



LCD Television Service Manual

Chassis: MTK8222

Product Type: LCD32V86、LCD32V86P

Ver 1.0

Hisense Electric Co., Ltd.

April, 2009

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Service Manual

1. Precautions and notices

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

WHEN REPLACEMENT PARTS ARE REQUIRED, BE SURE TO USE REPLACEMENT PARTS SPECIFIED BY THE MANUFACTURER.

Proper service and repair is important to the safe, reliable operation of all Hisense Electric Co., Ltd 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. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Hisense could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Hisense has not undertaken any such broad evaluation. Accordingly, a serviceman that uses a service procedure or tools,

which are not recommended by Hisense, must first satisfy himself thoroughly that neither his safety nor the safe of the equipment will be jeopardized by the service method selected.

Hereafter throughout this manual, Hisense Electric Co., Ltd will be referred to as Hisense.

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 substitute replacement parts, which do not have the same specified safety characteristics, may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Hisense. Hisense assumes no liability, express or implied, arising out of any unauthorized modification of design. Serviceman assumes all liability.

DANGERCAUTION 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, make sure

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that you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this same potential.

1. Never replace modules or other components while the unit is switched on.
2. When making settings, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.

1.1.3

To prevent electrical shock, do not use this polarized ac plug with an extension cord, receptacle, or the outlet unless the blades can be fully inserted to prevent blade exposure.

To prevent electrical shock, match wide blade or plug to wide slot, fully insert.

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.

1.1.5

Safety regulations require that after a repair the set must be returned in its original condition. In particular attention should be paid to the following points.

-Note: The wire trees should be routed correctly and fixed with the mounted cable clamps.

-The insulation of the mains lead should be checked for external damage.

1.1.6

(1) Do not touch Signal and Power Connector while this product operates. Do not

touch EMI ground part and Heat Sink of Film Filter.

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

(3) Do not use this product in locations where the humidity is extremely high, where it may be splashed with water, or where flammable materials surround it. Do not install or use the product in a location that does not satisfy the specified environmental conditions. This may damage the product and may cause a fire.

(4) 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.

(5) 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.

(6) Do not disconnect or connect the connector while power to the product is on. It takes some time for the voltage to drop to a sufficiently low level after the power has been turned off. Confirm that the voltage has dropped to a safe level before disconnecting or connecting the connector.

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

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

(9) 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.

(10) 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.

(11) 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 activation of the leakage-detection 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.
- When handling the circuit board, be sure to remove static electricity from your body before handling the circuit board.
- 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.
- Routing of the wires and fixing them in position must be done in accordance with the original routing and fixing configuration when servicing is completed. All the wires are routed far away from the areas that become hot (such as the heat sink). These wires are fixed in position with the wire clamps so that the wires do not move, thereby ensuring

that they are not damaged and their materials do not deteriorate over long periods of time. Therefore, route the cables and fix the cables to the original position and states using the wire clamps.

- 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. Product Function Specifications

Specifications

Model Name		LCD32V86P
Dimension (W×H×D)(mm)	Without stand	788×511×101
	With stand	788×561×252
Weight(kg)	Without stand	10,5
	With stand	12,5
LCD Panel Minimum size(diagonal)		81
Screen resolution		1920×1080
Power consumption		130W
Audio power		6W+6W

Power supply		Refer to rating label
Receiving systems	RF	PAL、SECAM、D/K、B/G、I、L、L'
	AV	PAL,SECAM,NTSC
Channel range		VHF/UHF : 48. 25-863. 25MHz
Environmental conditions		Temperature 5°C~ 35°C Humidity:20%-80% RH, Atmospheric pressure: 86kPa-106kPa
Component Input		480I、480P、576I、576P 720P/50Hz、720P/60Hz、1080I/50Hz、1080I/60Hz 1080P/50Hz、1080P/60Hz
VGA Input		VGA (640×480 60Hz) 、SVGA (800×600 60Hz) XGA (1024×768 60Hz)
HDMI Input		RGB/60Hz (640×480、800×600、1024×768) YUV/50Hz (576P、720P、1080I、1080P) YUV/60Hz (480I、480P、720P、1080I、1080P)
SCART Input		CVBS、RGB、Y/C

3. LCD Panel Spec

LCD32V86

Panel: LTA320AP02 \ROH SN: 1058148

LCD32V86P

Panel: T315HW02V0 \ROH SN: 1057323

3.1 Panel: LTA320AP02 \ROH

3.1.1 General Description

Description

LTA320AP02 is a color active matrix liquid crystal display (LCD) that uses amorphous silicon TFT (Thin Film Transistor) as switching components. This model is composed of a TFT LCD panel, a driver circuit and a back light unit.

The resolution of a 32.0" is 1366 x 768 and this model can display up to 16.7 Million colors with wide viewing angle of 89° or higher in all directions. This panel is intended to support applications to provide a excellent performance for Flat Panel Display such as Home-alone Multimedia TFT-LCD TV and High Definition TV.

Features

- RoHS compliance (Pb-free)
- High contrast & aperture ratio
- PVA (Patterned Vertical Align) mode
- Wide viewing angle ($\pm 178^\circ$)
- High speed response
- HD resolution (16:9)
- Low Power consumption
- Direct U-Type 4 CCFLs (Cold Cathode Fluorescent Lamp)
- DE (Data Enable) mode
- LVDS (Low Voltage Differential Signaling) interface (1pixel/clock)

3.1.2 General Features

Items	Specification	Unit	Note
Module Size	760.0(H _{TYP}) x 450.0(V _{TYP})	mm	$\pm 1.0\text{mm}$
	50.5 (D _{MAX})		
Weight	7,500Max)	g	
Pixel Pitch	0.51075(H) x 0.51075(V)	mm	
Active Display Area	697.68(H) x 392.25(V)	mm	
Surface Treatment	Haze 7%,Hard-coating(3H)	-	
Display Colors	8 bit - 16.7M	colors	
Number of Pixels	1366 x 768	pixel	
Pixel Arrangement	RGB Horizontal stripe	-	
Display Mode	Normally Black	-	
Luminance of White	450 (Typ.)	cd/m ²	

3.1 Panel: T315HW02V0 \ROH

3.1.1 General Description

This specification applies to the 31.5 inch Color TFT-LCD Module T315HW02 V0. This LCD module has a TFT active matrix type liquid crystal panel 1920x1080 pixels, and diagonal size of 31.5 inch. This module supports 1920x1080 HDTV mode (Non-interlace).

Each pixel is divided into Red, Green and Blue sub-pixels or dots which are arranged in vertical stripes. Gray scale or the brightness of the sub-pixel color is determined with a 8-bit gray scale signal for each dot.

The T315HW02 V0 has been designed to apply the 8-bit 1 channel LVDS interface method. It is intended to support displays where high brightness, wide viewing angle, high color saturation, and high color depth are very important.

The T315HW02 V0 model is RoHS verified which can be distinguished on panel label.

3.2 General Features

Items	Specification	Unit	Note
Active Screen Size	31.51 inches		
Display Area	698.4 (H) x 392.85 (V)	mm	
Outline Dimension	760.0(H) x 450.0(V) x 45(D)	mm	With inverter
Driver Element	a-Si TFT active matrix		
Display Colors	16.7M	Colors	
Number of Pixels	1920x1080	Pixel	
Pixel Pitch	0.36375	mm	
Pixel Arrangement	RGB vertical stripe		
Display Mode	Normally Black		
Surface Treatment	AG, 3H		Haze = 11

4. Chassis Layout and Overall Wiring Diagrams

Boards and Chassis Layout

LCD32V86:

No	Description	Part No.	Type/Model	PCB/ Model
(1)	Main board	120726	RSAG2.908.1497-7\ROH	RSAG7.820.1637\VER.E\ROH
(2)	Power board	120822	RSAG2.908.1285-2\ROH	RSAG7.820.1377\VER.B\ROH
(3)	Keypad PCA	120779	RSAG2.908.1573-3\ROH	RSAG7.820.1755\VER.A\ROH
(4)	IR board	121198	RSAG2.908.1566-2\ROH	0RSAG7.820.1725\VER.C\ROH

LCD32V86P:

No	Description	Part No.	Type/Model	PCB/ Model
(1)	Main board	121184	RSGA2.908.1497-15\ROH	RSAG7.820.1637\VER.E\ROH
(2)	Power board	120822	RSAG2.908.1285-2\ROH	RSAG7.820.1377\VER.B\ROH
(3)	Keypad PCA	120779	RSAG2.908.1573-3\ROH	15RSAG7.820.1755\VER.A\ROH
(4)	IR board	121198	RSAG2.908.1566-2\ROH	RSAG7.820.1725\VER.C\ROH

5. Factory/Service OSD Menu and Adjustment

5.1 To enter the Factory OSD Menu

- a. With factory RC (remote control)
 1. Press “M” button and enter factory mode.
 2. Press “Menu” button and enter factory OSD menu.
 3. Press “CH+”/“CH-” button select the function menu, press “VOL+”/“VOL-” enter the selected function menu. Press “VOL+”/“VOL-” button adjust values in the menu.
- b. With user’s RC
 1. Power TV On
 2. Press Menu button and call up User OSD Menu
 3. Select Audio-> Balance
 4. Enter 0->5->3 ->2 in sequence.
Note: If necessary, re-do number keys.
 5. Factory OSD appears.
 6. Press Menu again and leave factory OSD.

5.2 Factory OSD Menu

5.2.1 White Balance

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

1. Auto Color

For VGA and Component Video sources, WB values must be adjusted. And at others signal sources, the “auto colour” does not work.

Before adjusting, prepare the signal instruments such as DVD or K-8256 first, and find the video picture with gray and color bars. Then please change to desired source.

	source	Timing	Pattern	Notes
1	ADC VGA	1024*768	gray-3color	For VGA source
2	ADC HDTV	720P	gray-3color	For Component Video

Notes:

- a. Press “M” button and enter factory mode.
- b. Press “Menu” button and enter factory OSD menu.
- c. Select the item “Auto Color”.
- d. Press VOL+ button to auto color.

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e、Close the OSD menu after 5 seconds.

5.2.2 Factory Option

Item 0	Item 1	Note
White Balance	R DRV	Red Driver adjust
	G DRV	Green Driver adjust
	B DRV	Blue Driver adjust
	R CUT	Red Cut adjust
	G CUT	Green Cut adjust
	B CUT	Blue Cut adjust
Note: Before adjusting, please change to desired source. Different source has different WB values.		
Set Channel	Zhong Shi	Qingdao Jiangxi Road factory
	Huang Dao	Huangdao Industrial Park
	Gui Yang	Gui Yang Industrial Park
	Liao Ning	Liao Ning Industrial Park
	Hungary	Hisense Hungary
	Australia	Hisense Australia
	France	Hisense France
Auto Color	For VGA and Component Video sources, WB values must be adjusted	And at others signal sources, the "auto colour "does not work.
Color Temp		Standard\cool\warm
Color Temp	R Offset	
	G Offset	
	B Offset	
Video Curve	Brightness Min	Min Brightness
	Brightness Mid	Mid Brightness
	Brightness Max	Max Brightness
	Contrast Min	Min Contrast
	Contrast Mid	Mid Contrast
	Contrast Max	Max Contrast s
	Saturation Min	Min Saturation
	Saturation Mid	Mid Saturation
	Saturation Max	Max Saturation
Factory Option	To FAC	M-Can enter factory mode with factory RC or user RC. U-Can enter factory mode only with user's RC.
	Logo Option	Logo Selection
	OSD	

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MODE “M” is only used for factory production.		
Version Info		
	Version:	Current Software version
	Date:	The date of current version
Note: Software version info of the TV, readable only.		
Clean Protected		Clean data except WB data and Auto Color data
Clean All		Clean all data

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

To clear the EEPROM:

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

5.3 Designer Menu

Item 0	Item 1	Item 2	Note
Designer Menu	Picture Mode	SOURCE	The current program source
		VIVID Brightness	Brightness of VIVID mode
		VIVID Contrast	Contrast of VIVID mode
		VIVID Saturation	Saturation of VIVID mode
		STD Brightness	Brightness of STD mode
		STD Contrast	Contrast of STD mode
		STD Saturation	Saturation of STD mode
		MOVIE Brightness	Brightness of Movie mode
		MOVIE Contrast	Contrast of Movie mode
		MOVIE Saturation	Saturation of Movie mode
Sound Mode	Volume Curve	Volume Min	When value is 1 Think about the

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Audio out power

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			before adjusting
		Volume 25	When value is 25 Think about the Audio out power before adjusting
		Volume Mid	When value is 50 Think about the Audio out power before adjusting
		Volume 75	When value is 75 Think about the Audio out power before adjusting
		Volume Max	When value is 100 Think about the Audio out power before adjusting
	Audio Mode	Audio Mode	Standard 、 user 、 Music 、 Speech, Music
		120HZ	Different frequencies for different Audio Mode
		500HZ	
		1.5kHz	
		5kHz	
		10kHz	

The above “Factory/Service OSD Menu” are reference only, please refer to the actual units to determine the appearances.

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6 Software Upgrading

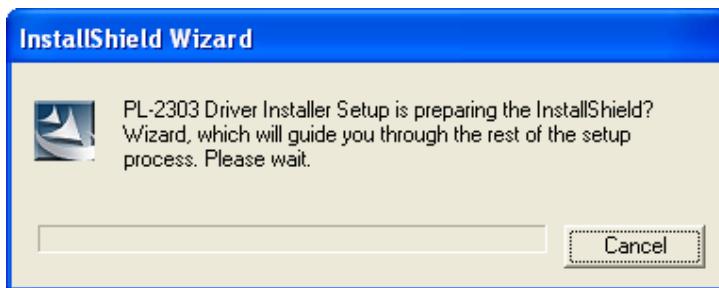
The first upgrading method:

The software is upgraded by a burning toll-MtkTool, which can burn the program file *.bin to the main board of the unit.

6.1 Get ready for upgrading

6.1.1 Install the driver

Double click the icon  MTKtools2.44.04+cp210xDriver.rar , install the driver.



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

6.1.2 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 RS232 port.

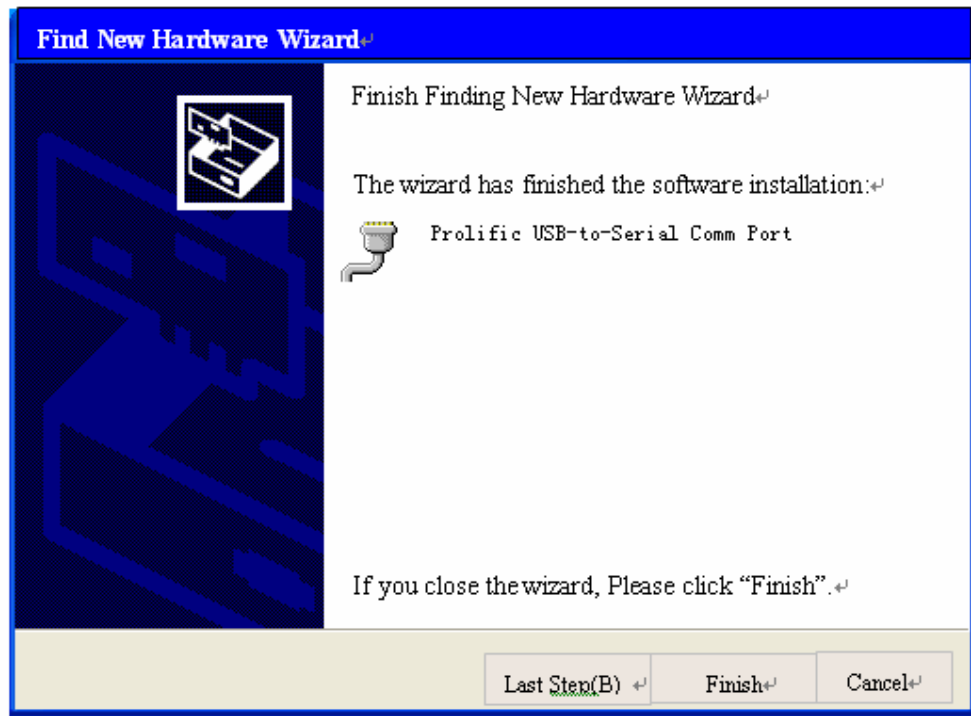
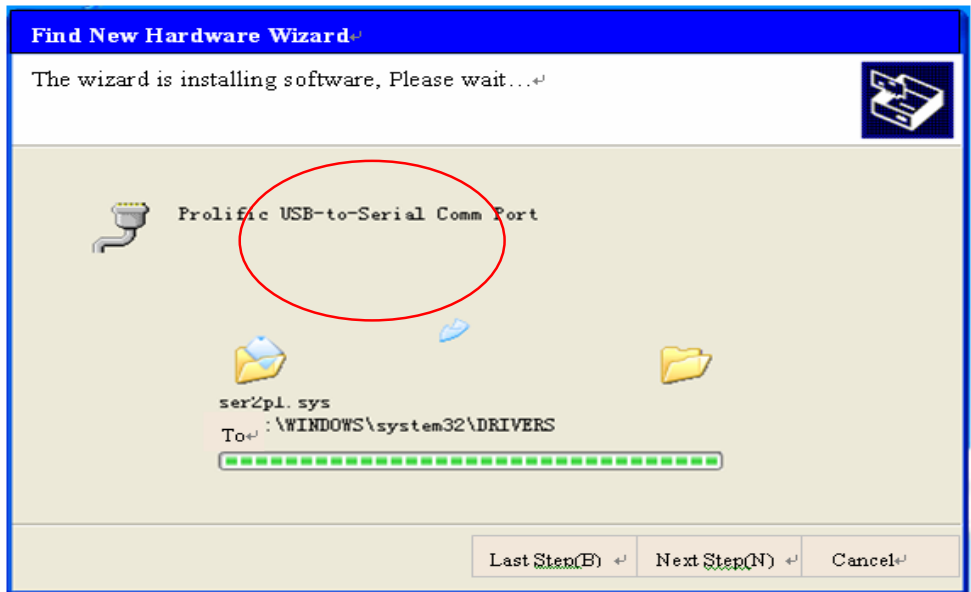


USB connector: to PC.

Serial connector: to TV's RS232 port.

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For the first connecting, the pc will recognize and automatically install the USB device. The process is just like the installation of a mini disk, see the following picture.



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6.2 Upgrading with the MtkTool

MTKtool is a green program needing no installation. It is saved in the folder



MTKTOOL_20061027

. There are five folders/files in this folder altogether.



MtkLog



flashinf.ini
配置设置
17 KB



MtkTool.exe

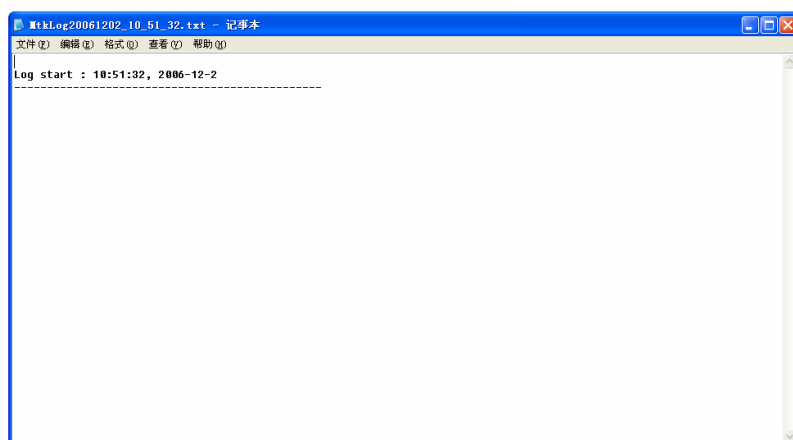


MtkTool.ini
配置设置
1 KB




Shortcut to
MtkTool.exe
快捷方式

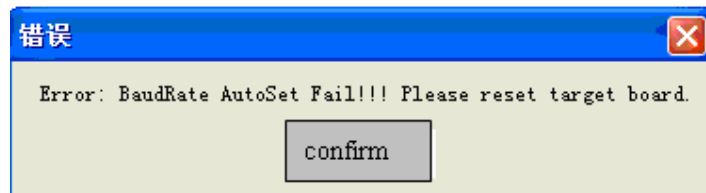
The MtkTool using log is restored in the MtkLog folder. It records the running time and date whenever the tool is used. The log will be a txt file named by the date and time.



MtkTool.exe

After connecting the TV with your PC, double click  icon, open the MtkTool.

If following error appears, it means the related port is not be set properly.



Ignore these errors, click “Confirm” and enter the MtkTool main interface, see the following picture.

Flash chip model

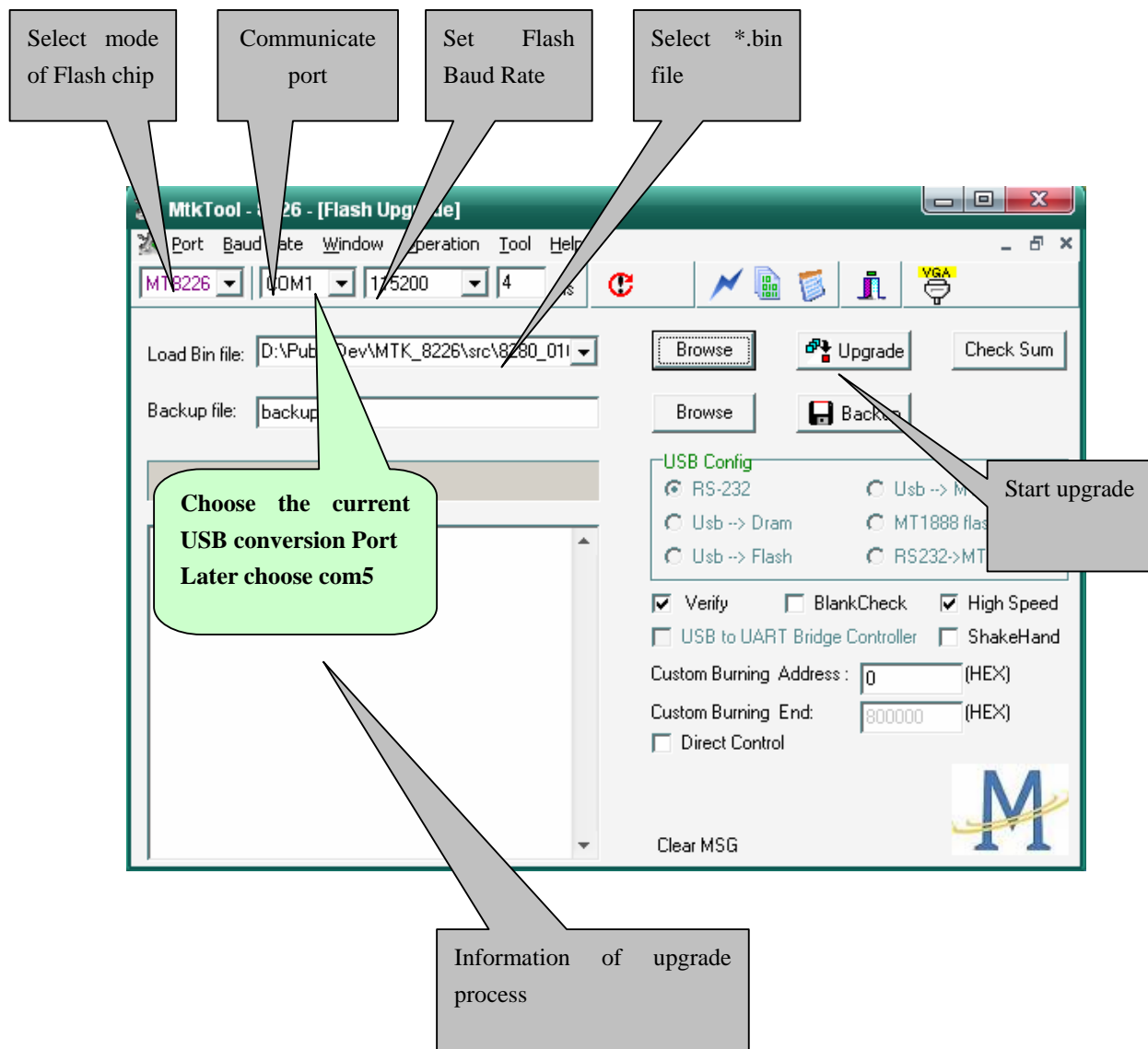
Please refer to follow steps to update the software:

1—Select mode of Flash chip to MT8226 as the below picture.

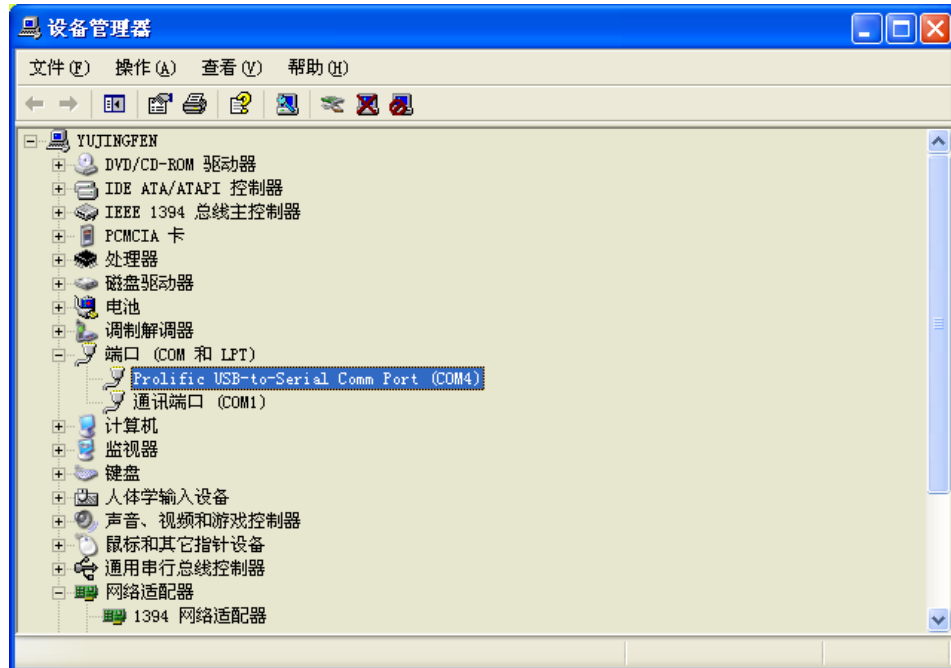
2—Refer to the next page instruction to select the communicate port.

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- 3—Press the icon beside the baud rate and make sure it is green as the below picture.
- 4—Set the flash baud rate to 115200 as the below picture.
- 5—Click the browse button to select the *.bin file that will be updated.
- 6—Click the “start” button to update software.



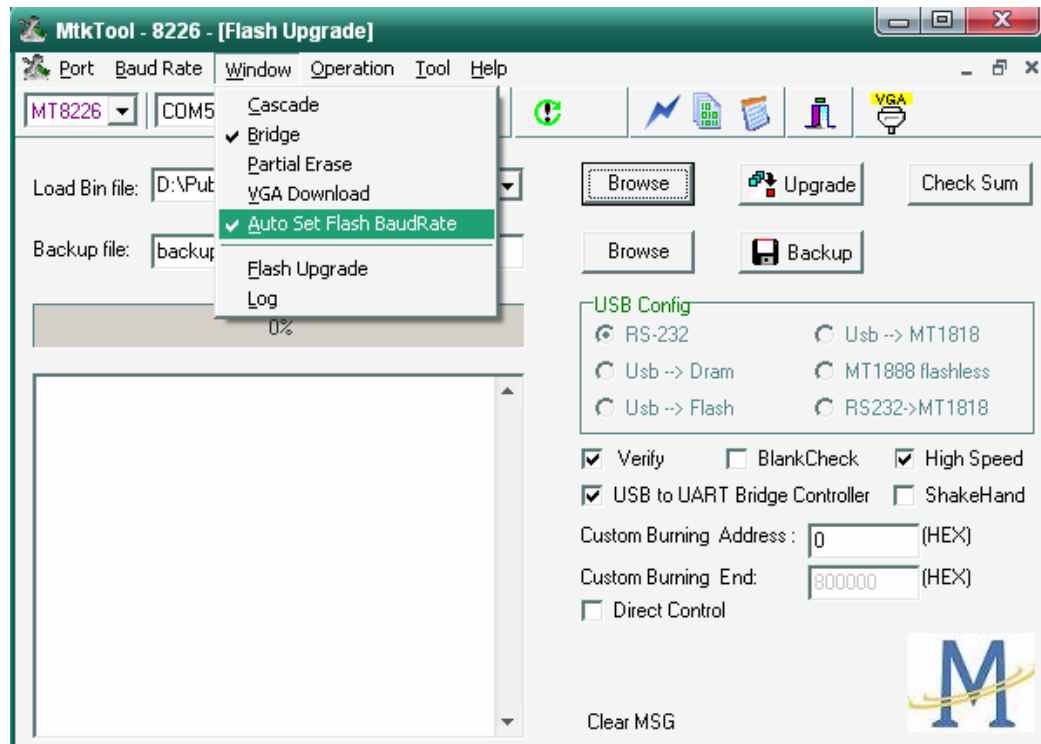
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Open “Device Manager” and find which port is connected with the TV. In this operation, COM5 is connected to the TV; so, select “COM5” in the MtkTool main interface. Select the right baud rate according to chip model. For this unit(chip model is MT8226), select 115200..So choose “Auto Set Flash BaudRate”

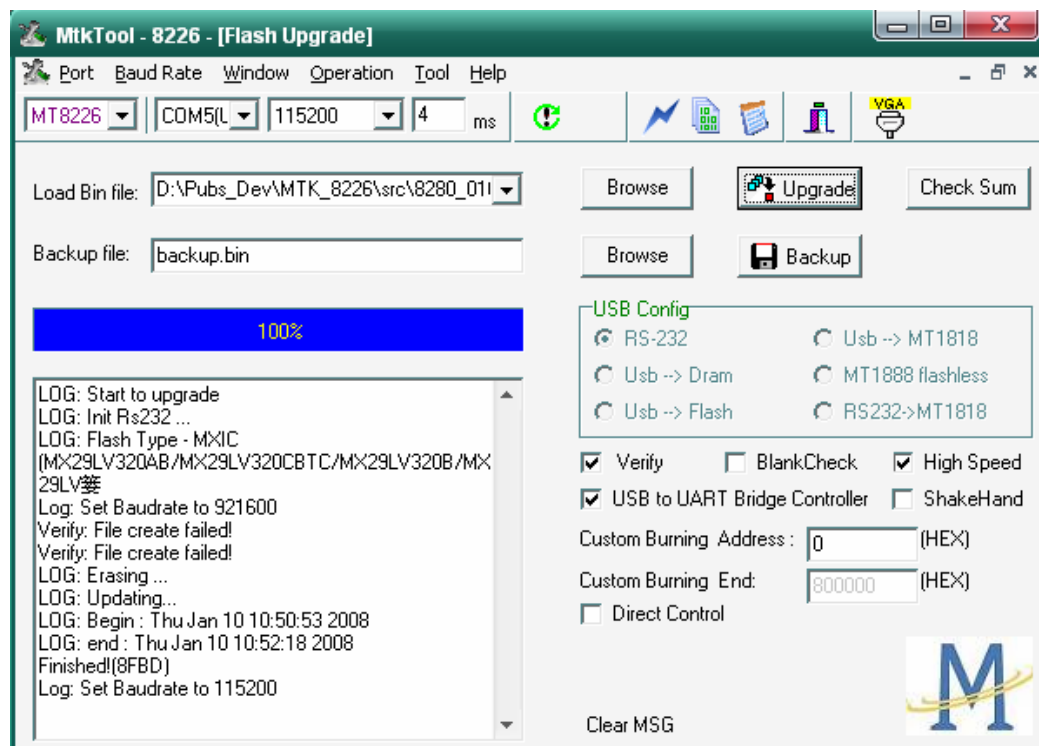
Note: Whether or not click the “Auto Set Flash Baud Rate” in the “window” menu depends on the chip type. If the flash chip does not support high speed transport, do not select this option; otherwise, reserve the selected mood.

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Click “Browse” button, find the upgrading program file, and select it. Press “Upgrade” button and start upgrading.

The following interface appears on the screen, indicating upgrading successfully.



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6.3 Update with USB directly

The second update method is with USB directly:

MTK8222 Series can update with USB, the software name should be **HISENSE.bin**.

The Updating Steps is set the Source to "DMP interface", insert the USB(the update file **HISENSE.bin**,which should be in root directory),The TV automatic identify the upgrading software. step by step according as the informations of the upgrading process.



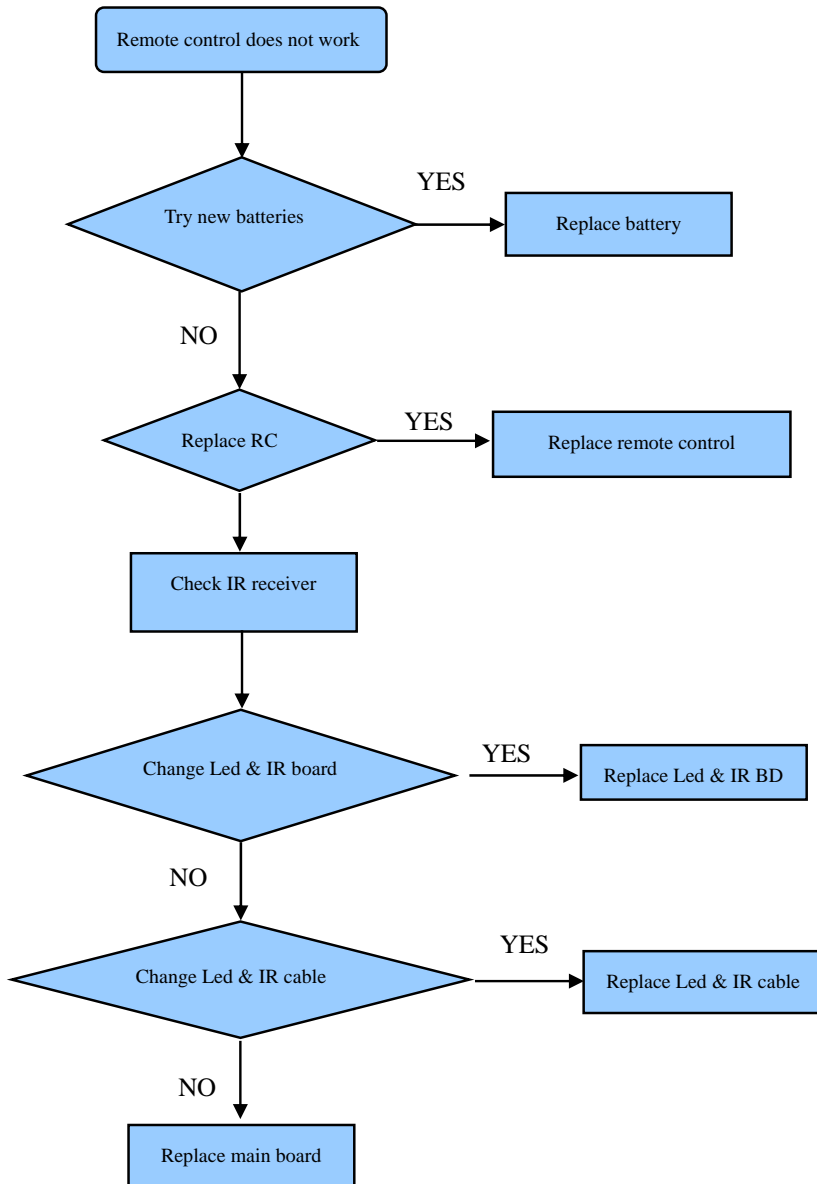
(USB to the Main board directly)



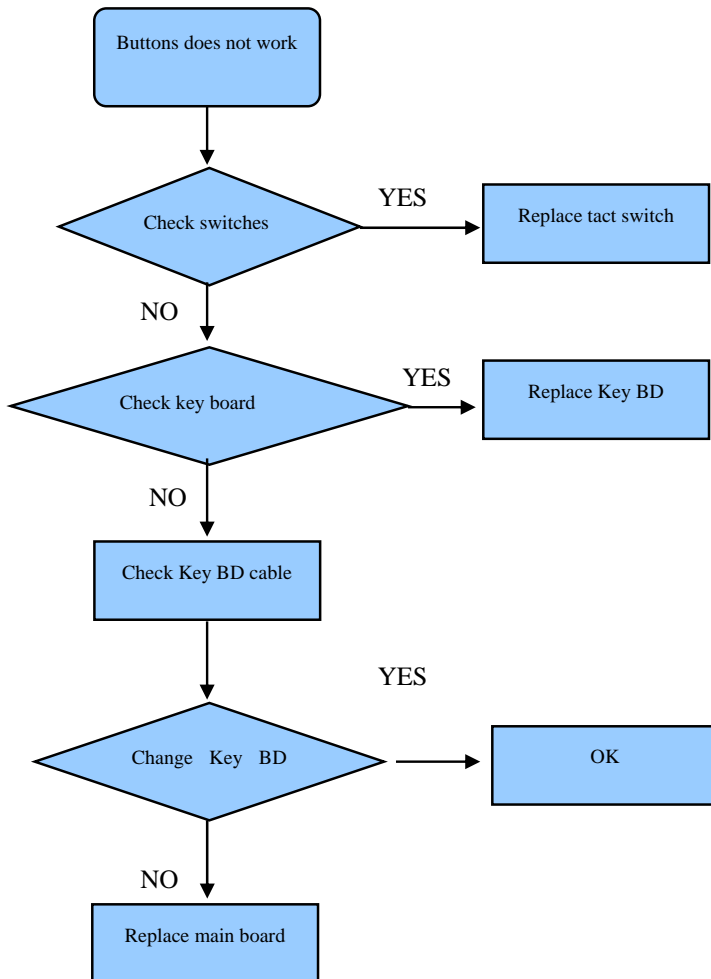
After upgrading, you must confirm the software in the Factory Menu and you'd better "CLEAR UNPROTECTLY".

7. Troubleshooting

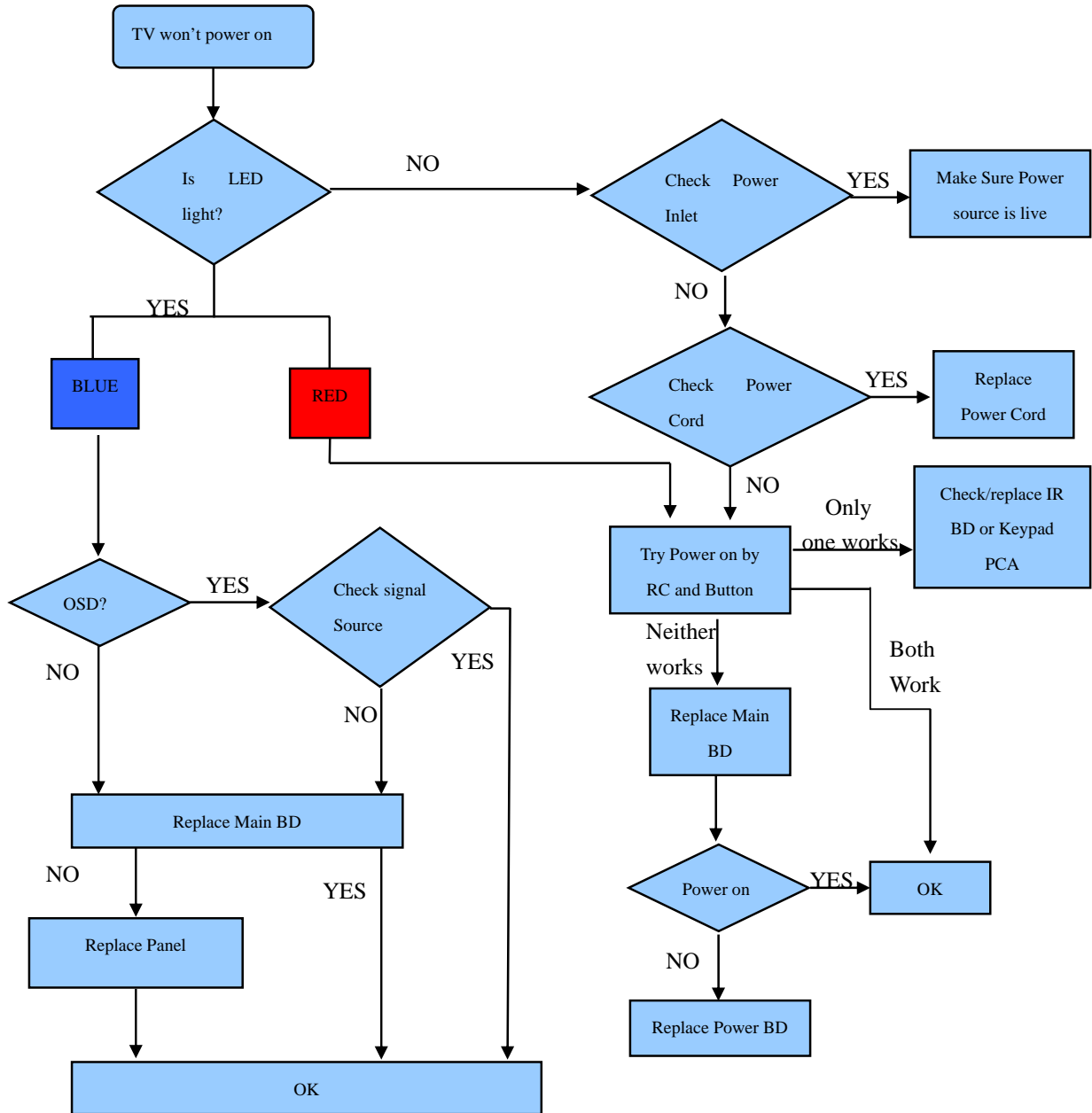
7.1 Troubleshooting for Remote Control



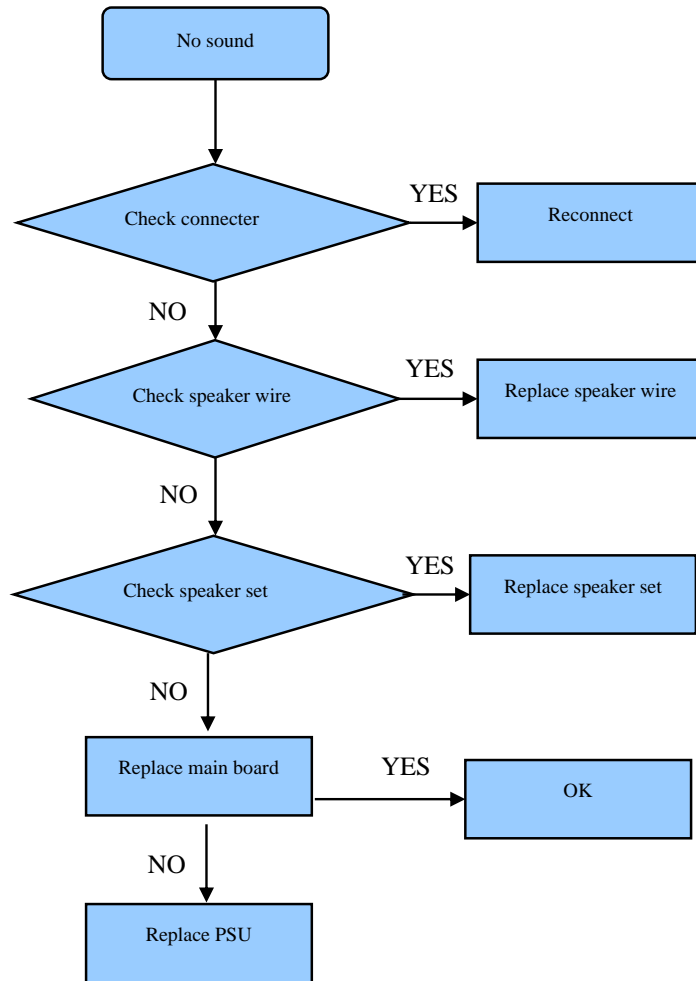
7.2 Troubleshooting for Function Key



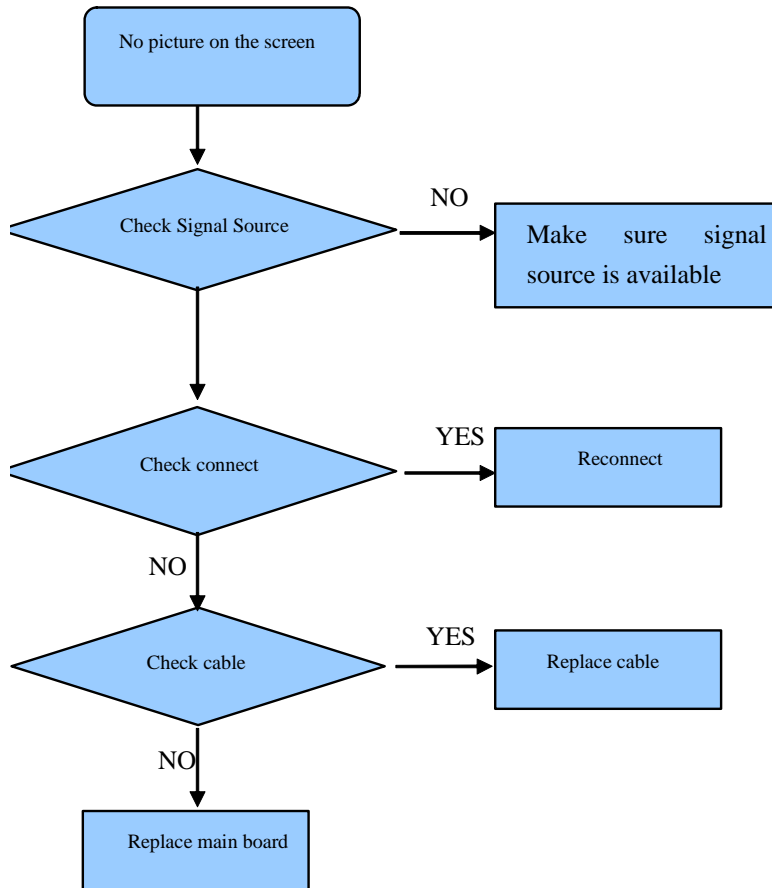
7.3 TV won't Power On



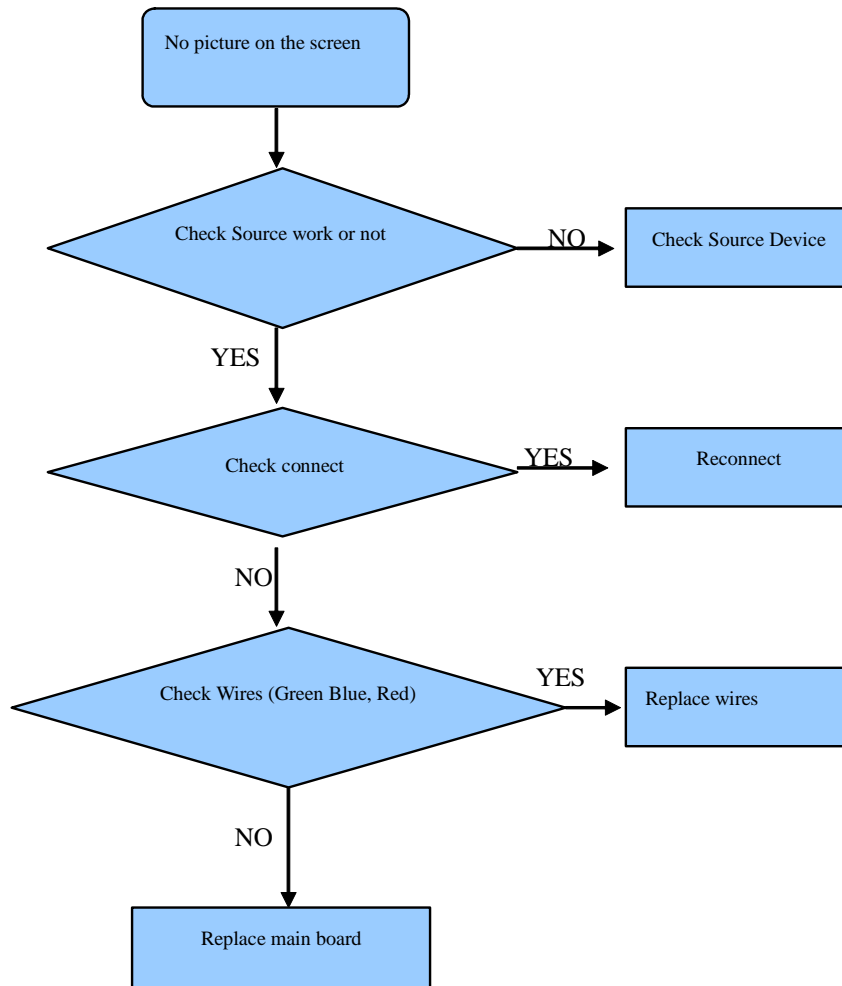
7.4 Troubleshooting for Audio



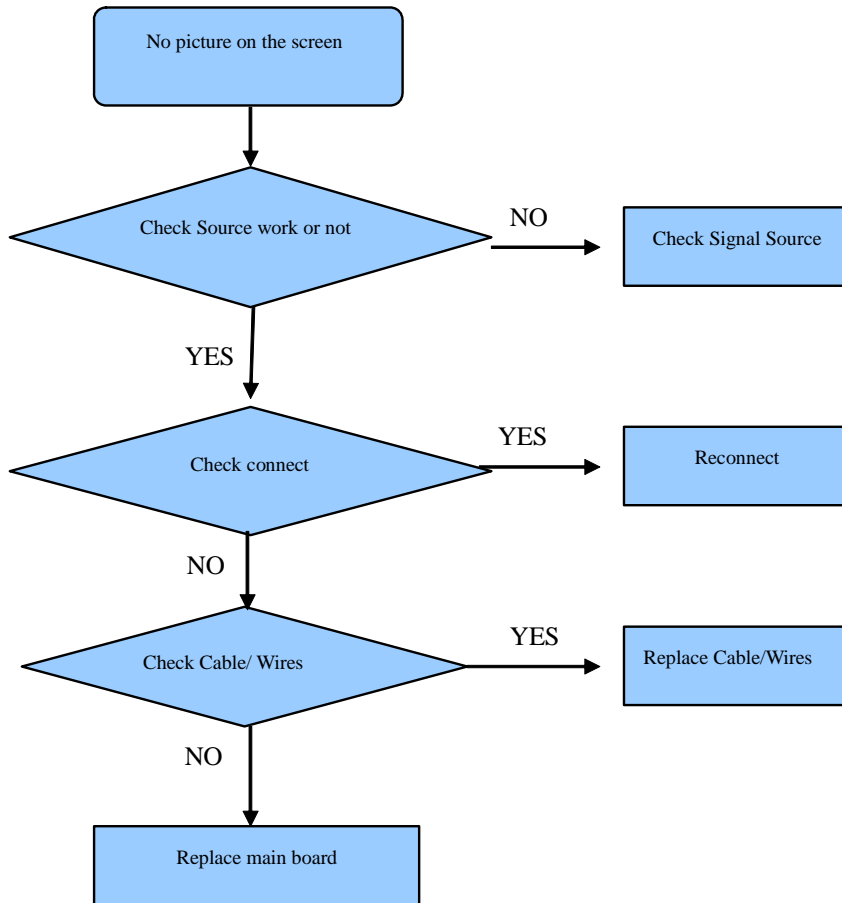
7.5 Troubleshooting for TV/VGA/HDMI input



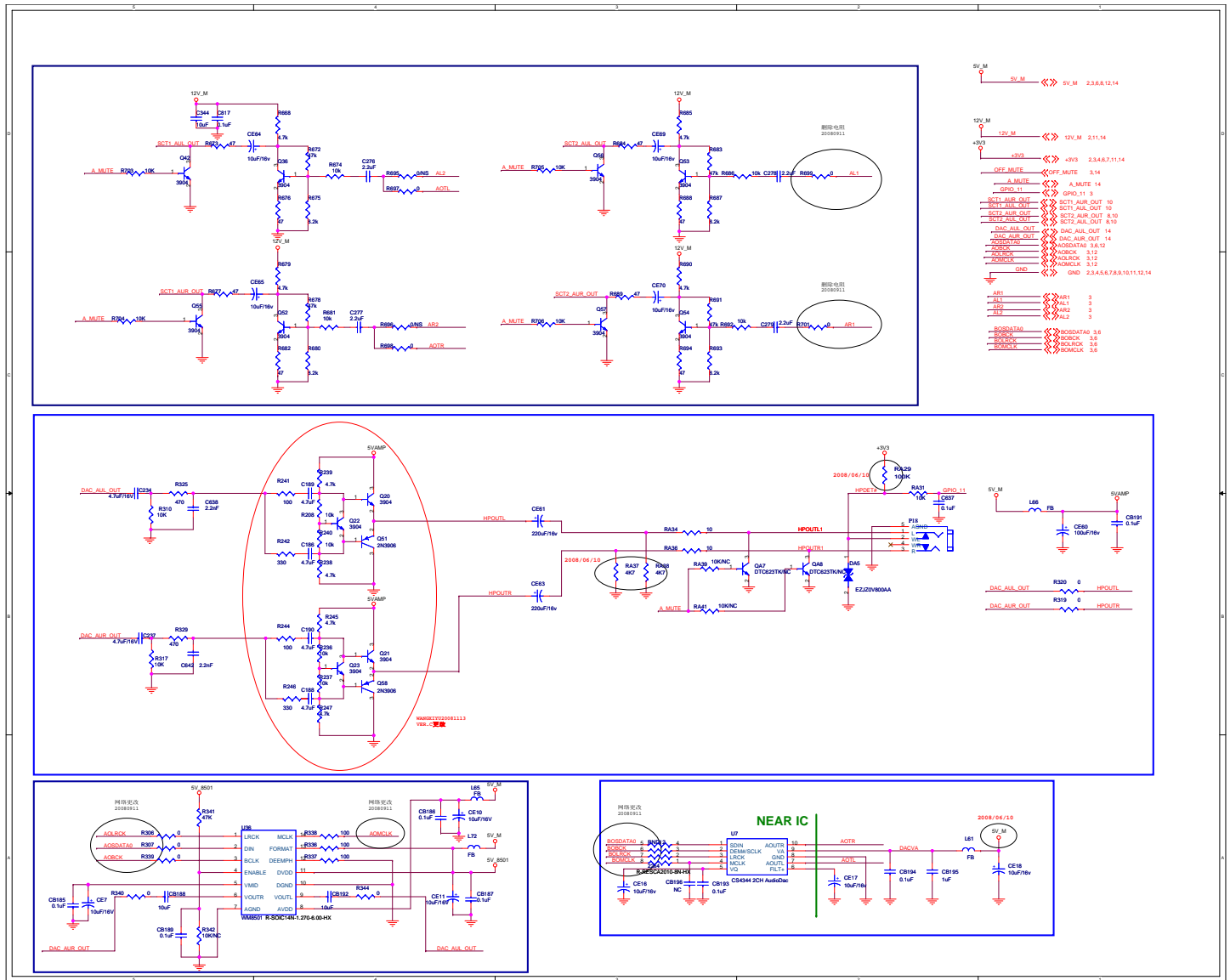
7.6 Troubleshooting for YPbPr input



7.7 Troubleshooting for Video/S-Video input



8. Schematic circuit diagram



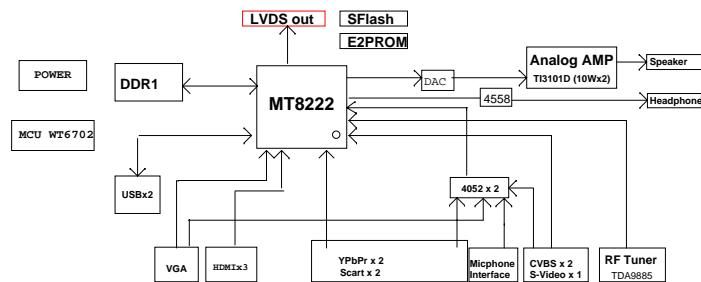


MT8222_P1V1 (DDR1) VERSION V1.0

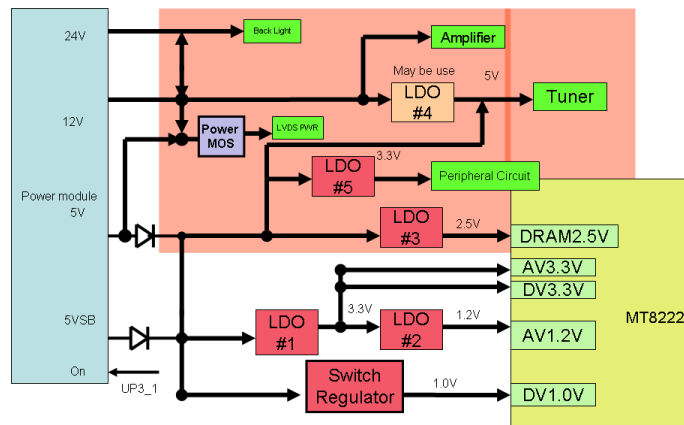
(DDR1 WITH TERMINATION)

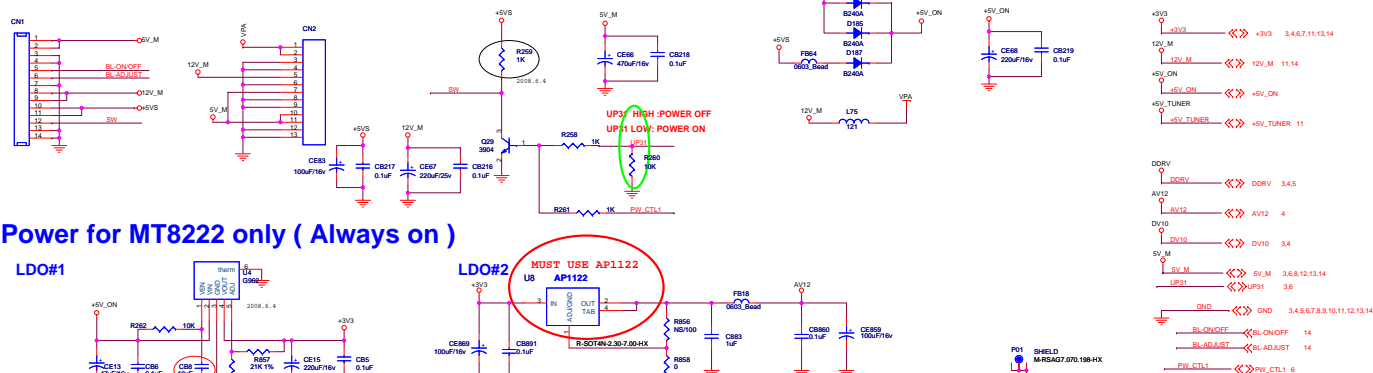
GPIO usage

GPIO	Definition	Function define
ADIN0	SCART FS	
ADIN1	SCART FS	
ADIN2	4052 SWITCH	
ADIN3	KEYPAD	
ADIN4	KEYPAD	
ADIN5	HDMI/VGA EDID E2PROM WP	High = WP disable
GPIO_20	Audio MUX	
GPIO_21	AMP MUTE CONTROL	High = Mute on
GPIO_22	GAME	
GPIO_23	GAME	
GPIO_24	GAME	
GPIO_25	GAME	
PWM0	DIMMING CONTROL	
PWM1	Power conversion to 33V	
PWM2	SYSTEM E2PROM WP	High = WP disable
PWM3	Audio MUX	
UP30	BL ON/OFF CONTROL	Low = Backlight on
UP31	NORMAL POWER ON/OFF	Low = Normal power on
UP33	HDMI 0 HPLUG DETECT	
UP34	HDMI 1 HPLUG DETECT	
UP35	HDMI 2 HPLUG DETECT	
GPIO_0	MICPHOTO RESERVE	
GPIO_1	LVDS RESERVED	
GPIO_2	FCI	
GPIO_3	FCI	
GPIO_4	LVDS POWER ON/OFF	Hi = LVDS power on
GPIO_5	AMP SD/FCI	
GPIO_6	SCART1 VIDEO OUTPUT SW/FCI	
GPIO_7	FCI	
GPIO_8	FCI	
GPIO_9	FCI	
GPIO_10	FCI	
GPIO_11	4052 SWITCH	Low = HP insert
INT	Audio MUX select bit 0	
SPDIFIN	LVDS RESERVED	
AOSDATA0	USB0 OC TAG	
AOLRCK	USB0 PWR ENABLE	
AOBCLK	USB1 PWR ENABLE	
AOMCLK	USB1 OC TAG	

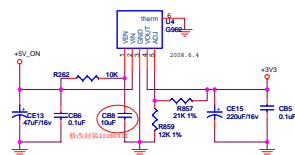


Power Distribution



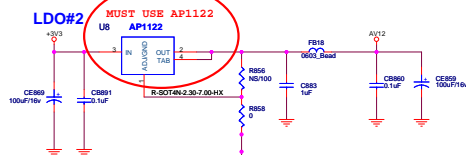


LDO#1



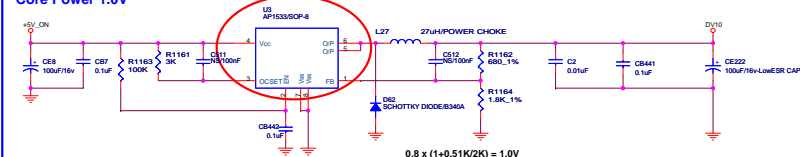
1.2 x (21K+12K)/12K= 3.3V
5V to 3.3V
Estimated Power consumed : ??? A

LDO#2 ✓



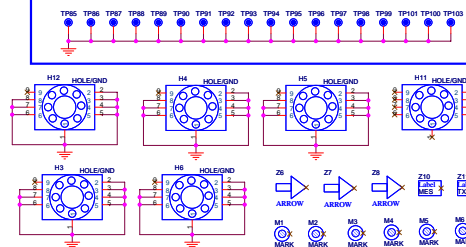
3.3V to 1.2V
Estimated Power consumed : ??? A

Switch Regulator MUST USE AP1533
Core Power 1.0V

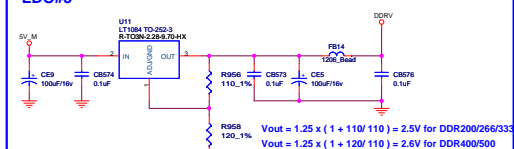


5V to 1.0V
Estimated Power consumed : ??? A

Test GND Pin
(Spread Around PCB)

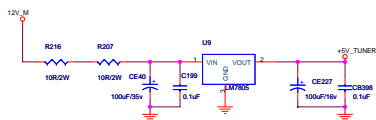


LDO#3



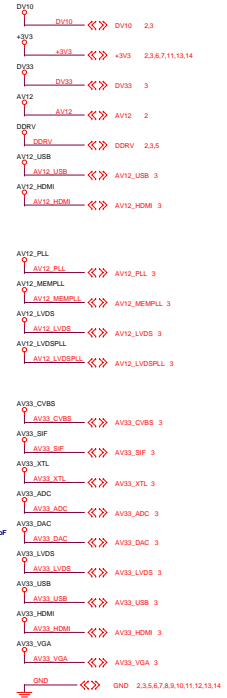
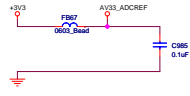
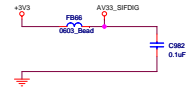
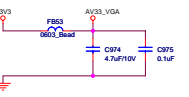
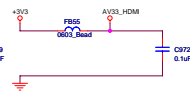
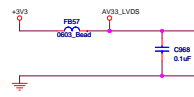
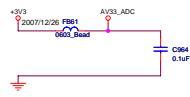
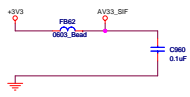
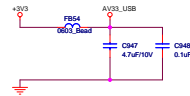
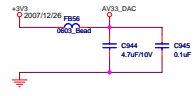
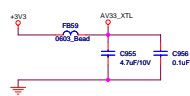
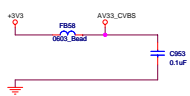
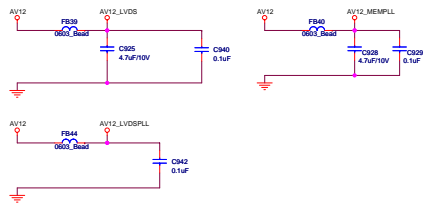
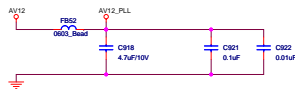
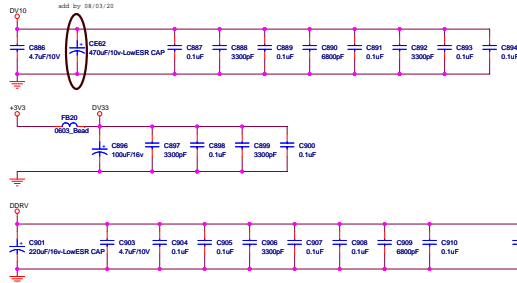
5V to DDRV
Estimated Power consumed : ??? A

If use sdram ,NC FB14
If use ddr ,NC FB14

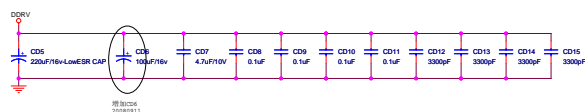


12V to 5V
For Tuner 5V power

(Bypass CAPs around MT8222)

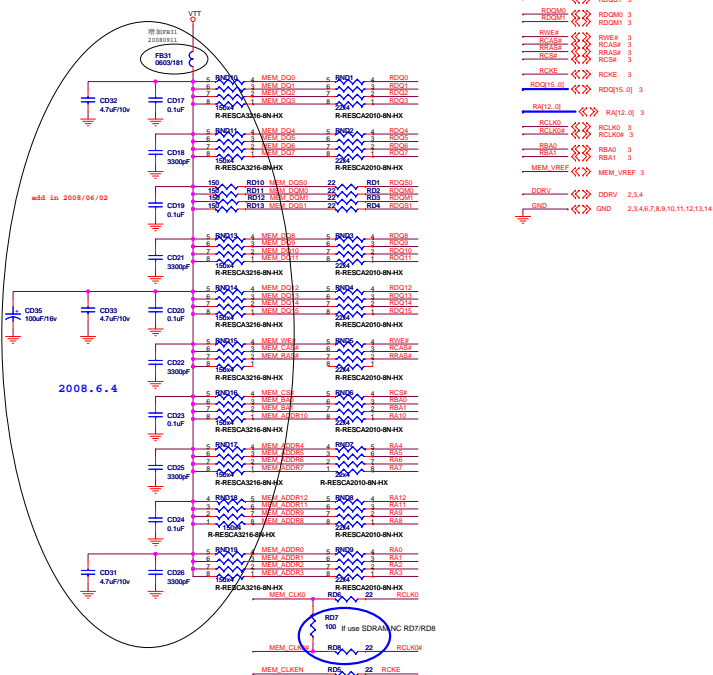
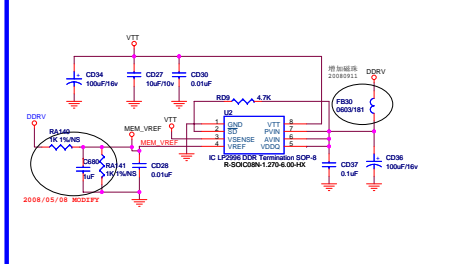


Pin diagram of the AD9144 10-bit DAC. The diagram shows connections for DQ0-DQ15, DQ16-DQ31, and DQ32-DQ47. The top row of pins (DQ0-DQ15) is connected to MEM_DQ0-MEM_DQ15. The middle row of pins (DQ16-DQ31) is connected to MEM_DQ16-MEM_DQ31. The bottom row of pins (DQ32-DQ47) is connected to MEM_DQ32-MEM_DQ47. Power supply pins (VDD, VSS, VREF) are also shown. The diagram includes labels for memory locations (MEM_DQ0 to MEM_DQ47), power supply pins (VDD, VSS, VREF), and control pins (DQ16, DQ17, DQ18, DQ19, DQ20, DQ21, DQ22, DQ23, DQ24, DQ25, DQ26, DQ27, DQ28, DQ29, DQ30, DQ31, DQ32, DQ33, DQ34, DQ35, DQ36, DQ37, DQ38, DQ39, DQ40, DQ41, DQ42, DQ43, DQ44, DQ45, DQ46, DQ47).



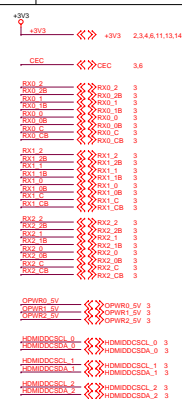
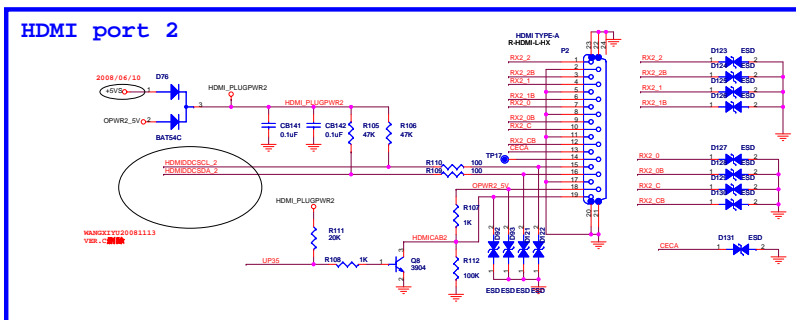
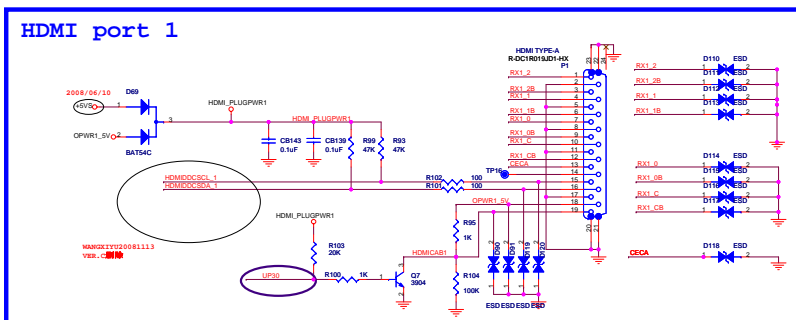
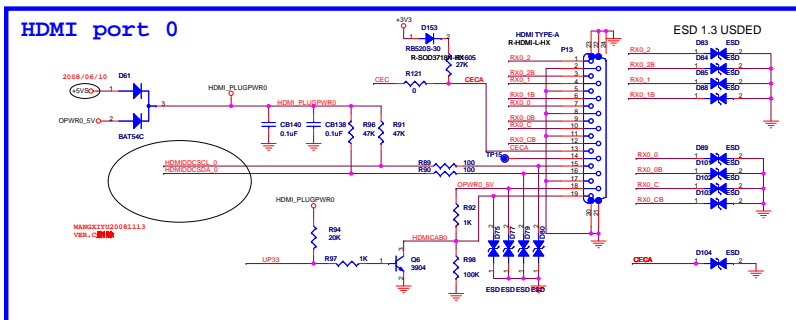
If use sdram CD34 CD26 CD27 RD9 CD28 CD29 CD30 UD2 NC

If use ddr CD34 CD26 CD27 RD9 CD28 CD29 CD30 UD2 ON



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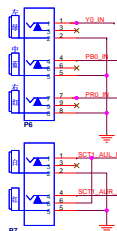
(HDMI Hot Plug Detect)



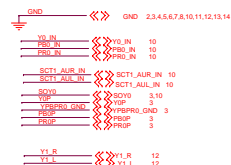
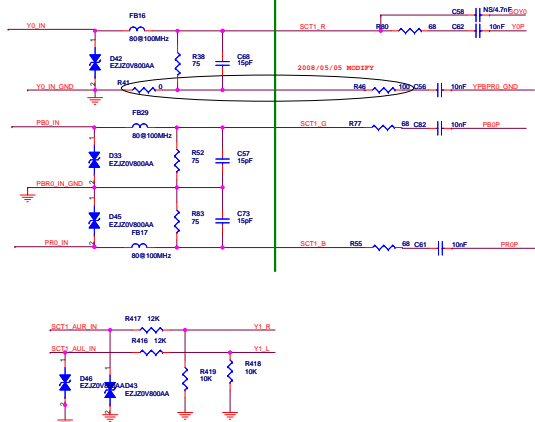
1. XSD供电更改
2. 各信号上XSD器件更改



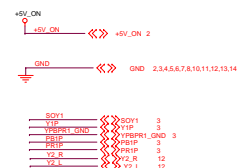
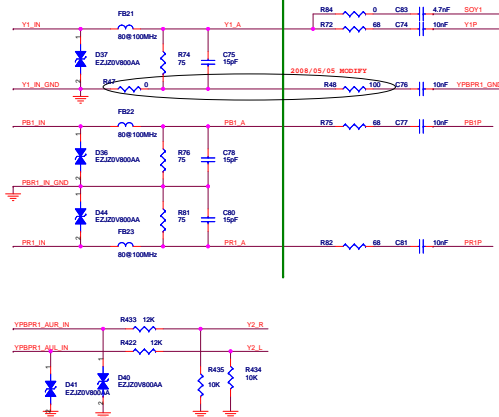
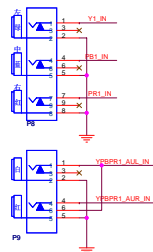
YPbPr0 port



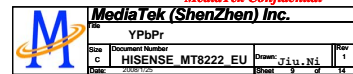
NEAR IC



NEAR IC



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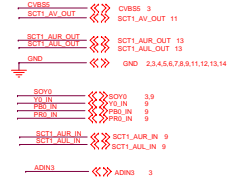
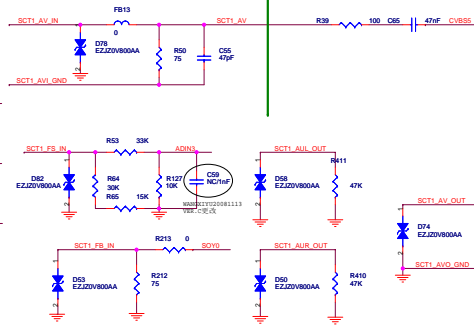
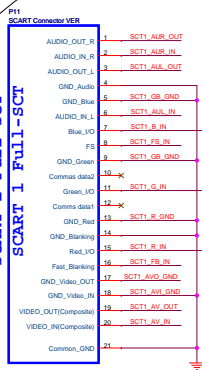


Only for EU, US not stuff

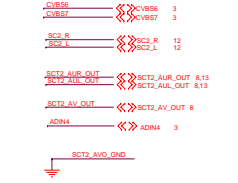
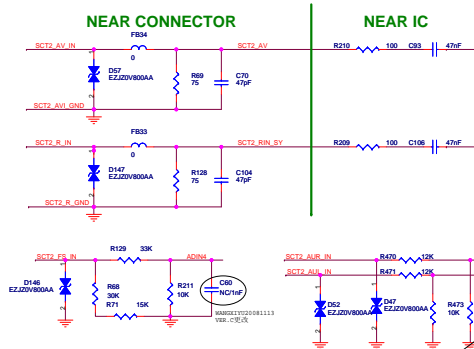
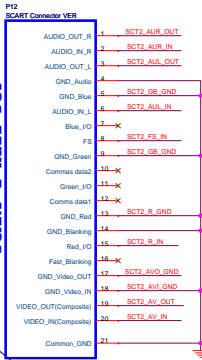
NEAR CONNECTOR

Near switch

SCART 1 Full-SCT



SCART 2 Half-SCT



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MediaTek (Shenzhen) Inc.

SCART1/2

Document Number

HI-SENSE MT8222 EU

Drawn: JIAU, WJ

Rev: 1





