

2006 LCD Models – North America
FLM-4034B, FLM-4232HM, FLM-4234BH



SERVICE MANUAL



Bezel covers vary by model
20070415

Important Service and Safety Information



WARNING



CAUTION

Prior to using this service manual, please ensure that you have carefully followed all the procedures outlined in the user's manual for this product.

- (1) Read all of these instructions.
- (2) Save these instructions.
- (3) Follow all warnings and instructions marked on the product.
- (4) Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners; use a damp cloth for cleaning.
- (5) Do not use this product near water.
- (6) Do not place this product on an unstable cart, stand or table. The product may fall, causing serious damage to the product.
- (7) Slots and openings in the cabinet and the back or bottom are provided for ventilation, to ensure reliable operation of the product and to protect it from overheating, those openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation unless proper ventilation is provided.
- (8) This product should be operated from the type of power source indicated on the marketing label. If you are not sure of the type of power available, consult your dealer or local power company.
- (9) This product is equipped with a 3-wire grounding type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature, if you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not ignore the purpose of the grounding-type plug.
- (10) Do not allow anything to rest on the power cord. Do not locate this product where people will walk on the cord.
- (11) If an extension cord is used with this product, make sure that the total of the ampere ratings on the product plugged into the extension cord does not exceed 15 ampere.
- (12) Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on the product.
- (13) Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to service personnel.
- (14) Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power cord or plug is damaged or frayed.
 - b. If liquid has been spilled into the product.
 - c. If the product has been exposed to rain or water.
 - d. If the product does not operate normally, when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
 - e. If the product has been dropped or the cabinet has been damaged.
 - f. If the product exhibits a distinct change in performance, indicating a need for service.

Important Service and Safety Information

Service work should be performed only by qualified service technicians familiar with all safety checks and these service guidelines:

ELECTRIC SHOCK HAZARD



WARNING

Always disconnect AC power before servicing!
Never modify any circuit!
Never insert any objects into the holes in the TV case!

ELECTROSTATIC DISCHARGE (ESD)

Components inside an LCD or plasma TV are sensitive to static electricity. Before servicing the TV, follow these guidelines:

- Avoid static-causing surfaces such as carpeted floors, plastic, and packing foam.
- Remove replacement components from their antistatic bags only when you are ready to use them. Do not lay components on the outside of antistatic bags because only the inside of the bags provide electrostatic protection.
- Always hold components by their edges. Avoid touching the edge connectors. Never slide components over any surface.
- Wear a grounding wrist strap (available at most electronics stores) and attach it to a bare metal part of your workbench or other grounded connection.
- Touch a bare metal surface on your workbench or other grounded object before touching any components.

NOTICE ABOUT REPLACEMENT PARTS



CAUTION

Many electrical and mechanical parts within LCD or plasma televisions are chosen for their specific safety characteristics within the overall system. Replacing individual parts with components rated for higher voltage or wattage can be dangerous!

Replacement parts must always be identical to those originally used in the television. Unauthorized substitute parts may result in fire, electric shock, or other hazards.

Important Service and Safety Information

PRECAUTIONS FOR USING LEAD-FREE SOLDER

Components within this television use lead-free solder (Sn-Ag-Cu). Whenever soldering, look at the markings on boards and components within the television to determine the correct solder type according to the table below.

5 LEAD-FREE (Pb-Free) CATEGORIES

The following categories are meant to describe the Pb-free 2nd level interconnect terminal finish, component material, and/or the solder paste/solder used in board assembly:

- e1 - SnAgCu (shall not be included in category e2)
- e2 - Sn alloys with no Bi or Zn excluding SnAgCu
- e3 - Sn
- e4 - Precious metal (e.g., Ag, Au, NiPd, NiPdAu) (no Sn)
- e5 - SnZn, SnZnx (no Bi)
- e6 - contains Bi
- e7 - low temperature solder (≤ 150 °C) containing Indium (no Bi)
- e0, e8, e9 symbols are unassigned at this time.

When repairing components soldered with lead-free solder, ONLY use lead-free solder that matches the symbol on the component. Using conventional lead solder may lead to damage or a short, which could result in fire, electric shock, or other hazards.

Because the melting point of lead-free solder is higher than conventional lead solder, observe the following guidelines when soldering with lead-free solder:

- (1) Always use a dedicated soldering bit for different types of solder. If a different type of solder comes in contact with a lead-free solder bit, subsequent solder joints will no longer be lead free. Always clean the soldering bit after every use.
- (2) Keep the soldering bit in contact with the just long enough to confirm a good solder joint. Leaving the bit in contact with parts for an extended period may damage the components.
- (3) Because lead-free solder contains a higher concentration of tin, the tip of the soldering bit may be easily corroded or damaged. Do not leave the bit powered on for extended periods. When the tip of the soldering bit is blackened during use, clean the bit with steel wool or fine sandpaper.

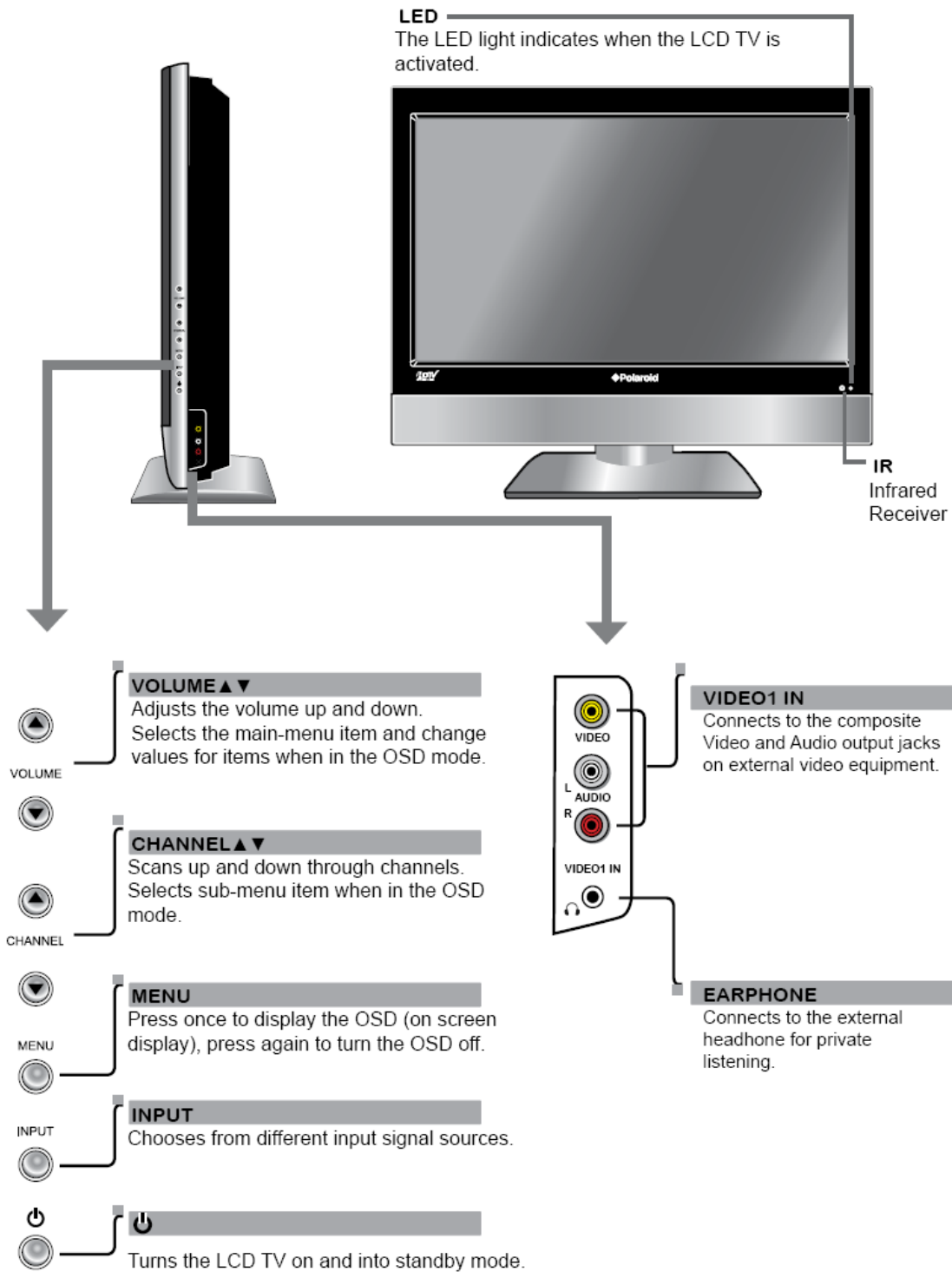
Table of Contents

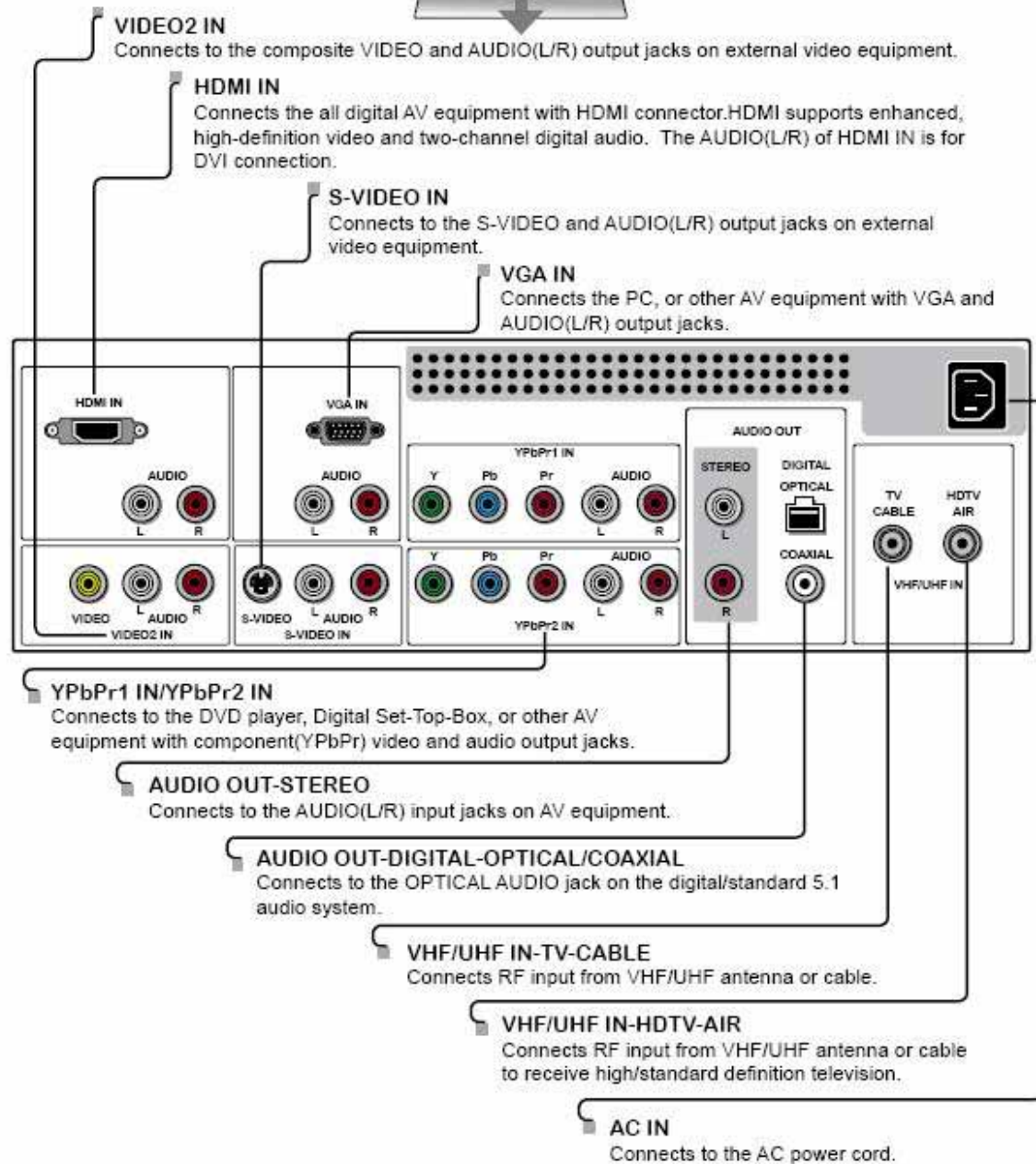
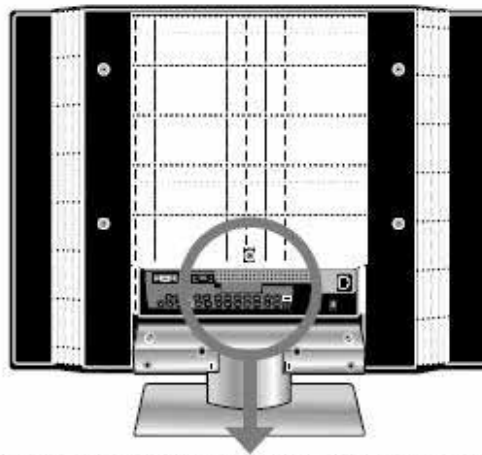
1.	Operation	6
2.	Troubleshooting / Flow Charts	14
3.	Polaroid Display Cell Defect Specification	18
4.	Before Returning This Product to the User	19
5.	Disassembly Procedure.....	20
	Stand and Control Box Removal – All Models	21
	Rear Cabinet Cover, LCD Panel and Front Bezel – FLM-4034B.....	23
	Rear Cabinet Cover, LCD Panel and Front Bezel – FLM-4232HM, FLM4234BH	27
	A/V Board Removal and Replacement	32
	IR Board Removal and Replacement	33
	Front/Side Control Buttons Removal and Replacement	34
6.	Spare Parts Lists	35
7.	Exploded View Diagram.....	38
8.	Block Diagram	39
9.	Schematics	41
10.	PCB Layout Diagrams.....	51

Model Specifications are located in User Manual. Go to polaroid.com to obtain User Manual.

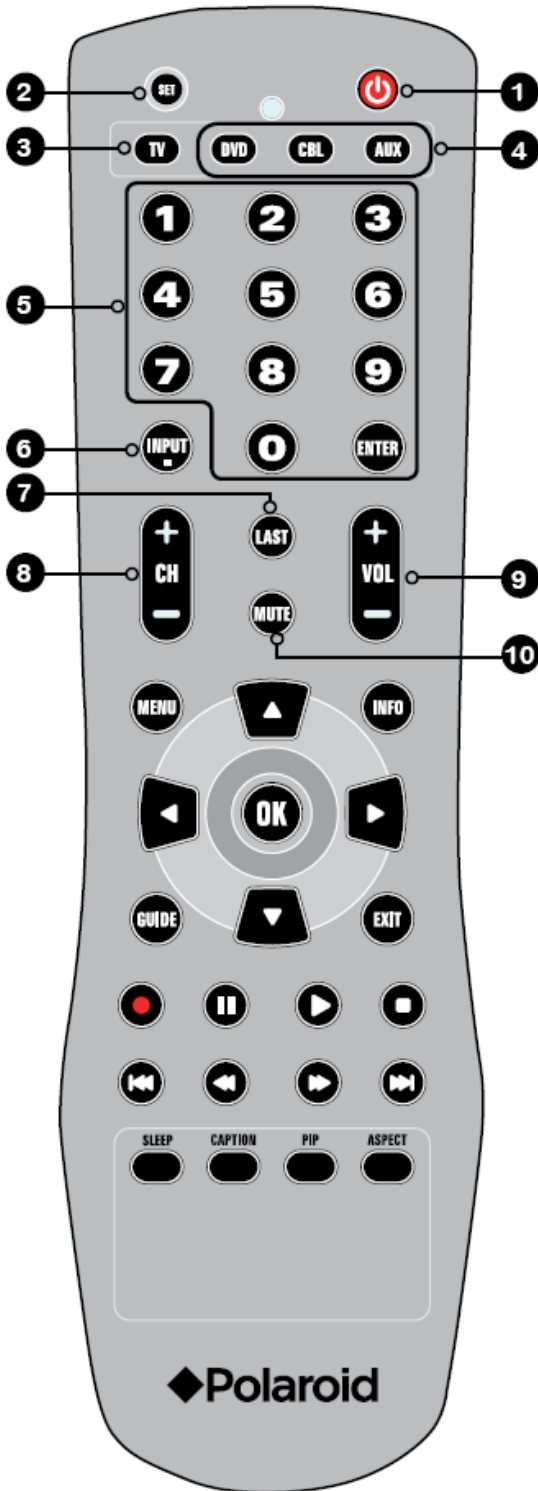
1. Operation


Front/Right Side View and Controls





Original Remote Control



- 1**  Turns the LCD TV on and off.

- 2** **SET** Remote control universal code setup. For more information on setting up your remote control, please see the "Programming Your Remote Control" section.

- 3** **TV** Controls this LCD TV.

- 4** **DVD** Controls DVD player or Video player.

- CBL** Controls Cable Converter or Satellite Receiver.

- AUX** Controls Audio Amplifier

- 5** **0-9/ENTER** Pressing a number selects a channel. Following selection, pressing ENTER activates the channel, or channel activates automatically in 3 seconds.

- 6** **INPUT** Pressing INPUT to display a source list, use **▲▼** buttons to select the video equipment connected to the video inputs of your LCD TV: TV/HDTV/VIDEO1/VIDEO2/VIDEO3/VIDEO4/VIDEO5/VIDEO6/COMPUTER.

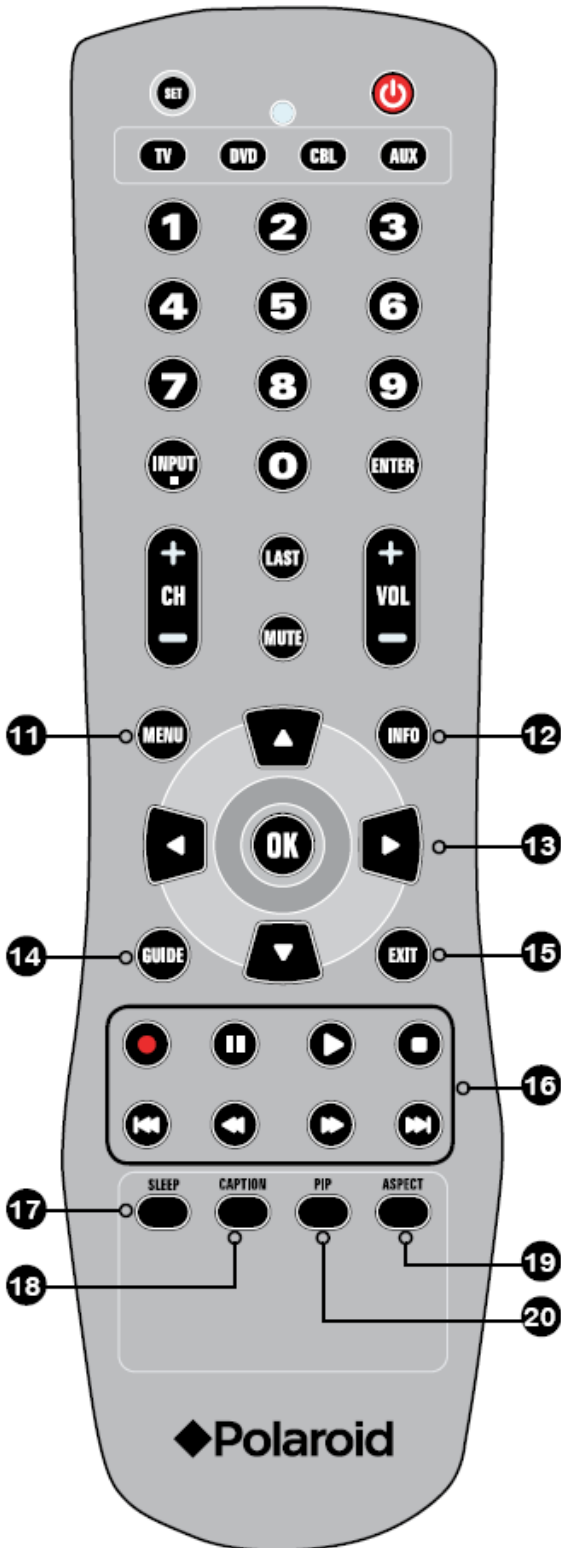
 - In HDTV mode, use with 0-9 and ENTER buttons to select a digital channels.

- 7** **LAST** Returns to previously selected channel.

- 8** **CH+/-** Change channel up and down.

- 9** **VOL+/-** Increases and decreases volume.

- 10** **MUTE** Pressing once mutes audio. Pressing again restores audio.



- 11 MENU** Displays the OSD menu on the screen.

- 12 INFO** Pressing once displays a variety of information such as the current channel and the input source.

- 13 ▲▼▶◀,OK** Cycles through OSD options and selects individual menu items. OK confirms option settings.

- OK** In HDTV mode, pressing OK to display a digital channel list.

- 14 GUIDE** In HDTV mode, pressing GUIDE displays the Program Guide on the screen.

- 15 EXIT** Exits the OSD menu.

- 16 ● || ▶ ■** Other device function keys
◀◀ ◀ ▶▶ ▶▶

- 17 SLEEP** Cycles through the LCD TV sleep time: OFF/30/60/90/120 mins.

- 18 CAPTION** Cycles through the Closed Caption: OFF/CC1/CC2/CC3/CC4/TT1/TT2/TT3/TT4.

- 19 ASPECT** Cycles through Wide mode settings: NORMAL/FULL/WIDE/ZOOM.

- 20 PIP** Turns PIP/POP on and off.

New Remote Control



- | | |
|------------------|--|
| 1 | Turns the LCD TV on and off. |
| 2 SET | Remote control universal code setup. For more information on setting up your remote control, please see the "Programming Your Remote Control" section. |
| 3 TV | Controls this LCD TV. |
| 4 CBL | Controls Cable Converter or Satellite Receiver. |
| DVD | Controls DVD player or Video player. |
| AUX | Controls Audio Amplifier. |
| 5 SLEEP | Cycles through the LCD TV sleep time: OFF/30/60/90/120 mins. |
| 6 | Other device function keys |
| 7 VOL+/- | Increases and decreases volume. |
| 8 CH+/- | Change channel up and down. |
| 9 MUTE | Pressing once mutes audio. Pressing again restores audio. |
| 10 ASPECT | Cycles through Wide mode settings: NORMAL/FULL/WIDE/ZOOM. |
| 11 LAST | Returns to previously selected channel. |
| 12 GUIDE | In HDTV mode, pressing GUIDE displays the Program Guide on the screen. |
| 13 PIP | Turns PIP/POP on and off. |



- 14** MENU Displays the OSD menu on the screen.

- 15** ▲▼▶◀,OK Cycles through OSD options and selects individual menu items. OK confirms option settings.
- OK In HDTV mode, pressing OK to display a digital channel list.

- 16** CAPTION Cycles through the Closed Caption: OFF/CC1/CC2/CC3/CC4/TT1/TT2/TT3/TT4.

- 17** INFO Pressing once displays a variety of information such as the current channel and the input source.

- 18** EXIT Exits the OSD menu.

- 19** 0-9/ENTER Pressing a number selects a channel. Following selection, pressing ENTER activates the channel, or channel activates automatically in 3 seconds.

- 20** INPUT Pressing INPUT to display a source list, use ▲▼ buttons to select the video equipment connected to the video inputs of your LCD TV: TV/HDTV/VIDEO1/VIDEO2/VIDEO3/VIDEO4/VIDEO5/VIDEO6/COMPUTER.

- In HDTV mode, use with 0-9 and ENTER buttons to select a digital channels.

Polaroid

The operation of each OSD control is described in the following table:

Menu	Options	Sub-Options	Function and Description
VIDEO	Picture Mode	Vivid →Hi-Bright →Cinema →Sport→User.	Press repeatedly for different picture modes: Vivid →Hi-Bright →Cinema→Sport →User.
	Contrast	0...100 (75)	Fine tune the contrast.
	Brightness	0...100 (50)	Fine tune the brightness.
	Saturation	0...100 (50)	Fine tune the contrast.
	Hue	-30...+30 (0)	Fine tune the contrast.
	Sharpness	0...7 (4)	Fine tune the contrast.
	Color Temperature	Cool Nature Warm User	Set the color temperature type. Red/Green/Blue: -19...+19
AUDIO	Bass	0...100 (50)	Fine tune the bass value.
	Treble	0...100 (50)	Fine tune the treble value.
	Balance	-20...+20 (0)	Fine tune the balance value.
	Effect	Live	Select the preset effect mode to match your music type and achieve stunning effects.
		Dance	
		Techno	
		Classic	
		Soft	
		Rock	
POP			
Off	Close this function.		
MTS	Mono	Set the sound type, which is only available when input source is TV.	
	Stereo		
	Sap		
TV	Auto Search	Auto search channels.	Auto-search channels and put the programs into memory.
	Tuner Mode	Cable-STD / Cable-HRC / Cable-IRC	Select the tuner mode.
		Air	
	Channel Skip	Set the channel that you want to skip.	If a channel is set to SKIP, when scanning up/down channels the selected channel will be skipped.
Channel Name	Edit the channel name.	It will be invalid if the current input source is not TV.	
SETUP	Language	English/ Spanish/French	Set language.
	Timer	Time	Input current time
		Start Time	Input the TV start playing time.
		Stop Time	Input the TV stop playing time.
		Channel	Input the channel No. for desired TV program.
		Activate	On/Off/Once
		Display	On/Off Set the timer alarm on/off.
	Auto Sleep	30,60,90,120 Min	Preset the auto sleep time. The TV will automatically go into standby state when the preset time is up.
Off		Set auto sleep function off.	

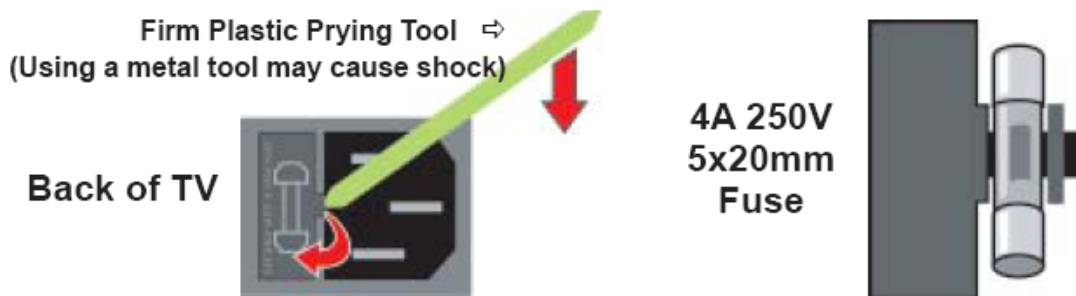
	Closed Caption	C1,C2,C3,C4,T1,T2, TT4,and Off	Set the closed caption mode.
	V-chip	Input Password	Input the 4-digit password. "0000"
		Block MPAA Rating	Set the input source that you want to lock.
		Block TV Rating	Input the old password first, and then input the new password.
		Block MPAA Unrated	Block all unrated movies.
		Block TV None Rating	Block all unrated TV programs.
Reset	Reset to default value.	Reset the items in the setup menu except the protected items.	
HDTV	Audio Language		To set the audio language to English, French, or Spanish.
	Time Zone		Set the Time Zone value to Eastern Time, Indiana, Central Time, Mountain Time, Arizona, Pacific Time, Alaska and Hawaii.
	Auto Scan		Auto-search channels and put the programs into memory.
	Manual Scan		Add-on mode: To search channels that had not searched last time. Range mode: To search receivable channels in the setting range.
	Channel Skip		If a channel is set to SKIP, when scanning up/down channels the selected channel will be skipped.
	Analog Closed Caption		Set the analog closed caption value to OFF,CC1,CC2,CC3,CC4,TEXT1,TEXT2, TEXT3 and TEXT4.
	Digital Closed Caption		Set the digital closed caption value to OFF, Service1, Service2, Service3, Service4, Service5 and Service6.
	Digital Caption Style		To set the values of caption style.
	Block Channel		To setup the block channel.

2. Troubleshooting / Flow Charts

Note: Reseat all cables, check fuse by AC plug, perform a clear or reset in factory mode and retest before ordering parts.

Can't power on your TV?

This TV is equipped with a safety fuse. In the event of an electrical storm or power outage the safety fuse is designed to protect your TV. If your TV has no power, check the fuse by prying the cover off, following the illustration below. If the fuse is blown, visit your local hardware store and ask for a 4A 250V - 5x20mm Time Lag Fuse (Slow Blow) to replace the fuse.



Having trouble with setting your Parental Controls (V-Chip)?

The factory preset password is 0000. This password must be used first before setting your own personal password. It is recommended that you keep your personal password in a safe place and away from children. In the event you lose your personal password the master password is 8202. The master password overrides all passwords. The master password can't be changed and should be kept in a safe place away from children.

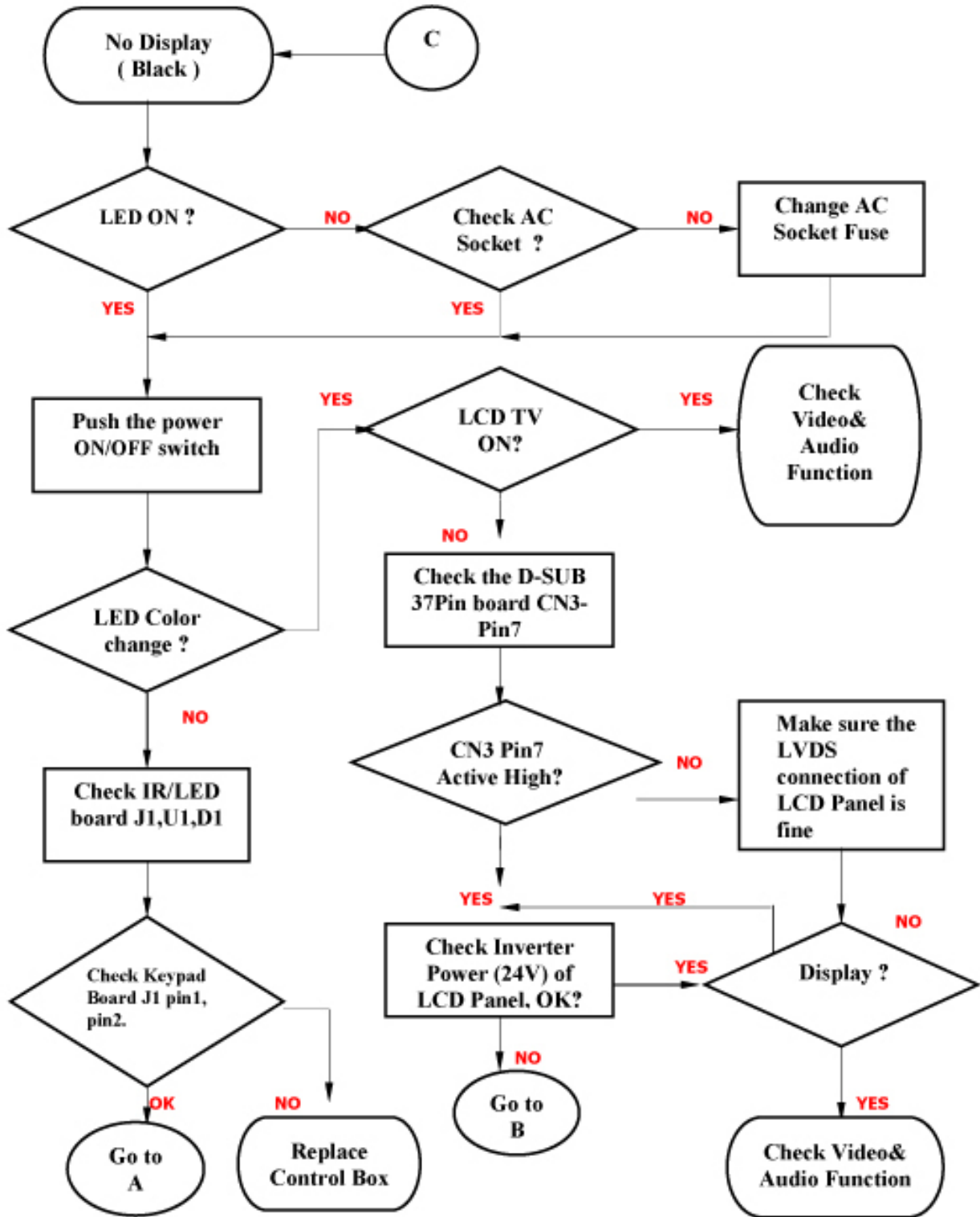
Having trouble with setting Picture-in-Picture settings?

The Picture-in-Picture will not work using Component 1 and Component 2 as the input sources.

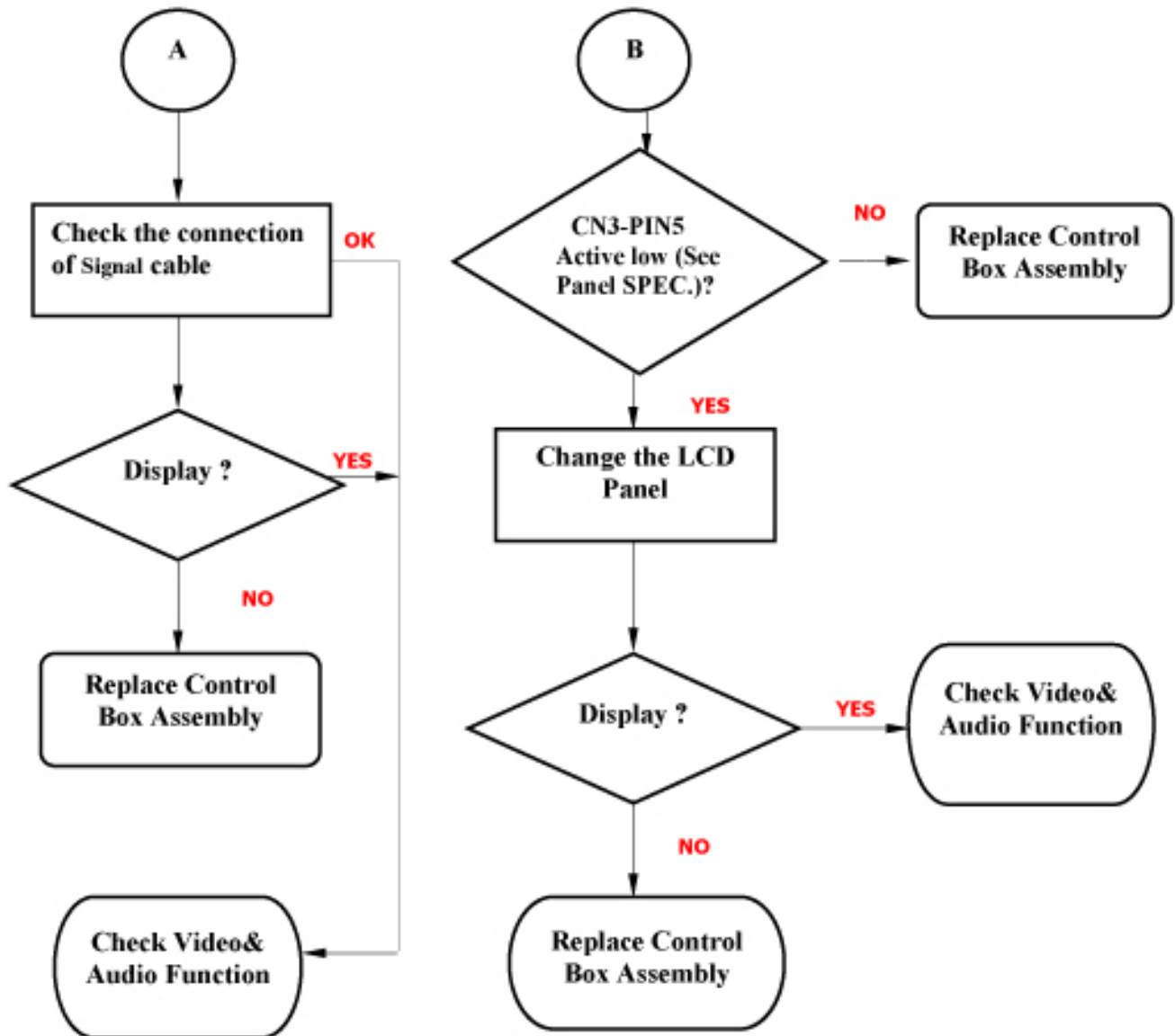
Factory Mode Procedure

- (1) Power on TV.
- (2) Press volume up and channel up buttons on the TV simultaneously and release.
- (3) Power off TV with remote or power button to exit.

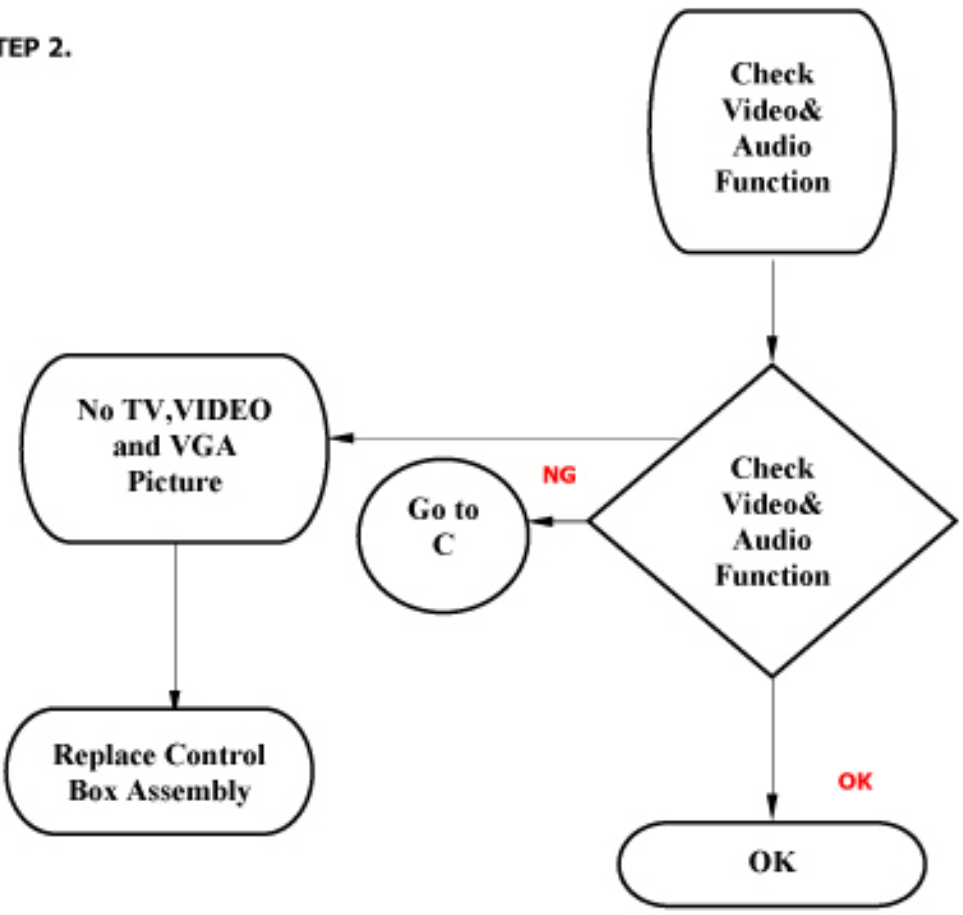
STEP 1.



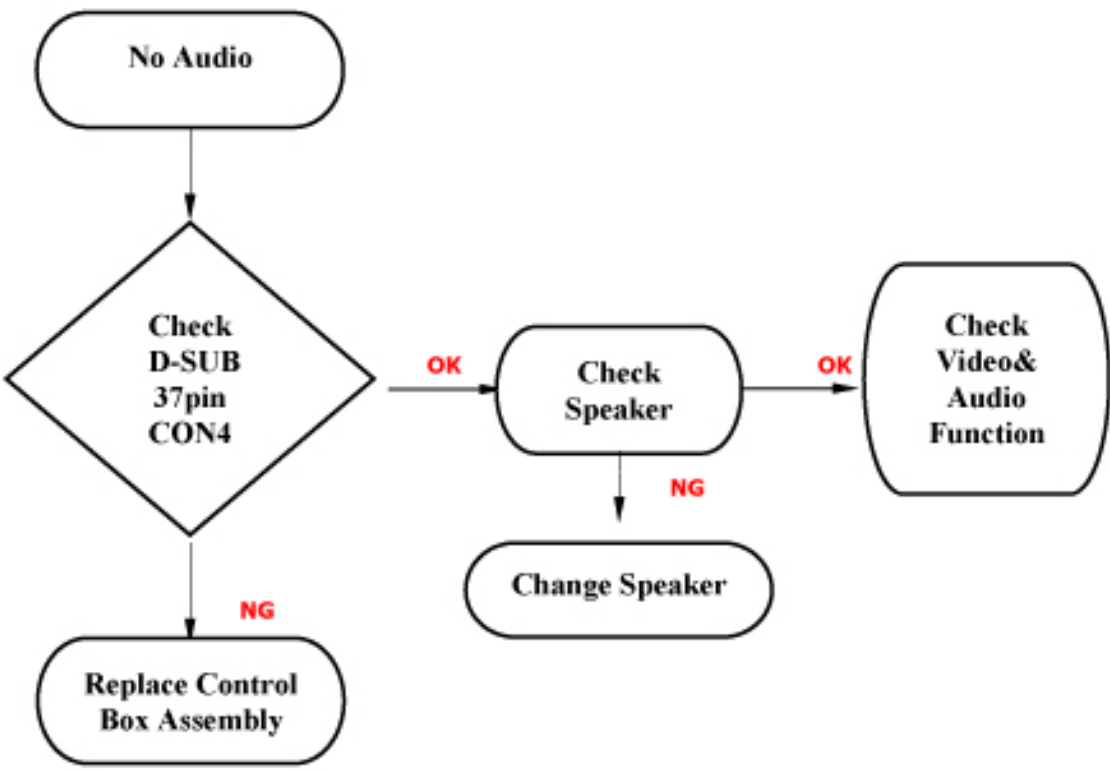
STEP 1 Continued.



STEP 2.



STEP 3.



3. Polaroid Display Cell Defect Specification

In some cases, a panel may have defective cells that cannot be controlled.

These defective cells can be categorized into two types;

- (1) Non-lighting or dark cell defect: defect in which the cell is always off
- (2) Non-extinguishing or bright cell defect: defect in which the cell is always on

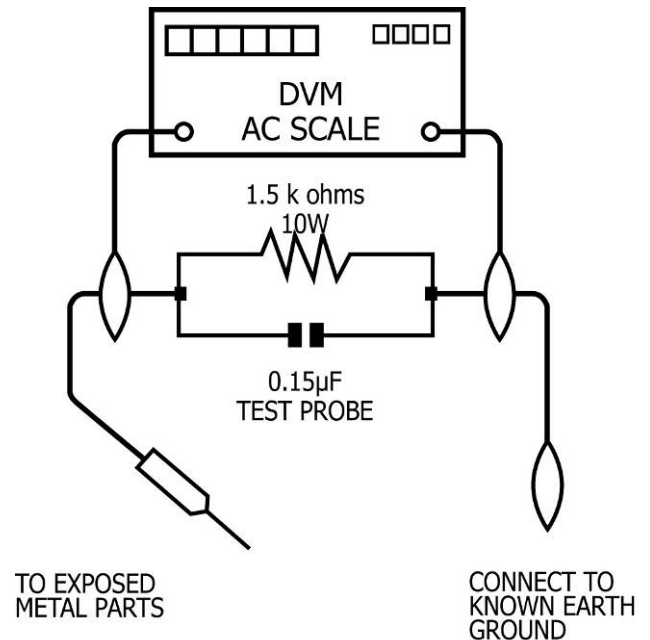
The Polaroid Display Cell Defect Specifications below define the allowed limits for display cell defects and are used as the criteria in determining whether an LCD panel is replaced.

7 or more defective pixels across the entire LCD screen Polaroid will repair (replace LCD panel) or replace the TV.

4. Before Returning This Product to the User

Before returning this product to the user, always perform the following safety checks:

- (4) Inspect all wiring to be sure no wires are pinched between the chassis or any metal parts.
- (5) Inspect all protective devices for proper installation, including non-metallic controls, insulation materials, cabinet backs, compartment covers, and shields.
- (6) Verify that no shock hazard exists on any part of the chassis, especially any metal components including cable connection points, chassis hardware, or antennas (if equipped). Use the following procedure:
 - a. Plug the AC cord directly into a 120 V AC outlet.
 - b. Create a test circuit consisting of a 1.5k ohm, 10 watt resistor paralleled by a 0.15 μ F capacitor.
 - c. Using an AC voltmeter (sensitivity of 5000 ohm per volt or higher), measure the voltage drop across the test circuit between all exposed metallic parts and a known earth ground. Measurement points include antenna, metal cabinet parts, screw heads, and metal knobs or controls. Measurement points can vary slightly even between revisions of the same model, so always conduct a thorough review of the chassis to locate metal points that a user may touch.
 - d. Any voltage reading of 0.375 Vrms AC (0.25 mArms) or higher indicates a potential shock hazard. **THIS CONDITION MUST BE CORRECTED BEFORE RETURNING THE PRODUCT TO THE USER!**
 - e. Repeat the above checks with the AC polarity reversed. A non-polarized adapter is required to reverse the polarity; DO NOT LEAVE THIS ADAPTER WITH THE USER! Under normal operation the product must use the proper polarity.



5. Disassembly Procedure



WARNING

Note: Before disassembly of any part the TV, make sure the power is OFF, and the power cord is removed from the wall outlet. Allow time for power within all system boards to discharge before you begin disassembly. Never insert any objects into the vent holes in the TV case.



CAUTION

Note: Before returning this product to the end user, you must follow the steps outlined in the section, *Before Returning This Product to the User*, on page 19. This procedure ensures that the chassis will not cause electric shock.

When servicing an LCD or plasma TV, always observe the following safety guidelines:

- Wear a grounding (ESD) wrist strap, and use a grounded or dissipative work mat.
- Use a stable and strong work surface that is large enough to hold components you might remove.
- When removing components that are attached with a cable, unplug the cable before removing the screws to avoid damaging the cable.
- Use a magnetized screwdriver for removing screws.
- To help keep track of screws, place each component's screws next to the component on your work surface.

ELECTROSTATIC DISCHARGE (ESD)

Components inside an LCD or plasma TV are sensitive to static electricity. Before servicing the TV, follow these guidelines:

- Avoid static-causing surfaces such as carpeted floors, plastic, and packing foam.
- Remove replacement components from their antistatic bags only when you are ready to use them. Do not lay components on the outside of antistatic bags because only the inside of the bags provide electrostatic protection.
- Always hold components by their edges. Avoid touching the edge connectors. Never slide components over any surface.
- Wear a grounding wrist strap (available at most electronics stores) and attach it to a bare metal part of your workbench or other grounded connection.
- Touch a bare metal surface on your workbench or other grounded object before touching any components.

Stand and Control Box Removal – All Models

Lay TV flat on workbench. Be careful to protect the front bezel and LCD screen from being scratched. Use protective cloth between work bench and TV front.



Note: Before disassembly of any part the TV, make sure the power is OFF, and the power cord is removed from the wall outlet. Allow time for power within all system boards to discharge before you begin disassembly. Never insert any objects into the vent holes in the TV case.

- (1) Remove 6 screws (A) from the TV Stand.



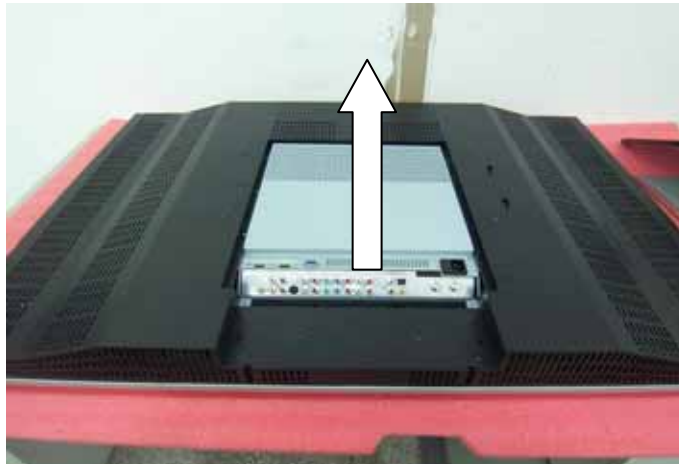
- (2) Remove the screw (A) from the Control Box Cover, and remove the Cover from the TV.



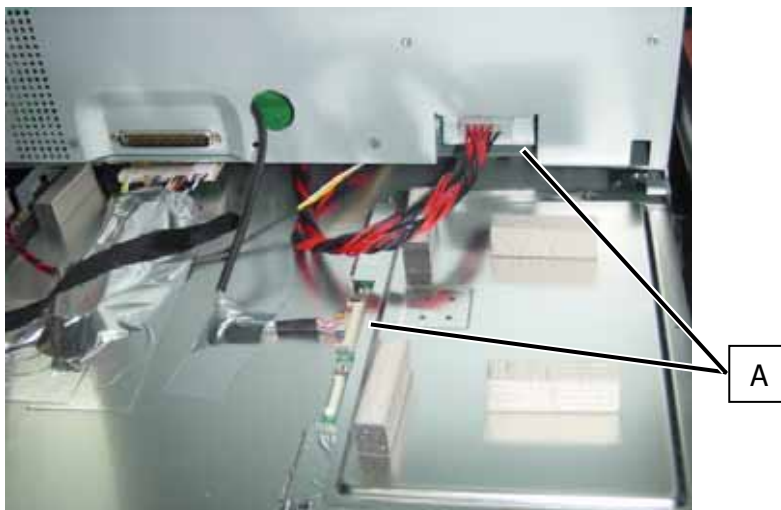
(3) Remove 2 screws (A) from the Control Box.



(4) Lift the Control Box upwards, and then towards to bottom of the TV to unhook it.



(5) Unplug the 2 cables (A) from the Control Box, and remove the Box from the TV.



Note: Before returning this product to the end user, you must follow the steps outlined in the section, *Before Returning This Product to the User*, on page 19. This procedure ensures that the chassis will not cause electric shock.

Rear Cabinet Cover, LCD Panel and Front Bezel – FLM-4034B

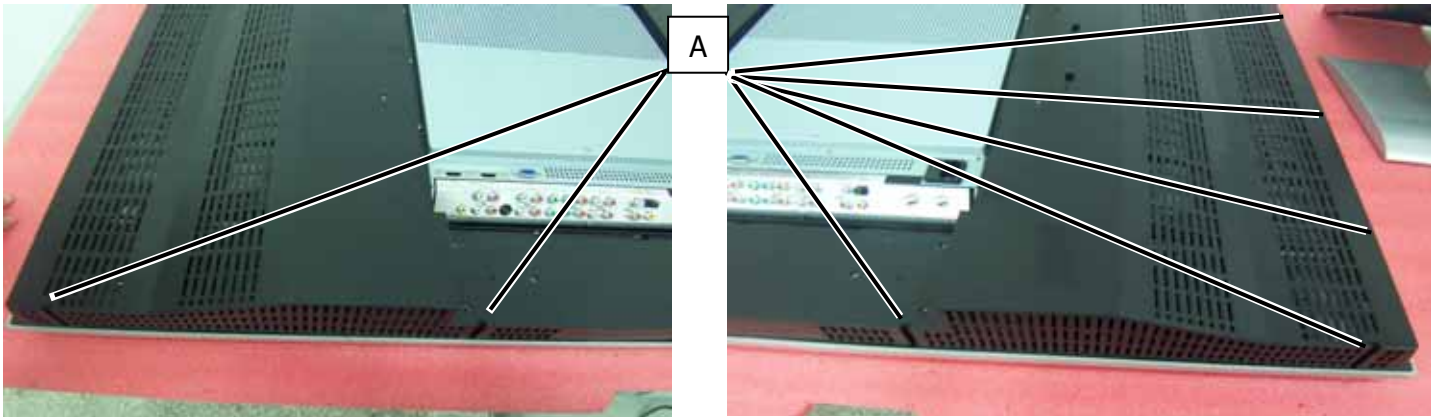


Note: Before disassembly of any part the TV, make sure the power is OFF, and the power cord is removed from the wall outlet. Allow time for power within all system boards to discharge before you begin disassembly. Never insert any objects into the vent holes in the TV case.

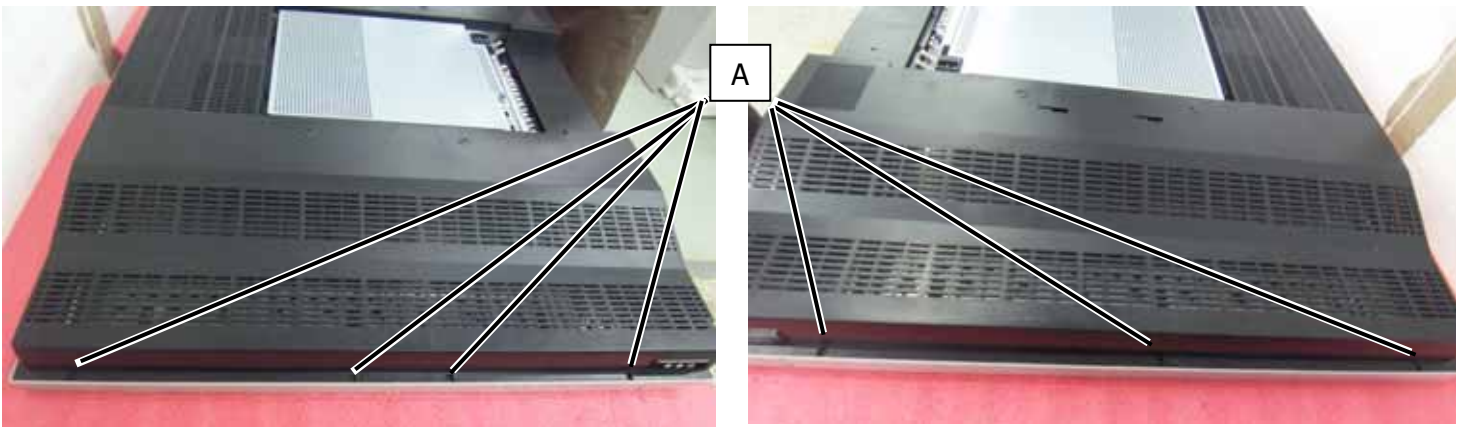


Note: OEM LCD panels were used in production. The following LCD panel disassembly/removal instructions may not apply to all models. Ensure LCD panel is completely detached from the bezel before removing so the bezel is not damaged.

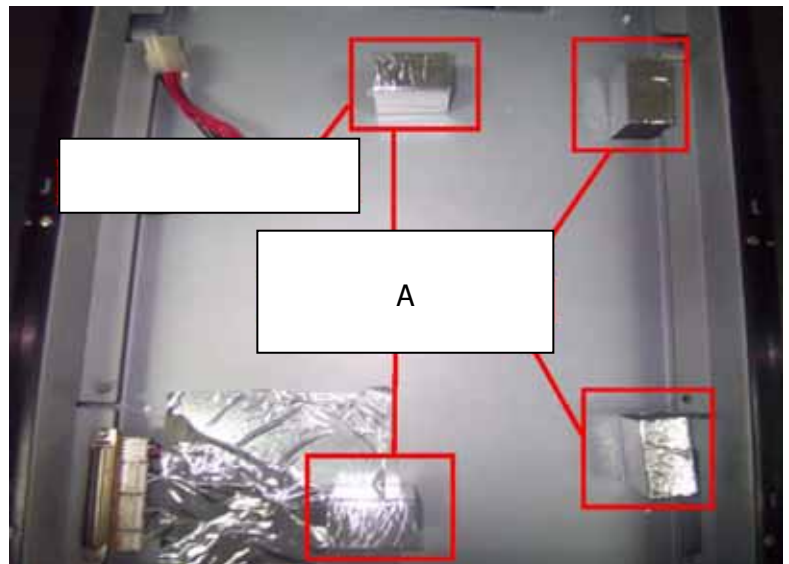
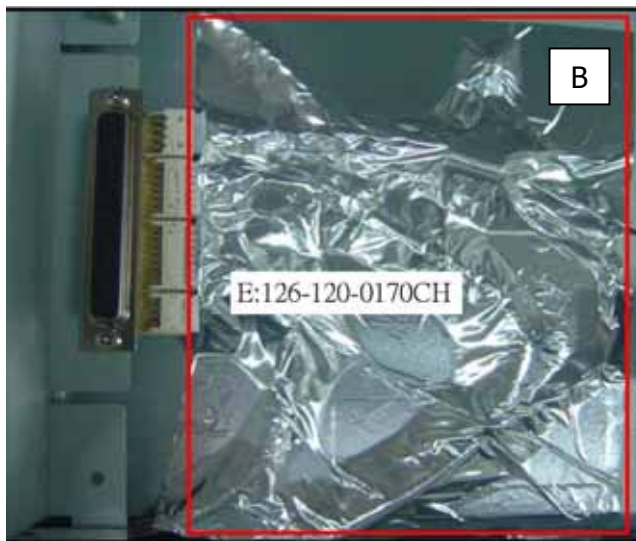
- (1) Remove 7 screws (A) from the rear cabinet cover.



- (2) Remove 7 screws (A) from the rear cabinet cover, and remove the rear cabinet cover from the TV.

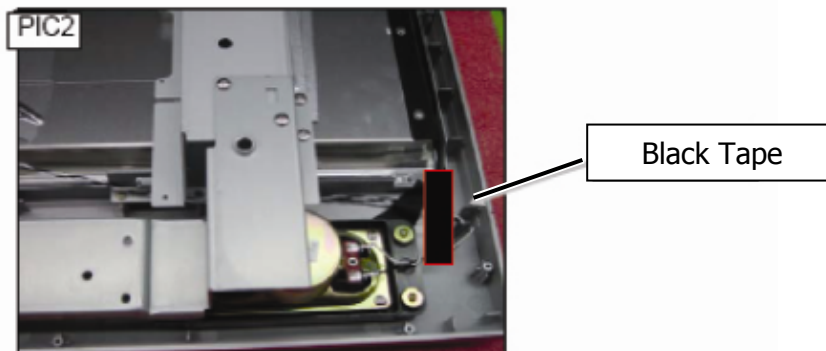
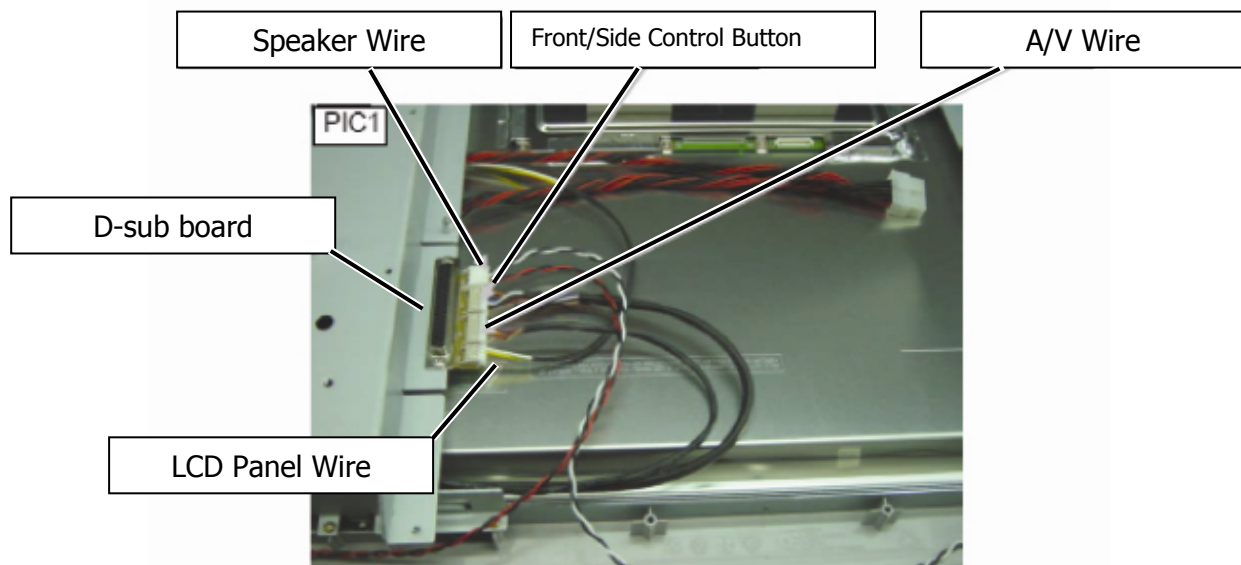


(3) Remove 4 EMI Foam Standoffs (A) and EMI Aluminum Foil Shielding Tape (B).



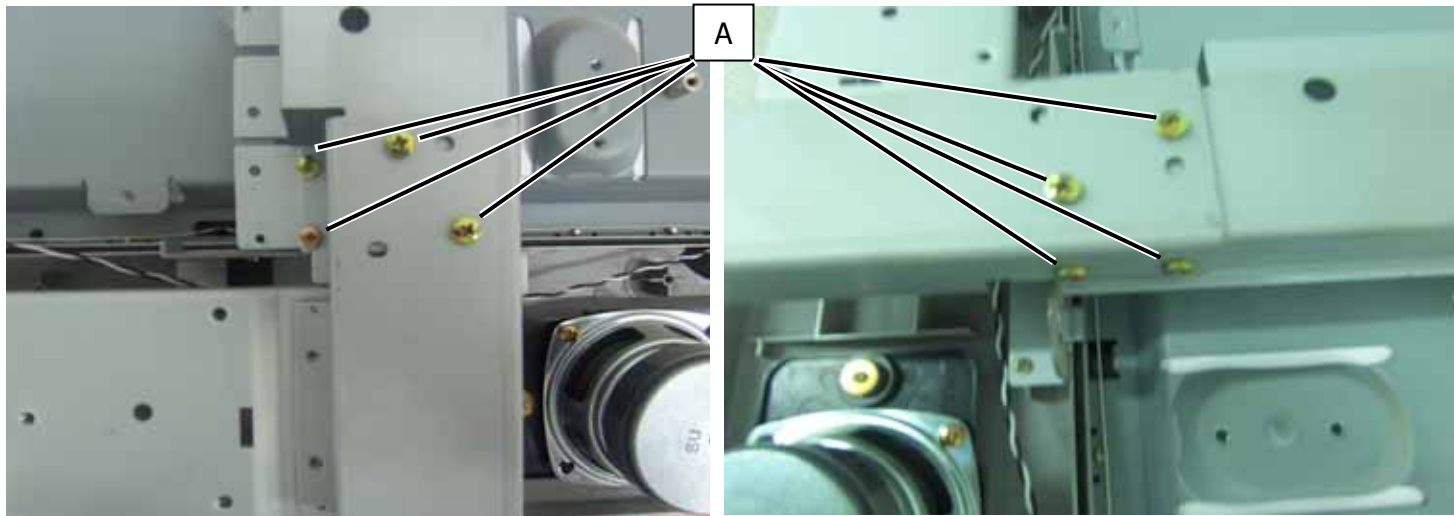
NOTE: You MUST re-install the EMI Foam Standoffs and EMI Aluminum Foil Shielding Tape when reassembling the TV.

(4) From the D-sub board, remove the Speaker wires, Front/Side Control Button wire, LCD Panel wire, and A/V wire.

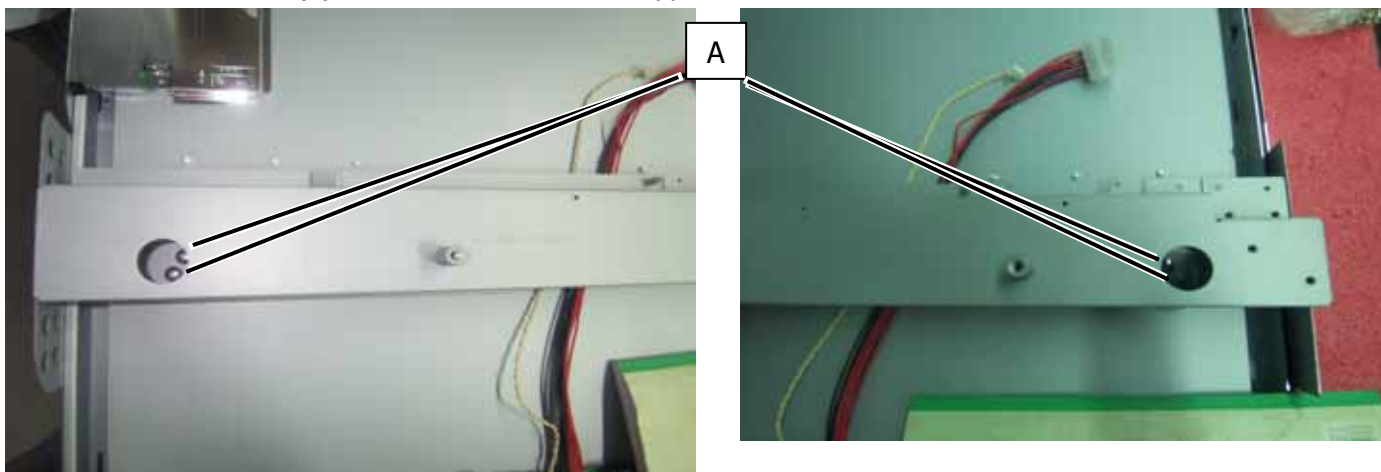


(5) Remove the black tape from the Speaker wire and Ceramic ring (PIC2) and SAVE for reassembly.

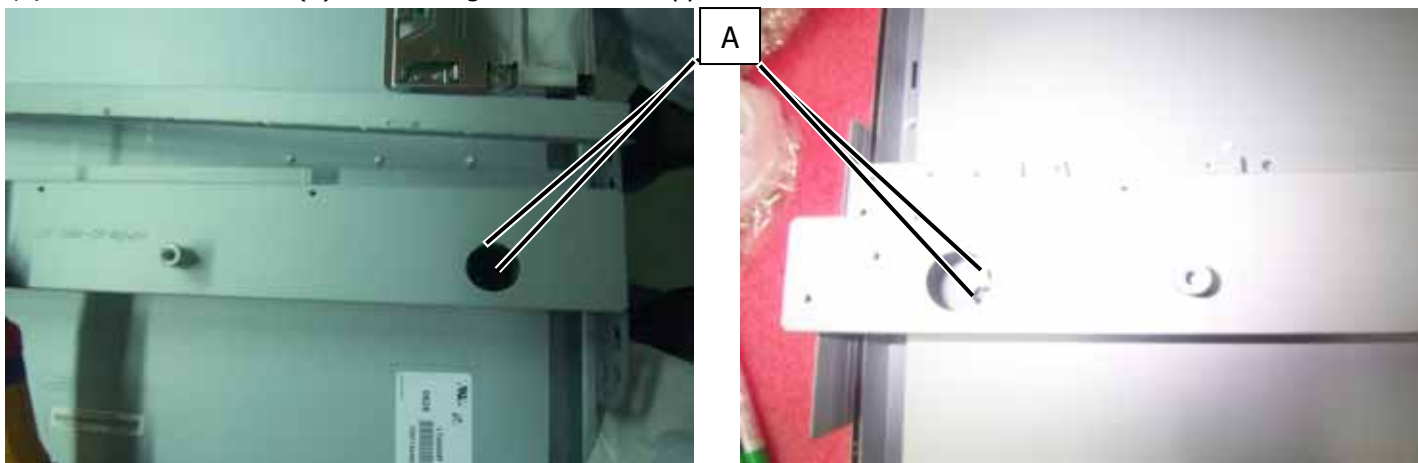
(6) Remove 8 screws (A) and remove the stand support frame from the TV.



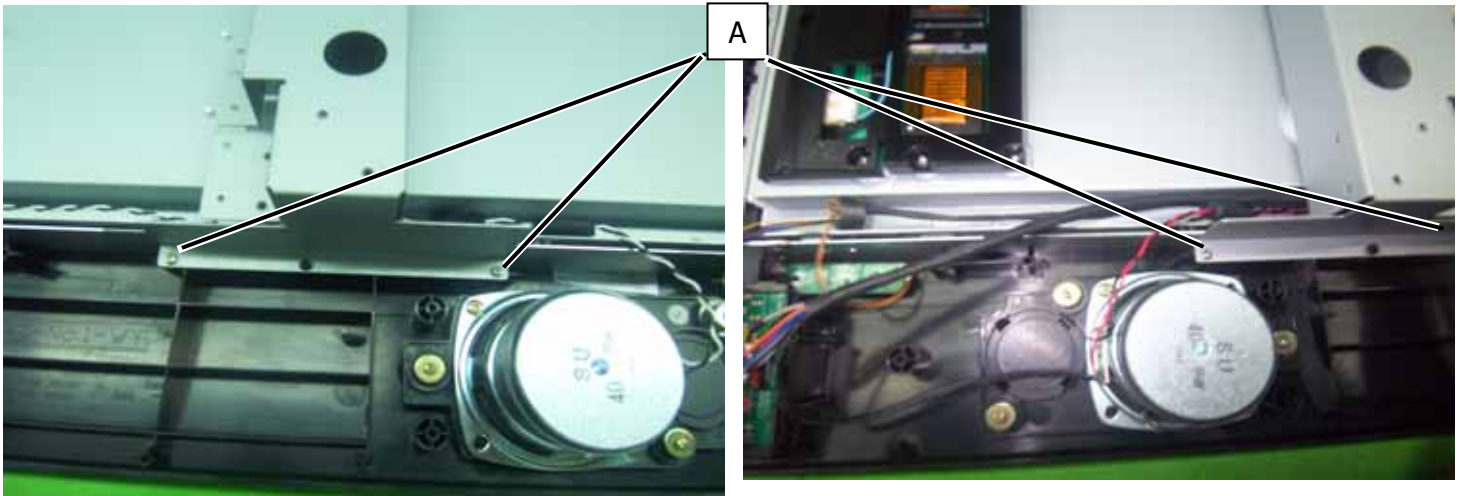
(7) Remove 4 screws (A) from the left side frame support.



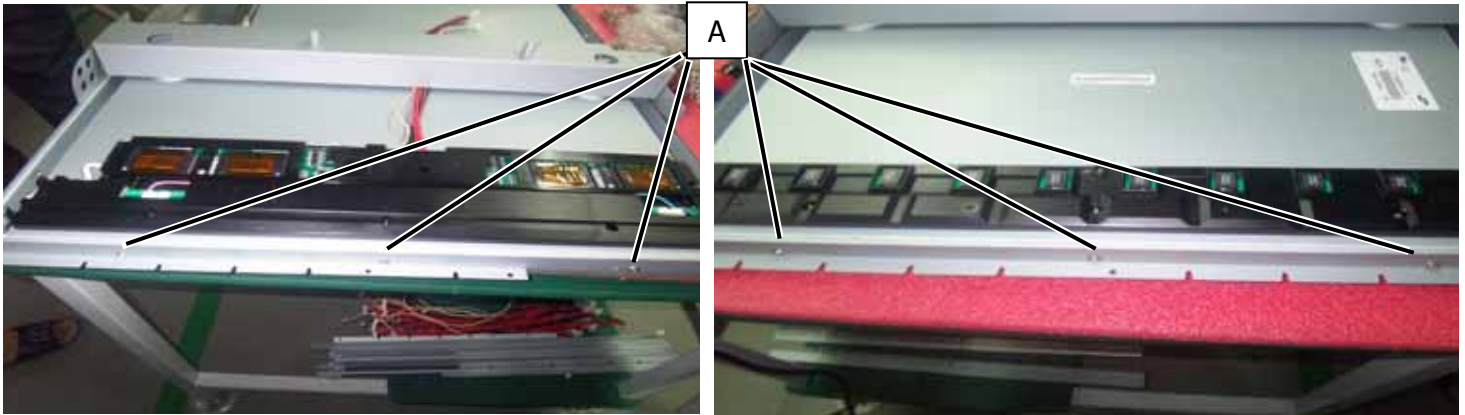
(8) Remove 4 screws (A) from the right side frame support.



- (9) Remove 4 screws (A) from the bottom of the left and right side frame supports, and remove the frame supports from the TV.



- (10) Remove 6 screws (A) from the LCD Panel, and remove it from the TV.



NOTE: To avoid damage, TWO PEOPLE ARE REQUIRED to lift the LCD Panel from the TV.



Note: Before returning this product to the end user, you must follow the steps outlined in the section, *Before Returning This Product to the User*, on page 19. This procedure ensures that the chassis will not cause electric shock.

Rear Cabinet Cover, LCD Panel and Front Bezel – FLM-4232HM, FLM4234BH

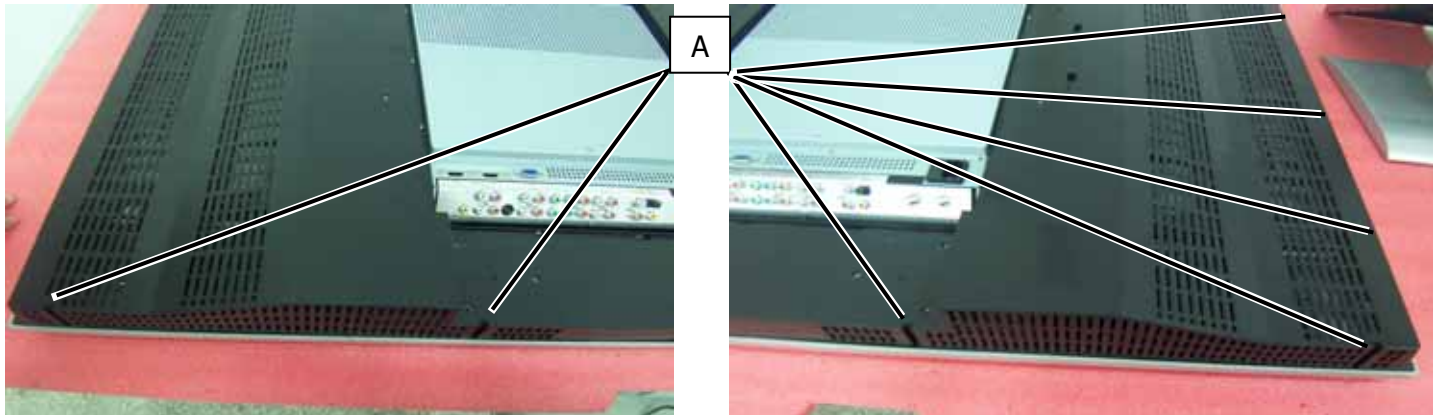


Note: Before disassembly of any part the TV, make sure the power is OFF, and the power cord is removed from the wall outlet. Allow time for power within all system boards to discharge before you begin disassembly. Never insert any objects into the vent holes in the TV case.

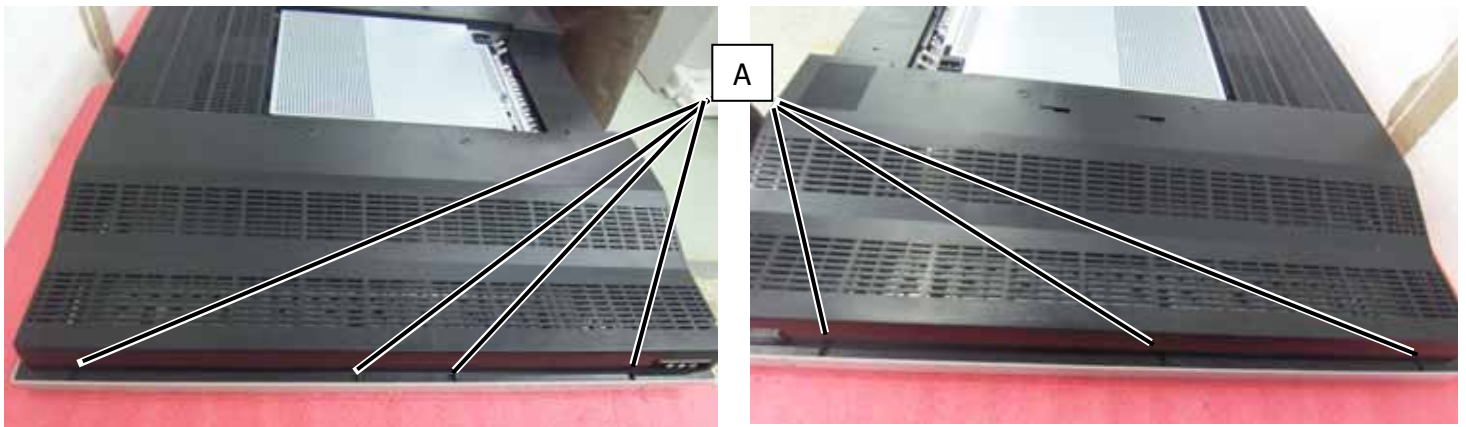


Note: OEM LCD panels were used in production. The following LCD panel disassembly/removal instructions may not apply to all models. Ensure LCD panel is completely detached from the bezel before removing so the bezel is not damaged.

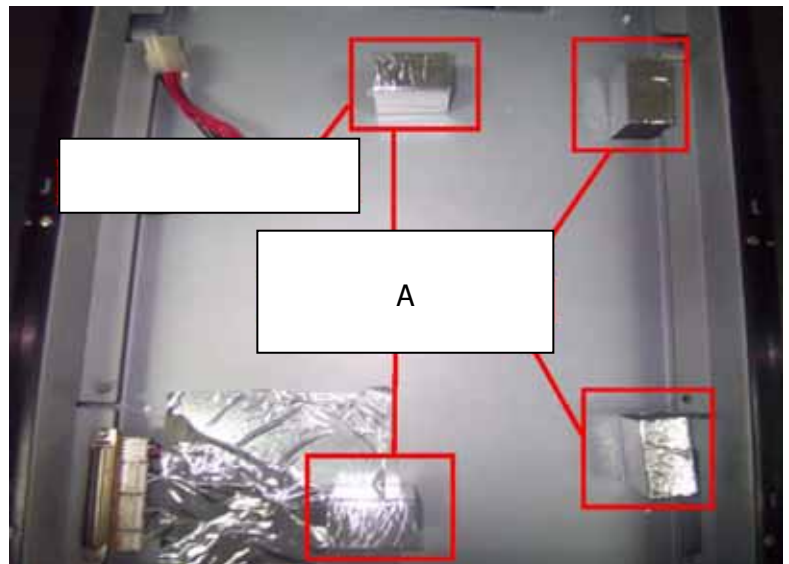
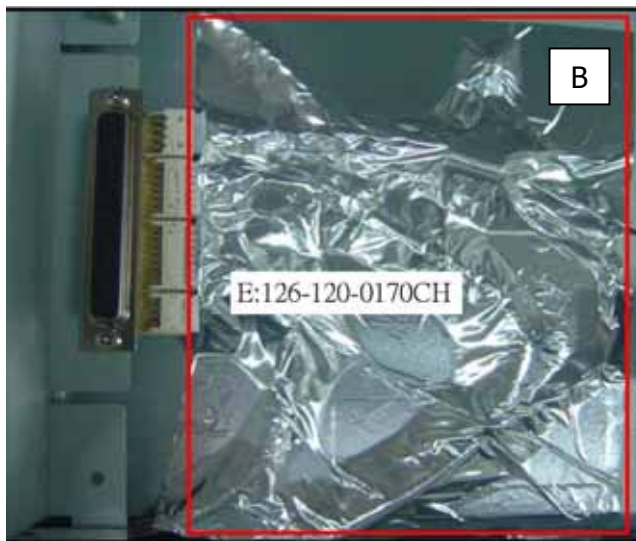
- (1) Remove 7 screws (A) from the rear cabinet cover.



- (2) Remove 7 screws (A) from the rear cabinet cover, and remove the rear cabinet cover from the TV.

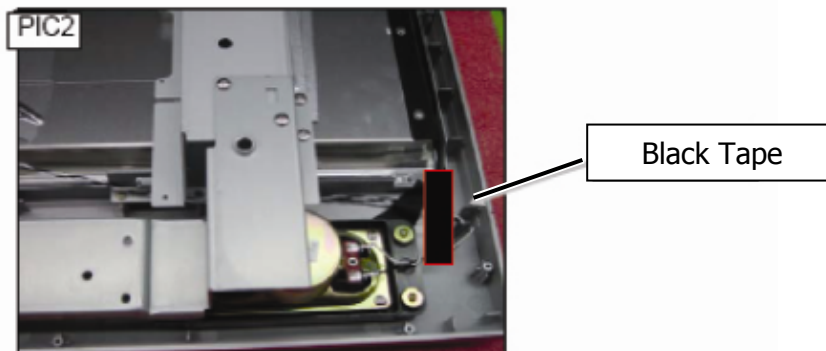
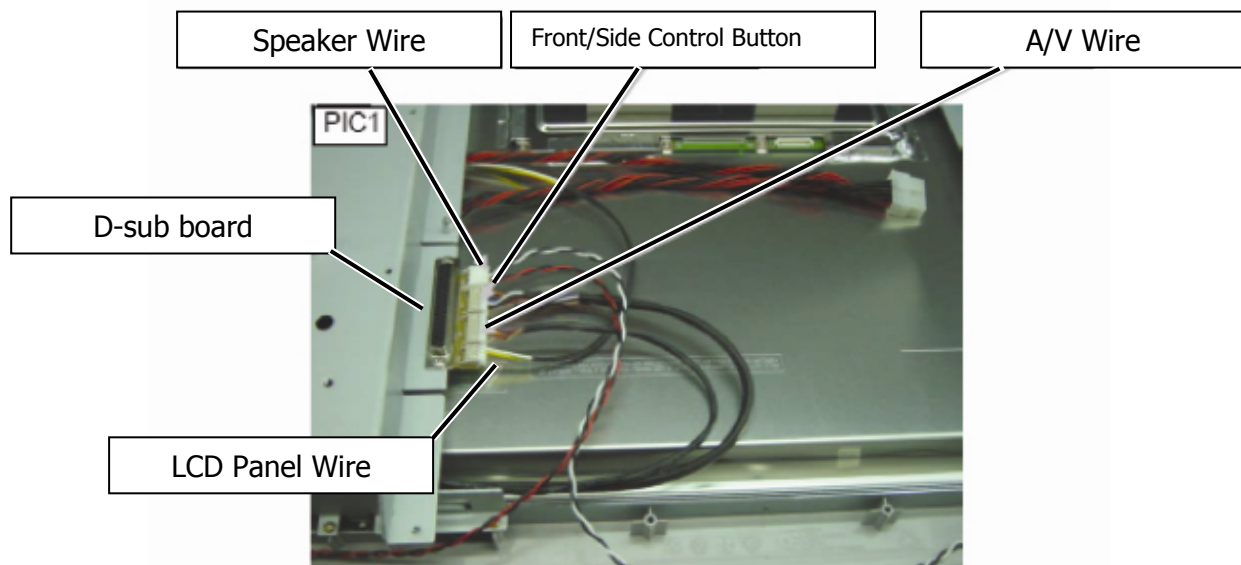


(3) Remove 4 EMI Foam Standoffs (A) and EMI Aluminum Foil Shielding Tape (B).



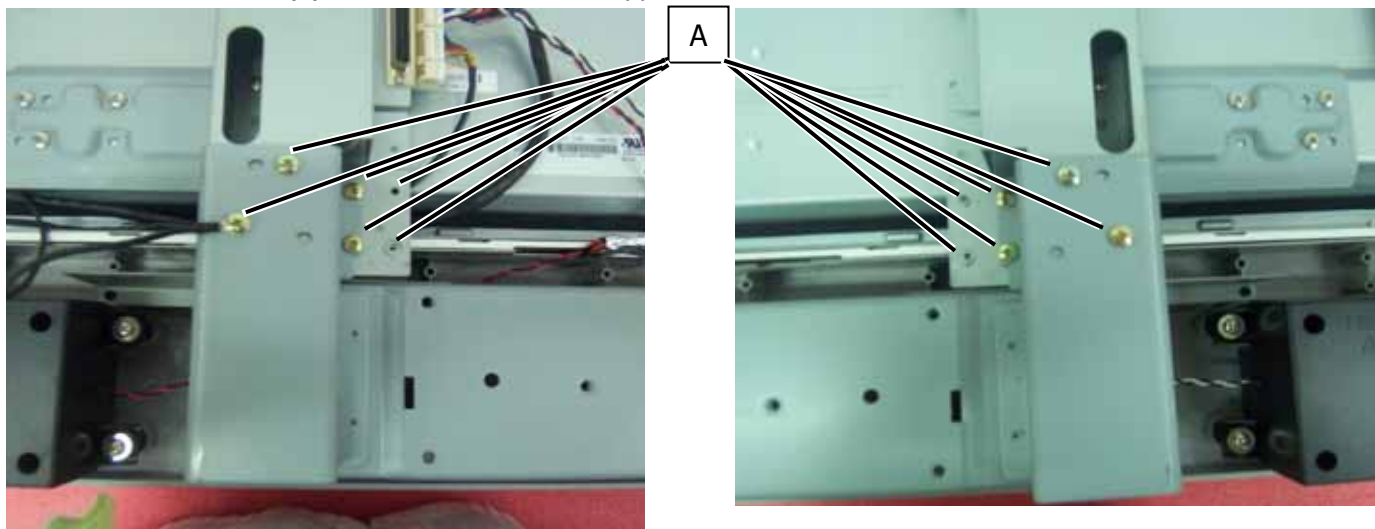
NOTE: You MUST re-install the EMI Foam Standoffs and EMI Aluminum Foil Shielding Tape when reassembling the TV.

(4) From the D-sub board, remove the Speaker wires, Front/Side Control Button wire, LCD Panel wire, and A/V wire.

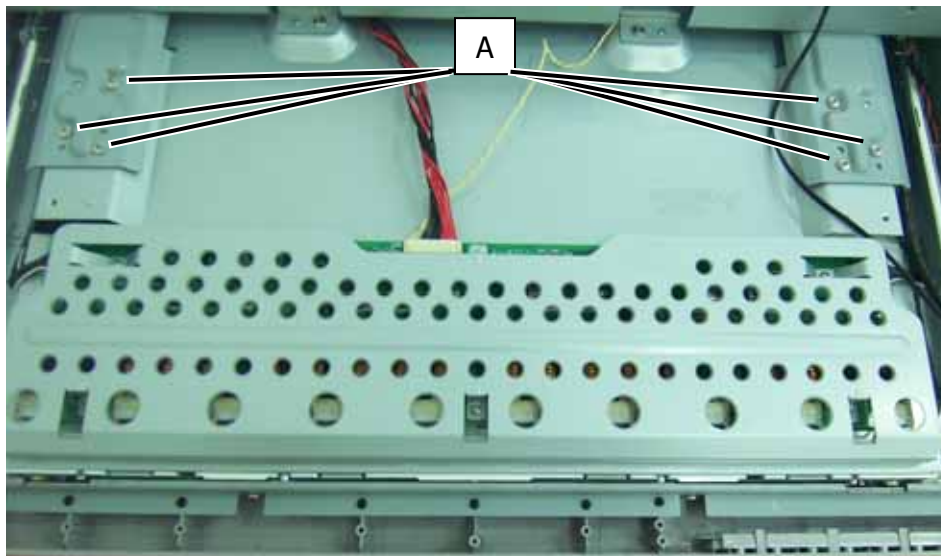


(5) Remove the black tape from the Speaker wire and Ceramic ring (PIC2) and SAVE for reassembly.

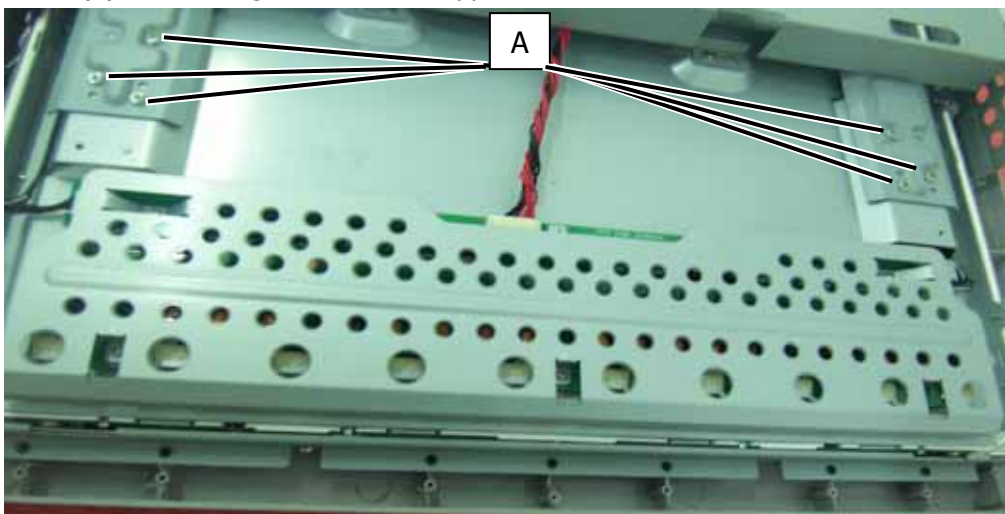
(6) Remove 12 screws (A) and remove the stand support frame from the TV.



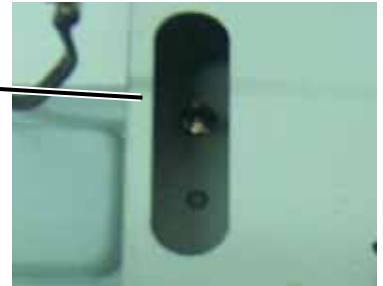
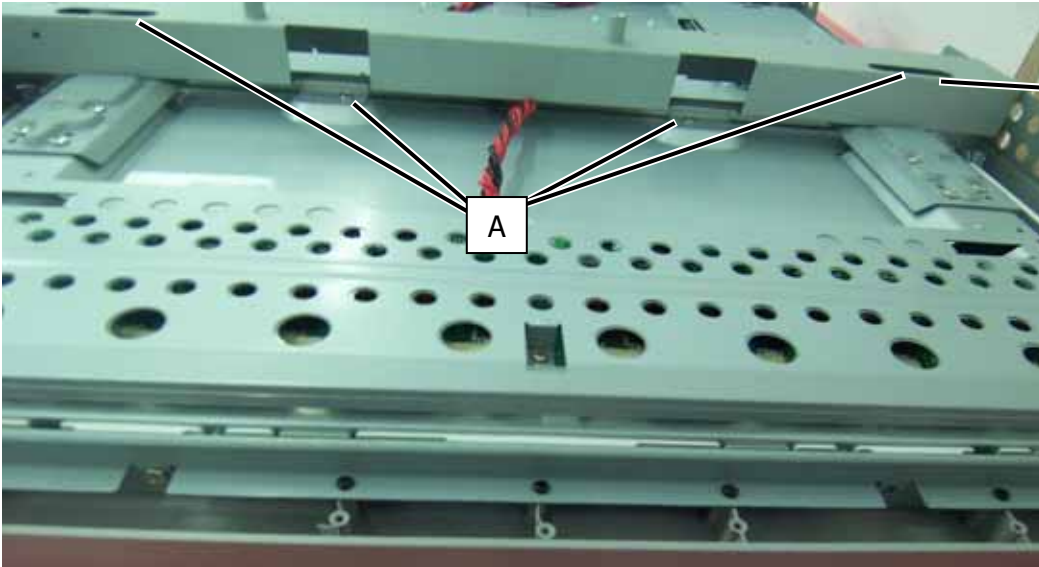
(7) Remove 6 screws (A) from the left side frame support.



(8) Remove 6 screws (A) from the right side frame support.

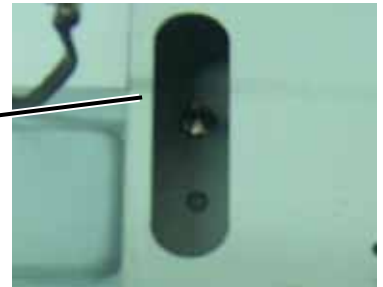
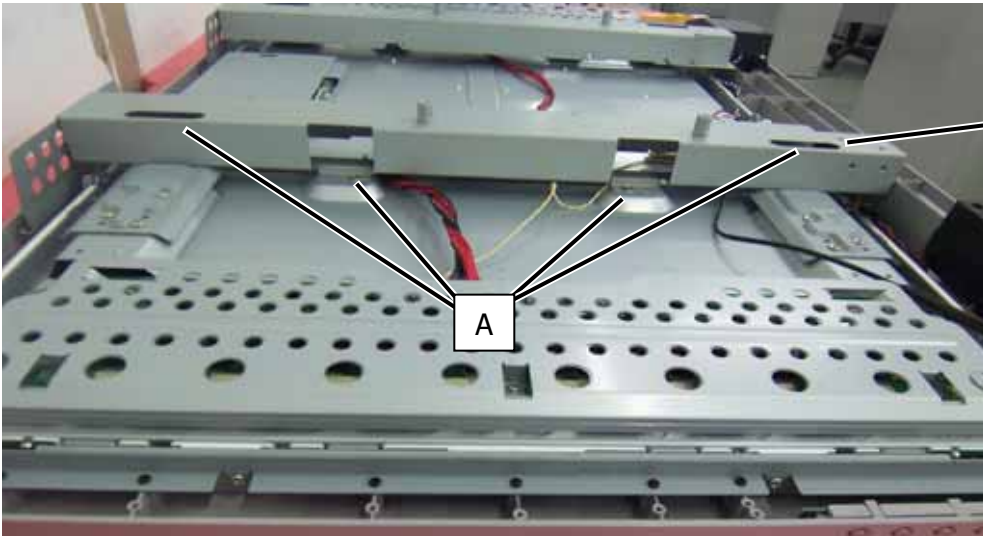


(9) Remove 6 screws (A) from the left side frame support.



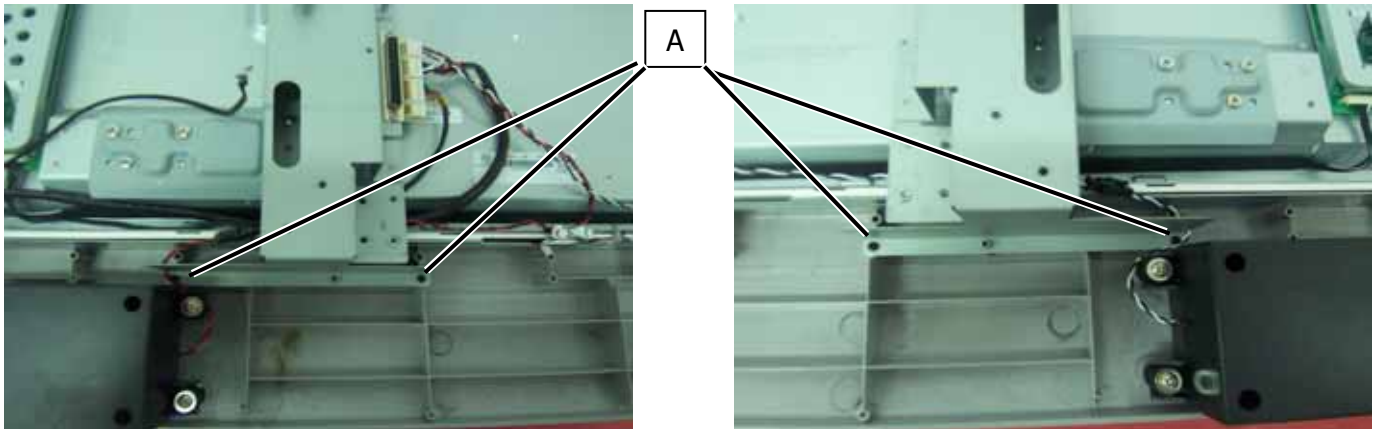
Close-up of screws in frame support (2 screws in each slot).

(10) Remove 6 screws (A) from the right side frame support.

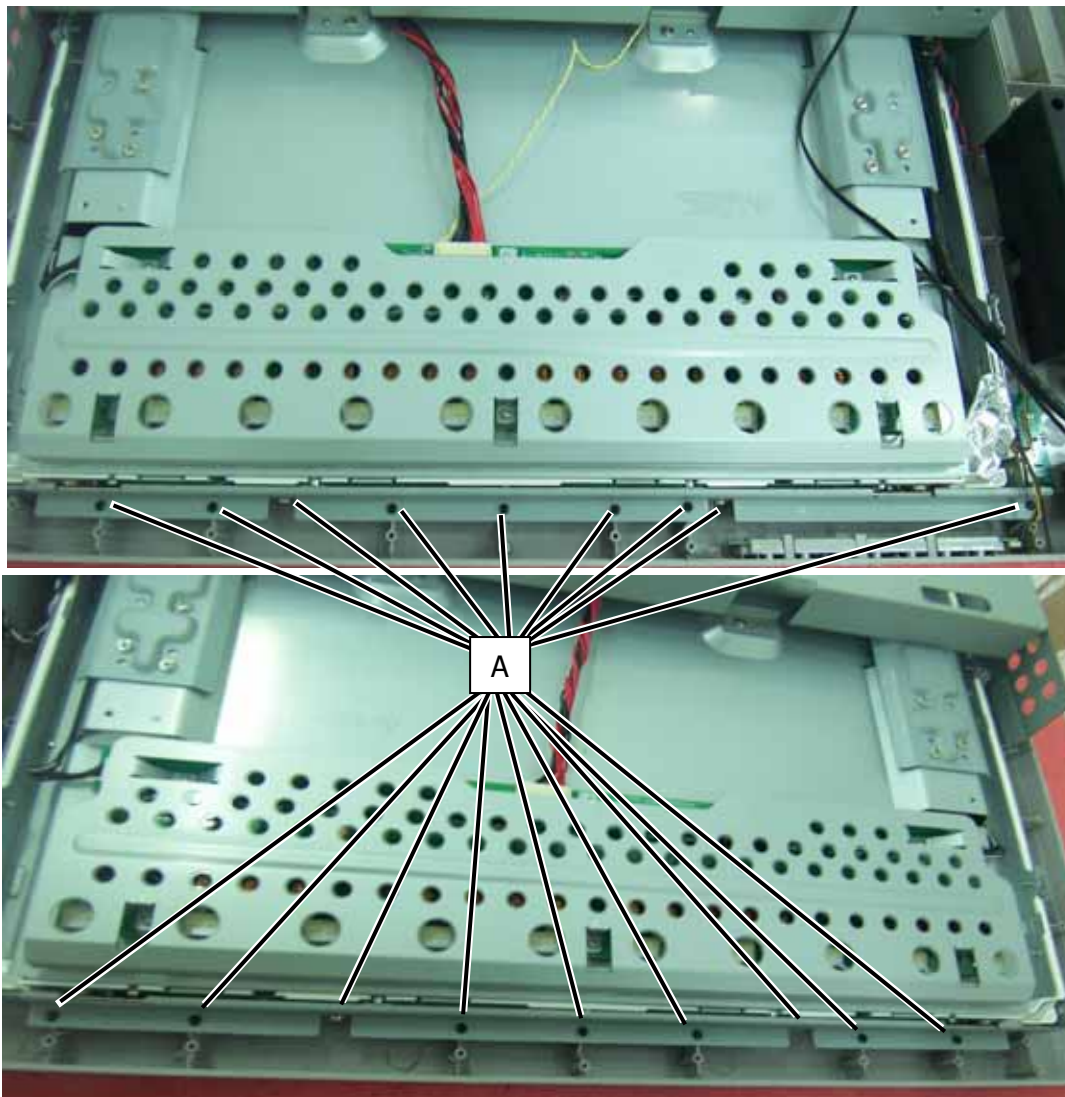


Close-up of screws in frame support (2 screws in each slot).

(11) Remove 2 screws (A) from the left and right frame supports (4 total), and remove both frame supports from the TV.



(12) Remove 18 screws (A) from the LCD Panel, and remove it from the TV.



NOTE: To avoid damage, TWO PEOPLE ARE REQUIRED to lift the LCD Panel from the TV.



Note: Before returning this product to the end user, you must follow the steps outlined in the section, **Before Returning This Product to the User**, on page 19. This procedure ensures that the chassis will not cause electric shock.

A/V Board Removal and Replacement



WARNING

Note: Before disassembly of any part the TV, make sure the power is OFF, and the power cord is removed from the wall outlet. Allow time for power within all system boards to discharge before you begin disassembly. Never insert any objects into the vent holes in the TV case.

- (1) Disassemble control box cover and rear cabinet cover and remove A/V assembly.
- (2) Using a small pair of wire cutters grip the side-locking tab and pivot back towards the A/V cable connector (PIC1). Locking tab should only pivot about 45 degrees. Do the same for the opposite side of the A/V assembly.
- (3) Slide out A/V board and replace (PIC2).
- (4) Push locking tabs in to secure replaced A/V board.

PIC1



PIC2



CAUTION

Note: Before returning this product to the end user, you must follow the steps outlined in the section, *Before Returning This Product to the User*, on page 19. This procedure ensures that the chassis will not cause electric shock.

IR Board Removal and Replacement

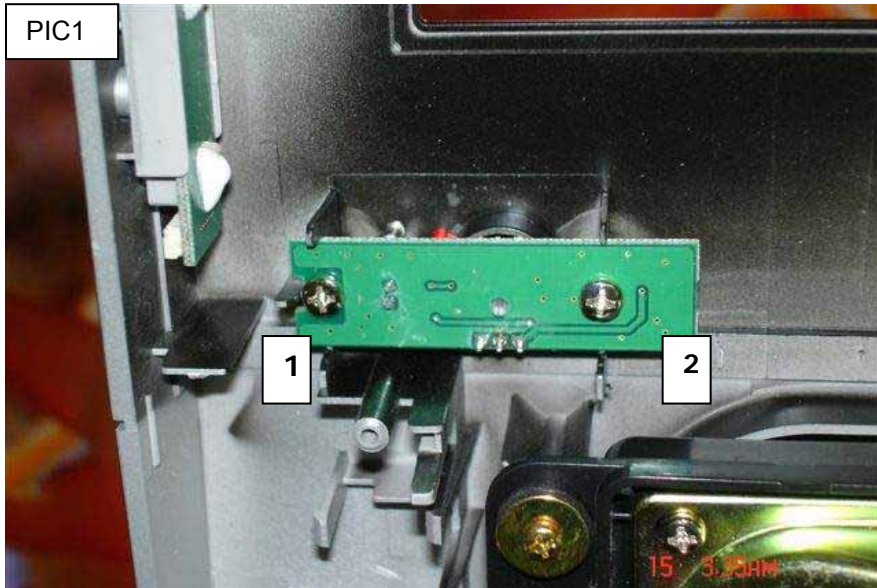


WARNING

Note: Before disassembly of any part the TV, make sure the power is OFF, and the power cord is removed from the wall outlet. Allow time for power within all system boards to discharge before you begin disassembly. Never insert any objects into the vent holes in the TV case.

- (1) Disassemble rear control box cover and rear cabinet cover.
- (2) 2. Remove screws 1 and 2 and replace IR board (PIC1).

PIC1



CAUTION

Note: Before returning this product to the end user, you must follow the steps outlined in the section, *Before Returning This Product to the User*, on page 19. This procedure ensures that the chassis will not cause electric shock.

Front/Side Control Buttons Removal and Replacement



WARNING

Note: Before disassembly of any part the TV, make sure the power is OFF, and the power cord is removed from the wall outlet. Allow time for power within all system boards to discharge before you begin disassembly. Never insert any objects into the vent holes in the TV case.

- (1) Disassemble control box cover and rear cabinet cover.
- (2) The control button board is attached with glue. Use alcohol to soften the glue and remove the control button board (PIC1).
- (3) Replace control button board and use glue to fasten to front bezel.



CAUTION

Note: Before returning this product to the end user, you must follow the steps outlined in the section, *Before Returning This Product to the User*, on page 19. This procedure ensures that the chassis will not cause electric shock.

6. Spare Parts Lists

Attention Service Centers

Some models consist of parts with multiple versions. Replacement parts in the spare part lists with an asterisk (*) are multiple version parts. The TV serial number Model Version is used to identify the replacement part(s) needed for repair. Below is the Polaroid serial number format breakdown with a sample serial number. Reference the serial number format details below to identify the correct replacement part(s) before placing replacement part orders.

In the event the TV Model Version is not present in the part lists please review service bulletins for this model. Service bulletins can be obtained through your Polaroid service contact.

SAMPLE SERIAL NUMBER FORMAT - DETAILS

	C	0	6	0	0	0	1	2	7	2	0	0	0	0	0	0	1
Month of Production																	
Year of Production																	
Model Version																	
Unique 7 digit Serial Number																	
<p>Non RoHS Serial Number Example - C0600012720000001 RoHS Compliant Serial Number Example - CR600012720000001 - the 0 in Year of Production is replaced with R.</p>																	

Production Month Designators:

A = January	D = April	G = July	K = October
B = February	E = May	H = August	M = November
C = March	F = June	J = September	P = December

Note: Reseat all cables, check fuse by AC plug, perform a clear or reset in factory mode and retest before ordering parts.

Polaroid FLM-4034B	
Part Number	Description
600-181-3200-LIH	AC Power Cord
621-181-60002H	Audio Cable
621-181-2000H	Composite Video Cable
621-181-3020P-1H	Component Cable
845-C45-GF1XA-PH	Remote Control
909-KS0-GF401XA2H	Control Box Assembly (Samsung)
899-K00-GF271XAH	Front/Side Control Button Bd.
154-501-GF370-AH	Front/Side Control Button Cover Silver
899-E00-GF271XAH	IR Board
899-A00-GF271XAH	Front/Side A/V Input Bd.
705-540-011SH	40" LCD Panel (Samsung)
151-A01-FU68B7WH	Front Bezel Black/Silver (Samsung)
151-001-FU67GH	Rear Cabinet Black
154-004-GF32WH	Rear Cabinet Control Box Cover Black
151-700-GF401XABH	Stand Assembly Silver
824-015-GF321L-KH	Speaker (right or Left)
631-030-JK401XAH	LVDS Cable (Samsung)

Polaroid FLM-4232HM	
Part Number	Description
600-181-3200-LIH	AC Power Cord
621-181-60002H	Audio Cable
621-181-2000H	Composite Video Cable
621-181-3020P-1H	Component Cable
845-C45-GF1XA-PEH	Remote Control
909-KJ1-GF421UA2H	Control Box Assembly (CMO L05)
899-K00-GF271XAH	Front/Side Control Button Bd.
154-501-GF370H	Front/Side Control Button Cover Silver
899-E00-GF271XAH	IR Board
899-A00-GF271XAH	Front/Side A/V Input Bd.
705-542-001CH	42" LCD Panel (CMO L05)
151-A01-FV18BUPCH	Front Bezel Black/Silver (CMO L05)
151-001-FV17GH	Rear Cabinet Black
154-004-GF32WH	Rear Cabinet Control Box Cover Black
151-A01-FV18BUPCH	Front Bezel Black/Silver (CMO)
824-020-A002H	Speaker (right or Left)
631-030-GF421XA-CH	LVDS Cable (CMO L05)
631-024-GF371-CH	Power Inverter Cable (LG) (CMO L05) (AUO V1)
151-700-GF421UAH	Stand Assembly Silver CMO

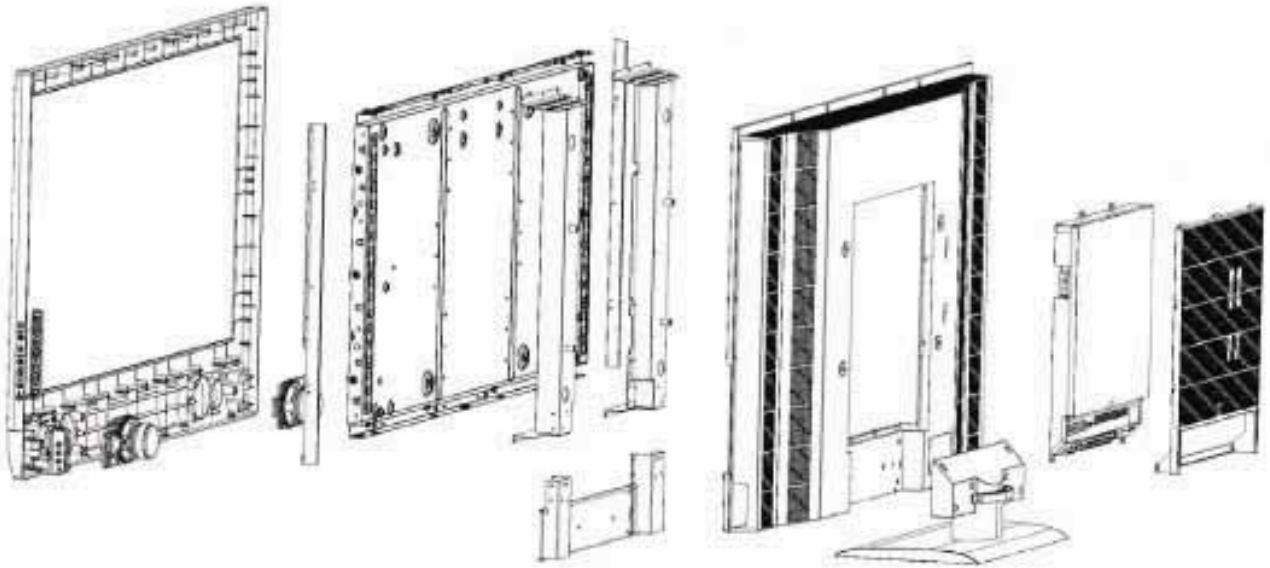
Polaroid FLM-4234BH

Model Version *	Part Number	Description
	600-181-3200-LIH	AC Power Cord
	621-181-60002H	Audio Cable
	621-181-2000H	Composite Video Cable
	621-181-3020P-1H	Component Cable
	845-C45-GF1XA-PH	Remote Control
01	909-KJ0-GF421UA2H	Control Box Assembly (CMO L05)
02	909-KL0-GF4211UA2H	Control Box Assembly (LG)
	899-K00-GF271XAH	Front/Side Control Button Bd.
	154-500-GF321H	Front/Side Control Button Cover Black
	899-E00-GF271XAH	IR Board
	899-A00-GF271XAH	Front/Side A/V Input Bd.
01	705-542-001CH	42" LCD Panel (CMO L05)
02	705-542-004LH	42" LCD Panel (LG)
01	151-A01-FV18B7WCH	Front Bezel Black/Black (CMO L05)
02	151-A01GF428B7WL0H	Front Bezel Black/Black (LG)
	151-001-FV17GH	Rear Cabinet Black
	154-004-GF32WH	Rear Cabinet Control Box Cover Black
	151-700-GF421UABH	Stand Assembly Black
	824-020-A002H	Speaker (right or Left)
01	631-030-GF421XA-CH	LVDS Cable (CMO L05)
02	631-030-GF421UA-LH	LVDS Cable (LG)
	631-024-GF371-CH	Power Inverter Cable (LG) (CMO L05) (AUO V1)

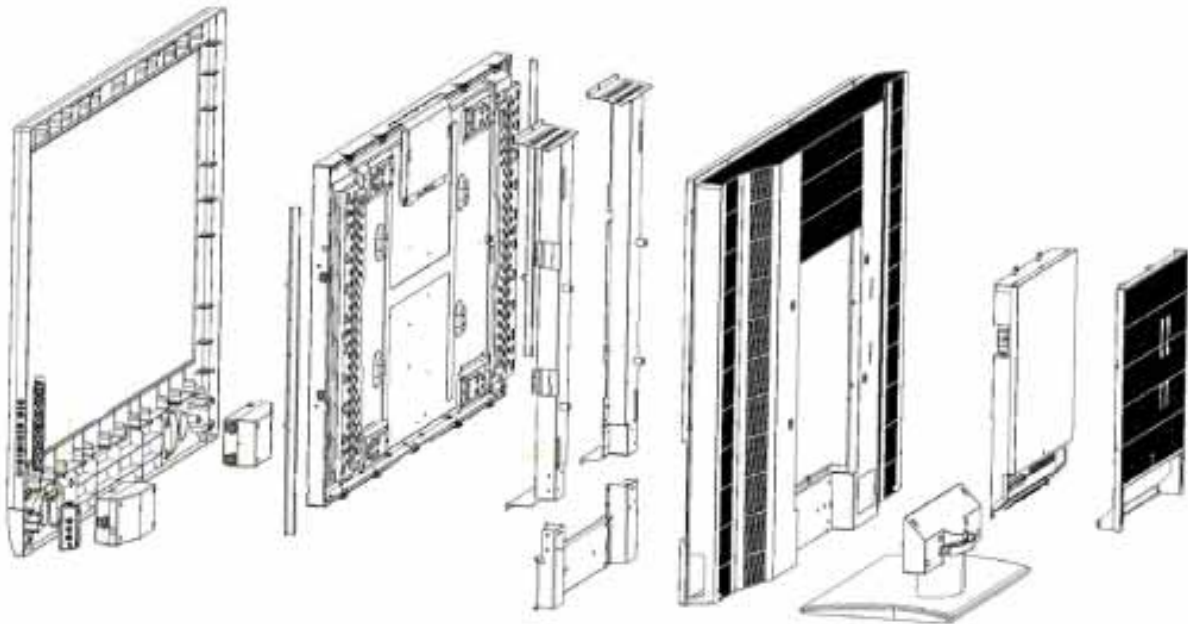
***Note:** You must order parts for the correct Model Version. See "Attention Service Centers" on page 6 before ordering parts.

7. Exploded View Diagram

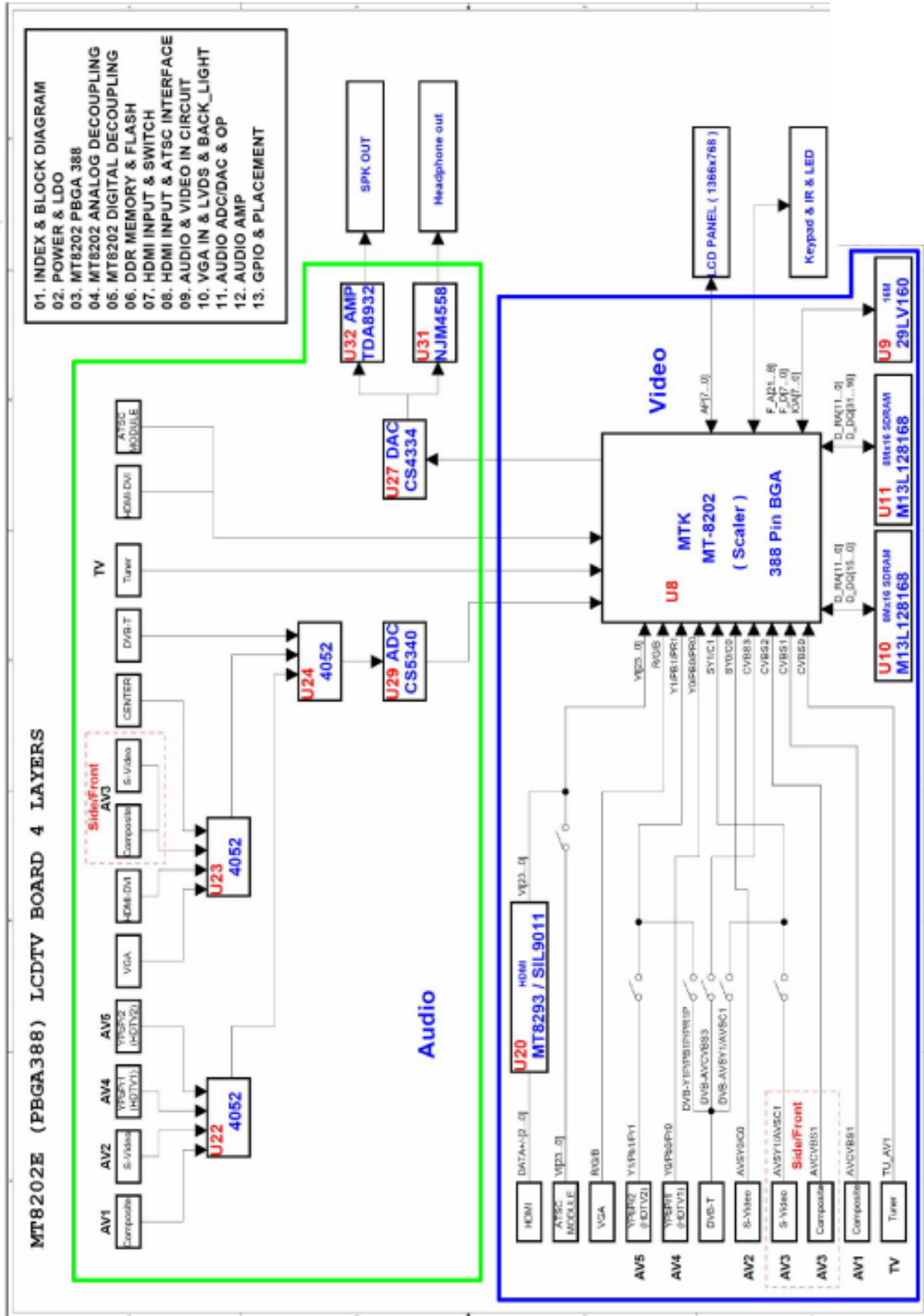
FLM-4034B



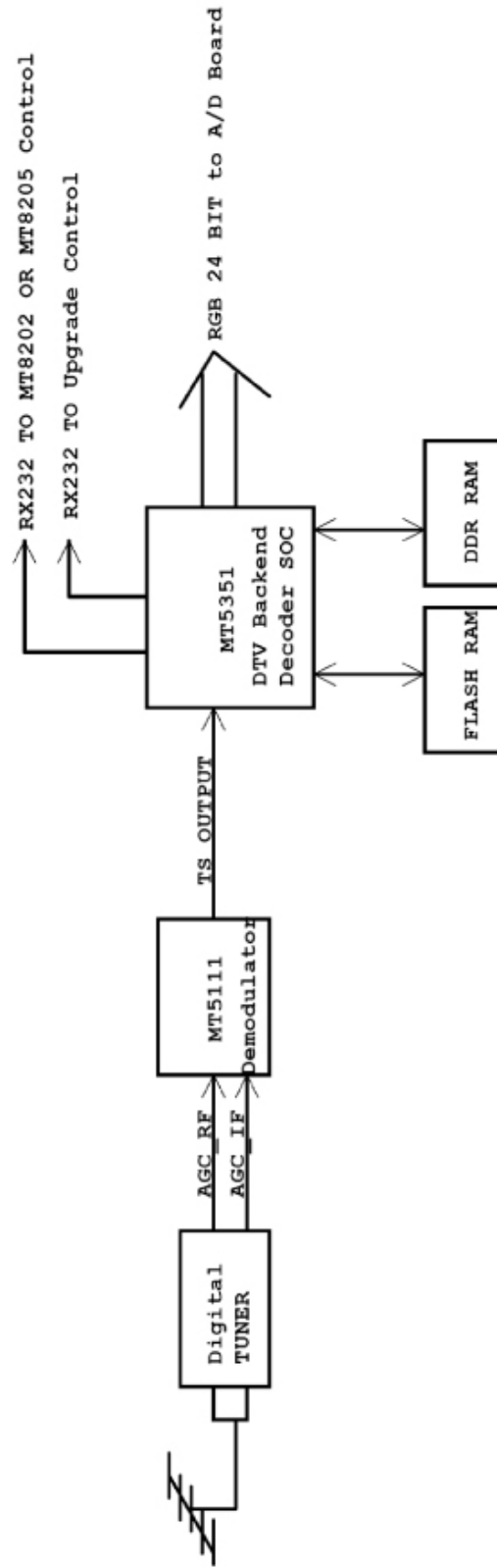
FLM-4232HM, FLM-4234BH



8. Block Diagram

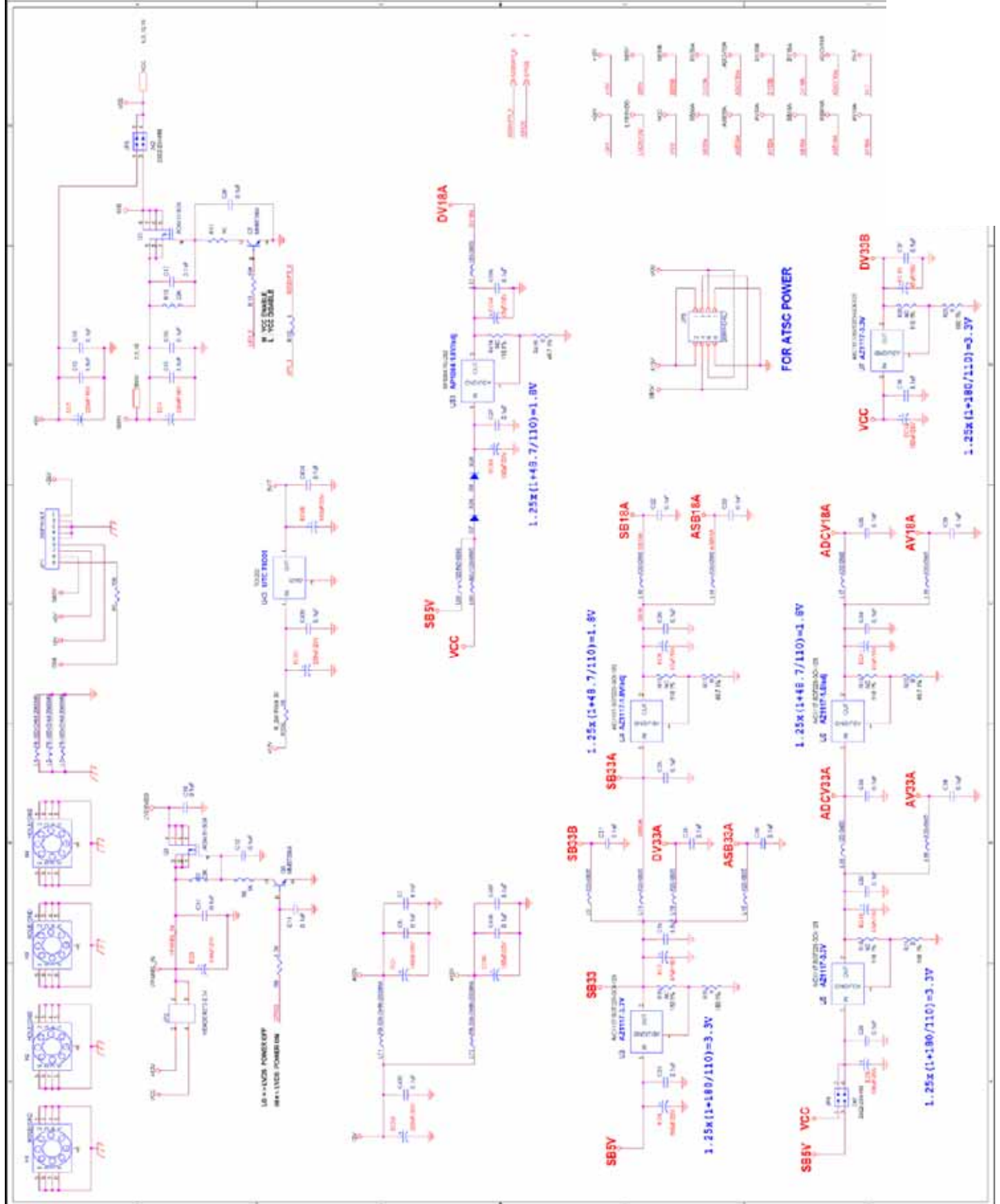


ATSC Board



9. Schematics

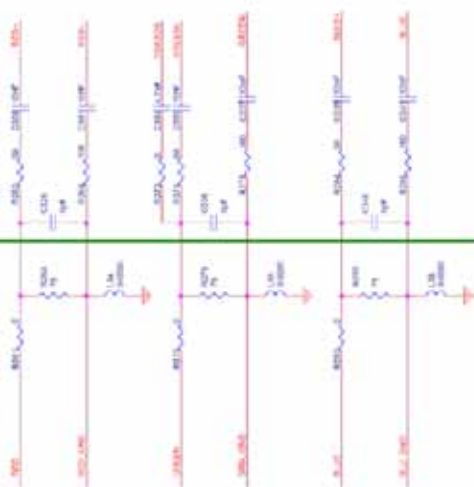
Power & LDO



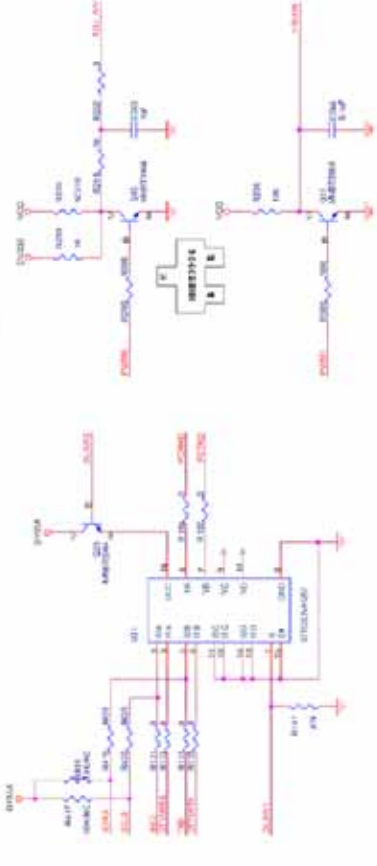
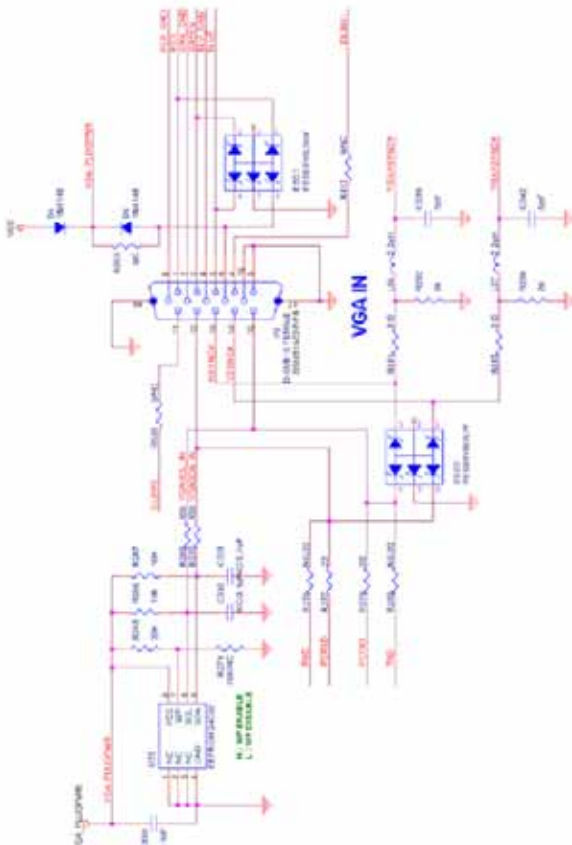
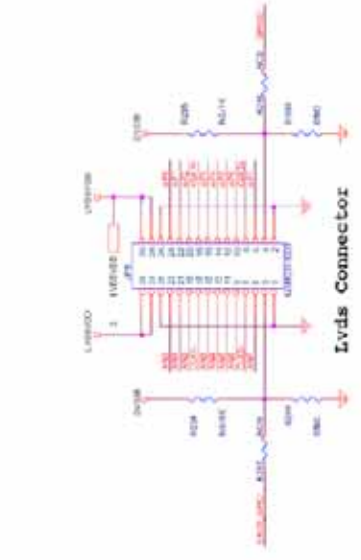
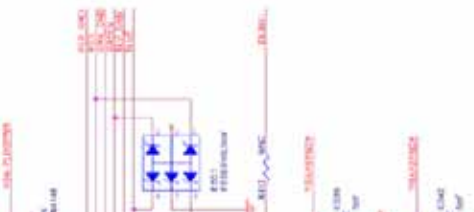
VGA In / LVDS & Back Light

1	0.01	10K	R101	10K	R102
2	0.01	10K	R103	10K	R104
3	0.01	10K	R105	10K	R106
4	0.01	10K	R107	10K	R108
5	0.01	10K	R109	10K	R110
6	0.01	10K	R111	10K	R112
7	0.01	10K	R113	10K	R114
8	0.01	10K	R115	10K	R116
9	0.01	10K	R117	10K	R118
10	0.01	10K	R119	10K	R120
11	0.01	10K	R121	10K	R122
12	0.01	10K	R123	10K	R124
13	0.01	10K	R125	10K	R126
14	0.01	10K	R127	10K	R128
15	0.01	10K	R129	10K	R130
16	0.01	10K	R131	10K	R132
17	0.01	10K	R133	10K	R134
18	0.01	10K	R135	10K	R136
19	0.01	10K	R137	10K	R138
20	0.01	10K	R139	10K	R140
21	0.01	10K	R141	10K	R142
22	0.01	10K	R143	10K	R144
23	0.01	10K	R145	10K	R146
24	0.01	10K	R147	10K	R148
25	0.01	10K	R149	10K	R150
26	0.01	10K	R151	10K	R152
27	0.01	10K	R153	10K	R154
28	0.01	10K	R155	10K	R156
29	0.01	10K	R157	10K	R158
30	0.01	10K	R159	10K	R160
31	0.01	10K	R161	10K	R162
32	0.01	10K	R163	10K	R164
33	0.01	10K	R165	10K	R166
34	0.01	10K	R167	10K	R168
35	0.01	10K	R169	10K	R170
36	0.01	10K	R171	10K	R172
37	0.01	10K	R173	10K	R174
38	0.01	10K	R175	10K	R176
39	0.01	10K	R177	10K	R178
40	0.01	10K	R179	10K	R180
41	0.01	10K	R181	10K	R182
42	0.01	10K	R183	10K	R184
43	0.01	10K	R185	10K	R186
44	0.01	10K	R187	10K	R188
45	0.01	10K	R189	10K	R190
46	0.01	10K	R191	10K	R192
47	0.01	10K	R193	10K	R194
48	0.01	10K	R195	10K	R196
49	0.01	10K	R197	10K	R198
50	0.01	10K	R199	10K	R200

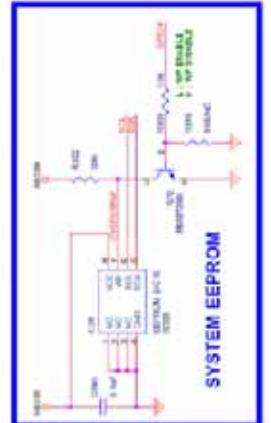
NEARLY VGA CON



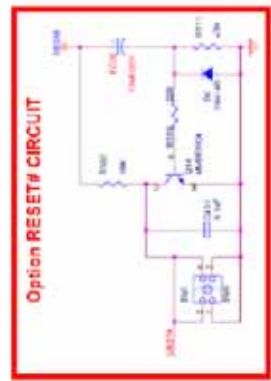
NEARLY MT8202 IC



Inverter Back Light Control

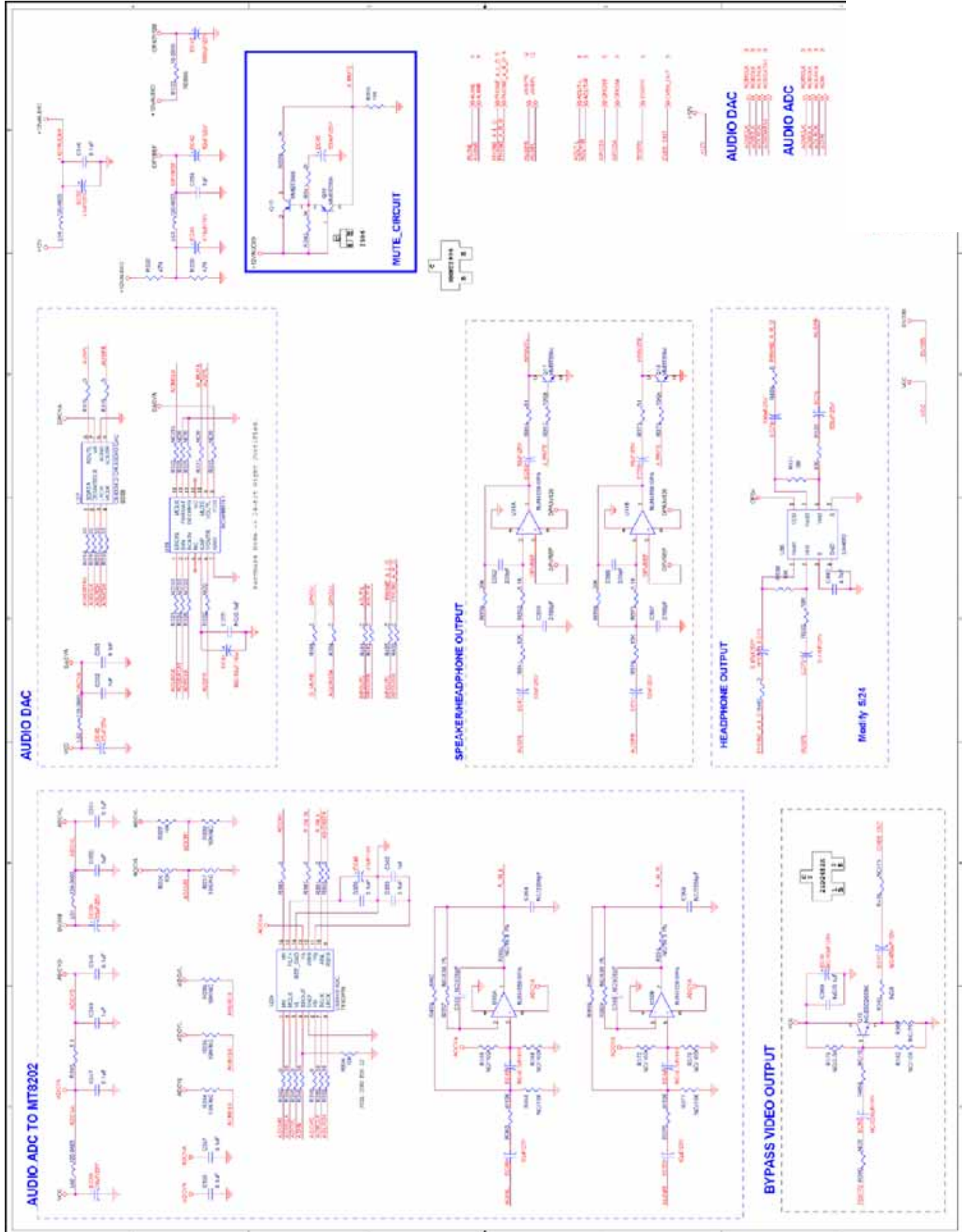


SYSTEM EEPROM



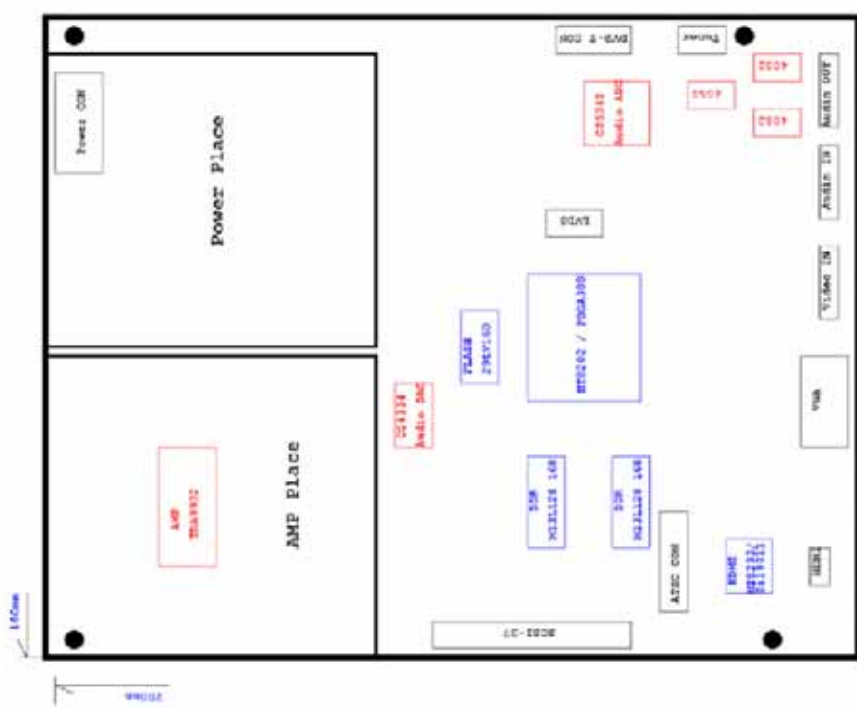
Option RESET# CIRCUIT

FOR Download 8202 / 5351



GPIO DESCRIPTION

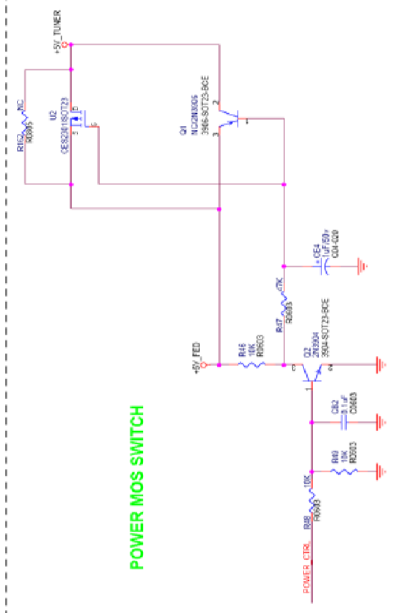
ER03GPIO : LVDS GPIO
 ER02UP3_5 : SDA
 ER01UP3_1 : LED1
 ER00UP3_0 : MAIN POWER SWITCH
 DE/GPIO : LVDS GPIO
 VCLK/GPIO : LVDS GPIO
 UP3_5 : SCL
 AOSDATA/GPIO1 : AUDIO AMPLIFIER CONTROL
 GPIO2 : LVDS POWER SW
 GPIO3 : HEADPHONE DETECT
 GPIO4 : EEPROM WRITE PROTECT
 GPIO5/TXD : 2nd UART FOR MT3351
 GPIO6/RXD : 2nd UART FOR MT3351
 GPIO7 : AUDIO SWITCH 0 SELECT S1
 GPIO8 : AUDIO SWITCH 1 SELECT S1
 GPIO9 : AUDIO SWITCH 0 SELECT S0
 GPIO10 : AUDIO SWITCH 1 SELECT S0
 GPIO11 : NO USE
 GPIO12 : LED2
 GPIO13 : NO USE
 GPIO14 : NO USE
 GPIO15 : NO USE
 GPIO16 : NO USE
 GPIO17 : HDMI SCOT
 GPIO18 : HDMI CABLE DETECT
 SDA : SDA (I2L MODE)
 SCL : SCL (I2L MODE)
 GPIO/PWM1 : DIMMING
 GPIO/PWM1 : BACKLIGHT ON/OFF
 OUT_27MHz/GPIO : 27MHz TO MT2931
 DE_500/GPIO : HDMI RESET
 CEN_DVI/GPIO : HDMI_CEN
 SDA0 : EXTERNAL TVD CHIP ENABLE
 SCL0 : SCART SELECT
 SDM1 : TO MT3351 IF REQUEST
 SCL1 : TO MT3351 IF READY
 ADCIN0 : SCART
 ADCIN1 : SCART
 ADCIN2 : ADCKEY
 ADCIN3 : TUNER
 ADCIN4 : TUNER/MAN POWER SWITCH



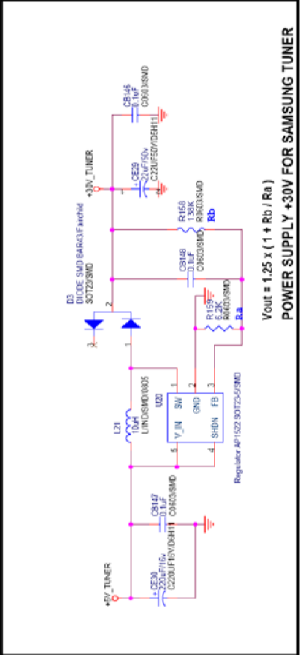
Top Layer
 Bottom Layer

Power

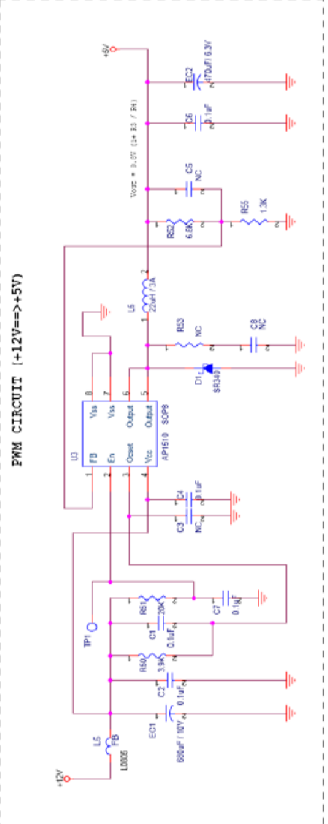
POWER MOS SWITCH



POWER SUPPLY +30V FOR SAMSUNG TUNER

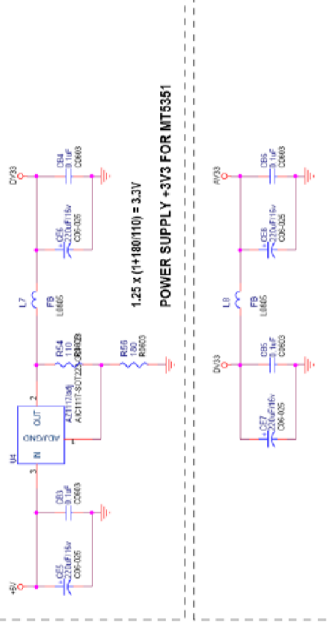


FWM CIRCUIT (+12V=>+5V)

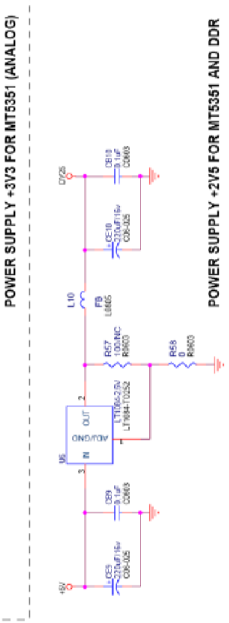


1.25 x (1+180/110) = 3.3V

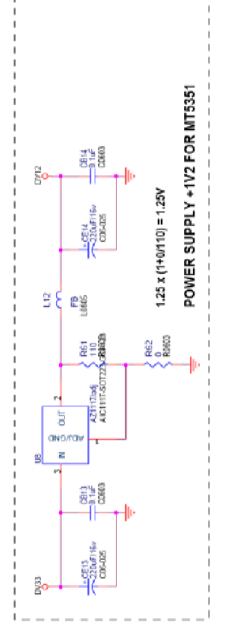
POWER SUPPLY +3V3 FOR MT5351



POWER SUPPLY +3V3 FOR MT5351 (ANALOG)

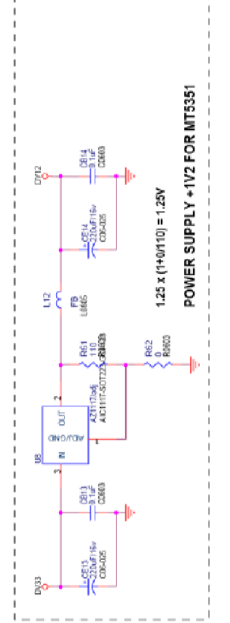


POWER SUPPLY +2V6 FOR MT5351 AND DDR

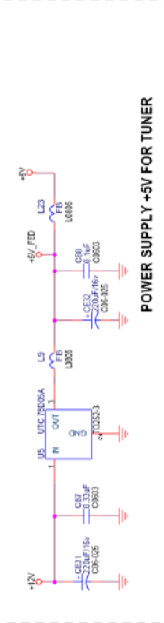


1.25 x (1+10/110) = 1.25V

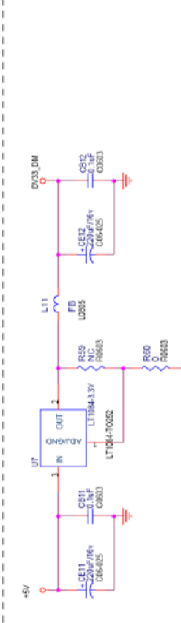
POWER SUPPLY +1V2 FOR MT5351



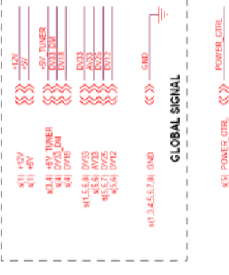
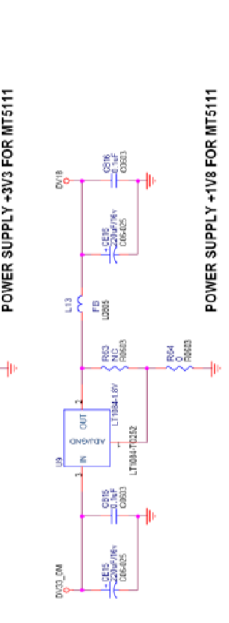
POWER SUPPLY +5V FOR TUNER

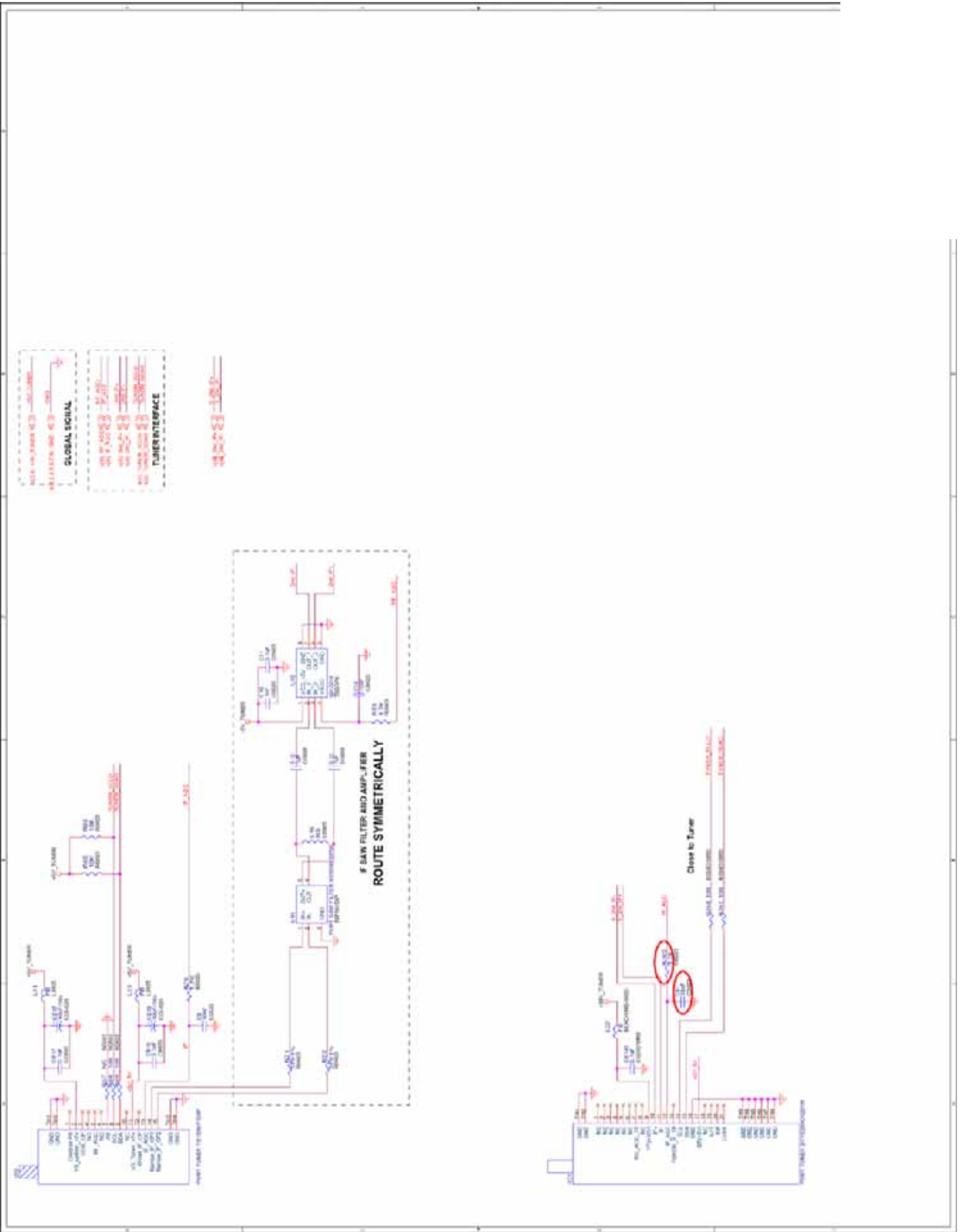


POWER SUPPLY +3V3 FOR MT5111

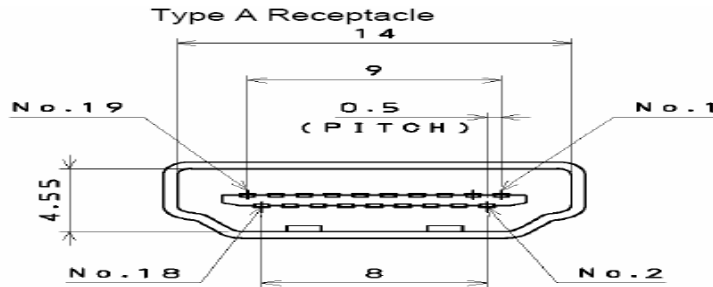


POWER SUPPLY +1V8 FOR MT5111





HDMI connector is a type A receptacle for video/audio mode.



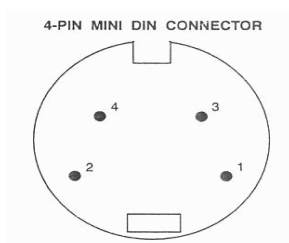
1. TMDS Data 2+	9. TMDS Data 0-	17. CEC/GND
2. TMDS Data 2 shield	10. Clock +	18. +5V Power
3. TMDS Data 2-	11. Clock shield	19. Hot Plug Detect
4. TMDS Data 1+	12. Clock -	
5. TMDS Data 1 shield	13. CEC	
6. TMDS Data 1-	14. NC	
7. TMDS Data 0+	15. DDC CLK	
8. TMDS Data 0 shield	16. DDC DATA	

D-Sub Connector IN. (This function also can provides to HDTV.)

D-Sub type Connector pin assignment		
1. Red Video	6. Red Ground	11. GND
2. Green Video	7. Green Ground	12. SDA For DDC1/2B
3. Blue Video	8. Blue Ground	13. H-sync.
4. GND	9. +5V from PC	14. V-sync.
5. Vdd from PC for DDC	10. Sync. GND	15. SCL For DDC1/2B

RCA jacks are all female type.

Mini DIN CNC 4 Pins (SCN570S3NS00000) for S-video, the pin assignment is described as below:



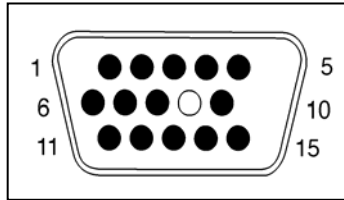
- 1: Ground
- 2: Ground
- 3: Y
- 4: C

HDMI				
Format	DVI 1.0			
Level/Impedance	0.5~3.0Vp-p/100 Ohm (Differential),50 Ohm (Single ending)			
TMDS Mode	Single Link			
Frequency	Fh = 31~80 kHz Fv = 56~76 Hz			
Maximum Pixel Clock	135 MHz			
DDC 1/2B	Compliant with Revision 1.0			
Connector	HDMI x 1			
Analog HD15 PC Signal (RGB)				
Format	R, G, B Analog			
Level/Impedance	0.7Vp-p / 75Ω			
DDC 1/2B	Compliant with Revision 1.0			
Sync	H/V separate 3V TTL level / 1kΩ			
Frequency	Fh = 31~80 kHz Fv = 56~76 Hz			
Maximum Pixel Clock	135 Mhz			
Connector	Mini D-Sub 15 pin (female) x 1			
Video (Composite) CVBS Signal				
Format	NTSC, 4.43NTSC, PAL_M, PAL(B,G,H,D,N), SECAM			
Level / Impedance	1.0Vp-p / 75Ω			
S-Video (Y/C) Signal				
Format	Y, C			
Level / Impedance	Y: 1.0Vp-p / 75Ω C: ± 286 mV/ 75Ω			
Analog HD15 Video Signal (YPbPr/YCbCr)				
Format	Y, Pb, Pr or Y, Cb, Cr			
Level / Impedance	Y: 1.0Vp-p / 75Ω Pb/Cb, Pr/Cr: 0.7 ± 0.035Vp-p / 75Ω			
HDMI Timing				
STANDARD	RESOLUTION	V FREQ Hz	H FREQ kHz	CLK MHz
ATSC, 480i	720x480	60	15.7	27
ATSC, 480p	720x480	60	31.5	27
ATSC, 1080i	1920x1080	60	33.7	74.2
ATSC, 720p	1280x720	60	45.0	74.2
ATSC, 576i	720x576	50	15.6	27

RGB PC Timing				
STANDARD	RESOLUTION	V FREQ Hz	H FREQ kHz	CLK MHz
VGA	640x480	60	31.47	25.16
VGA	640x480	75	37.5	31.5
SVGA	800x600	60	37.88	40
SVGA	800x600	75	46.9	49.5
XGA	1024x768	60	48.36	65.0
XGA	1024x768	75	60.02	78.75
SXGA	1280x1024	60	64	108
SXGA	1280x1024	75	80	135
MAC	640x480	67	35	30.24
Non-VESA	720x400	70	31.5	28
Video & S-Video AV Timing				
STANDARD	RESOLUTION	V FREQ Hz	H FREQ kHz	CLK MHz
NTSC	525	60	15.734	12.65
PAL(B,G,H,D,I)	625	50	15.625	14.50
SECAM	625	50	15.625	14.50
4.43NTSC	525	60	15.734	12.65
PAL-M	525	60	15.734	12.65
PAL-N	625	50	15.625	14.50
HDTV/Component AV Timing				
SDTV 525i	720x525	60	15.735	27
SDTV 625i	720x625	50	15.625	27
SDTV 480p	720x480	60	31.5	27
HDTV 720p	1280x720	60	50.0	74.2
HDTV 1080i	1920x1080	60	33.7	74.2

Power Source	AC100 – 240 V, 60/50 Hz
Sound Output	10W X2, 8 Ohm.

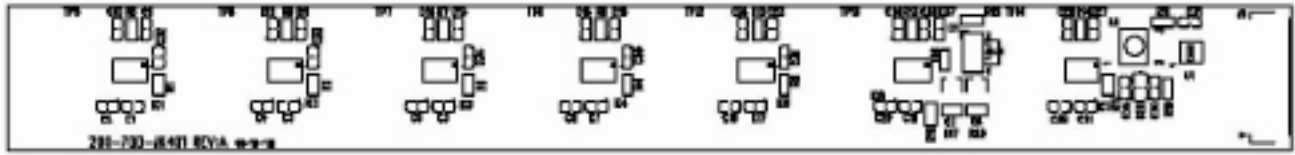
Signal Connector Pin Assignment



Pin	Assignment	Pin	Assignment	Pin	Assignment
1.	Red	6.	Red Ground	11.	Ground
2.	Green	7.	Green Gro und	12.	SDA
3.	Blue	8.	Blue Ground	13.	Horizontal Sync.
4.	Ground	9.	Not Connected	14.	Vertical Sync.
5.	Self Test	10.	Sync. Ground	15.	SCL

10. PCB Layout Diagrams

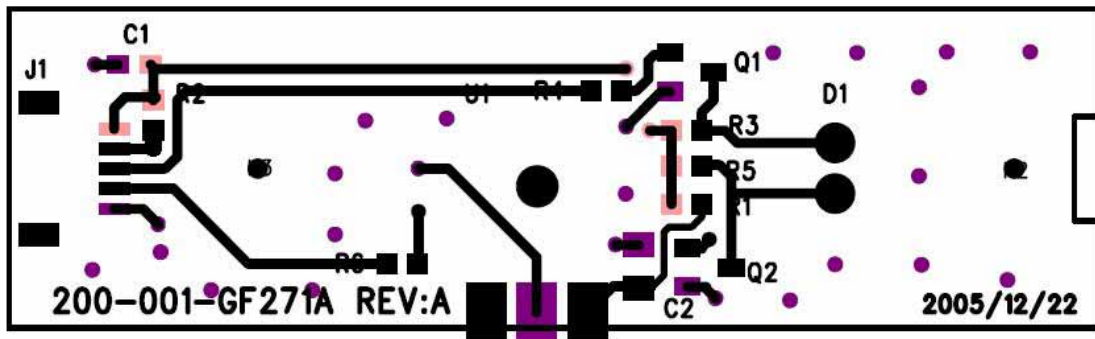
Keypad Board (Component Side Top)



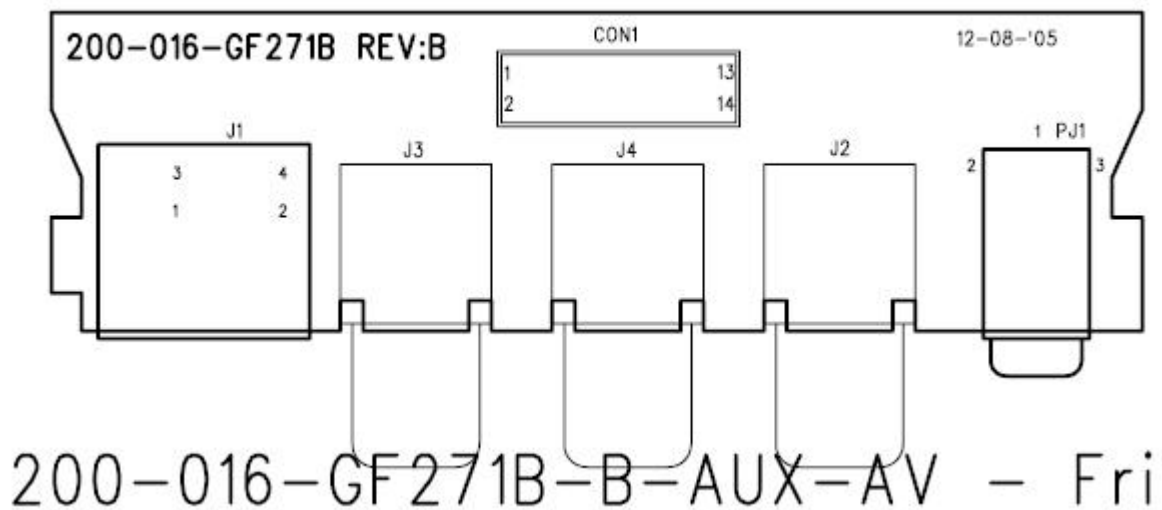
Keypad Board (Component Side Bottom)



IR/LED Board (Component Side Top)



AUX AV Board (Component Side Top)



D-SUB 37 Pin Board (Component Side Top)



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