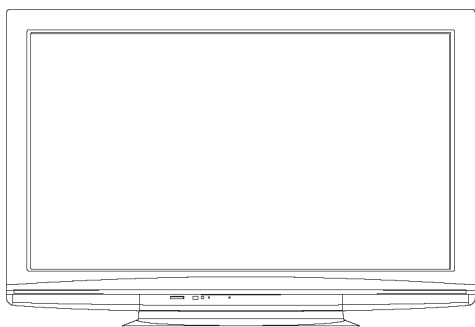


# Service Manual

## LED Television



**Model No. TH-50C330M**


**MS06B-AP**

**Chassis**

### **WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

### **IMPORTANT SAFETY NOTICE**

There are special components used in this equipment which are important for safety. These parts are marked by  in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

# 1. CAUTION

## CAUTION:

Use of controls, adjustments or procedures other than those specified herein may result in hazardous radiation exposure.

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**CAUTION**  
**RISK OF ELECTRIC SHOCK DO NOT OPEN.**



CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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The lightning flash with arrowhead symbol, with an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to the person.

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The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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**WARNING: TO REDUCE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

# IMPORTANT SAFETY INSTRUCTIONS

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## CAUTION:

Read all of these instructions. Save these instructions for later use. Follow all Warnings and Instructions marked on the audio equipment.

1. Read Instructions- All the safety and operating instructions should be read before the product is operated.
2. Retain Instructions- The safety and operating instructions should be retained for future reference.
3. Heed Warnings- All warnings on the product and in the operating instructions should be adhered to.
4. Follow Instructions- All operating and use instructions should be followed.

## FOR YOUR PERSONAL SAFETY

---

1. When the power cord or plug is damaged or frayed, unplug this television set from the wall outlet and refer servicing to qualified service personnel.
2. Do not overload wall outlets and extension cords as this can result in fire or electric shock.
3. Do not allow anything to rest on or roll over the power cord, and do not place the TV where power cord is subject to traffic or abuse. This may result in a shock or fire hazard.
4. Do not attempt to service this television set yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
5. Never push objects of any kind into this television set through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the television set.
6. If the television set has been dropped or the cabinet has been damaged, unplug this television set from the wall outlet and refer servicing to qualified service personnel.
7. If liquid has been spilled into the television set, unplug this television set from the wall outlet and refer servicing to qualified service personnel.
8. Do not subject your television set to impact of any kind. Be particularly careful not to damage the picture tube surface.
9. Unplug this television set from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- 10.1. Do not place this television set on an unstable cart, stand, or table. The television set may fall, causing serious injury to a child or an adult, and serious damage to the appliance. Use only with a cart or stand recommended by the manufacturer, or sold with the television set. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.
- 10.2. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



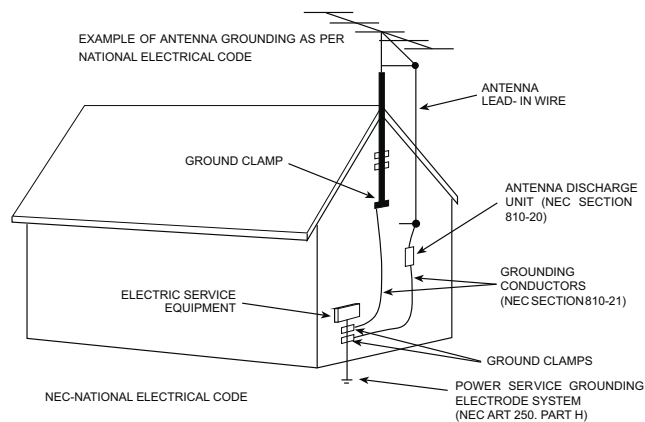
# PROTECTION AND LOCATION OF YOUR SET

11. • Do not use this television set near water ... for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.
  - Never expose the set to rain or water. If the set has been exposed to rain or water, unplug the set from the wall outlet and refer servicing to qualified service personnel.
12. Choose a place where light (artificial or sunlight) does not shine directly on the screen.
13. Avoid dusty places, since piling up of dust inside TV chassis may cause failure of the set when high humidity persists.
14. The set has slots, or openings in the cabinet for ventilation purposes, to provide reliable operation of the receiver, to protect it from overheating. These openings must not be blocked or covered.
  - Never cover the slots or openings with cloth or other material.
  - Never block the bottom ventilation slots of the set by placing it on a bed, sofa, rug, etc.
  - Never place the set near or over a radiator or heat register.
  - Never place the set in a "built-in" enclosure, unless proper ventilation is provided.

# PROTECTION AND LOCATION OF YOUR SET

- 15.1. If an outside antenna is connected to the television set, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges, Section 810 of the National Electrical Code, NFPA No. 70-1975, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrode, and requirements for the grounding electrode.

## EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE INSTRUCTIONS



### 15.2. Note to CATV system installer : (Only for the television set with CATV reception)

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

16. An outside antenna system should not be located in the vicinity of overhead power lines or other electric lights or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
17. For added protection for this television set during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage due to lightning and power-line surges.

## **OPERATION OF YOUR SET**

18. This television set should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply at your home, consult your television dealer or local power company. For television sets designed to operate from battery power, refer to the operating instructions.
19. If the television set does not operate normally by following the operating instructions, unplug this television set from the wall outlet and refer servicing to qualified service personnel. Adjust only those controls that are covered in the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the television set to normal operation.
20. When going on a holiday : If your television set is to remain unused for a period of time, for instance, when you go on a holiday, turn the television set " off " and unplug the television set from the wall outlet.

## **IF THE SET DOES NOT OPERATE PROPERLY**

21. If you are unable to restore normal operation by following the detailed procedure in your operating instructions, do not attempt any further adjustment. Unplug the set and call your dealer or service technician.
22. Whenever the television set is damaged or fails, or a distinct change in performance indicates a need for service, unplug the set and have it checked by a professional service technician.
23. It is normal for some TV sets to make occasional snapping or popping sounds, particularly when being turned on or off. If the snapping or popping is continuous or frequent, unplug the set and consult your dealer or service technician.

## **FOR SERVICE AND MODIFICATION**

24. Do not use attachments not recommended by the television set manufacturer as they may cause hazards.
25. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
26. Upon completion of any service or repairs to the television set, ask the service technician to perform routine safety checks to determine that the television is in safe operating condition.

# PRODUCT SPECIFICATION RELEASE

## Model: L50D2730/MS06B AP/CM1GTA Panasonic

Version: 1.0

Issued On: 2015-03-11

### Basic Information

Product Type	LCD TV
Chassis	MS06B-AP
OSD Language	English/Portuguese/French/Arabian/Persian
TV System	ATV:PAL BG/DK/I ; SECAM; NTSC-M DVB-T2,DVB-T
AV System	PAL、NTSC、SECAM
Channels(Analog)	100(1~100)
DTV Channels(Digital)	480(1~480)
Power Supply	AC 110V-240V 50/60Hz
Power Consumption (TV On)	110W
Power Consumption (Standby)	≤0.5W
Certification	CB

### Basic Function

EPG	Yes
Subtitle	Yes
Parental Control	Yes
Lock	Yes
V-Chip	---
CCD (Closed Caption)	---
Sleep Timer	Yes
Teletext	Yes
Nicam	Yes
MTS	---
Screen Saver	---
System Update	Yes
Hotel Mode	option

### Special Function

Natura Light Technology	---
REC	Yes
GINGA	---
Analog / Digital Signal Receiver	Yes
MHL	---
Game	---
Startup Setting	---
Card Reader	---
On/Off Timers	Yes

### Picture

DCC (Dynamic Contrast Control)	Yes
Backlight Adjustable	Yes (0~100)
Color Temperature	Medium/Warm/Cool
Picture Mode	4 picture effects preset (Standard/Dynamic/Mild/User)
Picture Size	Auto/4:3/16:9 /Zoom1/Zoom2/Panorama
DLTI	Yes
DCTI	Yes
Comb Filter	3D
Dynamic Noise Reduction	3D
Adaptive Deinterlacing	3D
Motion Compensation	Yes
Dynamic Skin Correction	Yes
Black Stretch	Yes
Blue Stretch	Yes

### Sound

Speakers	Integrated speakers (Bottom side)
Audio Power Output (THD=7%)	2×10W
Smart Volume	---
Smart Audio	Movie/Sports/Standard/Music/User
Sound Control	Volume, Balance,Bass,Treble
Surround Sound	Yes
Sound Scene	---
DD (Dolby Digital )	Yes

### Device Media Format

Music	MP3
Picture	JPEG/BMP/PNG
Video	H.264、MPEG4、MPEG2 Note:For coding files,there are many kinds non-standard coding method,so this system can not be guaranteed to support the file formats using any coding method.
File	---

### Signal Format Capability

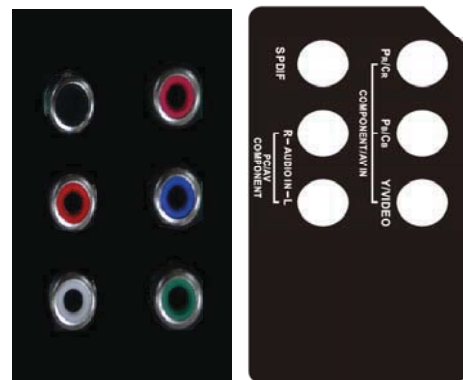
Component Video Format	YPbPr: up to 1080P
DVI Video Format	Up to XGA for HDMI-PC
HDMI Video Format	up to 1080P
PC Compatibility	Up to SXGA

### Panel Specification

Backlight Unit	LED
Panel supplier	CMO(V500HJ1-PE8.C3)
Aspect Ratio	16:9
Panel Size (inch)	50"
Display Resolution	1920*1080
Brightness (cd/m2)(min.)	300
Contrast Ratio	5000:1
Response Time (G to G)	8.5ms
Viewing Angle (H/V)	176°/176°
Life Time(Typ.)	>30,000hrs
Color	16.7M (8 bit)
Refresh Rate	60Hz

### Terminals

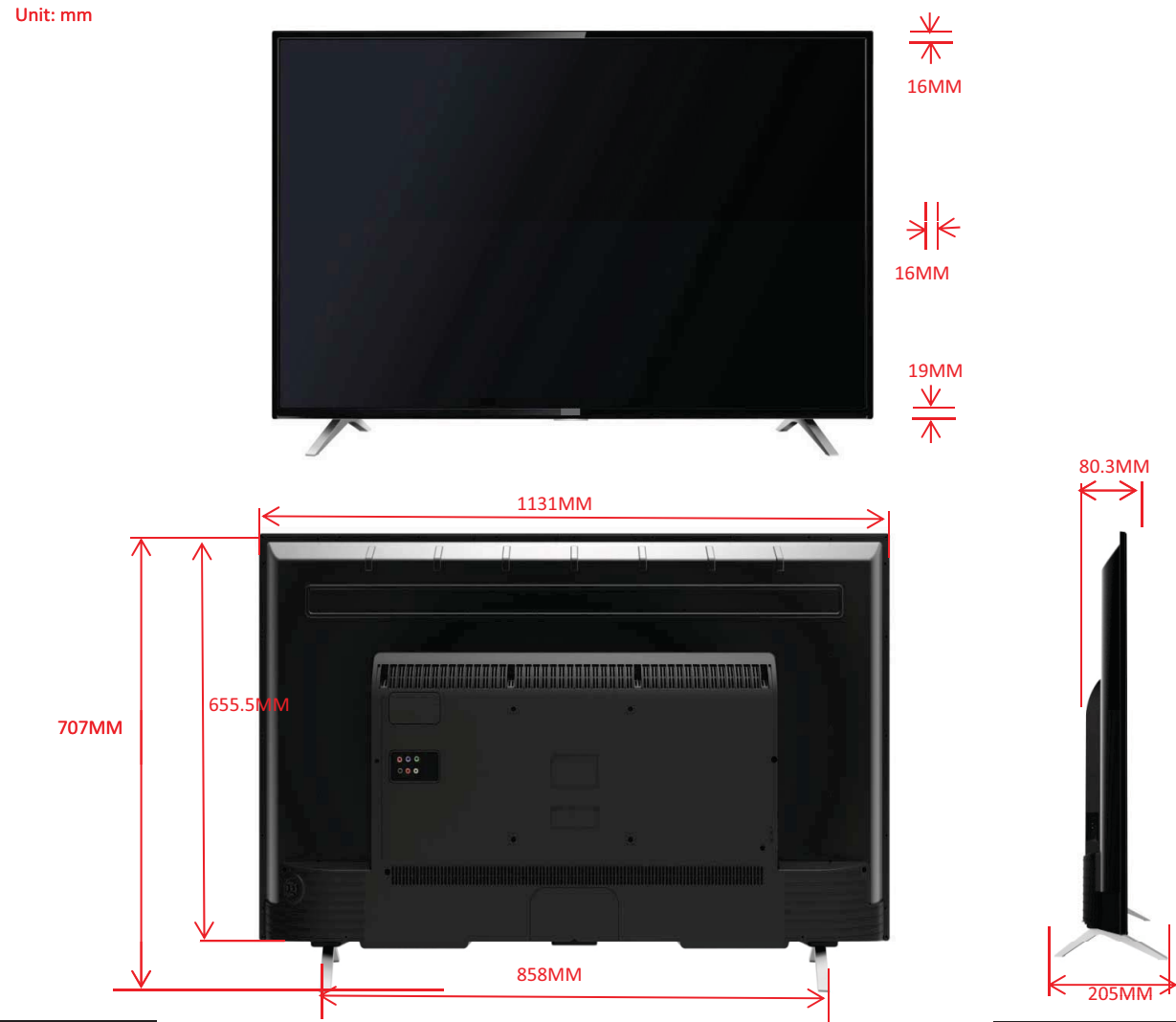
Back



Side



Mechanical ID Picture



Mechanical Key Specification

Carton Dimensions LxWxH (mm)	1325*154*803
Container Loading---20 feet (pcs)	126
Container Loading---40 feet (pcs)	270
Container Loading---40 feet High (pcs)	405
Net Weight With Stand (Kg)	11.8
Net Weight Without Stand (Kg)	11.5
Gross Weight With Packaging (Kg)	15.1
VESA Mounting Dimensions LxH (mm)	200*200

Remote ID Picture



Essential Accessories (Default)

Operation Manual	English(Default)
Remote Control and batteries	Panasonic N2QAYB000818
Base Stand	Integrated Packaging
AC power cord	1 pc
Adapt Cable Wire For AV OUT Or YPBPR	1 pc

Optional Accessories

Wall Mount	WMB331
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Drafted by: ZENGSIZHANG

Design and specifications are subject to change without notice!

Approved by:Liyj

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# **Alignment Procedure**

**MS306 Series**

**MODEL: MS306/MS306B/MS306C/MS306D/MS306G**

**MS306P/MS306BP/MS306CP/MS306DP**

**VERSION: V3.0**

**PREPARED BY : Gongjunzan / Zhangjin DATE : 2014-1-24**

**APPROVED BY : LUOSG DATE :**



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History	Description of major changes	Release Date	Changed by
V1.0		2013-04-28	
V2.0	Add usb update table on Page 10	2013-12-28	Zhangjin
V3.0	Add USB port number set on Page 7	2014-1-24	Gongjunzan

## 1. Overview

MS306 series chassis is designed for Asia Pacific/South America market. Both Full HD panel and HD panel can be compatible. The signal sources include TV, AV, YPBPR/YCBCR, VGA, HDMI and USB. For YPBPR, HDMI source, Format up to 1080p can be supported; USB support image, audio and video (up to H.264) playing; The whole process of alignment includes ADC calibration and White Balance adjustments.

## 2. Factory Menu

### 1、Methods of Entering

Method 1: Using the remote, enter the "Picture" submenu in the OSD; choosing the "contrast" item and press the 9, 7, 3 and 5 in series, Factory Menu will appear in the left top of screen

Method 2: Press RETURN button when FACTORY HOTKEY is enabled (ON).

### 2. General introduction

#### FACTORY MENU

ITEMS	Default Setting	Description	Status
1-FAC HOTKEY	OFF	Factory hotkey Switch (OFF/ON). Should be OFF after factory alignment	OK

2-WARM UP	OFF	OFF: The set would enter standby mode after 15 minutes without input signal; ON: Aging mode. Aging time will display on the left bottom of screen.	OK
3-ADC		ADC calibration (refer as follow)	OK
4-WHITE BALANCE		White Balance data adjustment (refer as follow)  The balance data is set by PE before the mass production. Do not need adjust.	OK
5-SHOP	DO	Reset the set after production alignment; (This operation will remove all unnecessary factory value; The factory hotkey will be turn off)	OK
6-NVM reset	DO	System initialization. Restore all data except the White Balance and ADC data ;Only for R&D.	OK
7-SET FAC CH	DO	Preset specific factory channels for specific factory. Press left and right button to select the factory, and then press OK to confirm.	OK
8-POWER ON	LAST	ON: Always turns on TV when AC power on  STB: Always goes to standby mode when AC power on  LAST: Restore the status before the last AC power off	OK
9-USB UPDATE		USB update, (refer as follow)	OK
10 ReloadEFBItem...		This item only factory used,	

Note: Below the factory menu, some model information are showed, including software version, Project Name, SIACP Version, and SW release time.

#### ADC Submenu:

ITEMS	Default Setting	Description	Status
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Source	RGB/YPbPr (HD)	Sources need calibration. RGB means PC and YPbPr(HD) means YPbPr	OK
R-GAIN	4478	R-GAIN	OK
G-GAIN	4478	R-GAIN	OK
B-GAIN	4478	R-GAIN	OK
R-OFFSET	2048	B-OFFSET	OK
G-OFFSET	2048	B-OFFSET	OK
B-OFFSET	2048	B-OFFSET	OK
AUTO ADC	WAIT/OK	With appropriate pattern (mentioned below) inputted, press left or right key to start auto calibration.	OK

#### WHITE BALANCE Submenu

ITEMS	Default Setting	Description	Status
Source	Current Source	Current Source( TV, AV1/AV2/YPbPr, HDMI need adjustment)	OK
COLOR TEMP	NORMAL	Medium/Cool/Warm	OK
R-GAIN	128	R-GAIN	OK
G-GAIN	128	G-GAIN	OK
B-GAIN	128	B-GAIN	OK
R-OFFSET	128	R-OFFSET	OK
G-OFFSET	128	G-OFFSET	OK
B-OFFSET	128	B-OFFSET	OK
WB INIT	DO	ONLY FOR R&D	OK

The first step is to adjust HDMI.

### 3. Design Menu

#### 1、Methods of Entering:

Method 1: Using the remote, enter the “Picture” submenu in the OSD; choosing the “contrast” item and press the 1, 9, 5, and 0 in series , Design Menu will appear in the left top of screen.

Method 2: Press RETURN button when DESIGN HOTKEY is enabled (ON).

#### 2、General introduction

##### DESIGN MENU

ITEMS	Default Setting	Description	Status
1-DESIGN HOTKEY	OFF	ON/OFF	OK
2-FACTORY MENU		ON/OFF	OK
3-SHOP INIT		Default setting submenu after production alignment refer to **	OK
4-OTHER		Other set .Only for TCL R&D	OK
5-SERVICE MENU		After service menu description	OK
6-PARAM SETTING		Parameter setting submenu	OK
7-HOTEL MENU		Hotel submenu (not adjust)	OK

#### SHOP INIT submenu

ITEMS	Default Setting	Description	Status
Volume	30	0-100 adjustable	OK
PIC MODE	STANDARD	Standard/Bright/Mild/User	OK
SOUND MODE	STEREO	Movie/Sports/Standard/Music/User	OK
Channel	---	---	OK
Language	English	Up to 10 languages optional	OK
COLOR SYS	AUTO	AUTO、PAL、 SECAM	OK
SOUND SYS	DK	DK、BG、I、MN	OK
PRESET CH	1	0-199 adjustable	OK
COLOR TEMP	NORMAL	Medium/Cool/Ware	OK

#### Other

ITEMS	Default Setting	Description	Status
VIF1		VIF adjust (not adjust)	OK

VIF2		VIF adjust (not adjust)	OK
VIF3		VIF adjust (not adjust)	OK
QMAP ADJUST	>>>	PQ debug (not adjust)	OK
SSC	>>>	SSC adjust	OK
DBC ENABLE		DBC adjust (not adjust)	OK
BP		(not adjust)	OK
CP		(not adjust)	OK
DBC MODE		(not adjust)	OK
MIU DQS0		11 (not adjust)	
MIU DQS1		10 (not adjust)	

#### PARAM SET SETTING

ITEMS	Default Setting	Description	Status
Brightness Curve		Brightness curve. Exclusively used by R&D	OK
Contrast Curve		Contrast curve. Exclusively used by R&D	OK
Saturation Curve		Saturation curve. Exclusively used by R&D	OK
Hue Curve		Hue curve. Exclusively used by R&D	OK
Sharpness Curve		Sharpness curve. Exclusively used by R&D	OK
Volume Curve		Volume curve. Exclusively used by R&D	OK
BackLight Curve		BackLight curve. Exclusively used by R&D	OK
OverScan		Exclusively used by R&D	

## 4、Service Menu

### 1、Methods of Entering

Using the remote, enter the “Picture” submenu in the OSD; choosing the “contrast” item and press the 9,7,0 and 5 in series, Service Menu will appear in the left top of screen

SERVICE MENU:

ITEM	Default Setting	Description	Status
SW NO		Software Version	OK
DATE		Date and time of software releasing	OK
Project Name		Module name	OK
SIACP VERSION		SIACP VERSION	OK
Chassis	MS306	Chassis name	OK
PANEL NAME		P/N of panel	OK
			NG
PROJECT ID	>>>	Select panel ID Number	OK
CONFIG	>>>	Project Select submenu	
USB UPDATE	>>>	USB UPDATE	ok
HOTEL ENABLE	OFF	HOTEL MENU SWITCH	NOT USE
ReloadEFBItem	Do	Only for factory adjust	OK

#### CONFIG submenu

ITEM	Default Setting	Description	Status
Erase HDCP Key	Do	Only for R&D	OK
Reset HDCP Key	Do	Only for R&D	OK
UsbHdcpkey Update	Do	Only for R&D	OK
USBPortNumset	1	USB port number set (1 or 2)	OK

## 5. Debugging

### 5.1. General Steps of debugging

According to the requirement of the order, below steps are needed for appropriate setting.

- 1) Enter the Factory Menu, enable FAC HOTKEY.
- 2) Check Project ID and the version of software, release date displayed at the bottom of Factory Menu.
- 3) Enter Design Menu, choose SERVICE MENU->Project ID, choose corresponding Project ID number of the product (Refer to the “V6-PROJECT -ID0\*\*” in the BOM list).

- 
- 4) Return to Factory Menu, check the Product model.
  - 5) Choose Factory Menu->NVM RESET and press the right button of the remote and wait until prompt OK appears.
  - 6) Restart the set
  - 7) According to the requirement of the order, Set the items of SHOP INIT and Hotel Menu etc.
  - 8) After aging under normal temperature, calibrate ADC and adjust white balance.
  - 9) Choose Factory Menu ->SHOP and press the button of remote to initialize the set.

Note: After step 9, Hotel Menu will be disabled by default. Therefore, if the order requires hotel function, it is necessary to enable hotel function by set Design MENU->Service Menu->HOTEL ENABLE to ON.

## 5.2. Equipments

- Color Analyzer CA-210.
- Video Pattern Generator Chroma2329.
- Color TV Pattern Generator PM5418/Fluke5418.
- VGA cable , AV(RCA) cable ,YPBPB (RCA) cable, HDMI cable etc.



Chroma2329



Fluke5418



CA-210

## 5.3. ADC Calibration

### 5.3.1. Signal and generator

PC: Chroma2329 Pattern 42, Timing 14(1024X768@60Hz 5 MOSAIC)

YPBPR: Chroma2329 pattern 103, Timing 79(100% Color Bar, 720p)



5 MOSAIC



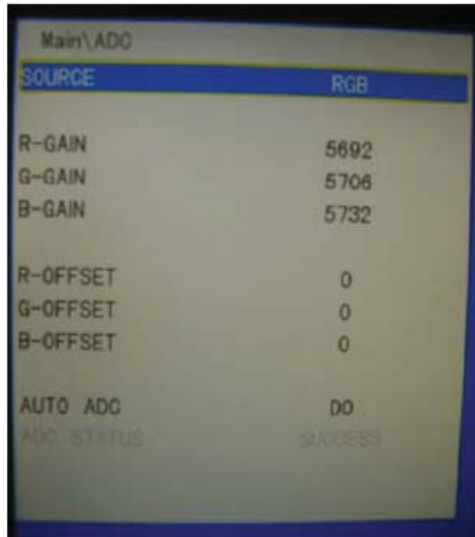
100% Color Bar

### 5.3.2. Steps of Calibration:

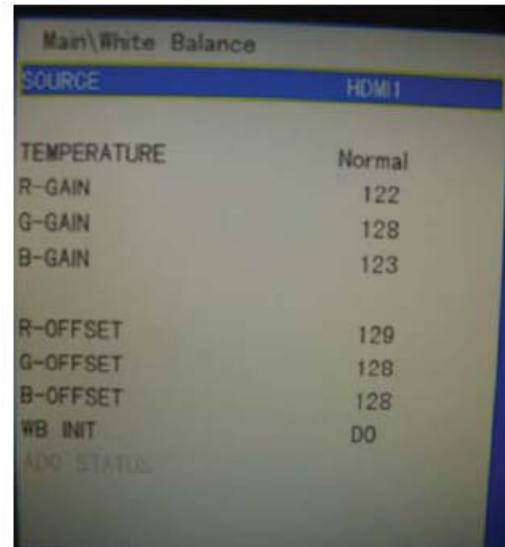
- 1). Access to the Factory menu->ADC

- 2). select RGB source and see the 5 MOSAIC appear on the screen
- 3). Select AUTO ADC , Press the right button on the your remote to calibrate the ADC automatically.
- 4). Select YPBPR source and Repeat step 5.3 .

When the OK appears the calibration has been finished successfully.



VGA calibration



HDMI 1 WB adjustment

#### 5.4. White Balance adjustments (Manual)

Before adjustment , you must make sure the ADC status (only PC and YPbPr) is “success” and Color Analyzer has been calibrated .Only AV1, YPbPr, PC, HDMI1 need to be adjusted. HDMI1 should be the first.

##### 5.4.1. Signal and generator

The pattern of the signal should be used are White (Chroma2329 pattern 113) and Grey (pattern 114).

The format of signal are respectively 720P for HDMI1 (Chroma2329 Timing 69), PAL (Chroma2329 Timing38) for AV1, 1024X768@60Hz (Chroma2329 Timing14) for VGA and 720P (Chroma2329 Timing79) for YPbPr.

##### 5.4.2. Steps of adjustment

1). Enter the factory menu-> White Balance, select source HDMI 1 and Normal Temperature.

2). Input grey signal in 720p format.

3). Change R-OFFSET and B-OFFSET to make sure the value of color coordination equal to  $(X=0.280 \pm 0.015; Y=0.290 \pm 0.015)$ .

4). Input white signal in 720p format.

5). Change R-GAIN and B-GAIN to make sure the value of color coordination equal to  $(X=0.280 \pm 0.015; Y=0.290 \pm 0.015)$ .



6). Repeat step 2—5 until both of the value of color coordination of white and grey equal to (X=0.280 +/-0.015;Y=0.290 +/-0.015).

For COOL and WARM color temperature, just repeat step 2—5. The color coordination we recommend for COOL and WARM color temperature is respectively (X=0.270 +/-0.015;Y=0.270 +/-0.015) and

(X=0.300 +/-0.015;Y=0.305 +/-0.015).

After the adjustment of HDMI1, you can switch to other source AV, PC and YPbPr and repeat step 1—6 to do the WB adjustment.

***Note:** For some small size LED panel, the color coordination of specifications is not X=0.280/Y=0.290, and we recommend you adopt the values from panel specifications.*

### 5.5. ADC Calibration and White Balance Adjustment (automatic)

The process of adjusting ADC and White Balance automatically is out of the range of this file, Please refer to the relevant technical file of HuiZhou factory of TCL.

## 6. Chip list of software programming before SMT

Following chips must be programmed before SMT by tools

Position	Chip type	Software description
U202	EN25Q32	HDMI HDCP Key, System Software etc.

## 7. Software update

Method of SW update:

1) Download the bin file to the root directory of your USB device (Do not change the file name); Then insert the USB device to USB interface of TV set.

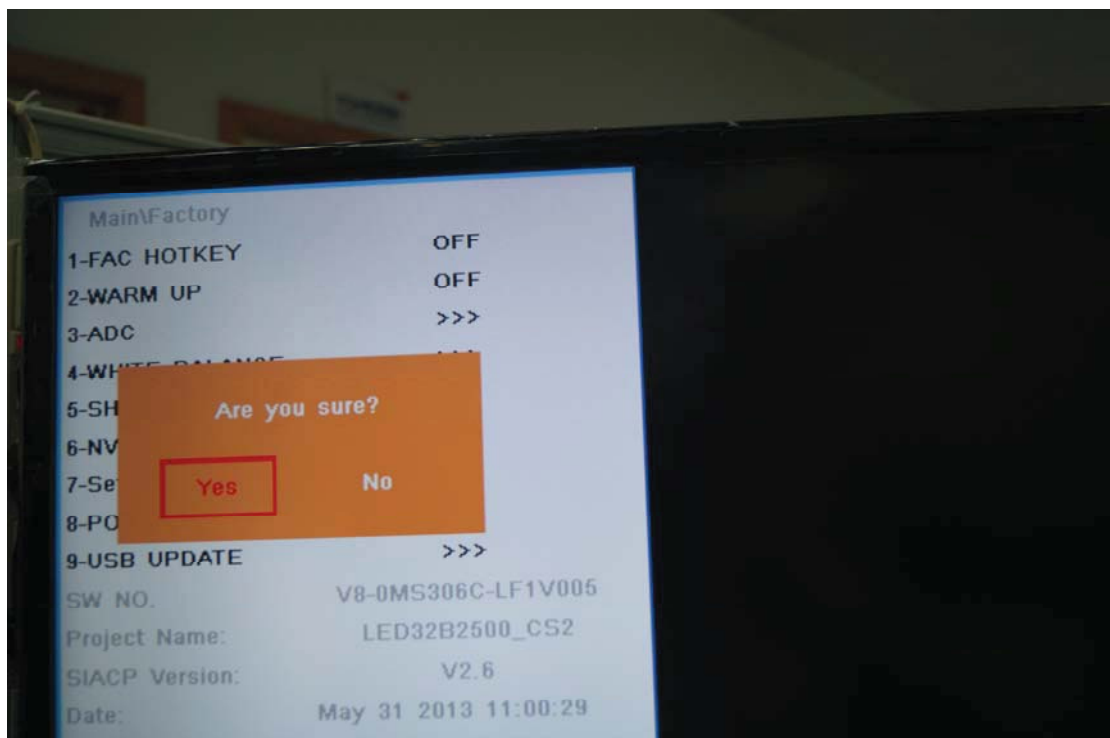
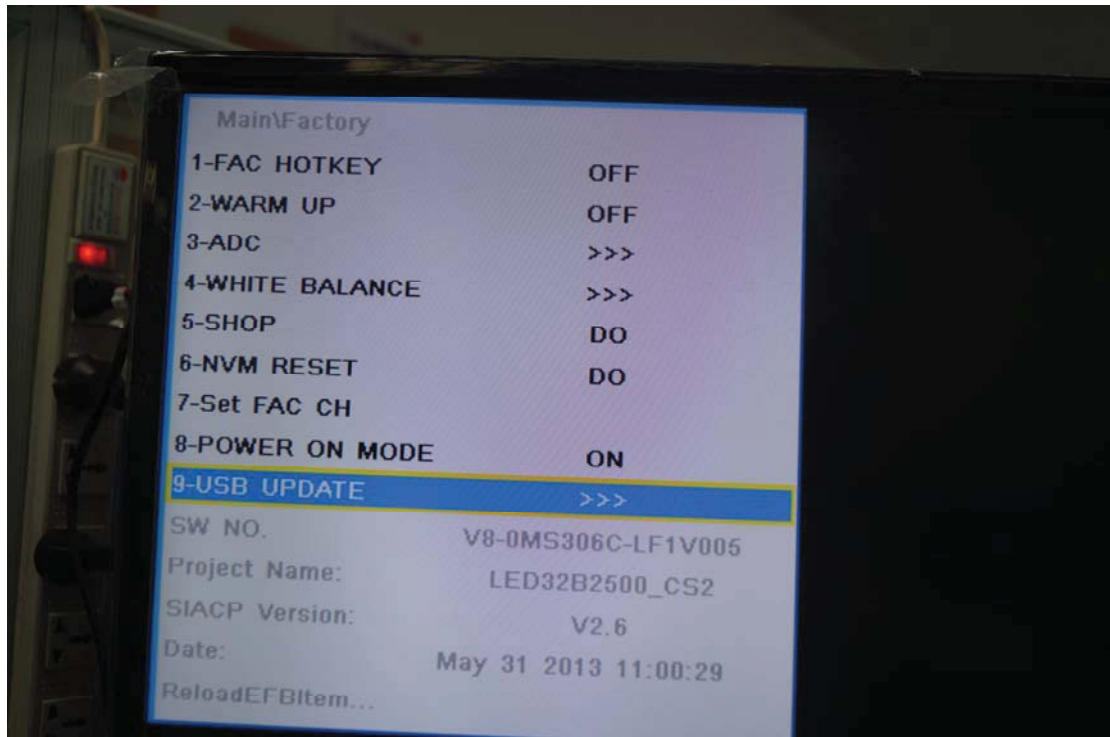
MS306 Series with its upgrade file corresponding relation as the table below show:

Chassis Name	Sales area	Upgrade filename	Remark
MS306/MS306P	AP	MS306_AP_111.bin	
	LA	MS306_LA_111.bin	
MS306B/MS306BP	AP	MS306B_111.bin	DVB-T2
MS306C/MS306CP	AP	MS306C_111.bin	DVB-T
MS306D/MS306DP	LA	MS306D_111.bin	ISDB-T (Name of Brazil version will be changed after its updating )
MS306G	LA	MS306G_111.bin	DVB-T2

## 2) Upgrading method 1

1, using the remote, enter the “Picture” submenu of the OSD; choosing the “contrast” item and press 9,7,3 and 5 in series, Factory Menu will appear in the left top of screen.

2, Select the “USB UPDATE” item , press left or right key to enter the update box;



3, Select “YES” of the dialog box and press OK button to start the update,

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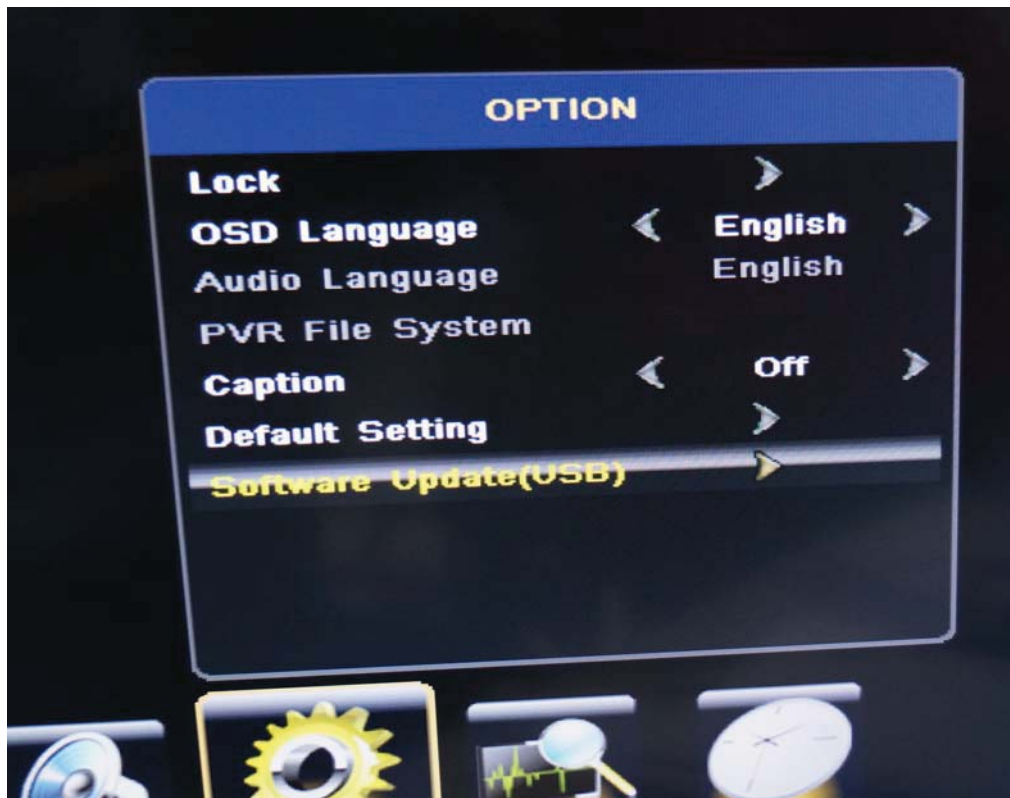
you will see a progress box on the screen.

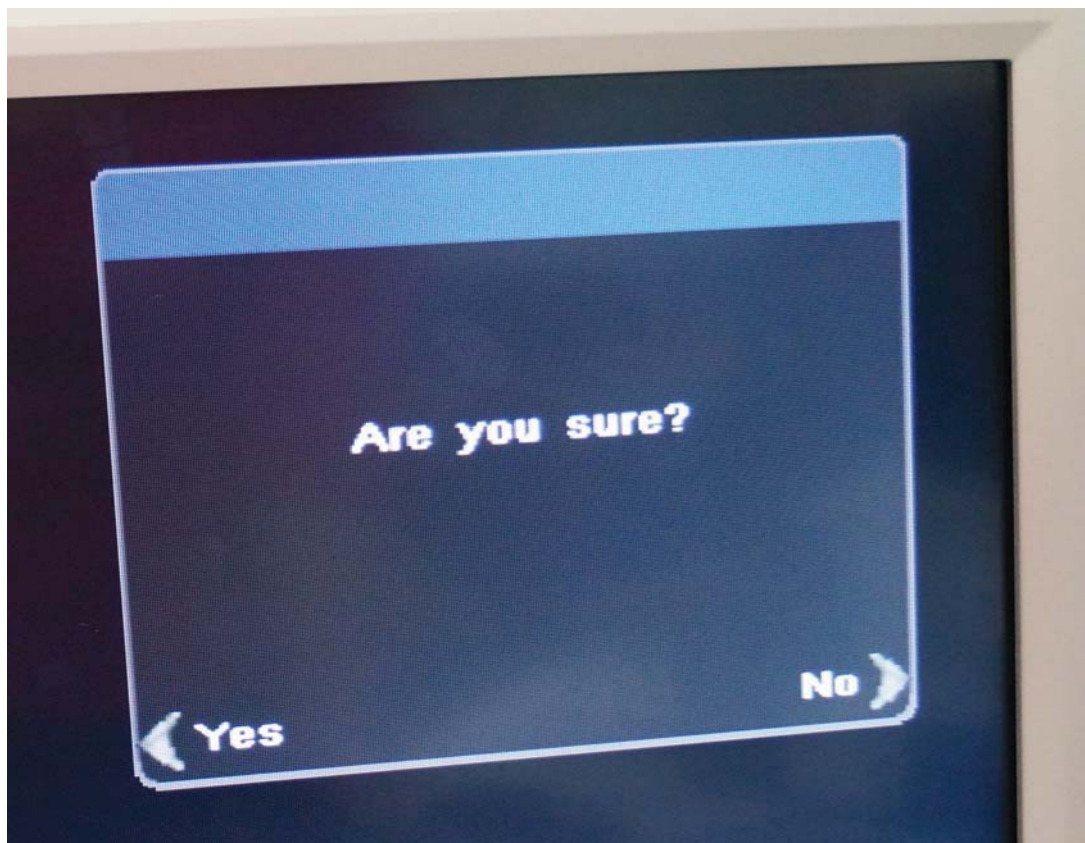
4, After updating , the set will reset automatically.

### 3) Upgrading method 2

1, Press the “MEUN” button of Remote Control, then select the “Software Update(U..>” item in “Option” sub-menu, press left or right key to enter the update box.

2, Press left button Select “YES” of the dialog box and to start the update, you will see a progress box on the screen.





3, After updating , the set will reset automatically.

## 8, Project ID selecting

- 1) Press the Menu button of remote control, then select Contrast item of Picture submenu; press 1,9,5,0 consecutively, there you go the Design Menu.
- 2) Select the SERVICE MENU item, press OK and RIGHT button of the remote to enter submenu,
- 3) Select the PROJECT ID item, press OK or RIGHT button of the remote to enter the submenu;
- 4) Press the right or left button of the remote to select the ID you want;
- 5) After ID selection, press MENU button of the remote to exit DESIGN MENU.
- 6) Finally, do AC power on/off.

7		6		5		4		3		2		1	
D													
D													
C													
C													
B													
B													
A													
A													
7													
6													
5													
4													
3													
2													
1													
FORMAT DIN A4													

<b>MODEL:</b> 01-00MS06-MAC2LG	
<b>DESCRIPTION:</b>	
<b>DRAWN:</b> LIYAJIAN	<b>DATE:</b> 2014-12-10
<b>CHECK:</b>	<b>DATE:</b>
<b>APPR:</b>	<b>DATE:</b>

MS06 CHASSIS

NOTE:	.....	PAGE:	OF
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[illegible]

$VCC = 0.8 \cdot (1 + R007 / (R008 + R009)) = 5.18V$

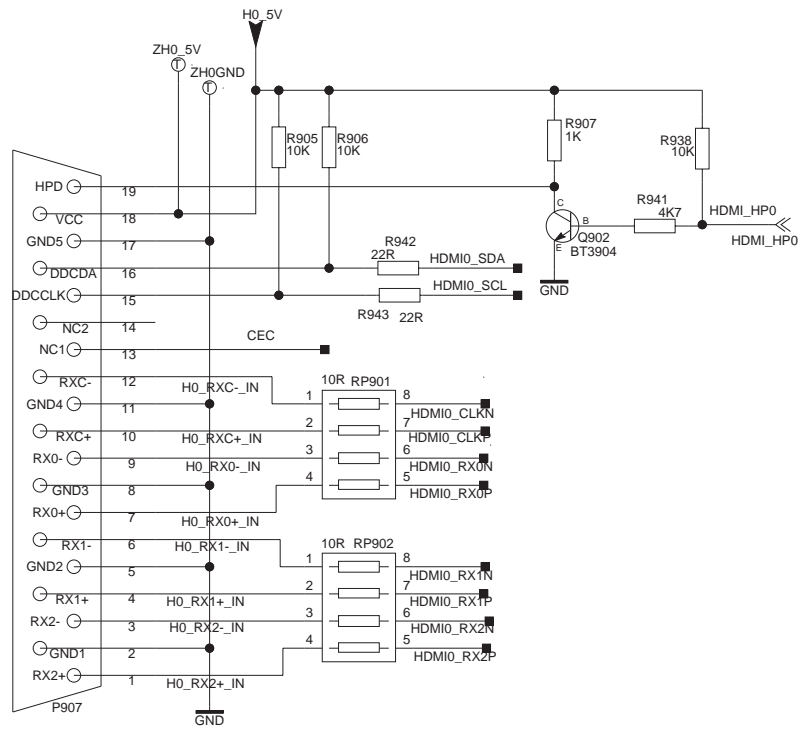
For timing sequence  
 Fixed Freq 1.2MHz  
 Fixed DCP = 1.2A

If  $V_{IN} = 1.2V$  Set  $R_{018} = 150K$   $R_{019} = 74.7K$   $R_{018} = 200K$   
 If  $V_{IN} = 1.2V$  Set  $R_{018} = 150K$   $R_{019} = 74.7K$   $R_{018} = 150K$   
 If  $V_{IN} = 1.8V$  Set  $R_{018} = 150K$   $R_{019} = 74.7K$   $R_{018} = 150K$   
 If  $V_{IN} = 1.8V$  Set  $R_{018} = 150K$   $R_{019} = 74.7K$   $R_{018} = 150K$

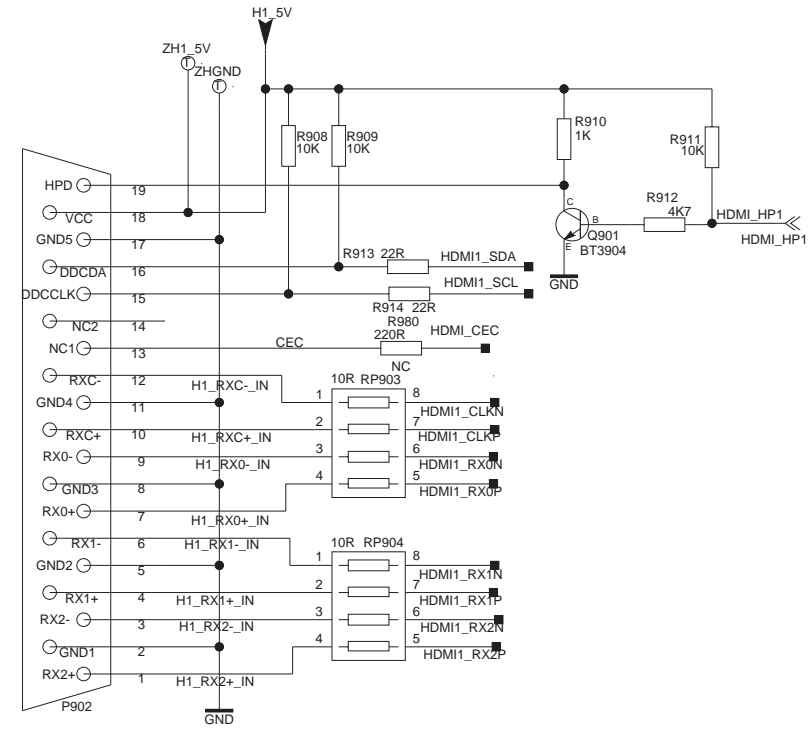
$$V_{CC}=0.6(1+R_{016}/(R_{018}+R_{017}))=1.2V$$

Schematic diagram of the DIM\_PWM pin circuit. The pin is connected to a 4k7 resistor (R026) and a 22pF capacitor (C030) to ground.

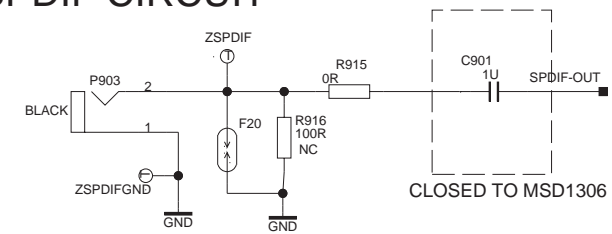
## HDMI 2 CENNECTOR



## HDMI 1 CENNECTOR



## SPDIF CIRCUIT



## MS06

## HDMI AND SPDIF INTERFACE(3/7)

[illegible]

**USB Input**

Change USB ESD Close SUB socket

Change USB ESD Cldise SUB socket

**USB Output**

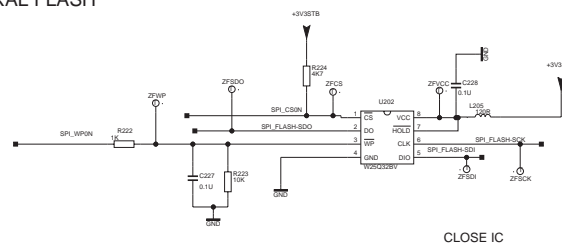
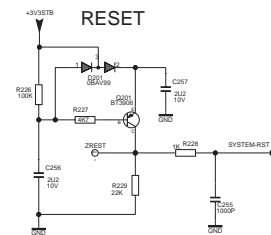
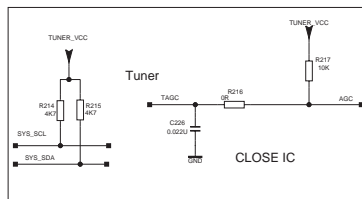
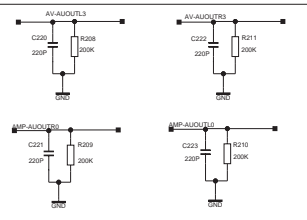
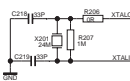
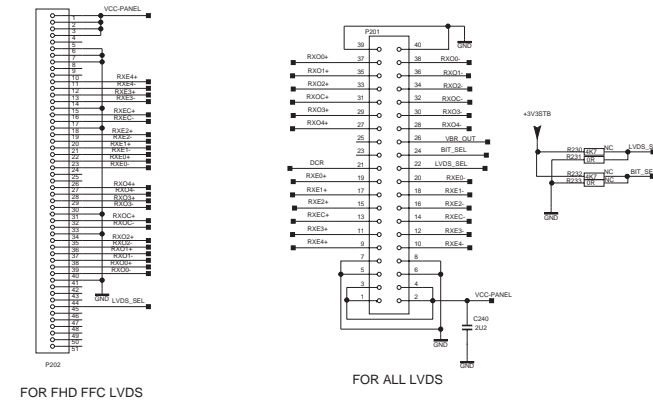
The schematic diagram illustrates the RGB-PT/AV video input circuit. It features three input channels for GREEN, BLUE, and RED. Each channel is connected to a 33R resistor (R932, R933, R934) and a 33R resistor (R935, R936, R937). The GREEN channel has a 33R resistor (R932) and a 33R resistor (R933). The BLUE channel has a 33R resistor (R934) and a 33R resistor (R935). The RED channel has a 33R resistor (R936) and a 33R resistor (R937). The circuit also includes a 33R resistor (R939) connected to the AV-CVBS1P input. The output is connected to the AV-CVBS1P input. The circuit is powered by a 5V supply (P905) and a 5V supply (P906). The circuit is labeled 'NEAR IC'.

### AV1 Video Input Option

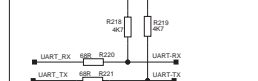
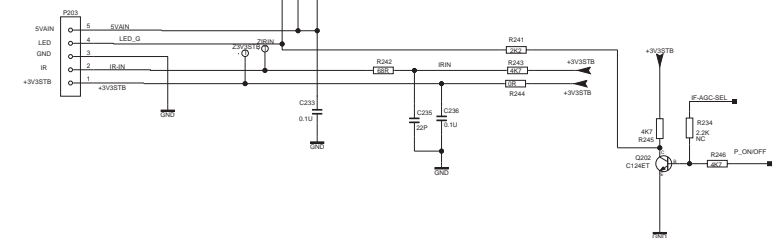
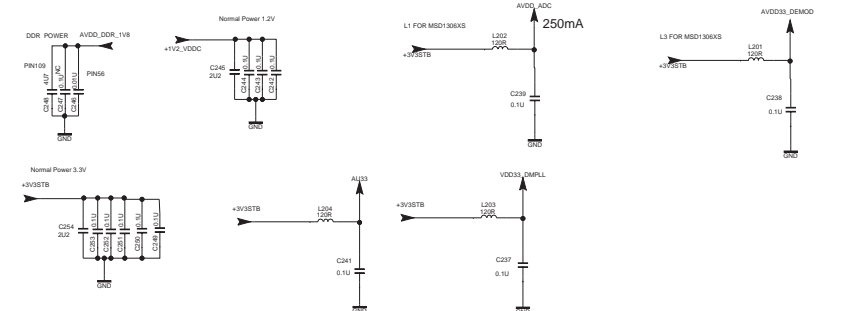
The schematic diagram for the AV1 Video Input Option shows a connector with pins P910 (NC), L 4, GND 3, and R 2. The circuit includes several resistors (R947, R948, R949, R950, R951, R952), capacitors (C910, C911, C907), and diodes (F24, F25, F26). Power inputs ZAV1L, ZAV1R, and ZAV1V are shown. Outputs are AV\_AULINO, AV\_AURINO, and AV-CVBSOP. The circuit is grounded at multiple points.

## VIDEO AND USB INTERFACE(4/7)

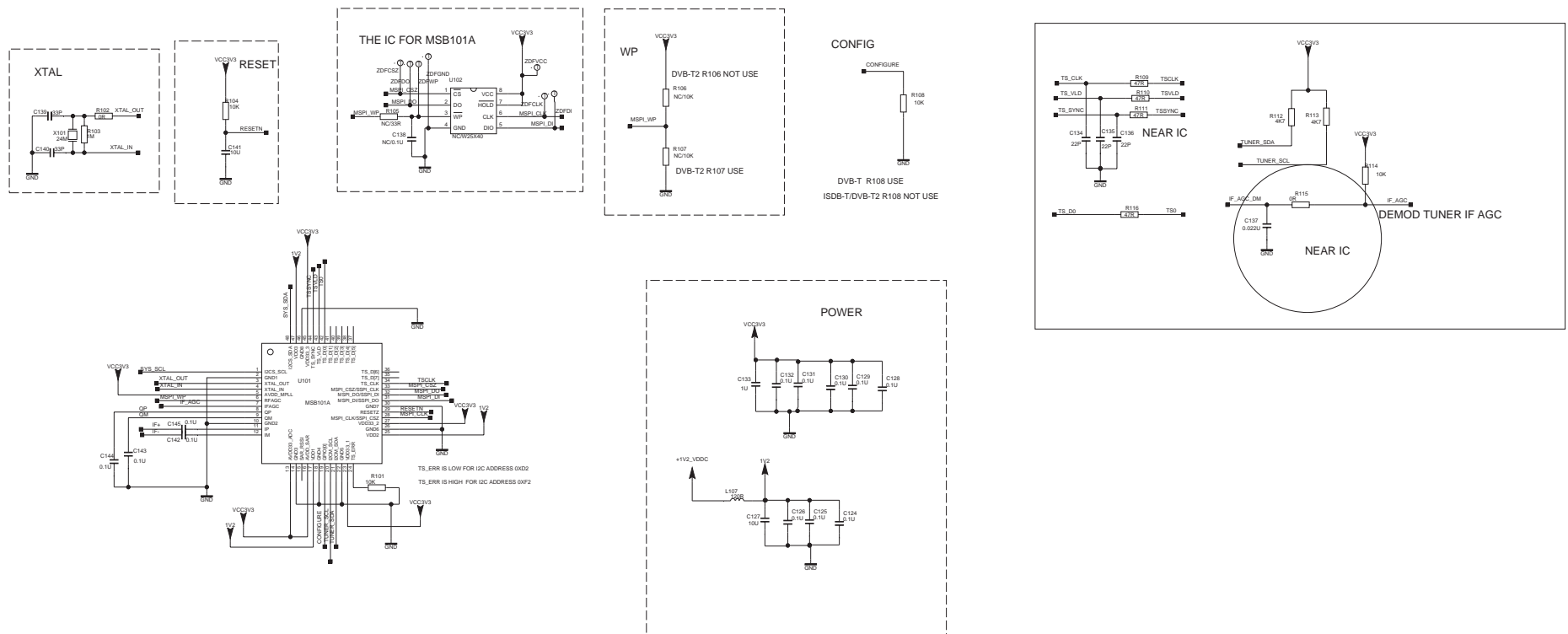




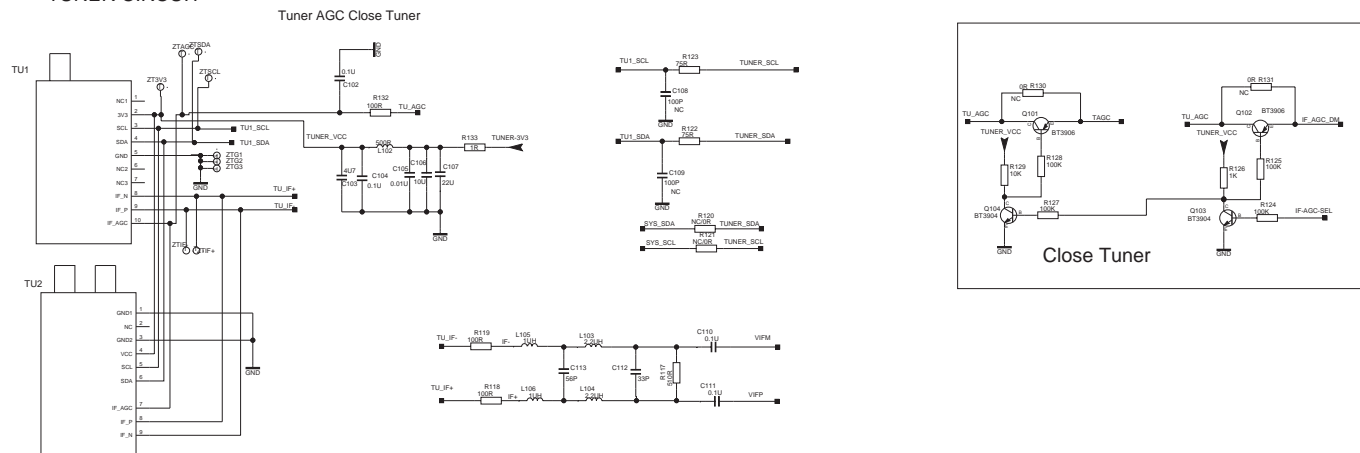
MSD1306 M(5/7)



## DEMOD CIRCUIT



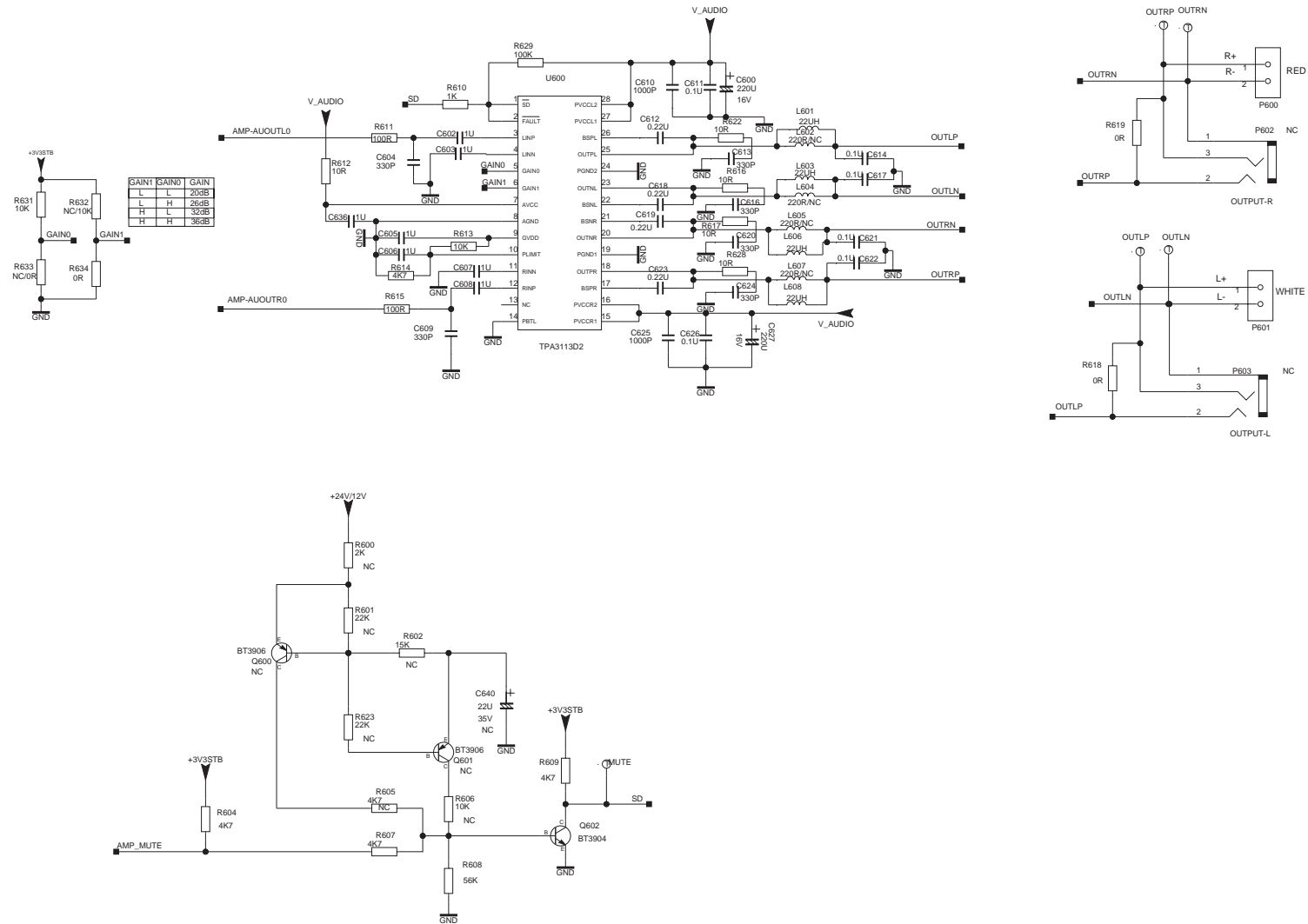
## TUNER CIRCUIT



MS06

TUNER AND DEMOD. INTERFACE(6/7)

## Power AMP TPA3113D2



MS06  
Power AMP.(7/7)

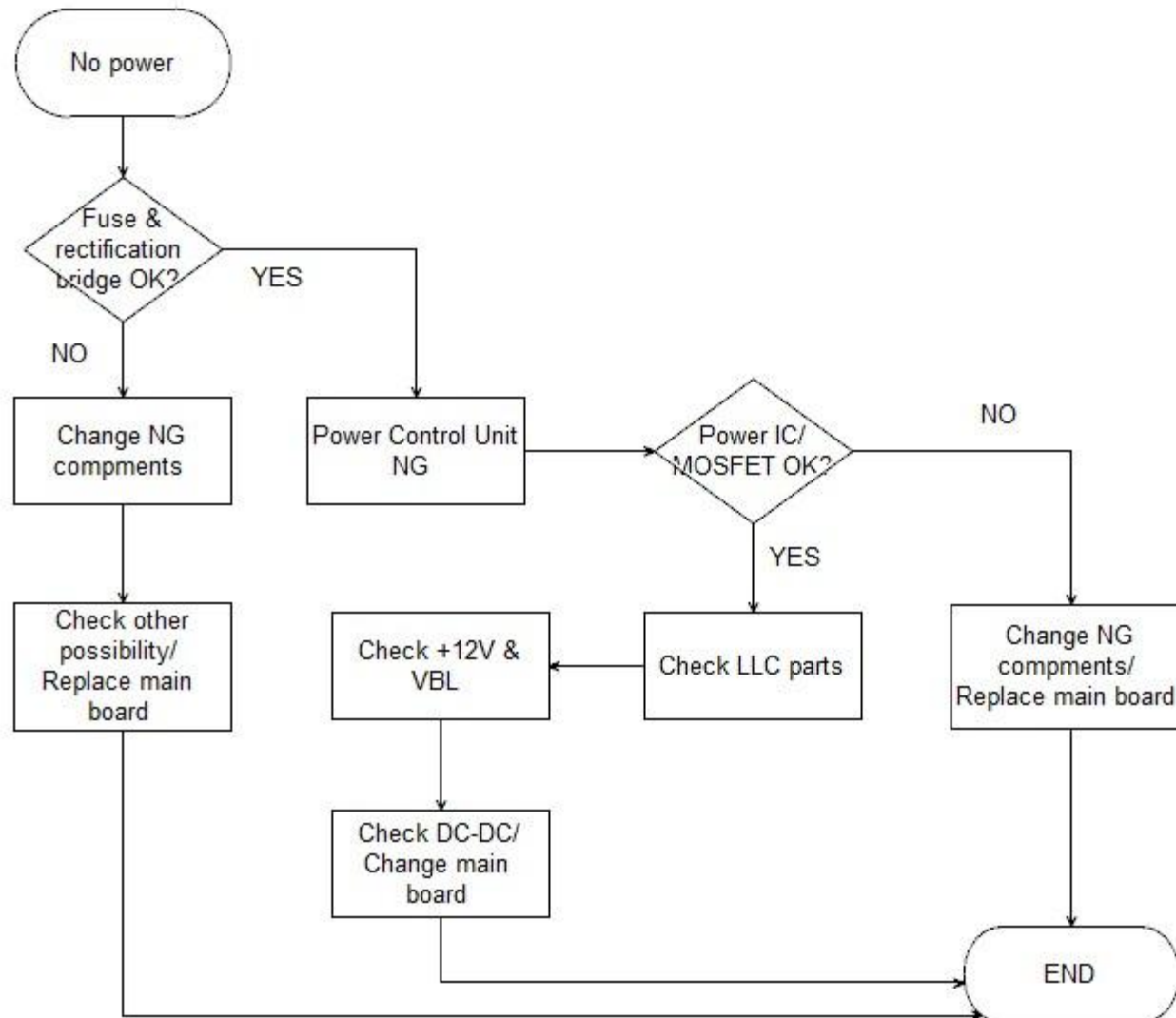
# Trouble shooting diagram

## Terms:

- ✓ **IR:** *Infrared Receiver*
- ✓ **RC:** *Remote Control*
- ✓ **IR logic:** *IR blink with RC action*
- ✓ **LVDS:** *Low Voltage Differential Signal, output from processor and input for panel*
- ✓ **O/C:** *Open Cell, panel with source board*
- ✓ **BL:** *Back Light, light source for panel module*
- ✓ **LB:** *LED (Light Emitting Diode) Bar, light source for BL module*
- ✓ **VBL:** *Voltage for Back Light (before Boost)*
- ✓ **VLED:** *Voltage for LED (after Boost)*
- ✓ **OVP:** *Over Voltage Protection*
- ✓ **OSD:** *On Screen Display*
- ✓ **AMP:** *Amplifier*

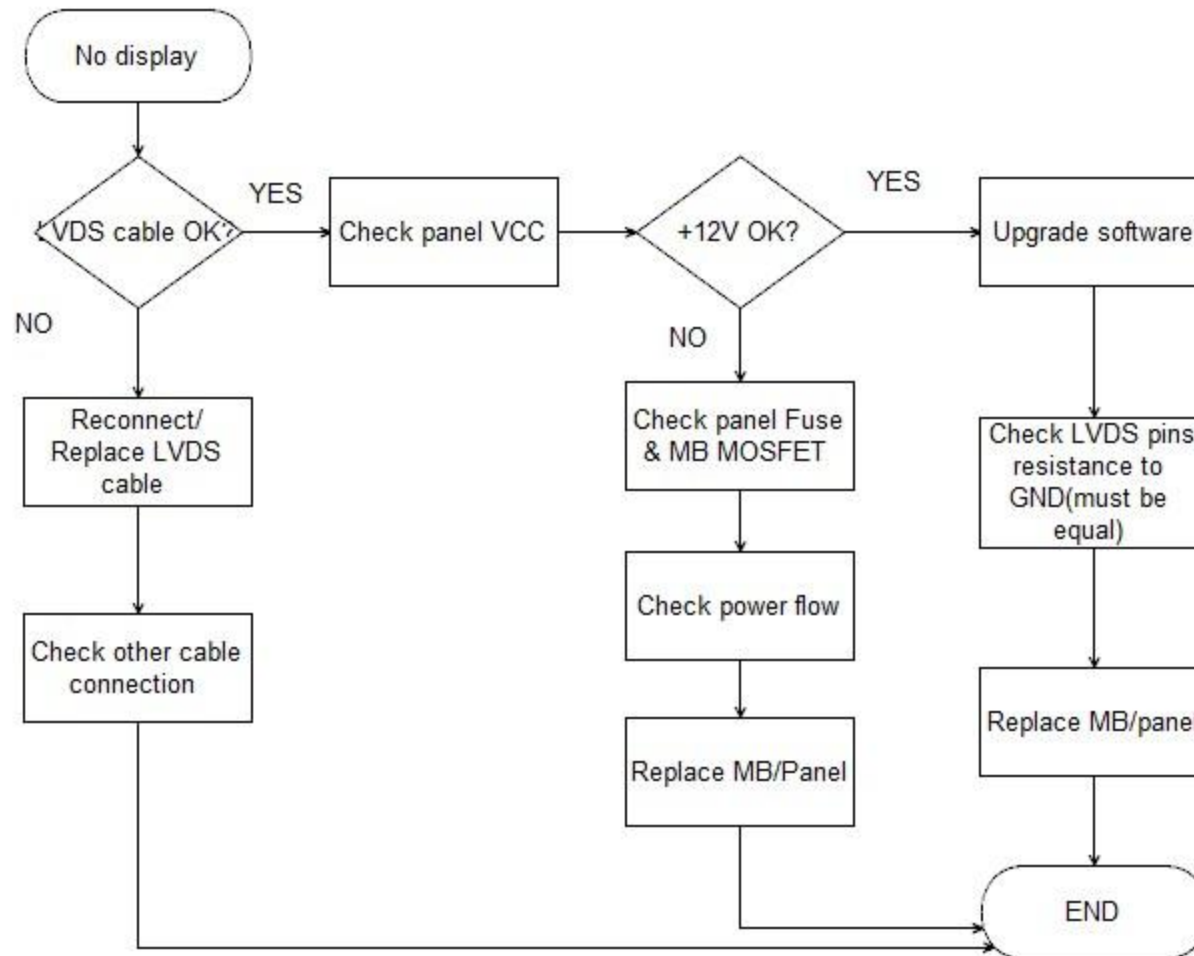
## 1.No power

No power LED, RC or Key can not turn on TV. Power LED no light/no change.



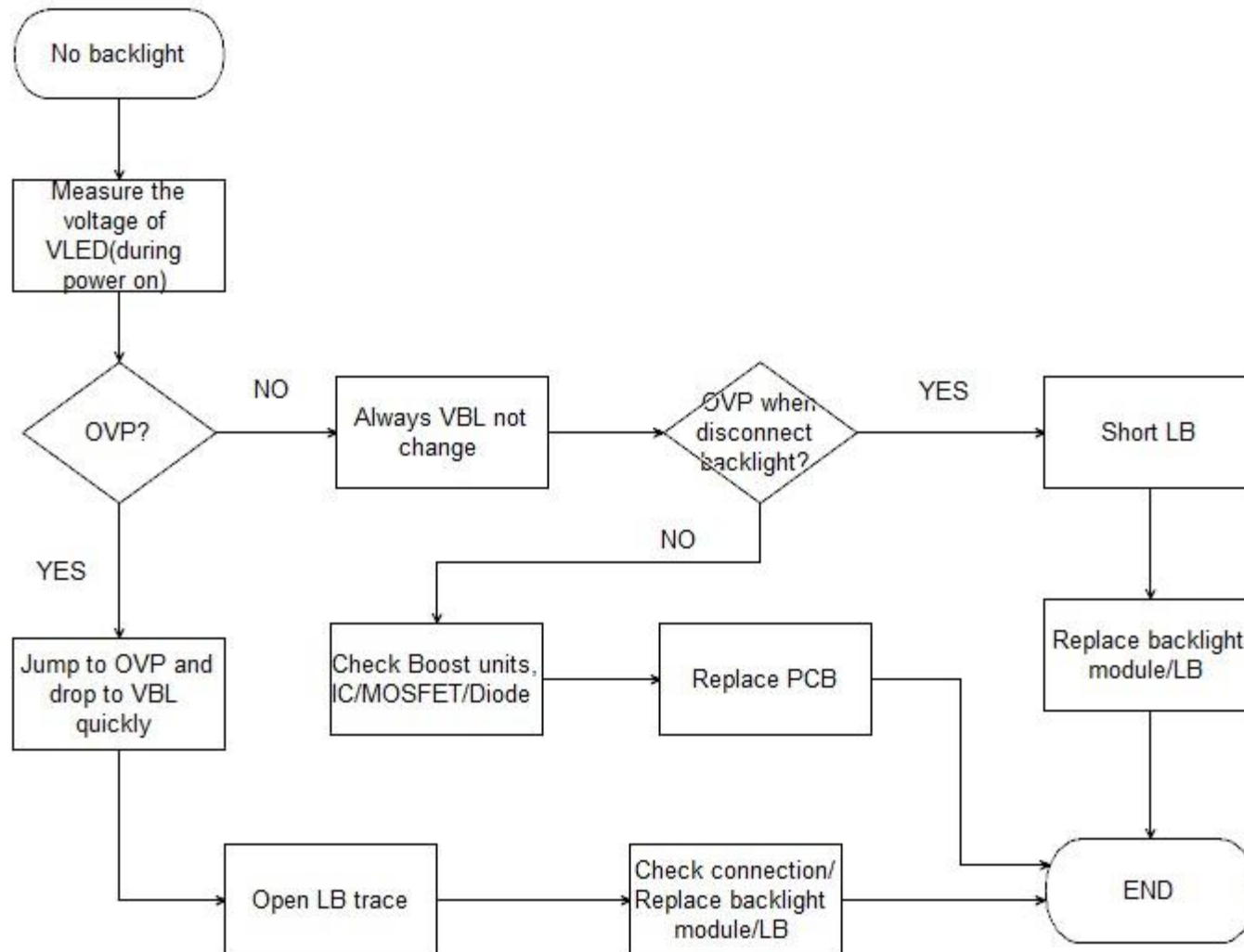
## 2.No Display / Black Panel

Back light is OK, sound is OK, but no picture.



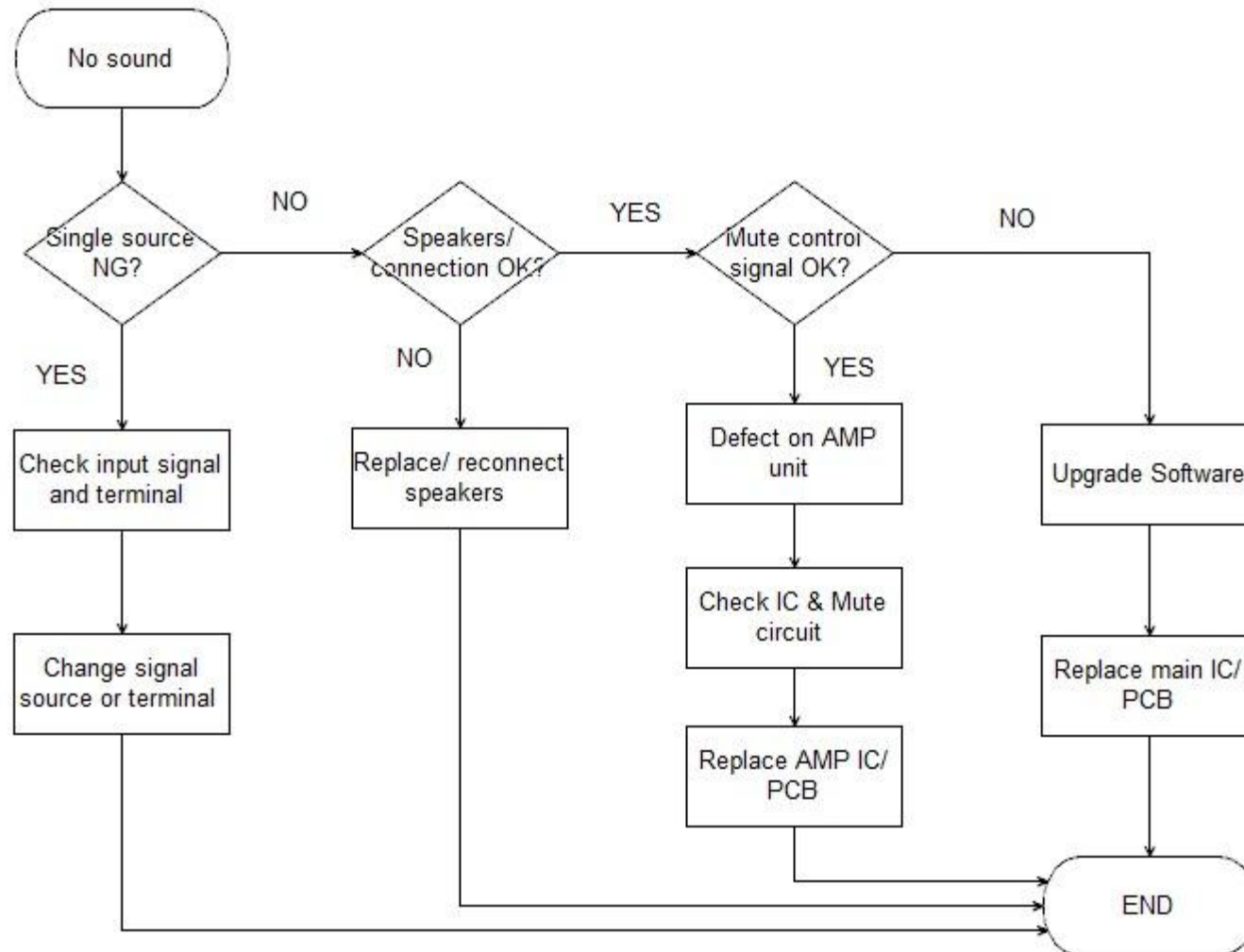
### 3.No back light

Power LED logic OK, sound OK, but no picture(Different from No Display).



#### 4.No sound

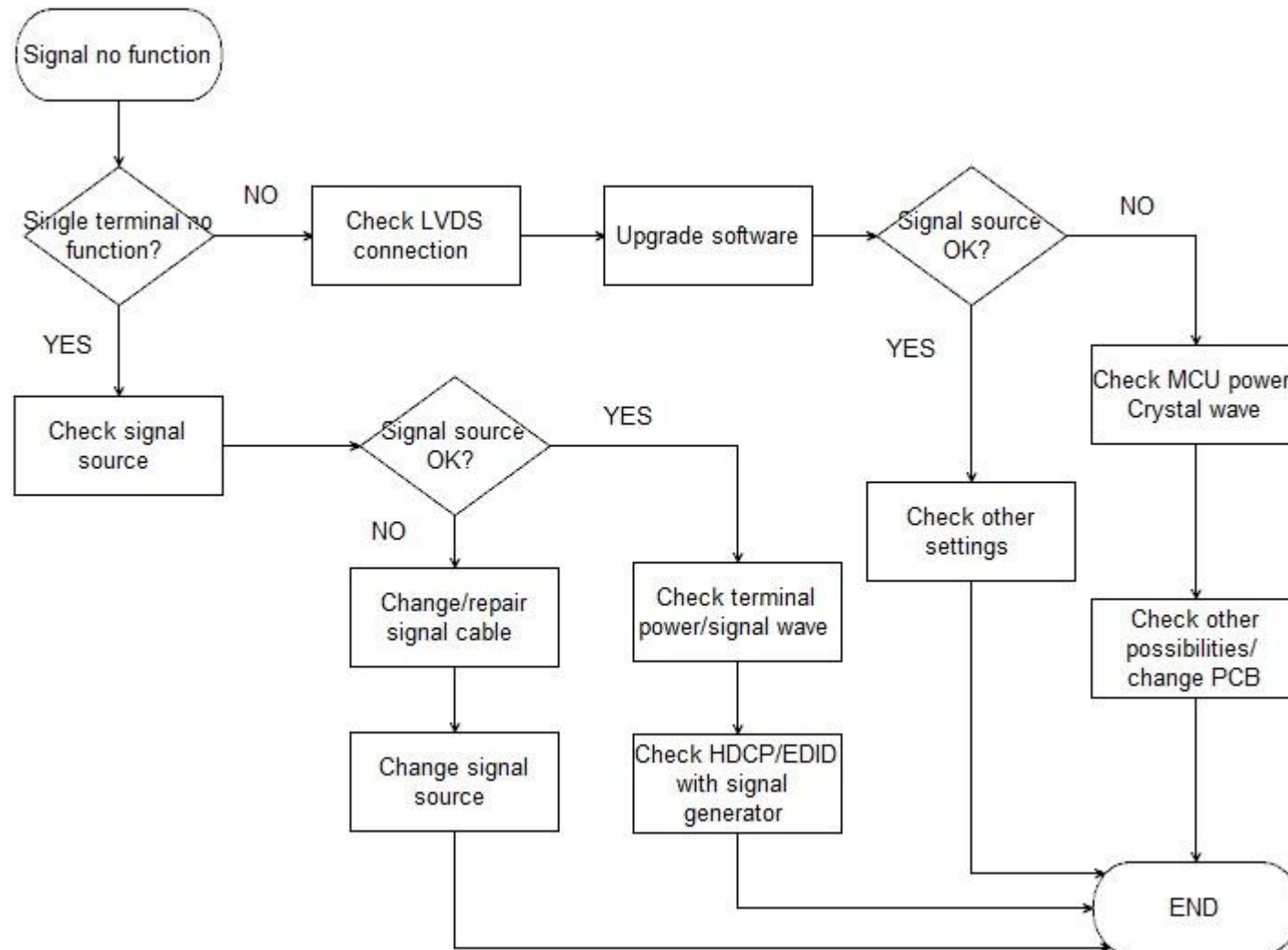
One or all signal source without sound.



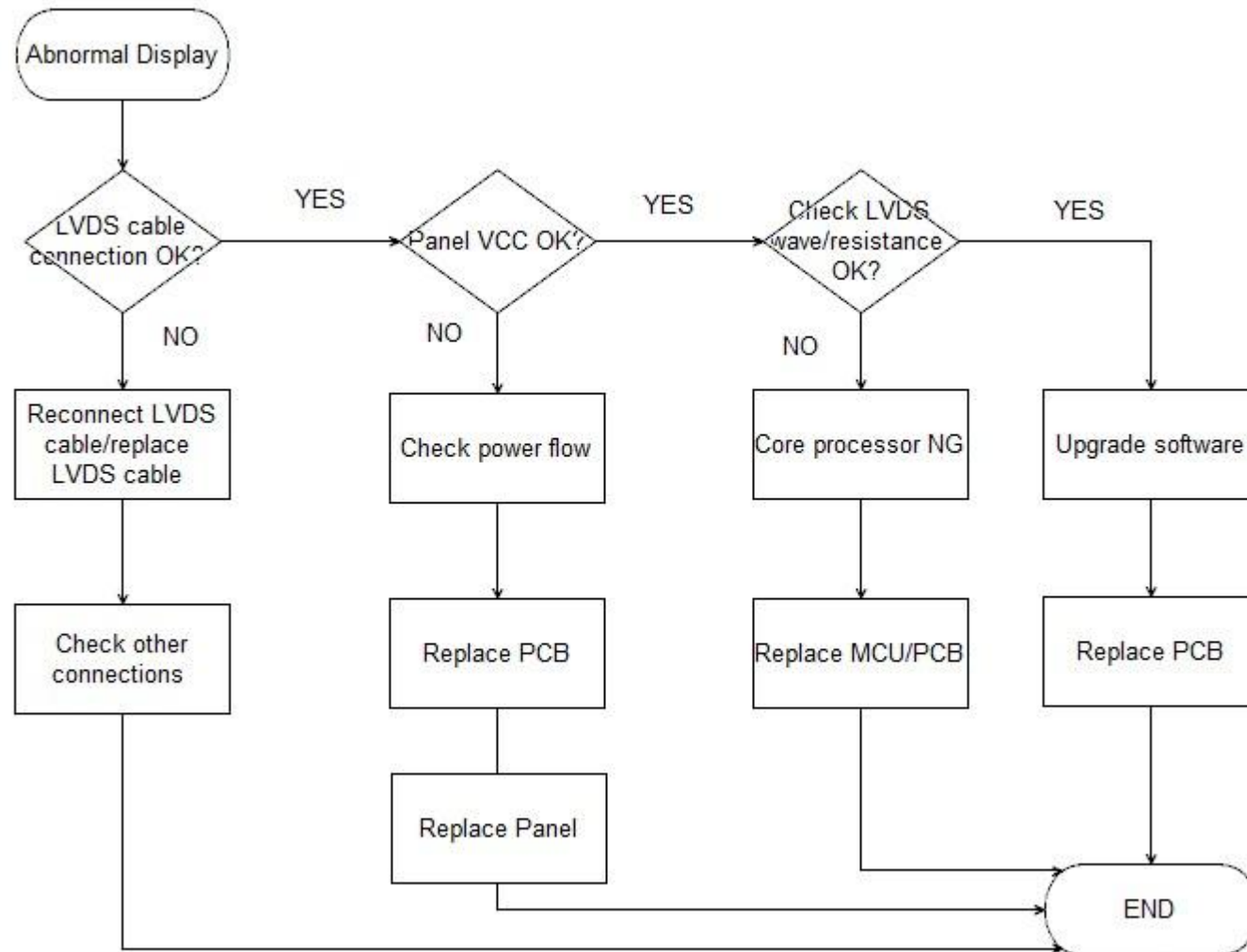


## 5.Signal source no function

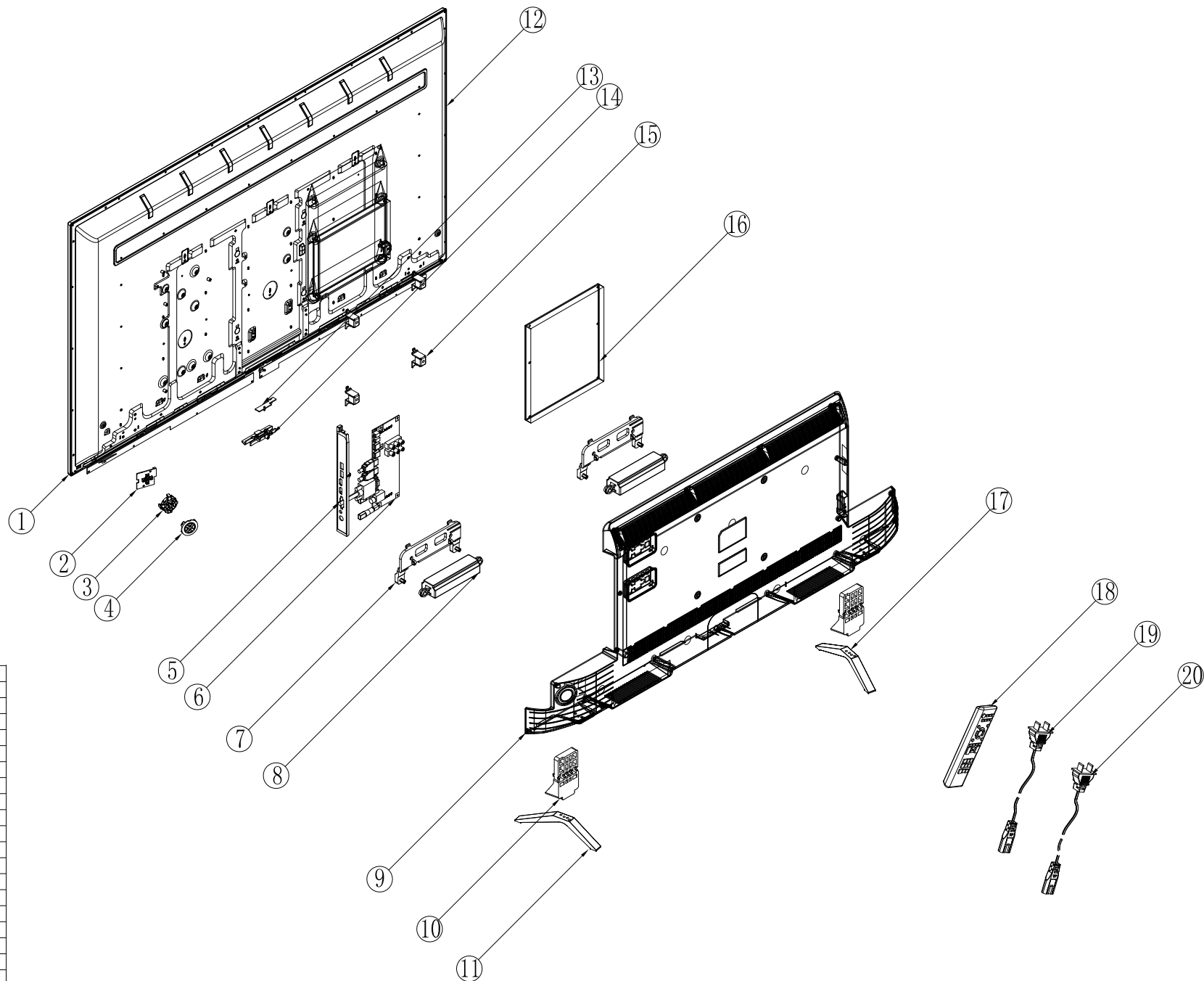
One or several source no function.



## 6.Abnormal Display OSD NG or picture NG.



50D2730/MS06B-AP



No.	Material Code	Describe	Qty
1	T8-5002730-1PM1	Module	1
2	T8-32E420T1-HE1	Key Board	1
3	56-474710-00UG	Button Bracket	1
4	56-474720-00UG	Key Support	1
5	56-739160-00UG	Side AV Support	1
6	T8-500P1N-MA1	Mainbord	1
7	62-739120-00UG	Speaker Bracket	2
8	42-M0F413-XX3G	Speaker	2
9	55-739110-00UG	Small Rear Cover	1
10	62-739130-00UG	Base Connect	2
11	68-50F381-0AQ	Base	1
12	67-465027-9EA	Rear Cover	1
13	T8-H0273NTZ-1R1	IR Board	1
14	56-739060-1VHG	Lens	1
15	67-4073927-9G0	VESA Support	4
16	81-P8E000-M91	Power Board	1
17	68-50F388-0AQ	Base	1
18	06-18P739-A0818	Remote Control	1
19	51-DC0160-0A00HG	AC Cord	1
20	51-DC0160-0C00HG	AC Cord	1

## Optional reserve material list

H3-QD273N1N-NGOW/50D2730/MS06B-AP/CM1GTA/TT E2 V3

S/N	Child	Description	Qty	Unit
1	T8-HD273NTZ-IR1	ASS'Y - IR BD	1	PC
2	T8-50D2730-LPM1	LVF500CMOT E2 V3 50D2730 CM1GTA/TT	1	PC
3	T8-50AP1N-MA1	ASS'Y - MAIN BD	1	PC
4	T8-32E420TU-KE1	ASS'Y - KEY BD	1	PC
5	81-PBE050-H91	PSU 115W SHG5504B01-101H	1	PC
6	68-50F38R-0AQ9A	DEC STAND GLASS -- 00 00 00 50F3800A R=N	1	PC
7	68-50F38L-0AQ9A	DEC STAND GLASS -- 00 00 00 50F3800A R=N	1	PC
8	67-M73927-0G0	RAW SUPPORT 50D2700 -- -- 00 00 00 R=Y	4	PC
9	67-B50D27-3EA6R	DEC SUPPORT BACK CASING * -- 00 00 00 R	1	PC
10	62-739130-0UKG	RAW FRAME FRAME-L 50D2700 00 00 00 R=Y	2	PC
11	62-739120-0UNG	RAW FRAME -- 50D2700 00 00 00 R=Y	2	PC
12	56-739160-0UNG	RAW DECOR 50D2700 -- - - - R=Y	1	PC
13	56-739060-1VH4ZG	RAW DECOR . -- - - - R=Y	1	PC
14	56-474720-0UK6RG	RAW DECOR 32B2800 KEY-BRACKET - - - R=Y	1	PC
15	56-474710-0UK9AG	RAW DECOR 32B2800 KEY-BUTTON - - - R=Y	1	PC
16	55-739110-0UN6RG	DEC BACKCOVER -- -- 00 00 00 R=Y	1	PC
17	42-WDF413-XX2G	SPEAKER 60HM 12W 80 180HZ RECTANGLE 30.1	2	PC
18	51-DC0160-0AR0HG	AC cord	1	PC
19	51-DC0160-0CR0HG	AC cord	1	PC
20	06-IRPT39-A0818	remote control	1	PC