

LCD Television

Service Manual

Chassis: MTK5655EPDJ

Product Type: South America area

Ver 1.0

November, 2015

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Service Manual

1. Precautions and notices

BEFORE SERVICING THE LCD TV, READ THE SAFETY PRECAUTIONS IN THIS MANUAL.

USE ONLY MANUFACTURER SPECIFIED REPLACEMENT PARTS WHEN SERVICING.

USE OF NON-AUTHORIZED PARTS WILL VOID THE MANUFACTURE'S WARRANTY

Proper service and repair is important to the safe, reliable operation of all Hisense Equipment. The service procedures recommended by Hisense and described in this Service Guide are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment and pose risk of personal injury

. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Service should only be performed by an experienced electronics

technician trained in the proper Television safety and service methods and procedures
Hereafter throughout this manual, HISENSE will be referred to.

1.1 Warning

1.1.1

Critical components having special safety characteristics are identified with a ▲ by the Ref. No. in the parts list. Use of non-manufacturer's recommended parts may create shock, fire, or other hazards. Under no circumstances should the original design be modified or altered without written permission from RCA. Hisense Eassumes no liability, express or implied, arising out of any unauthorized modification of design. Servicetech assumes all liability.

DANGER CAUTION

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE GUIDE.

1.1.2.

All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, be sure to use anti-static table mats and properly use a grounding wrist stra. Keep components and tools also at this same potential.

IMPORTANT:

Always disconnect the power cord from AC outlet before replacing parts or modules.

1.1.3

To prevent electrical shock, use only a properly grounded 3 prong outlet or extension cord.

1.1.4

When replacement parts are required, be sure to use replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards and will void the manufacturer's warranty.

1.1.5

Safety regulations require that after a repair the set must be returned in its original condition. In addition, prior to closing set, check that:

-Note:

>All wire harnesses and flex cables are properly routed and secured with factory tape and/or mounted cable clamps.

> All cables and connectors are properly insulated and do not have any bare wires/lead exposed

1.1.6

(1) Do not supply a voltage higher than that specified to this product. This may damage the product and may cause a fire.

(2) Do not use this product:

> High humidity areas

> In an area where any water could enter or splash into the unit.

High humidity and water could damage the product and cause fire.

(3) If a foreign substance (such as water, metal, or liquid) gets inside the panel module, immediately turn off the power. Continuing to use the product may cause fire or electric shock.

(4) If the product emits smoke, and abnormal smell, or makes an abnormal sound, immediately turn off the power. Continuing to use the product, it may cause fire or electric shock.

(5) Do not pull out or insert the power cable from/to an outlet with wet hands. It may cause electric shock.

(6) Do not damage or modify the power cable. It may cause fire or electric shock.

(7) If the power cable is damaged, or if the connector is loose, do not use the product: otherwise, this can lead to fire or electric shock.

(8) If the power connector or the connector of the power cable becomes dirty or dusty, wipe it with a dry cloth. Otherwise, this can lead to fire.

(9) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the

cart/apparatus combination to avoid injury from tip-over

1.2 Notes

Notes on Safe Handling of the LCD panel and during service

The work procedures shown with the Note indication are important for ensuring the safety of the product and the servicing work. Be sure to follow these instructions.

- Before starting the work, secure a sufficient working space.
- At all times other than when adjusting and checking the product, be sure to turn OFF the POWER Button and disconnect the power cable from the power source of the TV during servicing.
- To prevent electric shock and breakage of PC board, start the servicing work at least 30 seconds after the main power has been turned off. Especially when installing and removing the power board, start servicing at least 2 minutes after the main power has been turned off.
- While the main power is on, do not touch any parts or circuits other than the ones specified. If any connection other than the one specified is made between the measuring equipment and the high voltage power supply block, it can result in electric shock or may trip the main circuit breaker. When installing the LCD module in, and removing it from the packing carton, be sure to have at least two persons perform the work.
- When the surface of the panel comes into contact with the cushioning materials, be sure to confirm that there is no foreign matter on top of the cushioning materials before the surface of the panel comes into contact with the cushioning materials. Failure to

observe this precaution may result in, the surface of the panel being scratched by foreign matter.

- Be sure to handle the circuit board by holding the large parts as the heat sink or transformer. Failure to observe this precaution may result in the occurrence of an abnormality in the soldered areas.
- Do not stack the circuit boards. Failure to observe this precaution may result in problems resulting from scratches on the parts, the deformation of parts, and short-circuits due to residual electric charge.
- Perform a safety check when servicing is completed. Verify that the peripherals of the serviced points have not undergone any deterioration during servicing. Also verify that the screws, parts and cables removed for servicing purposes have all been returned to their proper locations in accordance with the original setup.



The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated

dangerous voltage within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing)

instructions in the literature accompanying the set.

2. Specifications & TV Front and Rear

2.1 Specifications

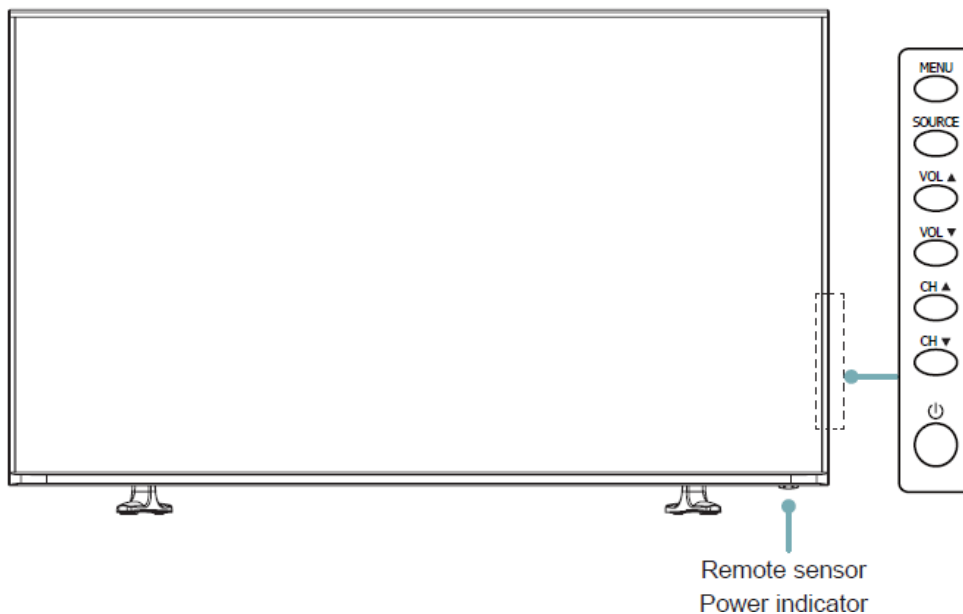
Model Name		LTDN50K370VXWAM3D
Dimension	Without Stand	1118mm × 652mm × 60mm
	With Stand	1118mm × 686mm × 215mm
Weight	Without Stand	16 kg
	With Stand	16.5kg
Active Screen Size (Diagonal)		50 inches (126cm)
Screen resolution		1920 × 1080
Audio power		10 W + 10 W
Power consumption		110 W
Power supply		AC 100-240 V 50/60 Hz
Receiving systems	RF	PAL/SECAM-D/K,I,B/G
	AV	PAL ,NTSC,SECAM
Environmental conditions		Temperature: 5°C-45°C Humidity: 20%-80% RH Atmospheric pressure: 86 kPa - 106 kPa
Component Input		480 I / 60 Hz, 480 P / 60 Hz, 720 P / 60 Hz, 1080 I / 60 Hz, 1080 P / 60 Hz
VGA Input		VGA (640×480 / 60 Hz), SVGA (800×600 / 60 Hz), XGA (1024×768 / 60 Hz)
HDMI Input		RGB/60 Hz (640×480, 800×600, 1024×768) YUV/60 Hz (480 I, 480 P, 720 P, 1080 I, 1080 P)


2.2 TV basic assemble

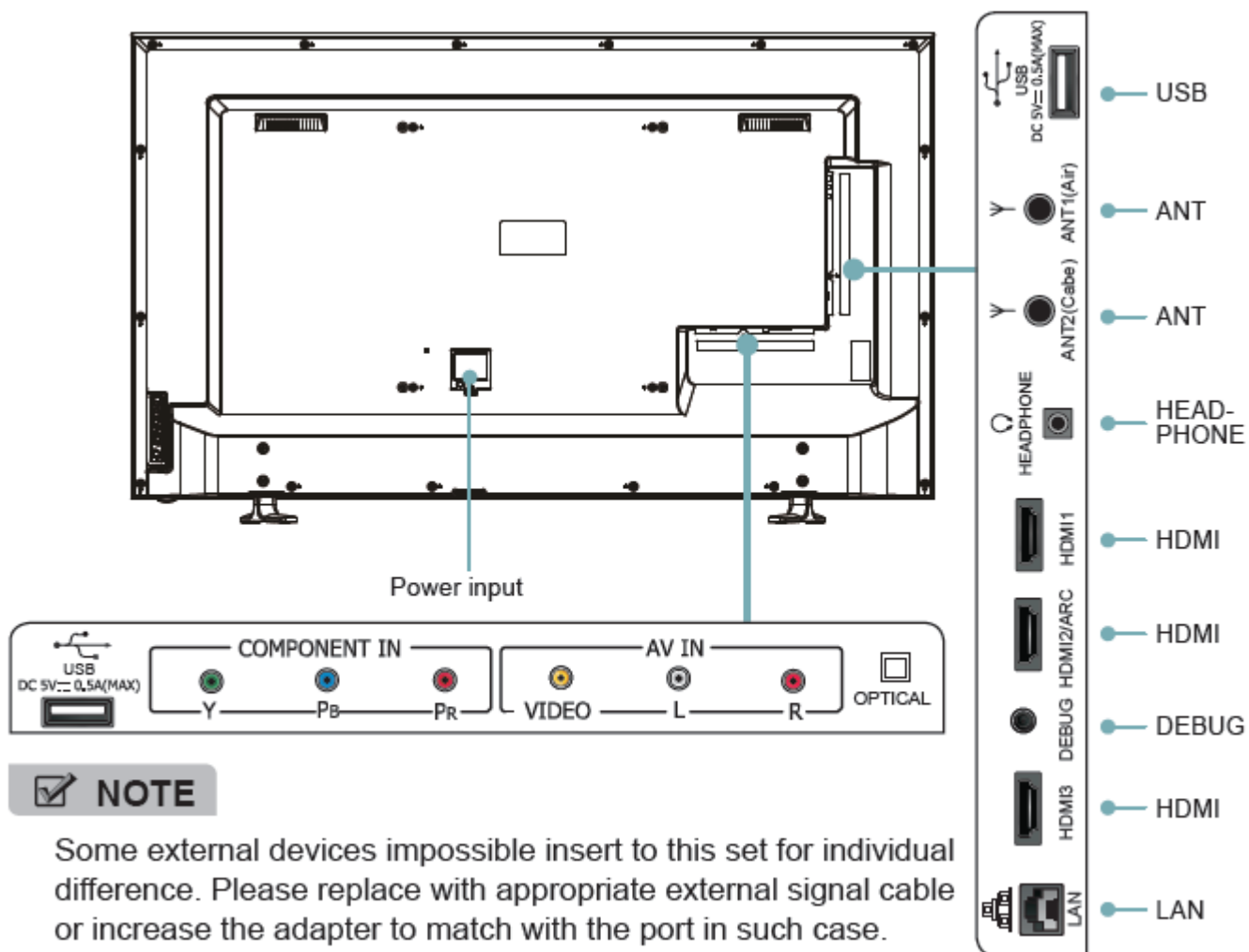
TV Model	Panel Mode	Main board	Power board	LVDS (Main-Panel)
LTDN50K370VXWA M3D	HE500HF-B57\S8\ROH	RSAG2. 908. 6487-01\ROH	RSAG2. 908. 6321\ROH	HX2-2x22KLB500P-HS\500. 0\ROH
LTDN50K370VXWA M3D (1)	HE500HFD-B52 (010) \S3\ ROH	RSAG2. 908. 6487-01\RO H	RSAG2. 908. 6321-1\ ROH	HX2-2x22KLB500P-HS\500. 0\RO H
LTDN40K370VWAM	HE400HF-E31	RSAG2.908.6487-08TP\ ROH ;	RSAG2.908.6348\RO H	FFC-L-51CP-520-1-Z2\520

2.3 TV Front and Rear

K370 configure feature:



<i>Item</i>	<i>Description</i>
Power switch	Turn the main power ON or OFF.
Remote sensor	Receives remote signals from the remote control. Do not put anything near the sensor, as its function may be affected.
Power indicator	The light is blue when turned on, and it is red in standby mode.
MENU	Display an on-screen menu to setup your TV's features.
Source	Select among the different input signal sources.
VOL + / -	Adjust the volume.
CH + / -	Select the channel.
Power button 	Turn on the TV or put the TV in standby mode. Caution: The TV continues to receive power even in standby mode. Unplug the power cord to disconnect power.



NOTE

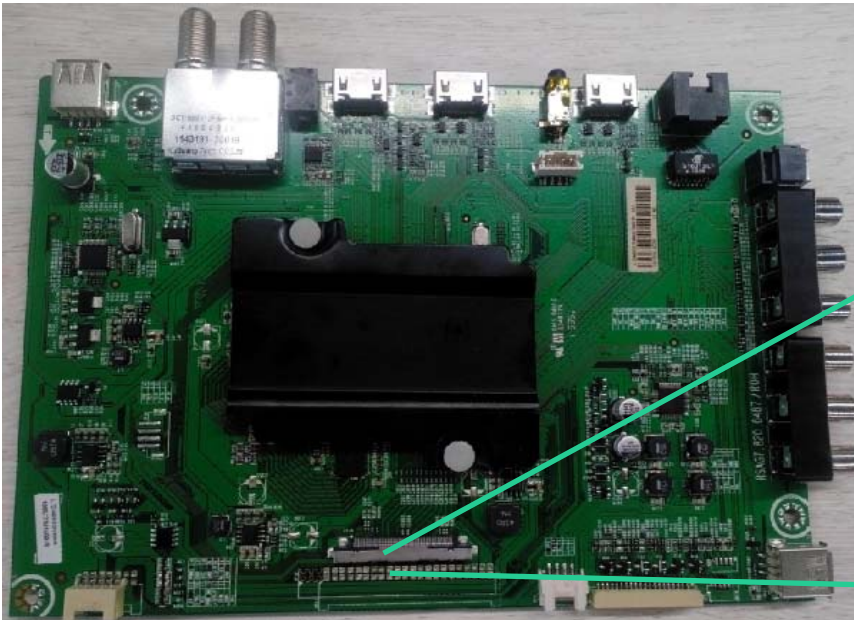
Some external devices impossible insert to this set for individual difference. Please replace with appropriate external signal cable or increase the adapter to match with the port in such case.

Item	Description
ANT	Connect an antenna or cable TV to this jack.
HDMI	HDMI (High-Definition Multimedia Interface) provides an uncompressed, all digital audio/video interface between this TV and any HDMI-device, such as a set-top box, Blu-ray disc player, or A/V receiver.
COMPONENT IN	Connect to a DVD player, Digital Set-Top-Box, or other A/V devices with component (YPbPr) video and audio output jacks.
AV IN	Connect to the composite video and audio (L/R) output jacks on external video devices.
LAN	Connect an Ethernet cable to access a network or the Internet. The TV also has a wireless connectivity feature.
HEADPHONE	Connect headphone for private listening.
OPTICAL	Connect an optical cable from an external digital audio system.
USB	Port for Digital Media Player.
DEBUG	This port is not available for you to connect an external device. It can only be used by our factory for testing purposes.

2.4 Board photo

Photo of main board :6487 →

The Top:



*single line connected with LVDS
cable FFC-L-51CP-520-1-Z2\520*

*double lines connected with
LVDS cable
HX2-2x22KLB500P-HS\500.0\R
OH*

Note:

The LVDS jack connected on the main board either the *single line* or the *double lines* one.

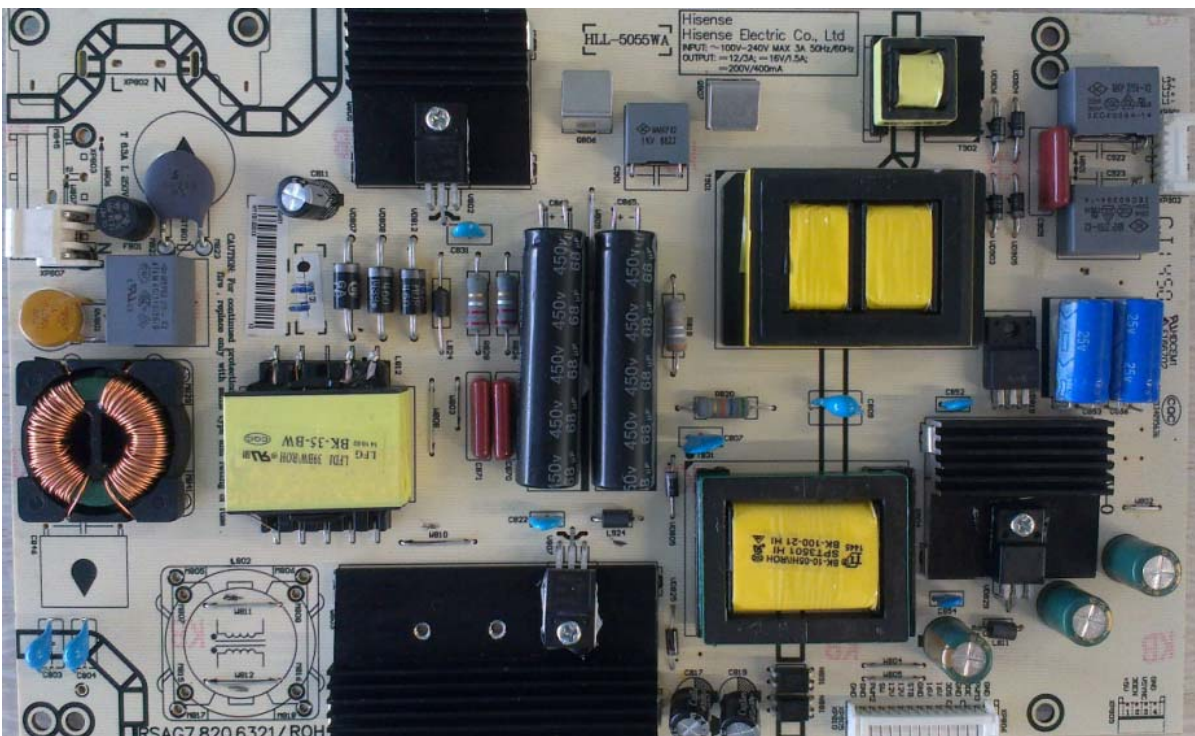
The side:

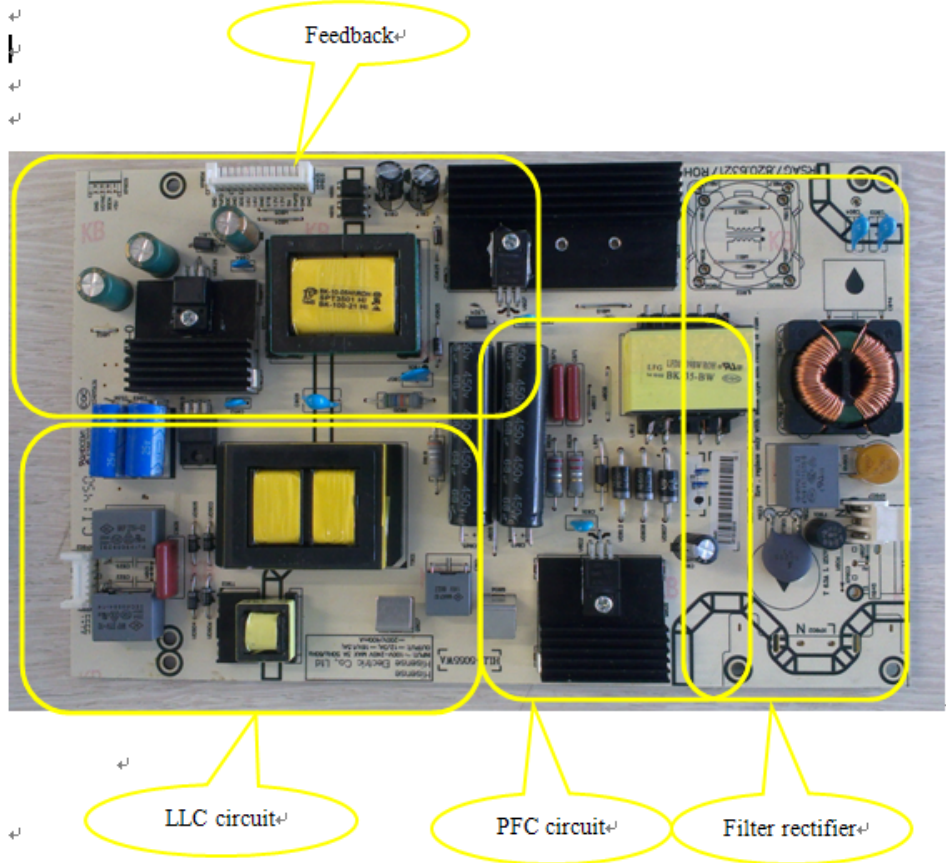


The side:



Photo of Power board : 6321 →






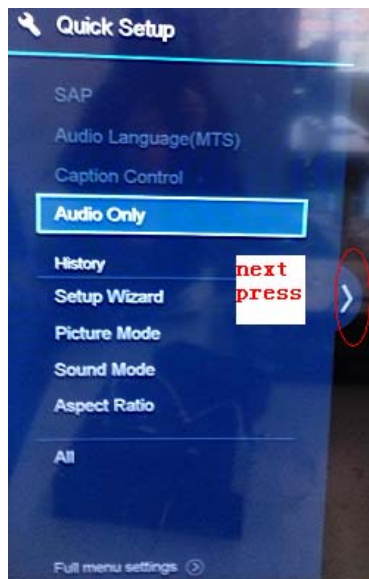
3. Factory/Service OSD Menu and Adjustment

3.1 To enter the Factory OSD Menu

With user's remote control


1. Power TV On

2. Press  button on the RC and call up User OSD Menu. as following. next press the ">" cusp on the right to appear full menu.



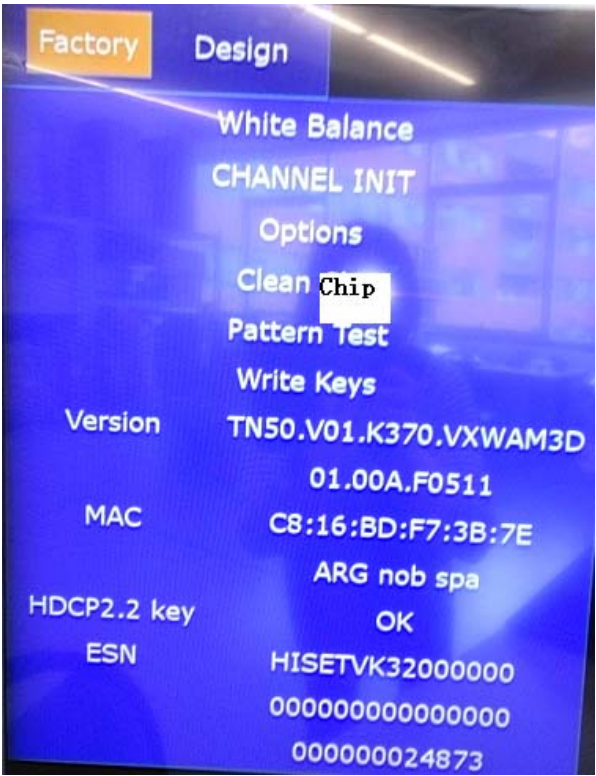
Select Sound>Advanced Audio Settings->Balance, when Balance is "0"










3. Input 1->9->6->9 in sequence.
Note: If necessary, re-enter number keys.
4. Now "M" appears on the TV then press  to pop-up the Factory Menu
5. DC power off the TV that can leave factory OSD.

3.2 Factory OSD Menu











Factory OSD menu list , if you want to know more you can read it .




	Factory menu	Description	Remark
Menu	White Balance	White Balance data adjusting, different source has different WB values. Before adjusting, please change to desired source.	备注:所有菜单内容都为左对齐的形式
	channel init	TV Produce signal preset, during the factory produce using.	备注:工厂菜单所有选项都要存在,如不需要则变灰跳过
	Option	can choose	
	Clean Chip	intialize the factory signal , EEPROM reset	
	Automatic	auto color adjust with Component and VGA channels.	
	Test Pattern	red\blue\white\green\black five colors,for factory panel testing.	
	soft version	current software version information	
	inside pattern	Factory white balance adjust	
	version 示例: E58. V0000. K220. 00. 30. 20A. E1114	software Version information	备注:除 BBY 显示整机机型显示外,所有机器都需按照此软件版本显示
	MAC adr:C8: 16: BD:B2: 34: 69 国家,语言, Logo	MAC address information	备注:MAC 地址关联的国家,语言, Logo 信息的需要显示在 MAC 地址右边
	HDCP2.2 key 写入内容	HDCP key	
	CI key 写入内容	CI key	
	ESN 写入内容	ESN	
	KMS Device ID 号码		
	用户服务码: 23 位示例 00000000000001K5R140031		

White Balance	BIN	B1		can choose B1/B2/B3/B4/B5/B6
	R Gain		128	High Brightness Red
	G Gain		128	High Brightness Green
	B Gain		128	High Brightness Blue
	R Offset		128	Low Brightness Red
	G Offset		128	Low Brightness Green
	B Offset		128	Low Brightness Blue

channel init	huangdao old	
	Qing Dao	TV Produce signal preset, during the factory produce using.
	huangdao new	
	

Option	ToFAC M/U	<p>"M" to enter factory state press" M "button with factory RC.</p> <p>"U" customer use state,can not enter the factory OSD menu directly ,must with password .</p>
	LNB POWER 	<p>Not all,the chassis that must support the satellite signal for example: Europe TV :13V , 18V , OFF ; Japan : 15V</p>
	country 	country choose
	Language 	language choose
	Logo 	region logo choose
	power mode memory 	remember mode;Power on mode;standby mode
	set MAC 	set MAC address
	USB upgrade 	If the TV has the function of USB disk upgrade directly in the factory menu then can use the item.
	FRC upgrade 	FRC upgrade
	driver upgrade 	Led backlight driver upgrade
	PQ upgrade 	if the panel parameter of smart TV is not right then can USB upgrade directly .

	<div>  </div> URAT on/off	when choose "on" then can serial port connect with Tool
	PVR Record all	PVR Record function
	Mirror enable	for Panel testing
soft version	soft version: E58.V0000.K220.00.30.20A.E1114	soft version information
	date: 2014-11-14 04:47:50	The date of current version
	TV code: 000000000000001K5R140031	TV code information
	MAC version: C8: 16: BD:B2: 34: 69	MAC version information

3.2.1 White Balance



Note: Different source has different WB values. Before adjusting, please change to desired source.

3.2.2 Factory Option



Note: The factory menu data varies according to different sources. In case changing the factory data by error, you can choose to “Clean chip”, by which you can resume the default value.

To clear the EEPROM:

- Select the item “Clean chip”.
- Press VOL+ button to clear the EEPROM data.
- Close the OSD menu after 5 seconds.
- Restart the TV.

Note:

Above “Factory/Service OSD Menu” is reference for chassis MTK5655 , please refer to the actual units to determine the appearances for different TV.

4. Software Upgrading

Before upgrading, read the following.

First: Upgrade the software.

Second: To clear the EEPROM .

- A Select the item “Clean Chip”.
- B Press VOL+ button to clear the EEPROM data.
- C Close the OSD menu after 5 seconds.
- D Restart the TV.

Last: After the operation above all, necessarily, Re-search the channels for the users

4.1 USB Software Upgrading directly

The software can be upgraded by USB Disk.

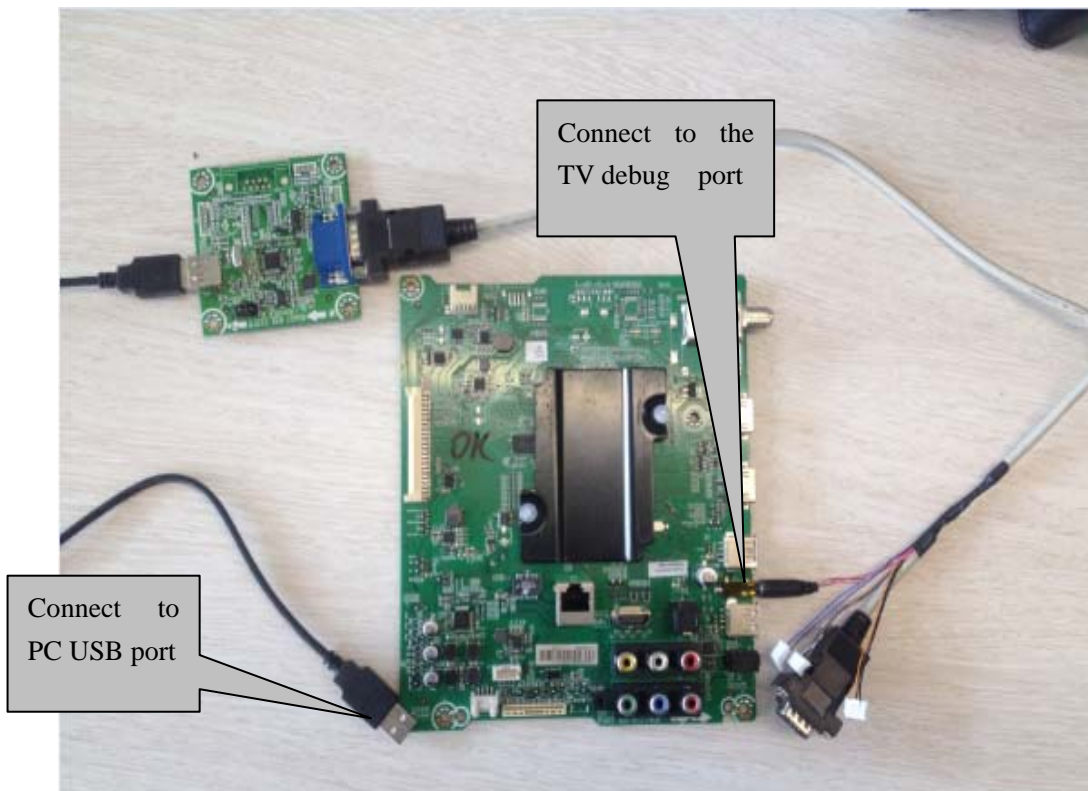
- First, copy the upgrade_loader.pkg file to USB Disk;.
- Second, make sure there is no other .pkg file in the root directory of USB Disk
- Insert USB Disk to TV USB port, and then turn on the TV. at the same time press the any one button on the remote control for about 15s,then pop the update interface.
- The TV will identify the software and upgrade automatically.
- After update success, TV can automatically start.

4.2 USB upgrading failure

If USB upgrading failure then need burning the Nand Flash program file“ *.bin ”to the Nand Flash.

Hardware connecting



Connect the unit to your pc with a USB-to-serial port cable. USB port connects to your PC and serial port to the TV's Debug port. As following



Or USB port connects to your PC and serial port connect to the RS232 of main board.



4.2.1 Install the bebug board driver for first use MTK FlashTool.

Double click the icon  CP210xVCPInstaller_x64.exe
 CP210xVCPInstaller_x86.exe, install the driver.

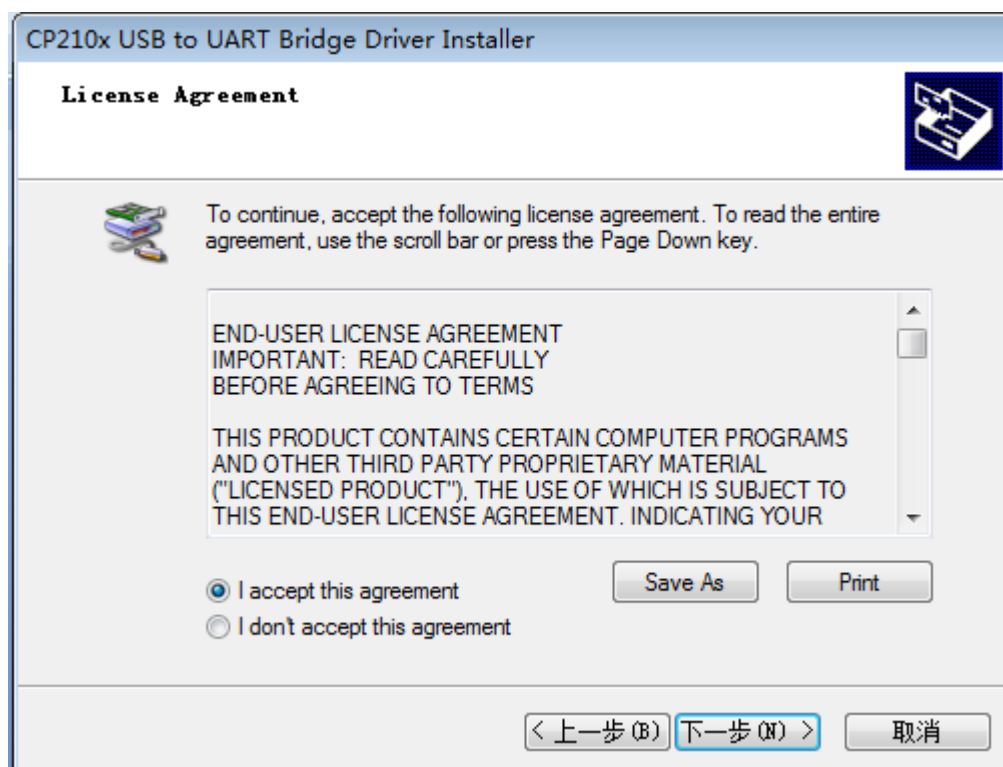
Note:

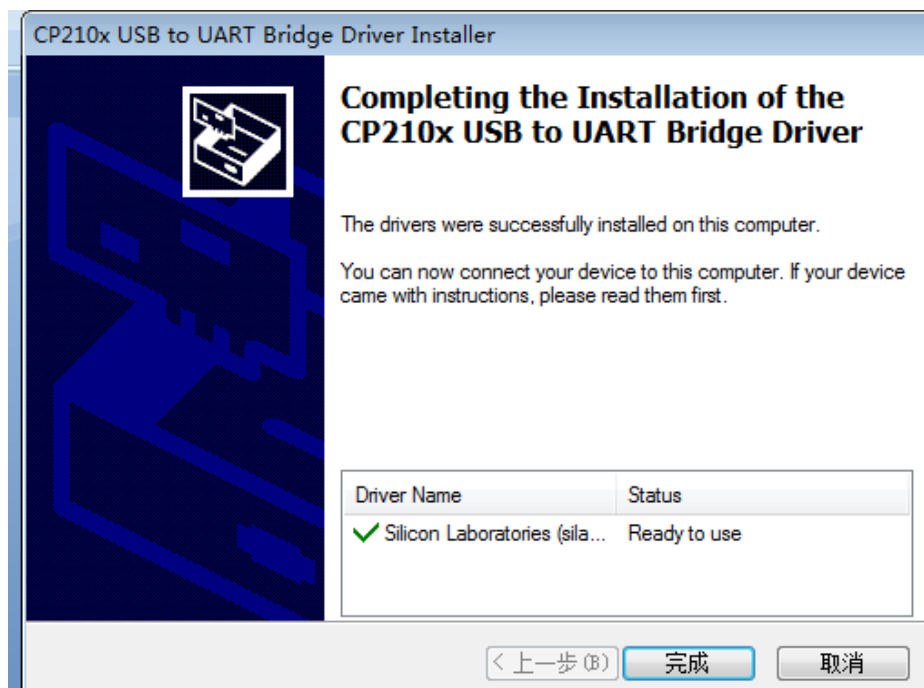
X64.exe is fit for 64bit system configure of the computer.

X86.exe is fit for 32bit system configure of the computer.



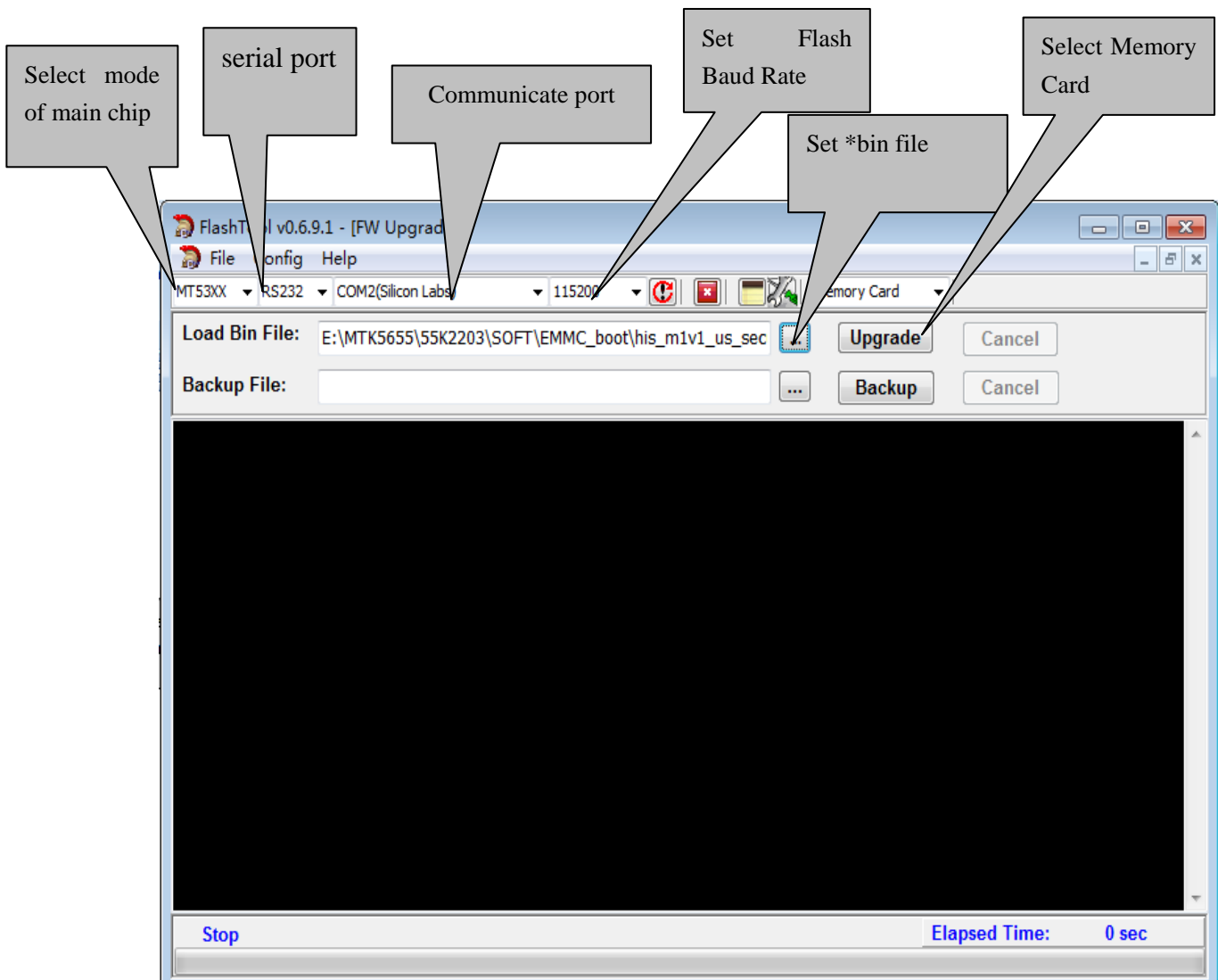
Select the default value, the driver will be installed step by step.



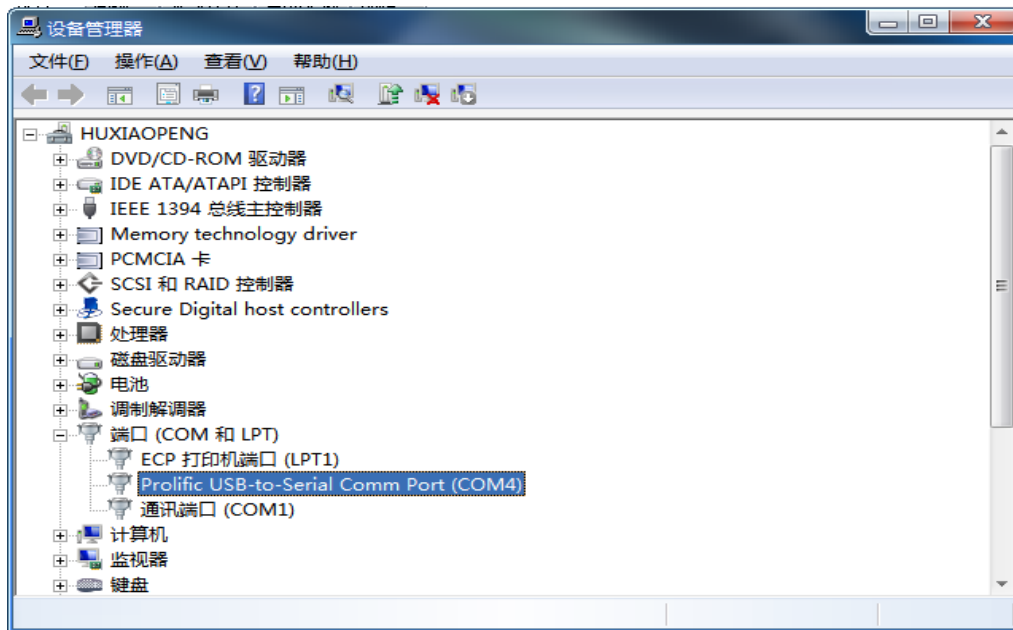


4.3 Upgrading with the FlashTool v0.6.9.1.exe




1、FlashTool is a green program needing no installation. After Connect the unit to your pc with a USB-to-serial port cable, run FlashTool v0.6.9.1.exe. Please refer to the following steps to set.

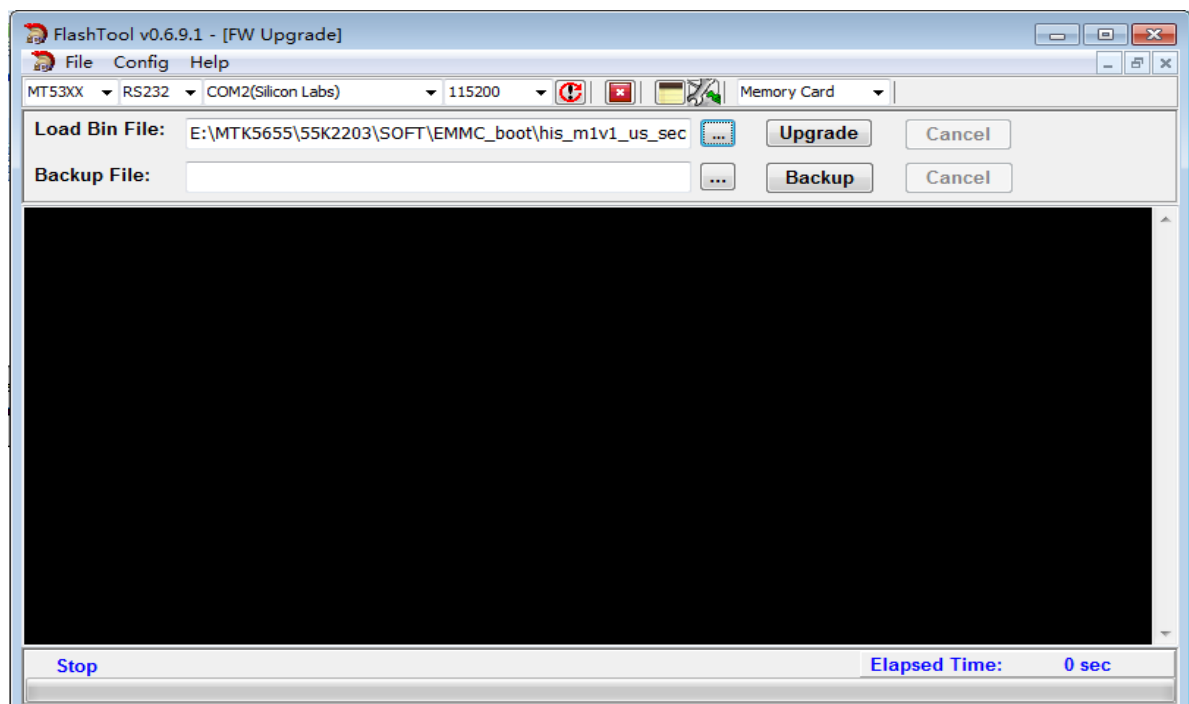



How to choose Communicate port and flash baud rate? See the following instruction..



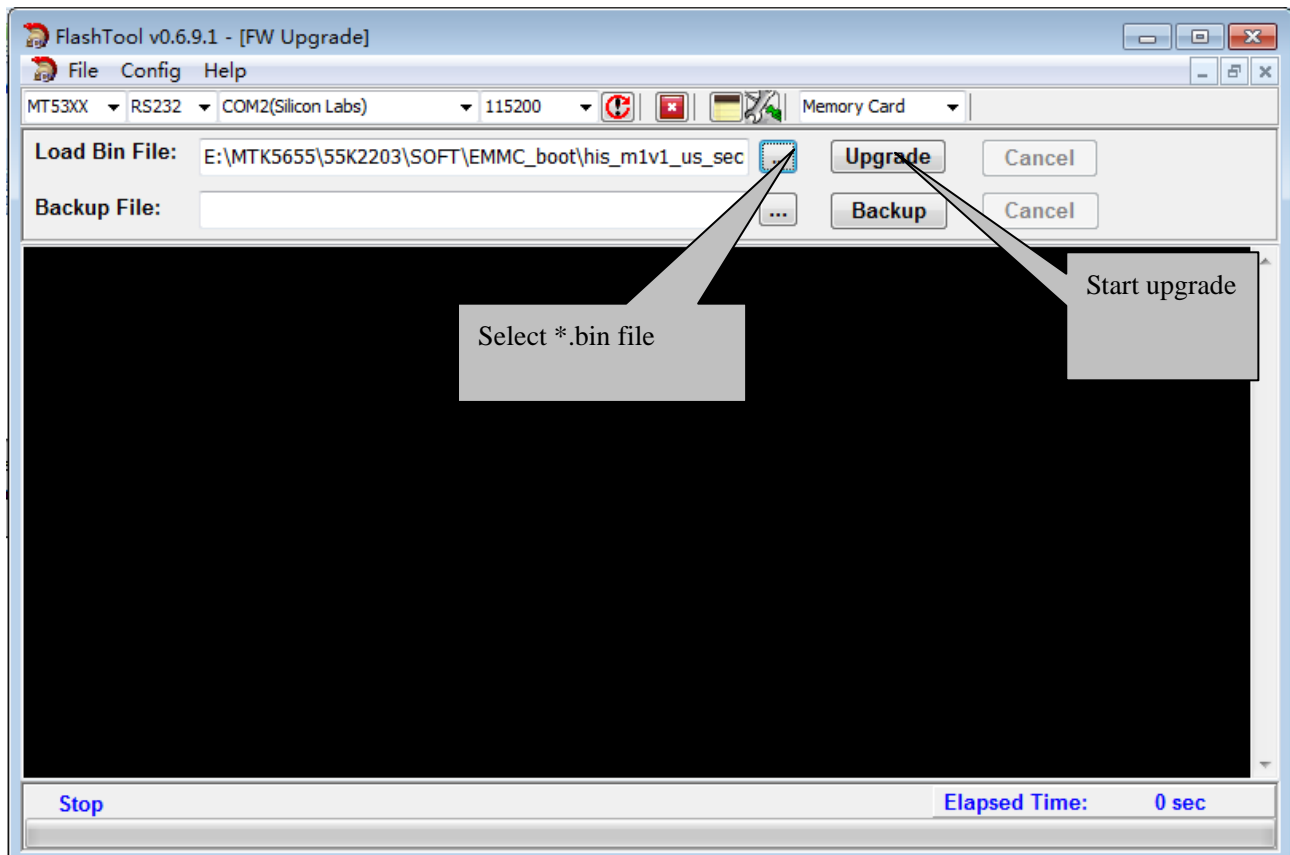
Open “Device Manager” and find which port is connected with the TV. In above picture, COM4 is connected to the TV, so, select “COM4” and if COM6 is connected to the TV, so select “COM6”. Select the right baud rate according to chip model. For this unit(chip model is MT5655), select 115200.

2、 Click  to connect, if connect successfully then button  from red turn green .



Click , bounce the following dialog box. Load Bin File: find the upgrading program file, his_m1v1_us_secure_emmcboot.bin.

Press “Upgrade” button and start upgrading., if update defeat, try again.



4.4 Network online upgrading

At first ensure that the network has connected normally, power on the TV. If TV has checked a new upgrade version that can automatically pop-up the following upgrade interface.

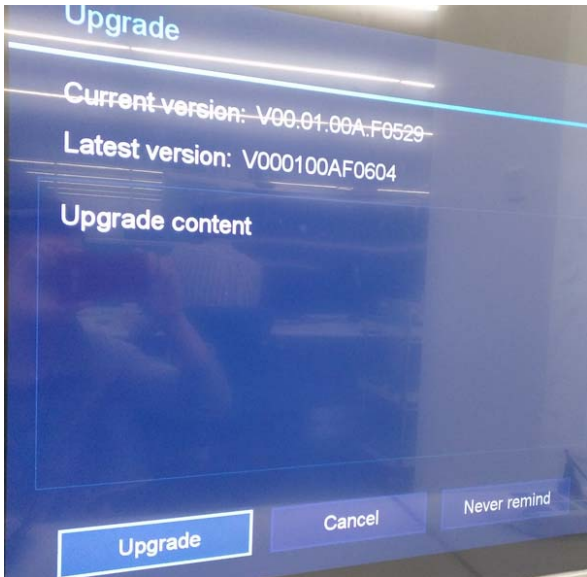


Figure-1

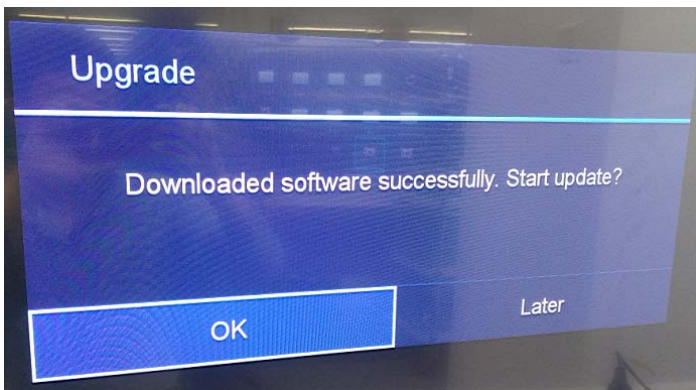


Figure-2

If upgrade successfully, TV can automatically restart.

(Above the Network online upgrading figure is only for reference.)

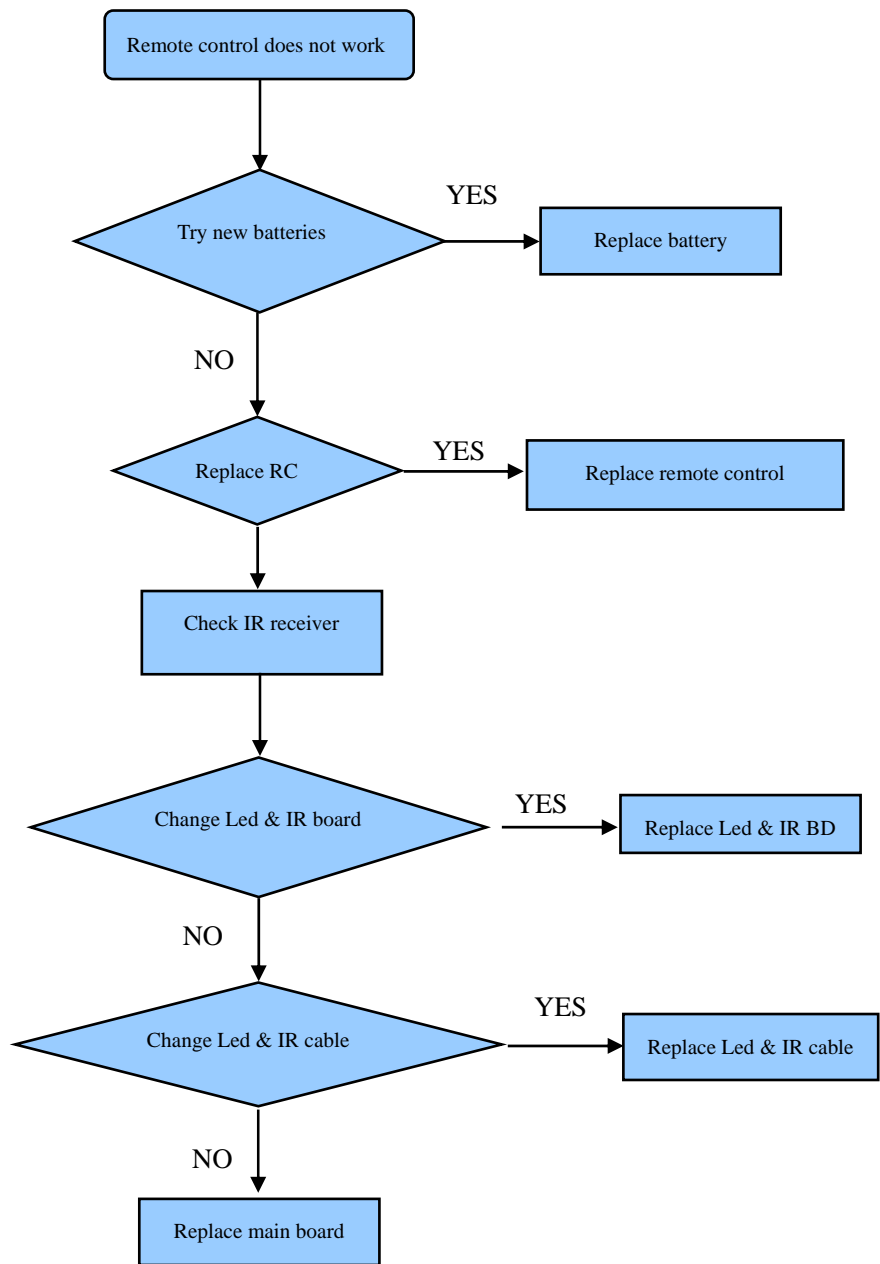
5. Troubleshooting

When there is something wrong with your TV, you can try turning off the TV and then restart it. You can also operate according to the follow chart. If the problems still can't be solved, please contact the profession technician.

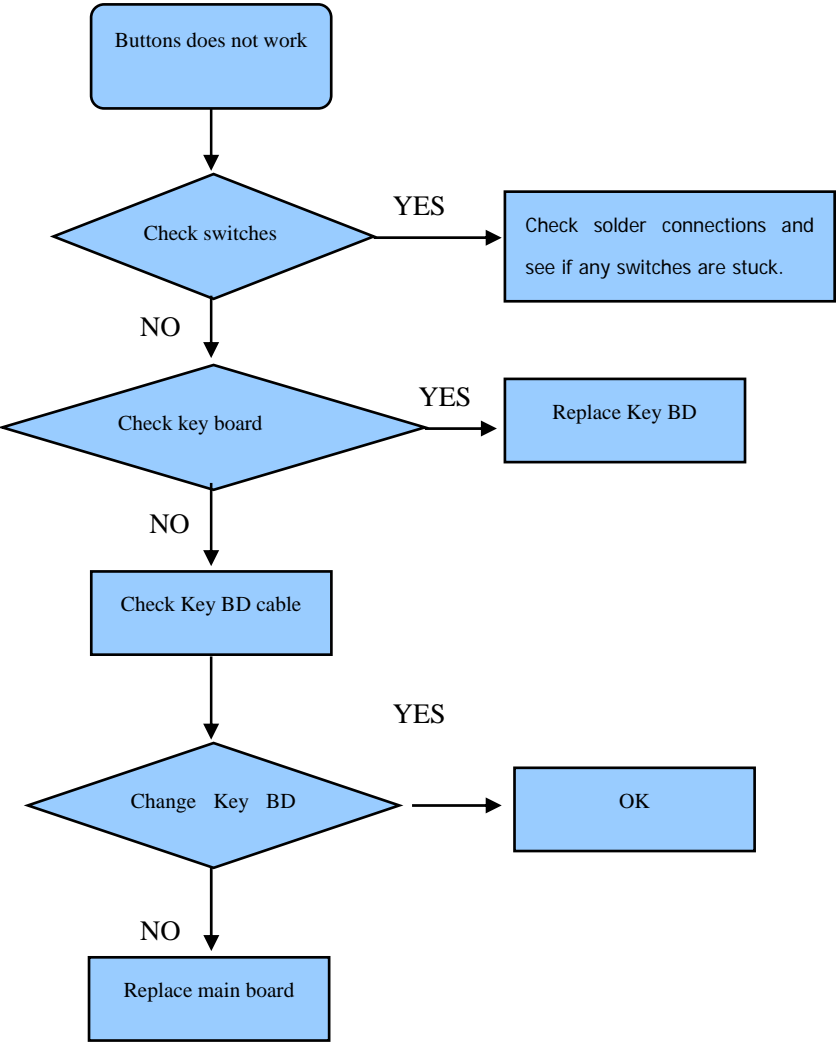
<i>SYMPTOMS</i>	<i>POSSIBLE SOLUTIONS</i>
No sound or picture.	<ul style="list-style-type: none">● Check if the power cord is in the AC outlet and if it has electricity.● Check if you have pressed [POWER] button on the TV or [POWER] button on the remote control.
I have connected an external source to my TV and I get no picture and/or sound.	<ul style="list-style-type: none">● Check for the correct output connection on the external source and for the correct input connection on the TV.● Make sure you have made the correct selection for the input mode for the incoming signal.
When I turn on my television, there is a few second delay before the picture appears. Is this normal?	Yes, this is normal. That is the TV searching for previous setting information and initializing the TV.
Picture is normal, but no sound.	<ul style="list-style-type: none">● Check the volume settings.● Check if Mute mode is set "on".
Sound but no picture or black and white picture.	<ul style="list-style-type: none">● If black and white picture first unplug TV from AC outlet and replug after 60 seconds.● Check Color Setting if picture is black and white.
Sound and picture distorted or appear wavy.	<ul style="list-style-type: none">● An electrical appliance may be affecting TV set. Turn off any appliances, if interference goes away, move appliance farther away from TV.● Insert the power plug of the TV set into another power outlet.
Sound and picture is blurry or cuts out momentarily.	<ul style="list-style-type: none">● If using an external antenna, check the direction, position and connection of the antenna.● Adjust the direction of your antenna or reset or fine tune the channel.
Horizontal/vertical stripe on picture or picture is shaking.	Check if there is interfering source nearby, such as appliance or electric tool.
The plastic cabinet makes a "clicking" type of sound.	"Click" sound can be caused when the room temperature changes. This change causes the television cabinet to inflate or contract, which makes the sound. This is normal and TV is OK.
Black square appears in the center of my television screen?	The Closed Caption function is set in the text mode. To remove it, access Closed Caption from the menu screen and change the Mode setting from text to either CC1 or off .
On some channels getting another language or sometimes no sound at all.	<p>That would indicate that the MTS mode on your unit is set to SAP mode. We suggest setting the MTS mode to either Stereo or Mono . For further instruction, please see Audio Adjust or MTS/SAP in your user manual.</p> <ul style="list-style-type: none">● SAP is Second Audio Program. It's a second audio channel that is usually used for a second language or descriptive audio for the visually impaired.● MTS stands for Multichannel Television Sound, a standard that allows the encoding of 3 channels of audio within a standard NTSC (analog) video signal to a television. A television that is able to receive MTS Stereo allows you to watch television with stereo sound.

SYMPTOMS	POSSIBLE SOLUTIONS
Not getting all of my cable channels on the television or I'm only getting 13 channels.	<ul style="list-style-type: none"> ● Check the cable connection for an incoming signal. Make sure the signal is coming OK. Best way to confirm signal is to use another TV and/or contact your cable company. ● Reprogram your channels. Press [MENU] button on your TV remote control, change Input Source setting to "Cable", then use "Auto Channels Search" to reprogram your channels.
[CH Δ / V] don't work when I set the Channel to Cable? They work with the Air setting?	After switching to Cable, please auto program the channels. The TV will "remember" all the channels then the TV will allow you to surf the channels with [CH Δ / V] buttons.
Remote control does not work.	<ul style="list-style-type: none"> ● Confirm that TV still has power and is operational. ● Change the batteries in the remote control. ● Check if the batteries are correctly installed. ● Clean the front of the remote control (LED window). ● If using a universal remote, be sure to select the TV mode on the remote. ● If the remote still does not work: <ul style="list-style-type: none"> • Remove and reinstall the batteries correctly to reset the remote or install new batteries. • Press the Power button to turn on the TV. With a universal remote if you have reset or changed the batteries you will need to reprogram the remote for the other units. ● Check if there is obstruction between the remote control and the TV. <p>TIP: If you have a digital camera / camera phone, you can aim the front of the remote at camera lenses (at this time, the camera should set on camera mode, not play mode). Observe the camera screen while pressing a button on the remote control; you should see flashing light on the screen. If there is no light observed, the remote control is not working. You need to repair or replace the remote control.</p>

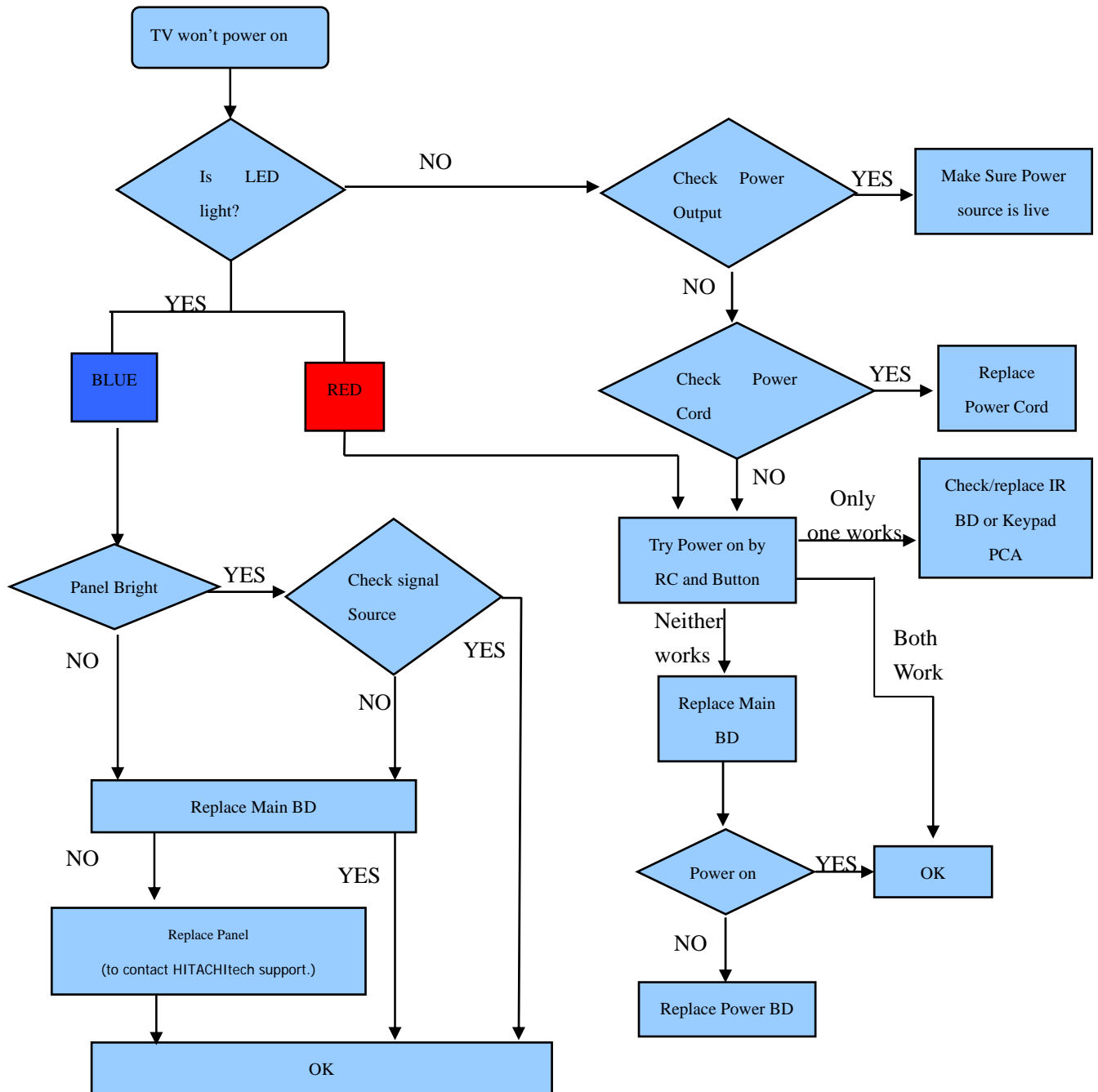
5.1 Troubleshooting for Remote Control



5.2 Troubleshooting for Function Key



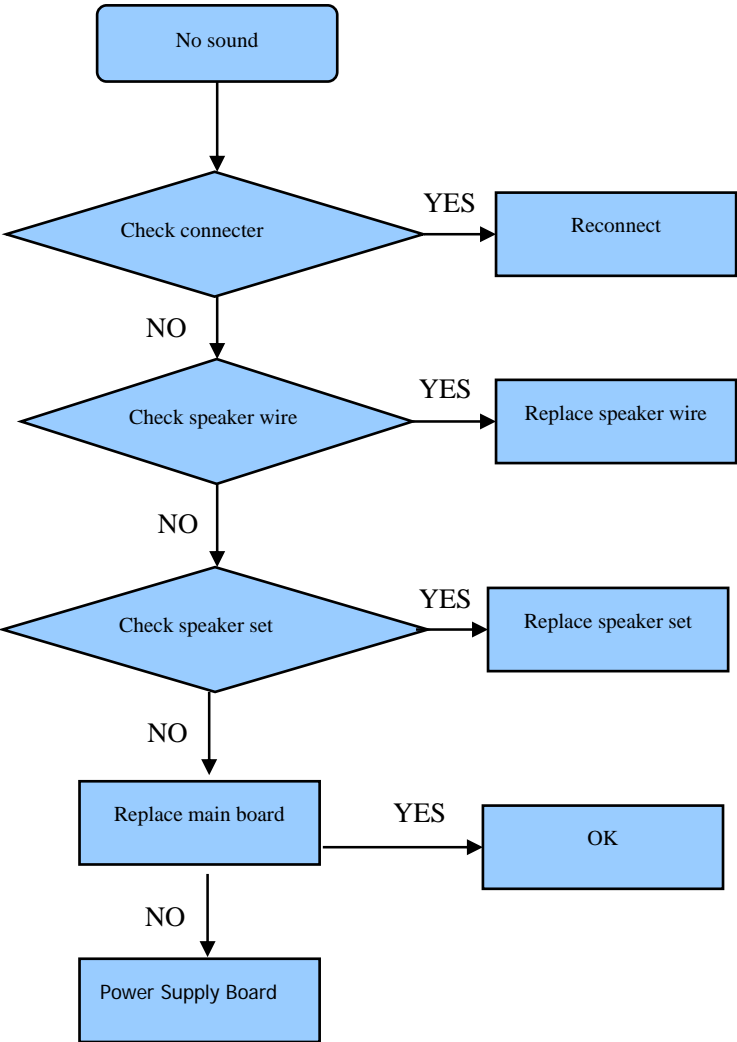
5.3 TV won't Power On



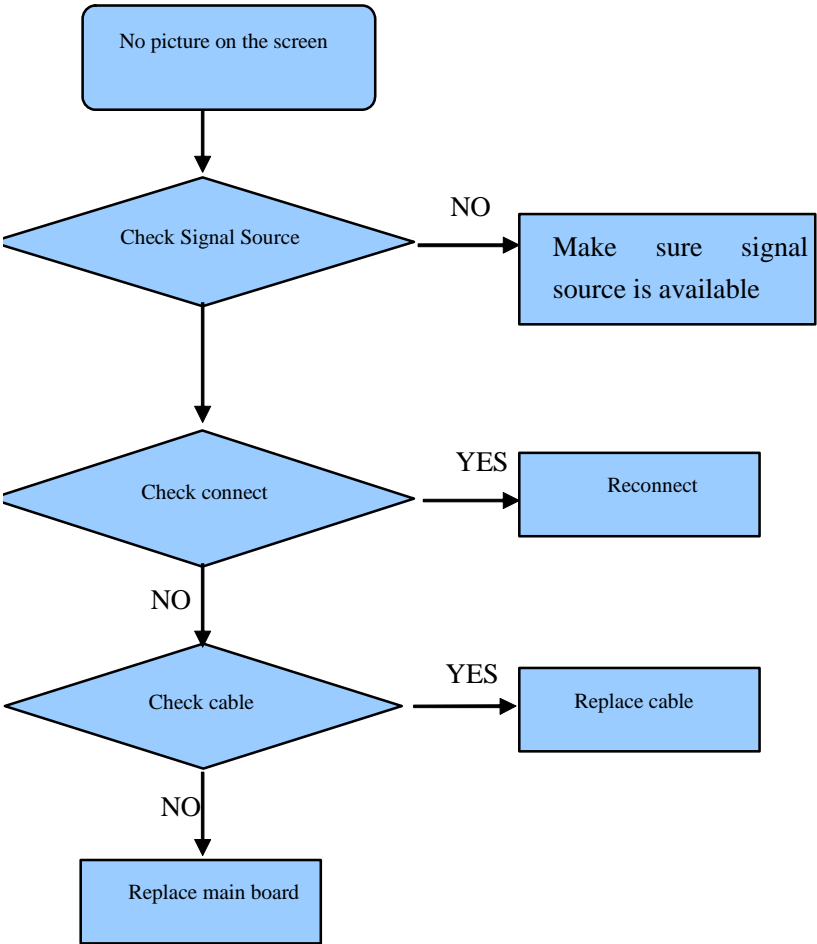
Note:

This indication led color change is that standby is red and works is blue.

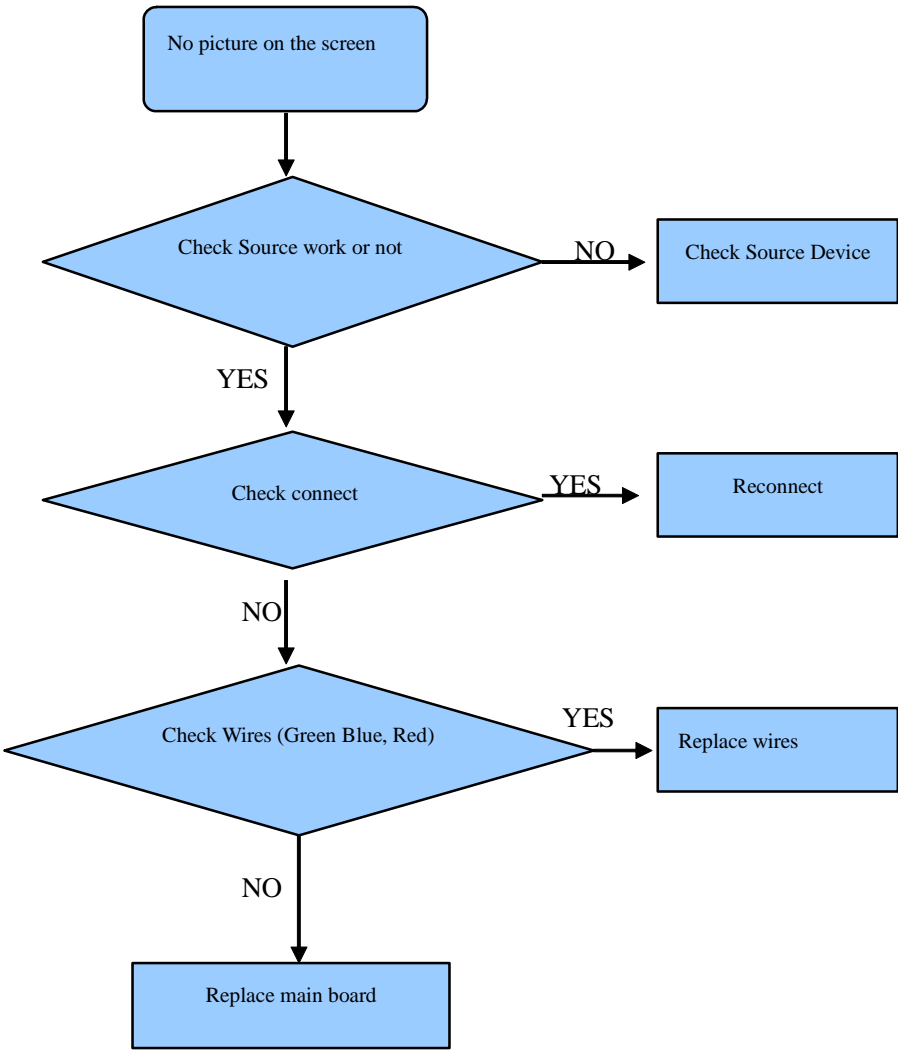
5.4 Troubleshooting for Audio



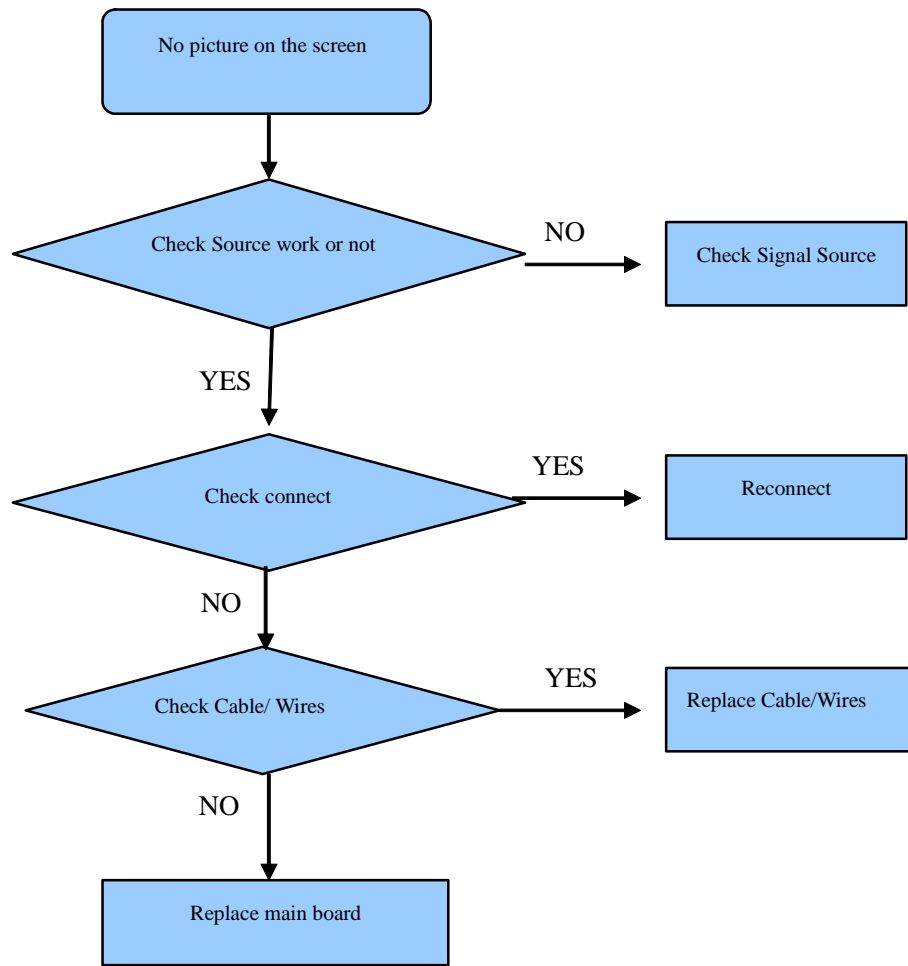
5.5 Troubleshooting for TV/VGA/HDMI input



5.6 Troubleshooting for YPbPr input



5.7 Troubleshooting for Video input



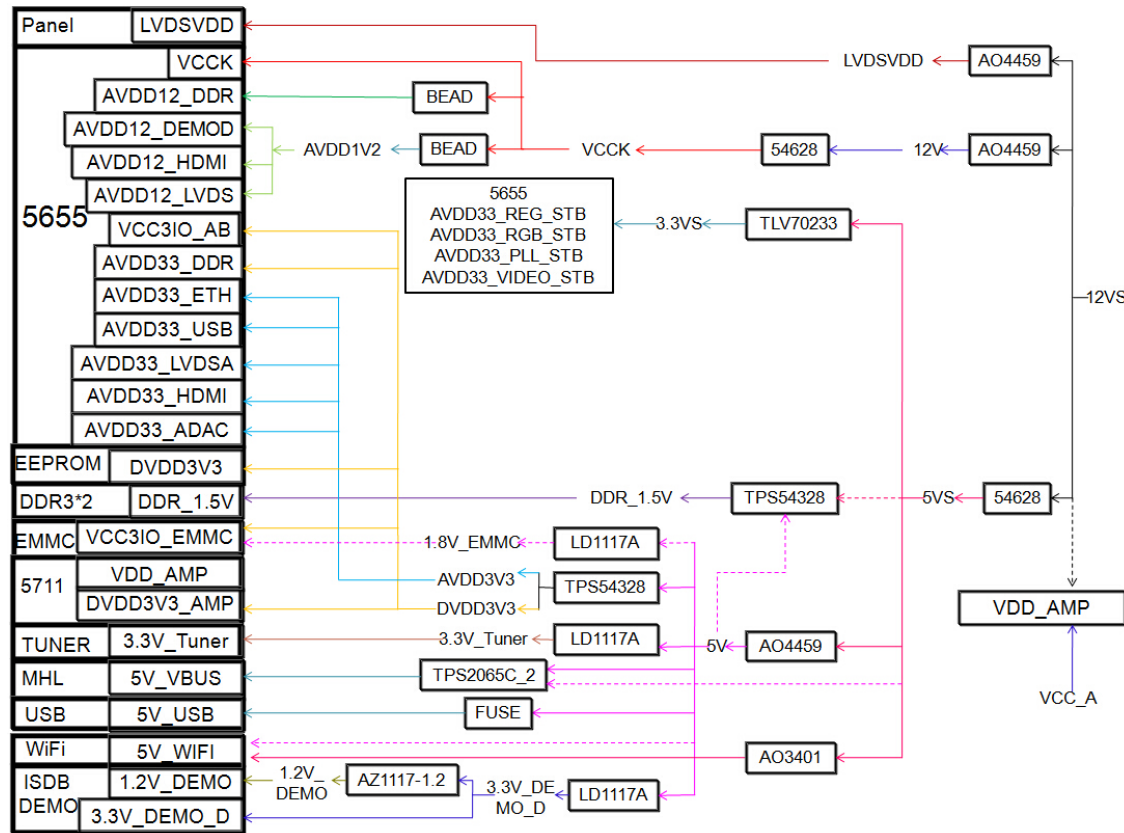
6. Signals Block Diagram and power assign:

7. Schematic circuit diagram

8. Explode View

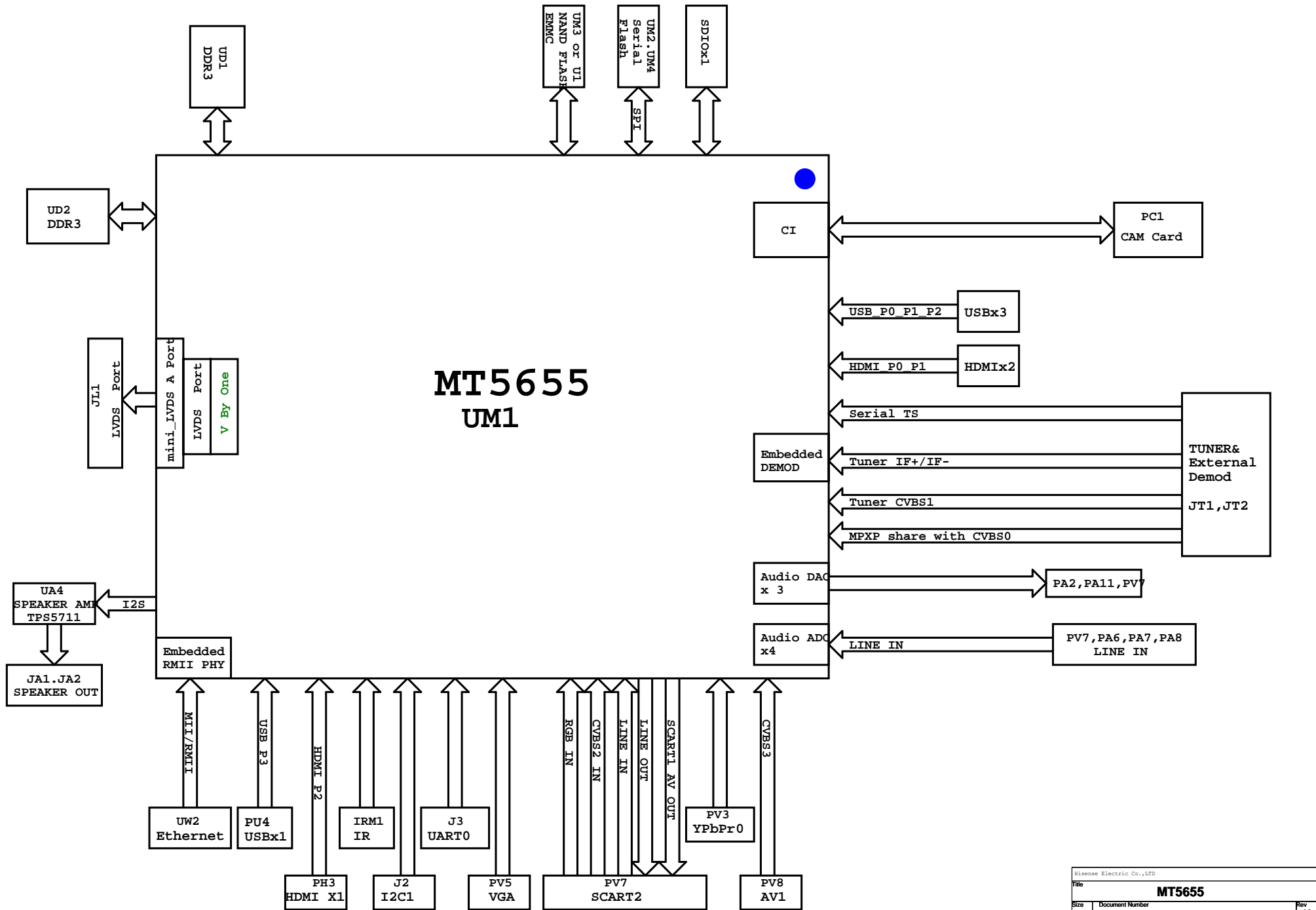
(The next page)

POWER TREE



- 54321
- A
- B
- C
- D
- 1.添加XP14，兼容SS 40和48寸X+C屏；
- 2.更改遥控/按钮/wifi插座XP7为卧式，更改灯效插座XP8为卧式；

Block Diagram



GPIO LIST

PIN NAME	Function define	GPIO Function
CI_A0	CI Interface	CI_A0 (GPIO_0)
CI_A1	CI Interface	CI_A1 (GPIO_1)
CI_A2	CI Interface	CI_A2 (GPIO_2)
CI_A3	CI Interface	CI_A3 (GPIO_3)
CI_A4	CI Interface	CI_A4 (GPIO_4)
CI_A5	CI Interface	CI_A5 (GPIO_5)
CI_A6	CI Interface	CI_A6 (GPIO_6)
CI_A7	CI Interface	CI_A7 (GPIO_7)
CI_A8	CI Interface	CI_A8 (GPIO_8)
CI_A9	CI Interface	CI_A9 (GPIO_9)
CI_A10	CI Interface	CI_A10 (GPIO_10)
CI_A11	CI Interface	CI_A11 (GPIO_11)
CI_A12	CI Interface	CI_A12 (GPIO_12)
CI_A13	CI Interface	CI_A13 (GPIO_13)
CI_A14	CI Interface	CI_A14 (GPIO_14)
CI_MCLKI	CI Interface	CI_MCLKI (GPIO_15)
CI_MIVAL	CI Interface	CI_MIVAL (GPIO_16)
CI_MISTR1	CI Interface	CI_MISTR1 (GPIO_17)
CI_MDI0	CI Interface	CI_MDI0 (GPIO_18)
CI_MDI1	CI Interface	CI_MDI1 (GPIO_19)
CI_MDI2	CI Interface	CI_MDI2 (GPIO_20)
CI_MDI3	CI Interface	CI_MDI3 (GPIO_21)
CI_MDI4	CI Interface	CI_MDI4 (GPIO_22)
CI_MDI5	CI Interface	CI_MDI5 (GPIO_23)
CI_MDI6	CI Interface	CI_MDI6 (GPIO_24)
CI_MDI7	CI Interface	CI_MDI7 (GPIO_25)
CI_D0	CI Interface	CI_D0 (GPIO_26)
CI_D1	CI Interface	CI_D1 (GPIO_27)
CI_D2	CI Interface	CI_D2 (GPIO_28)
CI_D3	CI Interface	CI_D3 (GPIO_29)
CI_D4	CI Interface	CI_D4 (GPIO_30)
CI_D5	CI Interface	CI_D5 (GPIO_31)
CI_D6	CI Interface	CI_D6 (GPIO_32)
CI_D7	CI Interface	CI_D7 (GPIO_33)
CI_MDO0	CI Interface	CI_MDO0 (GPIO_34)
CI_MDO1	CI Interface	CI_MDO1 (GPIO_35)
CI_MDO2	CI Interface	CI_MDO2 (GPIO_36)
CI_MDO3	CI Interface	CI_MDO3 (GPIO_37)
CI_MDO4	CI Interface	CI_MDO4 (GPIO_38)
CI_MDO5	CI Interface	CI_MDO5 (GPIO_39)
CI_MDO6	CI Interface	CI_MDO6 (GPIO_40)
CI_MDO7	CI Interface	CI_MDO7 (GPIO_41)
GPIO_42	3D ENABLE	PANEL_3D_EN
GPIO_43	BACKLIGHT OPWM	3D_blink1
GPIO_44	BACKLIGHT OPWM	3D_blink2
GPIO_45	3D SYNC OUT	GPIO45
GPIO_46	3D SYNC IN	GPIO46
GPIO_47	PANEL_3D_LR_SYNC IN	PANEL_IN_3D_LR_SYNC

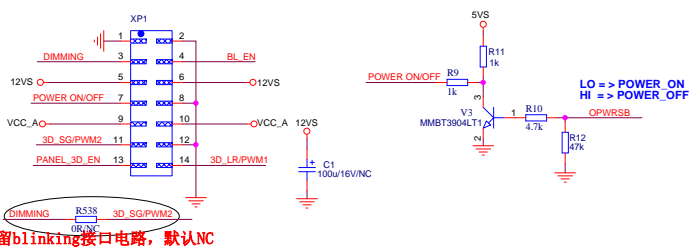
PIN NAME	Function define	GPIO Function
ADIN0_SRV		
ADIN1_SRV	KEY_PAD	KEY_PAD0
ADIN2_SRV	Headphone Detect	HP_DET
ADIN3_SRV	MHL Over Current Protect	MHL_OC
ADIN4_SRV	KEY_PAD	KEY_PAD1
ADIN5_SRV	Enable AMP_MUTE	AMP_MUTE
ADIN6_SRV		
ADIN7_SRV	Enable panel I2C	PANEL_I2C_WP

PIN NAME	Function define	GPIO Function
OPCTRL0	Wifi Reset	REG_ON
OPCTRL1	Wifi detect	WIFI_DEV_wake
OPCTRL2	Reset TUNER	TUNER-RST
OPCTRL3	Strapping	Strap[3]
OPCTRL4	LED PWM	LED_0
OPCTRL5	LED PWM	LED_1
OPCTRL6	RESET AMP	AMP_RESET
OPCTRL7	Wifi Power Enable	WAKEUP_PWR_EN
OPCTRL8	LVDS Power Control	LVDS_PWR_EN
OPCTRL9	Audio Mute	MUTE_CTL
OPCTRL10	Backlight Control	BL_ON/OFF
OPCTRL11	MHL_PWR_EN	MHL_PWR_EN
OPCTRL12	DRAM Standby Power Control	FB_PWR_EN

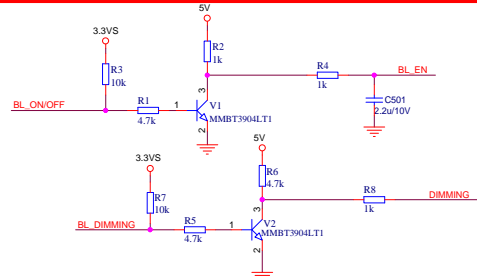
PIN NAME	Function define	GPIO Function
LED_PWM0	Strapping	Strap[1]
LED_PWM1	Strapping	Strap[2]

PIN NAME	Function define	GPIO Function
OPWM0	SYSTEM EEPROM write protect	SYS_EEPROM_WP
OPWM1	Backlight DIMMING	BL_DIMMING
OPWM2	TUNER SWITCH	SW_TUNER

MAIN POWER



预留blinking接口电路，默认NC

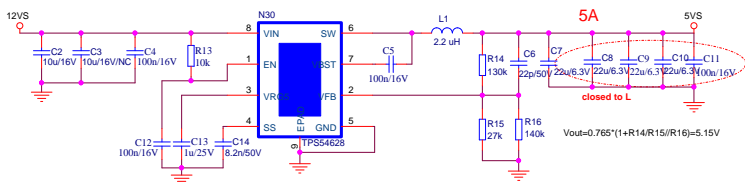


5,6,7,8,9,10,11,12,13 GND<<>>—

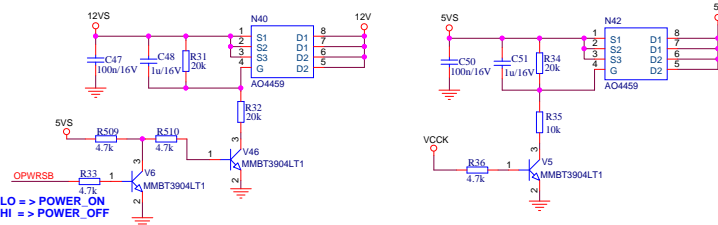
5	OPWRSB	OPWRSB
8	3D_SG/PWM2	3D_SG/PWM2
8	3D_LR/PWM1	3D_LR/PWM1
8,12	PANEL_3D_EN	PANEL_3D_EN
12	FB_PWR_EN	FB_PWR_EN
12	BL_DIMMING	BL_DIMMING
12	BL_ON/OFF	BL_ON/OFF

12V-->5V

12V-->5V需使用TPS54628

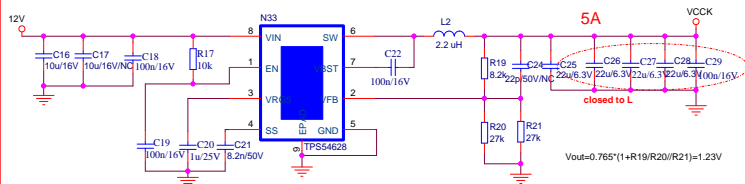


POWER SWITCH

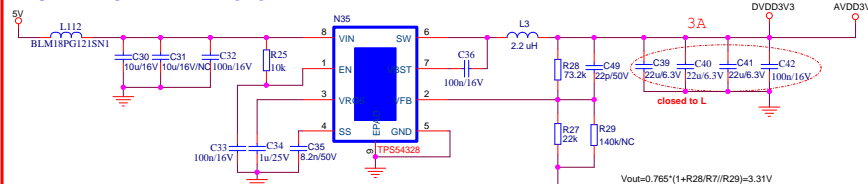


Core Power 1.0V

Buck Converter 6A Solution

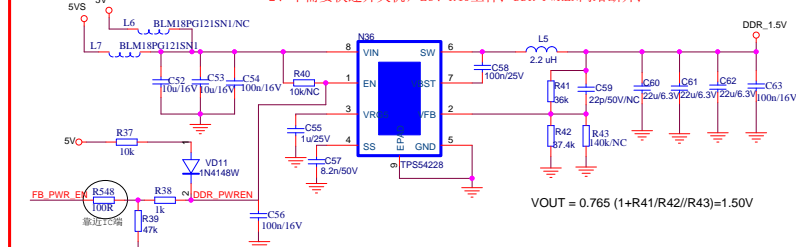


DIGITAL POWER DVDD3V3

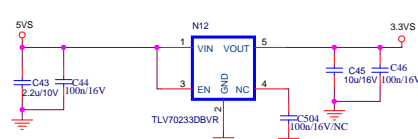


DRAM Power

- 1、需要快速开关机时，L7上件；DDR-PWREN网络上件；
- 2、不需要快速开关机，L6、R40上件；DDR-PWREN网络断开；



STANDBY POWER 3V3SB



预留C504, 兼容其他IC使用, 使用70233时需NC

AVDD1V2

