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# Haier SERVICE MANUAL

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LED TV Model No. LE39B9000

**Main chipset:** TSUMV59XUS



## WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.

It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.

Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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# Chapter 1. General Information

## 1-1. Document Information

Document format: Adobe PDF

Author: JINJI .LIANG (Aidan)

Compiler:

## 1-2. General Guidelines

When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.

After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.

After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

- 1) Leakage Current Cold Check
- 2) Leakage Current Hot Check
- 3) Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive

## 1-3. Important Notice

### 1-3-1. Follow the regulations and warnings

Most important thing is to list up the potential hazard or risk for the service personnel to open the units and disassemble the units. For example, we need to describe properly how to avoid the possibility to get electrical shock from the live power supply or charged electrical parts (even the power is off).



This symbol indicates that high voltage is present inside. It is dangerous to make any kind of contact with any inside part of this product.



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying the appliance.

### 1-3-2. Be careful to the electrical shock

To prevent damage which might result in electric shock or fire, do not expose this TV set to rain or excessive moisture. This TV must not be exposed to dripping or splashing water, and objects filled with liquid, such as vases, must not be placed on top of or above the TV.

### 1-3-3. Electro static discharge (ESD)

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

### Electrostatically Sensitive (ES) Devices

Some semiconductor (solid-state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped

assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed to prevent potential shock reasons prior to applying power to the unit under test.

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

#### 1-3-4. About lead free solder (PbF)

This product is manufactured using lead-free solder as a part of a movement within the consumer products industry at large to be environmentally responsible. Lead-free solder must be used in the servicing and repairing of this product.

#### 1-3-5. Use the genewing parts (specified parts)

Special parts which have purposes of fire retardant (resistors), high-quality sound (capacitors), low noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

### Safety Component

- Components identified by mark have special characteristics important for safety.

#### 1-3-6 Safety check after repairment

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the positions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

### General Servicing Precautions

1. Always unplug the receiver AC power cord from the AC power source before:
  - a. Removing or reinstalling any component, circuit board module or any other receiver assembly.
  - b. Disconnecting or reconnecting any receiver electrical plug or other electrical connection.
  - c. Connecting a test substitute in parallel with an electrolytic capacitor in the receiver.

**CAUTION:** A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc) equipped with a suitable high voltage probe. Do not test high voltage by "drawing an arc".
3. Do not spray chemicals on or near this receiver or any of its assemblies.
4. Unless specified otherwise in this service manual, clean electrical contacts only by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable non-abrasive applicator; 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength).

**CAUTION:** This is a flammable mixture.

Unless specified otherwise in this service manual, lubrication of contacts is not required. Capacitors may result in an explosion hazard.

5. Do not defeat any plug/socket B+ voltage interlocks with which receivers covered by this service manual might be equipped.
- 6 Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
7. Always connect the test receiver ground lead to the receiver chassis ground before connecting the test receiver positive lead.  
Always remove the test receiver ground lead last. Capacitors may result in an explosion hazard.
8. Use with this receiver only the test fixtures specified in this service manual.

**CAUTION:** Do not connect the test fixture ground strap to any heat sink in this receiver.

9. Remove the antenna terminal on TV and turn on the TV.
10. Insulation resistance between the cord plug terminals and the external exposure metal should be more than Mohm by using the 500V insulation resistance meter.
11. If the insulation resistance is less than M ohm, the inspection repair should be required.  
If you have not the 500V insulation resistance meter, use a Tester. External exposure metal: Antenna terminal Headphone jack.
12. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
13. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
14. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
15. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it.  
(Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
16. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

**CAUTION:** Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

17. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

### 1-3-7. Ordering Spare Parts

Please include the following informations when you order parts. (Particularly the Version letter)

1. Model number, serial number and software version  
The model number and serial number can be found on the back cover of each product. Software version can be found in the Spare Parts List.
2. Spare part No. and description  
Spare part No. and description can be found in the Spare Parts List.

### 1-3-8. Photo used in this manual

The illustration and photos used in this Service Manual may not base on the final design of products, which may differ from your products in some way.

## 1-4. How to Read this Service Manual

### Using icons

Icons are used to attract the attention of the reader to specific information. The meaning of each icon is described in the table below:

Note:



A "note" provides information that is not indispensable, but may nevertheless be valuable to the reader, such as tips and tricks.

**Caution:**



A "caution" is used when there is danger that the reader, through incorrect manipulation, may damage equipment, lose data, get an unexpected result or has to restart (part of) a procedure.

**Warning:**

A “warning” is used when there is danger of personal injury.

**Reference:**

A “reference” guides the reader to other places in this binder or in this manual, where

he/she will find additional information on a specific topic.

## Chapter 2. Specification

### 2-1. Specification list

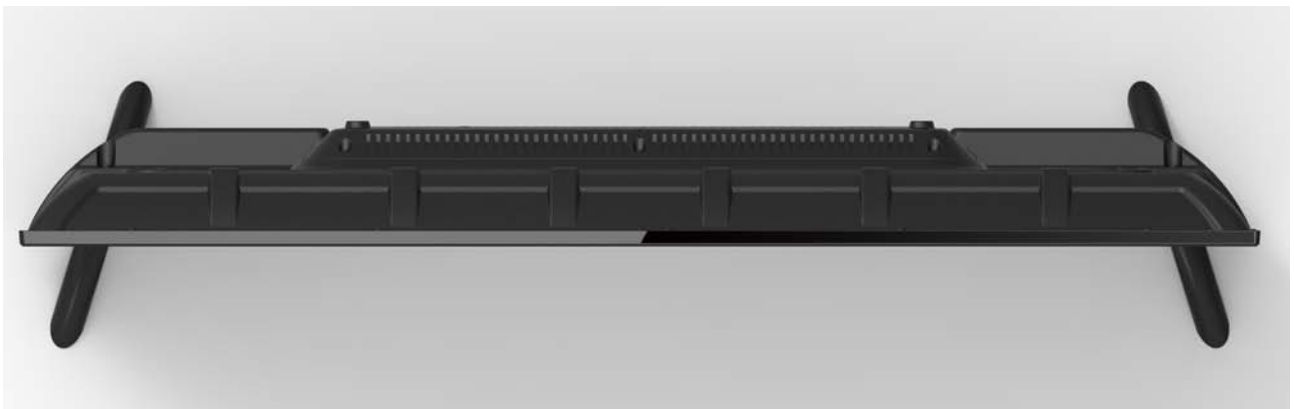
Model	LE39B9000
Screen Size	39"
Aspect Ratio	16:9
Resolution	1366x768
Brightness (cd/m <sup>2</sup> )	250
Contrast	800:1
Response Time (ms)	8
Angel of View	H:170°, V:160°
Color Display	16.7M
OSD Language	English
Color System	PAL
Audio System	BG
Audio Output Power (Built-in) (W)	8W×2
Audio Output Power (outer) (W)	No
Total Power Input (W)	74W
Voltage Range (V)	AC100V~240V
Power Frequency (Hz)	50~60Hz
Time of Sleep Timer (MINS)	240Min
Net Weight (KG)	6.5
Gross Weight (KG)	8.5
Net Dimension (MM)	880.8*548.4*189.6mm
Packaged Dimension (MM)	950*150*590mm



## 2-2. External pictures (four faces)



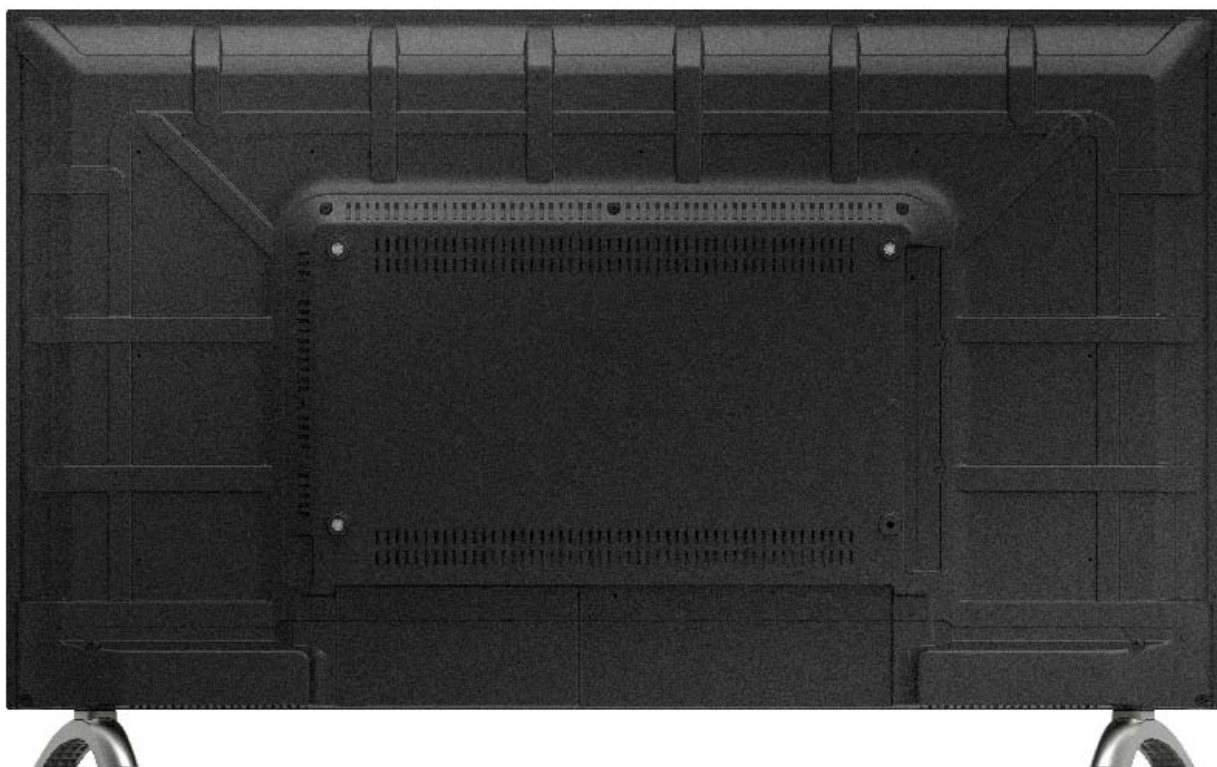
**Front Side**



**Up Side**



**Right Side**



**Back Side**

## Chapter 3. Disassemble and Assemble

### 3-1. LE39B9000

#### 3-1-1. Remove the Stand



1. Lay down the TV set .
2. Remove the four screws from the stand which in the picture above,
3. Remove the stand.



#### 3-1-2. Remove the Back Cabinet



1. Remove the thirteen screws indicated with red circles.
2. Flip machine, panel side up.
3. Carefully raise the Front shell from bottom.

#### 3-1-3. Remove the Mainboard



1. Remove the screws indicated with red circles in above picture.
2. Remove the Mainboard Module.

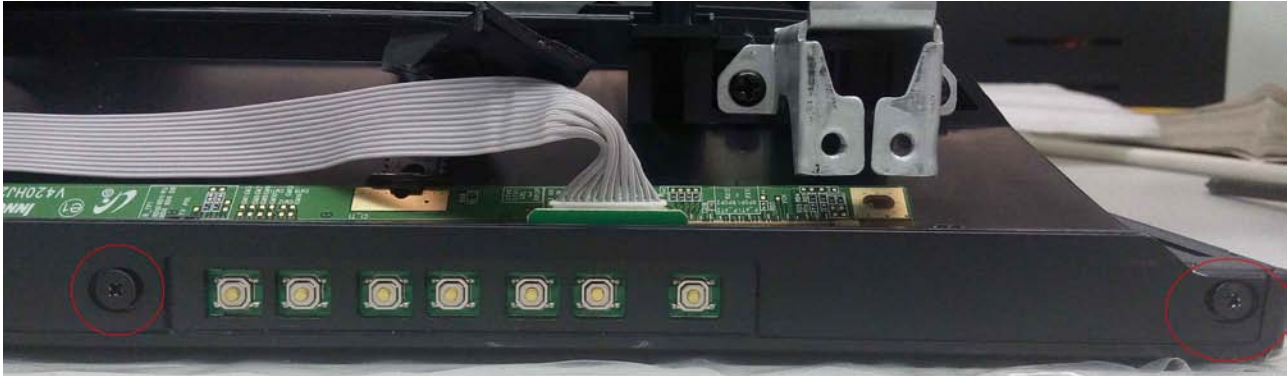
#### 3-1-4. Remove the Speaker

Remove the Speaker indicated by red circle in below picture



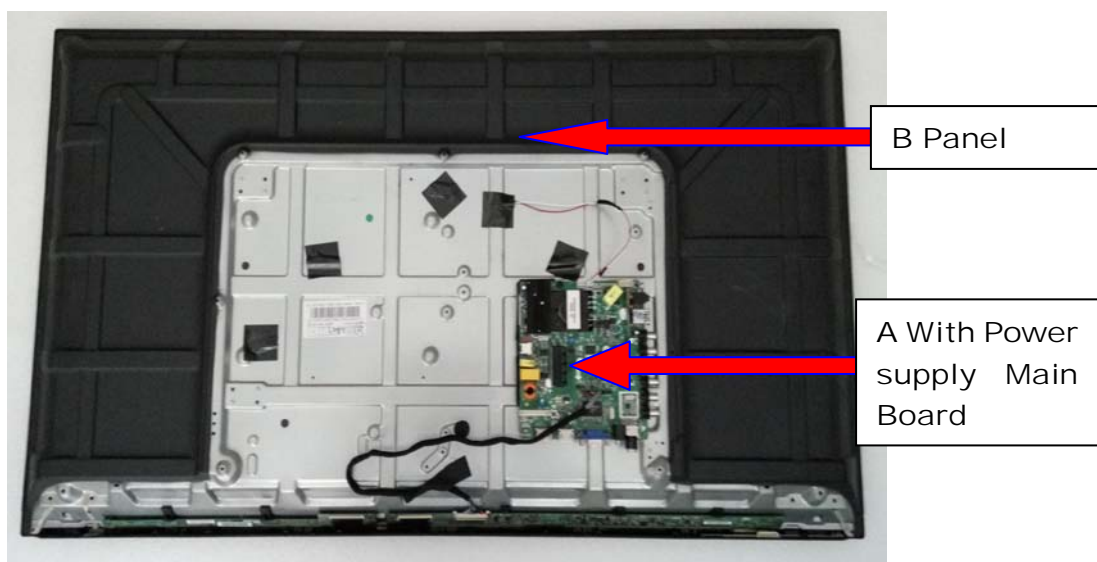
### 3-1-5. Remove the Remote Control Board And the Key Board

Remove the Remote Control Board and the Key Board indicated by red circle in below picture.



## Chapter 4. Location of Controls and Components

### 4-1. Board Location



No.	Parts Type	Description
A Board	TP.VST59S.PB813	With Power Supply Main board
B Board	AUO T390XVN01.0	LED Panel

4-2. Mainboard

4-2-1. Function Description

Process signal which incept from exterior equipment then translate into signal that panel can display.

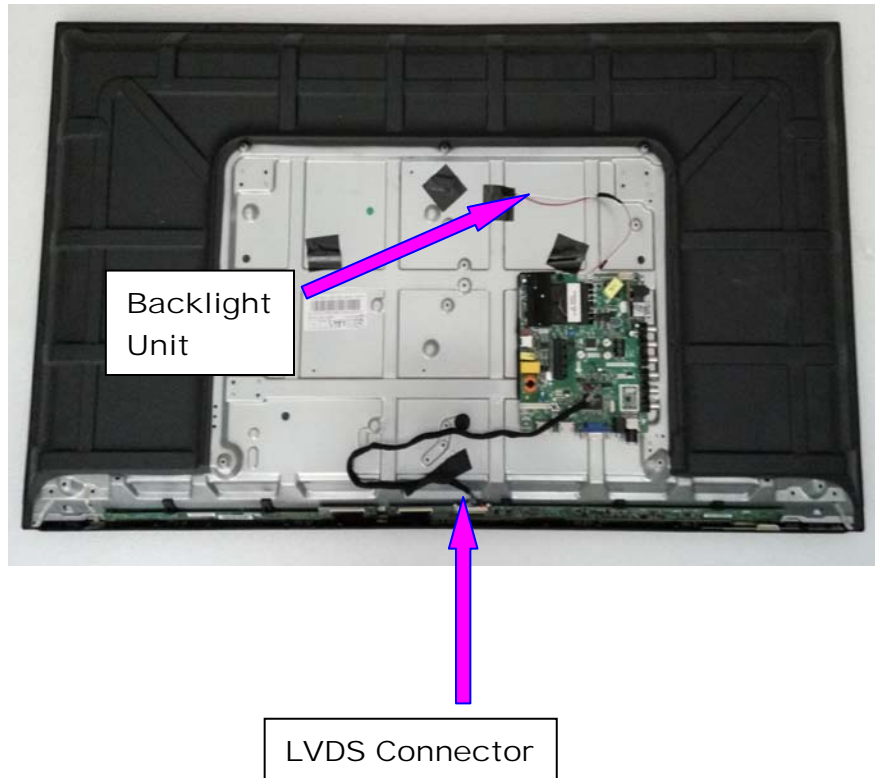
4-2-2. Connector definition



**Note:** This product meet GB8898-2011 requirement of the insulation resistance between tuner and PGND .Please don't connect RF with IO sheet or the GND of the main board when fixing up complete TV set.

### 4-3. LED Panel

LE39B9000





## 4-4. LED Panel LVDS Interface Connections

Product Specification

Preliminary

Sheet 8

### 4 Interface Connections

#### 4.1 TFT LCD Module

LCD connector : 093G30-00001A-M4

Pin	Name	Description	Note
1	VDD	Power Supply, +12V DC Regulated	
2	VDD	Power Supply, +12V DC Regulated	
3	VDD	Power Supply, +12V DC Regulated	
4	VDD	Power Supply, +12V DC Regulated	
5	GND	Ground	
6	GND	Ground	
7	GND	Ground	
8	GND	Ground	
9	LVDS_SEL	Open/High(3.3V) for NS, Low(GND) for JEIDA	
10	N.C.	No connection (for AUO test only. Do not connect)	
11	GND	Ground	
12	CH1_0-	LVDS Channel 1, Signal 0-	
13	CH1_0+	LVDS Channel 1, Signal 0+	
14	GND	Ground	
15	CH1_1-	LVDS Channel 1, Signal 1-	
16	CH1_1+	LVDS Channel 1, Signal 1+	
17	GND	Ground	
18	CH1_2-	LVDS Channel 1, Signal 2-	
19	CH1_2+	LVDS Channel 1, Signal 2+	
20	GND	Ground	
21	CH1_CLK-	LVDS Channel 1, Clock -	
22	CH1_CLK+	LVDS Channel 1, Clock +	
23	GND	Ground	
24	CH1_3-	LVDS Channel 1, Signal 3-	
25	CH1_3+	LVDS Channel 1, Signal 3+	
26	GND	Ground	
27	SCL	EEPROM Serial Clock	
28	SDA	EEPROM Serial Data	
29	WP	EEPROM Write Protection High(3.3V) for Protection,Low(GND) for Writable	
30	GND	Ground	

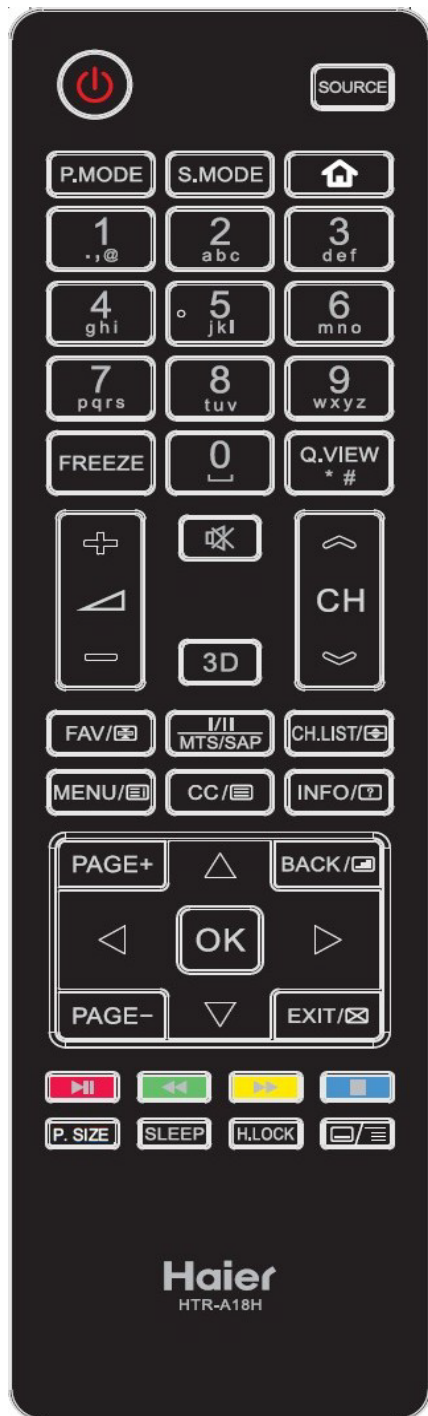
Note: N.C. : please leave this pin unoccupied. It can not be connected by any signal(Low/GND/High).

**HKC Electronics (Shenzhen) Co.,Ltd.**



## Chapter 5. Installation Instructions

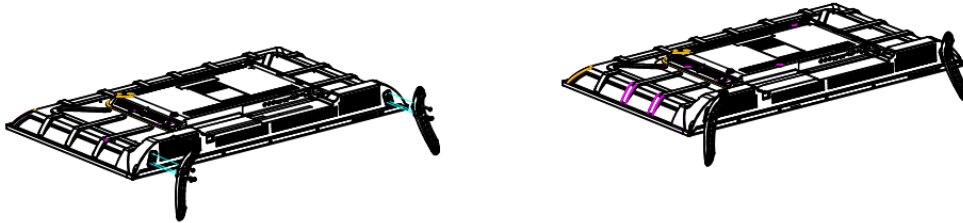
### 5-1. Accessories



## 5-2. Base Stand Assembly Instruction

### Stand Assemble Instruction

- 1 Place the TV with the display side down on a flat surface. Use a cloth to protect the display.
- 2 Attach the stand base set to the bottom of the TV by firmly tightening the supplied 6pcs screws.



### INSTALLATION NOTES

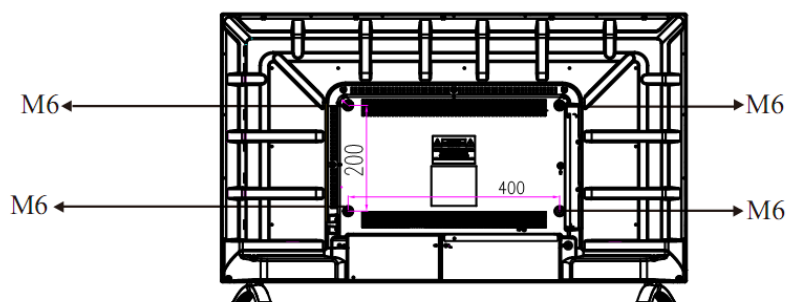
Locate the TV in a room where light does not strike the screen directly. Total darkness or a reflection on the screen can cause eyestrain. Soft and indirect lighting is recommended for comfortable viewing. Allow enough space between the TV and the wall to permit ventilation.

***Please do not attempt to rotate the TV on the stand.***

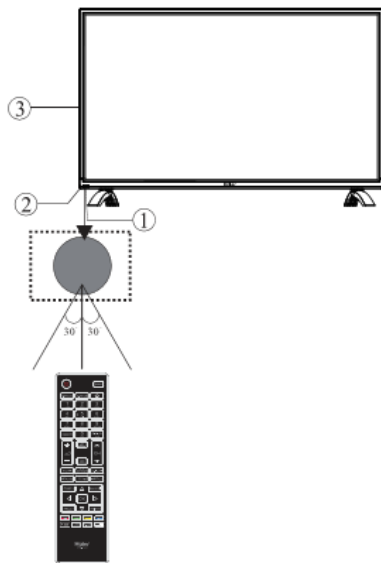
Avoid excessively warm locations to prevent possible damage to the cabinet or premature component failure.

### Wall Mounting Installation Guidelines

Use the four screws to fix the TV onto a wall mounting bracket (not included) via the four VESA standard holes on the back of the television.

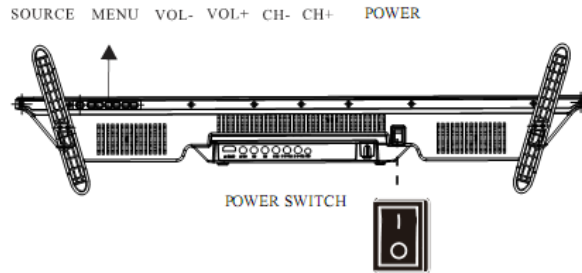


## Front panel



- 1: Remote control sensor.
- 2: Indicator LED: RED ● STANDBY.
- 3: Key board

## KEYBOARD



1. **SOURCE:**  
Display the input source menu.
2. **MENU:**  
Display main MENU.
3. **VOL+/VOL-**  
Adjust sound level.  
In MENU mode, press "VOL+" or "VOL-" to adjust the item that you selected.
4. **CH+/CH-**  
In TV mode, press "CH+" or "CH-" to change the channel up and down.  
In MENU mode, press "CH+" or "CH-" to select items.

5. **POWER**  
Press this button to turn the unit ON from STANDBY mode.  
Press it again to turn the set back to STANDBY.

**NOTE:**After getting through the power supply, press the power switch on the TV ("I" means connected), the television enter into standby mode, press the standby key on the remote control, then the TV enter into normal playing status.  
The "O" on the power switch means shut off the power.

## REAR AV Connections



All the terminals are(from left to right):  
HDMI1, HDMI2, VGA, PC AUDIO, RF.

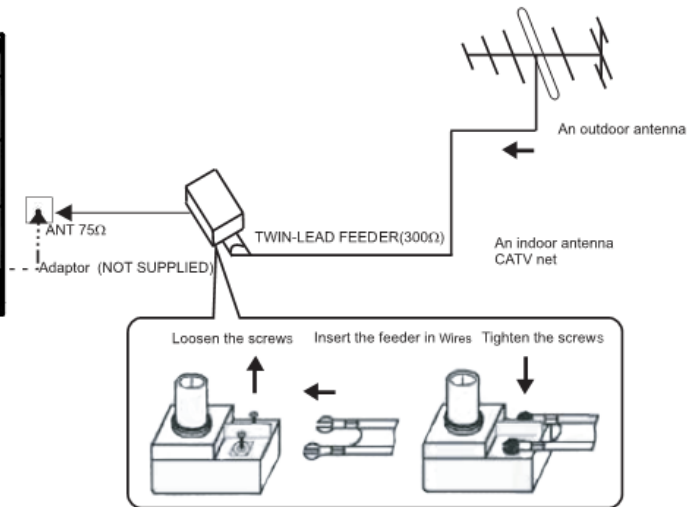
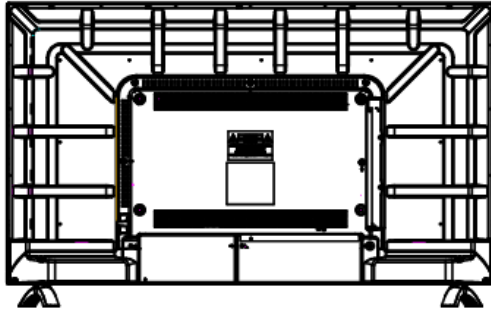
## REAR AV Connections(SIDE)



All the terminals are (from left to right):  
YPbPr, VIDEO, L, R, USB1, USB2, HEADPHONE

**Note:** When HDMI port get DVI signal, the audio signal receives from the PC Audio channel.

## ANTENNA



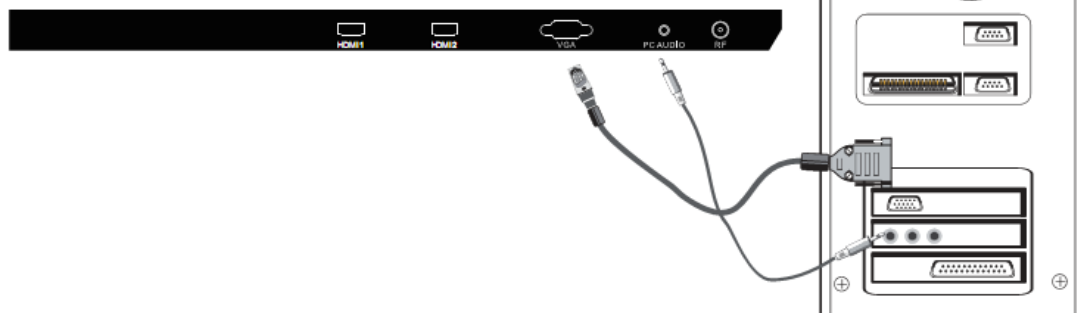
Note:  
Aerial connections: RF.  
Input impedance: 75Ω unbalanced.  
Please don't rotate the TV.

## PC

### STEPS:

Be sure both the TV and computer are Power off.

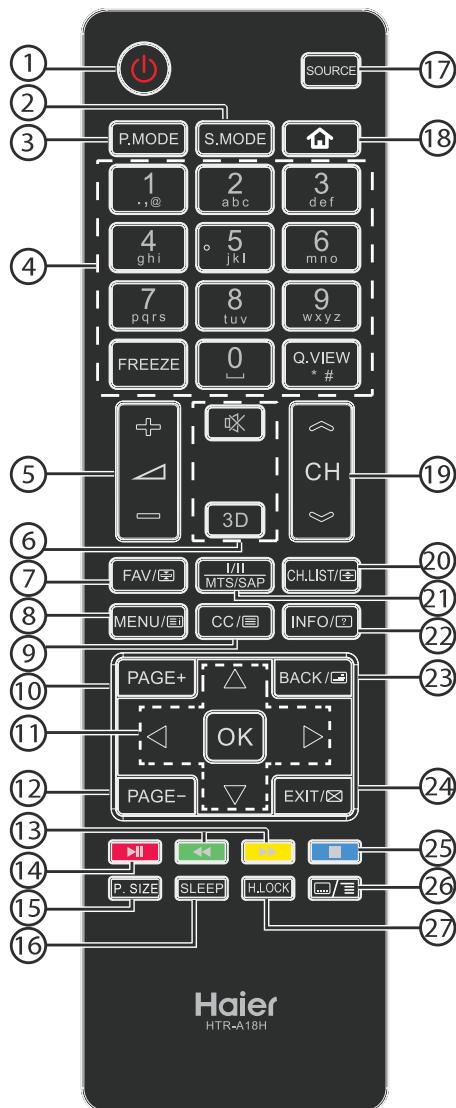
- 1.Connect VGA and audio cable
  - 2.Connect power cord
  - 3.Power on the TV, switch to PC mode
  - 4.Power on the PC
- This sequence is very important.



## 6-3. Setting Up Your Remote Controls

### REMOTE CONTROLLER

#### Using Your Remote Control



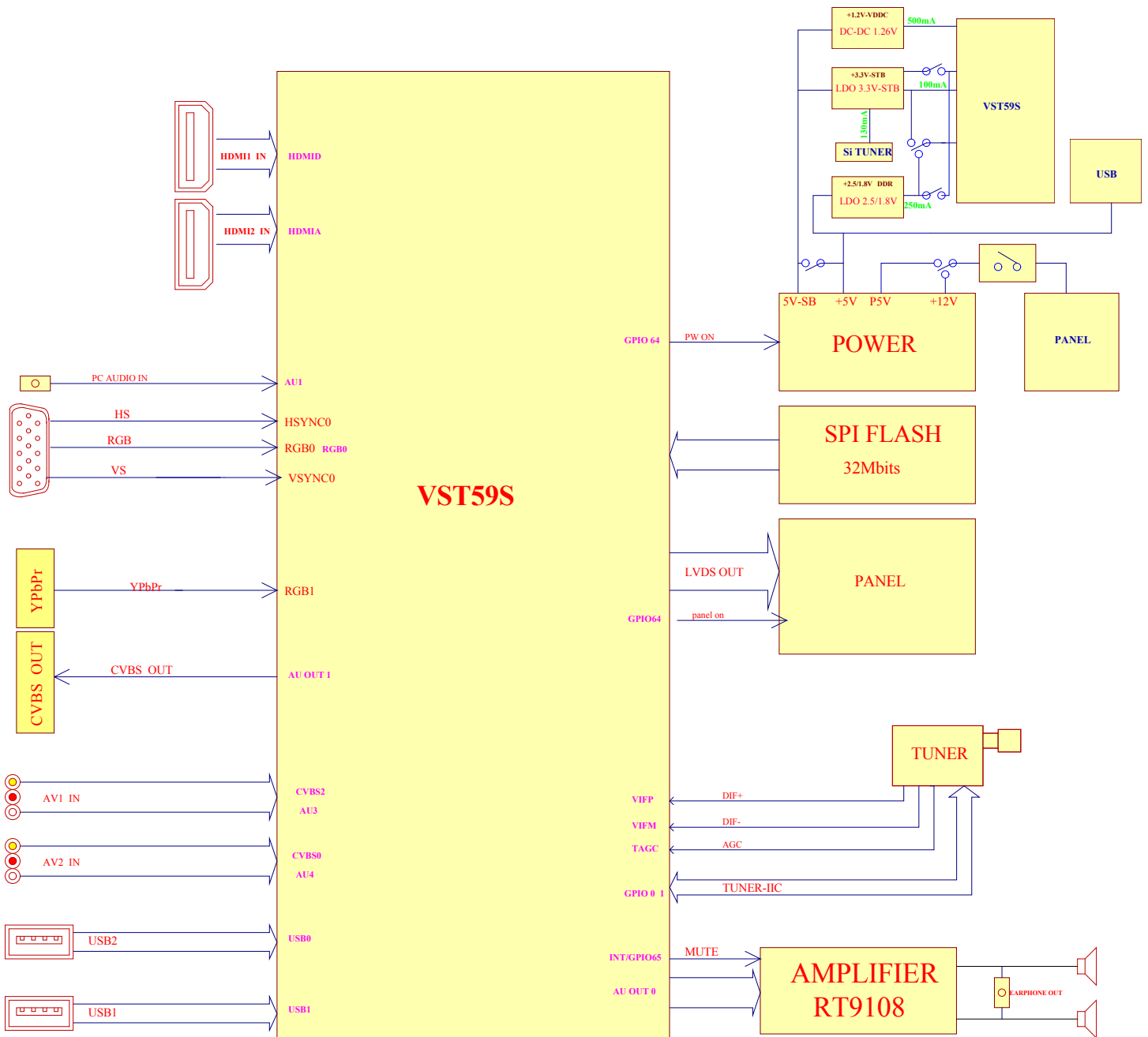
#	Button	Descriptions
1	(Power)	Press to turn the TV on or off.
2	S.MODE	Press to select the sound mode.
3	P.MODE	Press to select the picture mode.
4	0-9	Press to enter a channel number or password.
	Q.VIEW	Press to switch to the last viewed channel.
	FREEZE	Press to freeze the picture.
5	▲+/-	Press to adjust the volume level.
6	🔇 (Mute)	Press to turn the sound on or off.
	3D	These models do not support 3D feature.
7	FAV/📌	Press to open a favorite channel list. In teletext mode, press to hold a page.

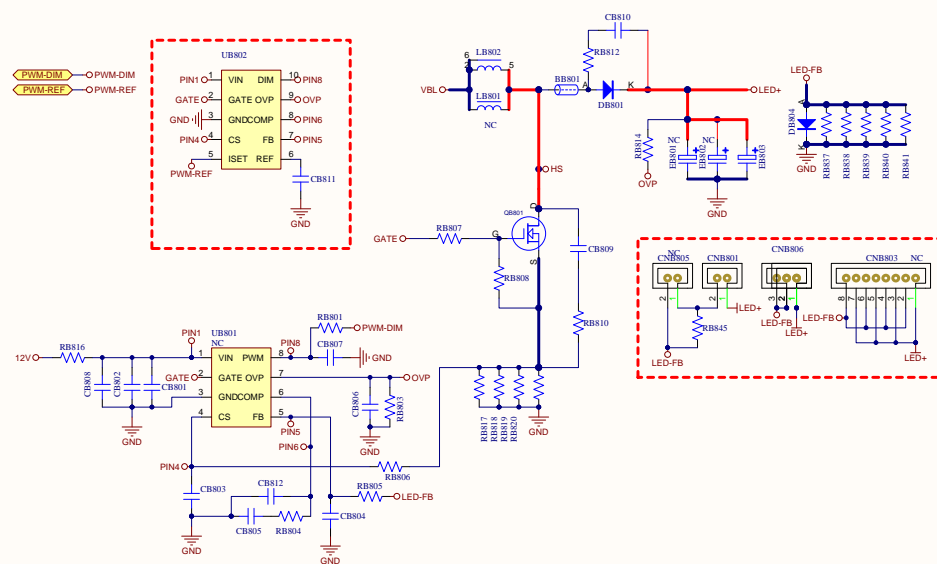
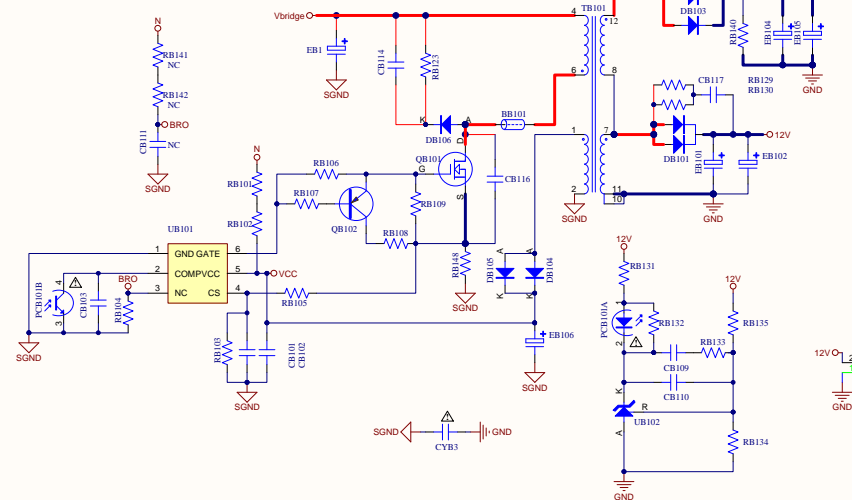
8	MENU/☰	Press to open the on-screen menu. In teletext mode, press to open the INDEX page.
9	CC/☰	Press to open the teletext.
10	PAGE +	Press to go to the next page in teletext mode and multimedia mode.
11	▲▼◀▶	Press to navigate the on-screen menu.
	OK	Press to confirm a selection.
12	PAGE -	Press to go to the previous page in teletext mode and multimedia mode.
13	◀◀ (reverse) ▶▶ (forward)	Press to fast forward or reverse playback in multimedia mode.
14	▶▶ (play/pause)	Press to play/pause in multimedia mode.
15	P.SIZE	Press to change the screen display mode.
16	SLEEP	Press to set the sleep timer.
17	SOURCE	Press to open the input source list.
18	🏠	Press to open the home menu of the MHL device. (These models do not support)
19	CH 🔼/🔽	Press to change the channel.
20	CH.LIST/📺	Press to open the channel list. In teletext mode, press to switch the image to top, bottom or full.
21	I/II/MTS/SAP	Press to select the audio mode (depending on broadcast signal).
22	INFO/❓	Press to display the channel information. In teletext mode, press to reveal the hidden information.
23	BACK/🔙	In multimedia mode, press to return to the previous screen. In teletext mode, press to enter mix mode.
24	EXIT/🔚	Press to close the on-screen menu. In teletext mode, press to hide the text.
25	■ (stop)	Press to stop multimedia playback.
26	📄/☰	In teletext mode, press to enter a secondary page. Press to open the APP menu of the MHL device.
27	H.LOCK	Press to open the Hotel mode menu.

**Note:** The relevant button doesn't work if TV without teletext, NICAM, MHL function.

## Chapter 7. Electrical Parts

### 7-1. Circuit Diagram





Model Name:	TP-VST395.P0813 B			VERSION:	V1.0
DRAWN:	杨兴建	DATE:	2014-6-19	 <b>CVTE</b> <i>Dream-Future</i>	
CHK'D:		DATE:			

A

B

C

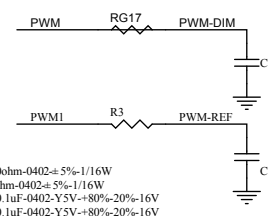
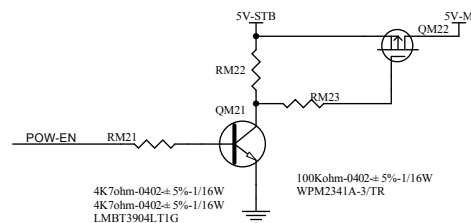
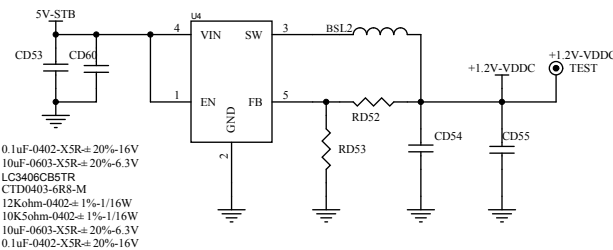
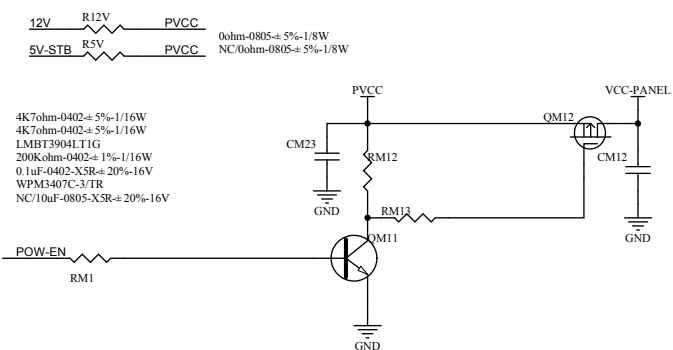
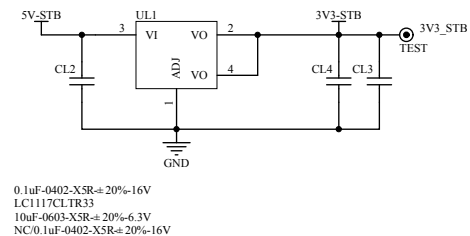
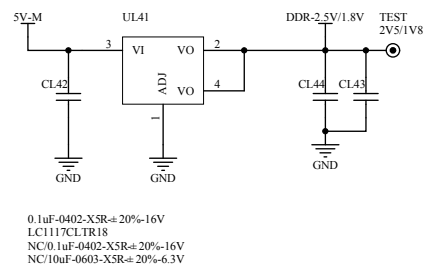
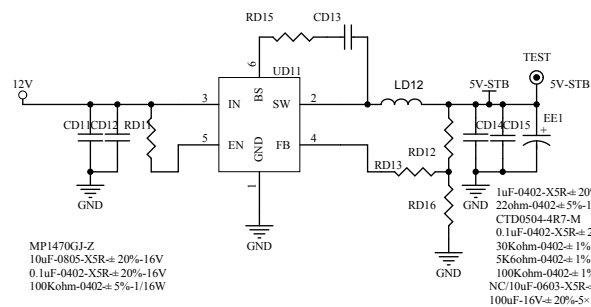
D

A

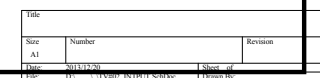
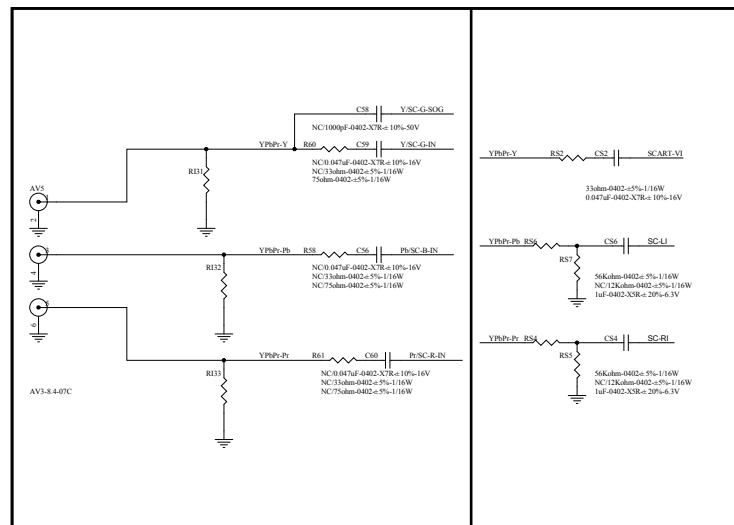
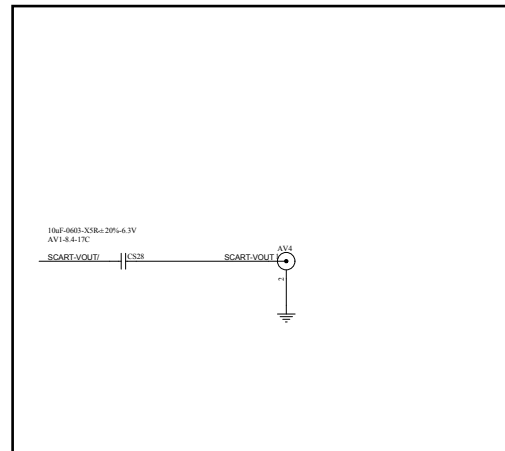
B

C

D







A

B

C

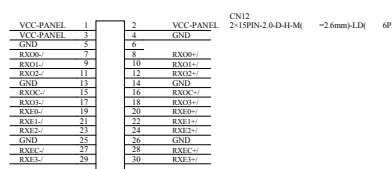
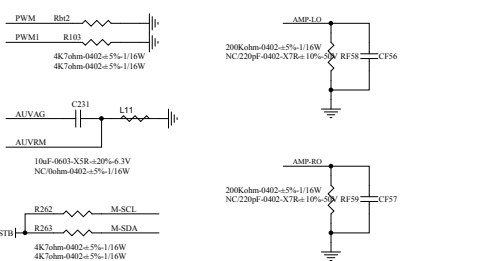
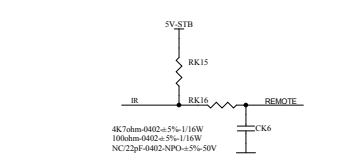
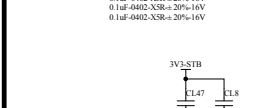
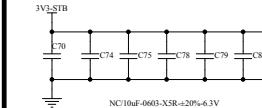
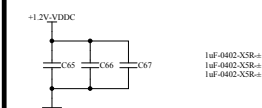
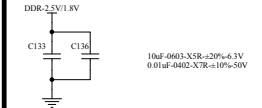
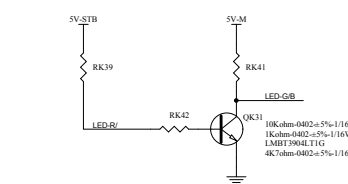
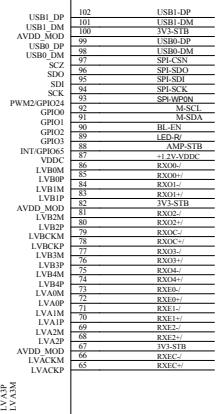
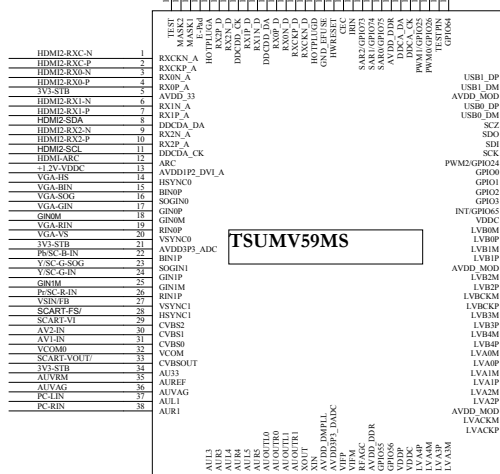
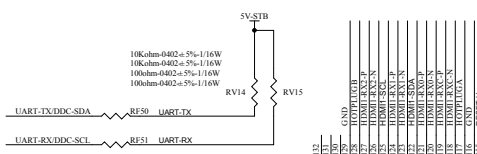
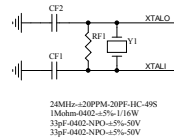
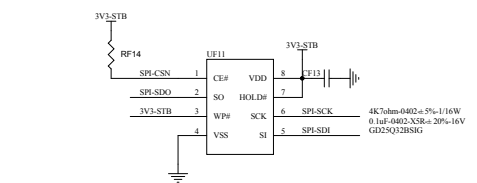
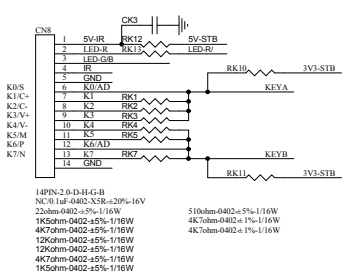
D

A

B

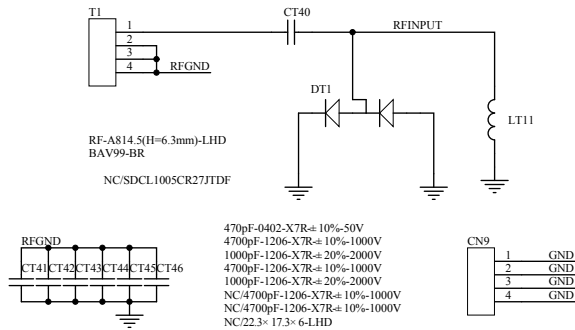
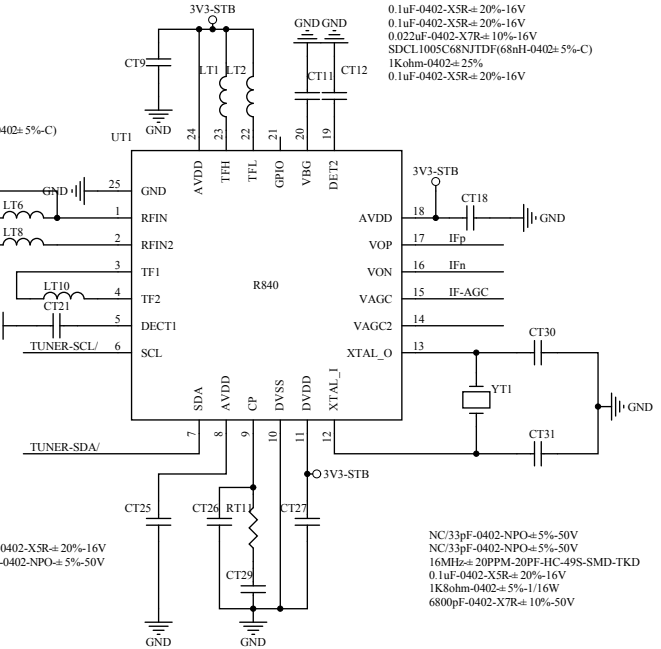
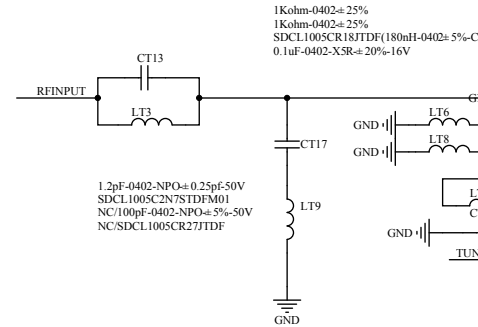
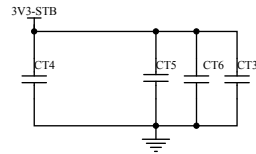
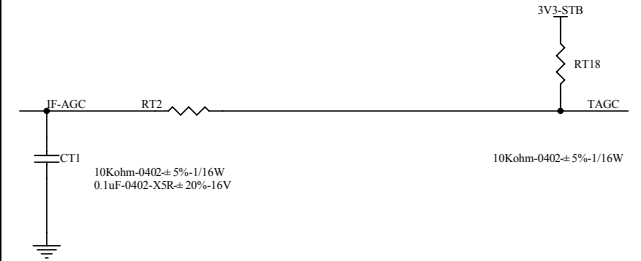
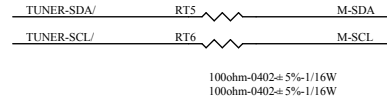
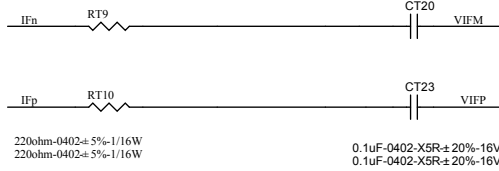
C

D









## Chapter 8. Software Update

### 8-1. Software Update

#### 1-1. bin\_v59s\_49.bin software update



- 1-2. Copy the software files to a USB disk on the root directory;
- 1-3. Insert the USB disk when the AC power is off;
- 1-4. Turn on the AC power in turn to begin;
- 1-5. Turn off the AC power After five minutes ;
- 1-6. Pull out the USB disk and power on the television.

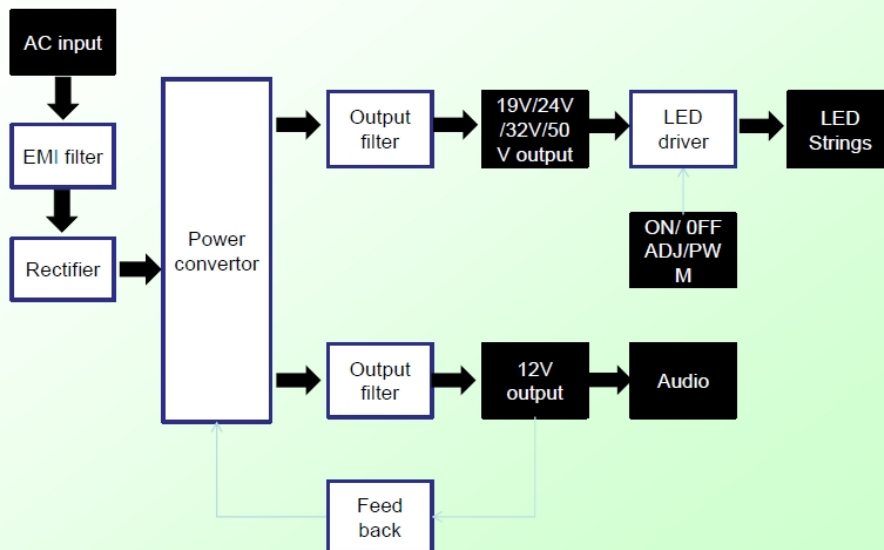
Note:

Do not turn off the TV while it is updating.

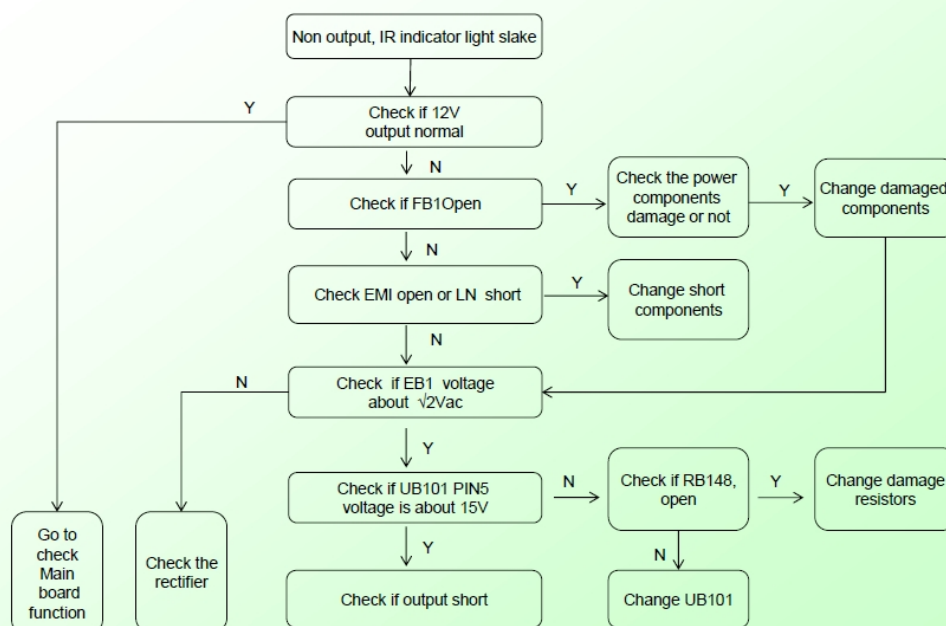
## Chapter 9. Trouble shooting

### 9-1.Trouble shooting

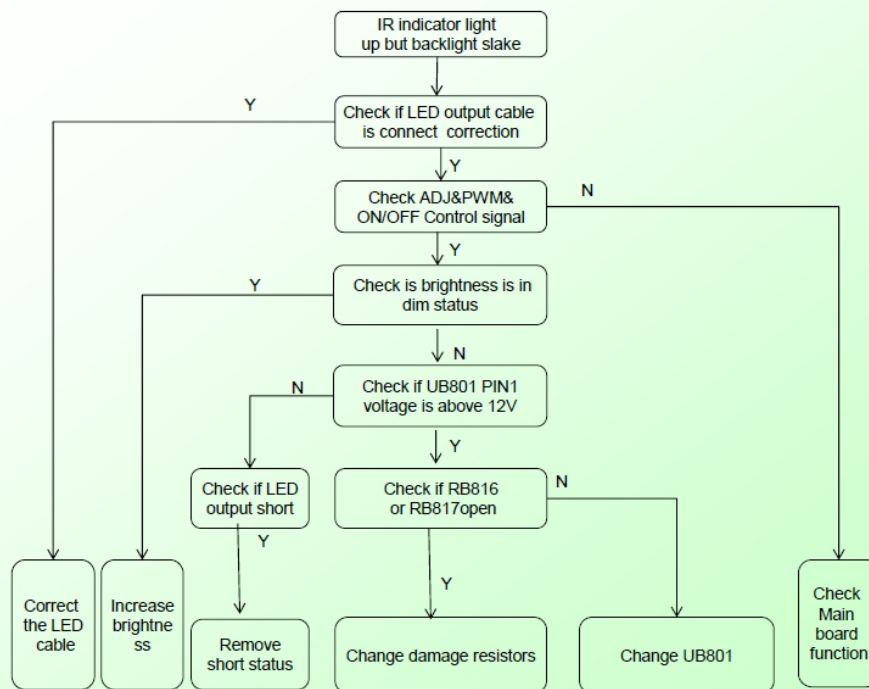
Power Board Diagram



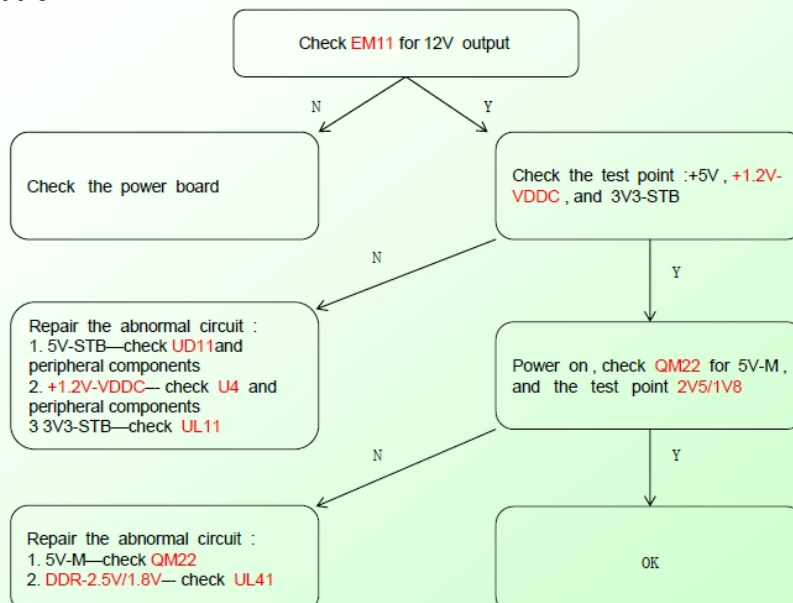
#### 1、Power Supply Trouble 1-1



## 2、Power Supply Trouble 1-2

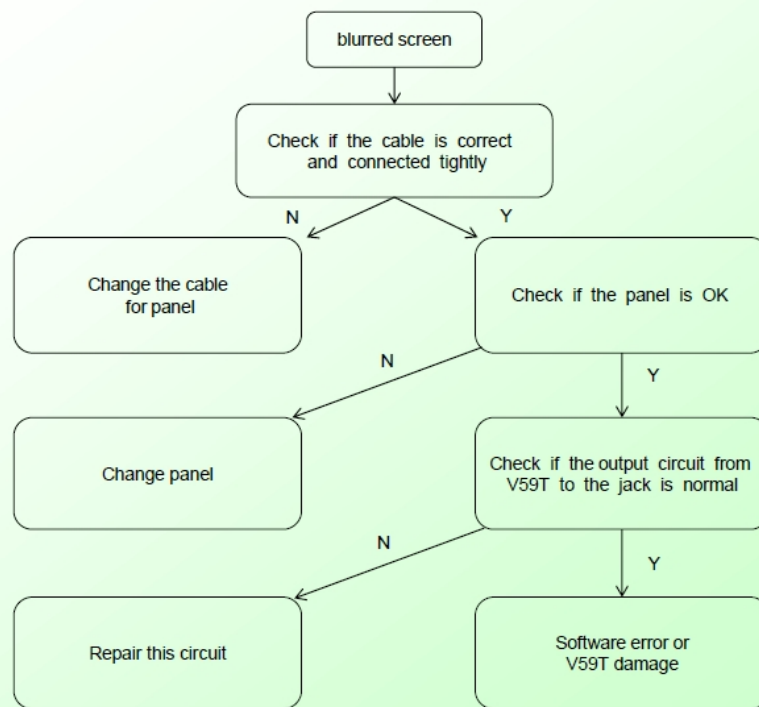


## 3、Power Supply Trouble 2

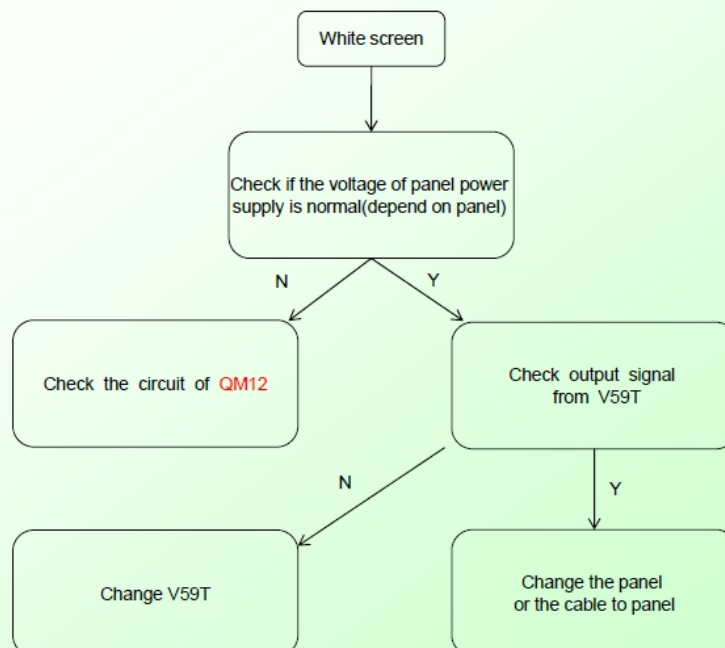




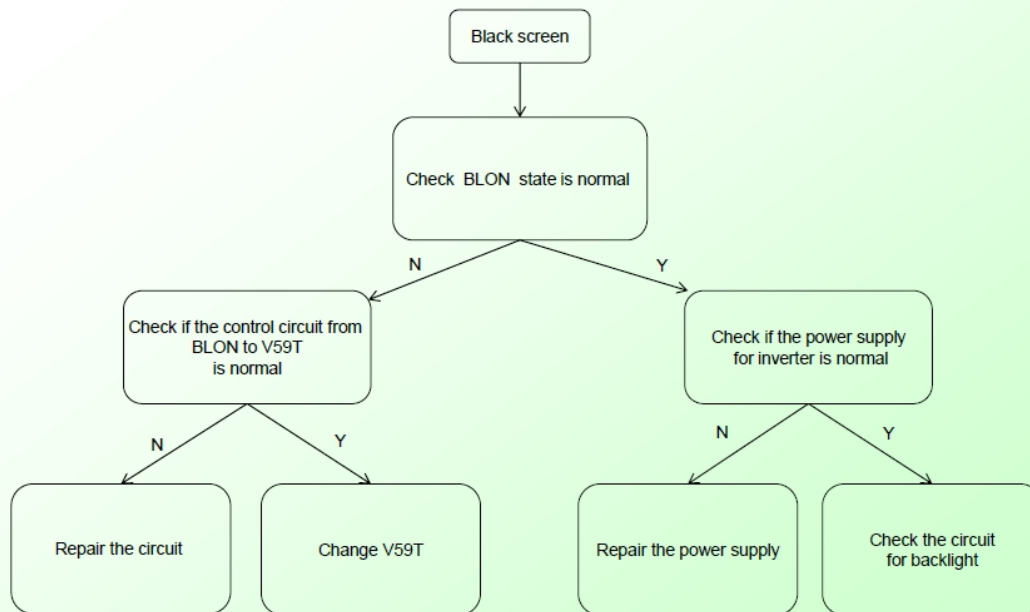
#### 4、Display Trouble (exceptional screen)



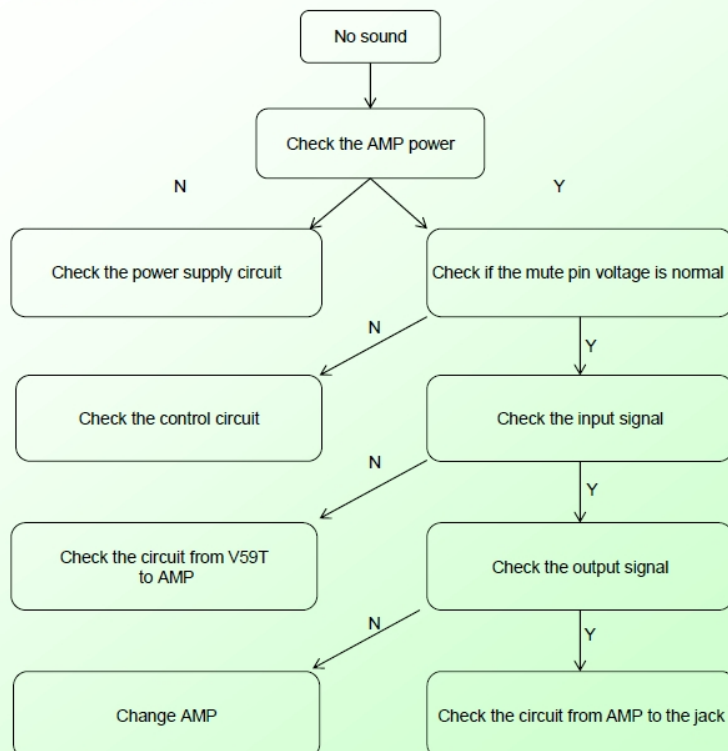
#### 5、Display Trouble (white screen)



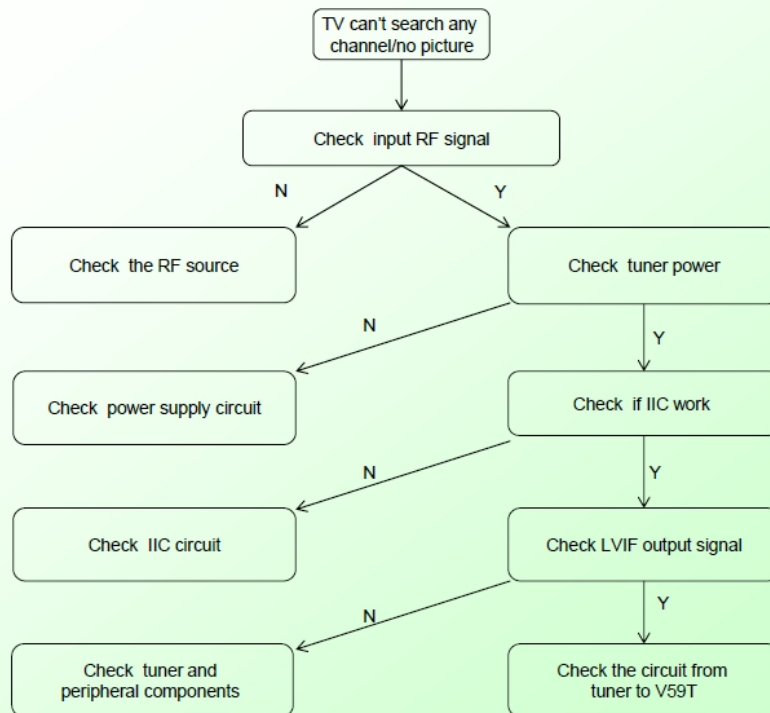
## 6、Display Trouble (black screen)



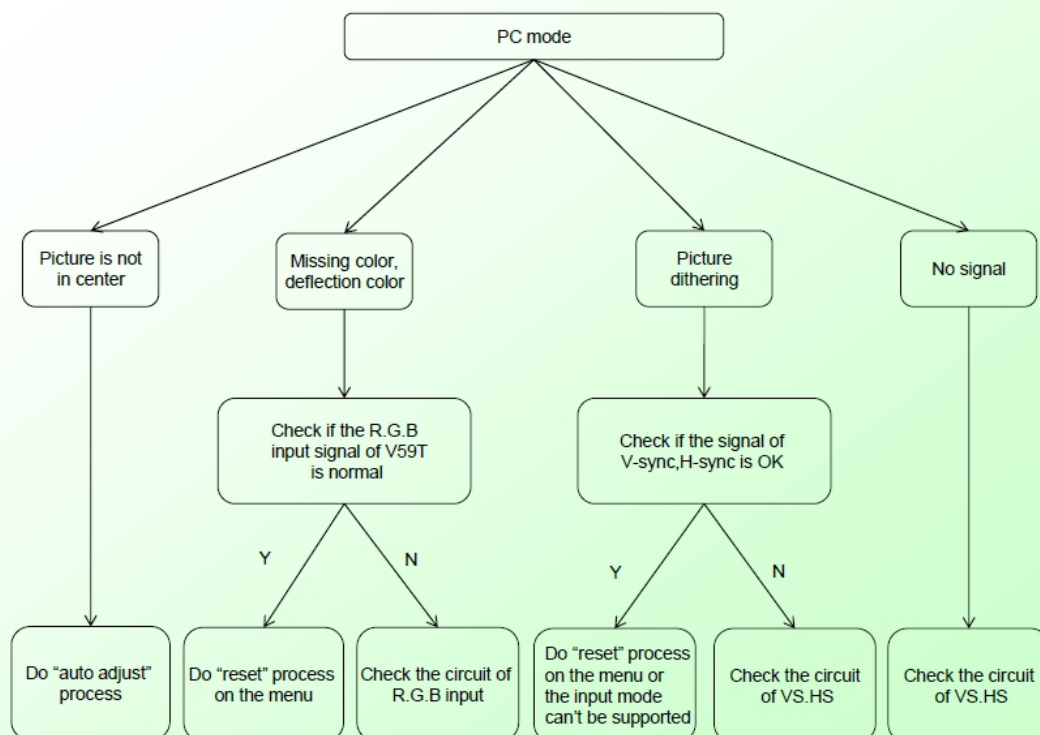
## 7、Audio Trouble (No sound)



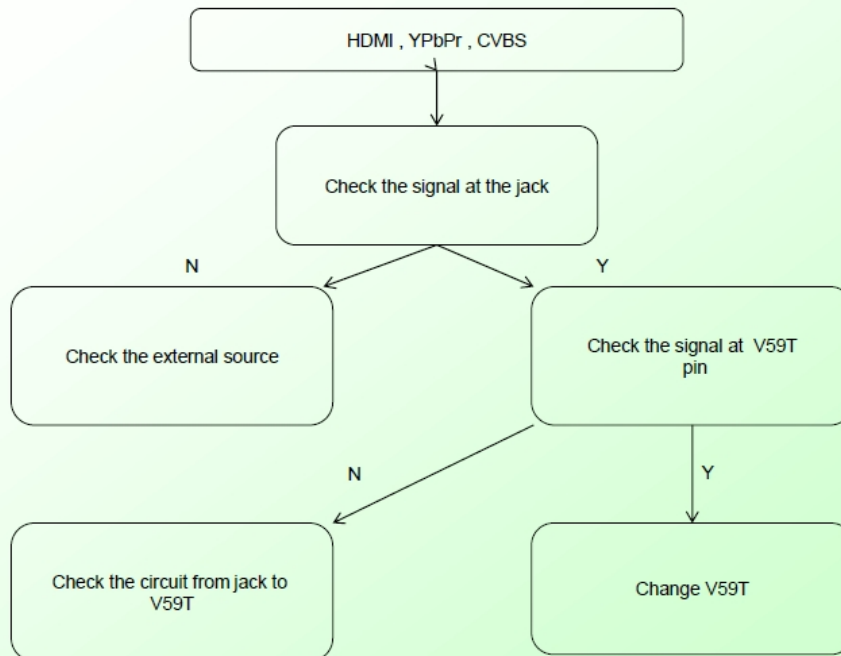
## 8、Function Trouble (TV video)



## 9、Function Trouble (PC)



## 10、Function Trouble (HDMI、YPbPr、CVBS)



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