

# TV Productor Service Manual

DATE: 2013-12-09

YOUR COMPANY NAME:

YOUR MODEL NAME:

Production & Function Description:

Action: TP.SIS231.P85

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

TV System: PAL SECAM

## Approved Signatures:

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

Express Luck Industrial Limited

Address: No.88, BaoTong, NanRoad, Xikeng, HengGangTown, LongGangDist  
ric, Shenzhen, Guangdong, China

TEL : 0086-0755-89739888 FAX : 0086-0755-89739666

<b>1. Basic Function &amp; Specifications</b>	-----3
<b>2. Maintenance &amp; Safety</b>	-----3
<b>3. Instruments</b>	-----4
<b>4. Software Upgrade</b>	-----4
<b>5. Main Function &amp; Specifications</b>	-----5-24
<b>6. Main board circuit diagram</b>	-----25-33
<b>7. Main board service manual</b>	-----34-48

## **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<sub>L</sub>=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.

广州视源电子科技股份有限公司

Guangzhou shiyuan Electronics Co.,Ltd

## SPECIFICATION

**MODEL: TP.SIS231.PT85(Europe)**

Part Number: 13070206

<b>Approved by Shiyuan</b>		
Prepared by 编写	Checked by 审核	Approved by 批准

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

<b>Approved by customer</b>		
Comments 确认意见	Approved by 批准签字	Company's seal 盖章
Customer's Name:		

---

## Content 目录

1. General Description(概述).....	1
2. Function Layout(产品外观图).....	1
3. Features(特性说明).....	2
4. Mechanical Dimension(结构尺寸图).....	6
5. Schematics Of IR Board & Key Board(IR & Key 原理图).....	7
6. Interface Definition(接口定义).....	7
7. Electrical Characteristics(电气特性).....	11
7.1 Input Electrical Specifications(输入特性).....	11
7.2 LED Driver Power Output Connector(LED 背光供电控制接口).....	12
8. Fuse Protection(保险丝保护).....	15
9. International Standards(国际标准).....	15
9.1 Safety(安规).....	15
9.2 HI-POT And Insulation Resistance(耐压性能和绝缘阻抗).....	15
10. Configuration&General Precautions(使用注意事项).....	16
11. Mount precautions (组装注意事项).....	17



## 1. General Description(概述)

TP.SIS231.PT85 is an integration board of power supply, LED driver and TV board.

TP.SIS231.PT85 是一款电源、恒流驱动、TV 一体的电视板。

TP.SIS231.PT85 is a digital and analog TV control board, which is suitable for Pan Europe market.

该款方案的电视控制主板是数模一体的，适用于欧洲市场。

TP.SIS231.PT85's USB slot can be used for updating software and playing multimedia, such as MP3 and JPEG.

该款方案的 USB 接口可用于软件升级和多媒体播放。

TP.SIS231.PT85's power part is an energy-efficient ultrathin DC-line switching power supply unit, with max 75W/115VAC input, 65 watts multi-output. It fits to 26" to 32" LED backlight TFT panel.

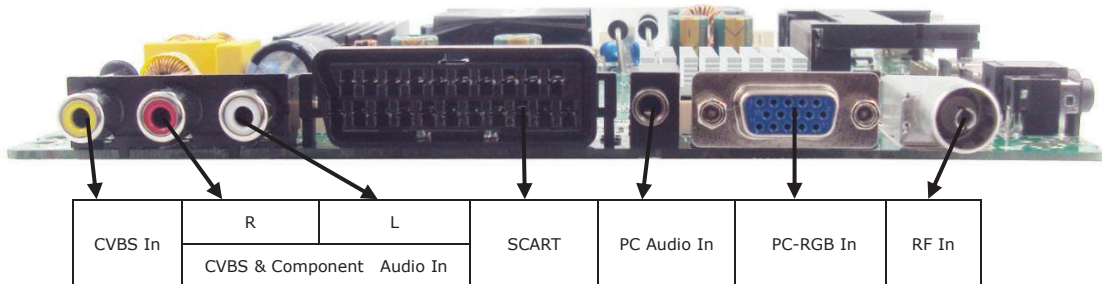
该款方案的电源部分是高效率开关电源，功率最大输入为 75W/115VAC，总输出功率为 65W，支持 26 到 32 寸 LED 背光的 TFT 屏。

## 2. Function Layout(产品外观图)

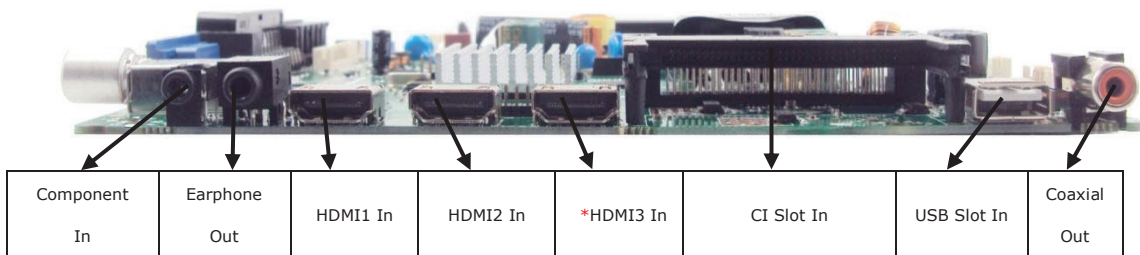
Pictures are for reference only, specific to prevail in kind.

图片仅供参考，请以实物为准。

### FRONT VIEW OF TP.SIS231.PT85(前视图)



### SIDE VIEW OF TP.SIS231.PT85(侧视图)



### REQUIREMENT OF WIRE HARNESS

#### COMPONENT In





### 3. Features(特性说明)

<b>CHIPSET</b> (主芯片)	SIS231C1CI				
<b>MARKET AREA</b> (销售区域)	Pan Europe				
<b>OSD LANGUAGE</b> (OSD 语言)	English, French, German, Italian, Spanish, Portuguese (optional)				
<b>PANEL</b> (面板)	Panel Type (面板类型)	LED			
	Interface (接口)	Dual/Single LVDS Interface			
	Max Resolution (最高分辨率)	1920×1080			
<b>TV INPUT</b> (TV 输入)	ATV	Receiving Range (接收范围)	48.25MHz ~ 863.25MHz		
		Input Impedance (输入抗阻)	75Ω		
		Video System (视频制式)	PAL, SECAM		
		Sound System (声音制式)	BG, DK, I, L/L'		
			NICAM/A2		
		TELETEXT	1000Pages		
	Max Storage Channels	99CH			
	DTV	Receiving Range (接收范围)	VHF (50MHz ~ 230MHz)		
			UHF (474MHz ~ 862MHz)		
		Input Impedance (输入抗阻)	75Ω		
		Channel Bandwidth	7MHz/8MHz		
		Modulation	DVB-T	COFDM 2K/8K QPSK,16QAM,64QAM	
			DVB-T2	QPSK,16QAM,64QAM,256QAM	
			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, DD, DD+, AAC, HE-AAC		
		Basic Functions	EPG, Subtitle, LCN, TELETEXT (Europe), MHEG-5(UK)		
		Common Interface	Built-In		
Max Storage Channels		1200CH(DVB-T+DVB-C, dynamic)			
<b>VIDEO INPUT</b> (视频输入)	PC-RGB	Format (格式)	Up to 1920×1080@60Hz		
	CVBS	Video System (视频制式)	PAL/NTSC/SECAM		
		Video Level (视频信号幅度)	1.0 V <sub>p-p</sub> ±5%		

	Component	480i, 480p, 576i, 576p, 720p, 1080i, 1080p	
	HDMI	480i, 480p, 576i, 576p, 720p, 1080i, 1080p	
<b>AUDIO INPUT</b> (音频输入)	PC Audio	Earphone Input	0.2 ~ 2.0 V <sub>RMS</sub>
	CVBS/Component Audio	L/R RCA Input	0.2 ~ 2.0 V <sub>RMS</sub>
<b>AUDIO OUTPUT</b> (音频输出)	Frequency Response (频率响应)	100Hz~15KHz @±3dB (1KHz, 0dB reference signal) (参考信号频率为 0dB, 1KHZ)	
	Max Output Power (最大输出功率)	2×8W(8Ω) THD+N<10%@1KHz (Power Supply: 12V, Audio Input: 0.5V <sub>RMS</sub> )	
<b>POWER</b> (电源)	Requirement (额定)	12V	
	To Panel (驱屏电压)	5V,12V	
	Management (电源管理)	Standby Power Consumption < 0.5W 待机功耗 < 0.5W	
<b>COMB FILTER</b> (梳状滤波功能)	3D		
<b>DEINTERLACE</b> (解交织功能)	3D		
<b>KEY FUNCTION</b> (按键功能)	MENU, CH+, CH-, VOL+, VOL-, INPUT, POWER 菜单, 频道+, 频道-, 音量+, 音量-, 电源		
<b>EXPANDABLE FUNCTION</b> (扩展功能)	DVD		
<b>Note:</b> Licenses involved in specifications above are supposed to be obtained by customers themselves. <b>注意:</b> 以上规格涉及 License 部分需要客户自己获取。			

**USB MULTIMEDIA PLAYBACK FORMAT (USB 多媒体播放支持格式列表)**

Multimedia Categories (媒体)	File Extension (扩展名)	Decoder(编码解码器)		Notes(备注)
		Video (视频)	Audio (音频)	
Video	*.avi	MPEG-1 MPEG-2 MP MPEG-4 SP MPEG-4 ASP MPEG-4 XVID DivX H.264(AVC) MP@Level 4 H.264(AVC) HP@Level 4		
	MPEG(*.mpeg, *.mpg, *.dat, *.vob)	MPEG-1 MP MPEG-2 MP		
	MPEG-4(*.mp4)	MPEG-4 SP MPEG-4 ASP MPEG-4 XVID H.264(AVC) MP@Level 4 H.264(AVC) HP@Level 4	MPEG-1 Layer 2 MPEG-1 Layer 3 MPEG-2 Layer 3 AC3 AAC-LC HE-AAC V1 HE-AAC V2	MPGE1/MPEG2/MPEG4: Up to 1080p @ 30F H.264: Up to 1080p @ 25F AAC: AAC-LC(type 2), HE-AAC v1(type 5,SBR), HE-AAC v2(type 29,SBR+PS)
	TS(*.ts, *.trp, *.tp)	MPEG-1 MPEG-2 MP H.264(AVC) MP@Level 4 H.264(AVC) HP@Level 4		
	MKV(*.mkv)	MPEG-1 MPEG-2 MP MPEG-4 SP MPEG-4 ASP MPEG-4 XVID H.264(AVC) MP @ Level 4 H.264(AVC) HP @ Level 4		
	*.flv	H.264(AVC) MP @ Level 4 H.264(AVC) HP @		

Multimedia Categories (媒体)	File Extension (扩展名)	Decoder(编码解码器)		Notes(备注)
		Video (视频)	Audio (音频)	
		Level 4		
	VC-1/WMV9(*.wmv, *.asf)	VC-1 MP VC-1 SP VC-1 AP	WMA Standard WMA Professional	
	RMVB(*.rm, *.rmvb)	RV8 720P@30 RV9 720P@30 RV10 720P@30	Cook Codec	
Music	*.mp3		MPEG-1 Layer 3	Bit Rate: up to 320Kbps Sample Rate: 32KHz, 44.1KHz, 48KHz
			MPEG-2 Layer 3	
	AAC(*.aac,*m4a)		AAC HE-AAC V1 HE-AAC V2	
	*.wav		LPCM ADPCM	
Photo	*.jpg *.jpeg	Baseline Mode		72x72 < Baseline resolution < 7680x4320 Progressive Mode Size <=1280x1024 File Size <=10MB
		Progressive Mode		
Text	*.txt		UTF-8 UNICODE ASCII	File Size <=1MB

**File system:** Hi Speed FS, FAT32, NTFS(NTFS compressed file is not supported).

**PVR function:**Recording standby, time-shift, EPG recording reservation.

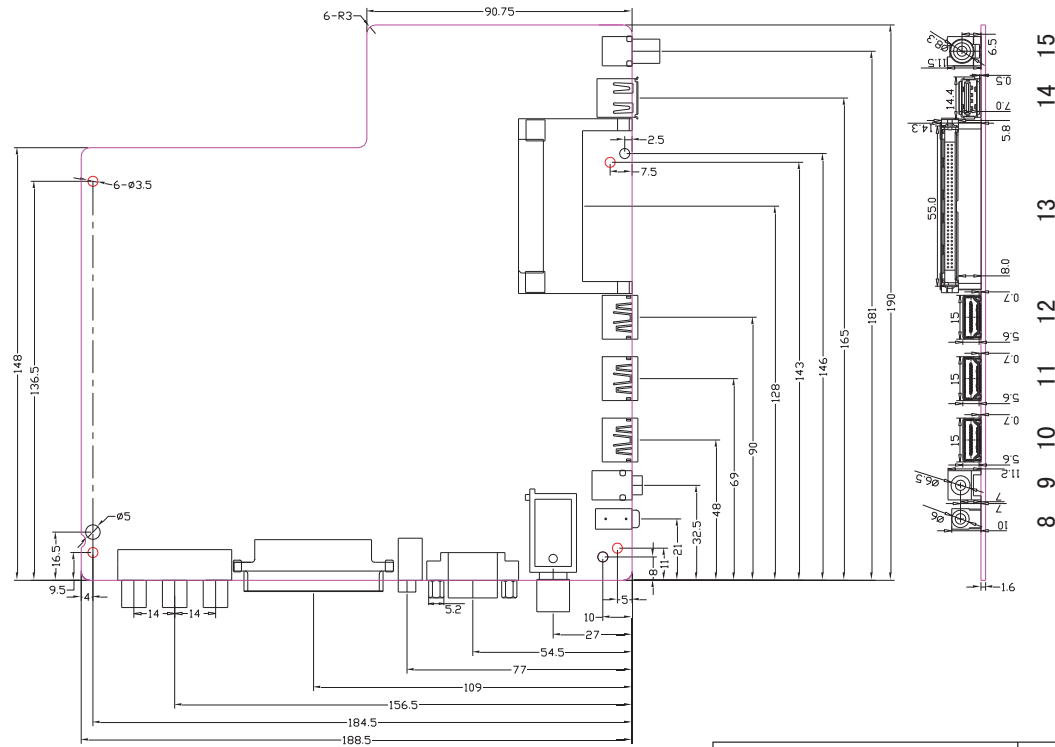
**Note:1.**Max 500 files supported each folder.

**2.** Licenses involved in specifications above are supposed to be obtained by customers themselves.

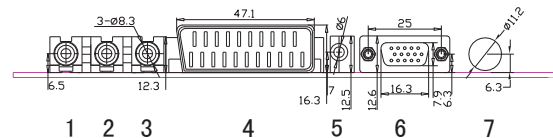
## 4. Mechanical Dimension(结构尺寸图)

The size of TP.SIS231.PT85 is 188.5mm(L)\*190mm(W).

Ver.	V1.0
NO.	Description
1	CVBS IN
2	CVBS/YPbPr RIN
3	CVBS/YPbPr LIN
4	SCART
5	PC AUDIO IN
6	VGA IN
7	RF IN
8	YPbPr IN
9	EARPHONE OUT
10	HDMI1
11	HDMI2
12	HDMI3
13	CI SLOT
14	USB IN
15	COAX OUT



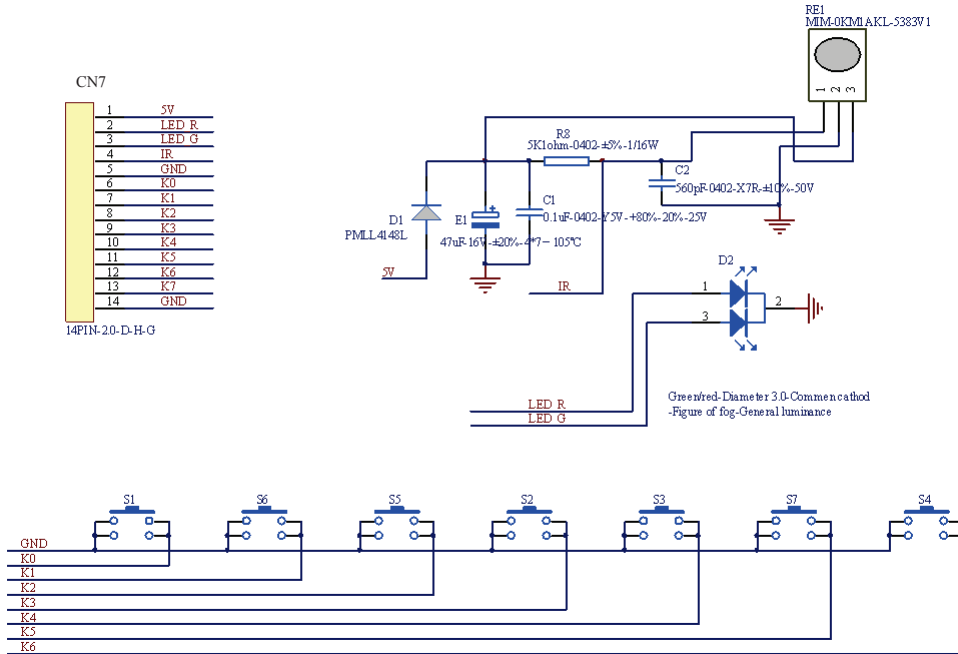
公板开模请以红色孔位为准



PCB Tolerance		Connector Tolerance
PCB size	±0.15mm	(Unless Otherwise Stated)
PCB thickness	≤1.0mm ±0.1mm	±0.3mm
	>1.0mm ±10%	

## 5. Schematics Of IR Board & Key Board

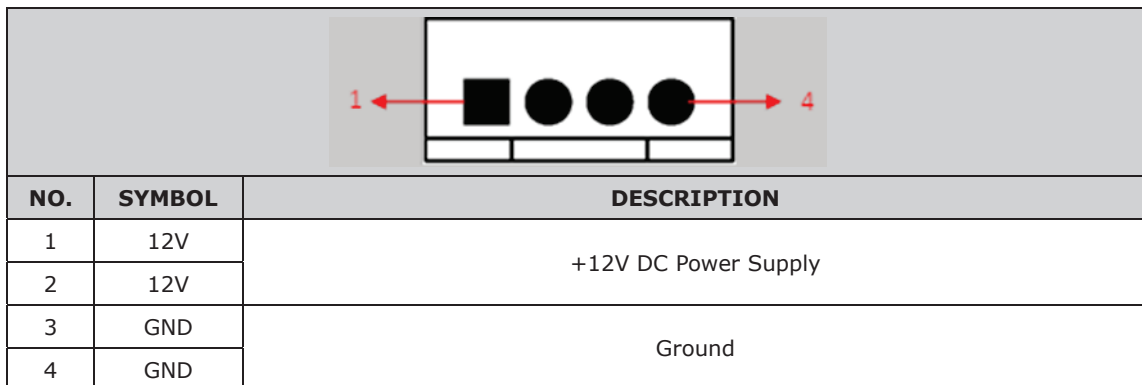
### (IR & Key 原理图)



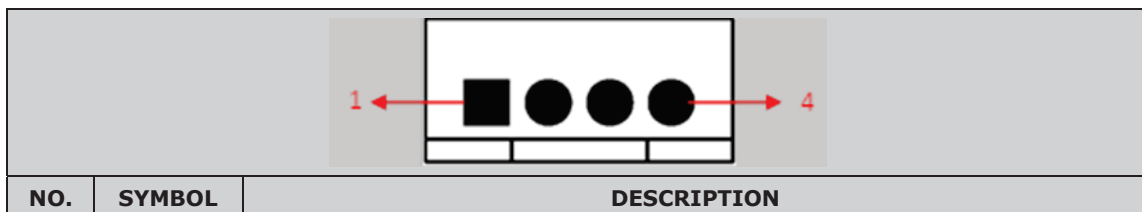
## 6. Interface Definition(接口定义)

The optional connectors and terminals are marked with "\*".标“\*”的为可选。

### ◆\*CN22(4PIN/2.0):EXTERNAL 6M30 CONNECTOR (外挂 6M30 接口)



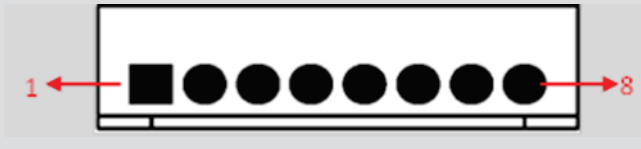
### ◆CNB3(4PIN/2.0):POWER SUPPLY FOR UPGRADE CONNECTOR (升级供电接口)



1	12V	+12V DC Power Supply
2	12V	
3	GND	Ground
4	GND	

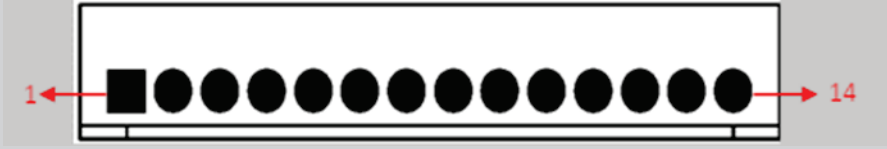
◆\*CN13(8PIN/2.0): DVD POWER & CONTROL CONNECTOR

(DVD 电源控制接口)



NO.	SYMBOL	DESCRIPTION	MAX CURRENT
1	D5V	+5V DC Power Supply for DVD	1200 mA
2	D5V		
3	GND	Ground	--
4	GND		
5	D12	+12V DC Power Supply for DVD	1000 mA
6	DIR	IR Data Transfer to DVD	--
7	RX/DAT	Data Receiver	--
8	TX/STB	DVD Standby Control	--

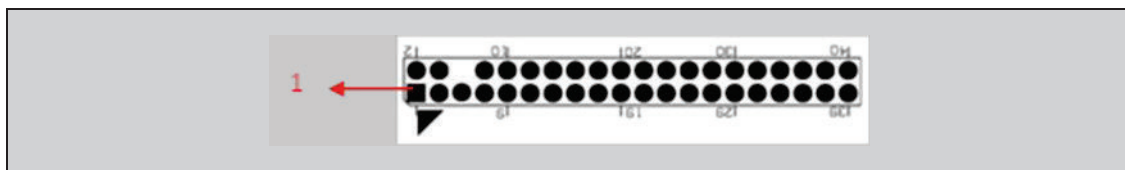
◆CN7(14PIN/2.0): IR & KEY BOARD CONNECTOR(遥控和按键控制接口)



NO.	SYMBOL	DESCRIPTION
1	5V	+5V DC Power Supply For IR
2	RED	Red Indicator
3	GRN	Green Indicator
4	IR	IR Receiver
5	GND	Ground
6	K0	Key0
7	K1	Key1
8	K2	Key2
9	K3	Key3
10	K4	Key4
11	K5	Key5
12	K6	Key6
13	K7	Key7
14	GND	Ground

◆CN12(2×20PIN/2.0): LVDS INTERFACE CONNECTOR(LVDS 接口)

Note: Pin31~40 are optional. 第31~40脚是可选的。



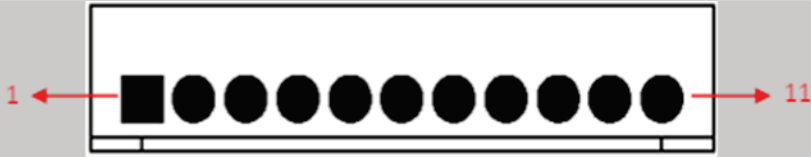
NO.	SYMBOL	DESCRIPTION
1	VSEL	Power Supply for Panel
2	VSEL	
3	VSEL	
4	GND	Ground
5	GND	
6	NC	No Connection
7	RX00-	LVDS ODD 0- Signal
8	RX00+	LVDS ODD 0+ Signal
9	RX01-	LVDS ODD 1- Signal
10	RX01+	LVDS ODD 1+ Signal
11	RX02-	LVDS ODD 2- Signal
12	RX02+	LVDS ODD 2+ Signal
13	GND	Ground
14	GND	
15	RXOC-	LVDS ODD Clock- Signal
16	RXOC+	LVDS ODD Clock+ Signal
17	RX03-	LVDS ODD 3- Signal
18	RX03+	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	
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	
*33	CON1	Logic Level Control (Default For High Level)
*34	DISPLAY	PDP Display Enable
*35	VSEL1	Reserved Power or I <sup>2</sup> C SCL
*36	VSEL2	Reserved Power or I <sup>2</sup> C SDA
*37	RX04-	LVDS ODD4- Signal
*38	RX04+	LVDS ODD4+ Signal



*39	RXE4-	LVDS EVEN 4- Signal
*40	RXE4+	LVDS EVEN 4+ Signal


◆\*CN14(11PIN/2.0): DVD SIGNAL INPUT CONNECTOR

(DVD 信号输入接口)



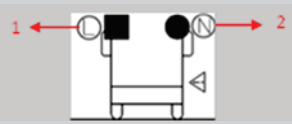
NO.	SYMBOL	DESCRIPTION
1	NC	No Connection
2	GND	Ground
3	DRI	DVD Audio Right Channel Input
4	GND	Ground
5	DLI	DVD Audio Left Channel Input
6	DPB	DVD Component-Pb Input
7	GND	Ground
8	DPR	DVD Component-Pr Input
9	GND	Ground
10	DY	DVD Component-Y Input
11	GND	Ground

◆CN18(4PIN/2.54): SPEAKER CONNECTOR (喇叭输出接口)



NO.	SYMBOL	DESCRIPTION
1	LOUT+	Audio Left Channel Output+
2	LOUT-	Audio Left Channel Output-
3	ROUT-	Audio Right Channel Output-
4	ROUT+	Audio Right Channel Output+

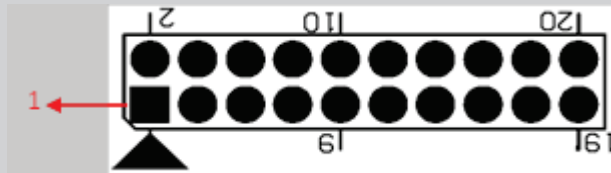
◆CNB1 (2PIN-7.92-L-H-G-带扣-B): AC INPUT CONNECTOR (交流输入接口)



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

◆ \*CN32(2x10PIN/2.0): EXTERNAL HDMI CONNECTOR (外挂 HDMI 接口)

**Note:** HDMI13 and external HDMI can't coexist with each other.



NO.	SYMBOL	DESCRIPTION
1	HDMI_RX2+	HDMI 2+ Signal
2	HDMI_RX2-	HDMI 2- Signal
3	HDMI_RX1+	HDMI 1+ Signal
4	HDMI_RX1-	HDMI 1- Signal
5	HDMI_RX0+	HDMI 0+ Signal
6	HDMI_RX0-	HDMI 0- Signal
7	HDMI_RXC+	HDMI Clock+ Signal
8	HDMI_RXC-	HDMI Clock- Signal
9	HDMI_SCL	HDMI DDC I <sup>2</sup> C SCL
10	HDMI_SDA	HDMI DDC I <sup>2</sup> C SDA
11	GND	Ground
12	GND	
13	POW_SINK	HDMI 5V
14	HPD_CON	Hot Plug Detect
15	GND	Ground
16	GND	
17	CEC	CEC Signal
18	NC	No Connection
19	NC	
20	NC	

## 7. Electrical Characteristics(电气特性)

### a) Input Electrical Specifications(输入特性)


Input	Minimum	Nominal	Rating	Maximum	Unit
Voltage	90	115/230	100~240	264	Vac
Current	---	---	---	1.5	A
Frequency	47	60/50	---	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 (cold start)	70 Amperes @ 230Vac / 50Hz input				

Leakage Current	Less Than 0.35mA, 240Vac input
Input Fuse	T3.15AH/250Vac

## b) LED Driver Power Output Connector


(LED 背光供电控制接口)

### CNB807-12PIN-2.0




NO.	Signal Name	Voltage (Volts)			Current (mA)		
		Max	Nom	Min	Max	Nom	Min
1,12	LED+	/			/		
3	LED1-	36	32	28	300	280	260
5	LED2-	36	32	28	300	280	260
8	LED3-	36	32	28	300	280	260
10	LED4-	36	32	28	300	280	260
2,4,6,7,9,11	NC	/			/		

### CNB804-4PIN-2.0



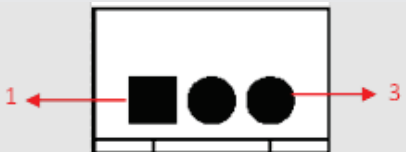
NO.	Signal Name	Voltage (Volts)			Current (mA)		
		Max	Nom	Min	Max	Nom	Min
1	LED3-	45	50	55	180	160	140
2	LED2-	45	50	55	180	160	140
3	LED1-	45	50	55	180	160	140
4	LED+	/			/		

### CNB801 -3PIN-2.0



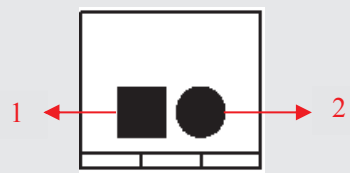
NO.	Signal Name	Voltage (Volts)			Current (mA)		
		Max	Nom	Min	Max	Nom	Min
2	LED+	/			/		
1	LED1-	61	57	53	140	120	100
3	LED2-	61	57	53	140	120	100

### CNB802-3PIN-2.0



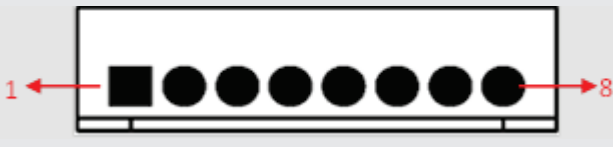
NO.	Signal Name	Voltage (Volts)			Current (mA)		
		Max	Nom	Min	Max	Nom	Min
2	LED+	/			/		
1	LED3-	61	57	53	140	120	100
3	LED4-	61	57	53	140	120	100

### CNB811/CNB812 -2PIN-2.0




NO.	Signal Name	Voltage (Volts)			Current (mA)		
		Max	Nom	Min	Max	Nom	Min
2	LED+	/			/		
1	LED-	61	57	53	260	240	220

### CNB816 -8PIN-2.0



NO.	Signal Name	Voltage (Volts)			Current (mA)		
		Max	Nom	Min	Max	Nom	Min
2,4,6,8	LED+	/			/		
1	LED1-	61	57	53	140	120	100
3	LED2-	61	57	53	140	120	100
5	LED3-	61	57	53	140	120	100
7	LED4-	61	57	53	140	120	100


### CNB809-6PIN-0.5 FFC 座



NO.	Signal Name	Voltage (Volts)	Current (mA)
1	LED1-	61	140
2	LED2-	61	140
3	LED3-	61	140
4	LED4-	61	140
5	LED5-	61	140
6	LED6-	61	140

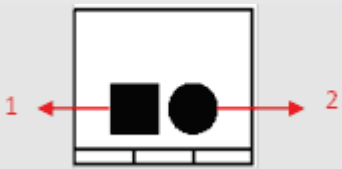
		Max	Nom	Min	Max	Nom	Min
3,4	LED+	/			/		
1,2	LED2-	37	33	29	200	180	160
5,6	LED1-	37	33	29	200	180	160

**CNB810-6PIN-0.5 FFC 座**



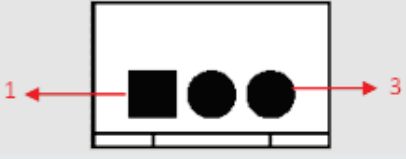
NO.	Signal Name	Voltage (Volts)			Current (mA)		
		Max	Nom	Min	Max	Nom	Min
3,4	LED+	/			/		
1,2	LED4-	37	33	29	200	180	160
5,6	LED3-	37	33	29	200	180	160

**CNB813-2PIN-2.0**



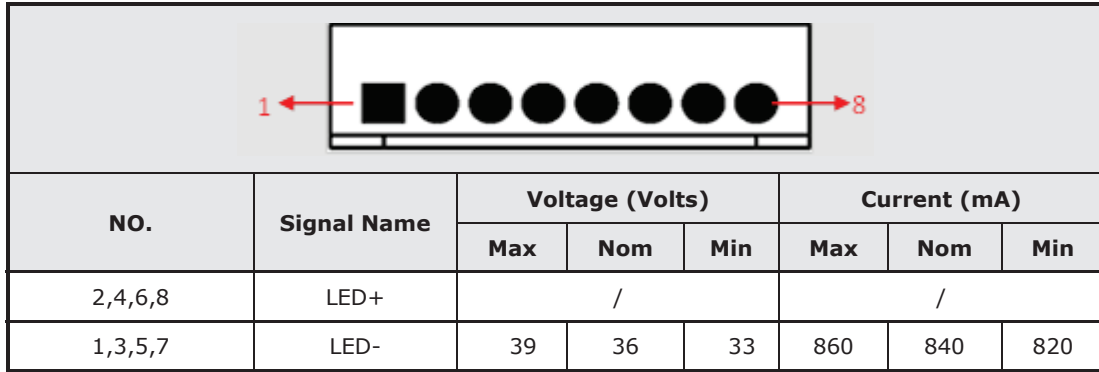
NO.	Signal Name	Voltage (Volts)			Current (mA)		
		Max	Nom	Min	Max	Nom	Min
2	LED+	/			/		
1	LED-	39	36	33	860	840	820

**CNB803-3PIN-2.0**



NO.	Signal Name	Voltage (Volts)			Current (mA)		
		Max	Nom	Min	Max	Nom	Min
2	NC	/			/		
1	LED-	39	36	33	860	840	820
3	LED+	/			/		

## CNB805 -8PIN-2.0



NO.	Signal Name	Voltage (Volts)			Current (mA)		
		Max	Nom	Min	Max	Nom	Min
2,4,6,8	LED+	/			/		
1,3,5,7	LED-	39	36	33	860	840	820

备注: TP.SIS231.PT85 恒流部分功率在 45W 以下, 最多可以支持 4 路输出, 每路电流最大为 250mA。

**Note:** With Power of constant current part less than 45W, TP.SIS231.PT85 up to support 4 channel output, and current of each channel is up to 250mA.

### Output Protection Specification (输出保护)

Signal Name	LED Short Protection	LED Open Protection
	Specification	Specification
LED output	Auto restart	Shut down or auto restart

## 8. Fuse Protection(保险丝保护)

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.

当输入交流电流超过保险丝的额定工作电流时, 电源保险丝将断开, 关闭电源供应以保护电源模块。

## 9. International Standards(国际标准)

### 9.1 Safety(安规)

#### Conforming:

UL60950-1 /UL60065;  
EN60950-1/EN60065;  
GB4943-2001/ GB8898-2011.

### 9.2 HI-POT And Insulation Resistance(耐压性能和绝缘阻抗)

#### HI-POT(耐压性能)

Primary to secondary (一次侧对二次侧): 3000VAC, 10mA for 60s.

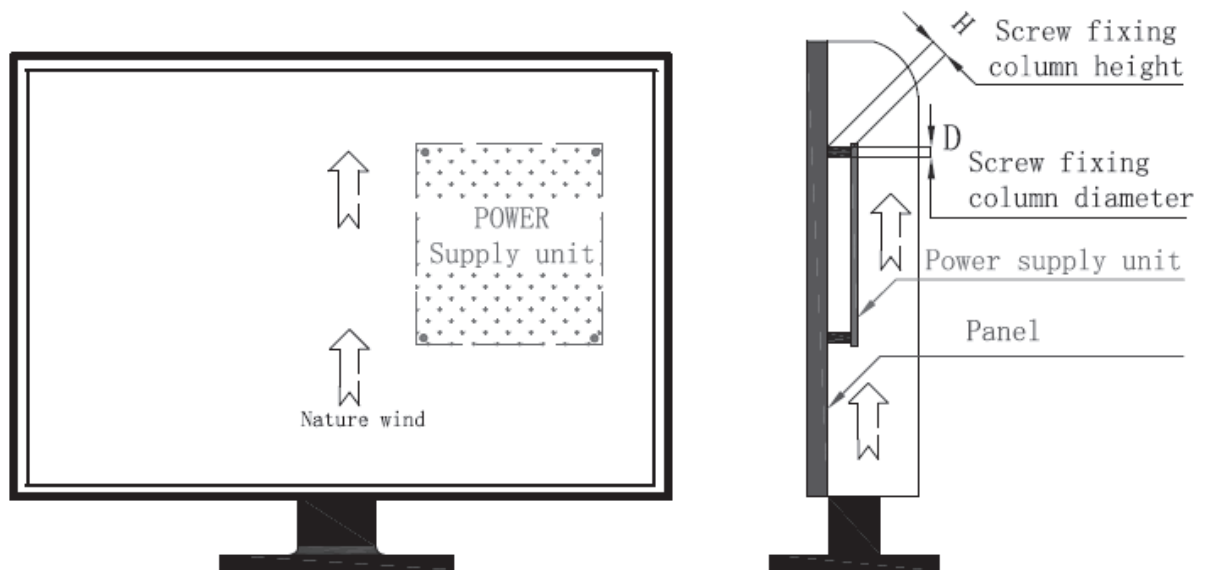
#### Insulation resistance(绝缘阻抗)

between primary and secondary(一次侧与二次侧之间): 500VDC/60s,  $\geq 50M\Omega$ .

## **10. Configuration & General Precautions(使用注意事项)**

- Relative humidity: ≤ 80%.
- 相对湿度: ≤ 80%。
- Storage temperature: -10~60°C.
- 存储温度: -10~60°C。
- Operation temperature: 0~40°C.
- 使用温度: 0~40°C。
- Protect the board from static electricity in case of damage to the IC.
- 请使板卡远离静电。
- Keep the board away from conductor when it is working.
- 请确保板卡工作时远离导体。
- Don't push or pull the connectors when the board is working.
- 板卡工作时请勿按压和扭曲。
- Don't press, distort or disassemble the board.
- 请勿拆解板卡。
- Clean the board with soft dry cloth when it's dirty.
- 如果板卡脏了, 请用干布擦拭。
- Don't wire in the board to power supply before panel is correctly connected.
- 正确接好驱屏线前请勿接通电源。

## 11. Mount precautions (组装注意事项)



**Note1:** The H should be greater than or equal 8mm, otherwise you must add the mylar under PCB bottom.

H 的高度必须大于等于 8mm,如果小于 8mm,则必须在 PCB 底层加麦拉片绝缘。

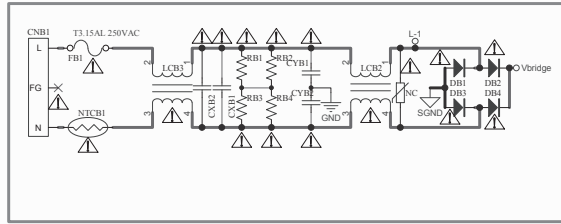
**Note2:** The D should be less than 8mm. Mount the power supply unit to the screw fixing column using M3 screw. The maximum value of the tightening torque is 0.4N-M.

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。

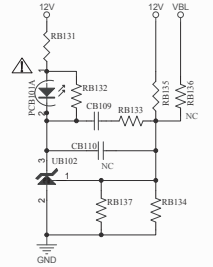
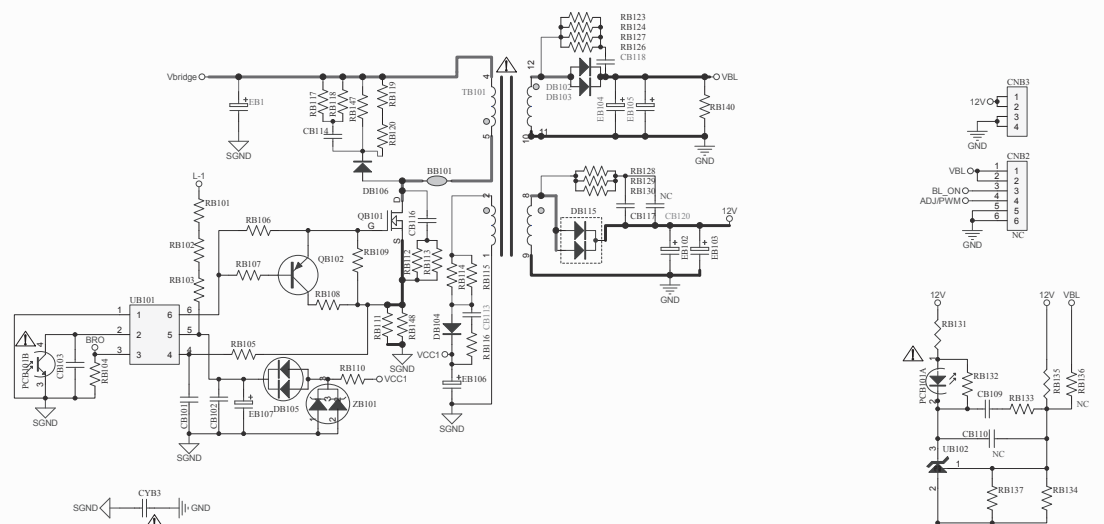
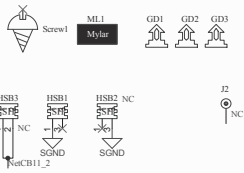
**Note3:** The Power supply unit is usually designed without the case. Please take care about ESD at any time.

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。

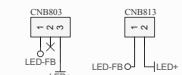
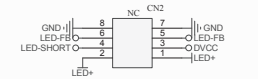
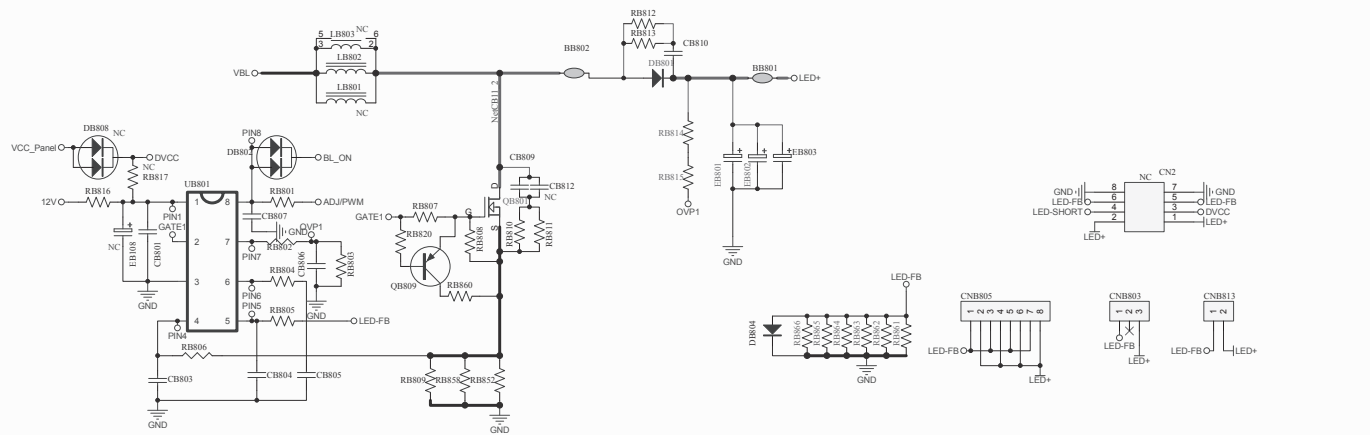
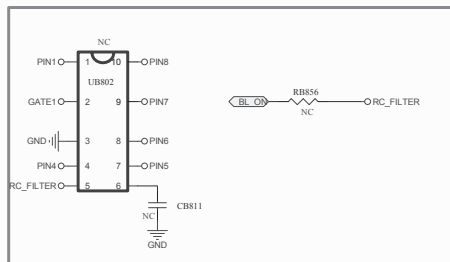
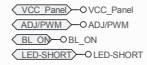


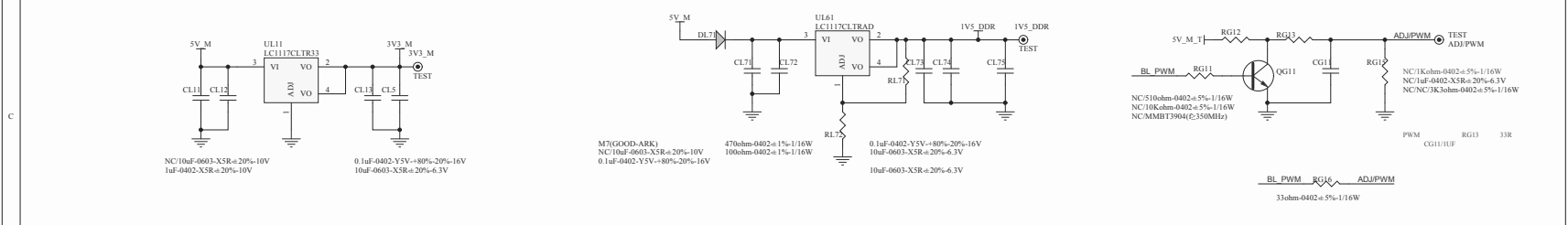
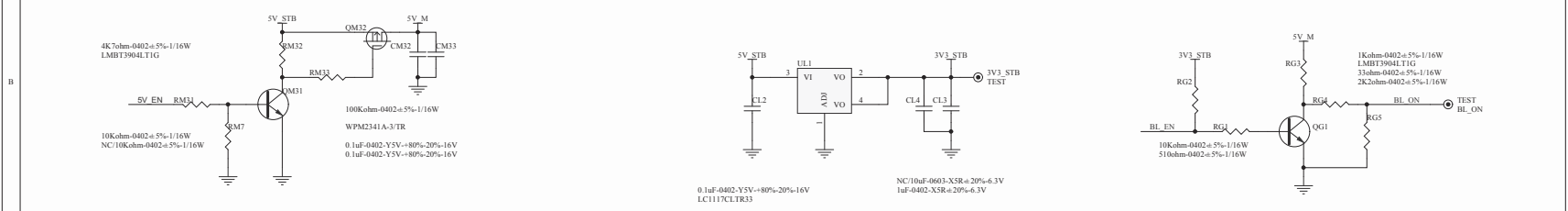
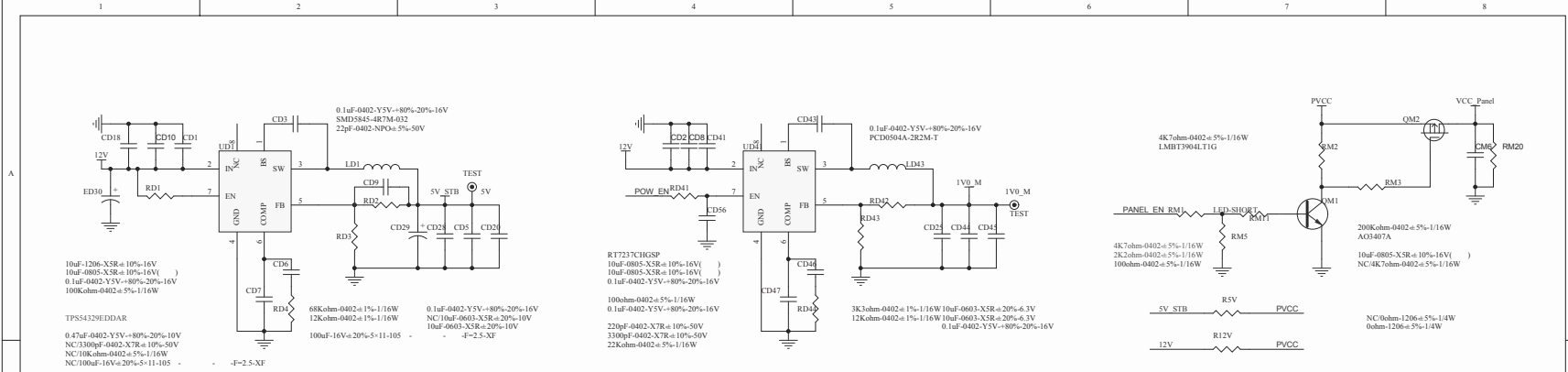


其它



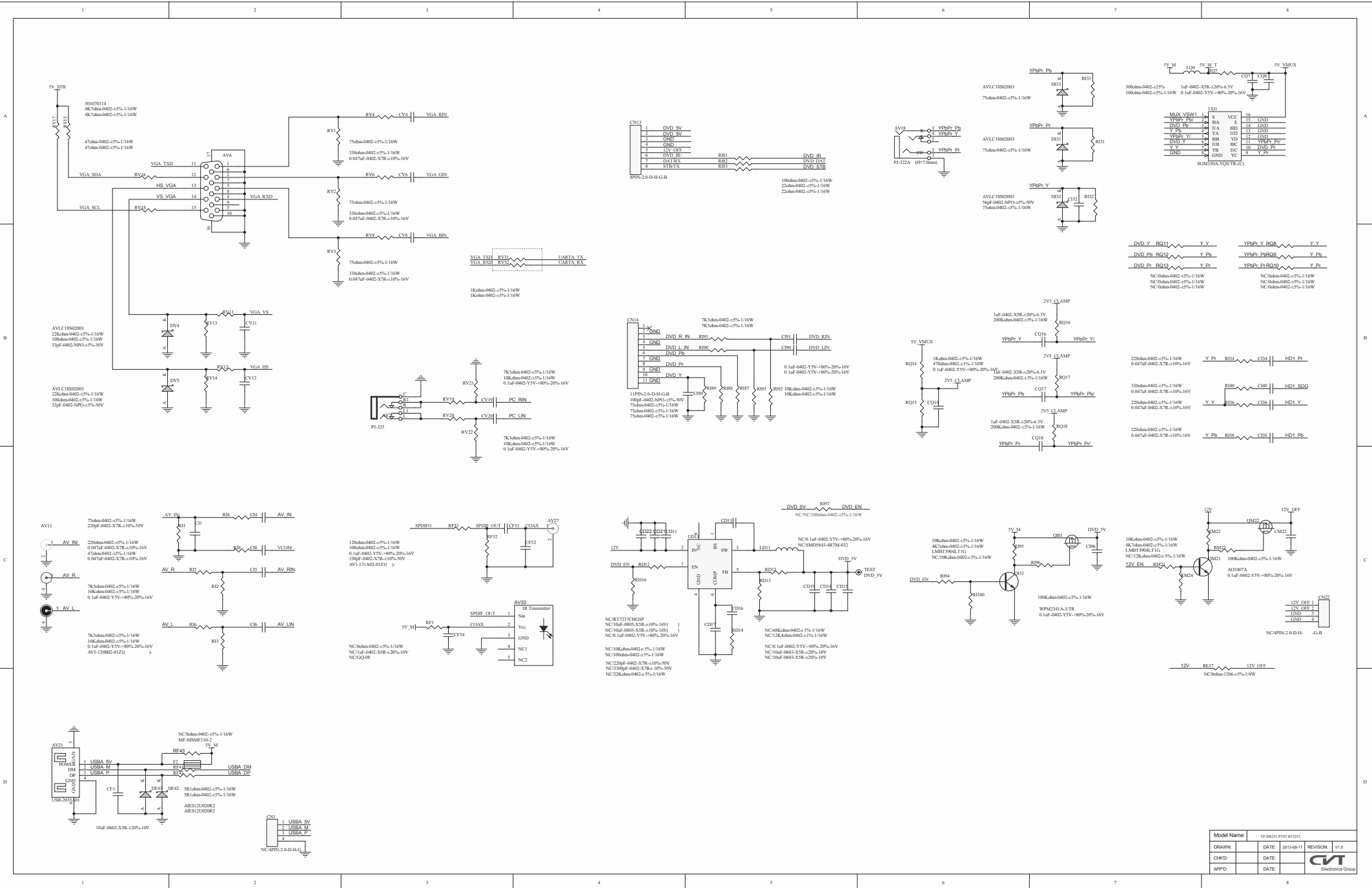
与主板硬件电路分页连接符





Model Name:	TP5S231PTR5 B13252			
DRAWN:	DATE:	2013-08-17	REVISION:	V1.0
CHKD:	DATE:			
APPD:	DATE:			

**CVT**  
Electronics Group



MAX VSW1

1	VCC	16
2	HA	15 GND
3	HA	14 GND
4	Y	13 GND
5	YA	12 GND
6	HB	11 YPbPr Pr
7	HB	10 DVD Pr
8	YC	9 Y
9	YC	8 Y Pr
10	GND	7

SCM130A-VIS-C

DVD Y	RG11	Y Y	YPbPr Y	RGW	Y Y
DVD Pb	RG12	Y Pb	YPbPr Pb	RG10	Y Pb
DVD Pr	RG13	Y Pr	YPbPr Pr	RG11U	Y Pr

NC100n0402-5%±116W  
NC100n0402-5%±116W  
NC100n0402-5%±116W

Y Pr	R114	C114	HD1 Pr
Y Pb	R116	C116	HD1 Y
Y Pr	R118	C118	HD1 Pr

NC100n0402-5%±116W  
NC100n0402-5%±116W  
NC100n0402-5%±116W

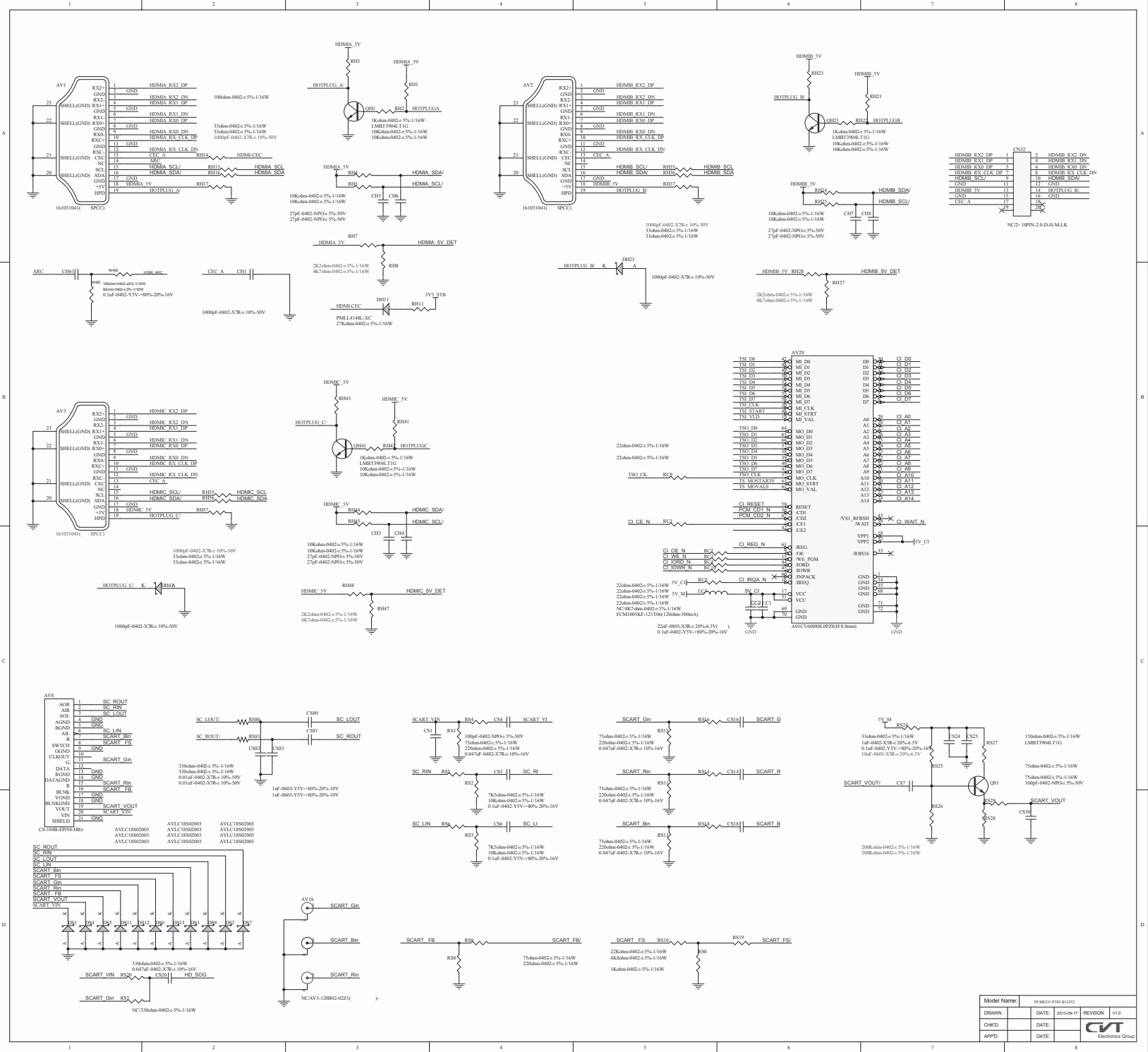
12V	REF1	C212
12V	REF2	C213
GND	6	
GND	7	

NC14PN-2.0-D14-4-B

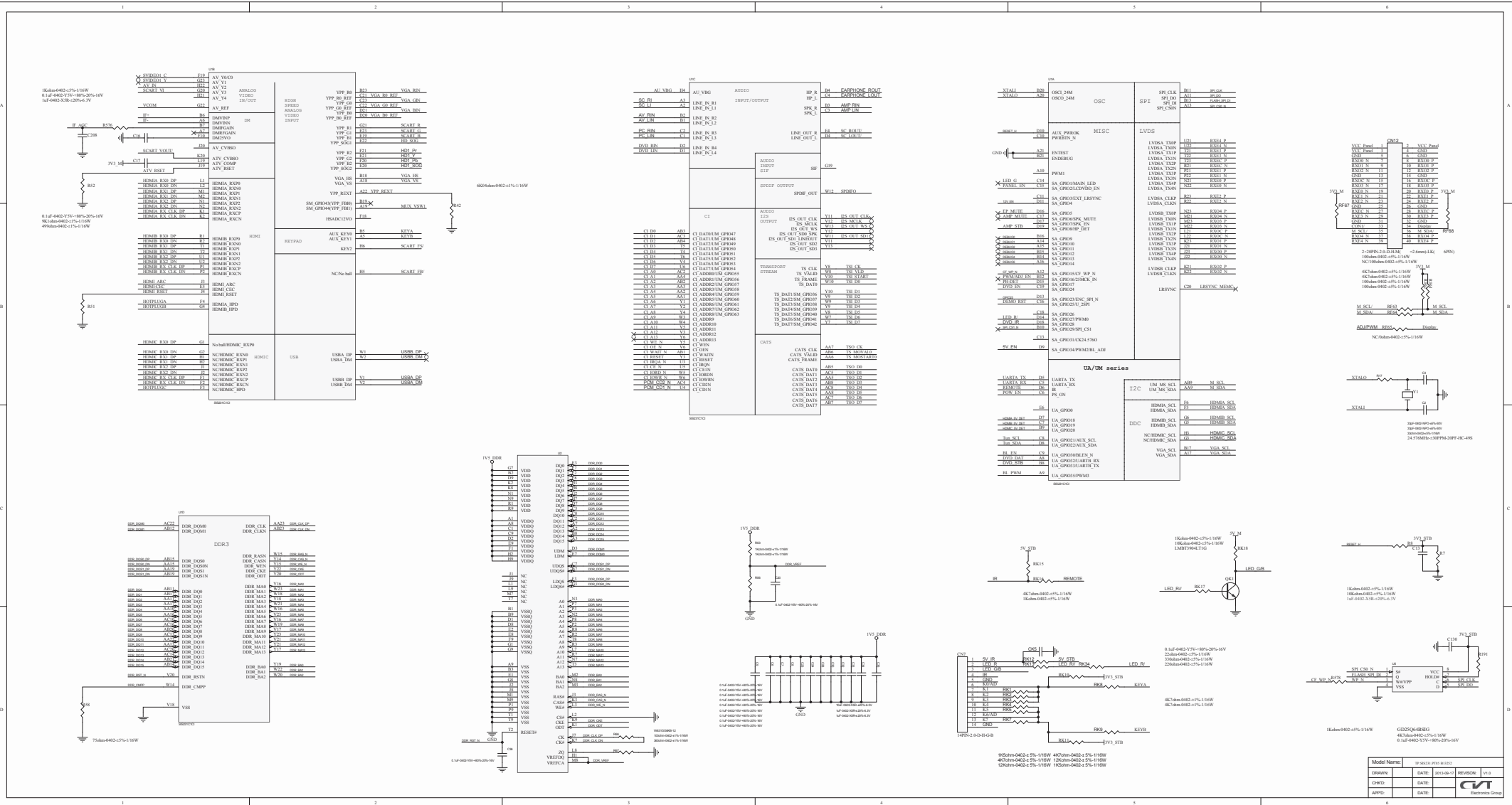
Model Name:	1P-SR21-P15-B1322
Drawn:	DATE: 2013-09-17
Chkd:	DATE:
Appd:	DATE:

REVISON: V1.0

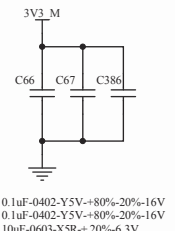
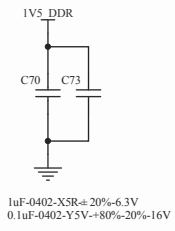
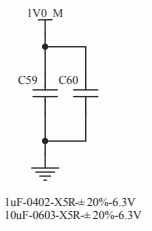
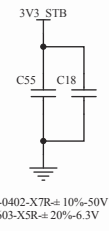
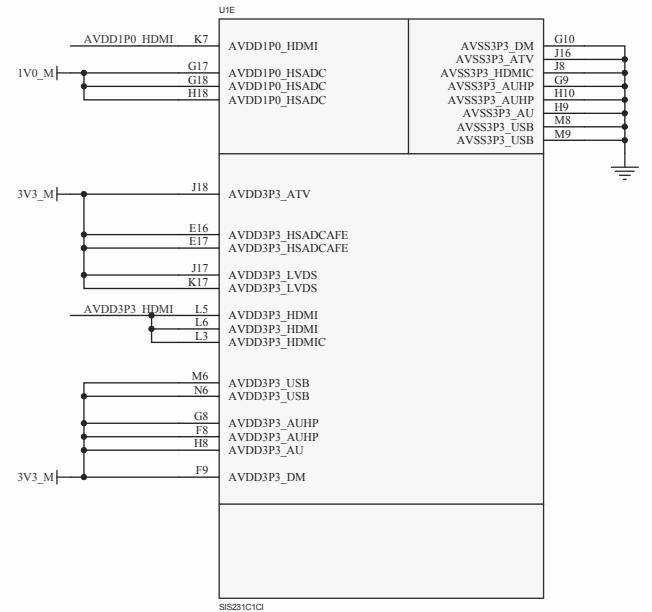
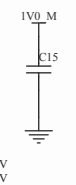
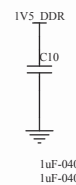
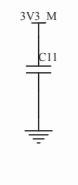
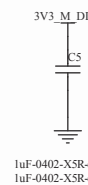
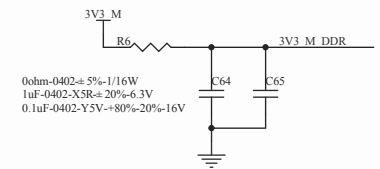
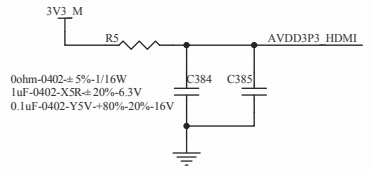
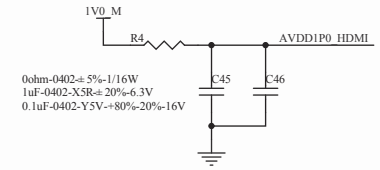
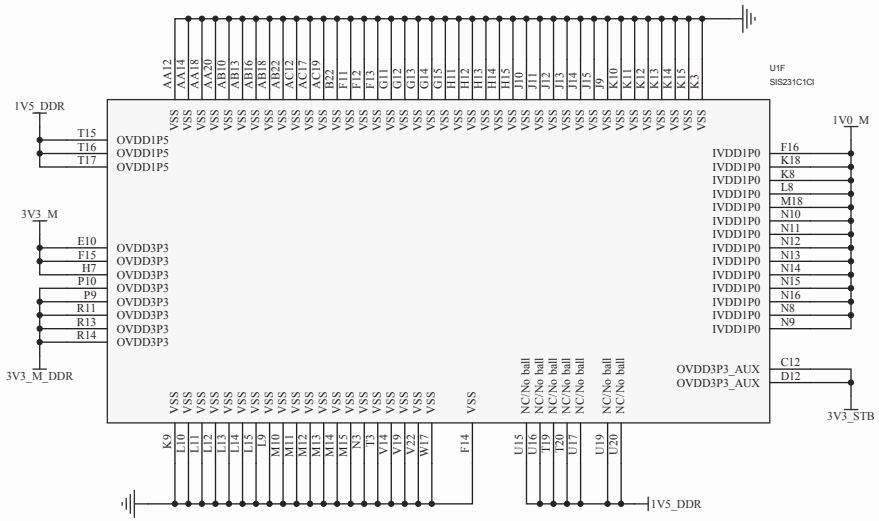
Electronics Group



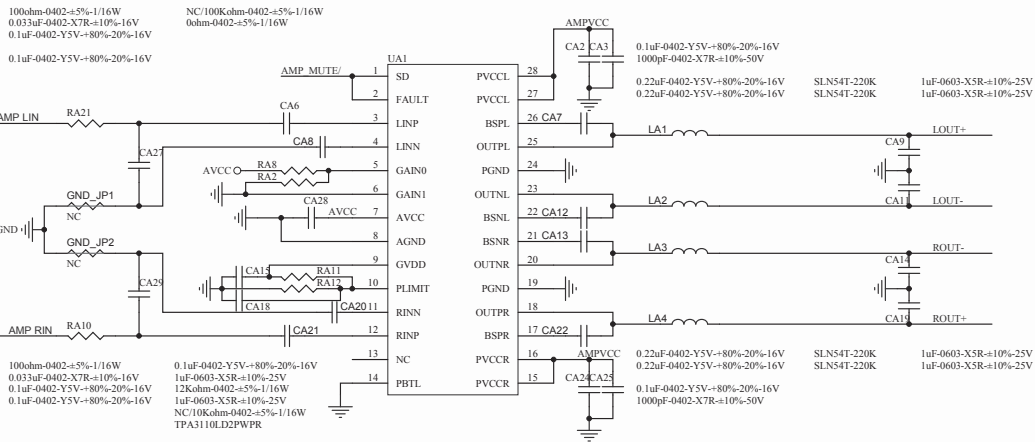
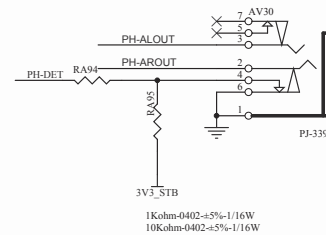
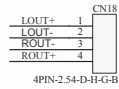
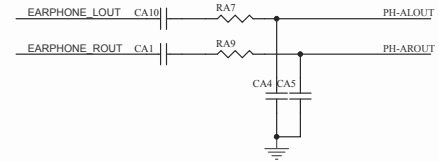
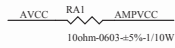
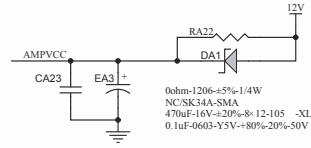
Model Name:	IP 0023 0701 0023
DRWn:	DATE: 2015-09-17
CHKD:	DATE:
APPD:	DATE:
	REVISION: v1.0
	REV: 1
	REV: 2
	REV: 3
	REV: 4
	REV: 5
	REV: 6
	REV: 7
	REV: 8
	REV: 9
	REV: 10
	REV: 11
	REV: 12
	REV: 13
	REV: 14
	REV: 15
	REV: 16
	REV: 17
	REV: 18
	REV: 19
	REV: 20
	REV: 21
	REV: 22
	REV: 23
	REV: 24
	REV: 25
	REV: 26
	REV: 27
	REV: 28
	REV: 29
	REV: 30
	REV: 31
	REV: 32
	REV: 33
	REV: 34
	REV: 35
	REV: 36
	REV: 37
	REV: 38
	REV: 39
	REV: 40
	REV: 41
	REV: 42
	REV: 43
	REV: 44
	REV: 45
	REV: 46
	REV: 47
	REV: 48
	REV: 49
	REV: 50
	REV: 51
	REV: 52
	REV: 53
	REV: 54
	REV: 55
	REV: 56
	REV: 57
	REV: 58
	REV: 59
	REV: 60
	REV: 61
	REV: 62
	REV: 63
	REV: 64
	REV: 65
	REV: 66
	REV: 67
	REV: 68
	REV: 69
	REV: 70
	REV: 71
	REV: 72
	REV: 73
	REV: 74
	REV: 75
	REV: 76
	REV: 77
	REV: 78
	REV: 79
	REV: 80
	REV: 81
	REV: 82
	REV: 83
	REV: 84
	REV: 85
	REV: 86
	REV: 87
	REV: 88
	REV: 89
	REV: 90
	REV: 91
	REV: 92
	REV: 93
	REV: 94
	REV: 95
	REV: 96
	REV: 97
	REV: 98
	REV: 99
	REV: 100



Model Name	TR	DATE	DESIGN BY	REVISION	DATE
4870000-002	1.0	2024-01-15	John Doe	1	2024-01-15
4870000-003	1.1	2024-02-01	John Doe	2	2024-02-01
4870000-004	1.2	2024-03-10	John Doe	3	2024-03-10
4870000-005	1.3	2024-04-20	John Doe	4	2024-04-20

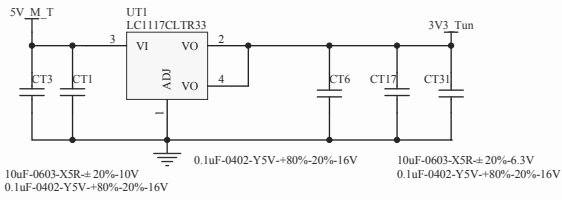


Model Name:	TP SIS231.PF85 B13252			
DRAWN:	DATE:	2013-09-17	REVISION:	V1.0
CHK'D:	DATE:			
APP'D:	DATE:			



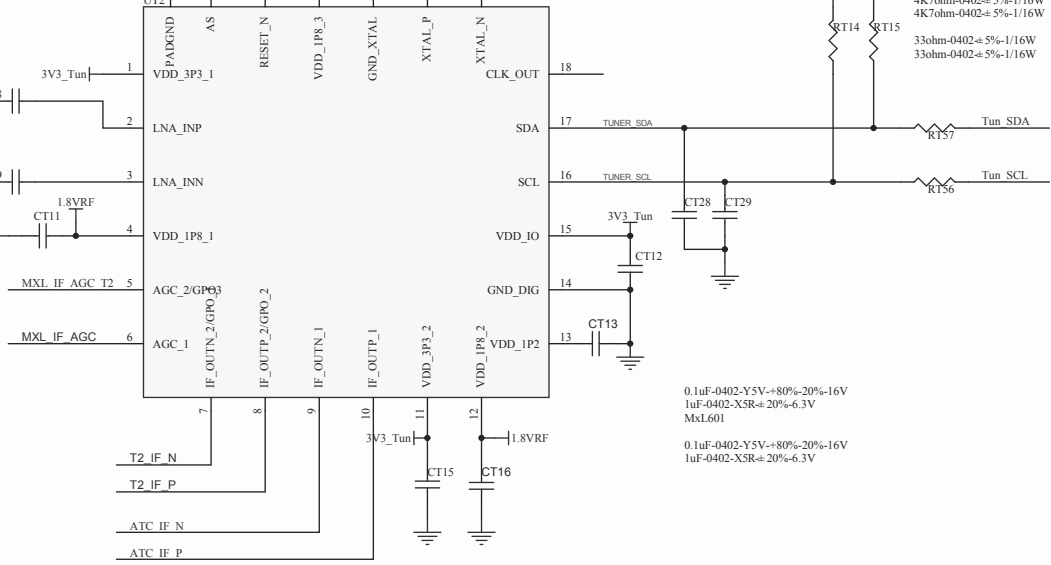
Model Name:	TP-SIS231-PT88-B13252			
DRAWN:	DATE:	2013-09-17	REVISION:	V1.0
CHKD:	DATE:			
APPD:	DATE:			



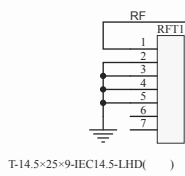


750kOhm-0402±5%-1/16W  
 1uF-0402-X5R±20%-6.3V  
 0.1uF-0402-Y5V-+80%-20%-16V

16MHz±20PPM-20PF-HC-49S  
 27pF-0402-NPO±5%-50V  
 27pF-0402-NPO±5%-50V

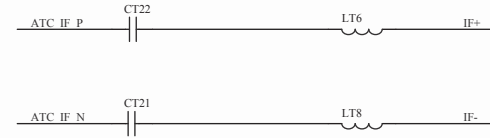
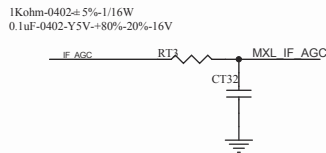
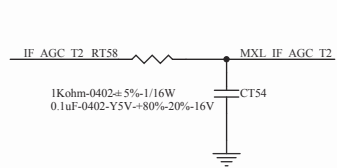


4K7ohm-0402±5%-1/16W  
 4K7ohm-0402±5%-1/16W  
 33ohm-0402±5%-1/16W  
 33ohm-0402±5%-1/16W



BW21S7511A01TF  
 1000pF-0402-X7R±10%-50V  
 1000pF-0402-X7R±10%-50V  
 0.1uF-0402-Y5V-+80%-20%-16V

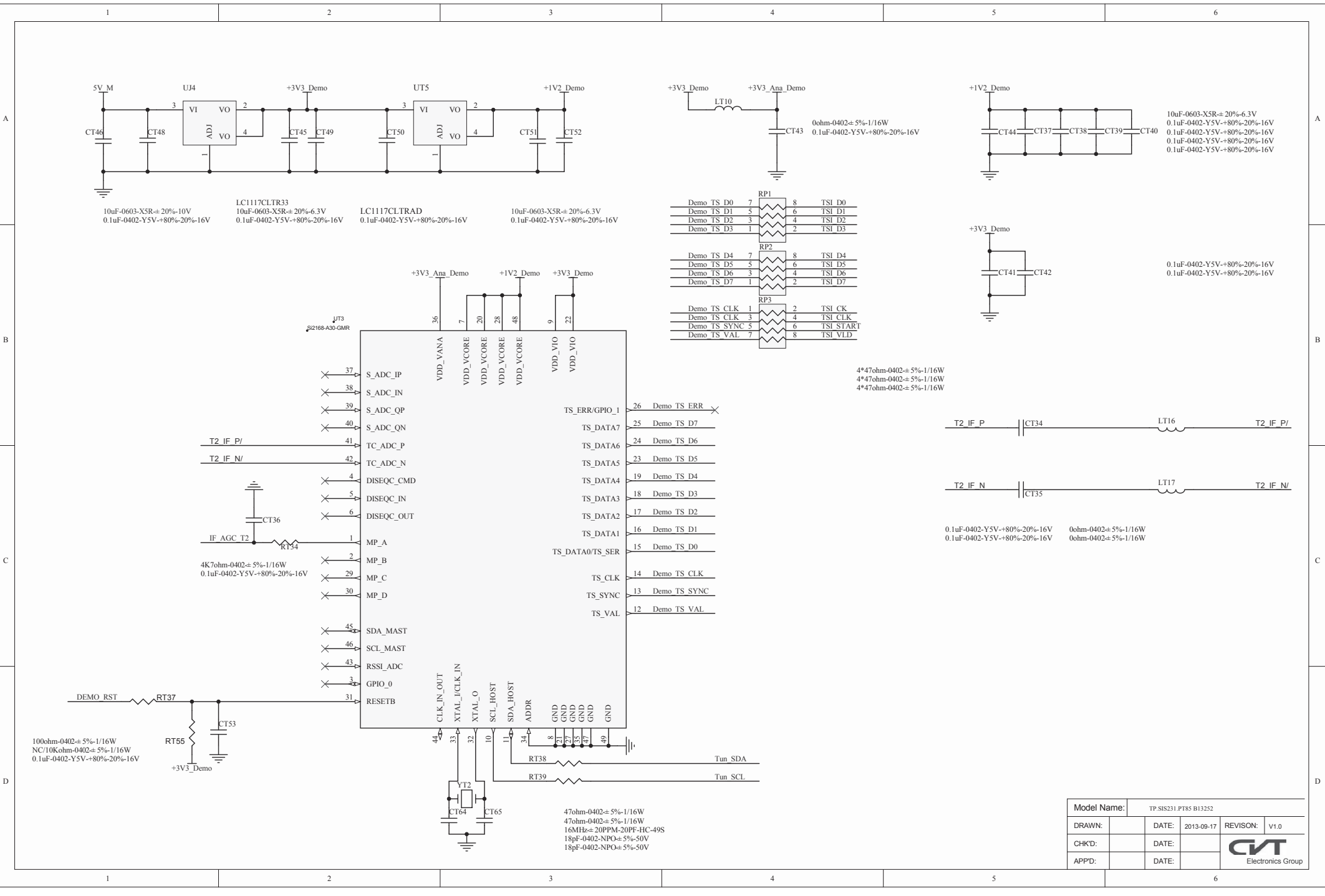
0.1uF-0402-Y5V-+80%-20%-16V  
 1uF-0402-X5R±20%-6.3V  
 MxL601  
 0.1uF-0402-Y5V-+80%-20%-16V  
 1uF-0402-X5R±20%-6.3V



0.1uF-0402-Y5V-+80%-20%-16V 120nH-0402±5%-1/8( )  
 0.1uF-0402-Y5V-+80%-20%-16V 120nH-0402±5%-1/8( )

Model Name:	TP SIS231.PF85 B13252			
DRAWN:	DATE:	2013-09-17	REVISION:	V1.0
CHK'D:	DATE:			
APP'D:	DATE:			





10uF-0603-X5R±20%-10V  
0.1uF-0402-Y5V-+80%-20%-16V

LC1117CLTR33  
10uF-0603-X5R±20%-6.3V  
0.1uF-0402-Y5V-+80%-20%-16V

LC1117CLTRAD  
0.1uF-0402-Y5V-+80%-20%-16V

10uF-0603-X5R±20%-6.3V  
0.1uF-0402-Y5V-+80%-20%-16V

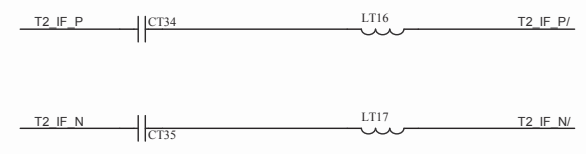
0ohm-0402±5%-1/16W  
0.1uF-0402-Y5V-+80%-20%-16V

10uF-0603-X5R±20%-6.3V  
0.1uF-0402-Y5V-+80%-20%-16V  
0.1uF-0402-Y5V-+80%-20%-16V  
0.1uF-0402-Y5V-+80%-20%-16V

Demo TS D0	7	8	TSI D0
Demo TS D1	5	6	TSI D1
Demo TS D2	3	4	TSI D2
Demo TS D3	1	2	TSI D3
Demo TS D4	7	8	TSI D4
Demo TS D5	5	6	TSI D5
Demo TS D6	3	4	TSI D6
Demo TS D7	1	2	TSI D7
Demo TS CLK	1	2	TSI CK
Demo TS CLK	3	4	TSI CLK
Demo TS SYNC	5	6	TSI START
Demo TS VAL	7	8	TSI VLD

0.1uF-0402-Y5V-+80%-20%-16V  
0.1uF-0402-Y5V-+80%-20%-16V

4\*47ohm-0402±5%-1/16W  
4\*47ohm-0402±5%-1/16W  
4\*47ohm-0402±5%-1/16W




0.1uF-0402-Y5V-+80%-20%-16V  
0.1uF-0402-Y5V-+80%-20%-16V

0ohm-0402±5%-1/16W  
0ohm-0402±5%-1/16W

100ohm-0402±5%-1/16W  
NC/10Kohm-0402±5%-1/16W  
0.1uF-0402-Y5V-+80%-20%-16V

47ohm-0402±5%-1/16W  
47ohm-0402±5%-1/16W  
16MHz±20PPM-20PF-HC-49S  
18pF-0402-NPO±5%-50V  
18pF-0402-NPO±5%-50V

Model Name:	TP SIS231-PT85-B13252			
DRAWN:	DATE:	2013-09-17	REVISION:	V1.0
CHK'D:	DATE:			
APP'D:	DATE:			



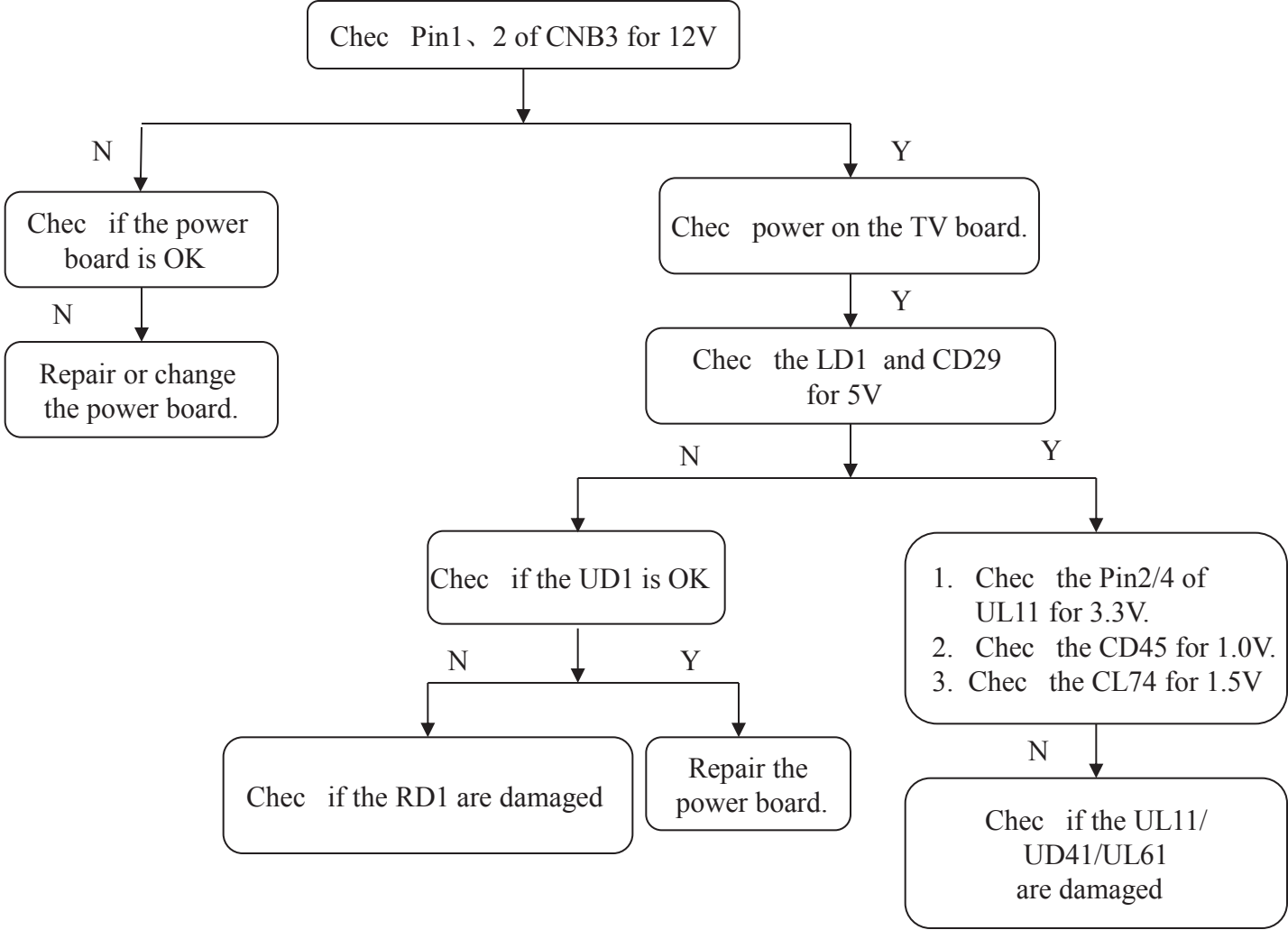
# **TP.SIS231.PT85**

# **Trouble Shooting**

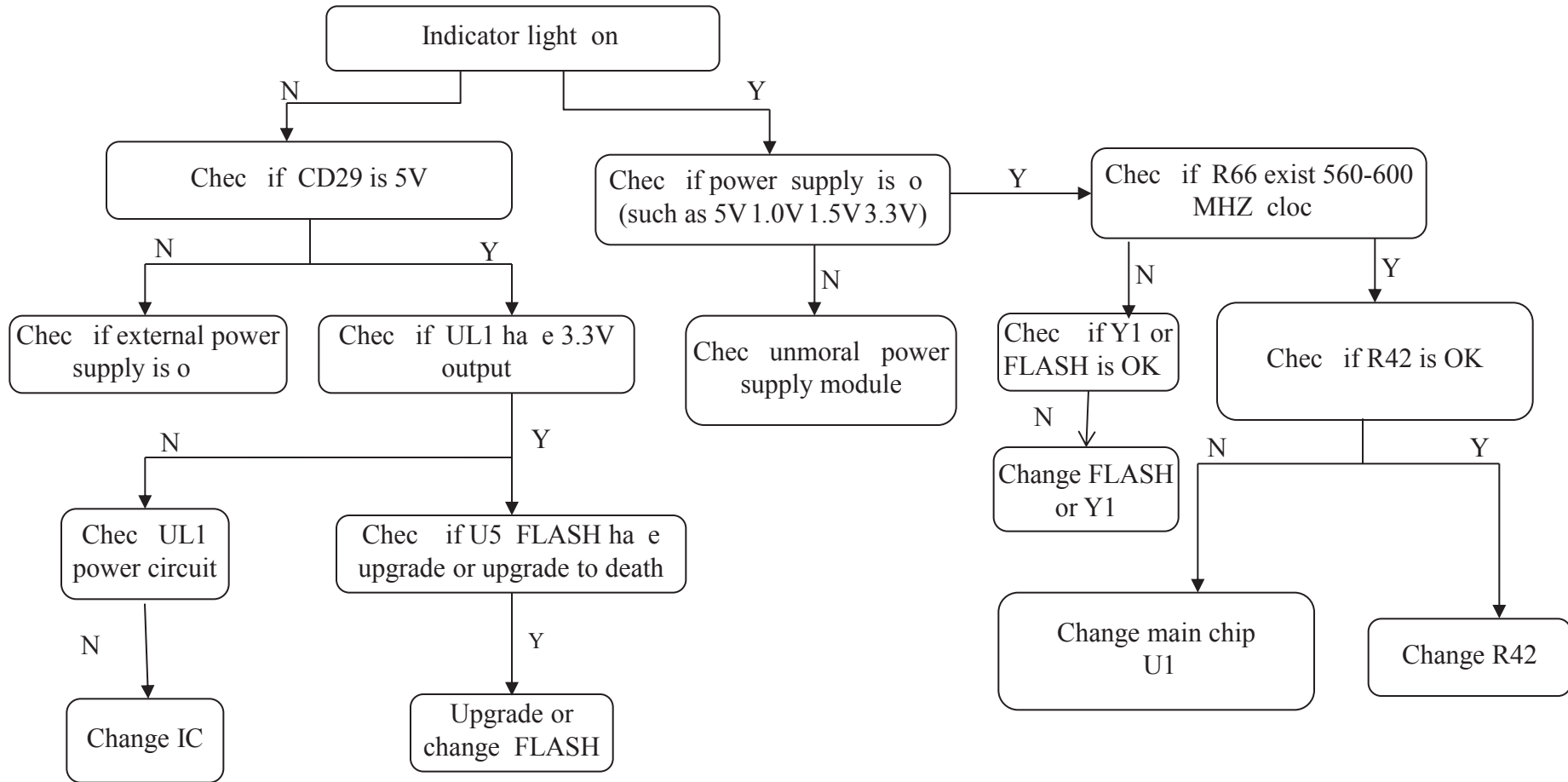
- ◎ **Power troubleshooting**
- ◎ **Display troubleshooting**
- ◎ **Audio troubleshooting**
- ◎ **Function troubleshooting**
- ◎ **Power board troubleshooting**

**Author: 李定松    Checked By: 蒙德荣    Approved By:**

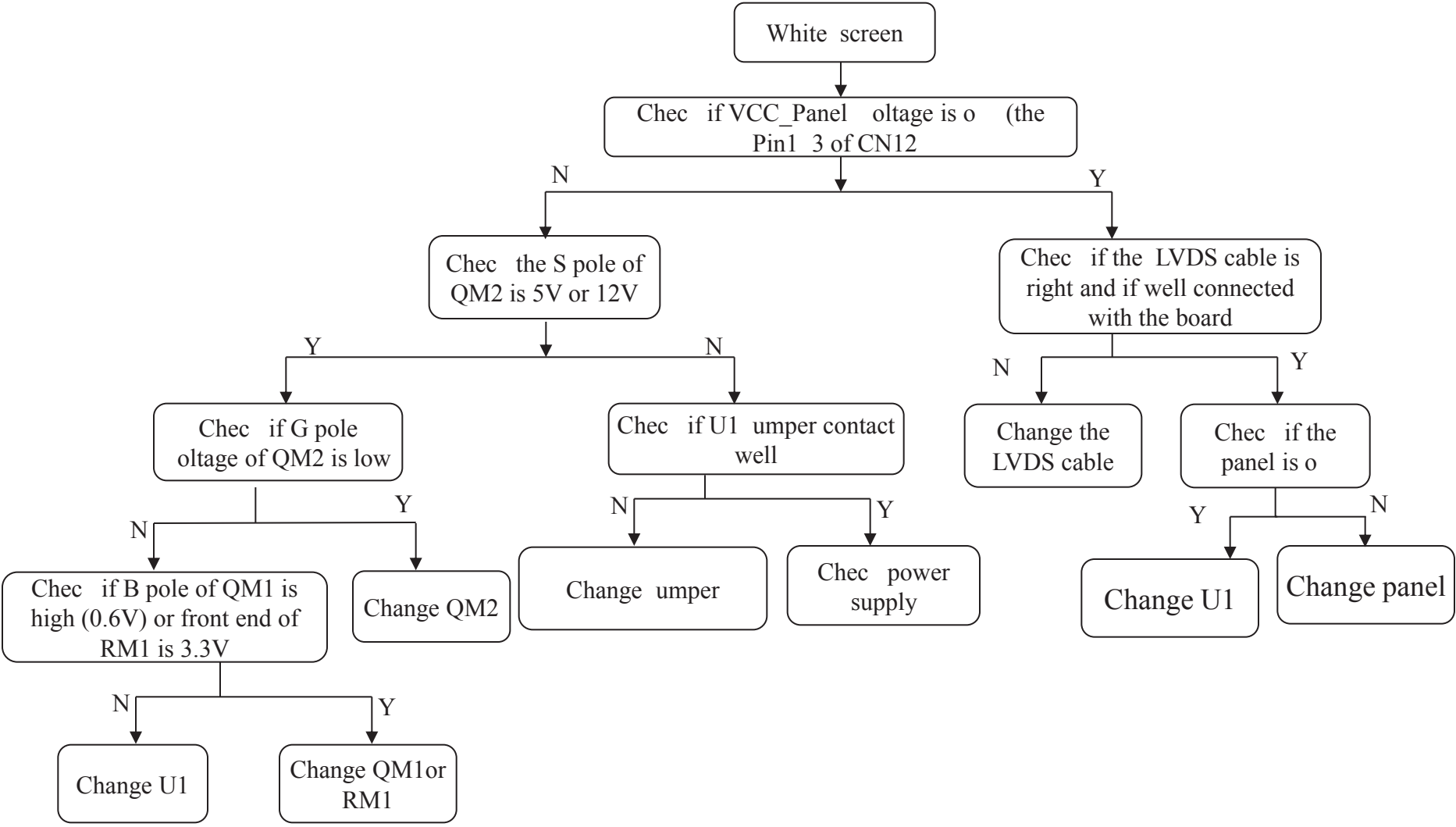
# 2. Power Troubleshooting



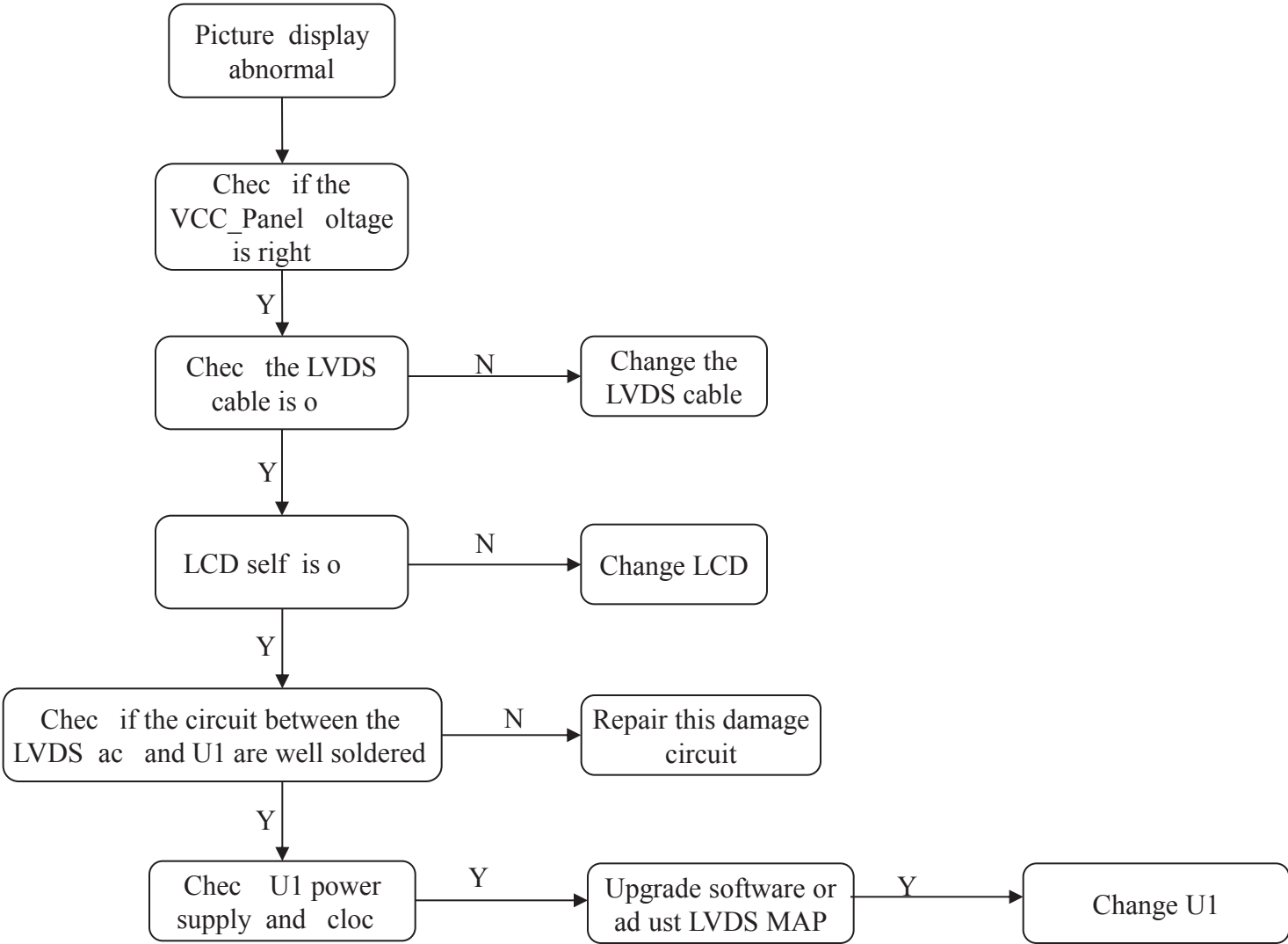
### 3. Display Troubleshooting (blank screen or show nothing)



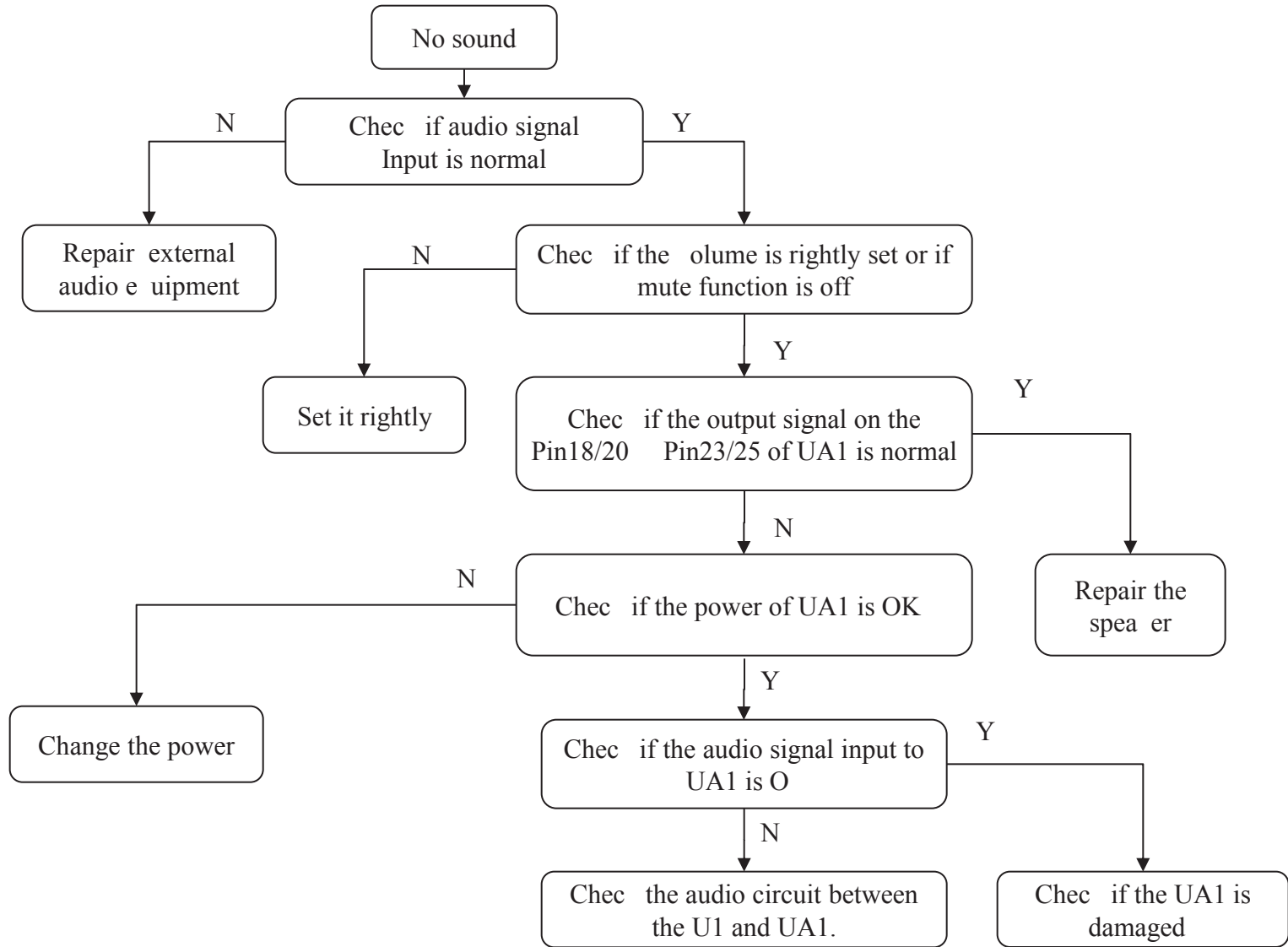
# 4. Display Troubleshooting (white screen )



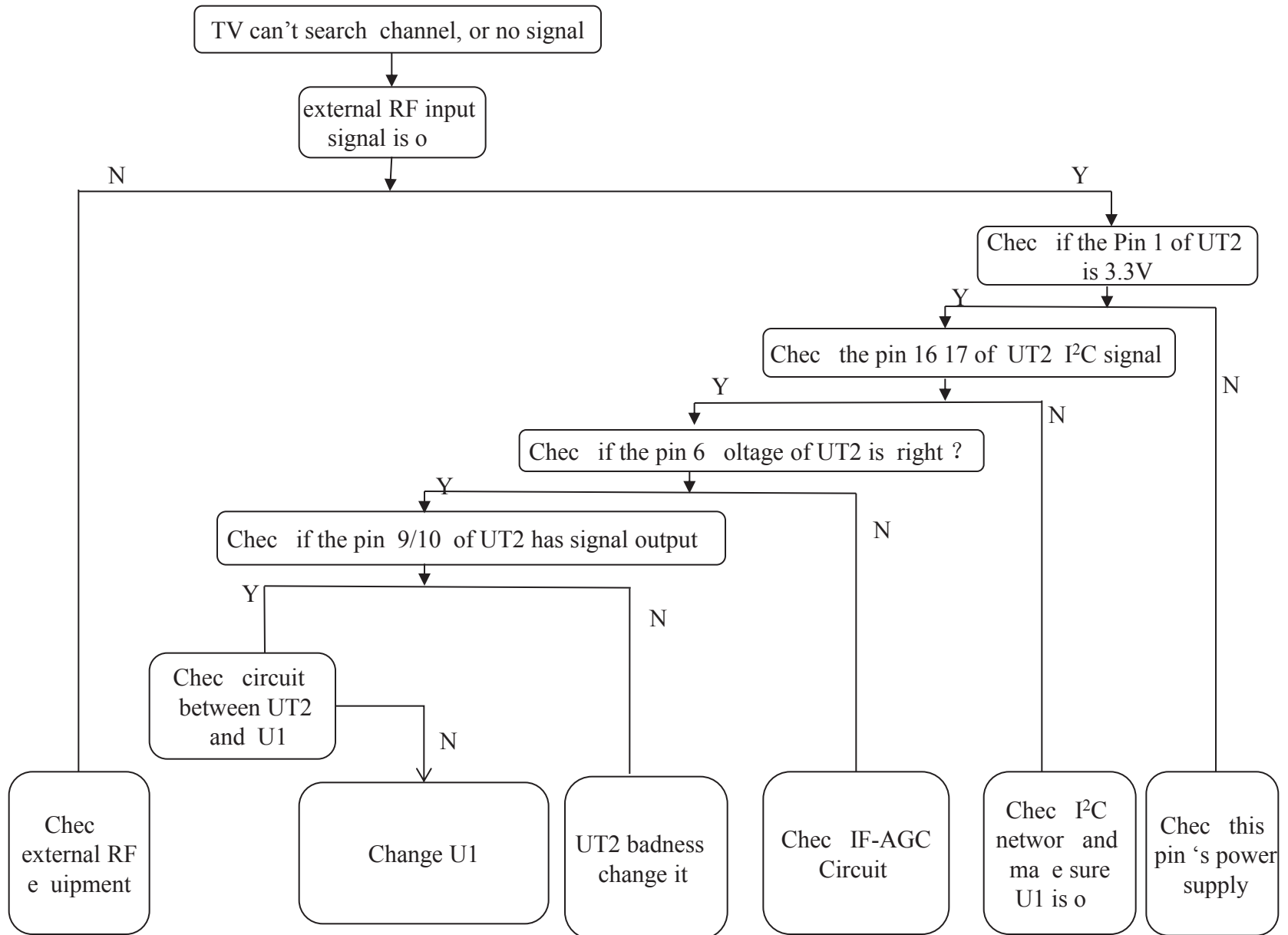
# 5. Display Troubleshooting (picture badness )



# 6. Audio Troubleshooting (no sound )

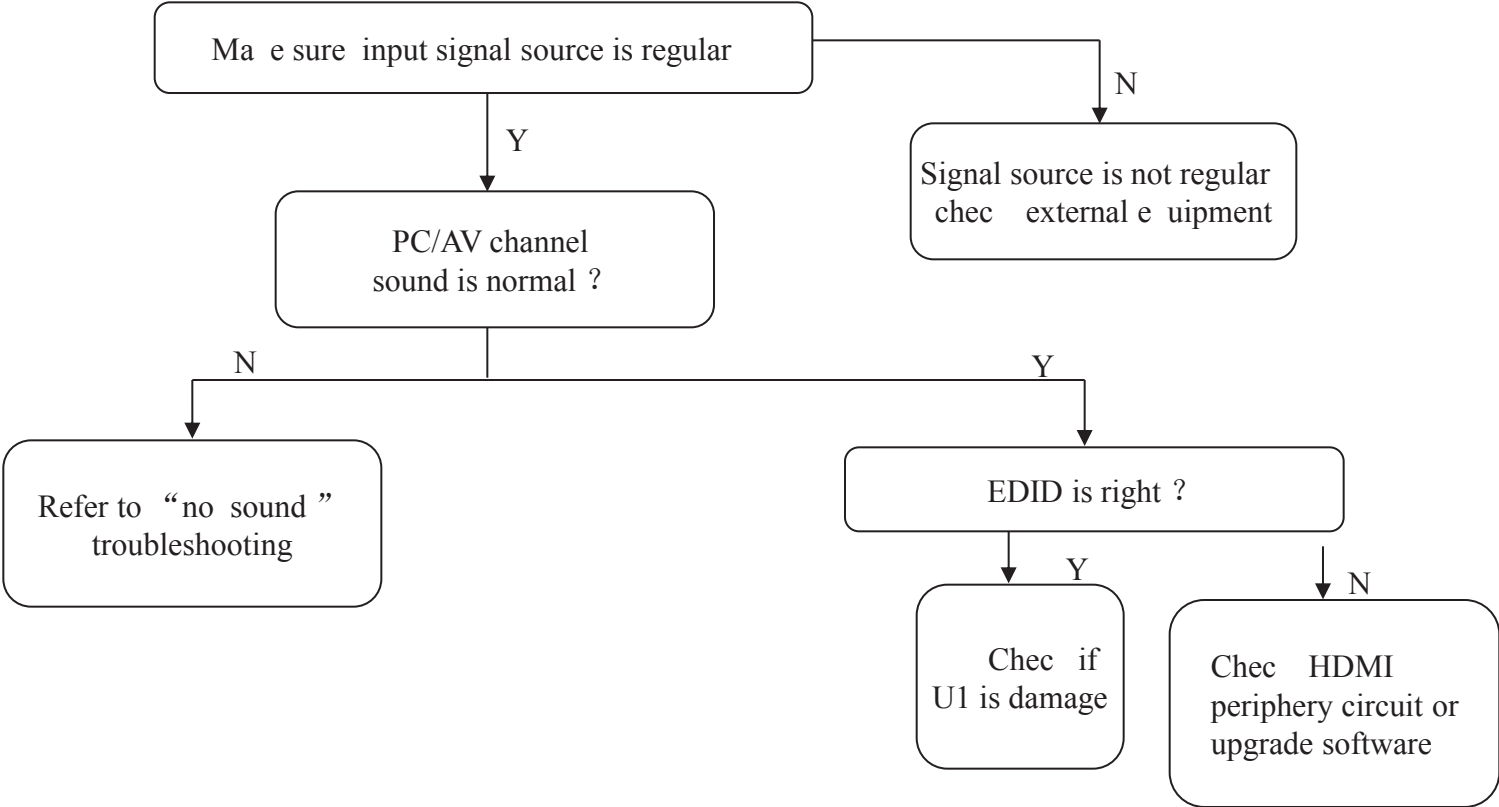


# 7. Function Troubleshooting (TV fault)

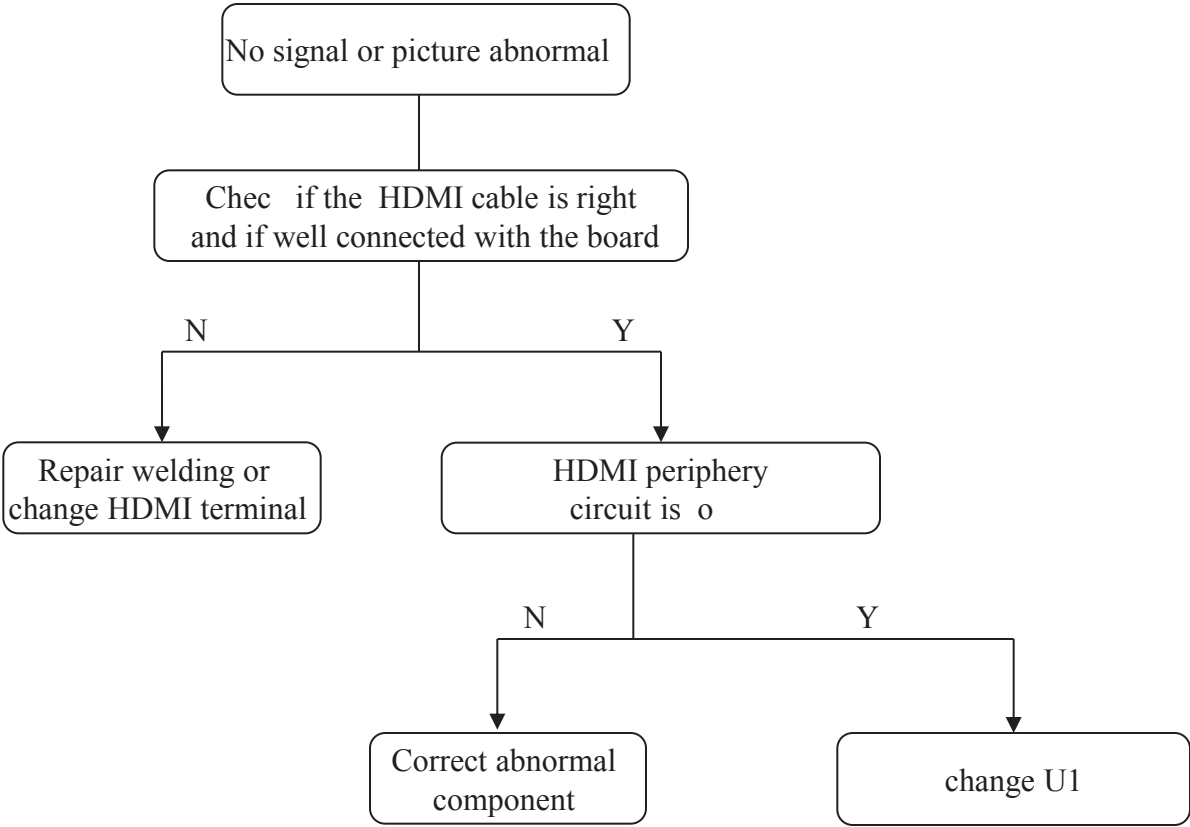




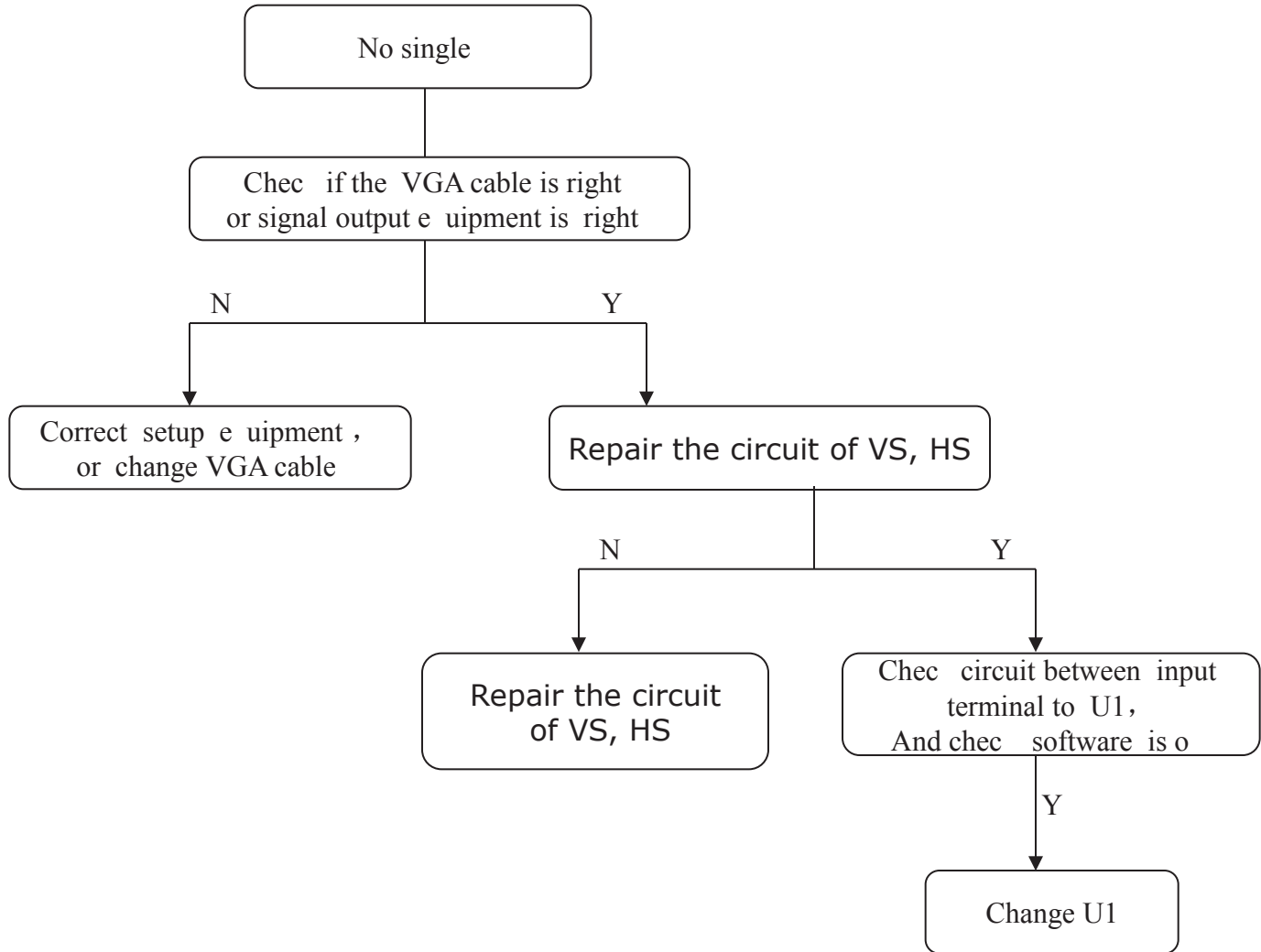
# 8. Function Troubleshooting (HDMI no sound )



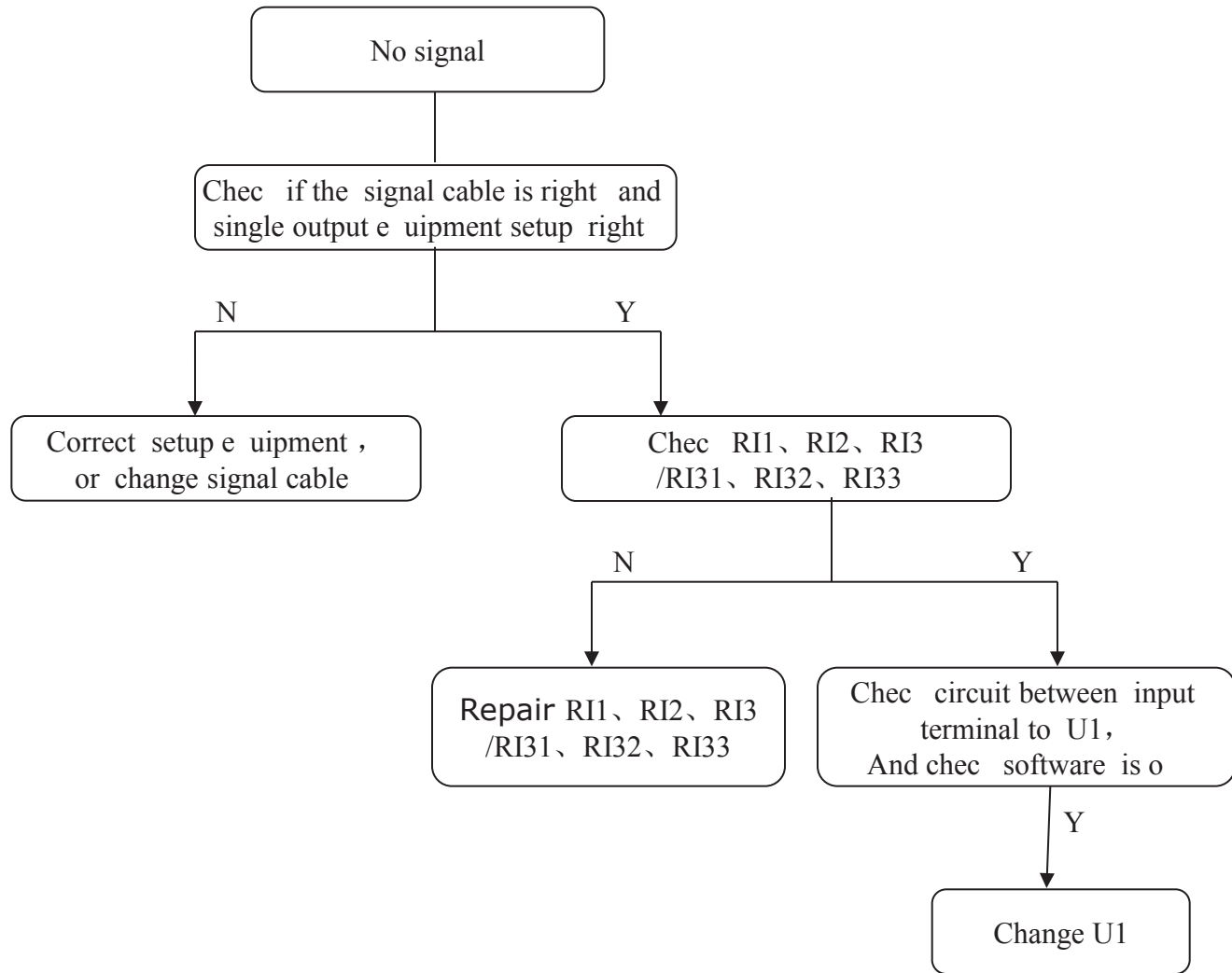
# 9. Function Troubleshooting (HDMI no picture )



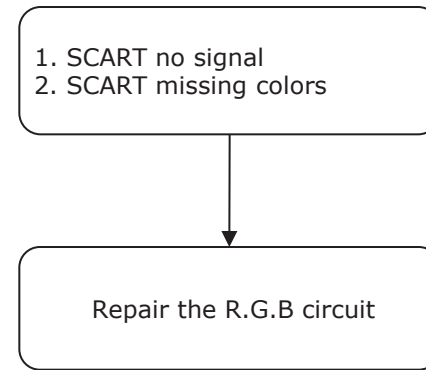
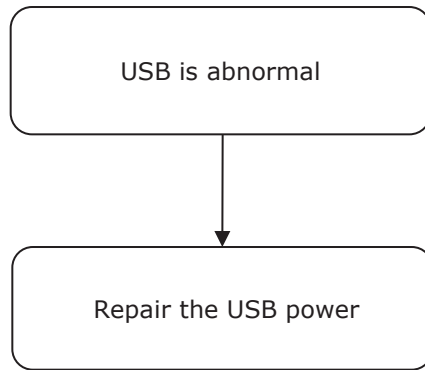
# 10. Function Troubleshooting (VGA no single )



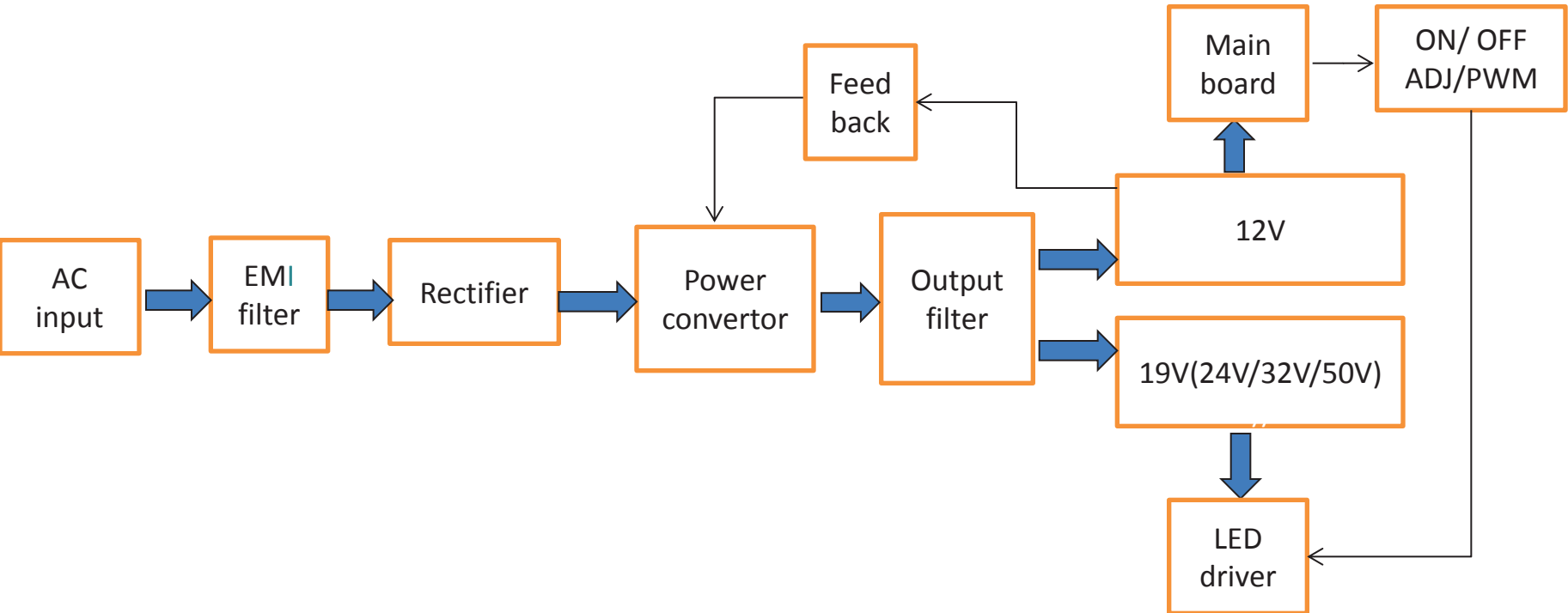
# 11. Function Troubleshooting (YPBPR or CVBS no signal)



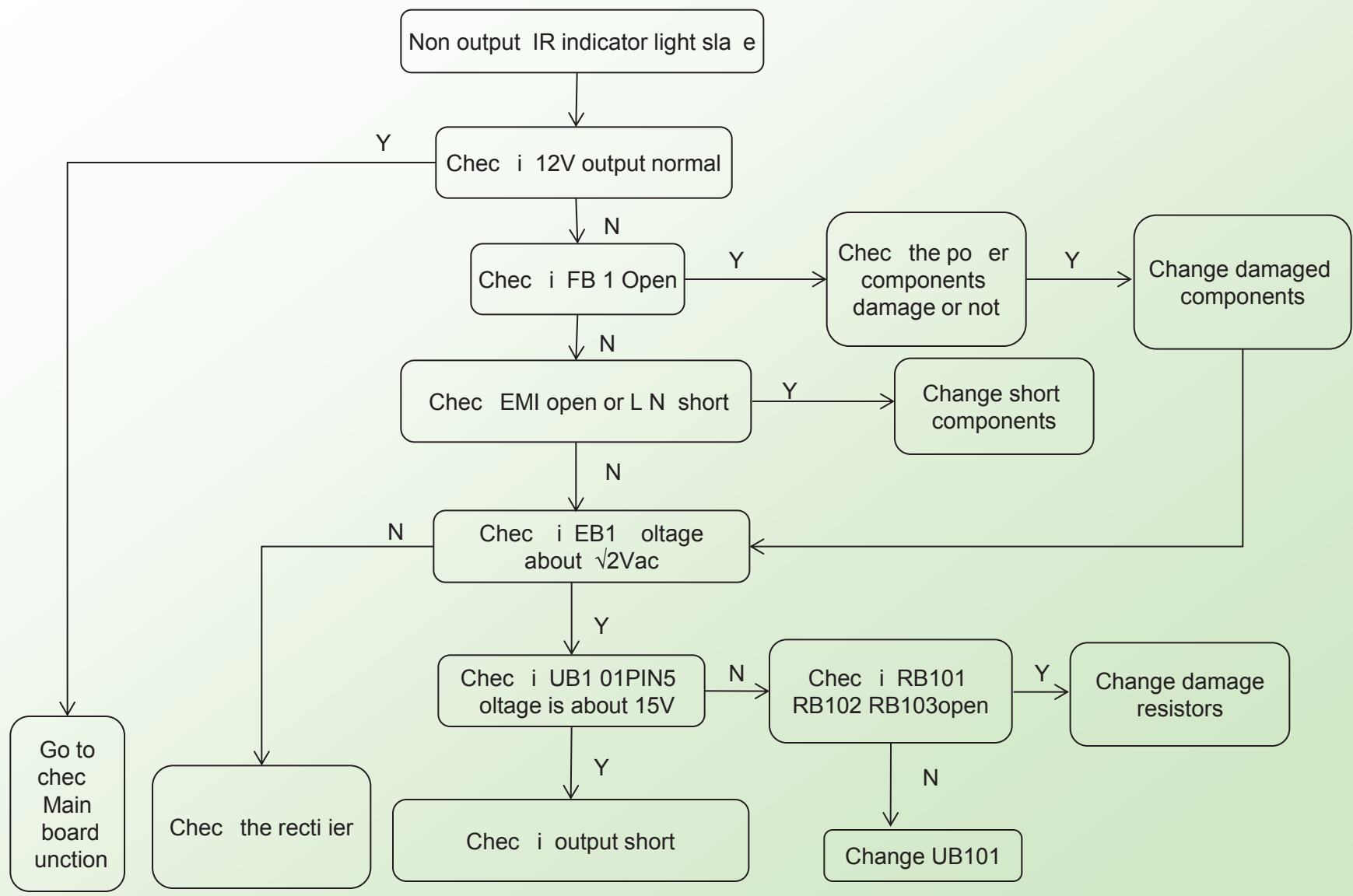
## 12. Function Troubleshooting (other)



# 13. Power board troubleshooting(Block Diagram )



# Power board troubleshooting



# Power board troubleshooting

