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SERVICE MANUAL

LCD Color Television

47L7200U Ver. 1.00

Updating history

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Currently there are no updates available.
Please check back at a later time for any future updates.
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The EC is actively promoting the WEEE & RoHS Directives that define standards for recycling and reuse of Waste Electrical and Electronic Equipment and for the Restriction of the use of certain Hazardous Substances. From July 1, 2006, the RoHS Directive will prohibit any marketing of new products containing the restricted substances.

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Green procurement of parts is not only confined to manufacture. The same green parts used in manufacture must also be used as replacement parts.

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LEAD-FREE SOLDER

This product is manufactured using lead-free solder as a part of a movement within the consumer products industry at large to be environmentally responsible. Lead-free solder must be used in the servicing and repair of this product.

WARNING: This product is manufactured using lead free solder.
DO NOT USE LEAD BASED SOLDER TO REPAIR THIS PRODUCT!

The melting temperature of lead-free solder is higher than that of leaded solder by 86ºF to 104ºF (30ºC to 40ºC). Use of a soldering iron designed for lead-based solders to repair product made with lead-free solder may result in damage to the component and or PCB being soldered. Great care should be made to ensure high-quality soldering when servicing this product especially when soldering large components, through-hole pins, and on PCBs as the level of heat required to melt lead-free solder is high.

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SAFETY INSTRUCTION

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW.

Safety Precaution

WARNING: SERVICING SHOULD NOT BE ATTEMPTED BY ANYONE UNFAMILIAR WITH THE NECESSARY PRECAUTIONS ON THIS RECEIVER. THE FOLLOWING ARE THE NECESSARY PRECAUTIONS TO BE OBSERVED BEFORE SERVICING THIS CHASSIS.

1. An isolation transformer should be connected in the power line between the receiver and the AC line before any service is performed on the receiver.

2. Always disconnect the power plug before any disassembling of the product. It may result in electrical shock.

3. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as nonmetallic control knobs, insulating covers, shields, isolation resistor-capacitor network, etc.

4. Always keep tools, components of the product, etc away from the children, These items may cause injury to children.

5. Depending on the model, use an isolation transformer or wear suitable gloves when servicing with the power on, and disconnect the power plug to avoid electrical shock when replacing parts. In some cases, alternating current is also impressed in the chassis, so electrical shock is possible if the chassis is contacted with the power on.

6. Always use the replacement parts specified for the particular model when making repairs. The parts used in products require special safety characteristics such as inflammability, voltage resistance, etc. therefore, use only replacement parts that have these same characteristics. Use only the specified parts when the ⚠ mark is indicated in the circuit diagram or parts list.

7. Parts mounting and routing dressing of wirings should be the same as that used originally. For safety purposes, insulating materials such as isolation tube or tape are sometimes used and printed circuit boards are sometimes mounted floating. Also make sure that wirings is routed and clamped to avoid parts that generate heat and which use high voltage. Always follow the manufactured wiring routes / dressings.

8. Always ensure that all internal wirings are in accordance before re-assembling the external casing after a repairing completed. Do not allow internal wiring to be pinched by cabinets, panels, etc. Any error in reassembly or wiring can result in electrical leakage, flame, etc., and may be hazardous.

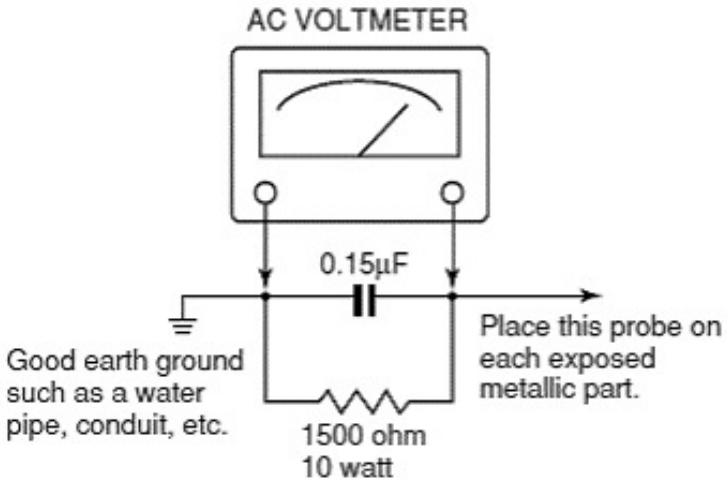
9. NEVER remodel the product in any way. Remodeling can result in improper operation, malfunction, or electrical leakage and flame, which may be hazardous.

10. Always perform an AC leakage current checking on the exposed metallic parts of the cabinet such as antennas, terminals, screw heads, metal overlays, control shafts and etc. to be sure that the set is safe to operate without any dangerous of electrical shocks before returning the set to the customer.

11. The leakage current checking. (After completing the work, measure the leakage current to prevent an electrical shock.)

    - Plug the AC line cord directly into a 120V AC outlet. Do not use an isolation transformer for this check.
    - Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner.

    Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15 µF, AC type capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 ohm resistor and 0.15 µF capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3 volts rms. This corresponds to 0.2 milliamp. AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



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SAFETY INSTRUCTION

Product Safety Notice

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the international hazard symbols on the schematic diagram and the parts list.
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create electrical shock, fire, or other hazards.

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SAFETY INSTRUCTION

Handling the LCD Module

Safety Precaution

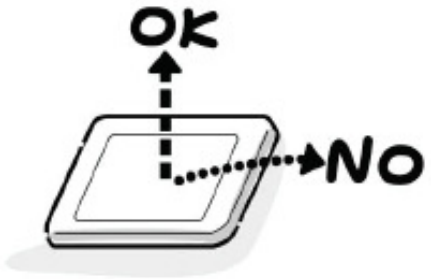
In the event that the screen is damaged or the liquid crystal (fluid) leaks, do not breathe in or drink this fluid.
Also, never touch this fluid. Such actions could cause toxicity or skin irritation. If this fluid should enter the mouth, rinse the mouth thoroughly with water. If the fluid should contact the skin or clothing, wipe off with alcohol, etc., and rinse thoroughly with water. If the fluid should enter the eyes, immediately rinse the eyes thoroughly with running water.

Precautions for Handling the LCD Module

CAUTION: The metal edges of the LCD module are sharp, handle it with care.

The LCD module can easily be damaged during disassembly or reassembly; therefore, always observe the following precautions when handling the module.

1. When attaching the LCD module to the LCD cover, position it appropriately and fasten at the position where the display can be viewed most conveniently.



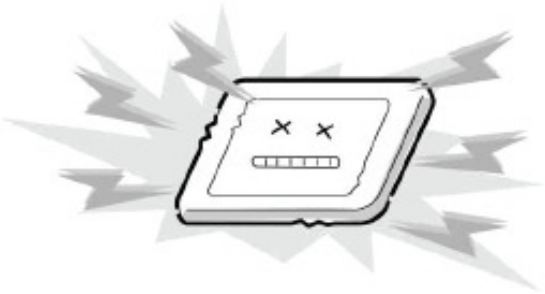
2. Carefully align the holes at all four corners of the LCD module with the corresponding holes in the LCD cover and fasten with screws. Do not strongly push on the module because any impact can adversely affect the performance. Also use caution when handling the polarized screen because it can easily be damaged.

3. If the panel surface becomes soiled, wipe with cotton or a soft cloth. If this does not remove the soiling, breathe on the surface and then wipe again.
   If the panel surface is extremely solied, use a CRT cleaner as a cleaner. Wipe off the panel surface by drop the cleaner on the cloth. Do not drop the cleaner on the panel. Pay attention not to scratch the panel surface.

4. Leaving water or other fluids on the panel screen for an extended period of time can result in discoloration or stripes. Immediately remove any type of fluid from the screen.

5. Glass is used in the panel, so do not drop or strike with hard objects. Such actions can damage the panel.

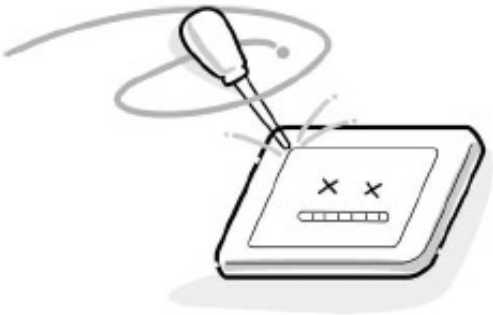
6. CMOS-LSI circuitry is used in the LCD module, so avoid damage due to static electricity. When handling the module, use a wrist ground or anchor ground.



7. Do not expose the LCD module to direct sunlight or strong ultraviolet rays for an extended period of time.

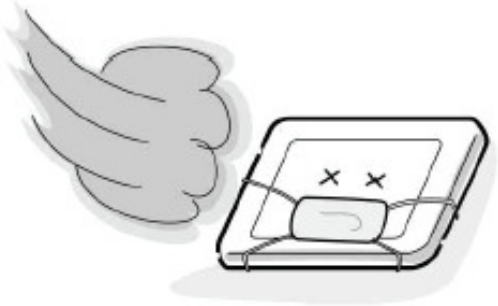
8. Do not store the LCD module below the temperature conditions described in the specifications. Failure to do so could result in freezing of the liquid crystal due to cold air or loss of resilience or other damage.

9. Do not disassemble the LCD module. Such actions could result in improper operation.



10. When transporting the LCD module, do not use packing containing epoxy resin (amine) or silicon resin (alcohol or oxim). The gas generated by these materials can cause loss of

polarity.



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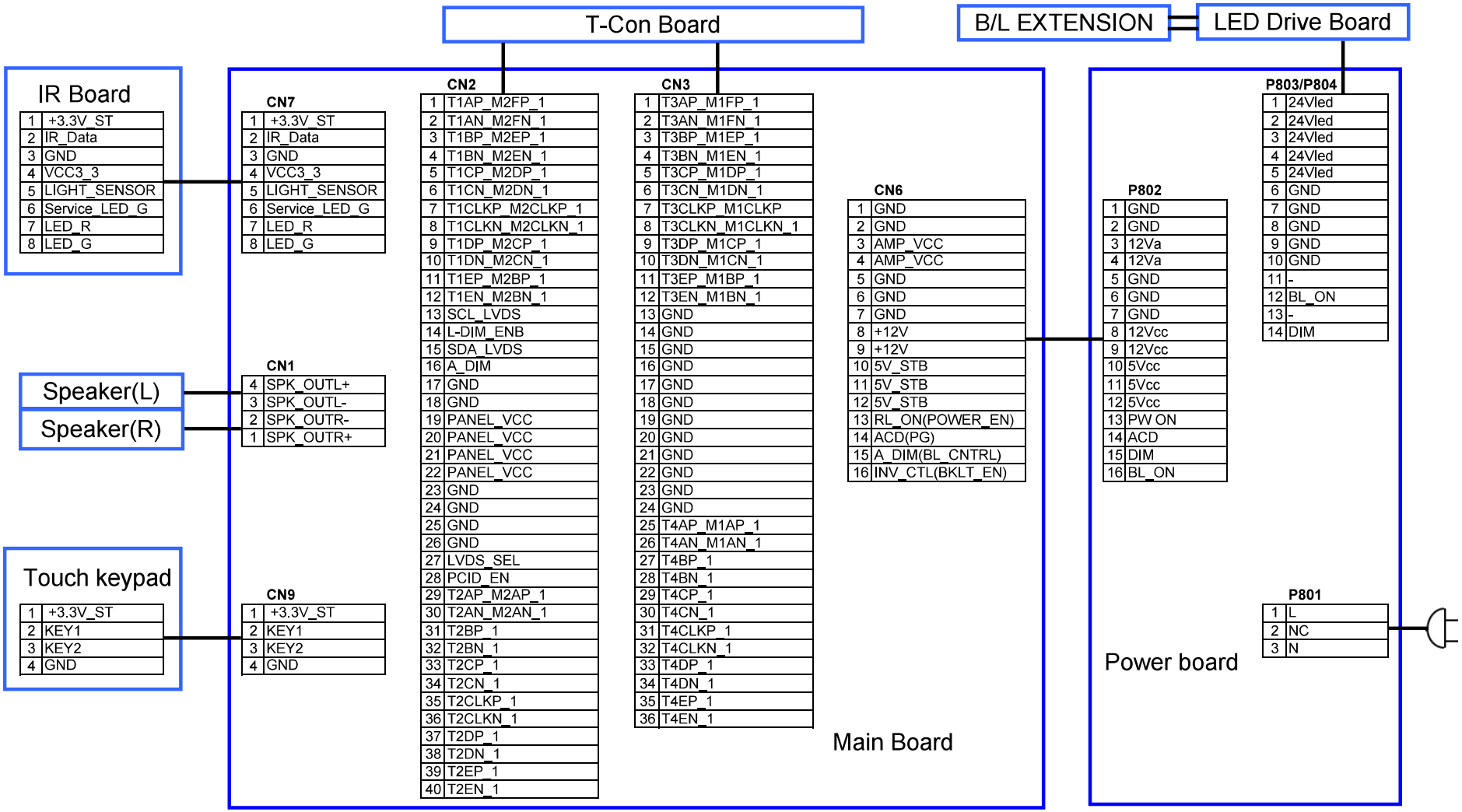
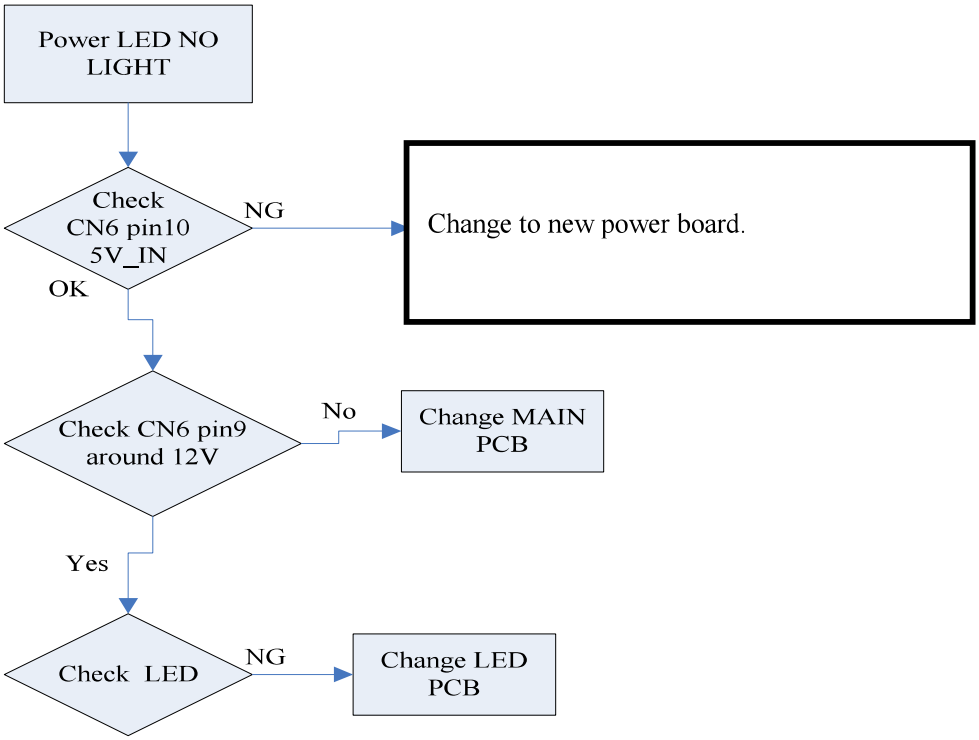
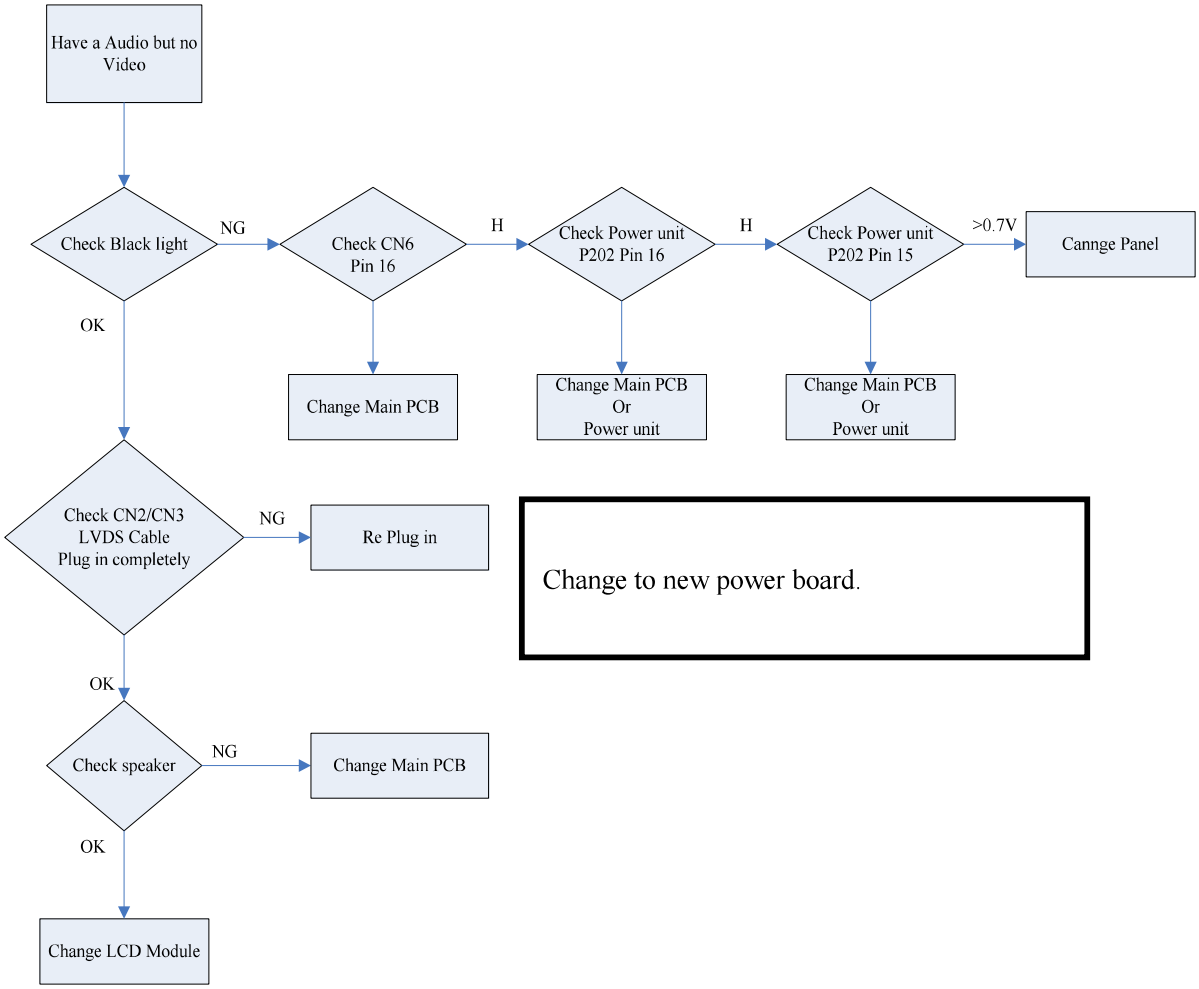
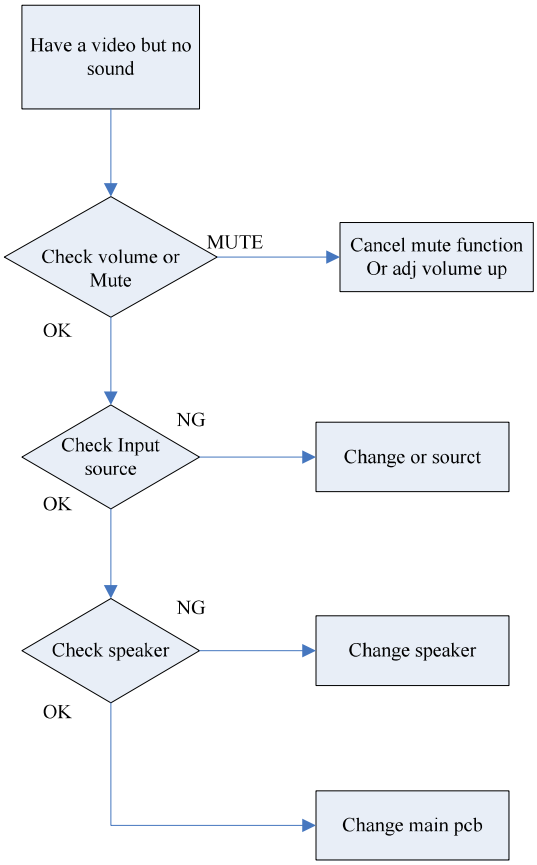

T-Con Board
B/L EXTENSION
LED Drive Board
IR Board
1 +3.3V_ST
2 IR_Data
3 GND
4 VCC3_3
5 LIGHT_SENSOR
6 Service_LED_G
7 LED_R
8 LED_G
CN7
1 +3.3V_ST
2 IR_Data
3 GND
4 VCC3_3
5 LIGHT_SENSOR
6 Service_LED_G
7 LED_R
8 LED_G
CN2
1 T1AP_M2FP_1
2 T1AN_M2FN_1
3 T1BP_M2EP_1
4 T1BN_M2EN_1
5 T1CP_M2DP_1
6 T1CN_M2DN_1
7 T1CLKP_M2CLKP_1
8 T1CLKN_M2CLKN_1
9 T1DP_M2CP_1
10 T1DN_M2CN_1
11 T1EP_M2BP_1
12 T1EN_M2BN_1
13 SCL_LVDS
14 L-DIM_ENB
15 SDA_LVDS
16 A_DIM
17 GND
18 GND
19 PANEL_VCC
20 PANEL_VCC
21 PANEL_VCC
22 PANEL_VCC
23 GND
24 GND
25 GND
26 GND
27 LVDS_SEL
28 PCID_EN
29 T2AP_M2AP_1
30 T2AN_M2AN_1
31 T2BP_1
32 T2BN_1
33 T2CP_1
34 T2CN_1
35 T2CLKP_1
36 T2CLKN_1
37 T2DP_1
38 T2DN_1
39 T2EP_1
40 T2EN_1
CN3
1 T3AP_M1FP_1
2 T3AN_M1FN_1
3 T3BP_M1EP_1
4 T3BN_M1EN_1
5 T3CP_M1DP_1
6 T3CN_M1DN_1
7 T3CLKP_M1CLKP
8 T3CLKN_M1CLKN_1
9 T3DP_M1CP_1
10 T3DN_M1CN_1
11 T3EP_M1BP_1
12 T3EN_M1BN_1
13 GND
14 GND
15 GND
16 GND
17 GND
18 GND
19 GND
20 GND
21 GND
22 GND
23 GND
24 GND
25 T4AP_M1AP_1
26 T4AN_M1AN_1
27 T4BP_1
28 T4BN_1
29 T4CP_1
30 T4CN_1
31 T4CLKP_1
32 T4CLKN_1
33 T4DP_1
34 T4DN_1
35 T4EP_1
36 T4EN_1
CN6
1 GND
2 GND
3 AMP_VCC
4 AMP_VCC
5 GND
6 GND
7 GND
8 +12V
9 +12V
10 5V_STB
11 5V_STB
12 5V_STB
13 RL_ON(POWER_EN)
14 ACD(PG)
15 A_DIM(BL_CNTRL)
16 INV_CTL(BKLT_EN)
Main Board
Speaker(L)
Speaker(R)
CN1
4 SPK_OUTL+
3 SPK_OUTL-
2 SPK_OUTR-
1 SPK_OUTR+
Touch keypad
1 +3.3V_ST
2 KEY1
3 KEY2
4 GND
CN9
1 +3.3V_ST
2 KEY1
3 KEY2
4 GND
P802
1 GND
2 GND
3 12Va
4 12Va
5 GND
6 GND
7 GND
8 12Vcc
9 12Vcc
10 5Vcc
11 5Vcc
12 5Vcc
13 PW ON
14 ACD
15 DIM
16 BL_ON
P803/P804
1 24Vled
2 24Vled
3 24Vled
4 24Vled
5 24Vled
6 GND
7 GND
8 GND
9 GND
10 GND
11 -
12 BL_ON
13 -
14 DIM
P801
1 L
2 NC
3 N
Power board

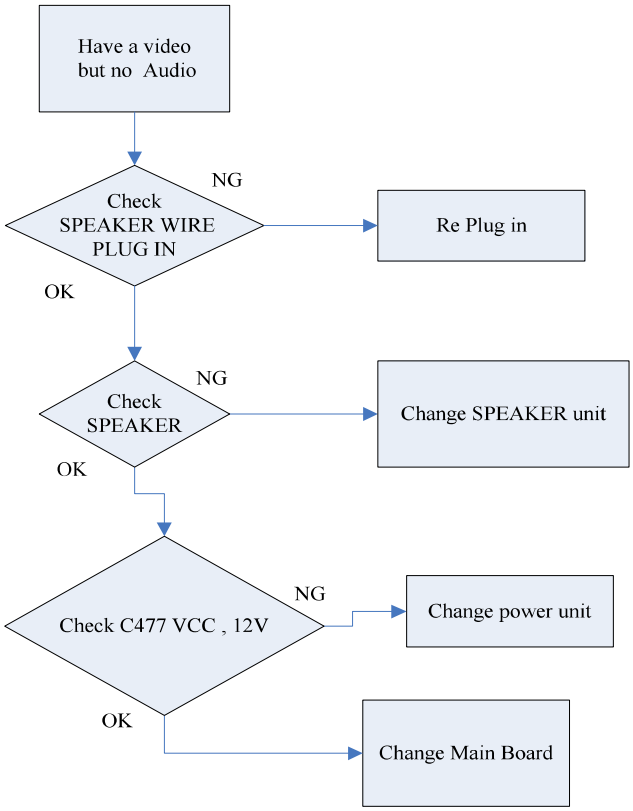
Troubleshooting

The flow chart shown below will help you to troubleshoot your Televison set with it doesn't display normally. Each procedure offers a simple way to check for system errors. Before starting, ensure that there is a signal in and that the Televison is turned on.




Have a Audio but no Video
Check Black light
NG
Check CN6 Pin 16
H
Check Power unit P202 Pin 16
H
Check Power unit P202 Pin 15
>0.7V
Cannge Panel
OK
Change Main PCB
Change Main PCB Or Power unit
Change Main PCB Or Power unit
Check CN2/CN3 LVDS Cable Plug in completely
NG
Re Plug in
Change to new power board.
OK
Check speaker
NG
Change Main PCB
OK
Change LCD Module


Have a video but no sound
Check volume or Mute
MUTE
Cancel mute function Or adj volume up
OK
Check Input source
NG
Change or sourct
OK
Check speaker
NG
Change speaker
OK
Change main pcb


Have a video but no Audio
Check SPEAKER WIRE PLUG IN
NG
Re Plug in
OK
Check SPEAKER
NG
Change SPEAKER unit
OK
Check C477 VCC , 12V
NG
Change power unit
OK
Change Main Board

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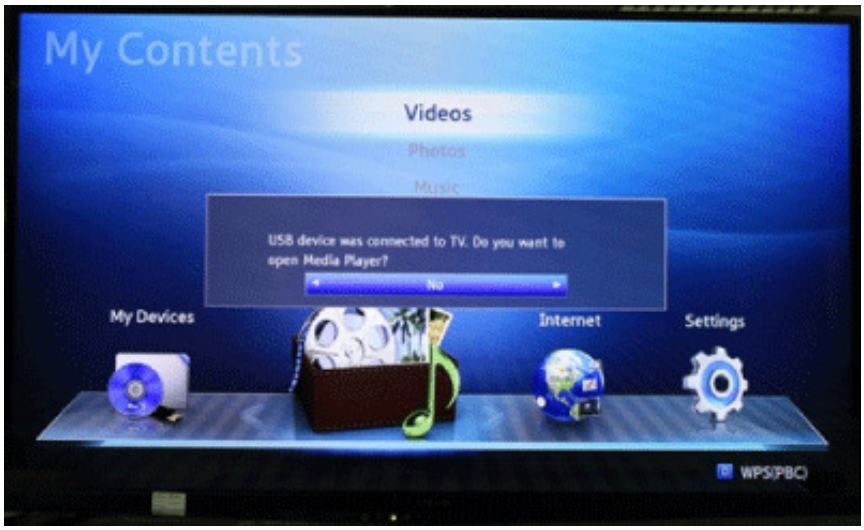
FIRMWARE UPDATING

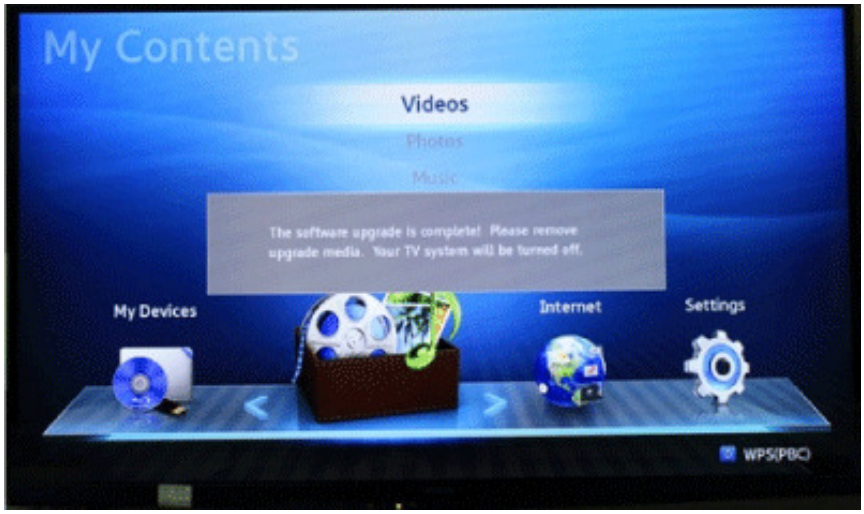
Please make sure the file name of firmware is same as your device.

1. Put "L7200_x.x.x.x.img" and "L7200_Meta.xml" files into USB stick.
2. Insert USB to **USB port2** on device.
3. Power on device.



4. Press "Red" button on Remote after system booted up.
5. Screen will display a confirm dialog for software update.

6. Follow the steps and starting update firmware.



7. After update finished, device will automatically reboot.

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PRECAUTION FOR LCD PANEL EXCHANGE

1. LCD Panel is not strong for the thin and complicated structure.
   When exchanging the LCD Panel, treat carefully.
2. When exchanging the LCD Panel, need to patch the cushion tape onto LCD Panel, Chassis, or Frame.
   For the detail, refer to "Instruction of Taping".

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INSTRUCTION OF TAPING

(COUNTERMEASURE FOR VIBRATION)

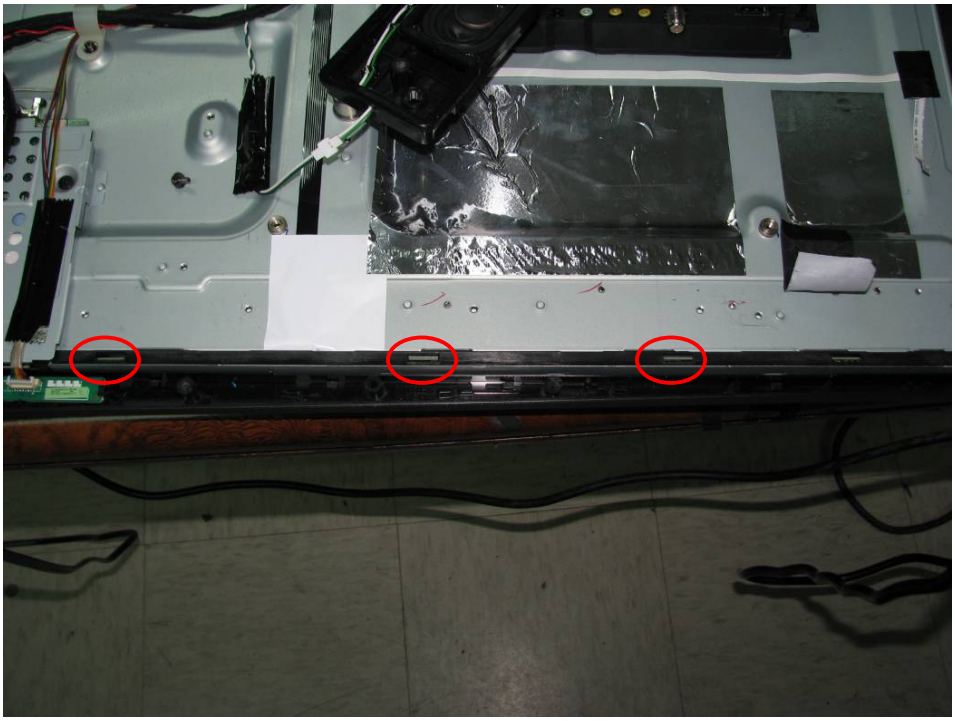
Tape Kit Part # 75031759

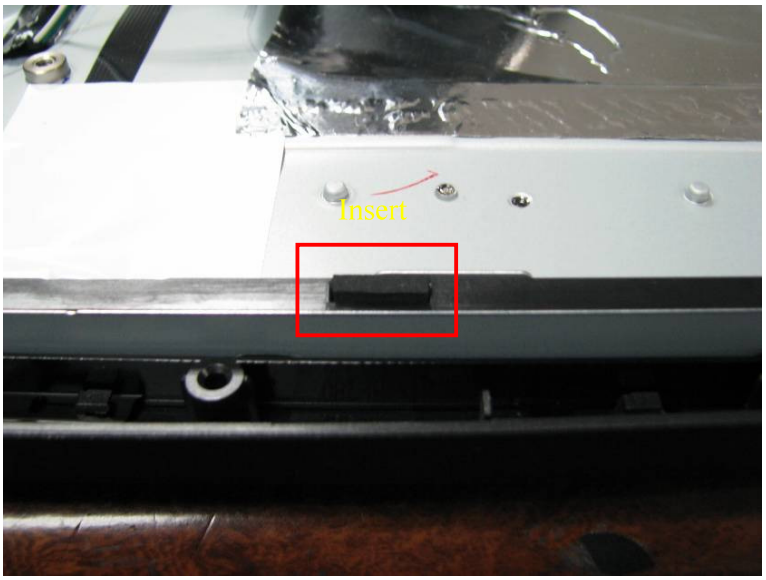
Model : 47L7200U, 47L7200UC

Toshiba Corp.
Digital Products & Service Company
Global Service Parts Dept.
Service Parts Planning Group

Date prepared: 2012/5/23

1. **Add sponge on fixed panel board (as shown below).**
   13mm x 3.5mm x 4T x 6PCS
   Do the same for Left & Right sides.

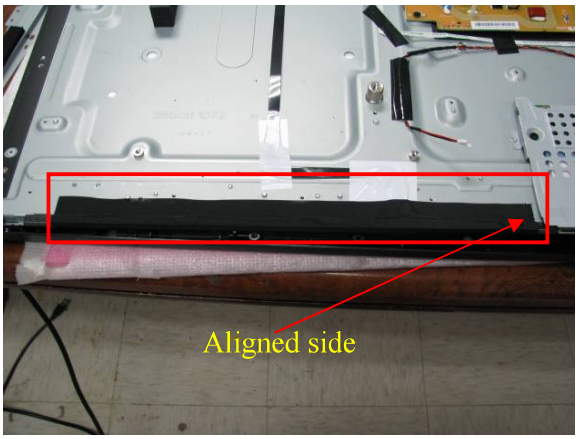


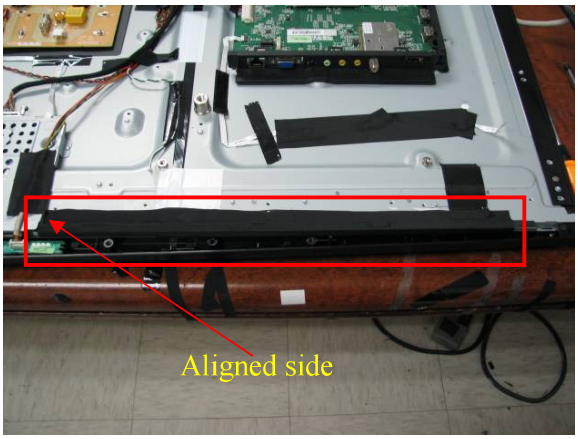


2. Add acetic acid tape at the bottom of the panel.

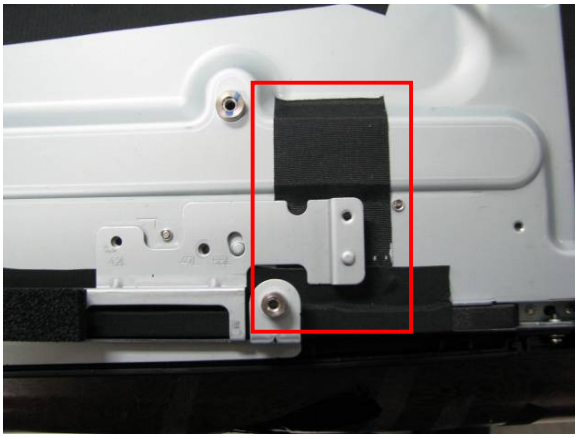
A. 380mm x 30mm x 0.25T x 2PCS

Do the same for Left & Right sides.





B. 60mm x 30mm x 0.25T x 1Piece



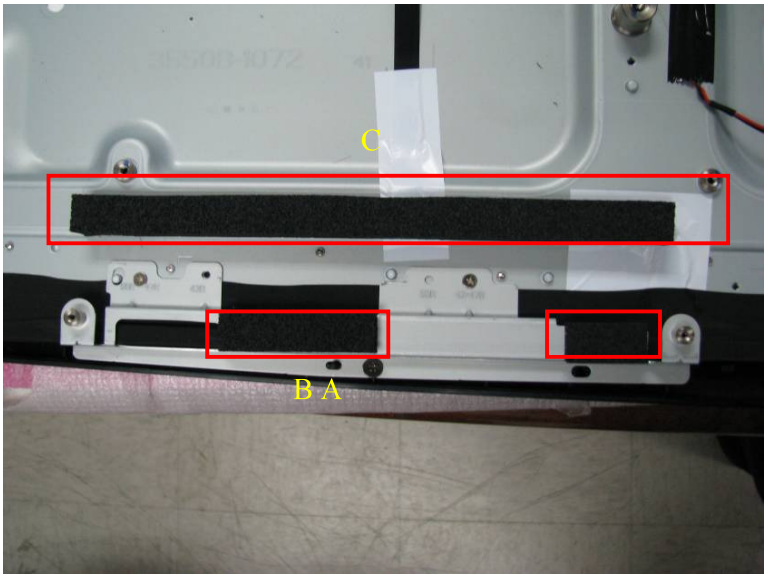
3. Add tape on the bottom side of panel.

A. 30mm x 15mm x 6T x 2PCS

B.60mm x 15mm x 6T x 2PCS

C.230mm x 15mm x 13T x 2PCS

Do the same for Left & Right sides.

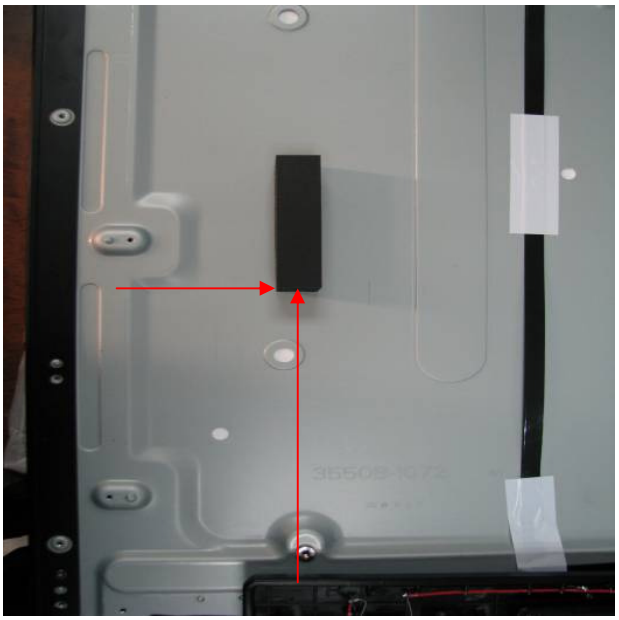


4. Add tape on back cover where the speakers are located.

A.85mm x 35mm x 2.5T x 2PCS

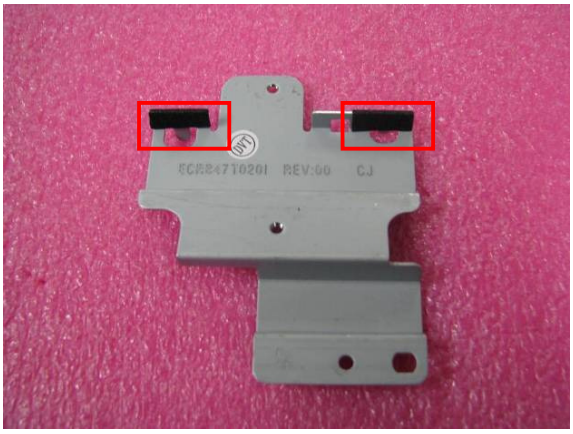
Do the same for Left & Right sides.

5. Add sponge to the back of the panel (left side).
80mm x 20mm x 12T x 2PCS (stacked together)

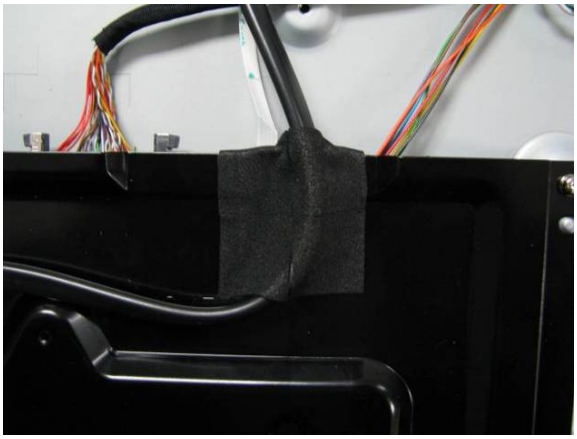


6. Add sponge on the bottom of the black metal bracket.
22mm x 22mm x 0.5T x 2PCS

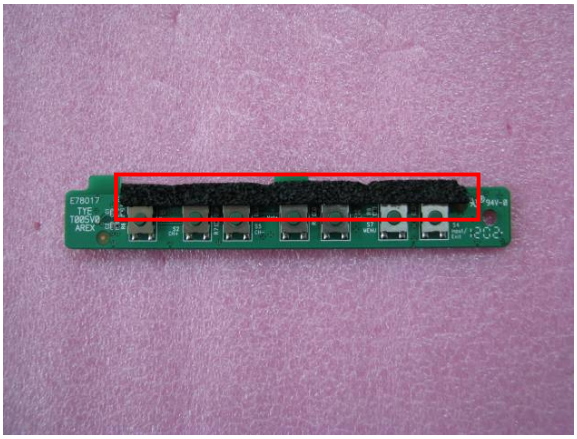
7. Add sponge on metal keyboard plate (as shown below).
10mm x 10mm x 0.5T x 2PCS



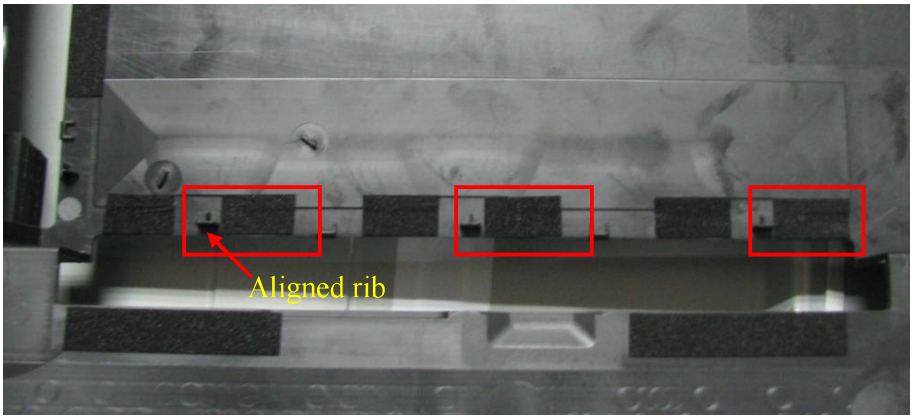
8. Add tape over power cord located on the metal bracket, tape must fold over the top edge of the metal bracket.
50mm x 50mm x 1T x 1Piece



9. Add sponge on top edge of keyboard edge, along top of buttons.
80mm x 3mm x 2.5T x 1Piece

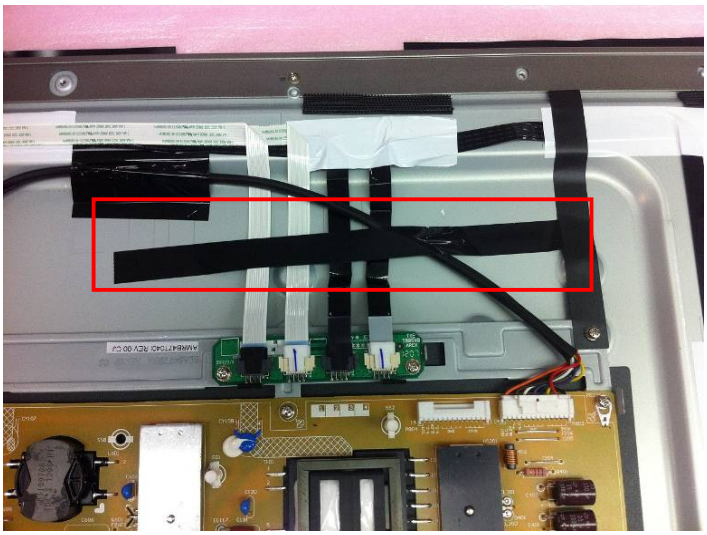


10. **Add sponge on back cover where the bottom inputs are located (as shown below).**
    20mm x 10mm x 0.5T x 3PCS



11. **Add sponge on bottom side of I/O plastic cover (side making contact with the back of the display panel).**
    65mm x 10mm x 2T x 2PCS

12. Add mylar tape in the position shown below.



No specified material or size.
Use the appropriate tape.

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PARTS LIST

Precaution

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE".

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list.

The mounting position of replacements is to be identical with originals.
Before replacing any of these components, read carefully the "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE".

Do not degrade the safety of the receiver through improper servicing.

Note:

- The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.
- The PC board assembly with * mark is no longer available after the end of the production.

Abbreviations

Capacitors	CD	:	Ceramic Disk
Resistors	CF	:	Carbon film
	OMF	:	Oxide Metal Film
	PF	:	Plastic Film
	CC	:	Carbon Composition
	VR	:	Variable Resistor
	EL	:	Electrolytic
	MF	:	Metal Film
	FR	:	Fusible Resistor

All CD and PF capacitors are ±5 %, 50 V and all resistor, ±5 %, 1/6 W unless otherwise noted.

TOSHIBA WEB-ZEUS

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PARTS LIST

Updating history

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Currently there are no updates available.
Please check back at a later time for any future updates.
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	Location	Parts No.	Description
	E200	75030660	PC BOAD ASSY MAIN, 461C5151L31
⚠	E250	75029244	POWER MODULE, 50L5200U, PK101V2720I
	E260	75030617	PC BOAD ASSY IR/B, 454C3H51L01
	E262	75030618	TOUCH KEY , 454C3K51L01
	E264	75030619	WIRELESS LAN MODULE, PK29820010I
	E266	75030661	PC BOAD ASSY, B/L EXTENSION , 455C3051L01
	E272	75030662	H-CON SET, MB-SPK, DC02V03640I
	E274	75030663	H-CON SET, MB-POW, DC02P01650I
	E276	75030664	H-CON SET, INV-POW, DC02P01200I
	E278	75030665	H-CON SET, MB-IR, DC02V03630I
⚠	E300	75029439	LCD PANEL, LC470EUH-PEF1
	E300X	75030890	L-CON, LC470EUH-PEF1, PK345G0000I
	E300Z	75030412	PRINT CIRCUIT BOARD(T-CON), 6871L-2754C
	E310	75030666	H-CON SET, MB-LVDS, DC02L00170I
	E312	75030667	H-CON SET, MB-LVDS, DC02L00180I
⚠	E320	75030668	POWER CORD, GA05001200I
	E322	75030643	CLIP CORE, DC15200140I
	E330	75028911	SPEAKER, 40L5200U, PK23010010I
	E332	75028910	SPEAKER, 40L5200U, PK23010000I
	E400	75030669	REMOCON HAND UNIT CT-90395, PK11V01650I
	E470	75030854	LENS, FPT-P100, DC57C00010I
	E472	75030852	WIRELESS KEYBOAD, PK13RB4700I
	E480	75030627	CABLE, PIN JACK, COMPONENT, DC19AR0020I
	E482	75030628	CABLE, PIN JACK, COMPOSITE, DC19AR0010I
	E484	75030629	CABLE, CONTROLER, DC19AK0000I
	E102	75030891	PIECE, CORNER TOP, FARB55T051I
	E104	75030892	PIECE, CAP BOTTOM LEFT, FARB47T041I
	E106	75030893	PIECE, CAP BOTTOM RIGHT, FARB47T031I
	E108	75030894	PIECE ASSY, BOTTOM, APRB47T021I
	E110	75030886	BACK COVER ASSY, APRB47T010I

	E120	75030888	BASE ASSY, SW, STAND, APRB47T050I
	E125	75030612	SCREW FOR STAND (BRACKET-BASE), MAAP40001ZI
	E126	75030613	SCREW FOR STAND(BRACKET-TV), MAAP50004ZI
	E130	75030614	KEY PLATE ASSY, APRB55T020I
	E140	75030849	I/O PLATE, BOTTOM, FARB55T060I
	E142	75030850	I/O PLATE, SIDE, APRB55T030I
	E500	75030670	CARTON BOX, 47L7200U, HB4RB47001I
	E510	75030671	EPS TOP, FJRB47T010I
	E511	75030672	EPS BOTTOM, FJRB47T020I
	E512	75030673	EPS BOARD, FJRB47T030I
	E190	75031759	PANEL TAPE KIT

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