,MPEG-2,MPEG-4,H.264, **(Divx Need license)**		The Max Resolution And Frame Rate:1080p@30fps Max Data Rate: 20 Mbps
	.mp4	MPEG-2,MPEG-4,H,264 **(Divx Need license)**		
	.ts/ .trp	MPEG-2,H.264		
	.mpg	MPEG-1,MPEG-2		
	.mkv / .mov	MPEG-1/2/4,H.264, **(Divx Need license)**		
	.dat	MPEG-1	MP2 **(AC3 Need license)** **(DTS Need license)**	The Max Resolution:352×288 Max Data Rate: 20 Mbps
	.vob	MPEG-2		The Max Resolution:720×576 Max Data Rate: 20 Mbps
	.rm/ .rmvb	RV8,RV9, RV10	COOK	The Max Resolution And Frame Rate:1080p@30fps Max Data Rate:10

				Mbps
PHOTO	.jpg	Progressive JPEG		Max Resolution: 1024×768
	.jpeg	Baseline JPEG		Max Resolution: 15360×8640
	.bmg	----		Max Resolution: 9600×6400 Pixel Depth: 1/4/8/16/24/32 bpp
	.png	Non-Interlaced		Max Resolution: 9600×6400
		Interlaced		Max Resolution: 1200×800
MUSIC	.mp3	---	MP3	Sample Rate: 32K~48KHz Bit Rate: 32K~320Kbps Channel: Mono/Stereo
	.wma	---	WMA	
	.m4a / .aac	---	AAC	Sample Rate: 8K~48KHz Bit Rate: 24K~384Kbps Channel: Mono/Stereo
TEXT	.txt	ANSI/UNICODE GB/UTF8		File Size:Max 1MB

Note：

1)This product includes the following optional patented technologies : **Dolby, DTS, DIVX, SRS ,** etc. If you need to use these patented, please provide the patent license to us, so that the product can meet your requirements . (此产品包括如下可选的专利技术：DOLBY、DTS、DIVX、SRS 等，如您需要开通这些功能，请提前提供相关专利许可给到我司，以便产品能满足您的要求。)

2）Support hard disk，the maximum storage capacity is **400G**

3）Folder in support of the greatest depth is **30**

4）USB supports the standard current 0.5A, the peak current of 1A

5）Only support single audio channel audio format and dual-audio channel audio format

6）Hi Speed FS, FAT32, FAT16, NTFS(NTFS compressed file is not supported)

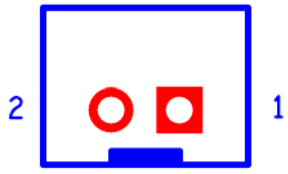
5. ELECTRICAL CHARACTERISTICS（电气特性）

5.1 Input Electrical Specifications(输入特性)

Input	Minimum	Nominal	Maximum	Unit
Voltage	90	115/230	264	Vac
Current	——	——	2.0	A
Frequency	47	50/60	63	Hz
Efficiency		≥80%min(Full load with input AC voltage of 115Vac @ 60Hz and 230Vac @ 50Hz)		
Standby Power Consumption		≦0.5W At 240Vac input and no load condition		
Inrush current		Cannot be damaged components		
Leakage Current		Less Than 0.7mA, 240Vac input		
Input Fuse		T3.15A/250VAC		

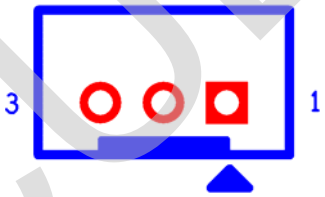
5.2 LED Driver Power Output Connector& out put characteristics (LED 背光供电控制接口与输出特性)

PJ7/PJ8： 2PIN-2.0



NO	Definition	Voltage(Volts)			Current(mA)		
		Max	Nom	Min	Max	Nom	Min
1	V+	80	75	70	420	400	380
2	V-	/			/		

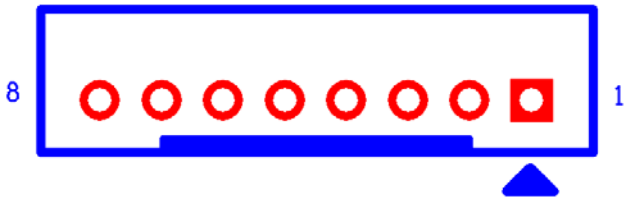
PJ4/PJ5: 3PIN-2.0



NO	Definition	Voltage(Volts)			Current(mA)		
		Max	Nom	Min	Max	Nom	Min
1	V+	80	75	70	420	400	380
2	V-	/			/		
3	V-	/			/		

备注：采用单路总恒流

PJ2: 8PIN-2.0



NO	Definition	Voltage(Volts)			Current(mA)		
		Max	Nom	Min	Max	Nom	Min
1	V+	/			/		
2	V-	80	75	70	105	100	95
3	V+	/			/		
4	V-	80	75	70	105	100	95
5	V+	/			/		
6	V-	80	75	70	105	100	95
7	V+	/			/		
8	V-	80	75	70	105	100	95

备注：采用单路总恒流。

6. PROTECTION CAPABILITY（保护性能）

LED Short Protection: （LED 短路保护）
Auto restart (自动恢复)

LED Open Protection: （LED 开路保护）
Shut down or auto restart （关断或自动恢复）

Fuse protection（保险丝过流保护）
The Fuse inside the power supply shall open when the AC input current is over the rated current of fuse. This Fuse protection will cause switching power supply to fail.
（当 AC 输入电流超过电源内置保险丝的额定电流时，保险丝必须熔断，呈开路状态，保险丝保护启动后电源将不能启动。）

7. INTERNATIONAL STANDARDS (国际标准)

EMI standards（EMI 标准）

The power supply shall compliance with the following radio disturbance Criterion.

该电源应符合下列无线电干扰标准。

Sound and television broadcast receivers and associated equipment

EN55013	Sound and television broadcast receivers and associated equipment radio disturbance characteristics limits and methods of measurement
GB13837	**声音和电视广播接收机及有关设备无线电干扰特性限值和测试方法**
FCC CFR 47 Part 15 subpart B **美国联邦通信法规第 47 卷 15 章内无意式的辐射器材的相关规定**	

EMS standards（EMS 标准）

- Electrostatic Discharge Immunity Test: IEC-1000-4-2 8KV, Criteria B
  （防静电测试标准：IEC-1000-4-2 touch discharge ±4KV,air discharge ±8KV, Criteria B）
- EFT/Burst Immunity Test: IEC-1000-4-4 1KV, Criteria B
  （快速脉冲群测试标准：IEC-1000-4-4 1KV, Criteria B）

Safety Compliance （安规依据）

Design to meet : IEC60950 / 2005; IEC60065

（设计依据：IEC60950 / 2005; IEC60065）

Isolation（绝缘性能）

Insulation resistance（绝缘阻抗）

Input To Output	DC500V 50MΩmin (at room temperature)
Input To PG	DC500V 50MΩmin (at room temperature)

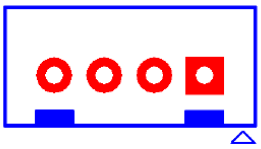
Insulation voltage（绝缘耐压）

Input To Output	3000Vac 50Hz 1minute ≤10mA
Input To PG	1500Vac 50Hz 1minute ≤10mA

8. INTERFACE DEFINITION（接口定义）

All jacks recognize the square pad as first pin.

J1 (4PIN/2.54)：SPEAKER CONNECTOR（喇叭输出接口）



NO.	SYMBOL	DESCRIPTION
1	ROUT+	Audio R+ Channel Output
2	ROUT-	Audio R- Channel Output
3	LOUT-	Audio L- Channel Output
4	LOUT+	Audio L+ Channel Output

J12 (8pin/2.0): DVD POWER&CONTROL（DVD 电源控制接口）

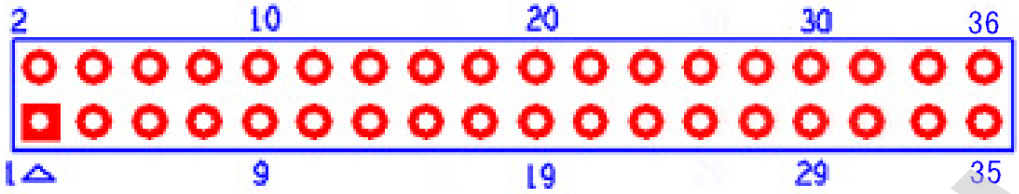
NO.	SYMBOL	DESCRIPTION
1	NC	NC
2	DVD_AUTO	DVD AUTO
3	DVD_IR	IR Data Transfer to DVD
4	+12V	+12V DC Power Supply for DVD
5	GND	Ground
6	GND	Ground
7	+5V	+5V DC Power Supply for DVD
8	+5V	+5V DC Power Supply for DVD

J13 (11pin/2.0)：DVD VIDEO&AUDIO INPUT CONNECTOR（DVD 音视频输入接口）

NO.	SYMBOL	DESCRIPTION
1	GND	Ground
2	Y	YPbPr-Y Input
3	GND	Ground
4	Pr	YPbPr-Pr Input
5	GND	Ground
6	Pb	YPbPr-Pb Input
7	LIN	Left Channel Input
8	GND	Ground
9	RIN	Right Channel Input

10	GND	Ground
11	SPDIF	SPDIF Input

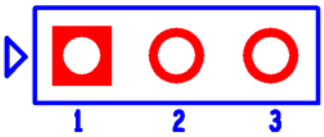
J14 (2X18pin/2.0mm)：LVDS INTERFACE（LVDS 接口）



NO.	SYMBOL	DESCRIPTION
1	VCC	Power Supply for Panel
2	VCC	Power Supply for Panel
3	VCC	Power Supply for Panel
4	GND	Ground
5	GND	Ground
6	GND	Ground
7	RXO0-	LVDS ODD 0- Signal
8	RXO0+	LVDS ODD 0+ Signal
9	RXO1-	LVDS ODD 1- Signal
10	RXO1+	LVDS ODD 1+ Signal
11	RXO2-	LVDS ODD 2- Signal
12	RXO2+	LVDS ODD 2+ Signal
13	GND	Ground
14	GND	Ground
15	RXOC-	LVDS ODD Clock- Signal
16	RXOC+	LVDS ODD Clock + Signal
17	RXO3-	LVDS ODD 3- Signal
18	RXO3+	LVDS ODD 3+ Signal
19	RXE0-	LVDS EVEN 0- Signal
20	RXE0+	LVDS EVEN 0+ Signal
21	RXE1-	LVDS EVEN 1- Signal
22	RXE1+	LVDS EVEN 1+ Signal
23	RXE2-	LVDS EVEN 2- Signal
24	RXE2+	LVDS EVEN 2+ Signal
25	GND	Ground
26	GND	Ground
27	RXEC-	LVDS EVEN Clock- Signal
28	RXEC+	LVDS EVEN Clock + Signal
29	RXE3-	LVDS EVEN 3- Signal
30	RXE3+	LVDS EVEN 3+ Signal
31	GND	Ground
32	GND	Ground
33	ON-PBACK	PDP Control

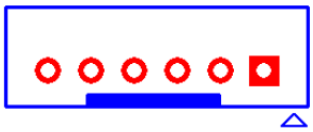
34	ON-PANEL	PDP Control
35	SCL	IIC SCL
36	SDA	IIC SDA

J16 (1×3PIN/2.54mm) : PANEL POWER SUPPLY（屏电源）



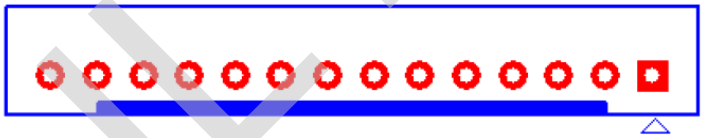
NO.	SYMBOL	DESCRIPTION
1	+5V	+5V Panel Power in
2	VCC_Panel	Panel Power in
3	+12V	+12V Panel Power in

***J17(6PIN/2.0/红色): INVERTER CONNECTOR (背光接口)**



NO.	SYMBOL	DESCRIPTION
1	GND	Ground
2	GND	Ground
3	ADJ	Brightness Adjustment for Panel(Volts DC Output)
4	ON/OFF	Back-Light ON/OFF Control for Panel (1：ON/0: OFF)
5	+12V	INVERTER +12V DC Power Supply
6	+12V	INVERTER +12V DC Power Supply

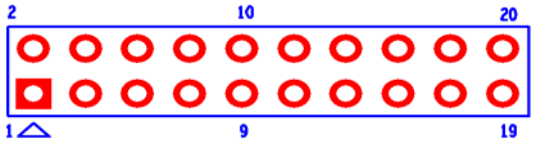
J21(14pin/2.0): KEY&IR&LED CONNECTOR（按键、遥控和指示灯控制接口）



NO.	SYMBOL	DESCRIPTION
1	GND	Ground
2	K7	Key7(Reserved)
3	POWER	POWER
4	VOL+	VOL+
5	VOL-	VOL-
6	INPUT	INPUT
7	CH+	CH+
8	CH-	CH-
9	MENU	MENU
10	GND	Ground

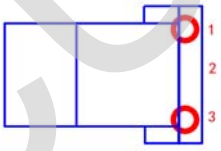
11	IR	IR Receiver
12	LED_G	Green Indicator
13	LED_R	Red Indicator
14	+5V	+5V DC Power Supply

J22(2×10PIN/2.0/NC) ： EXTERNAL HDMI CONNECTOR（扩展 HDMI 接口）



NO.	SYMBOL	DESCRIPTION
1	TMDS Data2+	HDMI 2+ Signal
2	TMDS Data2-	HDMI 2- Signal
3	TMDS Data1+	HDMI 1+ Signal
4	TMDS Data1-	HDMI 1- Signal
5	TMDS Data0+	HDMI 0+ Signal
6	TMDS Data0-	HDMI 0- Signal
7	TMDS Clock+	HDMI Clock+ Signal
8	TMDS Clock-	HDMI Clock- Signal
9	HDMI_SCL	HDMI DDC IIC SCL
10	HDMI_SDA	HDMI DDC IIC SDA
11	GND	Ground
12	GND	Ground
13	HDMI+5V	HDMI +5V DC Power Supply
14	HPD	HDMI Hot Plug Detect
15	GND	Ground
16	GND	Ground
17	CEC	CEC Signal
18	+5V	+5V DC Power Supply
19	SCL	Main IIC SCL
20	SDA	Main IIC SDA

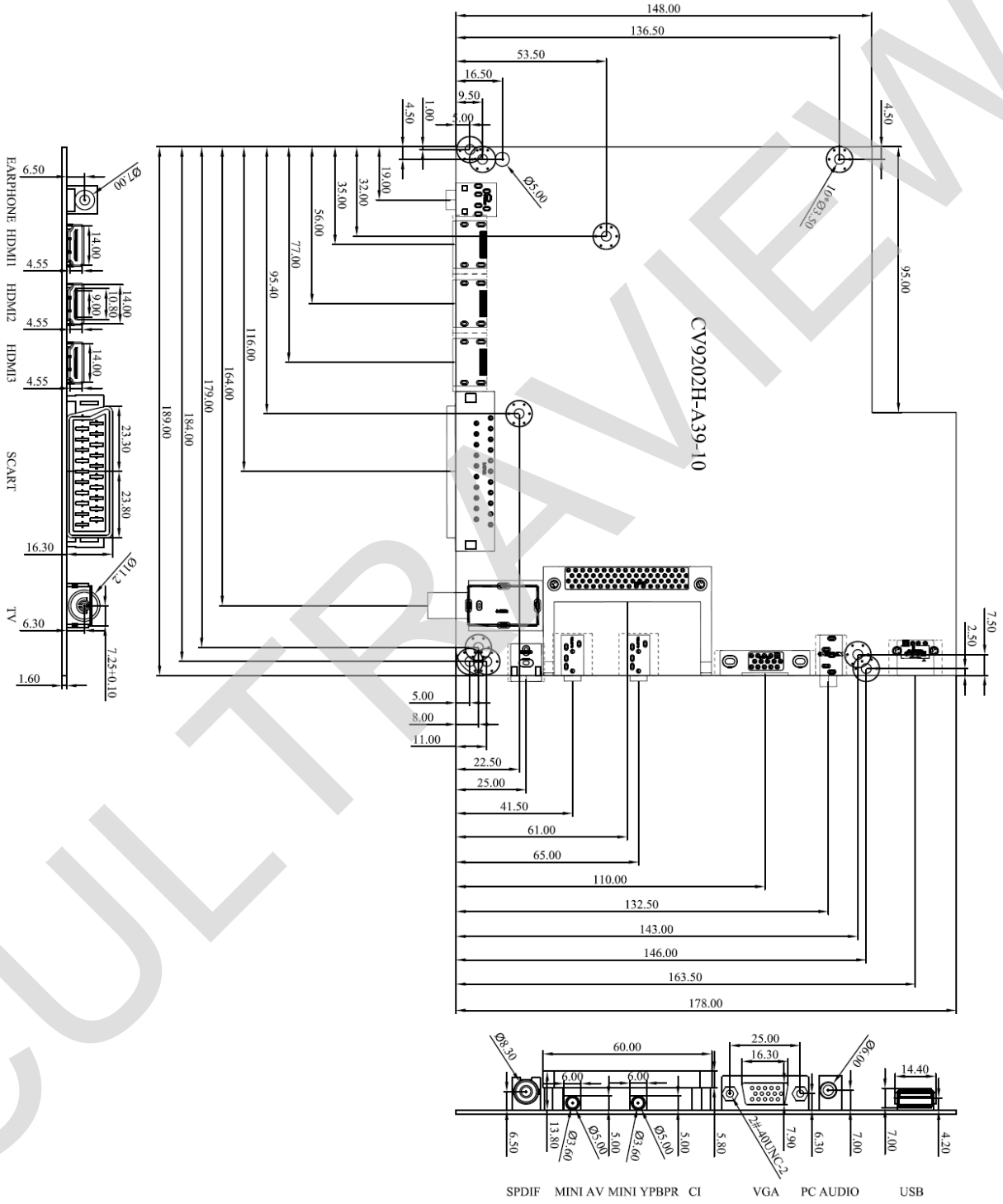
PCON1: AC INPUT CONNECTOR (交流输入接口)



NO.	SYMBOL	DESCRIPTION
1	L	LIVE（火线）
2	NC	NC
3	N	NEUTRAL（零线）

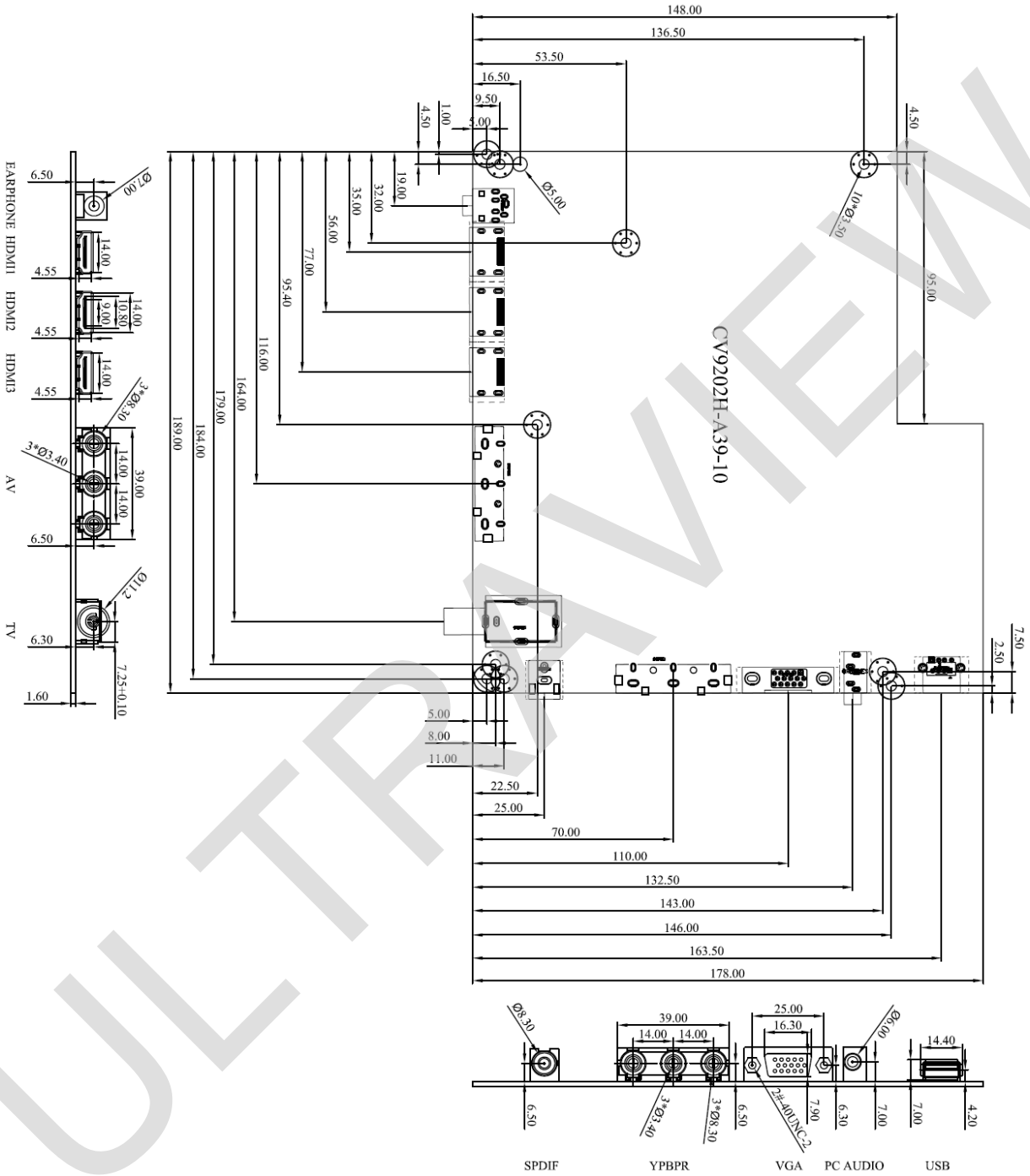
9. MECHANICAL DIMENSION（结构尺寸图）

Europe Board Type :



The thickness of PCB board: 1.6 mm
Component the tallest altitude: 16.5mm
Install diameter inside the bore 3.5 mm

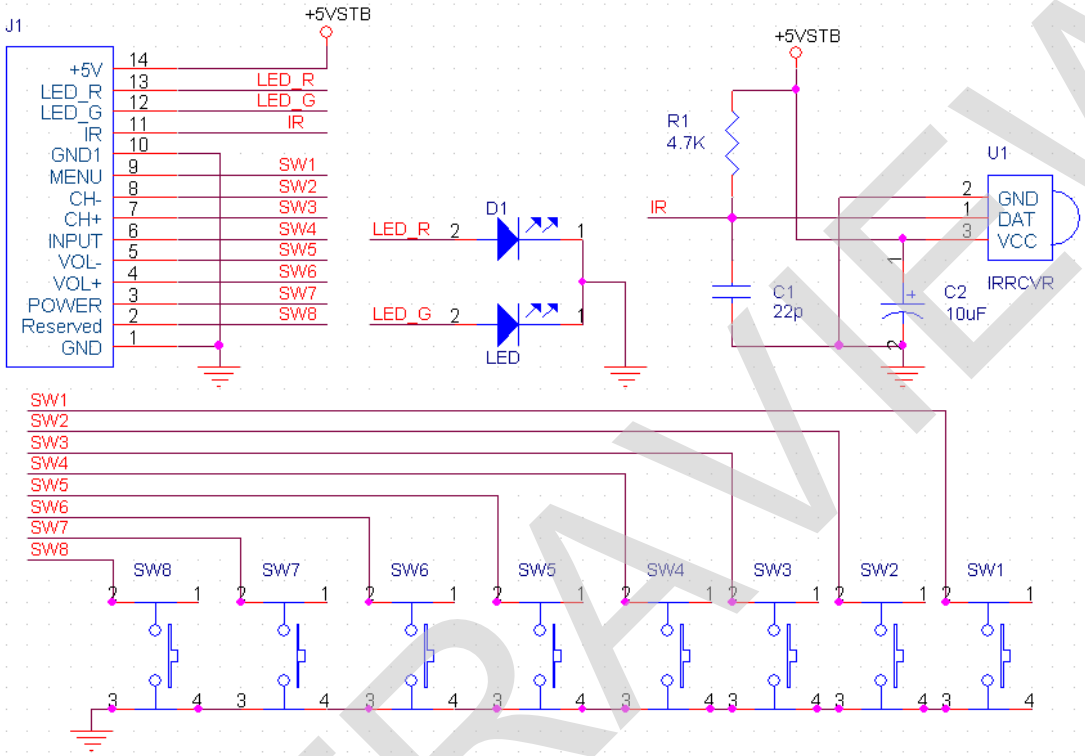
Australia Board Type：



The thickness of PCB board: 1.6 mm
Component the tallest altitude: 16.5mm
Install diameter inside the bore 3.5 mm

10. SCHEMATICS OF IR BOARD & KEY BOARD

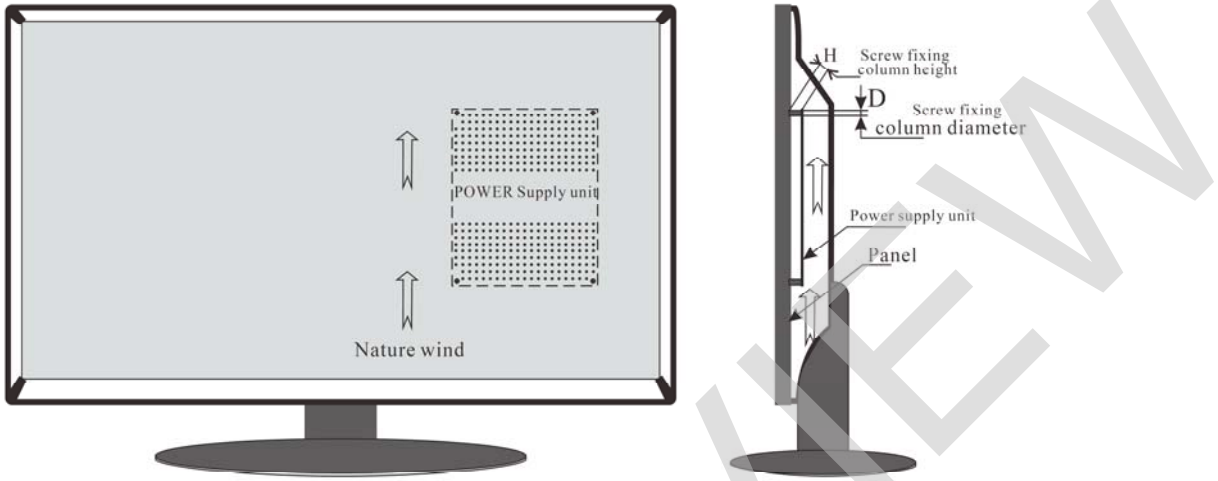
(遥控和按键原理图)



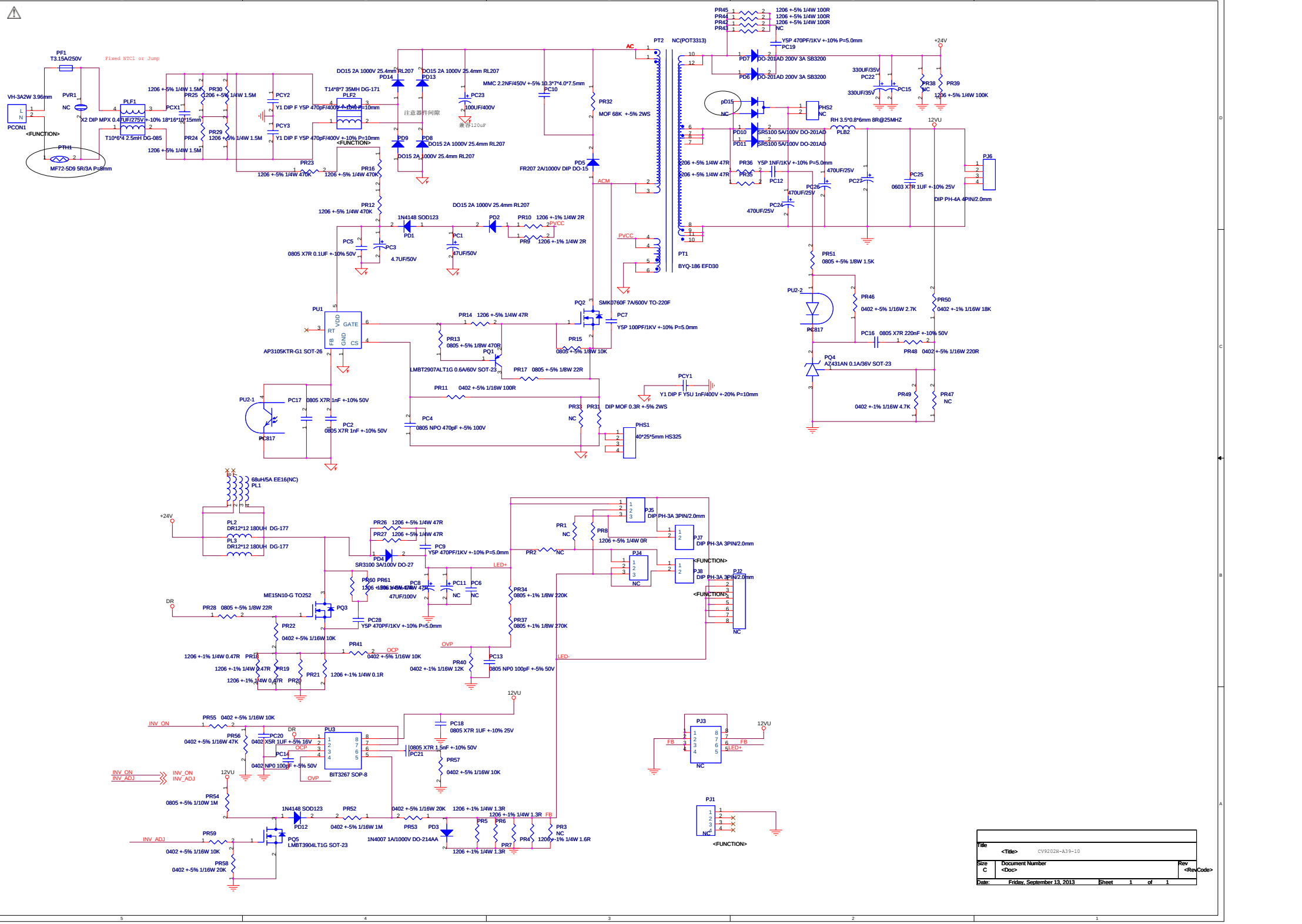
11. APPLICATION REQUIREMENT（应用注意事项）

- Relative humidity ≤80%
  相对湿度≤80%
- Store temperature -10~+60 ℃
  存储温度-10~+60 ℃
- Use temperature 0~+40 ℃
  使用温度 0~+40 ℃
- The procedure of the whole machine assembles and transports need to attend ESD transaction.
  整机装配和运输过程中需要注意 ESD 保护。
- The hole of each port does not be opened too small, especially the HDMI port hole, avoid the whole set morphing to cause the extrusion of port when installing.
  每个端口的开孔不应开得太小，尤其是 HDMI 端口，避免装配挤压导致端口变形。
- The hole of RGB socket is recommended the situation of not using the screw stationary on the RGB socket to fix on the structure board.
  VGA 端口上的螺丝柱建议是不使用螺丝固定到结构挡板上。
- The connected wire which between the other boards and this board can't be leaded too long, or affect performance and image quality.
  其他外接模块与电视主板的连接线长度不要太长，以免影响性能和图像质量。
- The whole set inner wires matching reasonable, each connected wire try to not directly cross the PCB board, especially cross over from the main IC, avoid affect the whole set EMC performance.
  整机内部线材装配要合理，各连接线尽量不直接穿过 PCB 主板，尤其是横跨主芯片，避免影响整机的 EMC 性能。
- in order to obtain better EMC effect of the whole set, we suggest the LVDS twisted pair wire between the main board and panel must be tied up well and try to use shielding wire. If it's possible, try to put on the magnetic belt ring on the wire which near the board terminal.
  为了获得更好的整体 EMC 效应，我们建议主板和面板之间的 LVDS 双绞线必须绑好，尽量使用屏蔽线。如果可能的话，尽量把磁环放在靠近主板端。
- The HDMI and HDCP on the main board are all passed the related certifications, but we just provide testing certification of the inner usage standard. If you need to use legal HDMI and HDCP, please apply related association as formal member by yourself.
  主板上的 HDMI 和 HDCP 已通过了相关的认证，但我们只提供内部使用的标准的测试认证。如果您需要使用合法的 HDMI 和 HDCP 认证，请先成为相关协会的会员。
- There is ROHS identification on the board and package, the board match ROHS standard.
  主板和包装带都符合 ROHS 标准。

12. MOUNT PRECAUTIONS（组装注意事项）



Note1: The H should be greater than or equal 9mm, otherwise you must add the mylarunder PCB bottom.
H的高度必须大于等于9mm,如果小于9mm,则必须在PCB底层加麦拉片绝缘.
Note2: The D should be less than 8mm .Mount the power supply unit to the screw fixing columnusing M3 screw. The maximum value of the tightening torque is 0.4N-M.
D的直径须小于8mm，将电源锁在螺丝柱上需使用M3的螺丝。最大扭力为0.4N-M。
Note3: The Power supply unitis usually designed without the case. Please take care about ESD at anytime.
因为本产品为无外壳之设计，故在任何时候均应注意静电防护。


PF1
T3.15A/250V
Fixed NTC1 or Jump
VH-3A2W 3.96mm
PCON1
<FUNCTION>
PVR1
NC
X2 DIP MPX 0.47UF/275V +-10% 18*16*10*15mm
PLF1
T10*6*4 2.5mH DG-085
PTH1
MF72-5D9 5R/3A P=8mm
PCX1
PR25 1206 +-5% 1/4W 1.5M
PR30 1206 +-5% 1/4W 1.5M
PR29 1206 +-5% 1/4W 1.5M
PR24 1206 +-5% 1/4W 1.5M
PCY2
Y1 DIP F Y5P 470pF/400V +-10% P=10mm
PCY3
Y1 DIP F Y5P 470pF/400V +-10% P=10mm
T14*8*7 35MH DG-171
PLF2
DO15 2A 1000V 25.4mm RL207
PD14
PD13
PD9
PD8
PR23 1206 +-5% 1/4W 470K
PR16 1206 +-5% 1/4W 470K
PR12 1206 +-5% 1/4W 470K
1N4148 SOD123
PD1
PC5 0805 X7R 0.1UF +-10% 50V
PC3 4.7UF/50V
PC1 47UF/50V
PD2
PR10 1206 +-1% 1/4W 2R
PR9 1206 +-1% 1/4W 2R
PVCC
MMC 2.2NF/450V +-5% 10.3*7*4.0*7.5mm
PC10
PC23 100UF/400V
PR32 MOF 68K +-5% 2WS
PD5
FR207 2A/1000V DIP DO-15
ACM
AC
PT2
NC(POT3313)
PT1
BYQ-186 EFD30
PR45
PR44
PR42
PR43
1206 +-5% 1/4W 100R
NC
Y5P 470PF/1KV +-10% P=5.0mm
PC19
+24V
PD7
PD6
DO-201AD 200V 3A SB3200
330UF/35V
PC22
PC15
PR38 NC
PR39 1206 +-5% 1/4W 100K
pD15
PHS2
RH 3.5*0.8*6mm 8R@25MHZ
PLB2
12VU
PD10
PD11
SR5100 5A/100V DO-201AD
PR36 Y5P 1NF/1KV +-10% P=5.0mm
PR35
PC12
PC26 470UF/25V
PC27
PC24 470UF/25V
PC25 0603 X7R 1UF +-10% 25V
PJ6
DIP PH-4A 4PIN/2.0mm
PR51 0805 +-5% 1/8W 1.5K
PU2-2
PC817
PR46 0402 +-5% 1/16W 2.7K
PR50 0402 +-1% 1/16W 18K
PC16 0805 X7R 220nF +-10% 50V
PR48 0402 +-5% 1/16W 220R
PQ4
AZ431AN 0.1A/36V SOT-23
PR49
PR47 NC
0402 +-1% 1/16W 4.7K
PU1
AP3105KTR-G1 SOT-26
VDD
GATE
RT
GND
CS
FB
PR14 1206 +-5% 1/4W 47R
PR13 0805 +-5% 1/8W 470R
PQ1
LMBT2907ALT1G 0.6A/60V SOT-23
PR17 0805 +-5% 1/8W 22R
PQ2
SMK0760F 7A/600V TO-220F
PC7
Y5P 100PF/1KV +-10% P=5.0mm
PR15 0805 +-5% 1/8W 10K
PCY1
Y1 DIP F Y5U 1nF/400V +-20% P=10mm
PR11 0402 +-5% 1/16W 100R
PU2-1
PC817
PC17 0805 X7R 1nF +-10% 50V
PC2 0805 X7R 1nF +-10% 50V
PC4 0805 NPO 470pF +-5% 100V
PR33 PR31 DIP MOF 0.3R +-5% 2WS
NC
PHS1
40*25*5mm HS325
68uH/5A EE16(NC)
PL1
PL2 DR12*12 180UH DG-177
PL3 DR12*12 180UH DG-177
PR26 1206 +-5% 1/4W 47R
PR27 1206 +-5% 1/4W 47R
PC9 Y5P 470PF/1KV +-10% P=5.0mm
PD4
SR3100 3A/100V DO-27
LED+
PR60 PR61
PC8 47UF/100V
PC11
PC6
NC
ME15N10-G TO252
PQ3
DR
PR28 0805 +-5% 1/8W 22R
PC28 Y5P 470PF/1KV +-10% P=5.0mm
PR22 0402 +-5% 1/16W 10K
PR41 0402 +-5% 1/16W 10K
OCP
PR18 1206 +-1% 1/4W 0.47R
PR19 1206 +-1% 1/4W 0.47R
PR20 1206 +-1% 1/4W 0.47R
PR21 1206 +-1% 1/4W 0.1R
OVP
PR40 0402 +-1% 1/16W 12K
PC13 0805 NP0 100pF +-5% 50V
PR34 0805 +-1% 1/8W 220K
PR37 0805 +-1% 1/8W 270K
LED-
PR1
PR8 1206 +-5% 1/4W 0R
PR2
PJ5
DIP PH-3A 3PIN/2.0mm
PJ7
PJ4
PJ8
PJ2
<FUNCTION>
INV_ON
INV_ADJ
PR55 0402 +-5% 1/16W 10K
PR56 0402 +-5% 1/16W 47K
PC20 0402 X5R 1UF +-5% 16V
PC14 0402 NP0 100pF +-5% 50V
PU3
BIT3267 SOP-8
PC18 0805 X7R 1UF +-10% 25V
PC21 0805 X7R 1.5nF +-10% 50V
PR57 0402 +-5% 1/16W 10K
PJ3
FB
LED+
PJ1
PR54 0805 +-5% 1/10W 1M
1N4148 SOD123
PD12
PR52 0402 +-5% 1/16W 1M
PR53
PD3
1N4007 1A/1000V DO-214AA
PR59 0402 +-5% 1/16W 10K
PR58 0402 +-5% 1/16W 20K
PQ5
LMBT3904LT1G SOT-23
PR5 PR6 PR7
PR3 NC
PR4 1206 +-1% 1/4W 1.6R
1206 +-1% 1/4W 1.3R
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Rev
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Date:
Friday, September 13, 2013
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of
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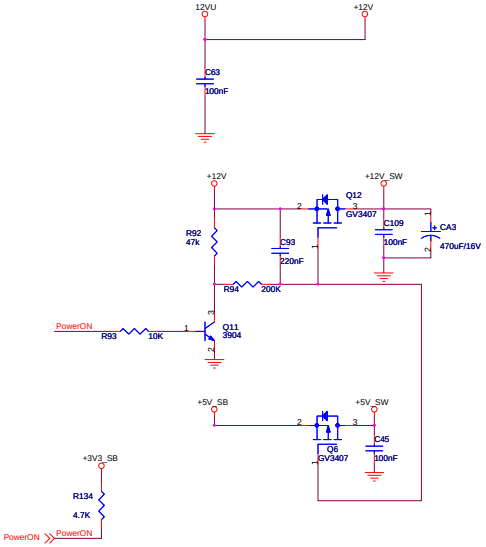
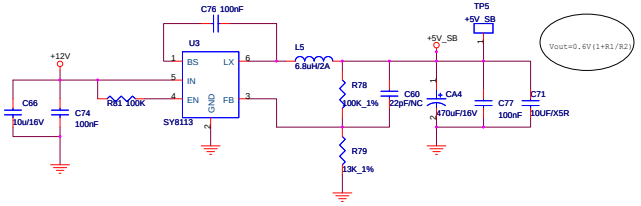
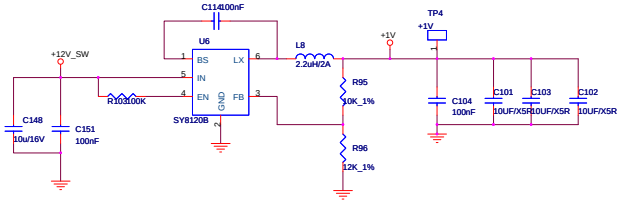
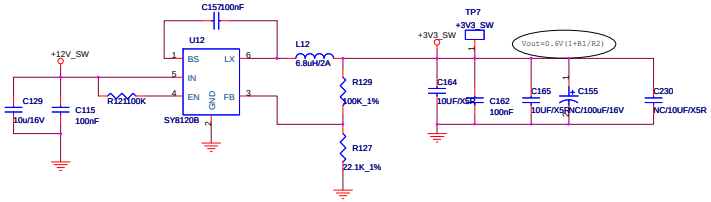
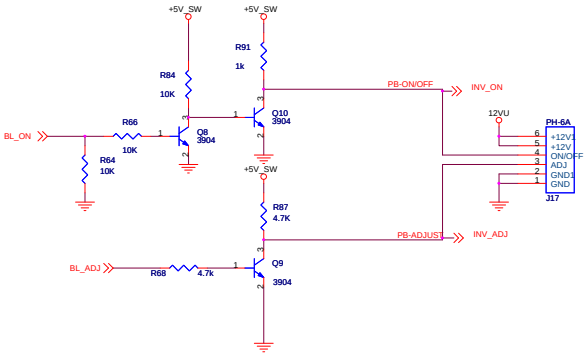
POWER CONNECTOR

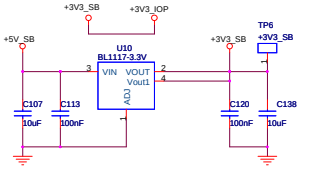


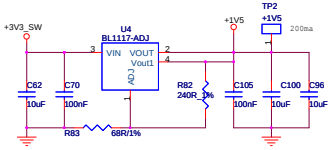






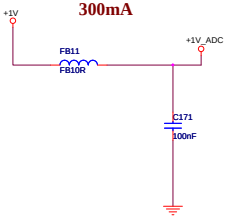


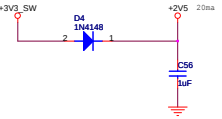




ADC Power

300mA





锐显数码 CULTRAVIEW	Title: CV9202H-DPW		
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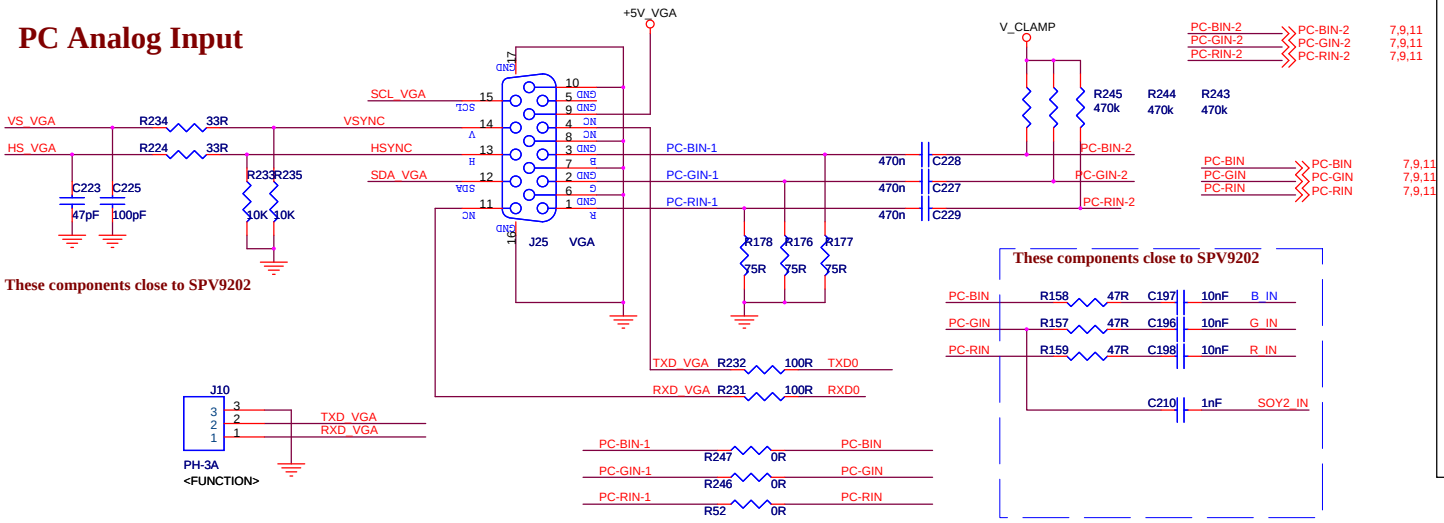
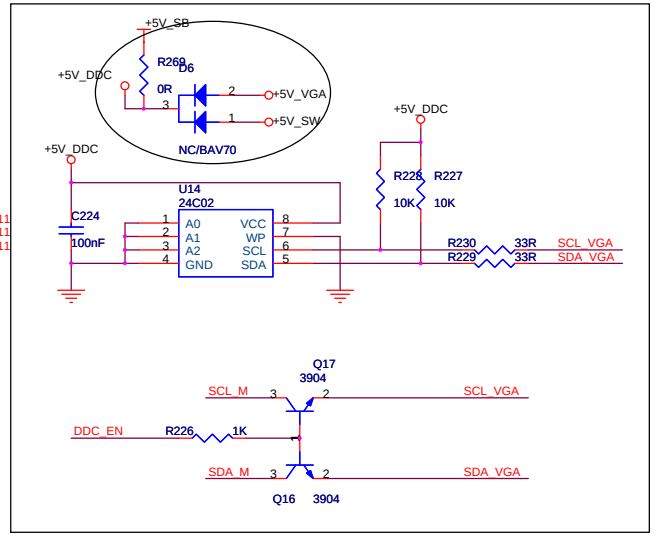
PC Analog Input

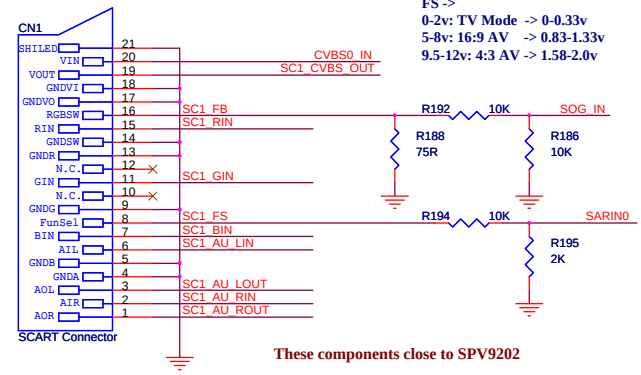


These components close to SPV9202

These components close to SPV9202



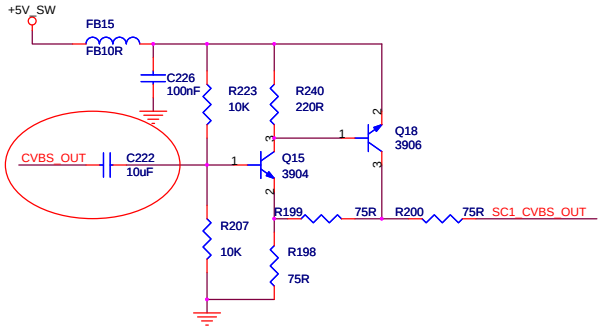
SCART Input

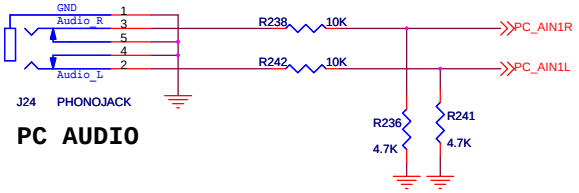


FS ->
0-2v: TV Mode -> 0-0.33v
5-8v: 16:9 AV -> 0.83-1.33v
9.5-12v: 4:3 AV -> 1.58-2.0v

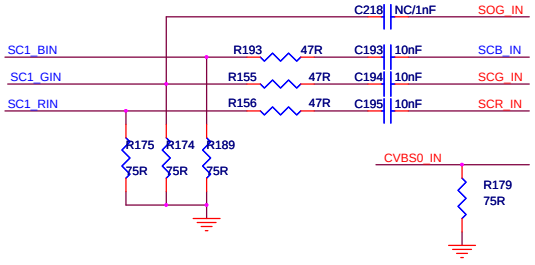
These components close to SPV9202

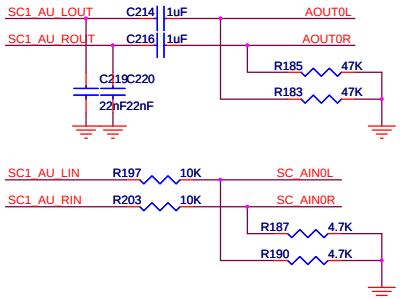
SCART_CVBS_OUT

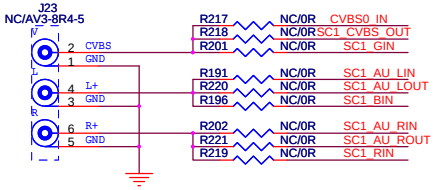


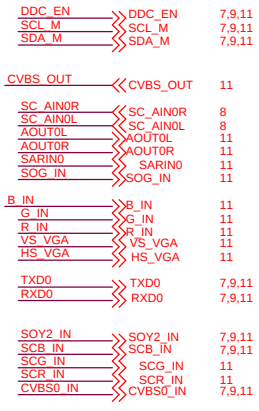


PC AUDIO









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Size: A3	Document Number: PC/SCART	Rev: 12
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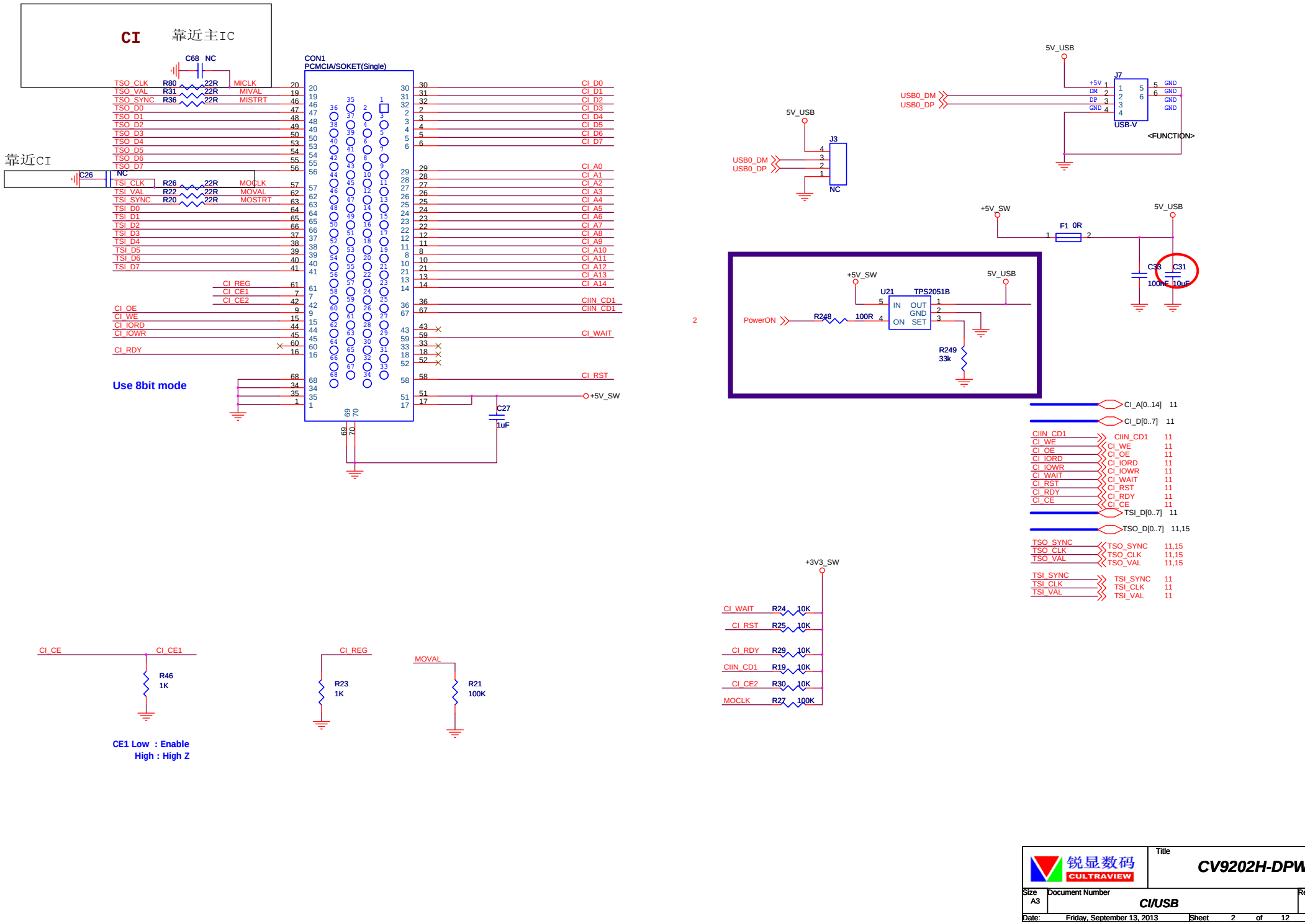

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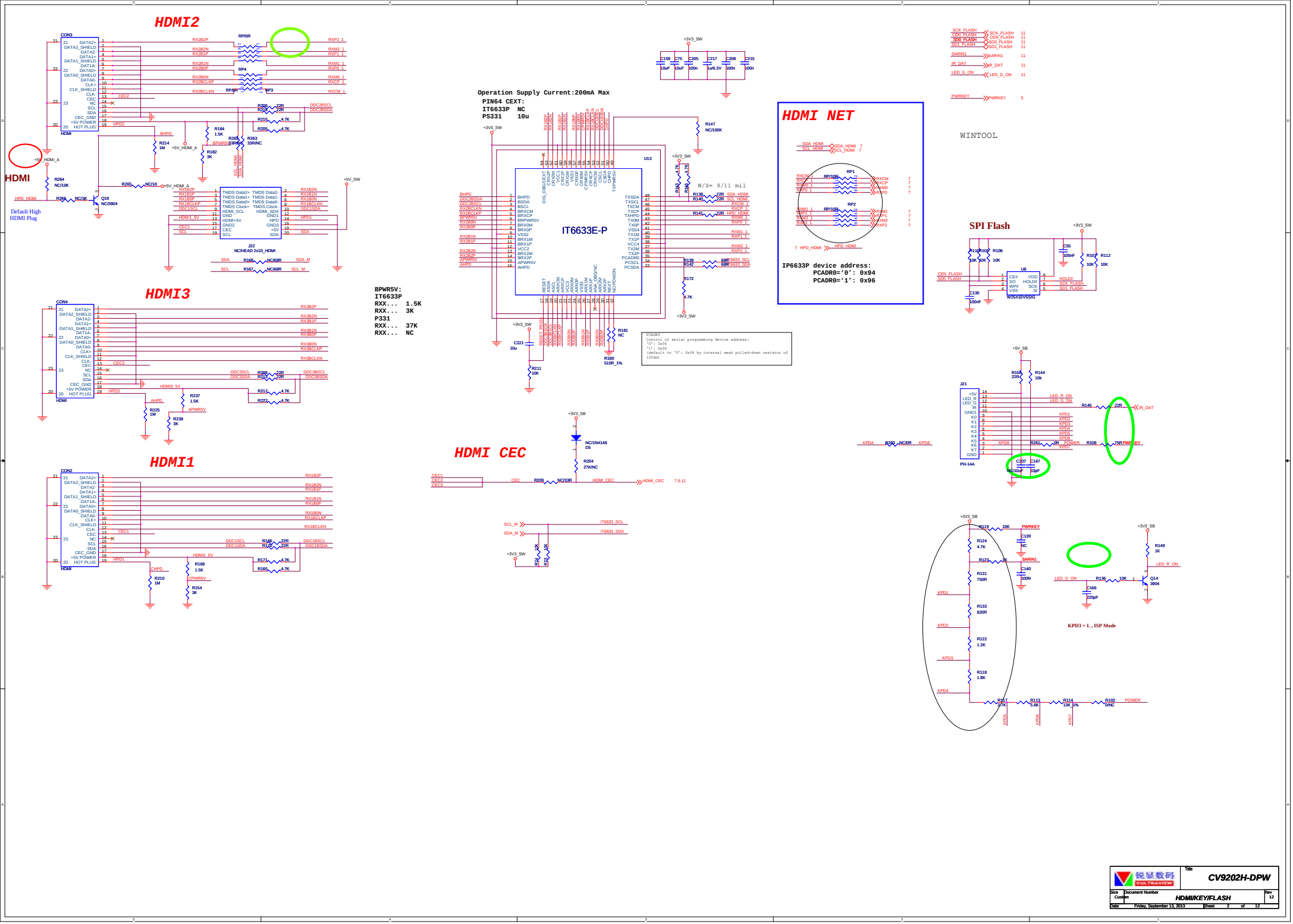
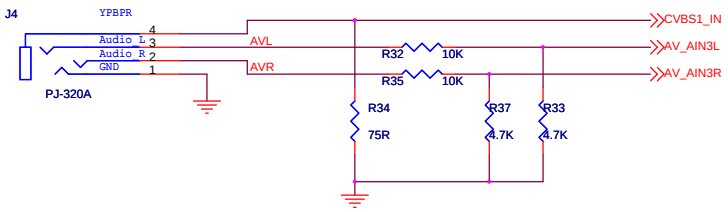
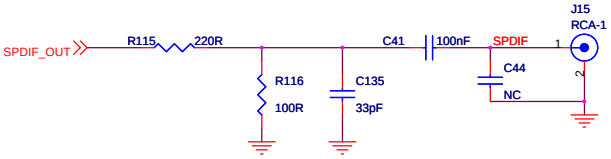
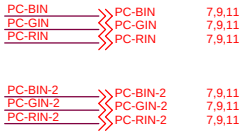
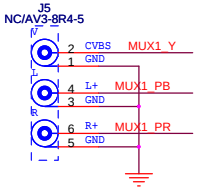

HDMI2
HDMI3
HDMI1
HDMI NET
HDMI CEC
SPI Flash
IT6633E-P
Operation Supply Current:200mA Max
PIN64 CEXT:
IT6633P NC
PS331 10u
BPWR5V:
IT6633P
RXX... 1.5K
RXX... 3K
P331
RXX... 37K
RXX... NC
IP6633P device address:
PCADR0='0': 0x94
PCADR0='1': 0x96
KPD3 = L , ISP Mode
WINTOOL
CV9202H-DPW
HDMI/KEY/FLASH

AV Input

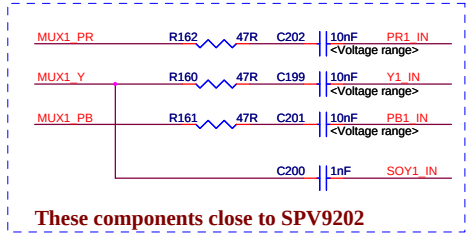


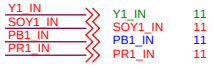




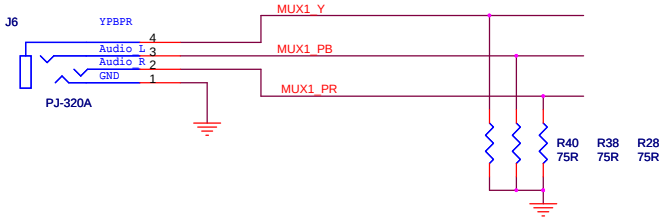


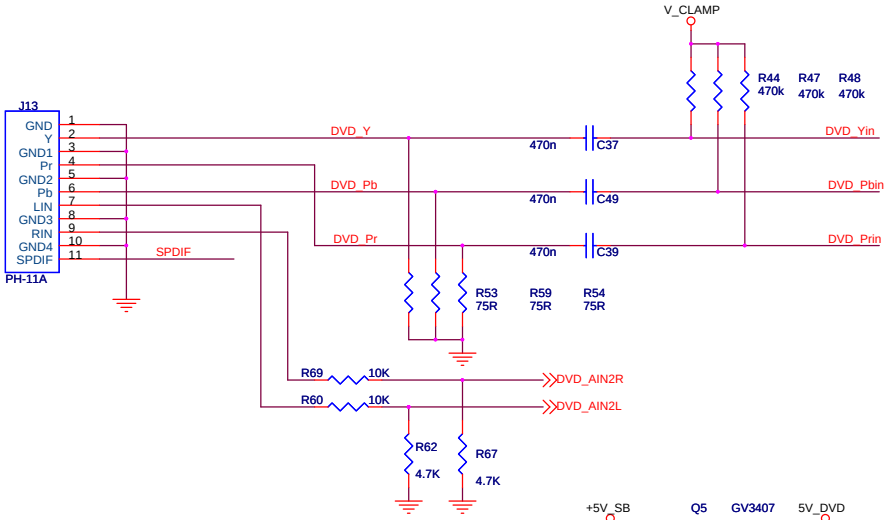
YUV Input

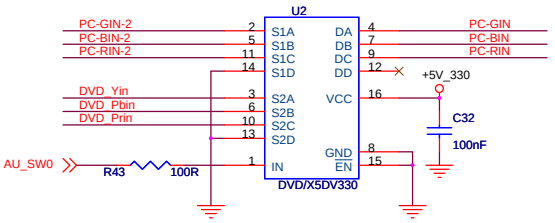


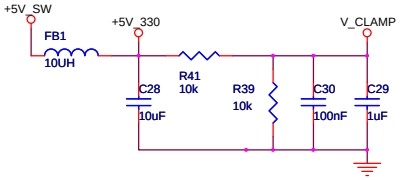


YPBPR

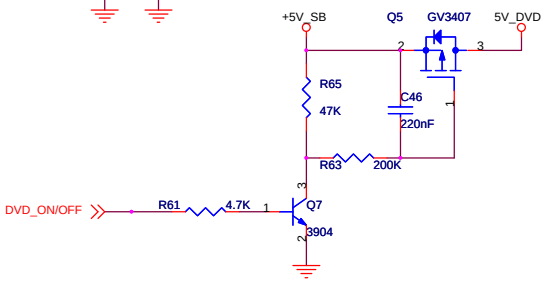


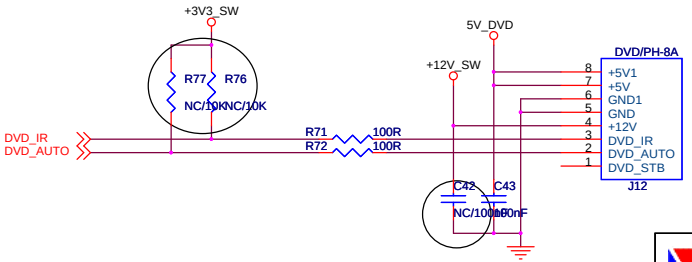






0	YPBPR
1	DVD





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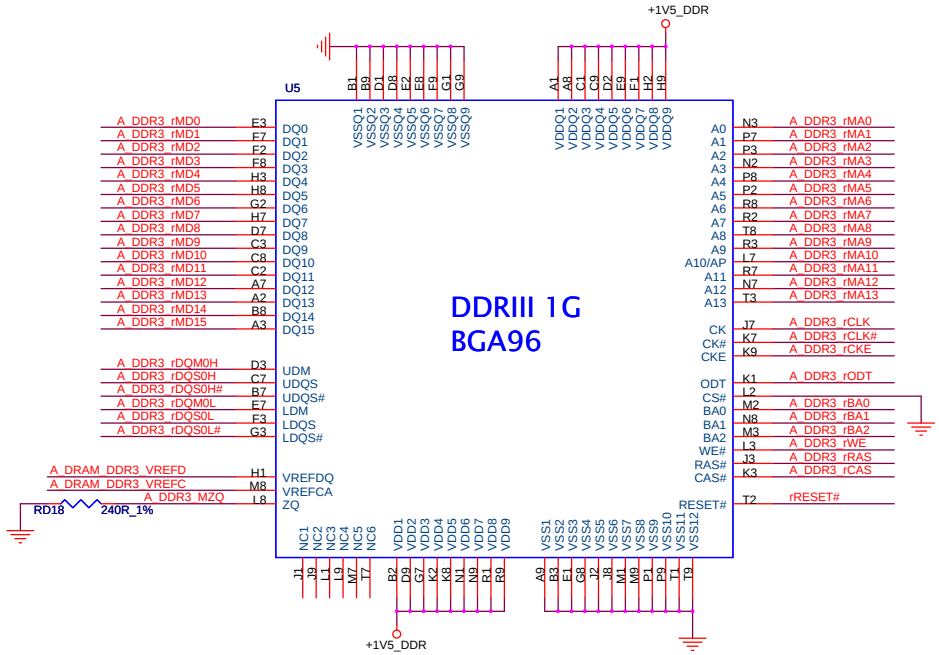

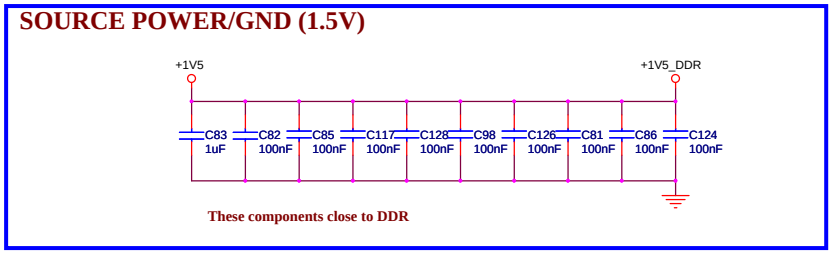

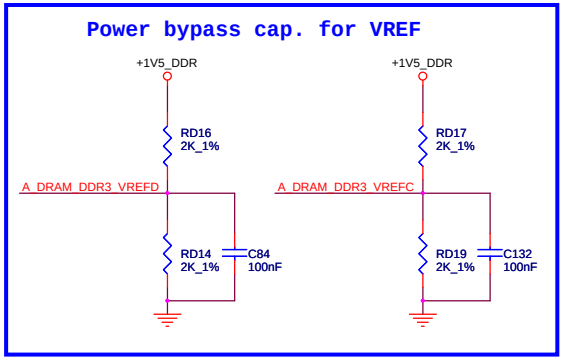

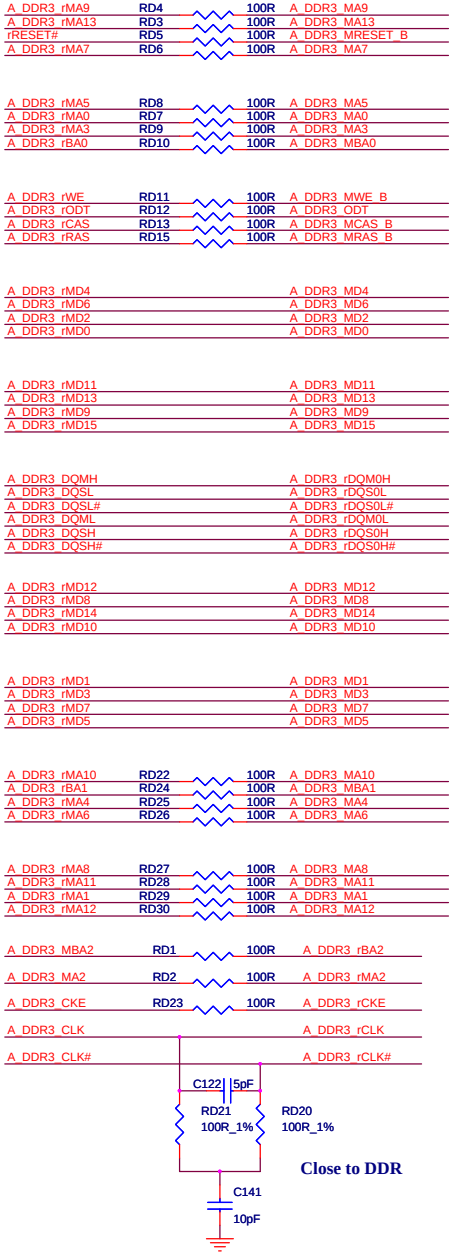

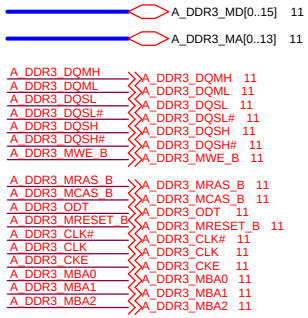

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Size: A3	Document Number: DDR		Rev: 12
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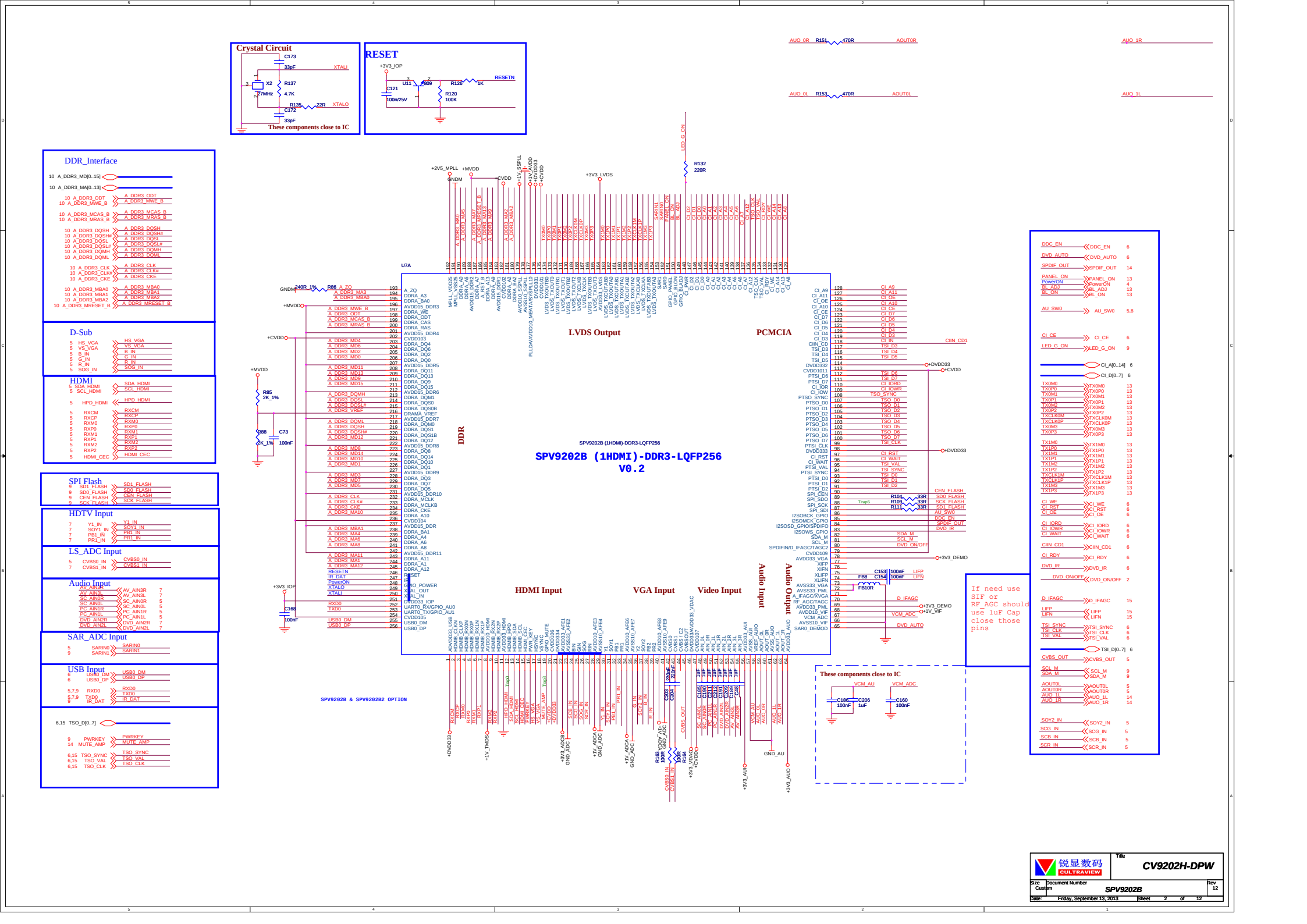
Crystal Circuit
C173
33pF
XTALI
X2
27MHz
R137
4.7K
R135
22R
XTALO
C172
33pF
These components close to IC
RESET
+3V3_IOP
U11
R809
R126
1K
RESETN
C121
100n/25V
R120
100K
DDR_Interface
10 A_DDR3_MD[0..15]
10 A_DDR3_MA[0..13]
A_DDR3_ODT
A_DDR3_MWE_B
A_DDR3_MCAS_B
A_DDR3_MRAS_B
A_DDR3_DQSH
A_DDR3_DQSH#
A_DDR3_DQSL
A_DDR3_DQSL#
A_DDR3_DQMH
A_DDR3_DQML
A_DDR3_CLK
A_DDR3_CLK#
A_DDR3_CKE
A_DDR3_MBA0
A_DDR3_MBA1
A_DDR3_MBA2
A_DDR3_MRESET_B
D-Sub
HS_VGA
VS_VGA
B_IN
G_IN
R_IN
SOG_IN
HDMI
SDA_HDMI
SCL_HDMI
HPD_HDMI
RXCM
RXCP
RXM0
RXP0
RXM1
RXP1
RXM2
RXP2
HDMI_CEC
SPI Flash
SD1_FLASH
SD0_FLASH
CEN_FLASH
SCK_FLASH
HDTV Input
Y1_IN
SOY1_IN
PB1_IN
PR1_IN
LS_ADC Input
CVBS0_IN
CVBS1_IN
Audio Input
AV_AIN3R
AV_AIN3L
SC_AIN0R
SC_AIN0L
PC_AIN1R
PC_AIN1L
DVD_AIN2R
DVD_AIN2L
SAR_ADC Input
SARIN0
SARIN1
USB Input
USB0_DM
USB0_DP
RXD0
TXD0
IR_DAT
6,15 TSO_D[0..7]
PWRKEY
MUTE_AMP
TSO_SYNC
TSO_VAL
TSO_CLK
U7A
DDR
LVDS Output
PCMCIA
HDMI Input
VGA Input
Video Input
Audio Input
Audio Output
SPV9202B (1HDMI)-DDR3-LQFP256
SPV9202B (1HDMI)-DDR3-LQFP256
V0.2
SPV9202B & SPV9202B2 OPTION
AUO_0R
R151
470R
AOUT0R
AUO_0L
R153
470R
AOUT0L
AUO_1R
AUO_1L
R132
220R
LED_G_ON
+2V5_MPLL
+MVDD
+CVDD
+3V3_LVDS
+1V_SSPLL
+1V_VDD
+DVDD33
+CVDD
GNDM
240R 1%
R86
A_ZQ
R85
2K_1%
R88
2K_1%
C73
100nF
C168
100nF
+3V3_IOP
RXD0
TXD0
USB0_DM
USB0_DP
R183
100R
R184
100R
C203
220nF
C204
220nF
C185
1uF
C190
1uF
C191
1uF
C192
1uF
C193
1uF
C189
1uF
C46
1uF
C153
100nF
C154
100nF
LIFP
LIFN
FB8
FB10R
R104
33R
R105
33R
R111
33R
Trap6
SDA_M
SCL_M
DVD_ON/OFF
+3V3_DEMO
+1V_VIF
VCM_ADC
D_IFAGC
DVD_AUTO
SDO_FLASH
SCK_FLASH
SD1_FLASH
AU_SWD
DDC_EN
SPDIF_OUT
DVD_IR
CEN_FLASH
CIIN_CD1
+DVDD33
+CVDD
If need use SIF or RF_AGC should use 1uF Cap close those pins
These components close to IC
VCM_AU
VCM_ADC
C186
100nF
C206
1uF
C160
100nF
GND_AU
DDC_EN
DVD_AUTO
SPDIF_OUT
PANEL_ON
PowerON
BL_ADJ
BL_ON
AU_SW0
CI_CE
LED_G_ON
CI_A[0..14]
CI_D[0..7]
TX0M0
TX0P0
TX0M1
TX0P1
TX0M2
TX0P2
TXCLK0M
TXCLK0P
TX0M3
TX0P3
TX1M0
TX1P0
TX1M1
TX1P1
TX1M2
TX1P2
TXCLK1M
TXCLK1P
TX1M3
TX1P3
CI_WE
CI_RST
CI_OE
CI_IORD
CI_IOWR
CIIN_CD1
CI_RDY
DVD_IR
DVD_ON/OFF
D_IFAGC
LIFP
LIFN
TSI_SYNC
TSI_CLK
TSI_VAL
TSI_D[0..7]
CVBS_OUT
SCL_M
SDA_M
AOUT0L
AOUT0R
AUO_1L
AUO_1R
SOY2_IN
SCG_IN
SCB_IN
SCR_IN
CULTRAVIEW
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CV9202H-DPW
Size
Custom
Document Number
SPV9202B
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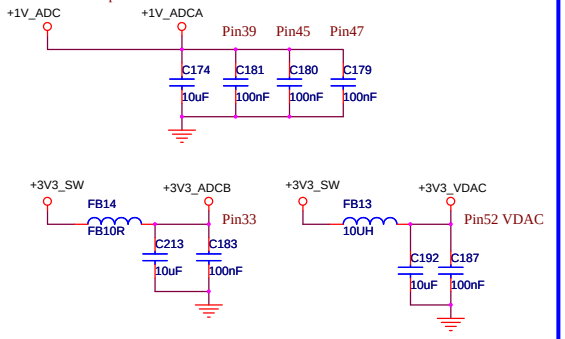
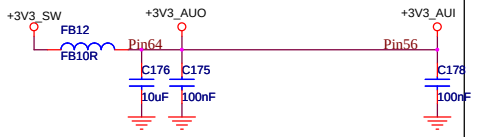
ADC POWER/GND (1.0V/3.3V)

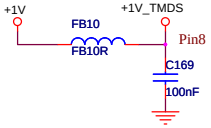
FB for ADC need Rdc<0.015 , Z=120/100MHz Idc>3A
Default part MHC3216S121W



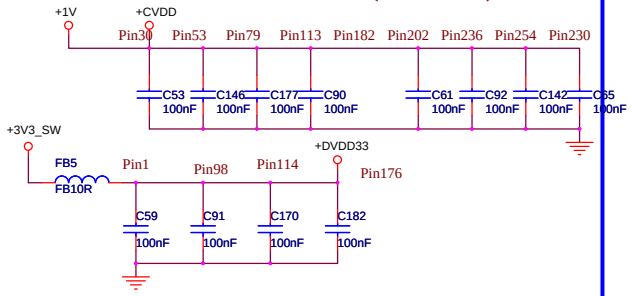
AUDIO POWER/GND (3.3V)



TMDS POWER/GND (1.0V/3.3V)

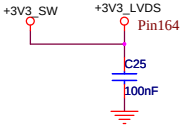


SOURCE POWER/GND (1.0V/3.3V)

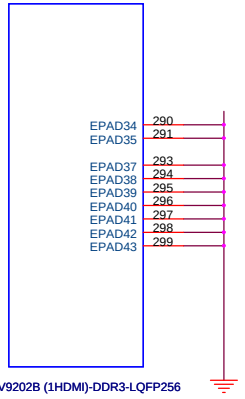


ALL FB except ADC, CVDD : need Rdc<0.2 , Z=300/100MHz , Idc>500mA
Default part : MCB2012S301H

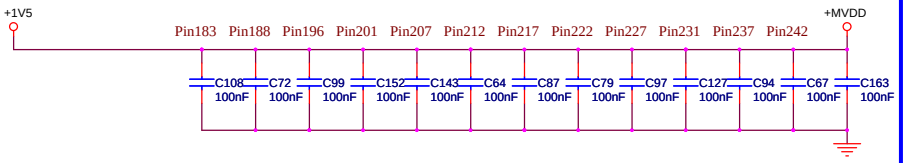
LVDS PWR



SPV9202E E-Pad

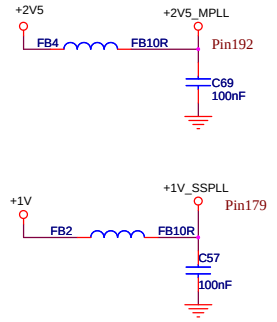


DDR-3 Power

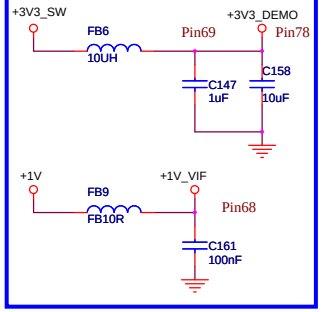


***Short these ground planes on PCB**

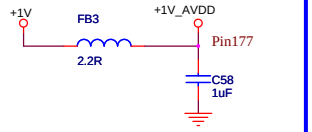
PLL POWER/GND (1.0V/2.5V)



DEMO/VIF PWR



SYSTEM PLL



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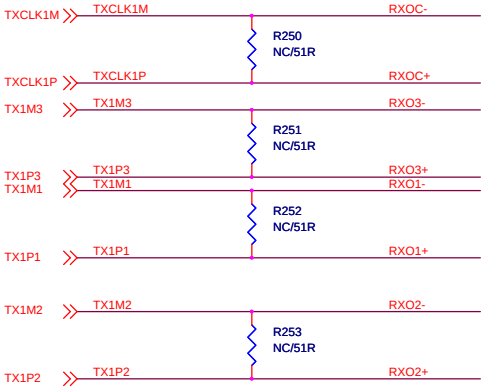
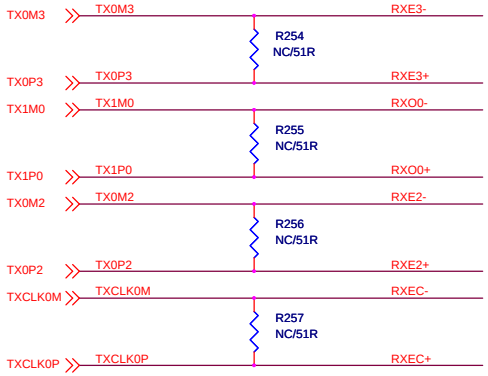
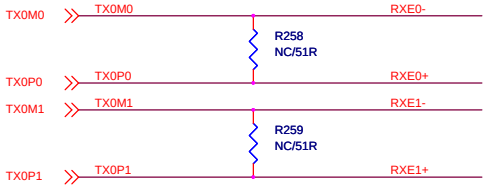
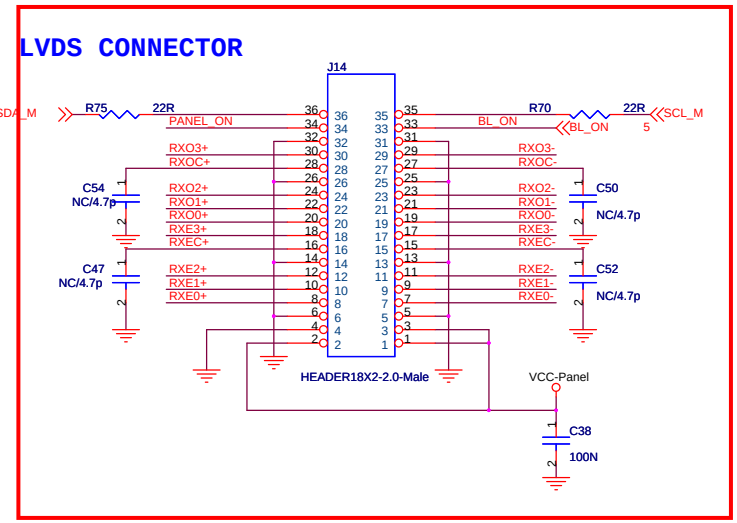
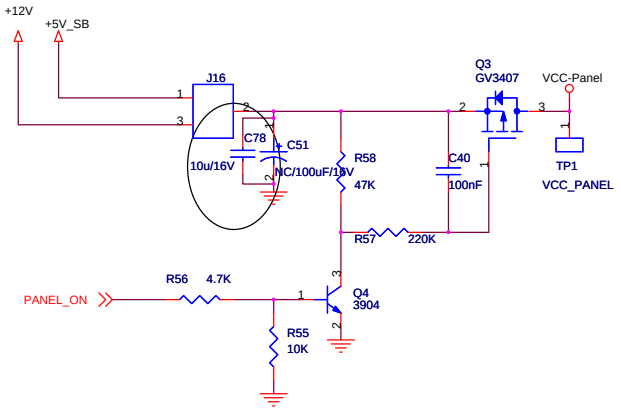


51R FOR EMI









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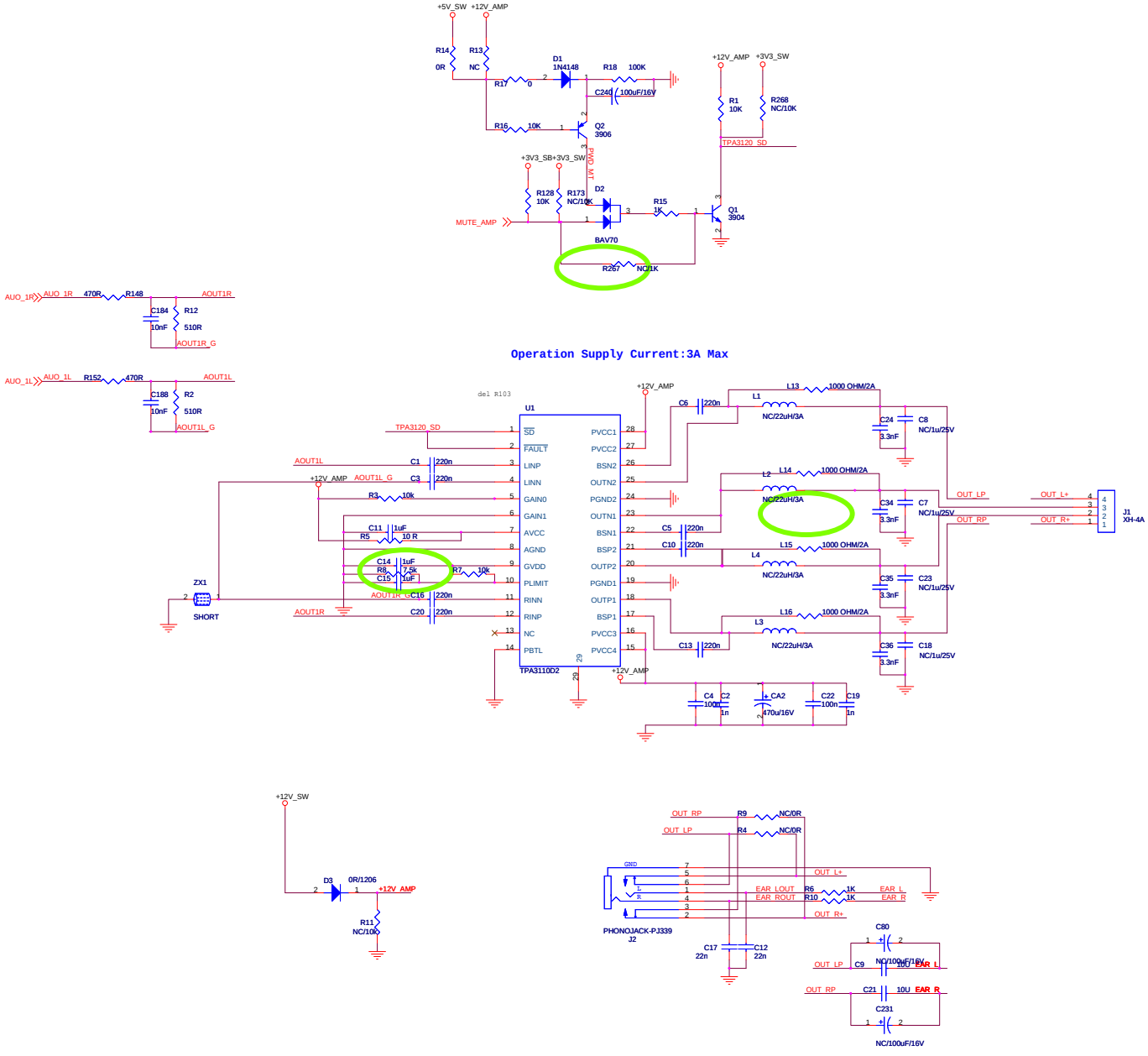

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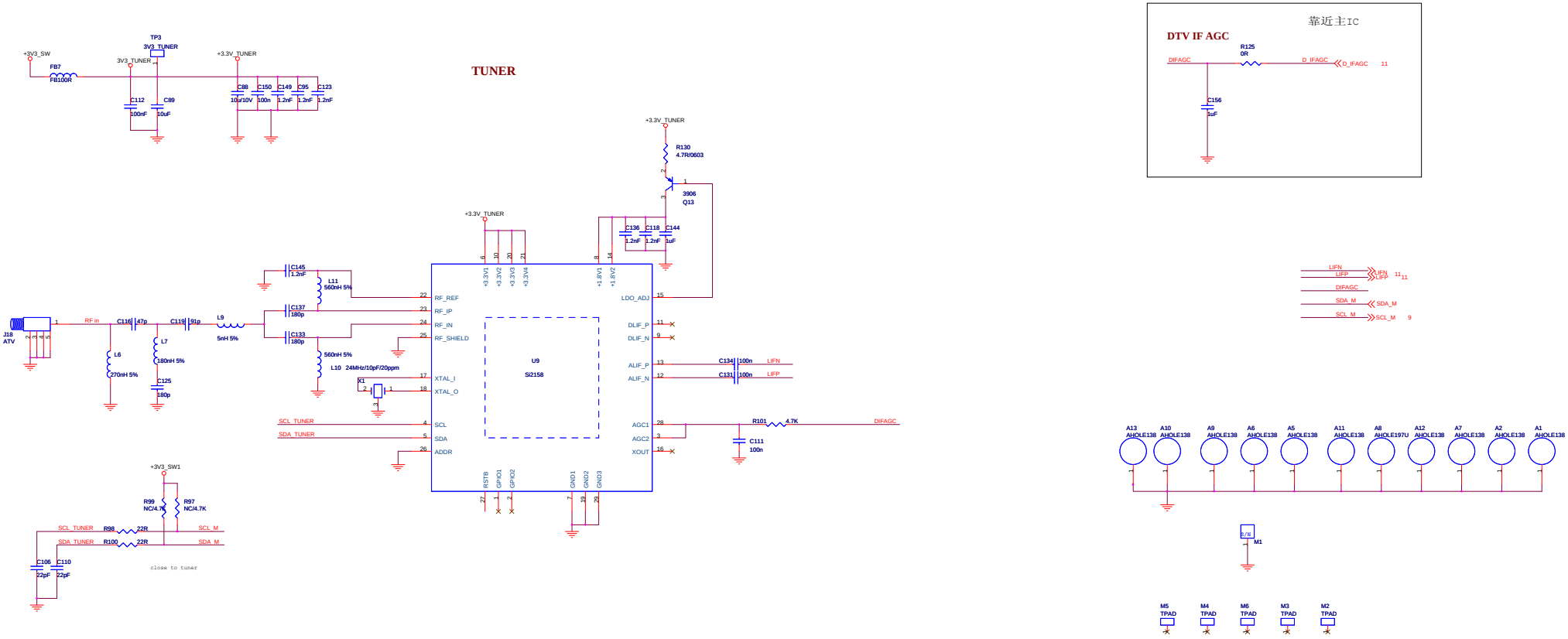

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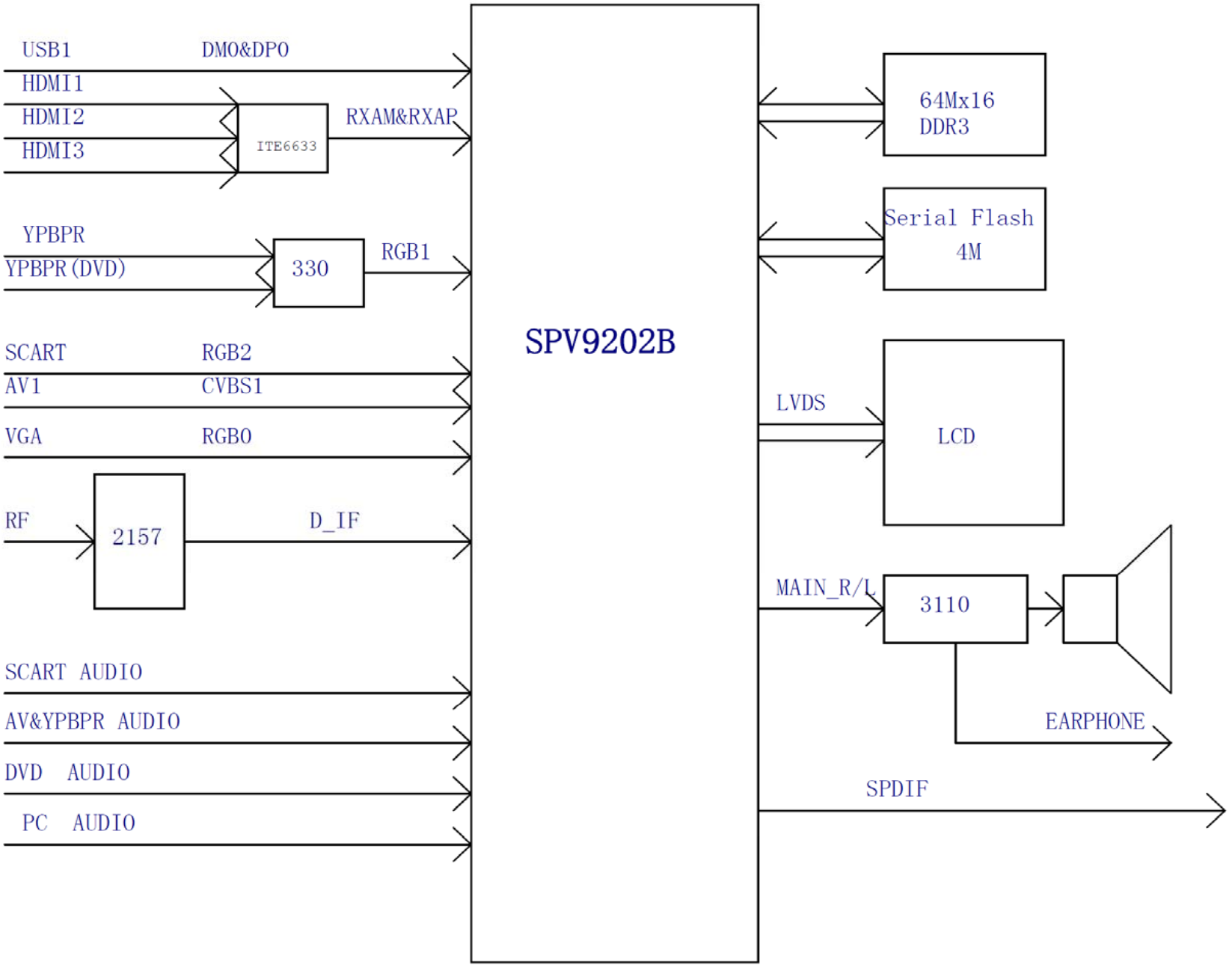
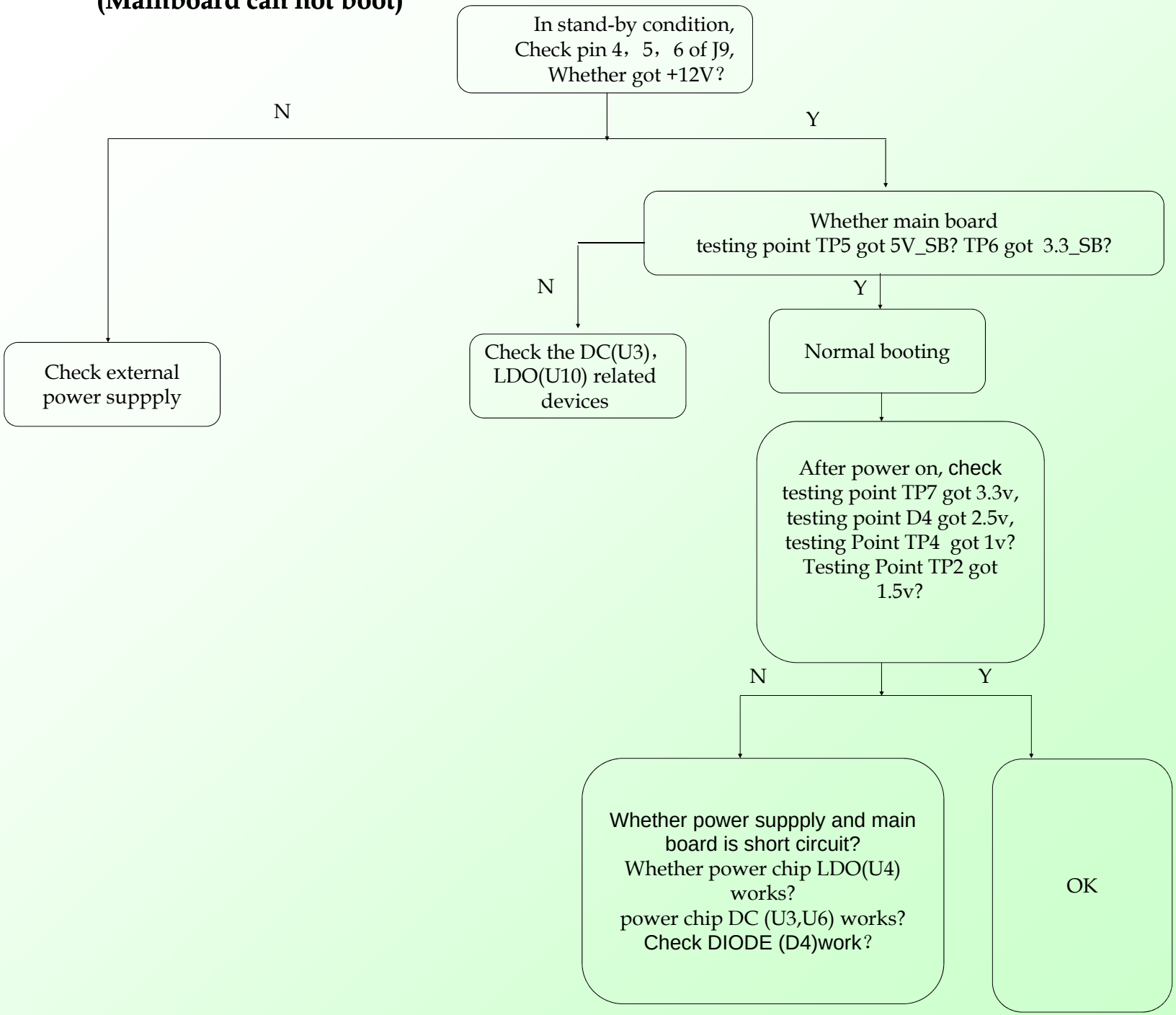
CV9202H-A39
Common problems solution

- Power Unit Problem Solving
- Display Unit Problem Solving
- Audio Unit Problem Solving
- Functional Unit Problem Solving

SYSTEM BLOCK

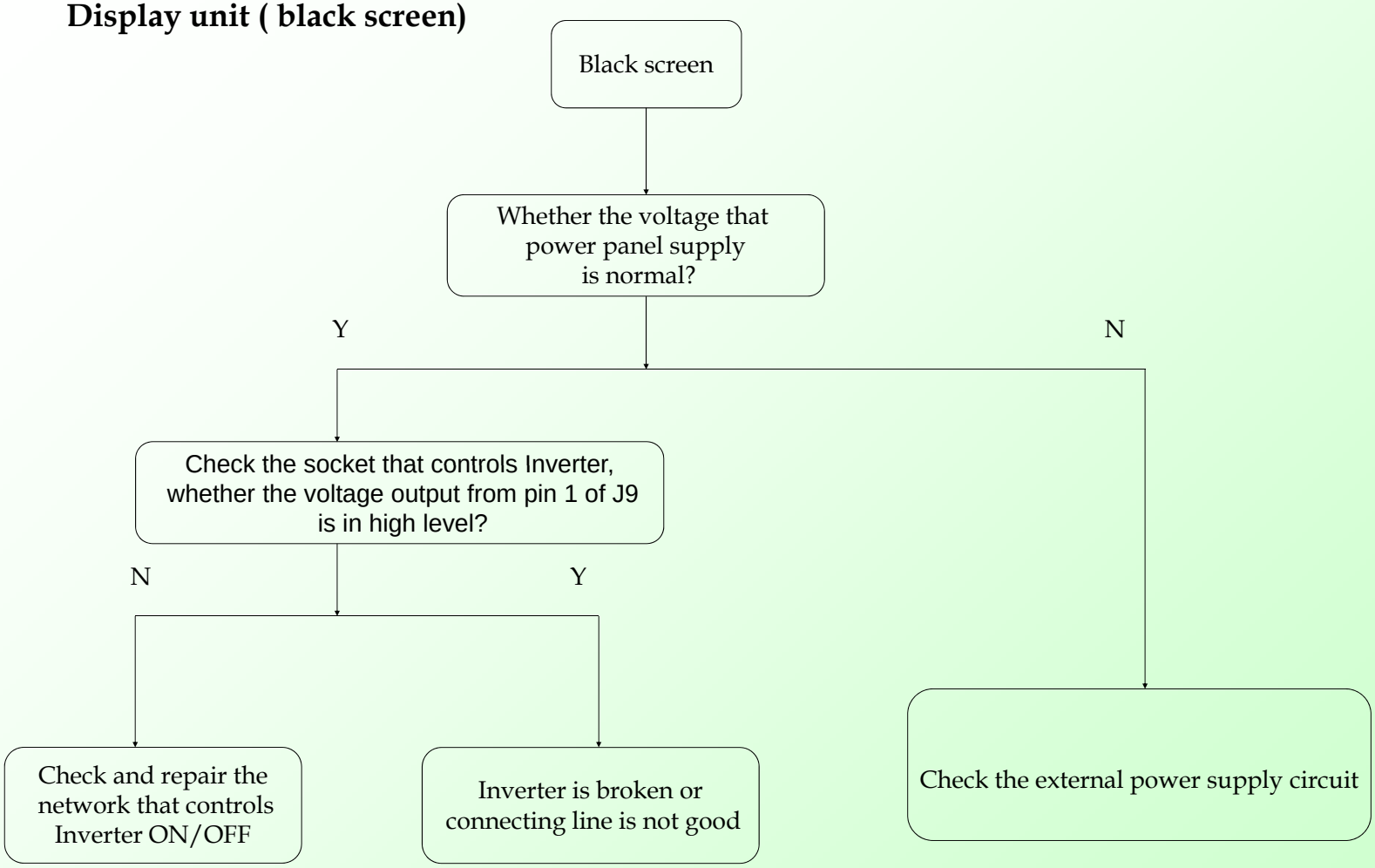


Picture 1: Power Units Problem Solving (Mainboard can not boot)



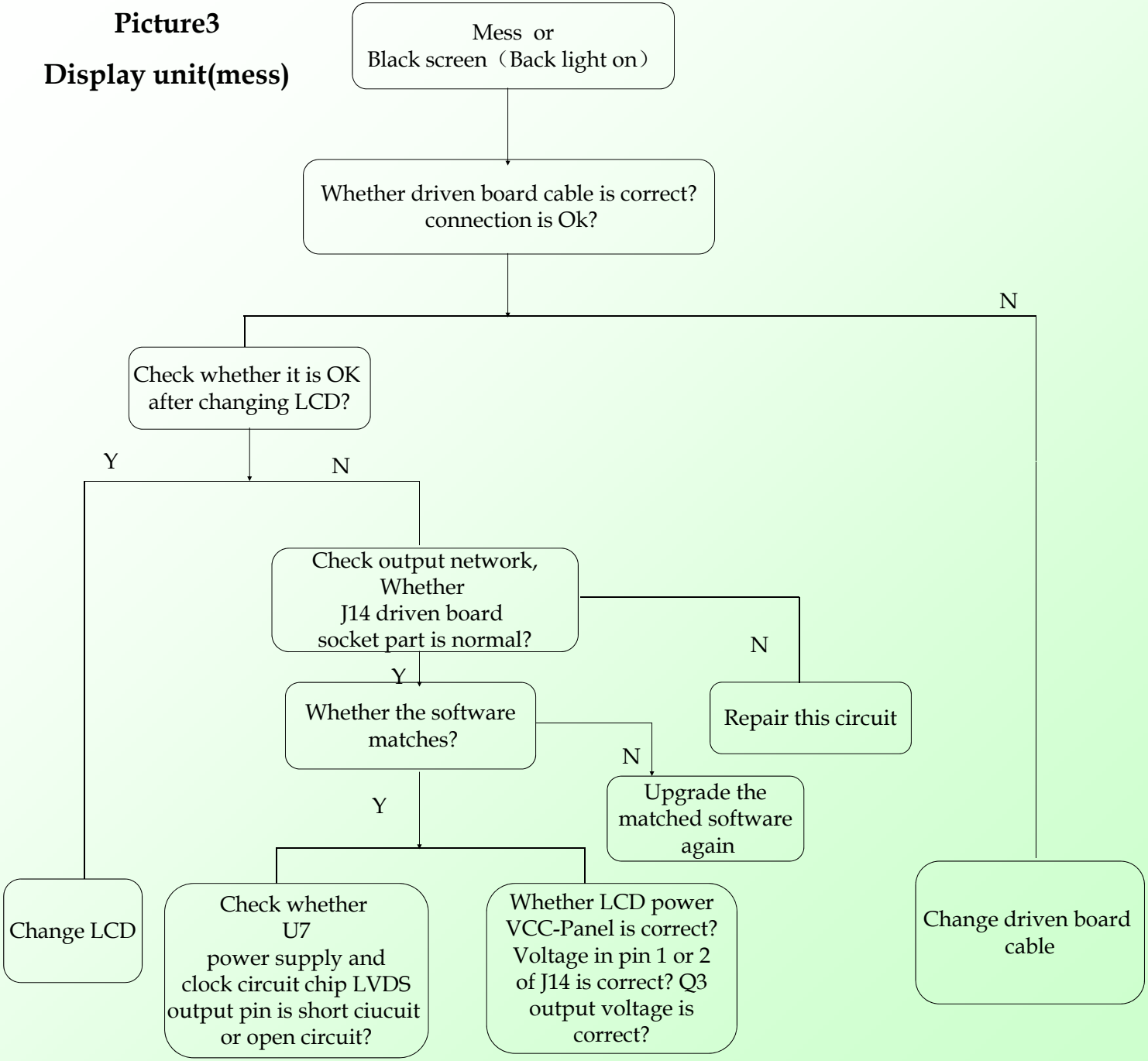
Picture 2

Display unit (black screen)



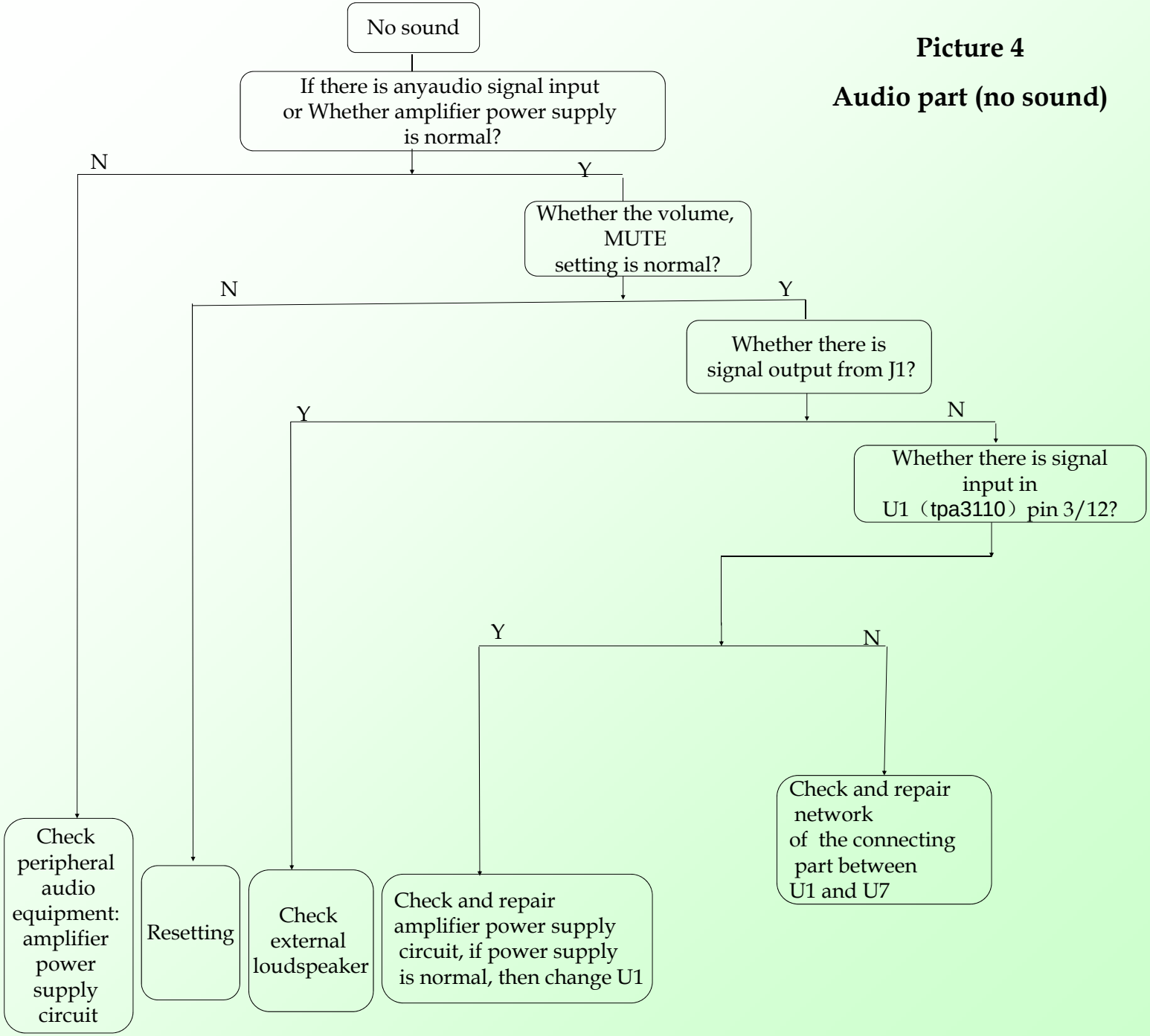
Picture3

Display unit(mess)

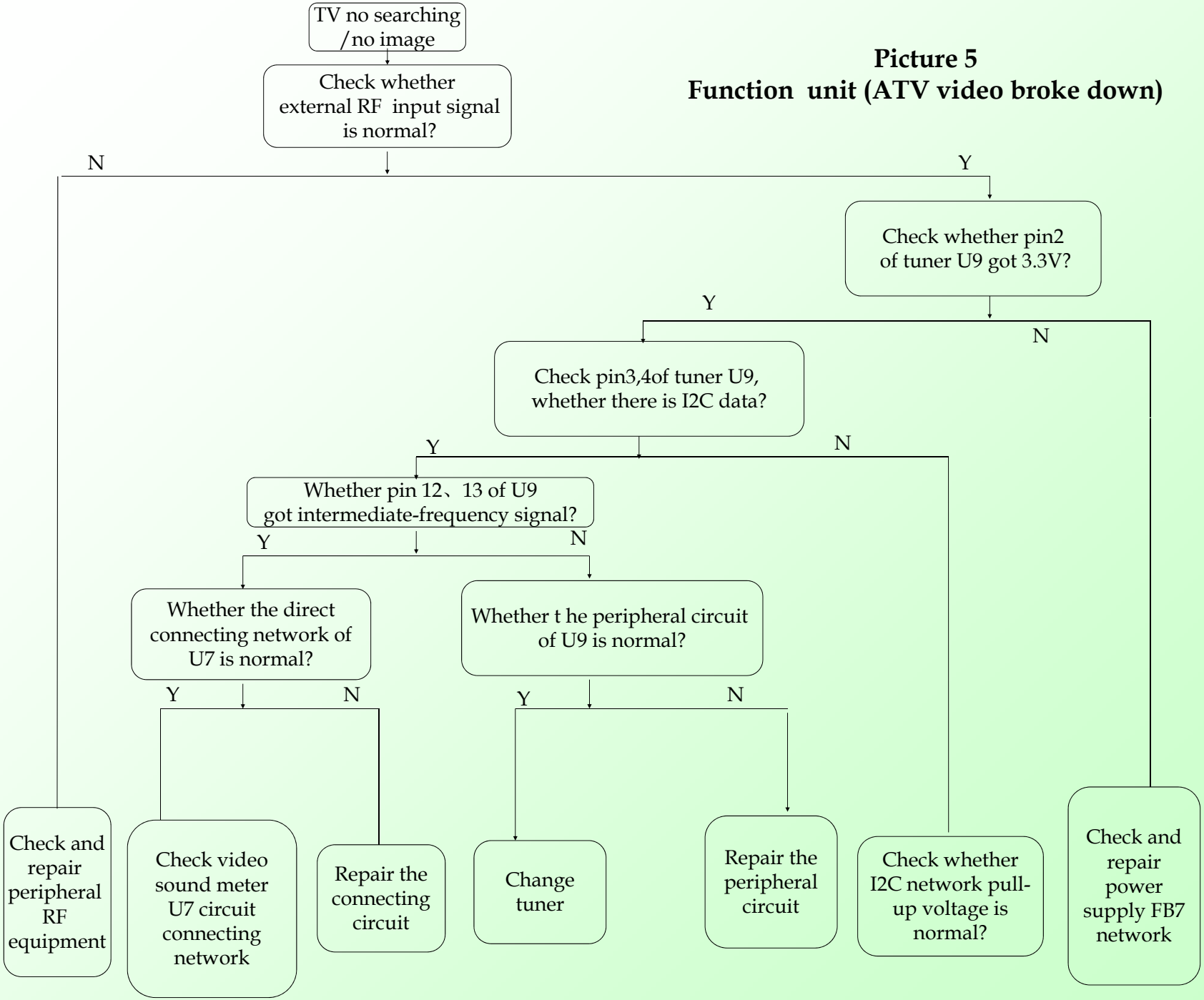


Picture 4

Audio part (no sound)

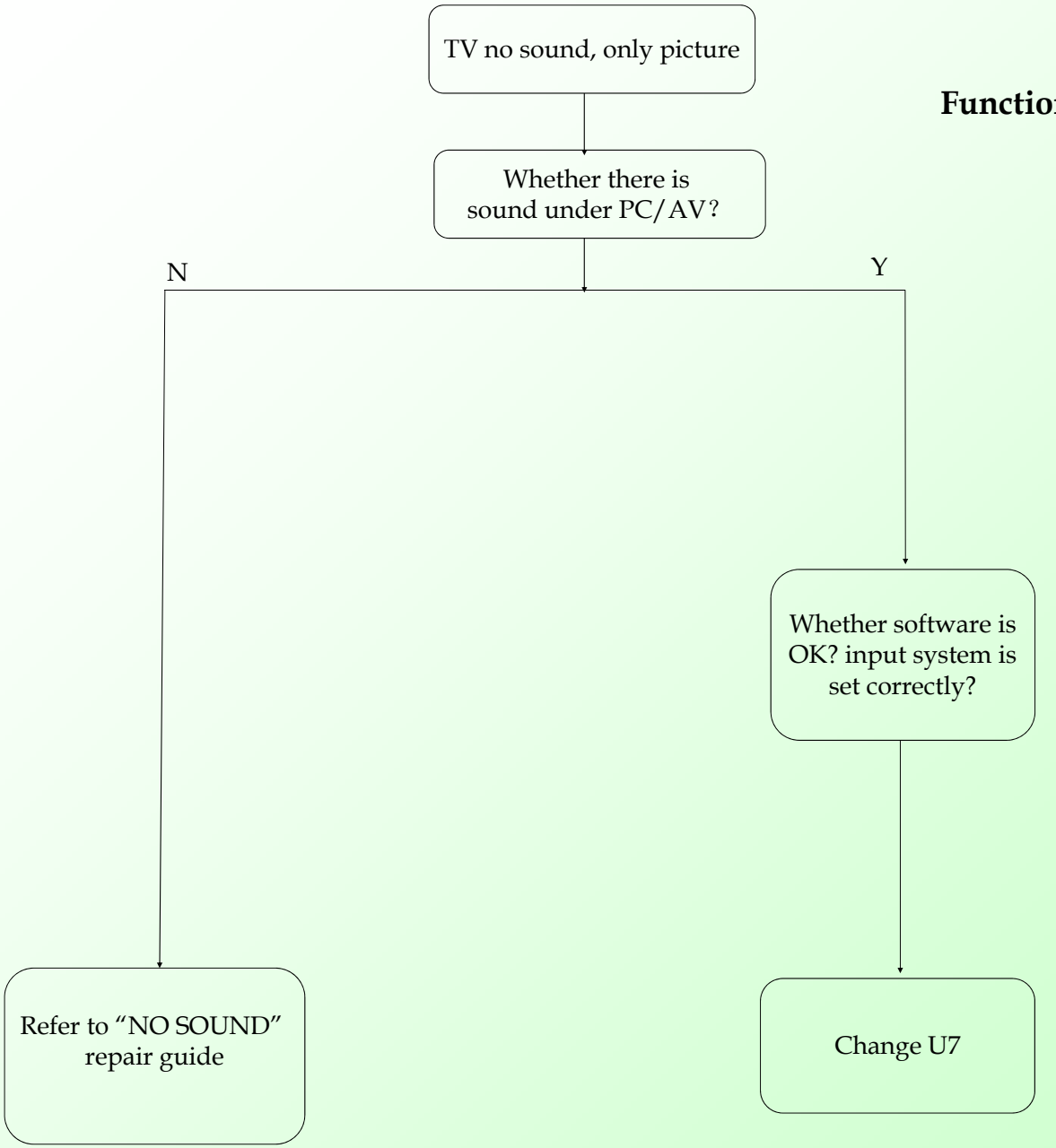


Picture 5
Function unit (ATV video broke down)



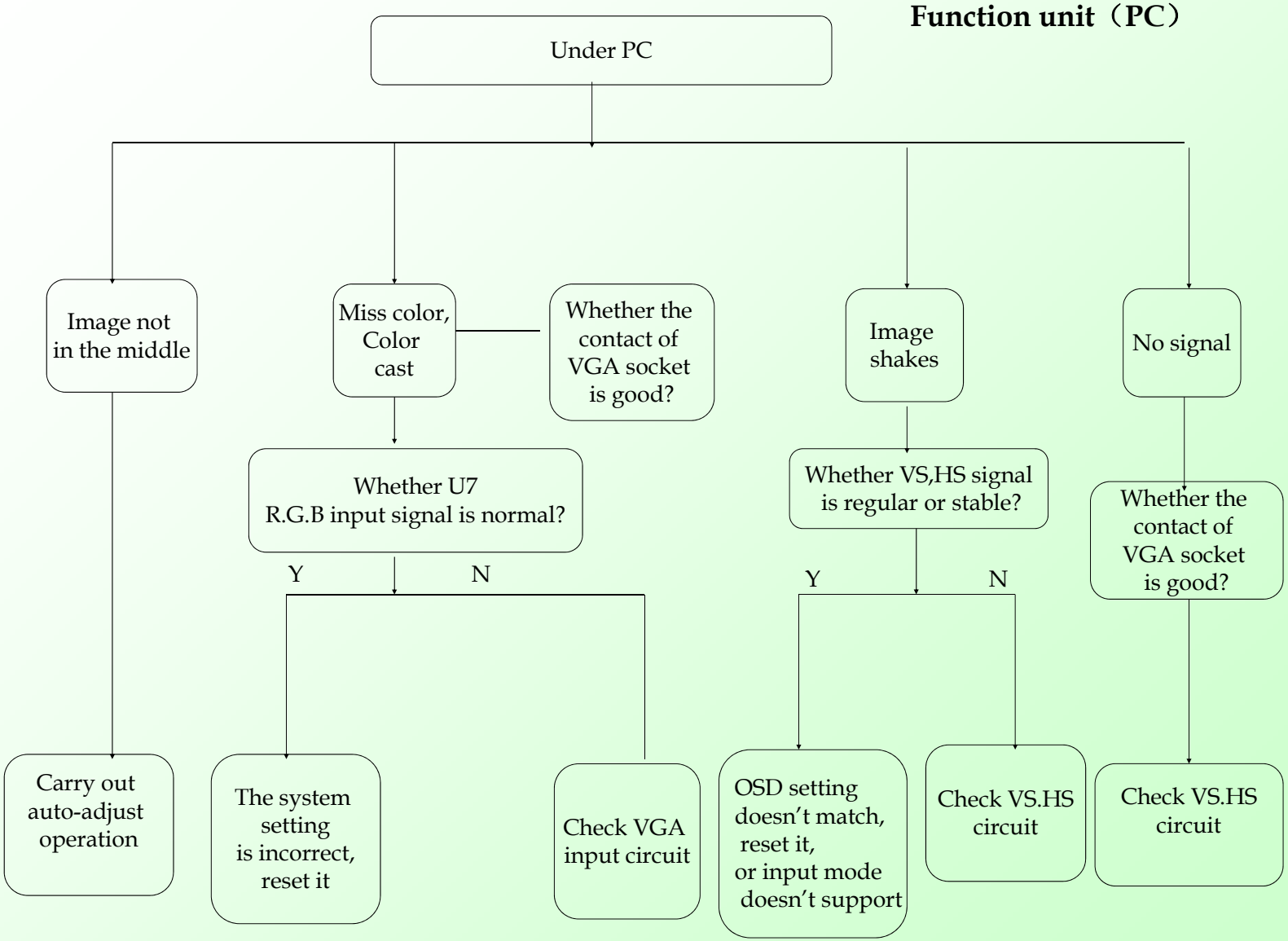
Picture 6

Function unit (ATV/DTV no sound)



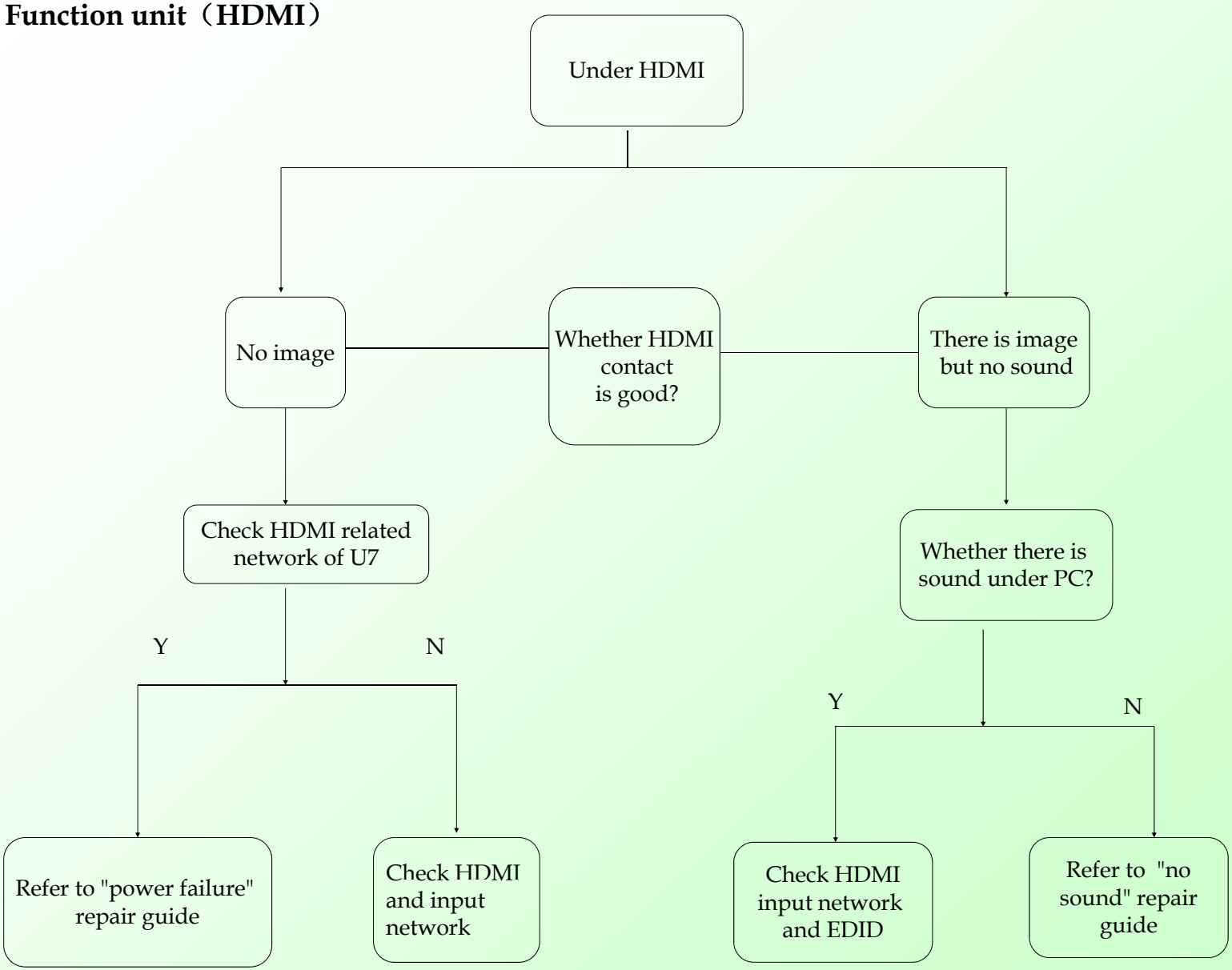
Picture 7

Function unit（PC）



Picture 8

Function unit（HDMI）



Picture 8
AC Power Units Problem Solving