

SERVICE MANUAL

32E8D CHASSIS

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Technical Specification

1.Application Area:

This product standard is used for LCD 32E8D chassis.

2.Specification:

All the standard are measured under following conditions without other specification.

2.1 Ambient Temperature:20+/-5

2.2 Relative Humidity:65+/-10%

2.3 Power Supply Voltage: Standard Input Voltage(110V~240Vac 50/60Hz)

2.4 Adjust after 20 minutes warm-up.

3.Test and check method:

3.1 Capability:According to nation test standard

3.2 Safety:_____ standard

EMC:_____ standard

Technical Specification

1.General Specification

No	Item	Specification	Remark
1.	Receiving and sending method	PAL,SECAM,NTSC	
2.	Receive Channel	VHF (45.25MHz~423.25MHz) UHF (431.25MHz~863.25MHz)	
3.	Input Voltage	100-240V 50/60HZ	
4.	Market		
5.	Picture Size	32	
6.	Tuning System	PLL System	
7.	Operating Environment	1) Temp:0~40 deg 2) Humidity : 40 ~ 80%	
8.	Storage Environment	3) Temp : -10 ~ 50 deg 4) Humidity : 30 ~ 80 %	

2.Feature and Function

No	Item	Specification	Remark
1.	CCD	NO	
2.	REMOCON		
3.	AV Input	1 REAR	
4.	Component input	1 REAR	
5.	AV Output	1 REAR	
6.	PC Audio Input	1 REAR	
7.	VGA Input	1 REAR	
8.	EARPHONE Out	1 REAR	
9.	USB SLOT In	1 REAR	
10.	CI SLOT In	NO	
11.	HDMI Input	2 REAR	
12.	SCART Input	NO	
13.	Film Mode	YES	
14.	Noise Reduction	YES	
15.	Progressive Scan	YES	
16.	Motion Detection	NO	
17.	Dolby Virtual	NO	
18.	Swivel Speaker	NO	

Technical Specification

3.Safety and Regulation

No	Item	Min	Typ	Max	Unit	Remark
1.	Force Stability - Incline Plane Tip Test				deg	
2.	Force Stability - Level Tip Test				N	
3.	Isolation Gap, AC-AC/ AC-DC	3			mm	
4.	Isolation Gap,	6			mm	
5.	Power Consumption, Max				W	
6.	Power Consumption, Stand by			0.2	W	
7.	Power Consumption, Current harmonics					
8.	Dielectric Voltage	3			kV	
9.	Isolation Resistance	4			M	
10.	Leakage Current				mApp	
11.	Power Cord Captivity				kg	
12.	Flammability - Back Cover					
13.	Sharp Edge					
14.	UL Compliance					
15.	FCC Compliance					
16.	CDRH Radiation Compliance					
17.	CSA Compliance					
18.	CEB Compliance					
19.	CE Compliance					
20.	CB Compliance					

4.Video

No	Item	Min	Typ	Max	Unit	Remark
1.	Linearity Distortion, Vertical				%	
2.	Linearity Distortion, Horizontal				%	
3.	Trapezoidal Distortion, Vertical				%	
4.	Trapezoidal Distortion, Horizontal				%	
5.	Over Scan, Vertical				%	
6.	Over Scan, Horizontal				%	
7.	Brightness, Maximum				cd/m ²	
8.	Video Noise Limited Sensitivity(@S/N=30db) VHF				dBm	
9.	Video Noise Limited Sensitivity(@S/N=30db) UHF				dBm	
10.	Selectivity -1.5M	40			dB	
11.	Selectivity +8M	50			dB	
12.	Tuning Range	-0.7			MHz	
13.	Resolution Horizontal				Lines	

Technical Specification

14.	ResolutionVertical			Lines		
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5.Chroma

No	Item	Min	Typ	Max	Unit	Remark
1.	Purity (mislanding)				um	
2.	Convergence				mm	
3.	White Balance, X axis					
4.	White Balance, Y axis					
5.	White Balance Color Temperature				kdeg	9000kdeg(288,295) 13000kdeg(268,273) 9300kdeg(281,311) 6500kdeg(313,329)
6.	Color Sensitivity			30	dB	
7.	Video Input color sensitivity	PAL 0 SECAM 0		10 10		

6.Audio

No	Item	Min	Typ	Max	Unit	Remark
1.	Audio Noise Limited Sensitivity, VHF-L				dBm	
2.	Audio Noise Limited Sensitivity, VHF-L				dBm	
3.	Audio Noise Limited Sensitivity, UHF				dBm	
4.	Buzz (S/N Ratio)				dB	
5.	Min. Volume Hum				mV	
6.	Distortion			10	%	
7.	Audio Output, L/R,at 7 % THD				W	
8.	Audio Output, Center				W	
9.	Audio Output, Woofer				W	
10.	Stereo Separation				dB	
11.	Speaker Impedance		8		ohm	
12.	Speaker Power Rating		8		W	

Technical Specification

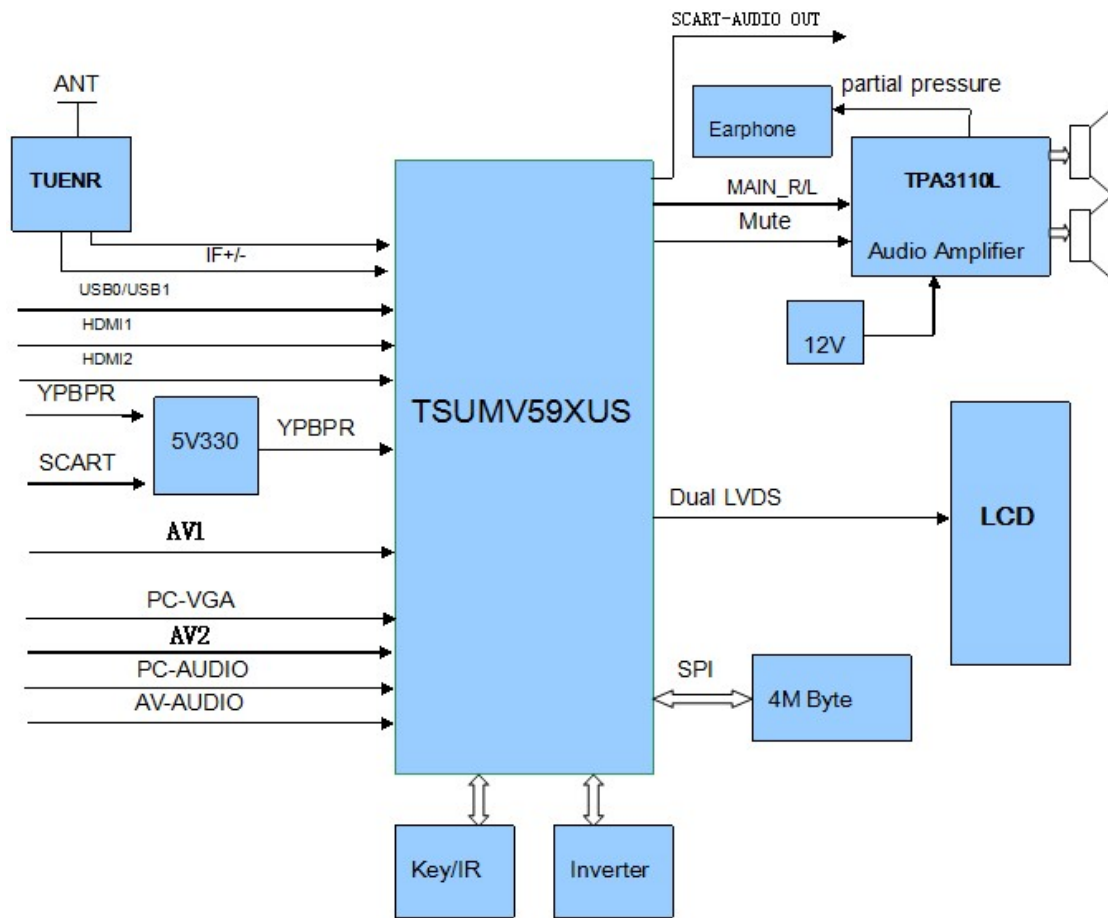
7.Power

No	Item	Min	Typ	Max	Unit	Remark
1.	AC Power Shut Down Voltage				V	
2.	DC Voltage, CRT Drive				V	
3.	DC Voltage, FBT Drive				V	
4.	DC Voltage, Audio		12		V	
5.	DC Voltage, Vertical +				V	
6.	DC Voltage, Vertical -				V	
7.	DC Voltage, VCD(8)				V	
8.	DC Voltage, VCD(5)				V	
9.	DC Voltage, Tuner(3)		3.3		V	
10.	DC Voltage, Tuning(32)				V	
11.	DC Voltage, MICOM(5)				V	
12.	DC Voltage, MICOM(5)				V	
13.	CRT Heater Voltage				V	
14.	High Voltage				kV	
15.	High Voltage Regulation				kV	
16.	Beam Current				mA	

8.External Interface

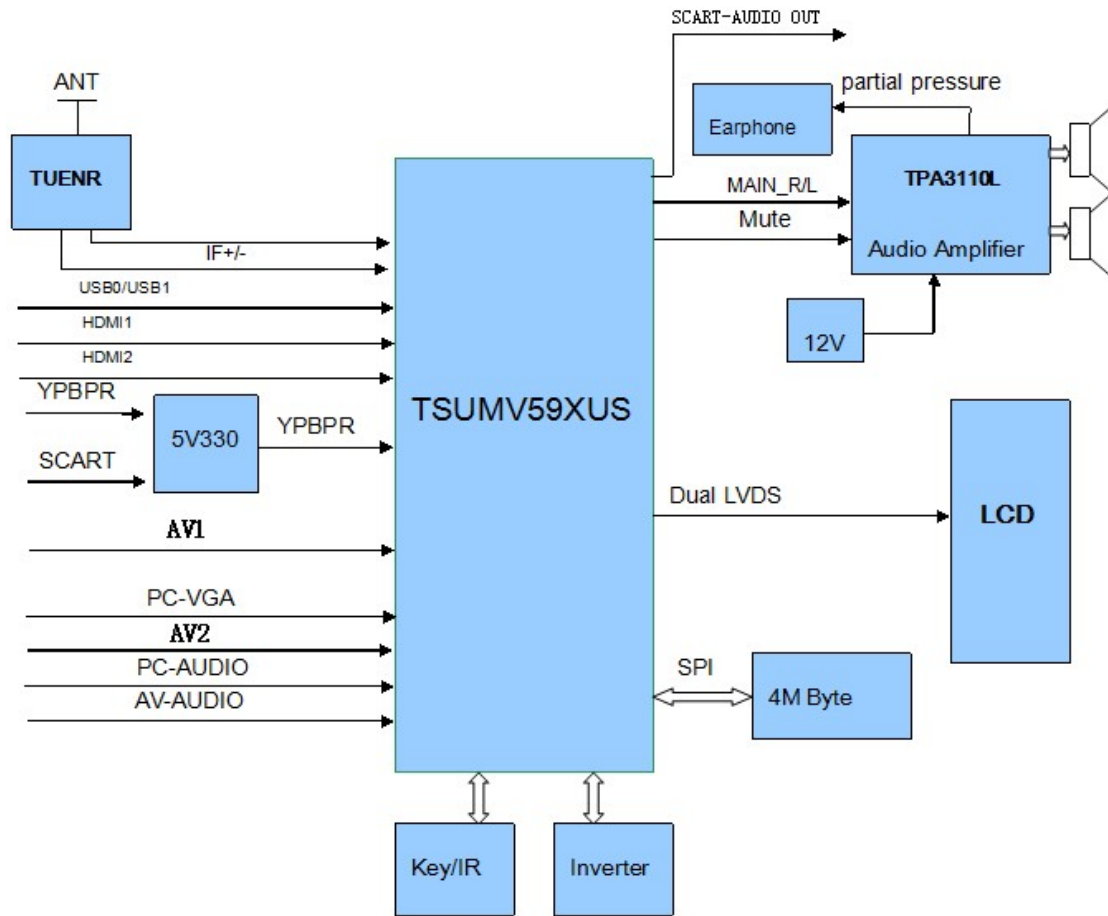
No	Item	Min	Typ	Max	Unit	Remark
1.	Video Input Level		1		Vpp	75ohm
2.	Video Input Frequency Response	4.5			MHz	
3.	Video Input S/N				dB	
4.	Audio Input Level		0.5		Vrms	
5.	Audio Input Frequency Response		15		kHz	
6.	Audio Input S/N				dB	
7.	Audio Input Distortion				%	
8.	Audio Input Dynamic Range				V	
9.	Video Output Level(With Load)		1		Vpp	75ohm
10.	Video Output Frequency Response	4.5			MHz	
11.	Video Output S/N				dB	
12.	Audio Output Level(With Load)		0.5		Vrms	
13.	Audio Output Frequency Response		15		kHz	
14.	Audio Output S/N				dB	
15.	Audio Output Distortion				%	

Chassis Block Diagram



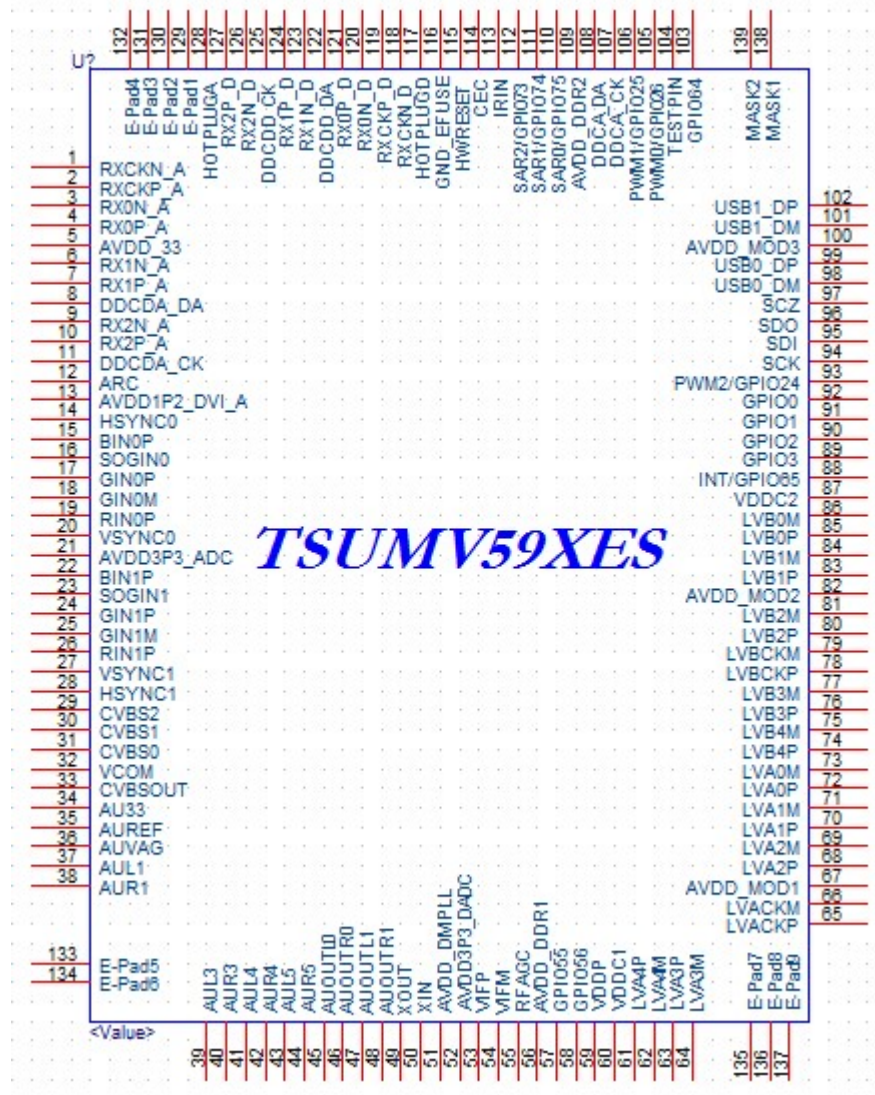
IC Block Diagram

U11 TSUMV59XUS-Z1 single chip solution for analog TV system Block Diagram

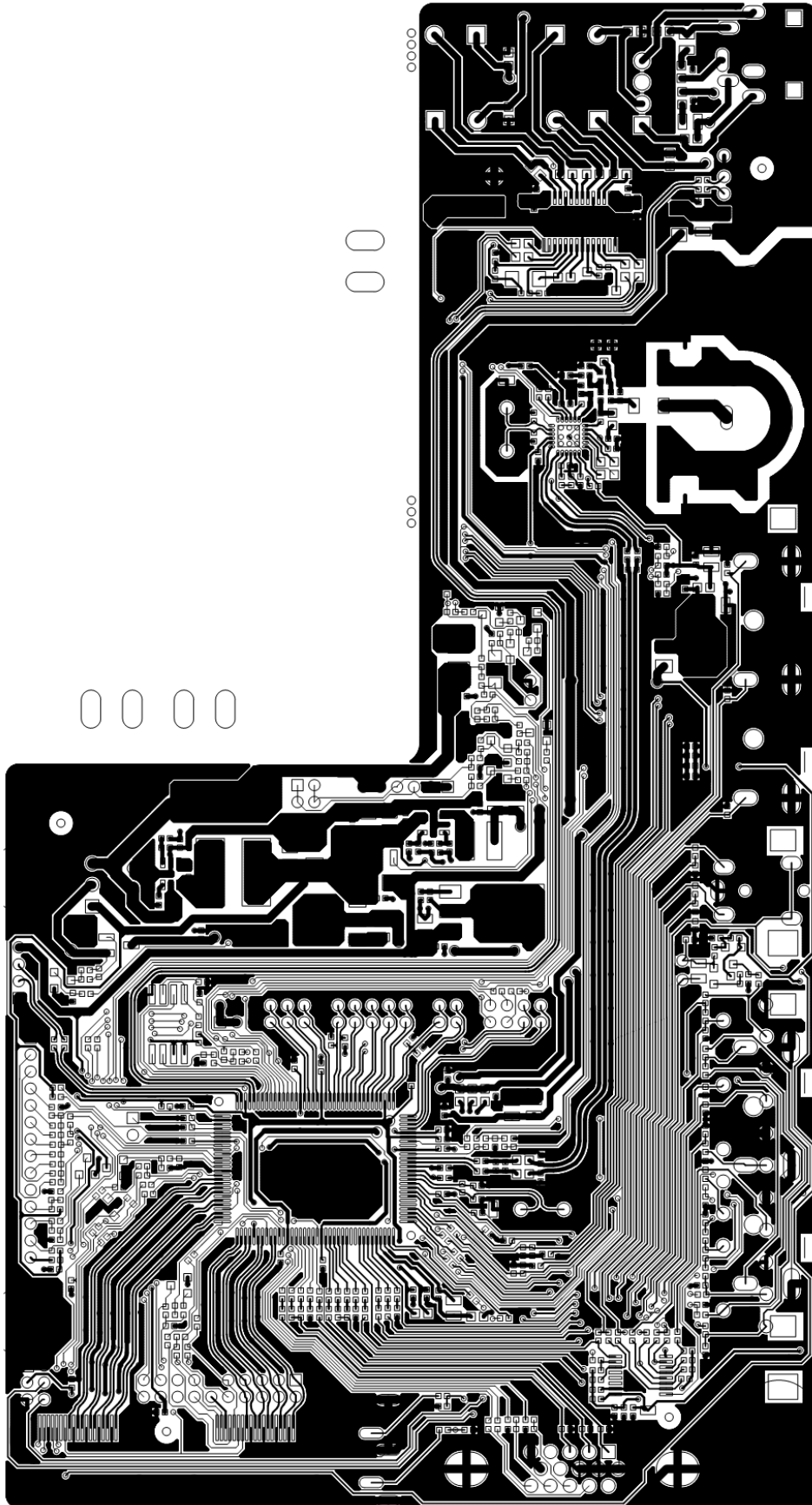


IC Block Diagram

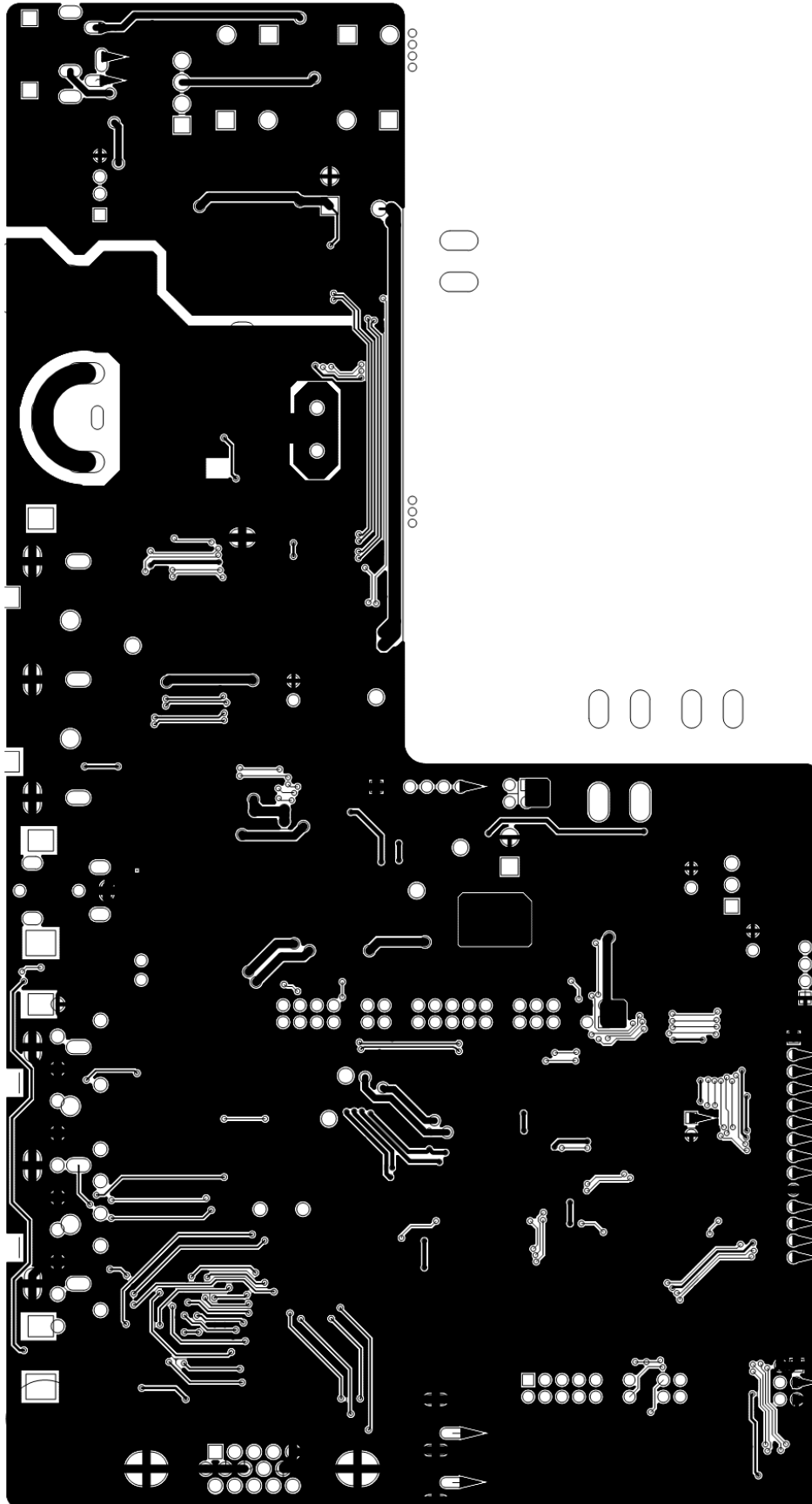
U11 TSUMV59XUS-Z1 single chip solution for analog TV system Pin Diagram

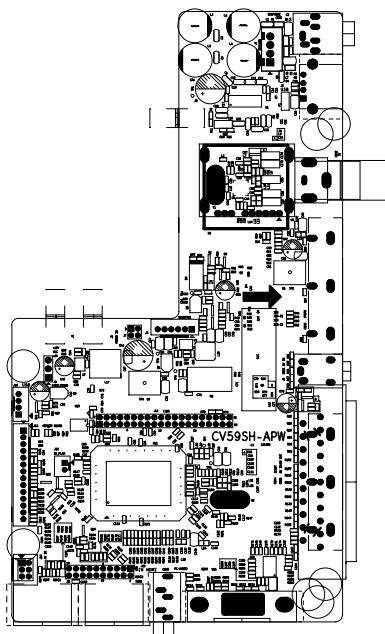


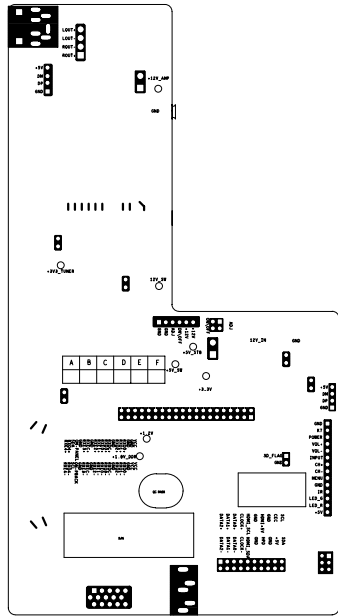
Main PCB TOP LAYER

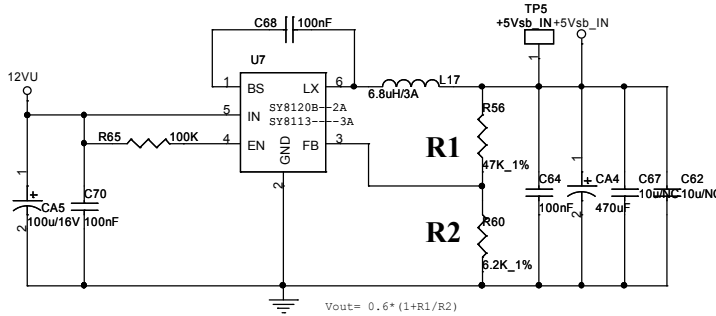
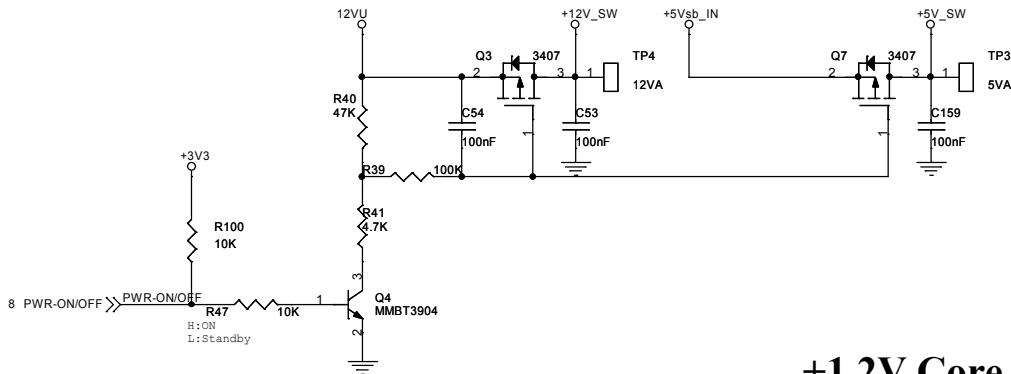
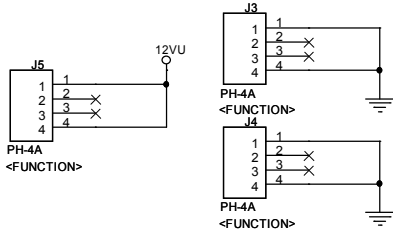


Main PCB BOTTOM LAYER

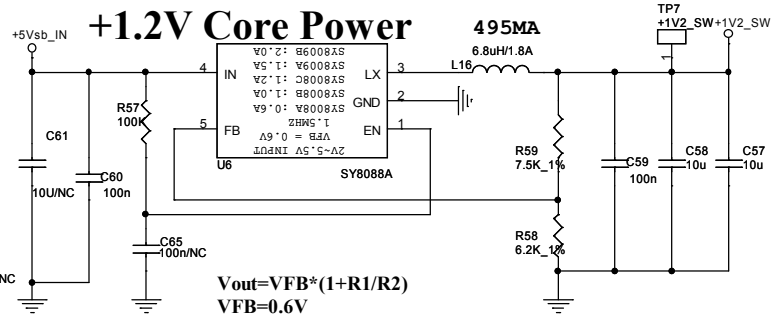
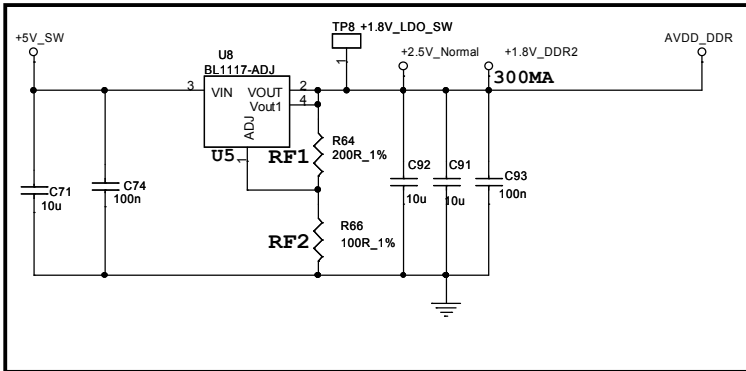




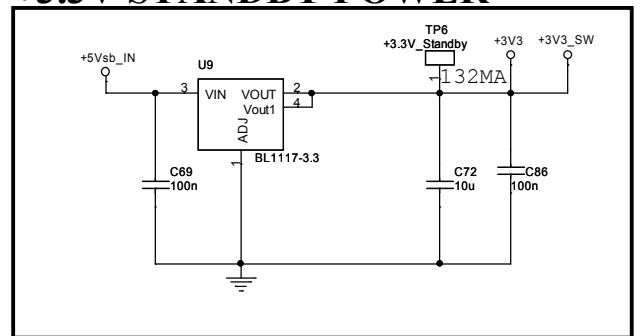




+1.8V DDR Power



+3.3V STANDBY POWER



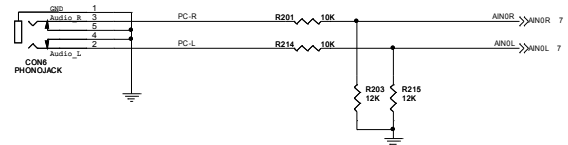
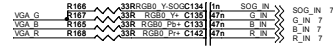
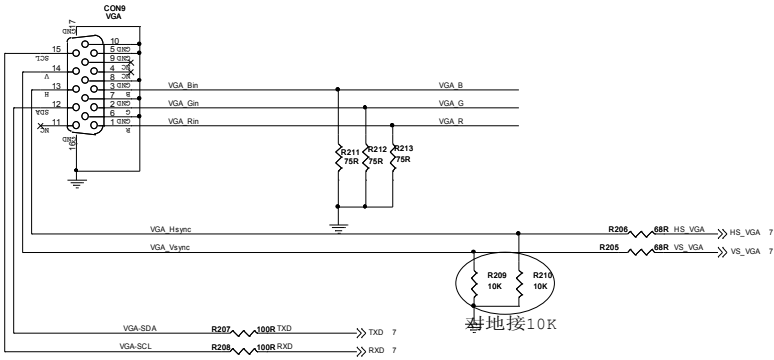
skyworth

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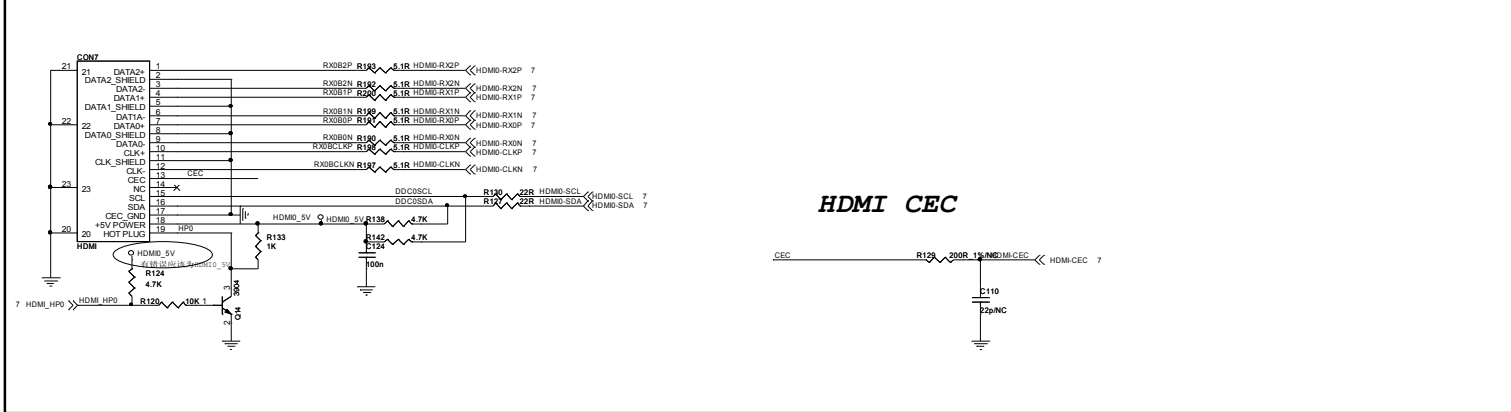
Size	Document Number	Rev
Custom	02.Power Supply	1.1

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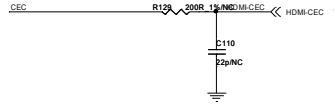
VGA INPUT



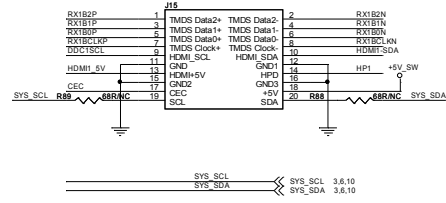
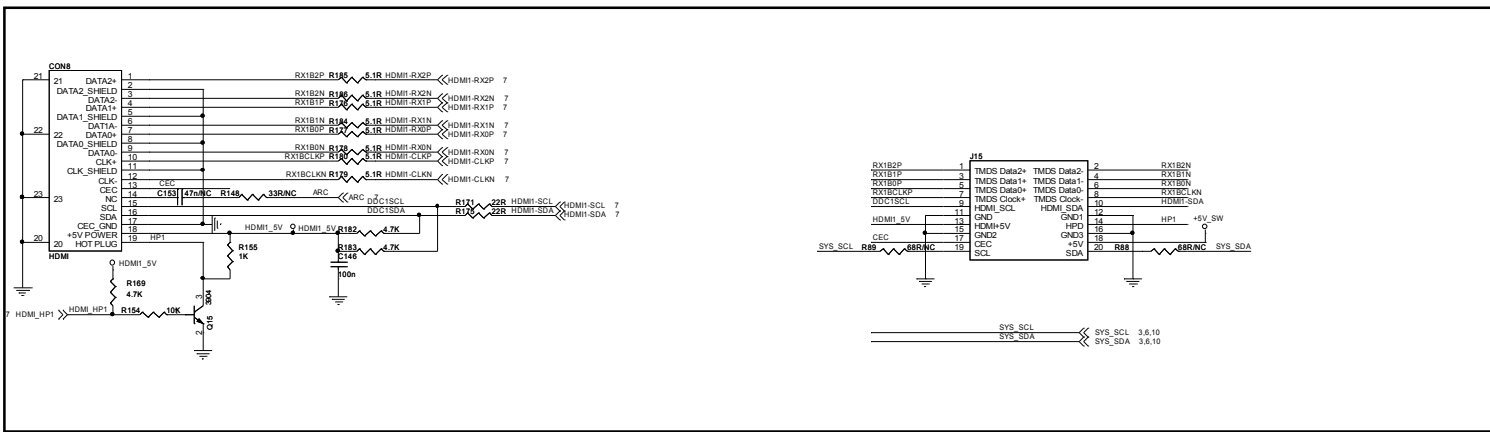
HDMI0



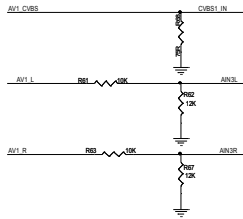
HDMI CEC



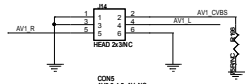
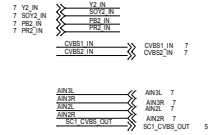
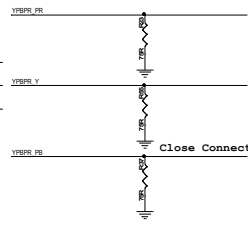
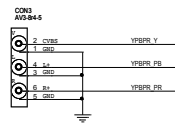
HDMI1



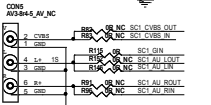
AV INPUT



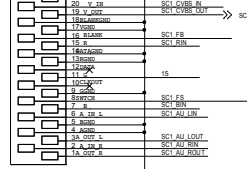
YPbPr



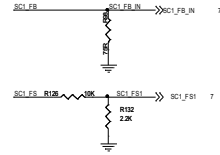
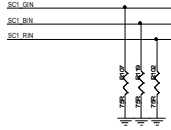
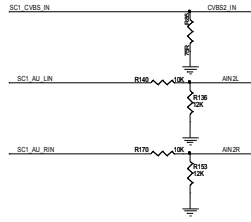
SCART & AV INPUT



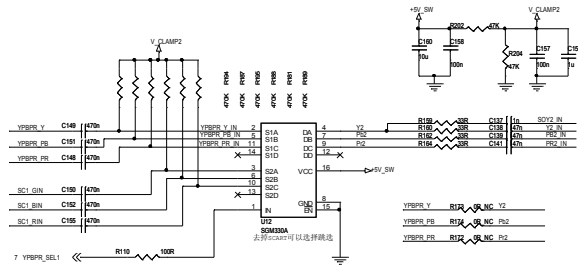
SCART1 Input



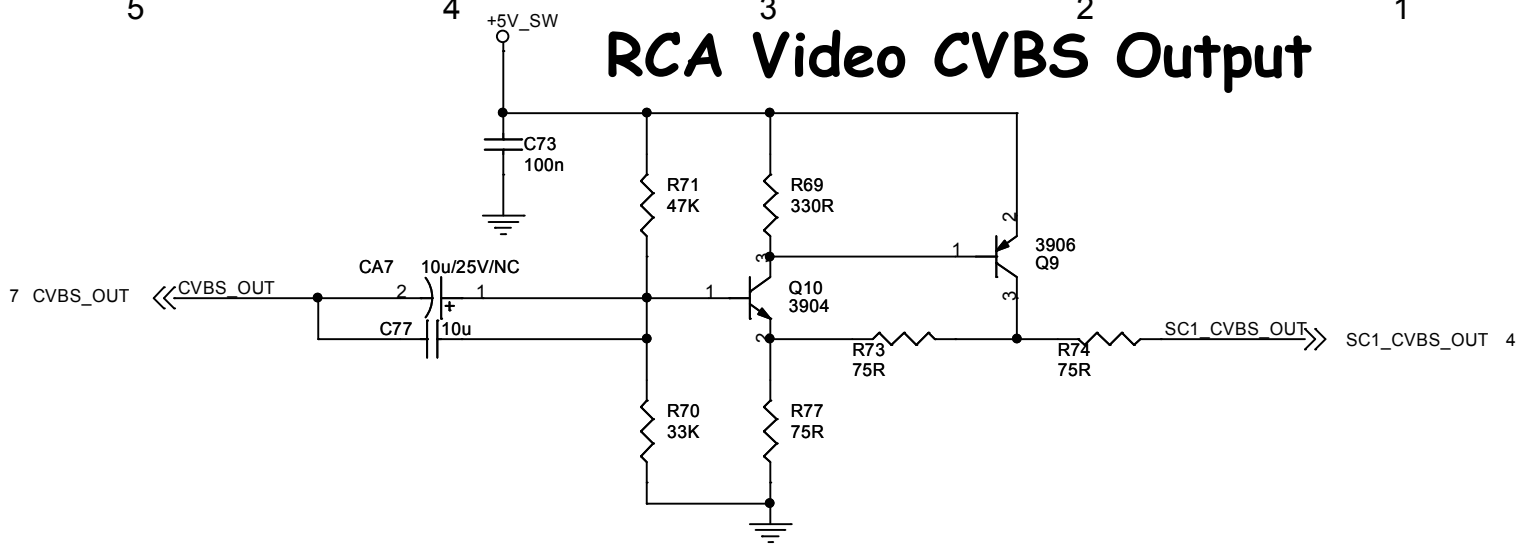
CSW SCART
 FS -> SOY1 / SARIN1 / SOY2 / SARIN2
 0-2c TV Mode -> 0.0-2.3v
 5-8c 16:9 AV -> 0.83-1.33v
 9-5 12v-6.3 AV -> 1.58-2.0v



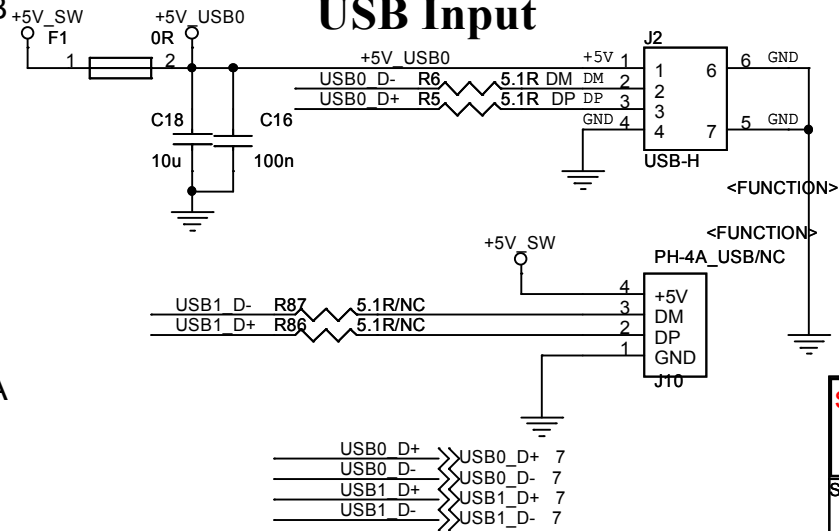
YPbPr & SCART SWITCH



RCA Video CVBS Output

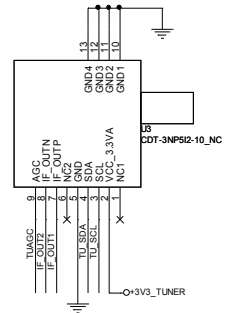
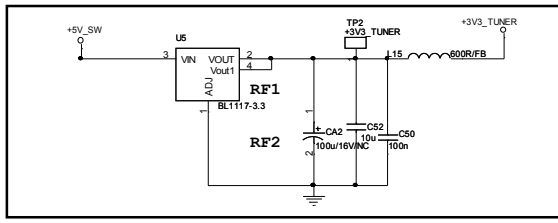
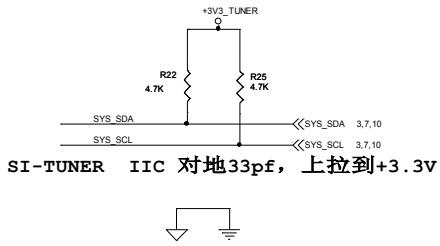


USB Input

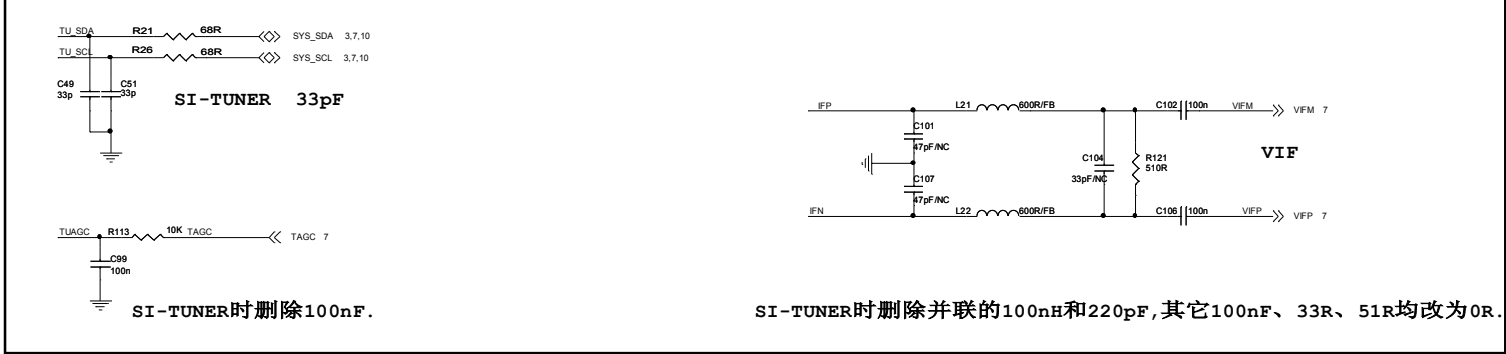


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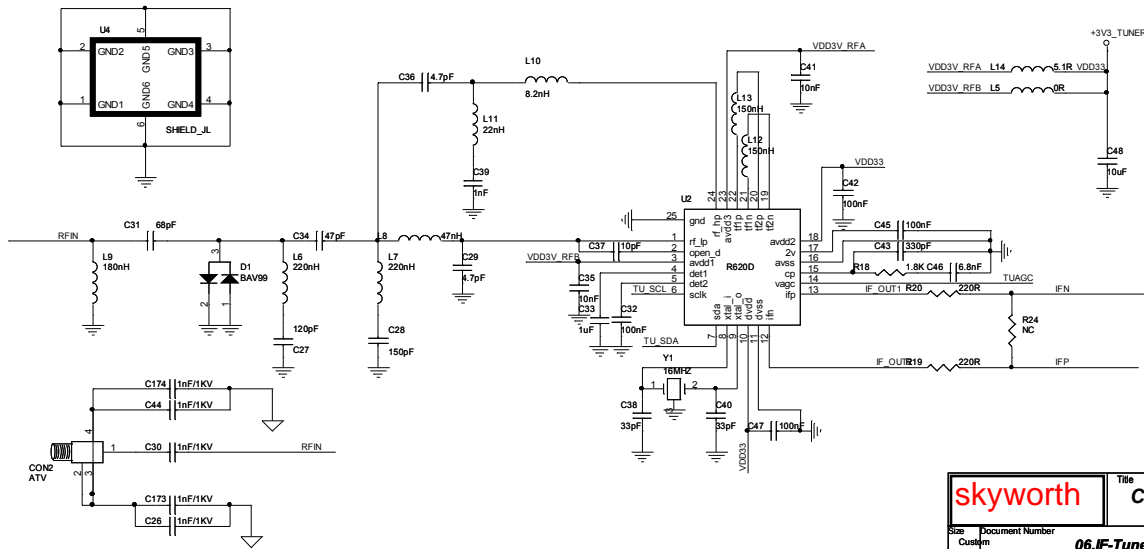
+3.3V SI-TUNER POWER

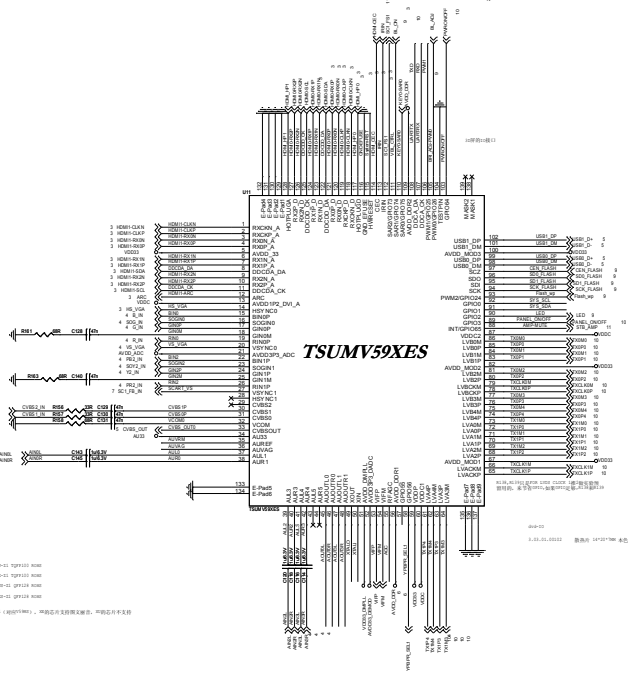


ATV Tuner



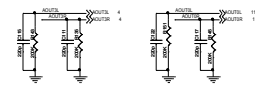
SI Tuner





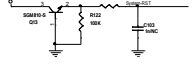
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Audio Output

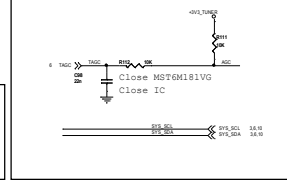


Audio Input
Audio Input

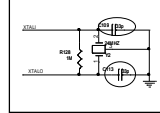
RESET CIRCUIT



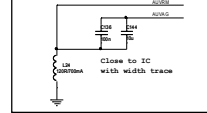
Tuner



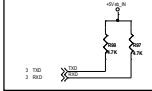
System XTAL



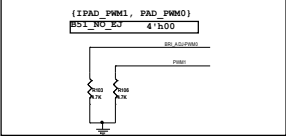
Audio



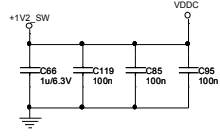
Debug port



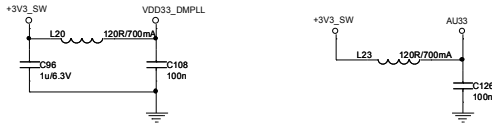
Chip Config



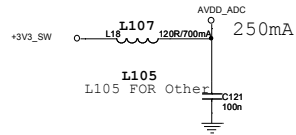
Normal Power 1.2V



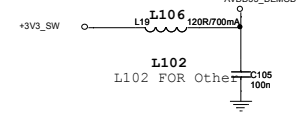
Normal Power 3.3V



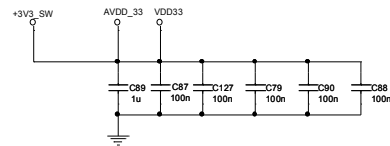
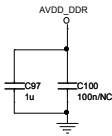
L107 FOR TSUMV59MS



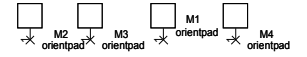
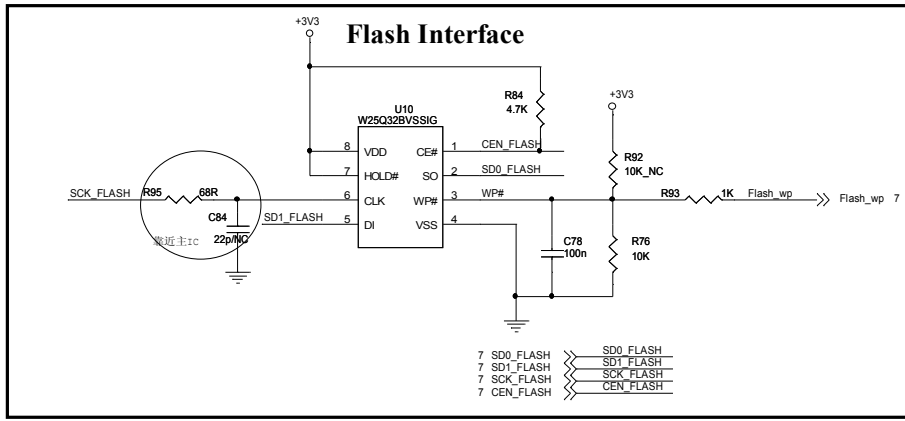
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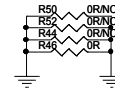
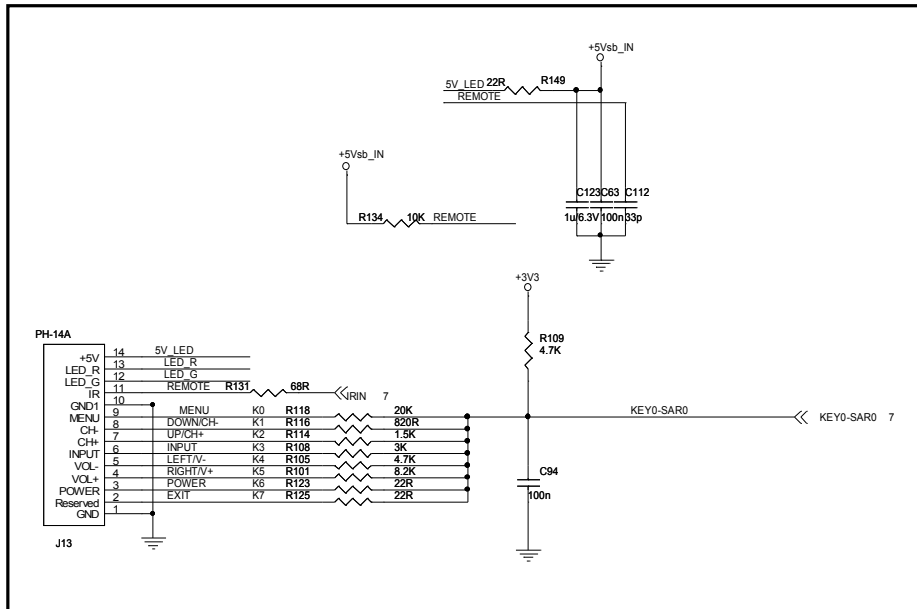
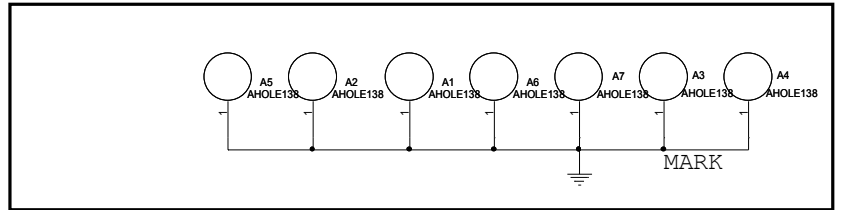
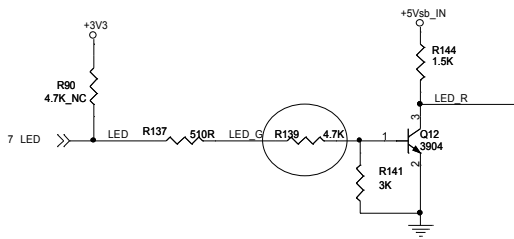
DDR power



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KEY Interface



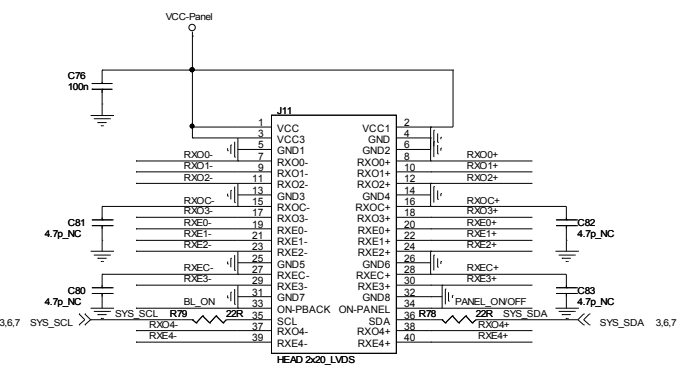
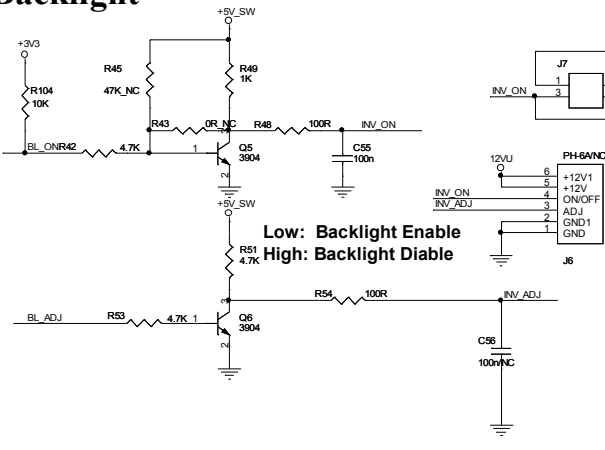
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Date:	Monday, January 14, 2013	Sheet 9 of 11

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7	TXDM1	TXDM1
7	TXDP1	TXDP1
7	TXDM2	TXDM2
7	TXDP2	TXDP2
7	TXCLK0M	TXCLK0M
7	TXCLK0P	TXCLK0P
7	TXDM3	TXDM3
7	TXDP3	TXDP3
7	TXDM4	TXDM4
7	TXDP4	TXDP4
7	TXIM0	TXIM0
7	TXIP0	TXIP0
7	TXIM1	TXIM1
7	TXIP1	TXIP1
7	TXIM2	TXIM2
7	TXIP2	TXIP2
7	TXCLK1M	TXCLK1M
7	TXCLK1P	TXCLK1P
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7	TXIM4	TXIM4
7	TXIP4	TXIP4

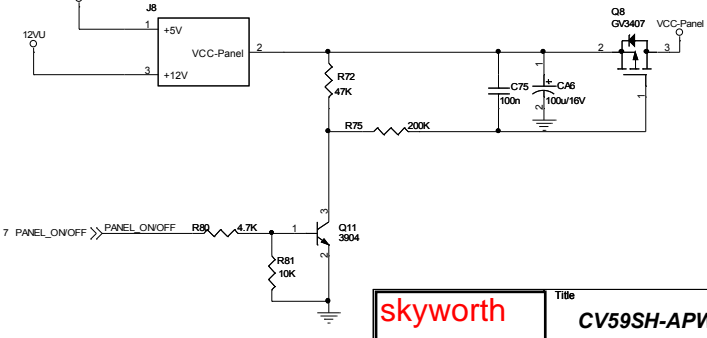
TXDM0	RXD0-	RLV2P
TXDP0	RXD0+	RLV2N
TXDM1	RXD1-	RLV3P
TXDP1	RXD1+	RLV3N
TXDM2	RXD2-	RLV4P
TXDP2	RXD2+	RLV4N
TXCLK0M	RXD0C-	RLV5P
TXCLK0P	RXD0C+	RLV5N
TXDM3	RXD3-	RLV6P
TXDP3	RXD3+	RLV6N
TXDM4	RXD4-	LLV6P
TXDP4	RXD4+	LLV6N
TXIM0	RXE0-	LLV1P
TXIP0	RXE0+	LLV1N
TXIM1	RXE1-	LLV2P
TXIP1	RXE1+	LLV2N
TXIM2	RXE2-	LLV3P
TXIP2	RXE2+	LLV3N
TXCLK1M	RXE0C-	LLV6P
TXCLK1P	RXE0C+	LLV6N
TXIM3	RXE3-	LLV5P
TXIP3	RXE3+	LLV5N
TXIM4	RXE4-	LLV6P
TXIP4	RXE4+	LLV6N

7	BL_ON	BL_ON
7	BL_ADJ	BL_ADJ

Backlight

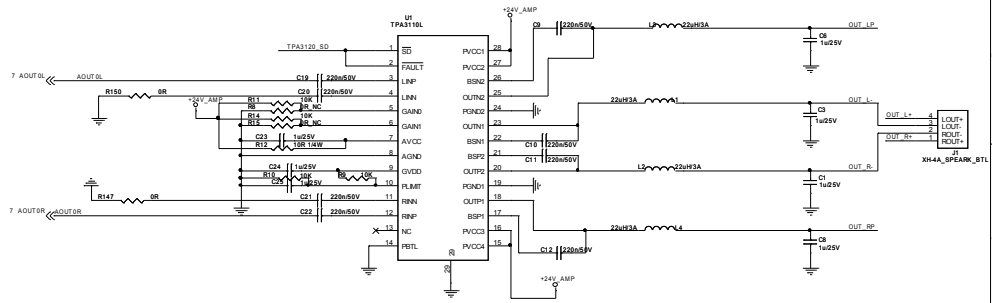
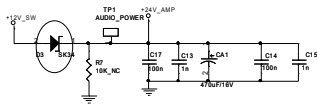


Panel Power Control

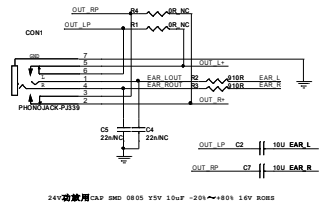
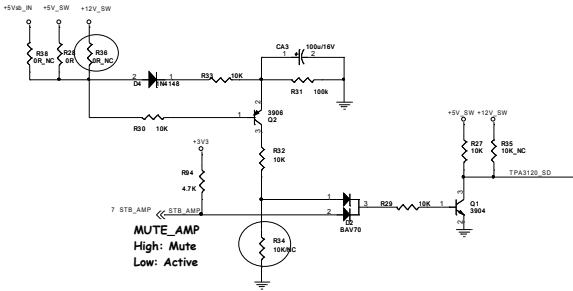


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+12 V For Audio AMP.

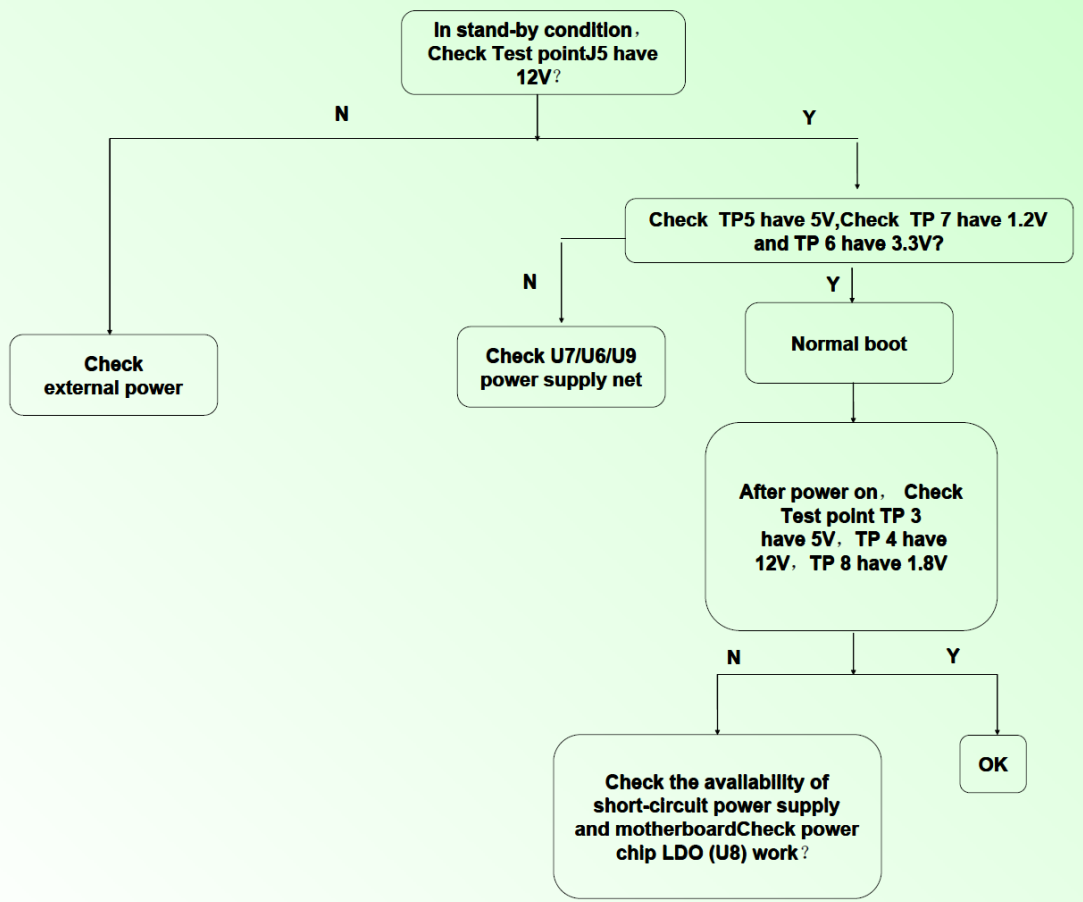


MUTE Control

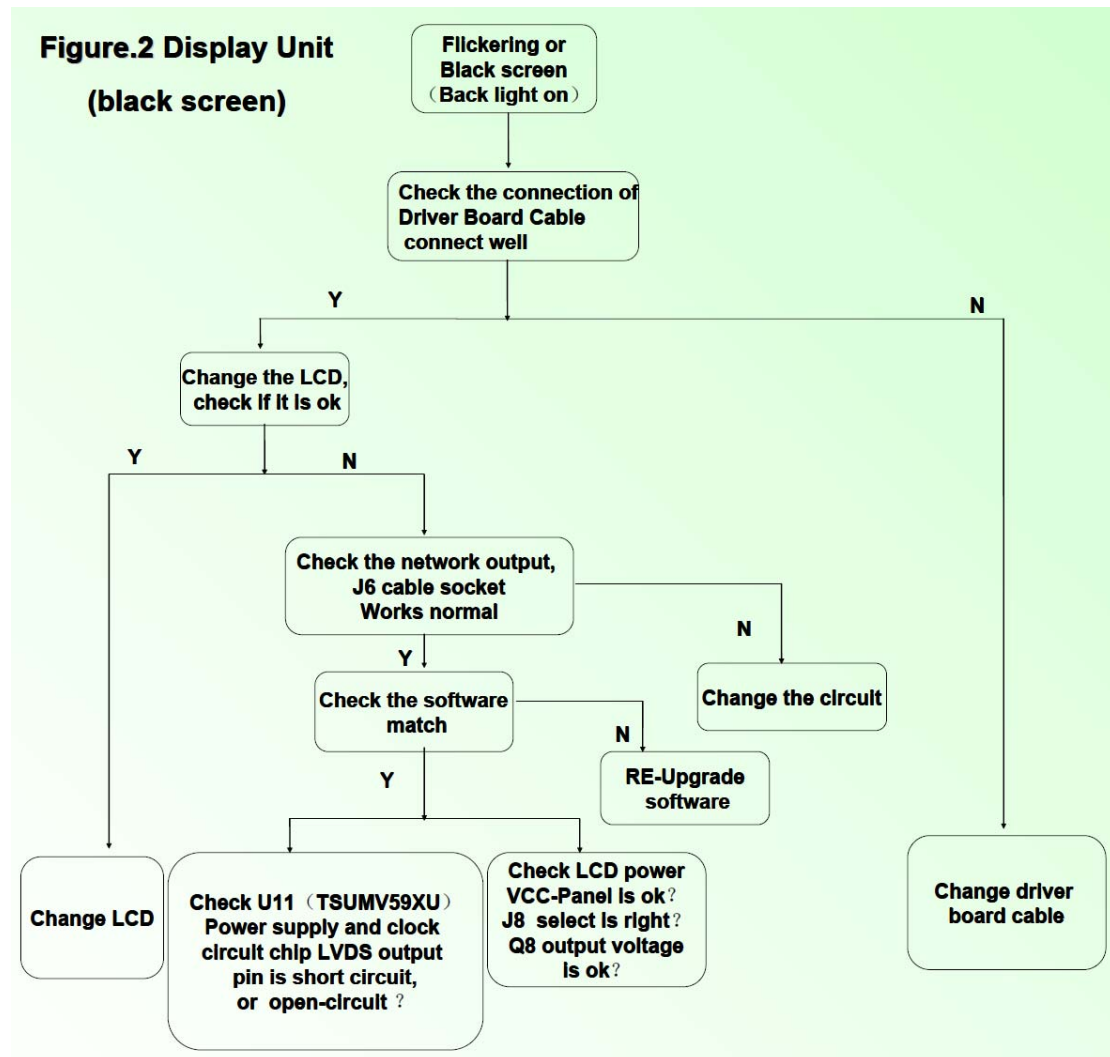


Trouble Shooting

Figure.1 Power Units Problem Solving

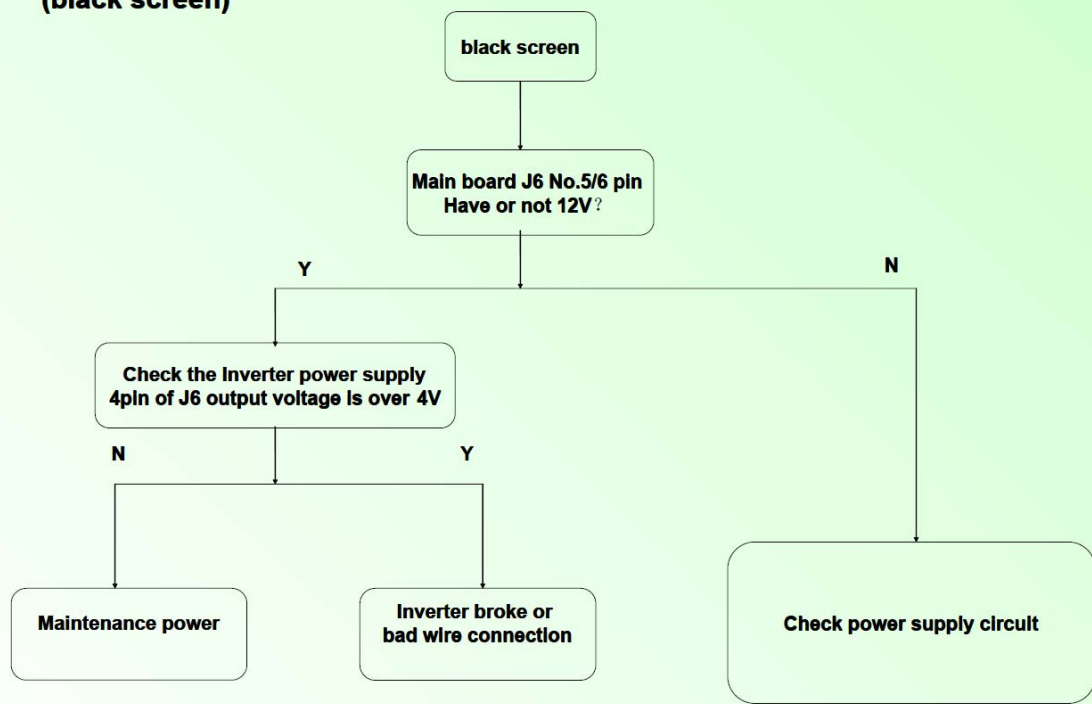


Trouble Shooting

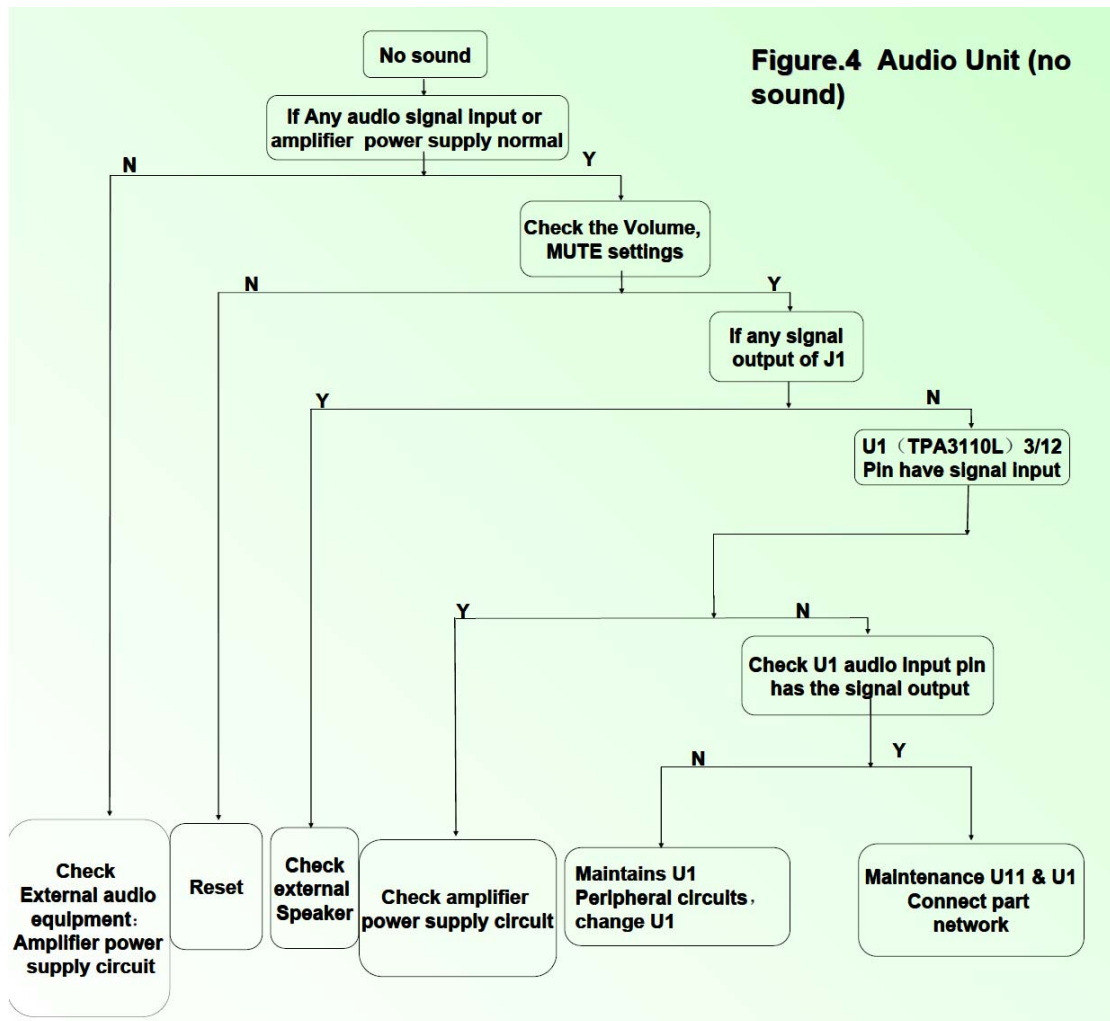


Trouble Shooting

**Figure.3 Display Unit
(black screen)**

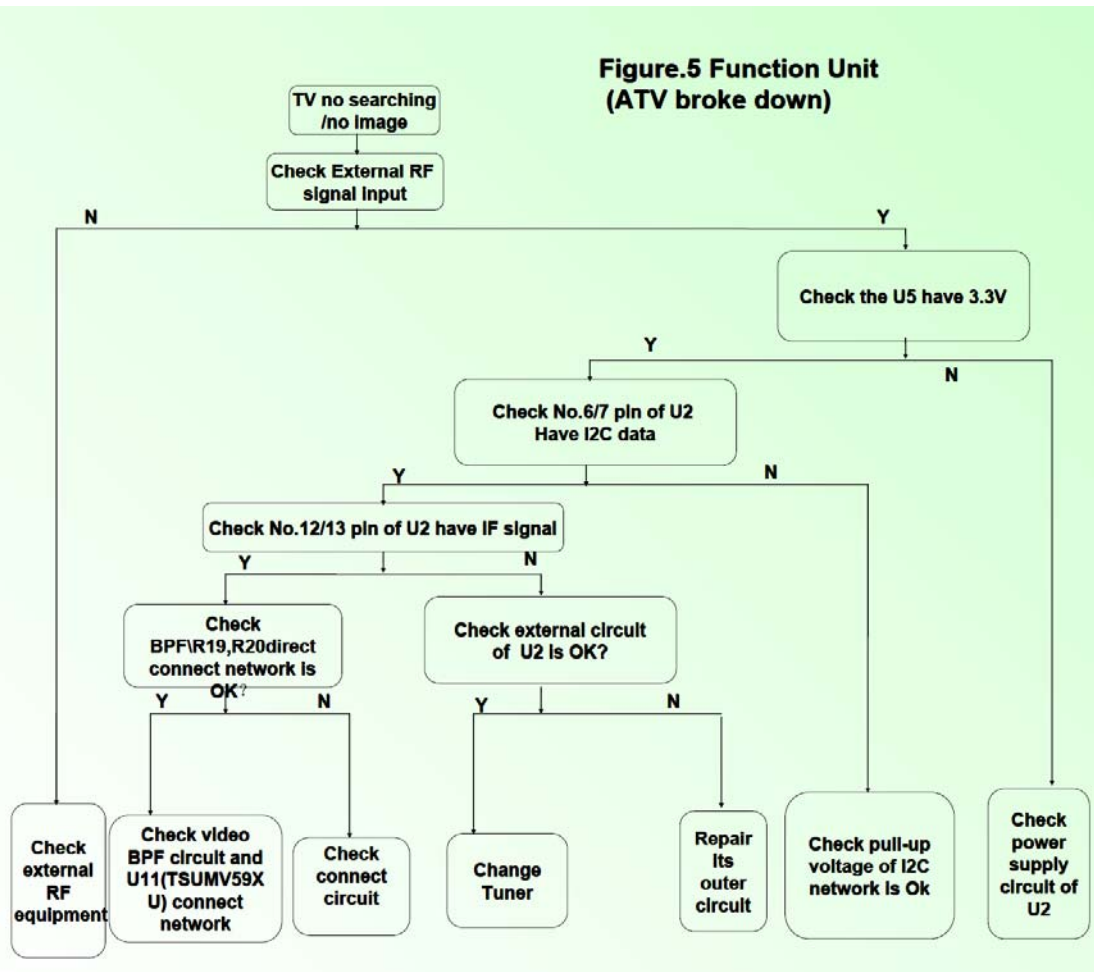


Trouble Shooting

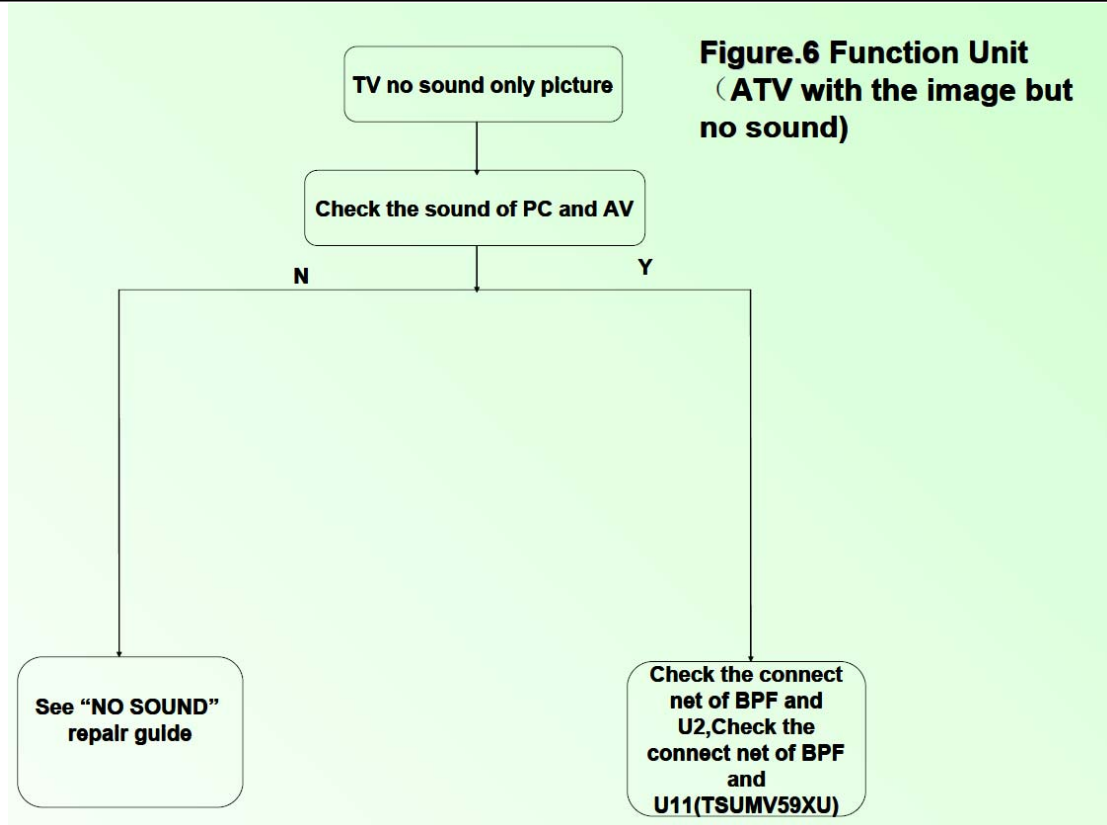


Trouble Shooting

**Figure.5 Function Unit
(ATV broke down)**

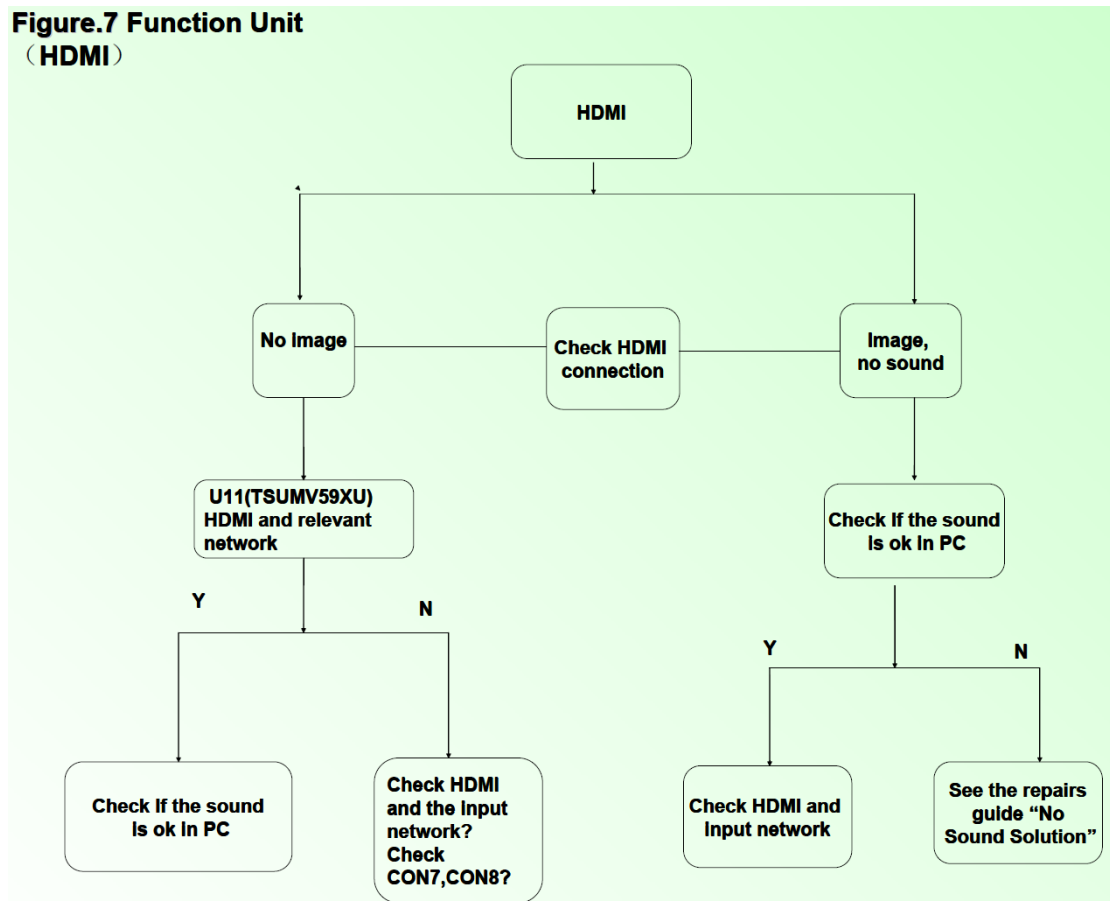


Trouble Shooting



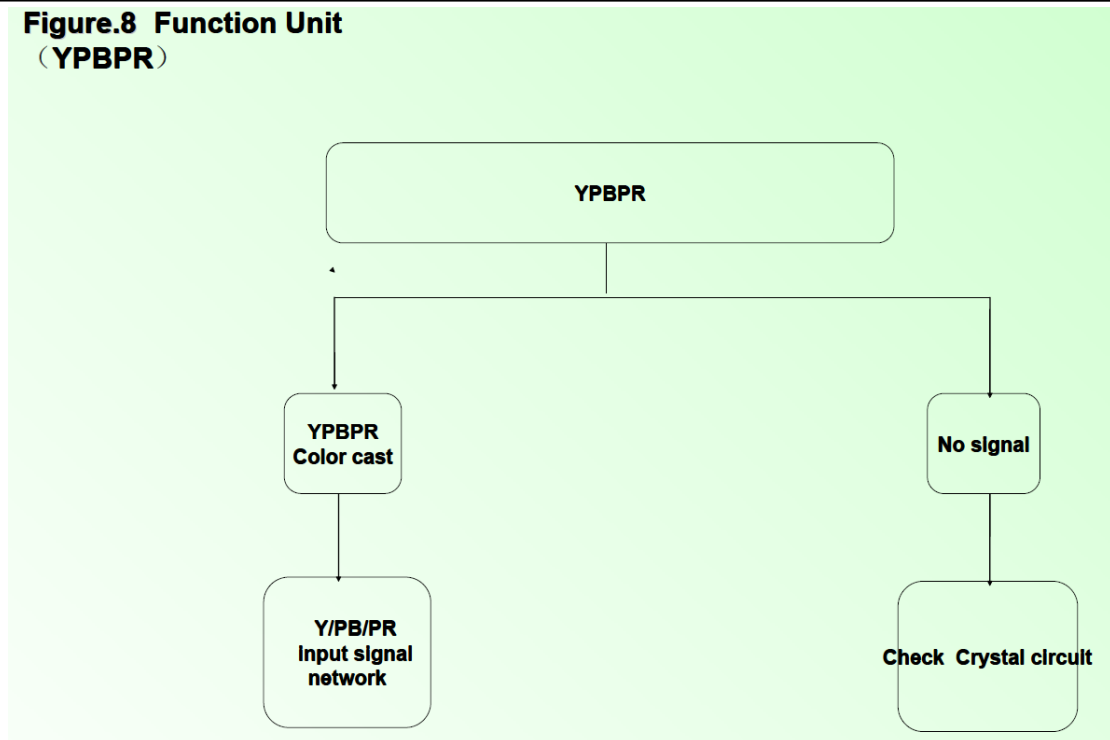
Trouble Shooting

**Figure.7 Function Unit
(HDMI)**



Trouble Shooting

**Figure.8 Function Unit
(YPBPR)**



Update Instruction:

1. Please copy the file “****.bin” under the root directory of U Disk;
2. Make sure the TV Set is not connected to AC and plug U Disk in USB Port;
3. Connect AC and the TV Set will auto run updating. The indicator will be flickering until the updating finished and the TV Set will auto turn on;
4. Press “SOURCE” key and then number key “2”, “5”, “8” and “0”. In this way you can enter the Factory Menu;
5. Select “Function” and then “Restore Default”.
6. Updating completed.