

Service  
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32PHA3052/71  
32PHA3052S/70



# Service Manual

Product Specification Sheet (Page1-13)  
User Manual Part(Page14-20)  
Troubleshooting Procedure(Page21-26)  
Factory Mode Adjustment (Page27-28)  
Software Upgrades(After Service)(Page29-38)  
Main Board Circuit Diagram (Page39-43)



Product Specification Sheet		
Country 國家	INDO	PHP
Series 系列	3052	3052
Series name 型號	32PHA3052S/70	32PHA3052/71
Set Product Manager		
Set Product Manager in outsourcing company		
E-mail address of main contact in outsourcing company		
Set Project Manager		
Status		
CR (yyyyww) of leading set		
Picture/Display 產品照片		
RC Type	7601-110002-0144FLP2	7601-110002-0144FLP2
Platform/Chipset 產品芯片	T4C1-V56	T4C1-V56
CPU中央處理器	N/A	N/A
GPU图形處理器	N/A	N/A
EMMC(Embedded Multi Media Card嵌入式存儲) (ROM只讀內存鏡像)	N/A	N/A
DDR (Double Data Rate双倍速率同步动态随机存储器) (RAM:随机存取存储器(random access memory))	32MB	32MB
PANEL 面板		
Diagonal Screen Size 對角屏幕尺寸	31.5"	31.5"
Backlight Type (Panel Supplier) 背光類型 (面板供應商)	DLED	DLED
1st source (panel) 第一來源(面板)	Samsung	Samsung
Perfect Motion Rate (PMR) (Perfect Picture Index -PPI) 完美運動速率 (PMR) (完美圖像索引-PPI)	200	200
Panel Resolution 面板解析度	1366*768	1366*768
Panel Frequency (Native) (Panel refresh rate) 面板頻率(原生)(刷新率)	50HZ	50HZ
Chasis Frequency 頻率	60HZ	60HZ
Brightness (Home Vivid Mode) cd/m² 亮度 (家用/鮮豔模式)	Min:200cd/m² , Typ:240cd/m²	Min:200cd/m² , Typ:240cd/m²
Panel contrast ratio 面板的對比度	1200:1	1200:1
Aspect ratio 寬高比	16:9	16:9
Response Time (ms) (G to G , typ. ms) 反应时间	8ms	8ms



Viewing Angle - H (L+R) (typ. Degree, CR ≥ 20) 可視角度 H	176°	176°
Viewing Angle - V (typ. Degree, CR ≥ 20) 可視角度 V	176°	176°
Anti Reflex Coated Glass 防反射鍍膜玻璃	NA	NA
Backlight Dimming 背光調光	PWM	PWM
Scanning Segments (amount) 掃描段	48.25--863.25MHZ	48.25--863.25MHZ
Analog + PWM dimming 類比+能源管理 調光		
2D/3D Logic (2D/3D Active/3D Passive) 2D/3D轉換系統	YES	YES
Color Gamut 色域	2D	2D
PICTURE ENHANCEMENT 圖像增強	NTSC : 65%	NTSC : 65%
3D MA deinterlacing 3D MA去交錯	YES	YES
Dynamic backlight control 動態背光控制	NA	NA
Local Dimming 局部調光	TBC	TBC
Dynamic contrast 動態對比度	TBC	TBC
Color Temperature 色溫	Standard, Warm, Cool	Standard, Warm, Cool
Blue stretch/green enhance 藍電平延伸/綠色增強	Digital Crystal Clear	Digital Crystal Clear
PQ engine (philips 定義) 畫質	NA	NA
PQ Resolution 畫質解析度	NA	NA
3D features 3D : 功能	NA	NA
Improved 3D Super Resolution	NA	NA
ISF Color Management	2D	2D
Digital Natural Motion (2D/3D)	2D	2D
Perfect Natural Motion (2D/3D)	NA	NA
2D to 3D Conversion	NA	NA
3D Depth adjustment (Auto/Offset)	NA	NA
Auto 3D Detection	NA	NA
Supported Display Resolution (Computer Inputs) (VGA 支援 格式)	720*400@70HZ 640*480@60HZ 800*600@60HZ 1024*768@60HZ 1360*768@60HZ	720*400@70HZ 640*480@60HZ 800*600@60HZ 1024*768@60HZ 1360*768@60HZ
Supported Display Resolution (Video Inputs) HDMI 支援格式	480i, 480p, 576i, 576p, 720p, 1080i, 1080p(24/25/ 30/50/60Hz)	480i, 480p, 576i, 576p, 720p, 1080i, 1080p(24/ 25/30/50/60Hz)
Brightness (Shop Vivid mode: 10% boost)	YES(1% boost)	YES(1% boost)
Pixel Plus Link (I/II/III) -外部設備畫素加強	NA	NA
Active Control (Shop mode 仍可	NA	NA



Natural Motion/Perfect Natural Motion (動態加強)	NA	NA
"UHD Display" - logo (Industry)	NA	NA
"UHD Receiver" - logo (Industry) - pending std	NA	NA
HDMI 2.0 4:4:4 @ 60(色彩取樣 @frame/sec)	NA	NA
10-bit color support(色階)	NA	NA
DAPQ	NA	NA
Ambilight	N/A	N/A
Ambilight Version	N/A	N/A
Pixels	N/A	N/A
Ambilight Performance (nit, no of colors, halo length)	N/A	N/A
Ambilight Features ( <i>Wall colour adaptive, Lounge Light Mode, Ambilight Motion, Gaming Mode</i> )	N/A	N/A
Ambilight for 3D	N/A	N/A
Ambilight for all TV Events	N/A	N/A
Ambilight Open Source via JointSpaceApp	N/A	N/A
Wall Distance Adaptive (Stand vs Mount)	N/A	N/A
Motion Adaptive	N/A	N/A
Built-in AL + Hue	N/A	N/A
TV as Lamp(s) in Hue ecosystem	N/A	N/A
In screen demo in mobile shop app	N/A	N/A
Ambi Wakeup (ref HTV)	N/A	N/A
Ambimusic	N/A	N/A
SOUND QUALITY		
Sound (TV)	YES	YES
Sound (Internal)	YES	YES
Mono/Stereo/Virtual Surround (三種音場)	NA	NA
Output Power (10% THD) RMS (RMS Watts)	12W	12W
Speaker configuration	6W+6W	6W+6W
Speaker system (Number of on board Speakers )	2.0	2.0
Woofer(低音喇叭)	NA	NA
Speaker type ( 內置揚聲器)	built-in(normal)	built-in(normal)
Auto Volume Levelier / Auto Volume Levelier +(換台音量自動調整)	YES	YES
Speaker module detachable	NA	NA
Sound Claim (Incredible Surround/Cinema Surround/Clear Sound/AmbiWOOx/3D Movie/Incredible Surround 3D)	NA	NA



Bass (Bass control/DBE/Ultra Bass/Ultra Bass II)	NA	NA
Wireless Sound Interface	NA	NA
Dolby Digital DecoderType	NA	NA
DTS Studio Sound	NA	NA
DTS 2.0+ Digital out	NA	NA
Acoustic Compensation Filters 主板滤波补偿	NA	NA
Dynamic Treble Enhancement 动态高音增强	NA	NA
Programmable Bass And Treble Curve (可编程的低音和高音曲线) 用户	NA	NA
Visible Sound	NA	NA
Sound (External) 外部揚聲器	NA	NA
External Sound device type	NA	NA
Output Power (10% THD) RMS	NA	NA
Hotel mode	YES	YES
Simple	YES	YES
INSTALLATION		
Analog/Digital	YES	YES
PLL Digital Tuning	NA	NA
Preset Channels	TBC	TBC
Autostore	TBC	TBC
Fine Tuning	TBC	TBC
Direct Channel	TBC	TBC
EASE OF USE		
Controls	YES	YES
RC suitable for	YES	YES
Auto picture modes	YES	YES
Auto sound modes	YES	YES
AVL	TBC	TBC
Video modes	YES	YES
Source detection	TBC	TBC
HDMI connections	YES	YES
PC modes	YES	YES
Child lock with code	YES	YES
Teletext	NA	NA
Teletext features	NA	NA
OSD	YES	YES
Menu	YES	YES
Sleep Timer	YES	YES
Program List	YES	YES
Alternate channel	YES	YES
EPG	NA	NA
OTA	NA	NA
3D tv (PR/SG)	NA	NA
2D/3D converter	NA	NA



Dual View Gaming	NA	NA
RC APK _Myremote like (for android phone,Tablet)	NA	NA
Wifi Display Miracast(小屏传大屏)	NA	NA
Ambi-Sphere	NA	NA
Initial setup OSD (OOBE)	NA	NA
Zapping OSD with EPG data	NA	NA
Channel Matrix with EPG data	NA	NA
Channel and source edit/skip channel	NA	NA
Last status	NA	NA
Multimedia Applications		
Video Playback Formats 播放支援格式	MPEG-2/MPEG-4 /H.264	MPEG-2/MPEG-4 /H.264
Subtitles Formats Support 字幕支援格式	SRT、ASS	SRT、ASS
Music Playback Formats 音樂支援格式	WMA , AAC	WMA , AAC
Picture Playback Formats 圖片支援格式	JPEG、BMP、PNG	JPEG、BMP、PNG
Pause TV/USB recording (PVR) 刻录(錄影)	NA	NA
Time shift (時間瞬移)	NA	NA
PIP/POP 多屏	NA	NA
USB	USB2.0(*1)	USB2.0(*1)
USB Harddisk Format (Power)	FAT/NTFS (500mA)	FAT/NTFS (500mA)
MHL	NA	NA
ARC	YES (HDMI2)	YES (HDMI2)
Connectivity (I/O) CONNECTIONS		
I/O port to be clearly indicated (列接口)	TV*1/USB*1/VGA*1 /HDMI*2/AV-IN&Audio*1 /Audio-OUT*1	TV*1/USB*1/VGA*1 /HDMI*2/AV-IN&Audio*1 /Audio-OUT*1
Playback	NA	NA
Reception	TBC	TBC
Sound system	YES	YES
SAP, MTS	NA	NA
Source list :-	YES	YES
Digital integrated	NA	NA
TV	YES	YES
Component video 1	60P	60P
Component video 2 (HD/SD)@24p/50/60 (integrated with	60P	60P
HDMI Number	2	2
HDMI 1 (video)@24p/50/60	60P	60P
HDMI 2 (Video)@24p/50/60	60P	60P
HDMI 3 (Video)@24p/50/60	NA	NA
HDMI 4 / 3840x2160@24p/30	NA	NA
HDMI 1.4a	YES	YES



HDMI 2.0	NA	NA
HDMI/DVI	YES	YES
HDMI ARC	HDMI-2	HDMI-2
PC input /3.5mm min audio jack	YES	YES
AV 1 (input)	YES	YES
AV 2 (output)	N/A	N/A
Headphone	NA	NA
Video and Audio out	Audio out	Audio out
Digital audio out (SPDIF) co-axial/Optical(Optional)	NA	NA
RJ45	NA	NA
DLNA/ Certification	NA	NA
WiFi	NA	NA
CI	NA	NA
Smart card	NA	NA
SD card Slot	NA	NA
Mic in	NA	NA
Camera	NA	NA
USB	USB2.0(*1)	USB2.0(*1)
HDMI Number	HDMI1.4(*2)	HDMI1.4(*2)
EasyLink (HDMI-CEC)	YES	YES
Scart (EU) Connections	NA	NA
YPbPr/CVI (EU/Latam) Connections	NA	NA
CVBS (EU/Latam) Connections	N/A	N/A
Audio L/R in	YES	YES
CI+ slots	N/A	N/A
Antenna	*1	*1
Satellite (for K&S only)	N/A	N/A
VGA	YES	YES
USB Support	FAT/NTFS (500mA)	FAT/NTFS (500mA)
Digital audio out (SPDIF)	N/A	N/A
Headphone	NA	NA
Ethernet-LAN RJ-45	NA	NA
Service Connector	VGA connectable	VGA connectable
Wireless connections	NA	NA
Wi-Fi Band Concurrent	NA	NA
WoWLAN	NA	NA
WoLAN	NA	NA
Bluetooth for subwoofer/RC (do not claim commercially)	NA	NA
Multichannel over BT	NA	NA
HDCP v2.2 (on HDMI 2.0 port)	NA	NA
MHL (HDMI+power+return channel)	NA	NA
MISCELLANEOUS		
Operating power consumption 運行功	55W (max.)	55W (max.)
Standby power [Watt] 備用電源 [瓦]	<0.5W	<0.5W



Switch off power [Watt] 切斷電源 [瓦]	<0.5W	<0.5W
AC switch AC開關	YES	YES
EPA	NA	NA
Auto Standby 自動待機	NA	NA
China Standard 240V/50Hz AC 中國標準	NA	NA
Internal/external PSU 內部/外部電源	Internal	Internal
China energy label (mandatory implement time?) 中國能效標識	NA	NA
Product Manufacturing label 產品製造標籤	YES	YES
Ambient temperature 環境溫度	NA	NA
UPC code	NA	NA
EAN code	TBC	TBC
Net Weight (Product unit only) 電視本體重量	3.8KG	3.8KG
Gross weight (Product in Packaging) 電視+紙箱+配件包+所有包材	4.9KG	4.9KG
Dimensions (w, h, d) - unit with stand 電視含底座	730*472*193mm	730*472*193mm
Dimensions (w, h, d) - unit without stand 電視不含底座	730*430*71mm	730*430*71mm
Box Dimensions (w, h, d) (Carton) 箱	825*128*514mm	825*128*514mm
Container load 20"/40"/40"H (slipsheet) 裝櫃量	532pcs(20") /1088pcs(40") / 1290pcs(40"HIGH)	532pcs(20") /1088pcs(40") / 1290pcs(40"HIGH)
Colour -前框 (Front frame)	L82	L82
Colour -下巴 (Leading edge) 裝飾件	Black crystal	Black crystal
Front graphics material (邊框材質)	Plastic	Plastic
Front graphics (邊框)	Plastic	Plastic
Wall mounting spec. 壁掛孔/screw type 螺絲型號	100*100	100*100
Local Keyboard 按鍵板	YES	YES
Philips wordmark 商標logo	PHILIPS	PHILIPS
POS label POS標籤	NA	NA
Kensington lock 安全鎖插槽	NA	NA
Cable management (cable tie 束線帶)	NA	NA
Stand type (Swivel/non Swivel) 旋轉/不旋轉	non Swivel	non Swivel
Table top stand 桌面支架	YES	YES
Speaker stand 喇叭/揚聲器支架	NA	NA
Smart TV		
Android OS Version	NA	NA
Linux OS Version	NA	NA
Customize Launcher	NA	NA
Customize Browser	NA	NA
Customize IME	NA	NA



Customize Search Tool	NA	NA
Customize application for TV	NA	NA
APP store 應用商城	NA	NA
LeTV 影視	NA	NA
Neflix	NA	NA
3rd party application install enable	NA	NA
Control via mobile device(Android)	NA	NA
OpenGL	NA	NA
Keyboard and Mouse support	NA	NA
Support USB Camera	NA	NA
QQ	NA	NA
Voice control	NA	NA
Gesture control	NA	NA
账户管理 (Face recognition & content recommendation)	NA	NA
Portal	NA	NA
Help(e-manual)	NA	NA
Game in APP store	NA	NA
Wi-fi Miracast Certified (HDCP 2.2 supported)	NA	NA
GoogleCast Receiver	NA	NA
Tablet Screen Mirroring (Wi-Fi)	N/A	N/A
TAD AppFTA channels (free app)	N/A	N/A
TAD Server, FTA channel	N/A	N/A
Indep. Watching (TV&PVR), FTA&CI+	N/A	N/A
SAT>IP Client, FTA	N/A	N/A
HEVC @ FHD 60Hz	N/A	N/A
HEVC @ UHD 60Hz	N/A	N/A
H264 @ UHD	N/A	N/A
VP9 @ UHD	N/A	N/A
UI & Interaction	2K16 UI	2K16 UI
Ux (Basic: without Dashboard, Advanced: with Dashboard)	Basic	Basic
Animations 动画	N/A	N/A
Drag and drop 拖动	N/A	N/A
Remote Control Version (state if include Keyboard/Pointer)	N/A	N/A
Sensor.accelerometer & sensor gyroscope	N/A	N/A
Easy access to eDFU (Blue key) 电子说明书	YES	YES
Text Entry (Basic : Text Entry via HID and/or On-screen Keyboard)	Basic	Basic
Multi-view 多屏显示	N/A	N/A
Multi-task 多任务	N/A	N/A
Screen Format Adjustments 比例列表	4:3,16:9,film,PC Mode(HDMI)	4:3,16:9,film,PC Mode(HDMI)



Dual Screen (TV and TeleText) 图文	N/A	N/A
e-Sticker	YES	YES
Priority Channel List	YES	YES
Channel Cloning via USB	N/A	N/A
Logo Editor (Channel Editor)	N/A	N/A
Channel Scanning (Australia/NZ)	N/A	N/A
Time Zone (Australia/NZ) 時區	N/A	N/A
PC Sorting	N/A	N/A
Intelligent Source List	N/A	N/A
On-screen Remote (via HDMI)	N/A	N/A
Cold boot to broadcast 後台掃台	N/A	N/A
Cold boot to online dashboard	N/A	N/A
Warm boot to broadcast	N/A	N/A
Warm boot to online dashboard	N/A	N/A
Electronic Program Guide (IP & Broadcast)	N/A	N/A
8 Days Electronic Program Guide	N/A	N/A
Live Setting Assistant (include PQ level) 設置助手直播	N/A	N/A
Signal Strength Indication 信號強度指示	N/A	N/A
Two simultaneous recordings in stdby	YES	YES
UI Languages	English , Malaysia, Indonesian, Thai, Vietnamese,Chinese	English , Malaysia, Indonesian, Thai, Vietnamese,Chinese
Memory Profile (DRAM)	128M	128M
Menu Layout Update 菜單更新換UI	N/A	N/A
Wizards (Ease of Installation) 安裝工具 (類似螺絲刀)	N/A	N/A
Single Sign On (google a/c only)	N/A	N/A
Personalized Dashboard (定制化UI)	N/A	N/A
Face recognition 面部識別	N/A	N/A
Shopmode 2015	YES	YES
CloudTV app content in search and Dashboard (on TV)	N/A	N/A
Firmware Upgradeable 軟件升級	YES	YES
Smart TV	N/A	N/A
Software Platform	N/A	N/A
Android Home Page	N/A	N/A
Android OS	N/A	N/A
UI Resolution	720P	720P
Google Voice Search	N/A	N/A
Google Hangouts	N/A	N/A
Remote Control	N/A	N/A
Gesture	N/A	N/A



Pre-installed Google Apps (Google Search, Google Hangouts, Google Play Movies, Google Play Music,	N/A	N/A
Basic Performance Profile	N/A	N/A
Google Play	N/A	N/A
Memory size to install apps	N/A	N/A
Extendable USB storage for App Download	N/A	N/A
Smart TV Experience	N/A	N/A
DLNA 1.5 - DMR, DMP	N/A	N/A
DLNA 1.5 - DMS	N/A	N/A
MultiRoom Client, FTA+Scrambled Non-Copy Protected & CI+	N/A	N/A
MultiRoom Server, FTA+Scrambled Non-Copy Protected & CI+	N/A	N/A
PVR Auto Recording (IP-EPG)	N/A	N/A
API - access control	N/A	N/A
xTV Support	N/A	N/A
Rich User Interaction	N/A	N/A
Smart Home	N/A	N/A
4k photo support in Android apps	N/A	N/A
4k photo support in Picture apps	N/A	N/A
4k photo support in USB/DLNA	N/A	N/A
UHD content playback from all sources (USB,DLNA,web)	N/A	N/A
NextFlix UHD	N/A	N/A
Youtube UHD	N/A	N/A
Google Play UHD	N/A	N/A
Smart TV with Broadcast PIP; single video	N/A	N/A
SMART TV offline content (cached)	N/A	N/A
MPEG-DASH (CENC & CFF)	N/A	N/A
HLS	N/A	N/A
Wake up from APP	N/A	N/A
Preinstalled Apps	N/A	N/A
Netflix *	N/A	N/A
YouTube Leanback (HTML5) *	N/A	N/A
Spotify *	N/A	N/A
BBC iPlayer *	N/A	N/A
Skype	N/A	N/A
Skype Cowatch (mix audio)	N/A	N/A
Cloud Explorer	N/A	N/A
Cloud TV	N/A	N/A
Smart TV Services	N/A	N/A
Social Apps	N/A	N/A
Game Dashboard in Google launcher	N/A	N/A
OpenGL Games	N/A	N/A



Playstation Now App	N/A	N/A
OnLive App	N/A	N/A
STA 3.0 & 4.0 Clients	N/A	N/A
STA shared App store	N/A	N/A
Camera & Mic API	N/A	N/A
TV as an app (Verimatrix, etc)	N/A	N/A
Companion Apps	N/A	N/A
Philips TV Remote App	N/A	N/A
Sharing in Remote App	N/A	N/A
Ambilight TV App	N/A	N/A
Ambilight+Hue App	N/A	N/A
User Manual App	N/A	N/A
Channel Editor - PC Client App	N/A	N/A
Mobile app for in-shop (cover MRA/Demo Me/Shop RC functions)	N/A	N/A
Proximity based shop app activation (BTLE/NFC/QR tbc)	N/A	N/A
MyRemote App (Old TV Remote App)	N/A	N/A
Ambilight Lounge App	N/A	N/A
Broadcast/Certification		
DVB-T/C	NA	NA
DVB-S/S2	NA	NA
DVB-T/T2	NA	NA
DVB-C2	NA	NA
ISDB-T	N/A	N/A
SBTVD-T (Brazil)	NA	NA
SATVD-T (Argentina)	NA	NA
Analog (LATAM/APMEA)	PAL SECAM NTSC	PAL SECAM NTSC
Nicam (APMEA)	NA	NA
Enhanced SSU	NA	NA
Italy HD Book 2.1.1 (GOLD)	NA	NA
HD-Book Italy 3.0 (HEVC@FHD)	NA	NA
UK D Book 7a	NA	NA
Freeview SD (UK)	NA	NA
Freeview HD (UK)	NA	NA
MHEG 5(只有HbbTV有)	NA	NA
TiVuON (IT)	NA	NA
TNT HD (FR)	NA	NA
Argentina Ginga - NCL	NA	NA
Brazil Ginga (A/B)	NA	NA
Video Playback	YES	YES
Dual Cam (CI+)	N/A	N/A
Dual Tuner	N/A	N/A
CI+ 1.4 Multistream CAM	N/A	N/A
CI+ 1.3 CAM	N/A	N/A
HBBTV 1.5	N/A	N/A



HBBTV 2.0	N/A	N/A
MHP	N/A	N/A
Ziggo Interactief	N/A	N/A
3D DVB Phase 1	N/A	N/A
3D signaling bits in broadcast	N/A	N/A
Background update installation	N/A	N/A
Marlin/ Play ready	N/A	N/A
Sustainability/Power		
PVC / BFR Free 无卤	YES	YES
Mercury Free 无汞	N/A	N/A
Cabinet Resin 面框材质	ABS	ABS
Eco-Flower Certified	N/A	N/A
ECO Mode	YES	YES
Mains Power	AC 100-240V 50/60Hz	AC 100-240V 50/60Hz
Standby Power	<0.5W	<0.5W
Quick Startup	YES	YES
Network Standby mode (max 6W)	NA	NA
Off Mode Power	<0.5W	<0.5W
On Mode Power (Consumption Power)	55W (max.)	55W (max.)
Auto Switch-Off Timer 休眠时间	YES	YES
Green packaging (Non-EPS) 绿色包装	YES	YES
Light Sensor 光感应器	NA	NA
Picture Mute (For Radio) 单独听	N/A	N/A
EU Energy Label (A++/A+/A/B) - Requirement	NA	NA
non-EU Energy Label - Standby Label (A/B/C)	YES	YES
Blauer Engel (Germany)	NA	NA
Certification		
Dolby Digital/Dolby Digital Plus/Dolby Pulse	N/A	N/A
DTS 2.0+ Digital out	N/A	N/A
DTS Premium Sound	N/A	N/A
DivX	N/A	N/A
WMA	N/A	N/A
Wi-Fi	N/A	N/A
DLNA Certified (DMR/DMP/DMS)	N/A	N/A
SKYPE	N/A	N/A
HDMI	N/A	N/A
ACCESSORIES		
RC遙控器	RC0	RC0
DFU (DFU / eDFU)說明書(紙本/電子檔)	eDFU	eDFU
QSG 使用指南	YES	YES
USB	NA	NA
SD card	NA	NA



WiFi Dongle	NA	NA
YpbPr extension wire	NA	NA
L/R extension wire	NA	NA
AV extension wire	NA	NA
RF DC ISOLATED PROTECTOR	NA	NA
Connector guide	NA	NA
Service Contract Brochure and sticker	NA	NA
RC with Batteries	NA	NA
3D glasses	NA	NA
Microphone	NA	NA
Maincord (Power cord)	NA	NA
Antenna Cable	NA	NA
By-packed wallmount	NA	NA
Warranty card	YES	YES
Markets	NA	NA
Safety Legal Leaflet (EU) - 3D Health Advise and Ukraine requirement (安规小册子)	N/A	N/A
Philips Warranty Leaflet 保修卡	YES	YES
Optional accessories	N/A	N/A
Active Glasses (PTA509/529)	N/A	N/A
Passive Glasses (PTA419)	N/A	N/A
Dual Gaming Glasses (PTA436)	N/A	N/A
Wi-Fi Adapter (PTA01/00/PTA127/55)	N/A	N/A
Skype Camera (PTA317)	N/A	N/A
Others	N/A	N/A
By-packed accessories		
Active Glasses (509)	NA	NA
Active Glasses (529)	NA	NA
Passive Glasses (PTA417)	NA	NA
Dual Gaming Glasses	NA	NA
Woofer (e.g. SWB50) with Soundbeam	NA	NA
Sound Bar	NA	NA
Detachable speaker base 可拆卸喇叭	NA	NA
Wireless audio adaptor	NA	NA
Wi-Fi Adapter (PTA01/00/PTA127/55)	NA	NA
Skype Camera (PTA317)	NA	NA
Table Stand 底座	YES	YES
Accessory Bag	YES	YES
Mains Cord (EU/UK/Brazil/APMEA) 电源线	YES	YES
Remote Control	YES	YES
Philips BatteriesX2	YES	YES
Printed QSG	YES	YES

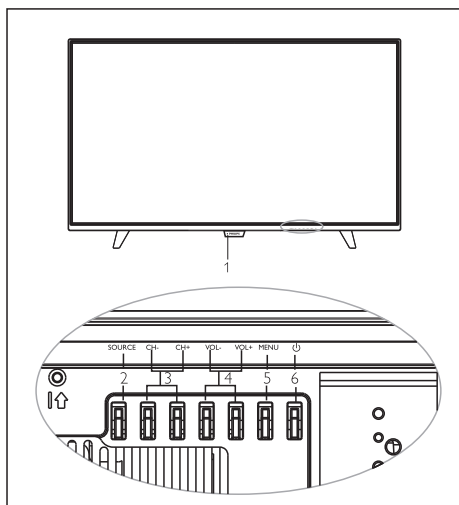


### 3 Your TV

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](http://www.philips.com/welcome).

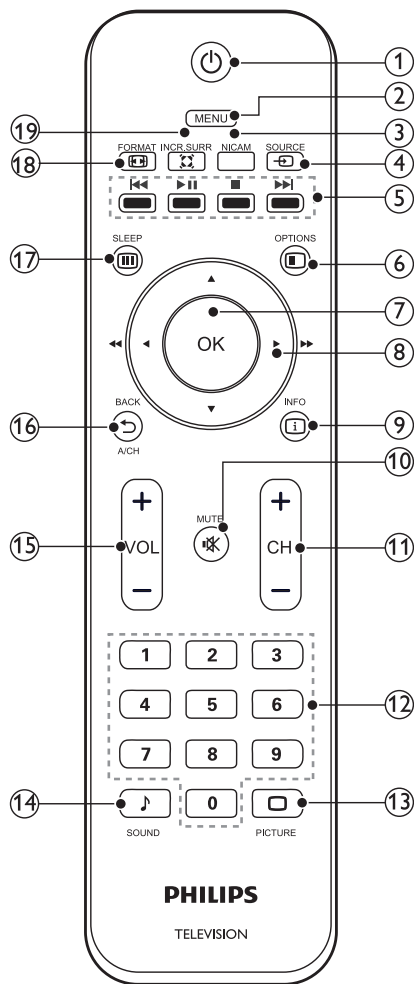
(The following machine picture only for reference, please refer to the actual object.)

#### 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



- ① (Power/Standby button)
  - After power-up, press it to turn on the TV;
  - Press it again to switch to standby mode.
- ② **Menu**  
Turn on /off the menu.



③ **NICAM**

Switch between sound effects (only available for TV signal sources that support NICAM function).

④ **Source**

Select an input source for the TV.

⑤ **⏮ ⏪ ⏩ ⏭**

Shortcut keys in USB mode: previous, start/pause, stop, next.

⑥ **⚙ Options**

Access the options related to the current activity.

⑦ **OK**

- In menu mode: confirm the input or selection
- In USB mode: play/pause.

⑧ **▲▼◀▶** Navigation keys

- In menu mode: navigate the menu.
- In USB mode: press ◀▶ to search forward or backward while playing music or video files.

⑨ **i Info.**

Display the program information when available.

⑩ **🔇 Mute**

Mute or unmute the sound.

⑪ **CH +/-**

Switch to the previous/next channel in TV mode.

⑫ **Numeric keys (0~9)**

Select a channel or value.

⑬ **🖼 PICTURE**

Switch to the preset image mode.

⑭ **🎵 SOUND**

Switch to the preset audio mode.

⑮ **Volume +/-**

Increase/reduce the volume.

⑯ **↶ Return / CH Switch**

Return to the previous channel.

⑰ **📺 Sleep**

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

⑱ **📺 FORMAT**

Select the aspect ratio of image.

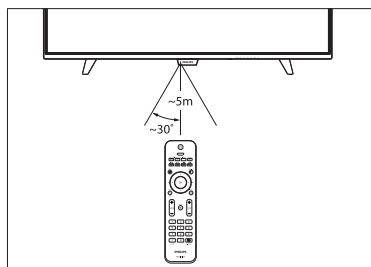
⑲ **🔊 Incredible Surround**

Enable or disable the virtual surround audio effect.

---

## 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.

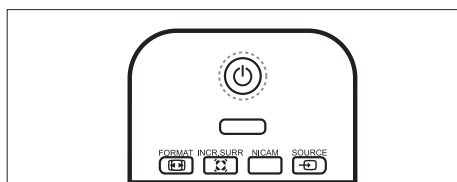
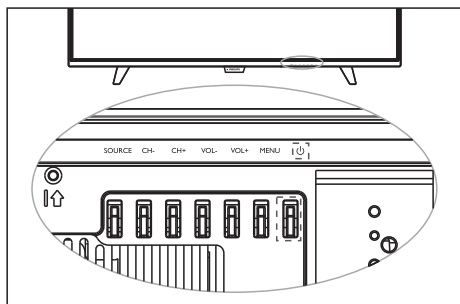





## 4 Use your TV

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

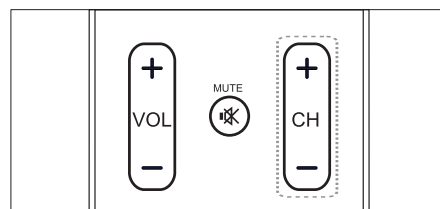
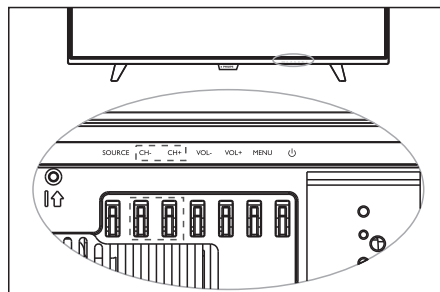
- Press  (Standby-On) on the remote control.
  - » The standby indicator switches to lights up.




#### 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.

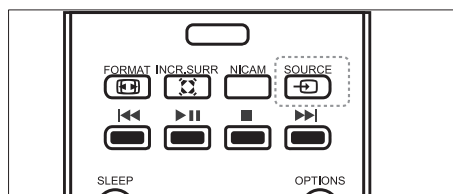
### Watch connected devices






#### Note

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

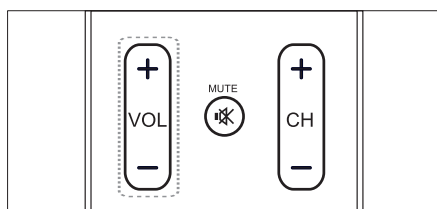
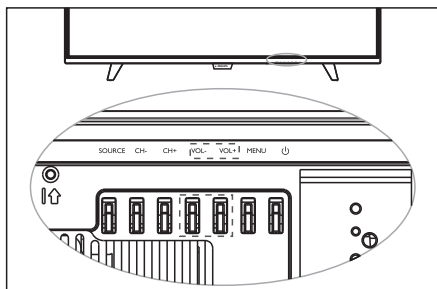
### Use the Source button





- 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**).
- Press  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](http://www.philips.com/support).

## Display resolutions

### Computer Formats

- Resolution - refresh rate:
  - 720 × 400 70Hz
  - 640 × 480 60Hz
  - 800 × 600 60Hz
  - 1024 × 768 60Hz
  - 1360 × 768 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 ( NTFS, 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

- 32" :6W x 2

## Inherent resolution

- 32" :1366 x 768

## Tuner / Reception / Transmission

- Aerial input: 75ohm coaxial (IEC75)
- TV system: PAL,NTSC, SECAM

## Remote Control

- Batteries: 2 x AAA

## Power Supply

- Main Power Supply:  
100-240V~, 50/60Hz
- Standby Energy Consumption :  
≤0.5W
- Environment Temperature: 5- 40 °C
- Power consumption:  
32" :55W

## 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
32"	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.

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## 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.

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## Contact us

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

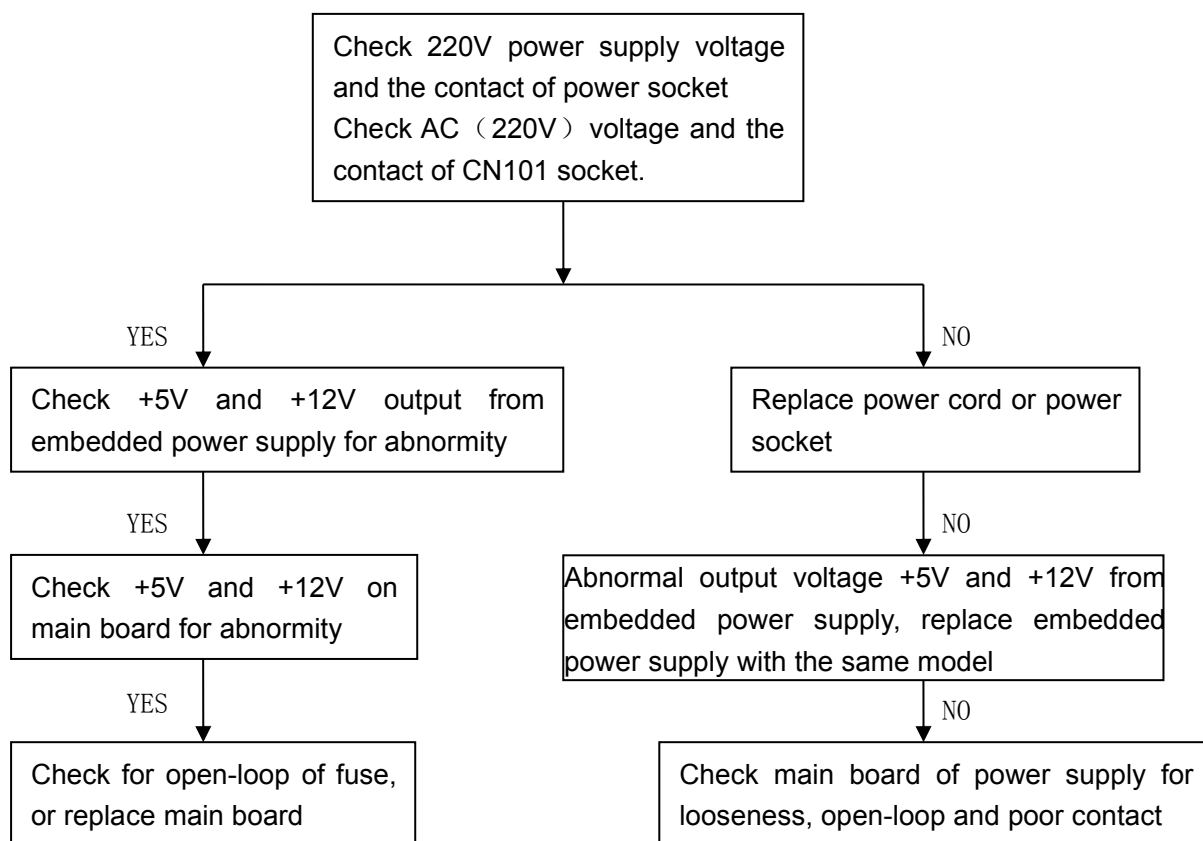
- Please make a note of your TV model and serial number before you contact Philips Customer Service Centre. These numbers are printed on the back/bottom of the TV and on the packaging.



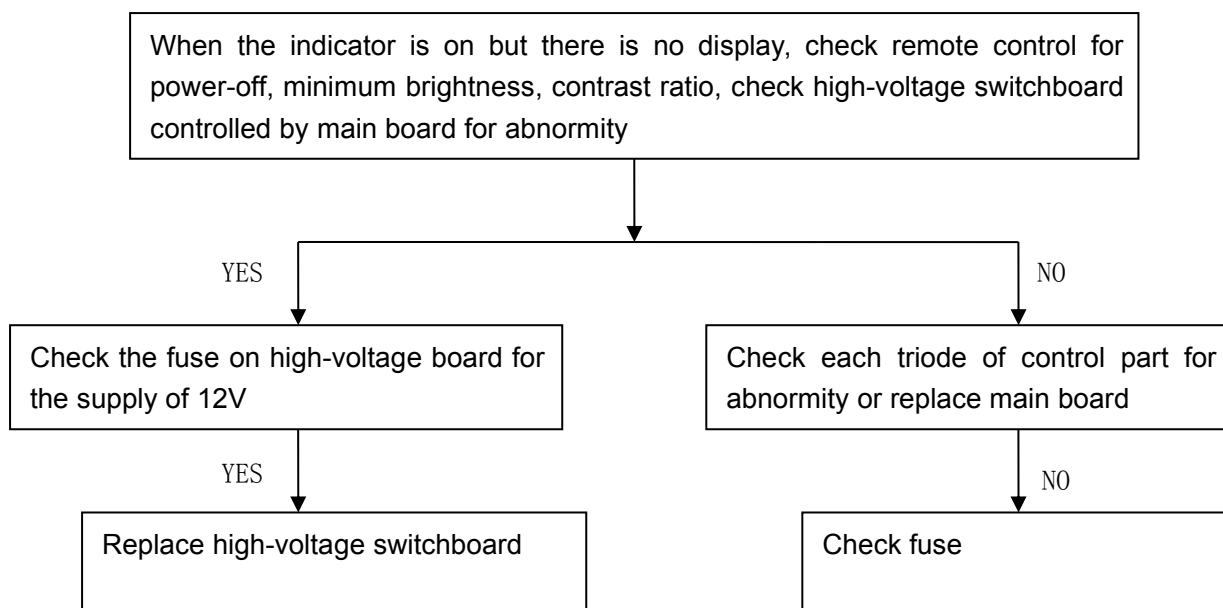
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# Troubleshooting Procedure

## 1. No power



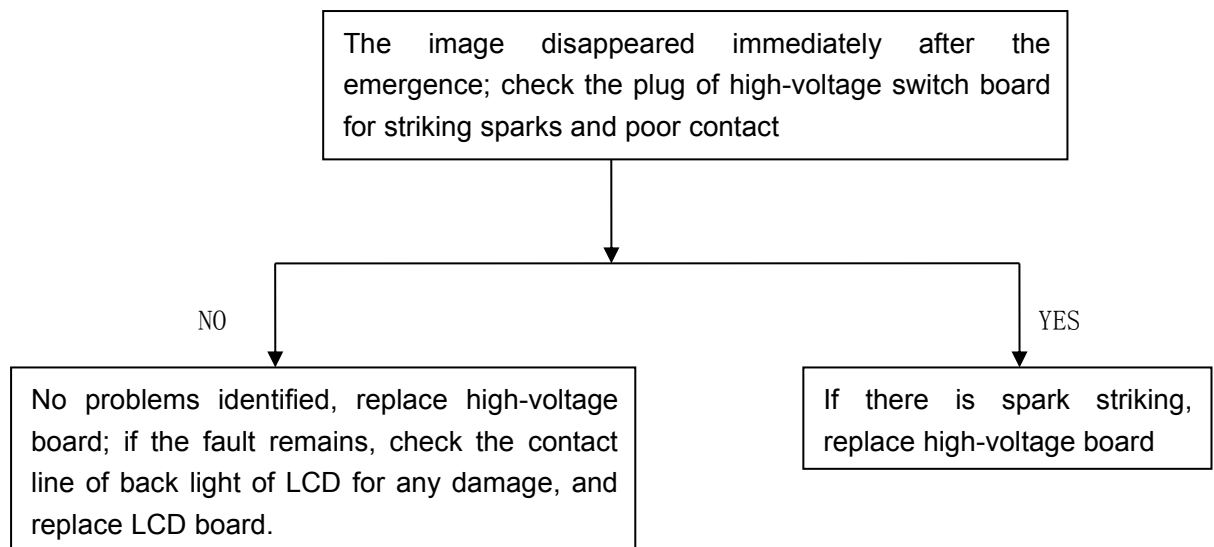
## 2. Without light



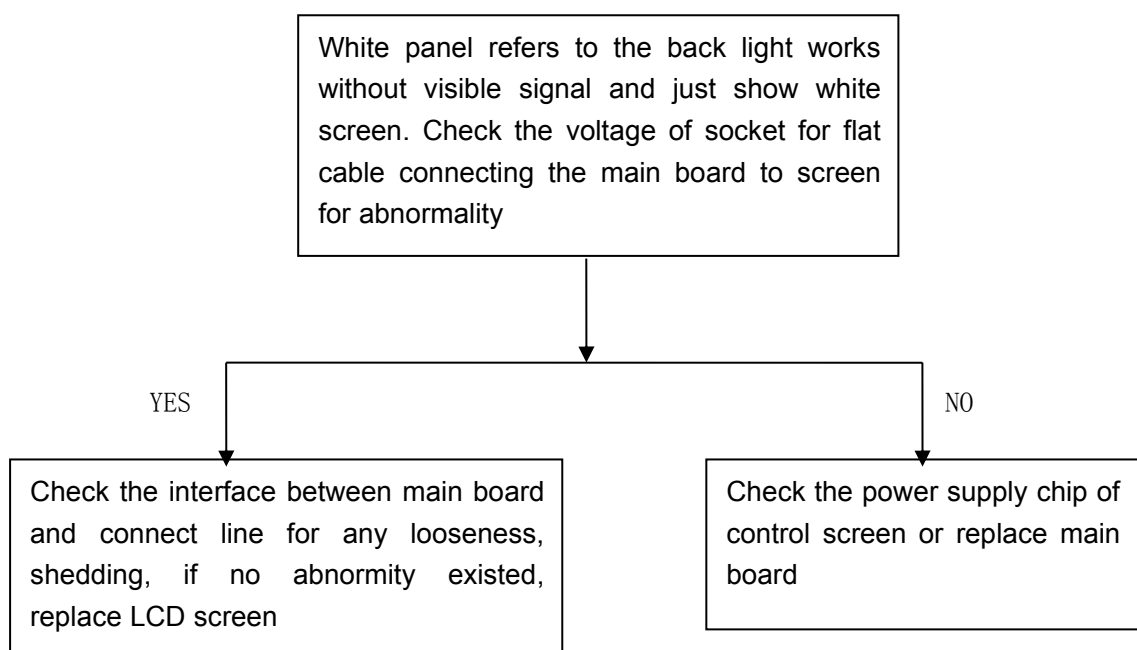


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**3. Protection or without light (refers to the disappearance of image several seconds after the emergence of image)**



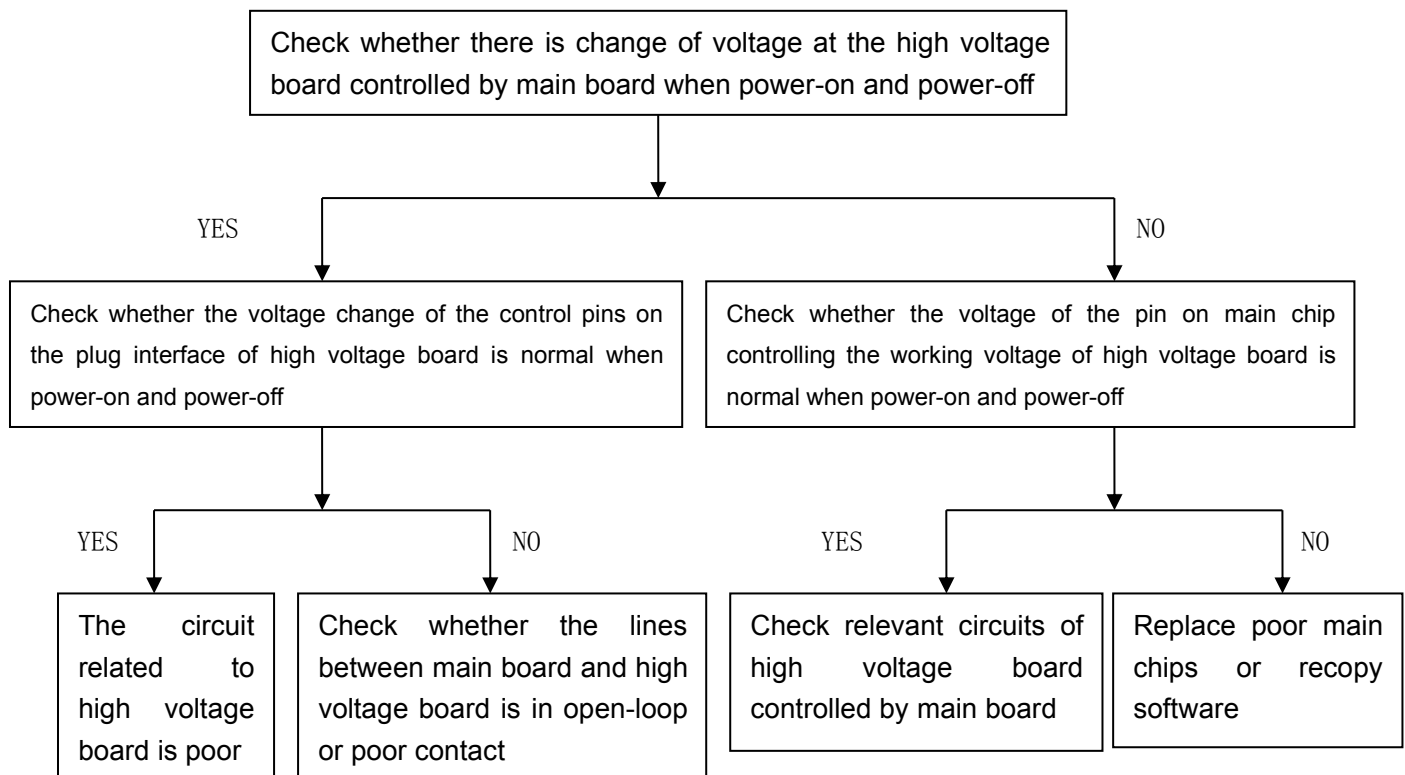
**4. White panel**



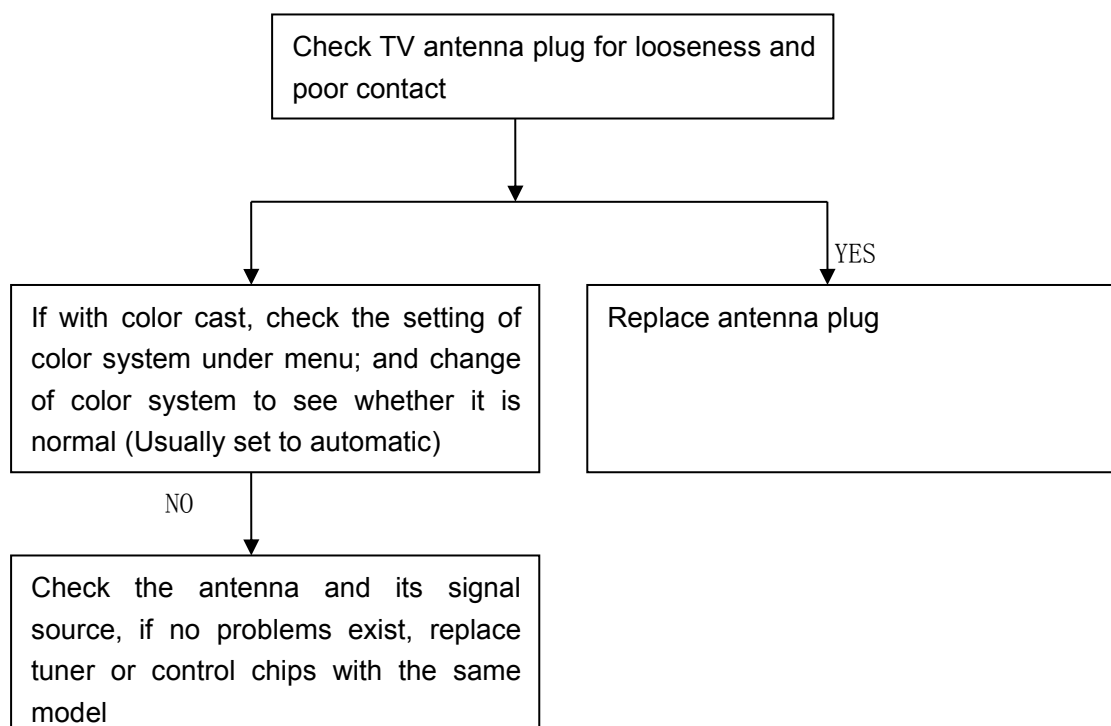


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**5. White screen after power-off (work normally when power on, but when power-off or no signal input, the screen shows a white screen)**

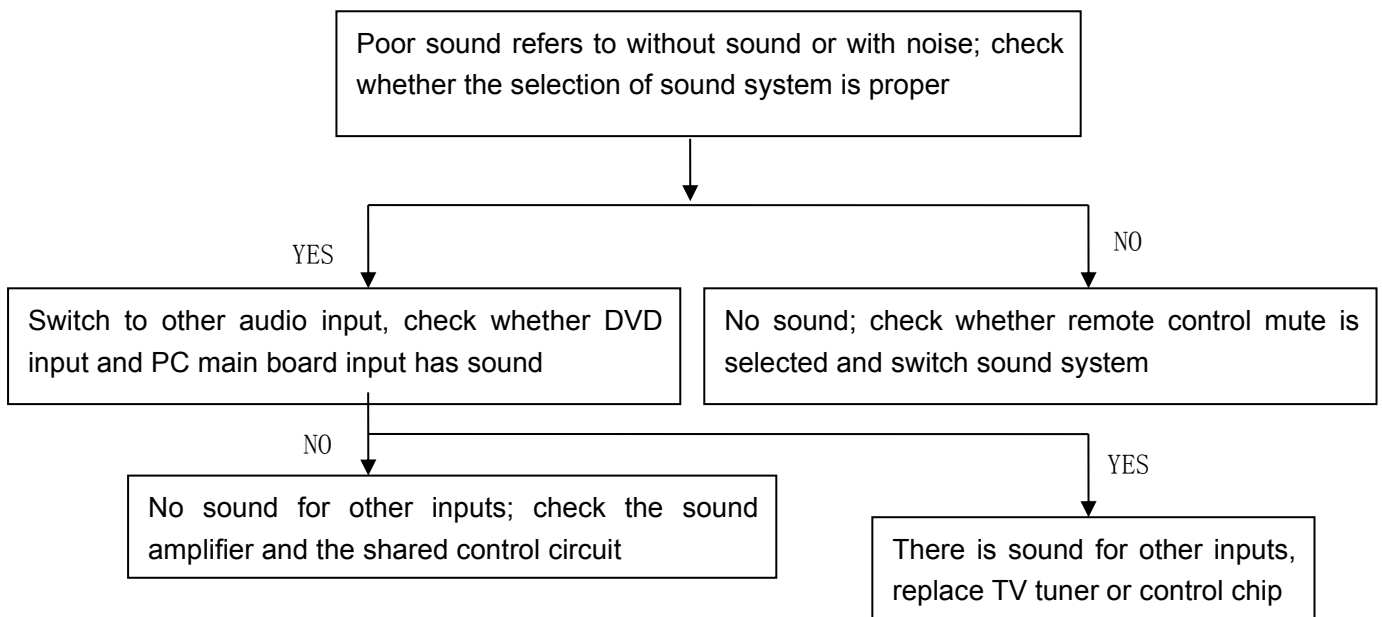


**6. TV without channel or with color cast**

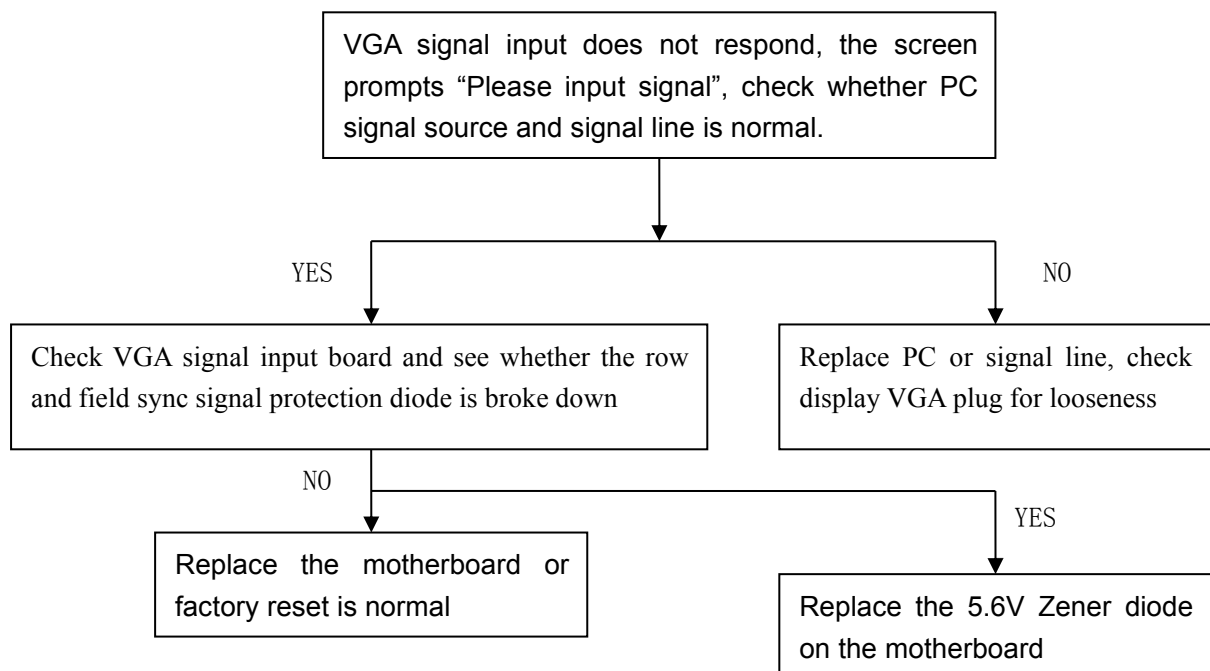




## 7. Poor sound

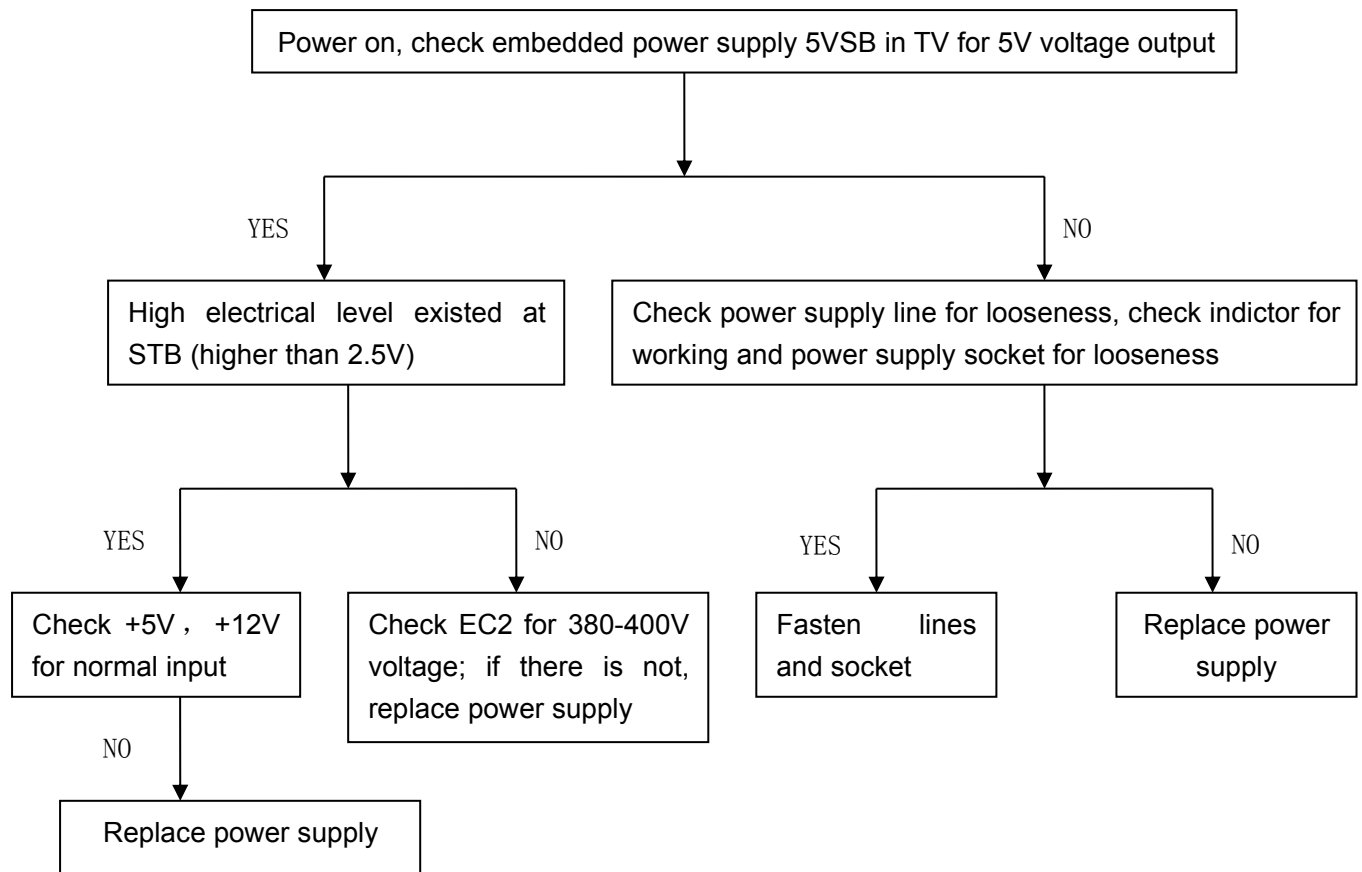


## 8. No VGA input signal





## 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,



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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.



Factory menu entry: Press MENU, and then press 1999

Primary menu	Secondary menu	Value,remark
ADC ADJUST	MDOE	VGA,YPBPR,Selection
	R-GAIN	Front-end gain adjustment
	G-GAIN	
	B-GAIN	
	R-OFFSET	Clamp level adjustment
	G-OFFSET	
	B-OFFSET	
	AUTO ADC	ADC automatically adjust
PICTURE MODE	Input Source	Source Selection
	MODE	Dynamic/Standard/Soft/User
	BRIGHTNESS	BRIGHTNESS
	CONTRAST	CONTRAST
	COLOR	COLOR
	SHARPNESS	SHARPNESS
	TINT	TINT
	Copy all	No function
W/B ADJUST	inputsource	Source Selection
	TEMPERATURE	Cool, Standard, Warm
	R-GAIN	White level adjustment
	G-GAIN	
	B-GAIN	
	R-OFFSET	Black level adjustment
	G-OFFSET	
	B-OFFSET	
	Copy all	No function
SSC SETTING	MIU Enable	DDR spectrum enable
	MIU0 Span	Exhibition frequently wide
	MIU Step	Spread spectrum step
	LVDS enable	LVDS spectrum enable
	LVDS Span	Exhibition frequently wide
	LVDS Step	Spread spectrum step
	LVDS swing	LVDS swing
Spectral set	2HOUR OFF	2hours power off enable
	WDT	Watch dog on/off
	White pattern	White pattern selection
	Restore user default	Factory reset
	PVR_RECORDALL	PVR Record on/off
	Power	Power mode selection
	Mirror	Mirror function selection
	Ageing mode	Ageing mode enable
VIF	Vif 1	Vif set
	Vif 2	Vif set



	Vif 3	Vif set
Qmap adjsut	PQ setting	
PEQ	PEQsetting	
OverScan	Overscan_resolution	Reselution select
	Overscan_hsize	Adjust overscan H size
	Overscan_hposition	Adjust overscan H position
	Overscan_vsize	Adjust overscan V size
	Overscan_vposition	Adjust overscal V position
other	Test pattern	
	UART DEBUG	DEBUG ON/OFF
	HDMI CEC/ARC	CEC/ARC ON/OFF
	Backlight	Adjust backlight
CI+ key usb upgrade	CI+ key usb upgrade	
SW information	SW information	
Non-linear	MODE	Feature Selection
	OSD 0	Curve adjustment
	OSD 25	
	OSD 50	
	OSD 75	
	OSD 100	
Channel table1	KTC factory Frequecy table set	
CI factory setting	No function	
Channel table2	KTC factory Frequecy table set	
Channel dvbt	KTC factory Frequecy table set	



# MST6M182/6E182/TSUV59MSXU/MSD3553/V56/U69/ software upgrades (After Service)

## 1、 Software upgrade tools and materials

- \* Personal computer (WINDOWS XP or WINDOW7 32 bit operating 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 8G)
- \* 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 YPbPb 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.

**Factory Setting**

- ADC ADJUST
- PICTURE MODE
- W/B ADJUST
- SSC
- Other Setting
- VIF
- Power
- Aging
- CH Table1
- CH Table2
- UART DEBUG
- NONLINEAR
- Reset
- software update(USB)
- SW INFO
- VER:V.1 TUNER:PAL+NTSC+SECAM
- BD:T2BIG Mar 28 2011 11:12:05
- SAMSUNG LTA320AP18

**ADC ADJUST**

MODE	YPbPr(SD)
R-GAIN	4582
G-GAIN	4573
B-GAIN	4574
R-OFFSET	2048
G-OFFSET	256
B-OFFSET	2048
AUTO ADC	SUCCESS

**ADC ADJUST**

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

VERSION: V.1  
Aug 20 2010 LC320EUD-SBA1\_120

## 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:

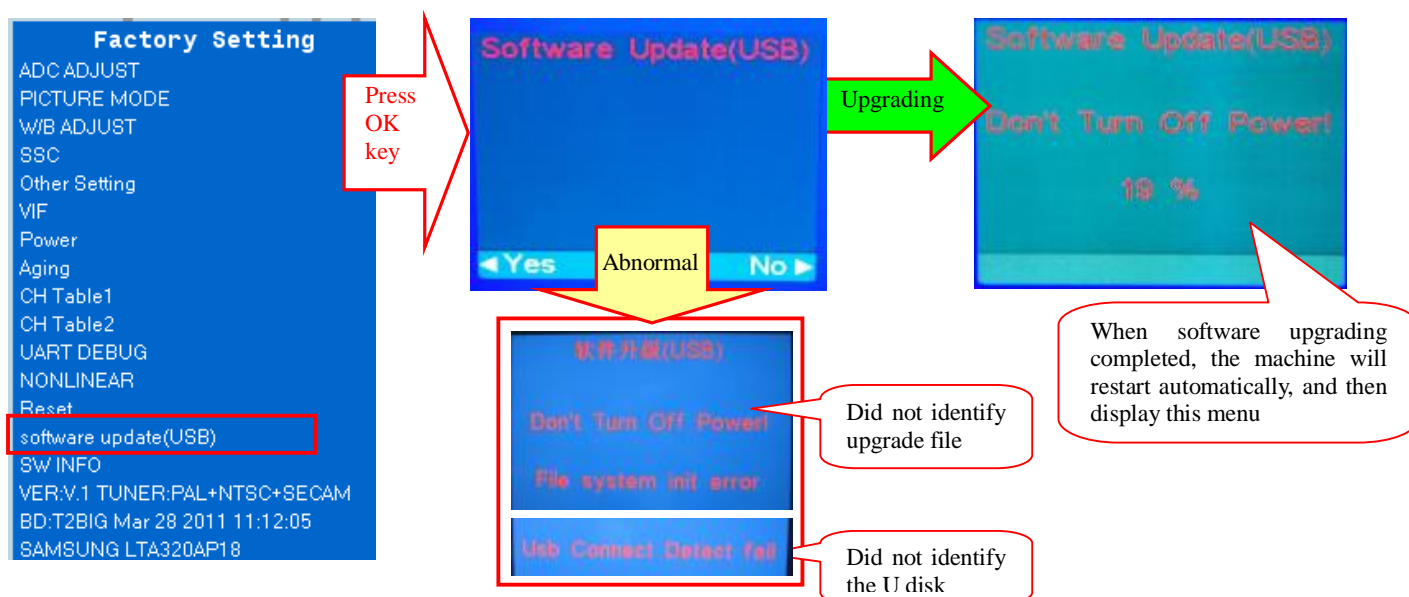
a. After prompt "File system init error", means that the machine have found USB device, but did not find the needing



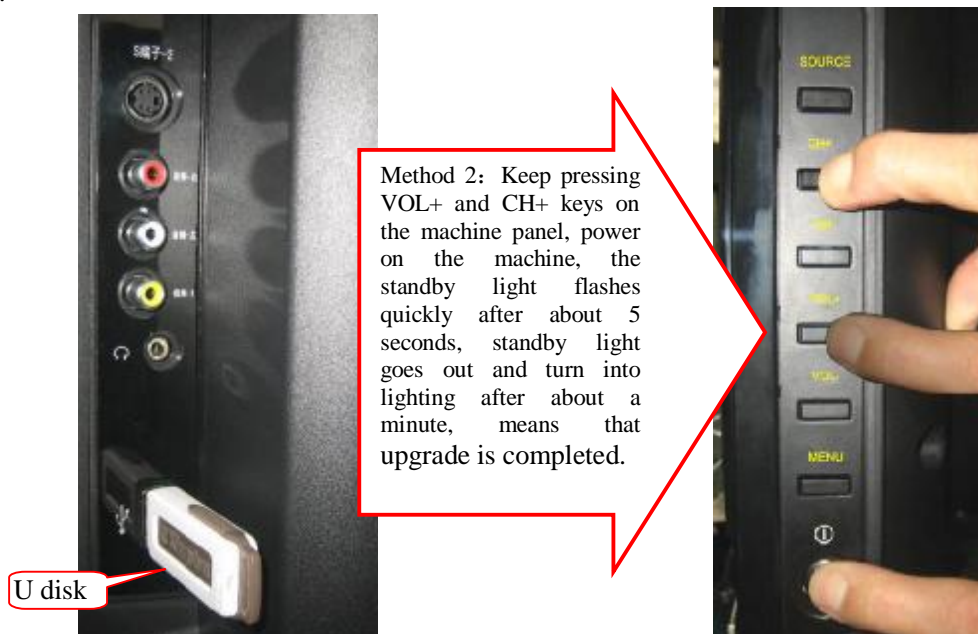
upgrade software, please check the software name is correct or format the U disk again and then copy software.

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.

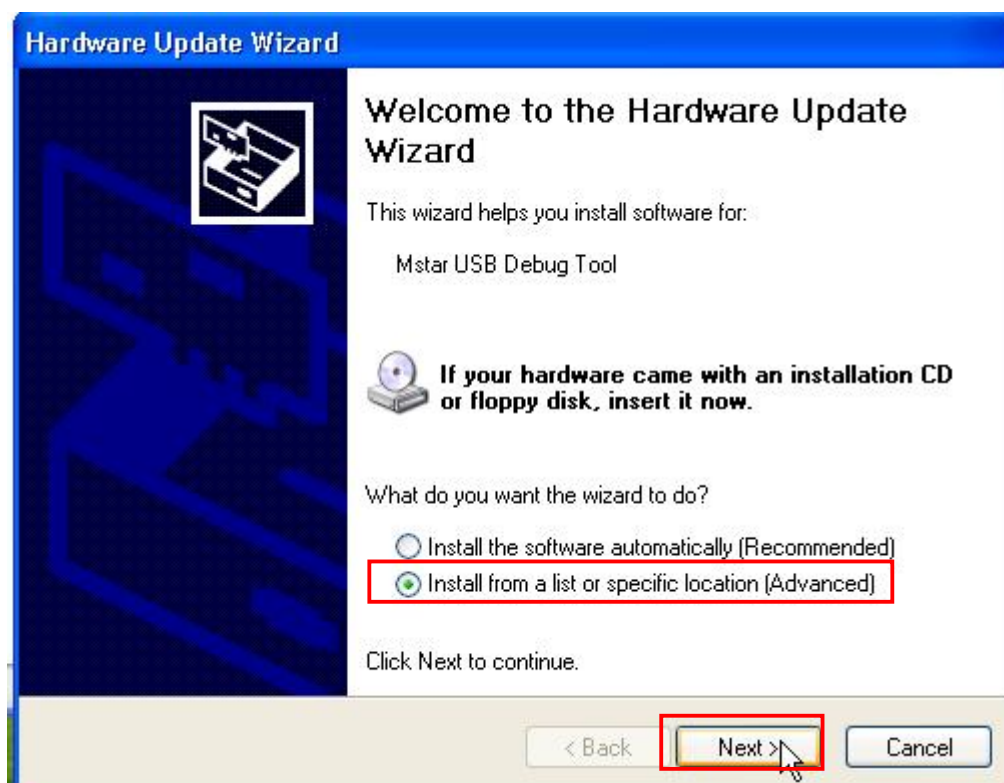
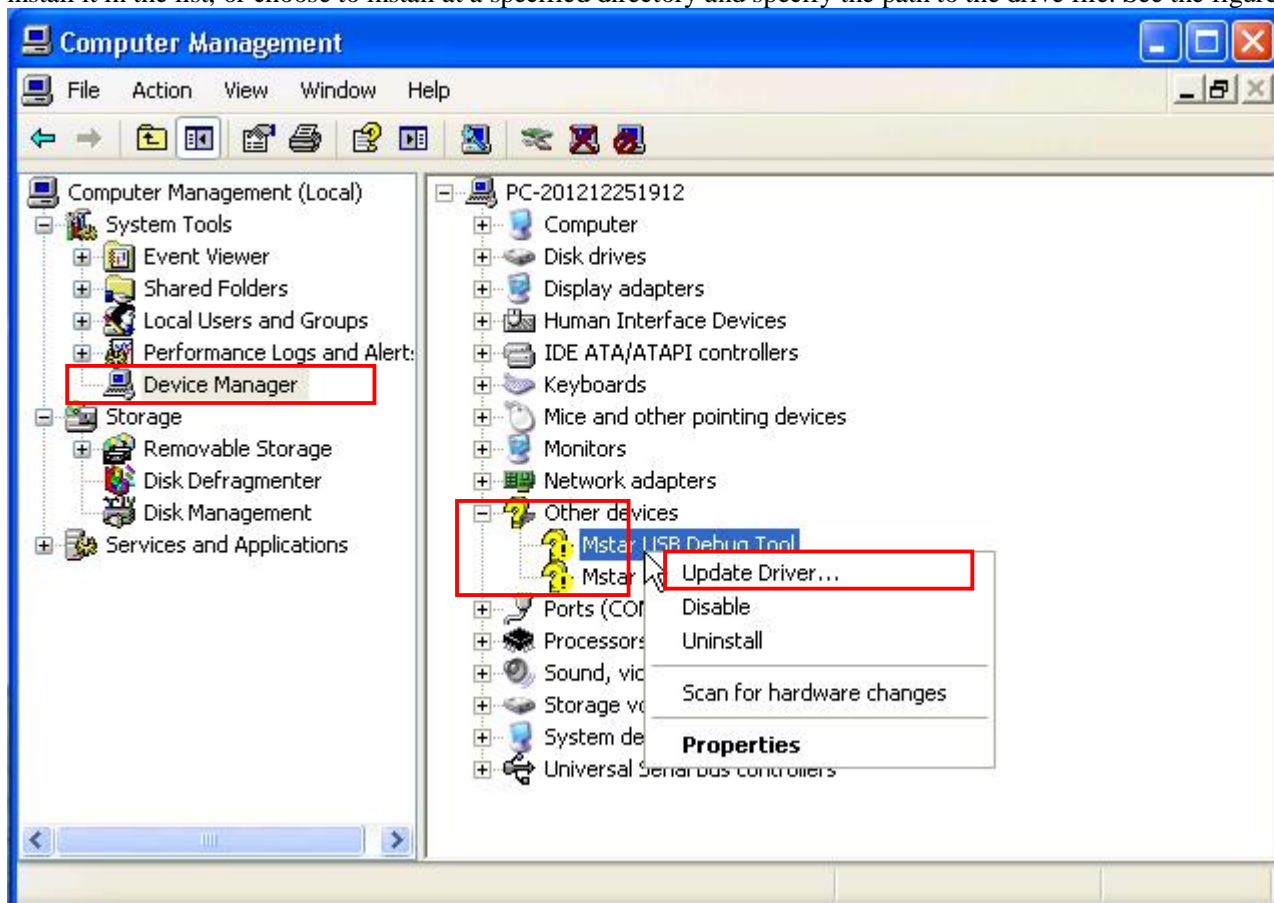
④. If the display screen can't display menu normally, it cannot use "method 1" to upgrade, you can use Mstar ISP Tools to upgrade except method 1 and method 2.



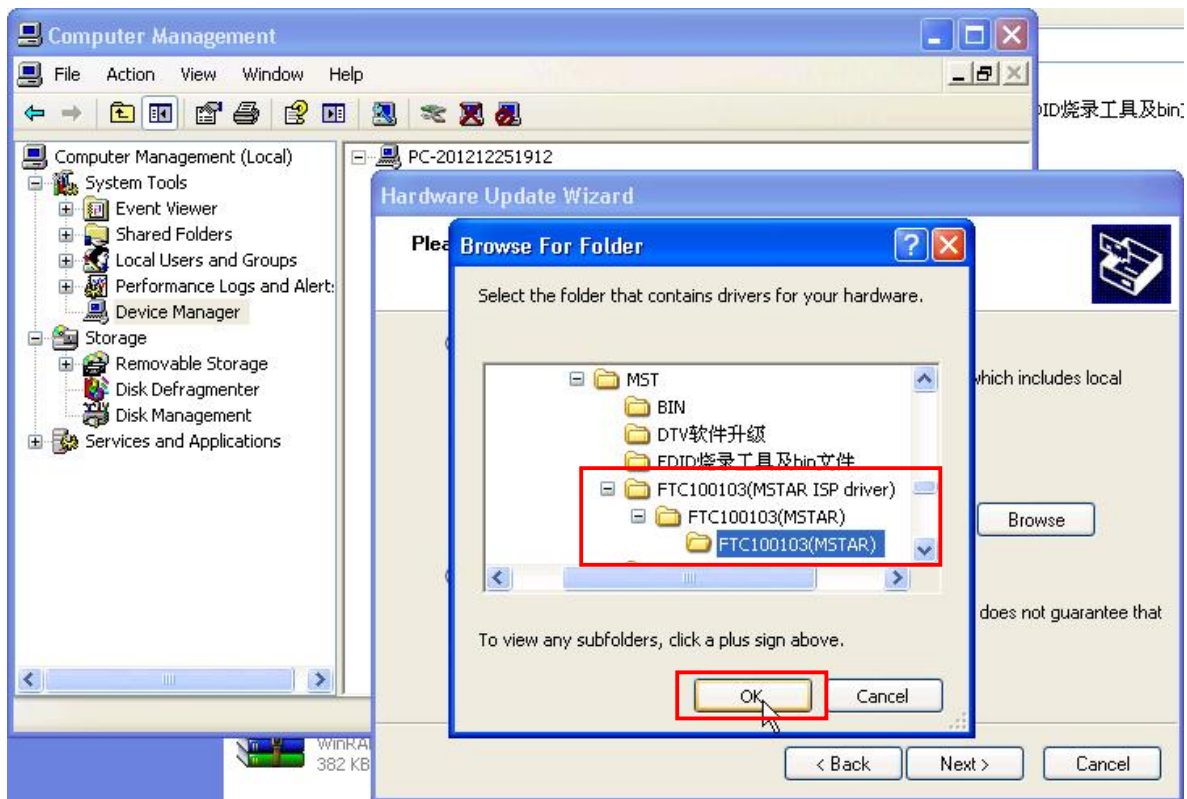
4、When cannot upgrade in accordance with the step two, or upgrade failed, can only ISP upgrade, please refer to the following instructions.

(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:

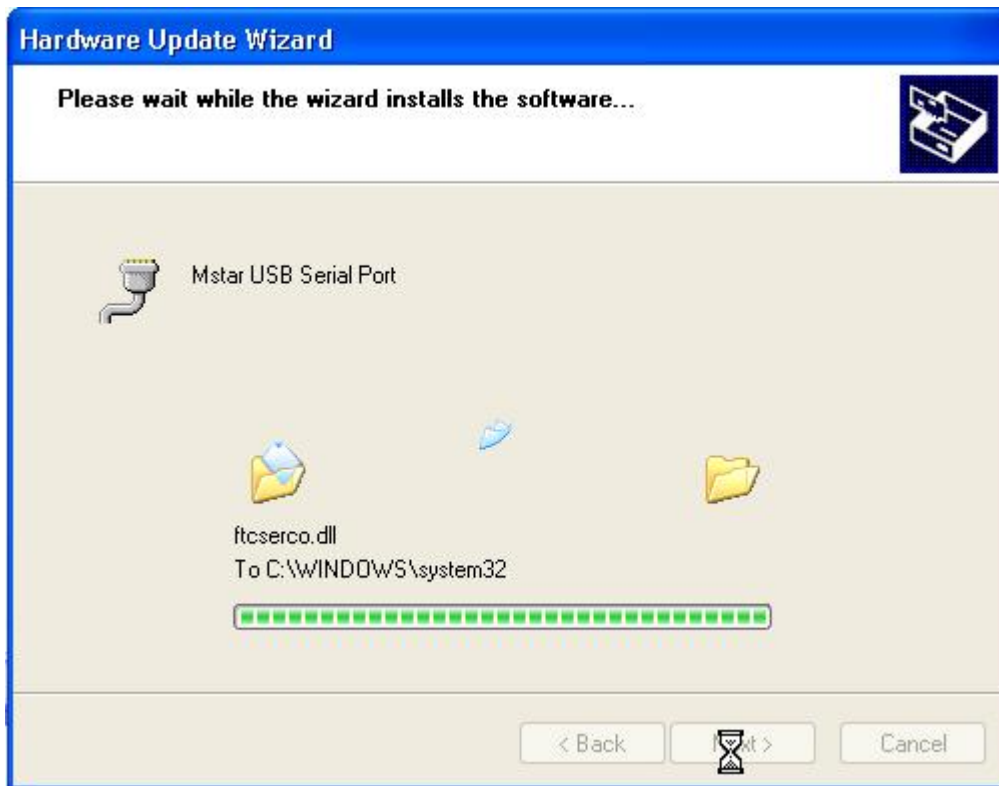






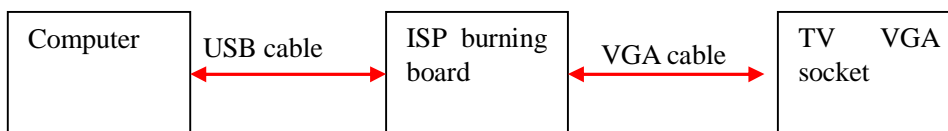


(3) When PC finds the drive file, it will give the prompts as in the figure below during the installation process. Please click “Continue” to go ahead. The system will go through three drive installation processes, including Mstar USB Debug Tool A, Mstar USB Debug Tool B, and Mstar USB SerialPort. They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



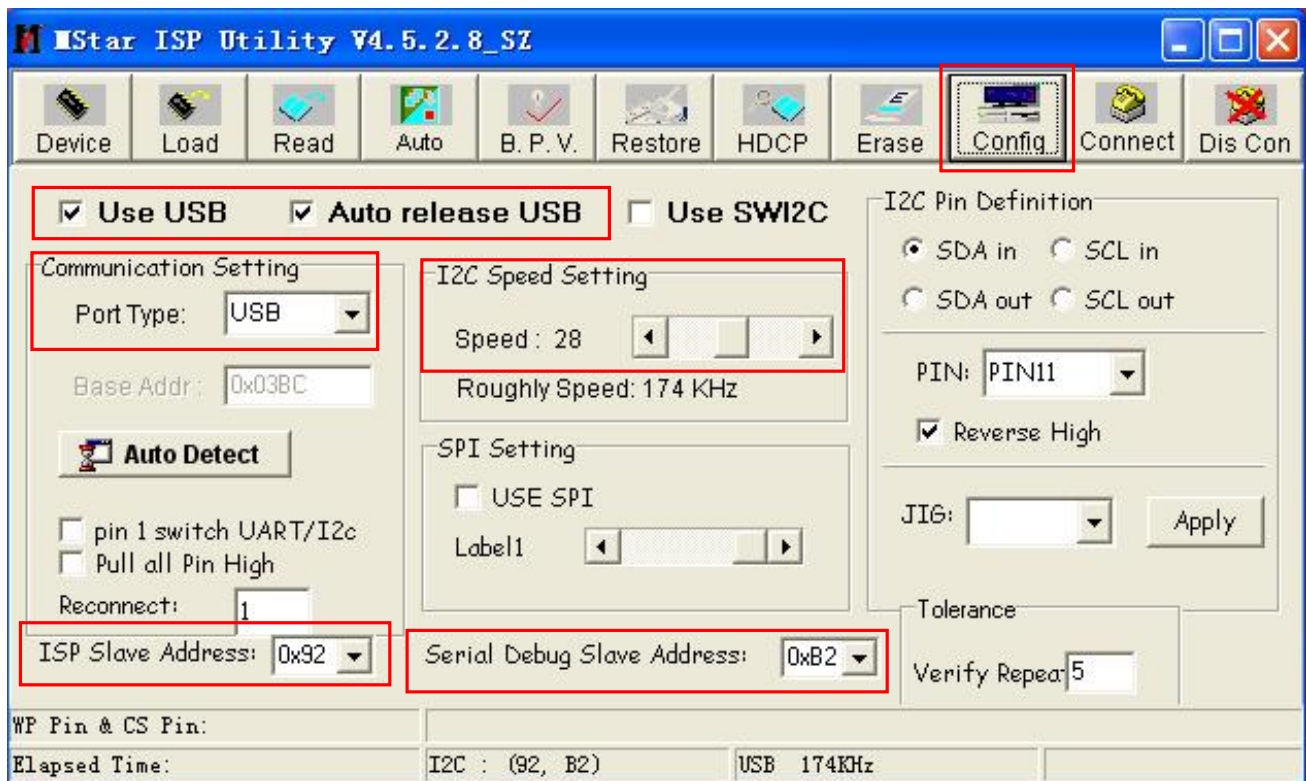
### C. Program burning

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..

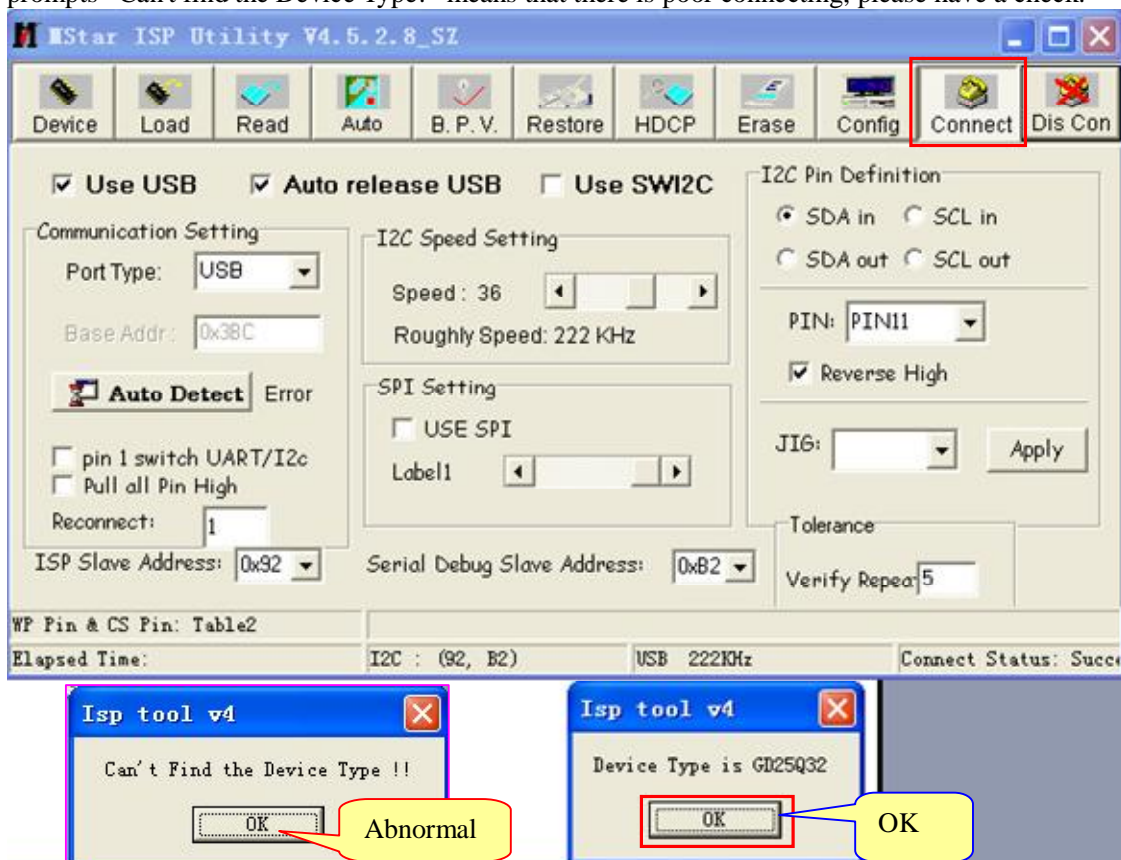


2. In the **config** menu bar to select **Use USB** and **Auto release USB**, Communication Setting items corresponding to the Port Type menu select **USB**. Set the burning speed of **48** in I2C Speed Setting item, ISP Slave Address item menu select **0X92**, Serial Debug Slave Address menu select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



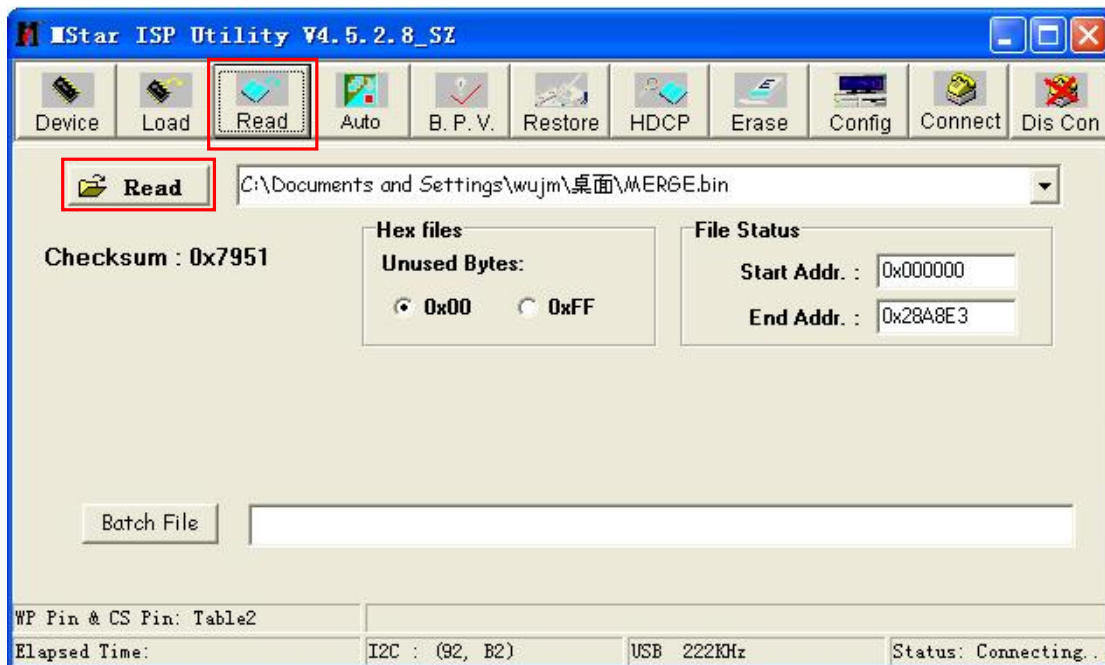


(3). Click Connect button to connect, if it prompts “Device Type is GD25Q32”, means that normal connecting; if it prompts “Can’t find the Device Type!” means that there is poor connecting, please have a check.

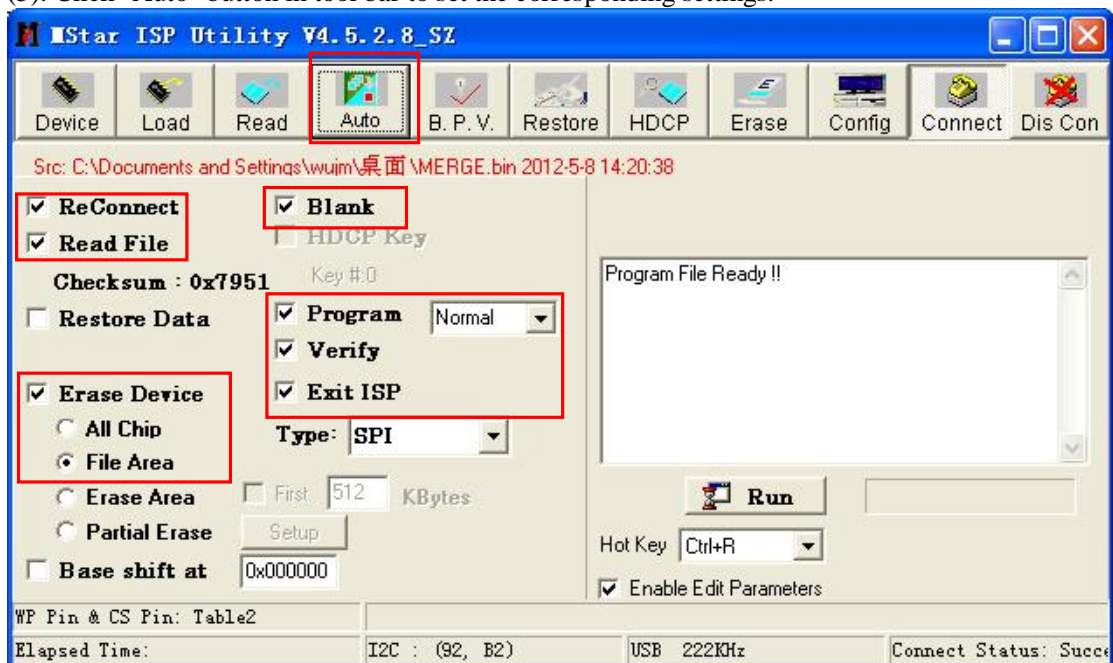


(4). Click "Read" button in tool bar, then click "Read" to load current software.



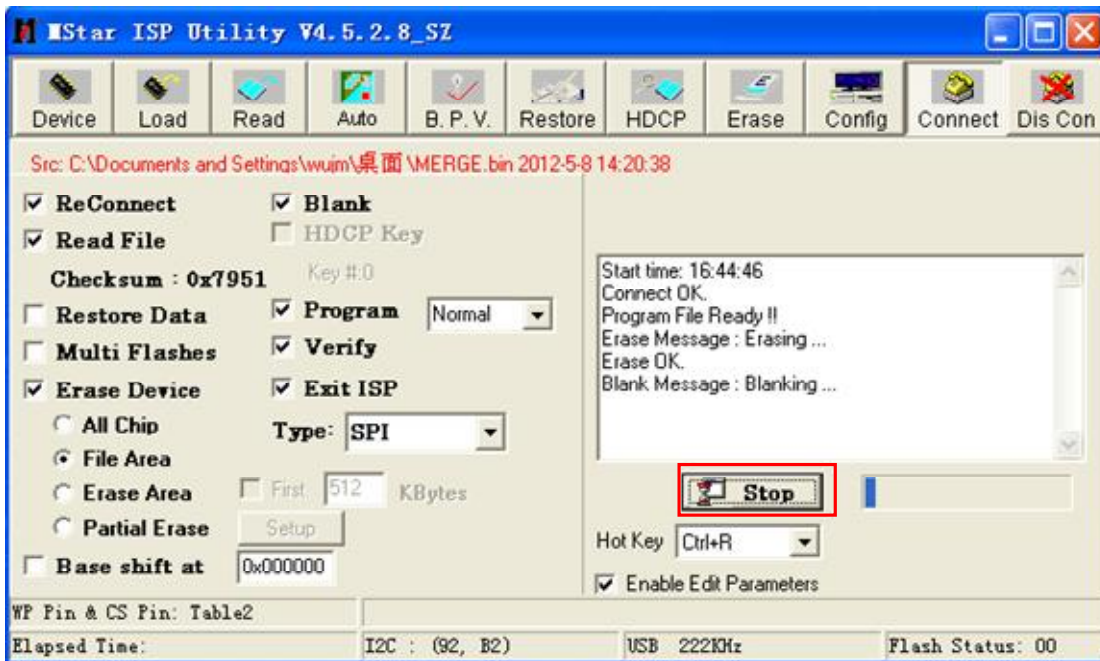


(5). Click "Auto" button in tool bar to set the corresponding settings.

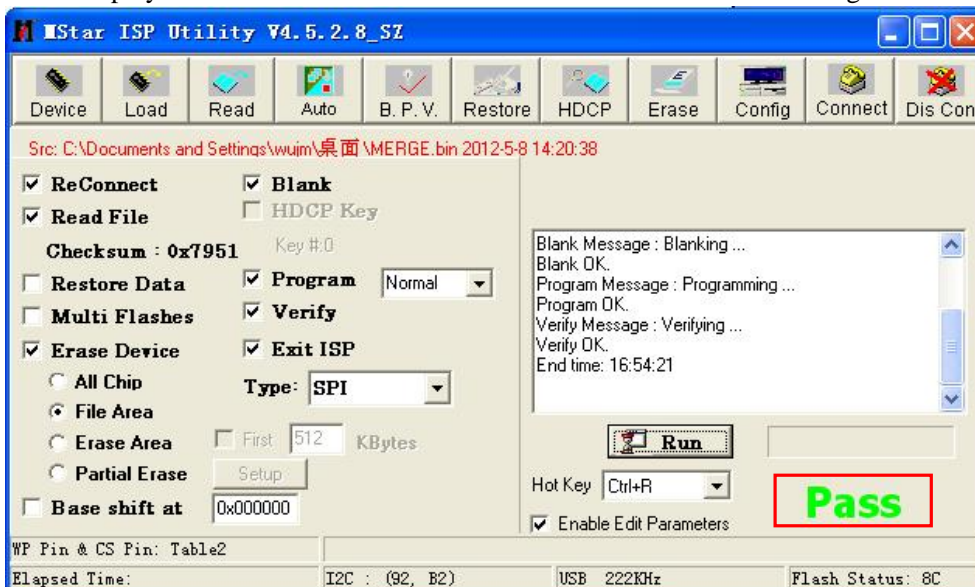


Then click "RUN" button to burn software.





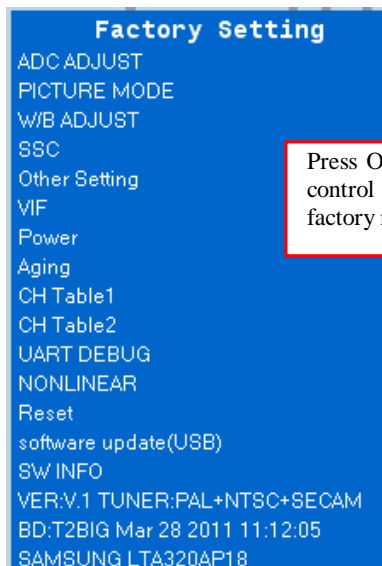
When display “PASS”, means that it succeed, then burn EDID according to the following instructions.



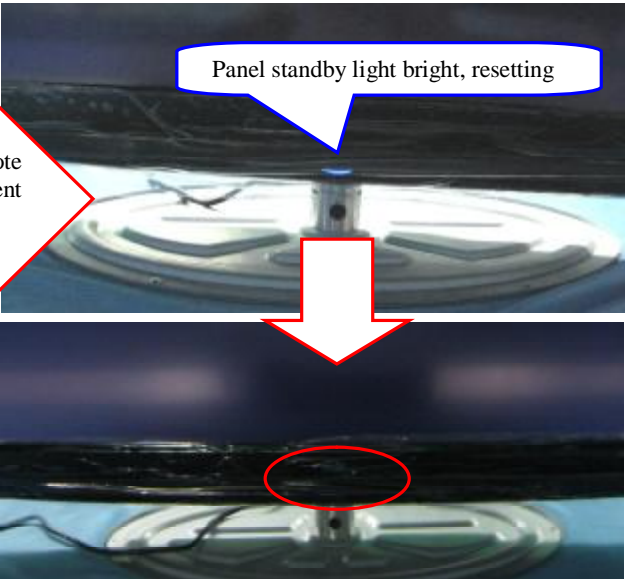
5、When upgrading complete, it must be adjusted before leave factory:

(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.

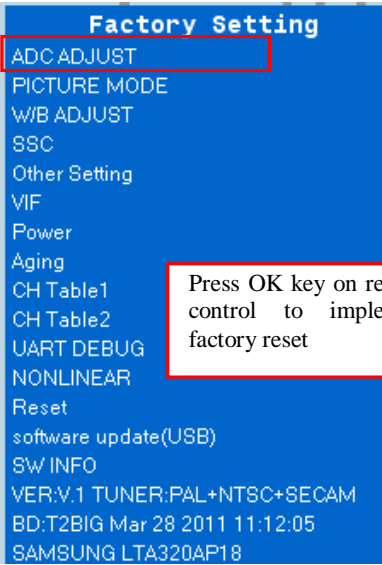




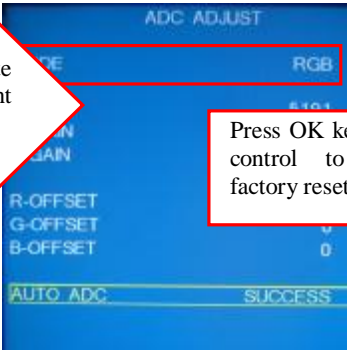
Press OK key on remote control to implement factory reset



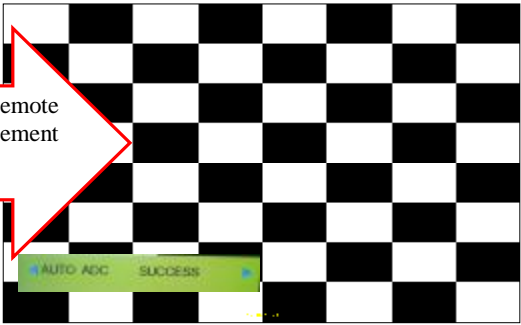
- (2). Insert signal cable to the machine, switch to the PC message source.
- (3). Run the KTC-LCD test software, switch to the mosaic picture and best resolution. Press MENU key to popup the main menu, and then press 8202 number keys to enter the factory menu, press the shift down key to ADC ADJUST 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

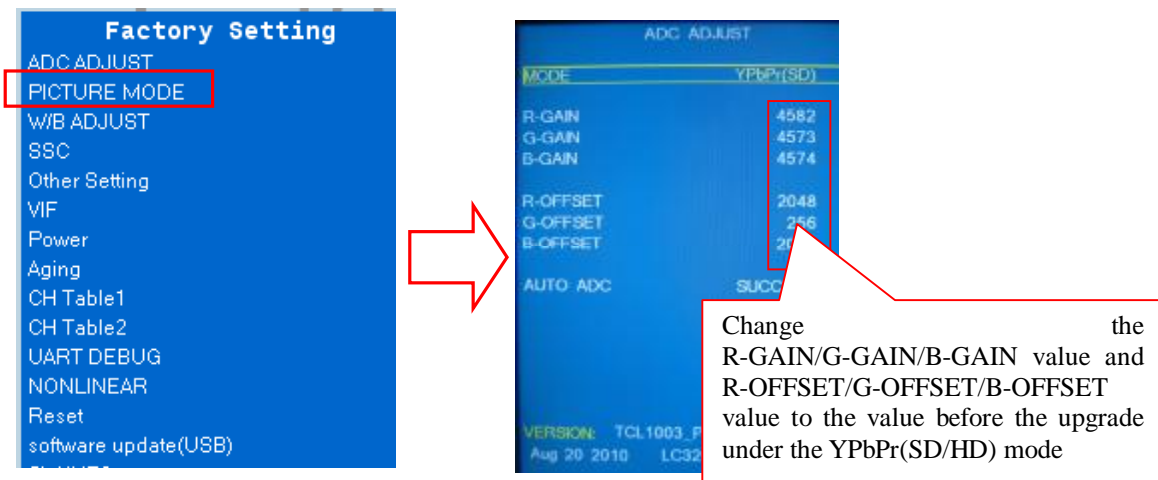


Press OK key on remote control to implement factory reset

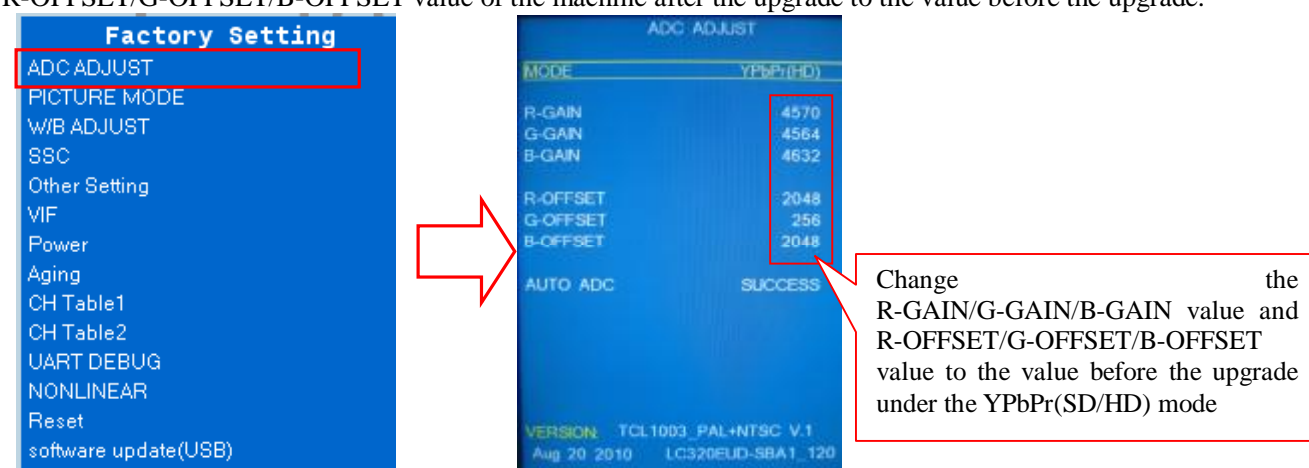


- (4). Under the YPbPb message source, press the MENU button after popping the main menu, then press 8202 number keys to enter the factory menu, select ADC ADJUST item, press the OK key to enter the next level menu, move the cursor to the MODE item, press the left/right Moving key mover cursor to select 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.



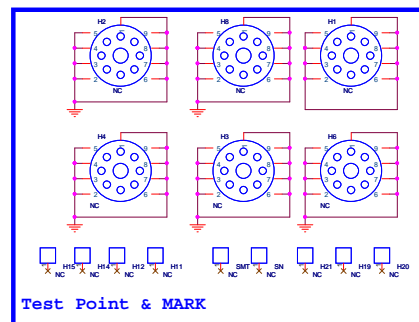
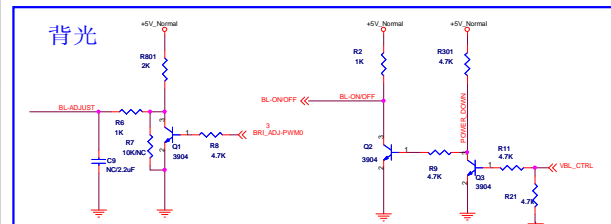
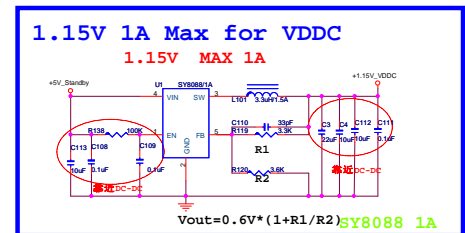
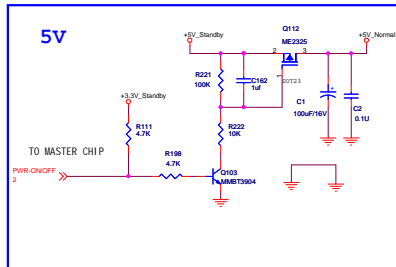
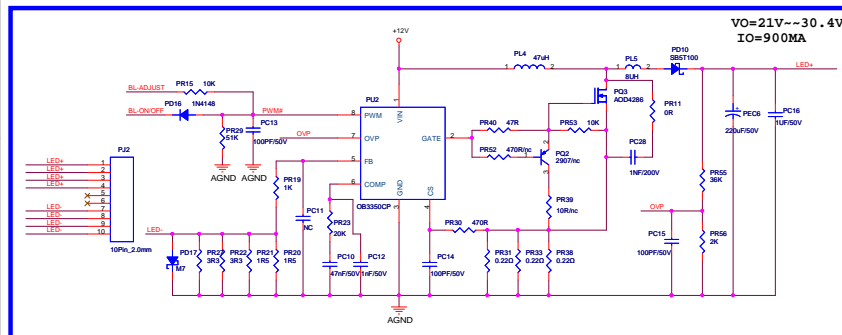
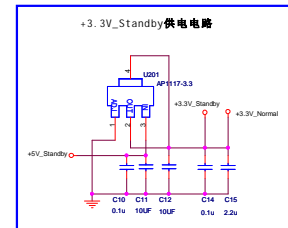
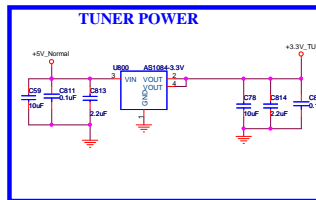
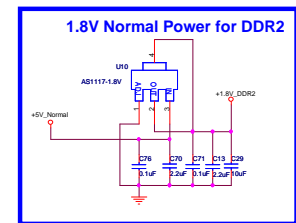
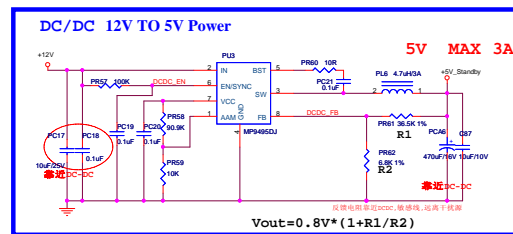
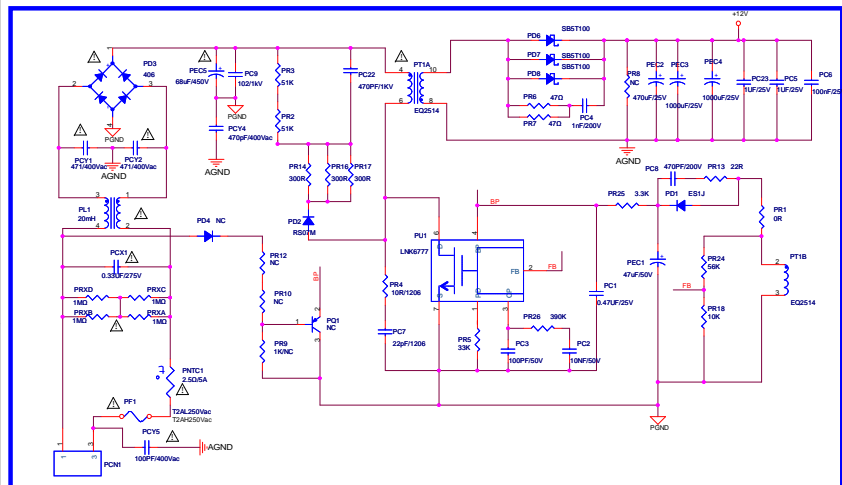
6、Complete the ADC ADJUST debugging, press MENU key succession to exit the factory built-in menu to save the adjusted data, and then restore the original packaging.



TSUMV56 / MSD3553-T4C1 主板模拟电视原理图

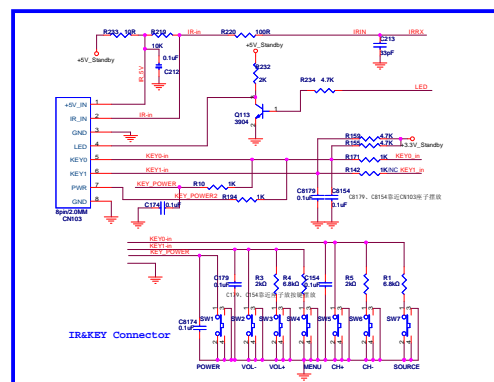
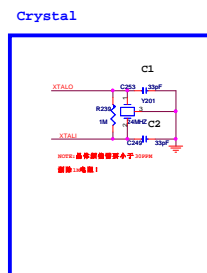
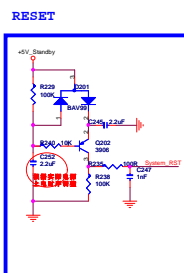
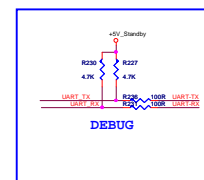
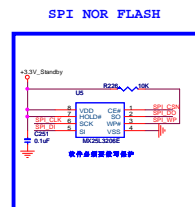
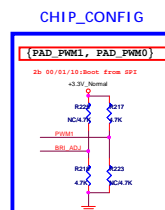
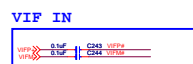
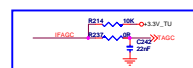
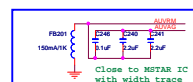
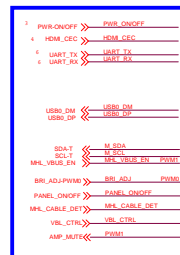
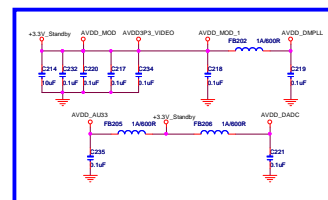
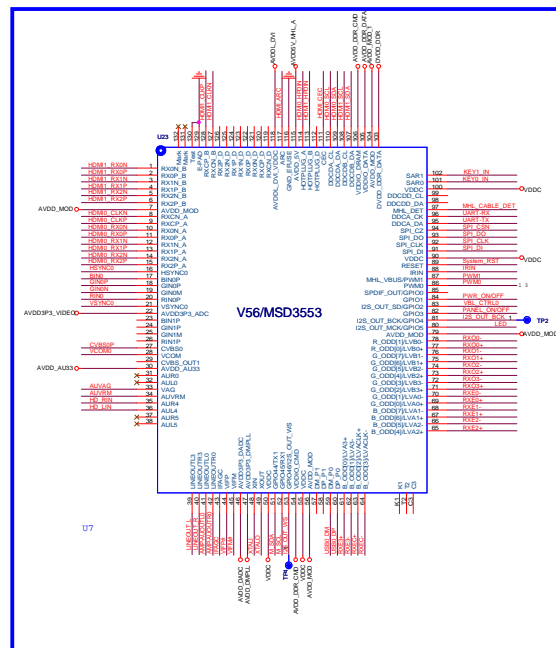
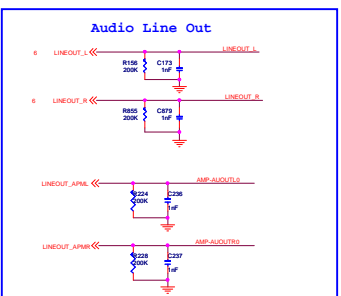
date	change list
2016-11-21	v3.0 初版发行





KTC ISO9001:ISO14001体系文件			
文件名称:	V56/MSD3553-T4C1 主板原理图		
文件编号:	T4305	版本:	3.0
设计:	周杰	审核:	李振东
发行部门:	电气部	批准:	陈茂华
		生效日期:	Monday, November 21, 2016

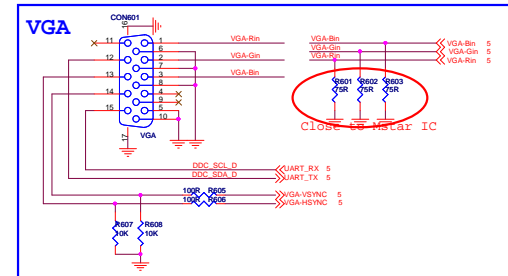
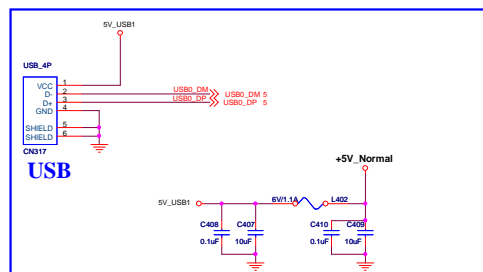
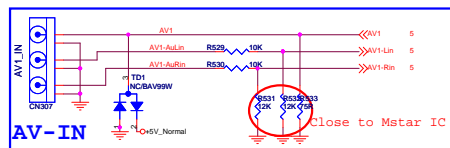




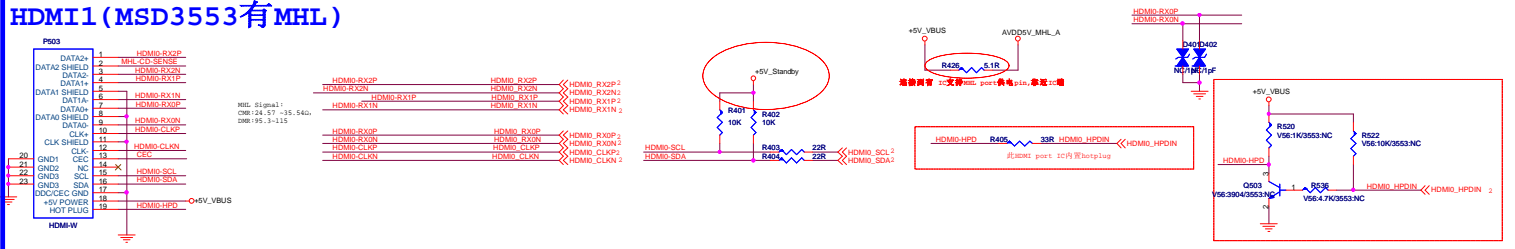




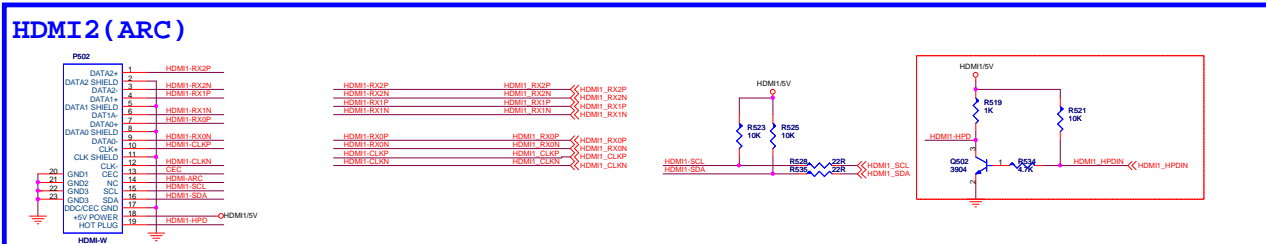




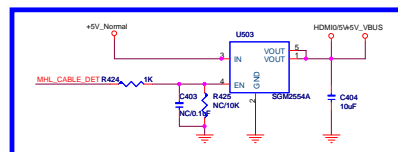
## HDMI1 (MSD3553有MHL)



## HDMI2 (ARC)



## CEC & ARC



KTC ISO9001.ISO14001体系文件			
文件名称: V56/MSD3553-T4C1 主板原理图			
文件编号:	T4305	版本: 3.0	页码: 4 of 4
设计:	周杰	审核: 李振东	批准: 陈茂华
发行部门:	电子部	生效日期:	Monday, November 21, 2016