

TV Productor Service Manual

DATE: 2014-03-25

YOUR COMPANY NAME:

YOUR MODEL NAME:

Production & Function Description:

Action: CV9202H-TPW

Function: USB、3*HDMI、CVBS/AUDIO、PC AUDIO IN 、
VGA、ATV、COAXIAL OUT 、EARPHONE OUT

TV System: PAL+SECAM

Approved Signatures:

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

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- 2. Maintenance & Safety**
- 3. Instruments**
- 4. Software Upgrade**
- 5. Main Function & Specifications**
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- 7. Main board service manual**

1. Basic Specifications

Working Temp: 0~40°C

Storage Temp: -20~60°C

Humidity (Working) : 10~90%

Humidity (Store) : 10~90%

LED Lifespan (50 Lum, Tube current < Rating) : 60000 hour (I_L=4.5Ma 25°C)

MTBF:50000 hour (Panel Module NOT included)

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 Oscilloscope

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-VIDEObable, 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.

REV: V1.0

LED TV CONTROL BOARD SPECIFICATION

TV MODEL : CV9202H-TPW
POWER MODEL: CVB32005A

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.

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1. CHANGE THE LIST OF UPGRADES

Version	Description	Page	redaction	Checked	Date
V1.0	First Release	All	GZ.Zeng		May.24,2013

2. GENERAL DESCRIPTION

This product is an integration board of power supply and TV board, it can receive the PAL/SECAM analogue television and digital television (DVB-T/C/T2) signals. It supports H.264 Video decode. It is applicable to Europe (include UK), Australia etc. The power supply unit is a 60 Watts Dual Output, full range switching power supply and a DC to DC inverter that for LED backlight panel. It fit to 26" to 32" LED backlight panel.

(电源部分支持60W的双路输出，支持26到32寸LED背光屏)

- Supports DVB-T/T2 MPEG-4 extended ASP up to 1080p@30fps;
- Supports H.264 MP/HP@L4.1 for SD and HD decoding;
- Supports DVB-C 16,32,64,128 and 256-QAM (Option);
- Supports USB 2.0 multimedia play, supports audio and video play; supports txt and picture browse.
- Analogue and digital HD port input signal largest support 1080P.
- Support analogue & digital 1000 Pages Teletext.
- The largest support various TFT-LCD 1920x1080 resolutions module.
- HDMI 1.4a compliant and DVI 1.0 compliant receiver support up to 225MHz @1080P 60Hz with 12-bit deep color resolution, HDCP 1.4a compliant receiver.
- 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;
- Enhanced motion adaptive 3D Y/C separation comb filter for NTSC/PAL system;
- Supports USB update.
- Supports Video SDTV at 480i/576i and 480p/576p;
- Supports Video HDTV at 720P and 1080i and 1080P;
- Supports PC RGB input up to UXGA@60Hz(165MHz);
- Reliable EMC and ESD handle

3. FEATURES

PANEL	Type	TFT-LCD
	Resolution	Max. 1920X1080
	Interface	Single/ Double LVDS
ATV	Receiving range	49MHz – 863MHz
	Input Impedance	75Ω
	Video System	PAL ,SECAM
	Sound System	BG, DK, I, L/L' NICAM/A2
DTV	Receiving range	VHF (174MHz – 230MHz) UHF (474MHz - 862MHz)
	Input Impedance	75Ω
	Bandwidth	7MHz/8MHz
	Modulation	DVB-T:COFDM 2K/8K QPSK, 16QAM, 64QAM
		DVB-C:16QAM, 32QAM, 64QAM, 128QAM, 256QAM
		DVB-T2:COFDM 2K/8K QPSK,16QAM, 64QAM,256QAM
	Video System	MPEG 2 MP@HL, MPEG-2, MP@HL, H.264
Sound System	MPEG-1 Layer 1/2, MPEG-2 Layer 2, DD, DD+	
RGB	Sync	H: 30-75KHz V: 56-75Hz
	Video Level	0.7Vp-p@75ohm
	MODE	Max 1920X1080@60Hz
AV	Color system	PAL/NTSC/SECAM
	Video Level	1Vp-p@75ohm
	Audio Level	500mV rms
YPbPr	Video Level	Y:1Vp-p@75ohm, PbPr:0.7Vp-p@75ohm
	Audio Level	500mVrms
	Format	480i, 480p, 576i, 576p, 720p, 1080i, 1080p
HDMI	Video	Standard TMDS
	Format	480i, 480p, 576i, 576p, 720p, 1080i, 1080p
SCART	Video	CVBS&RGB input, CVBS output
	Video output/input	RBG: 0.7Vp-p@75ohm
		CVBS: 1Vp-p@75ohm
Audio output/input	500mVrms	
Keyboard	Power/Menu/Source/ Up/ Down/ Left/ Right	
OSD Language	English/French/German/Spanish/Italian	
Audio Amplifier	2 X8W @ 8ohm THD<10%	
Power input	12V/Panel Power	
Standby	< 0.5W	

4. PRESET MODE FOR USB

USB FORMAT MODE

Type	Container	Video Decoder	Max Resolution
MOVIE	AVI	MPEG-4 ASP;H.264;DivX;Xvid WMV 9 / VC - 1	1920 x 1080
		MPEG-4 SP	CIF (352 x 288) QCIF (176 x 144)
		MJPEG	1280 x 720
	MPEG 1/2	MPEG-1 Video MPEG-2 Video	1920 x 1080
	MPEG4	MPEG-2 Video;MPEG-4 ASP; H.264;Xvid;MJPEG;H.264	1920 x 1080
	WMV	WMV 9 / VC-1	1920 x 1080
	Real Media	RV30 / RV40	1920 x 1080
	Flash	Sorenson H.263; H.264	1920 x 1080
	QuickTime	MPEG-4 ASP; H.264;MJPEG	1920 x 1080
	ASF	WMV3 / WVC1; MP4S / M4S2	
	Matroska Video	MPEG-2 Video; MPEG-4 ASP; H.264;Xvid; DivX;DivX Plus HD; RV30 / RV40; WMV9 / VC-1;	1920 x 1080
	DivX	MPEG-4 ASP; DivX; Xvid;	1920 x 1080
	TS Stream	MPEG-2 Video;H.264; WMV 9 / VC-1;	1920 x 1080
PHOTO	JPEG		165370
	Progressive JPEG		61648
	BMP		101439
	PNG		101439
	GIF		
	TIFF		
MUSIC	WAVE		LPCM; ADPCM
	WMA		WMA STD; WMA Prof
	AAC		AAC-LC / HE-AAC
	AC3 (AC3 Need license)		AC3; E-AC3
	MPEG		MP1; MP2; MP3; AAC-LC; HE-AAC;
	Read Audio		AAC / HE AAC; Cook
	Ogg		Vorbis
	FLAC		FLAC
DTS		DTS	

Special Note:

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) USB only supports PHOTO, MUSIC and MOVIE. The system automatically classified files, only show the supported files.

3) Supports hard disk, the maximum storage capacity is **1T**.

4) Photo Not support EXIF format.

5) Flash non-support animation.

6) Support for text files.

5. ELECTRICAL CHARACTERISTICS

AC input (AC 输入)

Input	Minimum	Nominal	Maximum	Unit
voltage (输入电压)	90	100/240	264	Vac
Input Frequency(输入频率)	47	50/60	63	Hz
Input Current (输入电流)	-	-	2	A
Efficiency	Greater than 80%			
Standby Power:	The power consumption will lese than 0.25 Watts at input 230Vac @No load			

LED Output Characteristics(输出特性)

PARAMETER 参数	SYMBOL 符号	MIN 最小值	TYPICAL 典型值	MAX 最大值	UNIT 单位	REMARK 备注
LED CURRENT LED 电流(亮)	IL	624	640	660	mA	Von/off=5V Adj=100% RL= PANEL
LED CURRENT LED 电流(暗)	IL	-	320	328	mA	Von/off=5V Adj=50% RL= PANEL
LED Array VOLTAGE LED 工作电压	Vp	51	54	57	Vrms	Von/off=5V Adj=100% RL= PANEL

Protection capability (保护性能)

The switching power supply will be auto recovery while the fault is removed.

(当故障排除时, 开关电源必须自动恢复正常)

Short circuit protection (短路保护)

DC output shall have short circuit protection. A short condition on any of DC outputs shall cause **no damage** to the power supply. The unit shall recover and function automatically as soon as the short condition is removed.

(直流输出必须具有短路保护功能, 该电源不因为输出短路而造成任何损坏, 短路故障一当移除, 电源必须自动恢复正常。)

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。)

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)

- a) 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)
- 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)

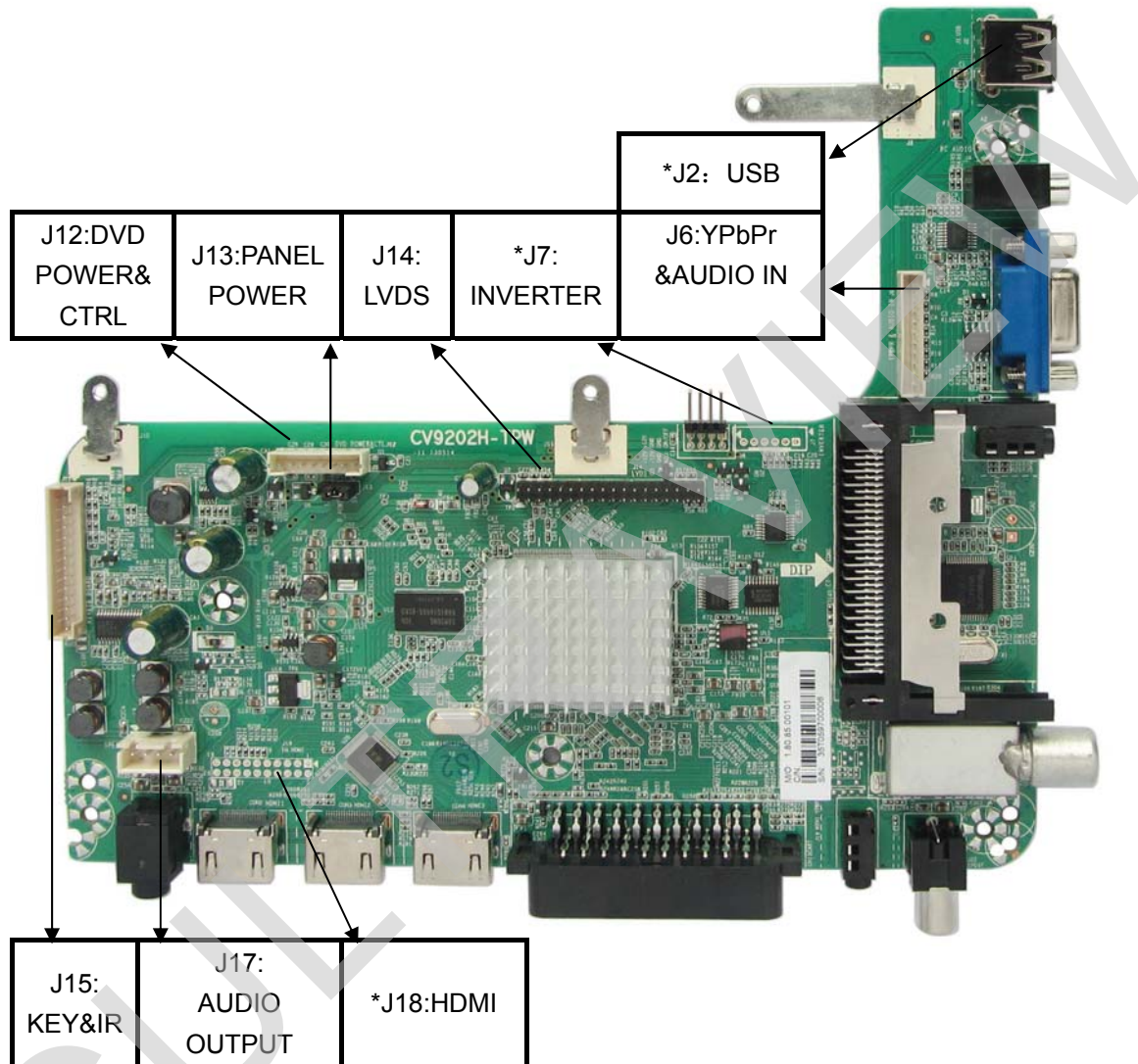
Input To Output	3000Vac 50Hz 1minute ≤10mA
Input To PG	1500Vac 50Hz 1minute ≤10mA

6. PICTURE

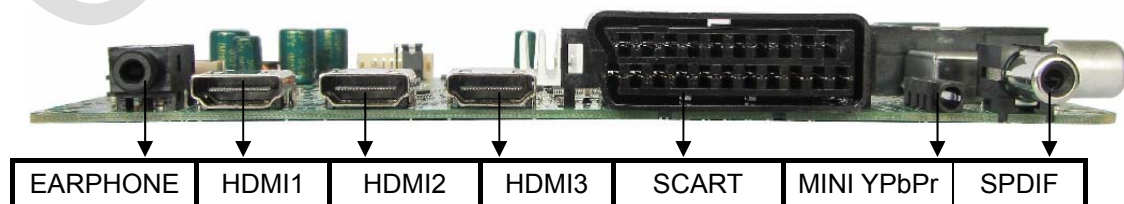
The picture is for a reference only,the actual item is the standard.

The optional connectors and terminals are marked with “*” .

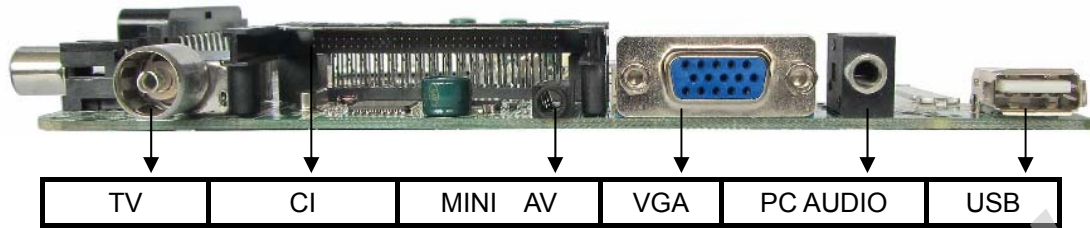
Europe Board Type :



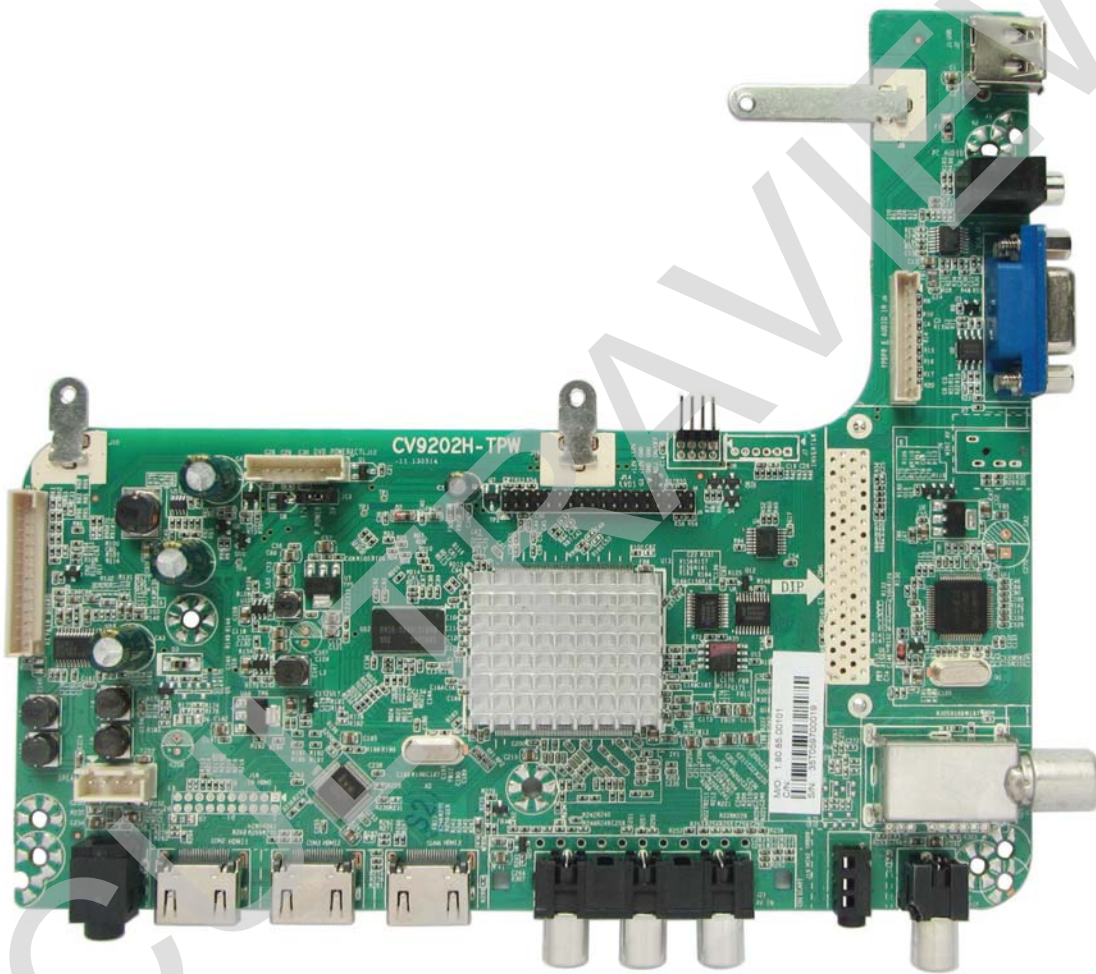
FRONT VIEW



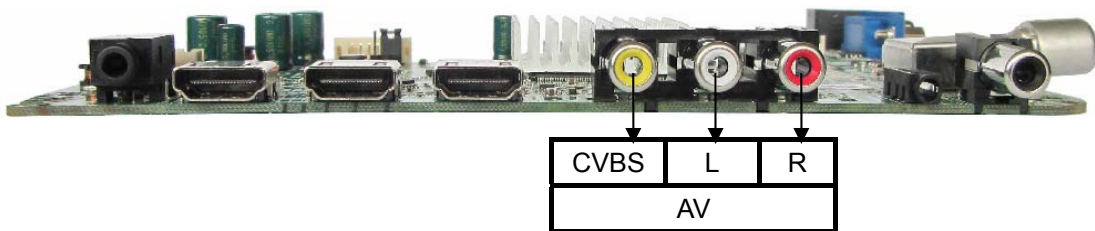
SIDE VIEW



Australia Board Type



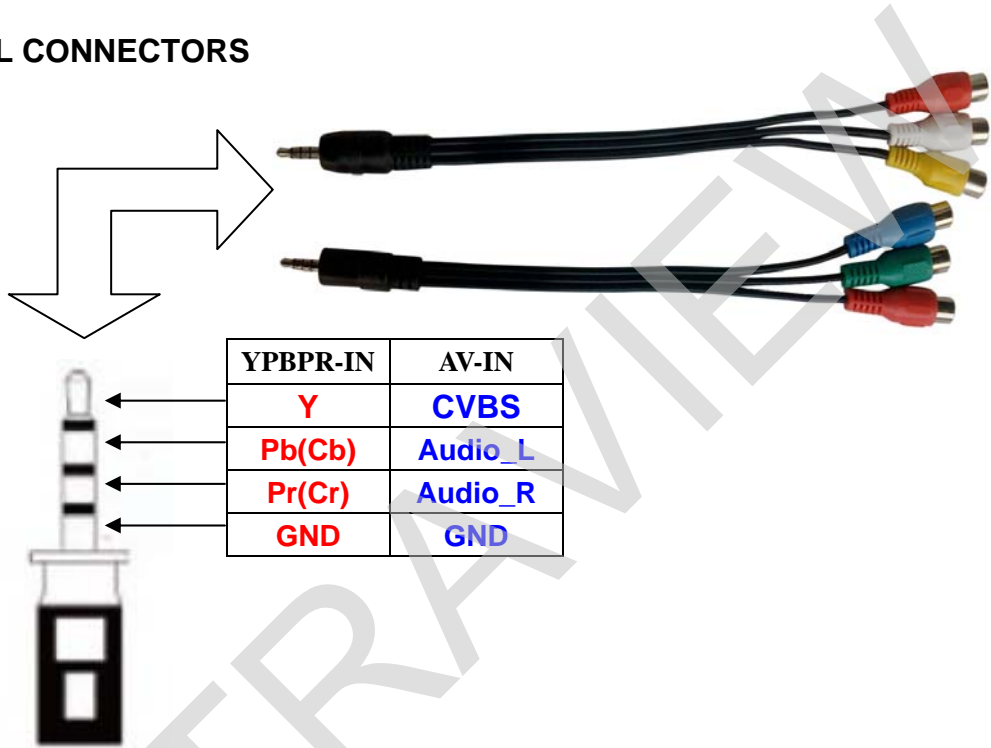
FRONT VIEW



SIDE VIEW



EXTERNAL CONNECTORS



7. INTERFACE DEFINITION

All jacks recognize the square pad as first pin.

***J2 EXTERNAL USB CONNECTOR (4PIN/2.0/蓝色)**



NO.	SYMBOL	DESCRIPTION
1	GND	Ground
2	DP	USB Data+
3	DM	USB Data-
4	+5V	+5V Power Supply for USB

J6 (11pin/2.0): DVD VIDEO&AUDIO INPUT CONNECTOR



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

***J7 INVERTER CONNECTOR(6PIN/2.0/红色) /(VCC)**



NO.	SYMBOL	DESCRIPTION
1	GND	Ground
2	GND	Ground
3	ADJ	Brightness Adjustment for Panel(Volts DC Output)

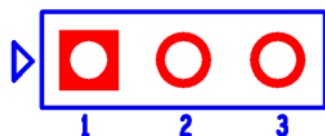
4	ON/OFF	Back-Light ON/OFF Control for Panel (1: ON/0: OFF)
5	+12V	INVERTER +12V DC Power Supply
6	+12V	INVERTER +12V DC Power Supply

J12 (8pin/2.0): DVD POWER&CONTROL



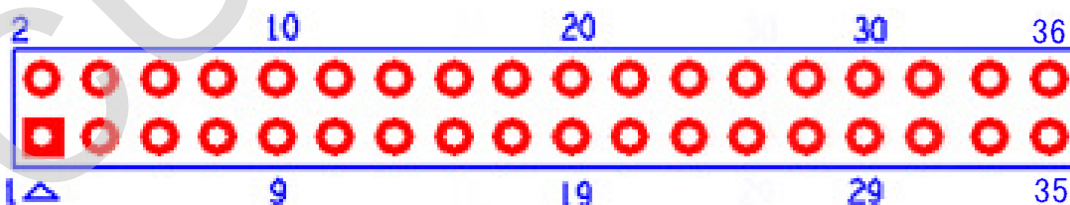
NO.	SYMBOL	DESCRIPTION
1	NC	NC
2	DVD_AUTO	DVD AUTO
3	DVD_IR	IR Data Transfer to DVD
4	+12V	+12V DC Power Supply for DVD
5	GND	Ground
6	GND	Ground
7	+5V	+5V DC Power Supply for DVD
8	+5V	+5V DC Power Supply for DVD

J13 (1x3PIN/2.54mm) PANEL POWER SUPPLY



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

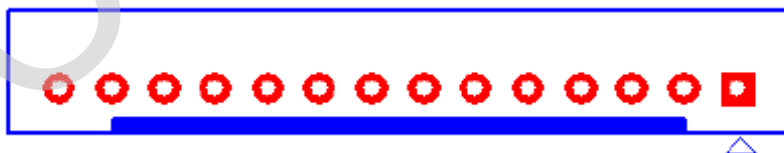
J14 (2X18pin/2.0mm): LVDS INTERFACE



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

J15(14pin/2.0): KEY&IR&LED CONNECTOR



NO.	SYMBOL	DESCRIPTION
1	GND	Ground
2	K7	Key7(Reserved)
3	POWER	POWER
4	VOL+	VOL+
5	VOL-	VOL-

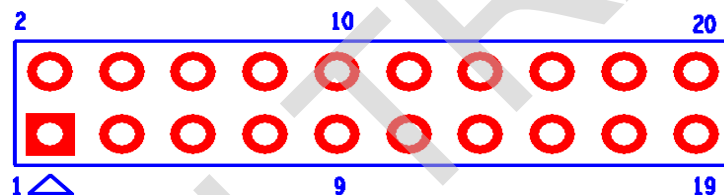
6	INPUT	INPUT
7	CH+	CH+
8	CH-	CH-
9	MENU	MENU
10	GND	Ground
11	IR	IR Receiver
12	LED_G	Green Indicator
13	LED_R	Red Indicator
14	+5V	+5V DC Power Supply

J17 SPEAKER CONNECTOR (4PIN/2.54)



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

***J18 EXTERNAL HDMI CONNECTOR(2×10PIN/2.0/NC)**



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

CON1 :90° connection, type: pitch 3.96 mm(90° 插座 CON1 的间距是 3.96 毫米)

Pin	Pin Connection	Function
1	AC-L	AC INPUT LINE
2	NC	NC
3	AC-N	AC INPUT NEUTRAL

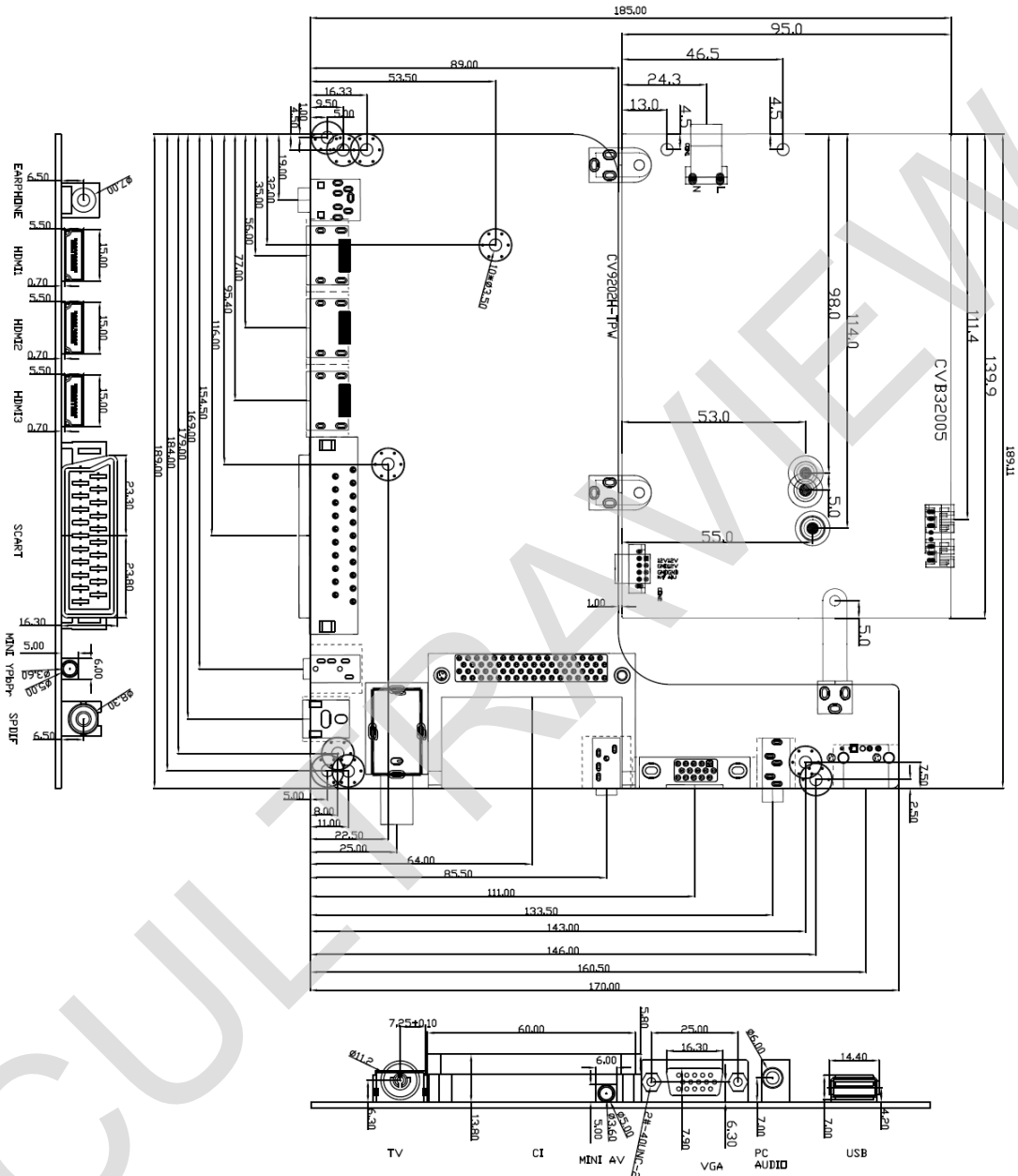
CON3 : 90° connection, type: pitch 2.0mm(90° 插座 CON3 的间距是 2.0 毫米)

Pin assignments: Table.

Pin	Pin connection	Function
1	LED+	LED current sense for string
2	LED-	LED power supply

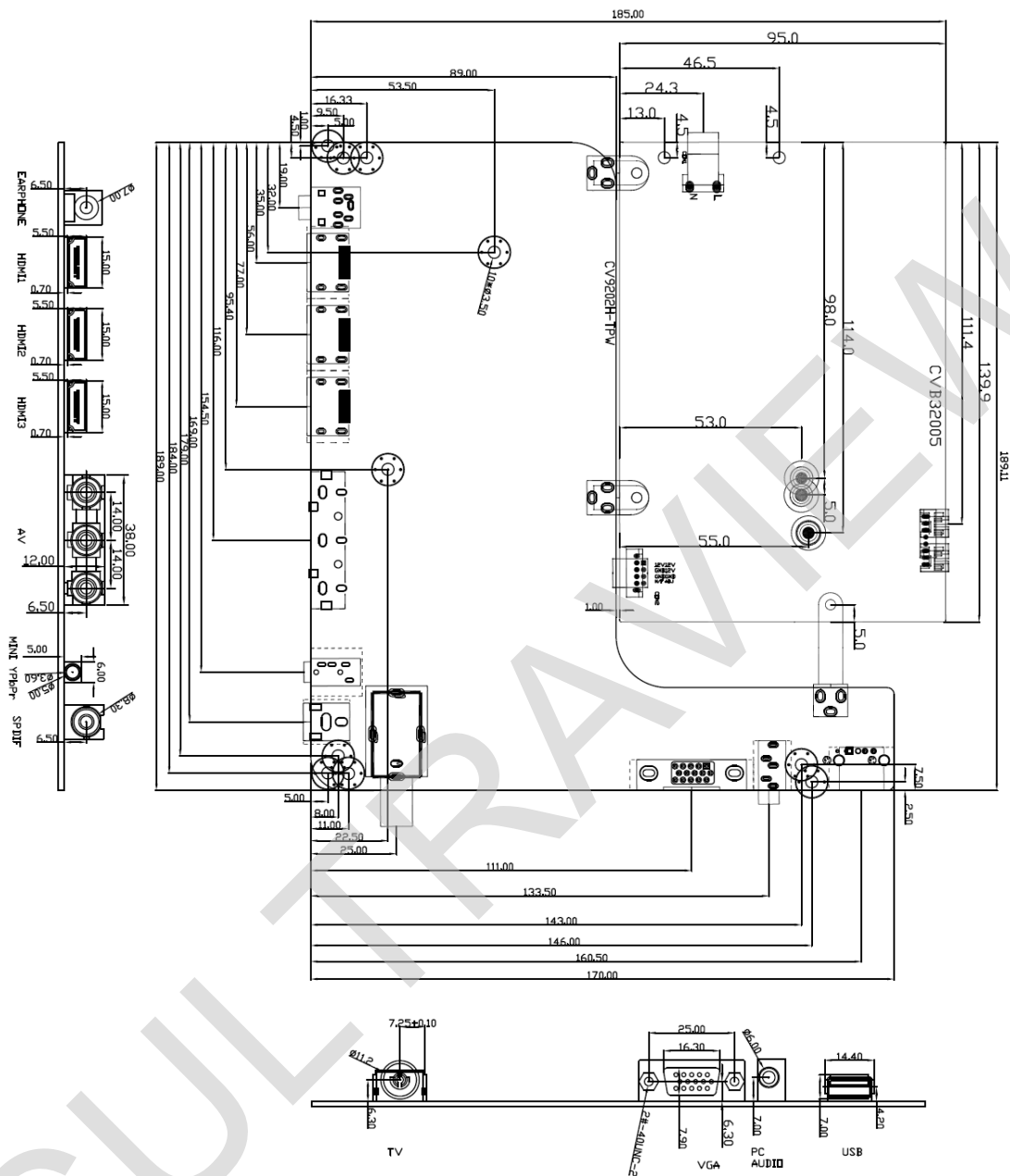
8. CONFIGURATION

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:



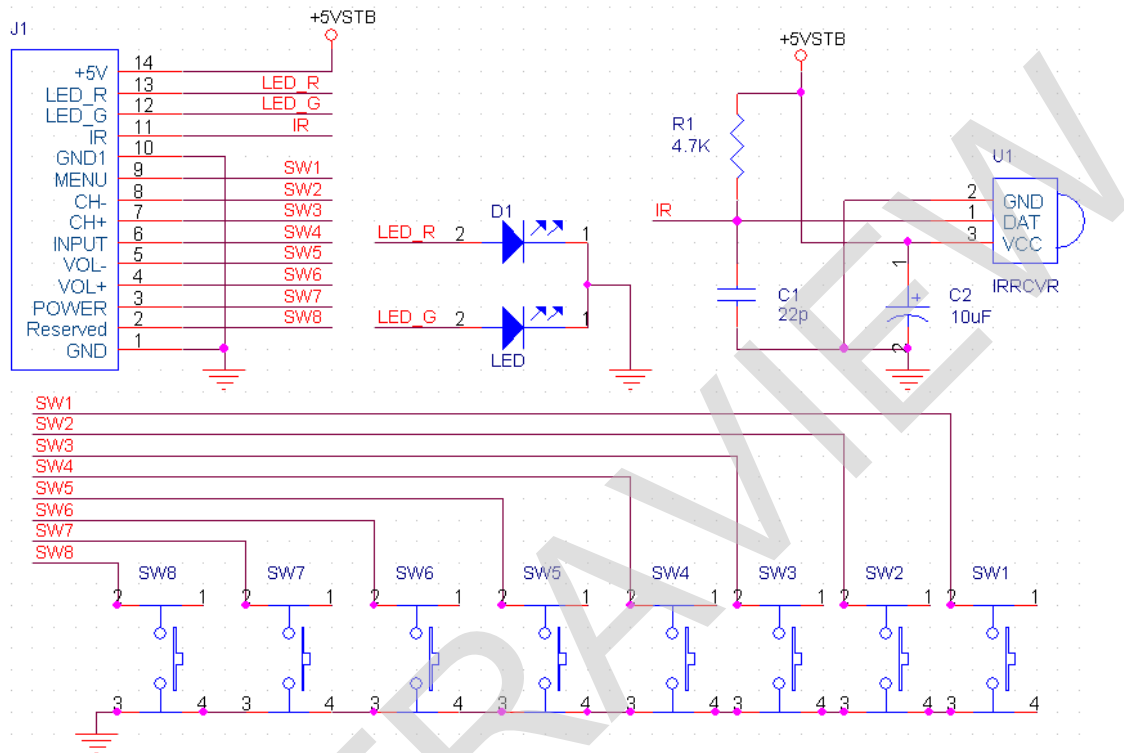
The thickness of PCB board: 1.6 mm
 Component the tallest altitude: 16.5mm
 Install diameter inside the bore 3.5 mm

9. APPLICATION REQUIREMENT

- Relative humidity $\leq 80\%$
- Store temperature $-10\sim+60\text{ }^{\circ}\text{C}$
- Use temperature $0\sim+40\text{ }^{\circ}\text{C}$
- The procedure of the whole machine assembles and transports need to attend ESD transaction.
- When the whole set assemble, it can down pack or side pack, but don't make the board transform or distort, don't be subjected to heavy pressure.
- 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.
- 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.
- The connected wire which between the other boards and this board can't be leaded too long, or affect performance and image quality.
- 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.
- 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.
- 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.
- There is ROHS identification on the board and package, the board match ROHS standard.
- For Safety Issue, please keep 8.0mm at least from the metal parts of the system to the mainboard(power part). Or, put a mylar between the mainboard(power part).and the metal parts to avoid the safety issue,.

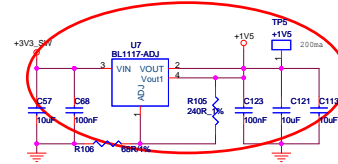
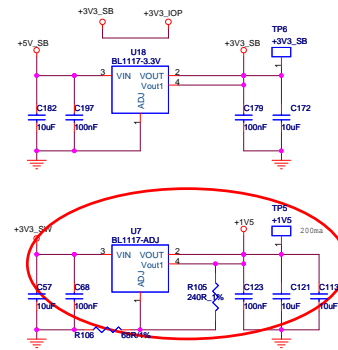
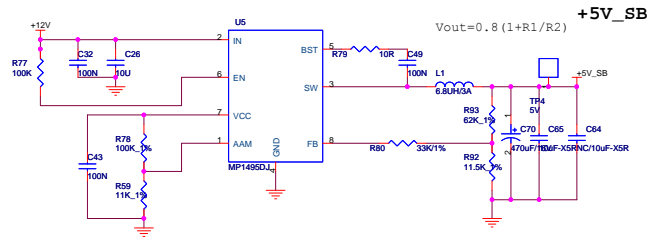
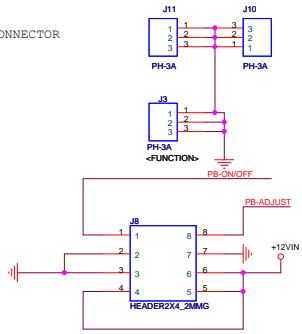
10. EXCURSUS

Keyboard and remote definition

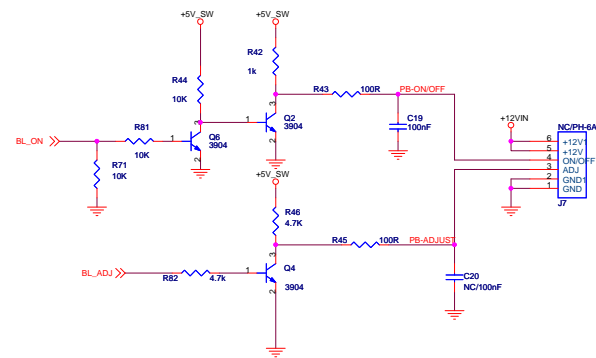
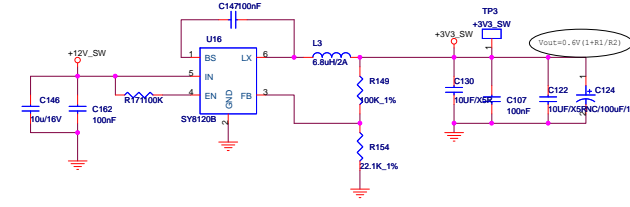
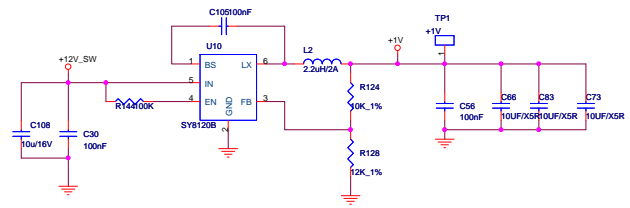
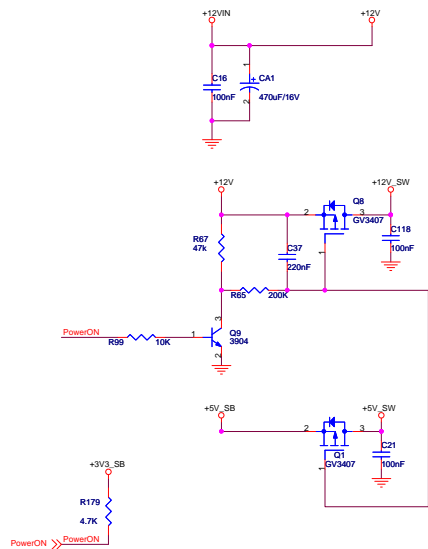
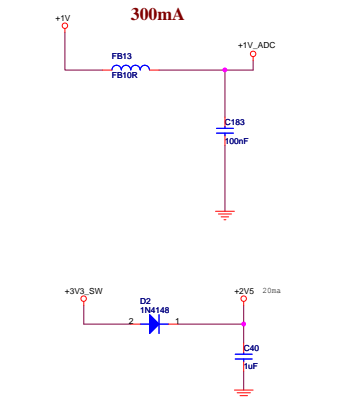


NOTE: POWER KEY Position Can't be changed,Please don't move it !

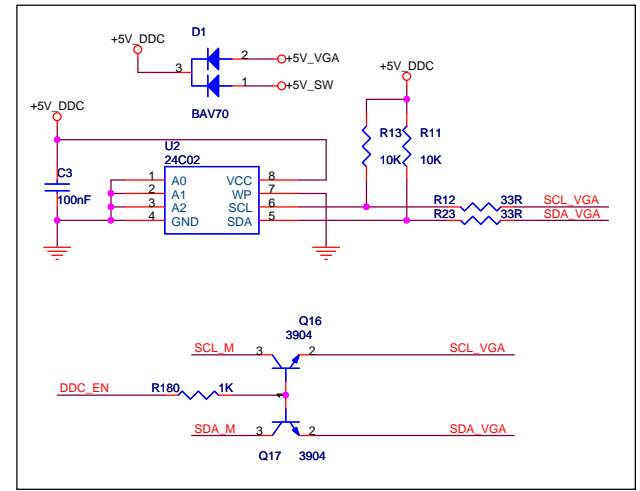
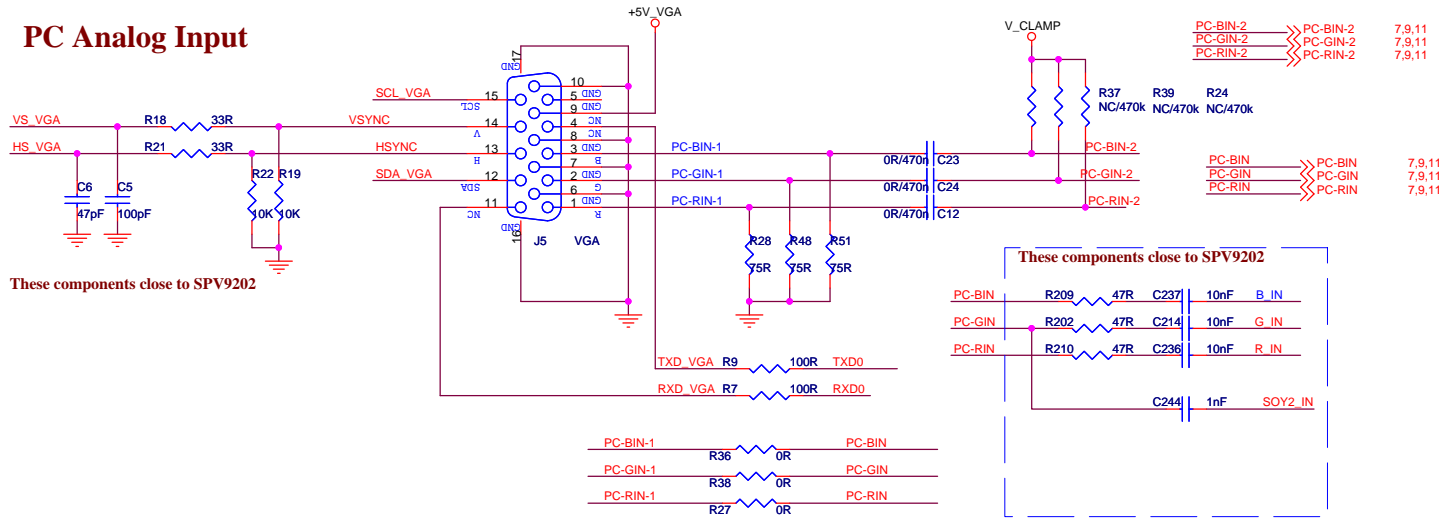
POWER CONNECTOR



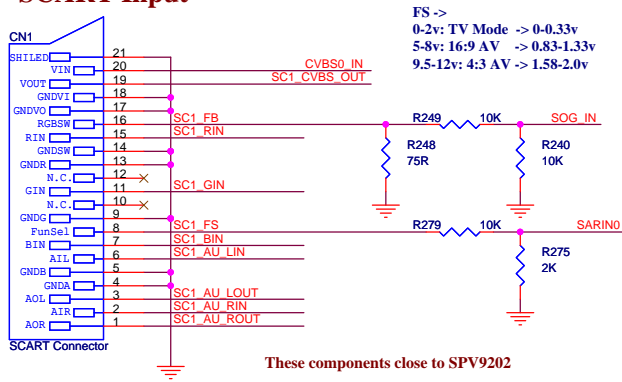
ADC Power



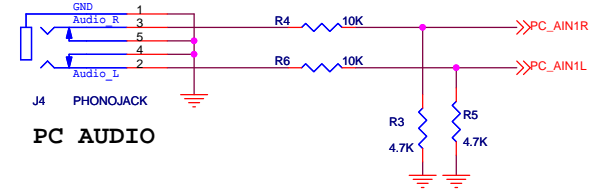
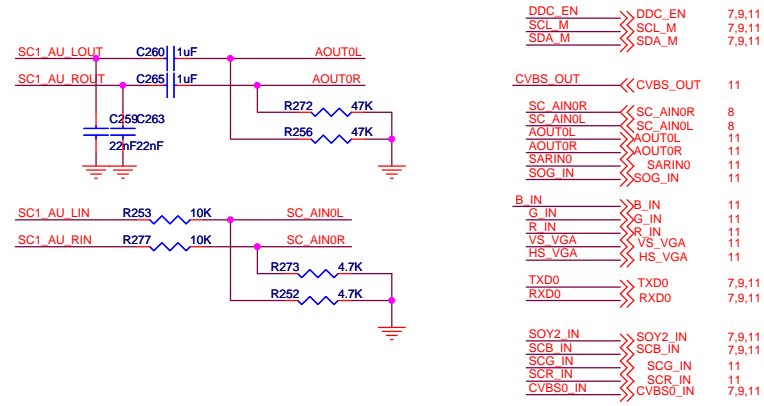
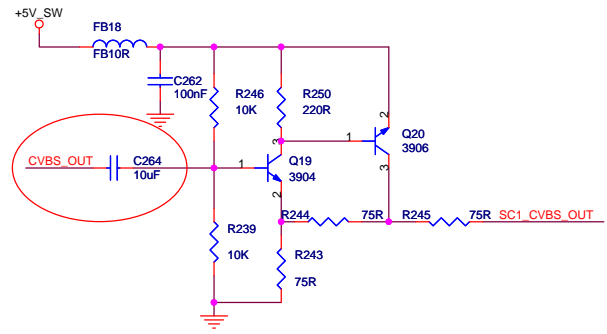
PC Analog Input



SCART Input

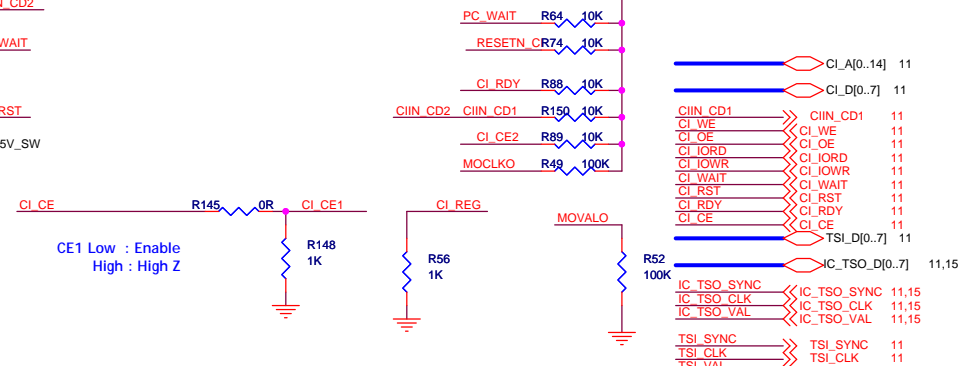
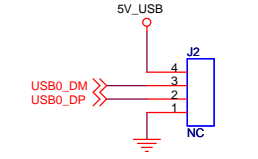
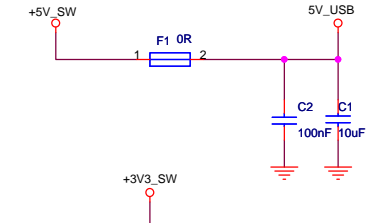
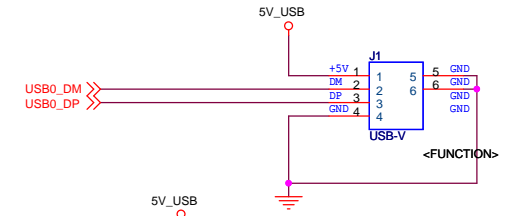
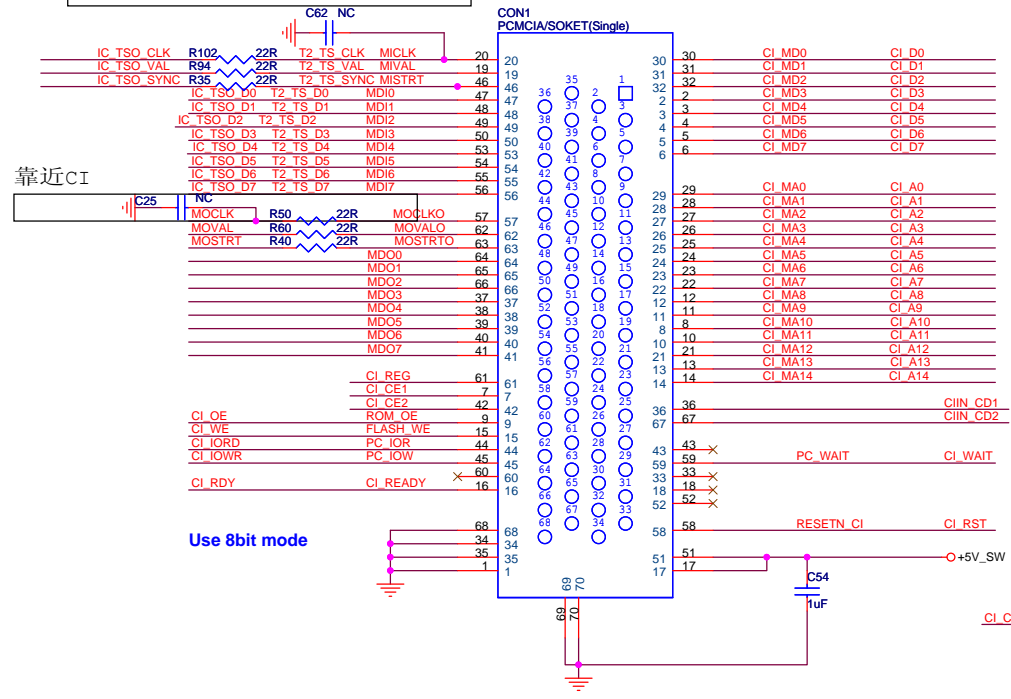


SCART_CVBS_OUT

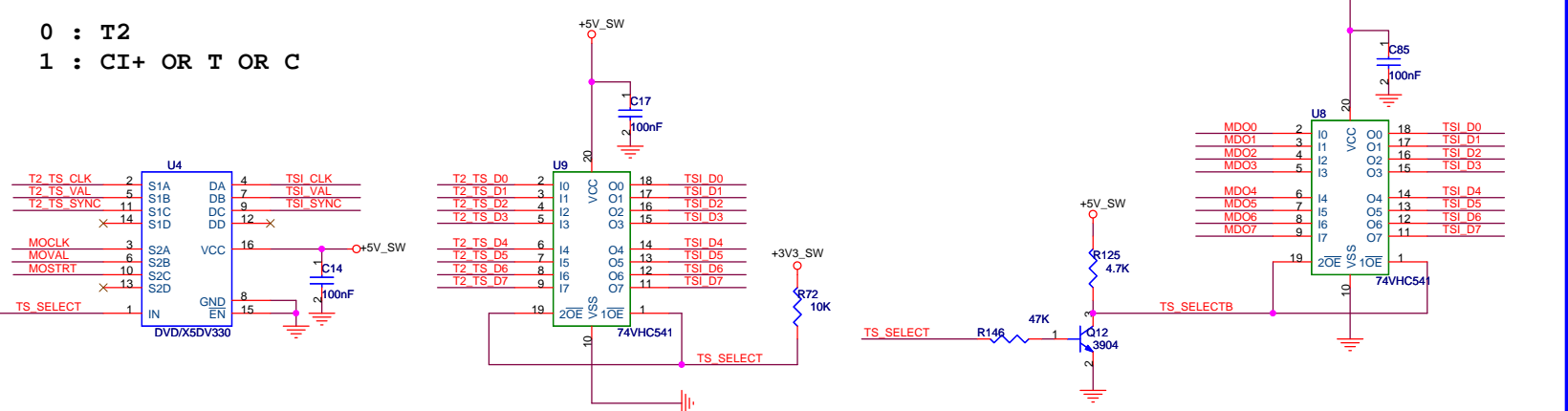


PC AUDIO

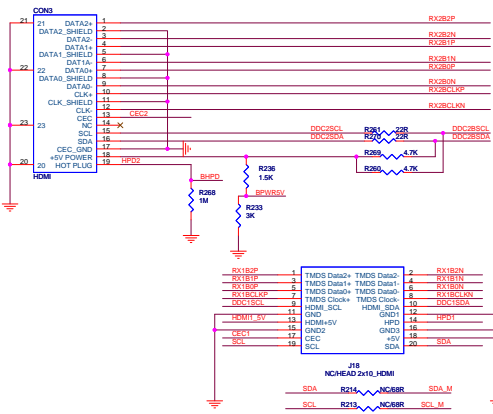
CI 靠近主IC



0 : T2
 1 : CI+ OR T OR C

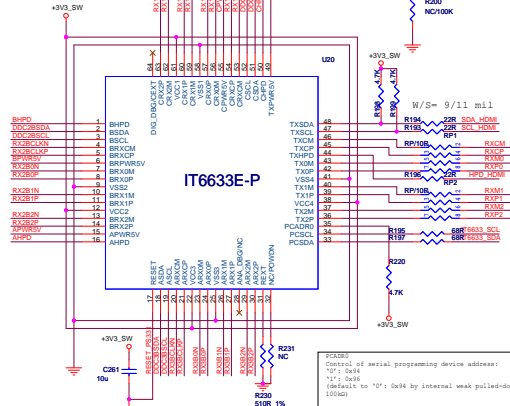


HDMI 2

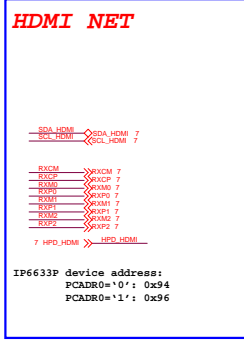


Operation Supply Current:200mA Max

PIN64 CEXT:
IT6633P NC
P8331 10u

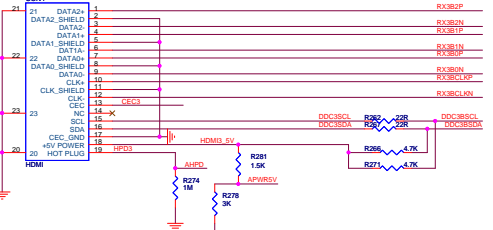


PCADR0 Control of serial programming device address:
'0': 0x4
'1': 0x6
(default to '0'; 0x4 by internal weak pulled-down resistor of I2M4)



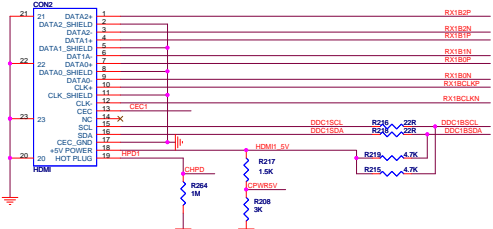
IP6633P device address:
PCADR0=0: 0x94
PCADR0=1: 0x96

HDMI 3

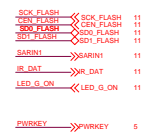
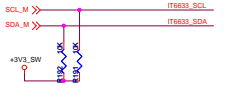
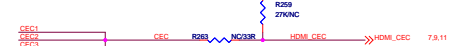


BPWR5V:
IT6633P
RXK... 1.5K
RXK... 3K
P331
RXK... 37K
RXK... NC

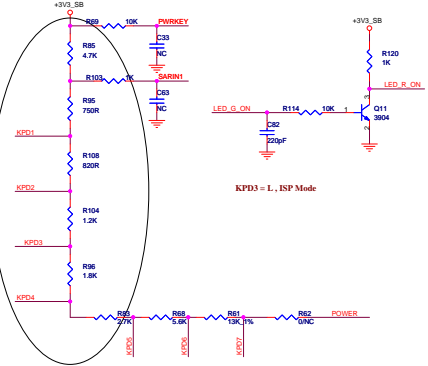
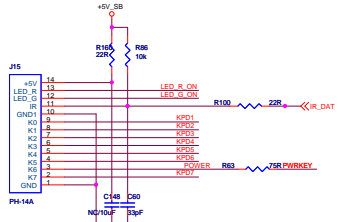
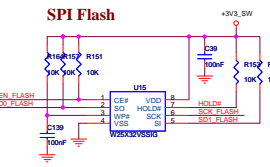
HDMI 1



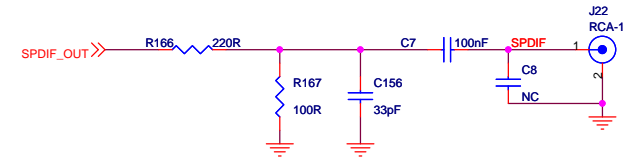
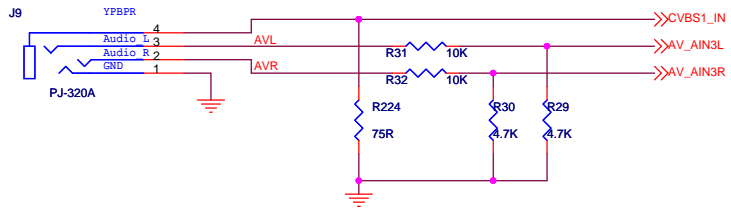
HDMI CEC



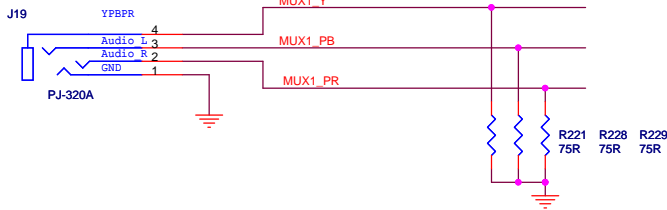
WINTOOL



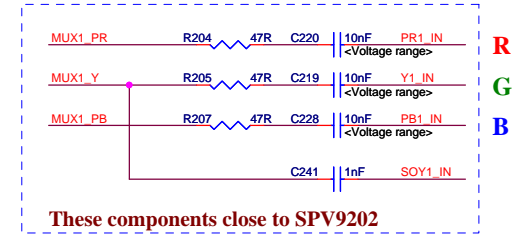
AV Input



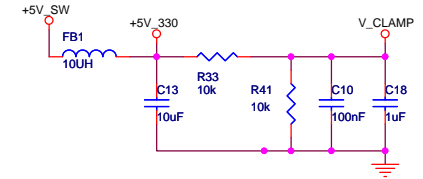
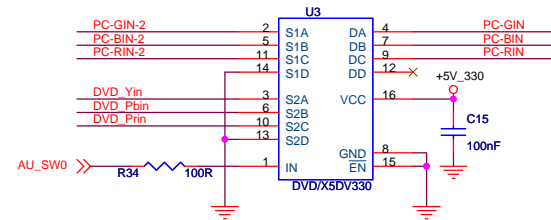
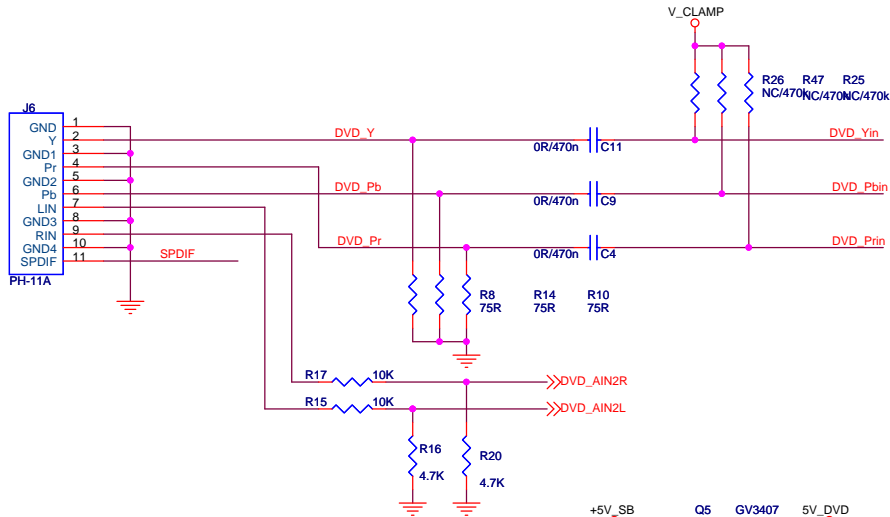
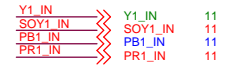
YPBPR



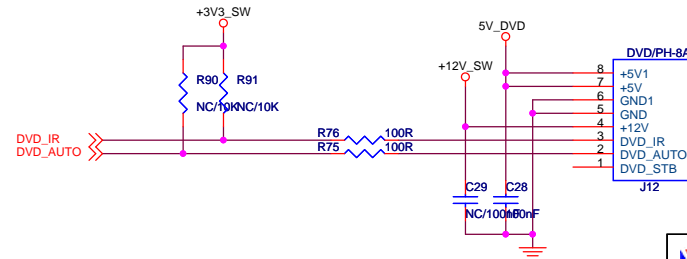
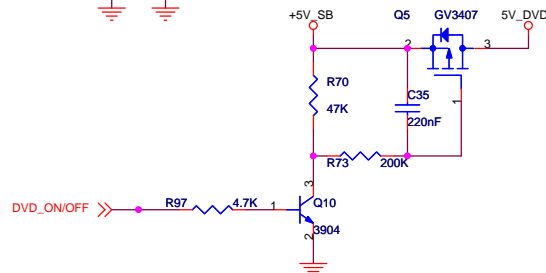
YUV Input

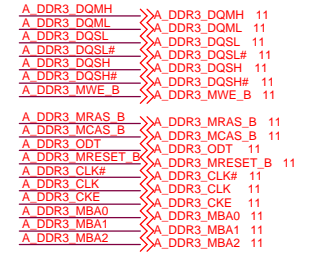
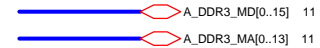
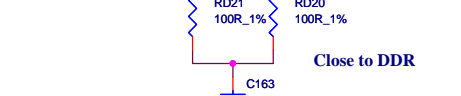
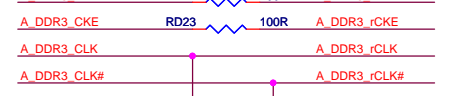
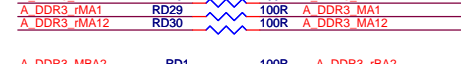
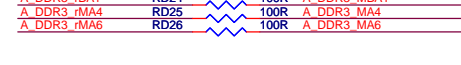
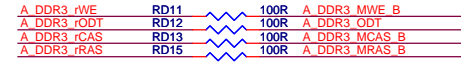
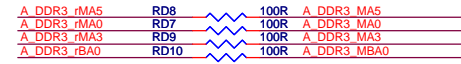
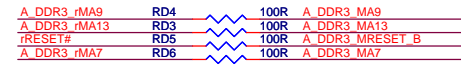
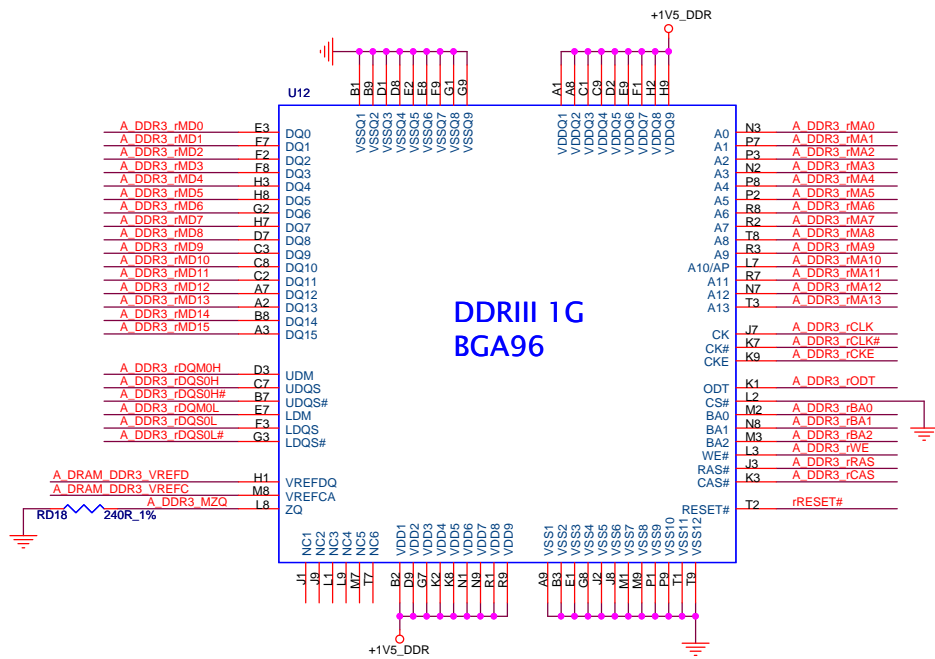


These components close to SPV9202

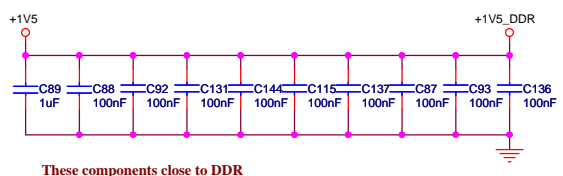


0	YPBPR
1	DVD

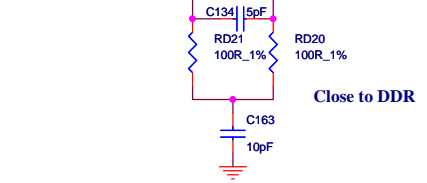
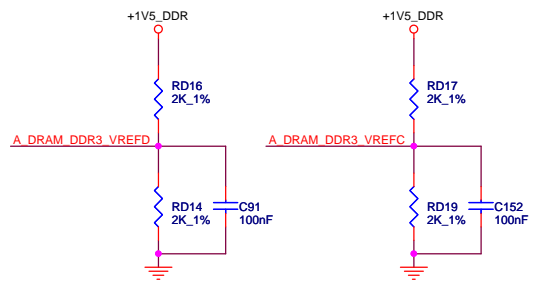


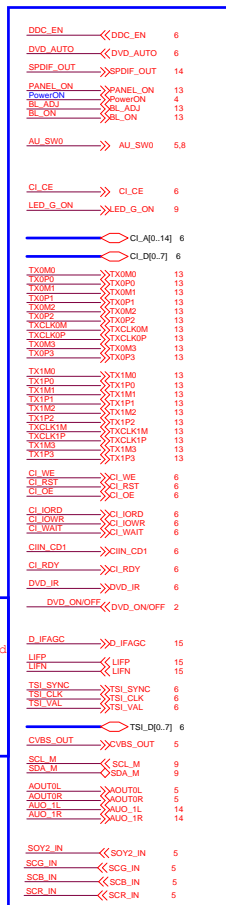
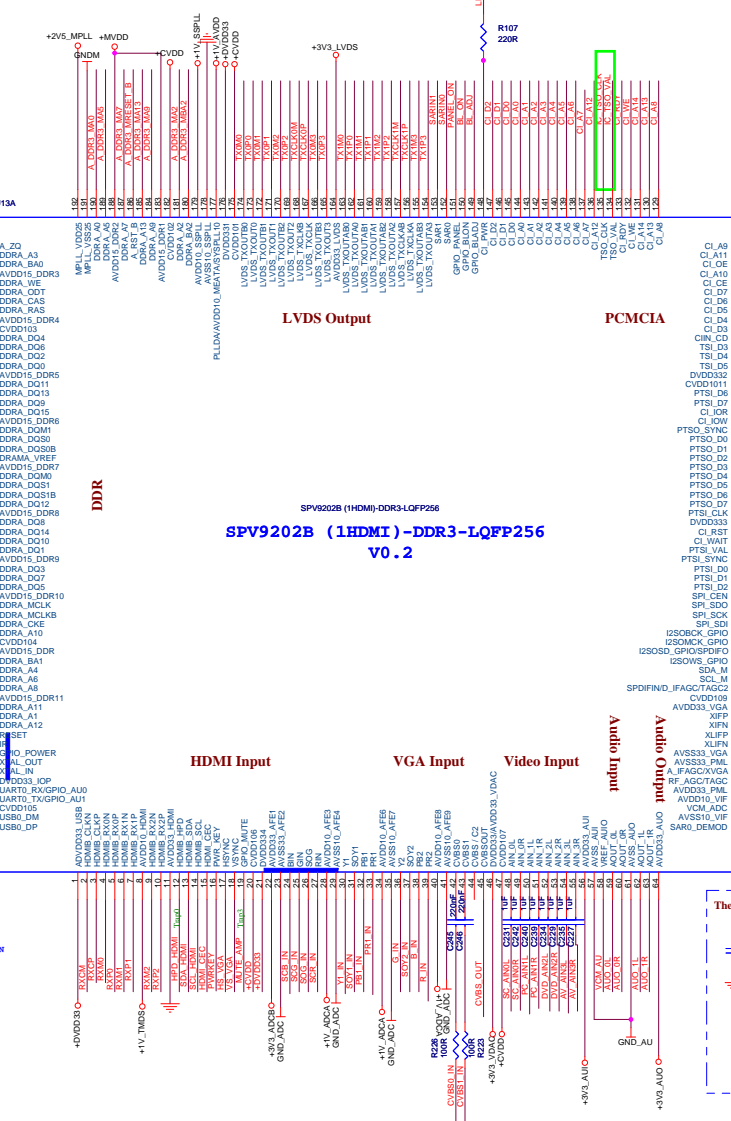
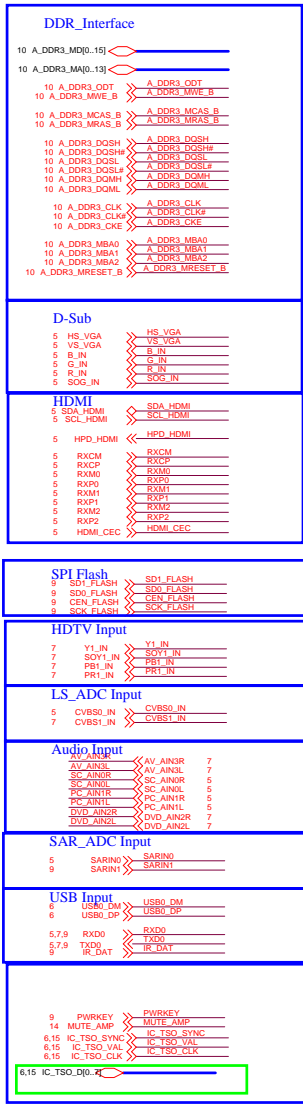
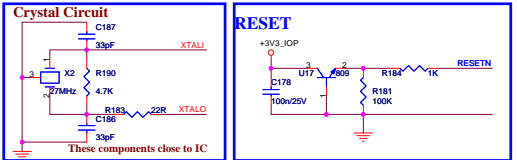


SOURCE POWER/GND (1.5V)

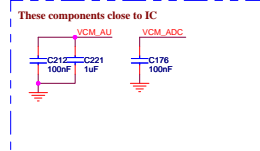


Power bypass cap. for VREF



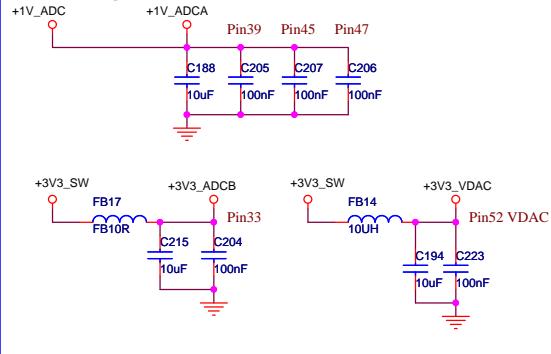


If need use SIF or RF AGC should use 1uF Cap close those pins

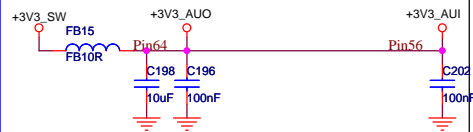


ADC POWER/GND (1.0V/3.3V)

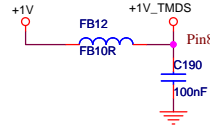
FB for ADC need $Rdc < 0.015$, $Z = 120/100\text{MHz}$, $I_{dc} > 3A$
 Default part MHC3216S121W



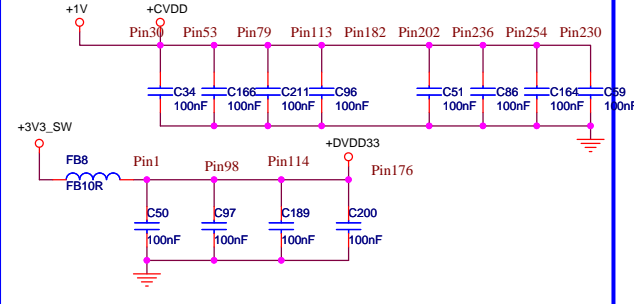
AUDIO POWER/GND (3.3V)



TMDS POWER/GND (1.0V/3.3V)

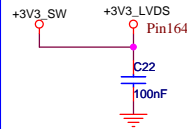


SOURCE POWER/GND (1.0V/3.3V)

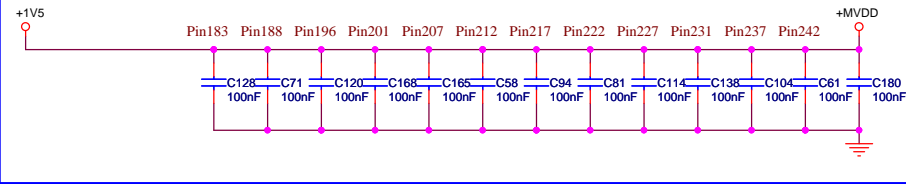


ALL FB except ADC, CVDD : need $Rdc < 0.2$, $Z = 300/100\text{MHz}$, $I_{dc} > 500\text{mA}$
 Default part : MCB2012S301H

LVDS PWR



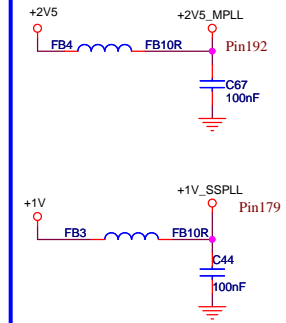
DDR-3 Power



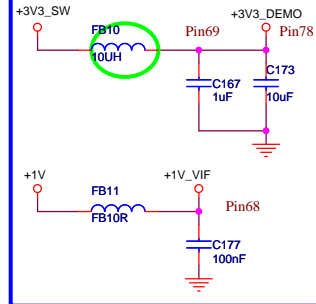
*Short these ground planes on PCB



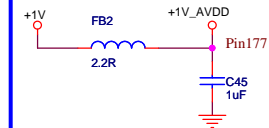
PLL POWER/GND (1.0V/2.5V)



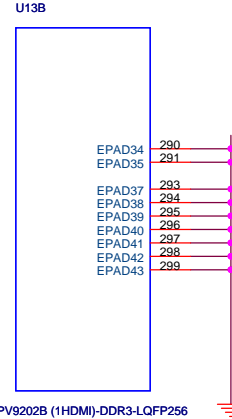
DEMO/VIF PWR

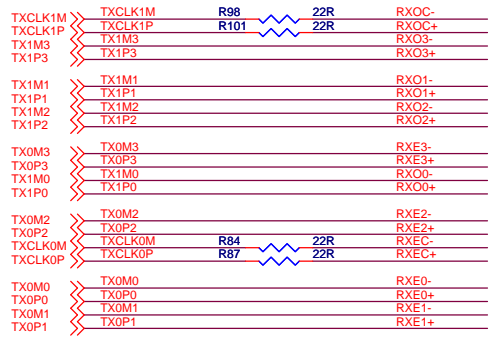


SYSTEM PLL

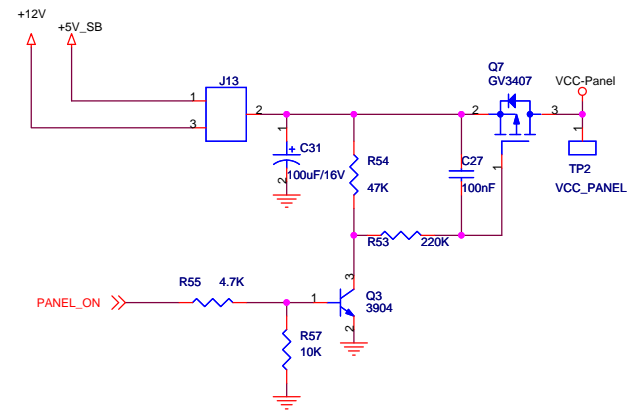
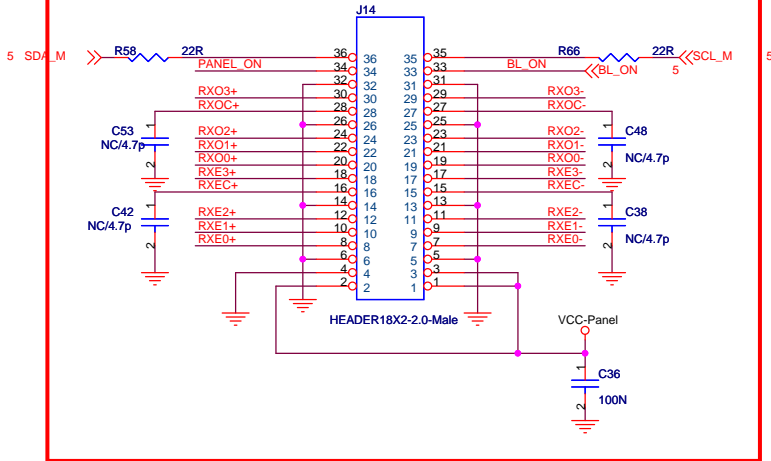


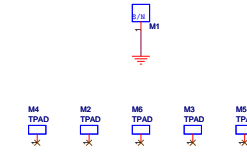
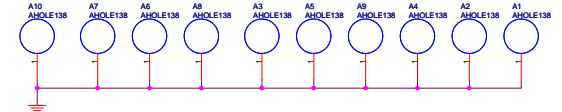
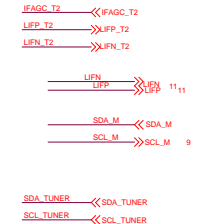
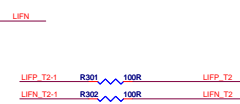
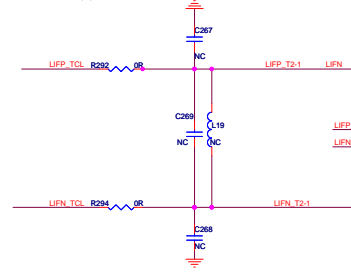
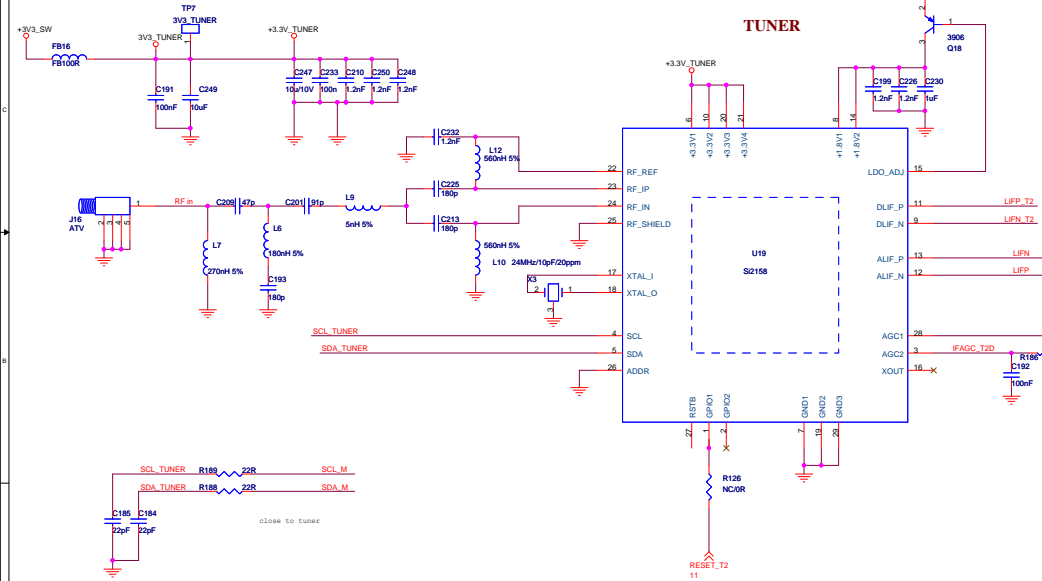
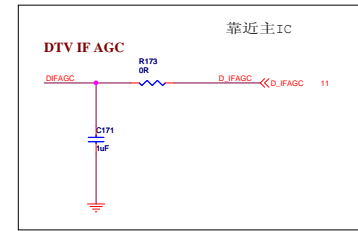
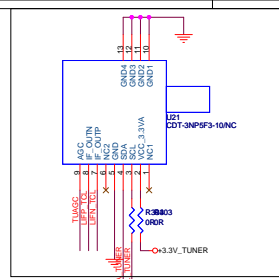
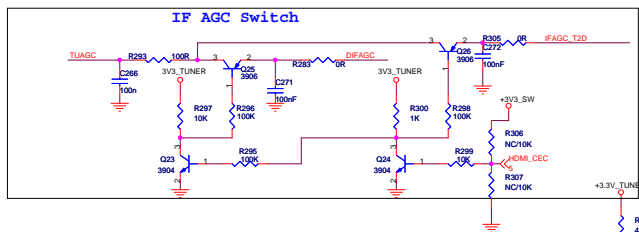
SPV920E E-Pad

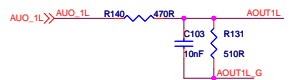
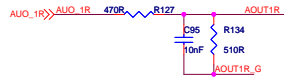
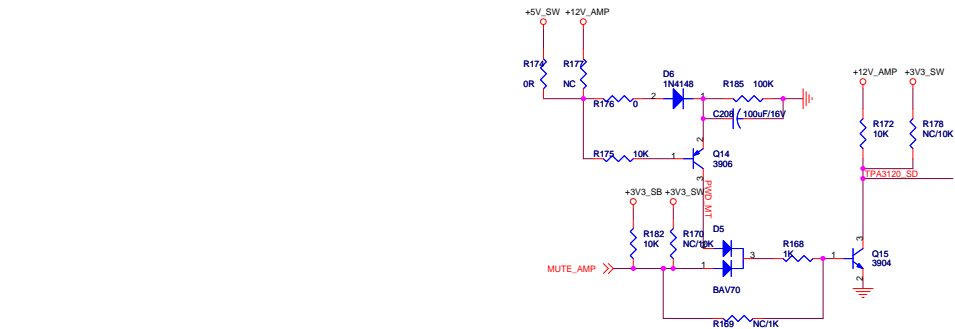




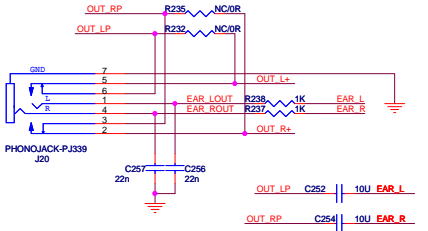
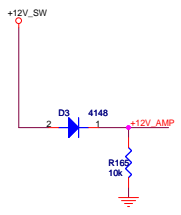
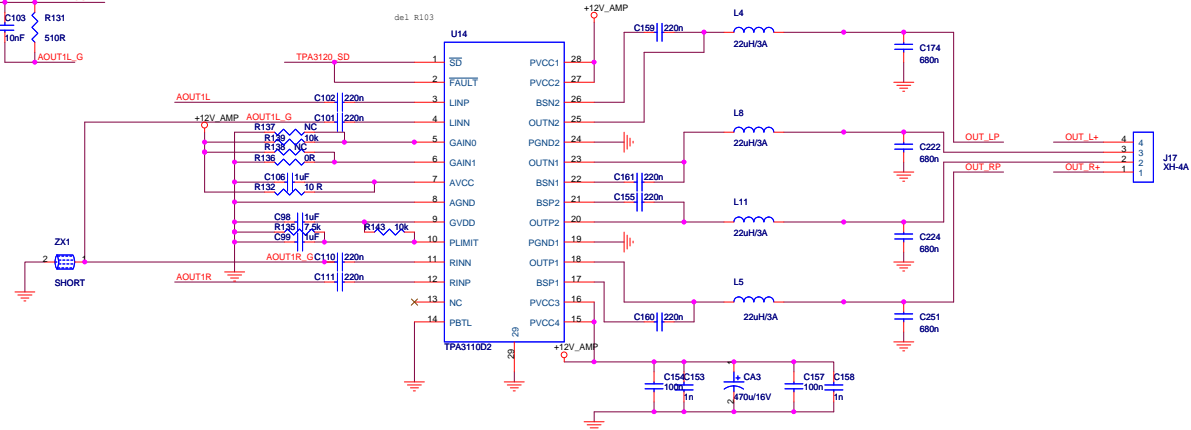
LVDS CONNECTOR



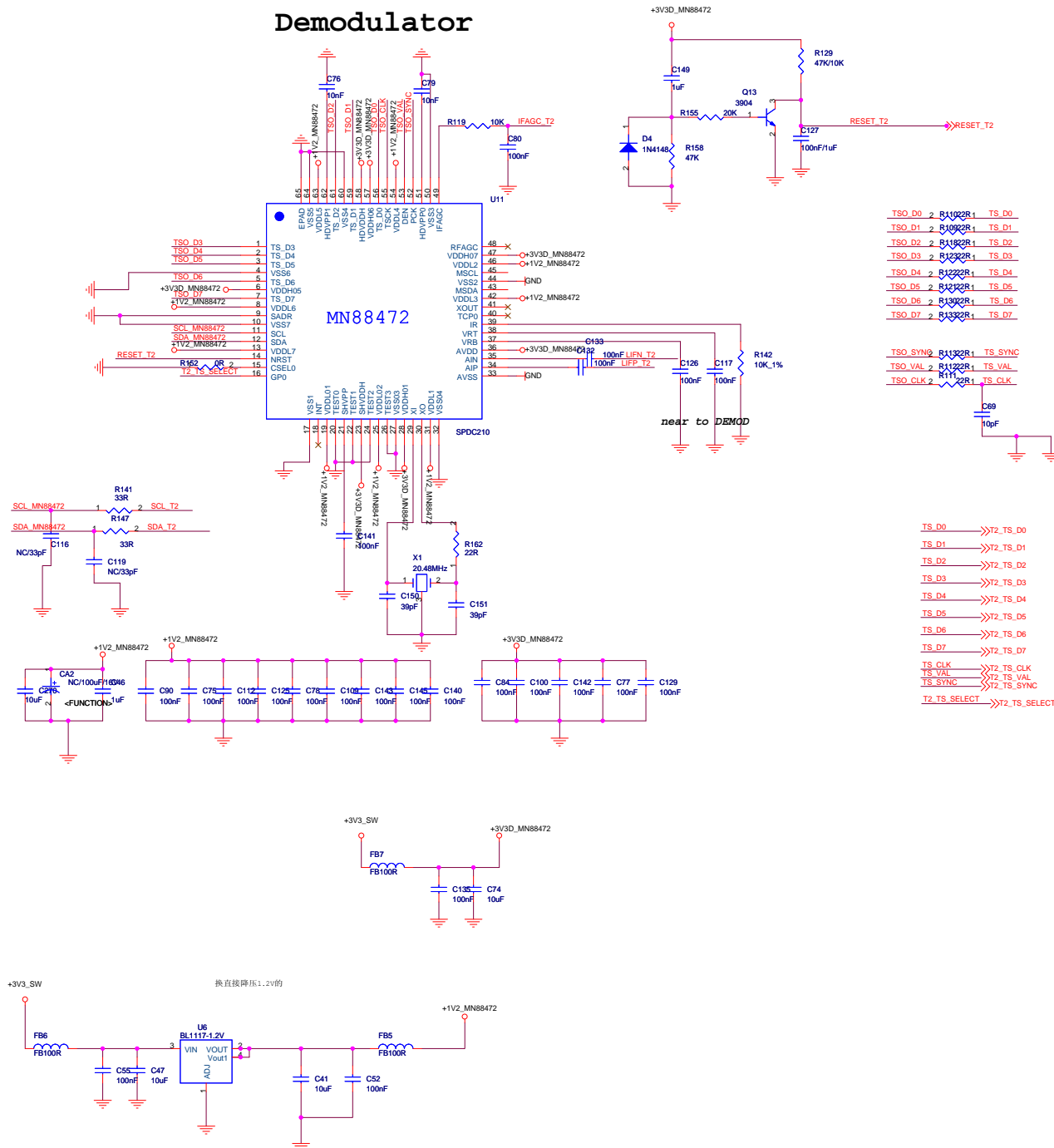




Operation Supply Current:3A Max



Demodulator



- TSO_D0 2 R119 2R1 TS_D0
 - TSO_D1 2 R120 2R1 TS_D1
 - TSO_D2 2 R121 2R1 TS_D2
 - TSO_D3 2 R122 2R1 TS_D3
 - TSO_D4 2 R123 2R1 TS_D4
 - TSO_D5 2 R124 2R1 TS_D5
 - TSO_D6 2 R125 2R1 TS_D6
 - TSO_D7 2 R126 2R1 TS_D7
-
- TSO_SYNC 2 R127 2R1 TS_SYNC
 - TSO_VAL 2 R128 2R1 TS_VAL
 - TSO_CLK 2 R129 2R1 TS_CLK

- TS_D0 >>>T2_TS_D0
- TS_D1 >>>T2_TS_D1
- TS_D2 >>>T2_TS_D2
- TS_D3 >>>T2_TS_D3
- TS_D4 >>>T2_TS_D4
- TS_D5 >>>T2_TS_D5
- TS_D6 >>>T2_TS_D6
- TS_D7 >>>T2_TS_D7
- TS_CLK >>>T2_TS_CLK
- TS_VAL >>>T2_TS_VAL
- TS_SYNC >>>T2_TS_SYNC
- T2_TS_SELECT >>>T2_TS_SELECT

- IFAGC_T2 <<<IFAGC_T2
- SCL_T2 <<<SCL_TUNER
- SDA_T2 <<<SDA_TUNER
- LIFP_T2 >>>LIFP_T2
- LIFN_T2 >>>LIFN_T2

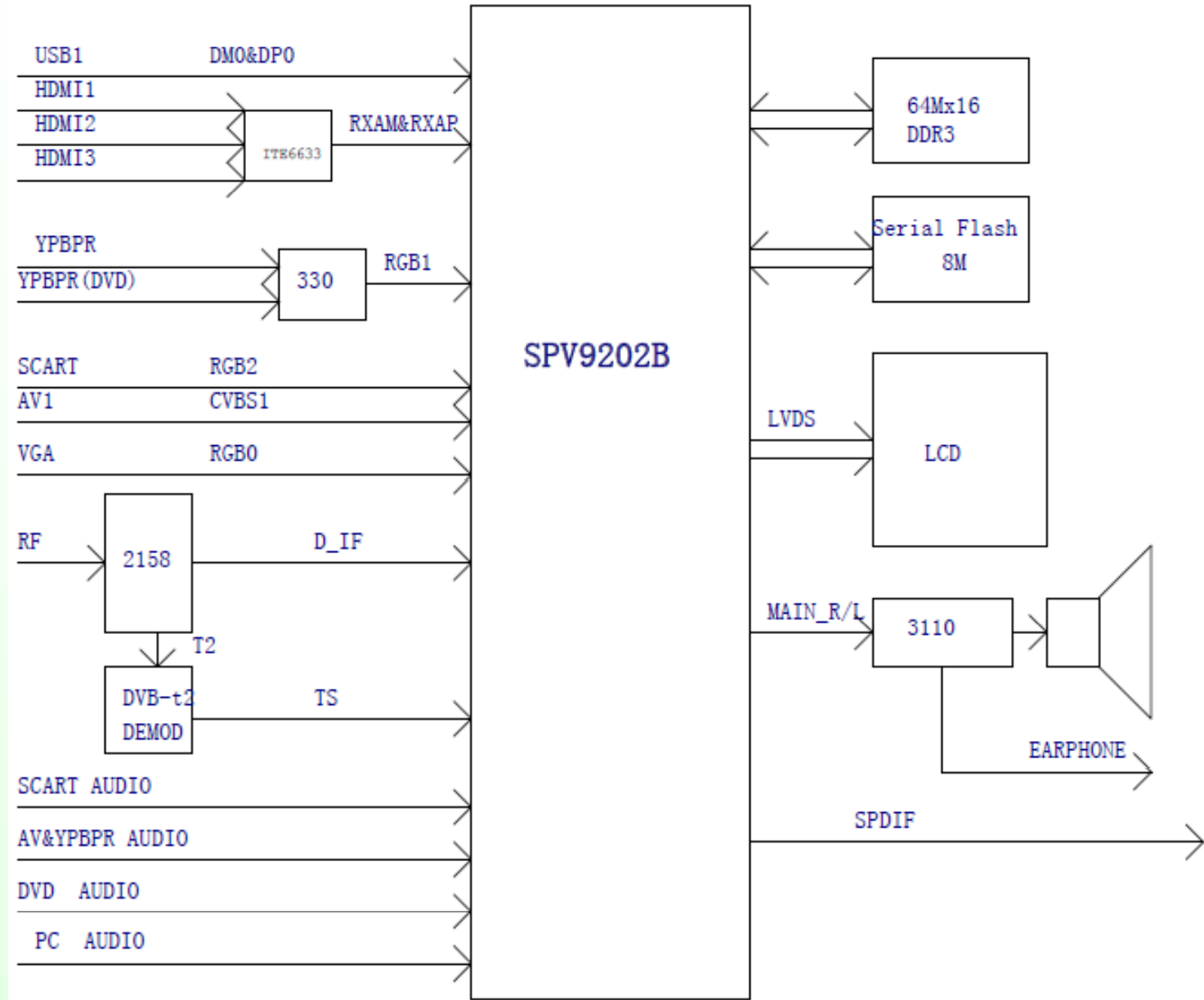
换直接降压1.2V的

CV9202H-TPW

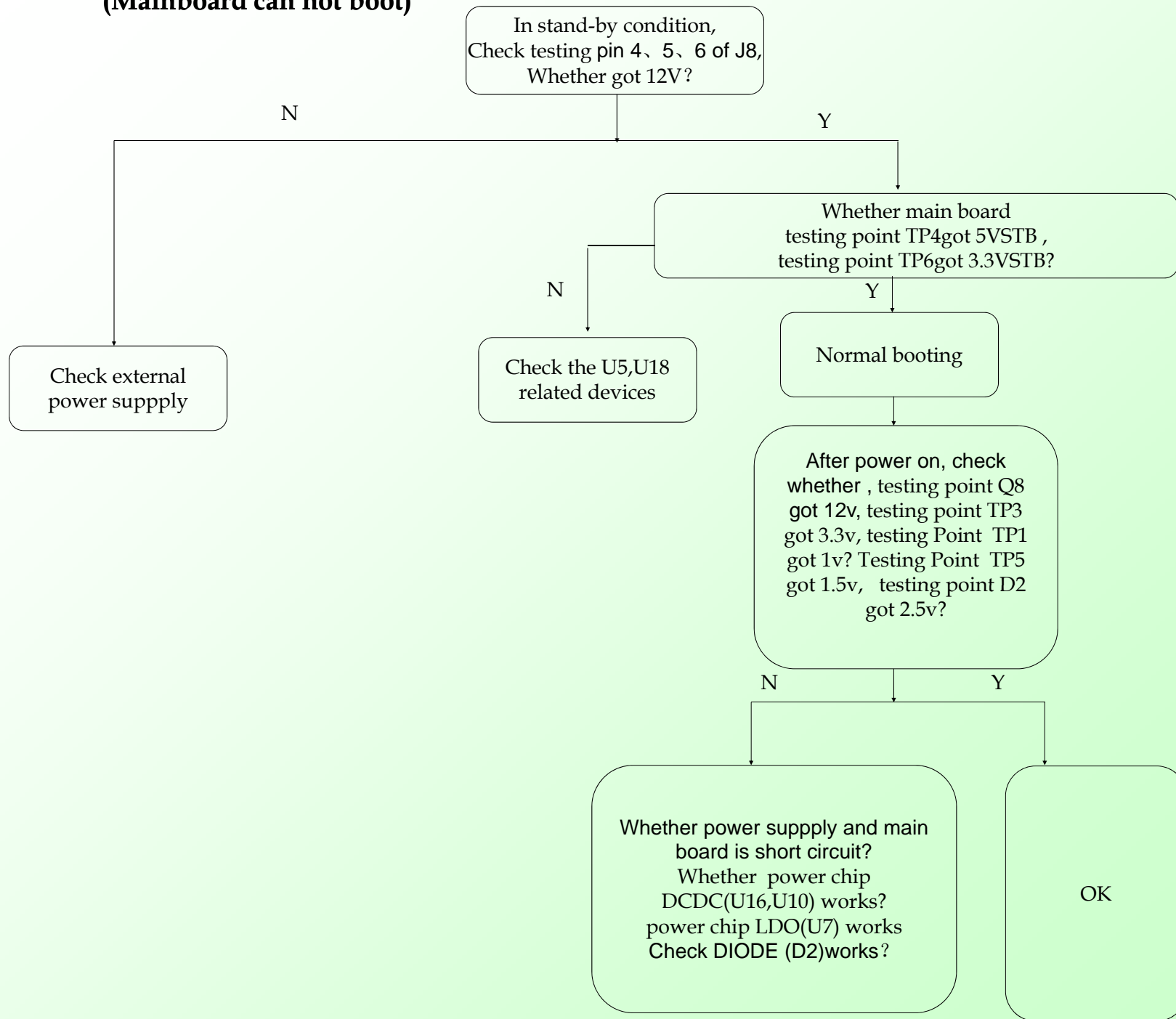
Common problems solution

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

SYSTEM BLOCK

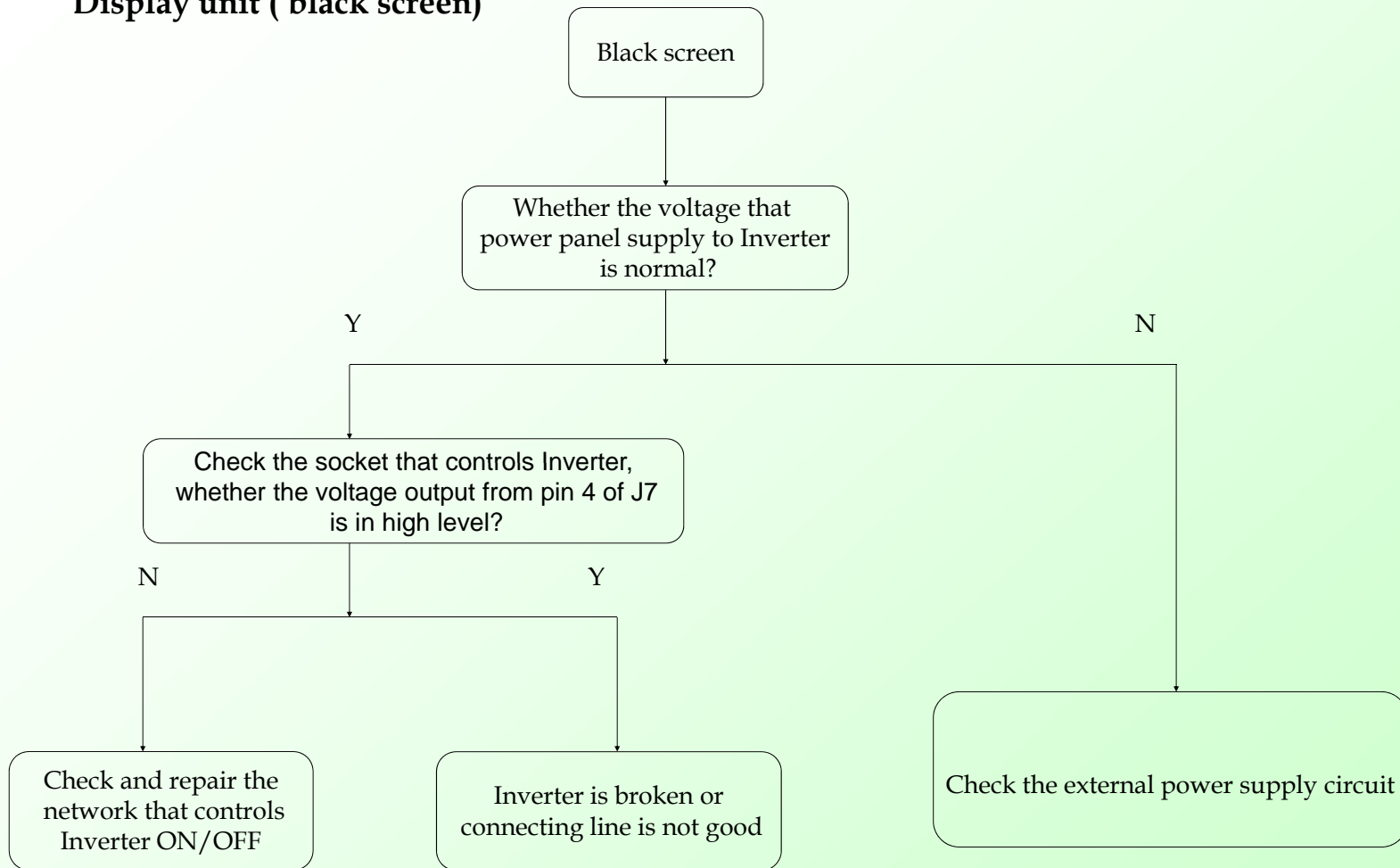


Picture 1: Power Units Problem Solving (Mainboard can not boot)

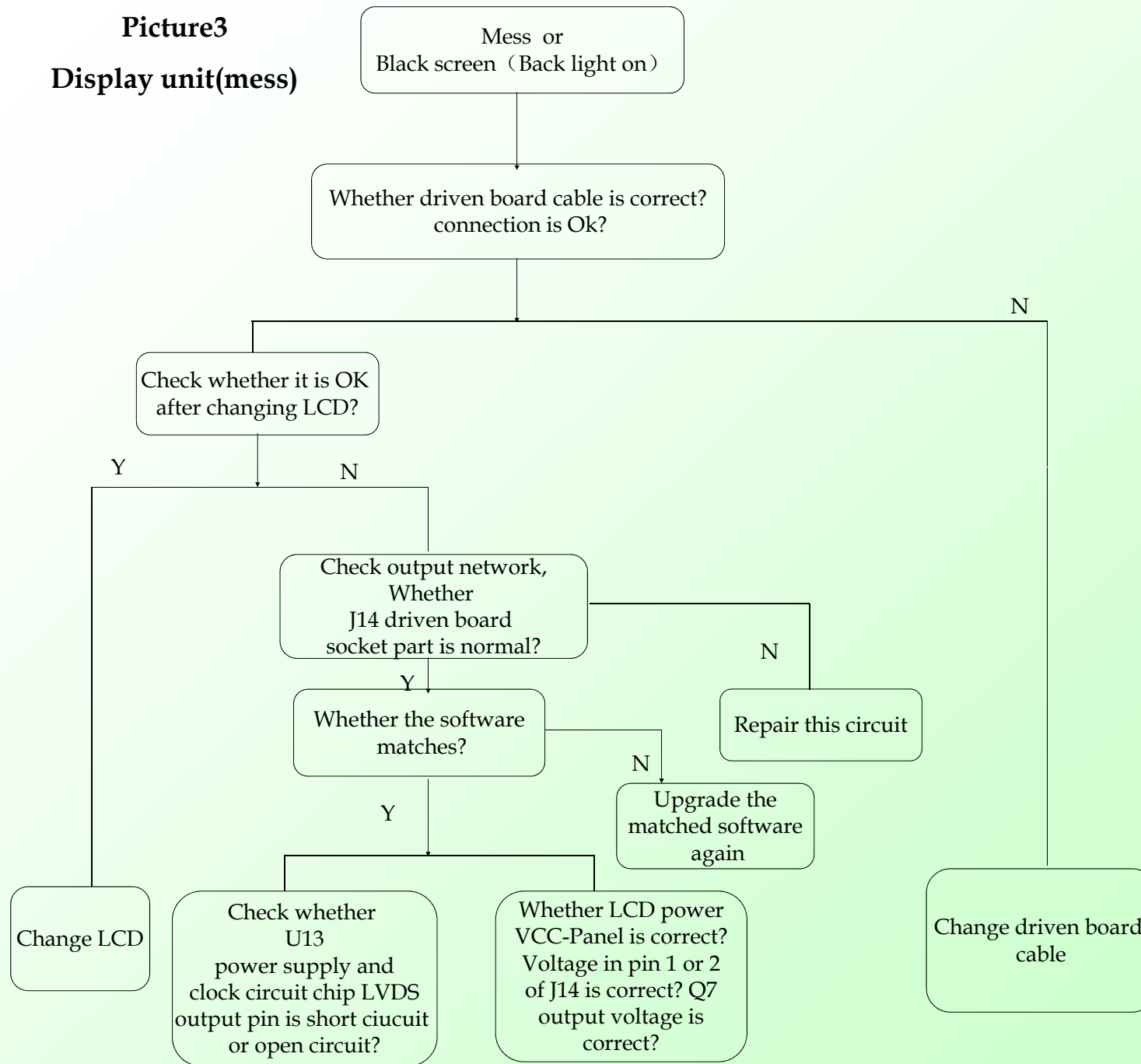


Picture 2

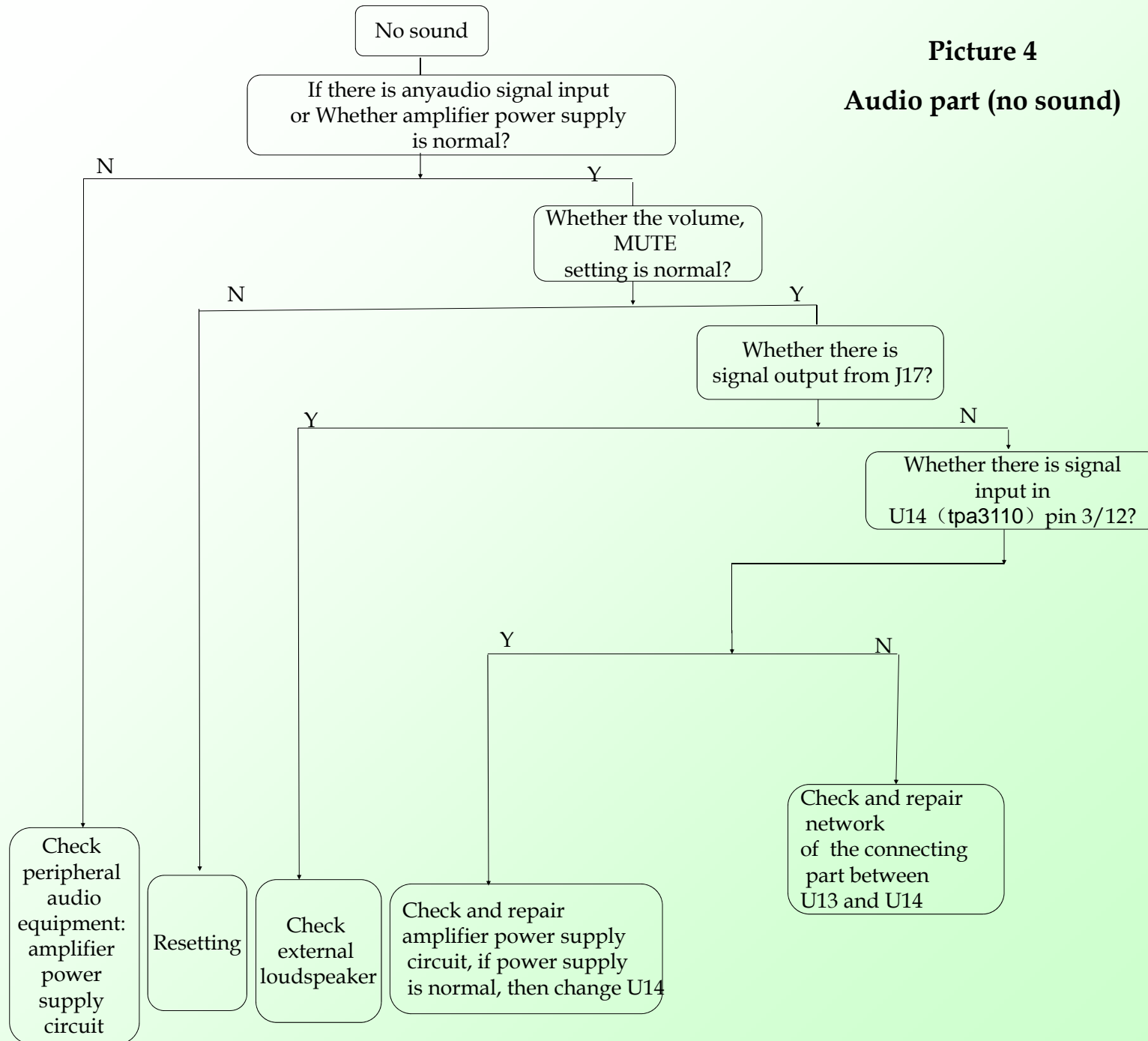
Display unit (black screen)



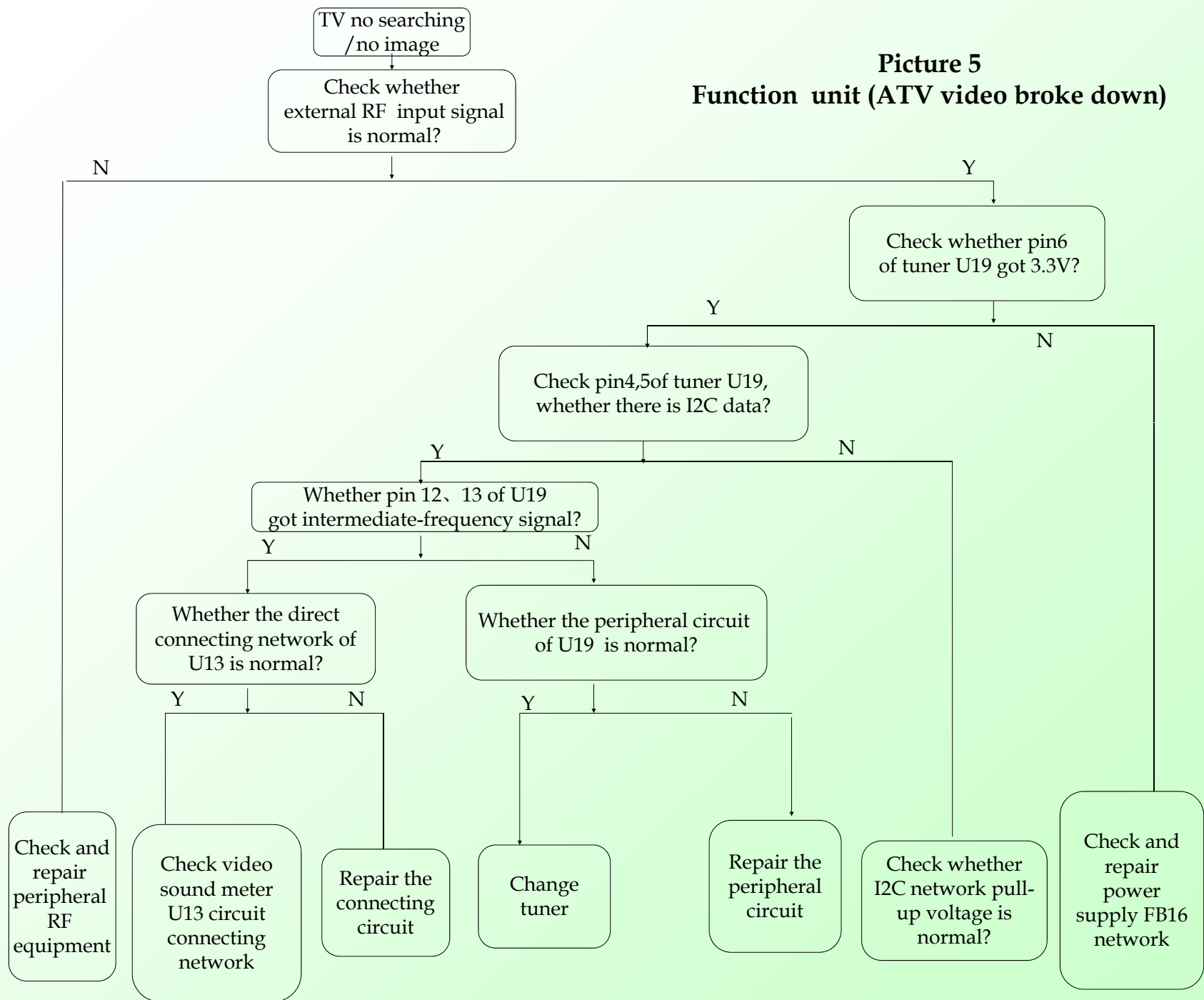
Picture3
Display unit(mess)



Picture 4
Audio part (no sound)

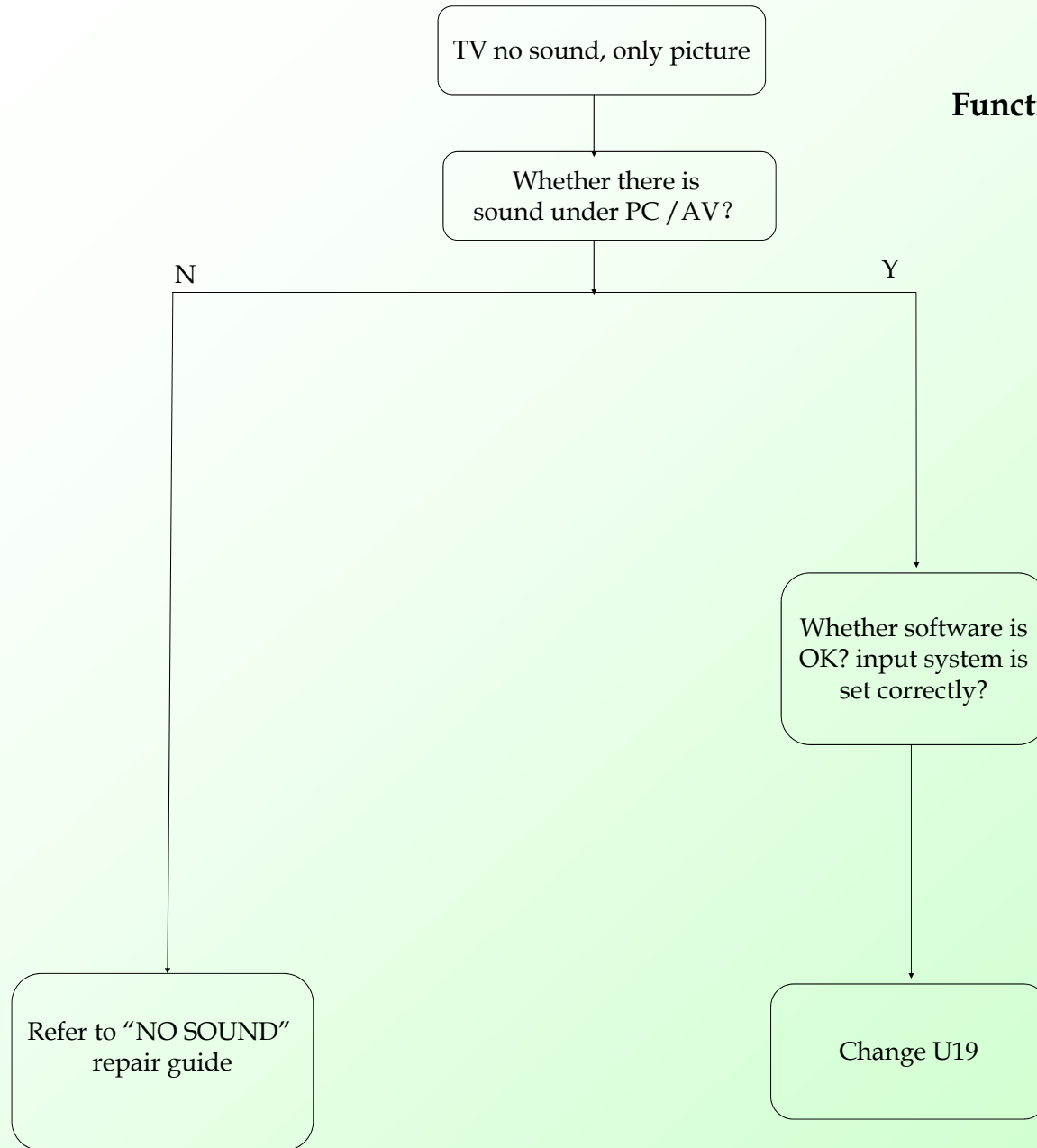


Picture 5
Function unit (ATV video broke down)



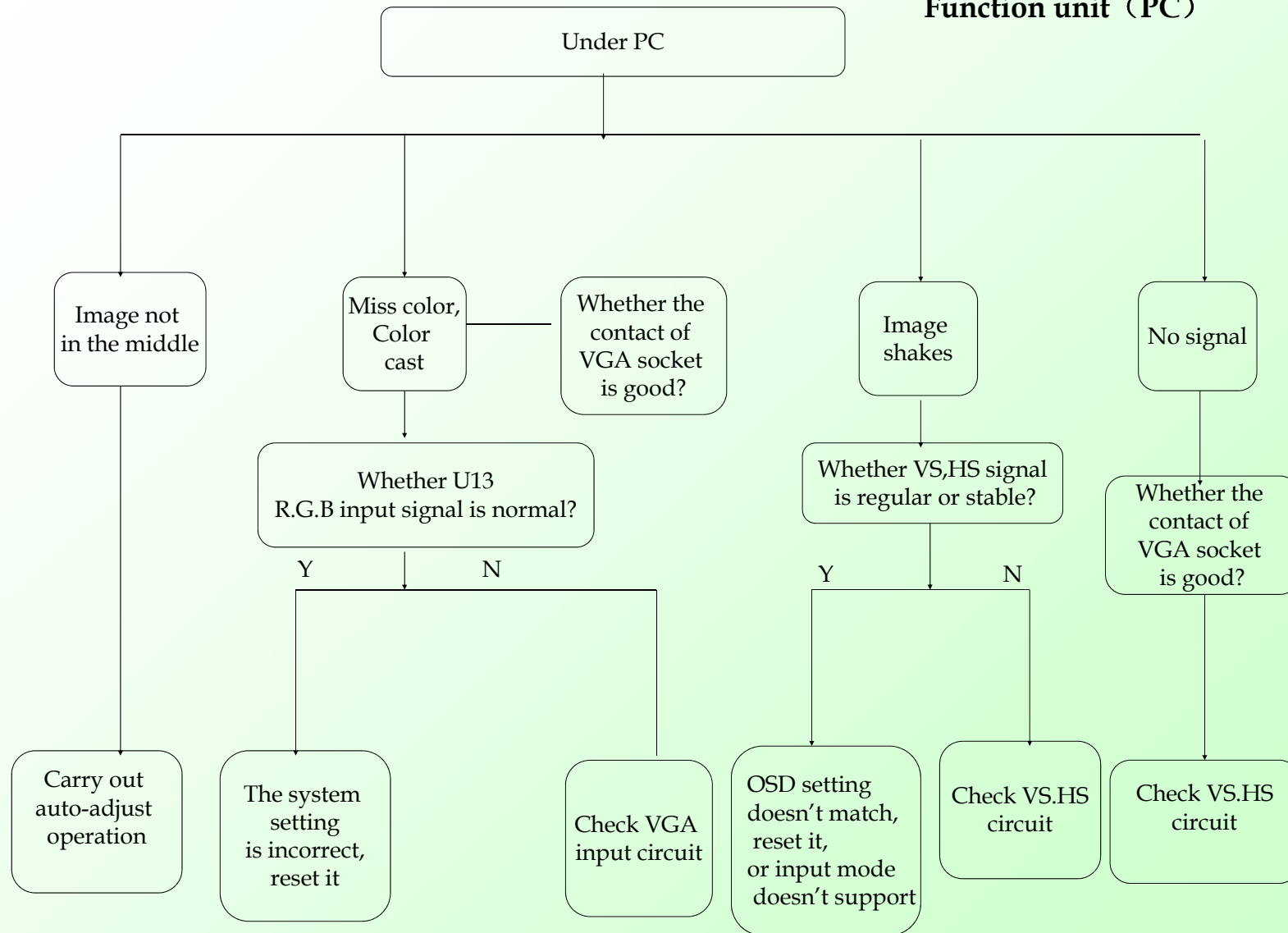
Picture 6

Function unit (ATV/DTV no sound)



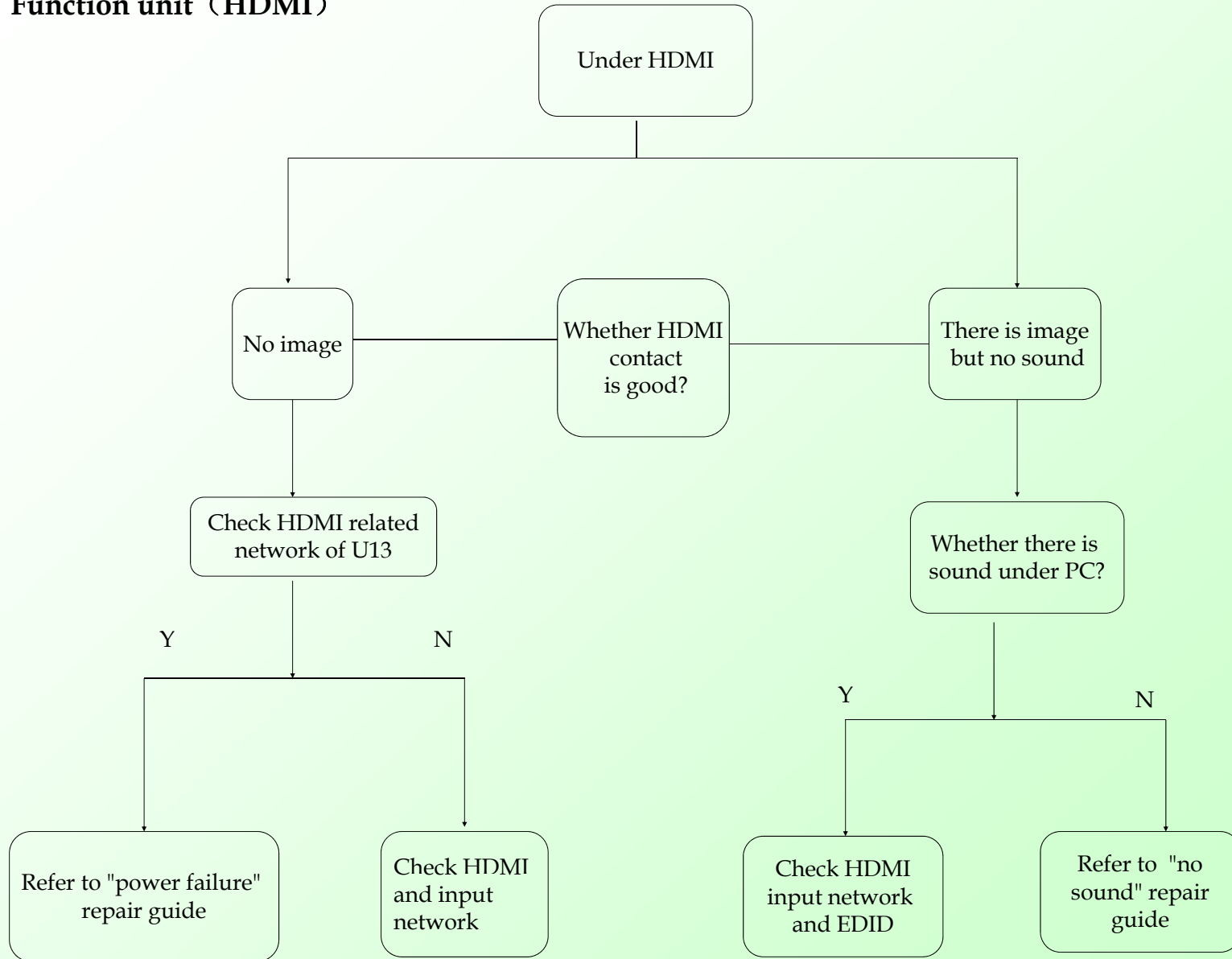
Picture 7

Function unit (PC)



Picture 8

Function unit (HDMI)



Picture 9
Function unit(DTV-T2 video
breakdown)

