


Service
Service
Service

24PFD4200/30



Service Manual

Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
Series name	24PFD4200/30
Platform/Chipset	T7C1-TSU69 3in1
Processor type (CPU) / GPU	
Picture/Display	
Backlight Type (Panel Supplier)	ELED
Diagonal Screen Size	23.6"
Perfect Motion Rate	1920×1080@60Hz
Panel Frequency (Native)	60Hz
Chasis Frequency	60Hz
Backlight Dimming	PWM
Scanning Segments (amount)	43--870MHZ
Panel Resolution	1920×1080
Aspect ratio	16:9
Brightness (Home Vivid Mode) cd/m²	Min:200cd/m2,Typ:230cd/m2
Panel contrast ratio	1000:1

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Viewing Angle - H (L+R)	176°
Viewing Angle - V	160°
Response Time (ms)	8ms
Analog + PWM dimming 是不是PWM调光	YES
2D/3D Logic (2D/3D Active/3D Passive) 主动被动3D	2D
Color Gamut	NTSC 65%
PQ engine	Digital Crystal Clear
PQ Resolution	N/A
Directional Super Resolution (on 2D & 3D)	N/A
Improved 3D Super Resolution	N/A
ISF Color Management	N/A
Digital Natural Motion (2D/3D)	N/A
Perfect Natural Motion (2D/3D)	N/A
2D to 3D Conversion	N/A
3D Depth adjustment (Auto/Offset)	N/A
Auto 3D Detection	N/A

Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
Micro Dimming Demo	N/A
Micro Dimming mode	N/A
Dual View (2 Player Full Screen Gaming/Video) 双屏	N/A
Supported Display Resolution (Computer Inputs)	720*400@70HZ 640*480@60HZ 800*600@60HZ 1024*768@60HZ 1360*768@60HZ 1600*900@60HZ 1920*1080@60HZ
Supported Display Resolution (Video Inputs)	480i, 480p,576i, 576p,720p,1080i,1080p(24/25/30/50/60Hz)
Brightness (Shop Vivid mode: 10%	YES(1% boost)
Pixel Plus Link (I/II/III)	N/A
Active Control	N/A
Local Contrast	N/A
"UHD Display" - logo (Industry)	N/A
"UHD Receiver" - logo (Industry) - pending std	N/A
HDMI 2.0 4:4:4 @ 60p	N/A

Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
10-bit color support	N/A
DAPO	N/A
Ambilight	
Ambilight Version	N/A
Pixels	N/A
Ambilight Performance (nit, no of colors, halo length)	N/A
Ambilight Features (<i>Wall colour adaptive, Lounge Light Mode, Ambilight Motion, Gaming Mode</i>)	N/A
Ambilight for 3D	N/A
Ambilight for all TV Events	N/A
Ambilight Open Source via JointSpaceApp	N/A
Wall Distance Adaptive (Stand vs	N/A
Motion Adaptive	N/A
Built-in AL + Hue	N/A
TV as Lamp(s) in Hue ecosystem	N/A
In screen demo in mobile shop app	N/A
Ambi Wakeup (ref HTV)	N/A
Ambimusic	N/A
Sound (TV)	
Sound (Internal)	
Output Power (10% THD) RMS	4W

Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
Speaker configuration	2W+2W
Speaker system	2.0
Speaker type	built-in(normal)
Auto Volume Levelier / Auto Volume Levelier +	YES
Sound Claim (Incredible Surround/Cinema Surround/Clear Sound/Ambiwoo/3D Movie/Incredible Surround 3D)	N/A
Bass (Bass control/DBE/Ultra Bass/Ultra Bass II)	N/A
Wireless Sound Interface	N/A
Dolby Digital DecoderType	N/A
DTS Studio Sound	N/A
DTS 2.0+ Digital out	N/A
Acoustic Compensation Filters 主板滤波补偿	N/A
Dynamic Treble Enhancement 动态高音增强	N/A
Programmable Bass And Treble Curve (可编程的低音和高音曲线) 用户	N/A

Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
Visible Sound	N/A
Sound (External)	
External Sound device type	N/A
Output Power (10% THD) RMS	N/A
Design Specs	
Stand type (Swivel/non Swivel) 底座类型	Metal Wing base
I/O port to be clearly indicated (列接口)	TV*1/USB*2/VGA*1/PC-AUDIO /HDMI*2/AV-IN*1/YPbPr*1 /Earphone*1
Local Keyboard 按键板	YES
Philips wordmark 商标logo	PHILIPS
Leading Edge 装饰件	#7
Vesa Wall Mount Compatible 壁挂孔	YES
POS label	
Connectivity (I/O)	
HDMI Number	*2
HDMI 1.4a	HDMI(Side-out)
HDMI 2.0	N/A
HDMI/DVI	YES

Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
HDMI ARC	YES(HDMI-2)
EasyLink (HDMI-CEC)	YES
Scart (EU) Connections	N/A
YPbPr/CVI (EU/Latam) Connections	*1
CVBS (EU/Latam) Connections	*1
Audio L/R in	*1
CI+ slots	N/A
Antenna	*1
Satellite (for K&S only)	N/A
USB	USB2.0
USB Harddisk Format (Power)	FAT/NTFS (500mA)
VGA	YES
VGA/DVI Audio Input	PC-AUDIO
Digital audio out (SPDIF)	N/A
Headphone	*1
Ethernet-LAN RJ-45	N/A
Service Connector	VGA connectabl e

Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
Wireless connections	N/A
Wi-Fi Band Concurrent	N/A
WoWLAN	N/A
WoLAN	N/A
Bluetooth for subwoofer/RC (do not claim commercially)	N/A
Multichannel over BT	N/A
HDCP v2.2 (on HDMI 2.0 port)	N/A
MHL (HDMI+power+return channel)	YES
Wi-fi Miracast Certified (HDCP 2.2 supported)	N/A
GoogleCast Receiver	N/A
Tablet Screen Mirroring (Wi-Fi	N/A
TAD AppFTA channels (free app)	N/A
TAD Server, FTA channel	N/A
Indep. Watching (TV&PVR), FTA&CI+	N/A
SAT>IP Client, FTA	N/A
HEVC @ FHD 60Hz	YES
HEVC @ UHD 60Hz	N/A
H264 @ UHD	N/A
VP9 @ UHD	N/A
UI & Interaction	
Ux (Basic: without Dashboard, Advanced: with Dashboard)	Basic
Animations 动画	N/A

Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
Drag and drop 拖动	N/A
Remote Control Version (state if include Keyboard/Pointer)	N/A
Sensor.accelerometer & sensor gyroscope	N/A
Easy access to eDFU (Blue key) 电子说明书	N/A
Text Entry (Basic : Text Entry via HID and/or On-screen Keyboard)	Basic
Multi-view 多屏显示	N/A
Multi-task 多任务	N/A
Screen Format Adjustments 比例列表	4: 3、16: 9, 12: 9, 14: 9
Dual Screen (TV and TeleText) 图文	N/A
Teletext	N/A
e-Sticker	N/A
Priority Channel List	N/A
Channel Cloning via USB	N/A
Logo Editor (Channel Editor)	N/A
Channel Matrix with EPG data	N/A
Channel Scanning (Australia/NZ)	N/A
Time Zone (Australia/NZ)	N/A

Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
PC Sorting	N/A
Intelligent Source List	N/A
On-screen Remote (via HDMI)	N/A
Cold boot to broadcast	N/A
Cold boot to online dashboard	N/A
Warm boot to broadcast	N/A
Warm boot to online dashboard	N/A
Zapping OSD with EPG data	N/A
Electronic Program Guide (IP & Broadcast)	YES
8 Days Electronic Program Guide	YES
Live Setting Assistant (include PQ level) 设置助手直播	N/A
Signal Strength Indication 信号强度指示	YES
Pause TV/USB recording (PVR) 刻录	N/A
Two simultaneous recordings in stdby	N/A
UI Languages	English, Malaysia, Indonesian, Thai, French, Portuguese
Memory Profile (DRAM)	128M
Menu Layout Update 菜单更新 换UI	N/A

Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
Wizards (Ease of Installation) 安装工具（类似螺丝刀）	N/A
Single Sign On (google a/c only)	N/A
Personalized Dashboard（定制化UI）	N/A
Face recognition 面部识别	N/A
Shopmode 2015	N/A
CloudTV app content in search and Dashboard (on TV)	N/A
Firmware Upgradeable 软件升级	YES
Multimedia Applications	

Product Specification Sheet

		24" FHD ELED Digital TV (24L33F-DMB)
Video Playback Formats 格式	视频	MPEG-2/MPEG-4 /H.264/H.265
Subtitles Formats Support		SRT、ASS
Music Playback Formats		MPEG-1,MPEG-2 （Layer I/II）,MP3, AAC-LC, HE-AAC
Picture Playback Formats		JPEG、BMP、PNG

Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
Smart TV	N/A
Software Platform	N/A
Android Home Page	N/A
Android OS	N/A
UI Resolution	N/A
Google Voice Search	N/A
Google Hangouts	N/A
Remote Control	N/A
Gesture	N/A
Pre-installed Google Apps (Google Search, Google Hangouts, Google Play Movies, Google Play Music, Youtube)	N/A
Basic Performance Profile	N/A
Google Play	N/A
Memory size to install apps	N/A
Extendable USB storage for App Down	N/A
Smart TV Experience	N/A
DLNA 1.5 - DMR, DMP	N/A
DLNA 1.5 - DMS	N/A
MultiRoom Client, FTA+Scrambled Non-Copy Protected & CI+	N/A
MultiRoom Server, FTA+Scrambled Non-Copy Protected & CI+	N/A

Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
PVR Auto Recording (IP-EPG)	N/A
API - access control	N/A
xTV Support	N/A
Rich User Interaction	N/A
Smart Home	N/A
4k photo support in Android apps	N/A
4k photo support in Picture apps	N/A
4k photo support in USB/DLNA	N/A
UHD content playback from all sources (USB,DLNA,web)	N/A
NextFlix UHD	N/A
Youtube UHD	N/A
Google Play UHD	N/A
Smart TV with Broadcast PIP; single video	N/A
SMART TV offline content (cached)	N/A
MPEG-DASH (CENC & CFF)	N/A
HLS	N/A
Wake up from APP	N/A
Preinstalled Apps	N/A

Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
Netflix *	N/A
YouTube Leanback (HTML5) *	N/A
Spotify *	N/A
BBC iPlayer *	N/A
Skype	N/A
Skype Cowatch (mix audio)	N/A
Cloud Explorer	N/A
Cloud TV	N/A
Smart TV Services	N/A
Social Apps	N/A
Game Dashboard in Google launcher	N/A
OpenGL Games	N/A
Playstation Now App	N/A
OnLive App	N/A
STA 3.0 & 4.0 Clients	N/A
STA shared App store	N/A
Camera & Mic API	N/A
TV as an app (Verimatrix, etc)	N/A

Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
Companion Apps	N/A
Philips TV Remote App	N/A
Sharing in Remote App	N/A
Ambilight TV App	N/A
Ambilight+Hue App	N/A
User Manual App	N/A
Channel Editor - PC Client App	N/A
Mobile app for in-shop (cover MRA/Demo Me/Shop RC functions)	N/A
Proximity based shop app activation (BTLE/NFC/QR tbc)	N/A
MyRemote App (Old TV Remote App)	N/A
Ambilight Lounge App	N/A
Broadcast/Certification	
DVB-T/C	N/A
DVB-S/S2	N/A
DVB-T/T2	N/A
DVB-C2	N/A
SBTVD-T (Brazil)	N/A
SATVD-T (Argentina)	N/A
Analog (LATAM/APMEA)	YES

Product Specification Sheet

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Nicam (APMEA)	N/A
Enhanced SSU	N/A
Italy HD Book 2.1.1 (GOLD)	N/A
HD-Book Italy 3.0 (HEVC@FHD)	N/A
UK D Book 7a	N/A
Freeview SD (UK)	N/A
Freeview HD (UK)	N/A
MHEG 5(只有HbbTV有)	N/A
TiVuON (IT)	N/A
TNT HD (FR)	N/A
Argentina Ginga - NCL	N/A
Brazil Ginga (A/B)	N/A
Video Playback	N/A
Dual Cam (CI+)	N/A
Dual Tuner	N/A
CI+ 1.4 Multistream CAM	N/A
CI+ 1.3 CAM	N/A
HBBTV 1.5	N/A
HBBTV 2.0	N/A
MHP	N/A
Ziggo Interactief	N/A

Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
3D DVB Phase 1	N/A
3D signaling bits in broadcast	N/A
Background update installation	N/A
Marlin/ Play ready	N/A
Sustainability/Power	
PVC / BFR Free 无卤	N/A
Mercury Free 无汞	N/A
Cabinet Resin 面框材质	ABS
Eco-Flower Certified 环保认证	N/A
ECO Mode 节能模式	N/A
Mains Power	AC 100-240V 50/60Hz
Standby Power	≤0.5W
Quick Startup 快速启动	NA
Network Standby mode (max 6W)	NA
Off Mode Power	≤0.5W
Auto Switch-Off Timer 休眠时间	YES
Green packaging (Non-EPS) 绿色包装	YES
Light Sensor 光感应器	NA
Picture Mute (For Radio) 单独听	N/A

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	24" FHD ELED Digital TV (24L33F-DMB)
EU Energy Label (A++/A+/A/B) - Requirement	NA
non-EU Energy Label - Standby Label (A/B/C)	NA
Blauer Engel (Germany)	NA
Accessory	
By-packed accessories	
Active Glasses (509)	N/A
Active Glasses (529)	N/A
Passive Glasses (PTA417)	N/A
Dual Gaming Glasses	N/A
Woofer (e.g. SWB50) with Soundbeam	N/A
Sound Bar	N/A
Detachable speaker base 可拆卸喇叭	N/A
Wireless audio adaptor	N/A
Wi-Fi Adapter (DTA01/00/DTA127/55)	N/A
Skype Camera (PTA317)	N/A
Table Stand 底座	YES

Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
Accessory Bag	YES
Mains Cord (EU/UK/Brazil/APMEA) 电源线	YES
Remote Control + 2x Philips Batteries	YES
Printed QSG	YES
Printed DFU (APMEA)	YES
Safety Legal Leaflet (EU) - 3D Health Advise and Ukraine requirement (安全提示卡)	N/A
Philips Warranty Leaflet 保修卡	YES
Optional accessories	
Active Glasses (PTA509/529)	N/A
Passive Glasses (PTA419)	N/A
Dual Gaming Glasses (PTA436)	N/A
Wi-Fi Adapter	N/A
Skype Camera (PTA317)	N/A
Table Top Stand	N/A
Speaker stand	N/A
Others	N/A
Certification	
Dolby Digital/Dolby Digital Plus/Dolby Pulse	Dolby Digital
DTS 2.0+ Digital out	N/A
DTS Premium Sound	N/A

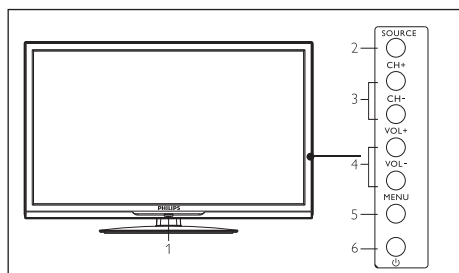
Product Specification Sheet

	24" FHD ELED Digital TV (24L33F-DMB)
DivX	N/A
WMA	YES
Wi-Fi	N/A
DLNA Certified (DMR/DMP/DMS)	N/A
SKYPE	N/A
HDMI	YES
MHL	YES
Dimensions(WxHxD)	
Unit with stand	561x373x156mm
Unit without stand	561x345x42mm
Carton	625x480x100mm
Wall-mount	100mm×100mm
Weight	
Product without Stand	3.6 kg
Product with Stand	3.8 kg
Product in Packaging	5.0 kg

3 Your TV

Congratulations on your purchase, and welcome to Philips! To fully benefit from the support that Philips offers, register your TV at www.philips.com/welcome.

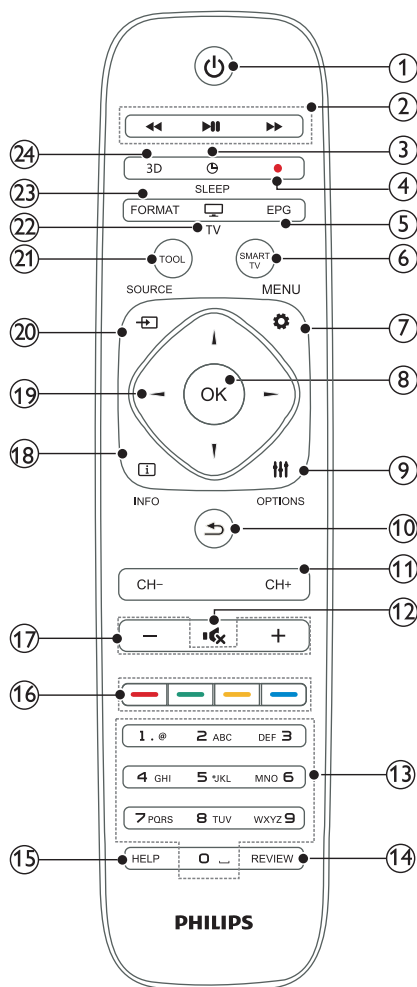
Control Panel



1. Indicator/Remote Control Sensor
2. Source : display the list of signal sources.
3. CH+/- : switch to the previous/next channel.
4. Vol +/- : increase/reduce the volume.
5. Menu : turn on/off the main menu.
6. : turn on/off the TV; to cut off power supply, please unplug the power cable.

Remote Control

English



- ① Standby/Power on
 - Switches the TV to standby if it is on.
 - Powers on the TV if it is in standby.
- ②

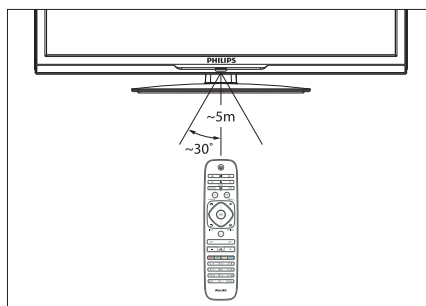
Shortcut keys in USB mode:
Rewind, start/pause, Fast Forward.
- ③ Sleep

Switch the TV to the standby mode when the preset time is out.

- ④ **● Red point**
Record programme key.
- ⑤ **EPG**
Gives instant access to TV program guide
- ⑥ **SMART TV**
This key is ineffective
- ⑦ **⚙ Menu**
Turn on /off the menu.
- ⑧ **OK**
- In menu mode: confirm the input or selection
 - In USB mode: play/pause.
- ⑨ **OPTIONS**
Access the options related to the current activity.
- ⑩ **↶ Return**
Return to the previous channel.
- ⑪ **CH +/-**
Switch to the previous/next channel in TV mode.
- ⑫ **🔇 Mute**
Mute or unmute the sound.
- ⑬ **Numeric keys (0~9)**
Select a channel or value.
- ⑭ **REVIEW**
This key is ineffective
- ⑮ **HELP**
This key is ineffective
- ⑯ **Color buttons**
Provides multiple special functions.
- ⑰ **Volume +/-**
Increase/reduce the volume.
- ⑱ **ℹ Info.**
Display the program information when available.
- ⑲ **▲▼◀▶ Navigation keys**
- In menu mode: navigate the menu.
 - In USB mode: press ◀▶ to search forward or backward while playing music or video files.
- ⑳ **📺 Source**
Select an input source for the TV.
- ㉑ **TOOL**
Open/Close toolbar
- ㉒ **📺 TV**
Switch to TV function
- ㉓ **FORMAT**
Select the aspect ratio of image.
- ㉔ **3D**
This key is ineffective

Remote control usage

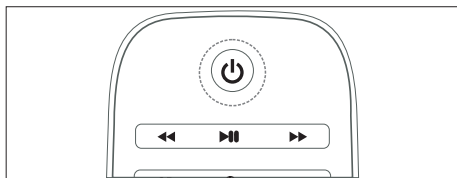
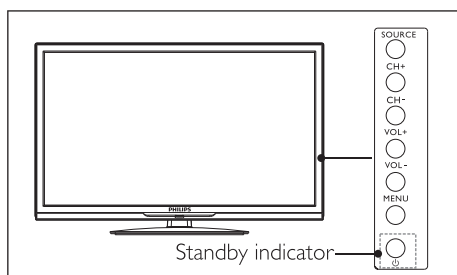
When you use the remote control, hold it close to the TV and point it at the remote control sensor. Make sure that the line-of-sight between the remote control and TV is not blocked by furniture, walls or other objects.




4 Use your TV

This section helps you perform basic TV operations.


Switch TV on or off



To switch on

- Plug in the power plug.
 - » If the standby indicator is lights up, press  (Standby-On) on the remote control.

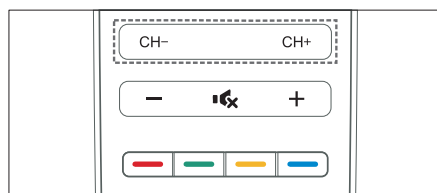
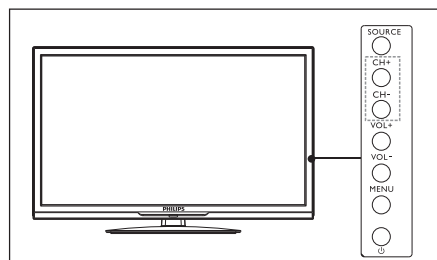
To switch to standby


- Press  (Standby-On) on the remote control.
 - » The standby indicator switches to lights up.

Tip

- Though your TV consumes very little power when in standby mode, energy continues to be consumed. When not in use for an extended period of time, disconnect the TV power cable from the power outlet.

Switch channels



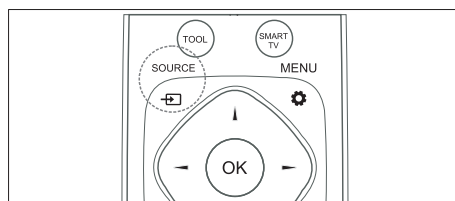
- Press **CH +/-** on the remote control or the lower right part of the TV.
- Enter a channel number using the numeric buttons on the remote control.
- Press  on the remote control to switch and return to the previous channel.

Watch connected devices

Note

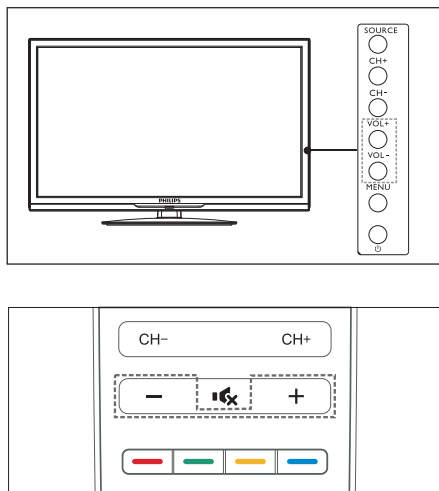
- Switch on the device before selecting it as an external signal source.

Use the Source button



- 1 Press **SOURCE**.
» The source list appears.
- 2 Press **▲▼** to select a device.
- 3 Press **OK** to select.
» The TV switches to the selected device.

Adjust TV volume



To increase or decrease volume

- Press **VOL +/-** at the lower right part of the TV or the **Volume Control +/-** on the remote control.

To mute or unmute sound

- Press **Mute** (speaker icon with a slash).
- Press **Mute** again to restore the sound.

5 Product information

Product information is subject to change without notice. For detailed product information, please visit www.philips.com/support.

Display resolutions

Computer Formats

- Resolution - refresh rate:
 - 640 × 480 - 60Hz
 - 800 × 600 - 60Hz
 - 1024 × 768 - 60Hz
 - 1360 × 768 - 60Hz
 - 1920 × 1080 - 60Hz

Video Formats

- Resolution - refresh rate:
 - 480i - 60Hz
 - 480p - 60Hz
 - 576i - 50Hz
 - 576p - 50Hz
 - 720p - 50Hz, 60Hz
 - 1080i - 50Hz, 60Hz
 - 1080p - 50Hz, 60Hz

Multimedia

- Supported storage device: USB (only FAT or FAT 32 USB storage devices are supported.)
- Compatible multimedia file formats:
 - Image: JPEG
 - Audio: MP3
 - Video: MPEG 2/MPEG 4, H.264

Sound power

- 24" : 2W x 2

Inherent resolution

- 24" : 1920 x 1080

Tuner / Reception / Transmission

- Aerial input: 75ohm coaxial (IEC75)
- Supported Systems:
 - ATV : PAL+NTSC
 - DTV : DTMB

Remote Control

- Batteries: 2 x AAA

Power Supply

- Main Power Supply: 100-240V~, 50/60Hz
- Standby Energy Consumption : $\leq 0.5W$
- Environment Temperature: 5- 40 °C
- Power consumption: 24" : 30W

Supported TV mounts

To mount the TV, please purchase a Philips TV mount or any TV mount compliant with the VESA standard. To prevent damage to cables and connectors, be sure to leave a clearance gap of at least 2.2 inches or 5.5cm between the back of the TV to the wall.



Warning

- Please follow all instructions provided with the TV mount. TP Vision Europe B.V. bears no responsibility for improper TV mounting that results in accident, injury or damage.

Model No.	Required Pixel Pitch (mm)	Required Mounting Screws
24"	100 x 100	4 x M4

6 Troubleshooting

This section covers common problems and their accompanying solutions.

General issues

The TV cannot be switched on:

- Disconnect the power cable from the power outlet. Wait for one minute before reconnecting it.
- Check that the power cable is securely connected.

The remote control is not working properly:

- Check that the remote control batteries are correctly inserted according to the +/- orientation.
- Replace the remote control batteries if they are flat or weak.
- Clean the remote control and TV sensor lens.

The TV menu is in the wrong language.

- Change the TV menu to your preferred language.

When turning the TV On/Off or to Standby, you hear a creaking sound from the TV chassis:

- No action is required. The creaking sound comes from the normal expansion and contraction of the TV as it cools down and warms up. This does not impact its performance.

Channel issues

Previously installed channels do not appear in the channel list:

- Check that the correct channel list is selected.

Picture issues

The TV is on, but there is no picture:

- Check that the antenna is properly connected to the TV.
- Check that the correct device is selected as the TV source.

There is sound but no picture:

- Check that the picture settings are correctly set.

Poor TV reception from the antenna connection:

- Check that the antenna is properly connected to the TV.
- Loudspeakers, unearthed audio devices, neon lights, high buildings and other large objects can influence reception quality. If possible, try to improve the reception quality by changing the antenna direction or moving devices away from the TV.
- If the reception on one particular channel is poor, please fine tune this channel.

There is poor picture quality from connected devices:

- Check that the devices are connected properly.
- Check that the picture settings are correctly set.

The picture does not fit the screen; it is too big or too small:

- Try using a different picture format.

The picture position is incorrect:

- Picture signals from some devices may not fit the screen correctly. Please check the signal output of the device.

Sound issues

The pictures are showing but sound quality is poor:

- Check that all cables are properly connected.
- Check that the volume is not set to 0.
- Check that the sound is not muted.
- Check that the sound settings are correctly set.

The pictures are showing but sound comes from one speaker only:

- Verify that sound balance is set to the centre.

HDMI connection issues

There are problems with HDMI devices:

- Please note that HDCP (High-bandwidth Digital Content Protection) support can delay the time taken for a TV to display content from a HDMI device.
- If the TV does not recognise the HDMI device and no picture is displayed, please try switching the signal source to another device before switching it back again.
- If there are intermittent sound disruptions, please check that output settings from the HDMI device are correct.

Computer connection issues

The computer display on the TV is not stable:

- Check that your PC uses the supported resolution and refresh rate.
- Set the TV picture format to unscaled.

Contact us

If you cannot resolve your problem, please refer to the FAQs for this model at www.philips.com/support.

If the problem remains unresolved, please contact your local Philips Customer Service Centre.



Warning

- Do not attempt to repair the TV yourself. This may cause severe injury, irreparable damage to your TV or void your warranty.

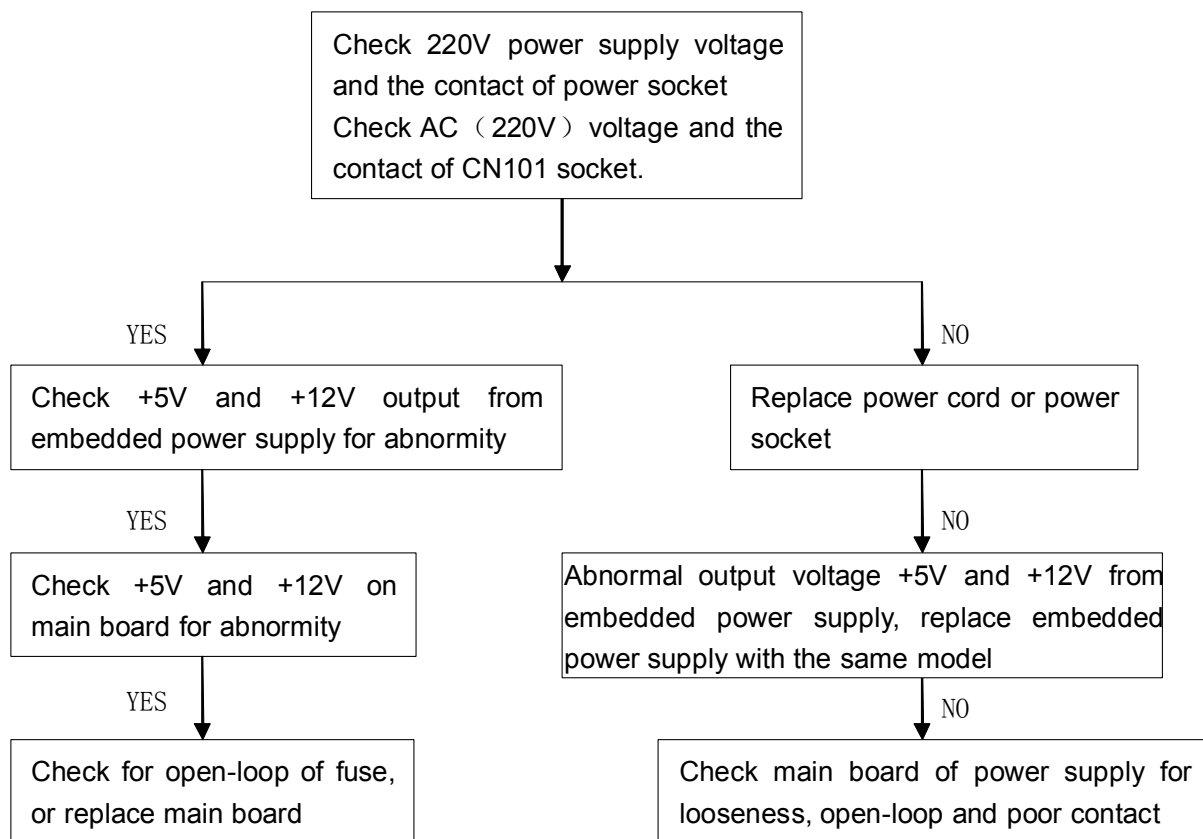


Note

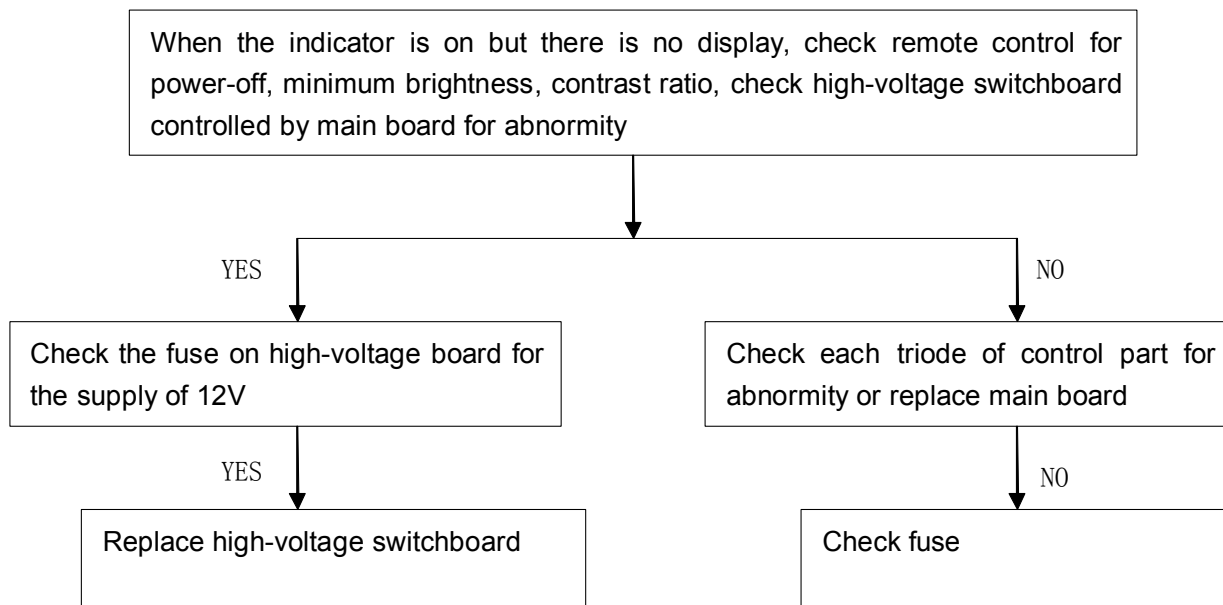
- Please make a note of your TV model and serial number before you contact Philips Customer Service Centre. These numbers are printed on the back/bottom of the TV and on the packaging.

4. Troubleshooting Procedure

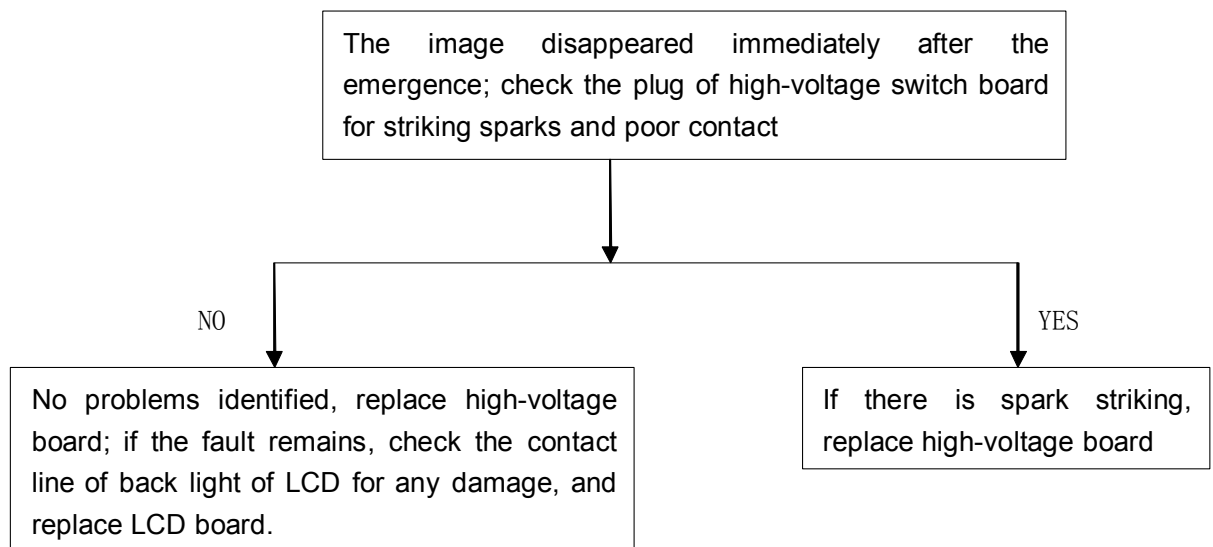
1. No power



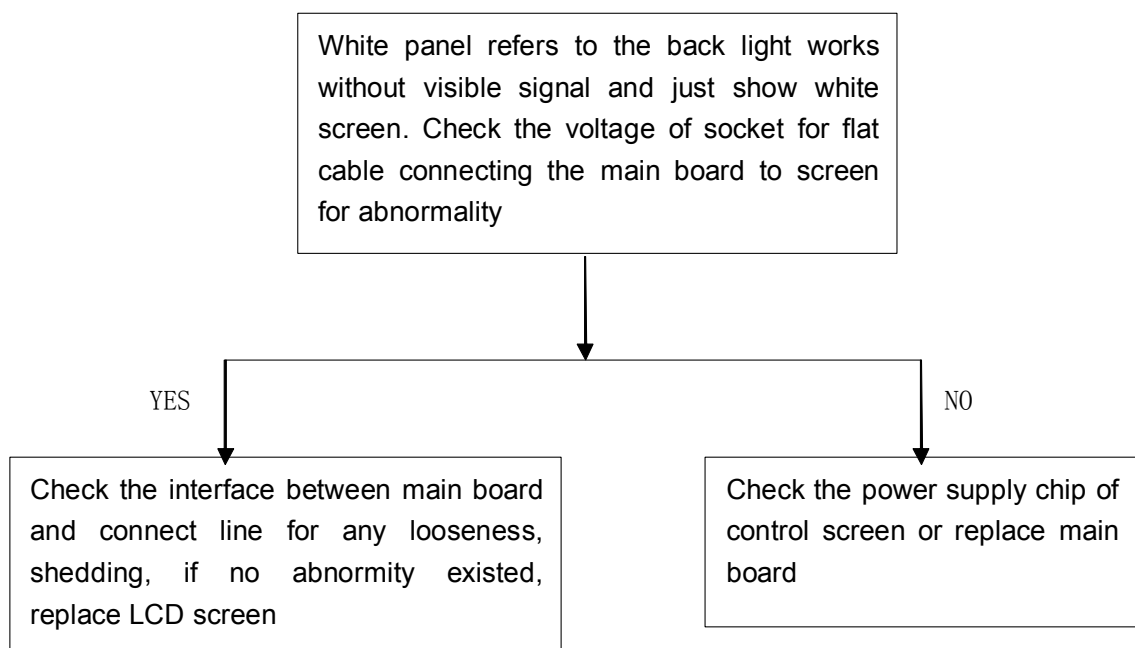
2. Without light



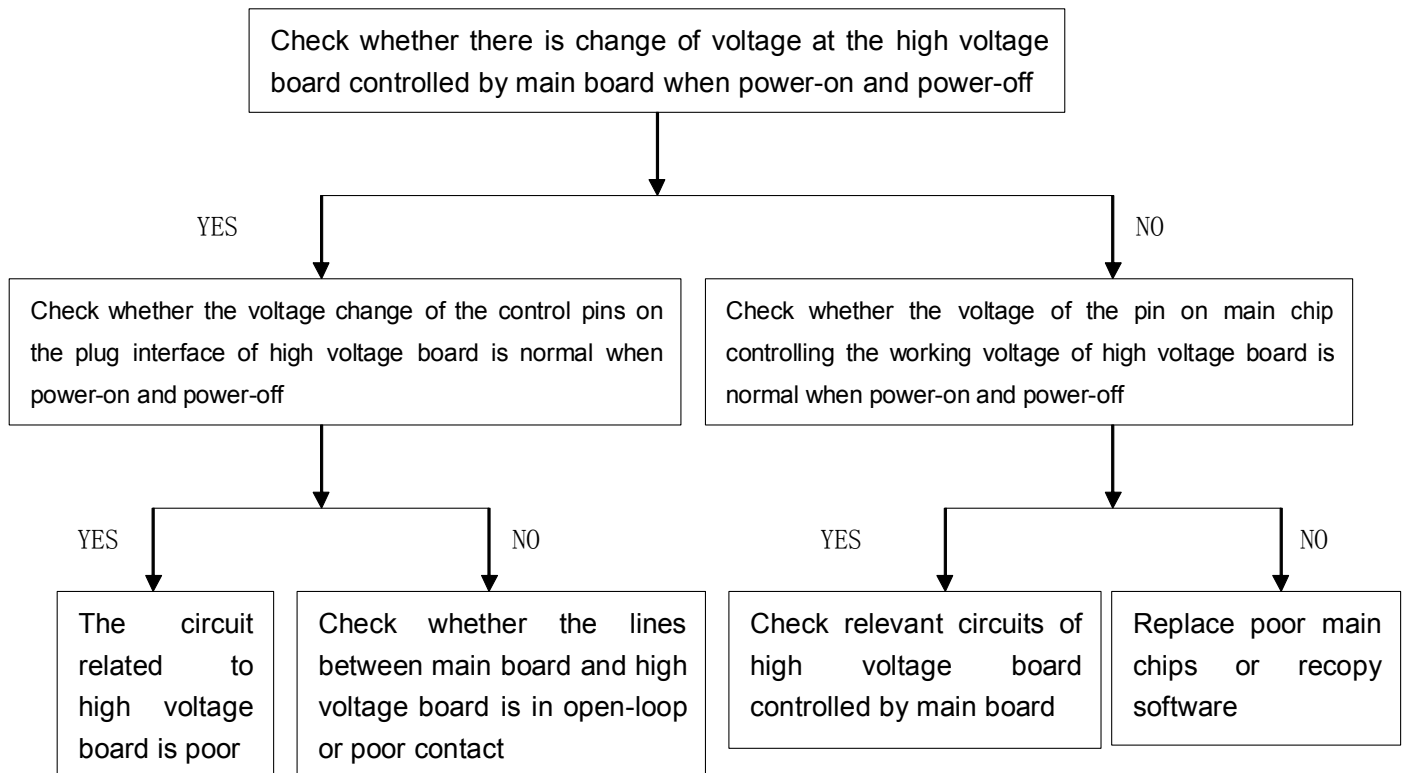
3. Protection or without light (refers to the disappearance of image several seconds after the emergence of image)



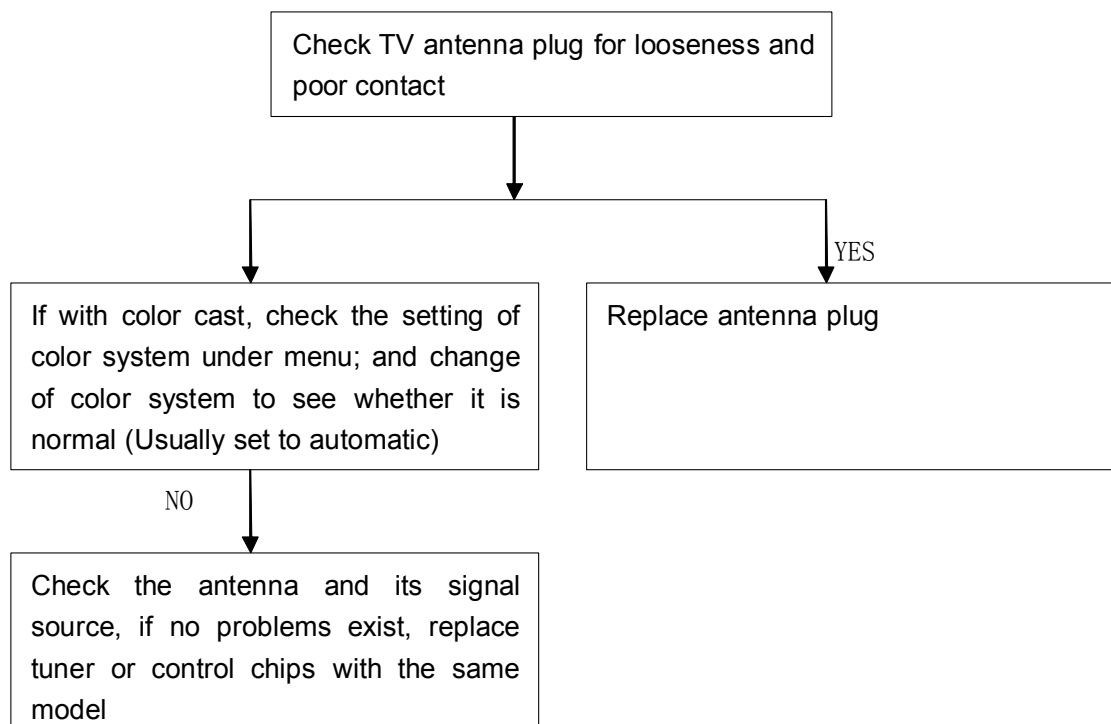
4. White panel



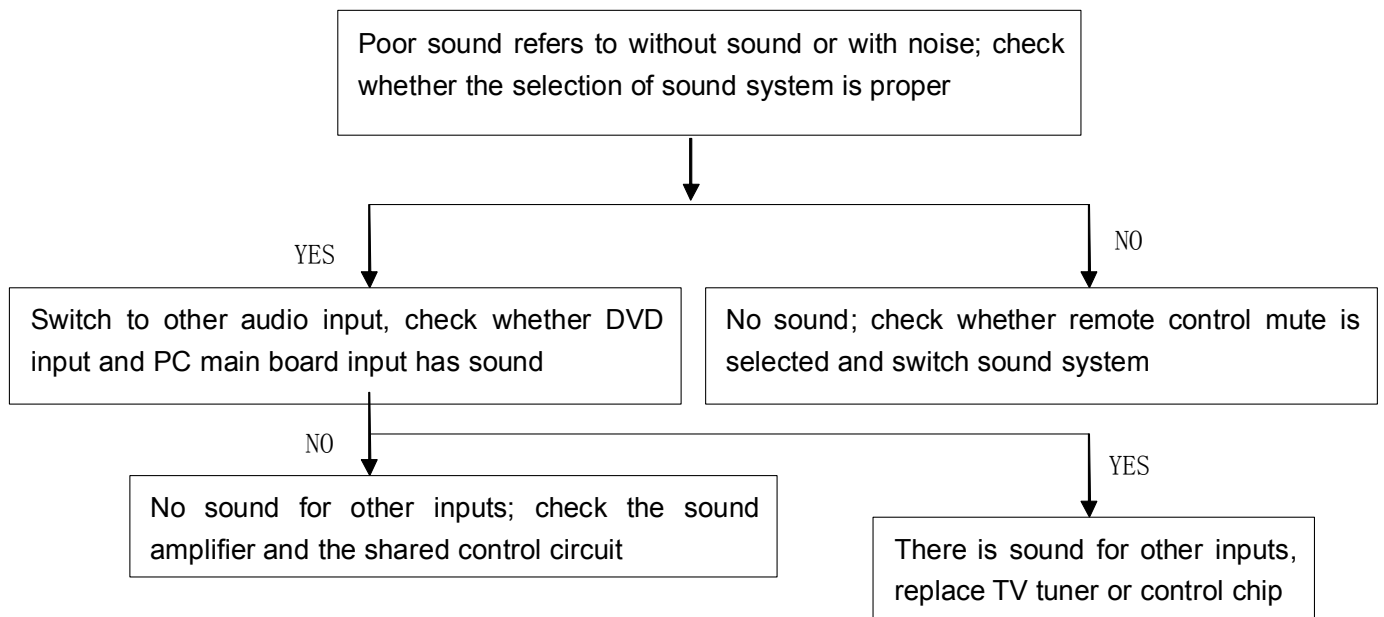
5. White screen after power-off (work normally when power on, but when power-off or no signal input, the screen shows a white screen)



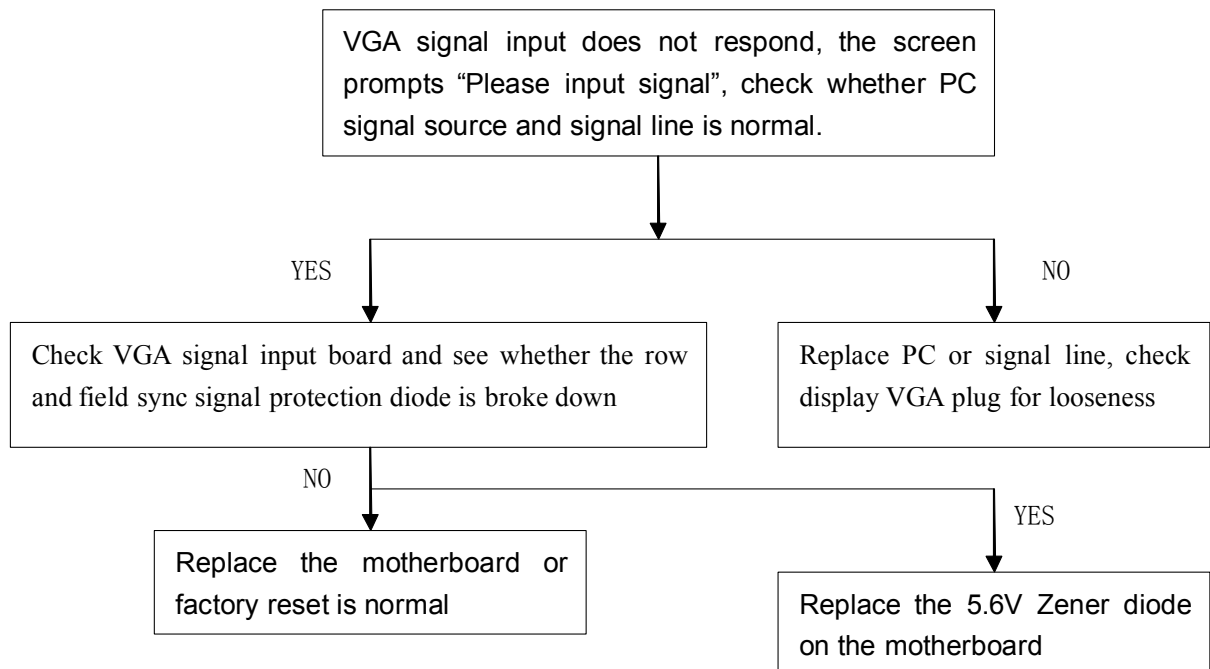
6. TV without channel or with color cast



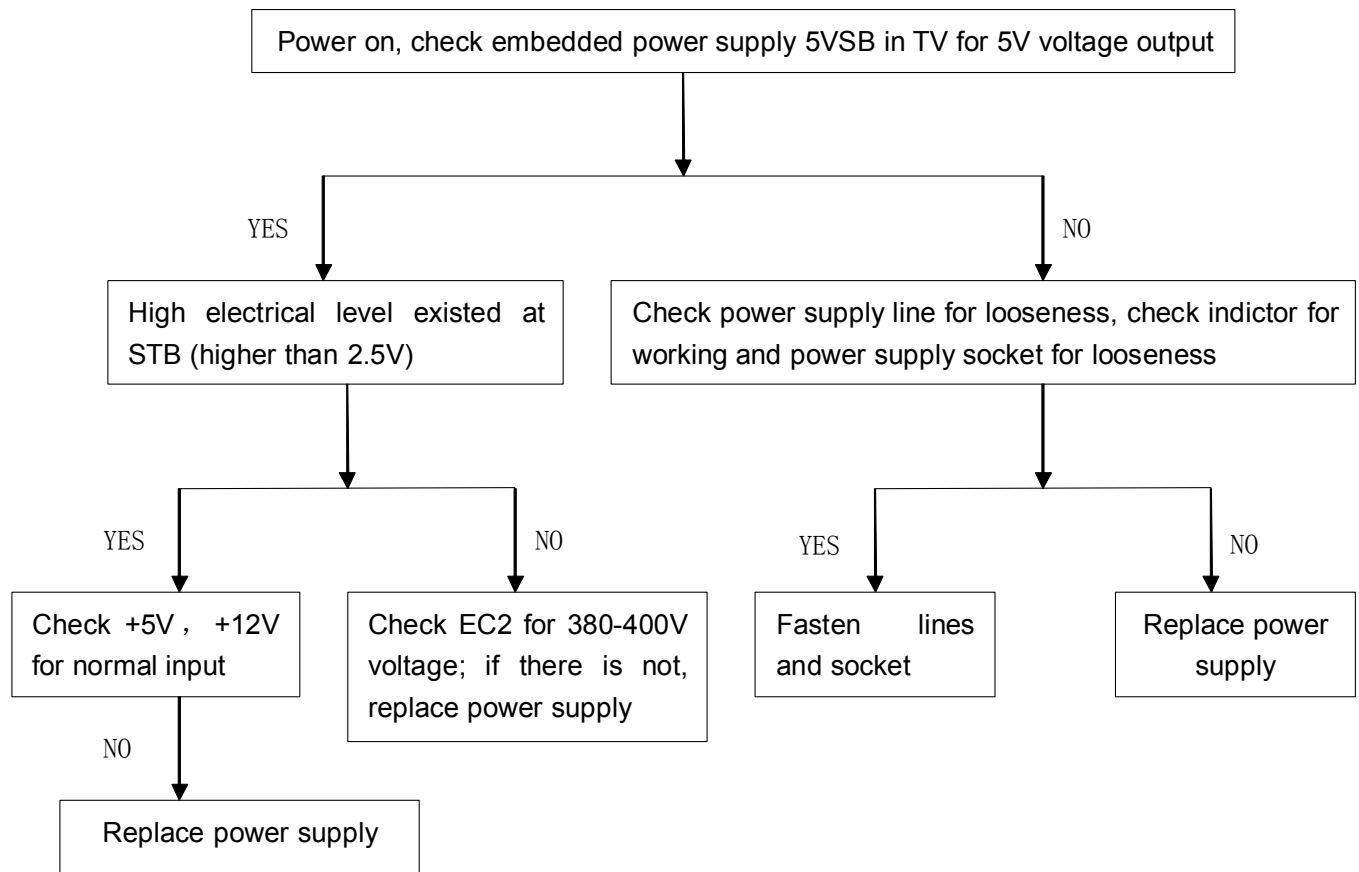
7. Poor sound



8. No VGA input signal



9. Poor embedded power supply of TV



10. Common fault of LCD screen

10.1 Bright line or bright belt (BL): constant longitudinal or transverse illuminating line or belt due to non-conformed connection between IC and glass

10.2 Dark line (DL): constant longitudinal or transverse illuminating line due to non-conformed connection between IC and glass.

10.3 White panel (WP): only light tube illuminates owing to non-conformed drive plate of the LCD, without any display signal in the display area, and the whole screen is white.

10.4 Screen breaking: (overflow of LCD): with damage or invisible damage of the liquid crystal glass, irregular black defect occurs from liquid crystal body to glass and polarizer, which can not be seen at any image. The overflow portion can not form image and does not display.

10.5 Pressing Scrape (PS): after local display area at the front of LCD is heavily pressed,

glass of the pressed portion is not damaged, the liquid crystal body can not display normally, with spot or block black defect.

10.6 Screen mess: irregular color display arising from damage of driving plate in LCD.

TSUMV59XUS Scheme Adjustment of Factory Mode

Press Menu to enter into the menu interface, and then press 8202 to enter into Factory menu.

Primary Menu	Secondary Menu	Value, Notes
ADC ADJUST		ADC ADJUST
	MODE	VGA(RGB),YPbPr(SD,HD)selection
	R-GAIN	Front-end gain adjustment
	G-GAIN	
	B-GAIN	
	R-OFFSET	Clamp level adjustment
	G-OFFSET	
	B-OFFSET	
	AUTO ADC	Automatic ADC adjustment
PICTURE		Picture mode
	MODE	Signal source selection
	PICTURE MODE	Modes: dynamic, standard, soft,user.
	BRIGHTNESS	Brightness
	CONTRAST	Contrast
	COLOR	Color saturation
	SHARPNESS	Definition
	TINT	Hue
W/B ADJUST		Color temperature adjustment
	MODE	Signal source
	TEMPERATURE	Cool,Standard,Warm
	R-GAIN	White level adjustment
	G-GAIN	
	B-GAIN	
	R-OFFSET	Black level adjustment
	G-OFFSET	
	B-OFFSET	
SSC ADJUST		Spread spectrum adjustment
	MIU Enable	MIU spread spectrum Enable
	MIU Span	spread spectrum span
	MIU Step	spread spectrum step
	LVDS Enable	LVDS spread spectrum Enable
	LVDS Span	LVDS spread spectrum span
	LVDS Step	LVDS spread spectrum step
Other Setting		Other Setting
	NICAM CTRL	NICAM enable or not
	WHITE PATTERN	Panel display pattern(OFF、White、Red、Green、Blue、Black)

Power Mode	Power-up mode (power-on upon powering up, power-off upon powering up, restore	
Aging	Burning ON/OFF.	
VIF	VD&VIF-NoStrand1	VD&VIF parameter adjustment
	VD&VIF-NoStrand2	
	VD&VIF-NoStrand3	
CH Table1	set factory TV channels	
CH Table2	set factory TV channels	
UART DEBUG		Debug mode selection
	UART DEBUG	There are four items ,OFF,HK,AEON and VDEC.We usually choose HK to enable serial port
NONLINEAR		All kinds of adjustment curves
	MODE	Signal source selection
	Brightness Curve	OSD-0 、 OSD-25 、 OSD-50 、 OSD-75 、
	Contrast Curve	OSD-0 、 OSD-25 、 OSD-50 、 OSD-75 、
	Saturation Curve	OSD-0 、 OSD-25 、 OSD-50 、 OSD-75 、
	Hue Curve	OSD-0 、 OSD-25 、 OSD-50 、 OSD-75 、
	Sharpness Curve	OSD-0 、 OSD-25 、 OSD-50 、 OSD-75 、
	Volume Curve	OSD-0 、 OSD-25 、 OSD-50 、 OSD-75 、
Factory Reset	Reset All	
Software Update	Software update	

(USB)

TSUMV59XUS software upgrades (After Service)

1、Software upgrade tools and materials

- * Personal computer (WINDOWS XP system,USB2.0)
- * AC100~240V power supply and power cord
- * ISP burning board
- * ISP burning board driver
- *ISP Tool V4.5.2.8.SZ.exe
- *VGA wire
- * USB flash disk (2.0 version, Capacity not more than 2G)
- * Mainboard software

2、Preparatory work before the upgrade

Recorded the white balance data of VGA/YPBPR signal source in factory menu before upgrading(FLASH initialization may occur after the upgrade, flush color calibration data, then restore the data you have been recorded):

(1). In the condition of YPbPr message source, press the MENU button after appear the main menu, then followed by 8202 number keys to enter the factory menu, select ADC ADJUST item, press the OK key to enter the next level menu, move the cursor to the MODE item, press the left / right Moving button and move the cursor selection in YPbPr (SD)item, record the R-GAIN/G-GAIN/B-GAIN value and R-OFFSET/G-OFFSET/B-OFFSET value.

(2). In the ADC ADJUST item, press OK key to enter the next level menu, move the cursor to the MODE item, press the left / right cursor keys to select YPbPr (HD) item, record R-GAIN/G-GAIN/B-GAIN value and R-OFFSET/G-OFFSET/B-OFFSET value.

The image shows three screenshots of the TV's Factory Setting menu. The first screenshot shows the 'Factory Setting' menu with 'ADC ADJUST' highlighted. The second screenshot shows the 'ADC ADJUST' menu with 'MODE' highlighted and 'YPbPr(SD)' selected. The third screenshot shows the 'ADC ADJUST' menu with 'MODE' highlighted and 'YPbPr(HD)' selected. Red boxes highlight the gain and offset values in the second and third screenshots. Red arrows point from the 'Factory Setting' menu to the 'ADC ADJUST' menu, and from the 'YPbPr(SD)' menu to the 'YPbPr(HD)' menu.

MODE	YPbPr(SD)	YPbPr(HD)
R-GAIN	4582	4570
G-GAIN	4573	4564
B-GAIN	4574	4632
R-OFFSET	2048	2048
G-OFFSET	256	256
B-OFFSET	2048	2048

AUTO ADC SUCCESS

Record the R/G/B-GAIN and R/B/G-OFFSET value under the YPbPr(SD) and YPbPr(HD) mode, to be replaced the recorded value after the machine software upgrade

3、Operations and procedure of software upgrading:

(1). Changed the file name to "MERGE.bin", then store software in the FAT32 format blank U disk.

(2). Insert USB flash disk into the USB upgrade port, upgrade the software according to the following the operating instructions::

Method 1 (Method 1 will not erase the original EDID and HDCP KEY on mainboard. Easy operation, you only need one U disk to upgrade. So we require customer use this way to upgrade.):

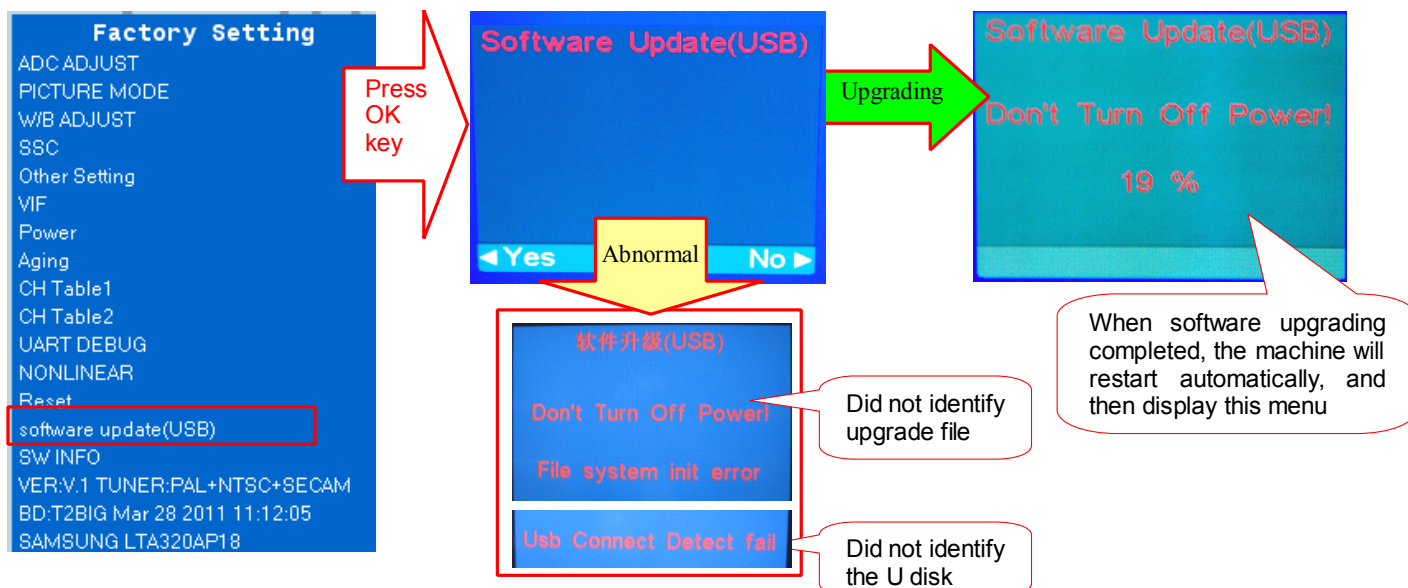
①. Start the machine and wait the normal picture display, press the MENU button on the remote control, will be popping up the main menu, press the 8202 number keys and enter the Factory Setting menu.

②. Press up/down keys to move the cursor to "software update(USB)" function menu, then press right key to select "YES", to implement USB upgrade command:

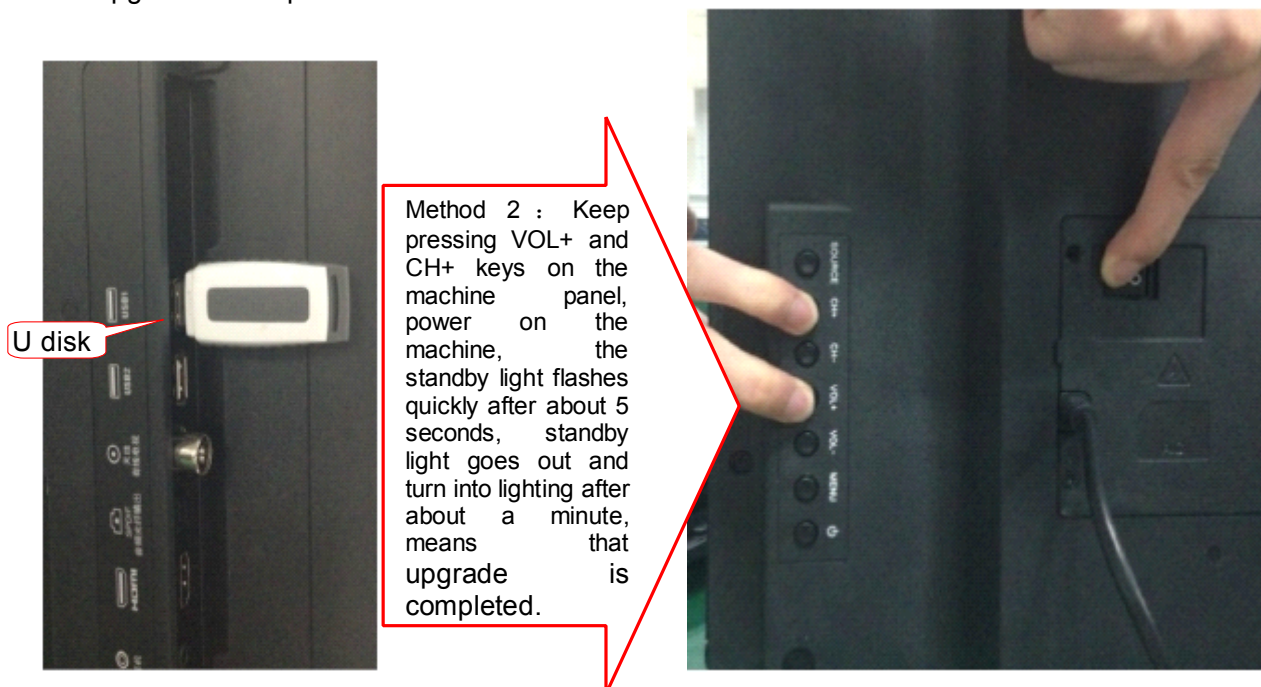
a. After prompt "File system init error", means that the machine have found USB device, but did not find the needing upgrade software, please check the software name is correct or format the U disk again and then copy software.

b. After prompt "USB Connect Detect fail", means that the machine does not find USB device, check if the USB device has been inserted into, or change another U disk and try again.

③. Display percentage progress prompts and about 10 seconds later, the machine black screen and restart automatically, means that the machine complete the upgrade process, turn off the machine first, then pull out the U disk.



Method 2: Keep pressing VOL+ and CH+ keys on the machine panel, power on the machine, the standby light flashes quickly after about 5 seconds, standby light goes out and turn into lighting after about a minute, means that upgrade is completed.



(3). Notices:

①. When the machine Upgrading (U disk light flash), do not remove U disk or switch off the power, otherwise it will destroy the software and lead can not upgrade.

②. The machine must be power off when inserted or pulled out U disk, to avoid damaging U disk or machine.

③. Because of compatibility between machine and U disk, some machines will not flicker during upgrading. Please change U disk (The capacity of U disk is not more than 2G) or use method 1 to upgrade.

④. If the display screen can't display menu normally, it cannot use "method 1" to upgrade, you can use Mstar

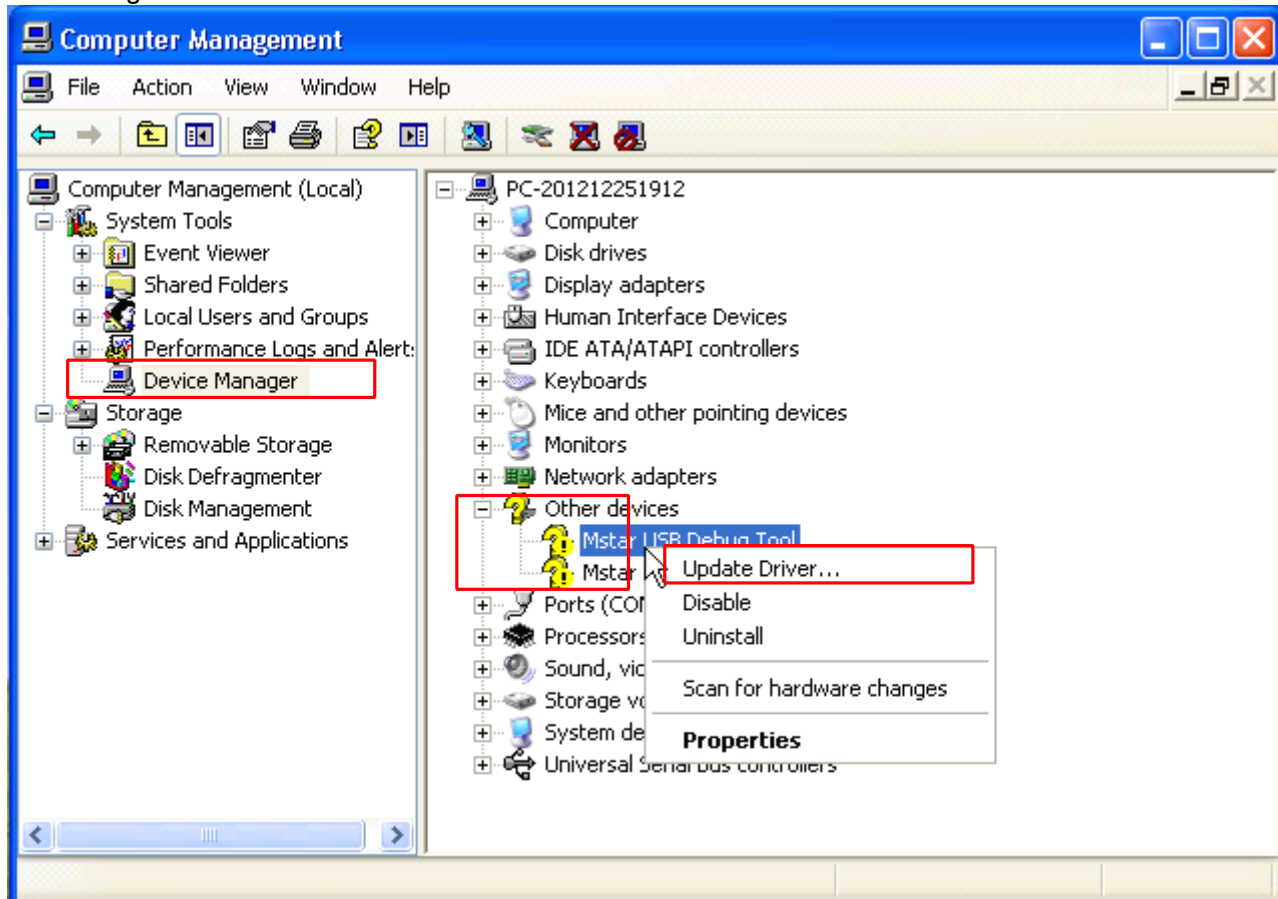
ISP Tools to upgrade except method 1 and method 2.

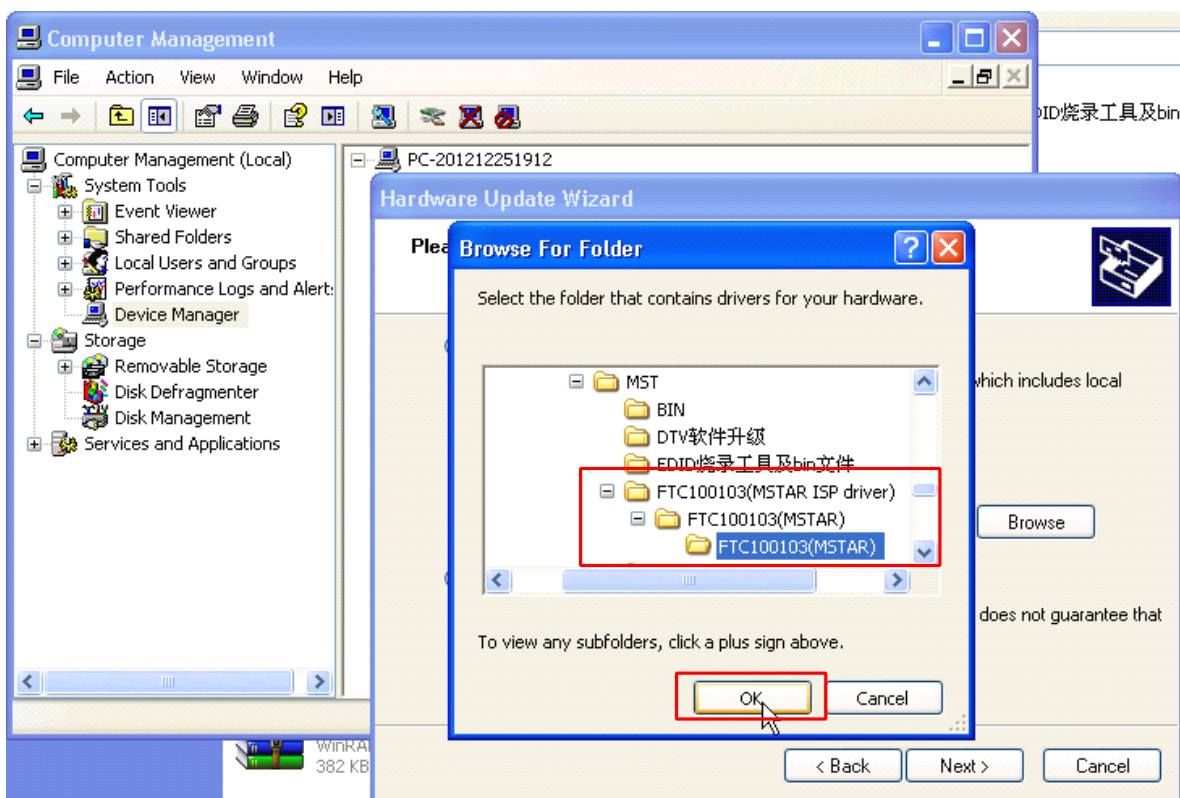
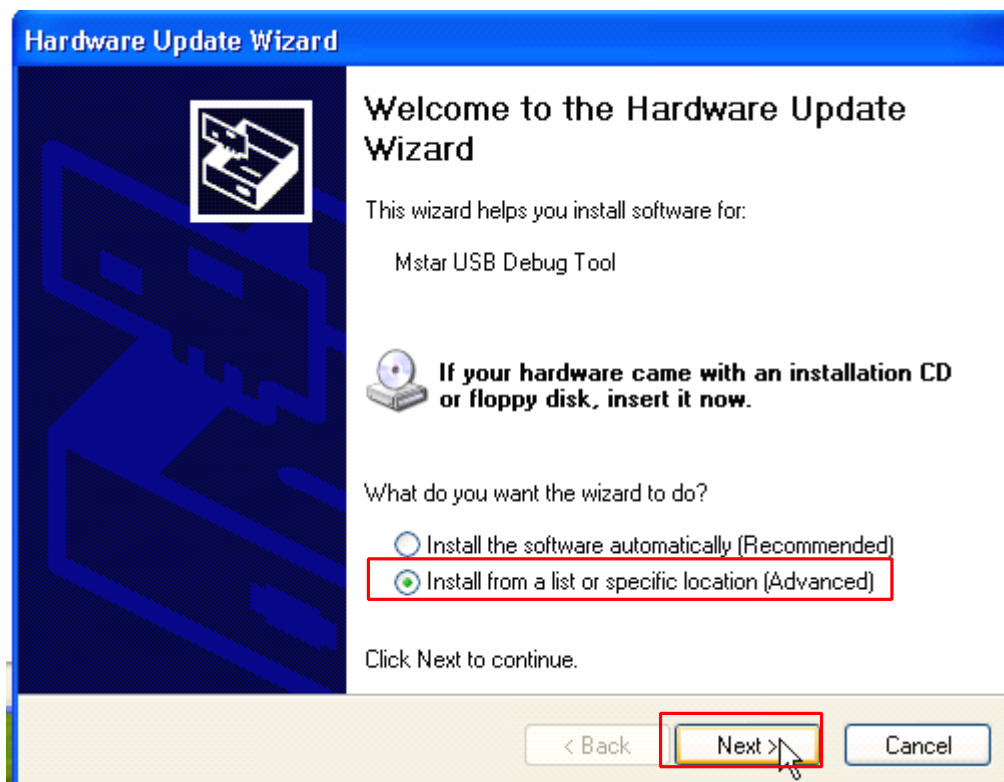
4、When cannot upgrade in accordance with the step two, or upgrade failed, can only ISP upgrade, please refer to the following instructions.

(1). Connect the ISP burning board and TV VGA port with VGA cable.

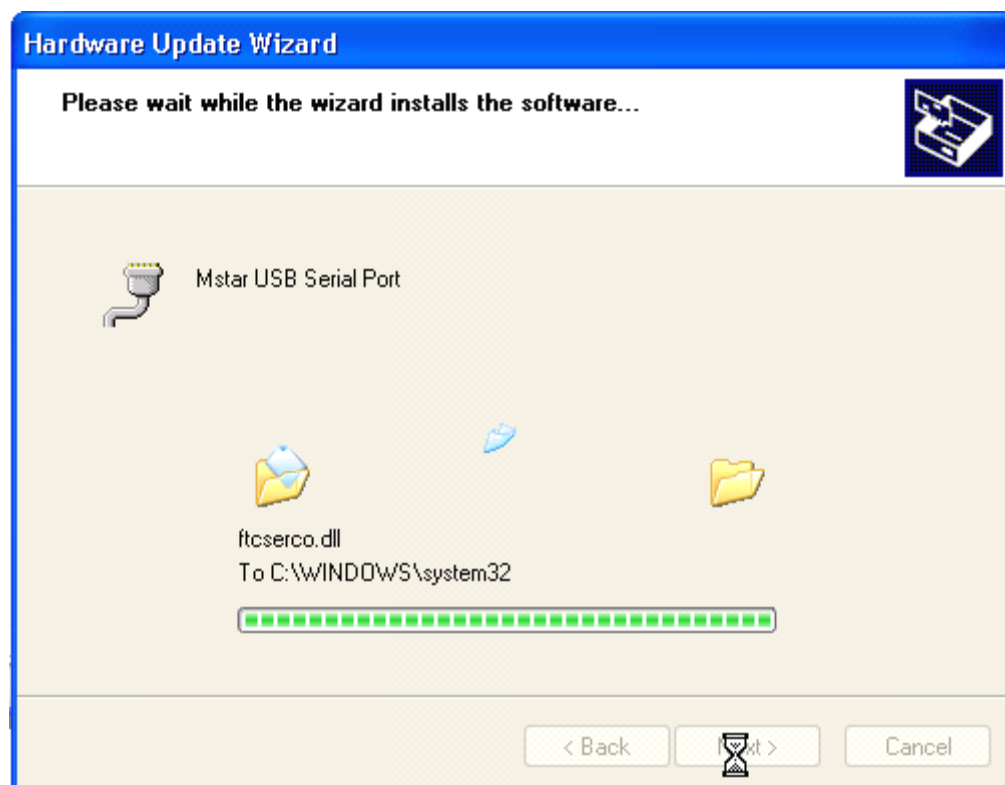
(2). Insert the Mstar USB Tool into the USB port of your PC. The PC can recognize the new device. You can choose to install it in the list, or choose to install at a specified directory and specify the path to the drive file.

See the figure below:



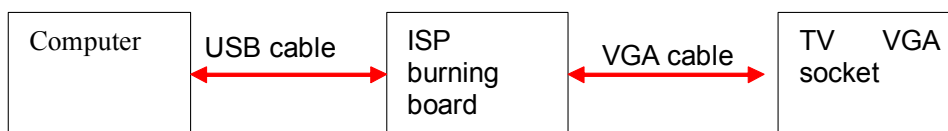


(3) When PC finds the drive file, it will give the prompts as in the figure below during the installation process. Please click "Continue" to go ahead. The system will go through three drive installation processes, including Mstar USB Debug Tool A, Mstar USB Debug Tool B, and Mstar USB SerialPort. They will be installed one by one.

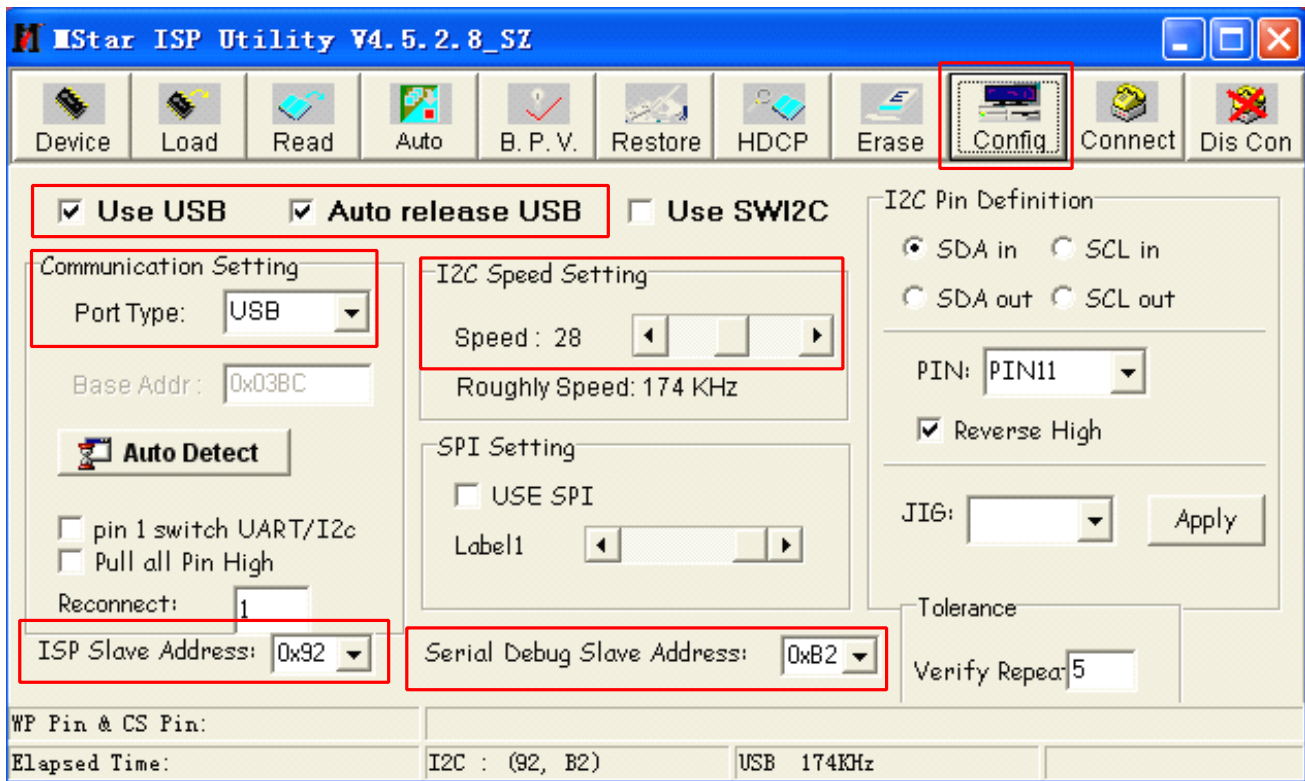


C. Program burning

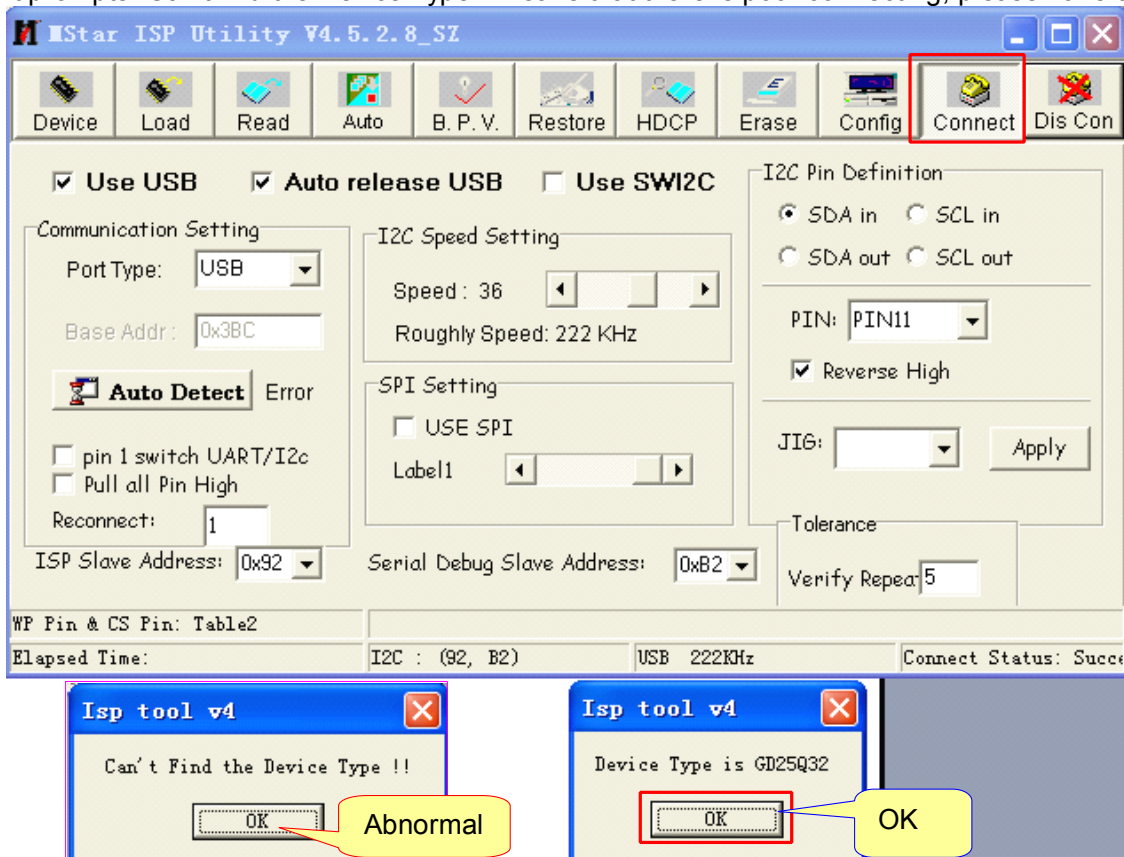
1. When the drives are installed, connect the Mstar USB Tool board to TV in such a way as specified below. Then, connect the TV power cord and run the software ISP-Tool V4.5.2.8.SZ.exe to burn the program into the TV drive board..



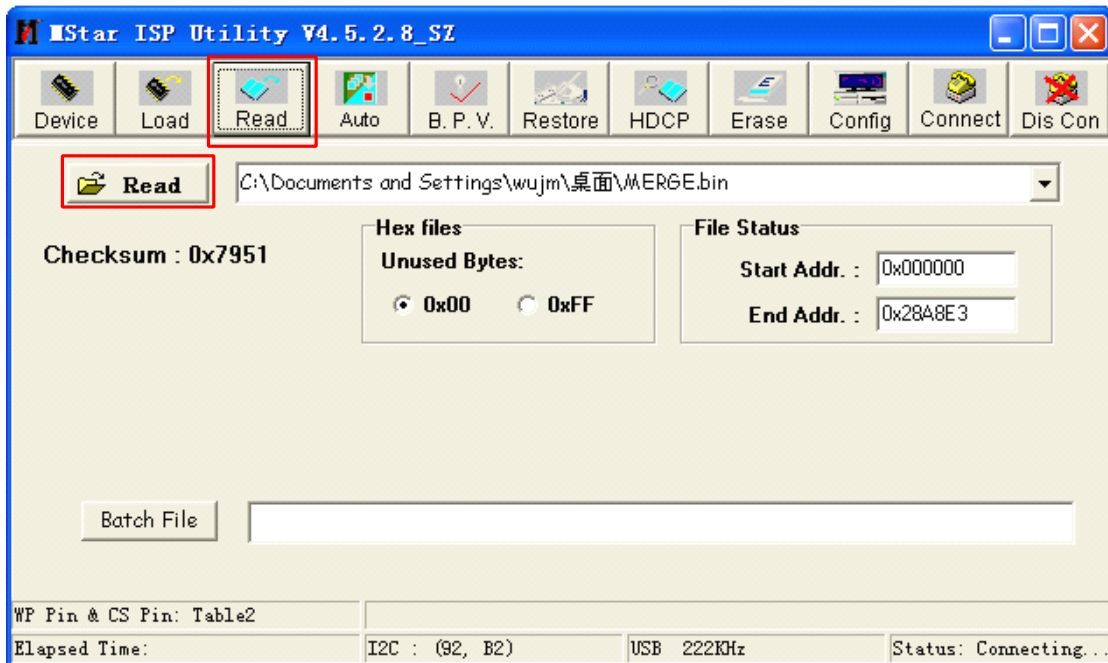
2. In the **config** menu bar to select **Use USB** and **Auto release USB**, Communication Setting items corresponding to the Port Type menu select **USB**. Set the burning speed of **48** in I2C Speed Setting item, ISP Slave Address item menu select **0X92**, Serial Debug Slave Address menu select **0XB2**.



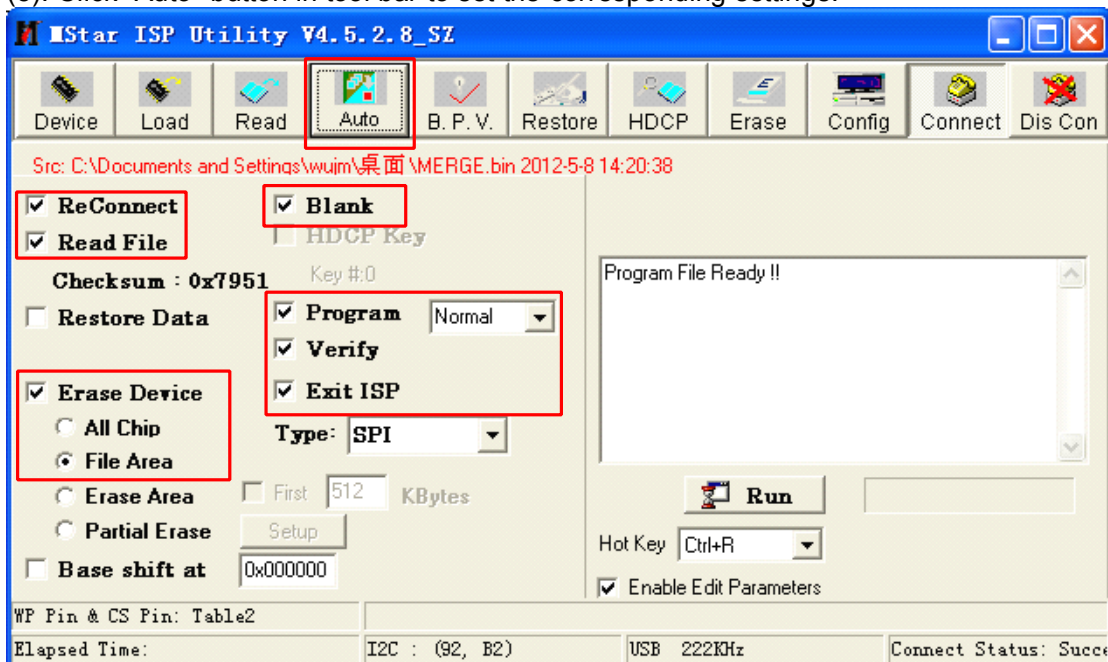
(3). Click Connect button to connect, if it prompts “Device Type is GD25Q32”, means that normal connecting; if it prompts “Can’t find the Device Type!” means that there is poor connecting, please have a check.



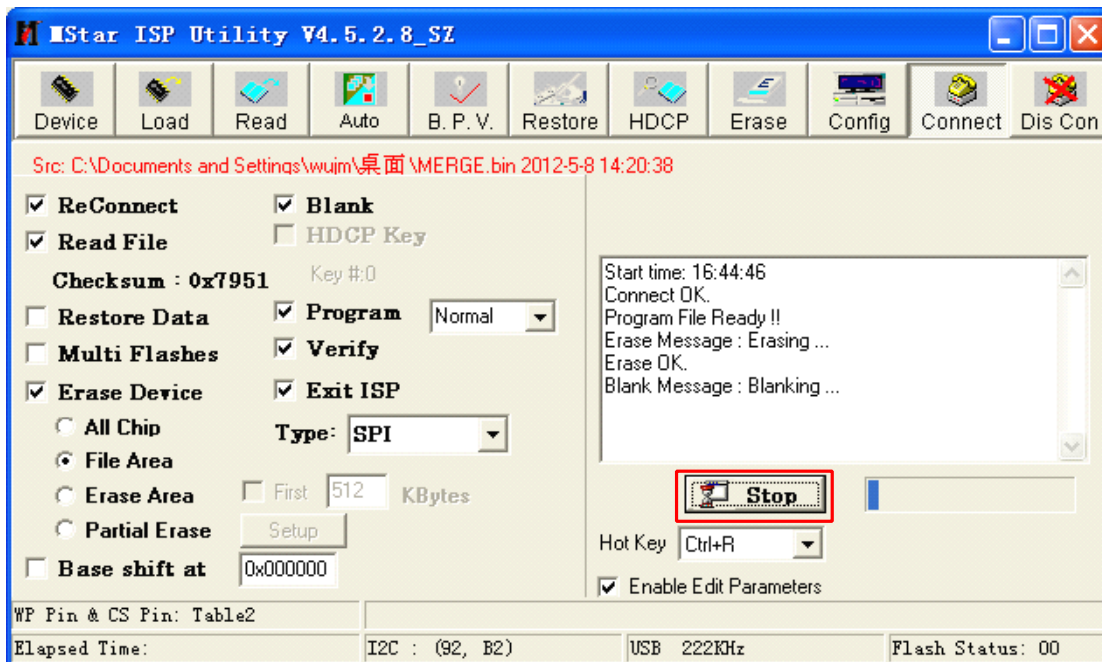
(4). Click "Read" button in tool bar, then click "Read" to load current software.



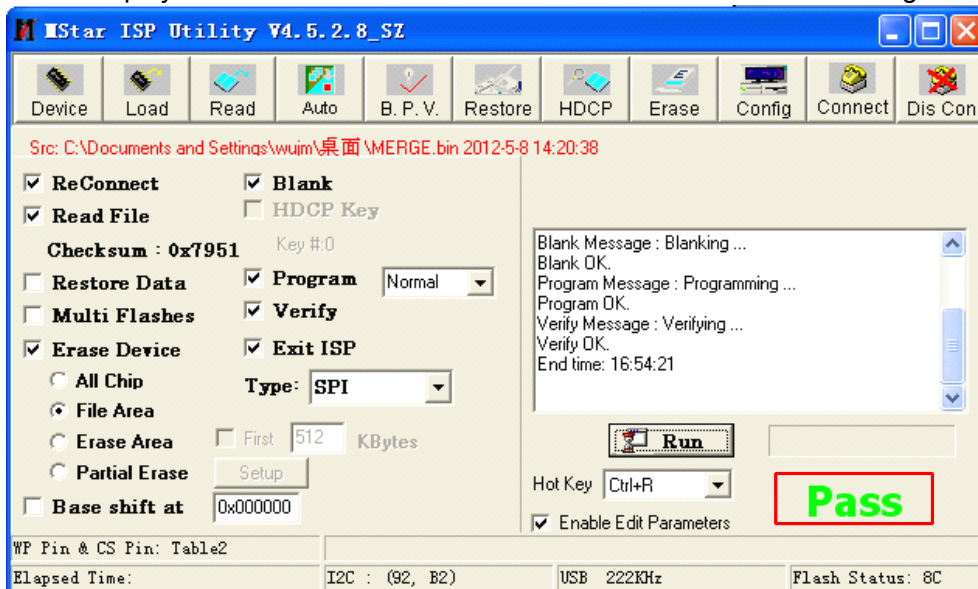
(5). Click "Auto" button in tool bar to set the corresponding settings.



Then click "RUN" button to burn software.



When display "**PASS**", means that it succeed, then burn EDID according to the following instructions.

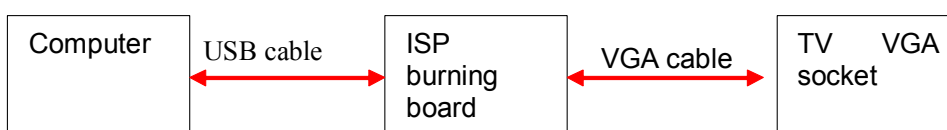


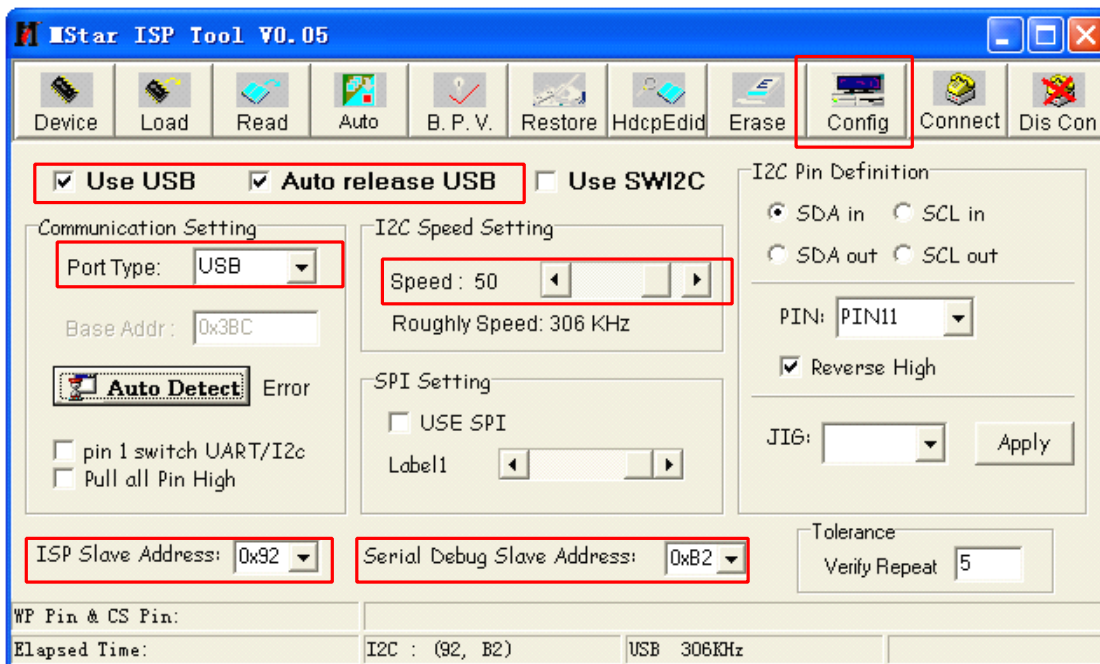
5、 Use ISP way to upgrade(when used USB way to upgrade, it couldn't erase the original EDID and HDCP KEY on mainboard, so we require customer use this way to upgrade first.), when you selected "ALL Chip" under "Erase Device" option during upgrading, the TV mainboard must burn EDID and HDCP KEY. The burning tools and materials for HDCP KEY and EDID:

- * Personal computer (WINDOWS XP system,USB2.0)
- * AC100~240V power supply and power cord
- *ISP burning board
- *ISP burning board driver
- *ISP_Tool_XC_V0.05.exe
- *VGA cable
- *VGA EDID and HDMI EDID file

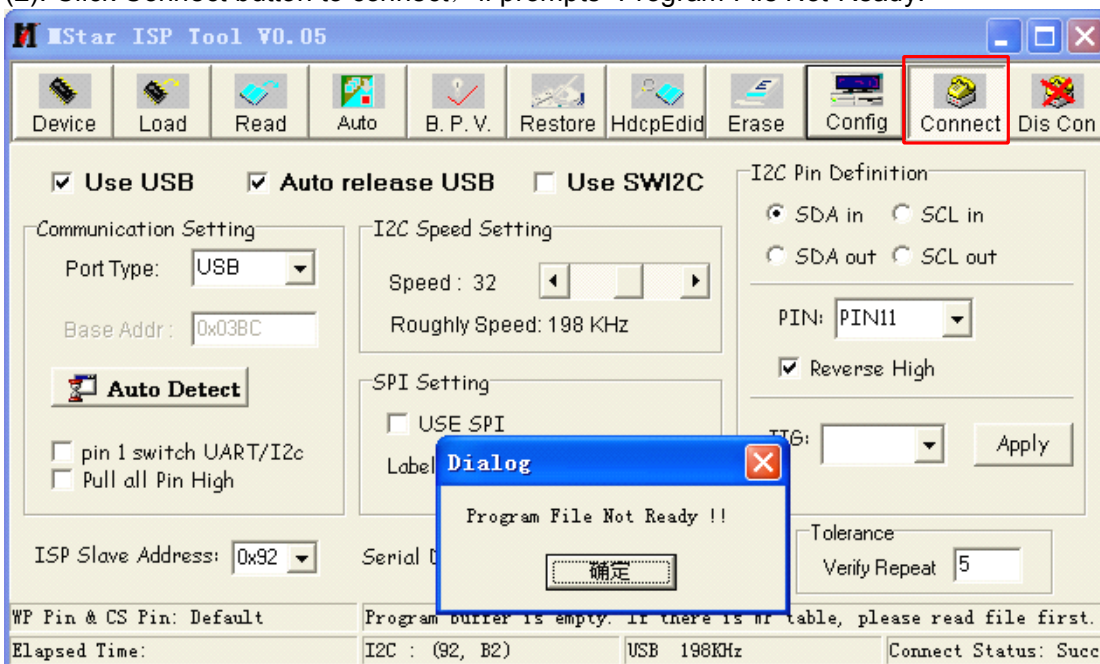
Specific operation according to the following instructions:

(1).Connect ISP burning board and TV and computer, then run ISP_Tool_XC_V0.05.exe to set communication mode.





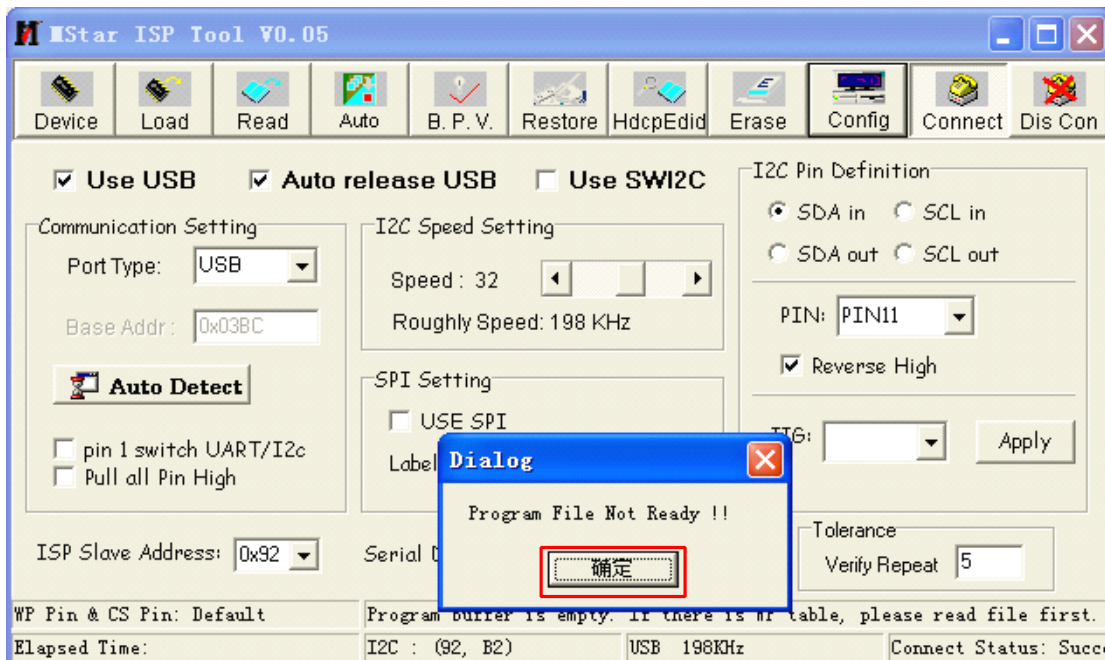
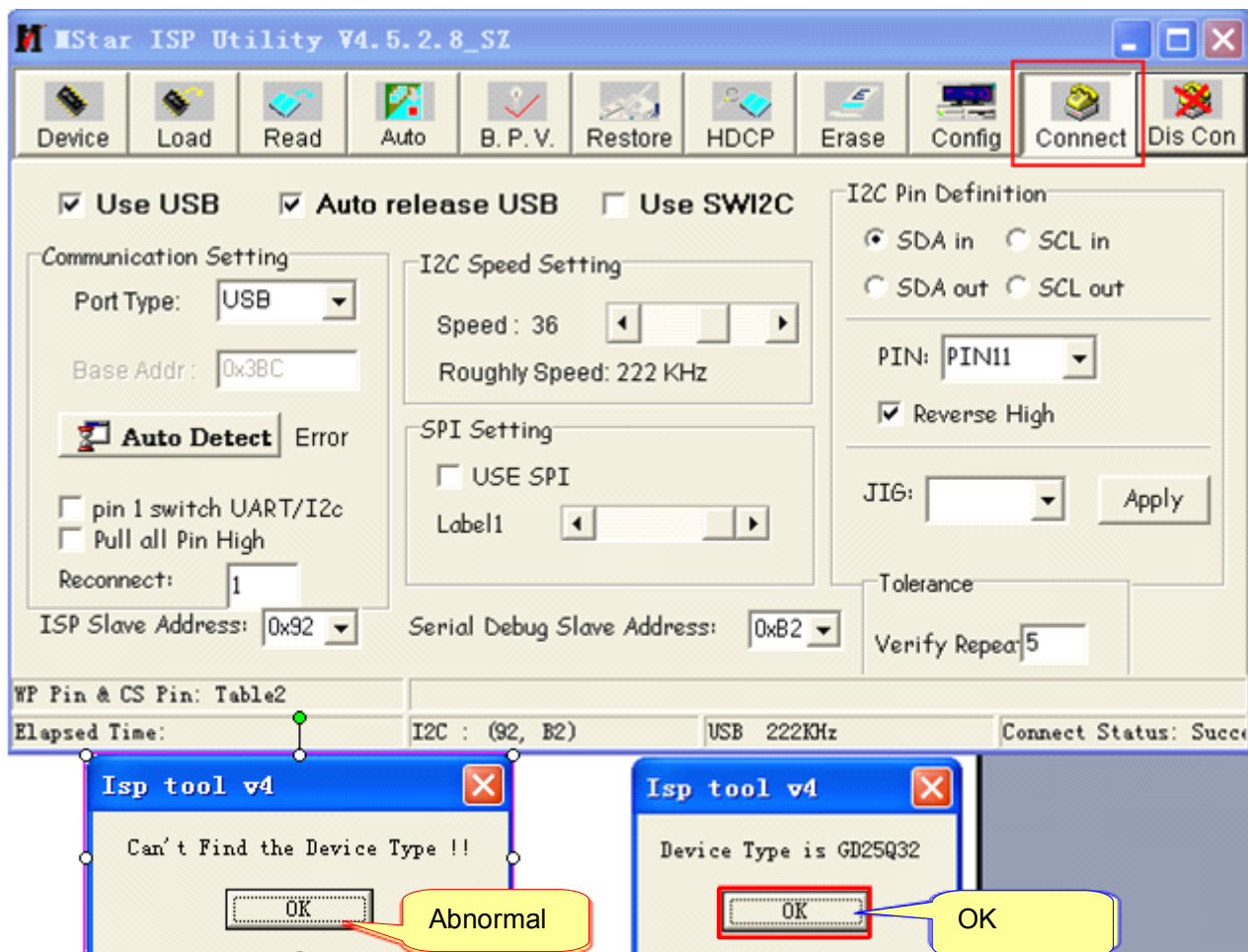
(2). Click Connect button to connect, if prompts "Program File Not Ready!"



Please click  and  to load current software.



If prompts "Device Type is GD25Q32" means that normal connect; if prompts "Can't find the Device Type!" means that there is poor connecting, please have a check.

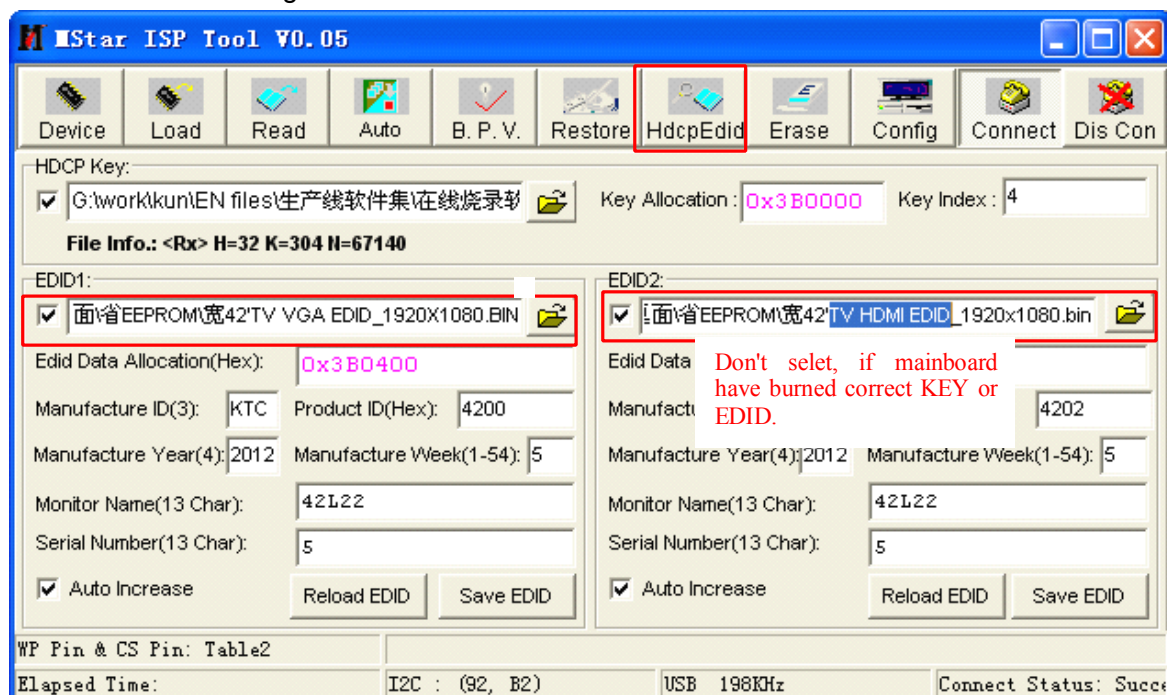


If prompts "Device Type is GD25Q32" means that normal connect; if prompts "Can't find the Device Type!" means that there is poor connecting, please have a check.

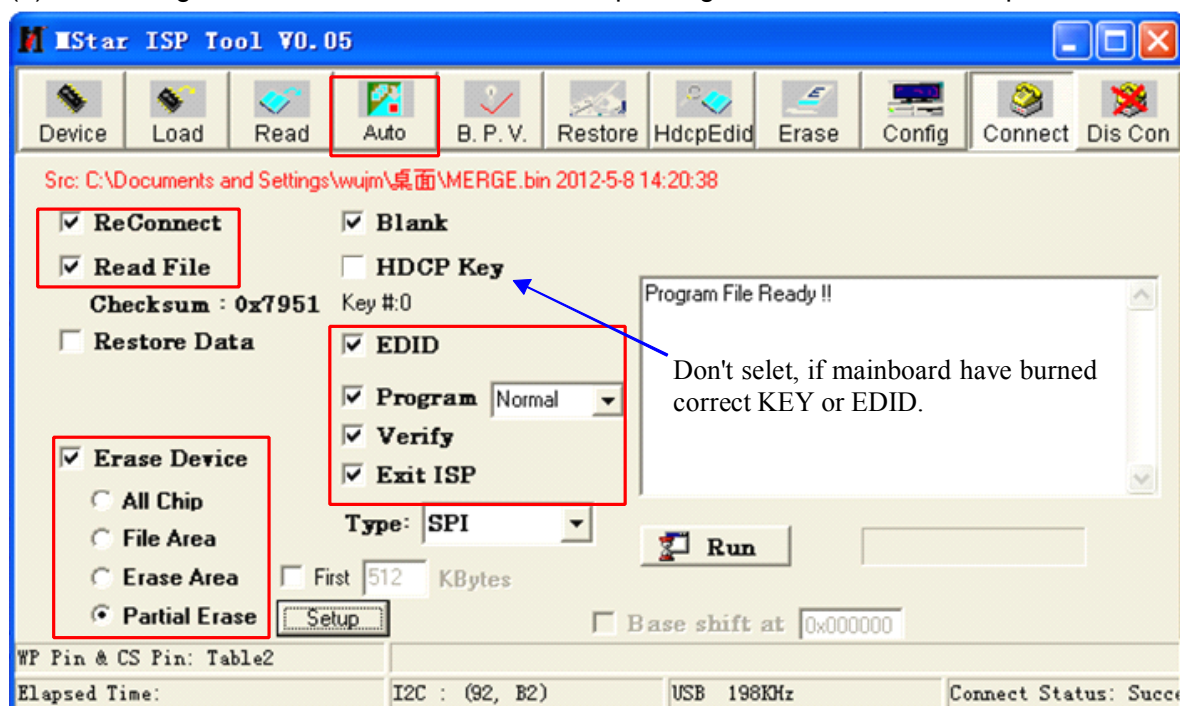
(3). Click HdcpEdid button in main menu bar to set corresponding settings according to the following instructions:

Need to burn HDCP KEY, please select and load current KEY documents, in KEY address bar input "0 X3B0000" and enter; select EDID1 check box and load current work order VGA port EDID. bin file, in EDID1 corresponding files address bar input "0 X3B0400" and enter; select EDID2 check box and load current work order HDMI EDID. bin file, in EDID2 corresponding file address bar input "0 X3B0600" and enter. Modify EDID1

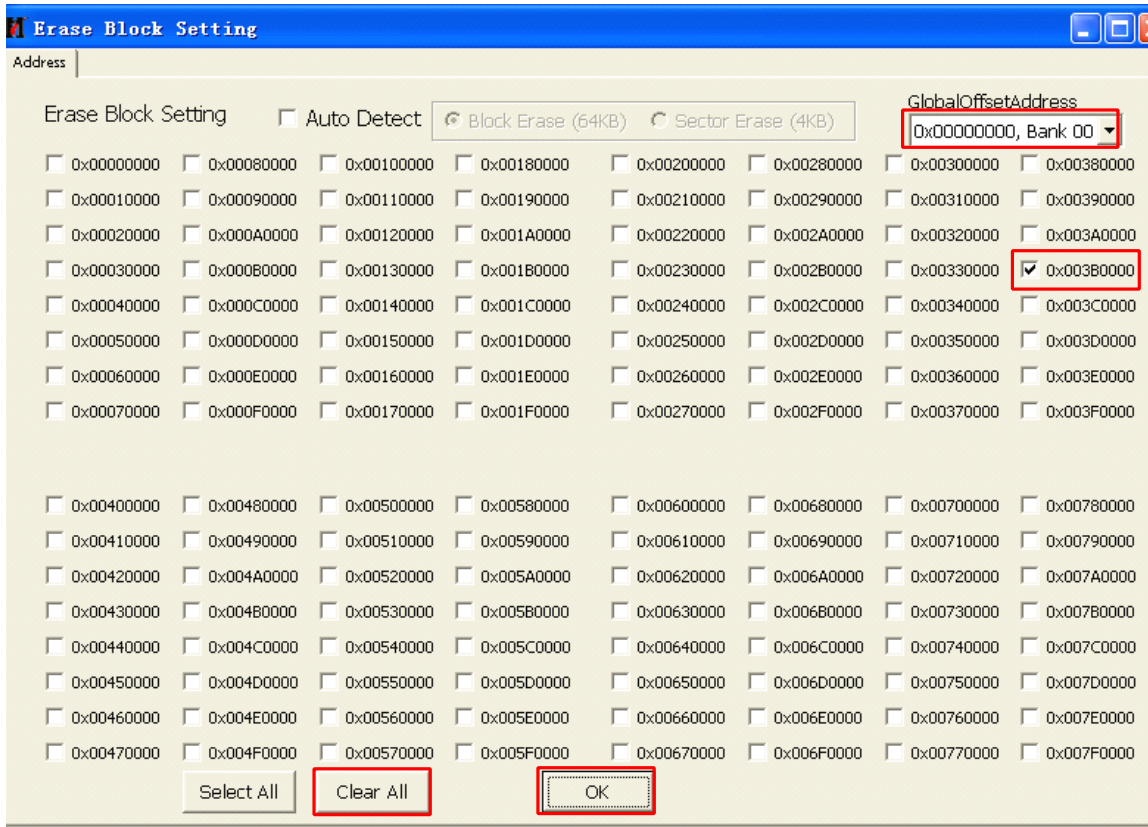
and EDID2 corresponding information according to work order, confirm and click "Auto" button in main menu bar to switch to burning main interface.



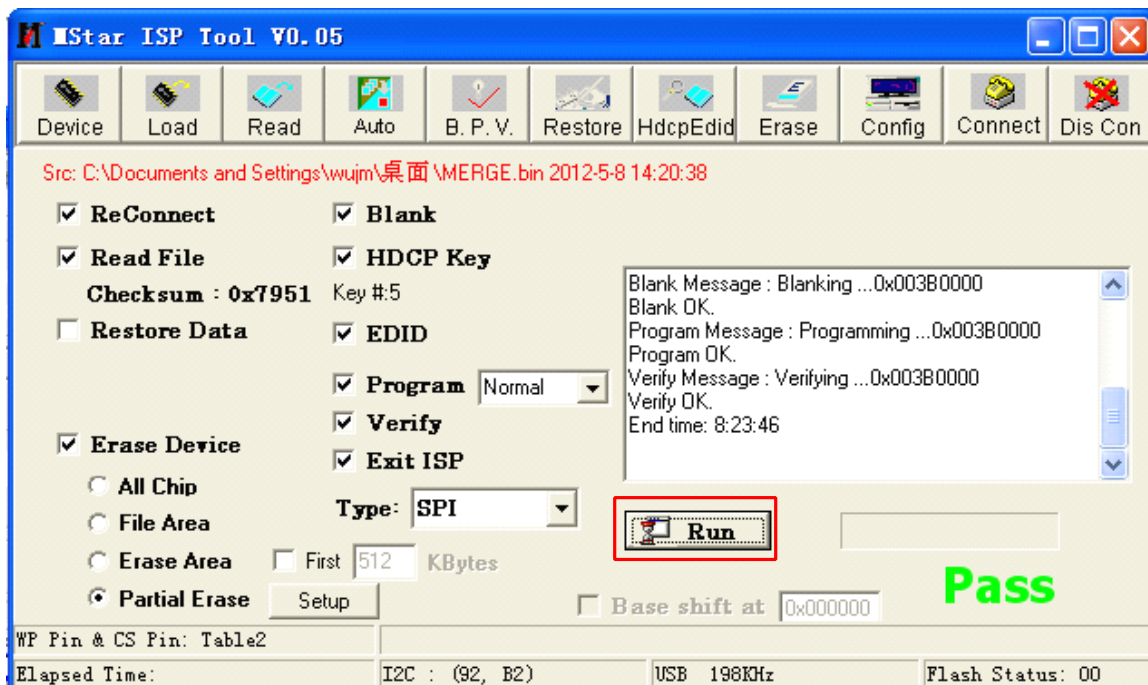
(4).In burning main interface, select corresponding function, click Setup button in Erase Device,



to enter to Erase Block Setting menu, click Clear All to clear , click drop-down list in Global Offset Address, select"OX00000000,Bank 00", in address list select "OX3B0000", check address settings and click "OK" button to exit address settings.



(5).In burning interface, click "Run" to burn. Burning prompt bar will prompt burning process related information, about 12 seconds appear "Pass", and there is no longer any character rolling in prompt bar, means that is burning successfully.

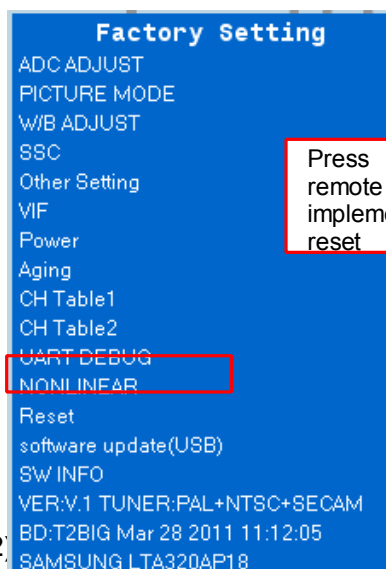


(6). Shut down the power of jig, pull out the burning wire to complete burning operation. It not allow pulling out the wires during burning process. Shut down the power when installing or taking mainboard.

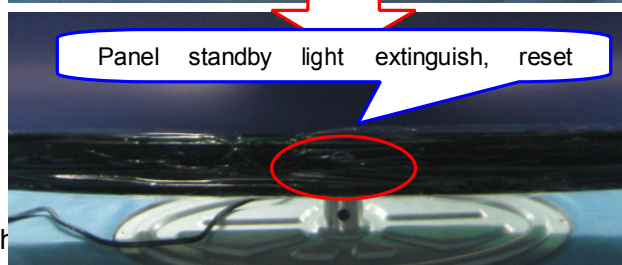
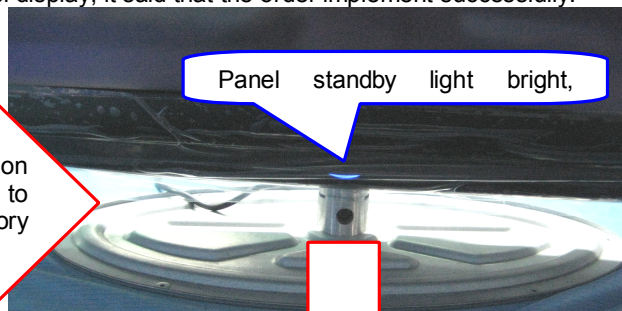
(7). It not allow pulling out the wires during burning process. Shut down the power when installing or taking mainboard. Pull out the power cord of machine first, then pull out burning board. When burning complete, change the TV and click **Run** button to burn next machine.

6、When upgrading complete, it must be adjusted before leave factory:

(1). Power to the machine, press MENU button on the remote control then press 8202 number keys and then will popping the factory menu automatically, press the remote control up/down cursor keys to move to the "Reset" option press OK key to implement. After about 5 seconds latter the machine implement clear command automatically. After about 5 seconds latter the screen will be black and it flashes blue lantern panel display, it said that the order implement successfully.

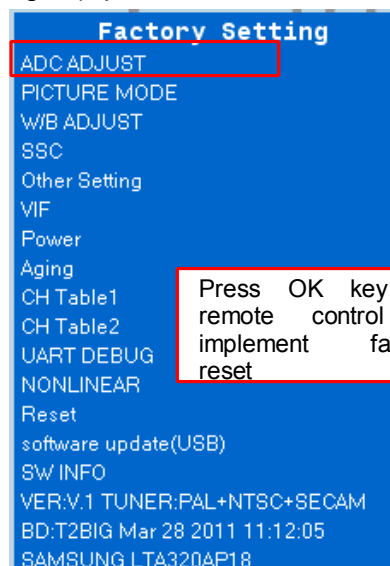


Press OK key on remote control to implement factory reset

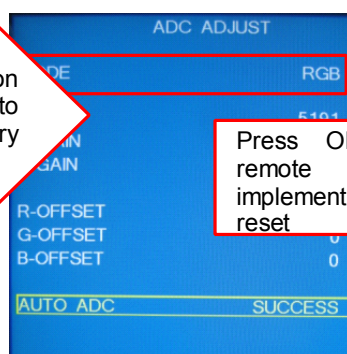


(2). Machine, switch

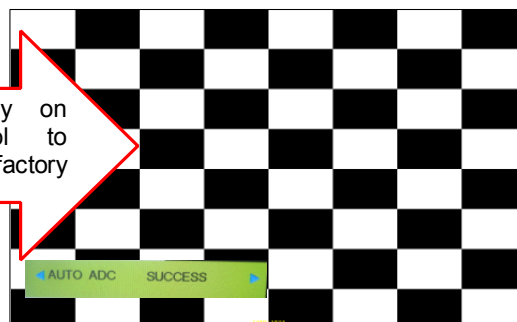
(3). Run the KTC-LCD test software, switch to the mosaic picture and best resolution. Press MENU key to popup the main menu, and then press 8202 number keys to enter the factory menu, press the shift down key to ADC ADJUST option to press OK key to enter the next level menu. In the MODE option press left/right cursor keys to select RGB, and then press shift down key to move the cursor to the Auto ADC option, press OK key to enter the next level menu, press the left/right button to implement ADC action (The screen will flash and Auto ADC function menu prompt SUCCESS means that debug success, prompt FAIL said that debug failed, try again), press the MENU button to exit factory menu when debugging completed.



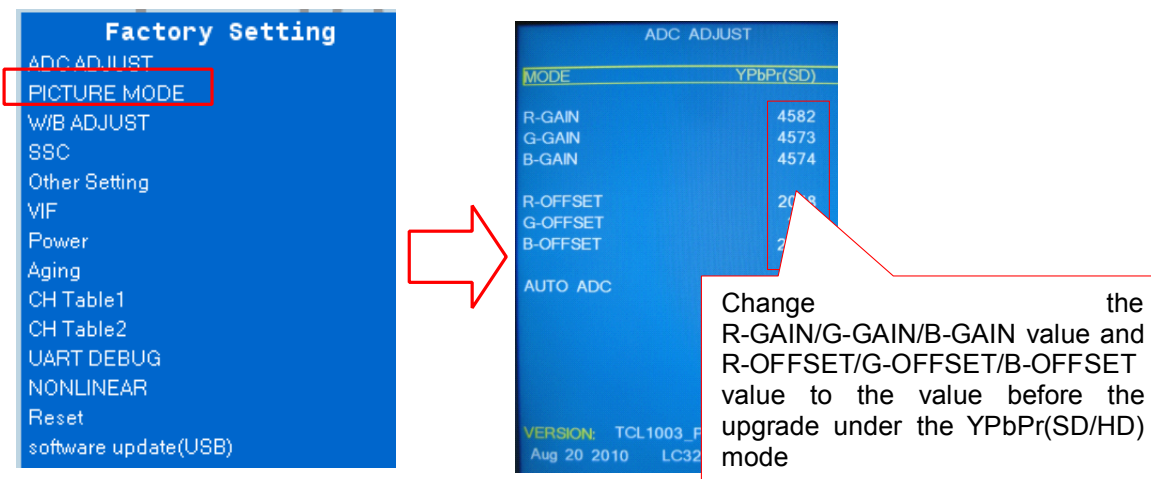
Press OK key on remote control to implement factory reset



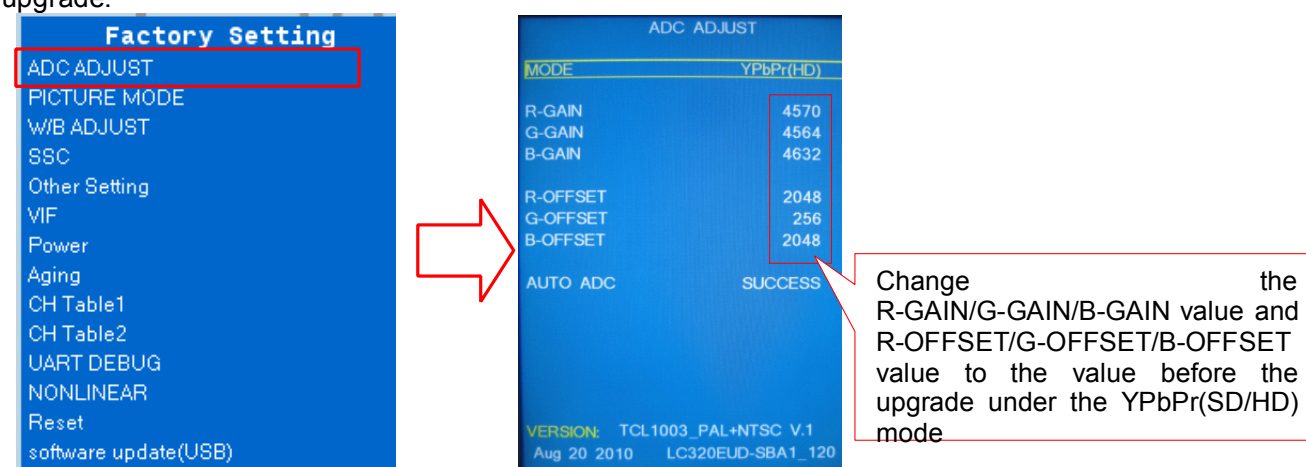
Press OK key on remote control to implement factory reset



(4). Under the YPbPb message source, press the MENU button after popping the main menu, then press 8202 number keys to enter the factory menu, select ADC ADJUST item, press the OK key to enter the next level menu, move the cursor to the MODE item, press the left/right Moving key mover cursor to select YPbPr(SD)item, change the R-GAIN/G-GAIN/B-GAIN value and R-OFFSET/G-OFFSET/B-OFFSET value of the machine after the upgrade to the value before the upgrade.

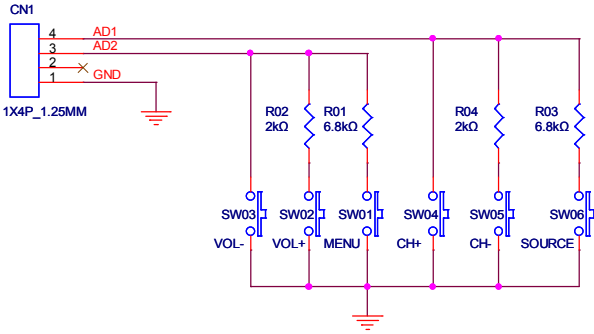


(5). In the ADC ADJUST item, press OK key to enter the next level menu, move the cursor to the MODE item, press the left/right keys to move cursor select the YPbPr(HD) item, change the R-GAIN/G-GAIN/B-GAIN value and R-OFFSET/G-OFFSET/B-OFFSET value of the machine after the upgrade to the value before the upgrade.

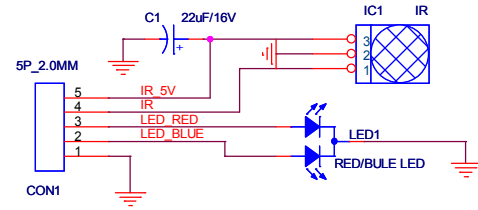


7、Complete the ADC ADJUST debugging, press MENU key succession to exit the factory built-in menu to save the adjusted data, and then restore the original packaging.

key board circuit diagram

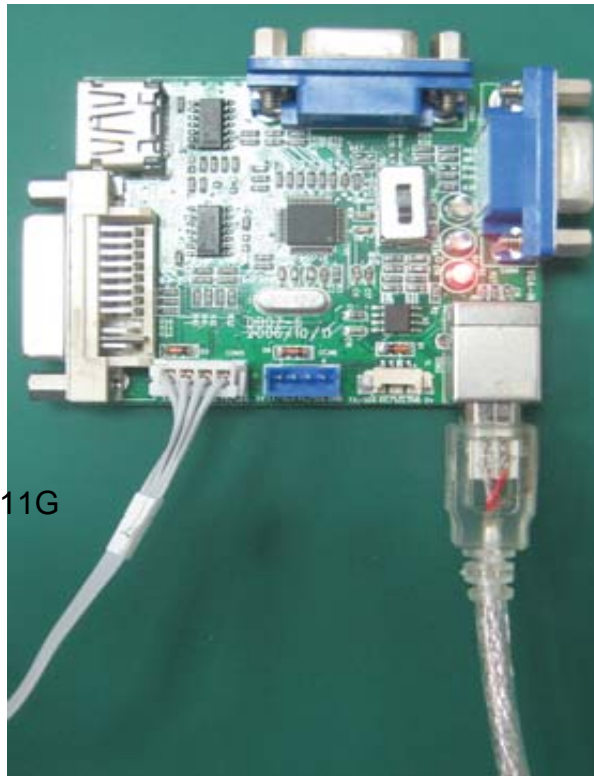


The IR board circuit diagram



service training material list

Old P/N	P/N	Description	Qty	Unit price (\$)
502-0081-00001		USB burn tool	1	42.3
512-0113-USB15	5102-Z00USB-1R5M0021	USB Using reflection line	1	0.95
603-4502-05111G	6149-4500C4-05111201	connecting wire	1	0.25

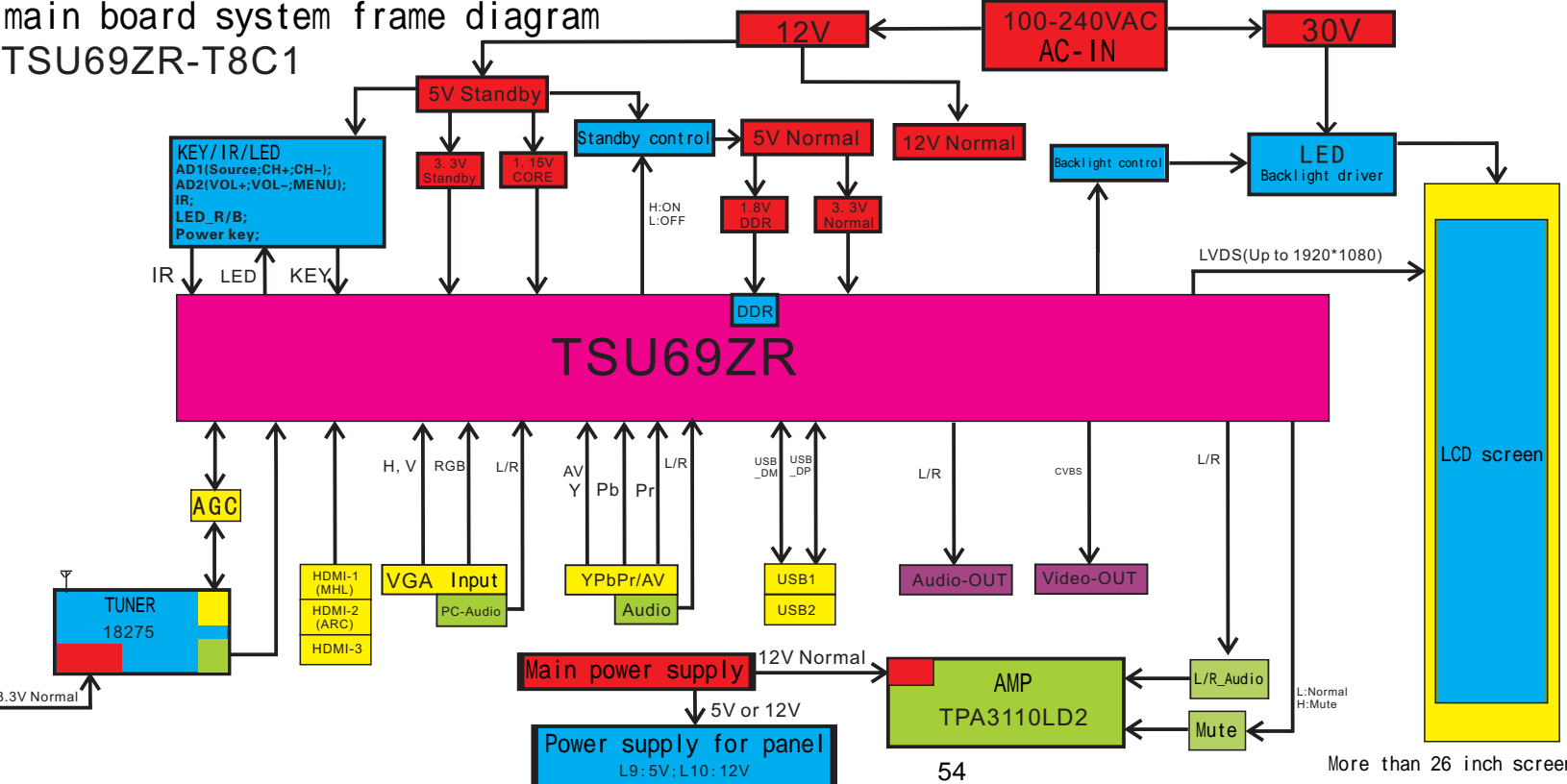


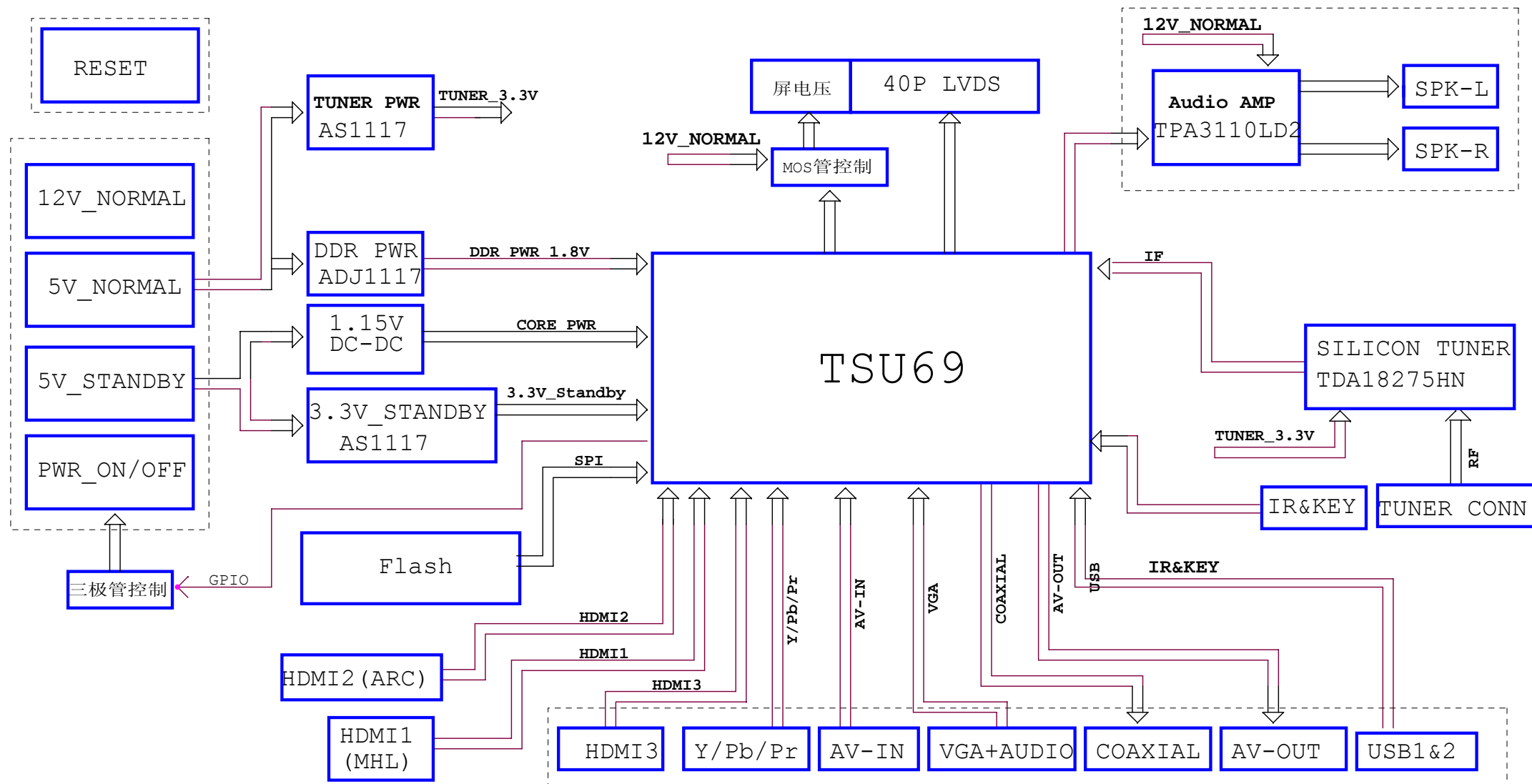
502-0081-00001

603-4502-05111G

512-0113-USB15

main board system frame diagram
TSU69ZR-T8C1

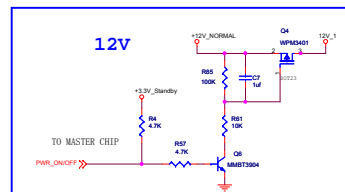
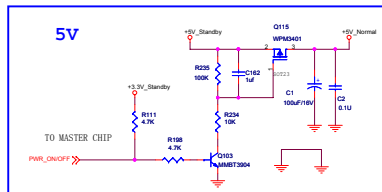
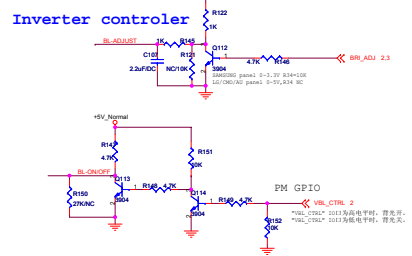
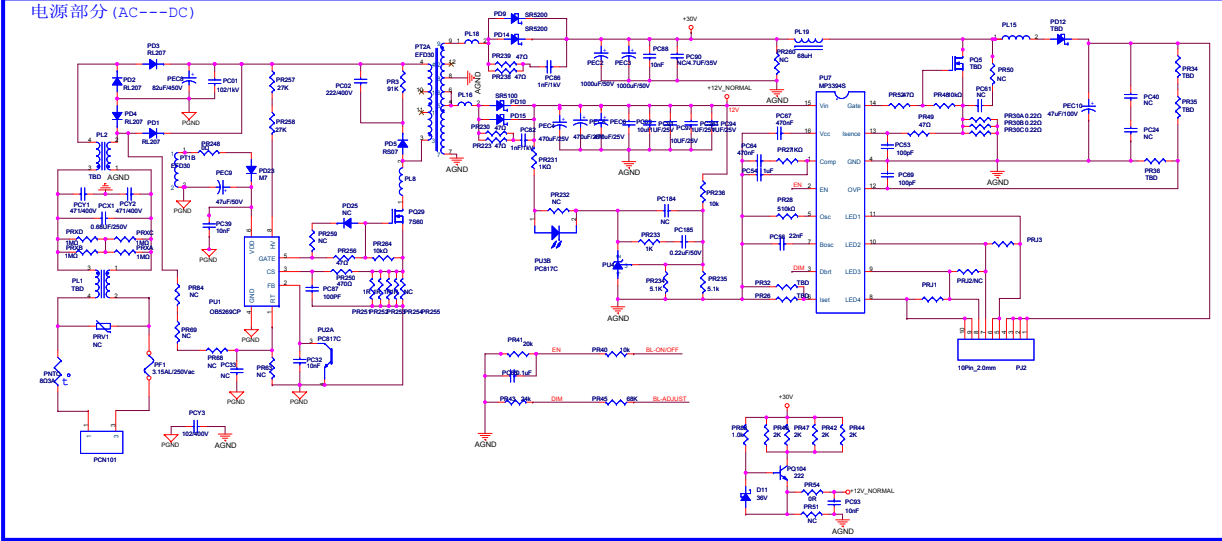




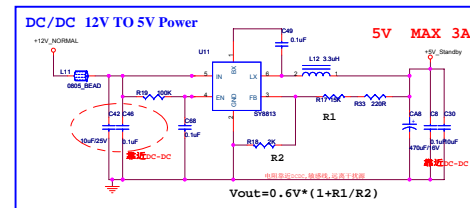
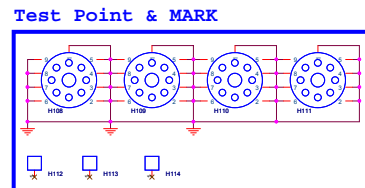
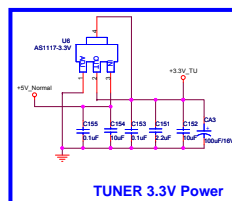
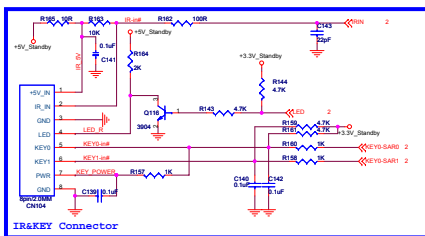
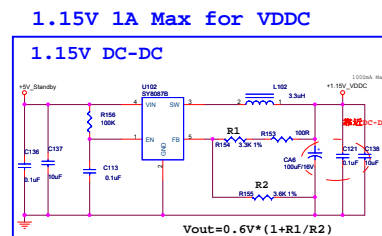
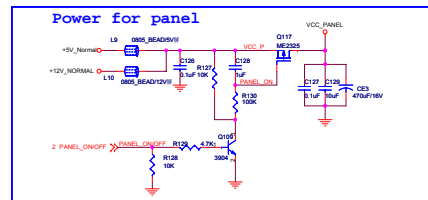
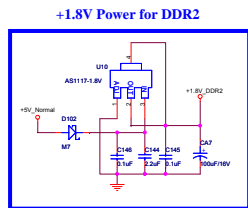
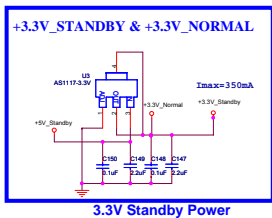
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文件编号:	T4241	版本: V3.0	页数: 1 of 10
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发行部门:	研发处	生效日期: Thursday, June 19, 2014	

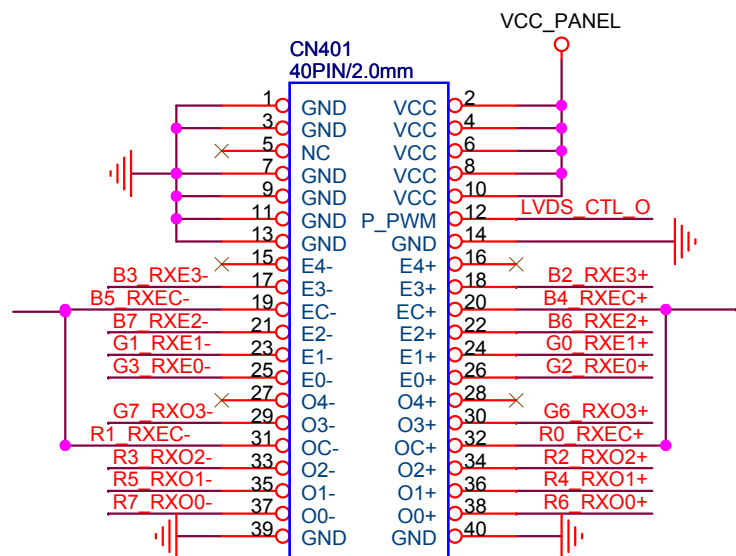


参数	KEYO-SAB0	KEYO-SAB1
额定功率	25W	25W
额定电压	12V	12V
额定电流	2.08A	2.08A
额定效率	85%	85%



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文件编号:	74241	页数:	10
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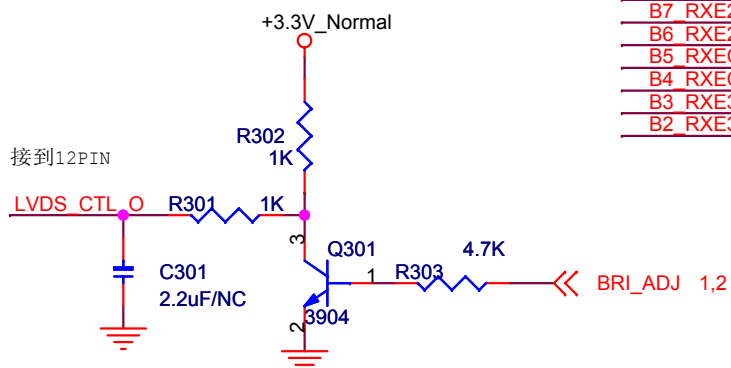


Net to other page

R7 RXO0- >> RXO0- 2
 R6 RXO0+ >> RXO0+ 2
 R5 RXO1- >> RXO1- 2
 R4 RXO1+ >> RXO1+ 2
 R3 RXO2- >> RXO2- 2
 R2 RXO2+ >> RXO2+ 2

G7 RXO3- >> RXO3- 2
 G6 RXO3+ >> RXO3+ 2

G3 RXE0- >> RXE0- 2
 G2 RXE0+ >> RXE0+ 2
 G1 RXE1- >> RXE1- 2
 G0 RXE1+ >> RXE1+ 2
 B7 RXE2- >> RXE2- 2
 B6 RXE2+ >> RXE2+ 2
 B5 RXEC- >> RXEC- 2
 B4 RXEC+ >> RXEC+ 2
 B3 RXE3- >> RXE3- 2
 B2 RXE3+ >> RXE3+ 2



LVDS

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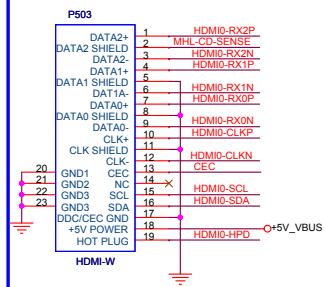
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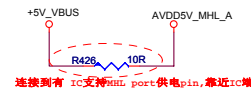
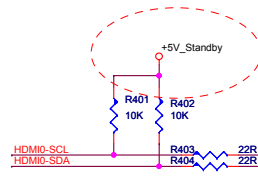
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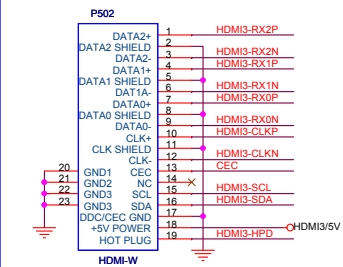
HDMI 2 (ARC)



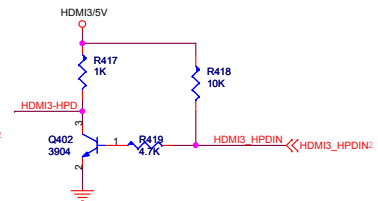
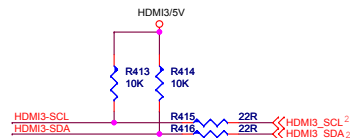
HDMI0-RX2P	HDMI0_RX2P	HDMI0_RX2P ₂
HDMI0-RX2N	HDMI0_RX2N	
HDMI0-RX1P	HDMI0_RX1P	HDMI0_RX1P ₂
HDMI0-RX1N	HDMI0_RX1N	
HDMI0-RX0P	HDMI0_RX0P	HDMI0_RX0P ₂
HDMI0-RX0N	HDMI0_RX0N	
HDMI0-CLKP	HDMI0_CLKP	HDMI0_CLKP ₂
HDMI0-CLKN	HDMI0_CLKN	



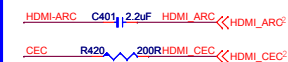
HDMI 3



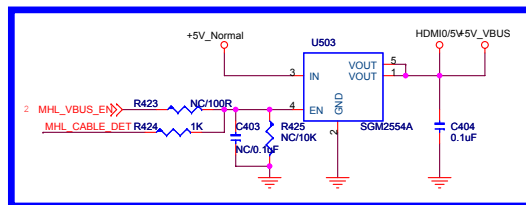
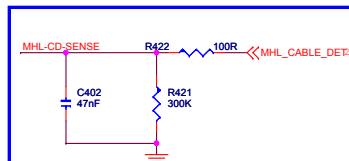
HDM13-RX2P	HDM13 RX2P	HDM13_RX2P ² HDM13_RX2N ²
HDM13-RX2N	HDM13 RX2N	
HDM13-RX1P	HDM13 RX1P	HDM13_RX1P ² HDM13_RX1N ²
HDM13-RX1N	HDM13 RX1N	
HDM13-RX0P	HDM13 RX0P	HDM13_RX0P ² HDM13_RX0N ²
HDM13-RX0N	HDM13 RX0N	
HDM13-CLKP	HDM13 CLKP	HDM13_CLKP ² HDM13_CLKN ²
HDM13-CLKN	HDM13 CLKN	



CEC & ARC



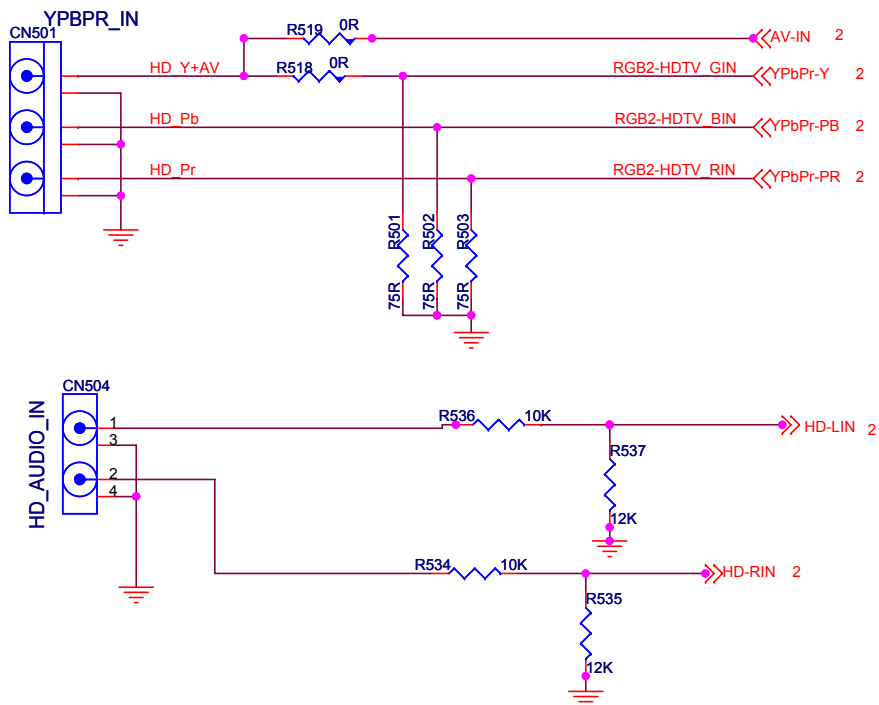
MHL



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文件编号:	T4241	版本: V3.0	页数: 5 of 10
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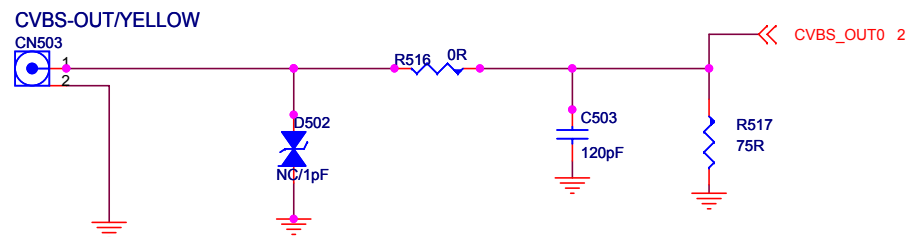
YPbPr



AV和YPbPr共用音频输入接口

AV的VIDEO和Y信号共用绿色接口。

AVOUT



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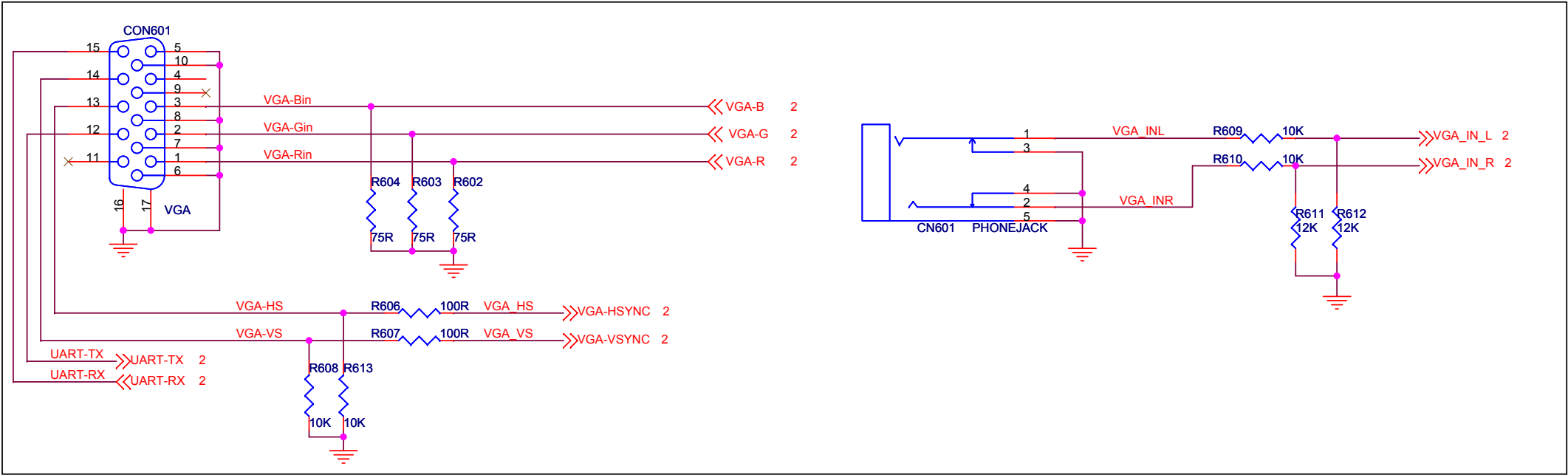
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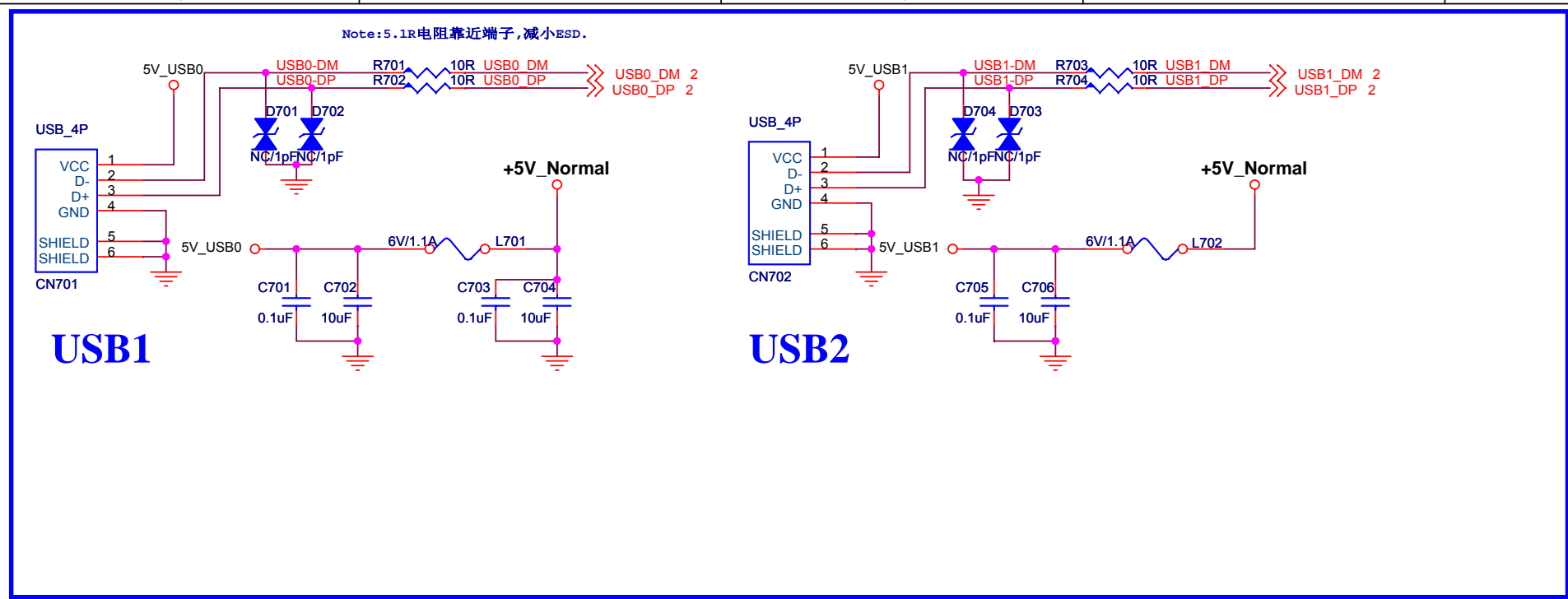
VGA



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文件编号:	T4241	版本: V3.0	页数: 7 of 10
设计:	廖为国	审核:	批准:
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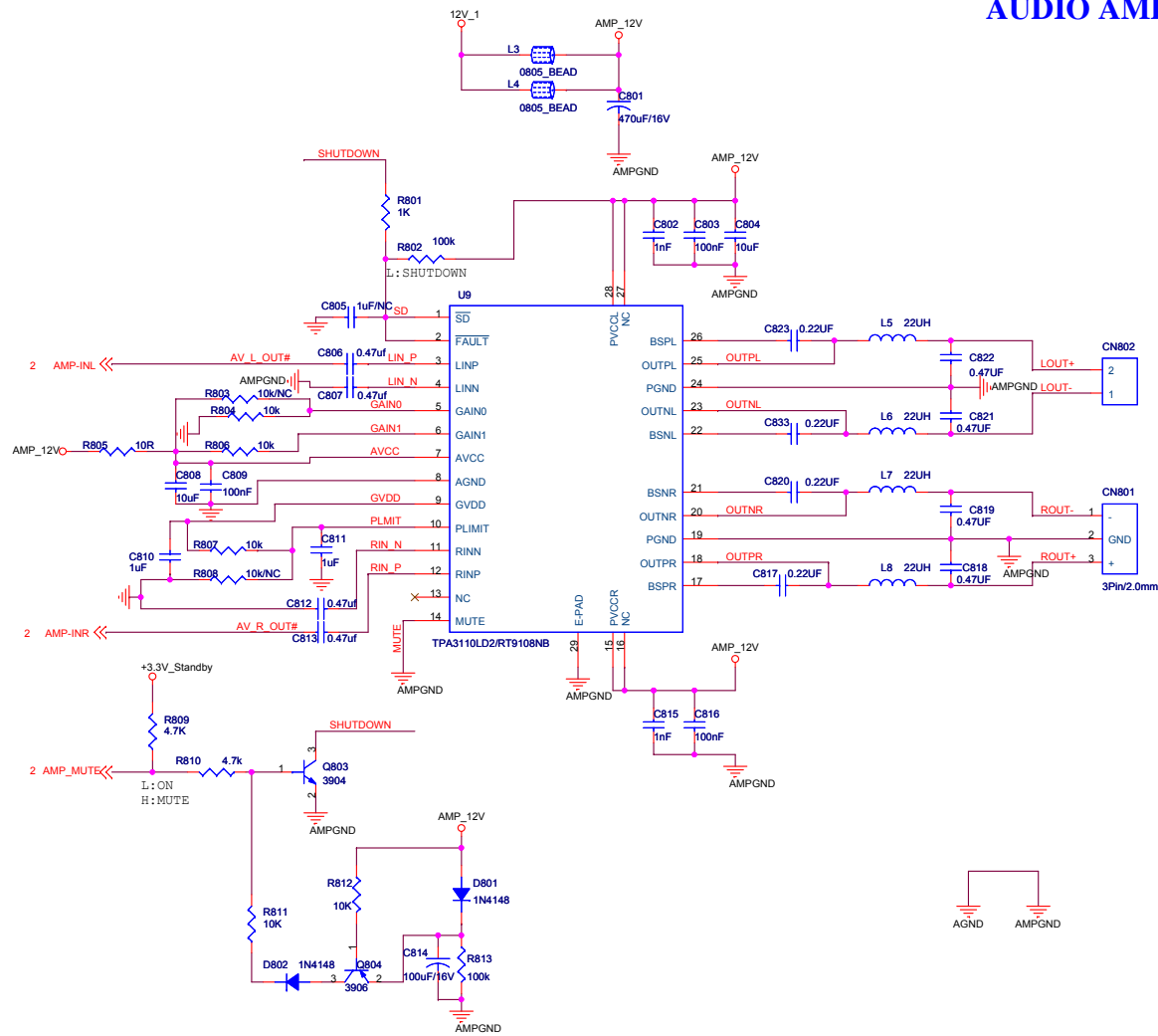
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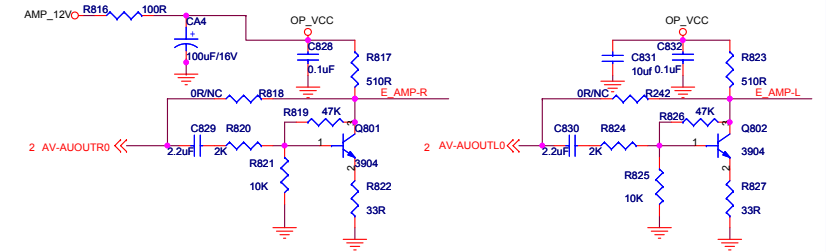
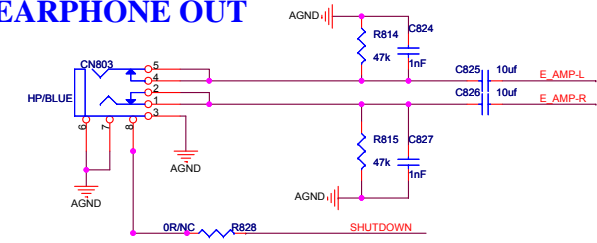
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AUDIO AMP



EARPHONE OUT



AUDIO OP

功放放大倍数调节

GAIN1 (PIN6)	GAIN0 (PIN5)	AMP GAIN (db)
0	0	20
0	1	26
1	0	32
1	1	36

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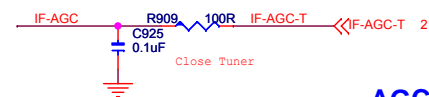
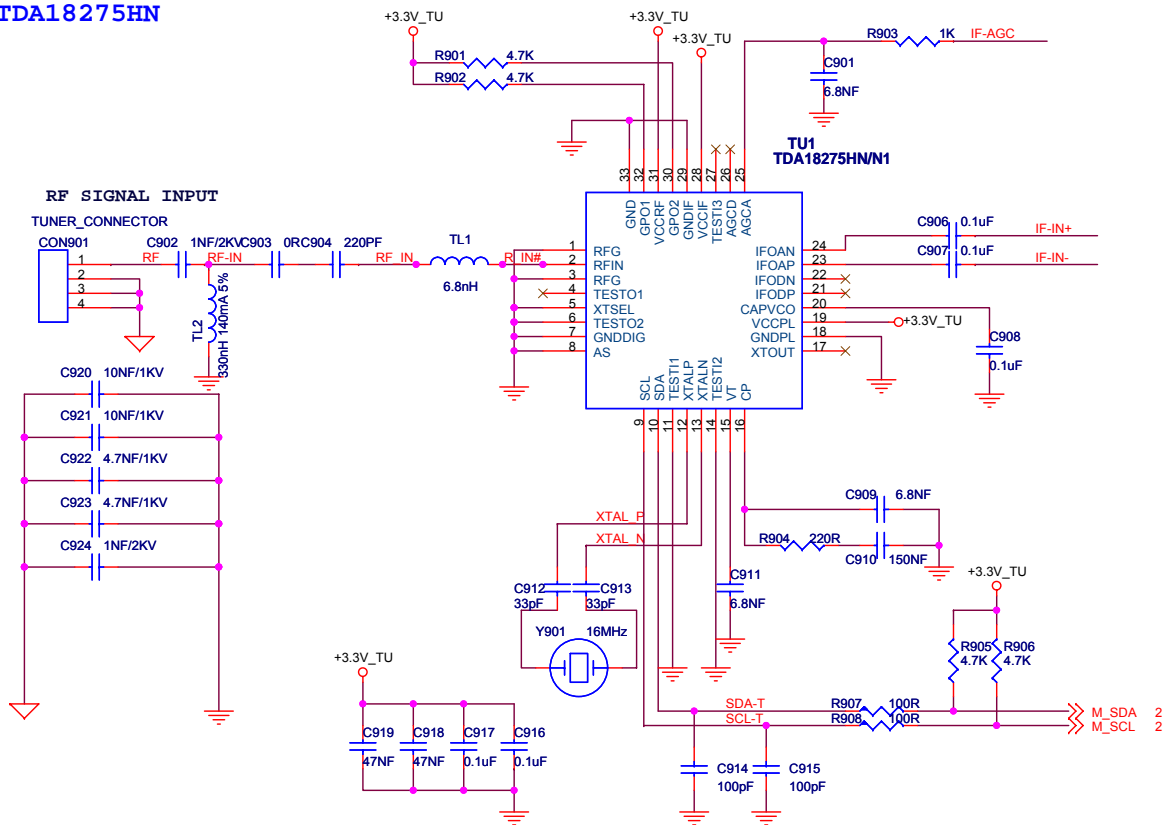
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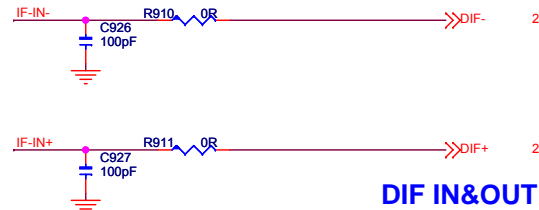
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TDA18275HN



AGC RC Filter



DIF IN&OUT

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设计:	廖为国	审核:	批准:
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