

Hitachi Service Manual - LE50A6R9



50" LED LCD TV with Roku

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CAUTION: Be sure to read this manual before servicing. To ensure safety from fire, electric shock, injury, harmful radiation and materials, various measures are provided in this LCD TV. Be sure to read cautionary items described in the manual before servicing. These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that described in the operating instructions unless you are qualified to do so.

SERVICE WARNING

1. Replacement work should be started after the Panel Module and the AC/DC Power supply have become sufficiently cool.
2. Special care should be taken when working near the display area in order not to damage its surface.
3. The Panel Module should not be touched with bare hands in order to protect its surface from blemishes and damage.
4. It is recommended that you use clean soft gloves during the replacement work in order to protect not only the display area of the Panel Module but also yourself.

● Cleaning the TV's LCD screen panel

Before cleaning the TV, turn it off and disconnect the power plug from the power outlet. To prevent scratching or damaging of the LCD screen face, do not knock or rub the surface with sharp or hard objects. Clean the screen with a soft cloth moistened with warm water and dry with a second soft cloth. If it is not enough, then use a cloth with mild detergent. Do not use harsh or abrasive cleaners.

● Cleaning the TV's cabinet

Use a soft cloth to clean the TV's cabinet and control panel. When excessively soiled, dilute a neutral detergent in water, wet and wring out the soft cloth in it, gently clean the cabinet, and then wipe it down with a dry soft cloth. Never use acid/alkaline detergents, alcoholic detergents, abrasive cleaners, powder soaps, OA cleaners, car wax, glass cleaners, and so on. They will cause discoloration, scratches or cracks.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid-state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed to prevent potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

Lead Free Solder (PbF)

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 repairing of this product.

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Caution for Safety

Please read this page before repair the TV.

The following safety precautions are designed to help you stay safe and prevent accidents during the repair work.

• Please take note of these cautionary flags.

	WARNING	This means "Potential to sustain injury or even death."
	CAUTION	This means "Potential to sustain breakage or irreparable damage."

• Also note these cautionary icons.

	This means "CAUTION"		This means "MUST"
	This means "POTENTIAL ELECTRIC SHOCK"		This means "DO NOT"

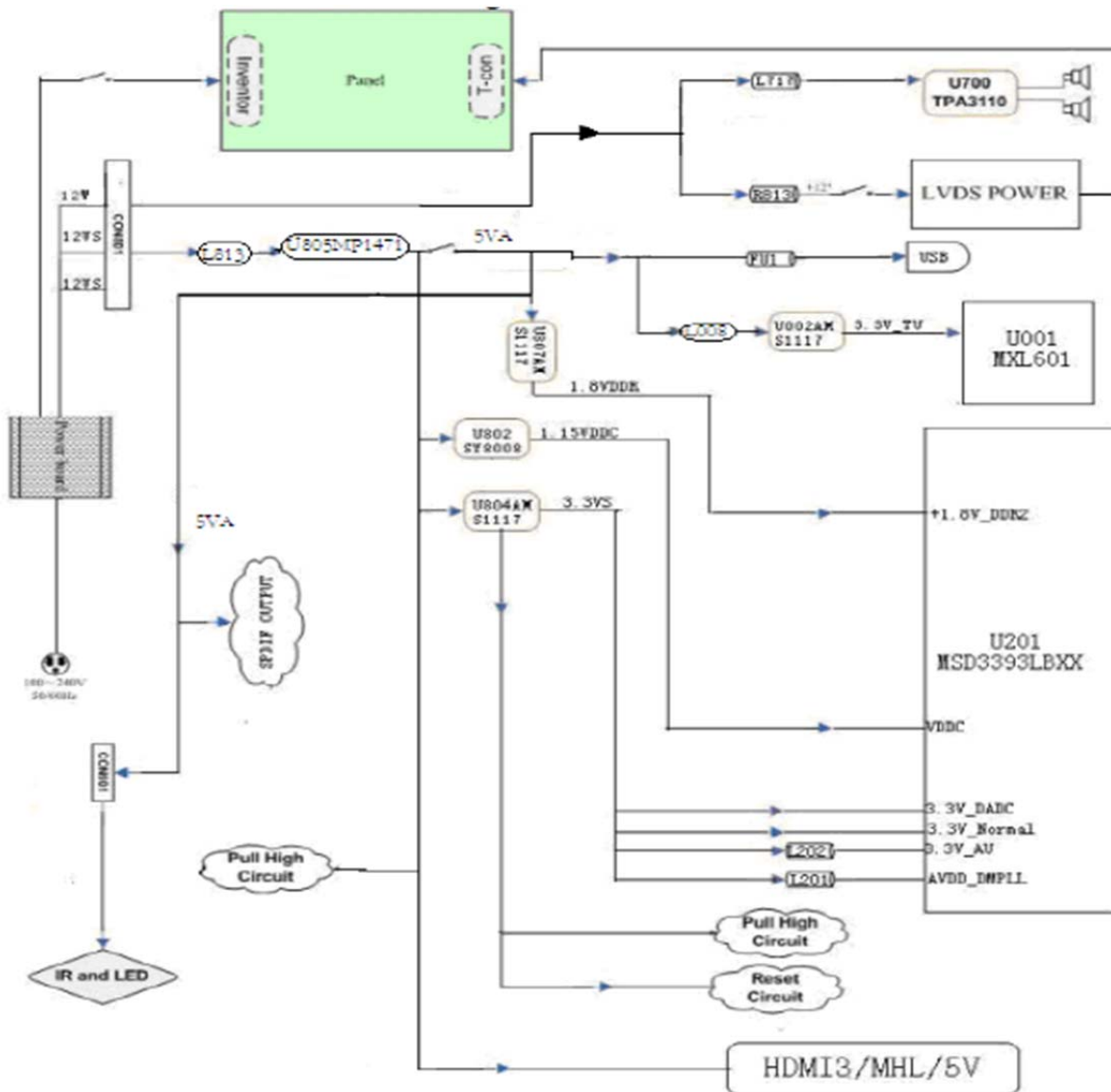
 WARNING			
■ Follow instructions.		■ Must use same types of wires and components.	
	The cabinet, chassis, and labels are parts that require attention. You must follow the caution notes and safety instructions presented throughout this User Manual to prevent damage to them or injury to yourself.		The TV uses special tubes and tapes made from insulated materials. Moreover, some materials are kept from making contact with the PWB for the sake of safety. Internal leads are kept from hot parts or high voltage parts by means of clamps or other measures. As such, you must restore these parts to their original conditions in order to prevent electric shock or fire.
■ Prevent electric shock.		■ Perform safety check when done.	
	Exercise caution while working on the device as the TV contains high voltage parts and supply. It is possible to sustain severe injury or death if you accidentally touch the wrong parts. You must disconnect the power supply while servicing, reassembling, or change parts. If you touch a live connection it is possible to sustain severe injury or death.		Every part (such as removed screws, components, and wiring) must be restored to their prior conditions after servicing. Be sure to check everything that was repaired for damage or mistakes. Also measure the insulated impedance with a meg-ohm meter to confirm that the impedance value is more than 4M ohm. If the impedance value is less than 4M ohm, then electric shock or fire may result.
■ Use recommended components.			
	Use only the recommended components or components that structurally identical to the originals. This is to ensure safety and reliability. Pay special attention to parts in the parts list and circuit diagrams marked with  . If you use non-recommended components, then electric shock or fire may result.		

Features / Specifications

Composite Video	NTSC	NTSC
Component Video or D-Video	480i /480p/720p/1080i /1080p(60Hz)	Yes
	576i /576p/720p/1080i/1080p(50Hz)	Yes
PC Input	VGA (640 x 480@60)	Yes
	VGA (720 x 400@70)	Yes
	S-VGA (800 x 600@60)	Yes
	XGA (1024 x 768@60)	Yes
	W-XGA (1280 x 720@60)	Yes
	W-XGA (1280 x 768@60)	Yes
	W-XGA (1360X768@60)	Yes
	S-XGA (1280 x 1024@60)	Yes
	WU-XGA (1920 x 1080@60)	Yes
HDMI(AV Format)	480i /480p/720p/1080i (60Hz)	Yes
	576i /576p/720p/1080i (50Hz)	Yes
	1080p (24/30/60Hz)	Yes
	1080p (25/50Hz)	Yes
HDMI(PC Format)	VGA (640 x 480)	Yes
	S-VGA (800 x 600)	Yes
	XGA (1024 x 768)	Yes
	W-XGA (1280 x 768)	Yes
	W-XGA (1360X768)	Yes
	S-XGA (1280 x 1024)	Yes
	WU-XGA (1920 x 1080)	Yes

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BLOCK DIAGRAM



No.	Item no.	Model	Main function
1	U001	MXL661	Tuner output IF signal
2	U201	MSD3393LU	Video decoder, image processor, A/D and D/A conversion
3	U700	RT9108	Stereo (BTL) Analog Input Audio Amplifier with Power Limiter and DC Detect
4	U805	MP1471GJ	12VS to 5VS
5	U500	SGM2554AYN5G/TRSET20112-EN	5VS to HDMI3/5V
6	U802	SY8008B	5VS to 1.15VS VDDC/for main chip
7	U804	LR1117/A-3.3\$AZ1117H-3.3TR	5VS to 3.3VS/For main chip & flash
8	U807	AZ1117H-ADJTRE1	5V to 1.8V/for ddr2
9	U202	GD25Q32B-104HIP	Flash

PRIMARY PART NUMBERS

Please call our Call Center for Triage help. During warranty, ALL warranty parts are shipped out through our Call Center. They will have the latest information on how to determine which board or assembly is causing the problem. Warranty Servicers should call: 800-654-7013

This product is serviced at the board/assembly level. Hitachi does NOT support component level service of this model. Functional Parts available include:

- 1) Main Board - - - - - Part Number: 50R850121538
- 2) Power Supply - - - - - Part Number: 850118727
- 3) Remote Receiver Board - - - - - Part Number: 850122117
- 4) Keypad Board - - - - - Part Number: 850115186
- 5) Speaker - - - - - Part Number: 850053985
- 6) Remote Control - - - - - Part Number: 850125633

Normally not considered warranty:

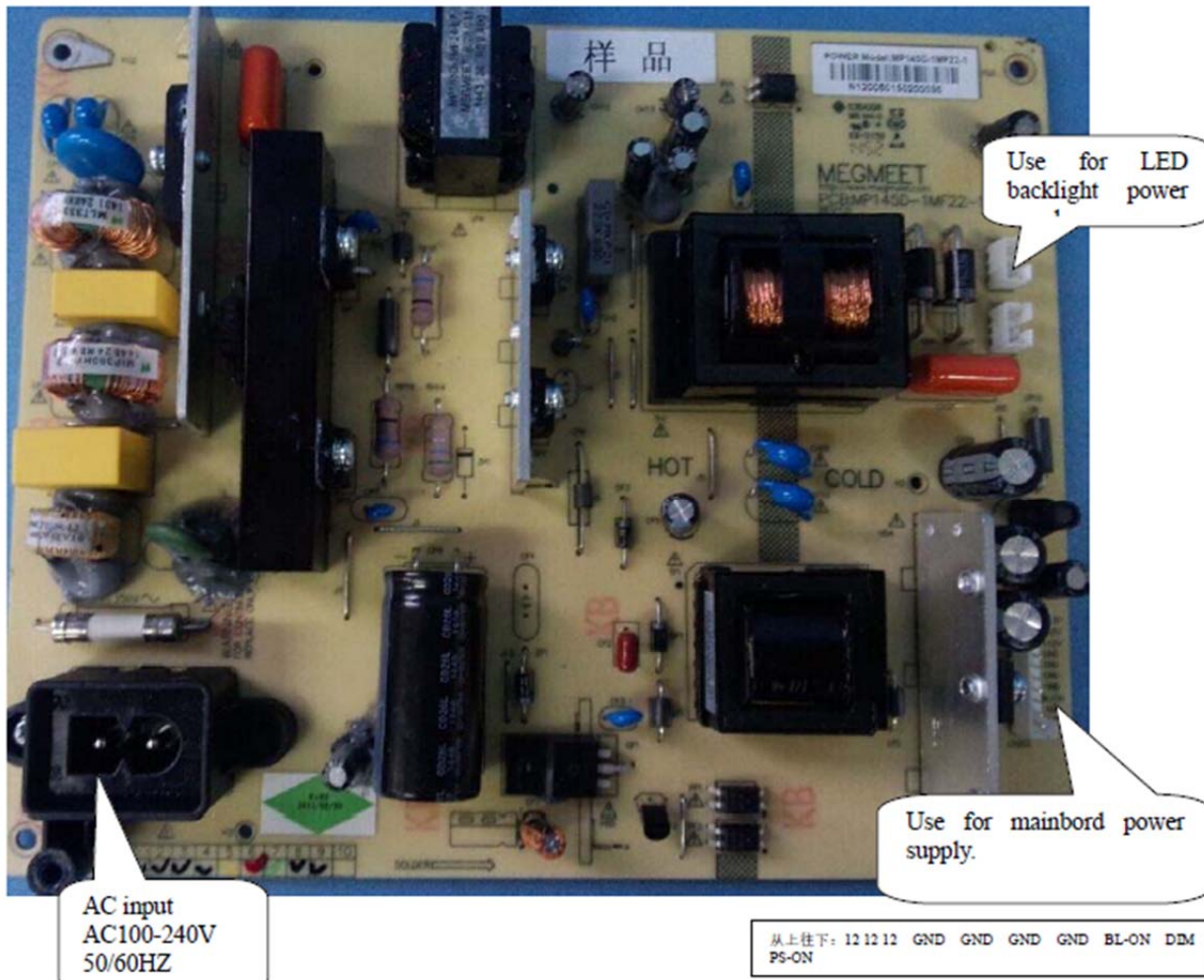
- 7) Power Cord - - - - - Part Number: 850119040
- 8) Legs- - - - - Part Number: 850125105

*** For any Roku Streaming Stick failure:

Customers and dealers should call: 800-HITACHI
Servicers should call: 800-654-7013

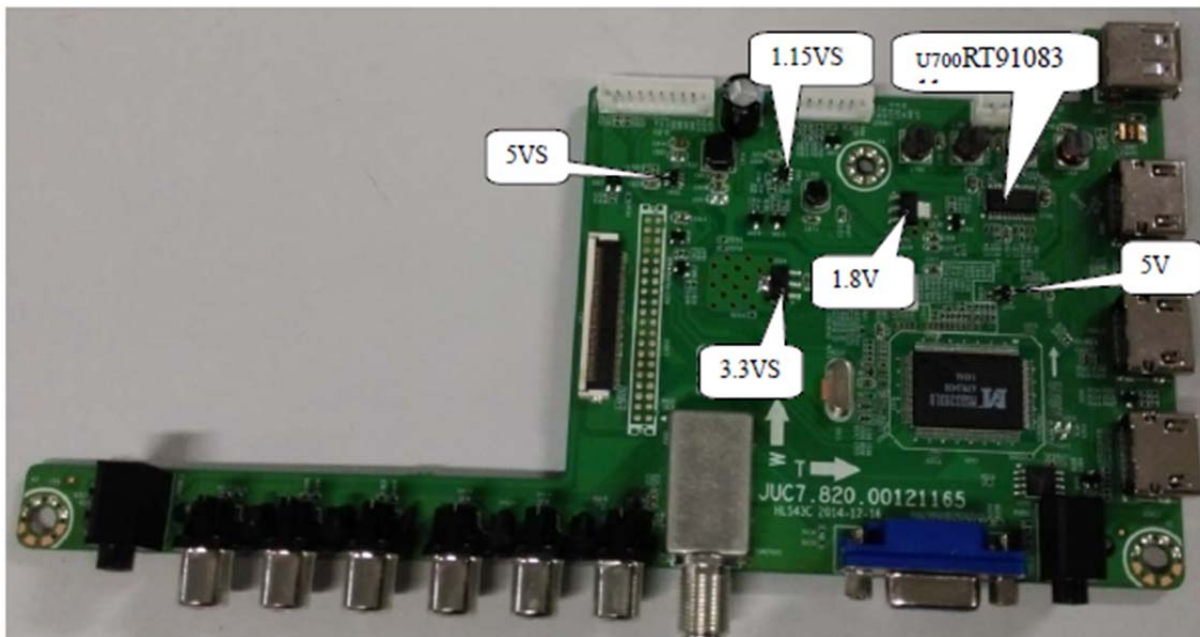
Due to cost, the panel assembly is normally not replaced in the field on this model. For instructions, please call the Call Center. For Out of Warranty price/availability, please contact your Hitachi Authorized Parts Distributor.

POWER SUPPLY

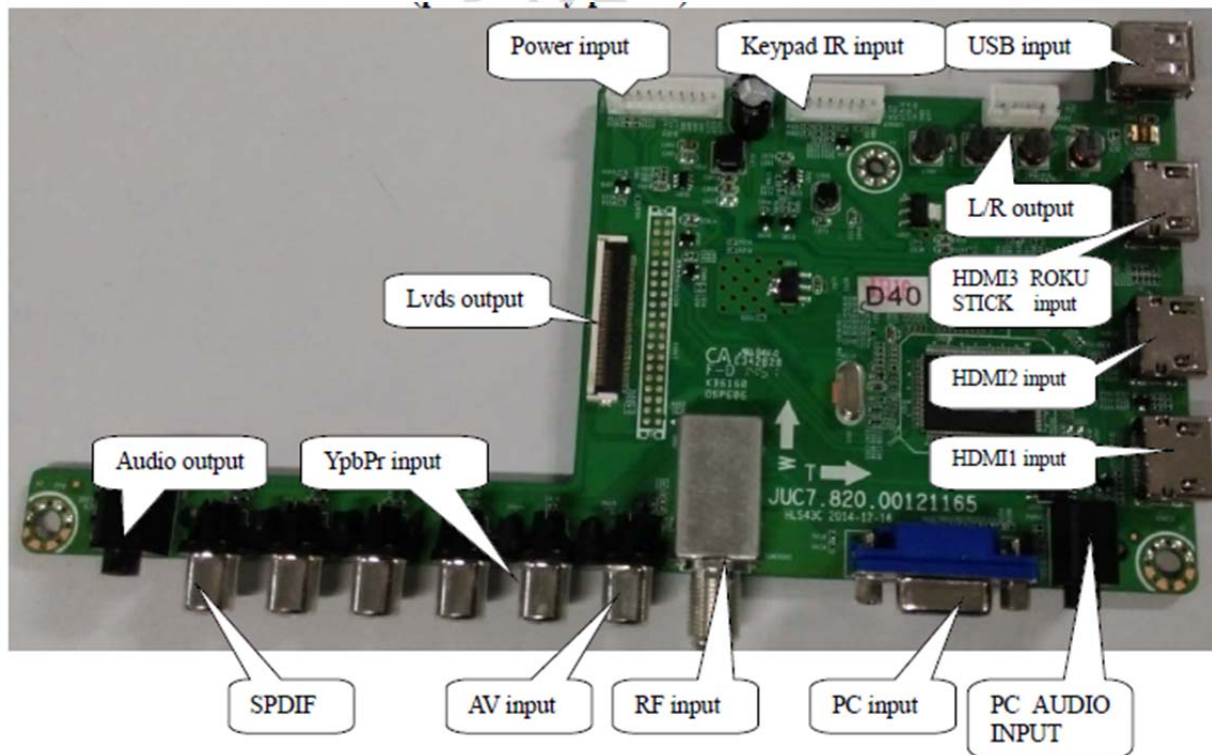


Pin	SYMBOL	Function description.
1	GND	Ground.
2	SW	Power Switching Output., Connect this pin to the switching node of the inductor.
3	VIN	Power Input. Decouple this pin to the and pin with at least 1uf ceramic capacitor.
4	FB	Output feedback input.
5	EN	Enable control. pull high to run. do not float.
6	BST	High-Side Gate Drive Boost Input.

MAIN BOARD



item No.	U802	U500	U805	U807	U804
output voltage	1.2V	5V	5VS	1.8V	3.3VS



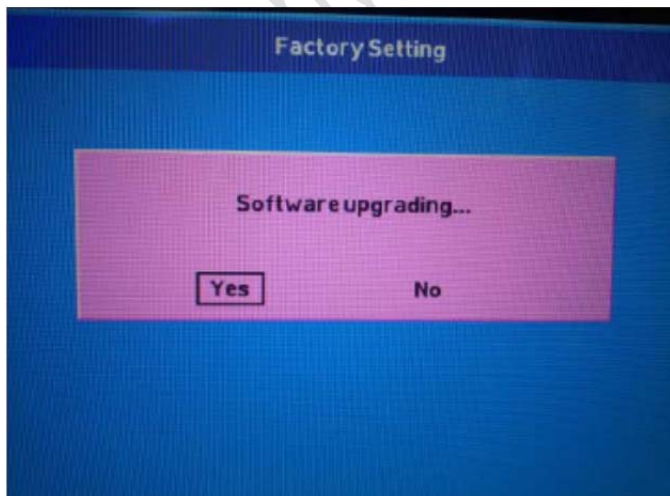
Service Mode (Great Care Should Be Taken When in the Service Mode)

1. Press the Input key on the remote;
2. Enter "3138";
3. You should now be in Service Mode;
If not, start sequence again making sure the remote is pointed towards the IR receiver.

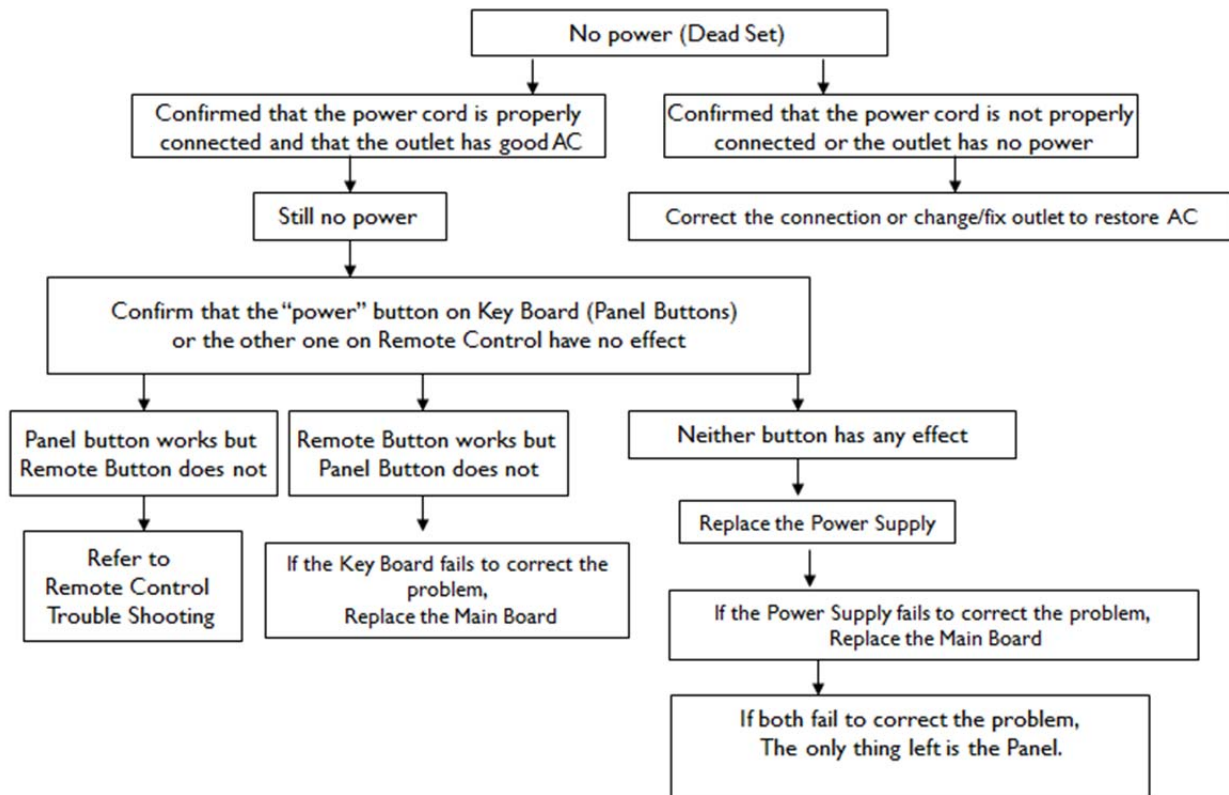
Software Updates

1. Copy the software files to a USB stick in the ROOT directory;
It is recommended that only the update file(s) for this model be in the root directory.
2. Insert the USB stick with the AC power disconnected;
3. Connect the AC power and turn on the TV;
4. Put the set in Service Mode; (see Service Mode above)
5. Select Software Update (USB) and then select Yes;
6. When complete.....
7. Turn off the AC power & remove the USB stick;
8. Turn on the AC power and turn on the TV;

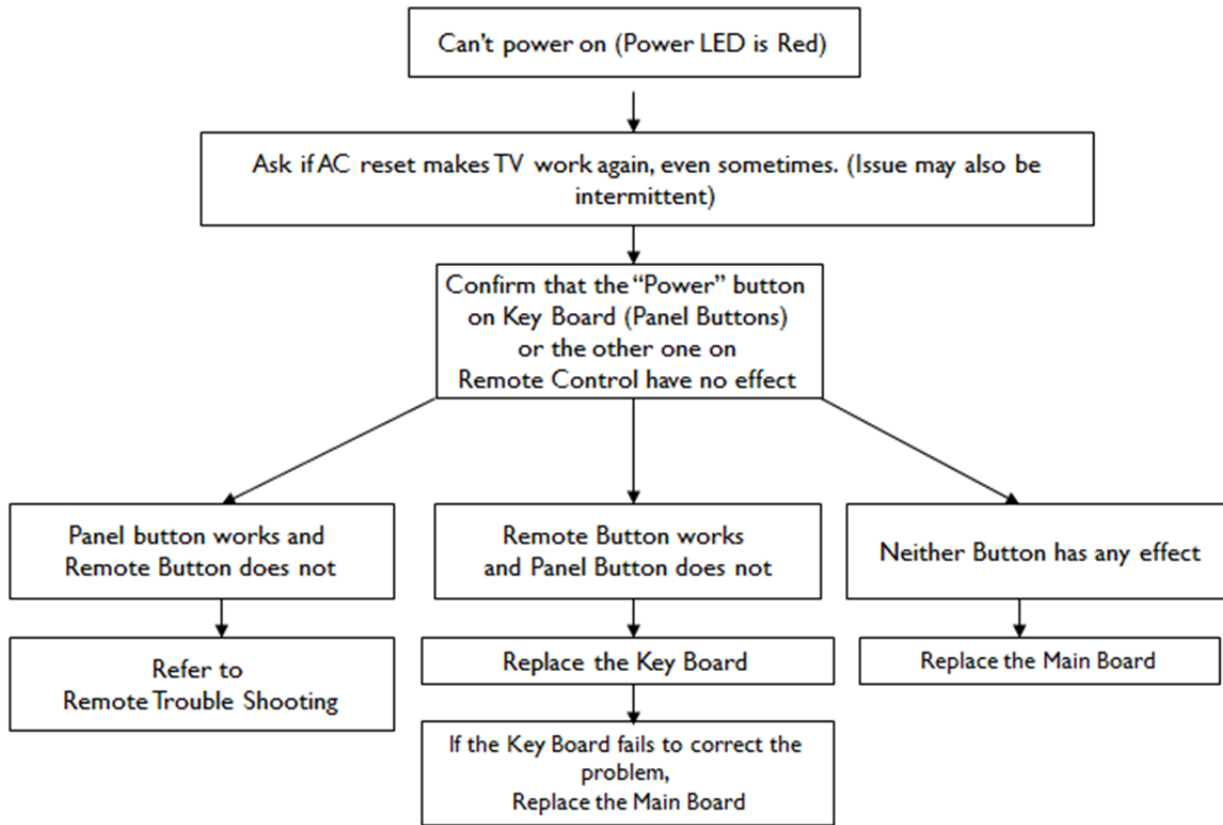
**** Note: Do not turn off the TV while it is updating. ****



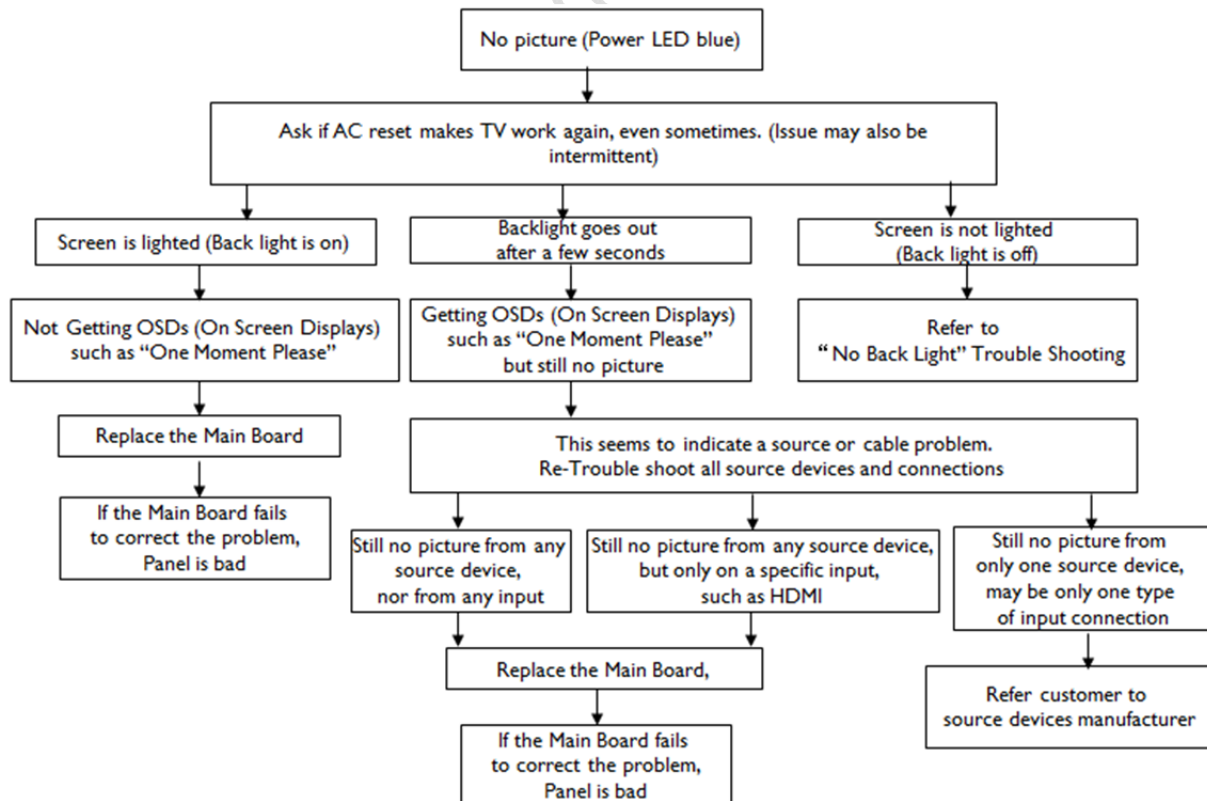
Troubleshooting

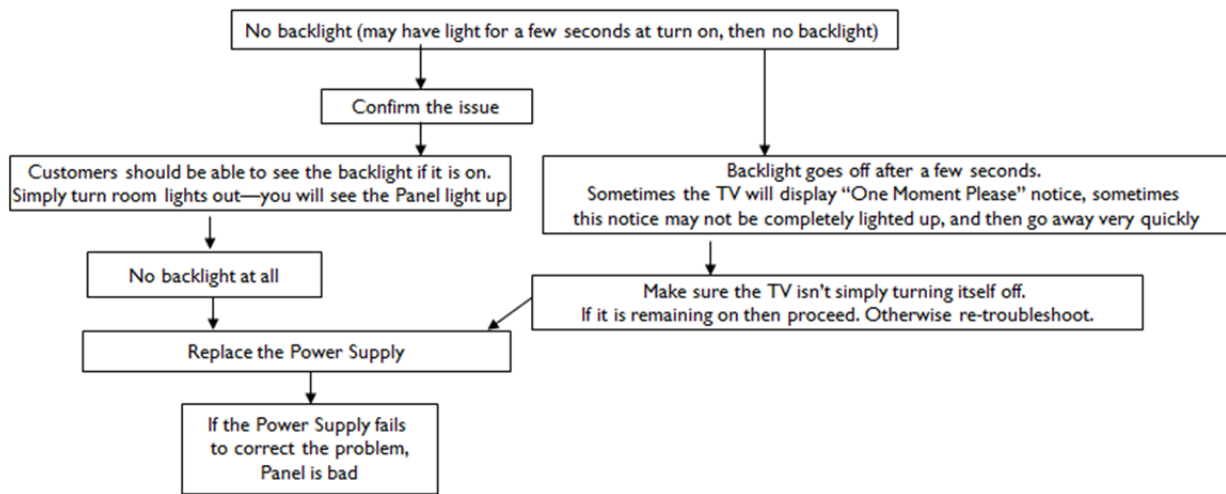


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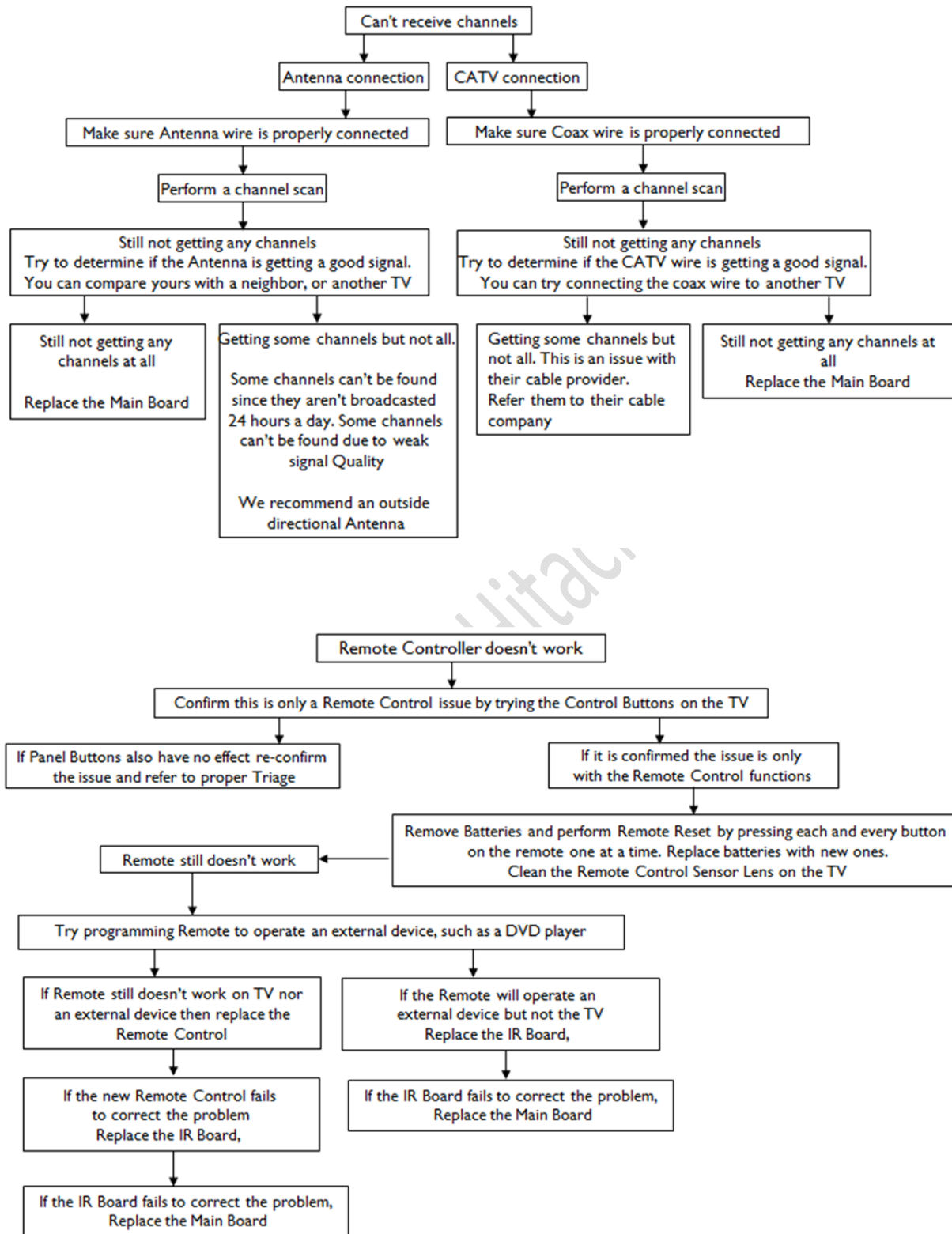


Troubleshooting (cont)

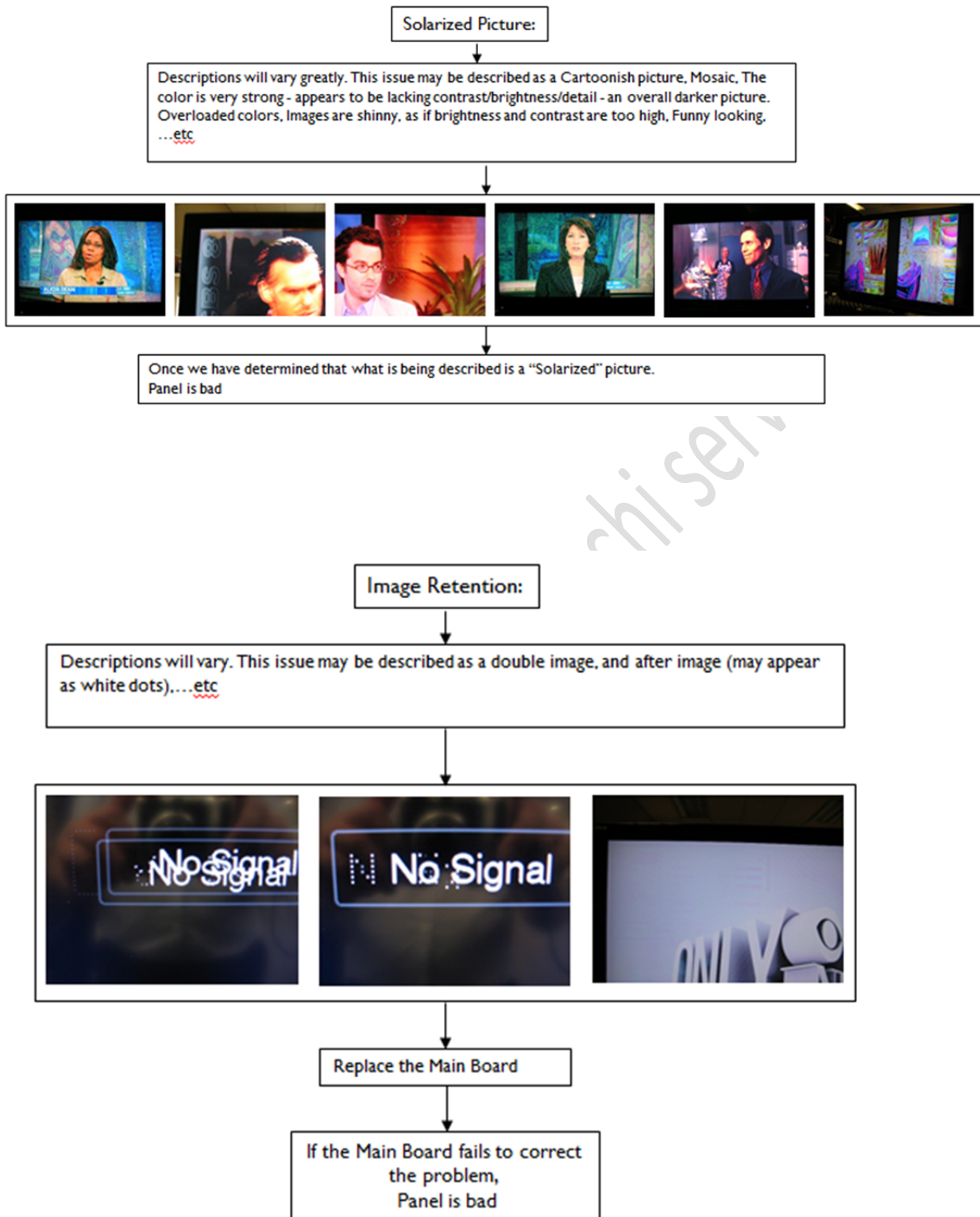




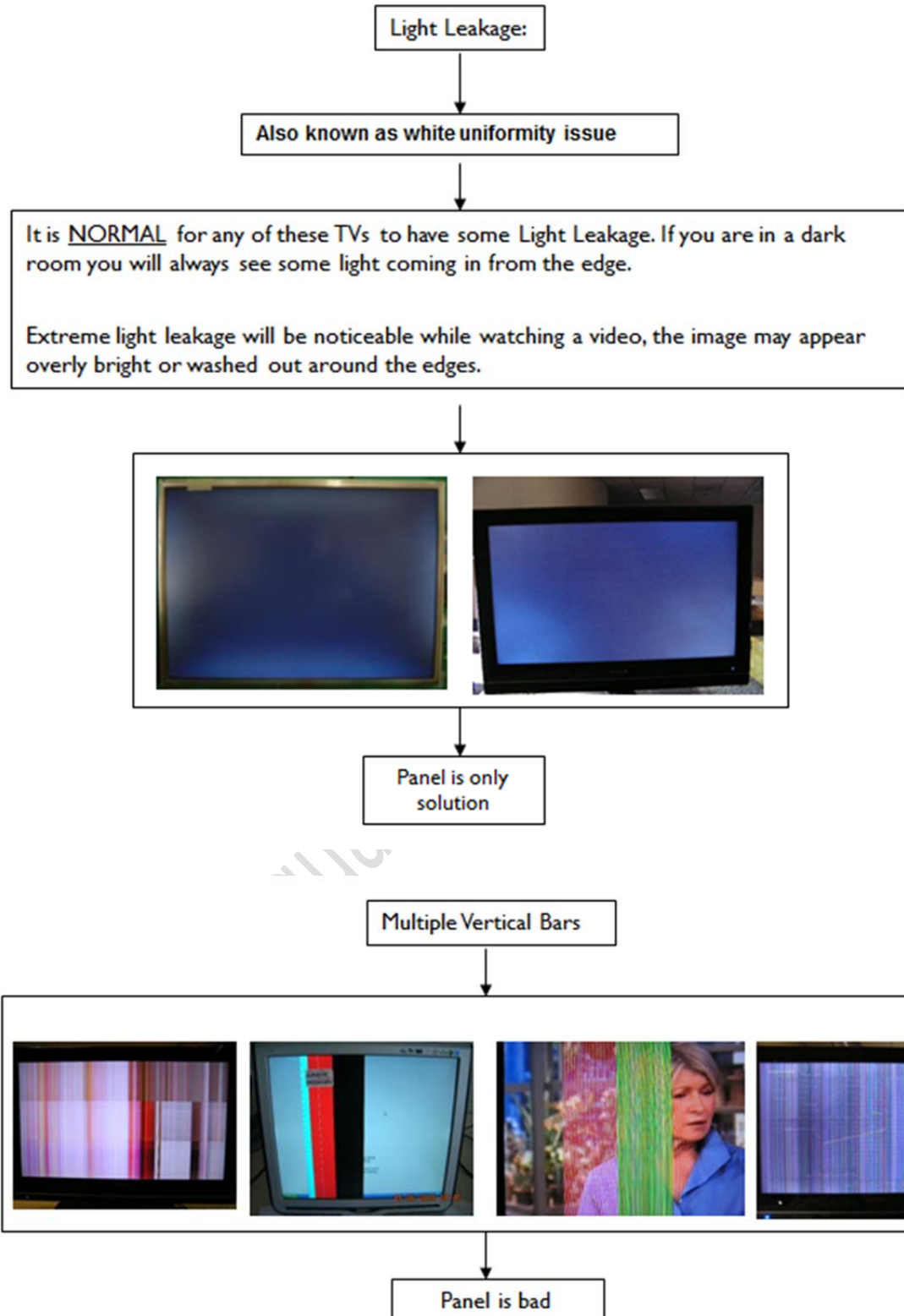
Troubleshooting (cont)



Troubleshooting (cont)



Troubleshooting (cont)

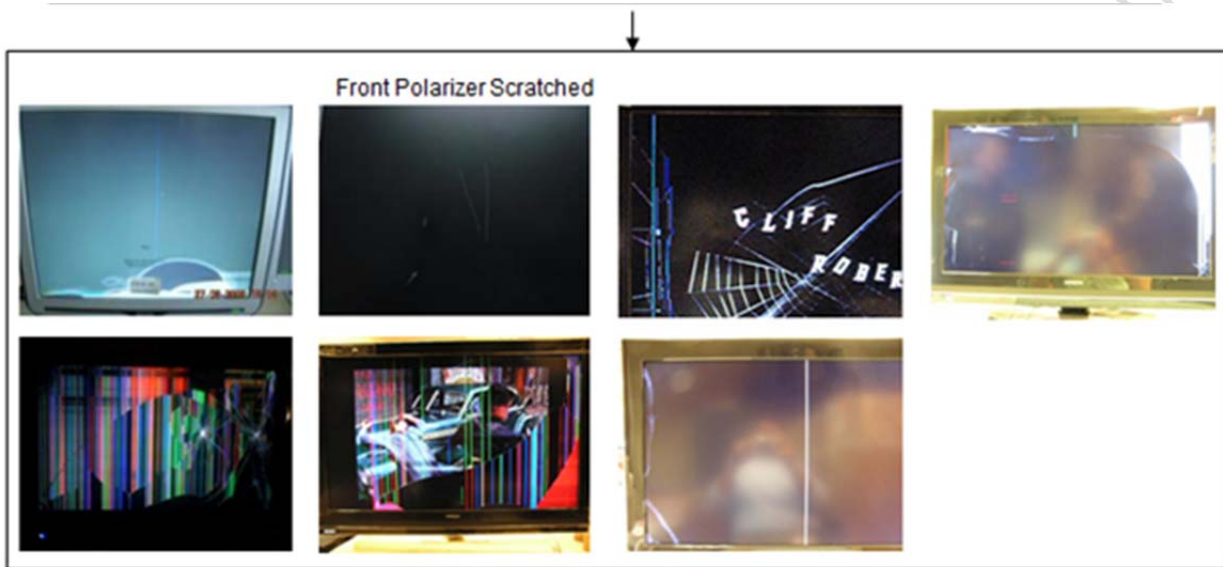


Troubleshooting (cont)

NON-WARRANTY PANEL ISSUES

If a panel is physically damaged right out of the box, the dealer must file a claim for the damaged product. Be sure everyone is advised to keep the box for inspection and/or pictures.

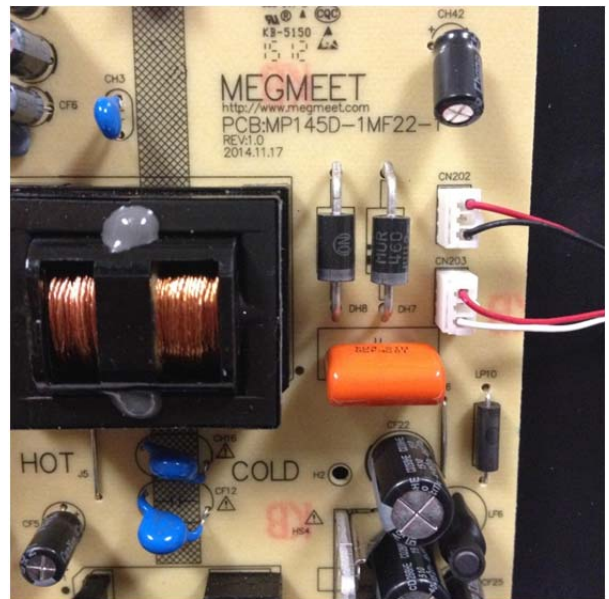
If a panel is damaged after unboxing, this is NOT a warranty event. Some broken panels are not obvious until you look closely.



SET WITH ACCESS PANEL REMOVED SHOWING BOARDS

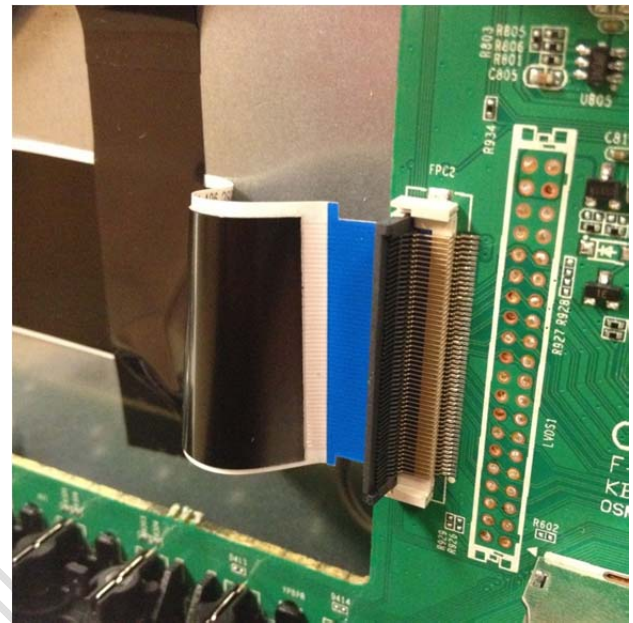
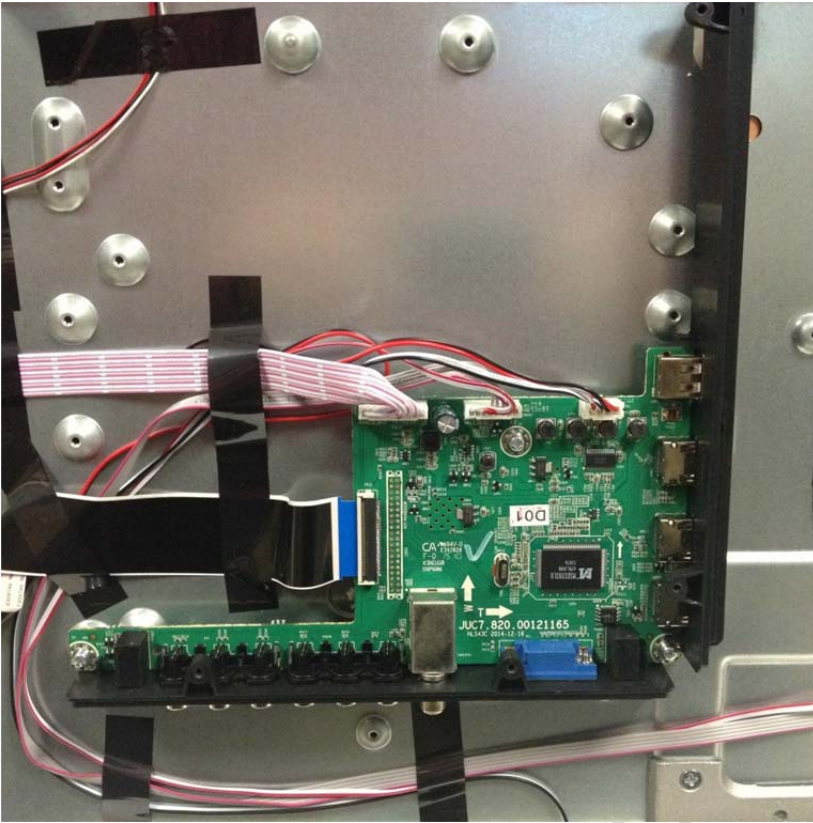


Figure shows

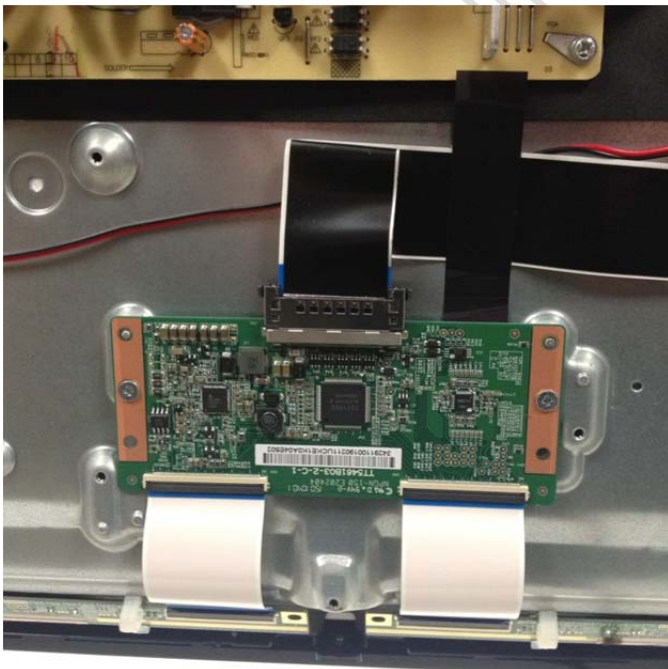


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MAIN BOARD (right picture shows LVDS cable removed. Note connector pivots up from the the right side. The LVDS cable slides in from the left UNDER the hinged portion.)



TCON Board



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for use by qualified Hitachi servicers only