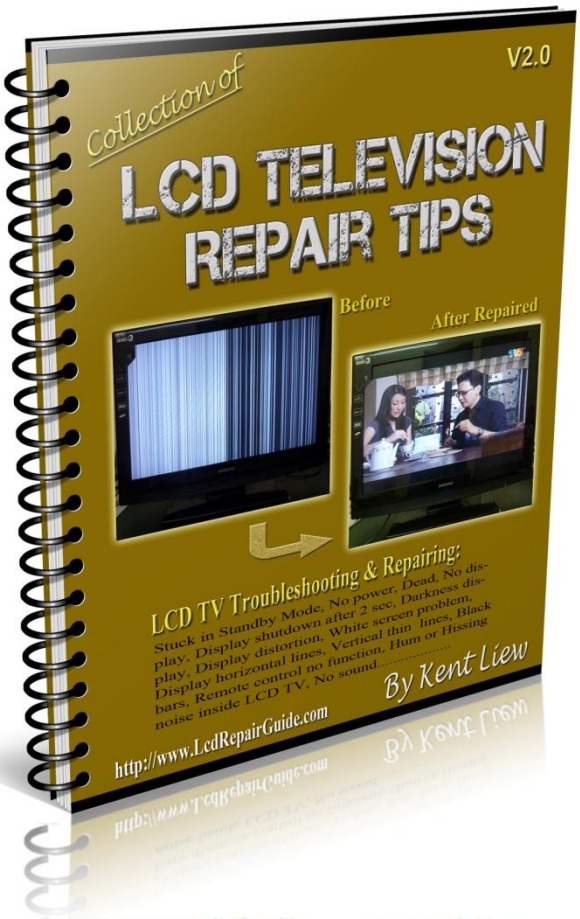
Collection of LCD Television Repair Tips. V2.0



Brought to you by Kent Liew

ImagineX ElectronicS

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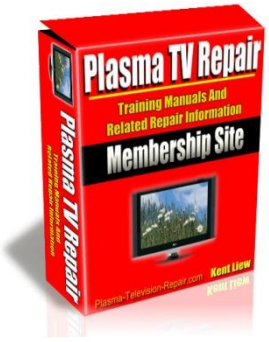
Highly recommended other great related repair information for you:

With all these great repair information, it will help you in troubleshooting and repairing electronic and the other display devices:

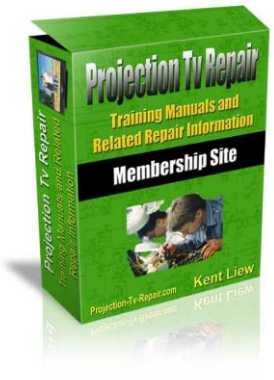


Plasma TV Repair Membership Site

If you're a Plasma TV repairer, then these Plasma TV repair information is you want! Some hard to find information also included inside this Plasma TV Repair Membership Site!

LCD TV Repair Membership Site

This is complete repair information for LCD Television! These repair information included: training manual, service manual, psu schematic diagram, service bulletin, firmware & so on!

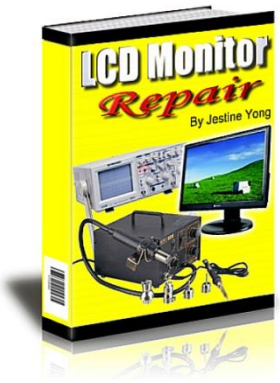


Projection TV Repair Membership Site

This membership site included two main repair information, these are Projection TV and Projector!

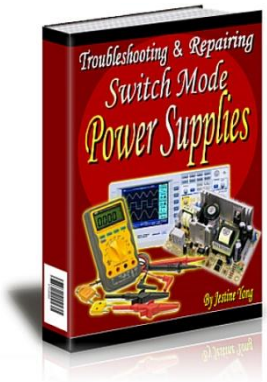
Testing Electronic Components E-book

A guide on how you can test electronic components like a professional. Even some of the testing method you haven't saw or learn before. It is enjoy learning testing electronic components through this value e-book.



LCD Monitor Repair E-Book

A step by step guide on how you can become a Professional in LCD Monitor Repair. Actually after I read this e-book, it is not only LCD Monitor but apply to LCD TV too! Some of the repair tips and gadgets can be apply to the LCD TV troubleshooting & repairing!



SMPS Power Supply Repair Guide

This is one of the great SMPS repair guide I have seen. Where Mr. Jestine Yong had reveal all his secret methods to troubleshooting & repairing the power supplies for the reader. Some of his tactic in this guide, I'm sure you're haven't seen it before. Highly recommended must have!

How To Use This Guide

1) This guide can save you time and money. You will get the results directly because you will know which components you want to replace. This means you don't need to pay more money and time to learn how to troubleshoot LCD TV from starting until the end. Before using this guide, you need to know how to disassemble the LCD TV first. You need some basic testing electronic components skill and must know how to solder components on the PCB board. This guide can help you to solve LCD TV problems on the spot.

2) Find the solution by comparing other brands or models but with the same symptom of your LCD TV. For example, if one of your LCD TV problems is hum noise from the power supply (PSU) and you can't find your model inside this guide, you can try to find other brands or model but with the same symptom with your LCD TV problem. Then the solution can be use for reference.

3) For your information, most of the third-party OEM brand TVs always uses the same TV manufacturer chassis. So if one of this OEM brand LCD TVs has problems, then you may need to find the original manufacturer repair tips (service manual or etc) to solve the problems. For example, these OEM brands LCD TV's: Sylvania LD195SSX, Emerson LD195EMX, Emerson LD190EM1, Magnavox 19MD350B-F7, Magnavox 19MD359B/F7 and Sylvania LC190SL1 are all using the FUNAI Chassis FL9.3 LCD TV! Assuming if your LCD TV model is Emerson LD195EMX have problem, and you can't locate the repair tips for this particular model, you can always use the Sylvania LD195SSX repair tips to solve the problem. Please refer to the next page title of "Original TV Manufacturer for OEM Brands TV" for more details.

4) After you have finished reading this guide, I believe you will have the confident to repair LCD TV now. The reason for it is because you now know what is the most common fault inside the LCD TV's and what are the common parts that need to be changed.

Original TV Manufacturer for OEM Brands LCD TV

Nowadays, many brand of LCD TV can be found in the market. A lot of OEM brands LCD TV in the middle and lower range market. But most of these OEM brands LCD TV does not provide repairing information like service manual, schematic diagrams and etc for the TV repairers.

So, most of the TV repairers are facing lack of repairing information and causing them not to repair these OEM LCD TVs. Some TV repairers just direct change the PCB boards (PSU, Mainboard, Inverter board & etc) to repair OEM LCD TVs because they could not find spare parts locally or from the internet. Some just gave up and threw the LCD TVs away.

Actually they should not give up, they should find out what is the OEM LCD TV original manufacturer (Or that model original manufacturer chassis), and from there they could find out the original manufacturer service manual and schematic diagrams. It is advisable to find out the same chassis or same lcd panel sizes, to narrow down the area of the search. Below is a simple table to let you know who are the original LCD TV manufacturers and the brands of OEM LCD TVs:

Original TV Manufacturer	LCD TV Brands (or LED TV)
1) BEKO	BUSH, GOODMANS, GRUNDIG, Toshiba (some models)
2) FUNAI	Emerson, Magnavox, Sylvania
3) KAWA	AKAI
4) HAIER	BUSH
5) ORION	CROWN
6) PRIMA (Oversea name of XOCECO)	AudioVox, Insignia, Legend, Polaroid, Sanyo (some models)

7) PROVIEW	Acoustic Solution, BUSH
8) SAMSUNG	BUSH (Plasma & LED TV)
9) VESTEL	Acoustic Solution, BUSH, CROWN, GOODMANS, GRUNDIG, HITACHI (some models), LEXSOR, SANYO (some models), SHARP (some models), TOSHIBA (some models), Proline, TECHNIKA, TECHWOOD, Wharfedale
10) XOCECO	Same as PRIMA

Some examples of OEM LCD TV brands and their Manufacturers:

Original Manufacturer: XOCECO/PRIMA	**Compatible LCD TV Brands and Models:**
L23K6_7	Polaroid FLM-2601
L37K7	Polaroid FLM-3701
LC-15Y3	AudioVox FPE1505, Legend LEC1524
LC20H3	AudioVox FPE2000
LC20H15	Polaroid FLM-2011
LC-20Y3	AudioVox FPE2005
LC-20Y15	Legend LEC2015
LC-26FB26	Sanyo AVL261
LC-32K5	AudioVox FPE3205, Legend LEC3205
LC-32K18	Legend LEC3220
LC-37HV41	Insignia NS-LCD37HD-09
LC-40K17	Legend LEC4017
LC-42FE18	AudioVox FPE4207HR
Original Manufacturers: BEKO, FUNAI	**Compatible LCD TV Brands and Models:**
BEKO Chassis L9	Bush IDLCD26TV05HD

BEKO Chassis LC	Bush LCD15TV005 ATQ00, Toshiba 20VL63G
Funai Chassis FL9.0	Emerson LC195EMX, Magnavox 22MF339B/F7, Magnavox 19MF339B/F7, Sylvania LC195SLX, Sylvania LC225SSX, Sylvania LC195SSX
Funai Cahssis FL9.1	Emerson LC320EMX, Magnavox 32MF339B/F7, Sylvania LC320SLX, Sylvania LC320SSX
Funai Chassis FL9.2	Magnavox 42MF439B/F7, Sylvania LC427SSX
Funai Chassis FL10.5	Magnavox 40MF430B/F7, Sylvania LC407SS1
Original Manufacturer: VESTEL	**Compatible LCD TV Brands and Models:**
Vestel Chassis 17MB08P	Bush LCD17TV002
Vestel Chassis 17MB08P5	GOODMANS GTV26WLCD
Vestel Chassis 17MB222	Toshiba 20W330DB
Vestel Chassis 17MB24H	Toshiba 19W330DB
Vestel Chassis 17MB15	Toshiba 27WL54G, Techwood TK2609HDI, Hitachi 32LD6600
Vestel Chassis 17MB116	Wharfedale LCD3210AF
Vestel Chassis 17MB 15E3	Wharfedale LCD26HDMI

For example, when you are repairing a Magnavox 42MF439B/F7 LCD TV and you can't find this model service manual or schematic diagram, what you can do is to look at the above table. From the table we can see that this LCD TV is using the Funai FL9.2 Chassis and it is same as the Sylvania LC427SSX LCD TV too. Now we can try to search it online or inside the LCD-Television-Repair.com members' area for Funai Chassis FL9.2 or Sylvania LC427SSX service manuals and the schematic diagrams. With this method, one can easily locate the repairing information for Magnavox 42MF439B/F7.

ACER

1) Model: ACER AL2671W LCD TV

Symptom: No channel storing or TV loses channel order after a while.

Repair/Solution:

Note: Before replacing the EEPROM enter service mode (press and hold V- and CH+ buttons on front panel) and take note of all the values, specially the R, G, B gain and R, G, B bias in "Standard", "Cold" and "Warm" picture modes. Replaced U33 (24C32) SMD eeprom IC.

2) Model: ACER AL2671W LCD TV

Symptom: No Magenta picture (no green). Lock in channel scan function. No picture via AV input.

Repair/Solution:

Replaced U33 (24C32) SMD eeprom IC with a blank one then set-up settings.

3) Model: Acer AL2671W LCD TV

Symptom: Enter Service Mode

Repair/Solution:

Press VOL+ and PROG- simultaneously on appliance till screen is red, then press MENU button.

ACOUSTIC SOLUTION

4) Model: Acoustic Solution LCD32805HD LCD TV

Symptom: No display but sound ok and backlight is working.

Repair/Solution:

Suspect the T-CON board or LVDS cable. Found T-CON board SMD fuse was opened circuit. This SMD fuse marking code as "P" and replaced it with a 3A SMD fuse.

BUSH

5) Model: BUSH IDLCD27TV006 Chassis CTV100_CINEX LCD TV

Symptom: Dead and red LED light flashing.

Repair/Solution:

Replaced D315 (12v zener diode), D318 (2.4v zener diode), Q300 (BC337) on primary of PSU and C330 (1000uf/25v) on secondary output of PSU board.

6) Model: BUSH IDLCD27TV006 Chassis CTV100_CINEX LCD TV

Symptom: Not working after lightning.

Repair/Solution:

Check or replace following components: IC21(FSD200), IC30(ICE1QS01), T300(SPP7N60S5), Q300 (BC337), C322(47uf/50v), C213(33uf/16v), D325(1N4007), D315(BZX55C12, 12V zener diode) and main fuse T3(15A).

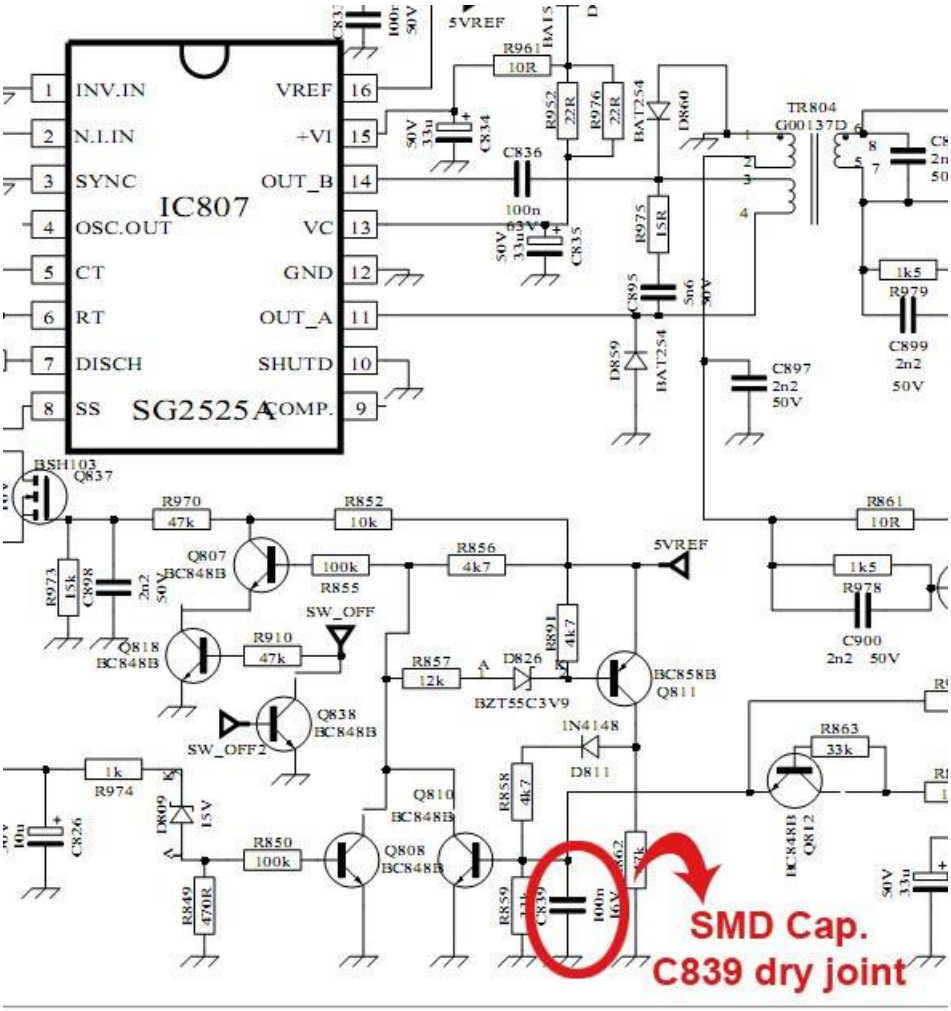
7) Model: BUSH IDLCD32TV27HD LCD TV

Symptom: No Display and the LED light blinking.

This LCD TV using Vestel 17PW20 PSU board.

Repair/Solution:

Found this PSU board have lots of dry joints, especially the SMD capacitor C839 (100nF/16V). Resolder all the dry joints and bad points lcd tv problem solved.



8) Model: BUSH IDLCD27TV006 Chassis CTV100_CINEX LCD TV

Symptom: Enter Service Mode

Repair/Solution:

Using remote control and enter main menu. Enter features Menu and then press 1, 9, 2 and 3 buttons.

9) Model: BUSH LCD42TV025HD Chassis 17MB22 (Vestel) LCD TV

Symptom: Crackling sound, no color then picture breaks-up after a while. TV runs OK for a while.

Repair/Solution:

Replaced crystal X400 (20.050MHz) on main board.

CROWN

10) Model: CROWN CTT3207W Chassis Vestel 17MB08P5 LCD TV

Symptom: No display, sound and backlight ok.

Repair/Solution:

Check SMD fuse CP101 on T-CON board for opened circuit.

DMTECH

11) Model: DMTECH DML-4117W LCD TV

Symptom: No display, screen full of vertical lines after 15 minutes.

Repair/Solution:

Replace 3.3v Voltage Regulator IC Q811 on mainboard.

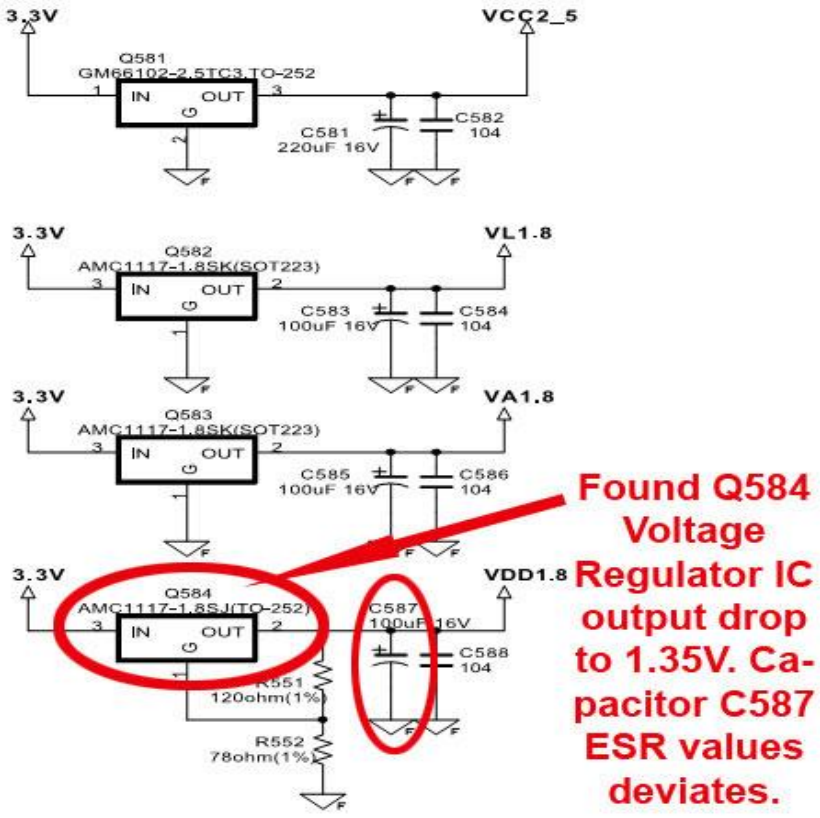
12) Model: DMTECH or Domotech DML4126 LCD TV

Symptom: The screen full of Vertical lines.

But sound and change channels both are working.

Repair/Solution:

Found Q584 (NCP1117DT-18RK, 1.8V Voltage Regulator IC) output voltage drop to 1.35V and the capacitor C587 ESR values deviates. Replace both components on mainboard and TV problem solved.



GOODMANS

13) Model: Goodmans LD3765D & LD3265D1, Hitachi L32H01U & L37V01UA & 32LD6600C, Medion MD30325, Nikkei NK32751, Palladium LCD8155, Quelle FTLCD8176, Sanyo CES37WSD78, SEG LC7320A, Technika TVLCD32HD & LCD32207 & LCD32207CE, Techwood CL82762HDBT & TK8201LCD, Universum FTLCD8165 & FTLCD8182 LCD TVs

Symptom: No Power and the main fuse F800 blown.

All these brands and model LCD Tv are using Vestel 17PW20 ver1.0 PSU board.

Repair/Solution:

Not all the components below need to replace. But you can use it as a reference when the broken LCD TV brand, model & symptom same the above list.

F800 = 3.15A

IC802 = IRF7314

Q803 = SSP7N60A

D824 = STPS745

R830 = 0.22 ohm

R829 = 0.22 ohm

IC806 = TNY266

IC801 = TCET110G, Opto-Coupler IC

IC825 = STPS5L25B, 25V

D836 = 8V2, Zener Diode

IC829 = 78L05, Voltage Regulator IC

R823 = 15 ohm

14) Model: Goodmans GTV26W8HD LCD TV

Symptom: No display and no sound, show the pink colour glow screen only.

Repair/Solution:

Remove the EEPROM IC (AT24C04) and using the programmer to backup their data for safety purpose (if something happen, can be restore back the firmware or setting to the EEPROM IC). Power on the tv now, it should appear blue display on the screen. Call out the OSD Menu and then plug in back the EEPROM IC (be careful, it will damage the IC or whole board). Call out the OSD Menu again, go to factory reset setting and select it to reset the setting. After that, setting back all the channels (also can select auto tuning channels) and the tv working perfectly.

15) Model: GOODMANS GTVL32W27HDF LCD TV

Symptom: Enter Service Mode

Repair/Solution:

Procedure: 1. Press MENU, 9, 3, 0 and 1 buttons on remote control to enter service mode.

16) Model: Goodmans LD3261HDFVT Chassis 17MB22 LCD TV

Symptom: Dead and no any LED light.

Checking the PSU board and found the 5V standby voltage.

Repair/Solution:

Found IC001 (LM1086CS-ADJ) on mainboard defective. Where it should be output 1.8V but it is drop to 1.03V only.

GRUNDIG

17) Model: Grundig (BEKO) Chassis L4 LCD TV

Symptom: Horizontal yellow lines and yellow blocks on screen.

Repair/Solution:

When mainboard is flexed, fault appears and disappears. Resolder all 3 SDRAM chips U800, U801 and U802 (K4S161622H-UC60) at top-right hand corner of main board.

HISENSE

18) Model: Hisense TLM-42V68PKA LCD TV

Symptom: Tv power on, LED light blue color but no display and no sound. After several seconds, blue LED light off and then on, this step repeated and non-stop.

This symptom seems like the standby 5V no stable.

Repair/Solution:

Power on the TV, PSU relay working and the PSU output steady standby 5V, 12V and 24V! Even when the blue LED light off, the standby 5V still steady output 5V! This mainboard part number is SRAG7.820.1933. Check the BL_ON signal and is about 0.4V only. So backlight will not working. The T-CON board VCC supply is 0V, it is because of the control T-CON Vcc on/off MOSFET not receive any signal from mainboard to on the gate.

So all the results seem like the mainboard problem. Check mainboard Scaler IC N39 (6M68FQP) working voltages all ok, the core voltage 1.26V normal, reset circuit ok and crystal waveform normal too. Continue check the N23 (24C64) eeprom Vcc voltage ok, pin 5 (SDA) got 3.3V but pin 6 (SCL) 0V! Normally pins 5 & 6 have same voltages or a little different voltage only. When blue LED light off, the pin 6 have 1.6V! Check this pin 6 corresponding components and can't find any bad or leaking components.

After soldered out the N24 (MX25L6405D, but schematic diagram was wrote as N53- MX25L3205) flash memory IC, power on TV, the eeprom IC N23 pin 6 got 3.2V! So suspect the flash memory IC defective or their firmware corrupted. Using programmer to program correct version of firmware into the flash memory and solder it back to mainboard. Power on TV, it is working properly and the blue LED light is steady now! It is confirm that the problem was caused by their flash memory firmware corrupted. Problem solved.

JVC

19) Model: JVC LT26C31BJE LCD TV

Symptom: No display, but sometime the display appear. Sound is ok.

Repair/Solution:

Found IC004 (MBV160-26C31 memory IC) dry join. Resolder IC004, IC4103 (MBV400TV90PFN26, 4M memory IC), IC002 (reset IC) & the corresponding components. Also resolder the PSU board.

20) Model: JVC LT32DS6BJ Chassis FL2 LCD TV

Symptom: No start-up. Blue 'i' LED flashes.

Repair/Solution:

Check R9201 (8.2R/7W) in PSU board.

LG

21) Model: LG RZ-20LA70 LCD TV

Symptom: No power

Repair/Solution:

Lots of components burnt on the PSU board. Replaced R715 (0.33 ohm), R717 (560 ohm), C706 and C727 (both 22uF/50V, 105'C), C728 (47uF/50V, 105'C), IC701 (STRW-6853P) & Q706 (KTC3227-Y). After changed all the above components, this tv was working properly.

22) Model: LG 37LC2DB LCD TV

Symptom: No sound after a while, only noise from speakers.

Repair/Solution:

Check IC405 (TAS5122DCAR).

23) Model: LG 32LC2R LCD TV with chassis LP61C LCD TV

Symptom: No display and grey screen only.

Repair/Solution:

Backlight Ok. No 6v. Replaced C211, C222 (both 1000uF/35V), C234 and C237 (both 1000uF/25V), Q209 (FDS6690A) and U204 (IRU3037).

24) Model: LG 32LC2RTJ Chassis LP61C LCD TV

Symptom: No picture. Sound and backlight ok.

Repair/Solution:

Re-program NVM memory 7C01 (24M32) with original data/firmware.

25) Model: LG 37LC7R Chassis LP78A LCD Tv

Symptom: No start-up. Front LED flashes in green (no apparent error code).

Repair/Solution:

The EEPROM IC program/firmware corrupted by the faulty capacitors in PSU board. Replace C213 (470uF/25v), C216 (470UF/10v), C215 (2200uF/10v), C220 (470uF/10v), C502 (33uF/50V) and C507 (47uF/50v) in PSU. After the mentioned capacitors in PSU had been replaced then replace EEPROM IC501 (24C32) on the underside of the signal/processor PCB. Note: Most of the capacitors may look ok but they read faulty on ESR meter. Use a blank memory chip. All data will be loaded when the unit is powered on.

26) Model: LG 37LF66 chassis LD75A LCD TV

Symptom: No start-up from standby.

Repair/Solution:

Remove L902 and add R936 (0R), remove L903 and add R940 (0R), remove L904 and add R938 (0R), remove L905 and add R937 (0R), remove L906 and add R935 (0R), remove L908 and add R939 (0R), remove L1404 and add R1475 (0R), remove L1405 and add R1473 (0R), remove L1406 and add R1474 (0R), remove L1407 and add R1470 (0R), remove L1408 and add R1476 (0R), remove L1409 and add R1471 (0R).

PANASONIC

27) Model: Panasonic TC-37LX70D Chassis LH60 LCD TV

Symptom: Can't start-up TV or no LED light randomly.

While this TV using remote control change to standby mode, when try to start-up the TV it is no function. This problem occurs randomly sometime one day or three days once. If take out the AC plug about 3~5 minutes, and then plugging it back the TV can working properly!

Repair/Solution:

When the problem occurs, test T880 all voltage outputs, included standby 5V too. The T880 secondary side each voltage lines no short circuit appearances. Check IC851 their pins voltage as (1) 0V, (2) 0V, (3) 10V, (4) 0V, (5) 5.7V & (7) 300V. So suspect the Standby Circuit not working effect the standby 5V disappear. Try to re-solder PSU section included Standby Circuit and tested about 7 days the TV is working properly. After 3 days, customer complaint same problem again!

Since this problem occurs again, so direct replace the IC851 (MIP4190MD) but after 5 days, this TV same problem again. When the problem occurs, testing this IC851 again, all pins voltage ok, except the pin 5 a bit voltage drop to 5.7V (normally it is 6V). So power off the TV and check IC851pin 5 corresponding components. Suddenly found a SMD capacitor C850 (1uF/16V) their ESR value a bit high than normal, but still replaced it. Power on the TV again, it is working perfectly. After 3 month call back to customer, the TV was working properly.

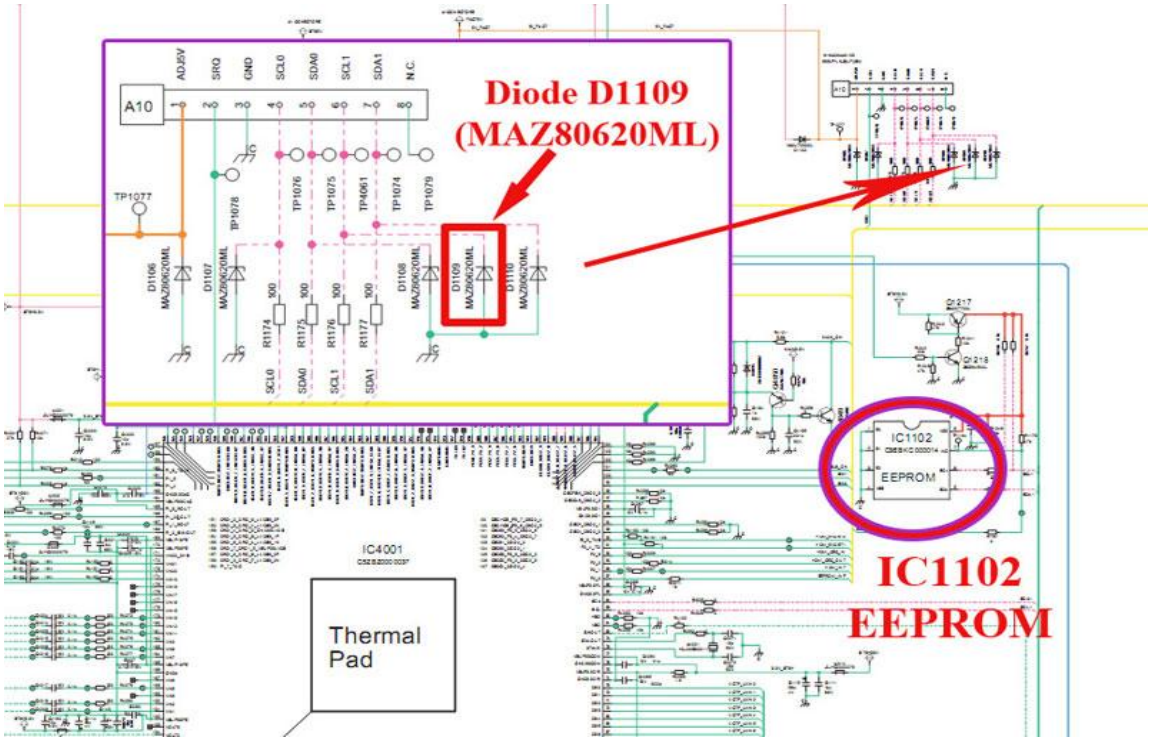
28) Model: Panasonic TC-32LE80D LCD TV

Symptom: TV can't start-up but LED light off or sometime LED light will on.

The AC power on but standby LED light off, after on and off several times the LED light will. But TV stills no display and no sound.

Repair/Solution:

The PSU output 5V standby, 12V & 24V correctly. But mainboard not send out the PS-ON signal. Check main chip IC4001 working voltage all normal, Reset circuit and crystal signal ok too. Testing eeprom ic IC1102, voltage Vcc ok, pin 5 has 2.9V but pin 6 has 0.8V only! Try to re-program this mainboard but no help. So the problem was the Data BUS lines abnormal. Check IC1102 pin 5 has 10K ohm to ground and pin 6 has 2K ohm only. Trace the pin 6 corresponding components, and take out the components one by one. After take out diode D1109, IC1102 pin 6 voltages back to normal is about 2.85V. Using multimeter testing this diode, but both sides had good values, after replaced D1109 problem solved.



29) Model: Panasonic TC-32LE80D LCD Tv

Symptom: After power on, TV can't start-up and waiting until 20 seconds, red LED light flashing two times.

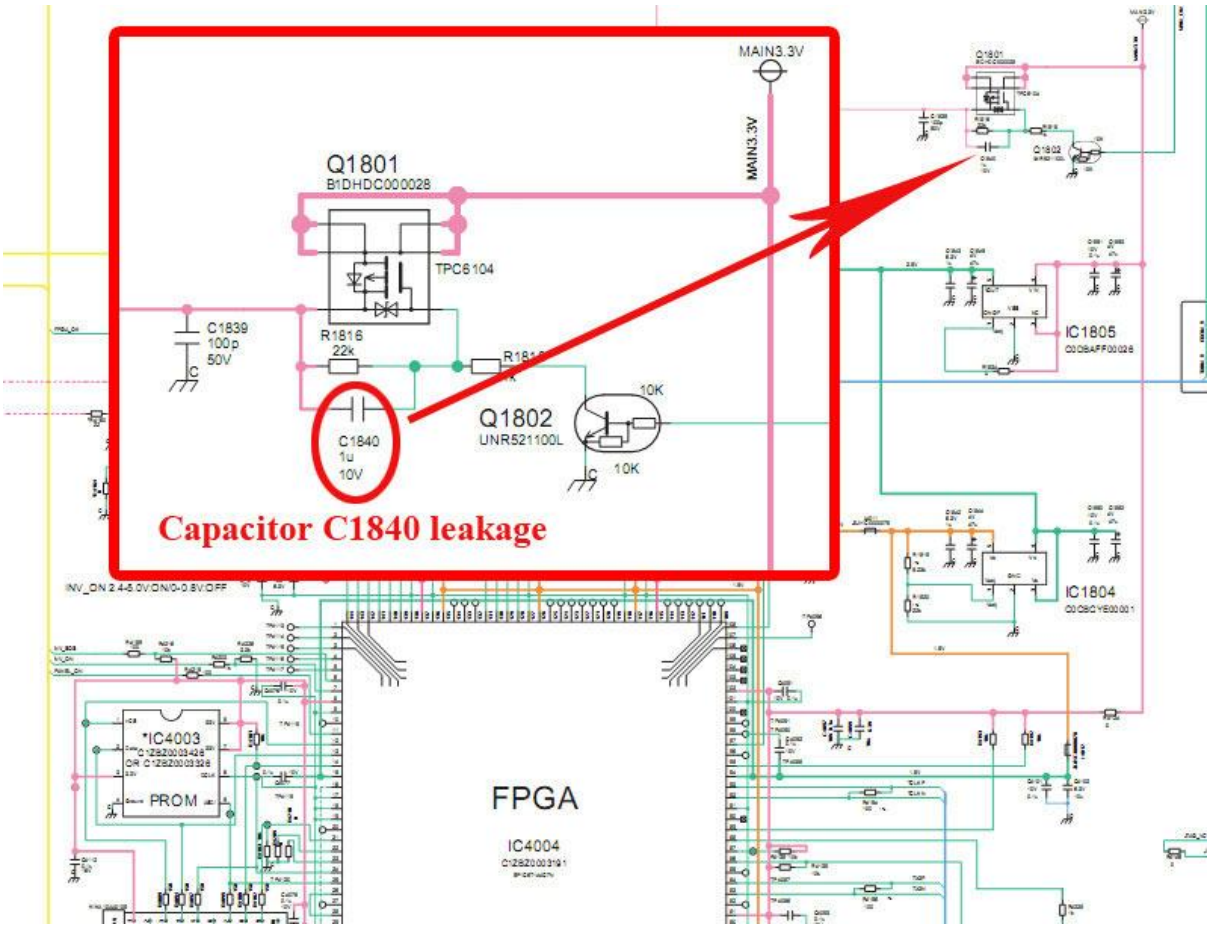
This type of error message can't refer to the service manual. Because of no one error message match it.

Repair/Solution:

Since can't find any tips from the service manual regarding this type of error message, so starting testing it from common steps.

When power on TV, check PSU standby 5V, 12V & 24V all ok. T-Con board Vcc supply 12V present. After about 20 seconds, the system protections activate and cutoff 24V lines and it is slowly dropped to 0V. Since Inverter voltage supply cutoff by unknown reason, starting checking inverter section first. After power on TV, testing inverter board input connector A6, 24V present, pin2 (INV-O N)= 0V (abnormal, normally it was in between 2V~5V), pin3 (KIDO-PWM)= 5V ok. The problem is missing the INV-On signal to inverter board or this INV-ON signal lost on half way? Because of inverter board not working, A6 pin 4 (INV-SOS) feedback to IC4004 pin 6 to enable system protection activated and cutoff 24V voltage supply.

Since the INV-ON signal send out by IC4004 pin 7, so testing this pin voltage and it is about 0.67V only. Check the IC4004 VCC voltage, found MAIN3.3V voltage supply 1.7V instead of 3.3V. The MAIN3.3V voltage converts from Q1801. So checking Q1801 voltage output was 1.8V only! But its' input voltage was 3.3V! Since this Q1801 control by IC4004 pin 102, so check this pin102 and it had 3.3V. Suspect Q1801 defective, replaced it but problem still persists. Check the Q1801 corresponding components and found C1840 (1uF/10V) leakage! After change a new C1840 capacitor, this problem solved.



30) Model: Panasonic TX-32LMD70 LCD TV

Symptom: No power

Repair/Solution:

Mains fuse F801 blown. Replaced F801, IC802 (F9222L-F219) and D820 (SD83304TE12R) for short circuits. Also check or replace the R835 and R837 (both 0.33 ohm, 2W).

PHILIPS

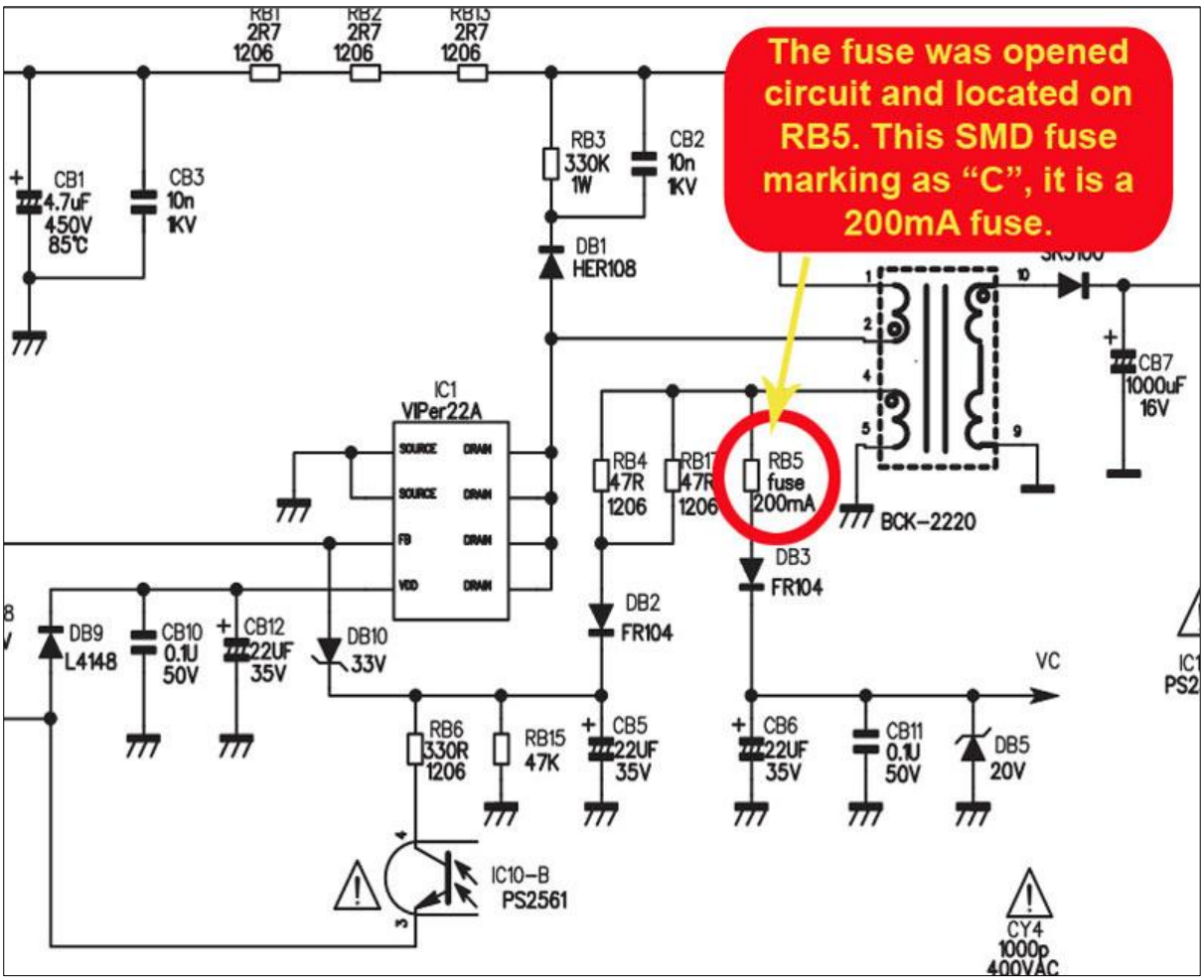
31) Model: Philips 26PFL3403D/10 Chassis TCM2.0E_LA LCD TV

Symptom: No power

The power supply output 5V standby but no output 12V & 24V.

Repair/Solution:

Found RB5 opened circuit. This SMD component looks like a resistor, but it is marking code as “C” and it’s a 200mA fuse.



RCA

32) Model/s: RCA Chassis P810, L37WD22, L37WD250, L42WD22, L42WD250, L46WD22 & L46WD250 LCD TV

Symptom: Distorted or No sound. No analog channels but digital channels ok.

Repair/Solution:

Found 1C33 fusible resistor opened circuit on mainboard.

If the customer complaint is “Distorted or no audio, no analog channels or analog inputs, but digital channels are still present” inspect the PCB Main Board (Digital Board) for an open fuse. The fuse, 1C33, is located approximately 2 inches behind the tuner (see Figure 1). The surface mounted part has various markings on the original part from “105” to “F” (see Figure 2 close-up) and is located below the board marking “7C32”. An open fuse, 1C33 in the +5VMPIF-MAIN supply, has been found to be the cause of the listed problems. Replacement fuse #275819 can be placed directly over the top and soldered to the ends of the existing fuse to lessen the chances of damaging the board traces.

Figure 1: PCB MAIN BOARD

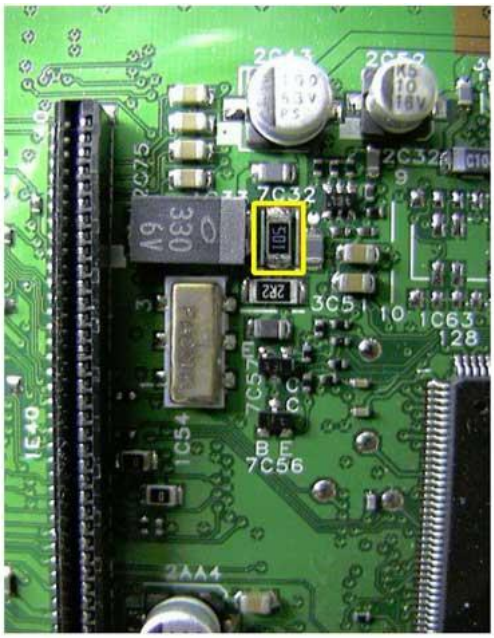


Figure 2: Fuse Location

SAMSUNG

33) Model: Samsung LN32B550K1FXZA, LN37B550K, LN40B550K, LN46B550K & LN52B550K LCD TV

Symptom: Intermittent volume increase to maximum

The TV volume will intermittently increase up to maximum (100 on-screen) and cannot be controlled by the remote.

Repair/Solution:

Verify the product serial number range is between December 2009 and January 2010 and replace the front cover (bezel). The year and month of production is represented within the 8th and 9th digit. Possible affected units will be "SC" and "Z1".

Digit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
(Ex)	A	U	D	2	3	C	P	S	C	0	4	4	9	0	L

Digit 8 means the "production year" and digit 9 means the "production month".

Digit 8	Year
Y	2005
L	2006
P	2007
Q	2008
S	2009
Z	2010

Digit 9	Month
1	JAN
-	-
8	AUG
-	-
A	OCT
B	NOV
C	DEC

Model Code:	**Part Number of Front Cover:**
LN32B550K1FXZA	BN96-09666A
LN37B550K1FXZA	BN96-09667A
LN40B550K1FXZA	BN96-09668A
LN40B550K1FUZA	BN96-09668A
LN46B550K1FXZA	BN96-09669A
LN46B550K1FUZA	BN96-09669A
LN52B550K1FXZA	BN96-09670A

34) Model: Samsung LE27S73BDX-XEU Chassis GSD27SE LCD TV

Symptom: No picture. Backlight working. White vertical lines down on the right hand side of screen and it's intermittently.

Repair/Solution:

Check voltage regulator IC N6 (SJ1117) on screen driver board.

35) Model: Samsung LE40R87BD Chassis GBP40SEN LCD TV

Symptom: Dead and stuck in standby mode.

Repair/Solution:

Replaced capacitors CM811, CM812 and CM817 (all 1000uf/10v, bulging). After turning on appliance relay clicks but appliance still won't come on or TV switches on but there are some patterns on the screen then switches to standby. Use jumper or wire short circuit TP_SDA and TP_SCL (pin 5 and 6 of IC1803 EERPOM). Plug in TV, power on and remove short circuit on IC pins after start-up.

Enter service mode (while the set is on) by pressing on remote control; POWER OFF (wait for relay to click), INFO, MENU, MUTE and POWER ON. Enter option 8. Adjust and set tuner settings. If the above method no help then replace EEPROM IC1803 (AT24C256BN) with correct firmware on the rear of the mainboard.

36) Model/s: Samsung LCD TV

Symptom/s: LCD TV Screen Problem

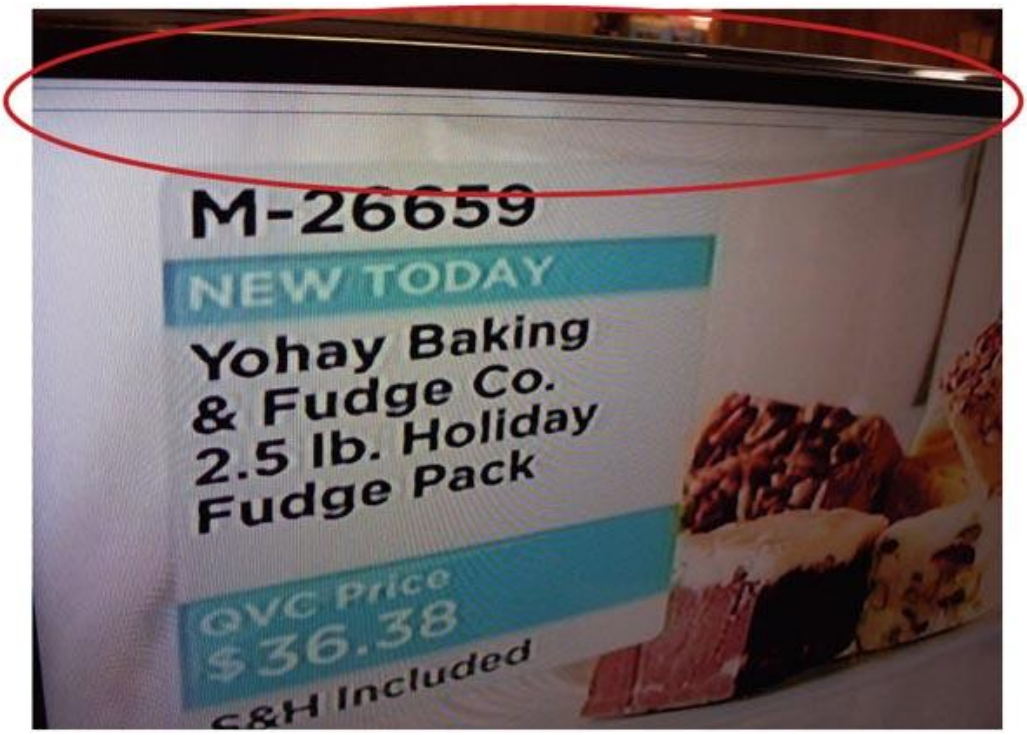
A) Samsung LN32D450G1D- Double Vertical Lines

B) Samsung UN60D6000S- There's a thin red vertical line on the right side of the menu.

C) Samsung LN52A650A1F & LN52A750R1F- Vertical color lines

D) Samsung LN32D450G1DXZA- A thin black vertical line

E) Samsung UN46C6300SFXZA- A thin half vertical line



F) Samsung UN46D6420UFXZA- There are two horizontal lines on top of the screen

G) Samsung LN46C550J1FXZA- There is a vertical bar on the left side of the screen. The vertical bar has color distortion. (This symptom may be T-CON or LVDS cable)

H) Samsung LN40C550J1FXZ- There is a red distortion bar on the left side of the screen on all inputs.

Repair/Solution:

All the above symptoms can use this method to narrow down the fault and know which board or section defective. First try to call out the OSD menu. If the line goes through the menu, the panel is bad. If the line is behind the menu, disconnect all signal sources and check again. If the line is still there, check or change the main board. If it's gone, then the signal source is the problem. Also, if the line appears in the Service Menu, it confirms that the LCD panel is bad.

37) Model: Samsung UN46D6900WFXZA LED TV

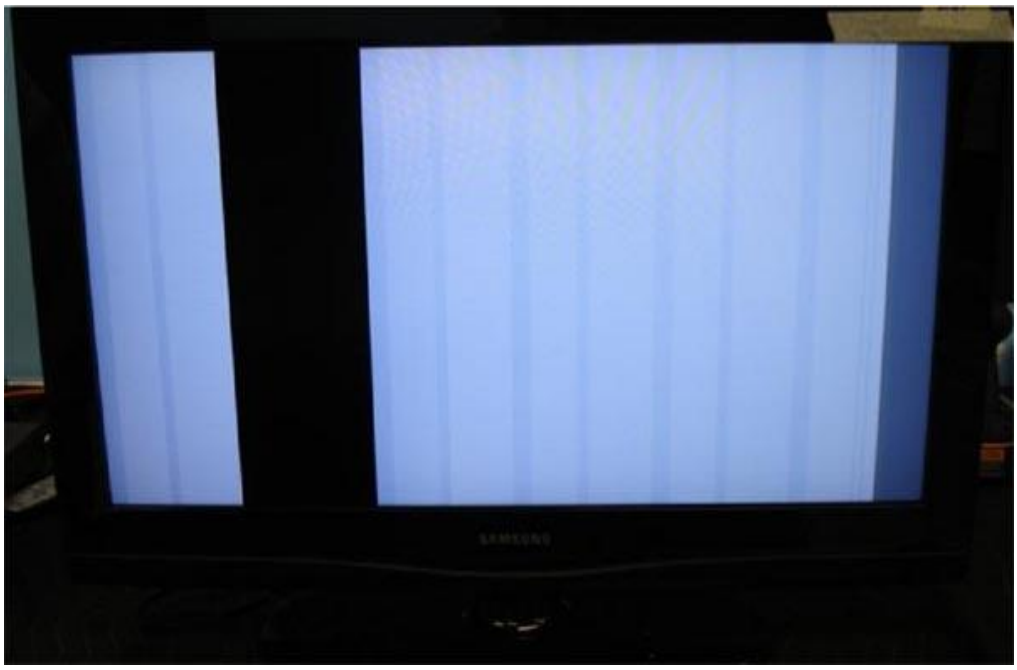
Symptom: The picture is doubled. Each part is seen in duplicate.

Repair/Solution:

Check or replace T-Con board. Before replace make sure the LVDS cable is ok.

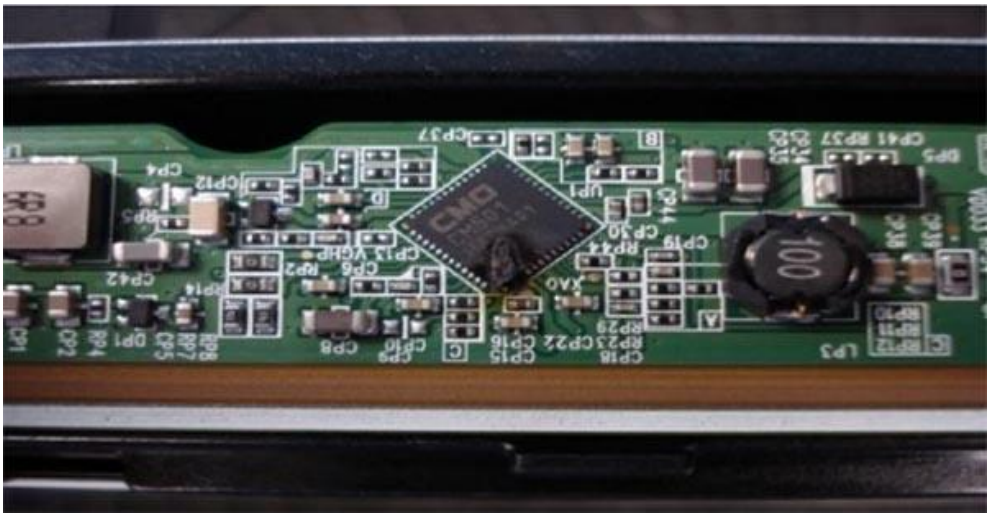
38) Model: Samsung LN32C350D1DXZA LCD TV

Symptom: Display distortion. Black and white vertical bars on the screen.



Repair/Solution:

T-Con board IC burned as picture below. Replaced T-CON board and problem solved.



39) Model: Samsung LN52C530 LCD TV

Symptom: Multiple vertical and horizontal lines across the screen.

Repair/Solution:

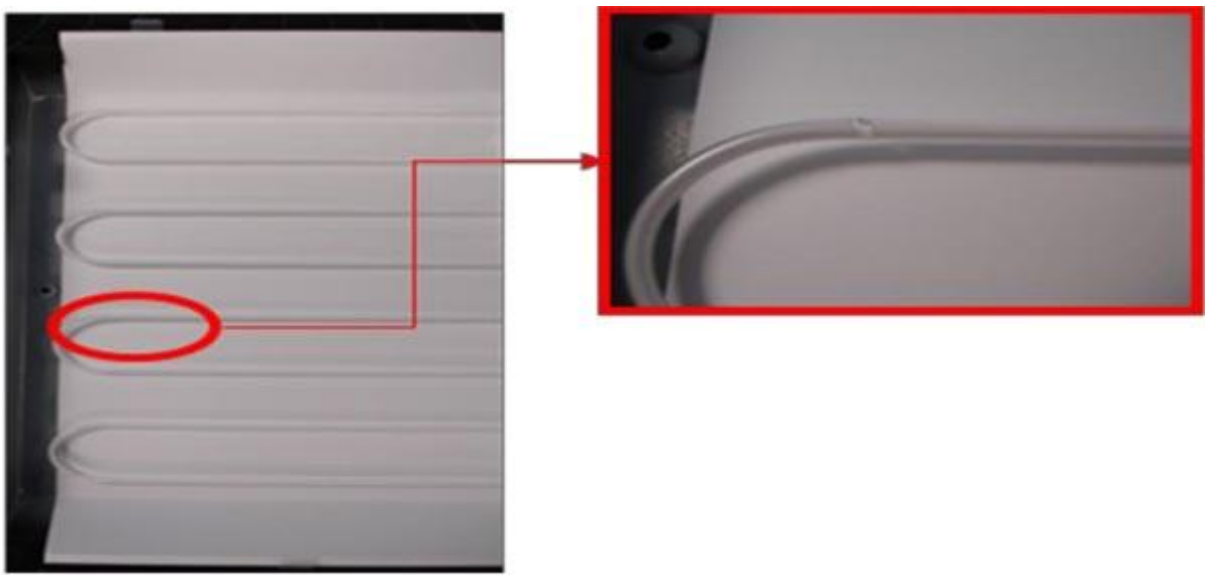
Call out OSD menu but same problem. Replaced T-CON board problem solved.

40) Model: Samsung LN32C350D1DXZA LCD TV

Symptom: Dark shadow on the screen, lamp failure. Lamp shuts down.

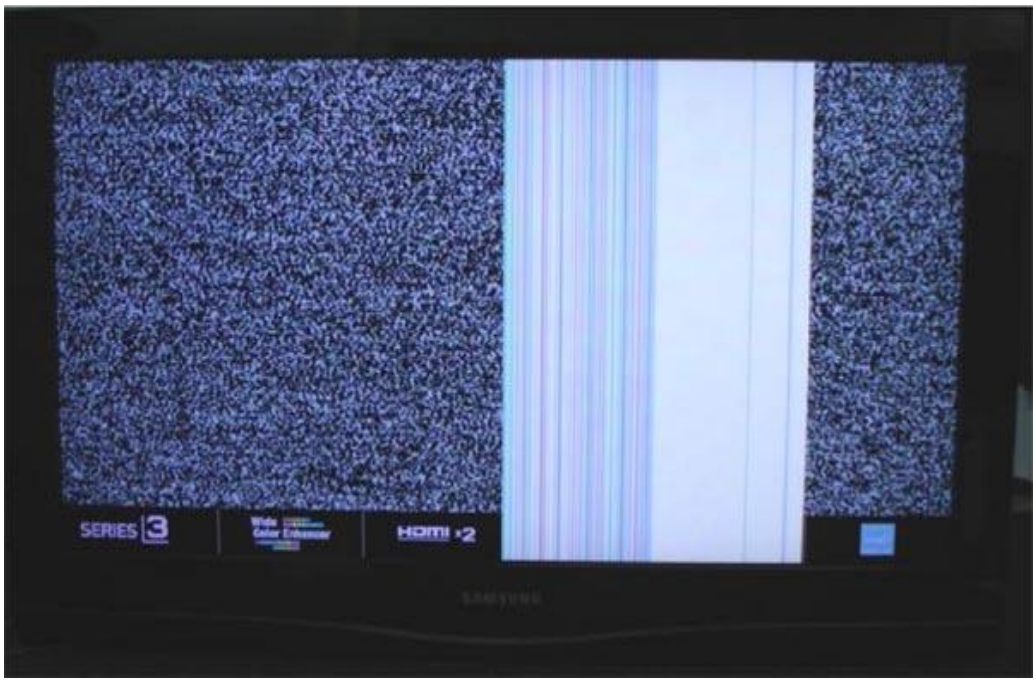
Repair/Solution:

Broken lamp inside the panel. Refer to the pictures below:



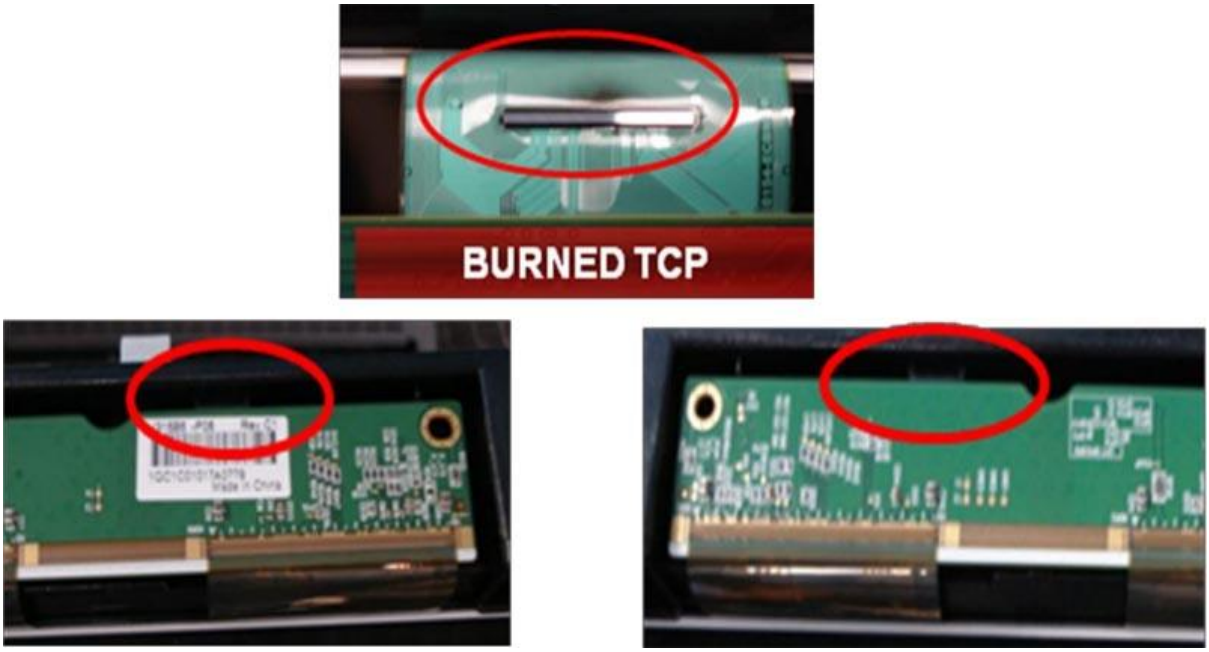
41) Model: Samsung LN32C350D1DXZA LCD TV

Symptom: Multicolor vertical lines on the screen



Repair/Solution:

The driver boards for the panel are not properly seated under the plastic taps, which causes the panel to short against the metal frame and burn out the TCP IC. Replace LCD Panel.



42) Model: Samsung LNT5271FX LCD TV

Symptom: Double images on all video signal input.

Repair/Solution:

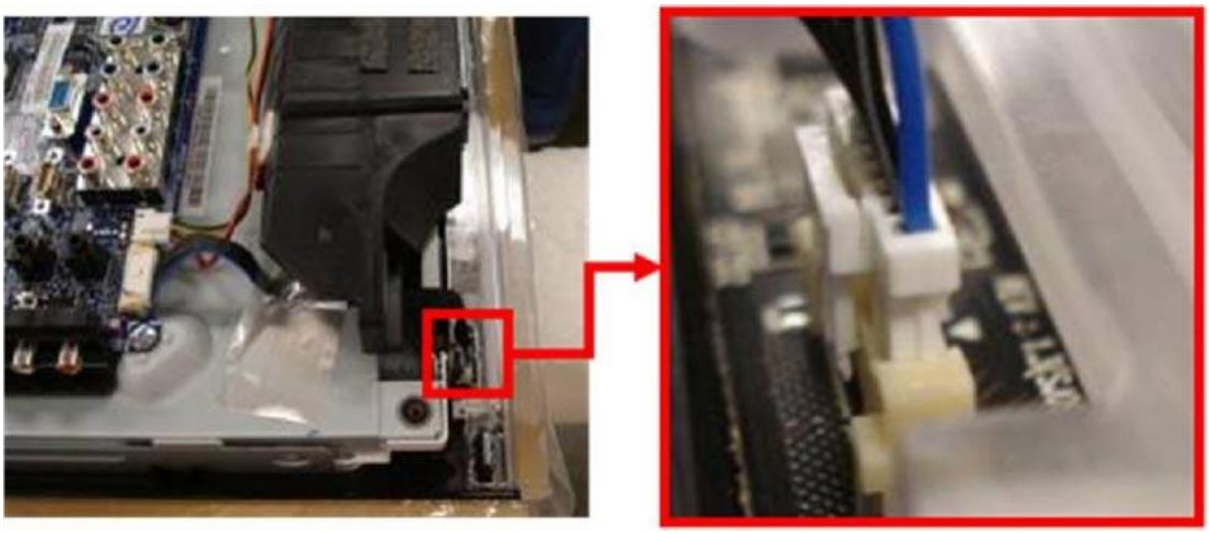
Try to call out the OSD Menu, but still the same problem. Replaced T-CON board problem solved. If call out the OSD Menu and it is appears ok, check the LVDS cable, mainboard, try to update the latest version firmware on mainboard or replace the mainboard.

43) Model: Samsung LN32C530F1FXZA LCD TV

Symptom: No power

Repair/Solution:

The P-Touch connector (CN01) was not properly connected. Reconnect CN01 on the P-Touch PCB.



44) Model/s: Samsung LCD TV

LN19B360C5DXZA,LN19B360C5DXZC,LN22B360C5DXZC,LN22B360C5DXZA,LN26B360C5DXZC,LN26B360C5DXZA,LN32B360C5DXZA,LN32B360C5DXZC,LN19B361C5DXZA,LN19B361C5DXZC,LN22B460B2DXZC,LN22B460B2DXZA,LN26B460B2DXZA,LN32B460B2DXZC,LN32B460B2DXZA,LN32B530P7FXZC,LN32B530P7FXZA,LN37B530P7FXZA,LN37B530P7FXZC,LN40B530P7FXZA,LN40B530P7FXZC,LN40B530P7NXZA,LN46B530P7FXZA,LN46B530P7FXZC,LN46B530P7NXZA,LN52B530P7FXZA,LN52B530P7FXZC,LN32B540P8DXZA,LN40B540P8FXZC,LN40B540P8FXZA,LN46B540P8FXZC,LN46B540P8FXZA,LN52B540P8FXZA,LN52B540P8FXZC,LN32B550K1FXZA,LN37B550K1FXZA,LN40B550K1FXZA,LN40B55

0K1FXZC,LN46B550K1FXZC,LN46B550K1FXZA,LN52B550K1FXZC,LN52B550K1FXZA,LN19B650T6DXZC,LN19B650T6DXZA,LN22B650T6DXZA

Symptom:

When the customer turns the unit off and back on, he loses his channels. The TV displays "Weak or no signal". The cable system's setting always changes from "HRC" to "STD" though he set it to "HRC" before. The problem happens in regions where the cable system is "HRC" or "IRC".

Repair/Solution:

Upgrade the TV to the latest firmware version.

45) Model: Samsung LE32R74BD LCD TV

Symptom: No power and pulsating noise from PSU, LED flashes.

Repair/Solution:

Replace ICM801S (F9222L) in PSU, also check the shottky diode DM854 (MBRF1545CT).

46) Model: Samsung LE32R73BD LCD TV

Symptom: No sound and no picture, only channel ID number showed in Digital mode. Analogue mode display ok.

Repair/Solution:

Apply factory reset in service mode, the problem solved.

SANYO

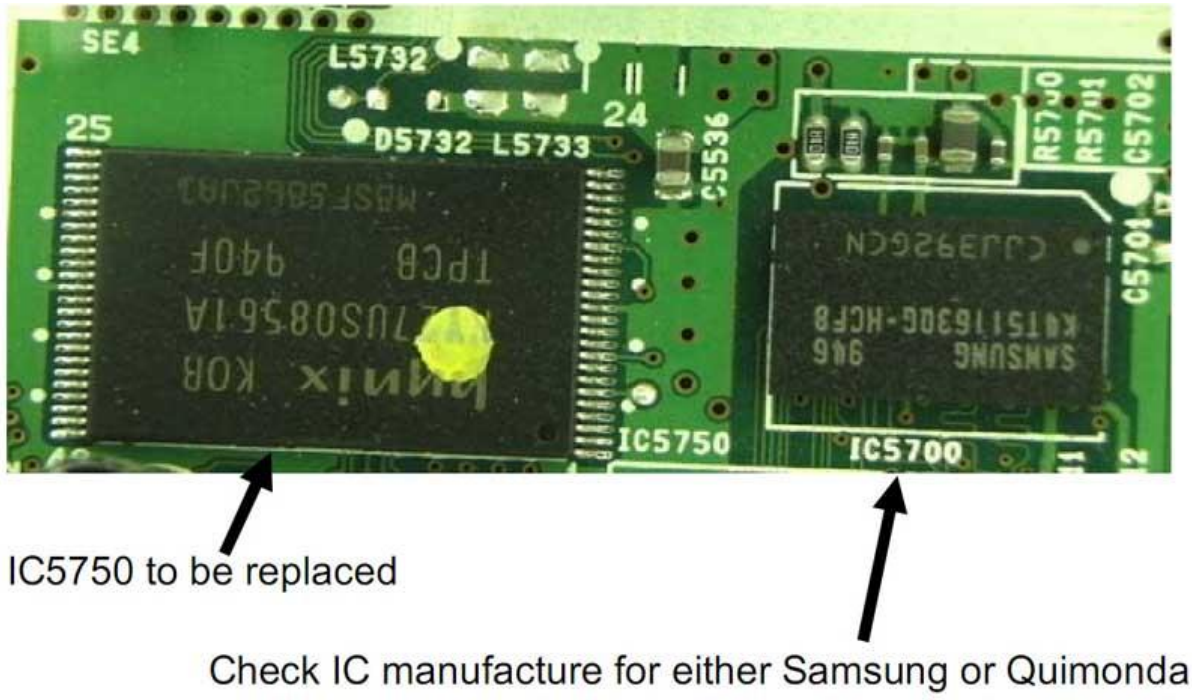
47) Model/s: Sanyo DP37819, DP42849, DP46849, DP50749, DP52449, DP42840, DP46840, DP50740 LCD & Plasma TV

Symptom: Power LED on front of the TV is turning ON for 10-20 seconds, OFF for 1-2 second and keeps repeating.

Repair/Solution:

If the power LED on front of the TV is turning ON for 10-20 seconds, OFF for 1-2 second and keeps repeating, the problem is most likely IC5750A. Affected models are the 2009 & 2010 TVs (LCD and Plasma) listed.

IC5750A is located under the large shield. IC 5750A is a 48 pin NAND FLASH IC wit h easy access for replacement. This will fix +80% of the boards with the symptom above.



Sanyo Part Number: QXXAVD058- - -M (You must use the 3 dashes when ordering this IC.)

The IC 5750A you receive will have software 84 installed in it. If IC 5700's manufacture is Quimonda or TV is a 52" then the software will need to be changed with the use of a USB drive.

Chassis Version	IC 5700 Samsung	IC 5700 Quimonda
P37819-00	SW84	SW82
P42849-00	SW84	SW82
P42849-01	SW84	SW82
P42849-02	SW84	SW82
P42849-04	SW84	SW82
P42849-05	SW84	SW82
P46849-00	SW84	SW82
P46849-01	SW84	SW82
P46849-02	SW84	SW82
P46849-03	SW84	SW82
P46819-00	SW84	SW82
P50749-00	SW84	SW82
P50749-01	SW84	SW82
P50749-02	SW84	SW82
P50749-03	SW84	SW82
P50719-00	SW84	SW82
P52449-01	**SW85**	**SW83**
P42840-02	SW84	SW82
P42840-03	SW84	SW82
P42840-04	SW84	SW82
P46840-01	SW84	SW82
P46840-02	SW84	SW82
P50740-01	SW84	SW82

Note : Only use this software in the Sanyo TVs listed. If used in wrong chassis, it could cause TV not to come on and IC 5750 will need to be changed again.

SHARP

48) Model/s: Sharp LC32G4U & LC37G4U LCD TV

Symptom: To correct Solarized/ Mosaic picture effect and/or vertical line/s in display.

Cause: Corrupted Data in the LCD Panel memory circuit.

If the TV exhibits the symptoms of solarized/mosaic picture and/or wide line in display, please upgrade the set to firmware version 2.05 (or higher version is better). Firmware is updated via Secure Digital (SD) card inserted into the rear of the AVC unit. You can follow these procedures to upgrade the firmware:

A) Before that, you must make sure your current firmware version for display unit first.

B) Firmware version upgrades process.

C) Display Data reset and restore.

D) Correction for vertical line/s in display.

Repair/Solution:

Before that, you must prepare a pre-program SD card with firmware version 2.05 or higher and then proceed with updating the TV.

A) Check Current firmware version for display unit.

Check current software version on the display unit by entering Process Adjustment Mode below. System cables should not be connected at this time. (You may disconnect the two plugs from the system cable from either the panel or AVC unit, whichever is more convenient).

Follow below steps to enter Process Adjustment Mode:

Step1. Press and hold “VOLUME DOWN” key and “INPUT” key on the display unit as you press the “MAIN POWER” button (See photo 1 below).

Step2. Keep holding the buttons until display shows “K” on the screen (See photo 2 below). Then release buttons.

Step3. Press “VOLUME DOWN” button (See photo 1 below), the display should show the service mode screen and the current firmware version (See Photo 3 below). If the Monitor version is not the latest version (2.05 or higher), perform step “B: Firmware version upgrade process”.

Photo 1

Photo 2

Firmware Version (upgraded)

Photo 3

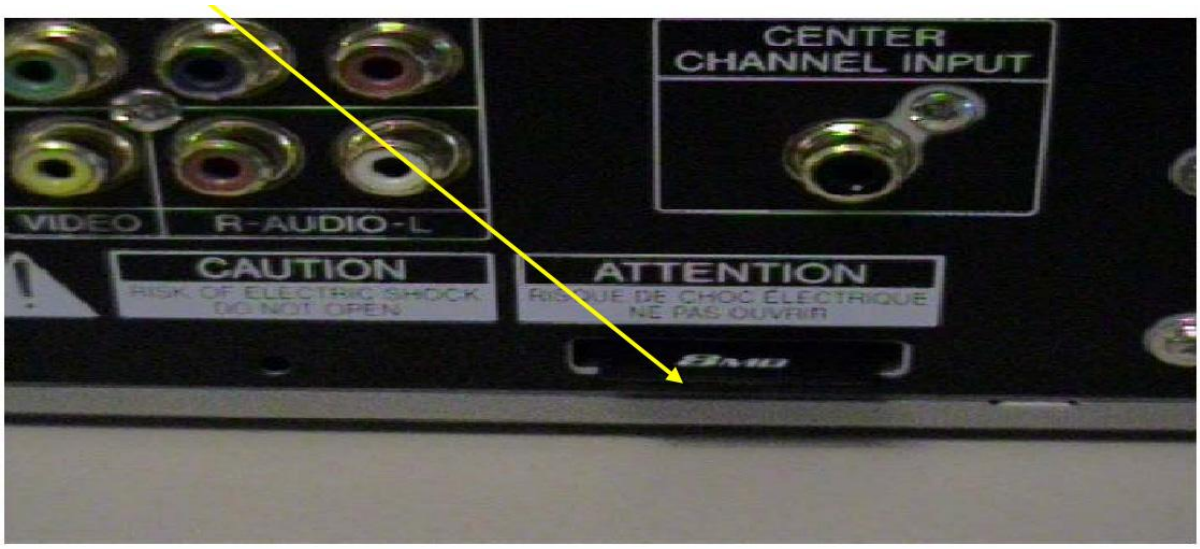
If firmware version in the unit is lower than 2.05 (see photo 3) please perform below procedures. Turn off power to unit; hook up system cables to LCD panel and AVC unit.

B) Firmware version upgrade process.

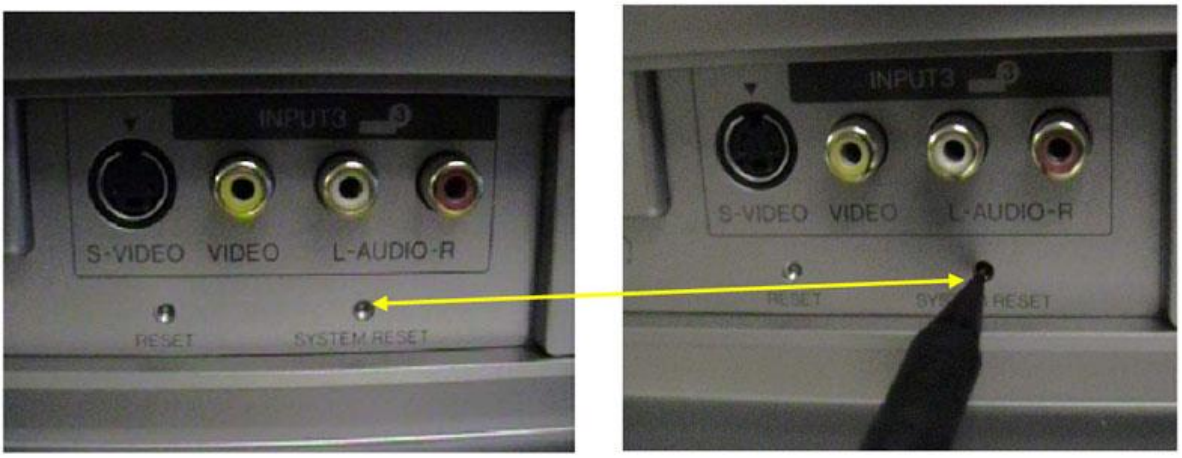
Note: Be sure the system cables to LCD panel and AVC unit are attached.

IMPORTANT: Do not turn off or interrupt power until the upload process is finished. If the process is interrupted for any reason, unrecoverable system damage may result!

B1. Insert the SD card to the rear of the AVC unit.



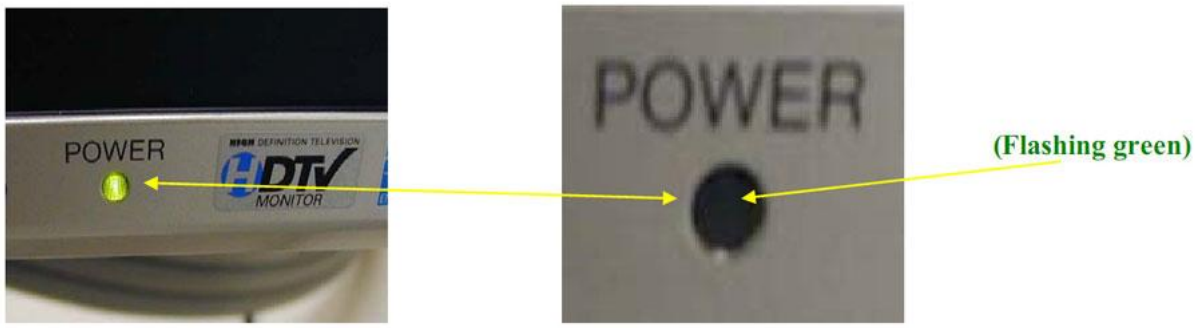
B2. While holding **SYSTEM RESET** button press the Main Power button on the LCD display.



B3. When the Display LED turns green; release both buttons (system reset button and power). The unit will start to update the new firmware.

B4. You will see “Loss of Sync” display appear briefly and raster will go black. Display LED should turn red briefly which indicates that update process is starting.

B5. Display LED will start flashing green while the LCD panel is being updated. It takes approximately 3 min. to finish uploading the new firmware.



B6. When uploading is **finished**, an OSD, Video or picture may appear on screen. OSD may quickly disappear. This is normal.

B7. Turn display power off. Remove the SD card.

B8. You need to confirm firmware has been updated. While pressing and holding VOL + and CH- buttons down on display unit down, press the power button on the display.

B9. You will see a "K" in the display. Video may appear.

B10. Press VOL- . You should now see the firmware version 2.05.

B11. LEAVE TV AS-IS. Move on to step "C" below.

C) Display Data reset and restore

C1. You should be currently in service mode.

C2. Save luminance and gamma settings:

WRITE DOWN THE CURRENT GRAYLEVEL, COMBIAS AND VLSBIAS SETTINGS. These settings are visible on the first service-menu page ("SERVICE-S" page):

Parameters to be saved:

[GRAYLEVEL] _____ (first service menu page)

[COMBIAS] _____ (first service menu page)

[VLSBIAS] _____ (first service menu page)

Move to the PATTERN 2 page of adjustments:

1. Use the arrow down key on the remote to choose "PATTERN"

2. Press the right arrow button on the remote.

3. Press the input button on the remote.

The pattern 2 page should now be present. Write down the gamma settings present on the pattern-2 page:

[R GAMMA L] _____ (PATTERN2 Page)

[G GAMMA L] _____ (PATTERN2 Page)

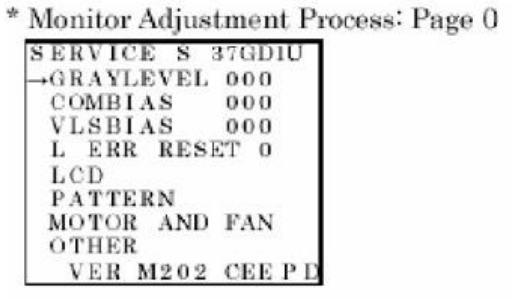
[B GAMMA L] _____ (PATTERN2 Page)

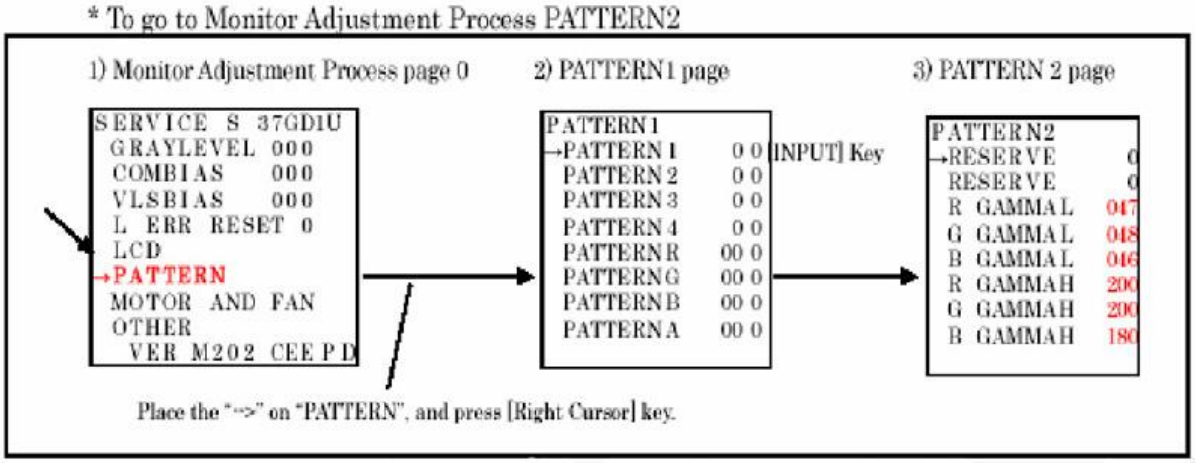
[R GAMMA H] _____ (PATTERN2 Page)

[G GAMMA H] _____ (PATTERN2 Page)

[B GAMMA H] _____ (PATTERN2 Page)

A short flow-chart is shown below to help clarify the above procedures:



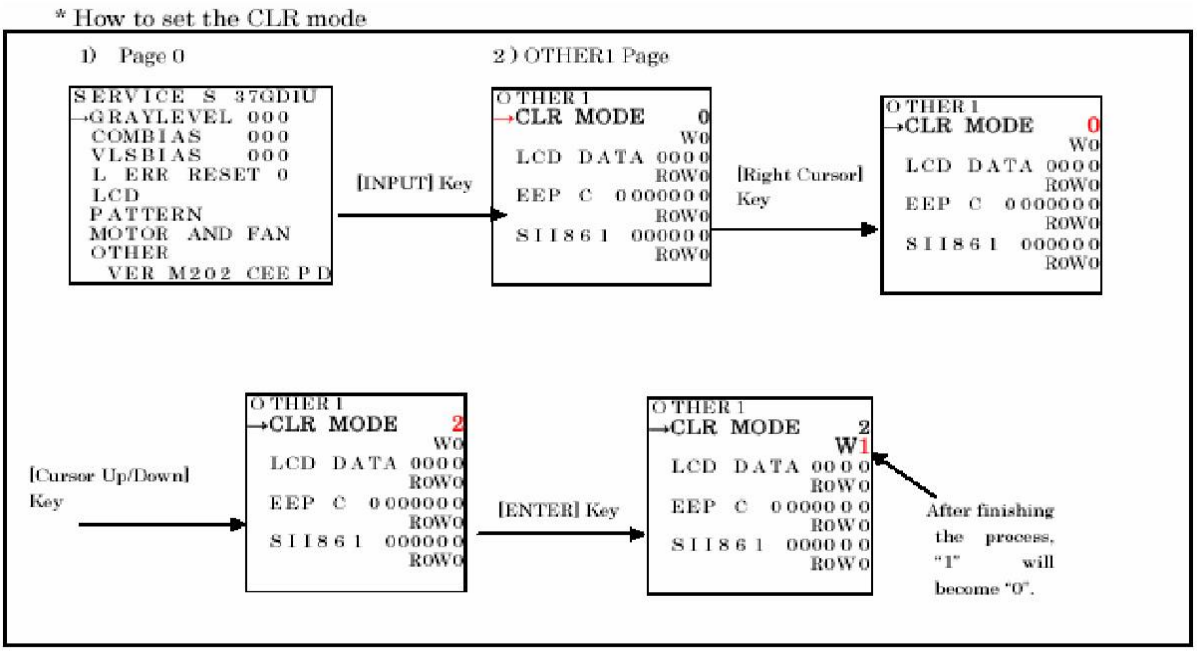


C3. Press the "ARROW UP" key on the remote TWICE to return to the first service menu page. Follow process below to set CLR Mode from 0 to 2.

*General steps for CLR mode process:

1. Press the input button on the remote
2. Press the right arrow button. Ensure the CLR MODE value is lit green.
3. Press the up arrow button to increment to "2" for the CLR mode.
4. Keep an eye on the "WO" below the green CLR MODE value.
5. Press "ENTER" on the remote; the "W0" will quickly change "W1" and then return to "W0"
6. CLR MODE is now complete.

This simplified flow chart below is provided to help clarify the above procedure.



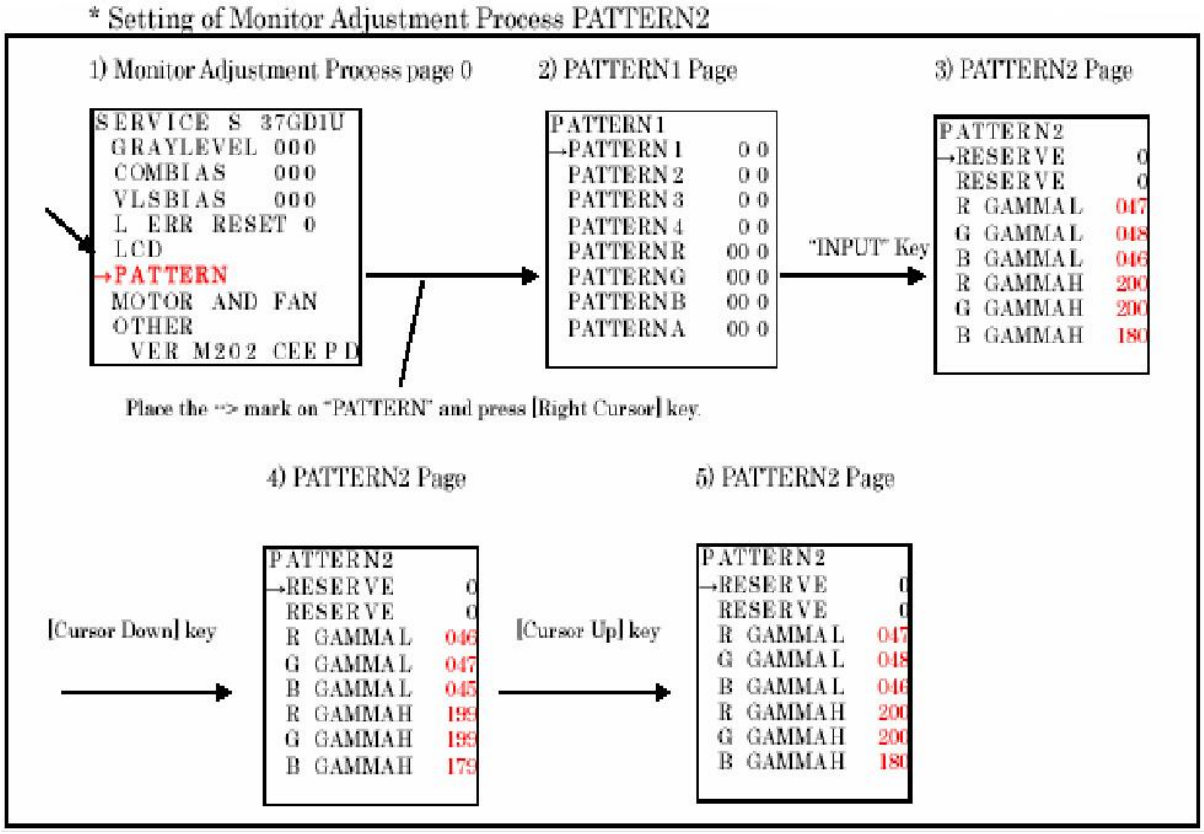
C4. You will now need to reset the unit's gamma settings.

- Press the "ARROW LEFT" button on the remote hand unit.
- Press "ARROW UP" key on remote to return to first service menu page.
- Press "ARROW DOWN" on remote and highlight "PATTERN".
- Press "RIGHT ARROW" on remote.
- Press "INPUT" button on the remote.

- You should now see the gamma settings. Check the gamma values against those you wrote down earlier. They should be the same as before however the TV does not acknowledge these values at this time. To re-establish the gamma values you will need to change the value of the gamma settings (PATTERN 2 page) by INCREMENTING each value by ONE and then DECREMENTING each value by ONE. The end result is that the gamma values are the same as before, but they will now be programmed back in.

- Highlight each gamma value (hint: usually highlighting the last digit of the gamma value will do). Using the remote arrow keys, increment each value by one and decrement each value by one. When you have completed this procedure for each gamma value and confirmed that the gamma values are the same as you wrote down before - you may then turn the TV off by pressing the power button on the display. A brief flowchart is provided below to help clarify this procedure.

A brief flowchart is provided below to help clarify this procedure.



C5. Power the unit down and check display to confirm issue is resolved.

D) Correction for vertical line/s in display

Ensure that the system cables are connected at this time and unit is powered off. Enter service mode by pressing *volume* up and *channel* down while pressing *power* button on display. The display will show the " K" as shown above (Photo 2). Press *volume* down to access service mode (Photo 3).

D1. Press "INPUT" on the remote hand unit.
D2. Using the remote's arrow keys, set CLR mode item to "1". Press "ENTER" to initialize the displays microcomputer EEPROM. Reset occurs quickly. TV operation appears unchanged.
D3. Using the remote's arrow keys, set CLR Mode item to "4". Press "ENTER" to initialize CONFIG EEPROM. Note: After the power LED flashes the set will reboot. This set takes approximately 20 seconds to complete. TV will come back on when done.
D4. Power the TV off using the power switch on the display's top panel.
D5. Enter service mode by pressing down "VOL+" and "CH-" on display's top panel then simultaneously pushing the power button on the display.

D6. Wait for the "K" to appear in the display. Press the "VOL –" button on the display top.

D7. Notice that one or all of the "GRAYLEVEL", "COMBIAS" or "VLSBIAS" values may have changed. Check the values you see now with the values you wrote down before. Using the remote hand unit, restore or correct these three values back to the original values you wrote down earlier. (Note: When adjusting COMBIAS, the raster may turn white. This is normal. When you return back to the other adjustments, the picture will reappear).

D8. Scroll down to "PATTERN". Press the "ARROW RIGHT" key on the remote.

D9. Press the "INPUT" key on the remote.

D10. The gamma settings are likely reset to incorrect values. Using the remote hand unit input the unit's original gamma settings you wrote down earlier.

D11. Power unit off using power button on top of display.

D12. Done.

49) Model: Sharp LC20S1E LCD TV

Symptom: Unit does not operate or may operate erratically.

Cause: FB3302 and FB3304 may be damaged due to overheating.

Repair/Solution:

Whenever one of these units comes in for service you must add the two lead wires (40mm wire link each, part number: QCNW-B643WJZZ) as shown in the picture below.

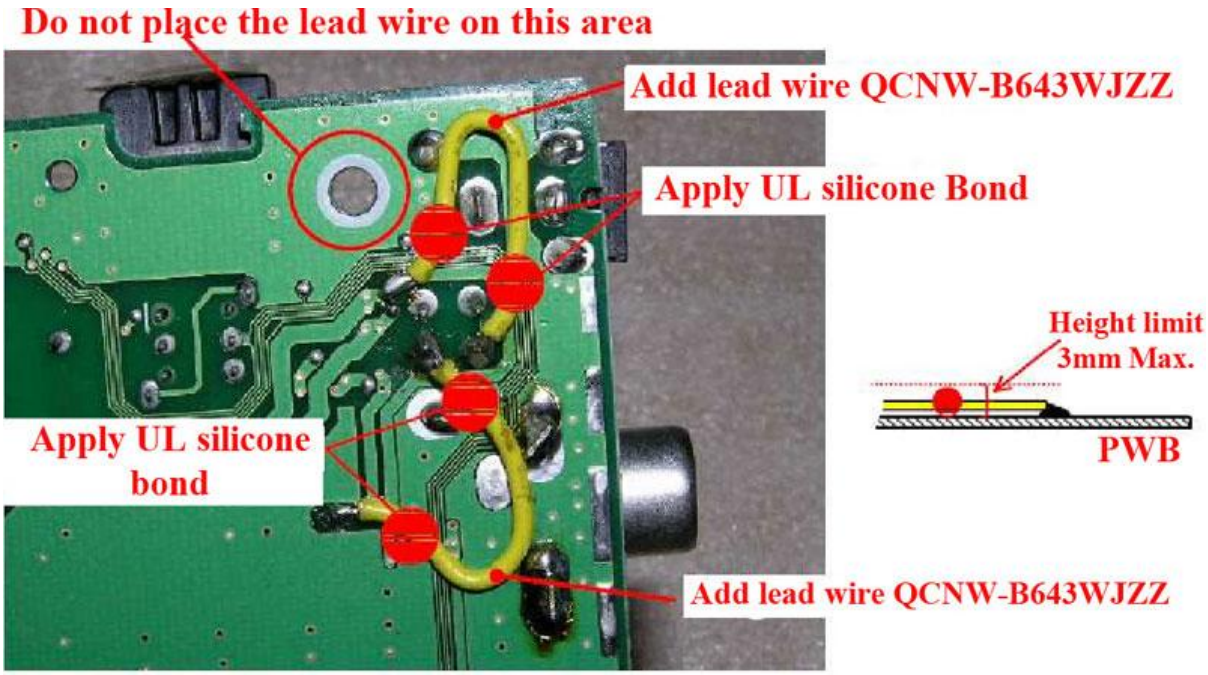
It will also be necessary to reset the lamp counter following the instructions below:

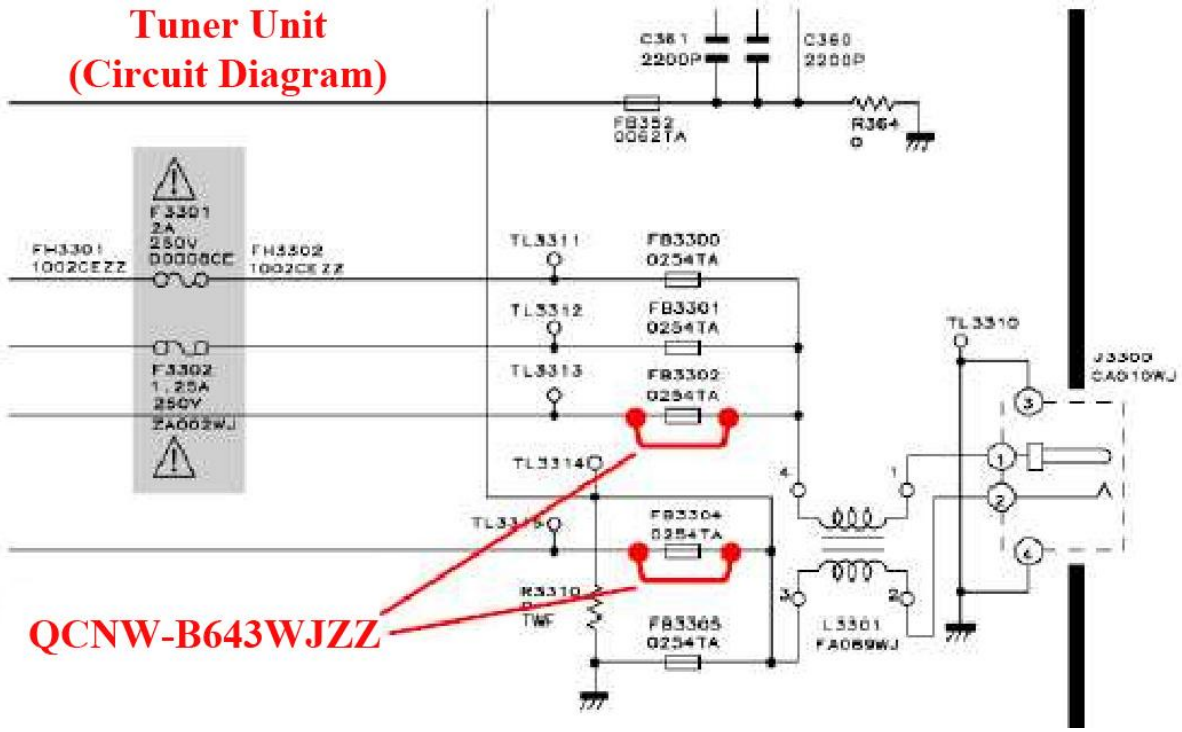
A) Enter the service mode by holding down the TV/VIDEO and MENU buttons and turning the power on (the letter K will appear in the upper left hand corner of the screen). Release the buttons. Press the "CH-" and "VOL-" buttons together. Release these buttons when the adjustment menu appears.

B) Select “ERROR NO RESET” on line 3, page 1 of the adjustment menu.

C) Set this to 0 using the volume buttons.

D) Exit the service mode.





50) Model: Sharp LC-26D44E LCD TV

Symptom: Power on and then change to standby mode after 2 seconds.

The lcd tv was in protection error due to any CCFL Lamps failure, over voltage occur or over current occur.

Repair/Solution:

The Sharp LCD TV has a special design for their inverter board. When lcd tv in protection error, after 5 attempts at power on, it will change to the Failure Mode and tv will not try to start-up again. The Tv will calculate protection error and save Failure Mode memory into their system. So even changed the damaged components or inverter board, the tv still won't start-up. Because of the system still memory the Failure Mode before. So must login to the lcd tv Service Mode to clear this Failure Mode.

Found this Sharp lcd tv, inverter board the blue colour ceramic capacitor 10pF 3KV had failed. Lots of Sharp LCD Tv protection error is because of these High voltage ceramic caps, HV transformer and the MOSFET failures. After replaced this 10pF 3KV ceramic capacitor, login to lcd tv Service Mode to clear the Failure Mode now.

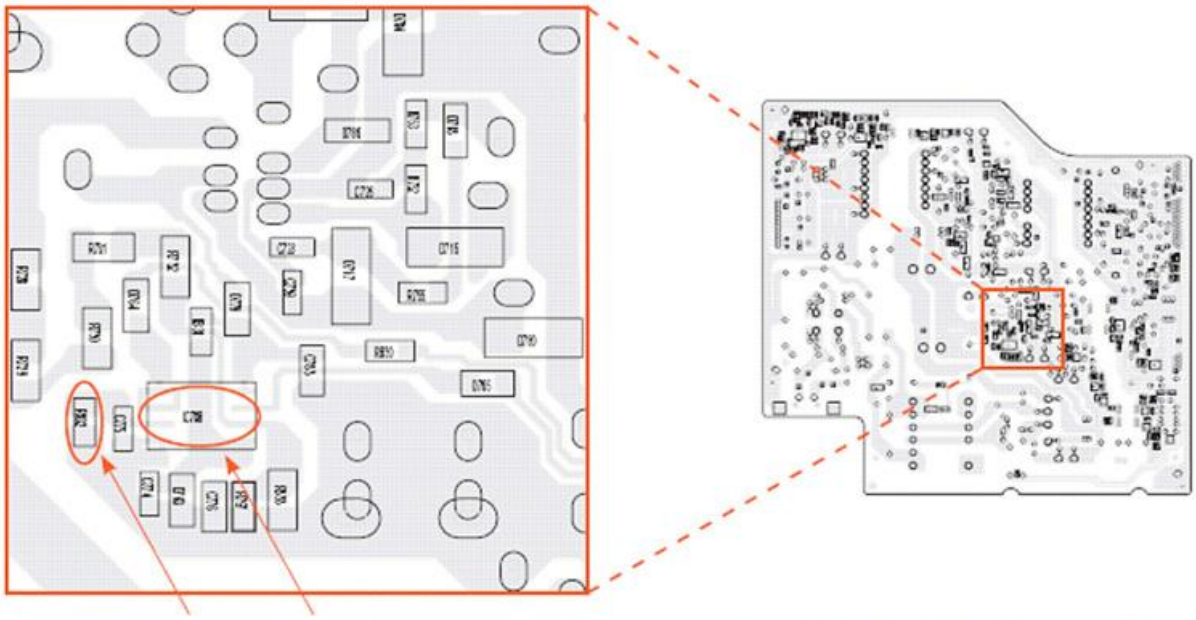
Step to login to Service Mode: a) Press and hold the Vol- and Input select buttons, and then power on the tv, until the character "K" appear on screen. b) Using the Vol- and Prog- buttons to select Service Mode. c) Using the Down button to select page 10/11 and then choose Prog button to select "Clear Lamp Error" and select right button to clear Failure Mode memory. d) Press and hold the Vol- and Input select buttons to exit and save the Service Mode settings.

51) Model: Sharp LC26P55E, LC32P55E, LC37P55E, LC26P70E, LC32P70E, LC37P70E, LC32GA8E, LC37GA8E, LC32GD8E, LC37GD8E, LC32BT8E, LC32GA9E, LC37GA9E, LC32GD9E, LC37GD9E, LC26SA1E, LC32SA1E, LC37SA1E, LC32SD1E, LC37SD1E & LC37AD5E.

Symptom: No power

Repair/Solution:

IC708 in the PSU section is defective. When replacing IC708 (NJM2904M), need to fit a zero ohm resistor (R832) between IC708 pins 3 and 4 as shown in the added diagram below.



R832 and IC708 PWB location. Power supply unit FD605WJN5 (Side B)

52) Model: Sharp LC26SD1EK, LC32SD1EK, LC37SD1EK & LC42SD1EK LCD TV

Symptom: A) When Teletext selected but no text appears or message show as "Teletext not available" appears.

B) Bottom part of analogue teletext graphics missing.

Repair/Solution:

Software issues with IC3002 VCT. Update firmware for IC3002 to the latest version and problem solved.

53) Model/s: Sharp LC26SD1EK, LC32SD1EK, LC37SD1EK & LC42SD1EK LCD TV.

Symptom: Colored shadows Red, Green or Blue on screen. Please refer to the picture below.

Repair/Solution:

This is software issues between IC3002 VCT and IC4203.

Update both IC3002 (Main) and IC4203 (DTV) operating software to the latest versions. When update is completed, activate the “EEP clear B” option via the service menu. Do NOT activate “EEP Clear” (first option) under any circumstances.

SONY

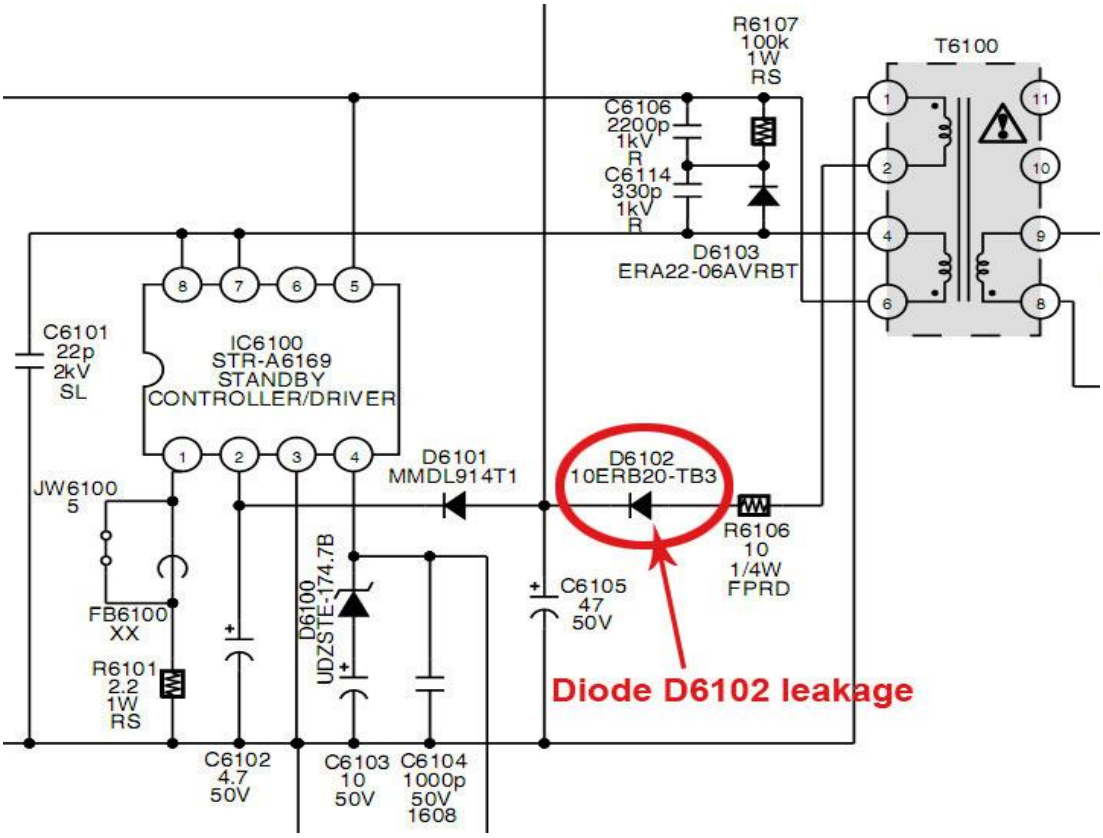
54) Model: Sony KLV-30HR3 Chassis WA1 LCD TV

Symptom: No Display and the LED light blinking.

The STBY5V standby voltage output unstable.

Repair/Solution:

Found the D6102 leaking and this diode was located on standby circuit. Replaced diode D6102 (10ERB20-TB3), C6105 (47uF/50V, 105'C) and checking the C6102 (4.7uf/50V) & C6103 (10uF/50V) ESR values.



55) Model: Sony KDL-32S2010 Chassis WAX2 LCD TV

Symptom: No display at all video signal input. But sound is ok.

The LED light is change to Green colour, but no display. Backlight was working.

Repair/Solution:

Since the backlight was working, so problem will be the Mainboard or T-CON board. Check the T-Con board voltage input (Vcc In), got 12V there, but after SMD fuse, it show 0V. Power off the tv, testing this SMD fuse it was opened. After that testing the corresponding components, all looks like ok. This SMD fuse marking code as "P", so replaced a 3A 32V SMD fuse and problem solved.

56) Model: Sony KDL-V40A12U Chassis AT2X LCD TV

Symptom: No power

The PSU board no 5V standby voltage outputs and lots of dry joints on the PSU board.

Repair/Solution:

Found R6301 (1 ohm, 1/4W), R6304 (10 ohm, 1/4W), D6903 (10ERB20-TB3) and IC6300 (STR-A6169) failures. Also check the C6306 (4.7uF/50V) and C6308 (2.2uF/50V) ESR values. Replaced all the bad components and resolder PSU board, the lcd tv was working perfectly now.

57) Model: SONY KDL26S2030 Chassis WAX2 LCD TV

Symptom: Display red solarization effect.

Repair/Solution:

Clean LVDS cable both contact pins and re-insert the cable.

58) Model: SONY KDL-S40A12U Chassis WAX LCD TV

Symptom: No Display. Horizontal thick bars on screen.
No picture via tuner but ok via AV mode. The picture and sound ok after warm up.

Repair/Solution:
Replaced electrolytic capacitor C186 (47uf/10v) in tuner. If replaced C186 still the same problem then replace Tuner (FSS-BTF-EF412Z).

TCL

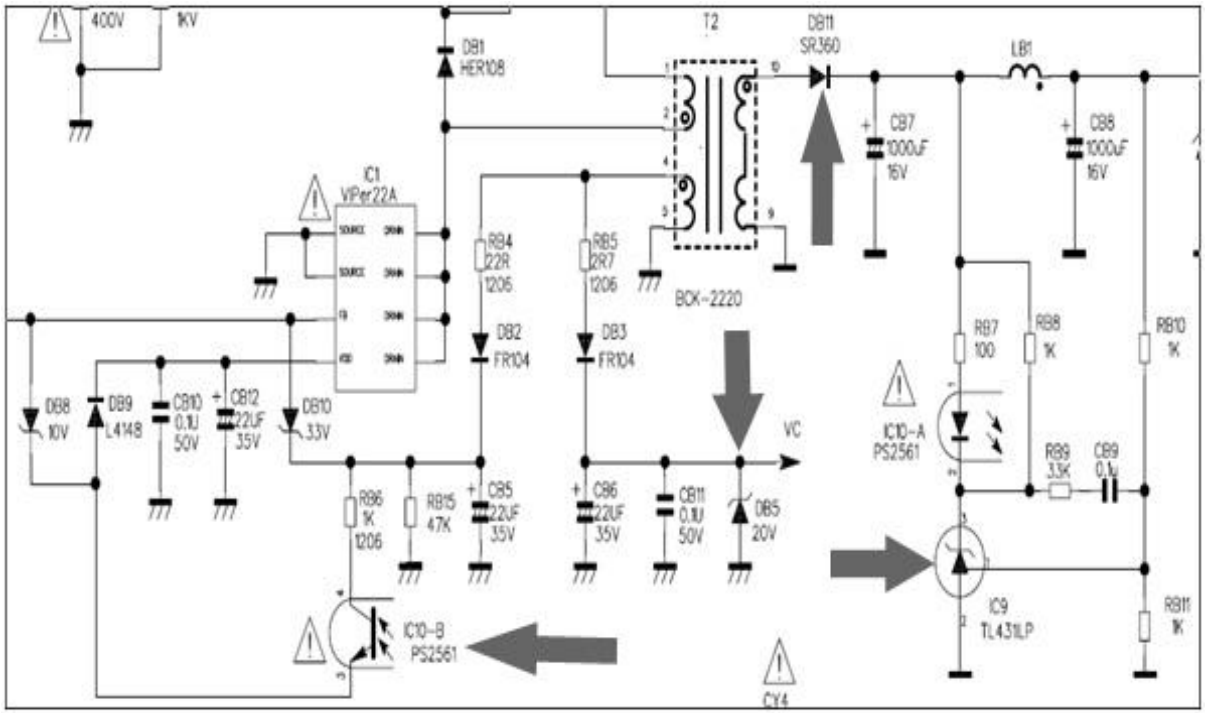
59) Model: TCL L32M61B LCD TV

Symptom: After lightning, TV no power at all.

This LCD TV using PWL37C power supply.

Repair/Solution:

Power on the LCD Tv, PSU no 5V standby, 12V & 24V all no output. First check the standby 5V circuit, the Fuse and the RB1, RB2, RB3 all ok. Continue check the secondary side and found DB11 (SR360) short circuit. After replaced it and power on the Tv, standby 5V output is fluctuate in between 3V~4V. Off TV, continue testing the Primary side of standby circuit, DB8, DB9, DB10 and DB5. Found DB5 (20V zener diode) has been short circuit. After replaced DB5 and check with other components all seems ok. Now, power on the TV check the standby 5V output, the voltage value was changed to 7V~8V and fluctuated. Since this TV was causing by the lightning, most of their opto-coupler IC will defective too. So try to change their IC10 (PS2561) & IC9 (TL431) and power on the TV. Finally the PSU have output the correct standby 5V, 12V and 24V too.



60) Model: TCL L37M61B Chassis MS18 LCD TV

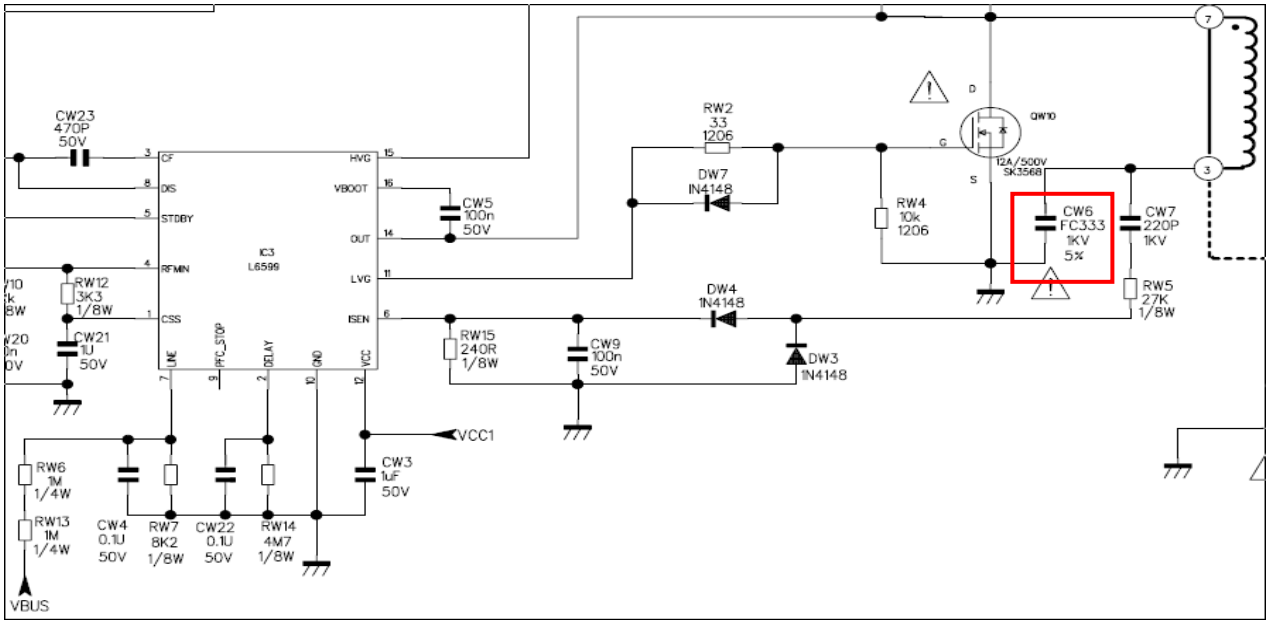
Symptom: TV can't start-up. Standby LED lit.

This LCD TV using PWL37C PSU board.

Repair/Solution:

Check PSU board output voltages, only standby 5V present. No 12V & 24V. Testing C5 (220uF/450V) positive pin got 385V. That's mean PFC circuit is working. So problem could be in PWM circuit or 12V & 24V output circuits. First check the 12V and 24V output circuit ohm values, can't find any short circuit on both lines. After that, check the PWM control Ic IC3 (L6599) pin 12 had 12V there. And then check their corresponding components but can't find any suspicions parts. So direct replace the IC3 but the PSU still not working.

Then continue check the T1, QW9, QW10 & CW6. When soldered out the CW6 and check the capacitance values, found it is opened circuit! Replaced CW6 (333/1KV, 5%) and PSU got 12V, 24V and standby 5V output.



TECHNIKA

61) Model: Technika LCD26-209 LCD TV

Symptom: Dead.

This lcd tv using Vestel 17PW25 ver3.0 PSU board.

Repair/Solution:

Found these components failures: Fuse F900 blown, Q935 (SSP7N60A), Q909 (BC858B), R980 (15 ohm), R981 (100 ohm), R974 (0.22 ohm), R977 (0.22 ohm), IC900 (FAN7529).

TECHWOOD

62) Model: TECHWOOD 37722HD LCD TV

Symptom: Display reddish after a few minutes.

Repair/Solution:

Clean the LVDS contact pins both side at the display and T-CON board.

THOMSON

63) Model: THOMSON 32LB130S5 LCD TV

Symptom: Enter Service Mode

Repair/Solution:

Procedure:1. Switch to standby. 2.Press volume - keys on the user control and the remote control simultaneously for approximately 10 seconds until it switches to service mode. Note: Process depends on the type of the microprocessor.

TOSHIBA

64) Model: Toshiba 15V330DB LCD TV

Symptom: Display goes off after few seconds. But sound is ok.

This lcd tv is using the Vestel 17IPS01-2 IP board.

Repair/Solution:

This IP board (inverter power supply board- combined) has this common fault. The inverter section got 3 high voltage ceramic caps were breaking down under load. These hv caps were C354 (5pF/3KV), C355 and C356 (both 12pF/3KV). Be careful, the C355 & C356 marking code are 5pF/3KV. So it will depend on the inverter board you repair.

65) Model: TOSHIBA 27WL54G LCD TV

Symptom: Negative picture, change with the heat and it is knock-sensitive.

Repair/Solution:

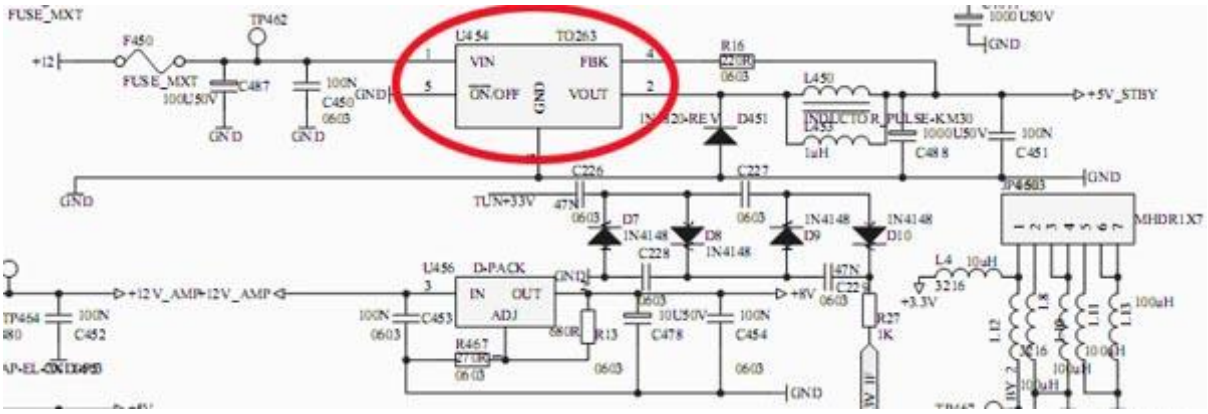
Resolder and clean edge connector PL103 on signal board (it is the connection to the panel, cable with ferrite core).

66) Model: Toshiba 27WL46 Chassis Beko L6B LCD TV

Symptom: Horizontal Lines with high pitch sound came from the PSU.

Repair/Solution:

Replaced the IC U454 (LM2576, +5V) on mainboard.



VIEWSONIC

67) Model: VIEWSONIC N4060W1E LCD TV

Symptom: No display but sound and backlight working.

Repair/Solution:

Replace SMD fuse marking code as “P” with 3A/32V on control board or call T-CON board.

68) Model: VIEWSONIC N4060W1E LCD TV

Symptom: Enter Service Mode

Repair/Solution:

Procedure: Press 9, 9 and 1 buttons on remote control.

WHARFEDALE

69) Model: Wharfedale L32TA6A LCD TV

Symptom: After about 1 minute, Tv changed to standby mode.

Repair/Solution:

Found a U30 voltage regulator IC sensitive with heat. Replaced U30 (AP1051-50) and resolder all dry joints on the PSU board.

70) Model: Wharfedale LCD3210AF Chassis 17MB116-Vestel LCD TV

Symptom: No Function, LED blinks after switch on with mains switch.

Repair/Solution:

Replace electrolytic capacitor C819 (150uF) with 220uF/450V/105'C.

Fast Search Fault Index:

The Fast Search Fault Index (FSFI) is to let you easily find the repair tips or problems/solutions for similar symptom of your LCD TV especially if your LCD TV brand or model is not listed in this E-book. You can compare your LCD TV symptoms with other similar symptoms repair tips. This will give you some ideas and you will know which section or common components failure of that symptom in LCD TV.

Symptoms:	***Repair Case No.:***
1) No Power, Dead.	6 (pg.12), 13 (pg.15), 16 (pg.17), 21 (pg.20), 30 (pg.25), 31 (pg.26), 43 (pg.38), 51 (pg.54), 56 (pg.57), 59 (pg.58), 61 (pg.60).
2) No Start-up, Slow Start-up, Stuck in Standby Mode (Power LED light no change, remain the red or orange colour).	25 (pg.21), 26 (pg.21), 27 (pg.22), 28 (pg.23), 29 (pg.24), 35 (pg.29), 60 (pg59), 69 (pg.63), BONUS-1 (pg.68)
3) No Display, Blank Screen, No Display but the Power LED light change to Green or Blue colour.	4 (pg.12), 10 (pg.14), 14 (pg.16), 18 (pg.18), 19 (pg.19), 23 (pg.20), 24 (pg.20), 46 (pg.40), 55 (pg.56), 64 (pg.61), 67 (pg.62), BONUS-1 (pg.68)
4) No Display or Display Shutdown and the Power LED light Blinking/Flashing.	5 (pg.12), 7 (pg.13), 20 (pg.19), 45 (pg.40), 47 (pg.41), 54 (pg.56), 70 (pg.63)
5) Display Distortion Problem, Solarisation Images, Negative Picture, Double Images, Half Screen in Purple or Black Colour.	37 (pg.34), 42 (pg.38), 48 (pg.43), 57 (pg.57), 65 (pg.61), BONUS-2 (pg.83)

6) Hum, Buzzing or Hissing Noise from LCD TV.	9 (pg.14), 66 (pg.62)
7) Sound / Audio Problems.	22 (pg.20), 32 (pg.27), 33 (pg.28), 46 (pg.40), BONUS-1 (pg.68)
8) Erratic Functions or Problem, Intermittent Problems.	49 (pg.51)
9) Display Darkness, No Backlight, Backlight Failure, Inverter Board.	40 (pg.36)
10) Display Shutdown After 1second or more.	50 (pg.53)
11) Display Colour Problems	2 (pg.1), 9 (pg.14), 53 (pg.55), 62 (pg.60)
12) Horizontal or Vertical Lines/Bars on the screen.	12 (pg.14), 17 (pg.18), 34 (pg.29), 36 (pg.30), 38 (pg.34), 39 (pg.35), 41 (pg.37), 58 (pg.57), 66 (pg.62), BONUS-2 (pg.83), BONUS-3 (pg.91)
13) EEPROM IC, Eeprom Program Corrupt and Firmware Issues.	1 (pg.1), 2 (pg.11), 14 (pg.17), 18 (pg.18), 19 (pg.19), 24 (pg.20), 35 (pg.29), 44 (pg.39), 46 (pg.40), 47 (pg.41), 48 (pg.43), 52 (pg.54), 53 (pg.55)
14) Screen show "No Signal" or "No Input Signal", but backlight, OSD Menu OK and the power LED light is green or blue colour.	44 (pg.39)

15) TV Channels Problem	1 (pg.11), 44 (pg.39)
16) Solved TV Under Protection Mode, Error Code.	50 (pg.53)
17) Login to Service Mode, Hotel Mode & etc.	3 (pg.11), 8 (pg.14), 15 (pg.17), 49 (pg.51), 63 (pg.60), 68 (pg.62)

For the complete learning LCD Television repair, highly recommend you join the LCD Television Repair membership site as below:

Http://www.LCD-Television-Repair.com

Conclusion:

I strongly suggest you to print out this e-book and binding it as a book for easy reference.

If you have questions about LCD Television Repair, please do not hesitate to send me an email at:

fastrepairguide@gmail.com

I wish you all the best and look forward to hearing your success story. Enjoy repair!

To your success,

http://www.LCDRepairGuide.com

http://www.LCD-Television-Repair.com

http://www.Plasma-Television-Repair.com

http://www.Projection-Tv-Repair.com

http://www.FastRepairGuide.com

BONUS 1:

Sony KLV-37S550A LCD TV with Stuck on Standby Mode problem, and then No Display and No Sound Symptom!!

Model: SONY KLV-37S550A Chassis EX2T LCD TV

Symptom: Stuck in Standby Mode, No Display & No Sound

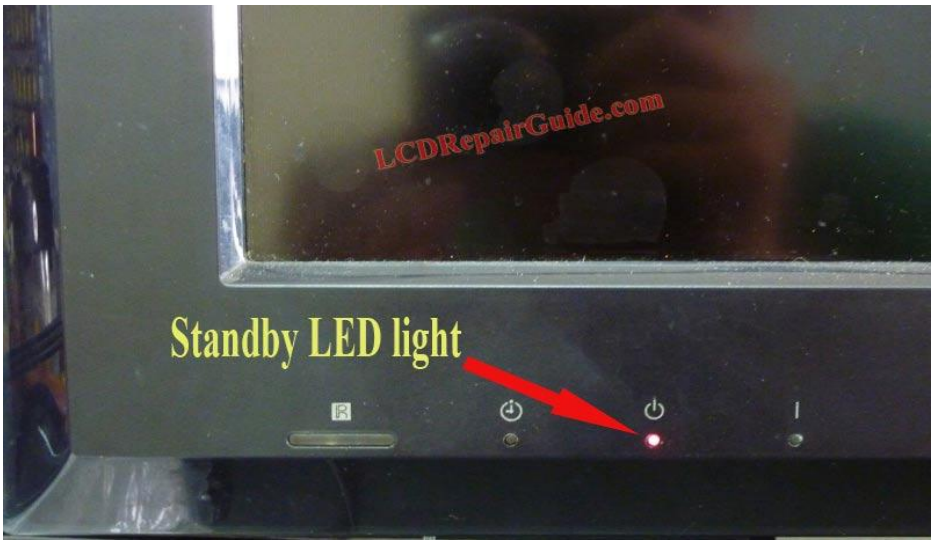


Figure B1.1: LCD TV standby LED lit and no display

When repair this LCD TV, I'm so frustrated and angry about it. The reason for this is because:

1) Service manual, schematic diagrams for power supply and mainboard were not provided. As usual, the inverter board and T-CON board circuits diagram also not included. This was because of inverter board and T-CON board were parts of LCD Panel, so it is belong to LCD panel manufacturer and their schematic diagrams will not be included in the service manual. That's why lots of TV repairers can't repair this LCD TV in the component's level.

2) One of the pin on power supply board (PSU) marking was wrong! The pin marking on board is 3.3V, but when measure it with volt meter, it shows 5.64v! If you're a beginner on LCD TV repair, it will be hard to tell if the problem is in power supply or not.

3) About 80% of components on mainboard does not have marking code, so we don't know what type of components are they. The SMD resistors on the mainboard also do not have any values or code!

4) You can't find this model of mainboard in the local market. Even if you can find it online, the price is ridiculous high and they are used unit and not new unit. Sometimes the mainboard that you have bought could have other problems too.

With this article, you will learn how I have solved this LCD TV (step by step guide).

Figure B1.2: LCD TV model information

This LCD TV came in with the problem of can't start-up and standby LED lit. Before I started to repair this LCD TV, I could hear "tic-tac" sound in the power section. The standby LED lit after the relay had produced the "tic..tac" sound about 6 to 7 times. The LCD TV symptoms were no display, no sound, no backlight and front key buttons all were not working.

After dismantled the cover and power On this LCD TV, I could easily tested out the power supply unit (PSU) output voltages.

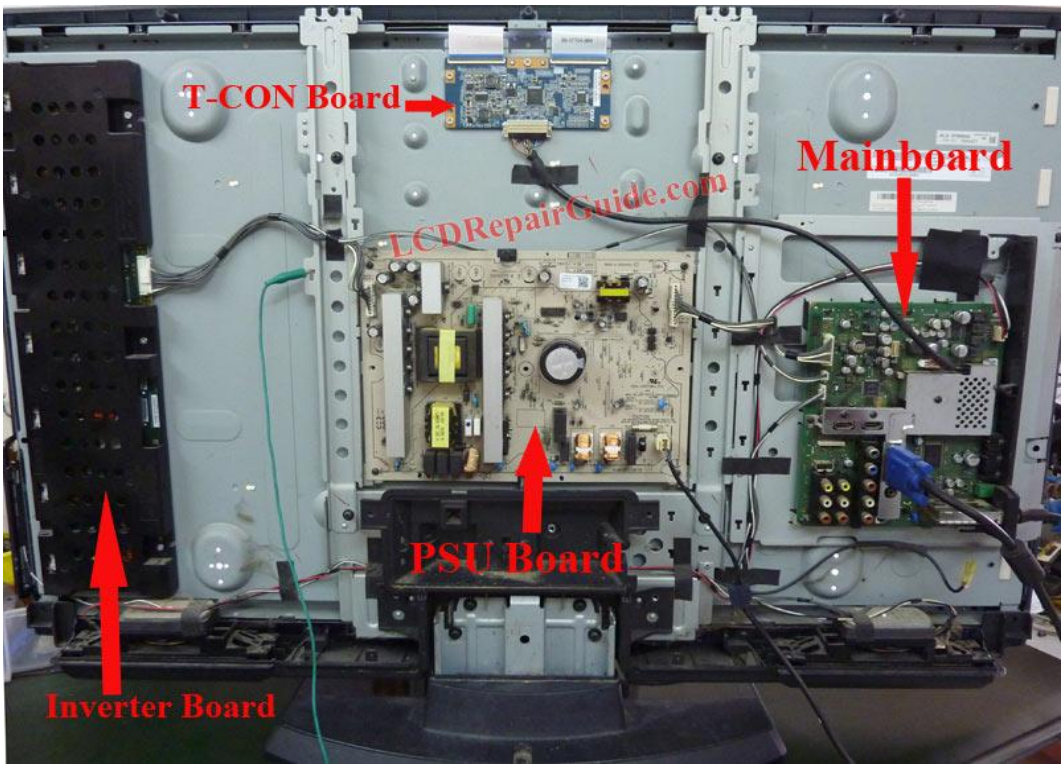


Figure B1.3: The rear side of LCD TV without cover

Figure B1.4: LCD TV Power Supply (PSU)

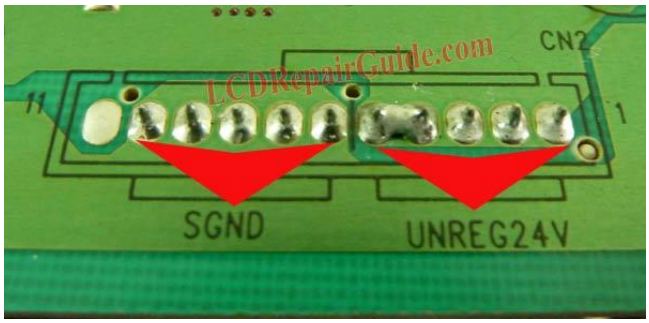


Figure B1.5: PSU board CN2 connector is supply 24V to inverter board

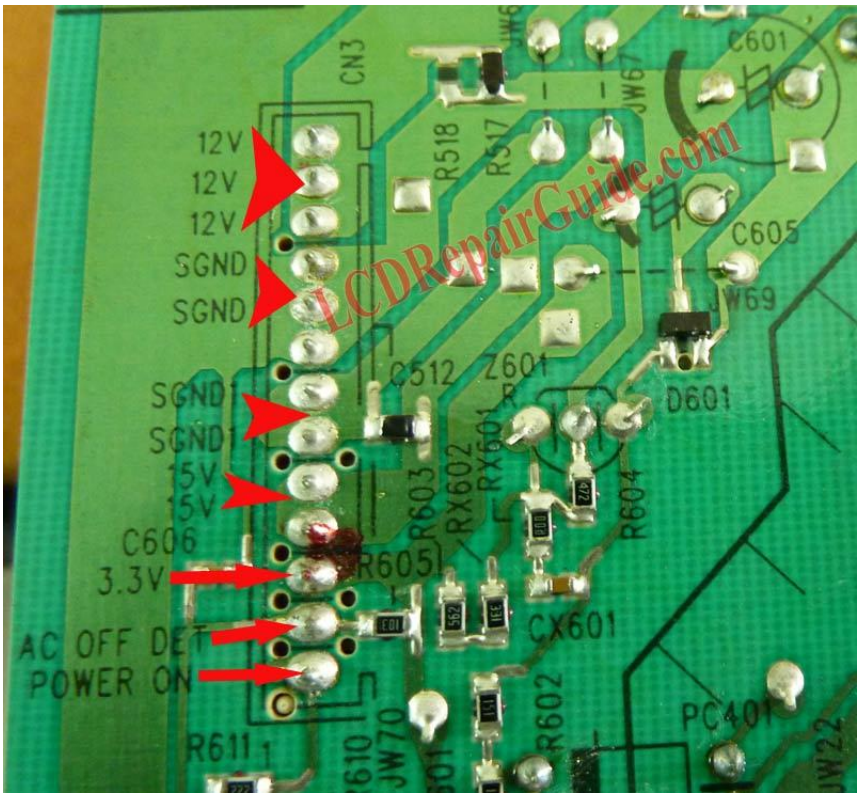


Figure B1.6: PSU board CN3 connector pins information

Refer to Figure B1.5 the actual voltages tested by volt meter are as below:

12V = 12.04V (0V)

15V = 17.25V (0V)

3.3V = 5.64V (5.62V)

AC OFF DET = 3.18V (3.17V)

POWER ON = 3.26V (0V)

UNREG24V = 24.59V (0V)

When relay “tic” sound, the voltage values are in xx.xxV , and “tac” sound the CN3 output voltage values are in (x.xx). This is because of the POWER ON signal fluctuate from 0V ~ 3.2V, so the PSU output voltages (CN3) 12V, 15V & UNREG24V fluctuates too. Finally the relay stopped and no more tic & tac sound, the standby LED lit and CN3 voltage output all 0V, except the 3.3V = 5.62V and AC OFF DET= 3.17V only.

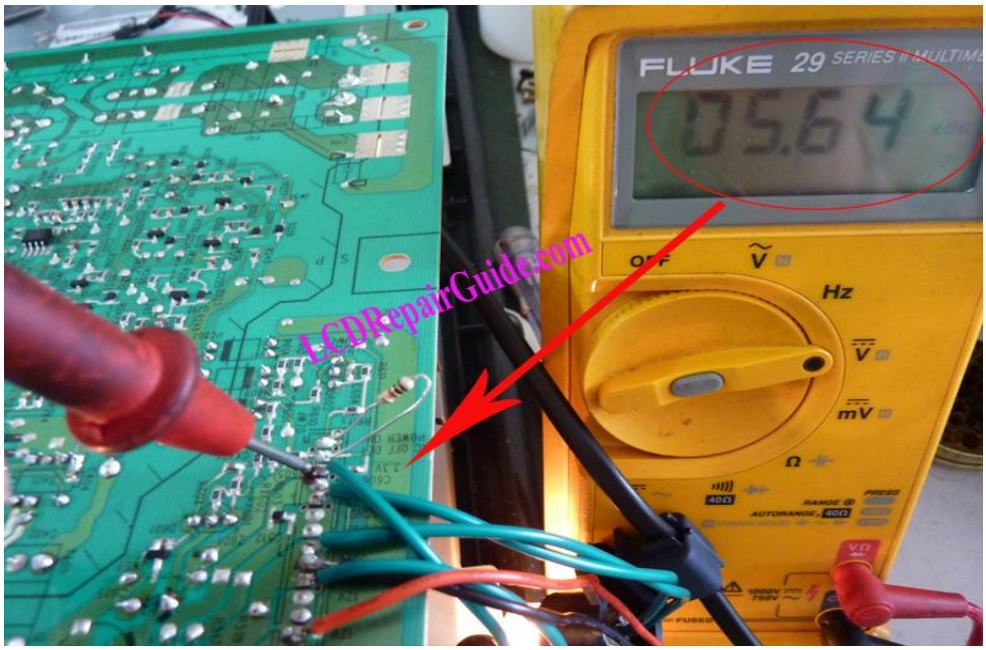


Figure B1.7: Testing CN3 pin marking 3.3V but found it was 5.64v!

Now the question is why the POWER ON signal voltage fluctuates? What reason causing this signal line voltage fluctuates? Why the board marking code printed as 3.3V and the output was 5.64V! Refer to Figure B1.7. Is it a standby 5V line? How to know if this is PSU board or mainboard problem?

Login to the LCD-Television-Repair.com members area to download this model of service manual. After downloaded the service manual, I found that it does not have schematic diagram. Since this PSU board does not have Standby 5V marking, so I suspected the 3.3V pin (actual output is 5.64V) is a standby 5V line.

After some searching from the service manual, finally I could confirm the 5.64V is a standby voltage for this LCD TV. The last question is why power On signal fluctuates?

The easy way to find out if the PSU board or mainboard problem is to use the PSU self-test method! So how does the PSU board test itself without connect to the mainboard and inverter board? Refer to the Figure B1.8, connect 2 x 36Vdc light bulbs (light bulbs from big truck) to PSU CN2 inverter supply connector. Connect 2 x 24Vdc light bulbs (car light bulbs) to connector CN3, one for 12V output line and another one for 15V output line. And then connect 1K ohm resistor to power On signal pin and AC OFF DET pin. Normally this resistor is connecting to pin power On signal and standby 5V line. Because of this standby voltage too high, so I try to select AC OFF DET pin as a voltage for Power On

signal. Make sure everything is connected properly and then disconnect mainboard & inverter board cables. Now, supply AC power to the PSU board and then power On.

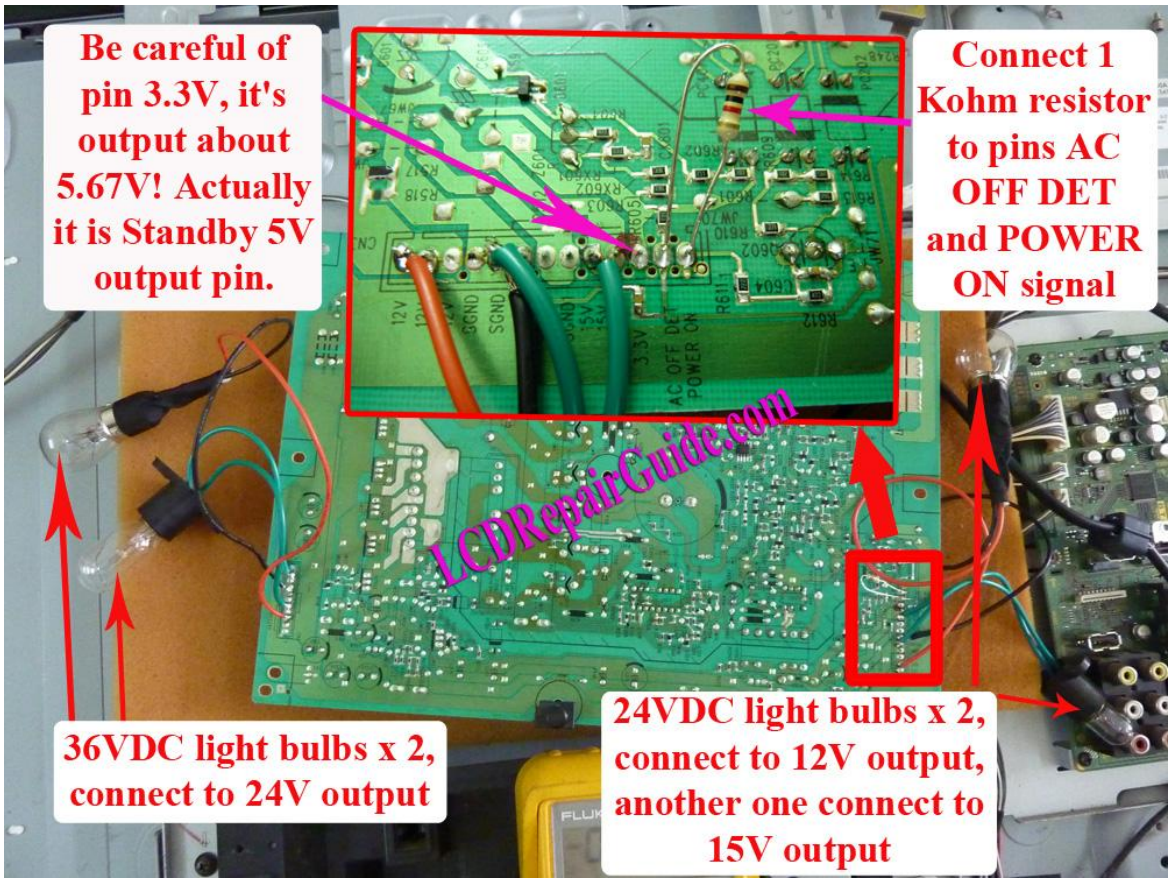


Figure B1.8: How to connect PSU board to self test

Figure B1.9: The PSU board successfully done a self test

After power On, the PSU board could start-up and run properly. I found the CN3 pins output voltages as below:

12V = 12.03V

15V= 16.71V

3.3V = 5.67V

AC OFF DET = 1.957V

POWER ON = 1.93V

UNREG24V = 24.47V

The POWER ON pin voltage was steady! This means the PSU board is ok and the problem was the mainboard. Now you can concentrate on checking the mainboard for bad components.

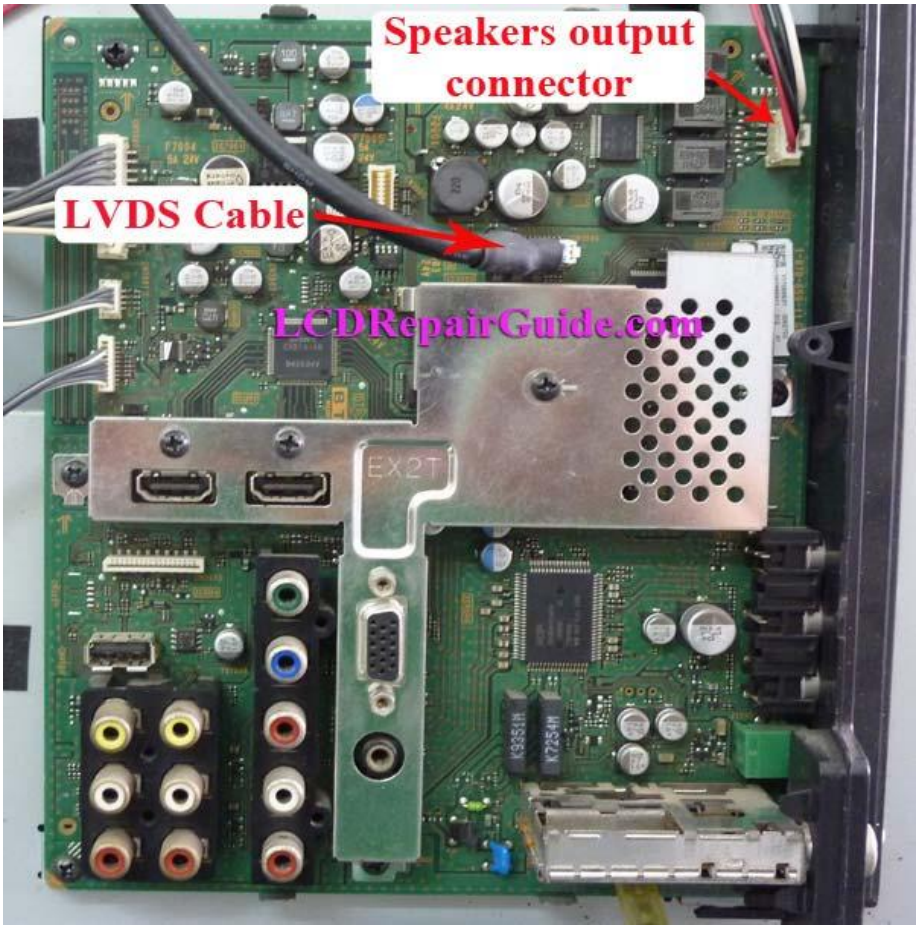


Figure B1.10: LCD TV Mainboard

Because of the service manual does not include any schematic diagram, so it is hard to check on the mainboard. As mentioned, about 80% of the SMD components do not have marking code which included the SMD resistors. It is hard to tell if a particular SMD component is a resistor, diode, coil and etc. Refer to the Figure B1.12.

After removed the metal shield on the mainboard, I saw the main chip was under the heat sink. Refer to the Figure B1.11. So where to start checking on the power On signal? No schematic diagram, no marking code and the mainboard had more than 2 layers! The only thing we can do is to perform normal checking on the power On signal line. I have checked for shorted and leakage component along the line but no bad components found. The main chip supply voltage (VCC), Crystal and reset circuit seems to be good.

Figure B1.11: LCD TV Mainboard without metal cover

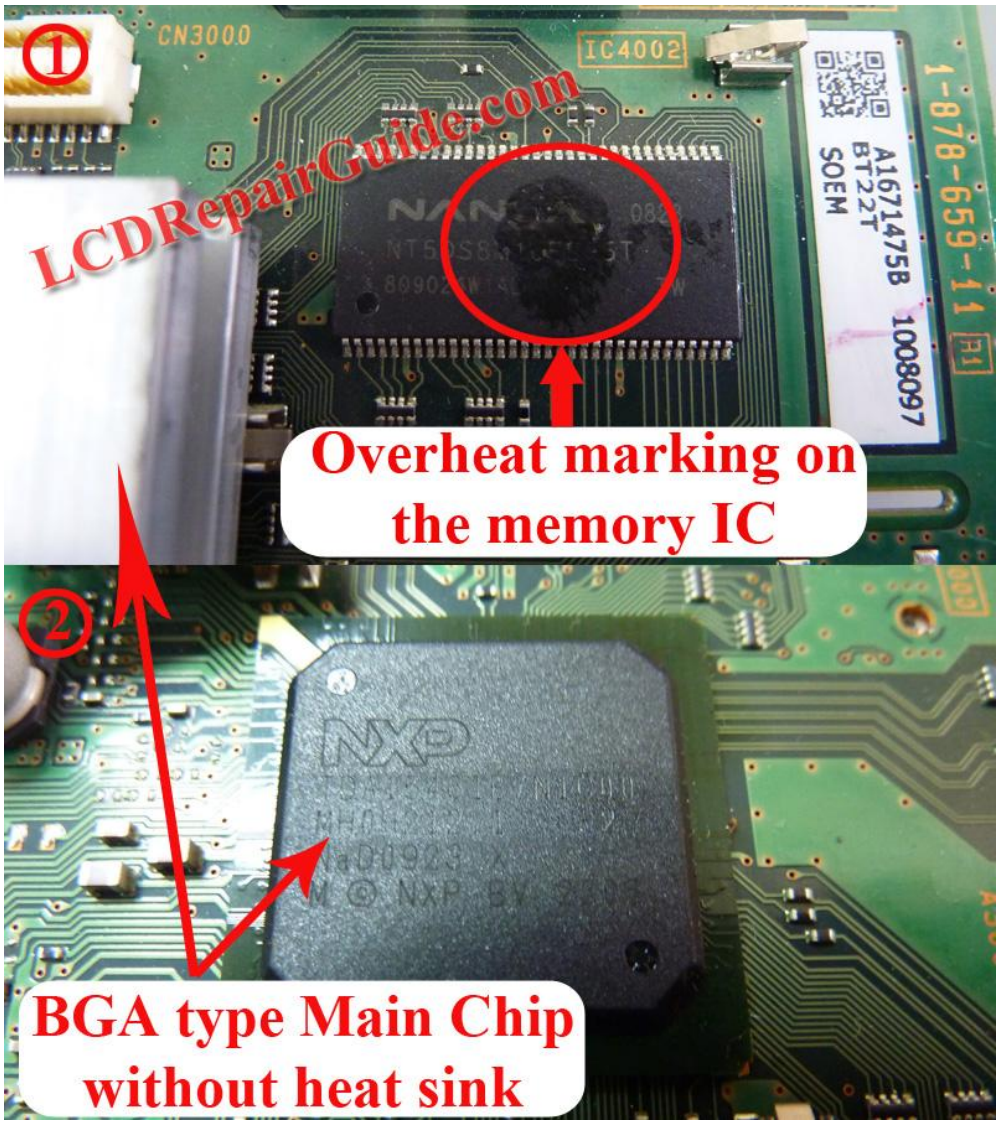


Figure B1.12: This mainboard main chip is a BGA IC type and the RAM memory surface had an overheated imprint

Suddenly found the IC beside the main chip (TDA15461L) had an overheat marking on the surface of IC. This IC is a 128MB DDR SDRAM (NT5DS8M16FS-5T). You can confirm if the IC is overheat or not by touching the IC with your finger. Make you have turned the power off before touching it. Yes indeed the IC was hot and this is the cause of the problem. I gave up testing on this mainboard and intends to buy a new mainboard.

It is hard to locate this mainboard online. However I managed to get a used unit. The seller promised me that the used unit was working so I decided to purchase it.

Note: Although the mainboard was a used unit and quite expensive, I still have to buy it to test it out.

Figure B1.13: The original and new mainboard (used board)

After waited for about a week, finally the mainboard arrived. I'm happy that eventually the LCD TV can be repaired by replacing the used mainboard. But I was wrong because the LCD TV still would not work even after the replacement. Refer to Figure B1.13. All the main parts were working fine except no display and no sound. The power LED light was green color, backlights and front button were working well too. What could be the problem?

After testing on the supply voltage to the T-con board I found that the supply voltage was missing -refer to Figure B1.14. There was no voltage supply from LVDS cable or mainboard!

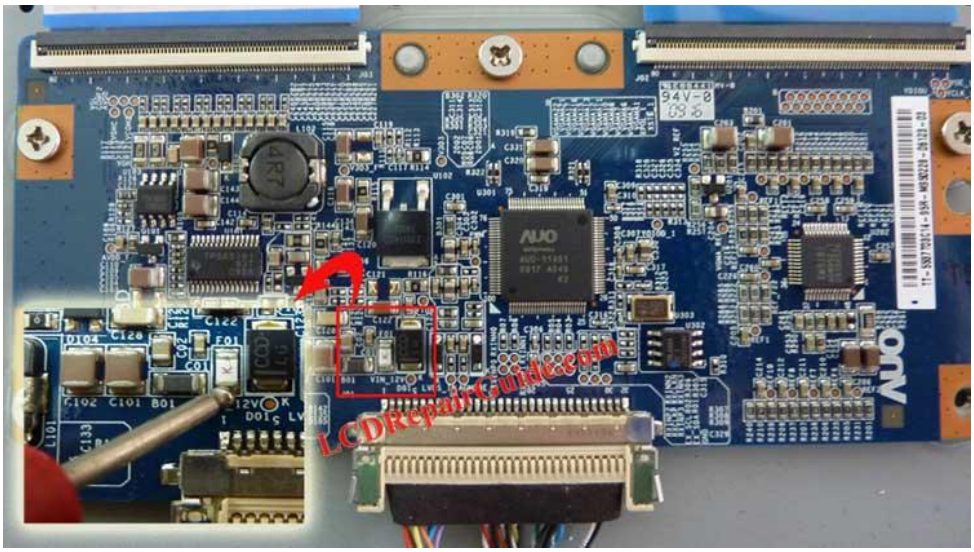


Figure B1.14: Measure voltage of T-Con board Vcc input

Trace it backward to mainboard LVDS connector from Vcc supply pins of T-CON board. Refer to Figure B1.15. Check the section for control and voltage supply to T-CON board. Found the SMD component marking code as “XD” opened circuit! This is a 4A/32V SMD fuse! Since this component opened circuit without any reason, so before replace the fuse double check the surrounding components for shorted or leakage.

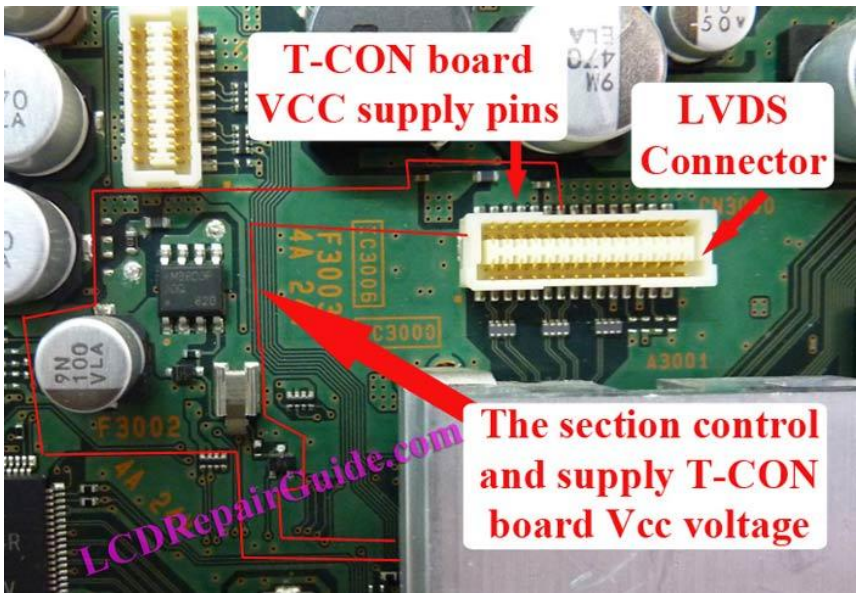


Figure B1.15: The section for control and supply voltage to T-CON board

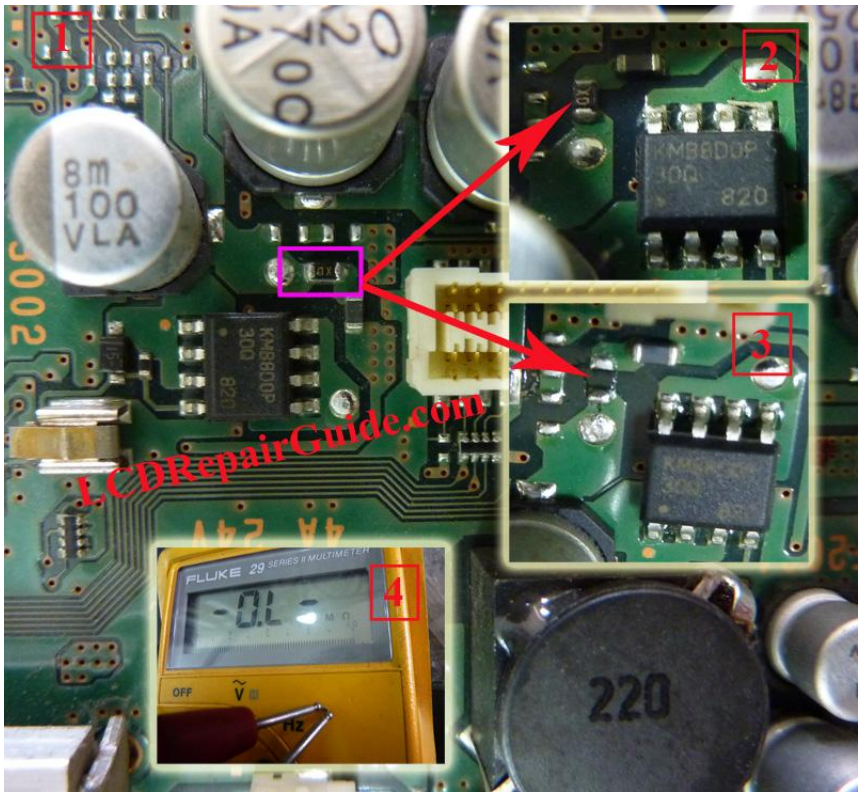


Figure B1.16: Found a SMD fuse marking code as “XD” opened circuit on mainboard

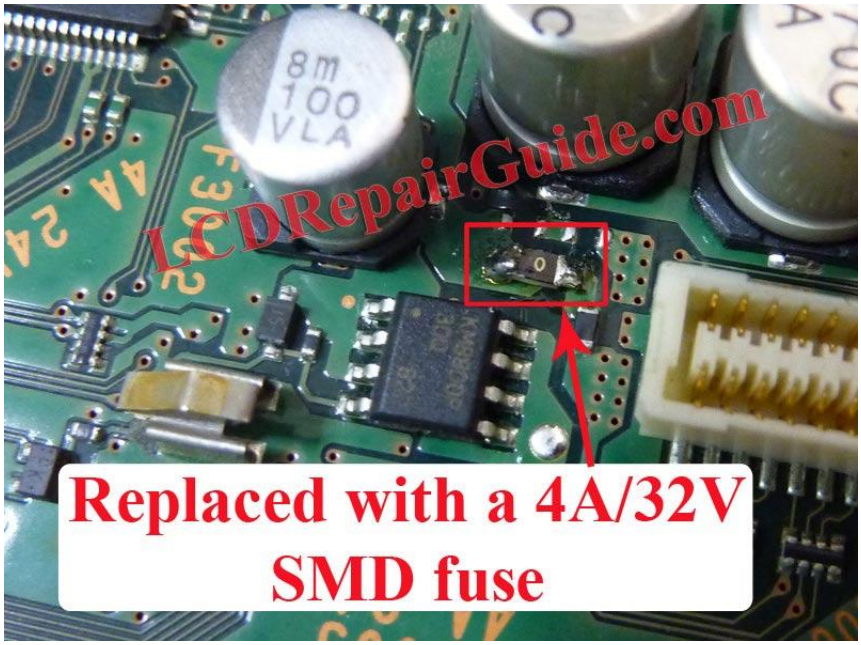


Figure B1.17: Replaced a 4A/32V SMD fuse

After I have replaced the SMD fuse and power On there was display but the sound still missing! Refer to Figure B1.18. This LCD TV still do not have sound at all video modes (AV & PC same results).

Figure B1.18: LCD TV display appeared but no sound

Since this LCD TV no sound at all mode, so concentrate to check the Audio Processing section. Testing the connector for sound output to speakers I've got 0 volt. Testing on the VCC pin of Audio Processing section and the result was still 0V.

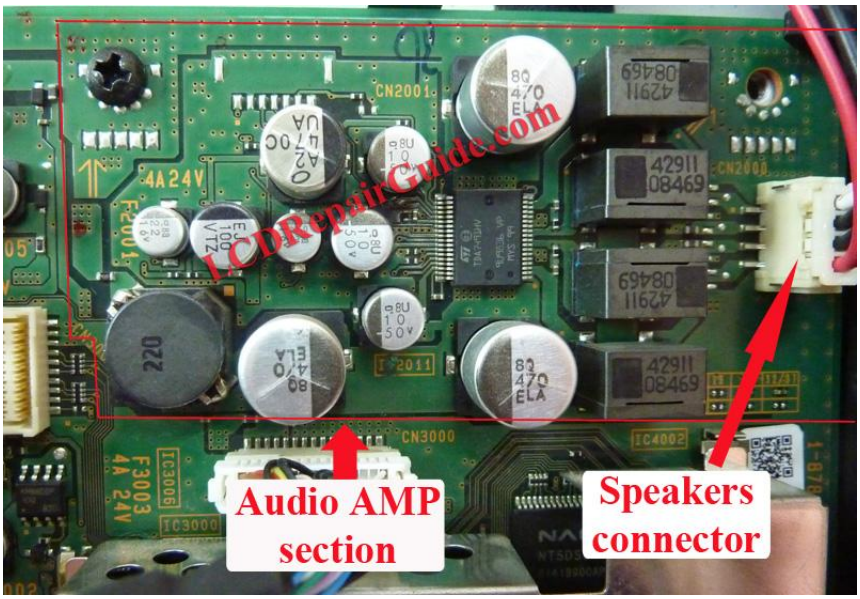


Figure B1.19: Audio Processing & Amplifier section

Found another SMD fuse marking code as “XD” opened circuit! This SMD fuse had a hole on the component surface, please refer to Figure B1.20 photo 1. As usual, before replace the new SMD fuse, double check the surrounding components first. After confirmed all are good, replace with a new SMD fuse and power on the TV.

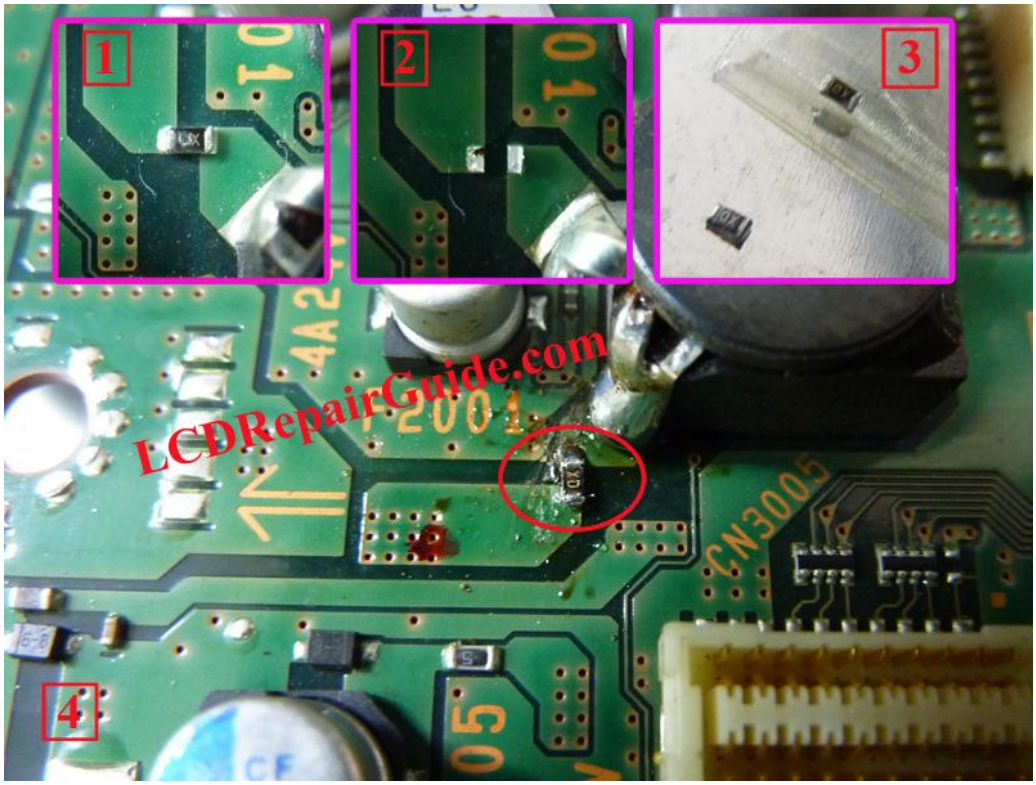


Figure B1.20: Found another SMD fuse opened circuit on Audio Processing section

Wow! Finally all the problems in this LCD TV were solved! It worked perfectly good.

Power On the LCD TV and re-test the working voltages and here was the result that I've got:

CN3

12V = 11.99V

15V = 17.23V

3.3V = 5.61V

AC OFF DET = 3.16V

POWER ON = 3.25V

CN2

UNREG24V = 24.27V

CN7001 (Speaker connector)

2.9V, 3.3V, 0.31V & GND

Conclusion: From this article you could learn how to test PSU board without connecting to the mainboard and inverter board. This method will let you know if the PSU board is good or bad.

BONUS-2:
LG LM295B-RA LCD AV Monitor with Display Distortion or Display Full of Slash Lines. But Display Content was Normal

Model: LG LM295B-RA LCD AV Monitor

Symptom: Display Distortion. Display full of slash lines.

Figure B2.1: LG LM295B-RA LCD AV Monitor Display Distortion

This model of LCD AV monitor is quite old and it is manufactured on the year 2001. Using external power 15VDC 5A to power On this TV, it can show the display completely. But the problem was display distortion or the screen full of slash lines. Refer to Figure B2.1. How to repair this symptom of LCD AV monitor?

Tried to change the video input to PC-Mode and it can show a perfect display. Even the OSD Menu, had a good screen. Sound ok on AV mode. Please refer to

Figure B2.2. The Figure B2.3 is the label of this TV and Figure B2.4 is the AV connection to troubleshooting this TV. Figure B2.5 is the rear side of LCD TV without cover.

Figure B2.2: The TV shows display normal on PC-Mode (DSUB 15 PINS)

Figure B2.3: TV rear cover label

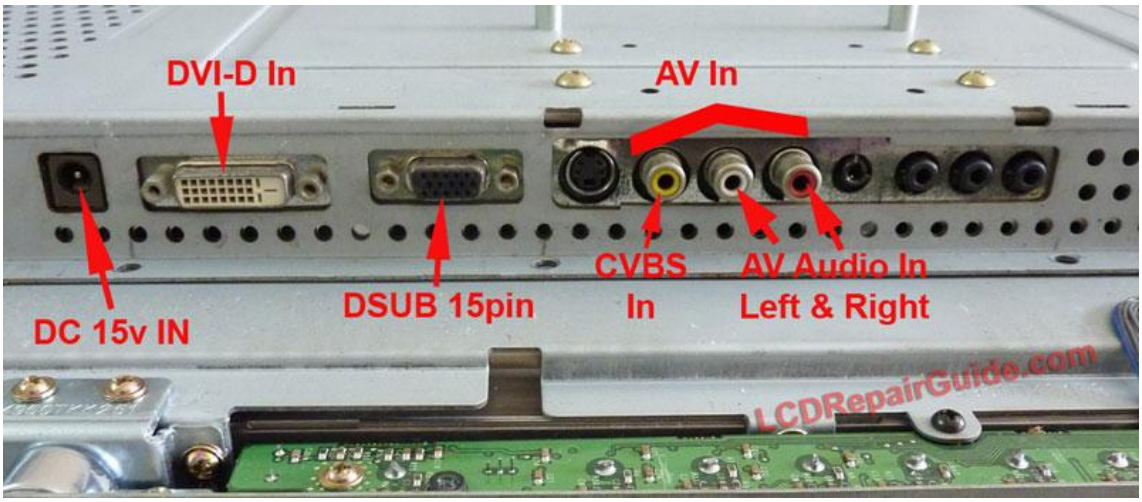


Figure B2.4: All the TV Video Signal Input Type

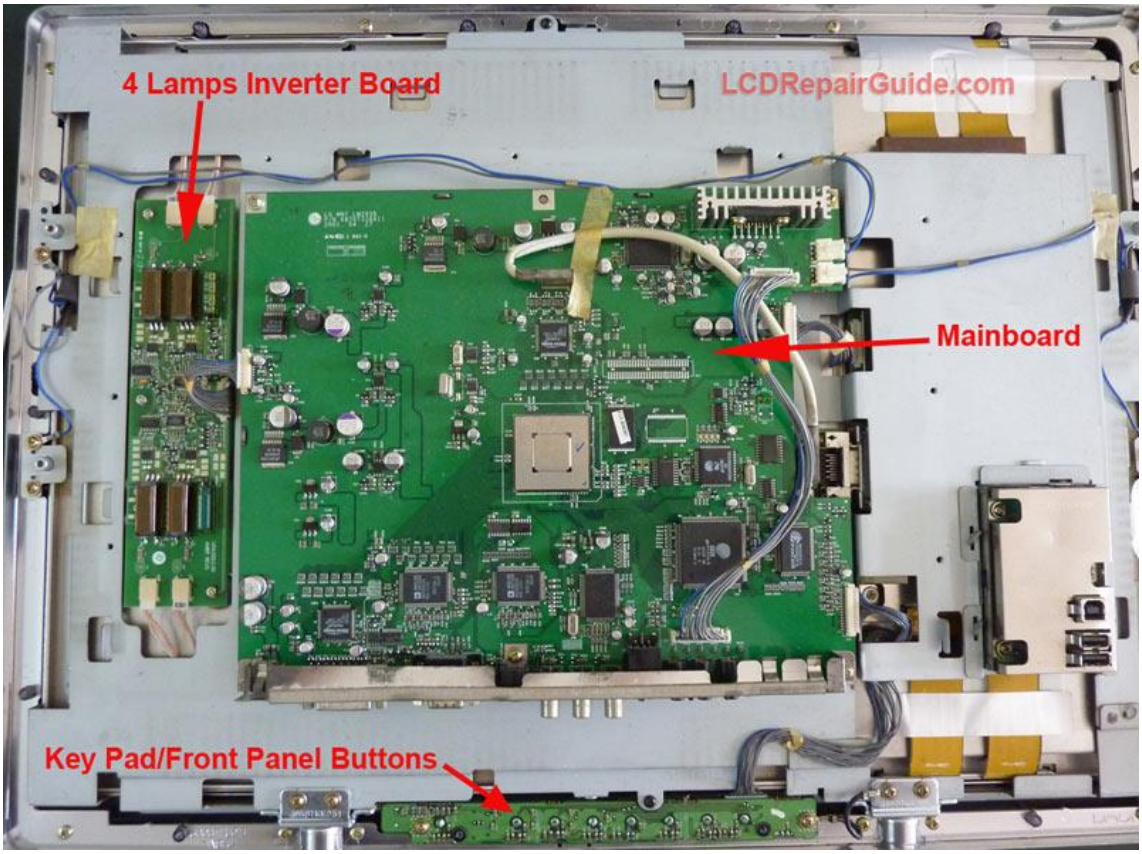


Figure B2.5: The rear view of LG LM295B-RA LCD AV Monitor (without rear cover)

Since this TV can show the PC mode perfectly, this means the LCD panel and backlight are normal. So concentrate to check the AV input section until Video signal processing section. Go to LCD-Television-Repair.com download this model of service manual. From the service manual block diagram section,

please refer to Figure B2.6, the suspicions area are Video Decoder, De-interlacer, SGRAM, Mode Controller & Video Signal Processor.

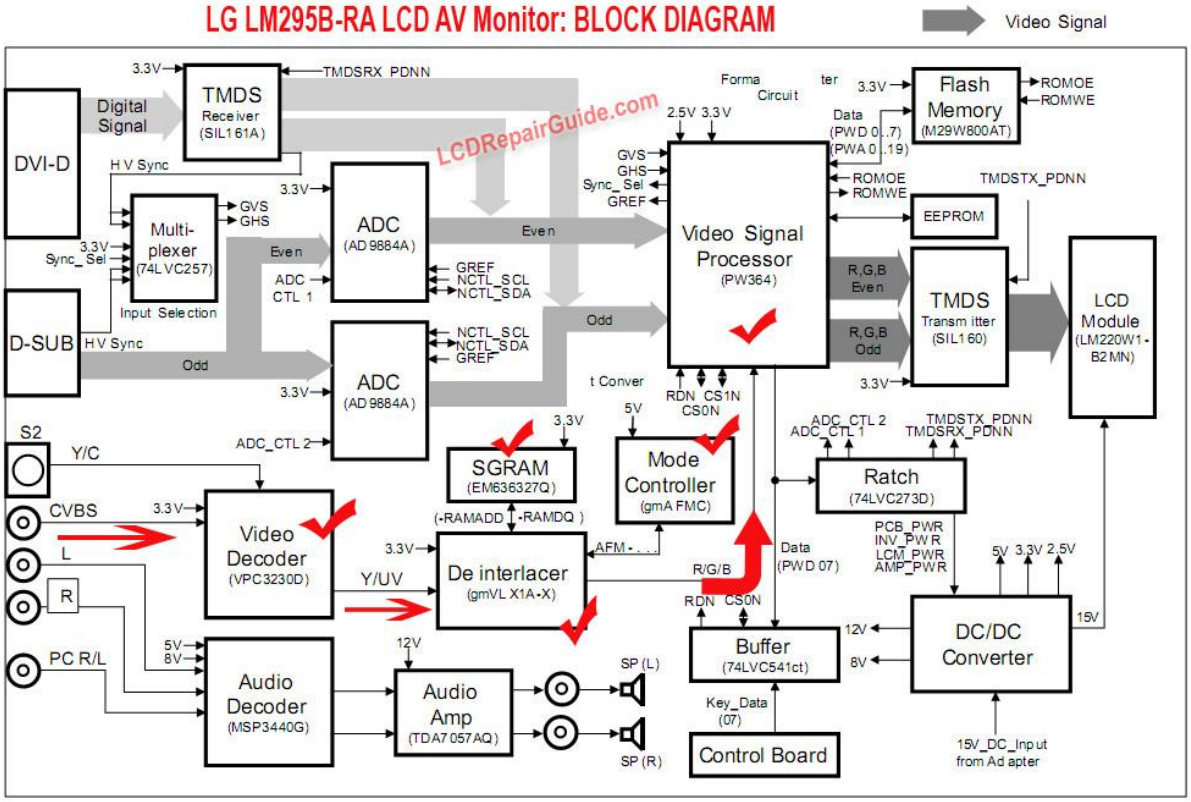


Figure B2.6: Block Diagram of LG LM295B-RA LCD AV Monitor

After dismantled this TV, you can see the internal section at Figure B2.5. Before doing any test, connect the AV connection to the TV. Please refer to Figure B2.7. Look at the mainboard and find out Video Decoder section. Please refer to the Figure B2.8.

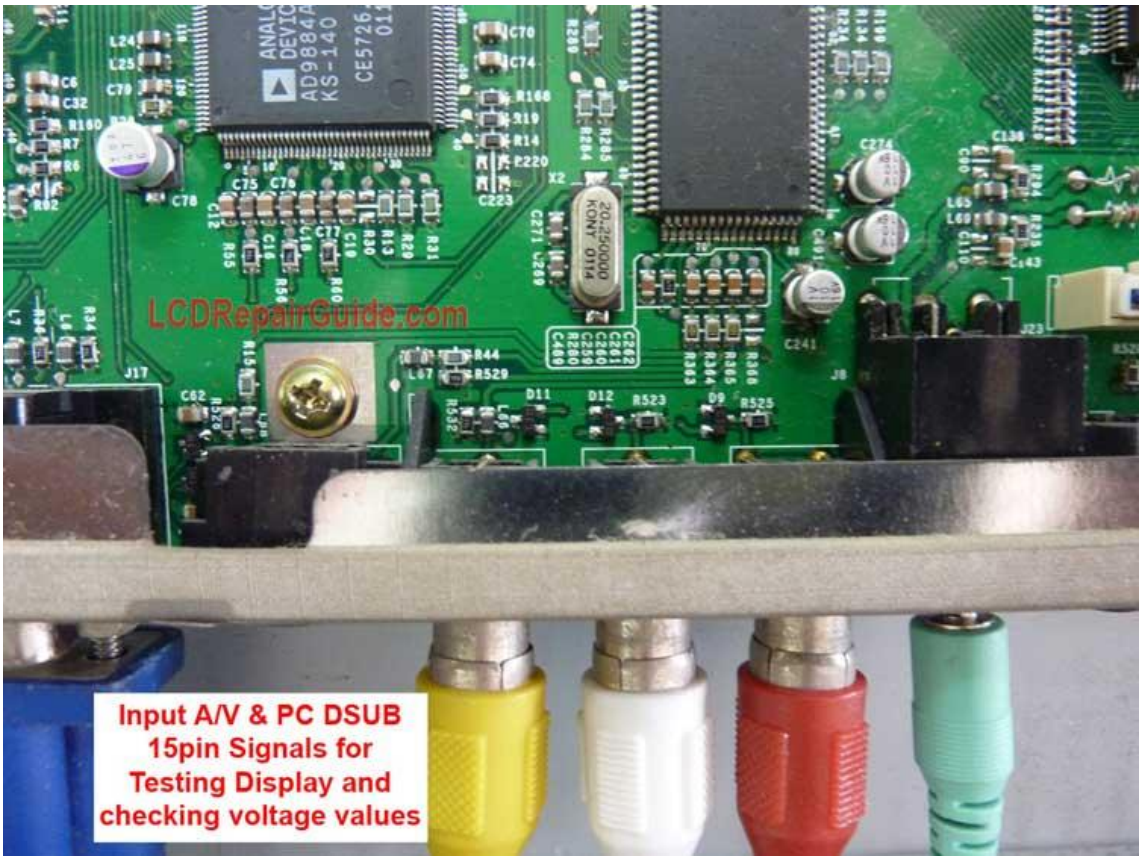


Figure B2.7: Testing Voltages and Signals for AV section on the Mainboard

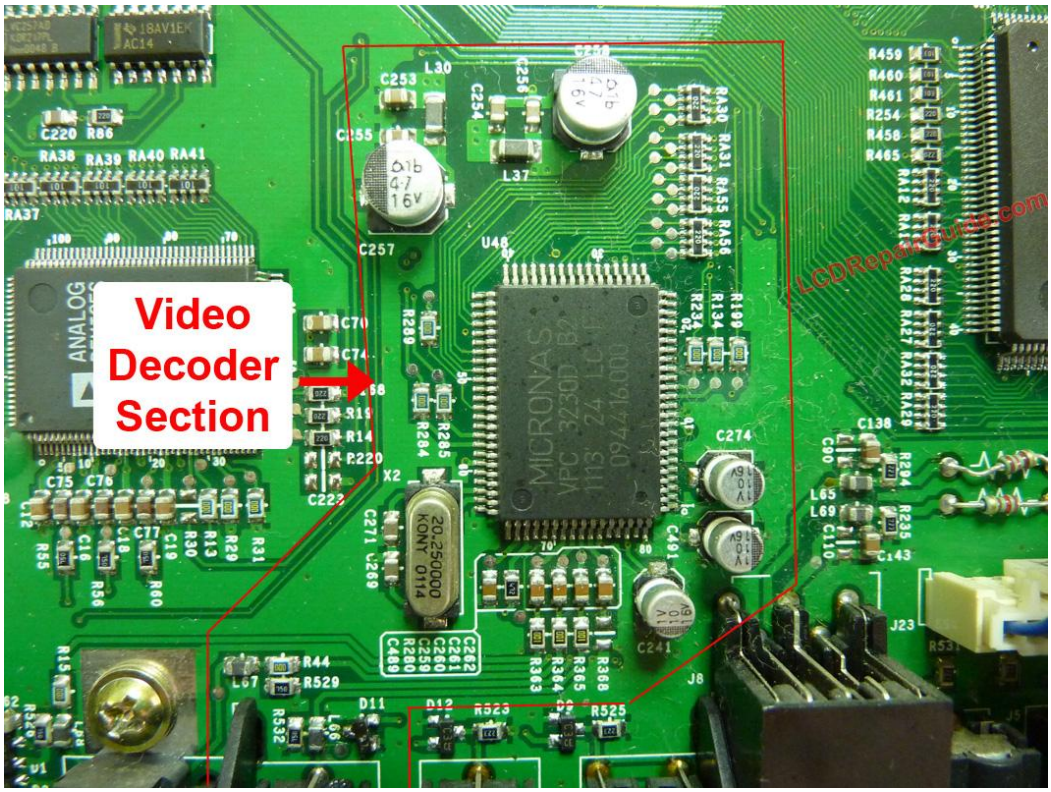


Figure B2.8: The Video Decoder Section

The crystal X2 waveform were normal and the VCC supply to U40 (VPC3230D, video decoder IC) were good too. Suddenly found the 5VA-VPC Vcc line dropped to 4.2V! . Power off the TV, tested on the SMD filter caps C274 (10uF/16V) with Blue ESR tester and its ESR values were out. Checking on other SMD electrolytic capacitors in Video Decoder section, I found C241 & C491 (both 10uF/16V) all ESR value out! Please refer to Figure B2.9 & B2.10.

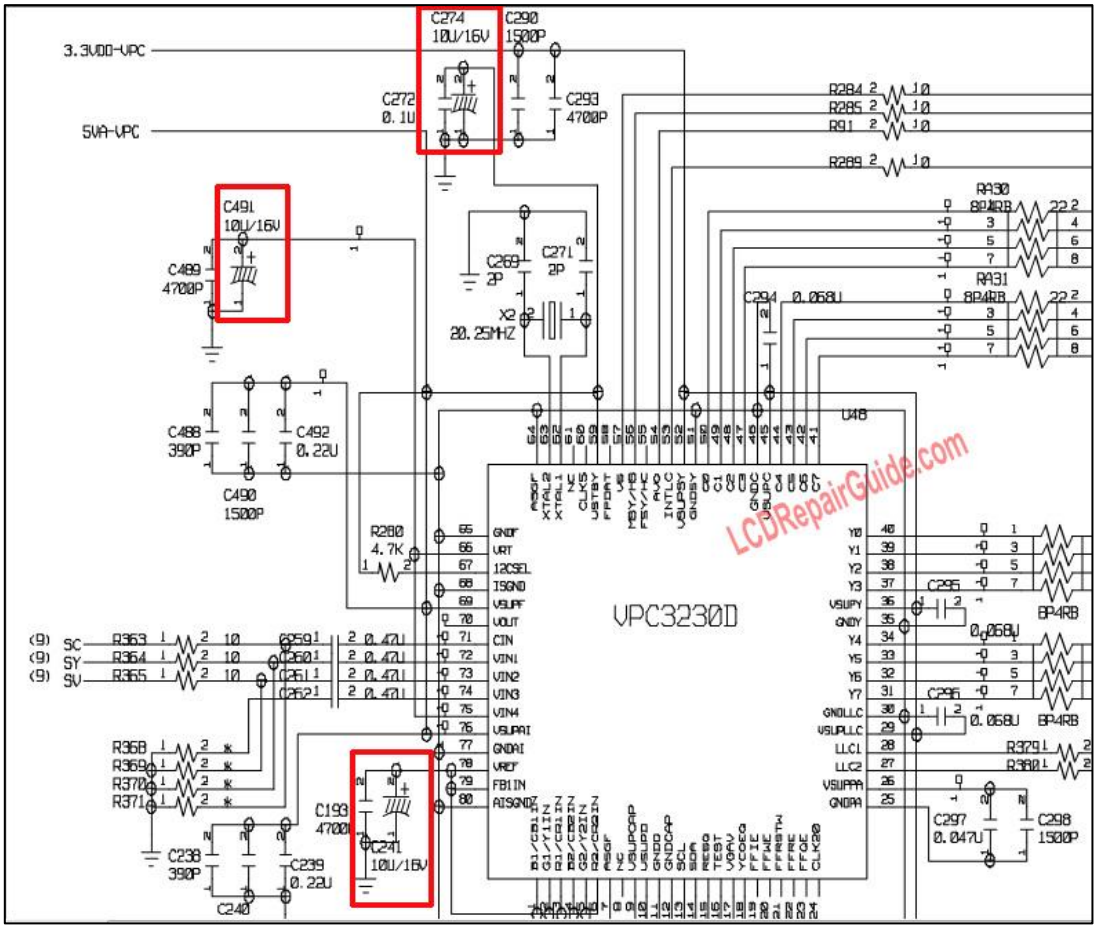


Figure B2.9: Found three SMD Electrolytic Capacitor with High ESR values

Figure B2.10: Three SMD Electrolytic Caps

Make sure you check the other components like resistor, ceramic caps & transistor on the Video Decoder section. All components were tested good in the Video Decoder section.

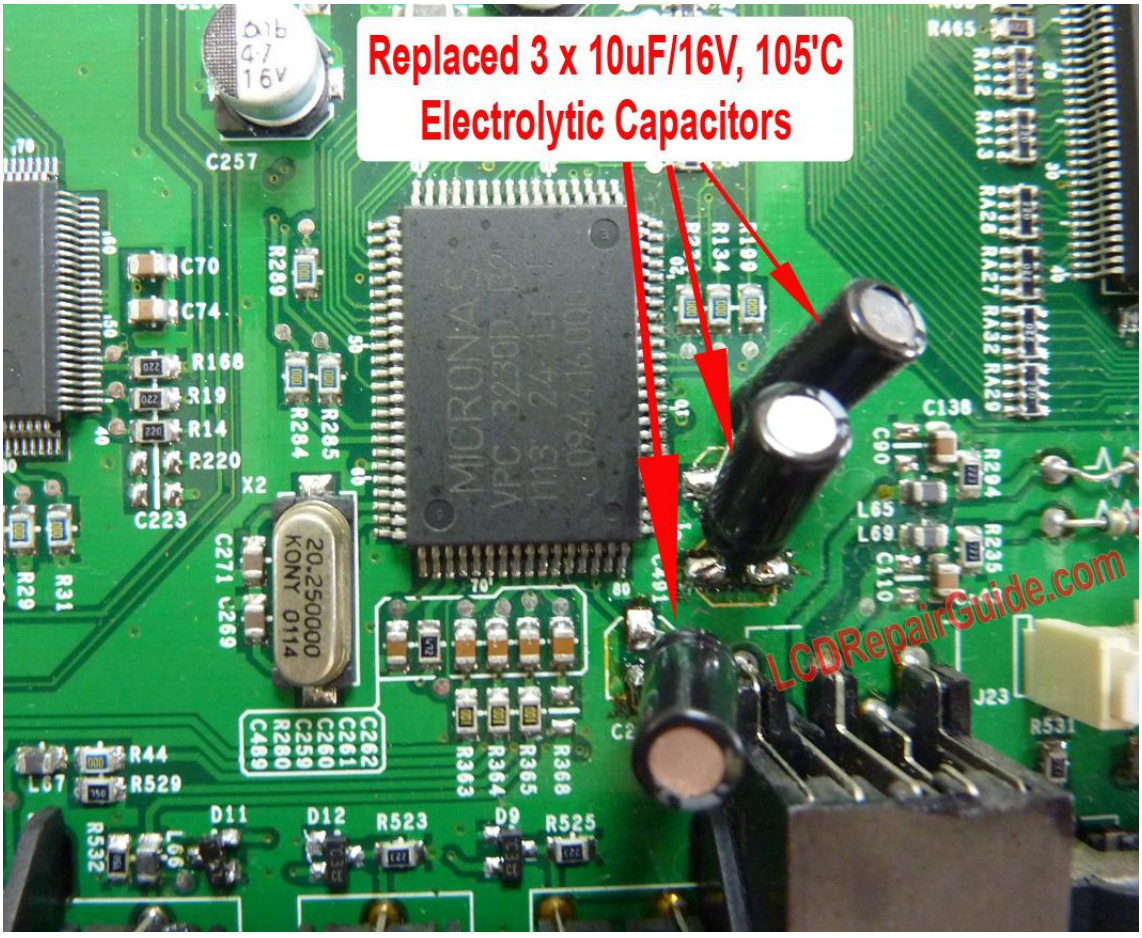


Figure B2.11: Replaced Three SMD Caps with Electrolytic Capacitors

Just direct replace these 3 SMD caps with the normal electrolytic capacitors (3 x 10uF/16V, 105'C). After replaced the caps, this LCD AV Monitor problem were solved!

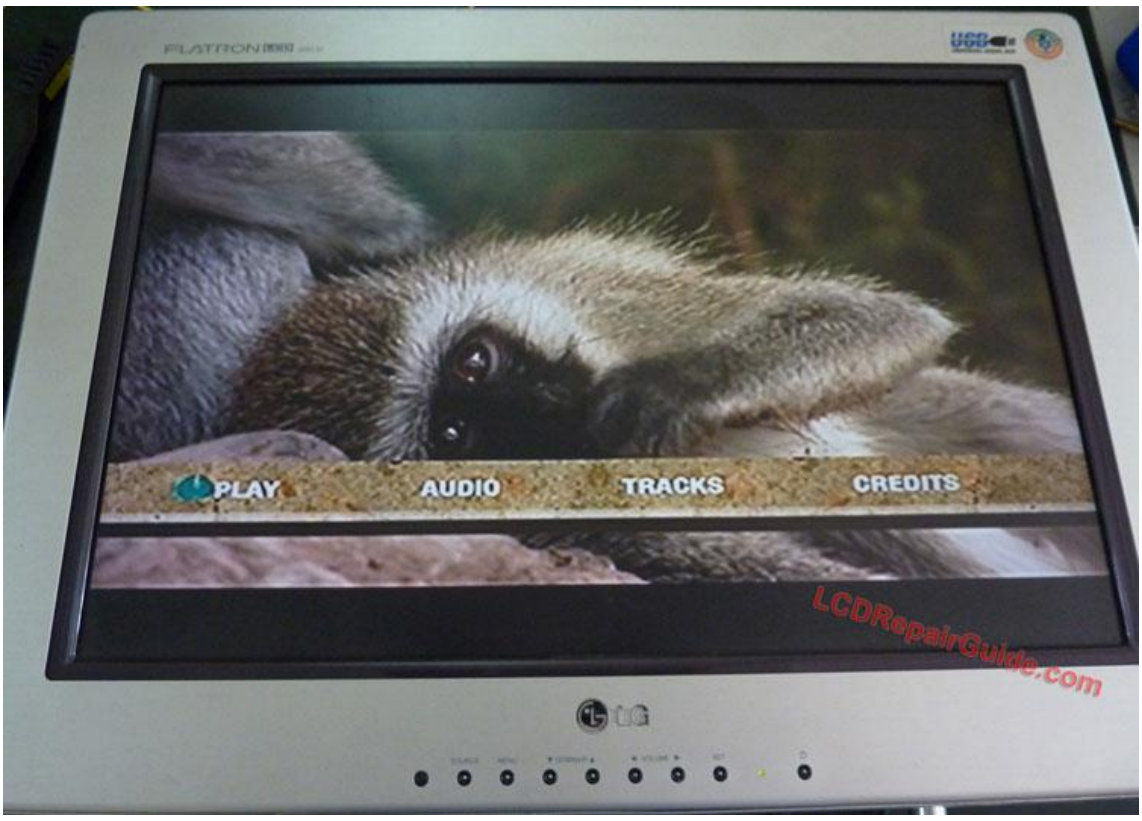


Figure B2.12: TV functioning well after the replacement of the 3 capacitors

Note: No matter what LCD TV problems, if you follow the right steps then they could be repaired!

BONUS-3:

Samsung LA-32B350F2 LCD TV

With Screen Full of Black & White Thin Vertical Lines

Model: Samsung LA32B350F1 LCD TV

Symptom: Screen full of vertical lines.

One of my repair friends sent me this Samsung LCD Tv for repair. The symptom was the screen full of black and white vertical lines. This Samsung LCD TV model number is LA-32B350F1. You can refer to the photo Figure B3.2.

Figure B3.2: Samsung LCD TV rear cover label

As usual, before open the LCD TV, I will test other video signals input and see any different on the screen. Even using PC and AV video signals, it is still the same problem and no change at all. But this LCD TV sound is ok and the front panel buttons is working too. Try to call out the OSD Menu, same problem.

After a brief test on this LCD TV, initial suspect were the T-CON board or LCD Panel. If call out the OSD Menu, and the OSD menu working good then I will suspect LVDS cable or the mainboard. Since all testing shows the same problem, so the T-CON board and LCD Panel could be the fault.

It is time to dismantle this LCD Tv for more testing. To dismantle this LCD TV you need to remove the screws at rear cover before pulling out the stand. Open the rear cover and you can see three PCB boards there. One of the PCB boards position was under metal shield. This PCB board is call T-CON board. In the newest design LCD panel, the T-CON board position is located at the bottom. For older LCD panel design, T-CON board position was at the top. Please refer to the photo Figure B3.3.

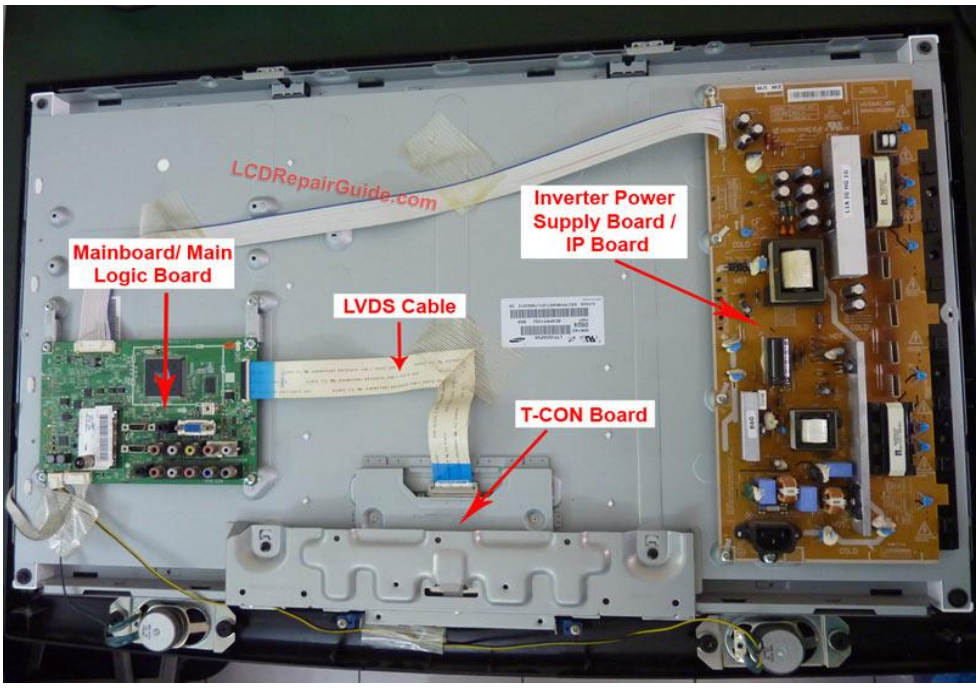


Figure B3.3: The PCB boards inside Samsung LCD TV (without rear cover)

The three PCB boards are Mainboard, IP board & T-CON board. IP means Inverter/Power Supply. Since I have confirmed the T-con board or the LCD panel problem I will check the T-CON board first. Before testing T-Con board, the metal shield must be removed first. But this T-Con board LVDS connector and socket designs are different than other T-Con board. Refer to the photo Figure B3.4, LVDS cable was difficult to pull out from T-CON board LVDS socket.

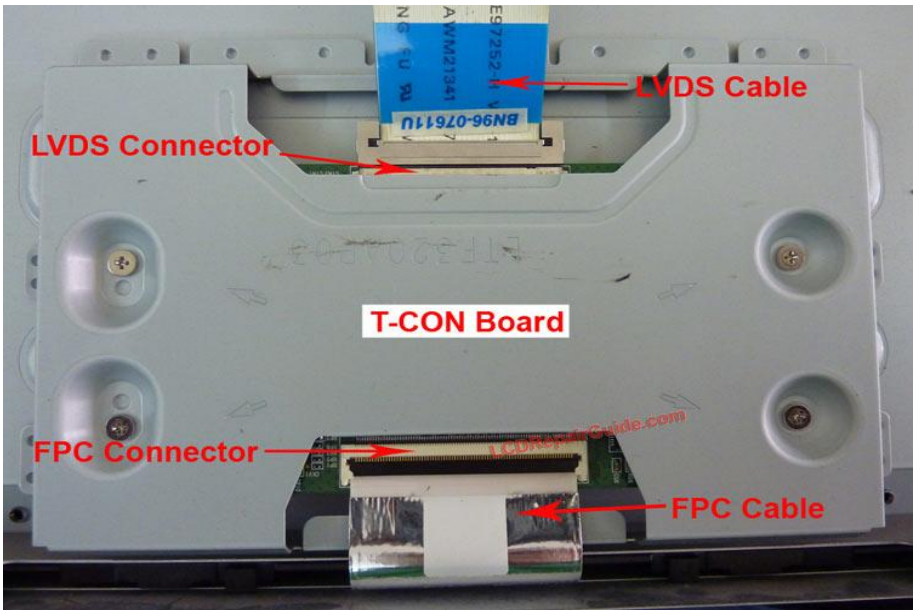


Figure B3.4: T-CON board

Please don't pull LVDS cable too hard, otherwise the cable or connector will broke. Unfortunately, after tried three to four times to unplug LVDS cable, I still can't pull it out! So I tried to analysis the structure of this LVDS connector and socket. Found two holes at the both sides of connector. Refer to photo Figure B3.6 picture 1. Use the tweezers tip to pricking both sides of the connector and pull out LVDS cable. Refer to photos Figure B3.5 and B3.6. Finally the LVDS cable had been pulled out from the T-Con board LVDS socket.

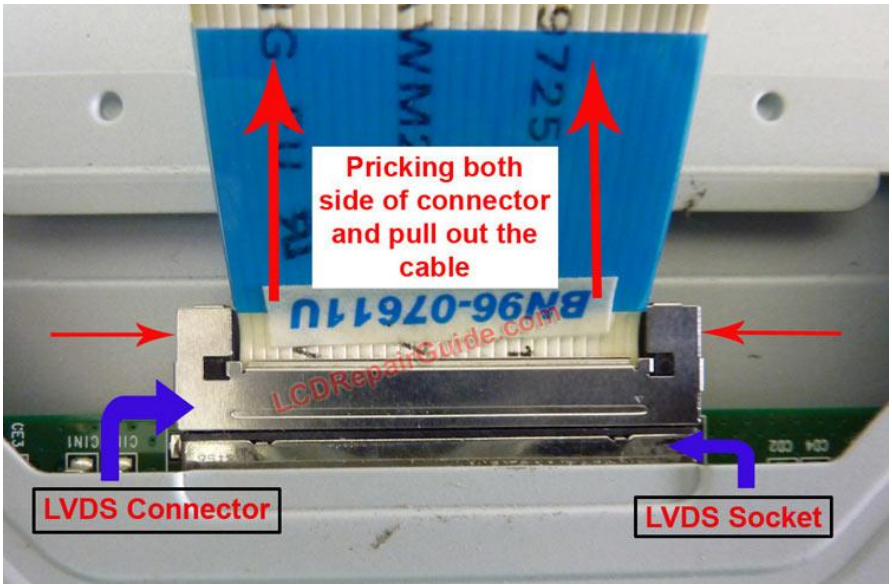


Figure B3.5: How to disconnect the LVDS cable

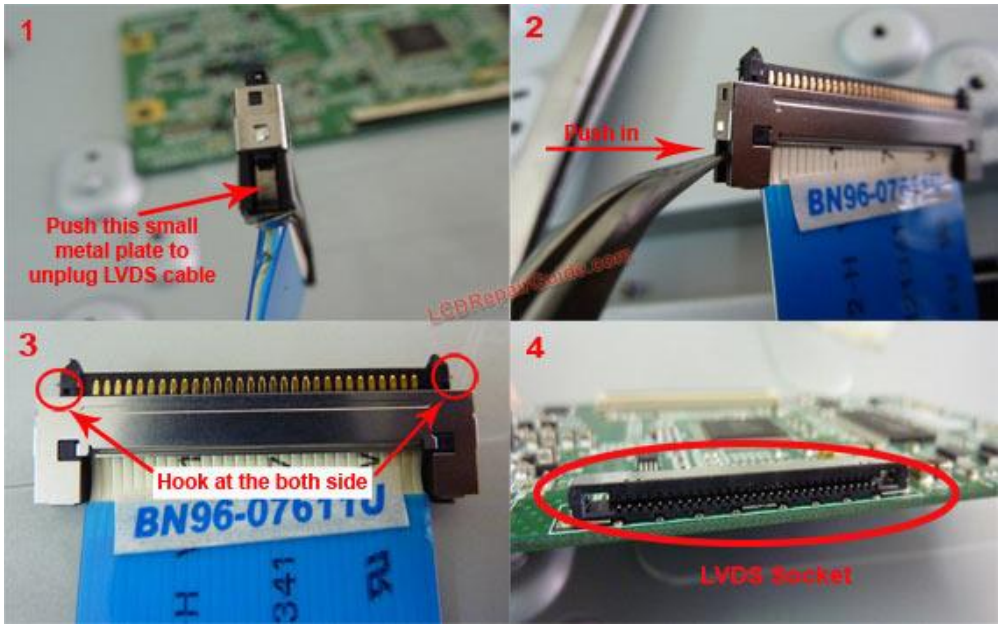


Figure B3.6: Using this method to disconnect the LVDS cable

Have checked on the LVDS cable contact pins and all are firmed and cleaned. Continuity testing with multimeter also found to be good.

Since the LVDS cable was good, you need to perform voltage testing on the T-con board. Voltage test on the T-con board was found to be good too. The only way to confirm it is to compare with a good one.

After replaced with a working T-CON board, it still has the same problem. This means it is confirmed that the LCD panel is the cause of the problem. I guess I want to return the LCD TV back to my friend.

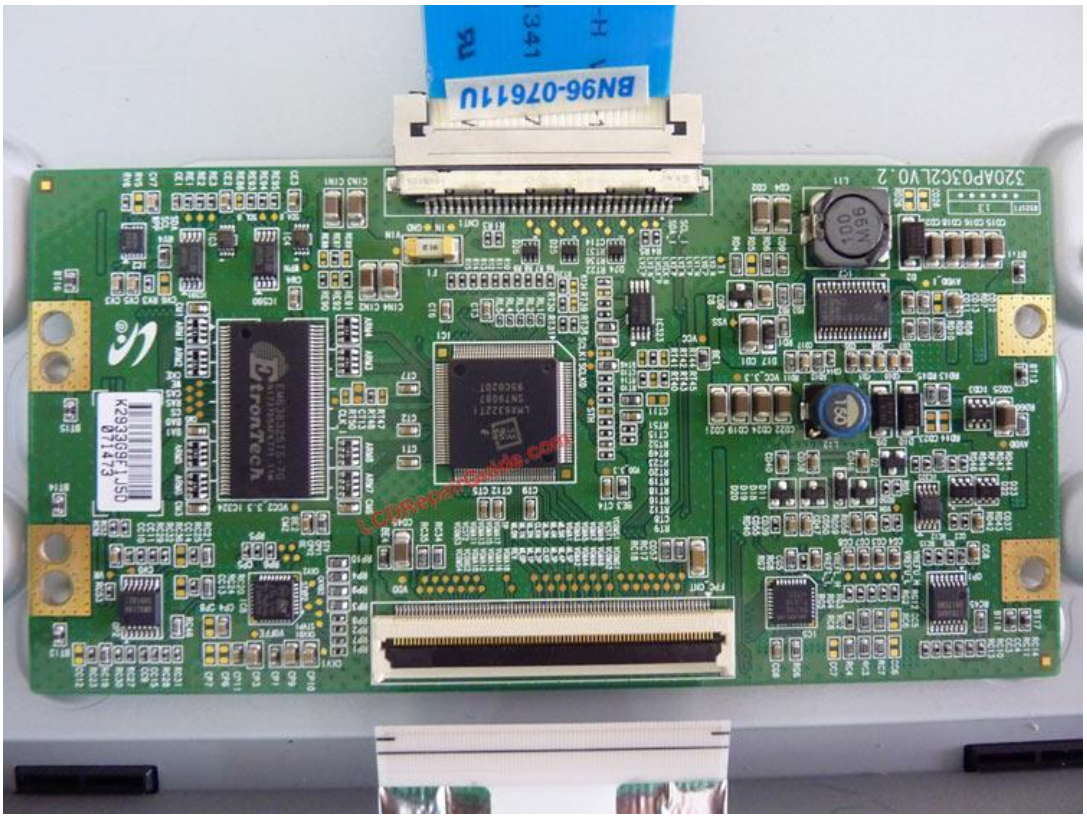


Figure B3.7: Samsung 320AP03C2LV0.2 T-CON Board

Samsung 320AP03C2LV0.2 T-CON Board

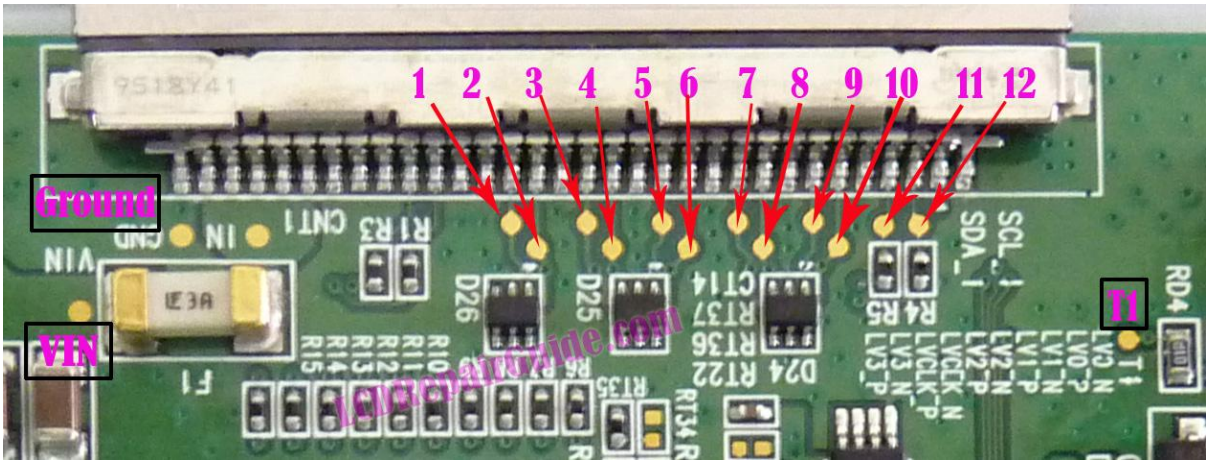
Testing Points (Good Voltage Values)

T-CON Board: 320AP03C2LV0.2 (K2933G9F1J5D)

LCD Panel : Samsung LTF320AP06 LCD Panel

LCD TV Model Number: Samsung LA-32B350F1 LCD TV

** The voltages were taken when it was run on TV MODE.



F1 = 3Amp fuse

1) **LV3_P**= 1.058v, 2) **LV3_N**= 1.462v, 3) **LVCLK_P**= 1.281v,

4) **LVCLK_N**= 1.221v, 5) **LV2_P**= 1.086v, 6) **LV2_N**= 1.419v,

7) **LV1_P**= 1.05v, 8) **LV1_N**= 1.463v, 9) **LV0_P**= 1.028v,

10) **LV0_N**= 1.472v, 11) **SDA_I** = 0.067v, 12) **SCL_I** = 0.066v,

13) **VIN**= 12.76v, 14) **T1**= 3.2v, 15) **VSS**= -7.55v, 16) **VCC**= 3.287v,

17) **VCC_3.3**= 3.24v, 18) **AVDD_I**= 14.68v, 19) **AVDD**= 14.67v,

20) **VON**= 27.51v, 21) **VREFU_H**= 14.53v, 22) **VREFU_L**= 8.57v,

23) **VREFL_H**= 6.09v, 24) **VREFL_L**= 0.143v, 25) **VDD_3.3**= 3.223v,

26) **STH**= 0.06v, 27) **SCLKO**= 1.667v, 28) **SCLKI**= 1.586v,

29) **CLK_I**= 1.79v, 30) **VDD**= 3.237v, 31) **WPN**= 0.158v,

32) **SDA_O**= 0.138v, 33) **SCL_O**= 0.137v, 34) **SDA**= 3.236v,

35) **SCL**= 3.236v, 36) **WPP**= 3.237v, 37) **VCC2_3.3**= 3.223v,

38) **BAI**= 1.254v, 39) **BAO**= 0.968v, 40) **CS**= 0.007v, 41) **RAS**= 3.189v,

42) **CAS**= 3.205v, 43) **WE**= 3.193v, 44) **CKE**= 3.233v,

45) **CVO**= 8.95v, 46) **VR**= 8.97v, 47) **STV**=0.009v, 48) **CPV1**= 2.064v,

49) **CPV2**= 2.064v, 50) **OE**= 0.954v, 51) **CKV1**= 8.41v, 52) **CKVBI**= 8.37v,

53) **STPV1**= -10.51v, 54) **CKVB2**= 8.37v, 55) **STVP2**= -10.51v,

56) **CKV2**= 8.40v, 57) **VOFFE**= -10.55v

All the above Samsung 320AP03C2LV0.2 T-CON board testing point voltages were gathered from a working TV. So you can use it as a reference when your T-CON board has the same part number with 320AP03C2LV0.2 or similar Samsung T-Con board.

Be careful when you're testing on these voltage points. The space is narrow and you could short out the adjacent components and damage the T-CON Board or other PCB boards too.

Continue to troubleshoot this TV LCD Panel or return back to customer?

If the TV repairers know that the LCD Panel is at fault, usually they will not repair it and will send it back to customer. When I logged into the LCD-Television-Repair.com to find this LCD TV and LCD panel repair information, suddenly I saw a diagram (Figure B3.9) and I found that I forgot to check the Source PCB board inside the LCD panel!

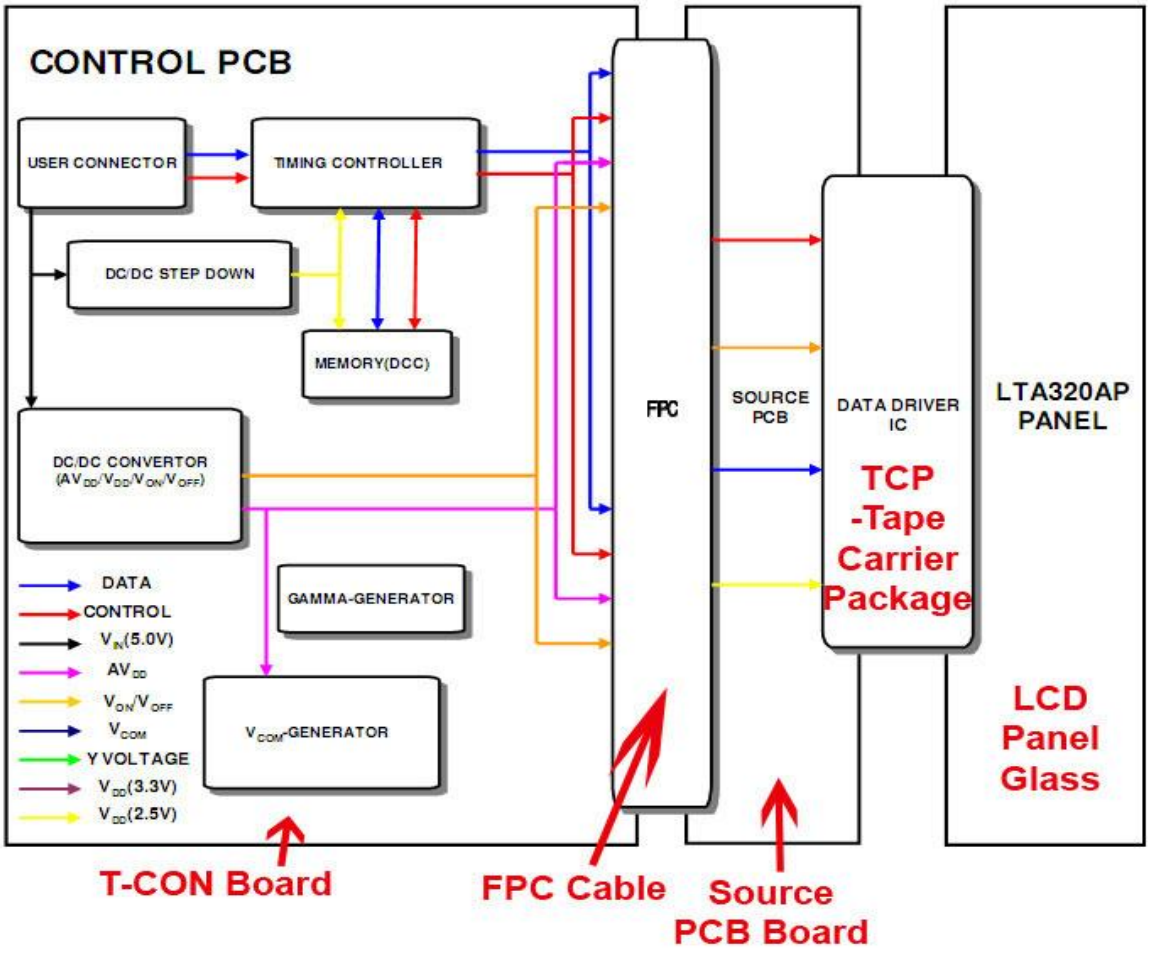


Figure B3.9: T-Con Board and the LCD Panel Connection Diagram

So I quickly opened the LCD Panel front metal cover - guess what I found? I saw some dust sticked on the Source PCB board 'golden finger' (contact pins) area. Refer to the Figure B3.10.

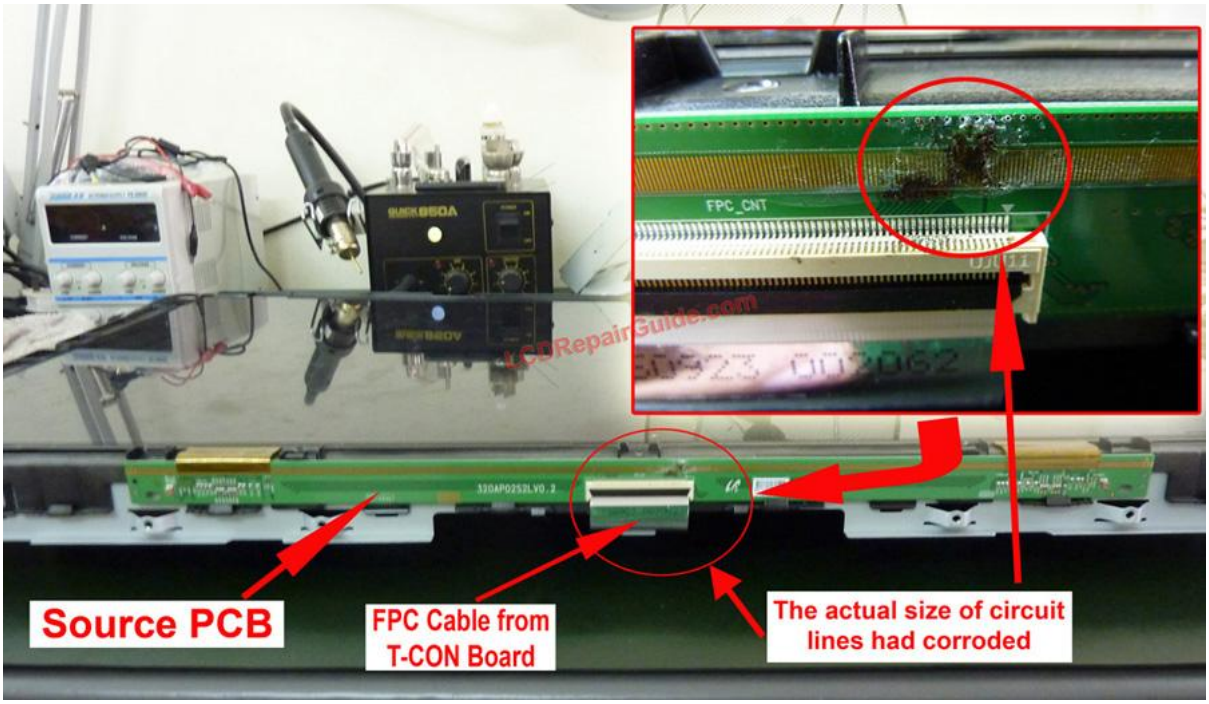


Figure B3.10: Opened the front metal cover and found Source PCB board was inside LCD Panel.

You need to use the cotton swabs with video head cleaner to clean the dust. After cleaning the dust, you can see the cotton swabs in black color. I don't know what material was it and where it came from. Refer to the Figure B3.11 photo 3, the dirty area after cleaning and it was different color with other.

Power On the TV again, all black and white vertical lines gone except 2 horizontal bars on the screen now. These two horizontal bars had some color there. Please refer to Figure B3.12.

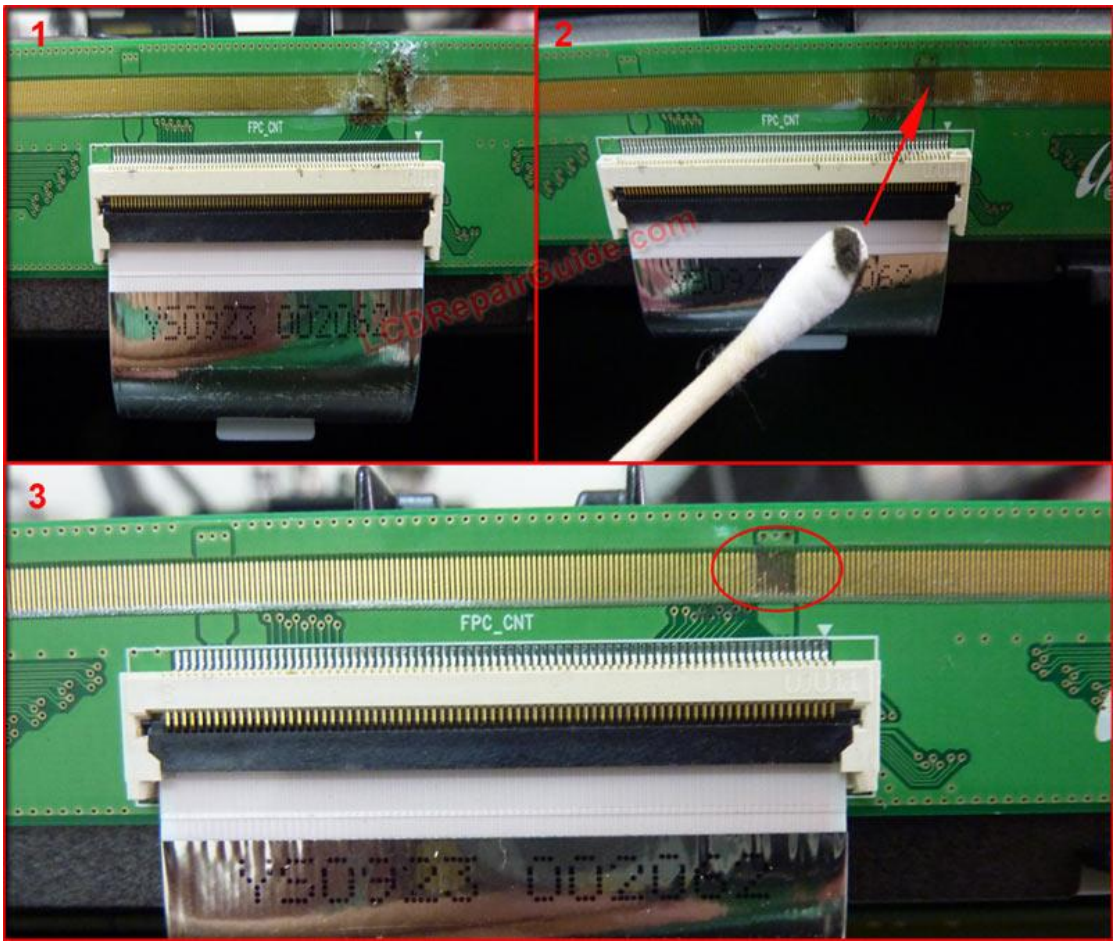


Figure B3.11: Clean the board with cotton swabs and video head cleaner

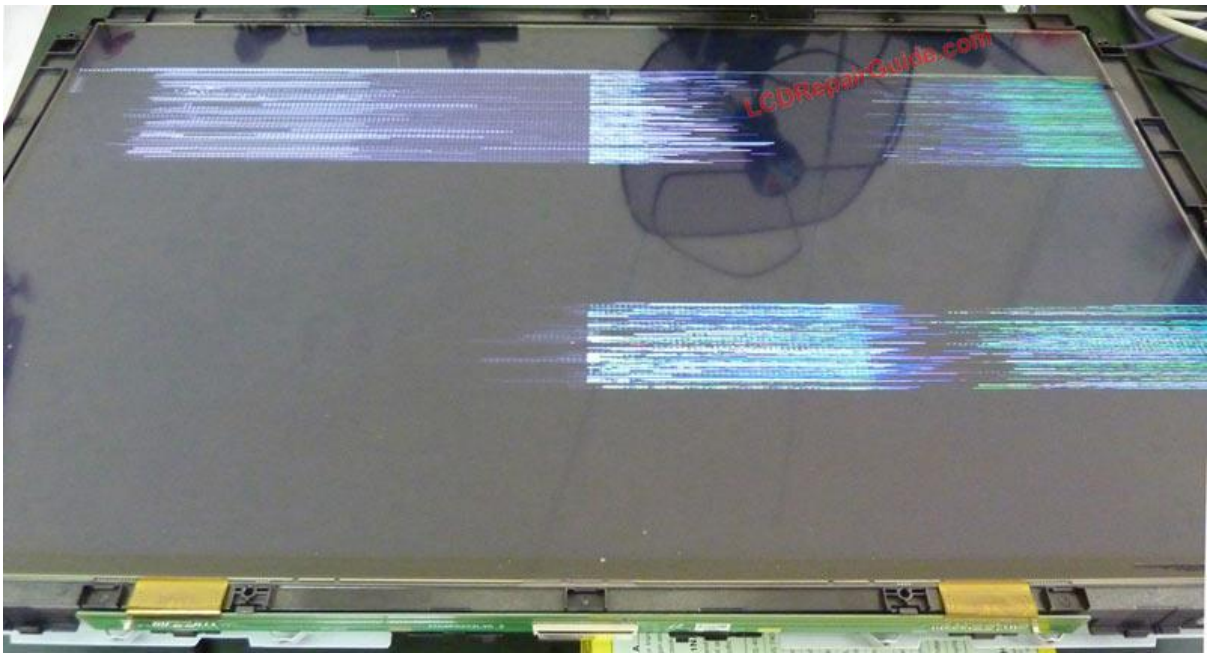


Figure B3.12: After cleaning the Source PCB board, display have two horizontal bars

Since the LCD panel still have two horizontal bars on the screen, so I suspect there was still problem on the area. Because of those contact pins or lines are too small and thin, I have to use the USB Digital Microscope to help me see it more clearly. Refer to Figure B3.13 photo 1; I'm using this type of microscope to check the SMD and small thing on PCB board.

With the help of the microscope, I could see those lines had gone missing due to corrosion! Refer to Figure B3.13 photo 2.

Can those lines be repaired? Unbelievable, because it has 3 mm wide, but it had 7 lines there! Refer to Figure B3.13 photo 2. After analysis the photos on Figure B3.13 photo 3 & 4, I believe that all 7 lines were from the same source and go to same destination. If my guess is right, then this LCD panel can be repaired!

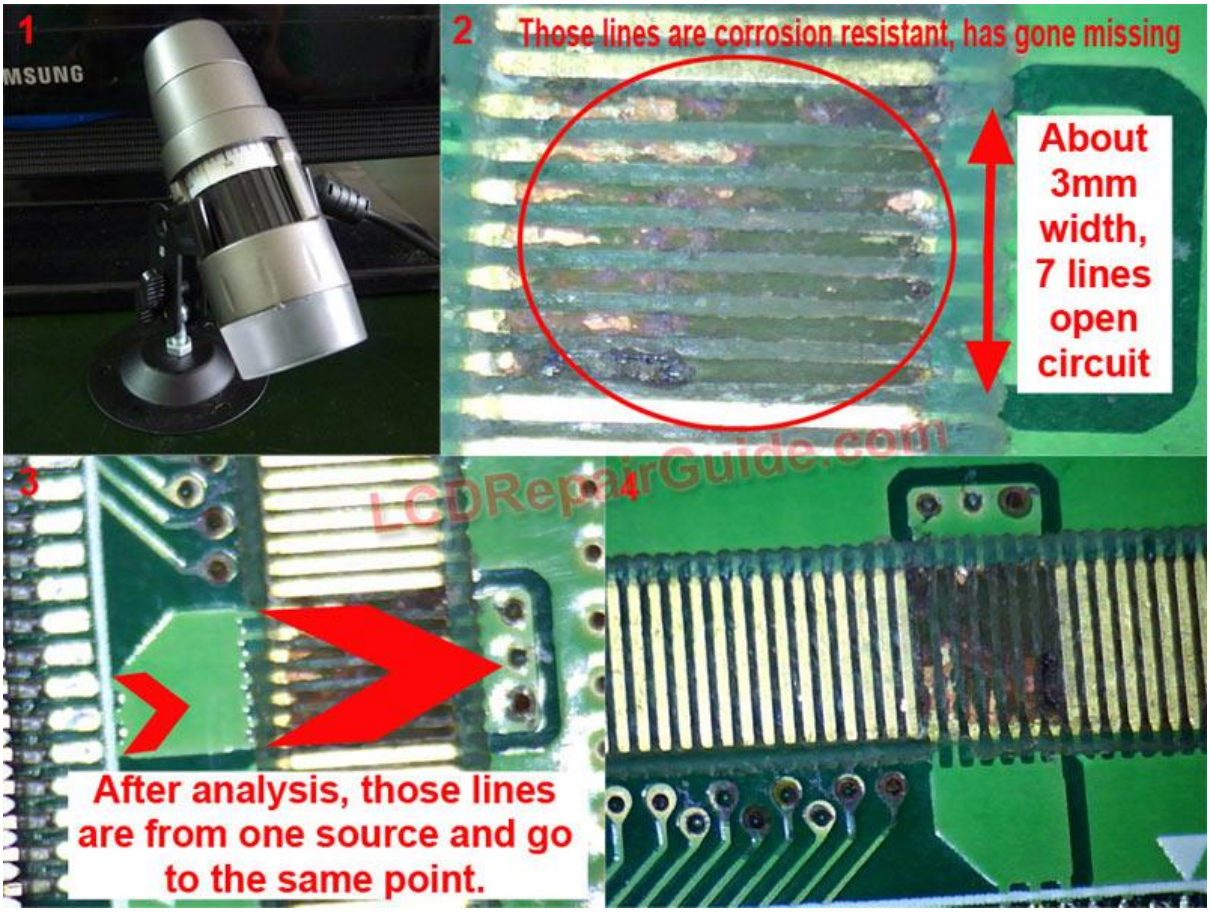


Figure B3.13: 1) USB Digital Microscope, 2) & 4) Those lines missing after corrosion, 3) All lines came from same source to same destination

So this LCD panel can be repaired through modification on the pcb board only. Because this part (Source PCB board) is not selling on the market and the only way you can do is to change a new LCD panel!

Since the area can be modified was about 3mm, so be careful to scratch away the surface layer like Figure B3.14 photo 1. Solder it with an 8mm long iron wire (cut it out from resistor pins) on the pcb board, please refer to Figure B3.14 photo 2.

Make sure solder it properly and check that the pin does not touch with other area, especially the Ground (GND). If you refer to the Figure B3.14 photos 3 & 4, area around the pin are GND. So make sure everything soldered properly.

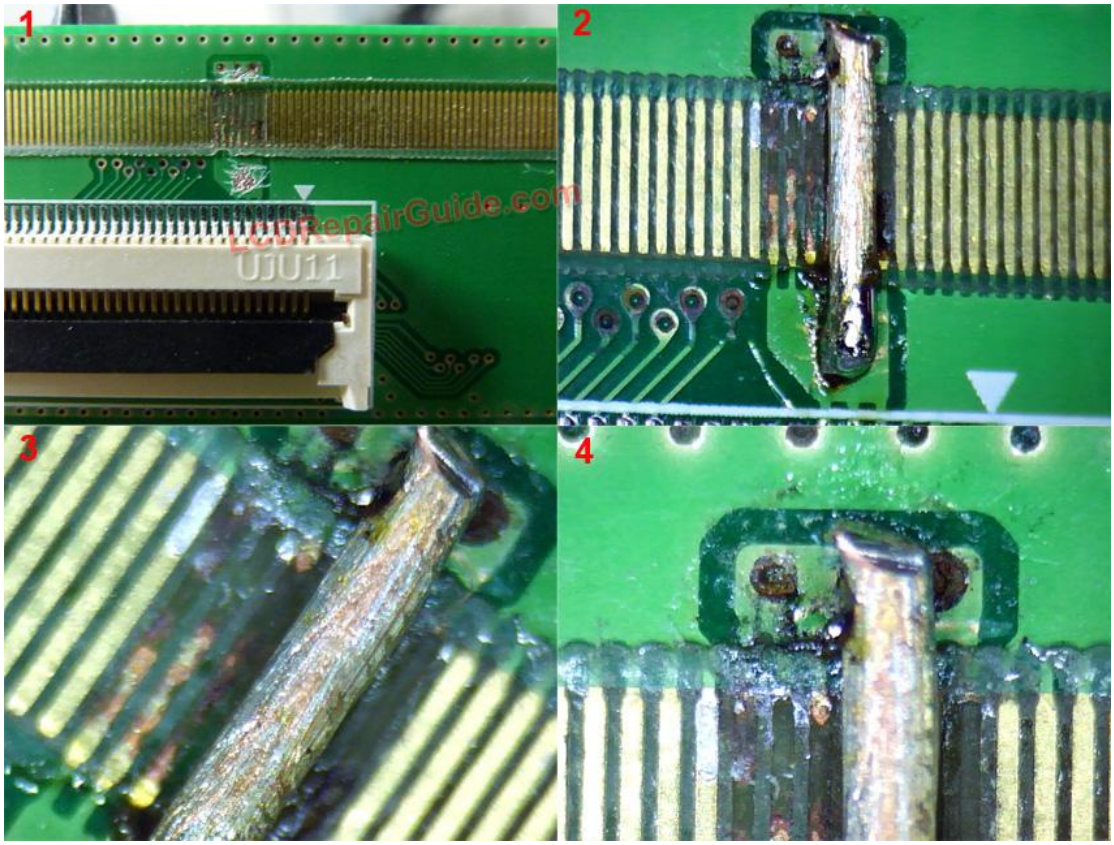


Figure B3.14: How to modify the Source PCB board after corrosion

After modified the pcb board, make sure to recheck before turning On the power. Wow! The display appeared to be good! Please refer to Figure B3.15.

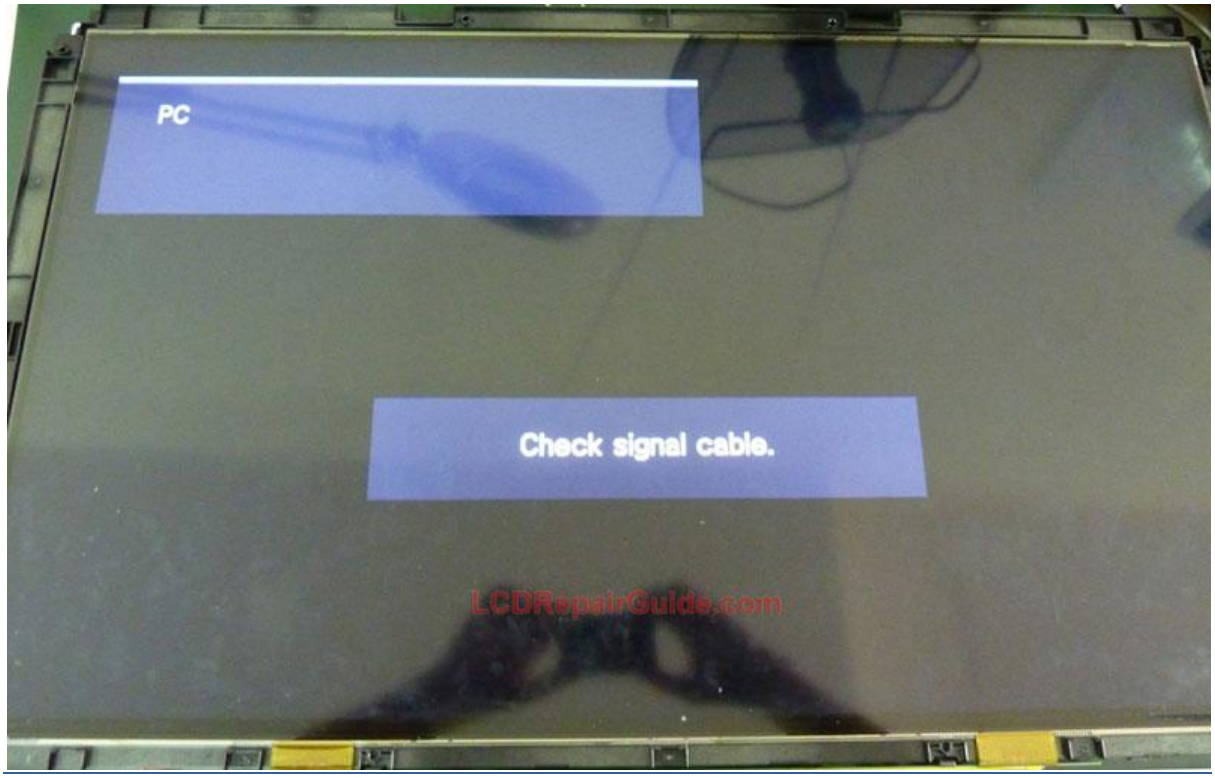


Figure B3.15: After the modification, the LCD panel worked good

Place a cloth tape on the modified pcb surface to avoid any short circuit with metal cover or any conduction material. Refer to Figure B3.16.

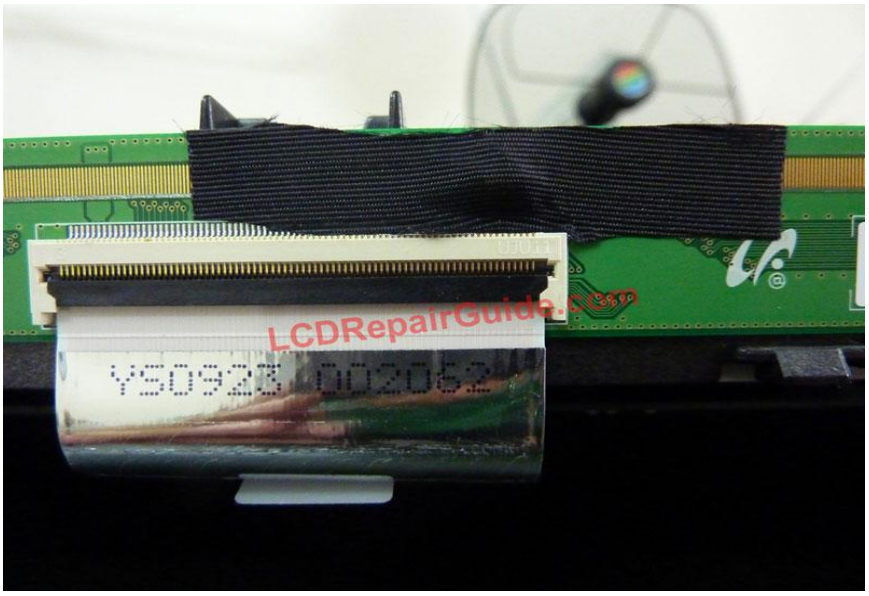


Figure B3.16: Using cloth tape on the modify surface to avoid any short circuit occur.

After repaired, this LCD TV is working fine!

Conclusion: You are learning new thing in this LCD repair article. Not all LCD Panel problems are beyond repair. You must check the LCD panel properly in order to successfully repair it. Good luck & enjoy the repair!

Recommended Other EBooks to Learn LCD TV Repair

The information below will help you learn how to repair your LCD TV successfully. Click the Icon below to visit the website:

"Beginner & Intermediate"

"Intermediate & Advanced"

Enjoy Repair! (^_^)…