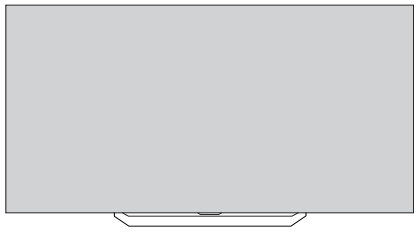
CONFIDENTIAL

OLED TV
SERVICE MANUAL

CHASSIS : EA91E

MODEL : OLED55/65C9PUA
OLED55/65C9AUA

CAUTION
BEFORE SERVICING THE CHASSIS, READ THE SAFETY PRECAUTIONS IN THIS MANUAL.



P/NO : MFL71409501 (1903-REV01)

CONTENTS

SAFETY PRECAUTIONS

IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by ⚠ in the Exploded View.
It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent Shock, Fire, or other Hazards.
Do not modify the original design without permission of manufacturer.

General Guidance

An **isolation Transformer should always be used** during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks.

It will also protect the receiver and it's components from being damaged by accidental shorts of the circuitry that may be inadvertently introduced during the service operation.

If any fuse (or Fusible Resistor) in this TV receiver is blown, replace it with the specified.

When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1 W), keep the resistor 10 mm away from PCB.

Keep wires away from high voltage or high temperature parts.

Before returning the receiver to the customer,

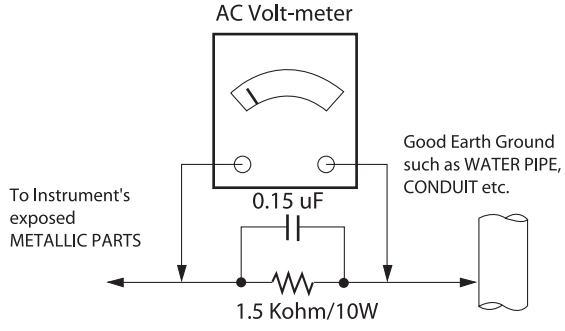
always perform an **AC leakage current check** on the exposed metallic parts of the cabinet, such as antennas, terminals, etc., to be sure the set is safe to operate without damage of electrical shock.

Leakage Current Cold Check(Antenna Cold Check)
With the instrument AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc.
If the exposed metallic part has a return path to the chassis, the measured resistance should be between 1 MΩ and 5.2 MΩ.
When the exposed metal has no return path to the chassis the reading must be infinite.
An other abnormality exists that must be corrected before the receiver is returned to the customer.

Leakage Current Hot Check (See below Figure)
Plug the AC cord directly into the AC outlet.

Do not use a line Isolation Transformer during this check.
Connect 1.5 K / 10 watt resistor in parallel with a 0.15 uF capacitor between a known good earth ground (Water Pipe, Conduit, etc.) and the exposed metallic parts.
Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity.
Reverse plug the AC cord into the AC outlet and repeat AC voltage measurements for each exposed metallic part. Any voltage measured must not exceed 0.75 volt RMS which is corresponds to 0.5 mA.
In case any measurement is out of the limits specified, there is possibility of shock hazard and the set must be checked and repaired before it is returned to the customer.

Leakage Current Hot Check circuit



When 25A is impressed between Earth and 2nd Ground for 1 second, Resistance must be less than 0.1 Ω
*Base on Adjustment standard

SERVICING PRECAUTIONS

CAUTION: Before servicing receivers covered by this service manual and its supplements and addenda, read and follow the *SAFETY PRECAUTIONS* on page 3 of this publication.
NOTE: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

General Servicing Precautions

1. Always unplug the receiver AC power cord from the AC power source before;
   a. Removing or reinstalling any component, circuit board module or any other receiver assembly.
   b. Disconnecting or reconnecting any receiver electrical plug or other electrical connection.
   c. Connecting a test substitute in parallel with an electrolytic capacitor in the receiver.
   CAUTION: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.
2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc) equipped with a suitable high voltage probe. Do not test high voltage by "drawing an arc".
3. Do not spray chemicals on or near this receiver or any of its assemblies.
4. Unless specified otherwise in this service manual, clean electrical contacts only by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable non-abrasive applicator; 10 % (by volume) Acetone and 90 % (by volume) isopropyl alcohol (90 % - 99 % strength)
   CAUTION: This is a flammable mixture.
   Unless specified otherwise in this service manual, lubrication of contacts in not required.
5. Do not defeat any plug/socket B+ voltage interlocks with which receivers covered by this service manual might be equipped.
6. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
7. Always connect the test receiver ground lead to the receiver chassis ground before connecting the test receiver positive lead.
   Always remove the test receiver ground lead last.
8. Use with this receiver only the test fixtures specified in this service manual.
   CAUTION: Do not connect the test fixture ground strap to any heat sink in this receiver.

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.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as “anti-static” can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range or 500 °F to 600 °F.
2. Use an appropriate gauge of RMA resin-core solder composed of 60 parts tin/40 parts lead.
3. Keep the soldering iron tip clean and well tinned.
4. Thoroughly clean the surfaces to be soldered. Use a mall wire-bristle (0.5 inch, or 1.25 cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.
5. Use the following unsoldering technique
   a. Allow the soldering iron tip to reach normal temperature. (500 °F to 600 °F)
   b. Heat the component lead until the solder melts.
   c. Quickly draw the melted solder with an anti-static, suction-type solder removal device or with solder braid.
   CAUTION: Work quickly to avoid overheating the circuit board printed foil.
6. Use the following soldering technique.
   a. Allow the soldering iron tip to reach a normal temperature (500 °F to 600 °F)
   b. First, hold the soldering iron tip and solder the strand against the component lead until the solder melts.
   c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.
   CAUTION: Work quickly to avoid overheating the circuit board printed foil.
   d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.

IC Remove/Replacement
Some chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

Removal
1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.
2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

Replacement
1. Carefully insert the replacement IC in the circuit board.
2. Carefully bend each IC lead against the circuit foil pad and solder it.
3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to the areas).

"Small-Signal" Discrete Transistor Removal/Replacement
1. Remove the defective transistor by clipping its leads as close as possible to the component body.
2. Bend into a "U" shape the end of each of three leads remaining on the circuit board.
3. Bend into a "U" shape the replacement transistor leads.
4. Connect the replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact then solder each connection.

Power Output, Transistor Device
Removal/Replacement
1. Heat and remove all solder from around the transistor leads.
2. Remove the heat sink mounting screw (if so equipped).
3. Carefully remove the transistor from the heat sink of the circuit board.
4. Insert new transistor in the circuit board.
5. Solder each transistor lead, and clip off excess lead.
6. Replace heat sink.

Diode Removal/Replacement
1. Remove defective diode by clipping its leads as close as possible to diode body.
2. Bend the two remaining leads perpendicular y to the circuit board.
3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.
4. Securely crimp each connection and solder it.
5. Inspect (on the circuit board copper side) the solder joints of the two "original" leads. If they are not shiny, reheat them and if necessary, apply additional solder.

Fuse and Conventional Resistor
Removal/Replacement
1. Clip each fuse or resistor lead at top of the circuit board hollow stake.
2. Securely crimp the leads of replacement component around notch at stake top.
3. Solder the connections.
   CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board to prevent excessive component temperatures.

Circuit Board Foil Repair
Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board causing the foil to separate from or "lift-off" the board. The following guidelines and procedures should be followed whenever this condition is encountered.

At IC Connections
To repair a defective copper pattern at IC connections use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections).

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary).
2. carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.
3. Bend a small "U" in one end of a small gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.
4. Route the jumper wire along the path of the out-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area and clip off any excess jumper wire.

At Other Connections
Use the following technique to repair the defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.

1. Remove the defective copper pattern with a sharp knife. Remove at least 1/4 inch of copper, to ensure that a hazardous condition will not exist if the jumper wire opens.
2. Trace along the copper pattern from both sides of the pattern break and locate the nearest component that is directly connected to the affected copper pattern.
3. Connect insulated 20-gauge jumper wire from the lead of the nearest component on one side of the pattern break to the lead of the nearest component on the other side.
   Carefully crimp and solder the connections.
   CAUTION: Be sure the insulated jumper wire is dressed so the it does not touch components or sharp edges.

SPECIFICATION

NOTE : Specifications and others are subject to change without notice for improvement.

1. Application range

This specification is applied to the OLED TV used EA91E chassis.

2. Test condition

Each part is tested as below without special appointment.

(1) Temperature : 25 ºC ± 5 ºC(77 ± 9 ºF) , CST : 40 ºC ± 5 ºC
(2) Relative Humidity: 65 % ± 10 %
(3) Power Voltage
: Standard input voltage (AC 100-240 V~, 50/60 Hz)
* Standard Voltage of each products is marked by models.
(4) Specification and performance of each parts are followed each drawing and specification by part number in accordance with BOM.
(5) The receiver must be operated for about 5 minutes prior to the adjustment.

3. Test method

(1) Performance: LGE TV test method followed
(2) Demanded other specification
- Safety : UL, CSA, CE, IEC specification
- EMC : FCC, ICES, CE, IEC specification

4. General Specification

No	Item		Specification	Remark
1	Market		North America	
2	Broadcasting system		ATSC / NTSC-M, 64 & 256 QAM	
3	Available Channel		VHF : 02~13	
			UHF : 14~69	
			DTV : 02-69	
			CATV : 01~135	
			CADTV : 01~135	
4	Receiving system		Digital : ATSC, 64 & 256 QAM Analog : NTSC-M	
5	Video Input		NTSC-M	Rear gender(1EA)
6	HDMI Input	HDMI 1	PC / DTV format	Support 6Gbps
		HDMI 2	PC / DTV format	Support 6Gbps, Support ARC
		HDMI 3	PC / DTV format	Support 6Gbps
		HDMI 4	PC / DTV format	Support 6Gbps
7	Audio Input		AV Audio / DVI Audio	Rear(AV Gender), Except Korea model L/R Input : Rear AV and DVI use same jack
8	Audio out	SPDIF(1EA)	Optical Audio out	Rear(1EA)
		HeadPhone(1EA)	HeadPhone out	Rear(1EA)
9	USB Input(3EA)		EMF, DivX HD, For SVC (download)	JPEG, MP3, DivX HD
10	Ethernet Connect (1EA)		Ethernet Connect	

5. External Input Support Format

5.1. HDMI Input (PC/DTV)

No.	Resolution	H-freq(kHz)	V-freq.(kHz)	Pixel clock(MHz)	Proposed	Remarks
	HDMI-PC					
1	640*350	31.46	70.09	25.17	EGA	
2	720*400	31.46	70.08	28.32	DOS	
3	640*480	31.46	59.94	25.17	VESA(VGA)	
4	800*600	37.87	60.31	40	VESA(SVGA)	
5	1024*768	48.36	60	65	VESA(XGA)	
6	1360*768	47.71	60.01	84.75	VESA(WXGA)	
7	1152*864	54.34	60.05	80	VESA	
8	1280*1024	63.98	60.02	109	SXGA	Support to HDMI-PC
9	1920*1080	67.5	60	158.4	WUXGA (Reduced Blank-ing)	
10	1920*1080	135	120	297		
11	3840*2160	54	24	297	UDTV 2160P	
12	3840*2160	56.25	25	297	UDTV 2160P	
13	3840*2160	67.5	30	297	UDTV 2160P	
14	3840*2160	112.5	50	594	UDTV 2160P	When HDMI1,2,3,4 UHD DEEP COLOUR ON
15	3840*2160	135	60	594	UDTV 2160P	
16	3840*2160	225	100	1188	UDTV 2160P	When HDMI1,2,3,4 UHD DEEP COLOUR ON, HDMI SWITCH model
17	3840*2160	270	120	1188	UDTV 2160P	
18	4096*2160	53.95	23.97	296.7	UDTV 2160P	
19	4096*2160	54	24	297	UDTV 2160P	
20	4096*2160	56.25	25	297	UDTV 2160P	When HDMI1,2,3,4 UHD DEEP COLOUR ON
21	4096*2160	67.5	30	297	UDTV 2160P	
22	4096*2160	112.5	50	594	UDTV 2160P	
23	4096*2160	135	60	594	UDTV 2160P	
24	4096*2160	225	100	1188	UDTV 2160P	When HDMI1,2,3,4 UHD DEEP COLOUR ON, HDMI SWITCH model
25	4096*2160	270	120	1188	UDTV 2160P	
26	2560*1440	88.78	60	241.5	3K	When HDMI1,2,3,4 UHD DEEP COLOUR ON
27	2560*1440	183	120	497.7	3K	

No.	Resolution	H-freq(kHz)	V-freq.(kHz)	Pixel clock(MHz)	Proposed	Remarks
	DTV					
1	640*480	31.46	59.94	25.12	SDTV 480P	
2	640*480	31.5	60	25.12	SDTV 480P	
3	720*480	15.73	59.94	13.5	SDTV, DVD 480I(525I)	Spec. out but display
4	720*480	15.75	60	13.51	SDTV, DVD 480I(525I)	
5	720*576	15.62	50	13.5	SDTV, DVD 576I(625I) 50Hz	
6	720*480	31.47	59.94	27	SDTV 480P	
7	720*480	31.5	60	27.02	SDTV 480P	
8	720*576	31.25	50	27	SDTV 576P	

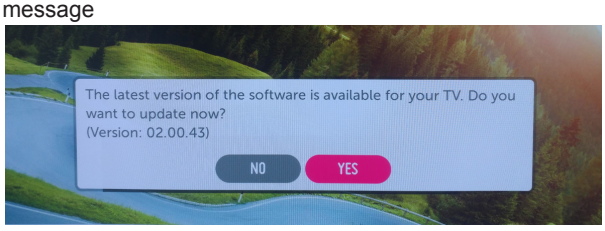
No.	Resolution	H-freq(kHz)	V-freq.(kHz)	Pixel clock(MHz)	Proposed	Remarks
9	1280*720	44.96	59.94	74.17	HDTV 720P	
10	1280*720	45	60	74.25	HDTV 720P	
11	1280*720	37.5	50	74.25	HDTV 720P	
12	1920*1080	28.12	50	74.25	HDTV 1080I	
13	1920*1080	33.72	59.94	74.17	HDTV 1080I	
14	1920*1080	33.75	60	74.25	HDTV 1080I	
15	1920*1080	26.97	23.97	63.29	HDTV 1080P	
16	1920*1080	27	24	63.36	HDTV 1080P	
17	1920*1080	33.71	29.97	79.12	HDTV 1080P	
18	1920*1080	33.75	30	79.2	HDTV 1080P	
19	1920*1080	56.25	50	148.5	HDTV 1080P	
20	1920*1080	67.43	59.94	148.35	HDTV 1080P	
21	1920*1080	67.5	60	148.5	HDTV 1080P	
22	1920*1080	112.5	100	297	HDTV 1080P	
23	1920*1080	134.86	119.88	296.7	HDTV 1080P	
24	1920*1080	135	120	297	HDTV 1080P	
25	3840*2160	53.95	23.98	296.7	UDTV 2160P	
26	3840*2160	54	24	297	UDTV 2160P	
27	3840*2160	56.25	25	297	UDTV 2160P	
28	3840*2160	61.43	29.97	296.7	UDTV 2160P	
29	3840*2160	67.5	30	297	UDTV 2160P	
30	3840*2160	112.5	50	594	UDTV 2160P	When HDMI1,2,3,4 UHD DEEP COLOUR ON
31	3840*2160	134.86	59.94	593.4	UDTV 2160P	
32	3840*2160	135	60	594	UDTV 2160P	
33	3840*2160	225	100	1188	UDTV 2160P	When HDMI1,2,3,4 UHD DEEP COLOUR ON, HDMI SWITCH Model
34	3840*2160	270	120	1188	UDTV 2160P	
35	4096*2160	53.95	23.98	296.7	UDTV 2160P	
36	4096*2160	54	24	297	UDTV 2160P	
37	4096*2160	56.25	25	297	UDTV 2160P	
38	4096*2160	61.43	29.97	296.7	UDTV 2160P	
39	4096*2160	67.5	30	297	UDTV 2160P	
40	4096*2160	112.5	50	594	UDTV 2160P	
41	4096*2160	134.86	59.94	593.4	UDTV 2160P	
42	4096*2160	135	60	594	UDTV 2160P	
43	4096*2160	225	100	1188	UDTV 2160P	
44	4096*2160	270	120	1188	UDTV 2160P	
45	2560*1440	88.78	60	241.5	3K	
46	2560*1440	183	120	497.7	3K	

SOFTWARE UPDATE

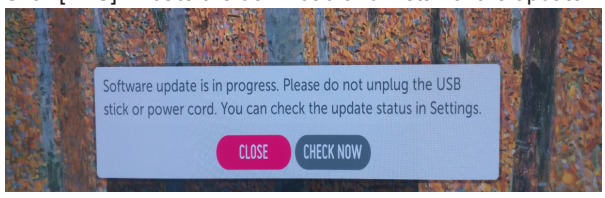
1. USB

(1) Insert the USB memory Stick to the USB port

(2) Automatically detect the SW Version and show the below message

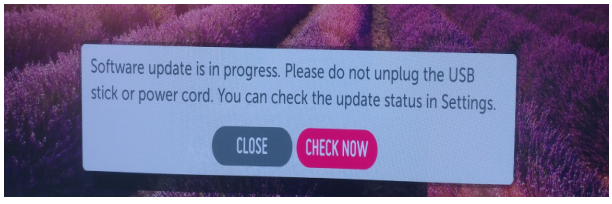


(3) Click [YES]: initiate the download and install of the update.

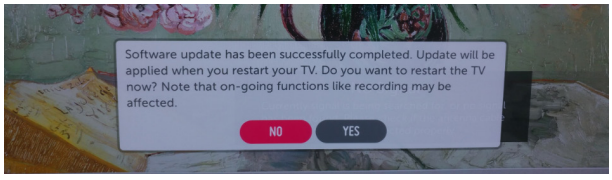


(4) Click [Check Now]: move to “About This TV” page for update

(5) TV is updating



(6) After finished the update, below Pop-up appear



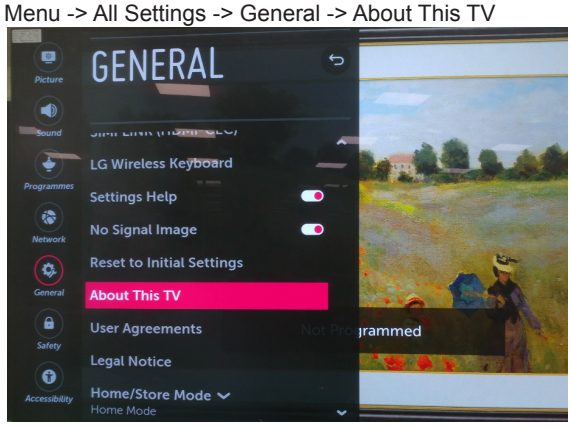
(7) Click [Yes] : TV will be DC OFF -> ON

(8) After TV turned on, Check the updated SW Version and Tool Option

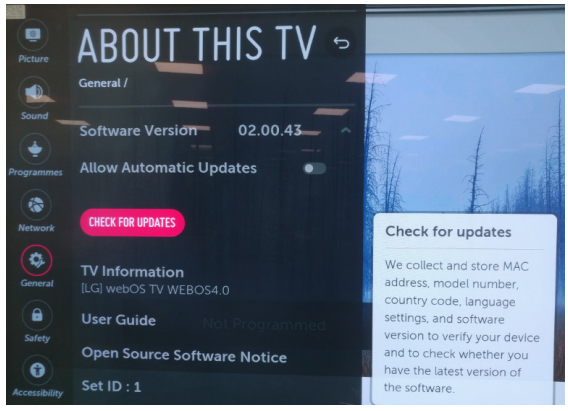
2. NSU

(This Function is needed to connect to the internet)

(1) Menu -> All Settings -> General -> About This TV

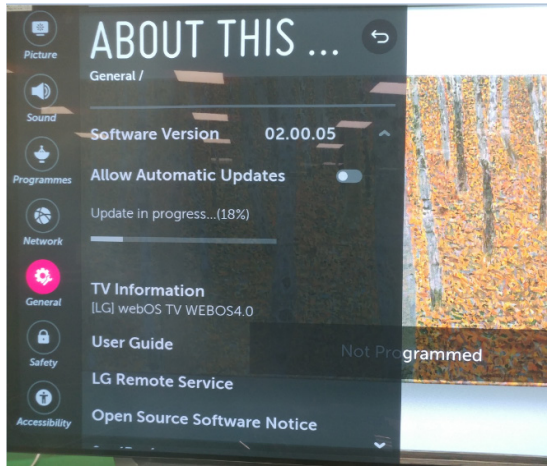


(2) Click [CHEK FOR UPDATES] : system check newest version

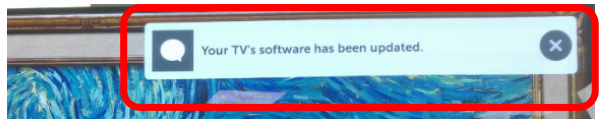


(3) Click [DOWNLOAD AND INSTALL]

(4) TV is updating



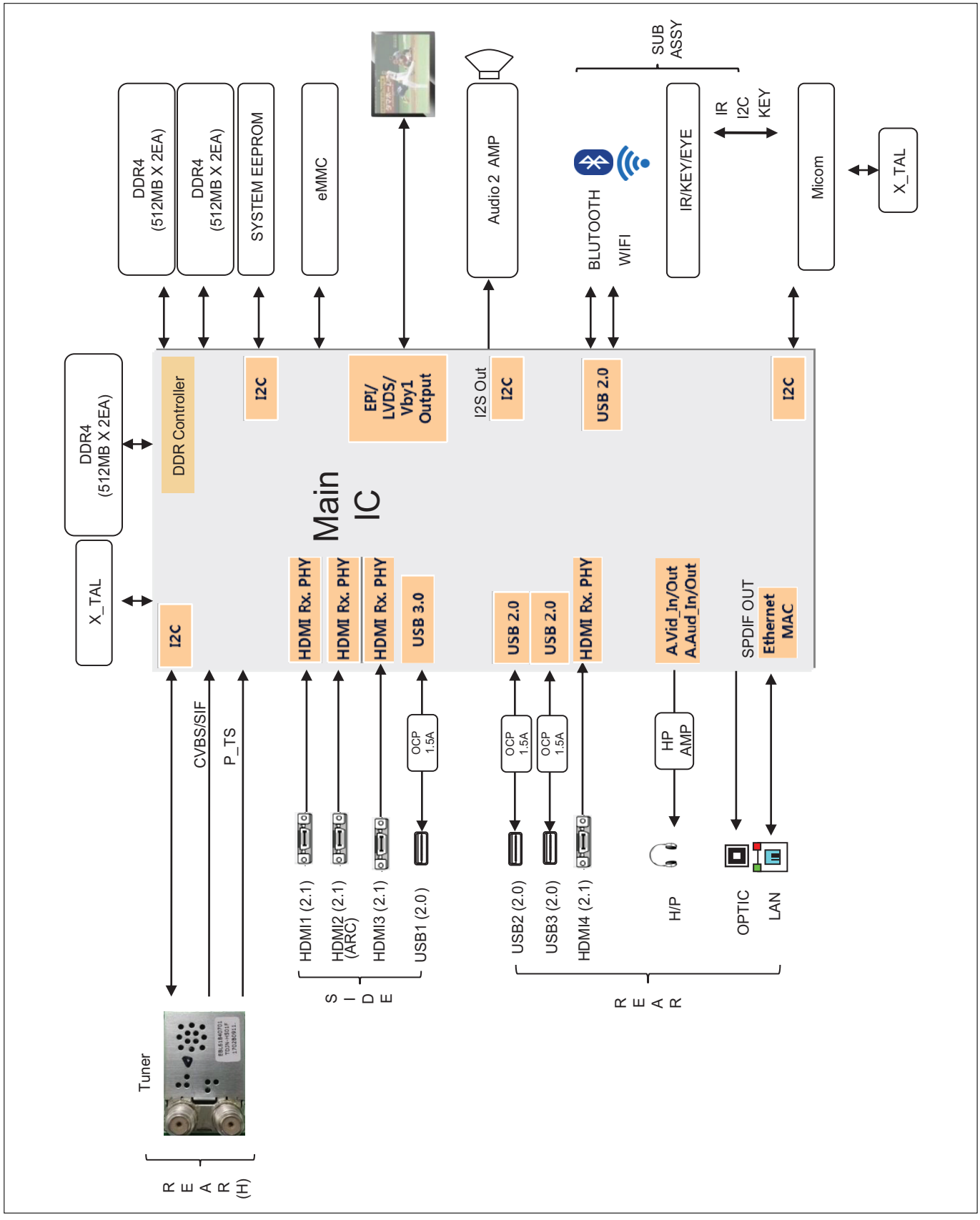
(5) After finished the update, below Pop-up appear



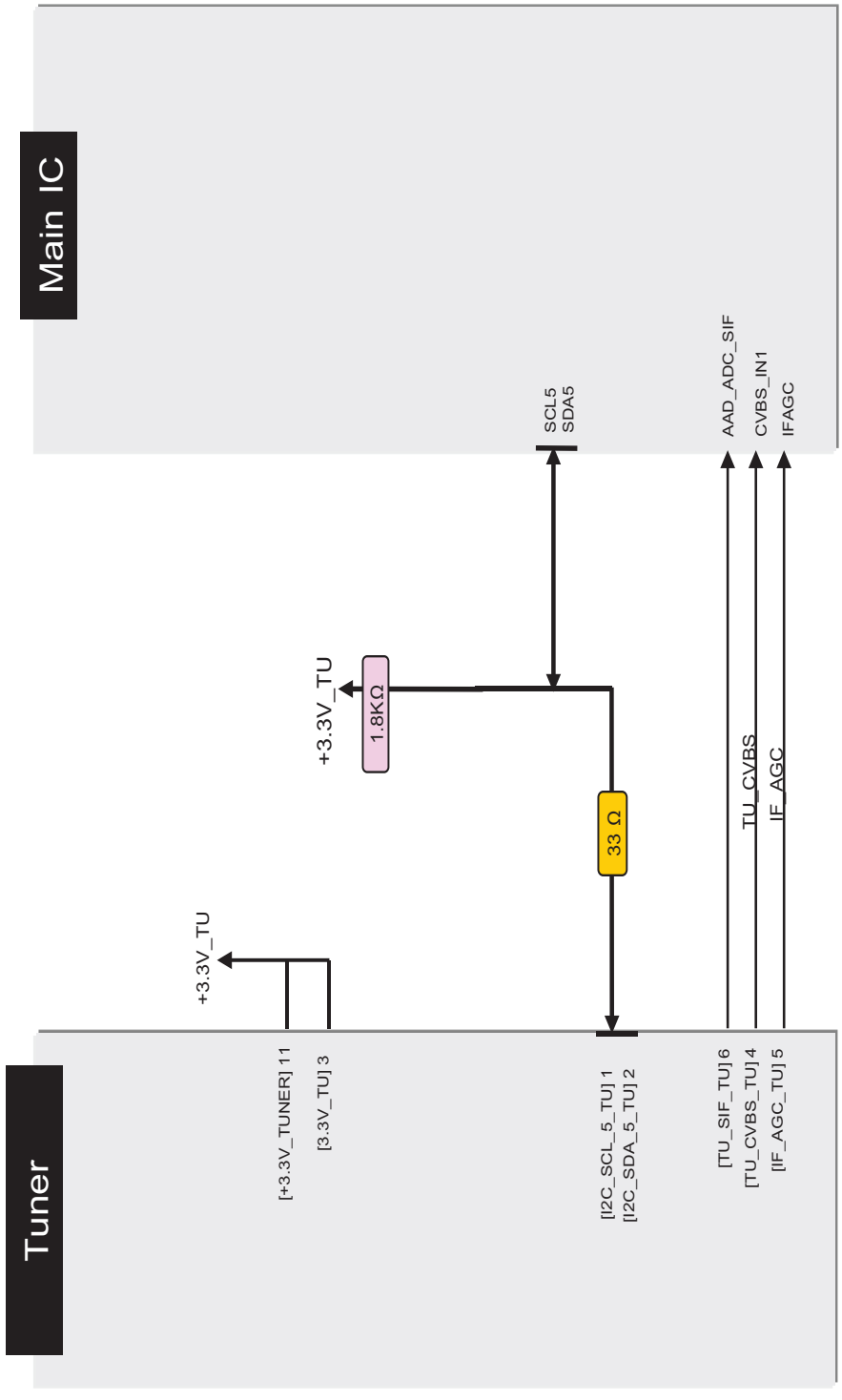
(6) Turn OFF the TV and On. Check the updated SW Version and Tool Option

BLOCK DIAGRAM

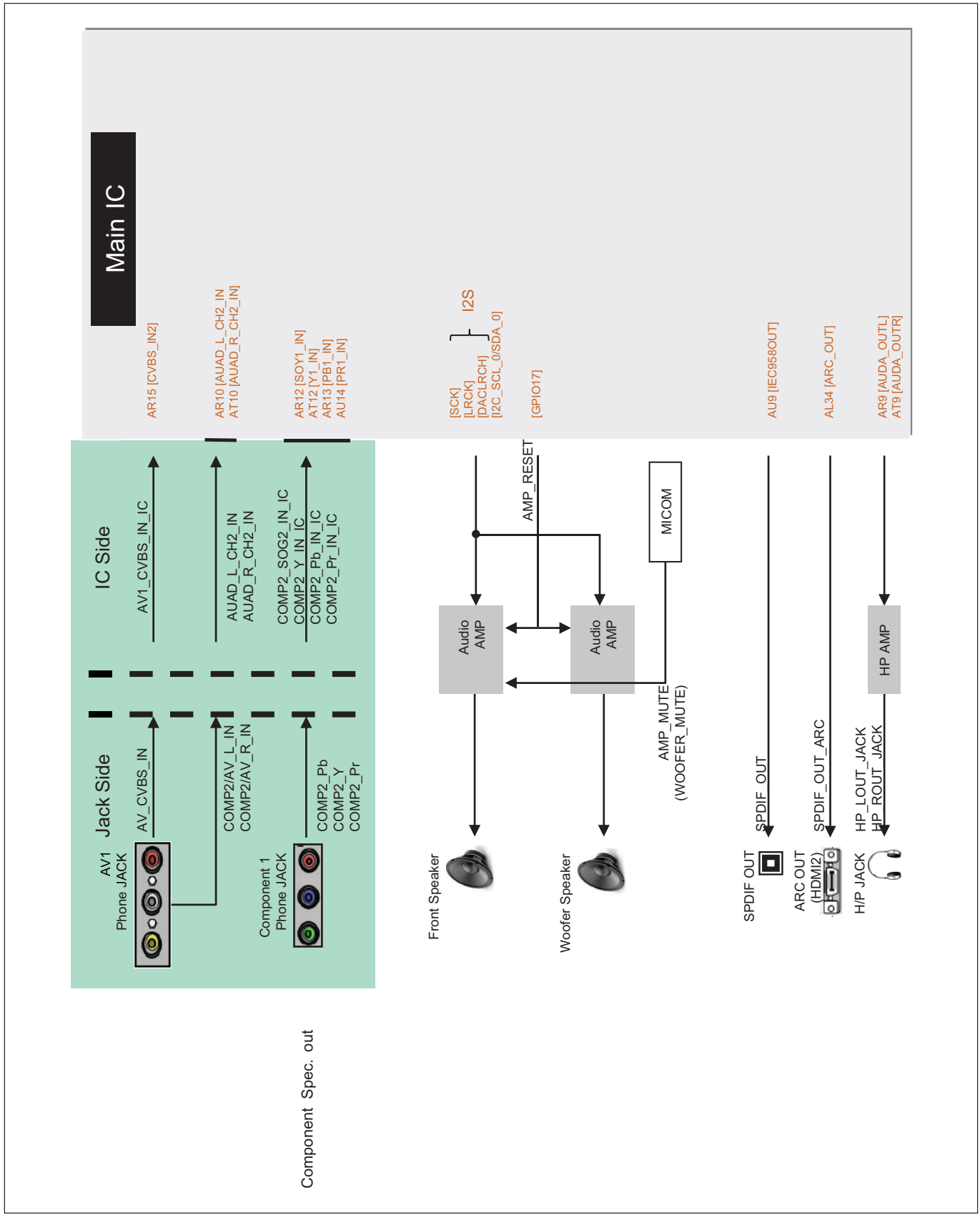
1. Main



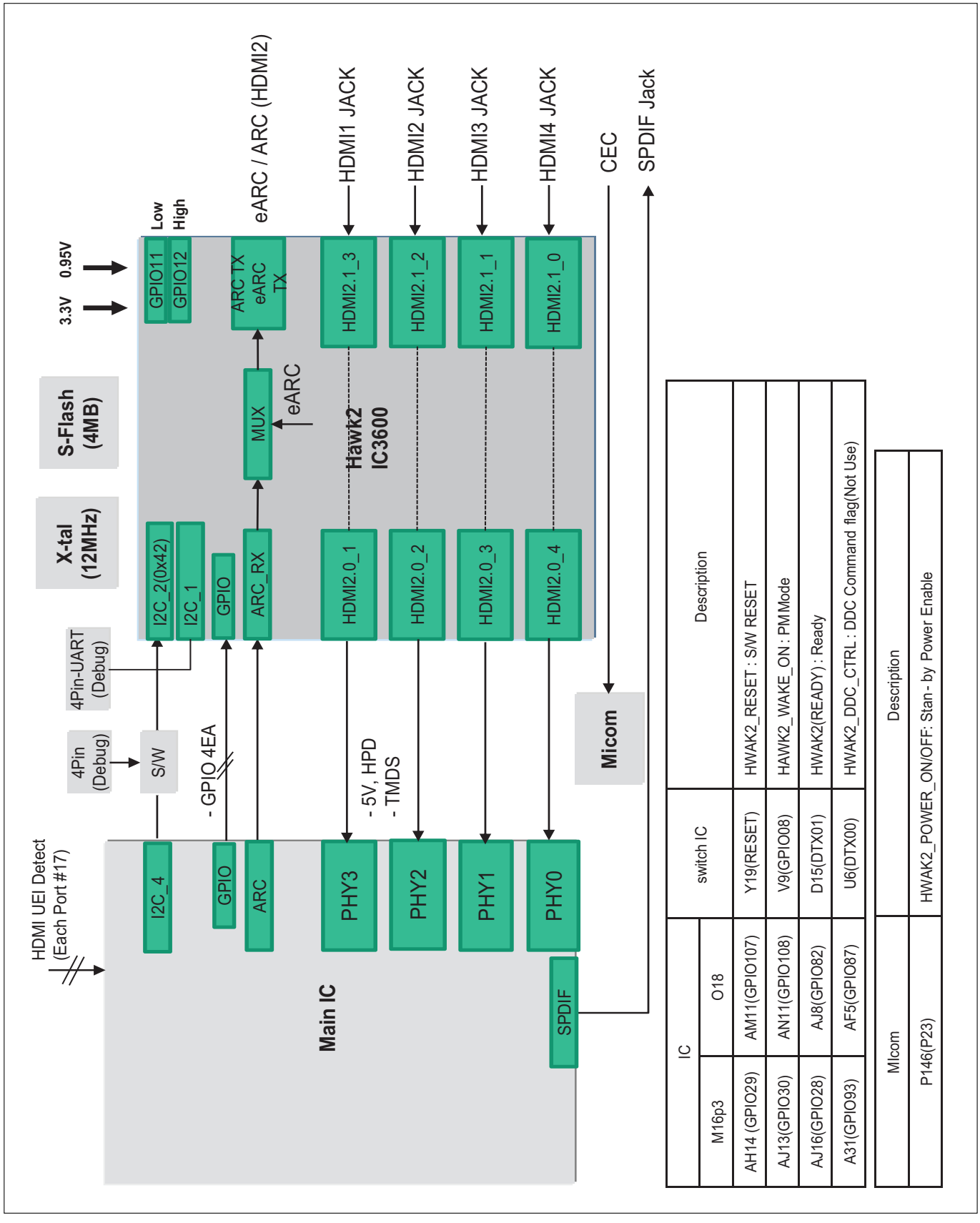
2. Tuner



3. Video & Audio IN/OUT



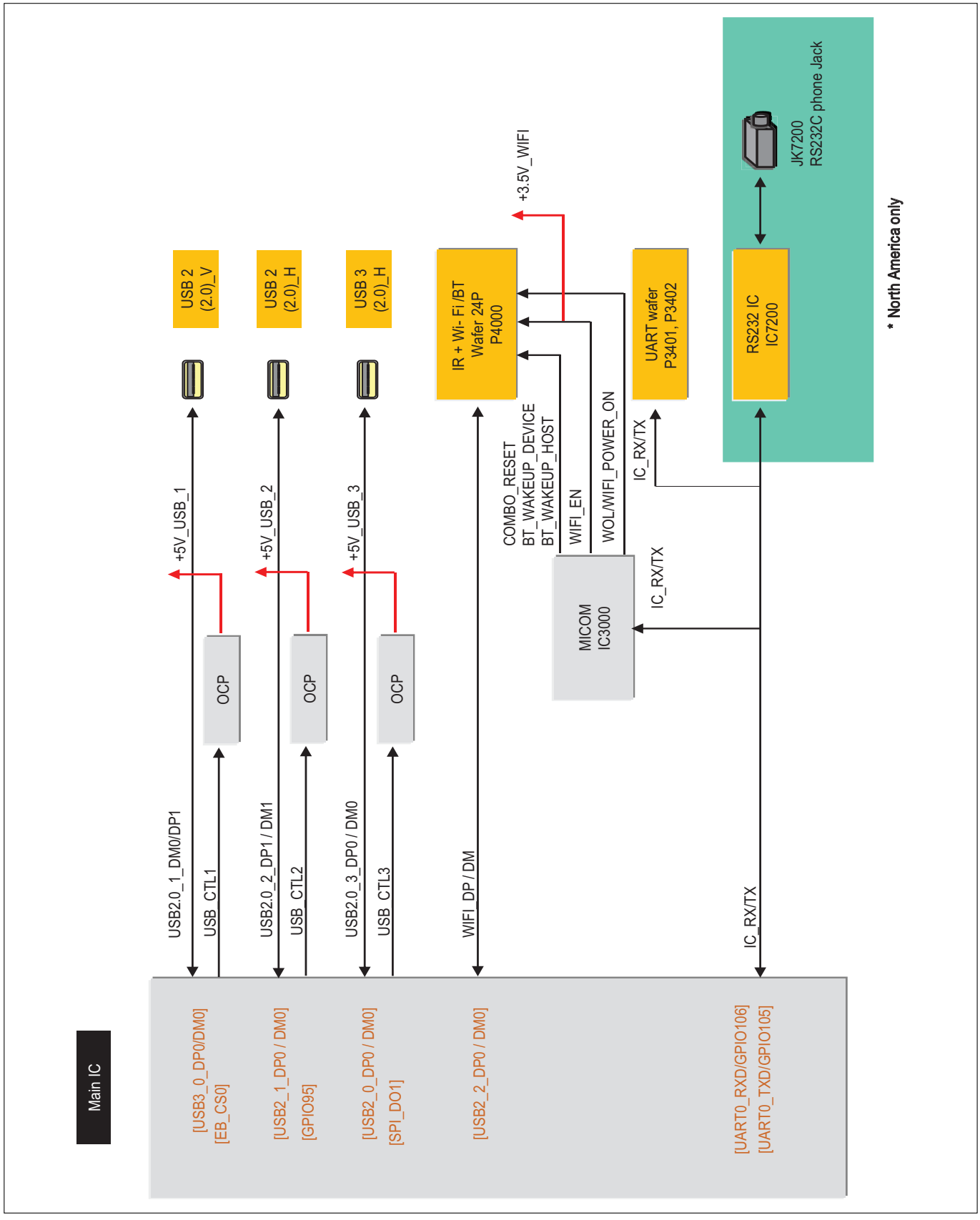
4. HDMI 2.1



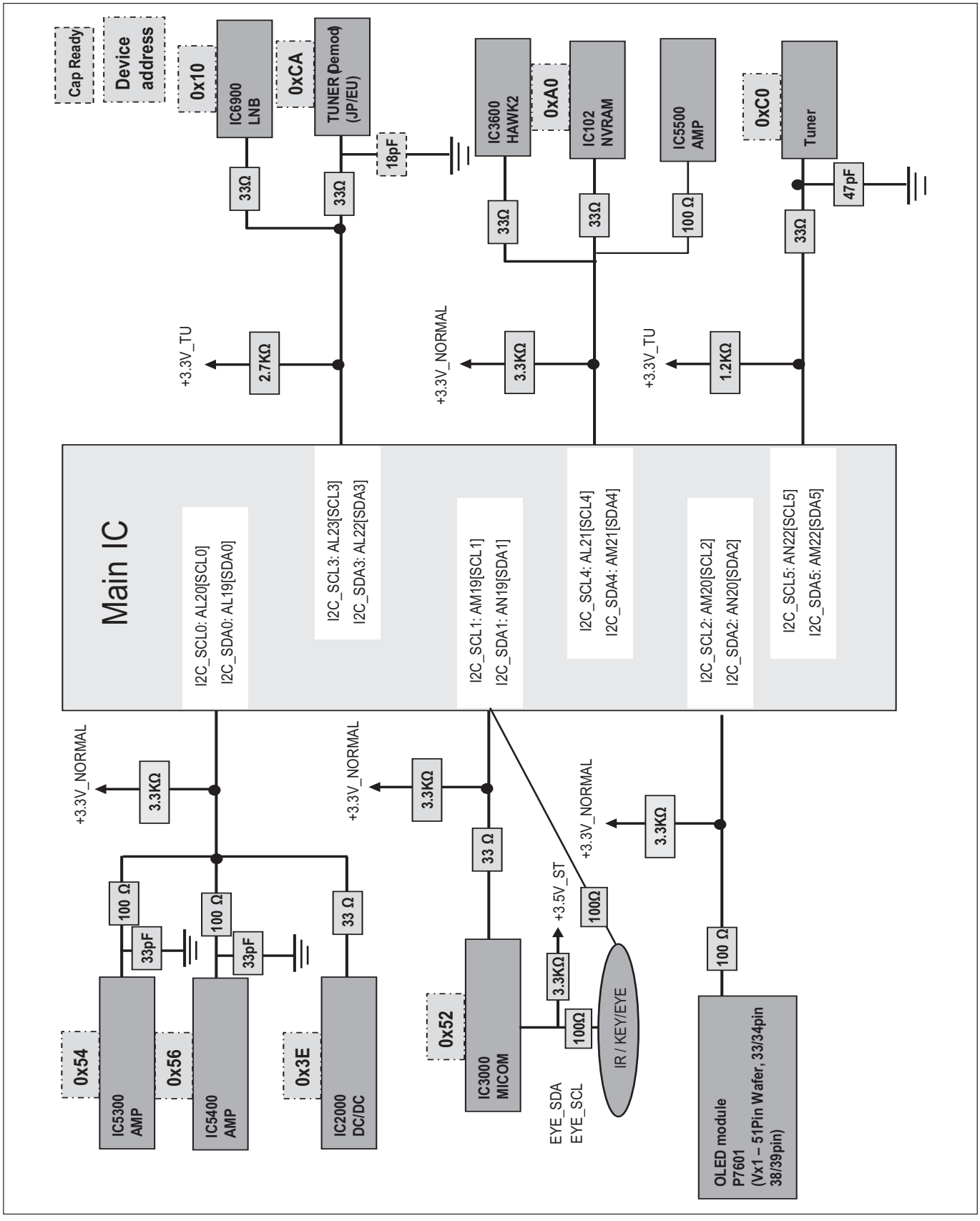
IC		switch IC	Description
M16p3	O18		
AH14 (GPIO29)	AM11(GPIO107)	Y19(RESET)	HWAK2_RESET : S/W RESET
AJ13(GPIO30)	AN11(GPIO108)	V9(GPIO08)	HAWK2_WAKE_ON : PM Mode
AJ16(GPIO28)	AJ8(GPIO82)	D15(DTX01)	HWAK2(READY) : Ready
A31(GPIO93)	AF5(GPIO87)	U6(DTX00)	HWAK2_DDC_CTRL : DDC Command flag(Not Use)

Micom	Description
P146(P23)	HWAK2_POWER_ON/OFF: Stan - by Power Enable

5. USB / Wi-Fi / M-Remote / UART



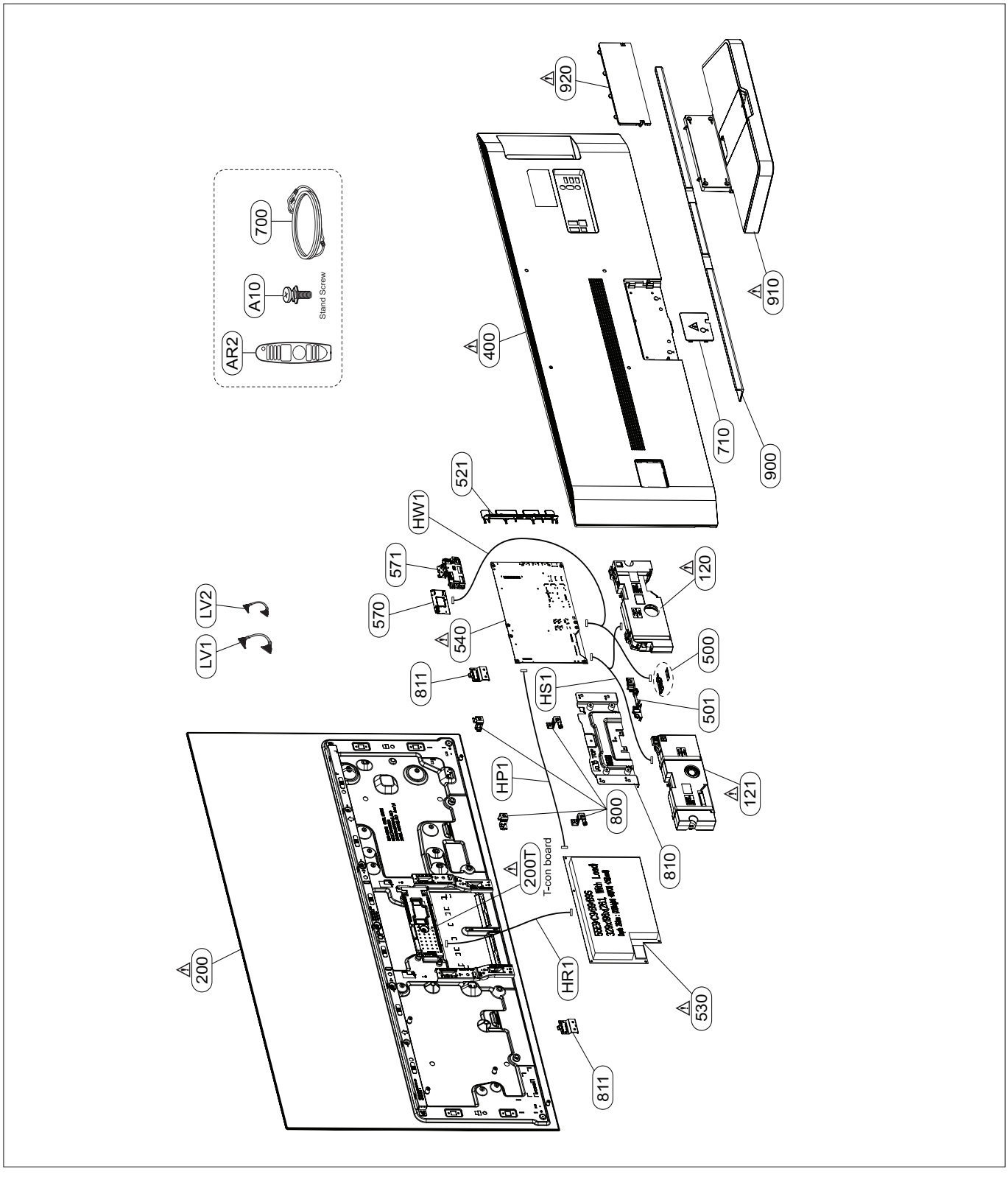
6. I2C Map



EXPLODED VIEW

IMPORTANT SAFETY NOTICE

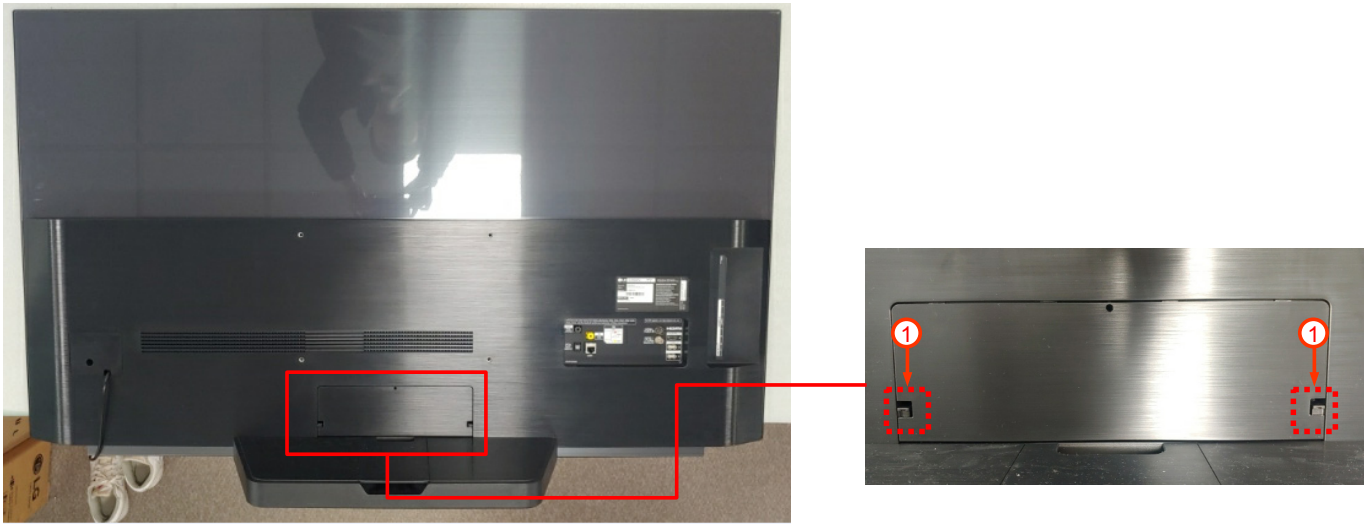
Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by ⚠ in the EXPLODED VIEW.
It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent Shock, Fire, or other Hazards.
Do not modify the original design without permission of manufacturer.



DISASSEMBLY GUIDE

Total Screw No. : 33ea

1. Remove screw 1ea, disassemble power cord from back cover.
   * Push the latch, separate the stand cover to the top.



① Latch : 2 EA

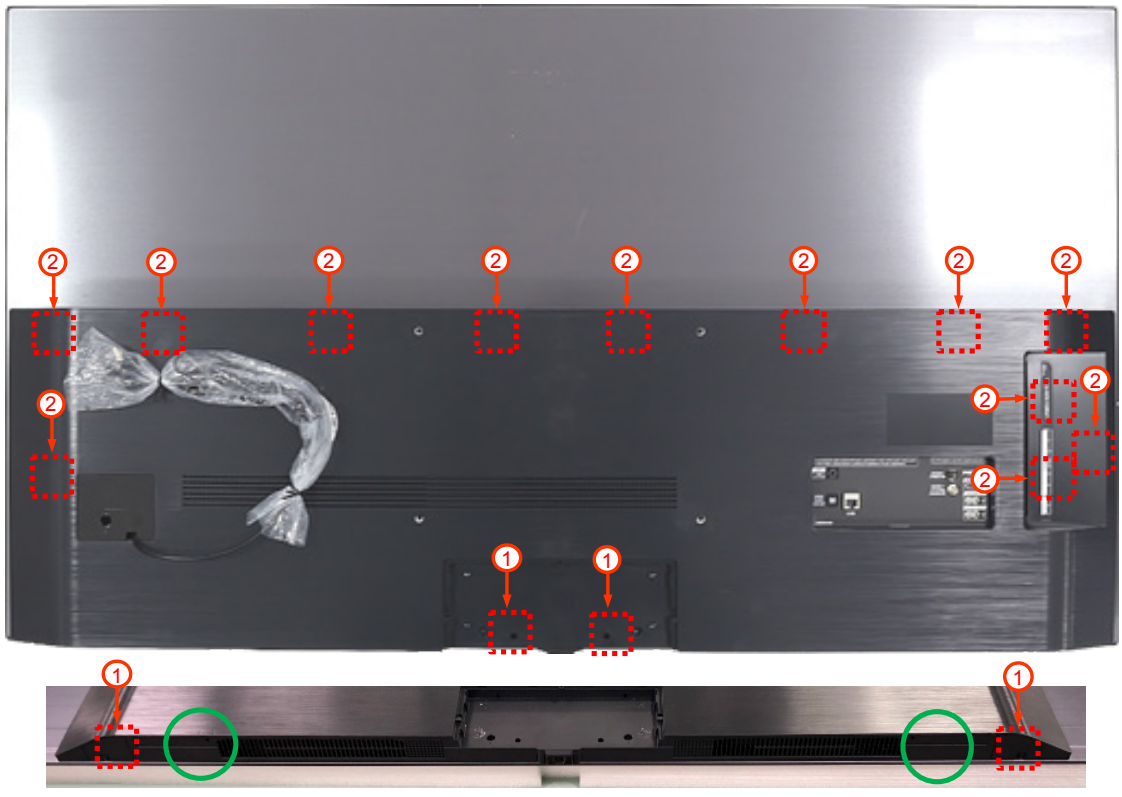
2. Remove screw 4ea, disassemble stand from back cover.
   * Push the latch, separate the stand cover to the top.

① Screw : 4 EA

3. Remove screw 1ea, disassemble power cord from back cover

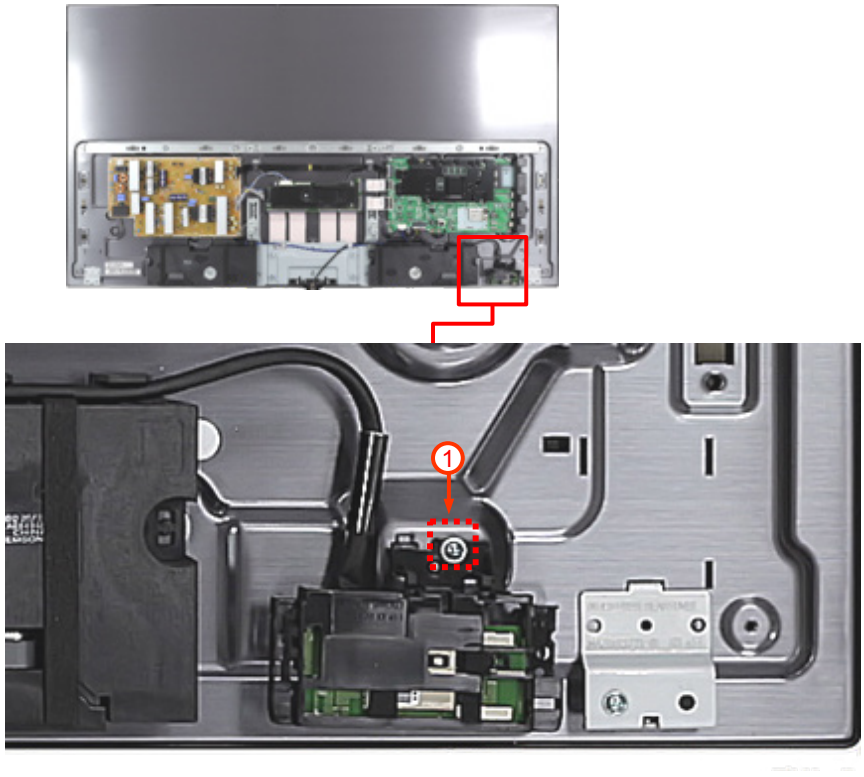
① Screw : 1 EA

4. Remove screw 4 EA, disassemble back cover from module.
* Put hand on the marked area(◯), separate the back cover to the top.



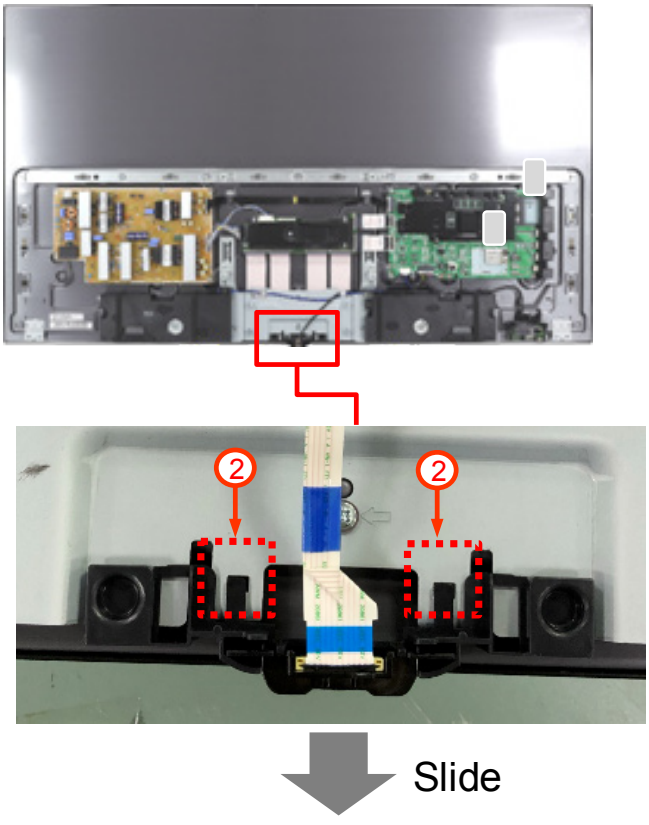
① Screw : 4 EA ② Latch : 12ea

5. Remove screw 1ea, disassemble Wifi/Jog assy.



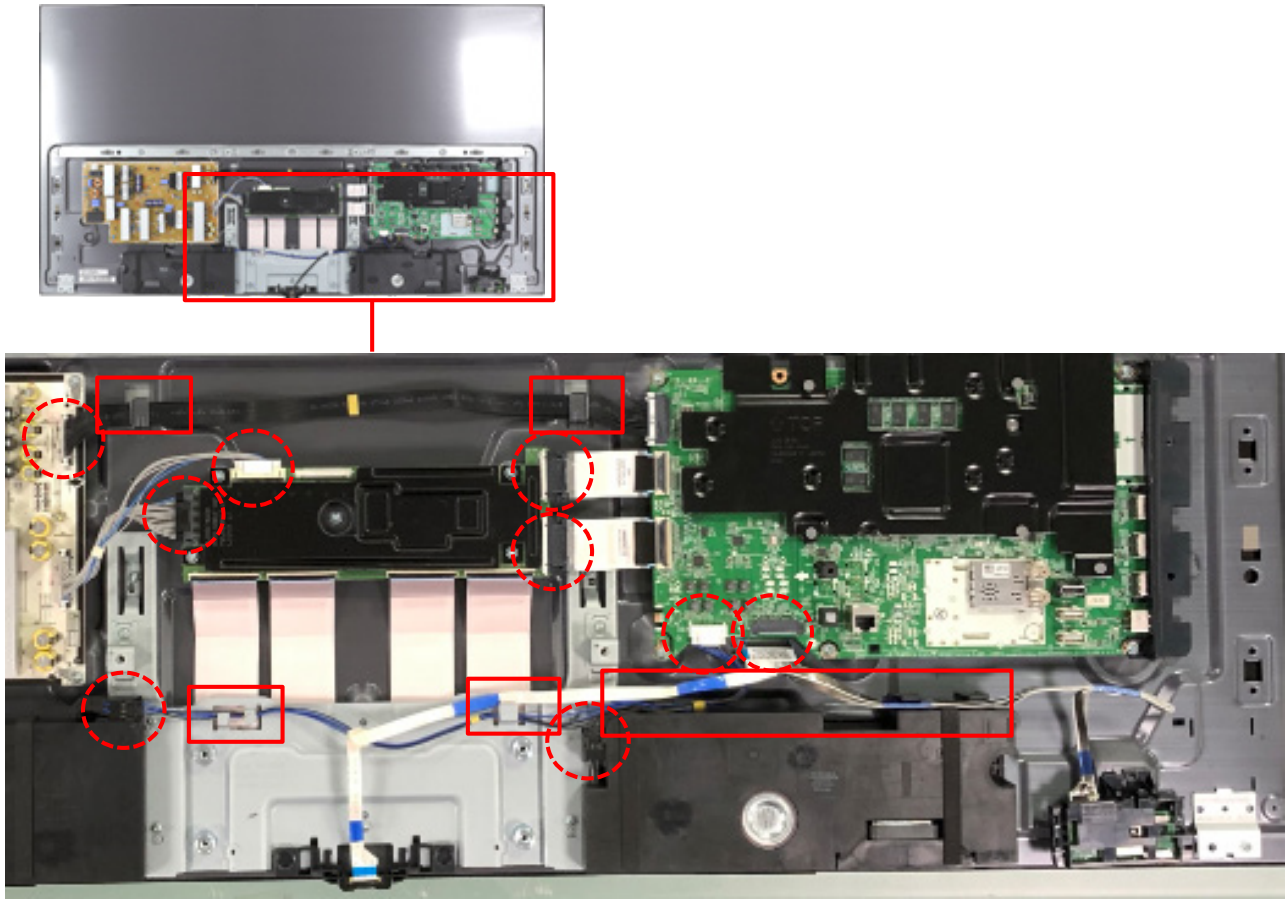
① Screw : 1ea

6. Remove the latch 2ea, disassemble IR assy.

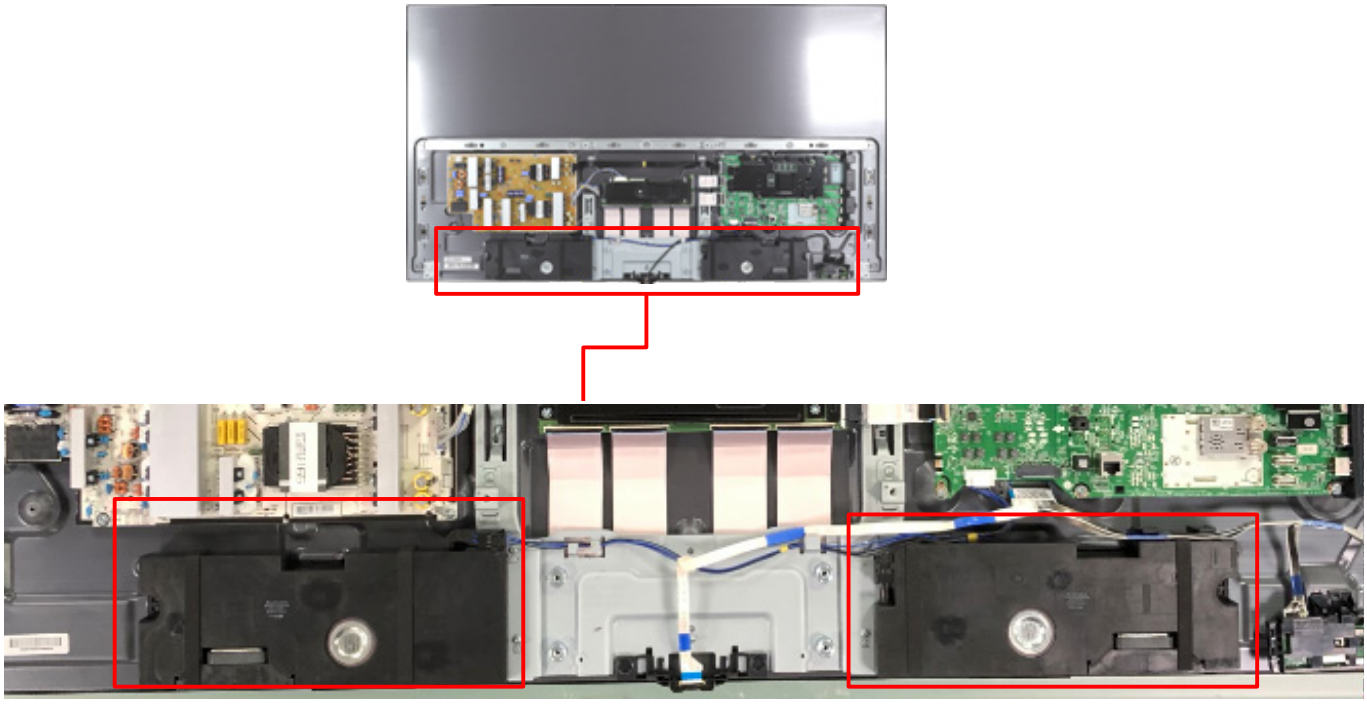


② Latch : 2ea

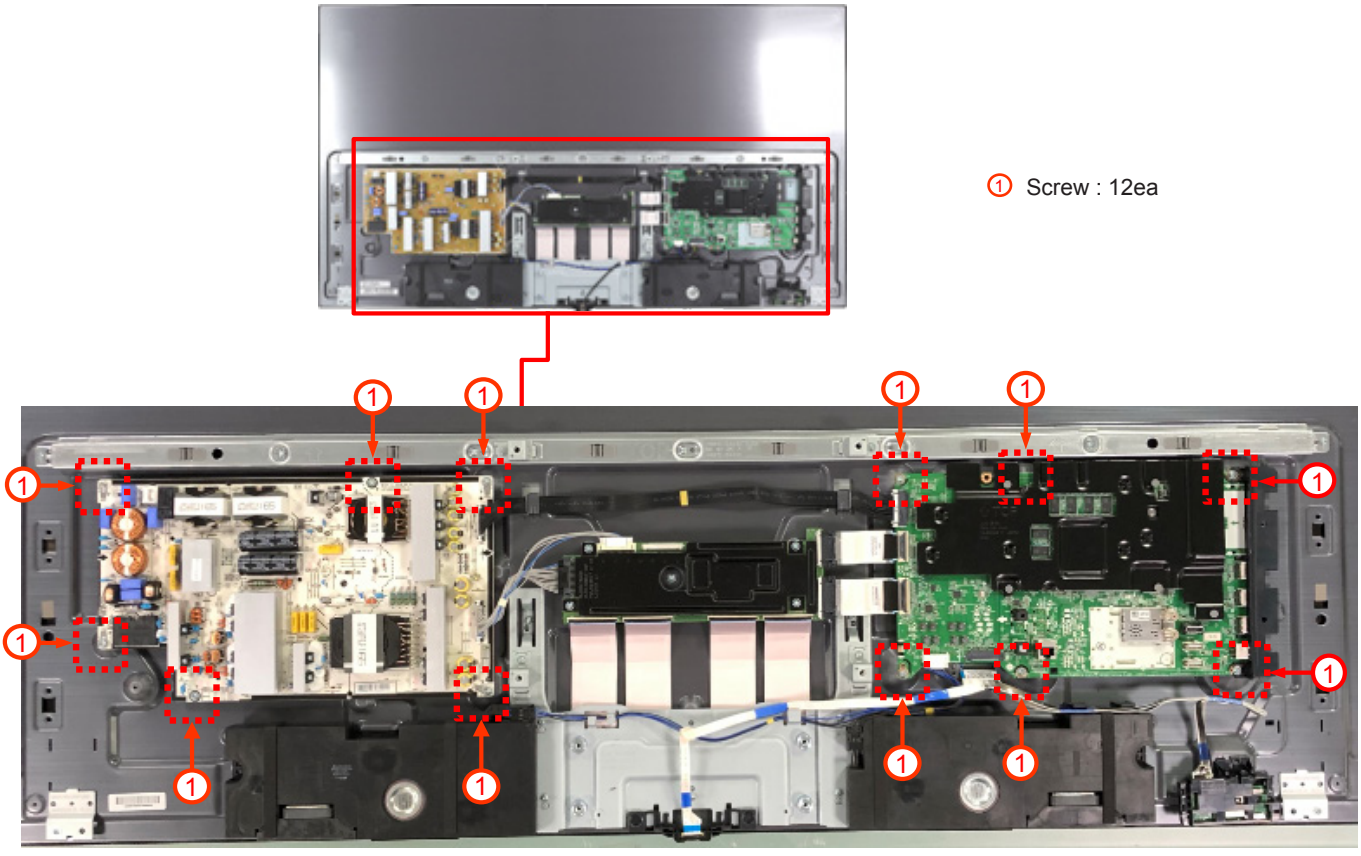
7. Remove all sort of cable.



8. Disassemble speaker.

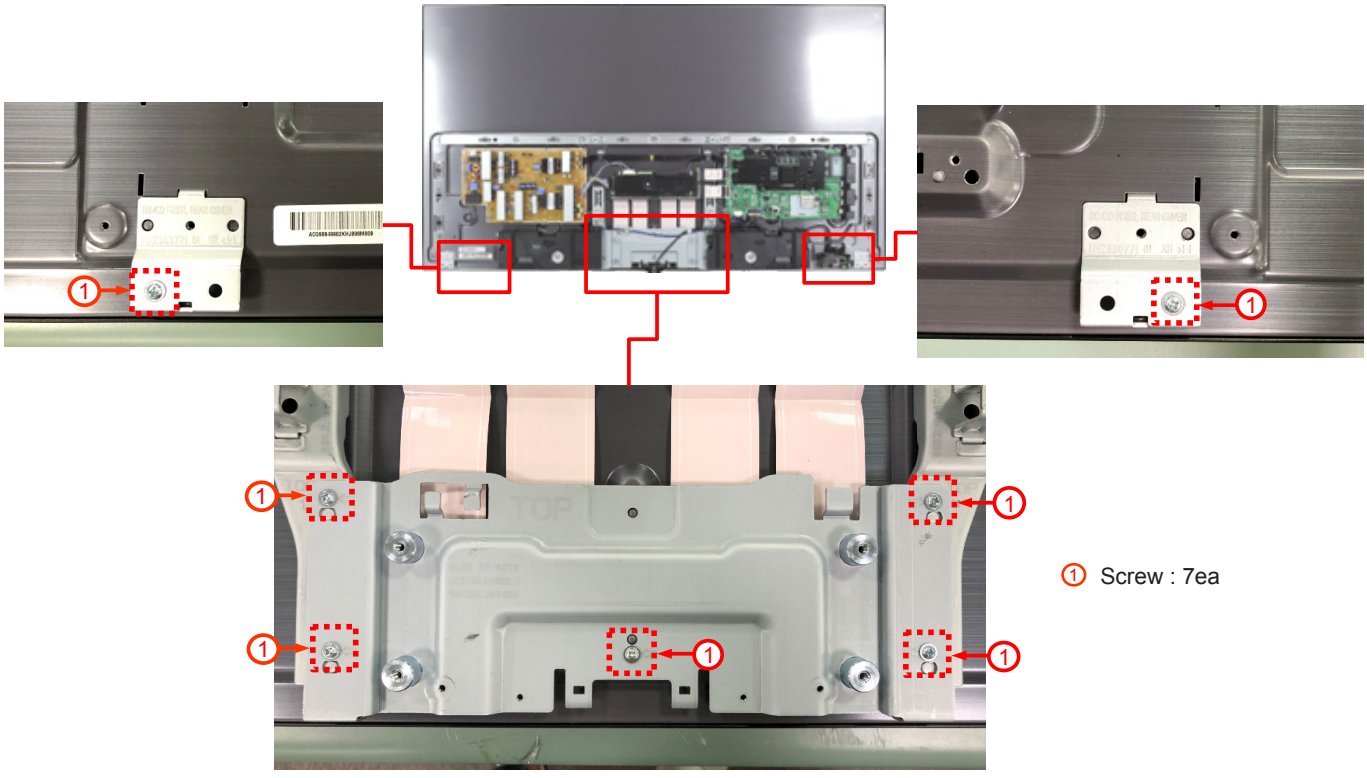


9. Remove screw 12ea, disassemble Main PCB and PSU.



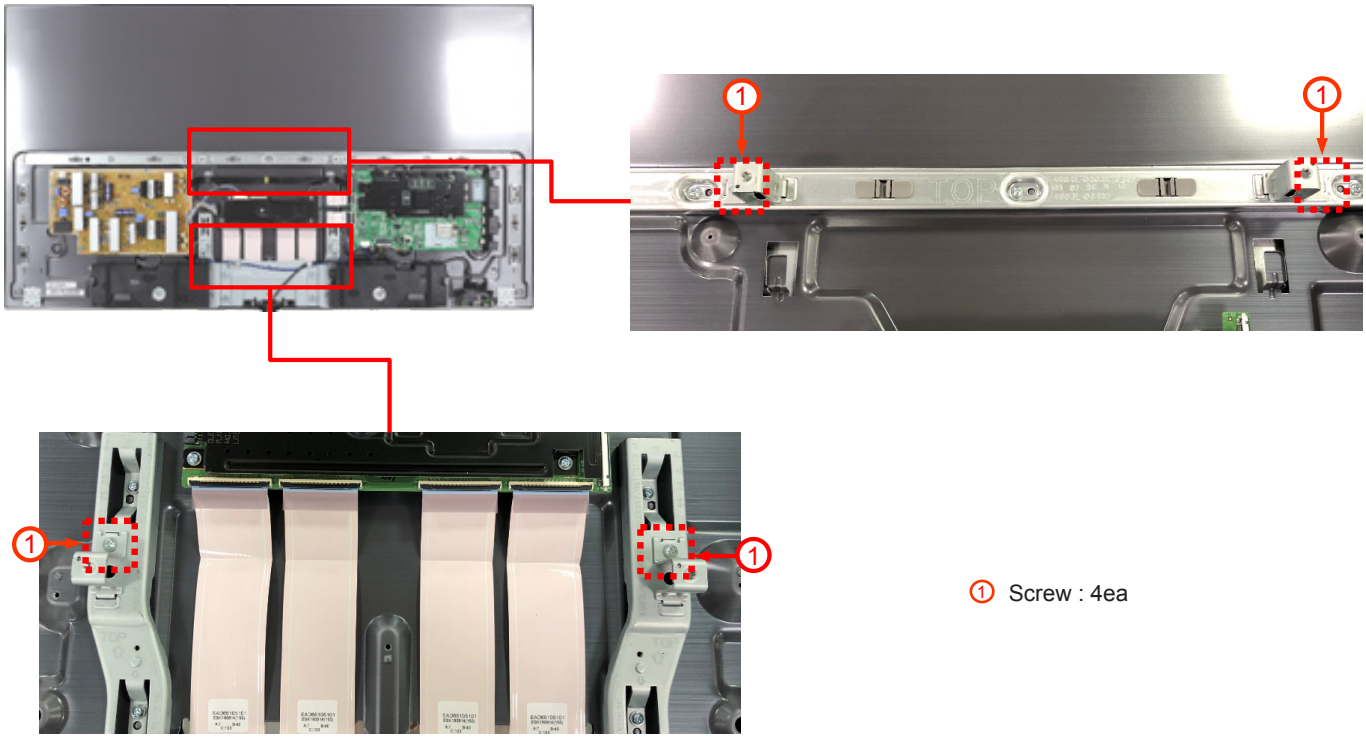
① Screw : 12ea

10. Remove screw 7ea, disassemble stand guide and stand fixer.



① Screw : 7ea

11. Remove screw 4 EA, disassemble VESA Bracket



① Screw : 4ea

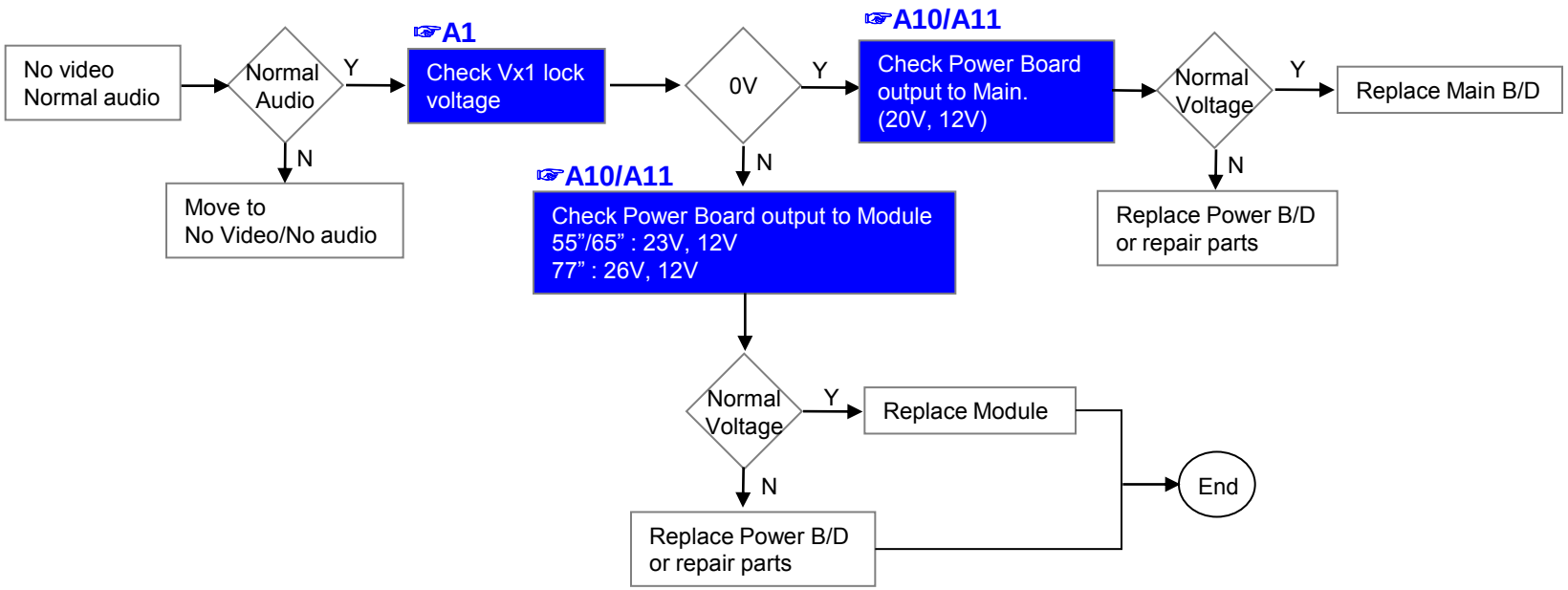
TROUBLE SHOOTING GUIDE

Contents of Standard Repair Process

First of all, Check whether there is SVC Bulletin in GSCS System for these model.

	Error symptom	A. Video error	Established date		
		No video / Normal audio	Revised date		1/17

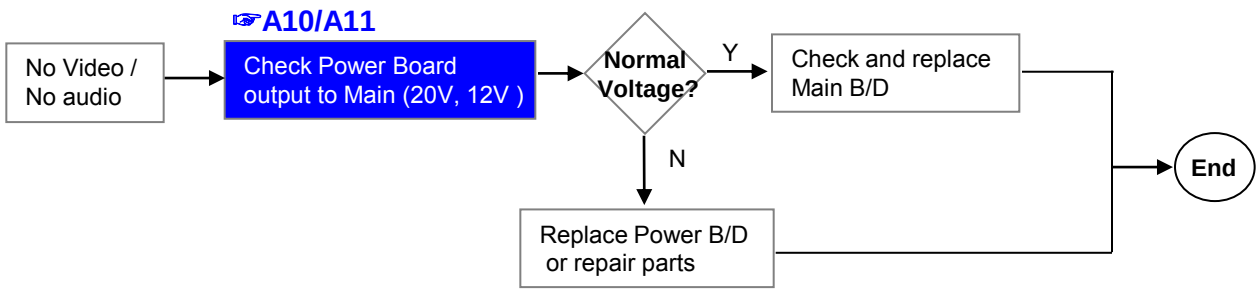
First of all, Check whether all of cables between board is inserted properly or not.
(Main B/D↔ Power B/D, Vx1 Cable, Speaker Cable, IR B/D Cable and so on)



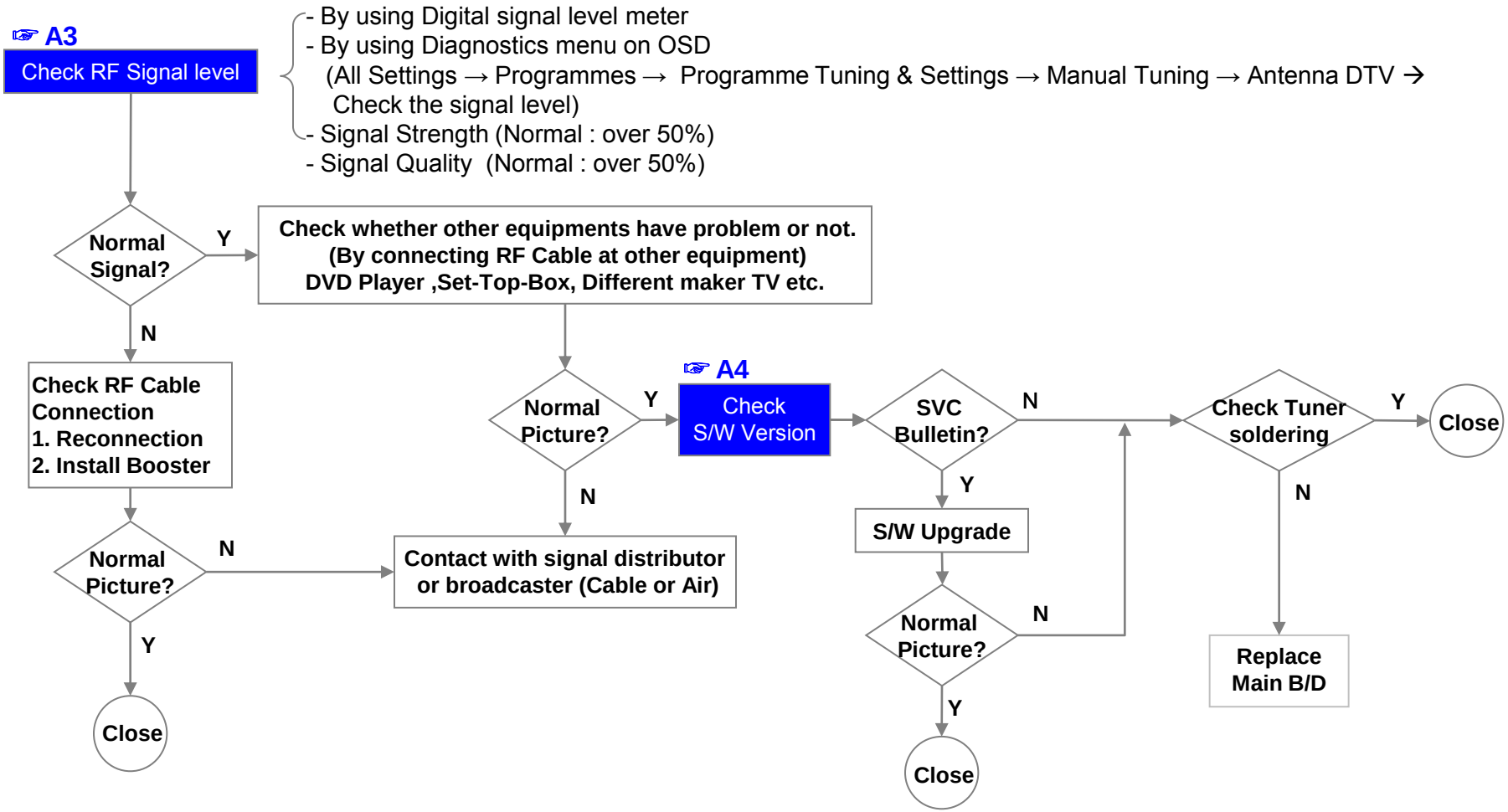
※Precaution ☞A4 & A2

Always check & record S/W Version and White Balance value before replacing the Main Board → Replace Main B/D → Re-enter White Balance value

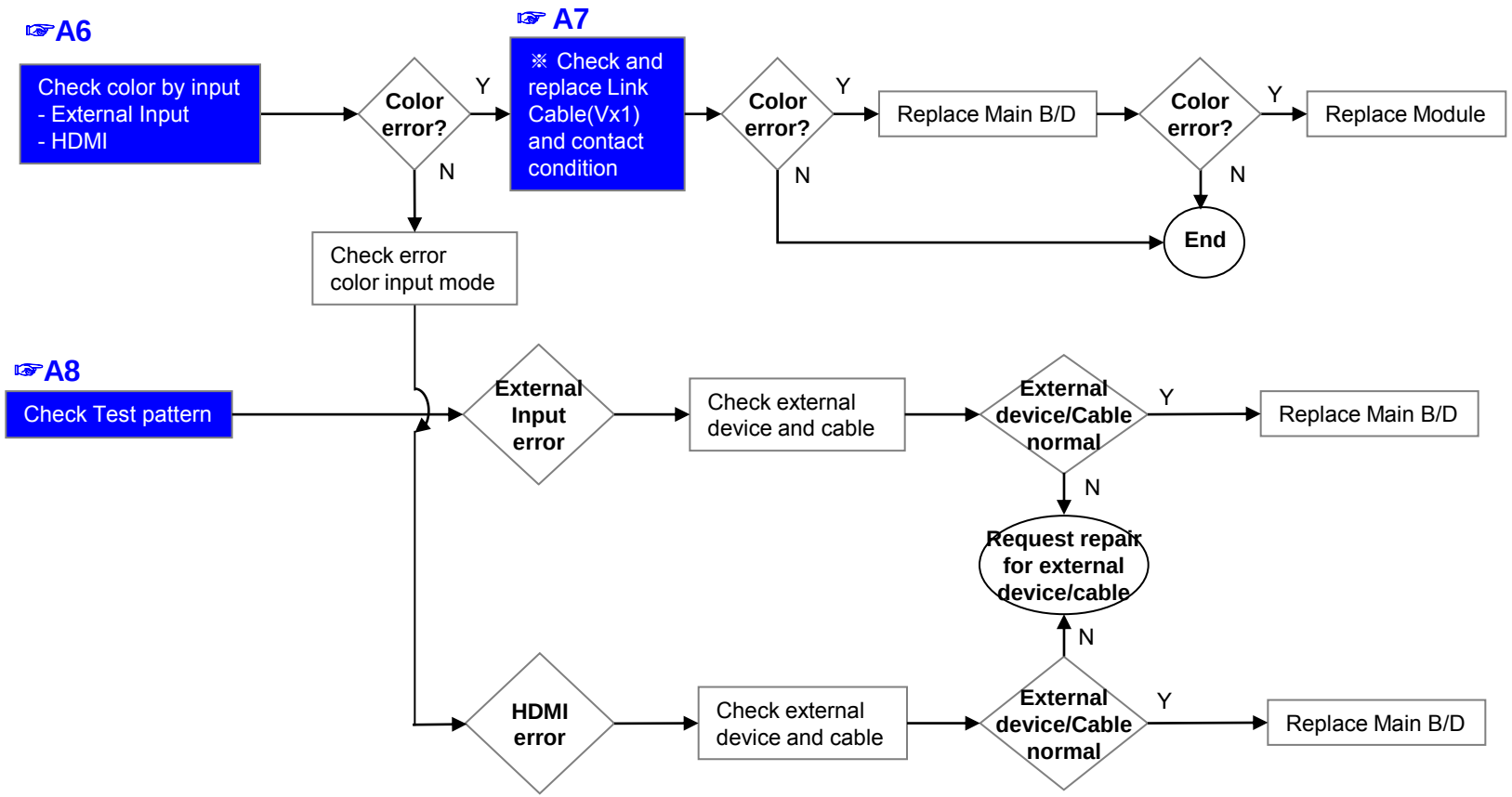
	Error symptom	A. Video error	Established date		
		No video / No audio	Revised date		2/17



	Error symptom	A. Video error	Established date		
		Picture broken / Freezing	Revised date		3/17

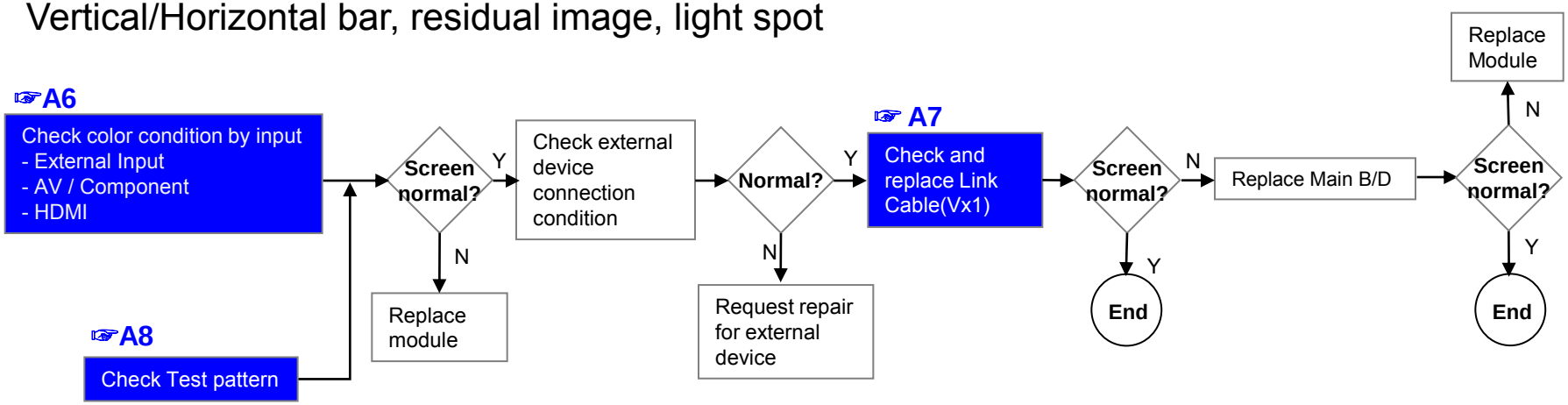


	Error symptom	A. Video error	Established date		
		Color error	Revised date		4/17

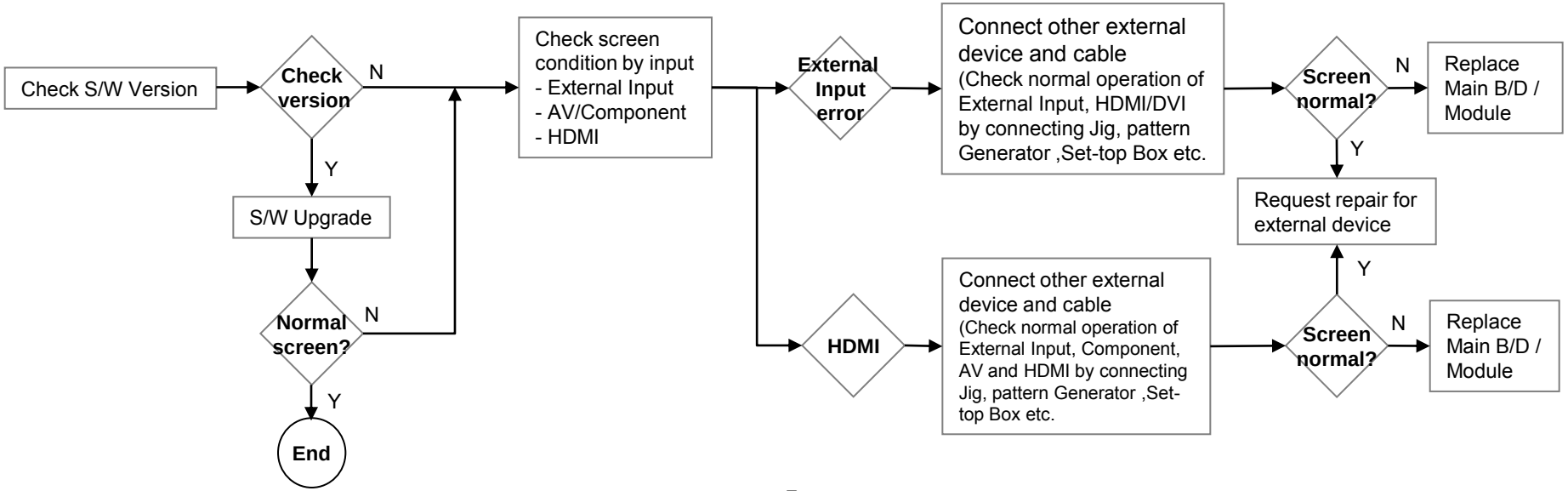


	Error symptom	A. Video error	Established date		
		Vertical/Horizontal bar, Residual image, Light spot, External device color error	Revised date		5/17

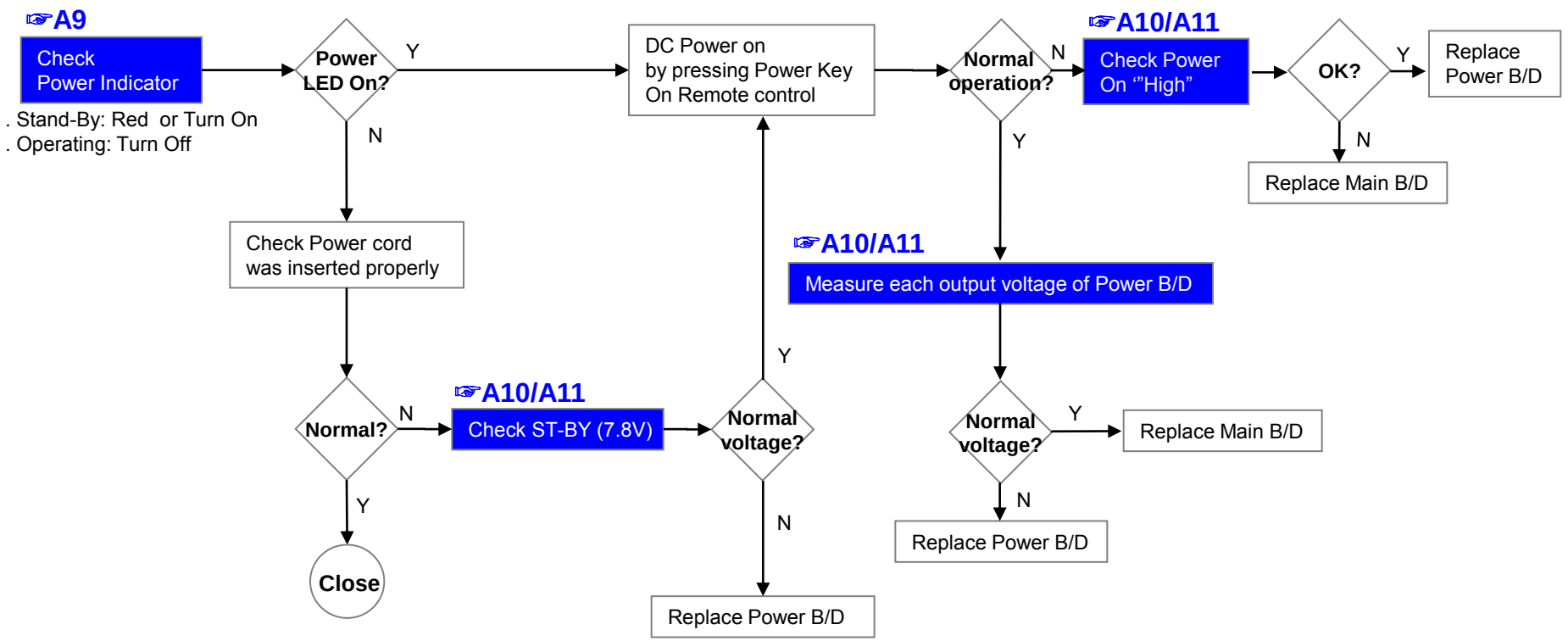
Vertical/Horizontal bar, residual image, light spot



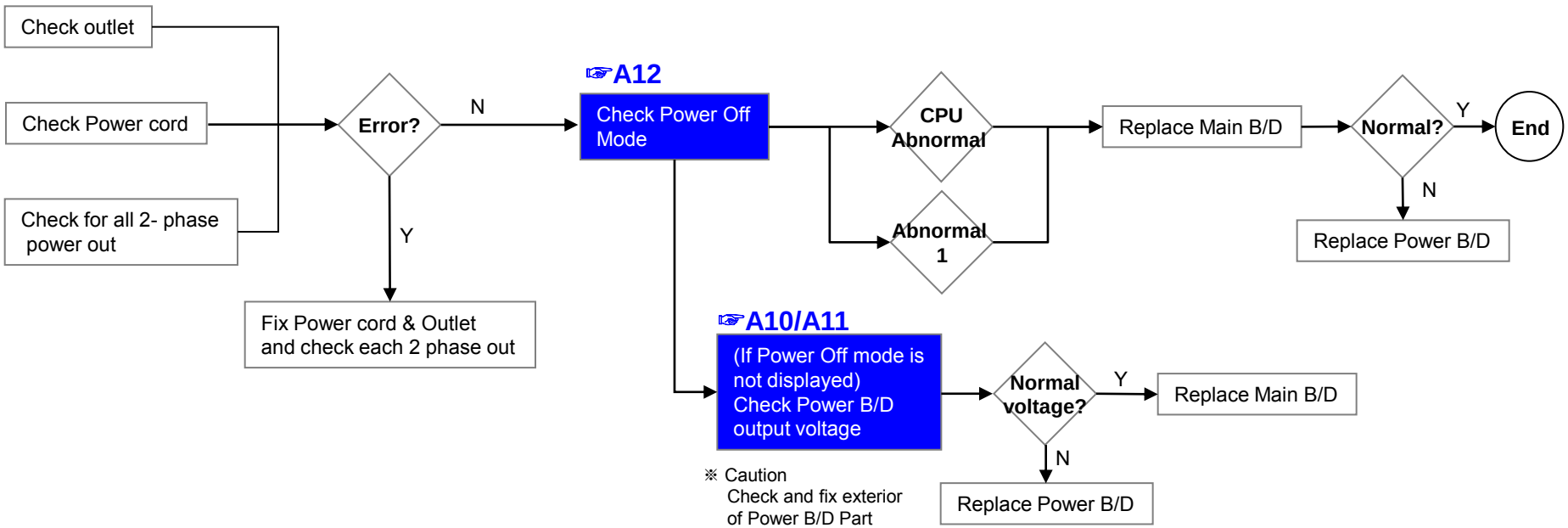
External device screen error-Color error



	Error symptom	B. Power error	Established date		
		No power	Revised date		6/17



	Error symptom	B. Power error	Established date		
		Off when on, off while viewing, power auto on/off	Revised date		7/17



	Error symptom	B. Power error	Established date		
		Off when on, off while viewing, power auto on/off	Revised date		8/17

*** Please refer to the all cases which can be displayed on power off mode.**

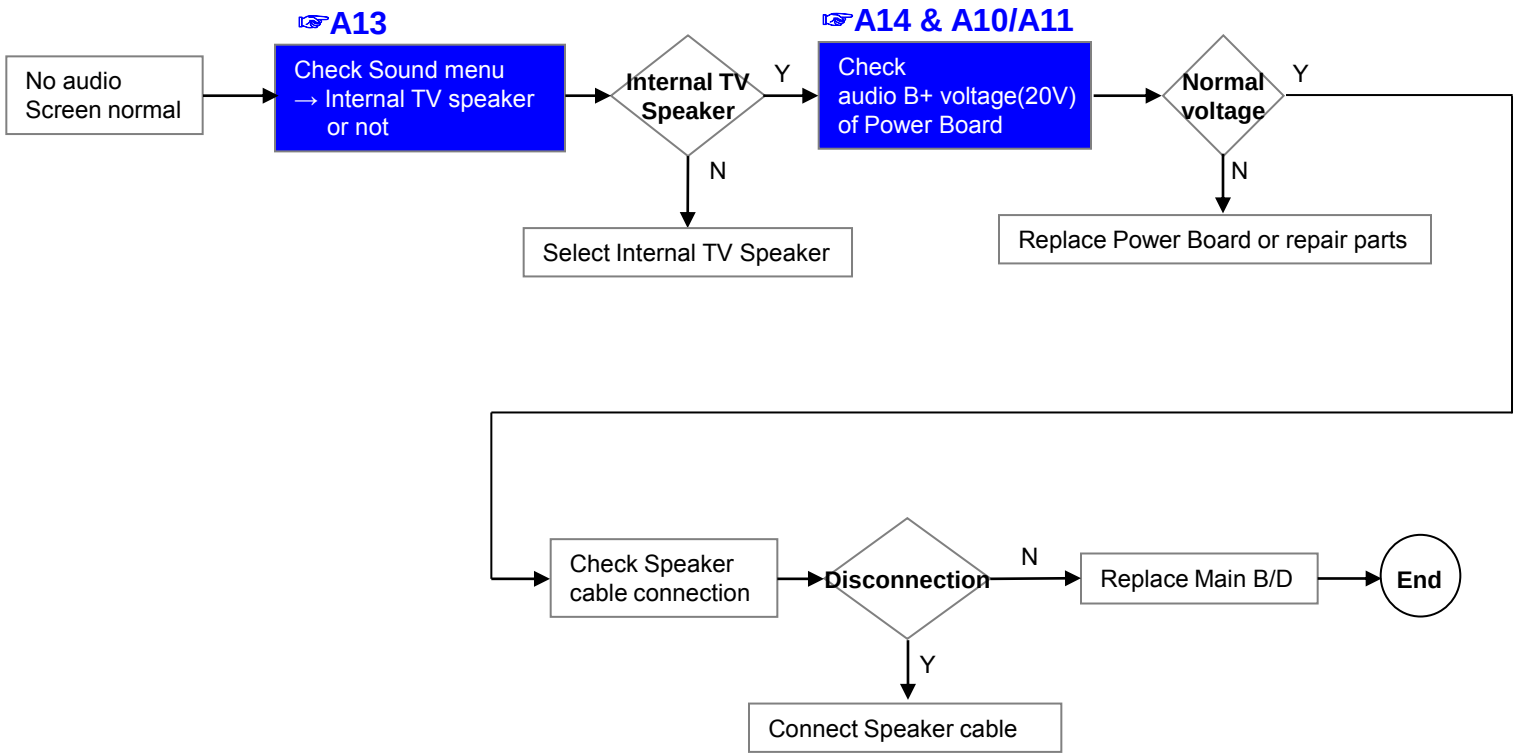
Power Off History	Explanation	Action contents
POWER_OFF_BY_CPU_ABNORMAL	Power off by CPU Abnormal status 1. Power off (Last Cold, Last Cool, Last Warm) Condition : When power on and checking Power on Mode, abnormality appears. 2. Power off in CPU Abnormal Case (Exception) - Release Mode : Reboot - Debug/Event Mode : Power off	Check & Change Main B/D
POWER_OFF_BY_CPUCMD	Power off by main SoC command.	Check & Change Main B/D
POWER_OFF_BY_ABN	Case1 : Pipe line overflow Case2 : reboot to suspend Fail	Check & Change Main B/D
POWER_OFF_BY_KEYTIMEOUT	Power off when TV is not turned off during a certain time Result : micom force to trigger TV power off. Condition : When pressing power key while power on/off status, CPU does not response within 8 seconds or call the WDT timer API.	Check & Change Main B/D
POWER_OFF_BY_ACDET	Power off by not detecting AC (abnormal case) Result : micom triggers TV power off Condition : Power detect port drops to low while power on status.	Normal Case Check & Change Main B/D
POWER_OFF_BY_5VMNT	Power off by not unstable AC power detect. Result : micom check the stable power. Condition : When AC on or DC on, stabilization check routine (Power Detect High Check) fail after multi power on.	Check & Change Main B/D
POWER_OFF_BY_NO_POLLING	Power off when receiving no ack Debug Status : Release Mode Result : TV power off/on (Reboot) Condition : There is no I2C response from CPU for 15 seconds. → if warm standby, power off occurs.	Check & Change Main B/D
POWER_OFF_BY_REMOTE_KEY2	similar with POWER_OFF_BY_KEYTIMEOUT, but different concept. Result : micom force to trigger TV power off within 4 seconds. Condition : When TV power on/off, CPU does not response within 4 seconds, and then pressing power key.	Check & Change Main B/D
POWER_OFF_BY_INV_ERROR	Power off by OLED module error	Check & Change OLED Module
POWER_OFF_BY_ONRF_FAIL	Result : Reboot Condition : OLED module compensation is running but fails.	Check & Change OLED Module
POWER_OFF_BY_PNWASHFAIL	Power off by panel noise wash function fail case. (OLED)	Check & Change OLED Module
POWER_OFF_BY_RESUME_FAIL	Power off by resume fail when dc on case. If occur the resume fail, TV will be rebooted.	Check & Change Main B/D

	Error symptom	B. Power error	Established date		
		Off when on, off while viewing, power auto on/off	Revised date		9/17

*** Please refer to the all cases which can be displayed on power off mode.**

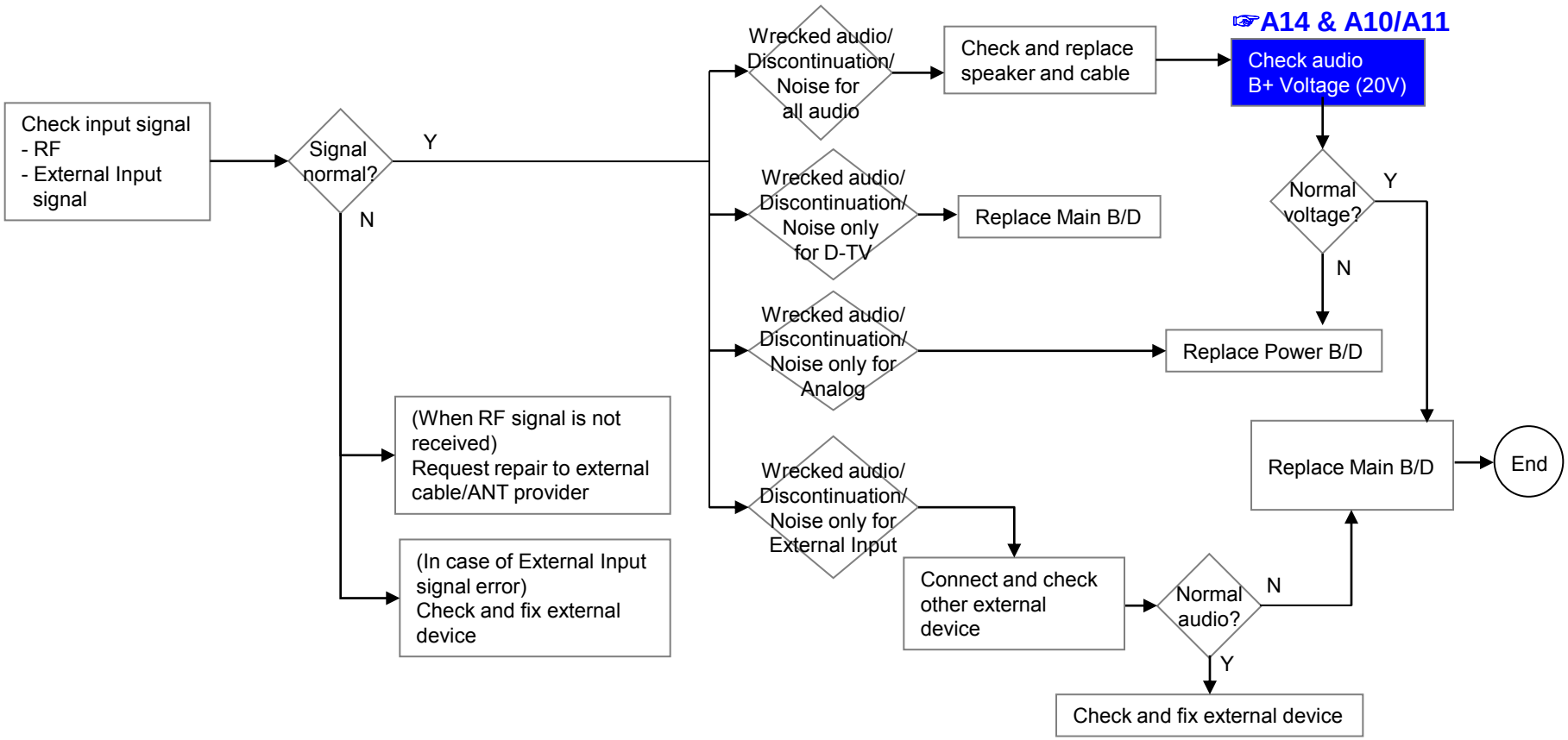
Power Off list	Explanation	Action contents
POWER_OFF_BY_RESET	Power off by Micom Reset It's not recommend. Please use POWER_OFF_BY_REQUEST_RESET. RESULT : Reset the TV and init time data.	Normal Case
POWER_ON_BY_REMOTE_KEY	Power on by remote Power Key.	
POWER_OFF_BY_OFF_TIMER	Power off by Off timer	
POWER_OFF_BY_SLEEP_TIMER	Power off by sleep timer	
POWER_OFF_BY_INSTOP_KEY	Power off by Instop Key	
POWER_OFF_BY_AUTO_OFF	Power off by auto off function 1. When it lasts for 15 minutes that no signal and no remote key input. 2. When screen mute status lasts for 2 hours.	
POWER_OFF_BY_ON_TIMER	Power off by On timer Power off when no remote and local key input for 2 hours after power on by On timer.	
POWER_OFF_BY_RS232C	Power off by RS232C command	
POWER_OFF_BY_RESREC	Power off by reserved recording Power off automatically after recording finishes after TV turns on by reservation recording from power off status.	
POWER_OFF_BY_SWDOWN	Power off by software download	
POWER_OFF_BY_LOCAL_KEY	Power off by local key	
POWER_OFF_BY_COMP_END	Result : Power off Condition : OLED threshold voltage degradation completes.	
POWER_OFF_BY_HDMI_CEC	Power off by HDMI CEC command	
POWER_OFF_BY_PNWASHSTART	Power off for starting OLED panel noise function in warm state.	
POWER_OFF_BY_PNWASHDONE	Power off by panel noise wash function completed.	
POWER_OFF_BY_COOLING	Power off for cool down the OLED t-con.	
POWER_OFF_BY_EDID_WRITE	Power off by EDID write done.	

	Error symptom	C. Audio error	Established date		
		No audio / Normal video	Revised date		10/17



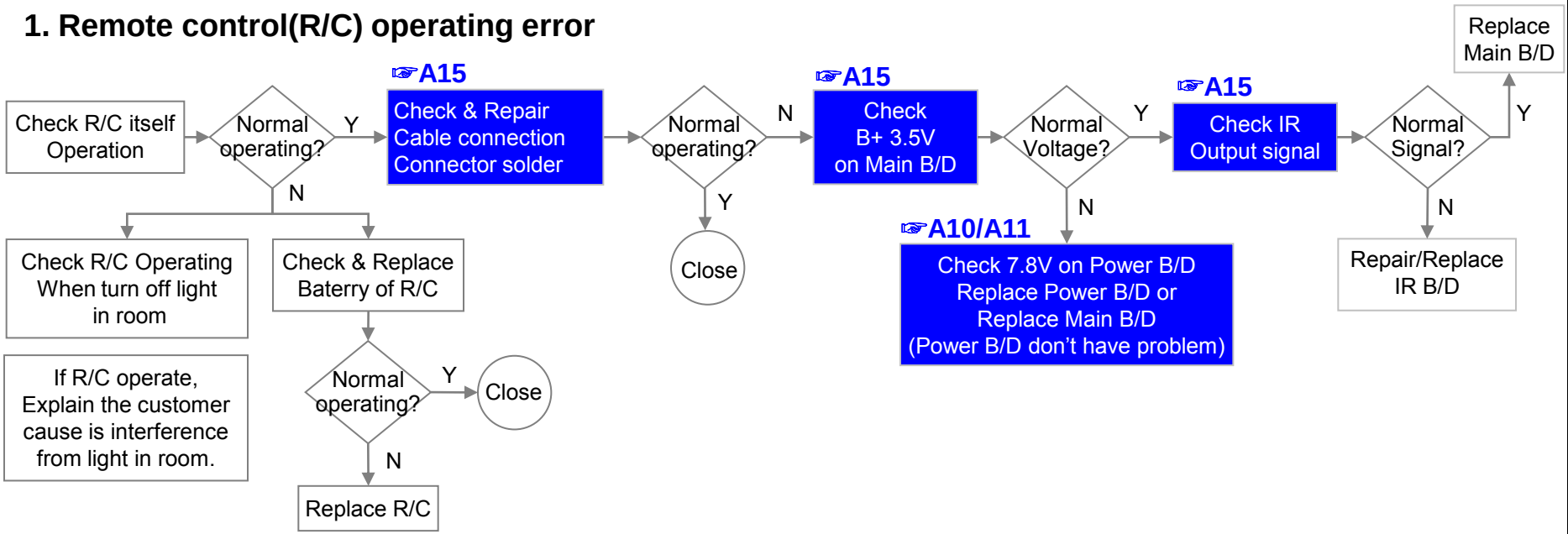
	Error symptom	C. Audio error	Established date		
		Wrecked audio / Discontinuation / Noise	Revised date		11/17

→ Abnormal audio/discontinuation/noise is same after "Check input signal" compared to No audio



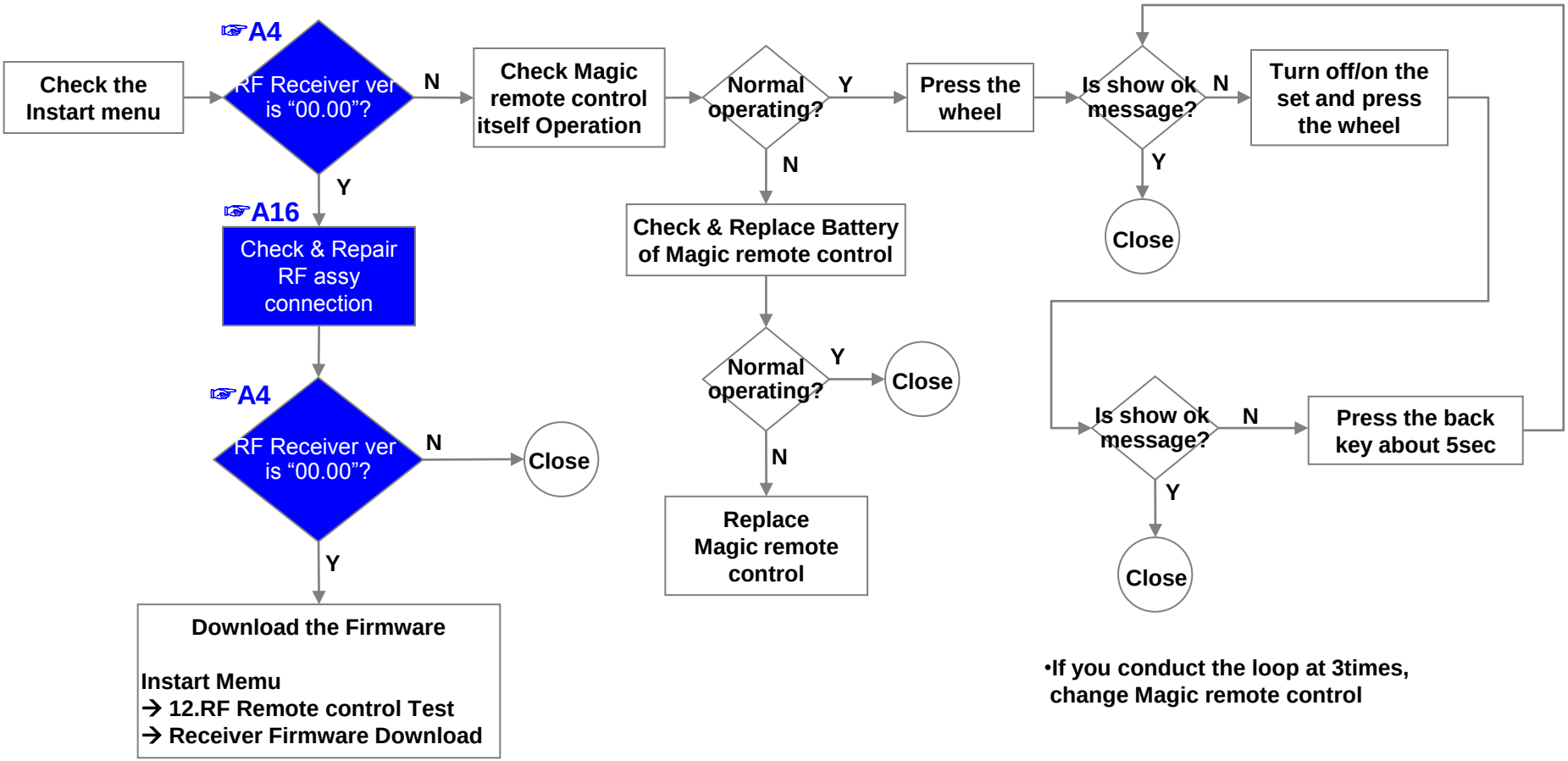
	Error symptom	D. Function error	Established date		
		Remote control & Local switch checking	Revised date		12/17

1. Remote control(R/C) operating error



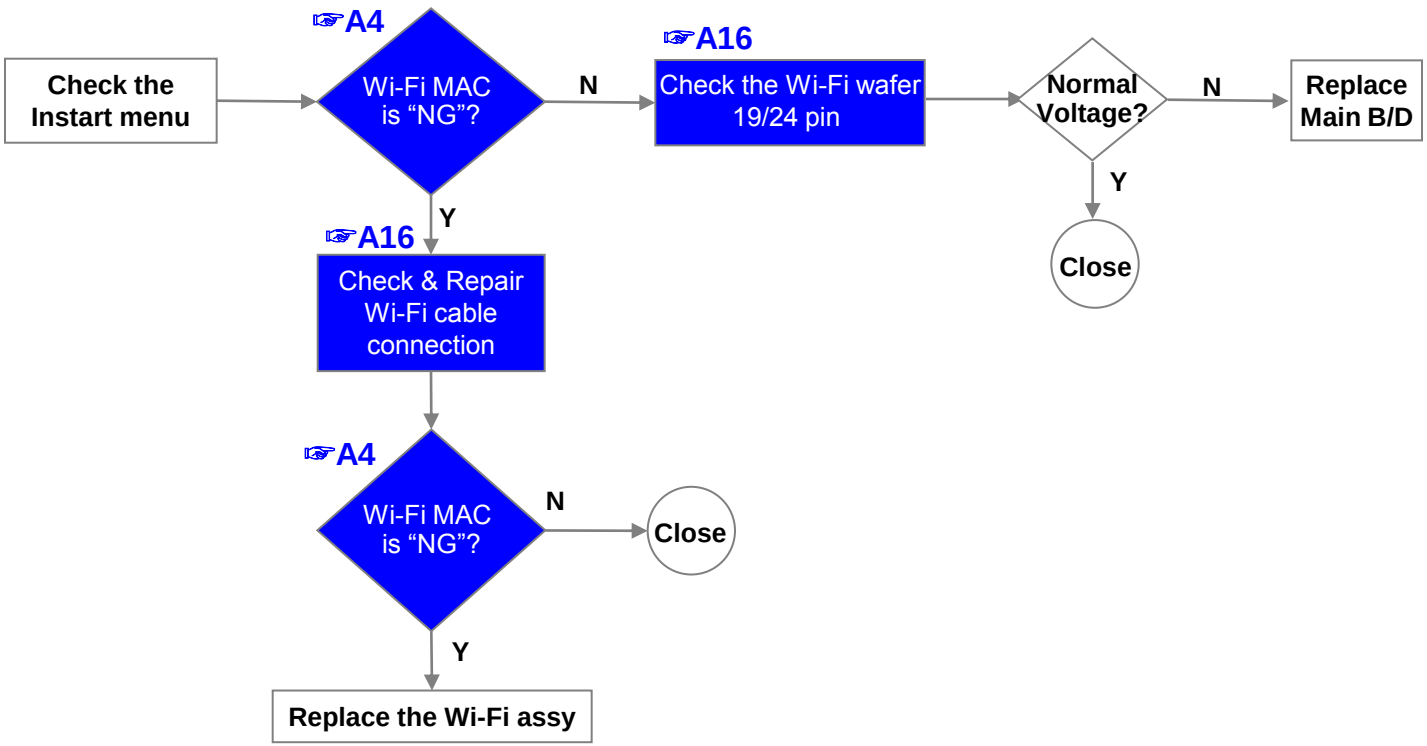
	Error symptom	D. Function error	Established date		
		Magic Remote control operating checking	Revised date		13/17

2. Magic Remote control operating error

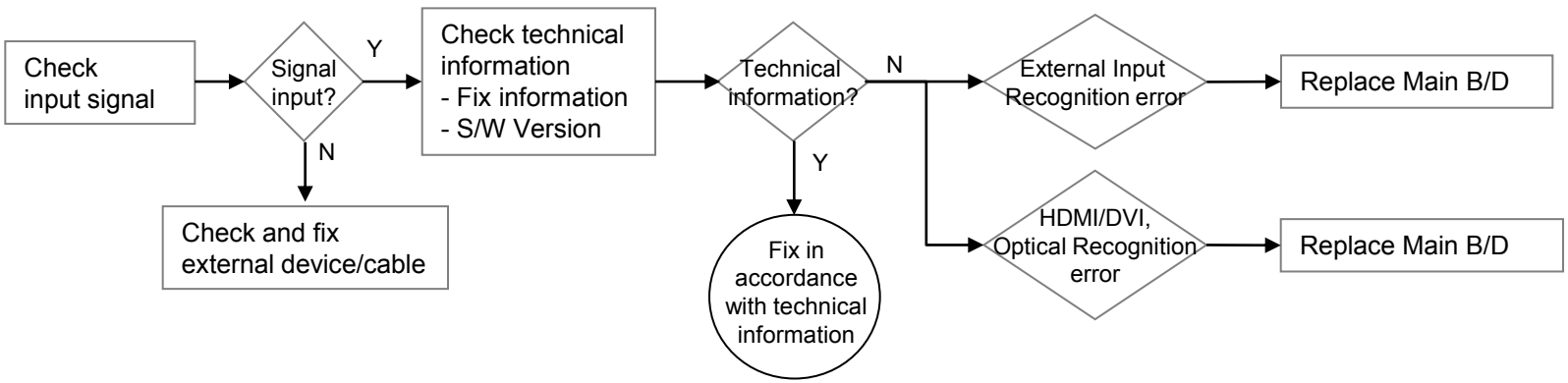


•If you conduct the loop at 3times, change Magic remote control

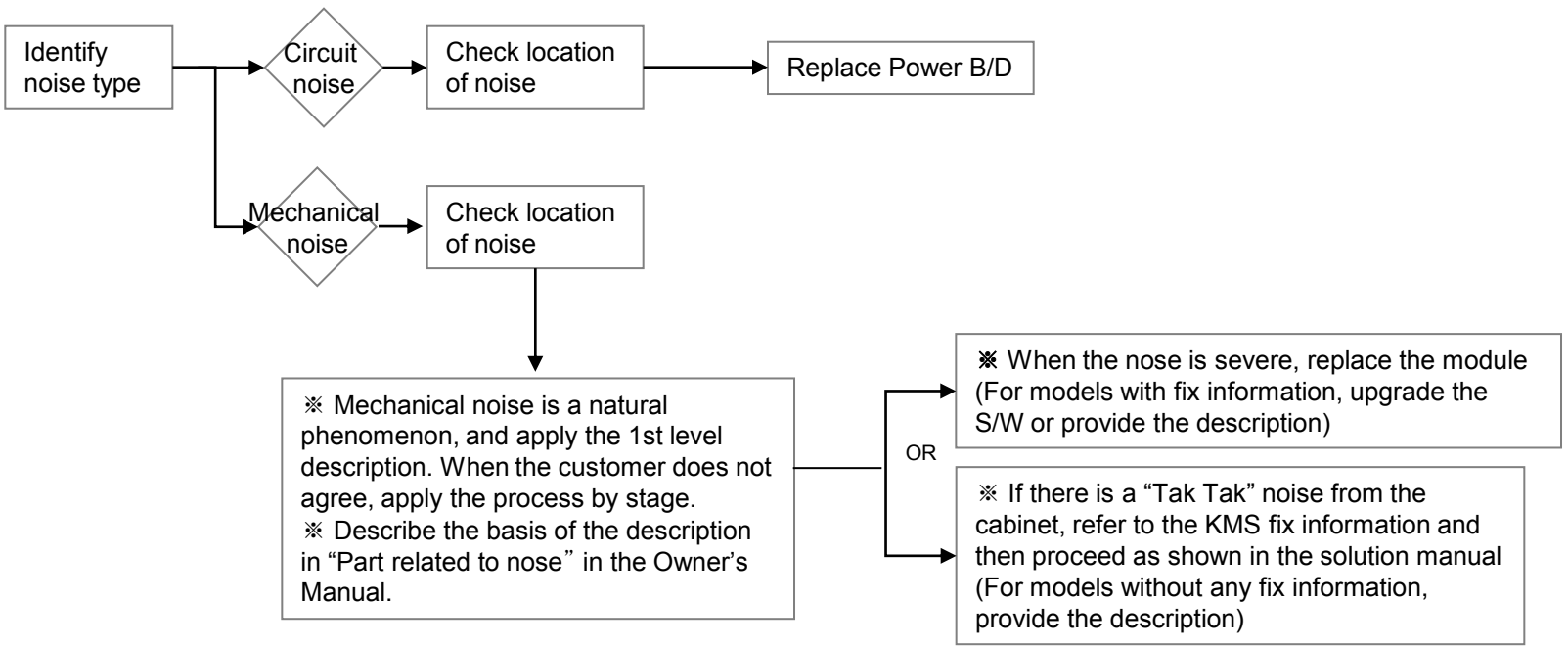
3.Wi-Fi operating error



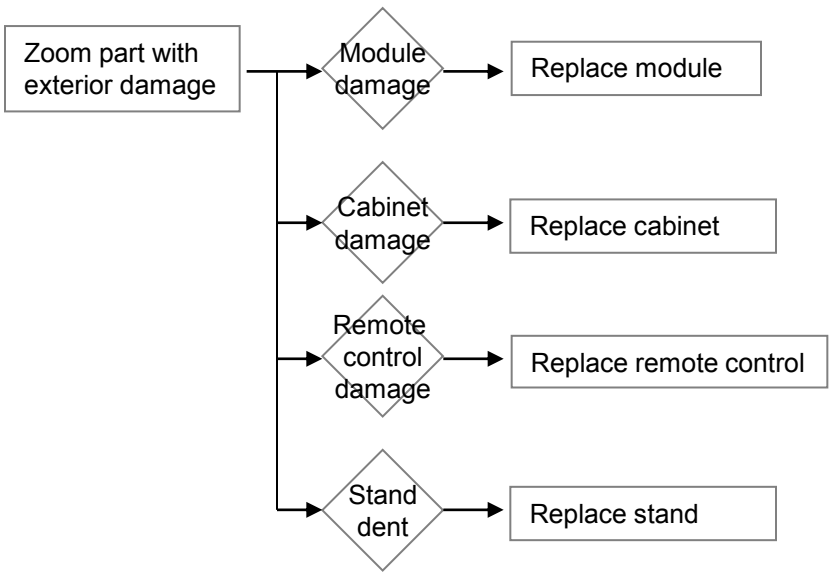
	Error symptom	D. Function error	Established date		
		External device recognition error	Revised date		15/17



	Error symptom	E. Noise	Established date		
		Circuit noise, Mechanical noise	Revised date		16/17



	Error symptom	F. Exterior defect	Established date		
		Exterior defect	Revised date		17/17



Contents of Standard Repair Process Detail Technical Manual

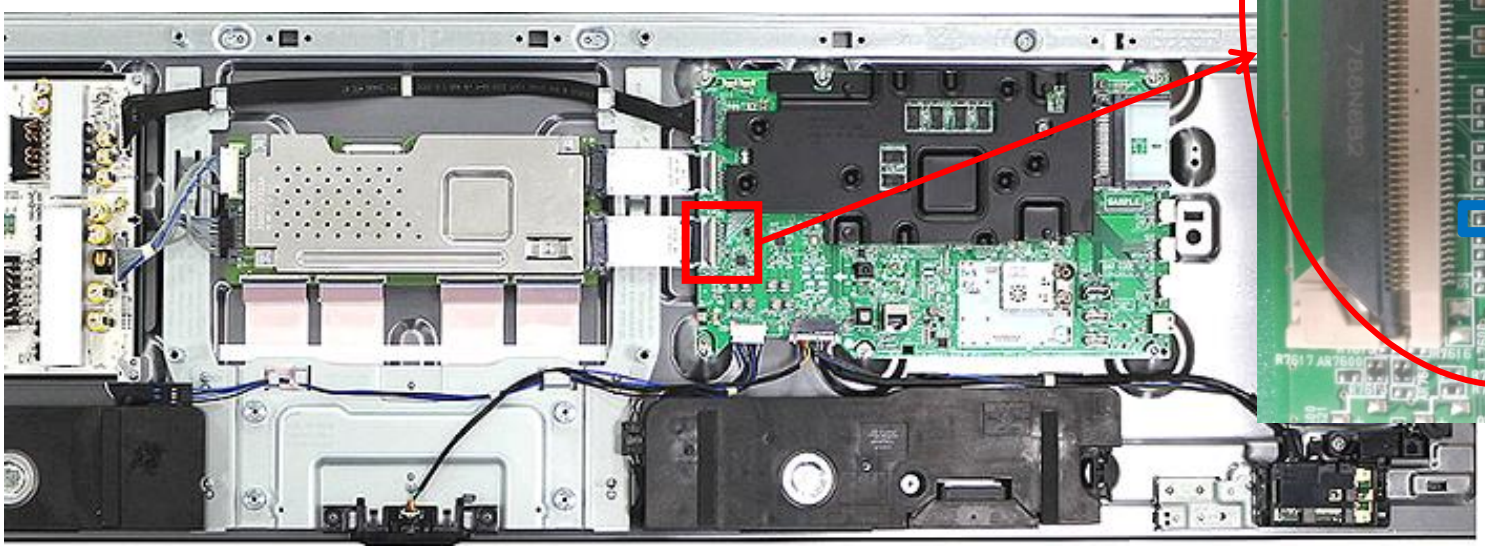
Continue to the next page

Contents of Standard Repair Process Detail Technical Manual

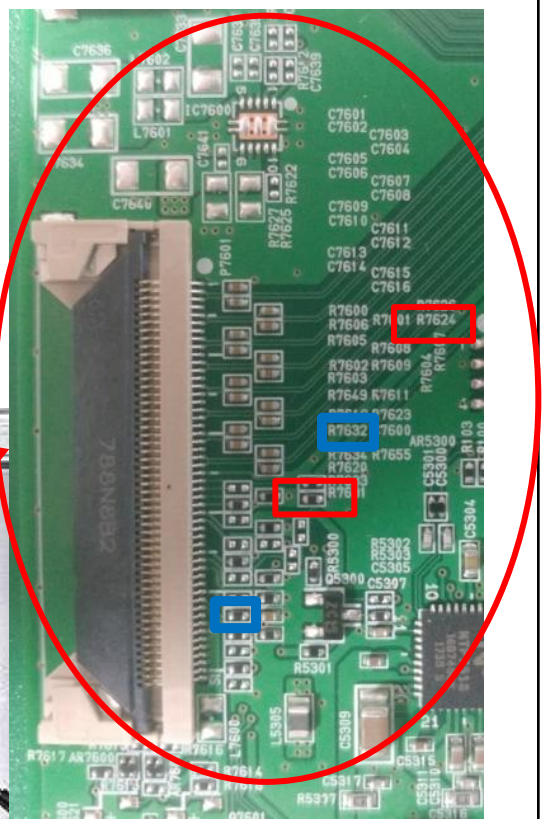
Continued from previous page

Standard Repair Process Detail Technical Manual

	Error symptom	A. Video error_No video/Normal audio	Established date		
	Content	Check Vx1 lock /Check BDP Point	Revised date		A1



R7624 : 0[V]

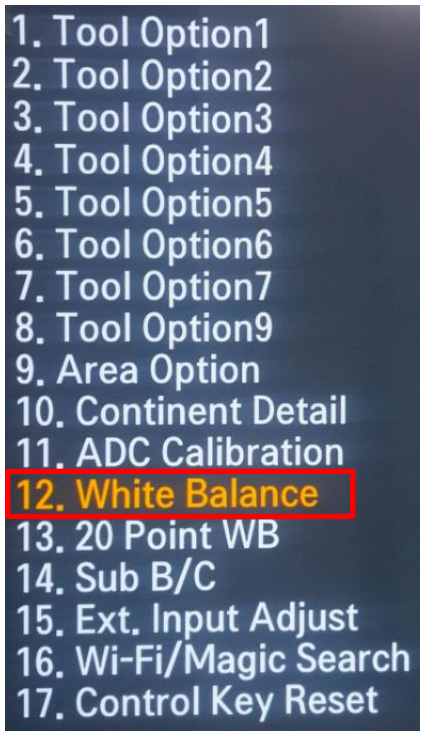


Check a voltage of R7624 after turn on the TV.
If the voltage is low, Vx1 is locked.(OK)

Check a voltage of R7632 after turn on the TV.
If the voltage is high, BDP issue.(NG)

Standard Repair Process Detail Technical Manual

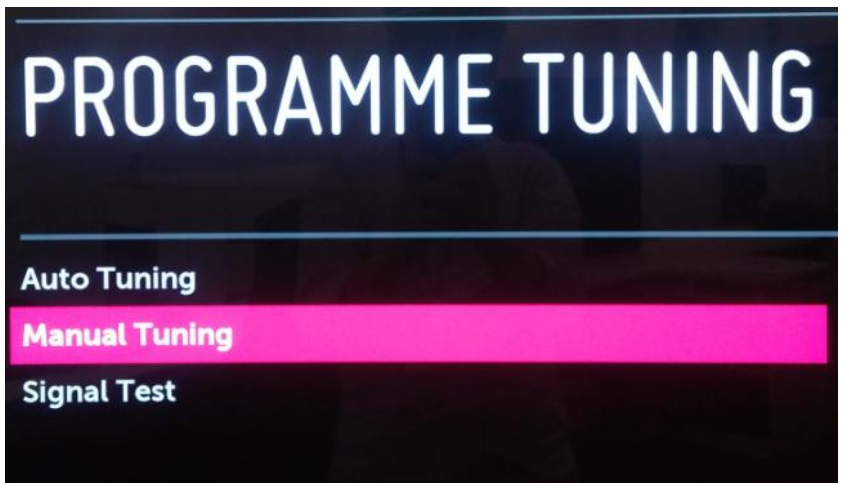
	Error symptom	A. Video error_No video/Normal audio	Established date		
	Content	Check White Balance value	Revised date		A2



1. Press ‘ADJ’ button on Factory Service Remote control.
2. Enter into ‘12.White Balance’
3. After recording the R, G, B (Gain, Cut) value of each Color Temp(Cool/Medium/Warm), re-enter the value after replacing Main board.

Standard Repair Process Detail Technical Manual

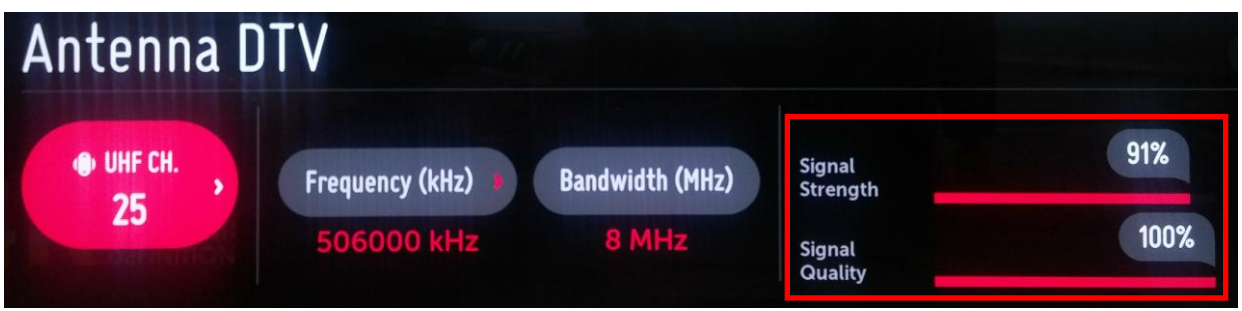
	Error symptom	A. Video error_Video error, video lag/stop	Established date		
	Content	Tuner input signal strength checking method	Revised date		A3



1. Press ‘MENU’ button on Factory Service remote control.

2. Enter into Manual Tuning menu as below.
   All Settings → Programmes → Programme Tuning & Settings → Manual Tuning

3. Check the signal level.

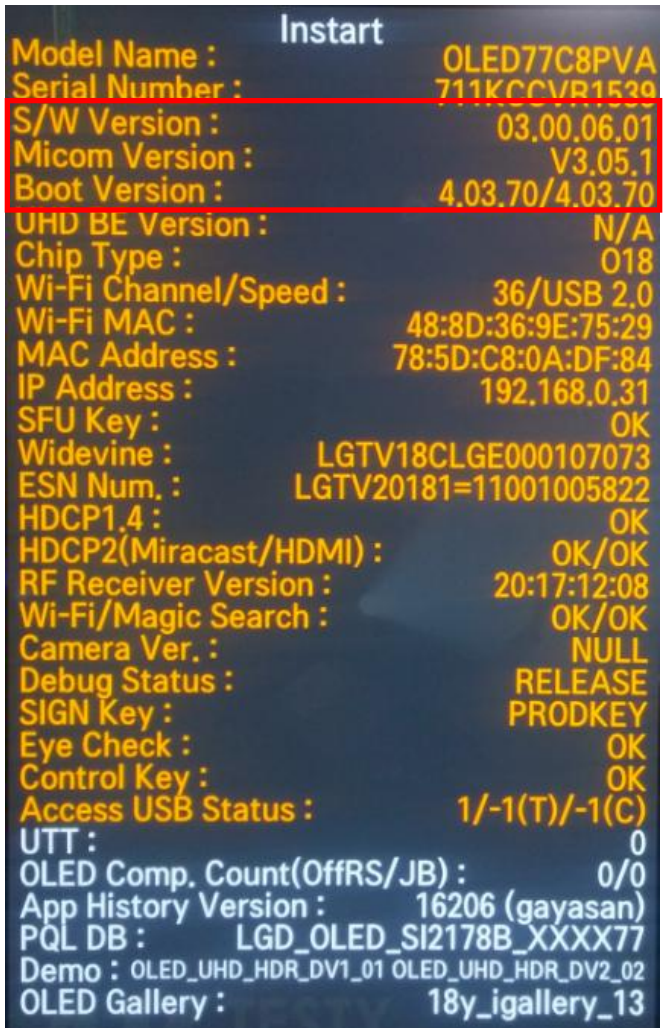


When the signal is strong, use the attenuator (-10dB, -15dB, -20dB etc.)

Standard Repair Process Detail Technical Manual

	Error symptom	A. Video error_Video error, video lag/stop	Established date		
	Content	Version checking method	Revised date		A4

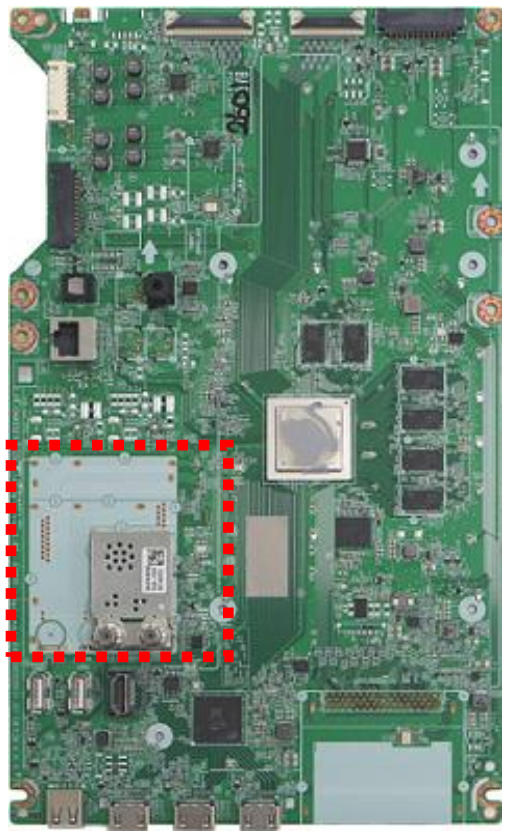
Version



1. Press ‘IN START’ button on Factory Service remote control.
2. Check S/W Version

Standard Repair Process Detail Technical Manual

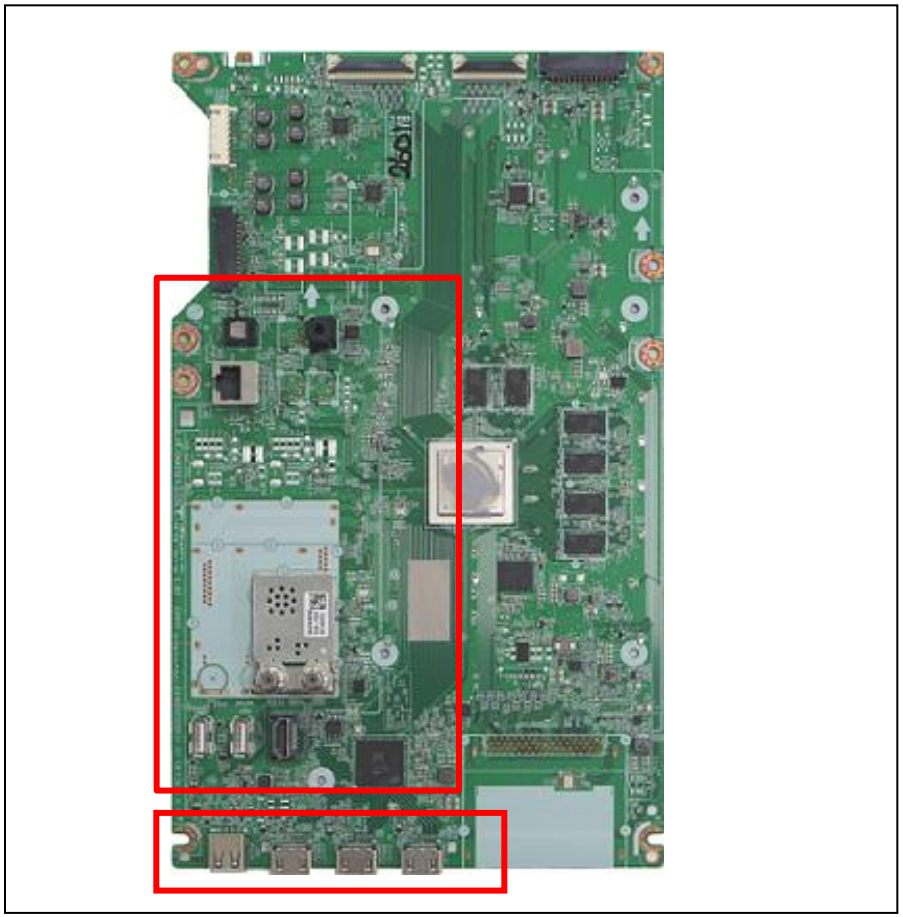
	Error symptom	A. Video error_Video error, video lag/stop	Established date		
	Content	Tuner checking part	Revised date		A5



Checking method:
1. Check the signal strength or check whether the screen is normal when the external device is connected.
2. After measuring each voltage from power supply, finally replace the Main board.

Standard Repair Process Detail Technical Manual

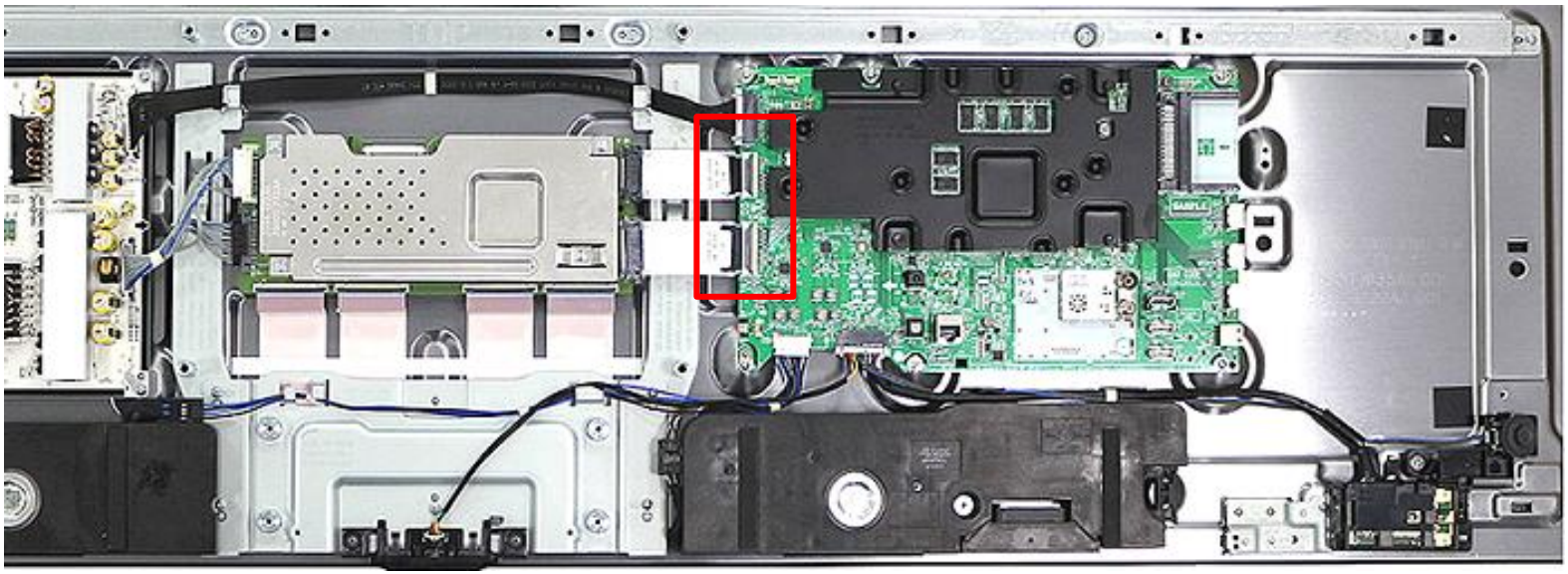
	Error symptom	A. Video error _Vertical/Horizontal bar, Residual image, Light spot	Established date		
	Content	Connection diagram	Revised date		A6



As the part connecting to the external input, check the screen condition by signal

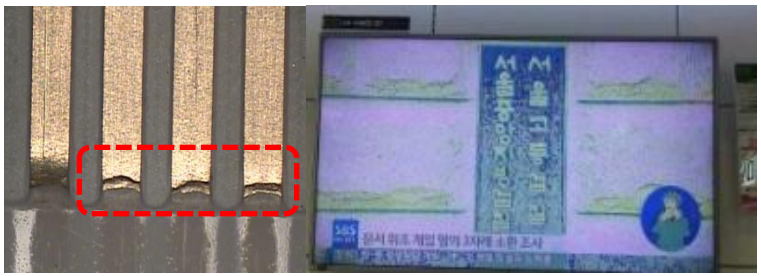
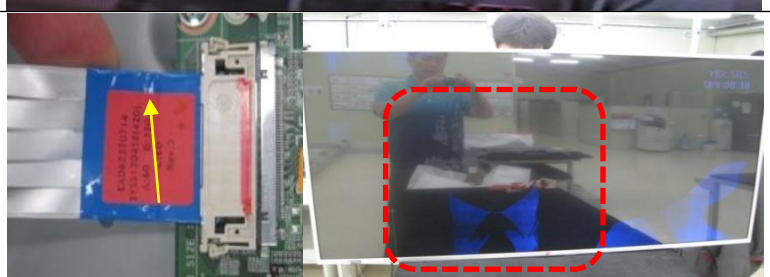
Standard Repair Process Detail Technical Manual

	Error symptom	A. Video error_Color error	Established date		
	Content	Check Link Cable(Vx1) reconnection condition	Revised date		A7

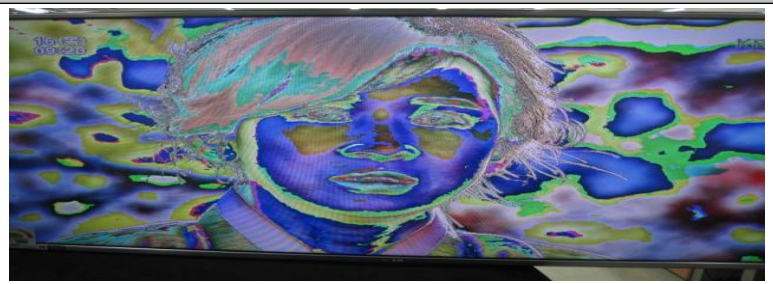
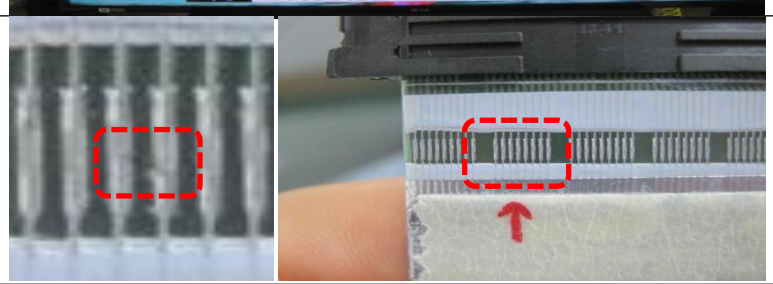


Check the contact condition of the Link Cable, especially dust or mis-insertion.

Appendix. Examples of Symptoms(Image error)

Item	Symptom Name	Cause	Symptom Image
Cable	Color smear	Poor broken pin of FFC cable	
Cable	R Color Excessive	Color is Excessive due to FFC Cable Contact.	
Cable	Screen darkness	screen is dark due to poor contact due to disconnection of the FFC cable pin.	
Cable	G Color Excessive	G color transient due to poor FFC cable connection	

Appendix. Examples of Symptoms(Image error)

Item	Symptom Name	Cause	Symptom Image
Cable	Color spread	Vx1 cable connection problem	
Cable	Color spread	Vx1 cable connection problem	
Cable	Color spread	Vx1 cable connection problem	
Cable	Screen stop	Due to foreign substance withi nLVDS cable PIN	

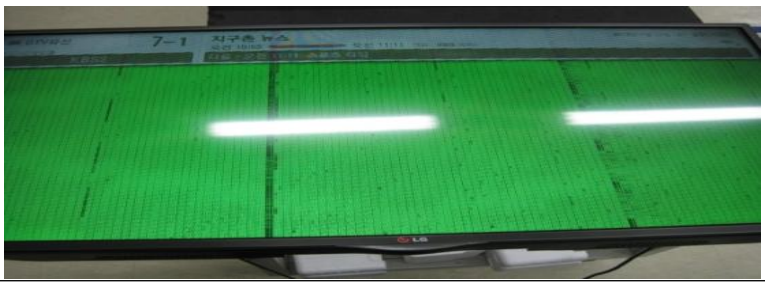
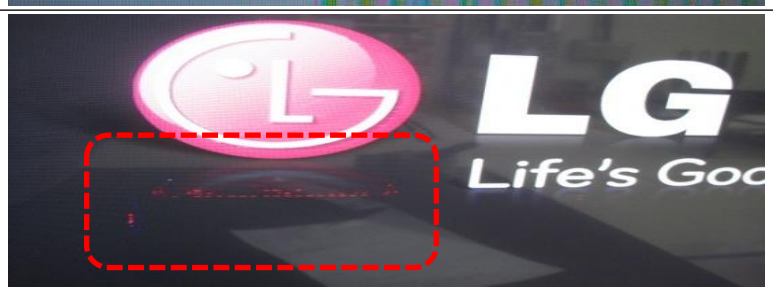
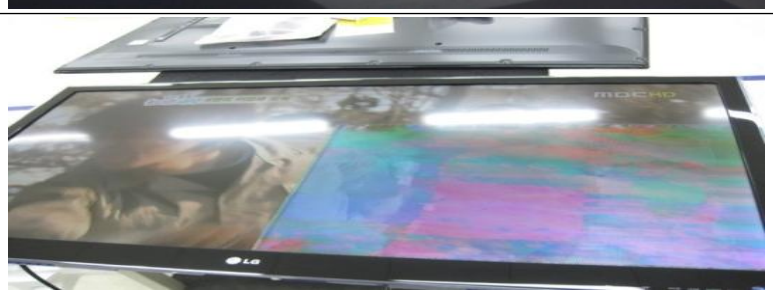
Appendix. Examples of Symptoms(Main)

Item	Symptom Name	Cause	Symptom Image
Main	Screen noise	Bit noise from horizontal screen	
Main	Screen noise	Broken screen due to Main IC problem	
Main	Dark picture	Dark left-side screen	
Main	Broken picture	Top/bottom screen part Picture problem due to tuner Inner side quality problem	

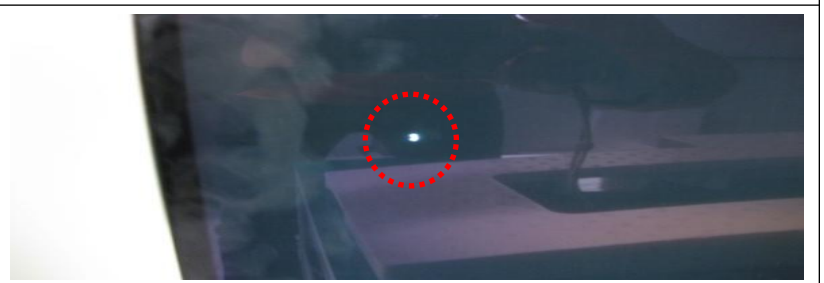
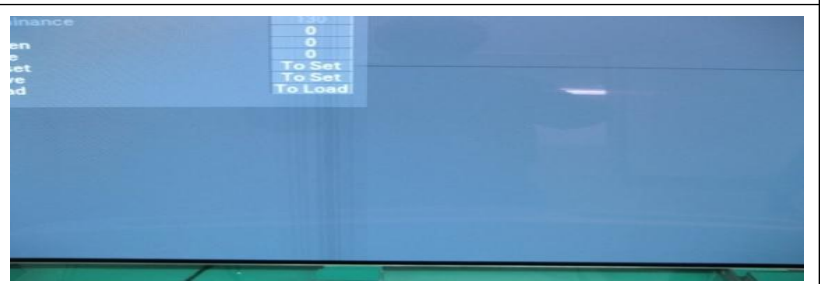
Appendix. Examples of Symptoms(Main)

Item	Symptom Name	Cause	Symptom Image
Main	Broken screen	Broken screen in a horizontal manner	
Main	Screen spread	Screen corner appears blurry	
Main	Color Spread	Color spread on the screen	
Main	Blurry Screen	Blurry picture on the screen	

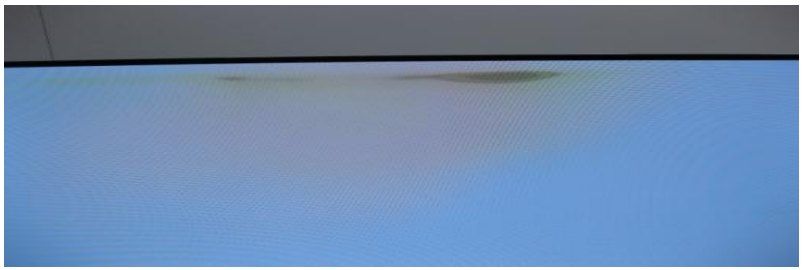
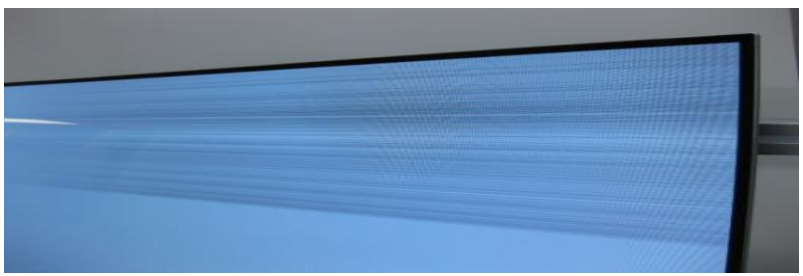
Appendix. Examples of Symptoms(Main)

Item	Symptom Name	Cause	Symptom Image
Main	Broken picture	No problem at the initial stage, G-color spread after 10 minutes	
Main	Right-side Screen problem	Right-side screen problem	
Main	LG logo Screen problem	Screen picture spread problem	
Main	Right-side picture problem	No problem at the initial stage. During Heat run, right-side picture problem	

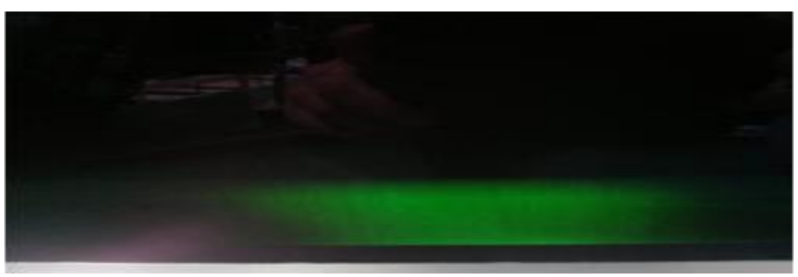
Appendix. Examples of Symptoms(Module)

Item	Symptom Name	Cause	Symptom Image
Module	Vertical bar	Un-repairable Cases In this case please exchange the module	 
Module	image broken	Source Driver issue	
Module	White dot	White dot cause by panel issue	
Module	Line Dim	Vertical Line cause by source drive IC	

Appendix. Examples of Symptoms(Module)

Item	Symptom Name	Cause	Symptom Image
Module	Burnt	Module burnt	
Module	Horizon line	Module has damaged	
Module	Line Defect	Module has damaged	
Module	Press damage	Un-repairable Cases In this case please exchange the module	

Appendix. Examples of Symptoms(Module)

Item	Symptom Name	Cause	Symptom Image
Module	Vertical bar	Vertical Bar cause by source drive IC	
Module	Vertical Noise Brightness difference	Un-repairable Cases In this case please exchange the module	
Module	Green light	Compensation error when Power On/off	
Module	Color difference	Color difference between screen cause by compensation error	

Appendix. Examples of Symptoms(Module)

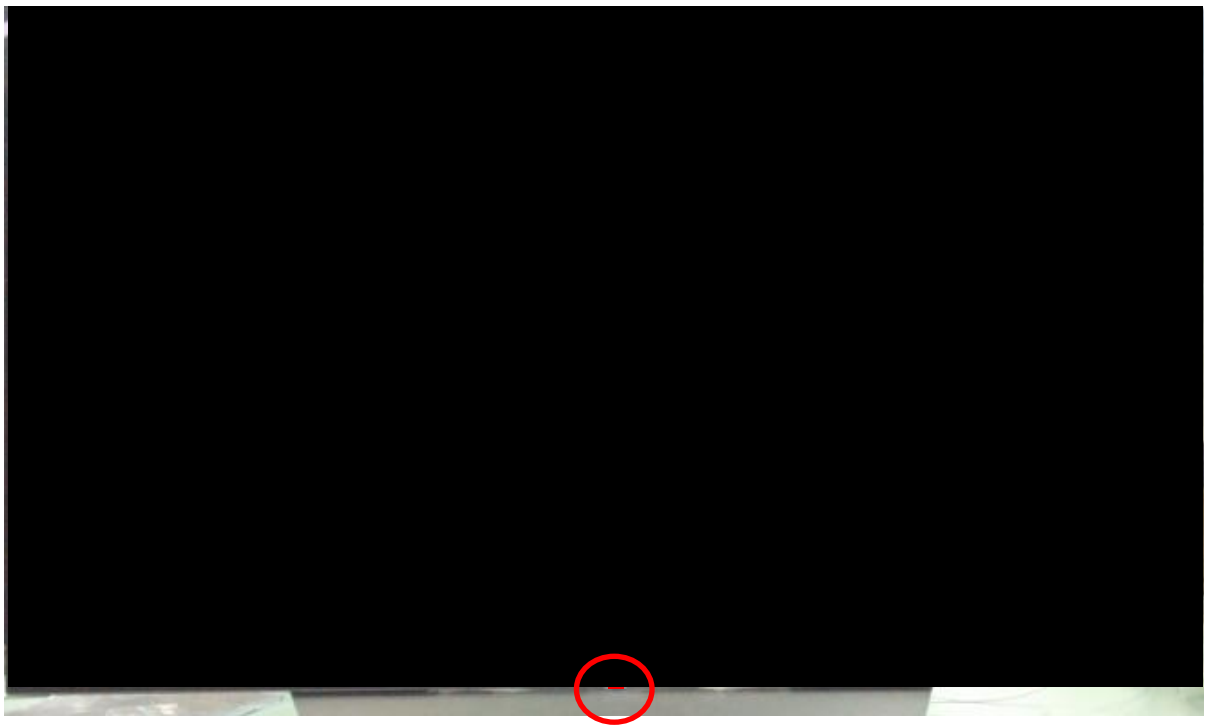
Item	Symptom Name	Cause	Symptom Image
Module	No image	Module has damaged (Can't fix it)	
Module	Burnt	Burnt (Can't fix it)	
Module	Mura	Screen Mura (Can't fix it)	

Appendix : Exchange Power Board (PSU)

No Light

No picture/Sound Ok

	Error symptom	B. Power error _No power	Established date		
	Content	Check Power Indicator	Revised date		A9



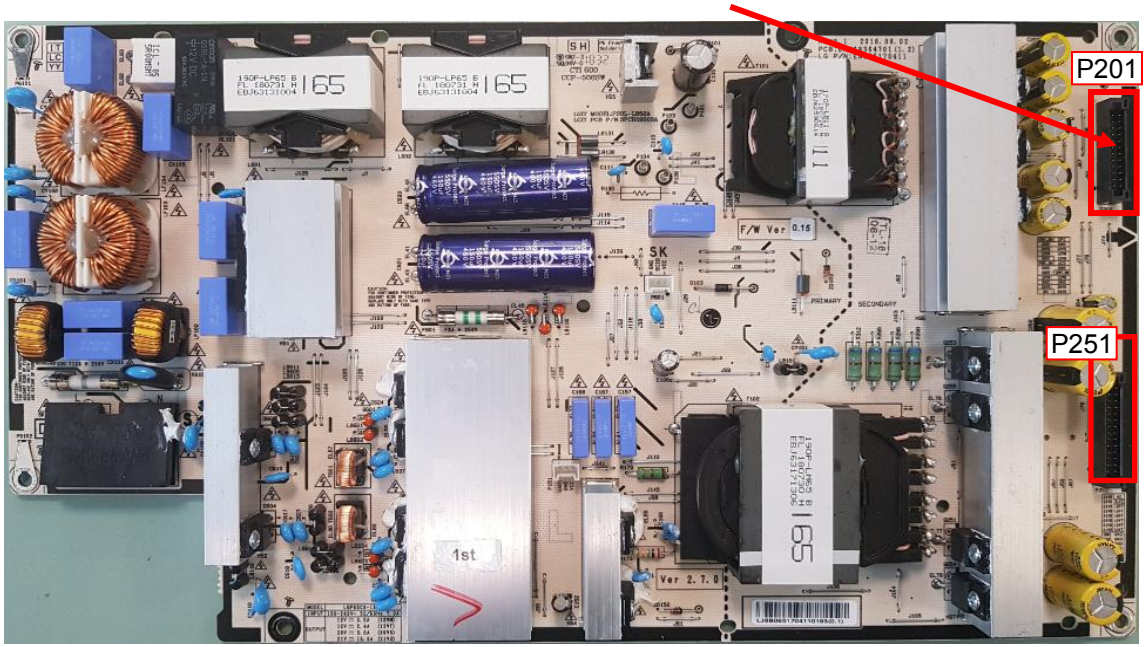
Stand-by condition : Red
Power On condition : Turn Off

※ Power indicator control
Menu → All Settings → General → Standby Light → ON/ Off

Standard Repair Process Detail Technical Manual

	Error symptom	B. Power error _No power	Established date		
	Content	Check power input voltage and ST-BY 3.5V	Revised date		A10

Check 12VM line for ST-BY Voltage
ST-BY status : 7.8V, Power on(DC On) status : 12V



Power To Main B'd

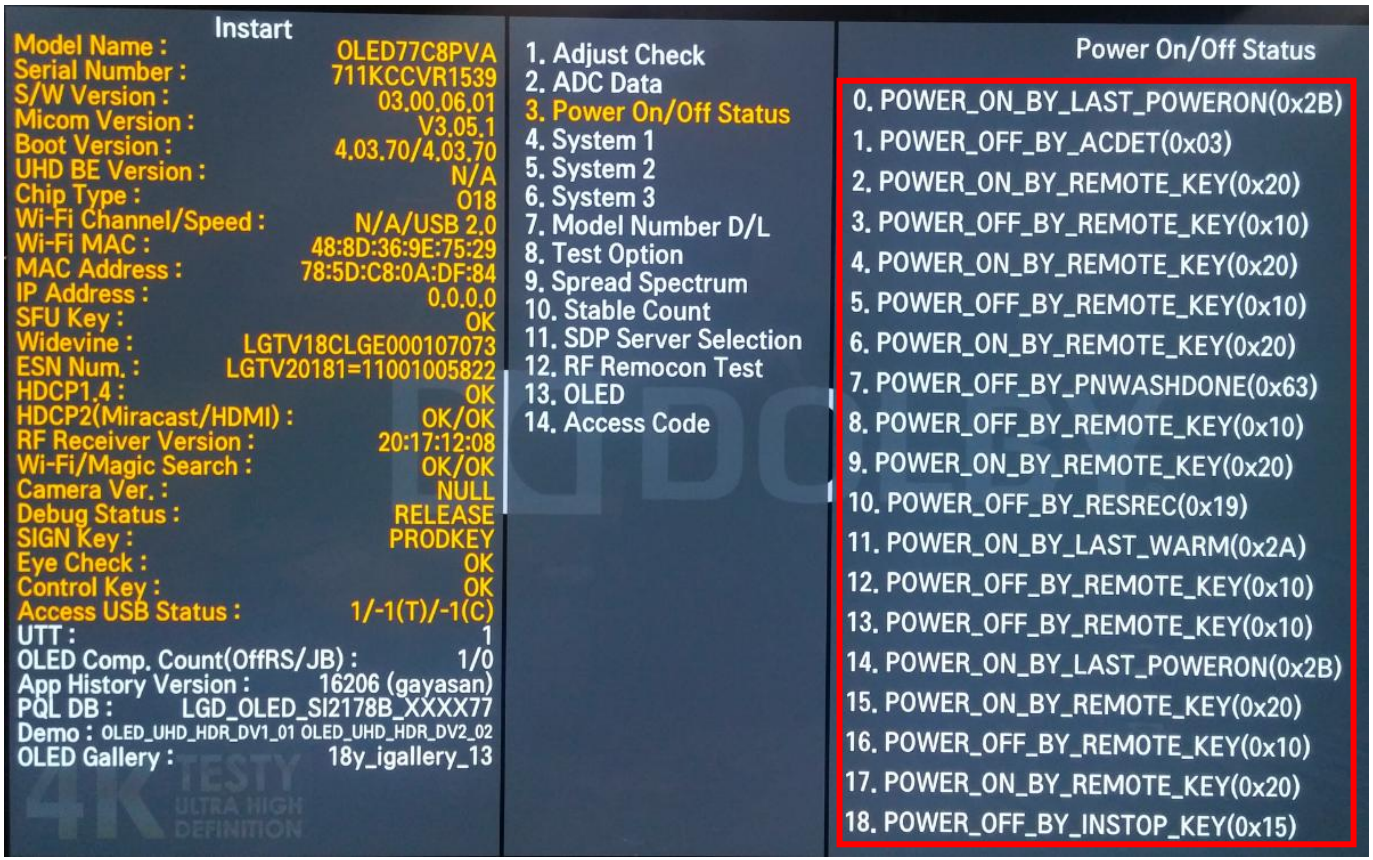
DRV_ON	DPC
GND	GND
20VS	20VS
12VM	12VM
GND	12VM
PWR_ON	ACD
GND	GND
GND	12VT_ON
12VM	12VM
GND	GND
20VS	20VS
NC	20VS

Power To Module

21VD	NC
21VD	21VD
21VD	12VT
21VD	12VT
21VD	12VT
21VD	12VT
21VD	12VT
21VD	12VT
GND	GND
GND	GND
GND	GND
GND	GND
GND	GND
GND	GND

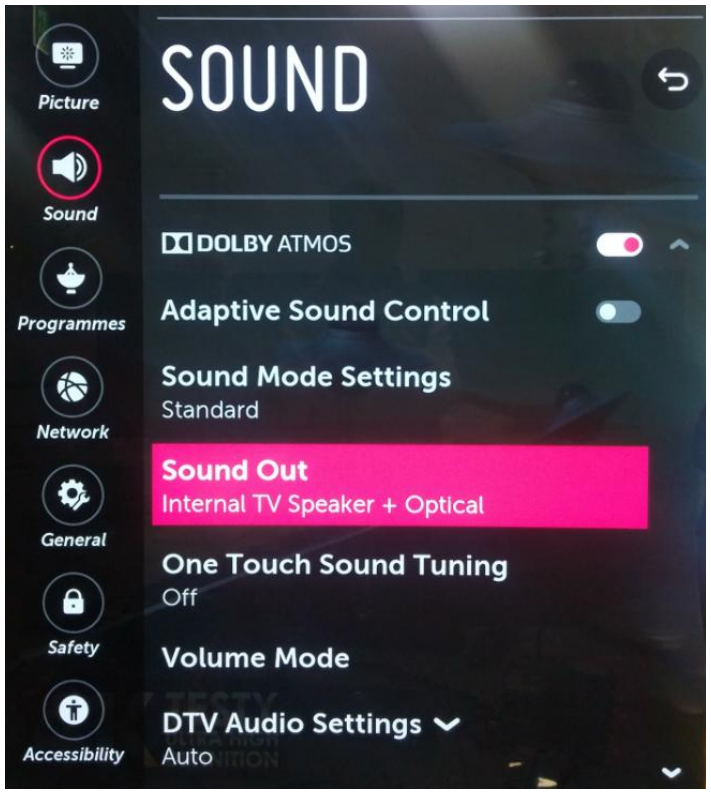
Appellation	Explanation	Signal Direction	Action
PWR-ON	Vcc Circuit ON/OFF	Input	2.5V Over : Vcc ON 0.3V Under : Vcc OFF
12VT-ON	12V(12VT) Circuit ON/OFF	Input	2.5V Over : 12V(12VT) ON 0.3V Under : 12V(12VT) OFF
DRV-ON	23V(23VD) Circuit ON/OFF	Input	2.5V Over : 23V(23VD) ON 0.3V Under : 23V(23VD) OFF
DPC	23V(23VD→21VD) Circuit ON/OFF	Input	2.5V Over : 23V(23VD)→21V 0.3V Under : 23V(23VD)
ACD	EVDD_ON/OFF	Output	2.7V Over : EVDD ON 2.7V Under : EVDD OFF

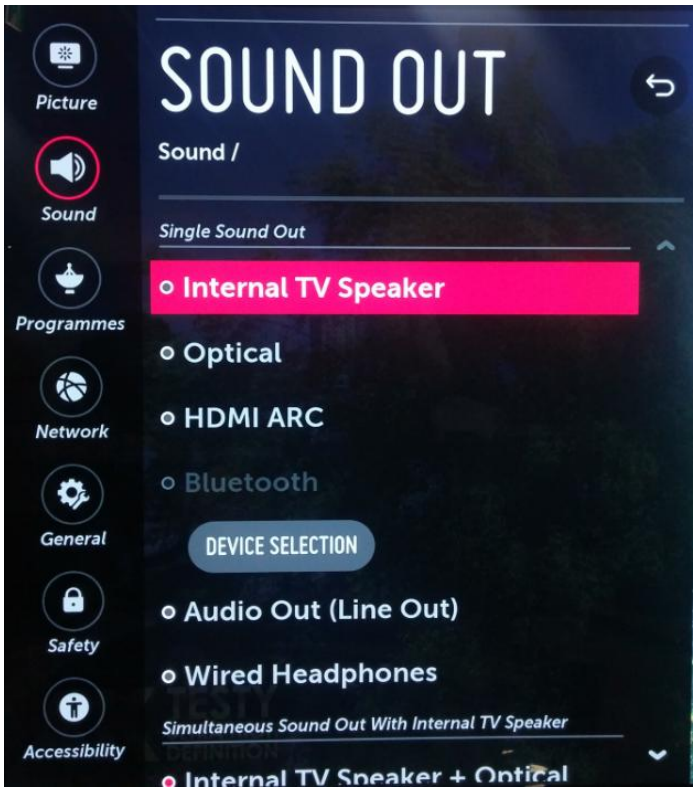
	Error symptom	B. Power error_Off when on, off whiling viewing	Established date		
	Content	POWER OFF MODE checking method	Revised date		A12



1. Press ‘IN START’ button on Factory Service remote control
2. Check the entry into ‘3. Power On/Off Status’.

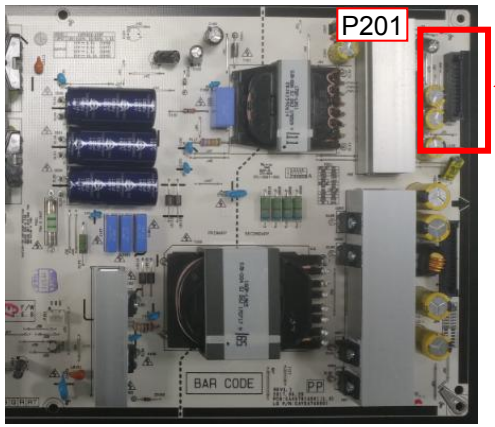
	Error symptom	C. Audio error_No audio/Normal video	Established date		
	Content	Checking method in menu when there is no audio	Revised date		A13





1. Press ‘MENU’ button.
2. Select ‘All Settings’
3. Select ‘Sound’ menu and ‘Sound Out’.
4. Select Internal TV Speaker.

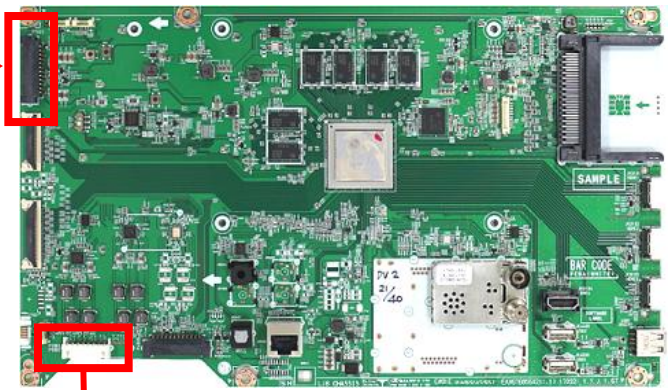
	Error symptom	C. Audio error_No audio/Normal video	Established date		
	Content	Voltage and speaker checking method when there is no audio	Revised date		A14



②

P201			
Type : SMW200-H24S5K Maker : YEON-HO			
Pin No.	Signal	Pin No.	Signal
1	NC	2	20VS
3	20VS	4	20VS
5	GND	6	GND
7	12VM	8	12VM
9	GND	10	12VT_ON
11	GND	12	GND
13	PWR_ON	14	ACD
15	GND	16	12VM
17	12VM	18	12VM
19	20VS	20	20VS
21	GND	22	GND
23	DRV_ON	24	DPC

①



1	SPK_R-_FT	2	SPK_R+_FT
3	SPK_L-_FT	4	SPK_L+_FT
5	SPK_R-_CT	6	SPK_R+_CT
7	SPK_L-_CT	8	SPK_L+_CT

Checking order when there is no audio

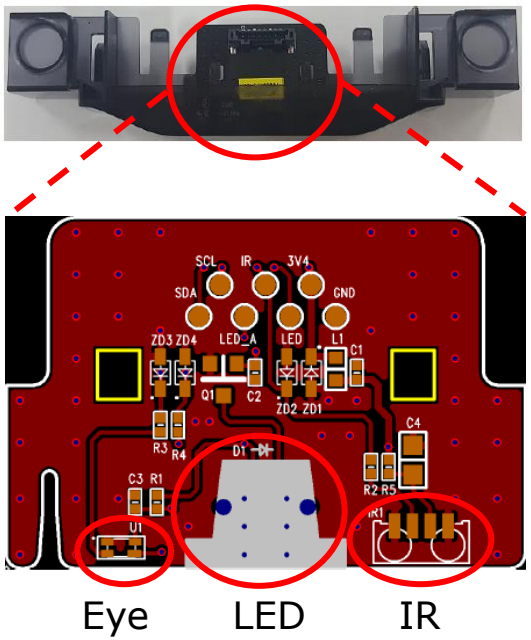
1.Check the contact condition of or 13.2V connector of Main Board.

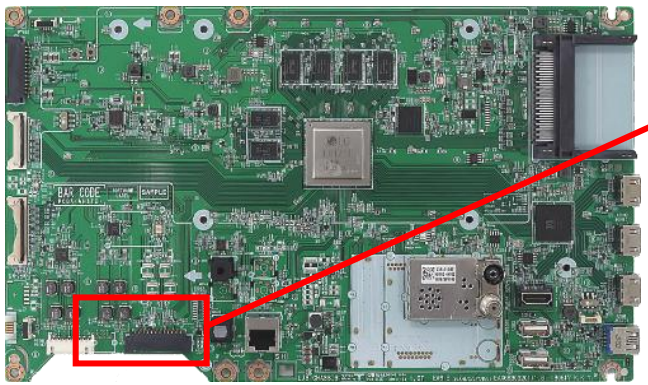
2. Measure 20V input voltage for Audio AMP supplied from Power board.
(If there is no input voltage, remove and check the harness)

3. Connect the tester RX1 to the speaker terminal and if you hear the Chik Chik sound when you touch the GND and output terminal, the speaker is normal.

	Error symptom	D. Function error	Established date		
	Content	Remote control operation checking method	Revised date		A15

① IR & EYE Sensor





Pin	Pin name
1	LED_R
2	GND
3	IR
4	3.5V_ST
5	GND
6	GND
7	EYE_SCL
8	KEY2
9	EYE_SDA
10	KEY1
11	n.c
12	GND
13	3.5V_WIFI
14	GND
15	COMBO_RESET_JACK
16	BT_WAKEUP_HOST
17	WOL/WIFI_POWER_ON
18	GND
19	3.5V_WIFI
20	WIFI_DP
21	WIFI_SUSPEND/RESUME_JACK
22	WIFI_DM
23	GND
24	3.5V_WiIFI
25	GND

1. Check IR cable condition between IR & Main board.
2. Check +3.5V_ST on pin 4(③)
3. AS checking the Pre-Amp of IR B/D(③) , the power is in ON condition, an Analog Tester needle should move slowly, otherwise, it's defective.

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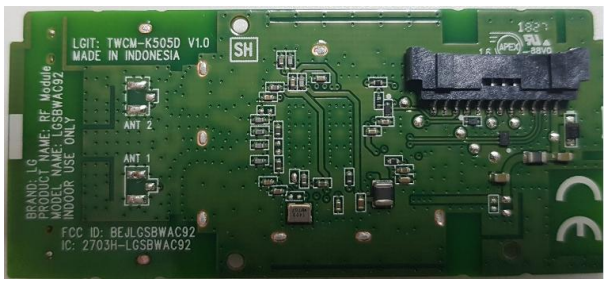
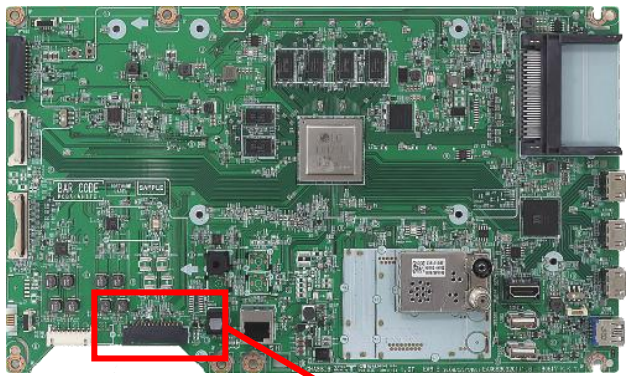
	Error symptom	D. Function error	Established date		
	Content	Wi-Fi / Motion Remote operation checking method	Revised date		A16

① Wifi & BT Front

Wifi & BT Rear





②

③

Checking order

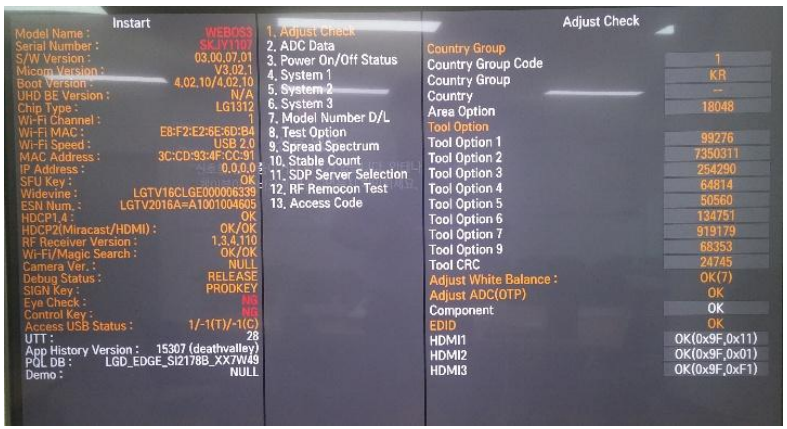
1. Check BT/Wifi cable condition between BT/Wifi assy & Main board.
2. Check the 3.5V on the terminal 13, 19, 24.

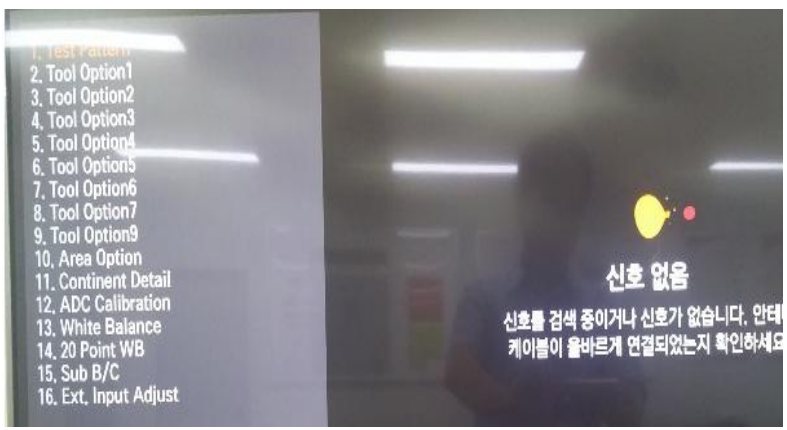
Pin	Pin name
1	LED_R
2	GND
3	IR
4	3.5V_ST
5	GND
6	GND
7	EYE_SCL
8	KEY2
9	EYE_SDA
10	KEY1
11	n.c
12	GND
13	3.5V_WIFI
14	GND
15	COMBO_RESET_JACK
16	BT_WAKEUP_HOST
17	WOL/WIFI_POWER_ON
18	GND
19	3.5V_WIFI
20	WIFI_DP
21	WIFI_SUSPEND/RESUME_JACK
22	WIFI_DM
23	GND
24	3.5V_WIFI
25	GND

Standard Repair Process Detail Technical Manual

	Error symptom	E.Etc	Established date		
	Content	How to use the Service remote control	Revised date		A17

1. How to access the remote control





	Error symptom	E.Etc	Established date		
	Content	How to use the Service remote control	Revised date		A18

2. Remote control part definition

POWER	Power On/Off
ETC (Added Function)	[ETC] Each time pressing the KEY button, Mode gets changed to ETC and P-ONLY each time All KEY function [PIP PR-][PIP PR+][SWAP] [PIP INPUT][DVI] KEY Function
P-ONLY (Added Function)	Changed to factory mode All KEY function &[INFO][STILL][HDMI HOT][USB HOT][HDMI4] KEY Action
INPUT	Change to the external device mode
ARC	Change in the order of 16:9=>Zoom1=>Zoom2=>Cinema Zoom=>Aucto Screen=>4:3=>16:9
PSM	Changes in the order of Bright Picture=>Easy Picture=>Cinema=>Spots=>Game=> Custom PIcture1=>Custom Picture2=>Bright Picture
SSM (Added Function)	Standard(user)=>music=>cinema=>sports=>game=>standard(user)
PIP	Picture In Picture is activated
TEXT	Access to the Power Only mode
CAP	Broadcasting caption(on/off)
MPX	Stereo mode (mono, stereo, foreign language) access
	Used when in factory mode
Simplink (Added Function)	Access to the Simplink-connected device
EYE	Digital EYE function ON/OFF For some Model, access to the Test Pattern
TILT	Used for screen tilting change (Access to the old PDP control mode)

	Error symptom	E.Etc	Established date		
	Content	How to use the Service remote control	Revised date		A19

B-TOOTH (Added function)	Connected to Blue-Tooth
IN-START	Model Nam ex) 42PG60D-NA Current Model Name S/W Version ex) V03.11.0 Current S/W version MICOM Version ex) V3.05.0 current Mi-Com version UTT ex) User TV total usage time
ADJ	POWER OFF STATUS ex) Shows power-off status Test Pattern (Off=>White=>Red=>Green=>Blue=>Black=>Pattern=>Off) Change
X-STUDIO (Added function)	HDD,USB, external device's HDD screen is activated
MENU	User function gets activated
EXIT	Exit from the current mode
TIME SHIFT (Added function)	Moves forward/backward of recorded contents
MUTE	Mute function (0 Volume)
IN-STOP	SET to factory mode
VOL + -	Volume Up/Down
CH + -	Channel Up/Down
AV1,2,3 (Added function)	Connects to external input 1,2,3
COMP1,2 (Added function)	Connects to Component 1,2
HDMI1,2,3,4 (Add function)	Connects to HDMI 1,2,3,4
DVI (Add function)	Connects to DVI

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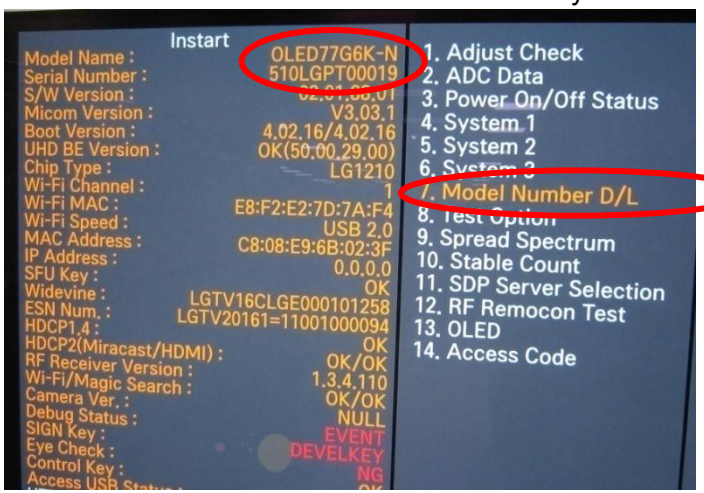
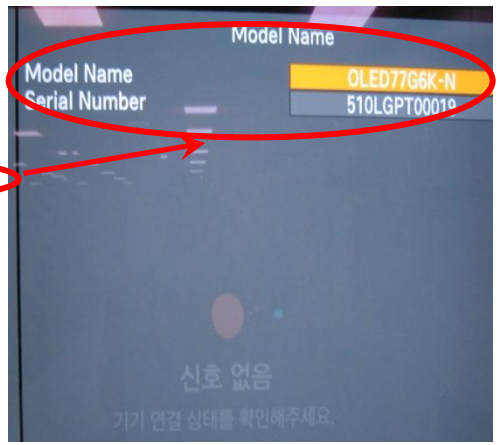
	Error symptom	E.Etc	Established date		
	Content	Check items after Main B/D replacement	Revised date		A20

Check items afer Main B/D(Model Number D/L, White Balance)

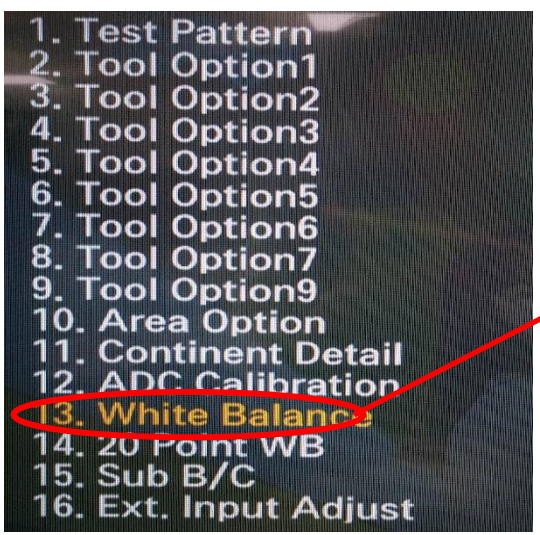
1. Press the Service remote control instart Key.

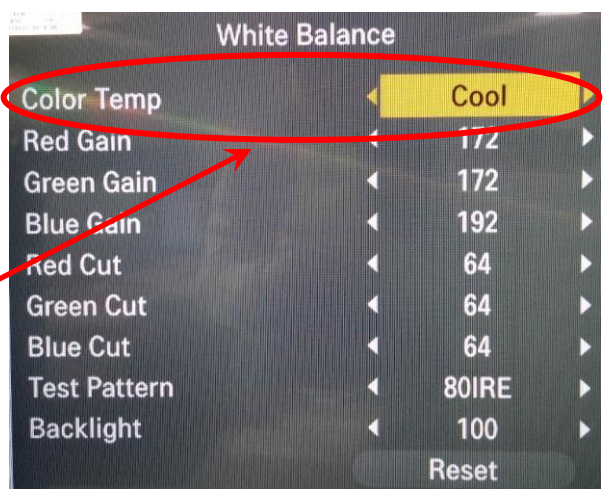




No.7 Select Model Number D/L
- Key in the model name and serial number after checking the ID label on the back cover.

2. Press the Service remote control ADJ Key.





No.13 Select White Balance
- Record the R, G, B (GAIN, Cut) value of the color temperature before main board replacement.
After replacing the main board, key in the recorded value.

Smart JIG Power Diagnosis Muitl Gender Guide

(P/N : RAD32507801)

(P/N : RAD33187801)

Power Board Muitl Gender JIG Diagram (P/N: RAD33187801)

<Defect diagnosis : Power Board ⟷ Main Board>

15Y (LF/UF Series)

16Y (OLED B6)

15Y (OLED)

28Pin

24Pin

24Pin

24Pin

NC

18Pin

24Pin

16Y (OLED)

24Pin

13Y/14Y

28Pin

17Y/18Y/19Y (OLED)

24Pin

12Y

17/18Y /19Y W7 B8, C8 E8, G8 W8 B9/C9/ E9/W9

24Pin

18Y/19Y UK63/UK64 UK65/UK68 UK7050 UM73/UM74 UM75/UM76/ UM79/UM80

18Y/19Y LK57,32/43/49LK54 32LK61/32LK62 43/49LK61 LM57/LM63

18Y/19Y SK80/UK89 SK85/SK96 SK95/SK99 SM90/SM98

16Y/17Y/18Y/19 (UH/UJ/UK/SK/ /SM

18Pin

18Y/19Y UK74,UK75 UK77,UK78 SK79 SM80/SM86

28Pin

12Pin

12Pin

28Pin

28Pin

Includes 49UJ63

17Y/18Y (SJ/UJ/UK/SK)

16/18Y/19Y (UH/UK/UM)

16Y/17Y/18Y/19Y (LH/LJ/LK/LM)

16Y/17Y (UH/SJ)

16Y (UH)

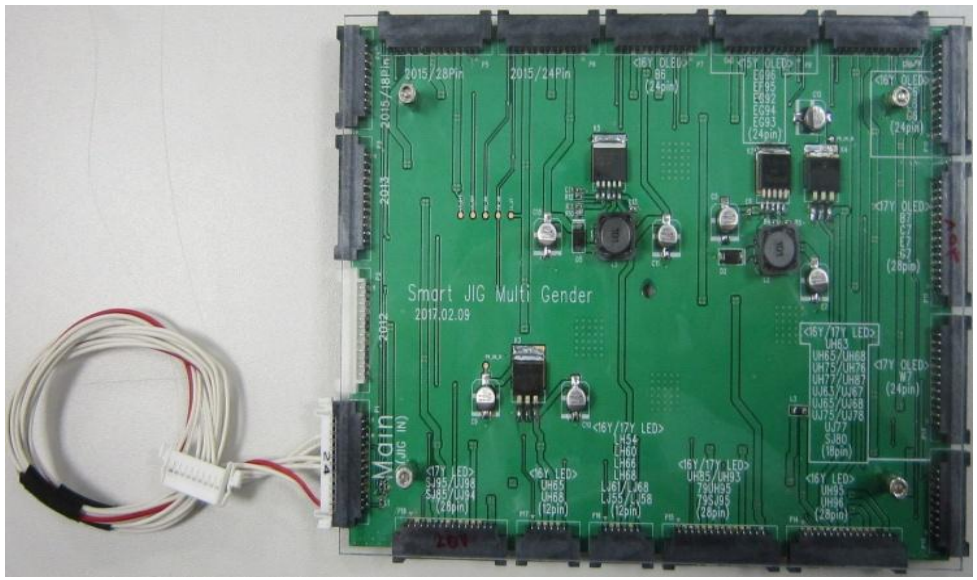
Power Board Muitl Gender JIG Diagnostic model List

<15Y/16Y/17Y/18Y/19Y OLED Model, 16Y/17Y/18Y/19Y LED Model>

Year	Product	Model
‘15	OLED	EG92/EG93/EG94 EG96 EF95
‘16	OLED	B6, C6 E6, G6
	LED	UH95/UH96, UH85/UH93 UH77/UH87, UH75/UH76 UH65/UH68, LH68, LH66, LH60,LH54
‘17	OLED	B7, C7, E7, G7, W7
‘17	LED	SJ95/UJ98, SJ85/UJ94 SJ80, UJ77, UJ75/UJ78 UJ65/UJ68, UJ63/UJ67 LJ61/LJ68, LJ55/LJ58
‘18	LED	SK80/SK85/SK95 UK78/UK75/UK77/SK79 UK63/UK64/UK65/UK68/UK7050 LK57, 32/43/49LK54, 32LK61/62, 43/49LK61
‘18	OLED	B8, C8, E8, G8, W8
‘19	LED	SM80/SM85/SM86 UM73/UM74/UM75/UM76/UM79/UM80 LM57/LM63
‘19	OLED	B9/C9/E9/W9

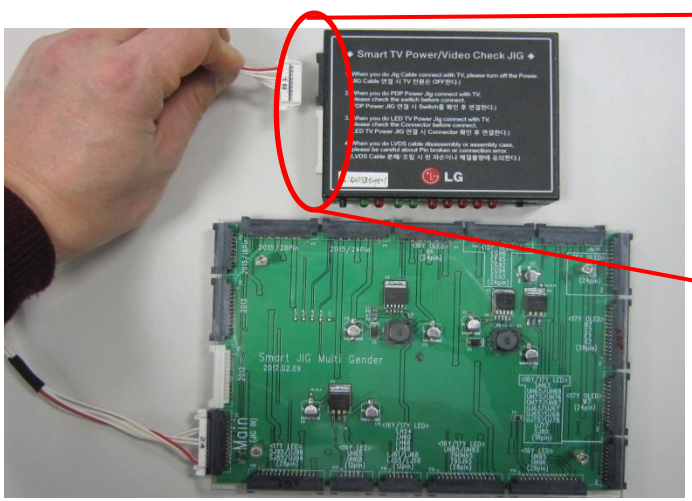
Power Board Muitl Gender How to Connect

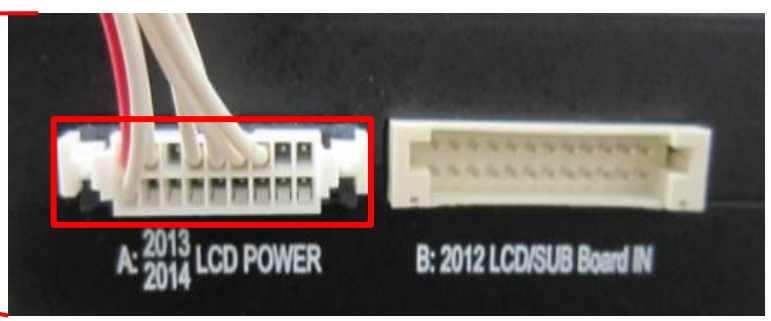
1



▶ Power Board Muitl Gender JIG

2



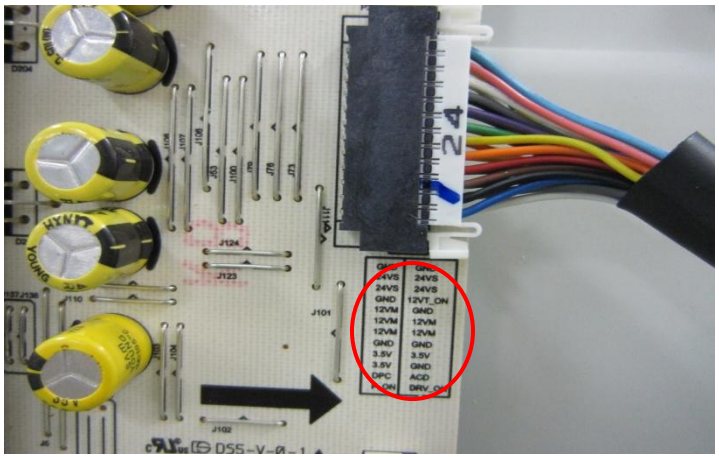


"A: 2013 / 2014 LCD POWER"

▶ Connect the Muiti Gender to the connector (black) as shown in picture 2 of the Smart JIG.

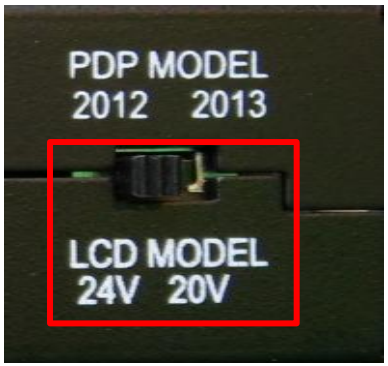
Smart Jig Voltage Setting

1



▶ Check power board voltage.

2



▶ Switch the product S/W in JIG to LCD.

▶ LCD MODEL Check the power voltage and switch to the correct voltage.

※ Note on set up

(The correct power diagnosis can be made only if it is set correctly.)

- 24V Power Board : Change the switch to 24V of Smart Jig Voltage

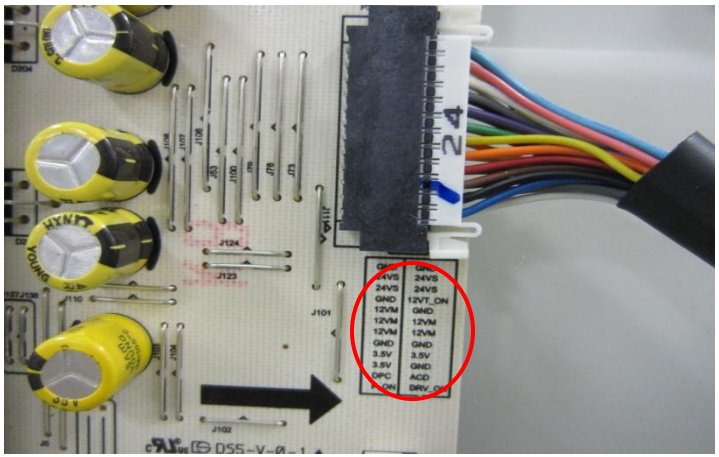
- 20V Power Board : Change the switch to 24V of Smart Jig Voltage

- 13.2V/18V Power Board : Change the switch to 24V of Smart Jig Voltage

Power B/D		Smart Jig Voltage Switch
24V	→	24V
20V	→	20V
13.2V/18V	→	24V

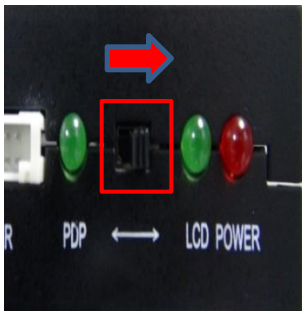
`15Y OLED(EG96,EF95,EG92,EG93,EG94) Power Board Diagnostic method (1)

1



▶ Check power board voltage.

2

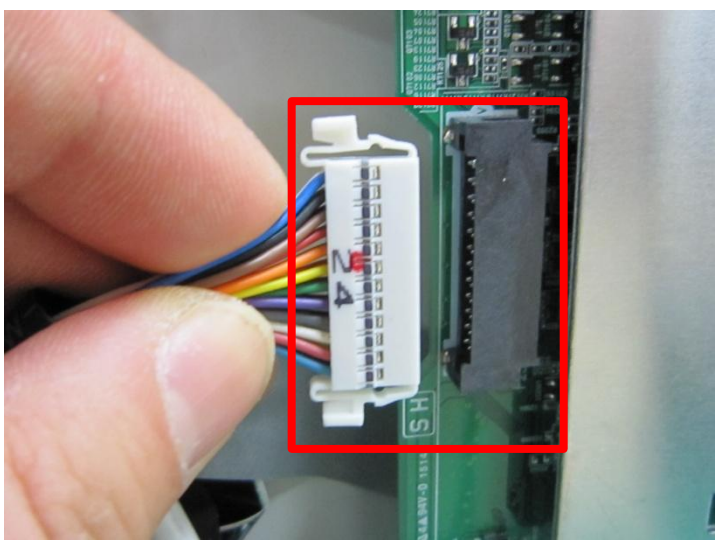


▶ Switch the product S/W in JIG to LCD.

▶ LCD MODEL Check the power voltage and switch(24V) to the correct voltage.

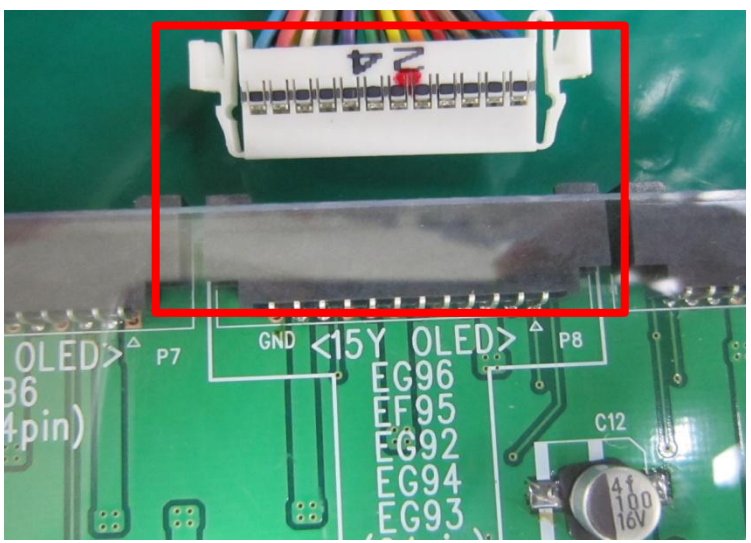
▶ **Fix the LCD MODEL switch to 24V.(Smart JIG)**

3



▶ Disconnect the Main Board 24Pin Power Cable connector.

4

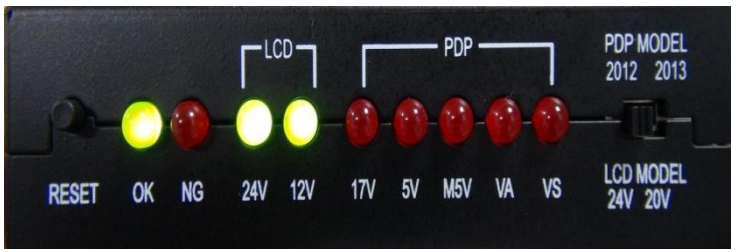


▶ Connect the 24Pin Power Cable connector to the Muitl Gender JIG 24Pin connector

`15Y OLED(EG96,EF95,EG92,EG93,EG94) Power Board Diagnostic method (2)

5

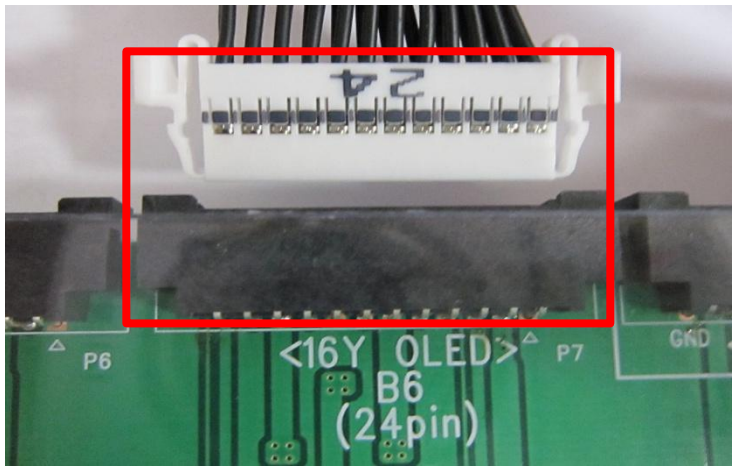
6



- When the OK LED(24V,12V) turns on, Power Board is normal.
- When the NG LED turns on, the Power Board can be judged as defective.

`16Y OLED(B6) Power Board Diagnostic method

1



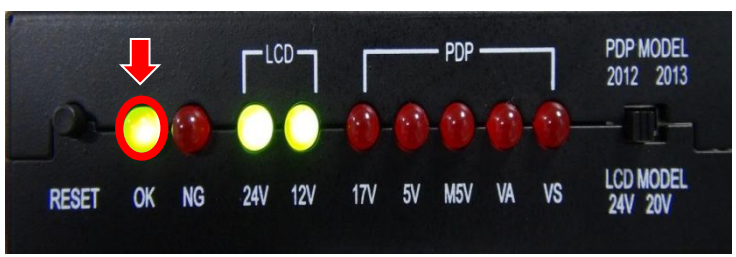
▶ Connect the 24Pin Power Cable connector to the Multi gender JIG 24Pin connector.

2

▶ Switch the LCD MODEL S/W to **24V** by checking the power voltage.

▶ **Fix the LCD MODEL switch to 24V.(Smart JIG)**

3

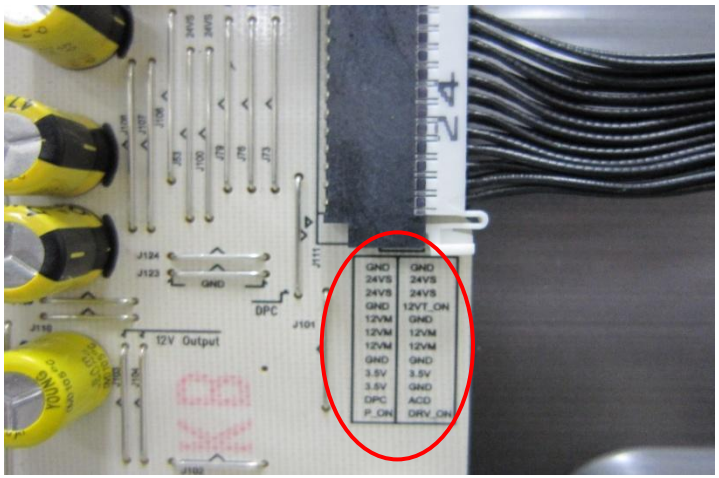


▶ When the OK LED(24V,12V) turns on, Power Board is normal.

▶ When the NG LED turns on, the Power Board can be judged as defective.

`16Y OLED(C6) Power Board Diagnostic method

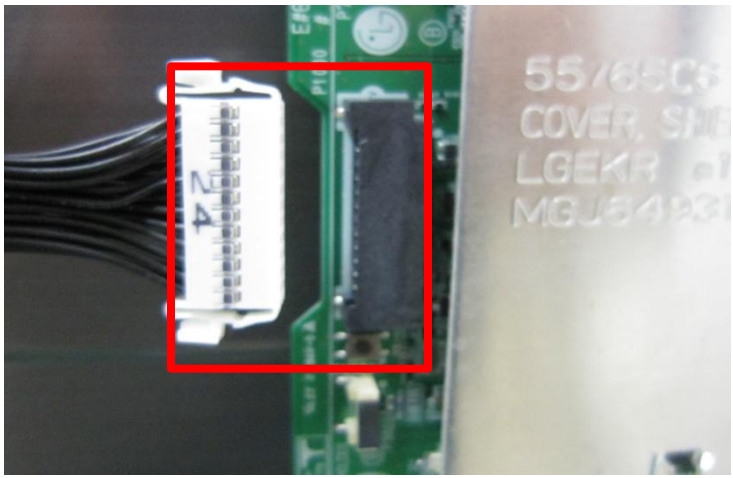
1



▶ Check power board voltage.

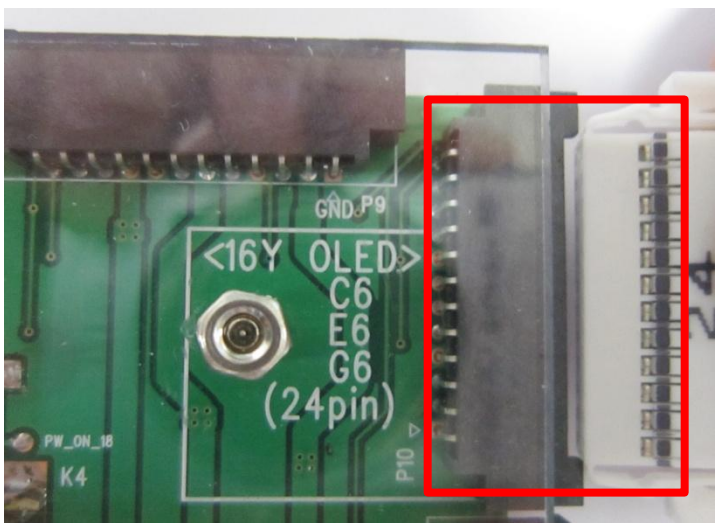
▶ **Smart JIG: Fix the LCD MODEL switch to 24V.(Smart JIG)**

2



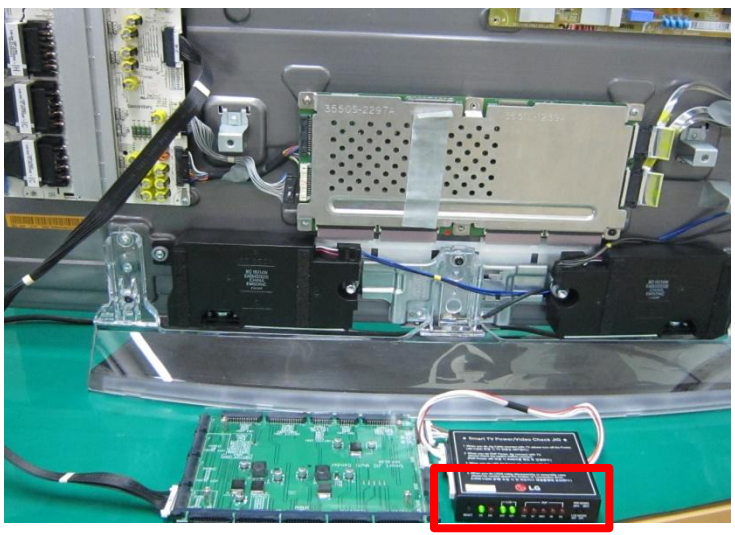
▶ Disconnect the Main Board 24Pin Power Cable connector.

3



▶ Connect the 24Pin Power Cable connector to the Muitl Gender JIG 24Pin connector

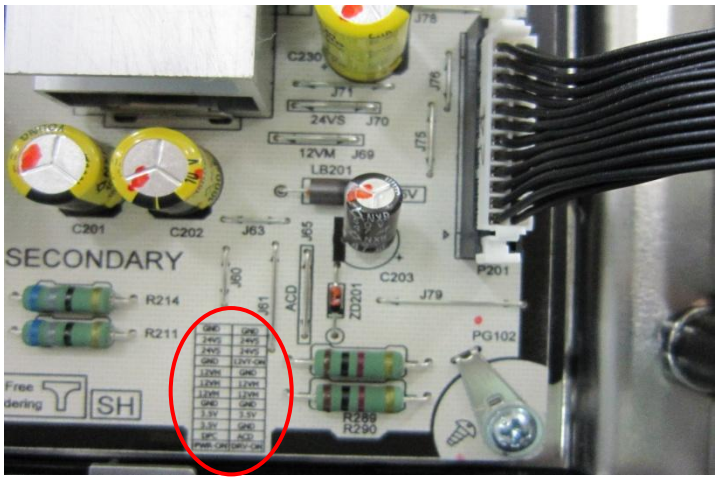
4



▶ When the OK LED(24V,12V) turns on, Power Board is normal.

`16Y OLED(E6) Power Board Diagnostic method

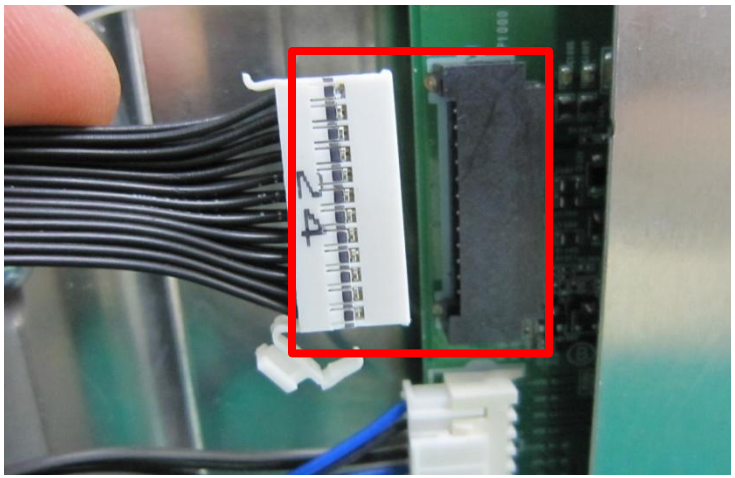
1



▶ Check power board voltage.

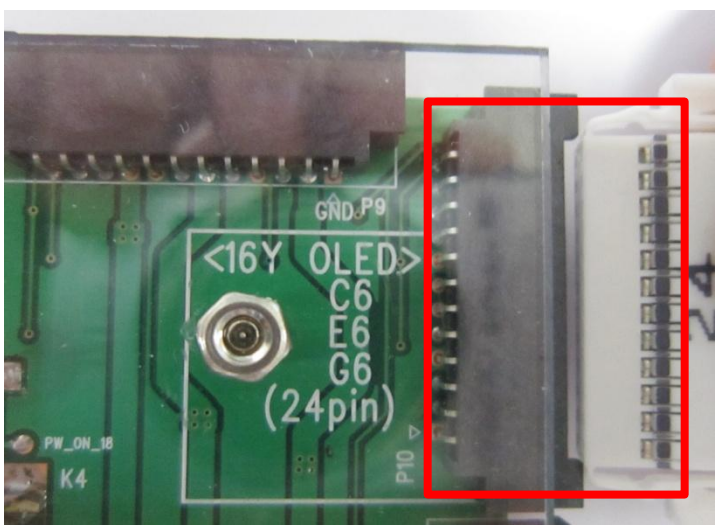
▶ **Fix the LCD MODEL switch to 24V.(Smart JIG)**

2



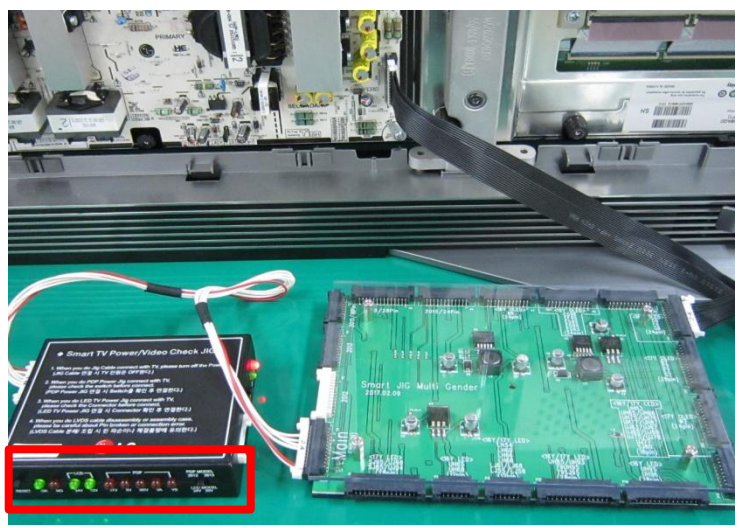
▶ Disconnect the Main Board 24Pin Power Cable connector.

3



▶ Connect the 24Pin Power Cable connector to the Muitl Gender JIG 24Pin connector

4

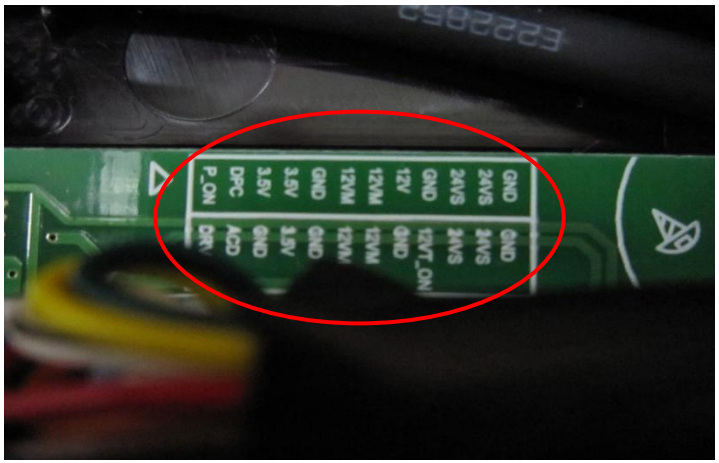


▶ When the OK LED(24V,12V) turns on, Power Board is normal.

▶ When the NG LED turns on, the Power Board can be judged as defective.

`16Y OLED(G6) Power Board Diagnostic method

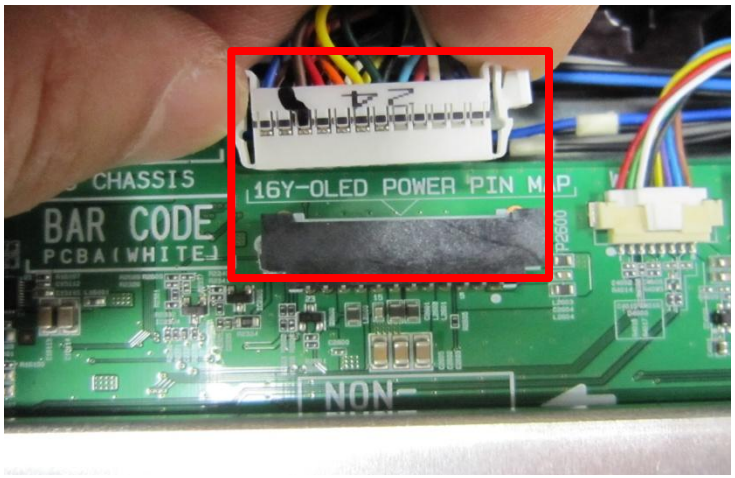
1



▶ Check power board voltage.

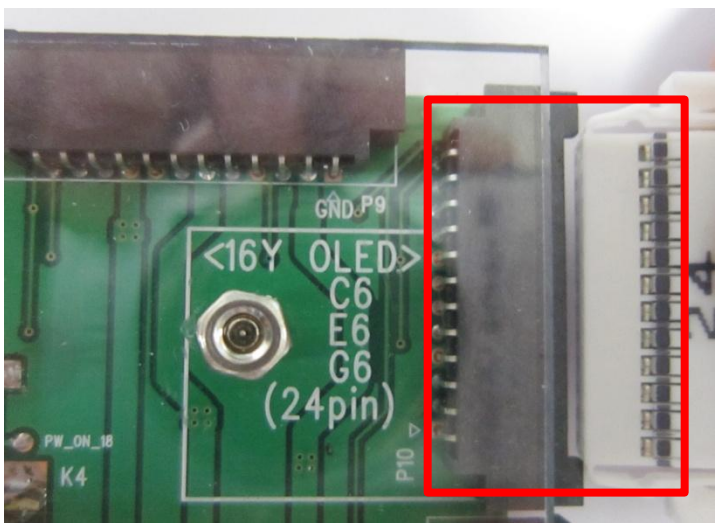
▶ **Fix the LCD MODEL switch to 24V.(Smart JIG)**

2



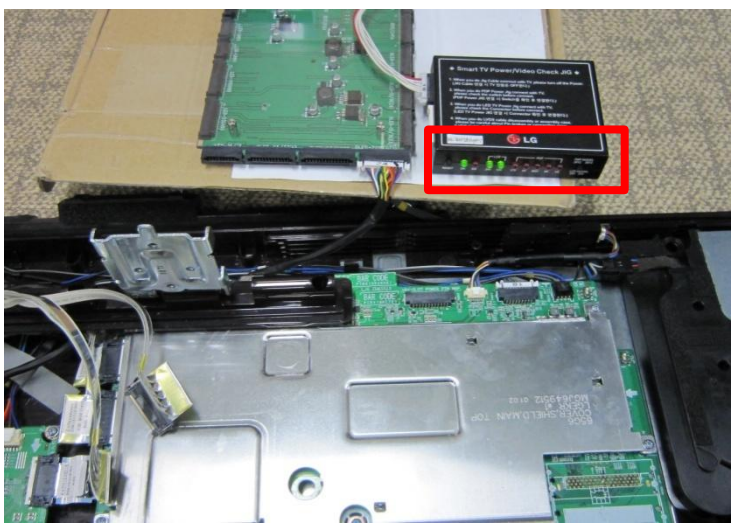
▶ Disconnect the Main Board 24Pin Power Cable connector.

3



▶ Connect the 24Pin Power Cable connector to the Muitl Gender JIG 24Pin connector

4

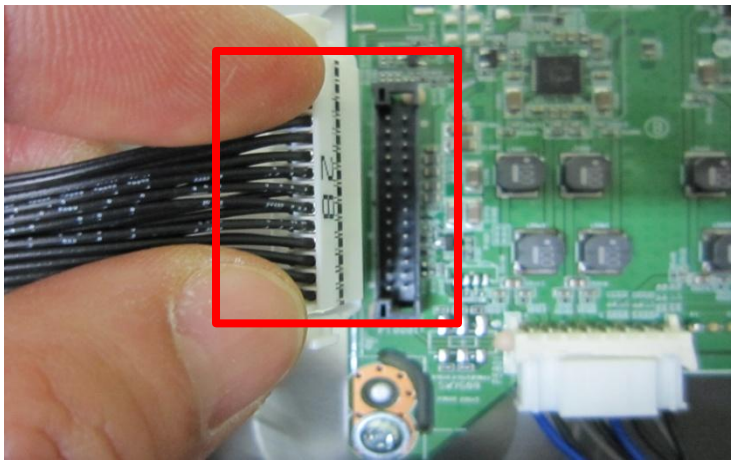


▶ When the OK LED(24V,12V) turns on, Power Board is normal.

▶ When the NG LED turns on, the Power Board can be judged as defective.

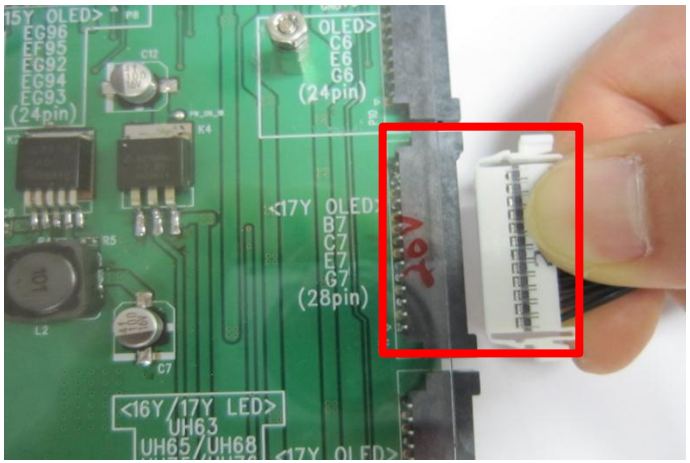
`17Y OLED(B7/C7/E7/G7) Power Board Diagnostic method

1



▶ Disconnect the Main Board 28Pin Power Cable connector.

2



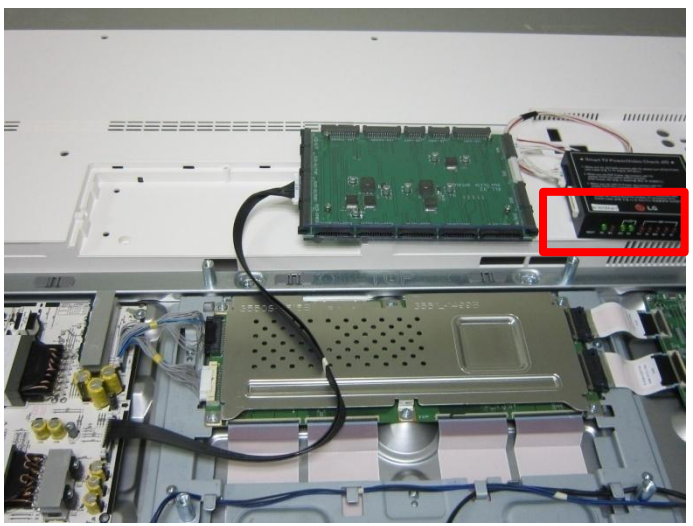
▶ Connect the 28Pin Power Cable connector to the Muitl Gender JIG 28Pin connector

3

▶ Switch the LCD MODEL S/W to **20V** by checking the power voltage.

▶ **Fix the LCD MODEL switch to 20V.(Smart JIG)**

4

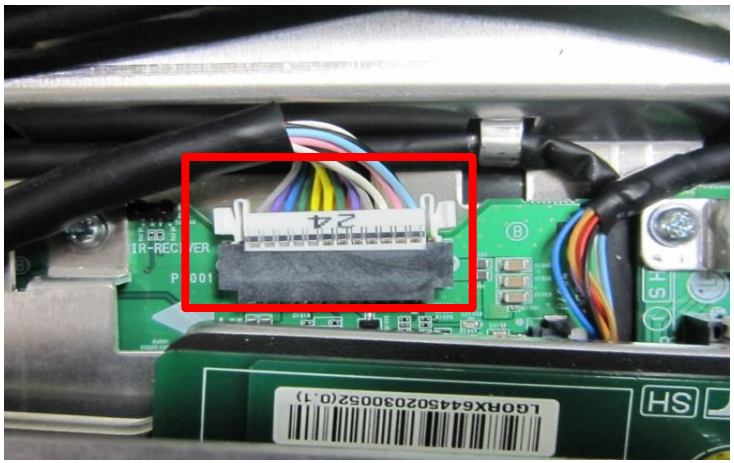


▶ When the OK LED(24V,12V) turns on, Power Board is normal.

▶ When the NG LED turns on, the Power Board can be judged as defective.

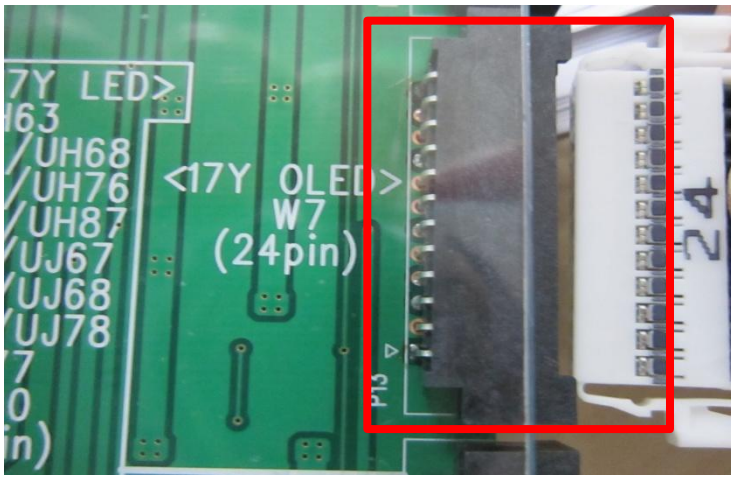
`17Y OLED(W7) Power Board Diagnostic method

1



▶ Disconnect the Main Board 24Pin Power Cable connector.

2



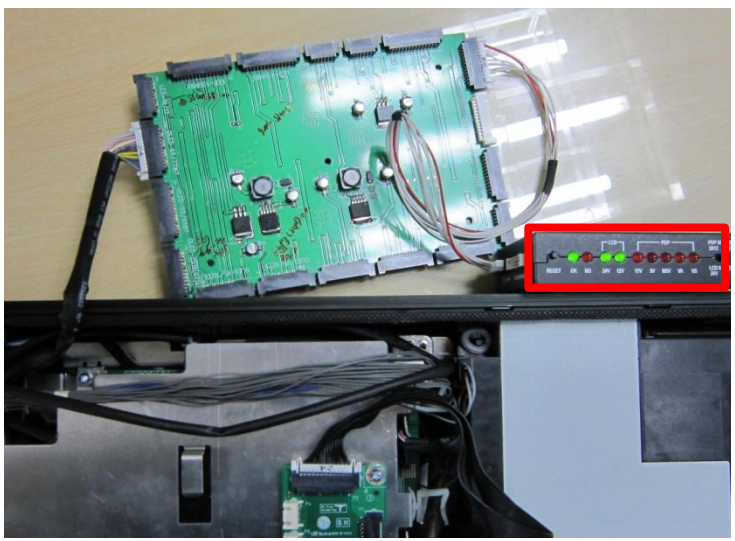
▶ Connect the 24Pin Power Cable connector to the Muitl Gender JIG 28Pin connector

3

▶ Switch the LCD MODEL S/W to 20V by checking the power voltage.

▶ **Fix the LCD MODEL switch to 20V.(Smart JIG)**

4

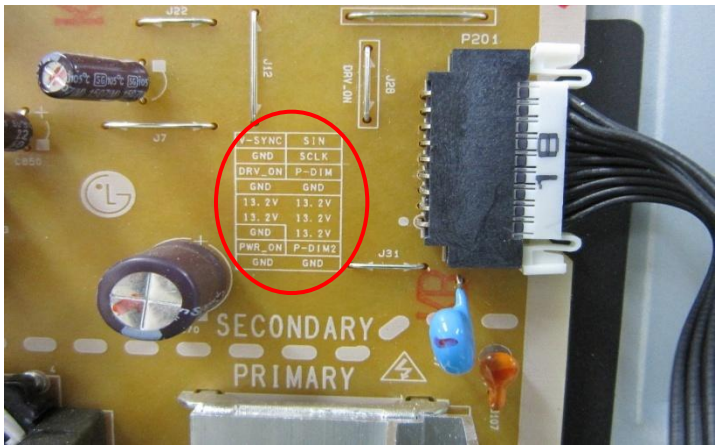


▶ When the OK LED(24V,12V) turns on, Power Board is normal.

▶ When the NG LED turns on, the Power Board can be judged as defective.

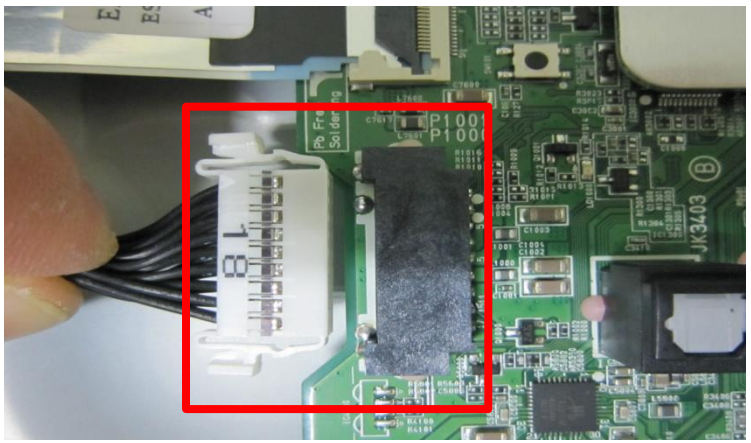
`16Y/`17Y LED 18Pin Power Board Diagnostic method

1



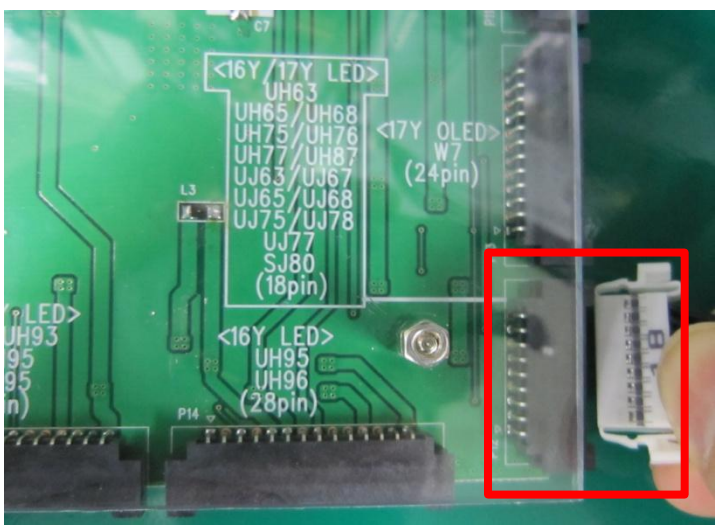
▶ Check power board voltage.
▶ **Fix the LCD MODEL switch to 24V.(Smart JIG)**

2



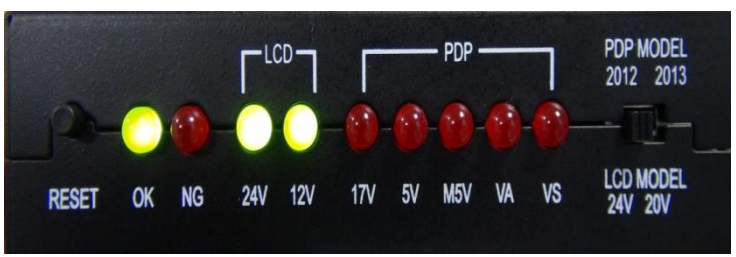
▶ Disconnect the Main Board 18Pin Power Cable connector.

3



▶ Connect the 18Pin Power Cable connector to the Muitl Gender JIG 24Pin connector

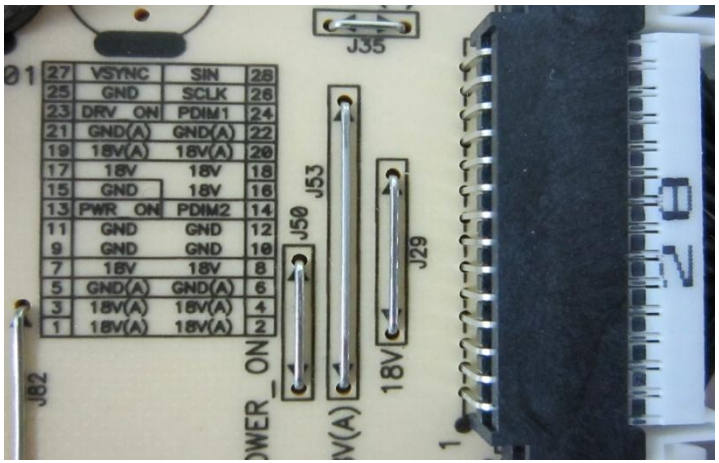
4



▶ When the OK LED(24V,12V) turns on, Power Board is normal.
▶ When the NG LED turns on, the Power Board can be judged as defective.

`16Y LED(UH95/UH96) Power Board Diagnostic method

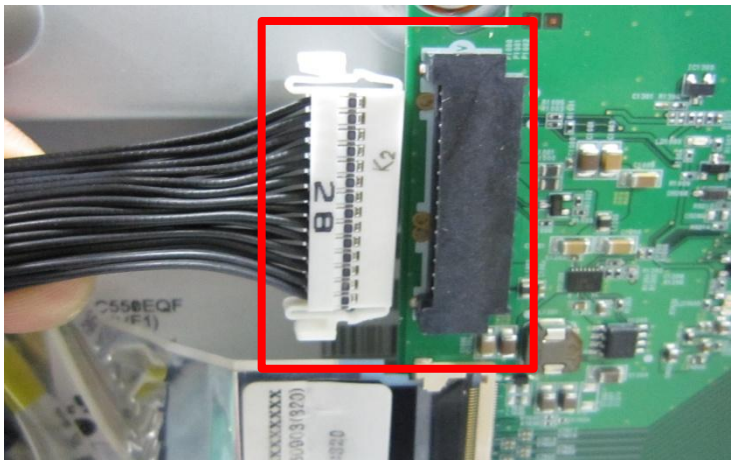
1



▶ Check power board voltage.

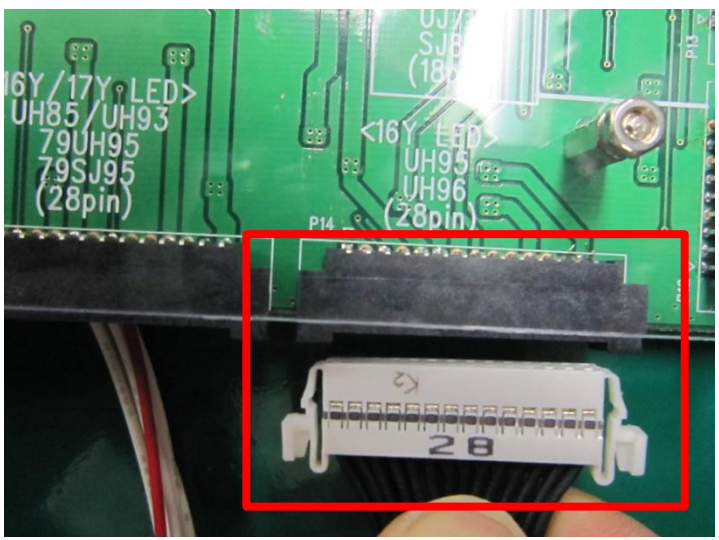
▶ **Fix the LCD MODEL switch to 24V.(Smart JIG)**

2



▶ Disconnect the Main Board 28Pin Power Cable connector.

3



▶ Connect the 28Pin Power Cable connector to the Muitl Gender JIG 28Pin connector

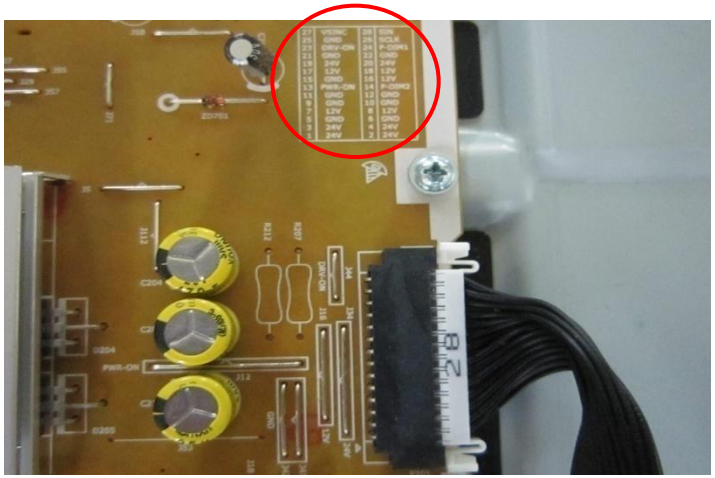
4

▶ When the OK(24V,12V) LED turns on, Power Board is normal.

▶ When the NG LED turns on, the Power Board can be judged as defective.

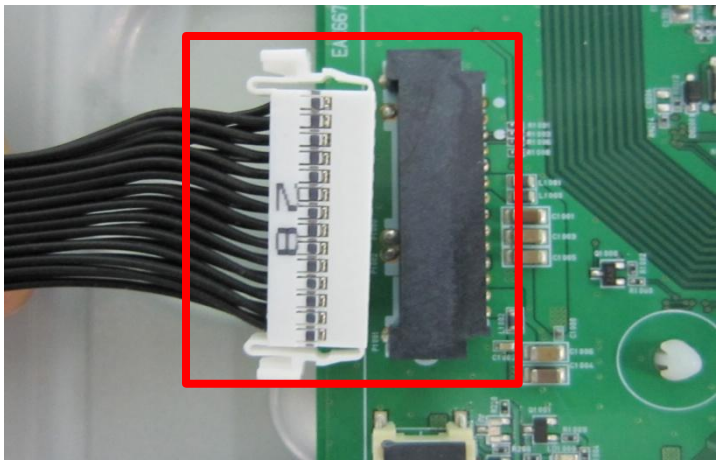
`16Y/`17Y LED(UH85/UH93) Power Board Diagnostic method

1



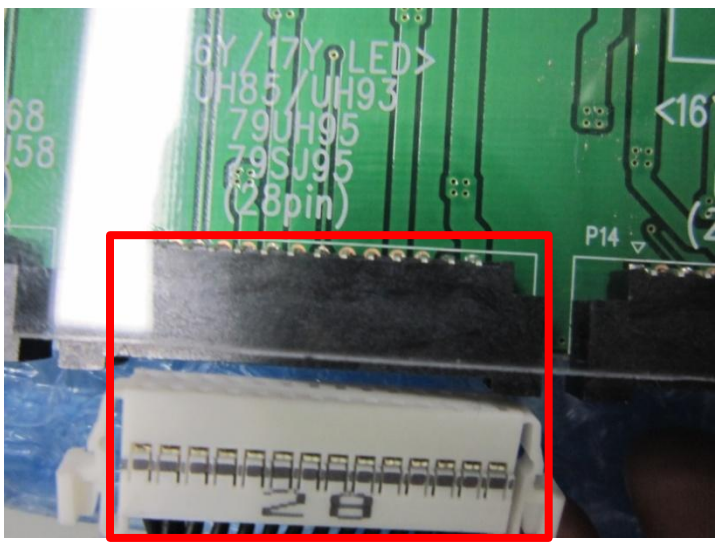
▶ Check power board voltage.
▶ **Fix the LCD MODEL switch to 24V.(Smart JIG)**

2



▶ Disconnect the Main Board 28Pin Power Cable connector.

3



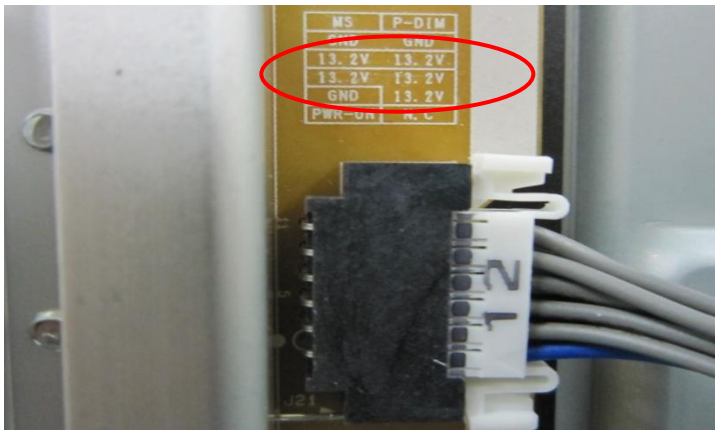
▶ Connect the 28Pin Power Cable connector to the Muitl Gender JIG 28Pin connector

4

▶ When the OK LED(24V,12V) turns on, Power Board is normal.
▶ When the NG LED turns on, the Power Board can be judged as defective.

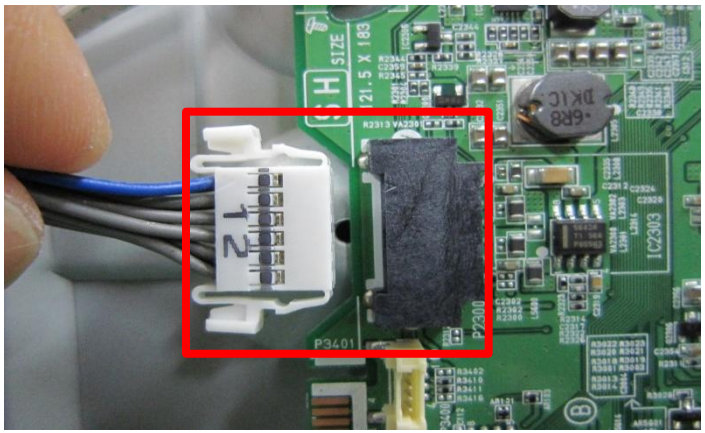
`16Y/`17Y LED 12Pin Power Board Diagnostic method

1



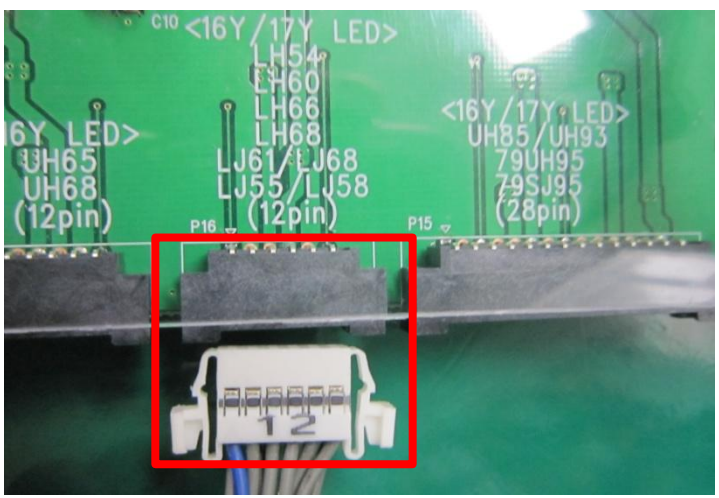
▶ Check power board voltage.
▶ **Fix the LCD MODEL switch to 24V.(Smart JIG)**

2



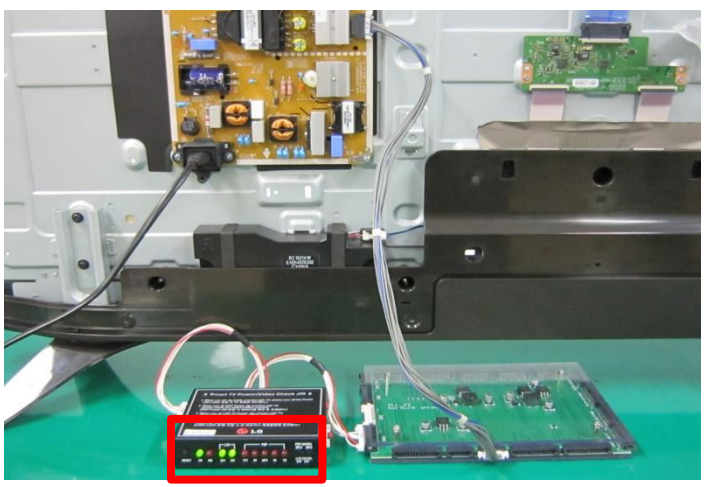
▶ Disconnect the Main Board 12Pin Power Cable connector.

3



▶ Connect the 12Pin Power Cable connector to the Muitl Gender JIG 12Pin connector

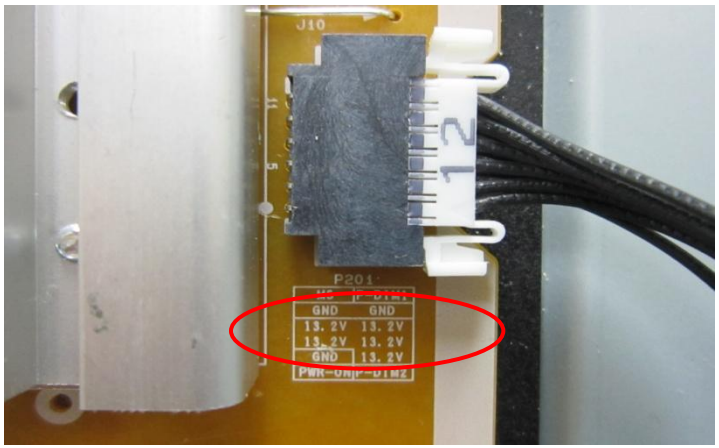
4



▶ When the OK LED(24V,12V) turns on, Power Board is normal.
▶ When the NG LED turns on, the Power Board can be judged as defective.

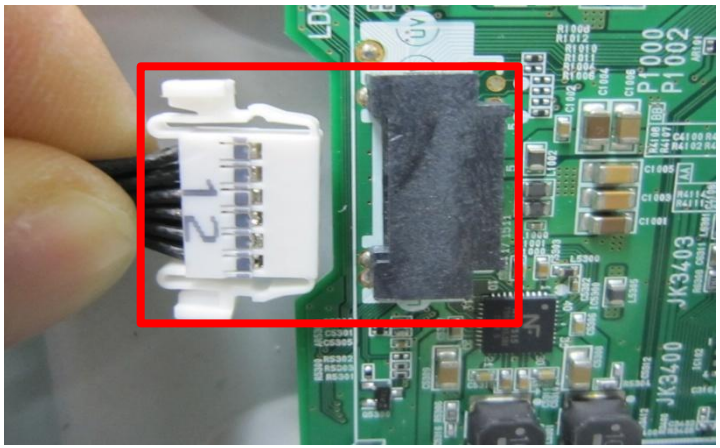
`16Y LED 12Pin Power Board Diagnostic method

1



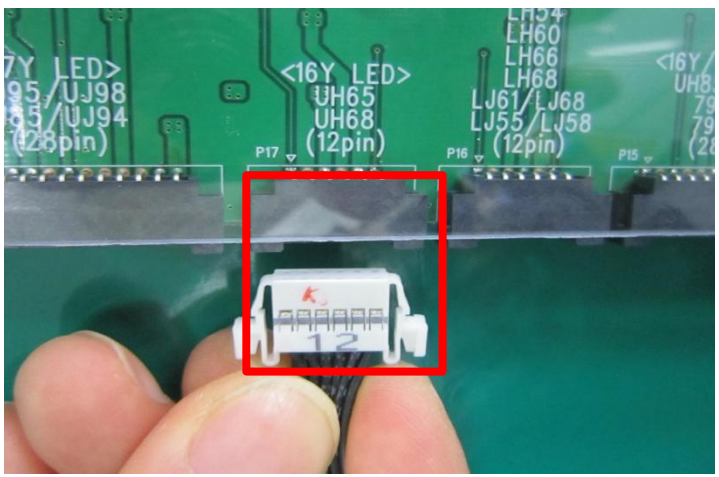
▶ Check power board voltage.
▶ **Fix the LCD MODEL switch to 24V.(Smart JIG)**

2



▶ Disconnect the Main Board 12Pin Power Cable connector.

3



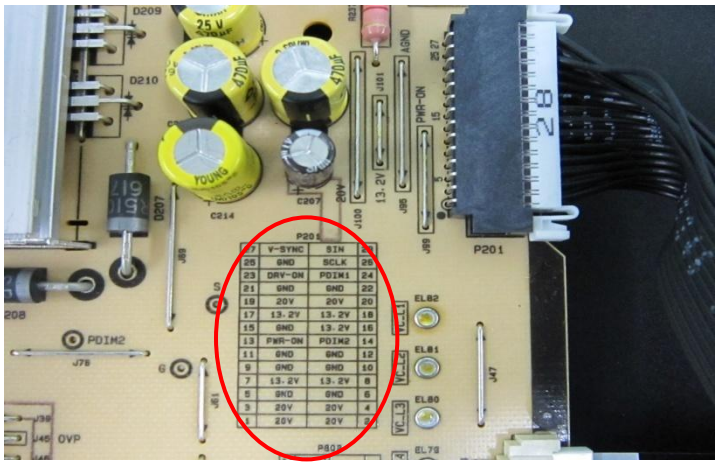
▶ Connect the 12Pin Power Cable connector to the Muitl Gender JIG 24Pin connector

4

▶ When the OK LED(24V,12V) turns on, Power Board is normal.
▶ When the NG LED turns on, the Power Board can be judged as defective.

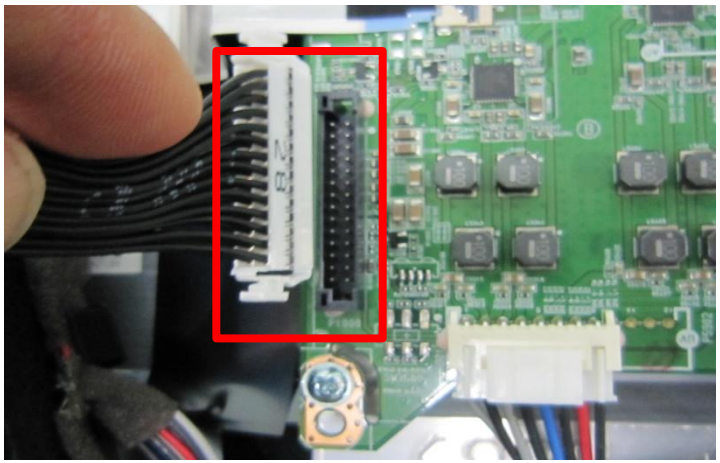
`17Y LED 28Pin Power Board Diagnostic method

1



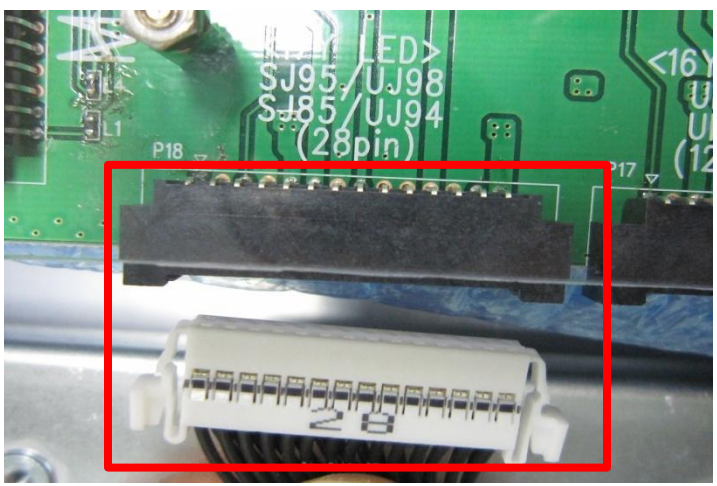
▶ Check power board voltage.
▶ **Fix the LCD MODEL switch to 20V.(Smart JIG)**

2



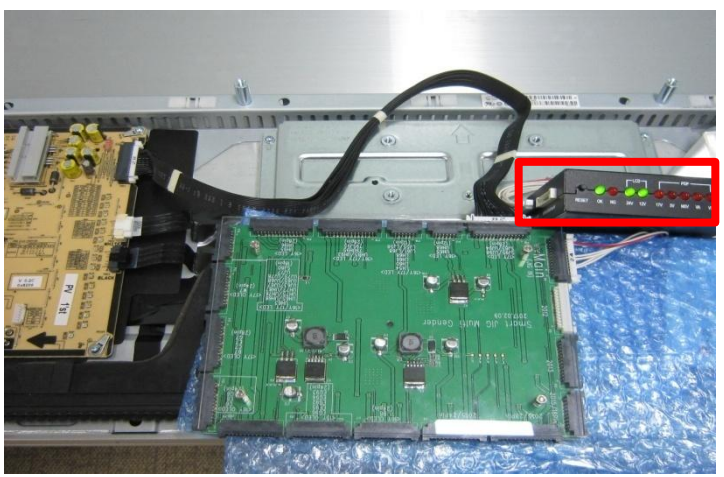
▶ Disconnect the Main Board 28Pin Power Cable connector.

3



▶ Connect the 28Pin Power Cable connector
to the Muitl Gender JIG 28Pin connector

4



▶ When the OK LED(24V,12V) turns on, Power Board is normal.
▶ When the NG LED turns on, the Power Board
can be judged as defective.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