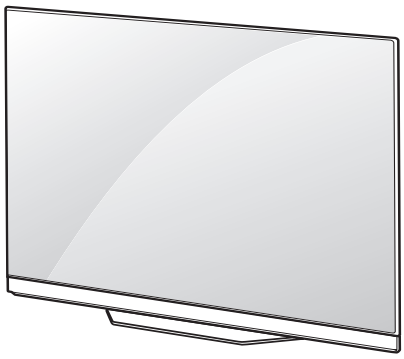
CONFIDENTIAL

OLED TV
SERVICE MANUAL

CHASSIS : ED71F

MODEL : OLED55E7* OLED55E7*-Z

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



P/NO : MFL70063101 (1711-REV02)

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,

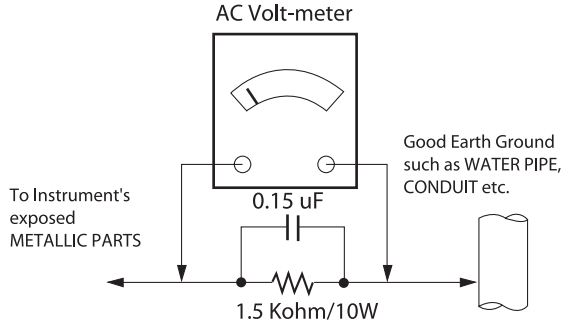
always perform an **AC leakage current check** on the exposed metallic parts of the cabinet, such as antennas, terminals, etc., to be sure the set is safe to operate without damage of electrical shock.

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 with ED71F chassis.

2. Requirement for Test

Each part is tested as below without special appointment.

(1) Temperature: 25 °C ± 5 °C(77 °F ± 9 °F), CST: 40 °C ± 5 °C
(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 20 minutes prior to the adjustment.

3. Test method

(1) Performance: LGE TV test method followed
(2) Demanded other specification
- Safety : CE, IEC specification
- EMC : CE, IEC specification
- Wireless : Wireless HD Specification (Option)

4. Model General Specification

No.	Item	Specification	Remarks
1	Market	EU(PAL Market-36Countries)/CIS + Morocoo(Africa)	**DTV & Analog (Total 37 countries)** **DTV (MPEG2/4, DVB-T) : 26 countrie** Germany, Netherland, Switzerland, Hungary, Austria, Slovenia, Bulgaria, France, Spain, , Belgium, Luxemburg, Greece, Czech, Turkey, Morocco, Ireland, Latvia, Estonia, Lithuania, Poland, Portugal, Romania, Albania, Bosnia, Slovakia, Belarus **DTV (MPEG2/4, DVB-T2) :11 countries** UK(Ireland), Sweden, Denmark, Finland, Norway, Ukraine, Kazakhstan, Russia, Italy, Croatia, Serbia **DTV (MPEG2/4, DVB-C) : 37 countries** Germany, Netherland, Switzerland, Hungary, Austria, Slovenia, Bulgaria, France, Spain, Italy, Belgium, Russia, Luxemburg, Greece, Czech, Croatia, Turkey, Morocco, Ireland, Latvia, Estonia, Lithuania, Poland, Portugal, Romania, Albania, Bosnia, Serbia, Slovakia, Belarus, UK, Sweden, Denmark, Finland, Norway, Ukraine, Kazakhstan **DTV (MPEG2/4,DVB-S) : 37 countries** Germany, Netherland, Switzerland, Hungary, Austria, Slovenia, Bulgaria, France, Spain,Belgium, Luxemburg, Greece, Czech, Turkey, Morocco, Ireland, Latvia, Estonia, Lithuania, Poland, Portugal, Romania, Albania, Bosnia, Slovakia, Belarus, UK(Ireland), Sweden, Denmark, Finland, Norway, Ukraine, Kazakhstan,Russia, Italy, Croatia, Serbia **Supported satellite : 35 satellites** ABS1 75.0E, AMOS 4.0W, ASIASAT3S 105.5E, ASTRA 19.2E, ASTRA 23.5E, ASTRA 28.2E, ASTRA 4.8E, ATLANTIC BIRD2 8.0W, ATLANTIC BIRD3 5.0W, BADR 26.0E, DIRECTV-1R 56.0E, EUROBIRD 9A 9.0E, EUROBIRD3 33.0E, EUTELSAT 36 A/B 36.0E, EUTELSAT W2A 10.0E, EUTELSAT W3A 7.0E, EUTELSAT7WA 7.3WEUTELSAT 16.0E, EXPRESS AM1 40.0E, EXPRESS AM3 140.0E, EXPRESS AM33 96.5E, HELLASSAT 39.0E, HISPASAT 1CDE 30.0WHOTBIRD 13.0E, INTELSAT10&7 68.5E, INTELSAT15 85.2E, INTELSAT1R 50.0W, INTELSAT903 33.5W, INTELSAT904 60.0E, NILESAT 7.0W, NSS12 57.0E, THOR 0.8W, TURKSAT 42.0E, YAMAL201 90.0E, OTHER

No.	Item	Specification	Remarks
2	Broadcasting system	(1) Digital TV - DVB-T - DVB-T2* - DVB-C - DVB-S/S2* (2) Analogue TV - PAL/SECAM B/G/I/D/K - SECAM L	*:Depending on country
3	Channel coverage	(1) Digital TV 1) DVB-T/T2 - VHF III : 174~230MHz - UHF IV : 470~606MHz - UHF V : 606~862MHz - S Band II : 230~300MHz - S Band III : 300~470MHz 2) DVB-C - 46 ~ 890MHz 3) DVB-S/S2 - 950~2150MHz (2) Analogue TV - 46~862MHz	* Only DVB-T2/C/S2 support model only.
4	Receiving system	Analog : Upper Heterodyne Digital : COFDM, QAM	► DVB-T - Guard Interval(Bitrate_Mbit/s) 1/4, 1/8, 1/16, 1/32 - Modulation : Code Rate QPSK : 1/2, 2/3, 3/4, 5/6, 7/8 16-QAM : 1/2, 2/3, 3/4, 5/6, 7/8 64-QAM : 1/2, 2/3, 3/4, 5/6, 7/8 ► DVB-T2 (Model : *L*V*-Z* (T2 only Model) - Guard Interval(Bitrate_Mbit/s) 1/4, 1/8, 1/16, 1/32, 1/128, 19/128, 19/256, - Modulation : Code Rate QPSK : 1/2, 2/5, 2/3, 3/4, 5/6 16-QAM : 1/2, 2/5, 2/3, 3/4, 5/6 64-QAM : 1/2, 2/5, 2/3, 3/4, 5/6 256-QAM : 1/2, 2/5, 2/3, 3/4, 5/6 ► DVB-C - Symbolrate : 4.0Msymbols/s to 7.2Msymbols/s - Modulation : 16QAM, 64-QAM, 128-QAM and 256-QAM ► DVB-S/S2 - symbolrate DVB-S2 (8PSK / QPSK) : 2 ~ 45Msymbol/s DVB-S (QPSK) : 2 ~ 45Msymbol/s - viterbi DVB-S mode : 1/2, 2/3, 3/4, 5/6, 7/8 DVB-S2 mode : 1/2, 2/3, 3/4, 3/5, 4/5, 5/6, 8/9, 9/10
5	Head phone out	Antenna, HDMI1, HDMI2, HDMI3, HDMI4 USB1, USB2, USB3	
6	HDMI Input (3EA)	HDMI1-DTV HDMI2-DTV HDMI3-DTV	
7	SPDIF out (1EA)	SPDIF out	
8	USB (3EA)	EMF, For SVC (download)	JPEG, MP3
9	Ethernet Connect (1EA)	Ethernet Connect	STP cable
10	PCMCIA Card slot (1EA)	PCMCIA slot	

5. External Input Format

5.1. HDMI : EDID DATA : Refer to adjust specification.

5.1.1. DTV mode

No	Resolution	H-freq (kHz)	V-freq (Hz)	Pixel clock (MHz)	Proposed	Remarks
1	640*480	31.469	59.94	25.125	SDTV 480P	
2	640*480	31.50	60.00	25.125	SDTV 480P	
3	720*480	15.73	59.94	13.500	SDTV, DVD 480I(525I)	Spec. out but display
4	720*480	15.75	60.00	13.514	SDTV, DVD 480I(525I)	
5	720*576	15.625	50.00	13.500	SDTV, DVD 576I(625I) 50Hz	
6	720*480	31.47	59.94	27.00	SDTV 480P	
7	720*480	31.50	60.00	27.027	SDTV 480P	
8	720*576	31.25	50.00	27.00	SDTV 576P	
9	1280*720	44.96	59.94	74.176	HDTV 720P	
10	1280*720	45.00	60.00	74.25	HDTV 720P	
11	1280*720	37.50	50.00	74.25	HDTV 720P	
12	1920*1080	28.125	50.00	74.25	HDTV 1080I	
13	1920*1080	33.72	59.94	74.176	HDTV 1080I	
14	1920*1080	33.75	60.00	74.25	HDTV 1080I	
15	1920*1080	26.97	23.976	63.296	HDTV 1080P	
16	1920*1080	27.00	24.000	63.36	HDTV 1080P	
17	1920*1080	33.71	29.97	79.120	HDTV 1080P	
18	1920*1080	33.75	30.00	79.20	HDTV 1080P	
19	1920*1080	56.25	50.00	148.50	HDTV 1080P	
20	1920*1080	67.432	59.94	148.350	HDTV 1080P	
21	1920*1080	67.50	60.00	148.50	HDTV 1080P	
22	1920*1080	135.00	120.00	297.00	HDTV 1080P	
23	1920*1080	135.00	119.88	296.70	HDTV 1080P	
24	1920*1080	112.50	100.00	297.00	HDTV 1080P	
25	1920*1080	135.00	120.00	297.00	HDTV 1080P	
26	1920*1080	135.00	119.88	296.70	HDTV 1080P	
27	1920*1080	112.50	100.00	297.00	HDTV 1080P	
28	3840*2160	53.95	23.98	296.703	UDTV 2160P	
29	3840*2160	54.00	24.00	297.00	UDTV 2160P	
30	3840*2160	56.25	25.00	297.00	UDTV 2160P	
31	3840*2160	61.43	29.97	296.703	UDTV 2160P	
32	3840*2160	67.50	30.00	297.00	UDTV 2160P	
33	3840*2160	112.50	50.00	594.00	UDTV 2160P	When HDMI1,2,3 UHD DEEP COLOUR ON
34	3840*2160	134.865	59.94	593.407	UDTV 2160P	When HDMI1,2,3 UHD DEEP COLOUR ON
35	3840*2160	135.00	60.00	594.00	UDTV 2160P	When HDMI1,2,3 UHD DEEP COLOUR ON

36	4096*2160	53.95	23.98	296.703	UDTV 2160P	
37	4096*2160	54.00	24.00	297.00	UDTV 2160P	
38	4096*2160	56.25	25.00	297.00	UDTV 2160P	
39	4096*2160	61.43	29.97	296.703	UDTV 2160P	
40	4096*2160	67.50	30.00	297.00	UDTV 2160P	
41	4096*2160	112.50	50.00	594.00	UDTV 2160P	When HDMI1,2,3,4 UHD DEEP COLOUR ON
42	4096*2160	134.865	59.94	593.407	UDTV 2160P	When HDMI1,2,3,4 UHD DEEP COLOUR ON
43	4096*2160	135.00	60.00	594.00	UDTV 2160P	When HDMI1,2,3,4 UHD DEEP COLOUR ON

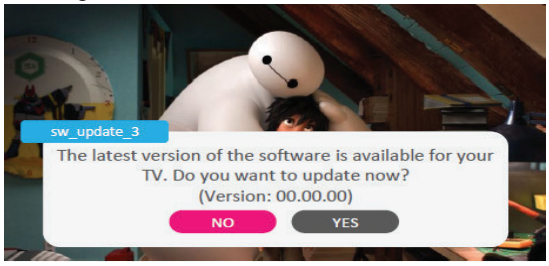
5.1.2. HDMI Input (PC)

No	Resolution	H-freq (kHz)	V-freq (Hz)	Pixel clock (MHz)	Proposed	Remarks
1	640*350	31.468	70.09	25.17	EGA	
2	720*400	31.469	70.08	28.32	DOS	
3	640*480	31.469	59.94	25.17	VESA(VGA)	
4	800*600	37.879	60.31	40.00	VESA(SVGA)	
5	1024*768	48.363	60.00	65.00	VESA(XGA)	
6	1360*768	47.712	60.015	84.75	VESA(WXGA)	
7	1152*864	54.348	60.053	80.00	VESA	
8	1280*1024	63.981	60.020	109.00	SXGA	Support to HDMI-PC
9	1920*1080	67.50	60.00	158.40	WUXGA(Reduced Blanking)	
10	3840*2160	54.00	24.00	297.00	UDTV 2160P	
11	3840*2160	56.25	25.00	297.00	UDTV 2160P	
12	3840*2160	67.5	30.00	297.00	UDTV 2160P	
13	4096*2160	53.95	23.97	296.703	UDTV 2160P	
14	4096*2160	54.00	24.00	297.00	UDTV 2160P	

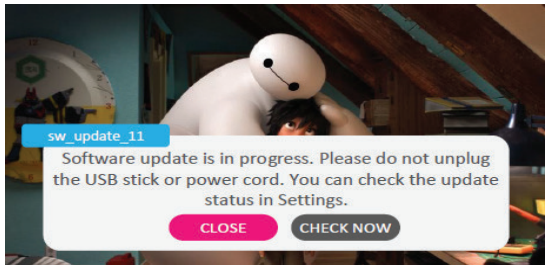
SOFTWARE UPDATE

1. USB

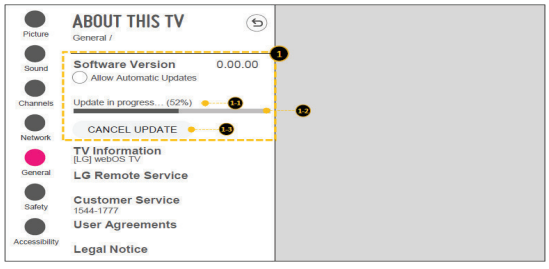
(1) Insert the USB memory Stick to the USB port.
(2) Automatically detect the SW Version and show the below message



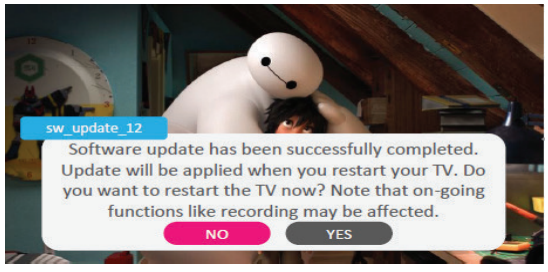
(3) Click [YES]: initiate the download and install of the update.



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



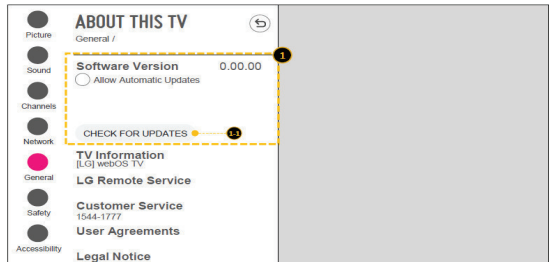
(6) After finished the update, below Pop-up appear.



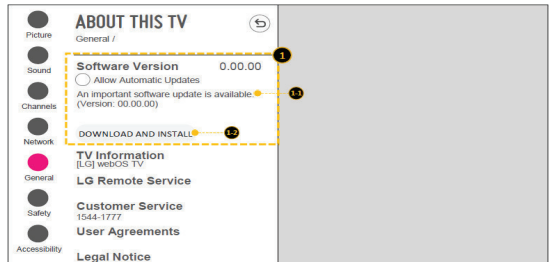
(7) Click [Yes] : TV will be DC OFF -> ON
(8) After TV turned on, Check the updated SW Version and Tool Option.

2. NSU

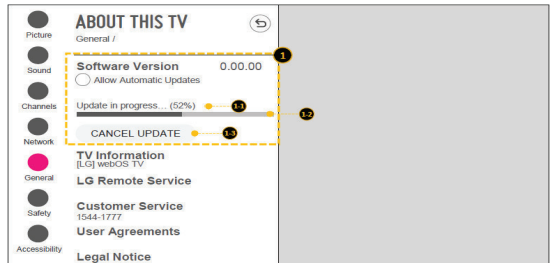
(1) Menu -> All Settings -> General -> About This TV



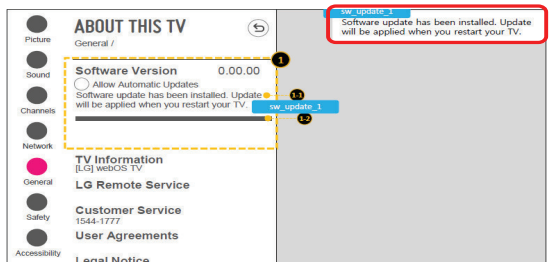
(2) Click [CHEK FOR UPDATES] : system check newest version



(3) Click [DOWNLOAD AND INSTALL]
(4) TV is updating



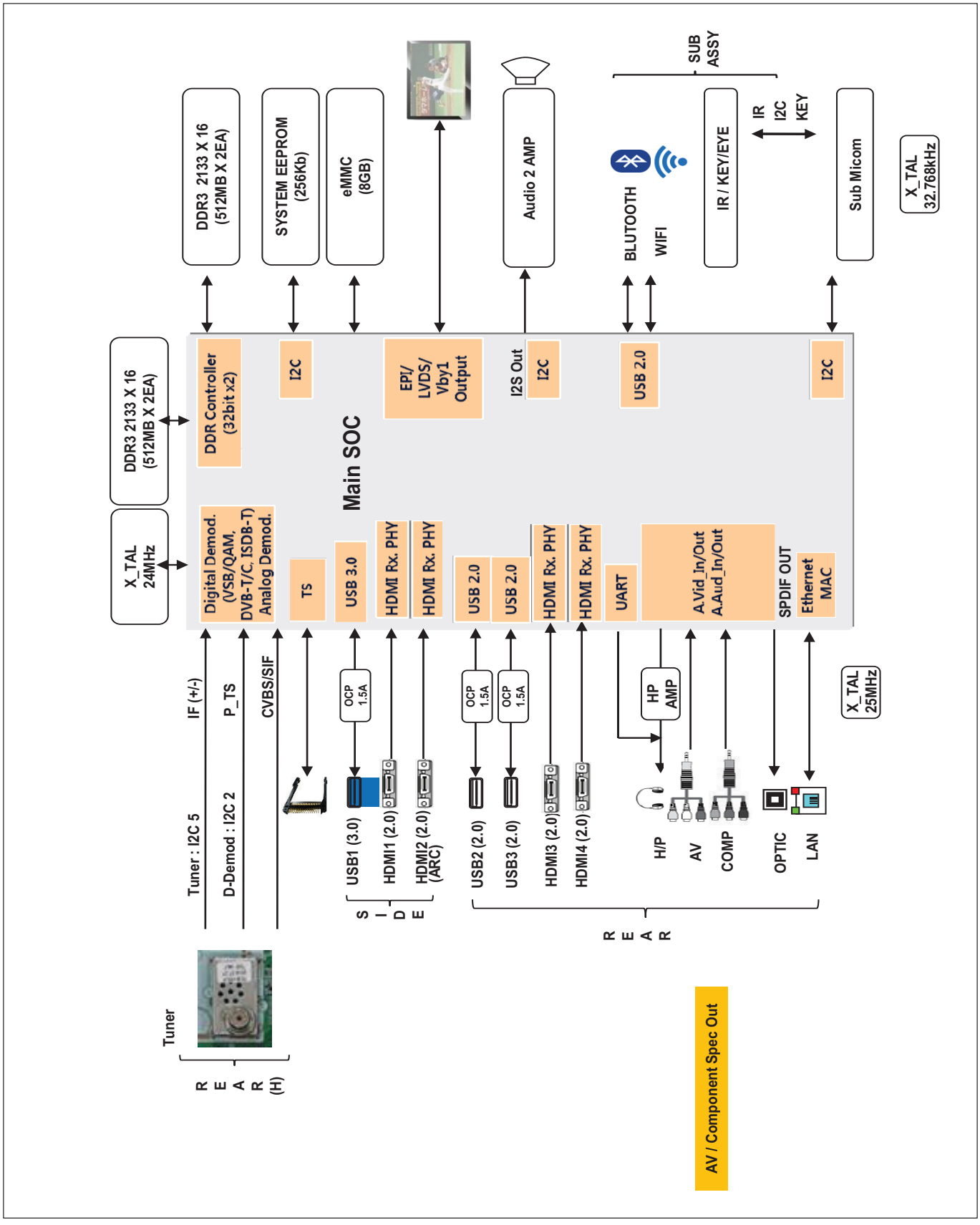
(5) After finished the update, below Pop-up appear



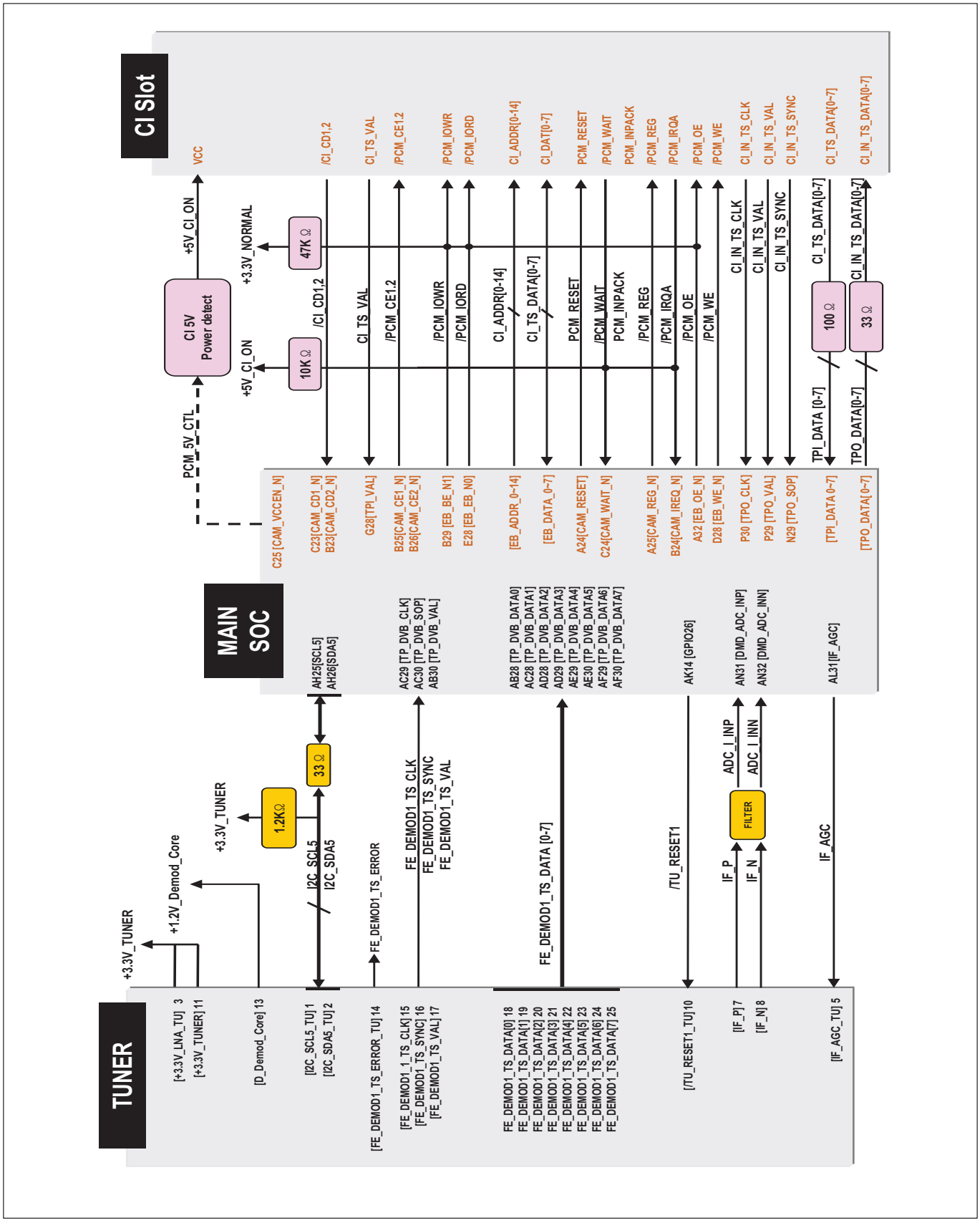
(6) Turn OFF the TV and On. Check the updated SW Version and Tool Option

BLOCK DIAGRAM

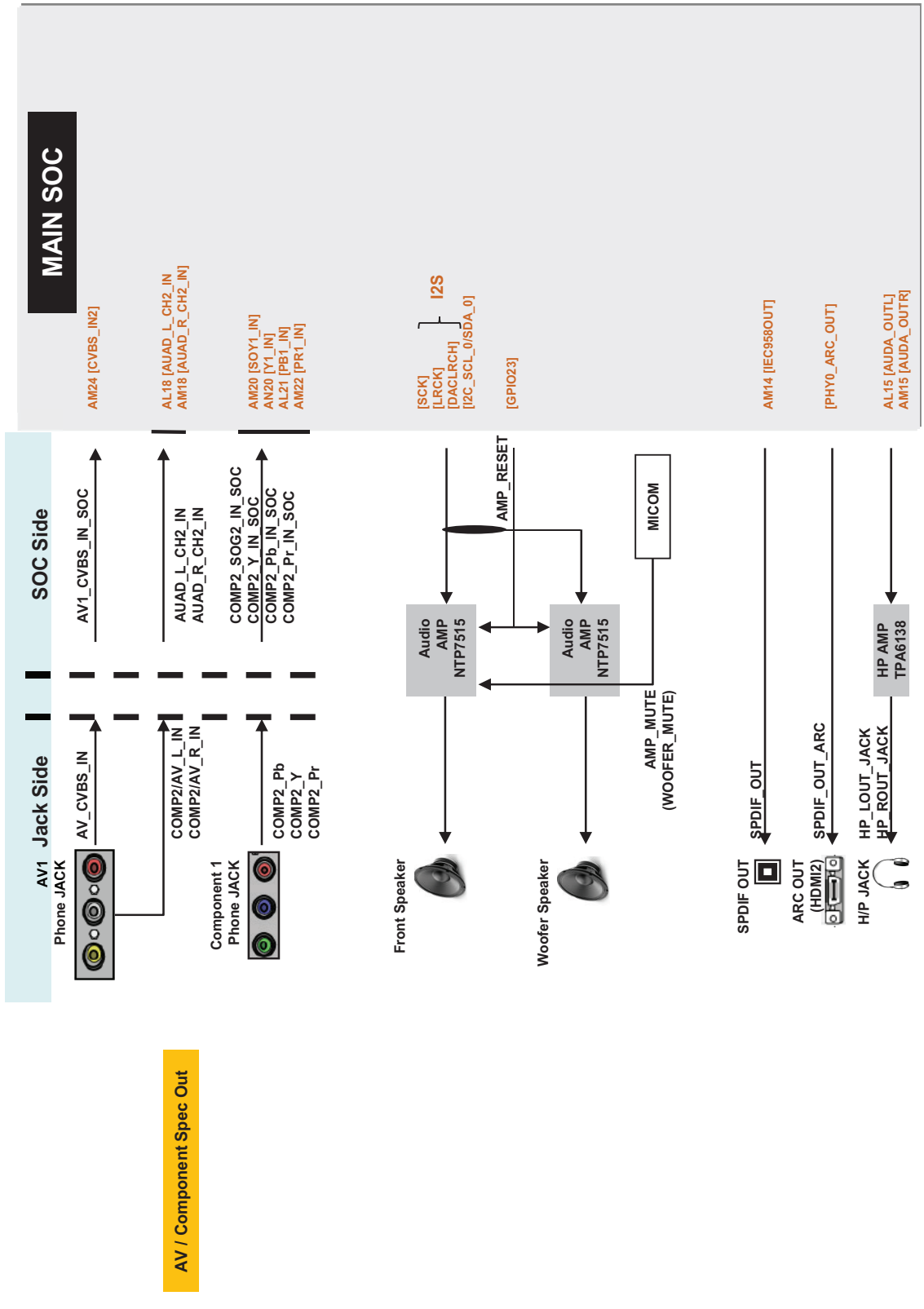
1. SOC



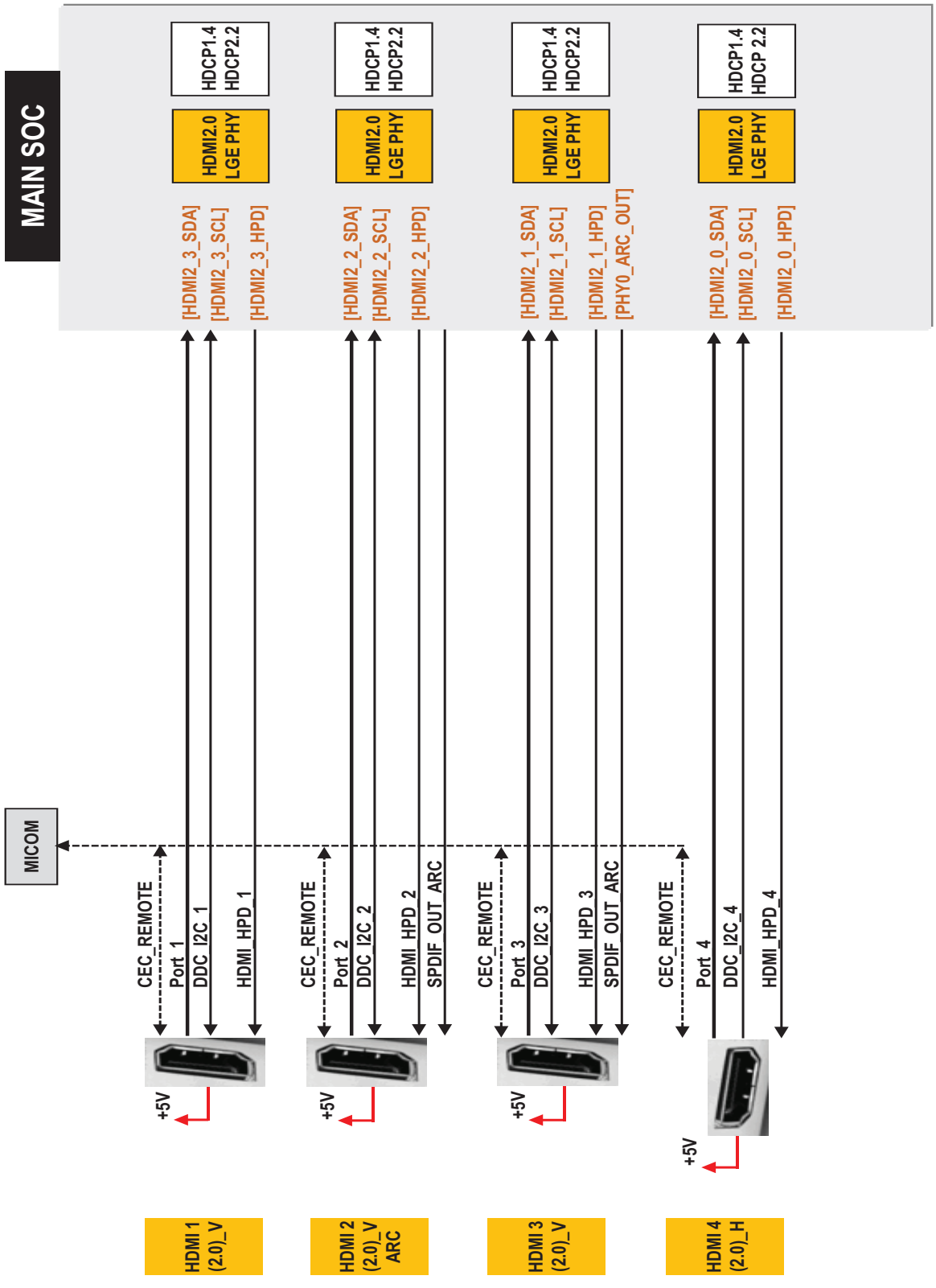
2. Tuner + CI



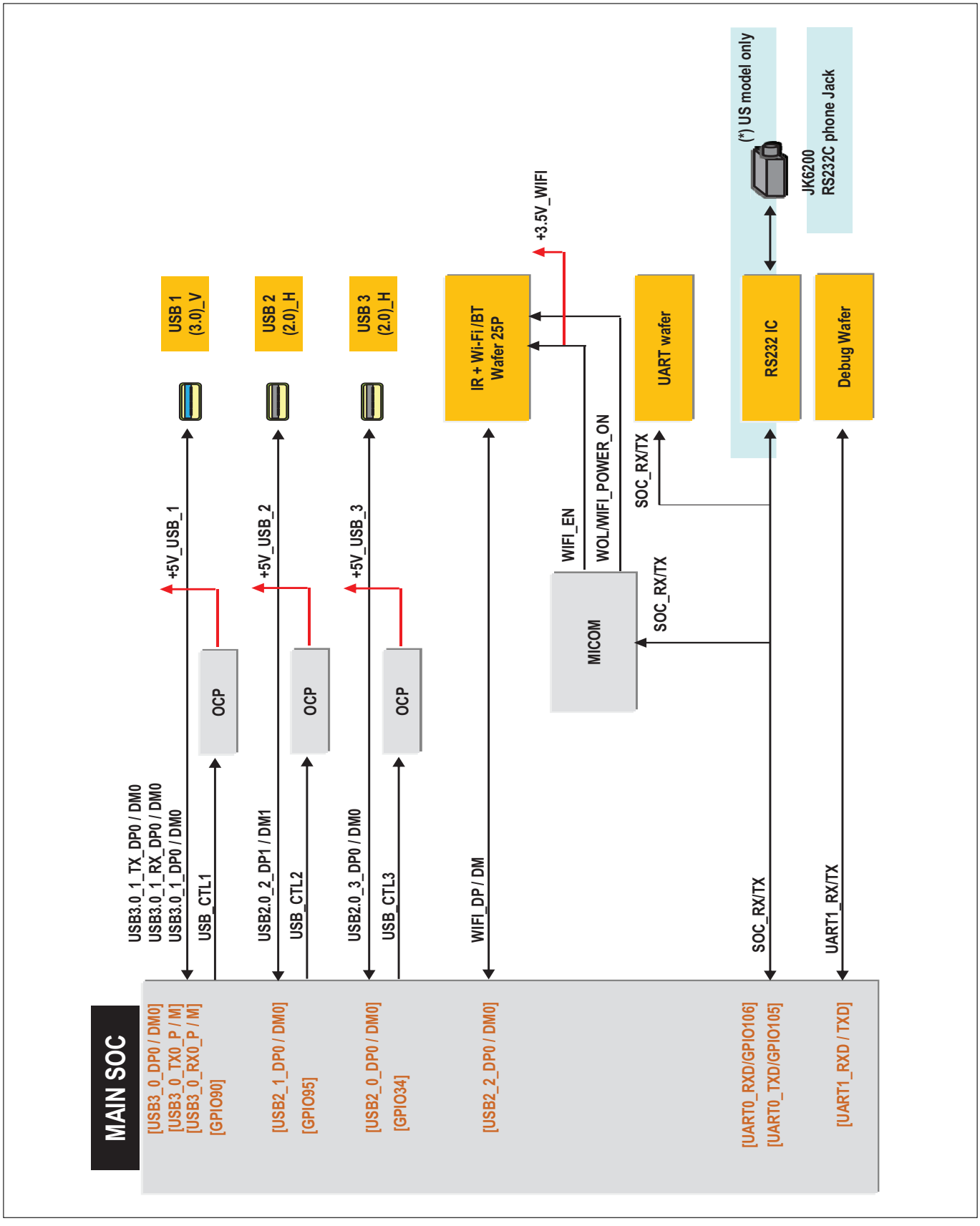
3. Video & Audio IN/OUT



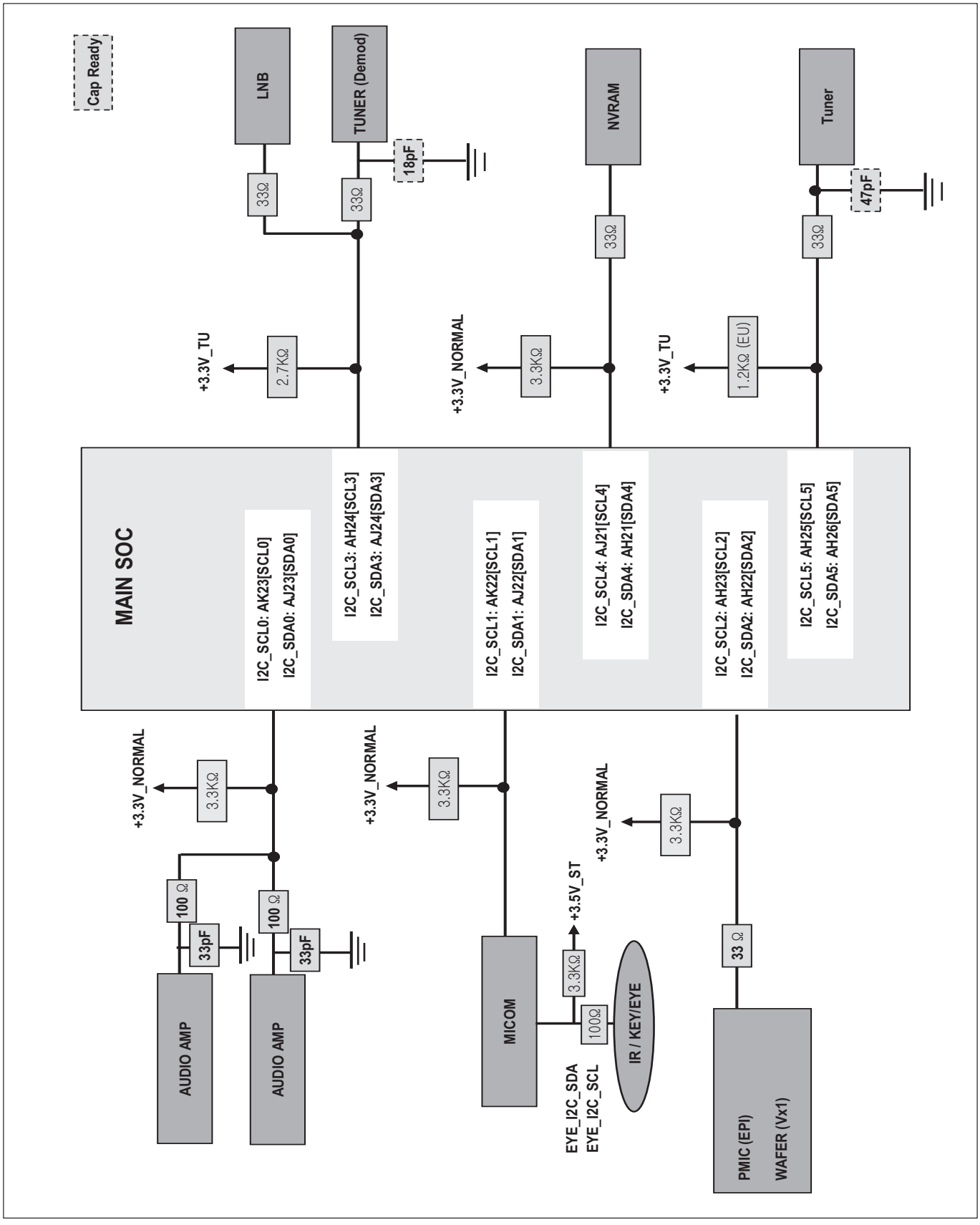
4. HDMI 2.0



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



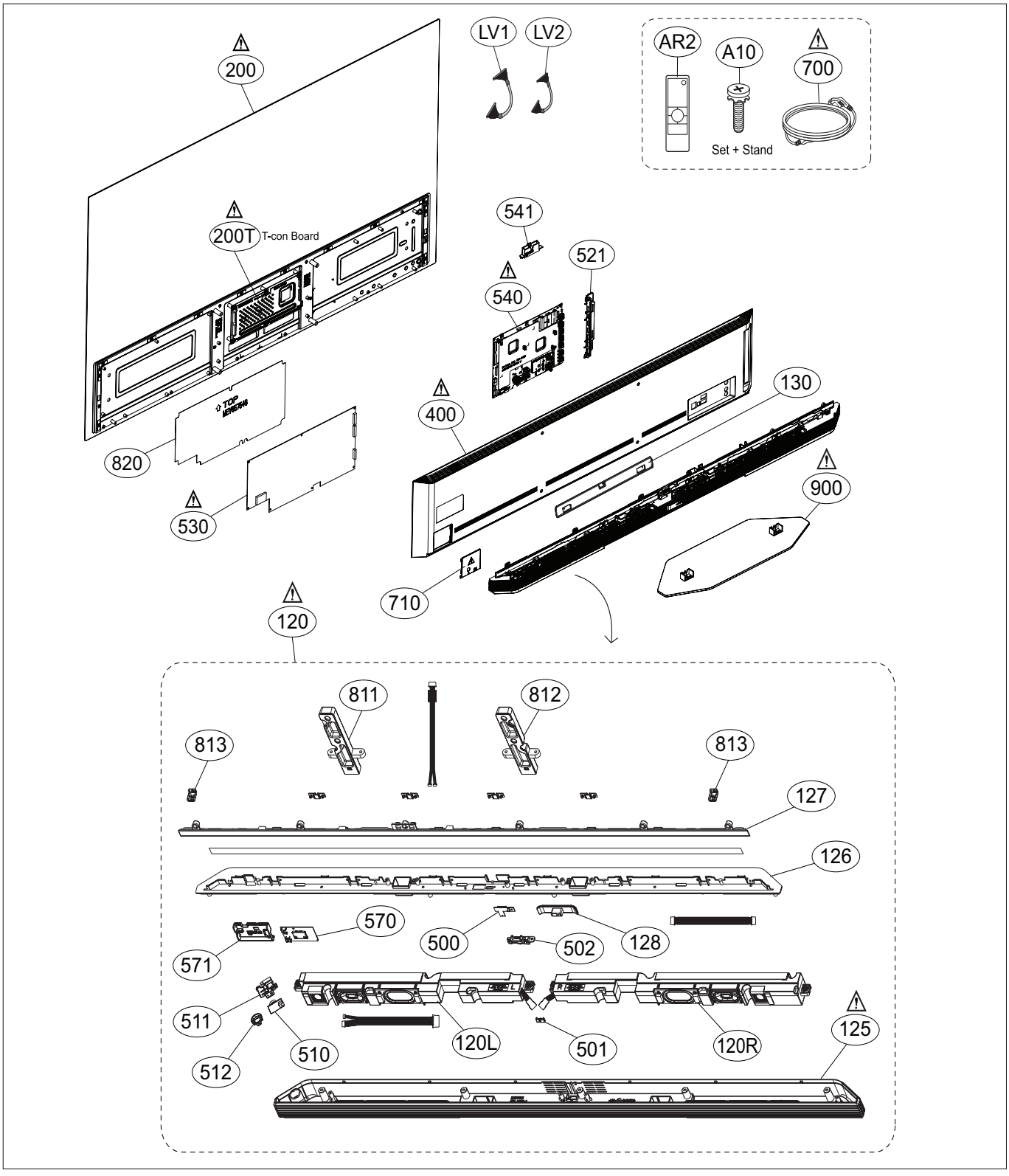
6. I2C Map



EXPLODED VIEW

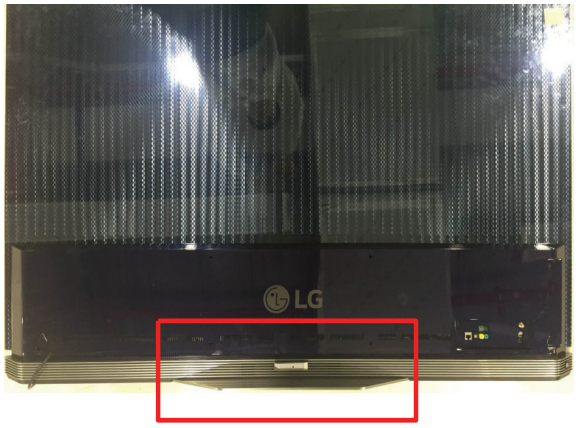
IMPORTANT SAFETY NOTICE

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

1. Disassemble Stand

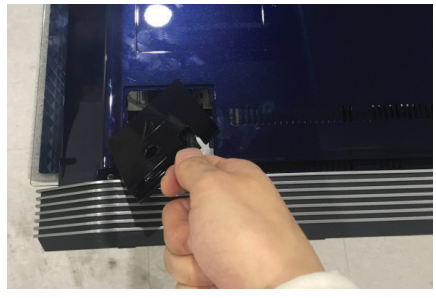


O FAB30016103 (M4*12mm, Black) 4EA

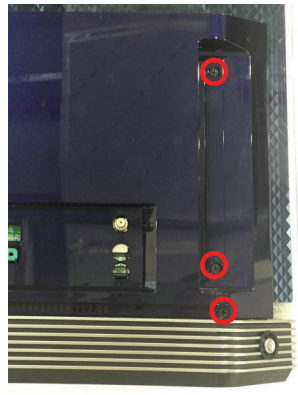
(1) Remove the screws (4EA)
(2) Grasp the top&bottom side( ) and pull in the direction of arrow( )
(3) Separate the stand

2. Disassemble Power Cord Bracket

O FAB30016101 (M4*8mm, Black) 1EA

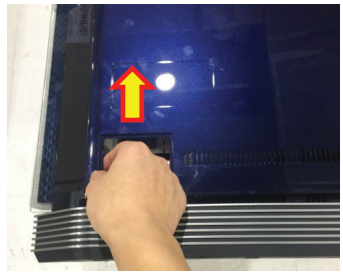


3. Disassemble Back Cover

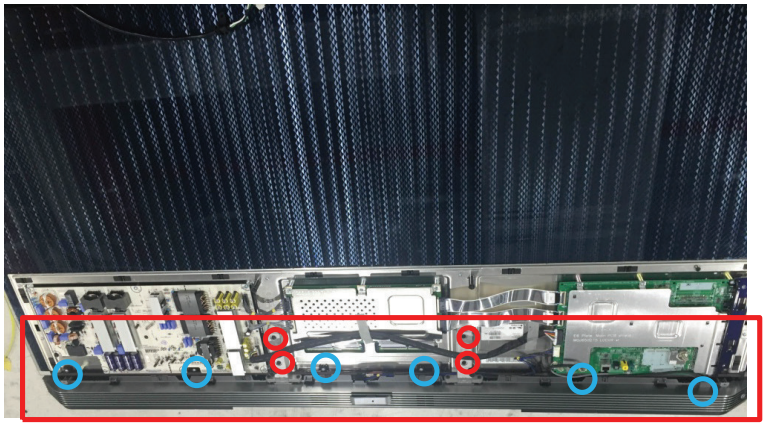


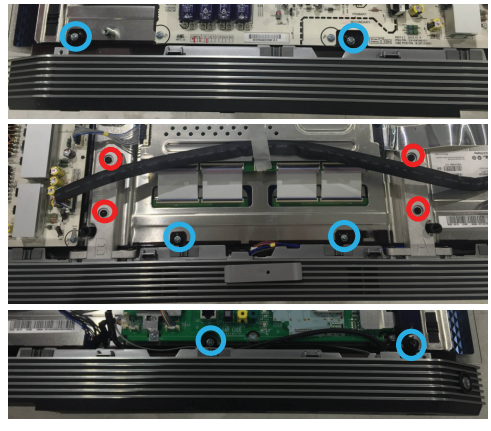
FAB30016101 (M4*8mm, Black) 4EA

(1) Remove the screws (4EA)
(2) Grasp the left side of back cover and lift the back cover
(3) Separate the back cover



4. Disassemble Speaker Box Assy

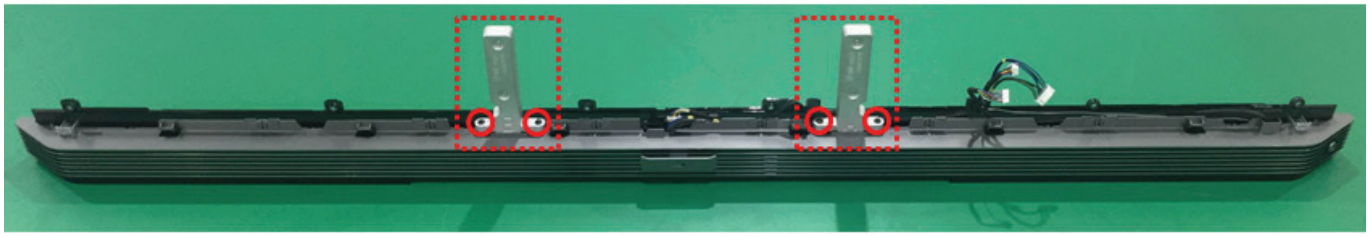




FAB30016103 (M4*12mm, Black) 4EA
FAB32418704 (M3*5.5mm, Gray) 6EA

(1) Remove the screws (10EA)
(2) Separate the speaker box assy

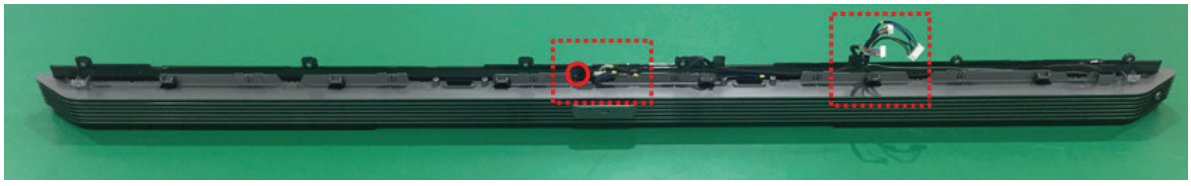
5. Disassemble Stand Supporter Bracket



FAB31639801(M4*10mm, Black) 4EA

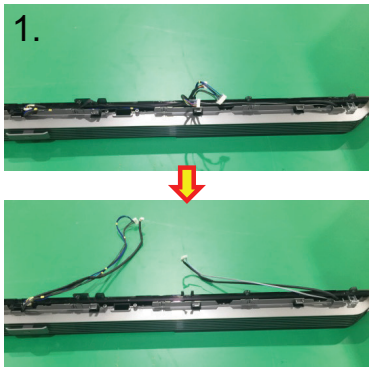
(1) Remove the screws (4EA)
(2) Separate the stand supporter bracket

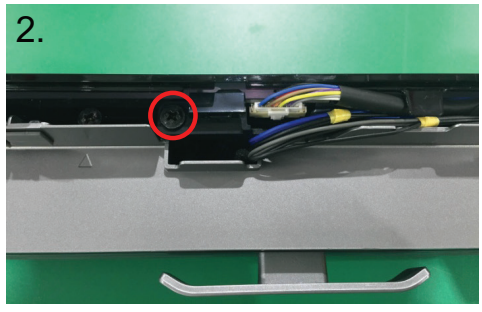
6. Disassemble IR Bracket & Separate the Cable

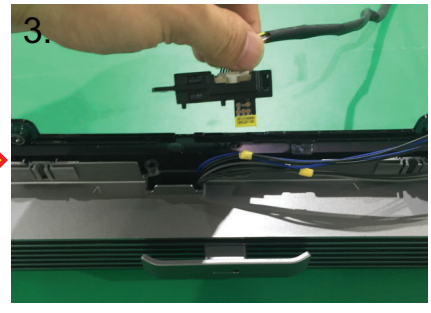


FAB31639801(M4*10mm, Black) 1EA

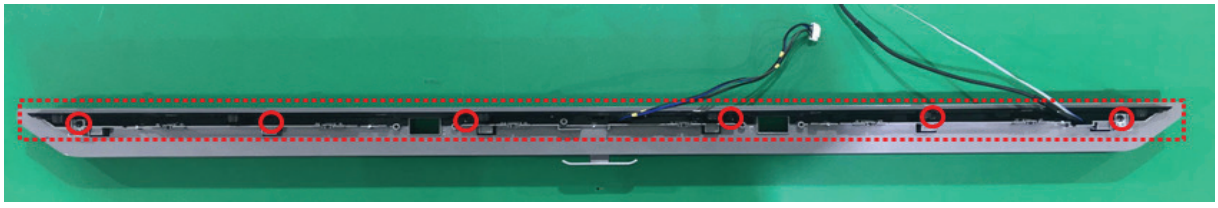
(1) Separate the cable
(2) Remove the screw (1EA)
(3) Separate the IR bracket







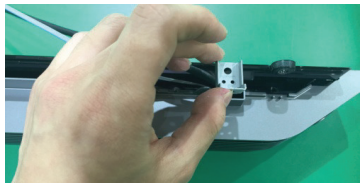
7. Disassemble Bottom Deco



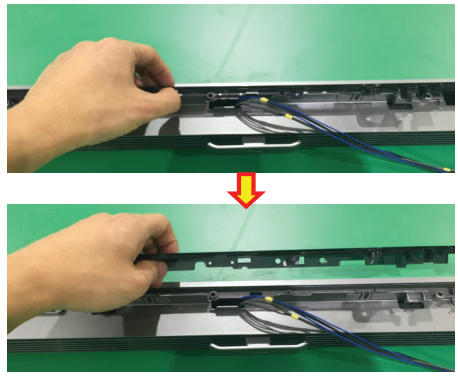
FAB31639801(M4*10mm, Black) 6EA

(1) Remove the screws (6EA)
(2) Separate the fixer (End of left & right side)
(3) Grasp the center of bottom deco and push in the direction of front
(4) Separate the bottom deco after lift it

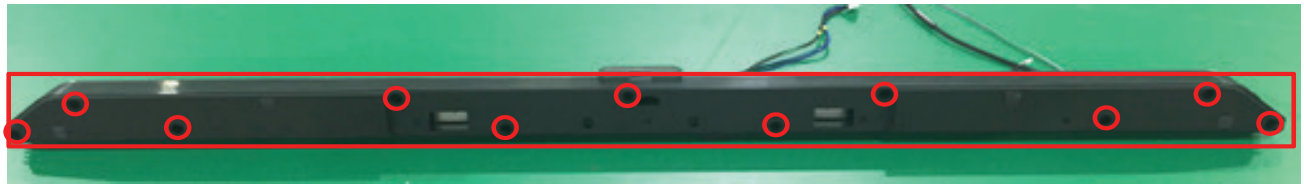
2.



3.



8. Disassemble Speaker Box Top



FAB31639801(M4*10mm, Black) 11EA

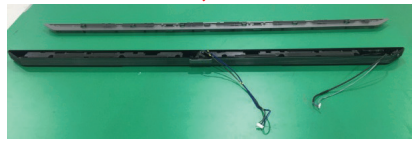
(1) Remove the screws (11EA)
(2) Lift the speaker box top after grasp the center
(3) Lift the speaker box top after grasp the end side
(4) Separate speaker box top after remove the cable through the hole

2.

3.

3.

4.



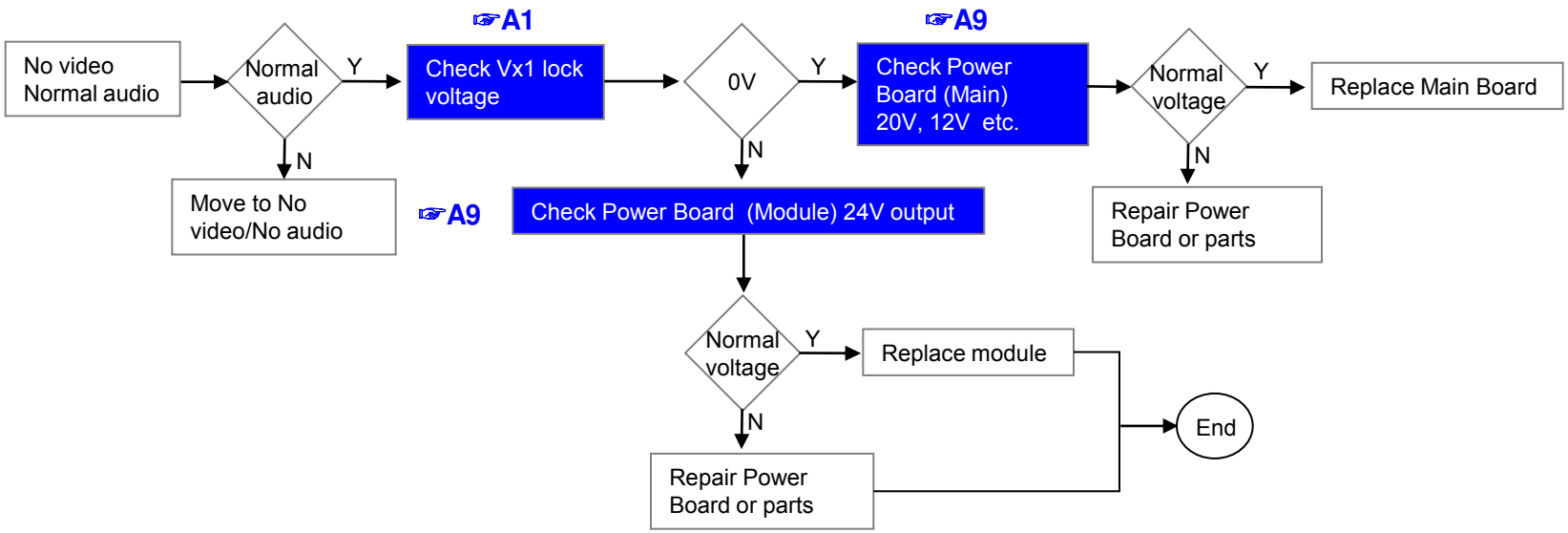
TROUBLE SHOOTING GUIDE

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		

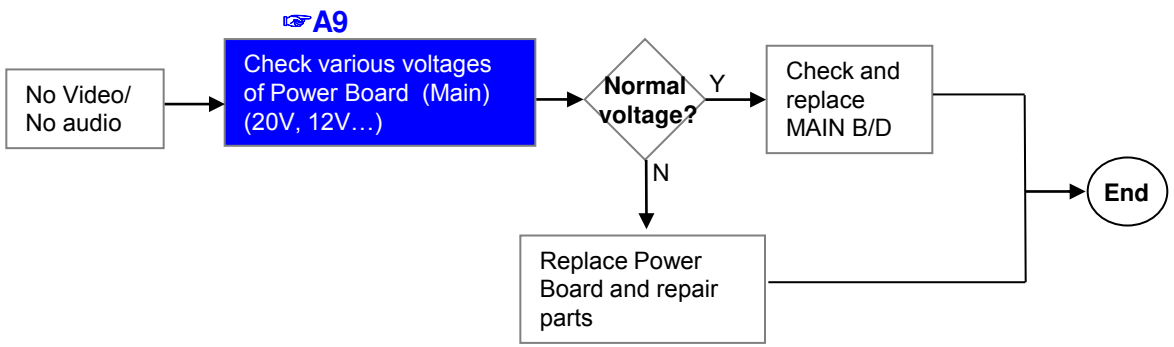
First of all, Check whether all of cables between board is inserted properly or not.
(Main B/D↔ Power B/D, Vx1 Cable, Speaker Cable, IR B/D Cable,,,)



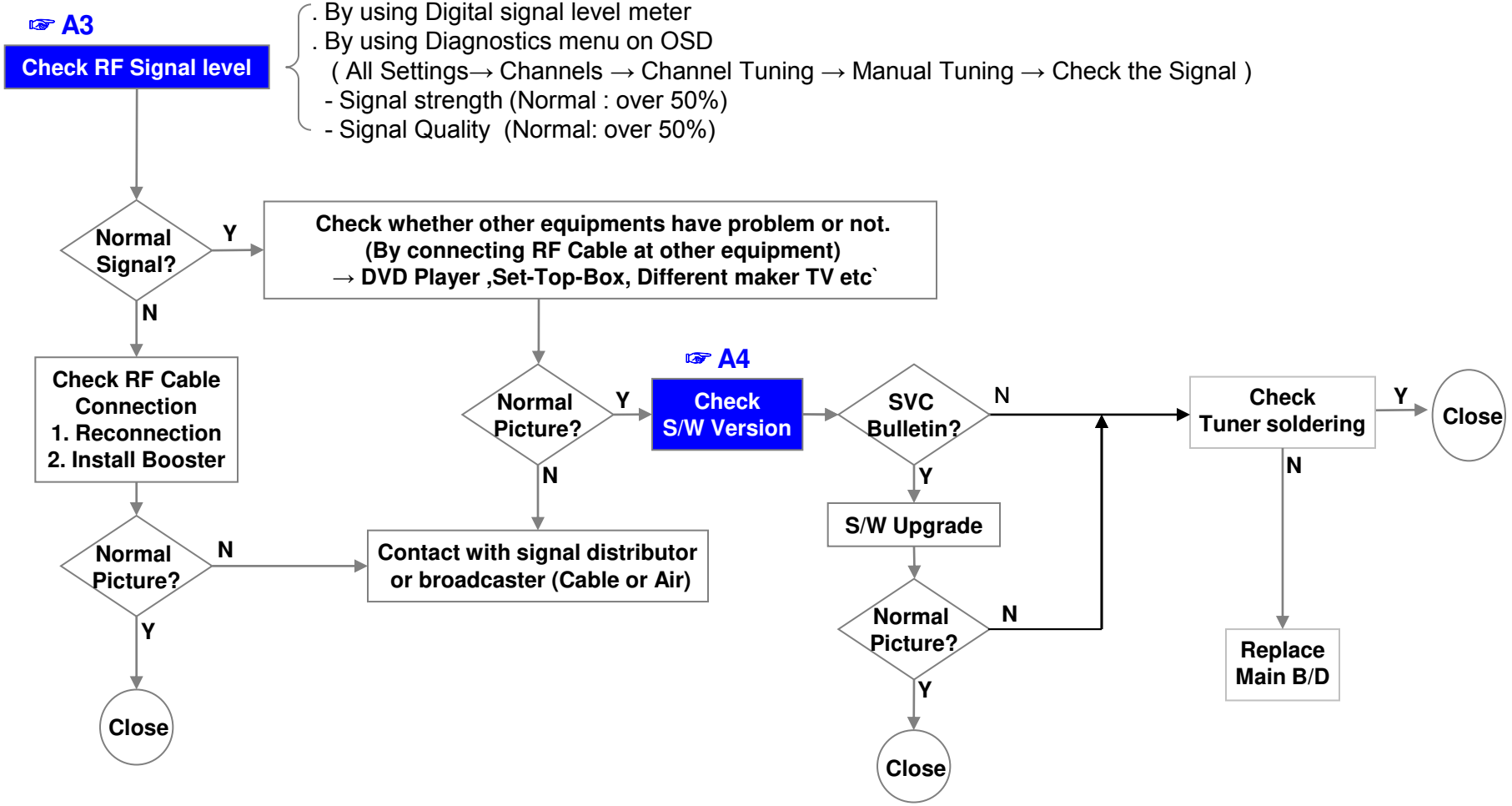
※Precaution ☞A4 & A2

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

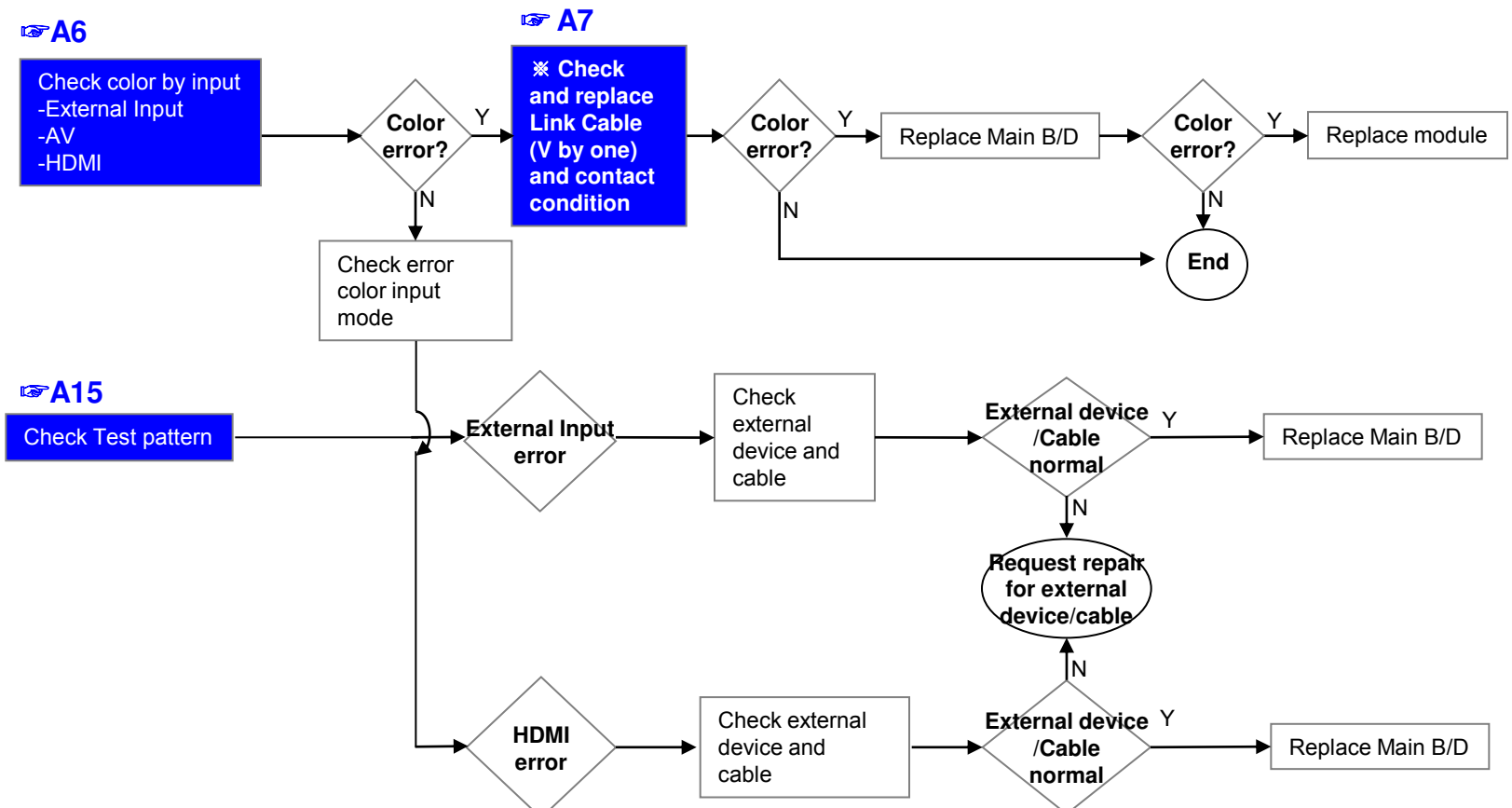
	Error symptom	A. Video error	Established date		
		No video/ No audio	Revised date		



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

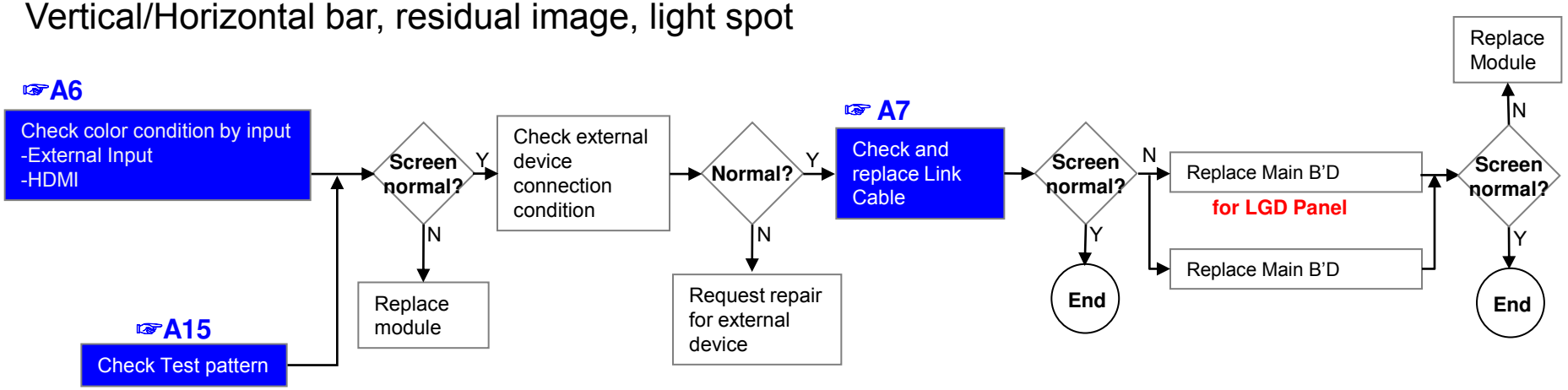


	Error symptom	A. Video error	Established date		
		Color error	Revised date		

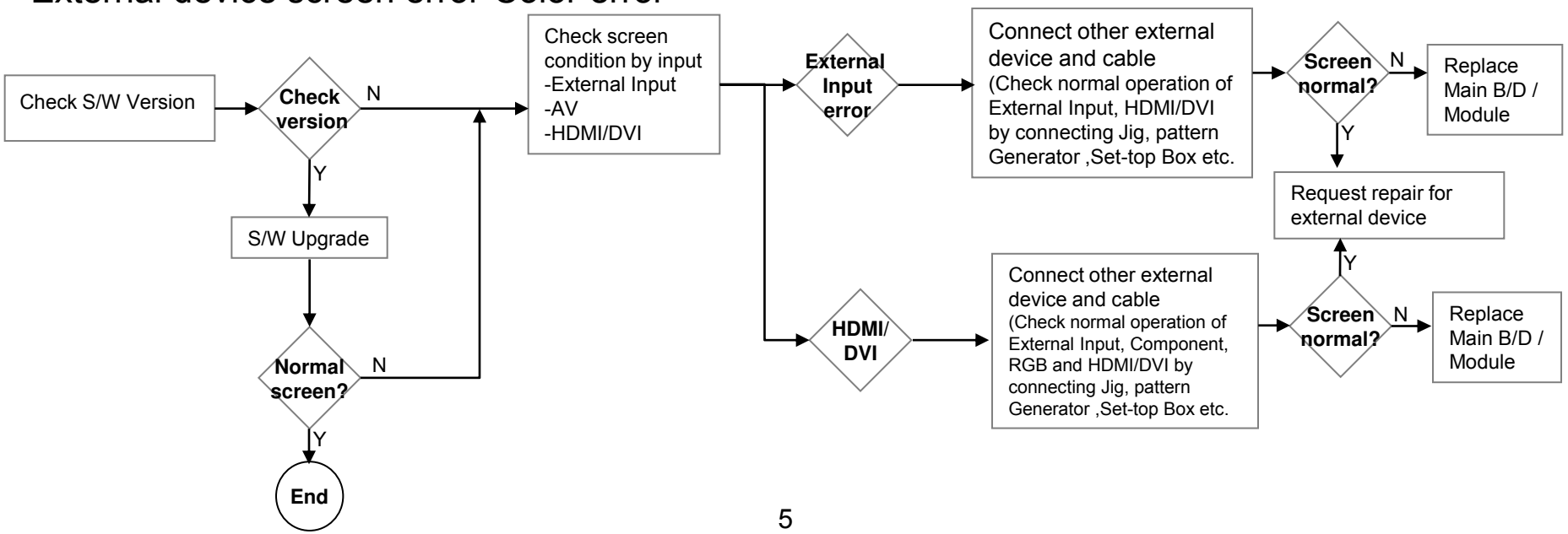


	Error symptom	A. Video error	Established date		
		Vertical / Horizontal bar, residual image, light spot, external device color error	Revised date		

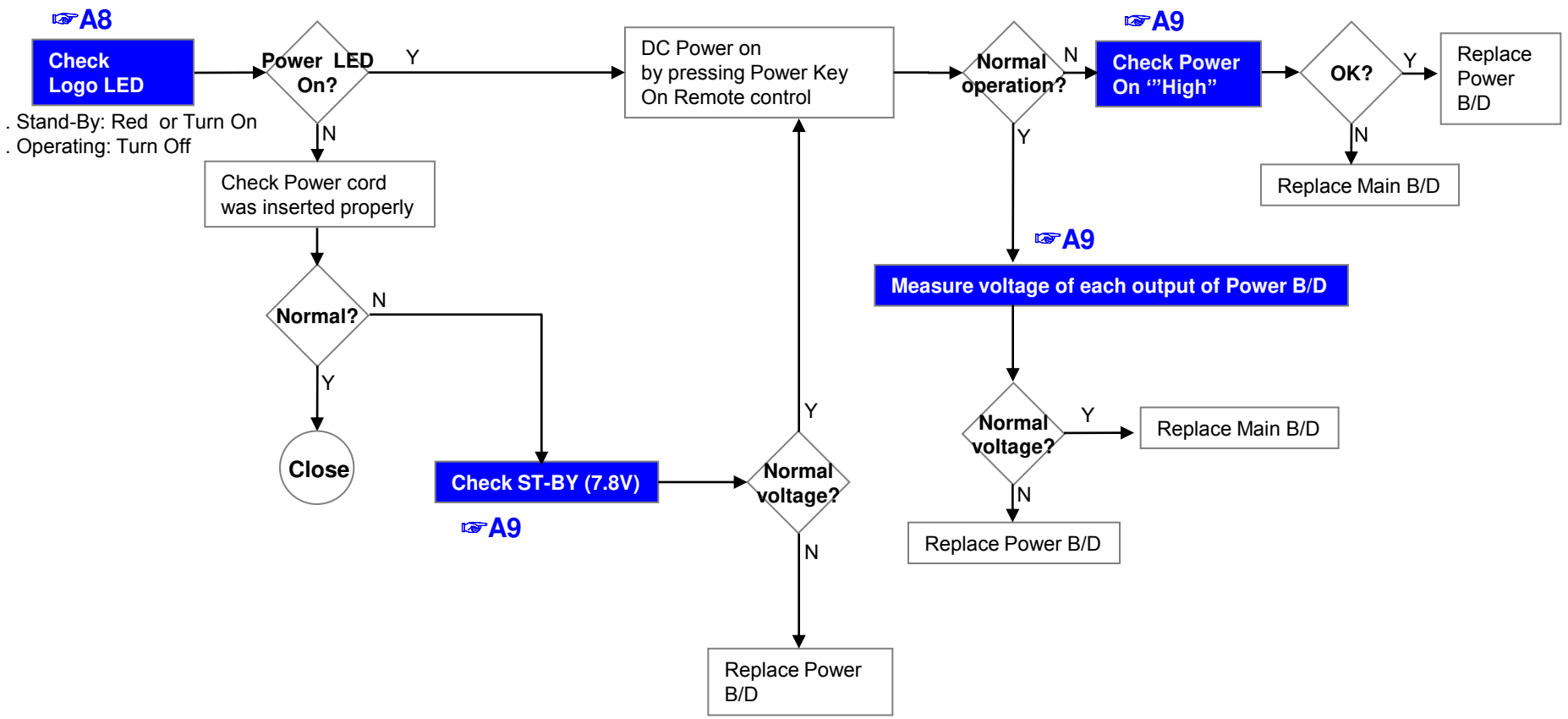
Vertical/Horizontal bar, residual image, light spot



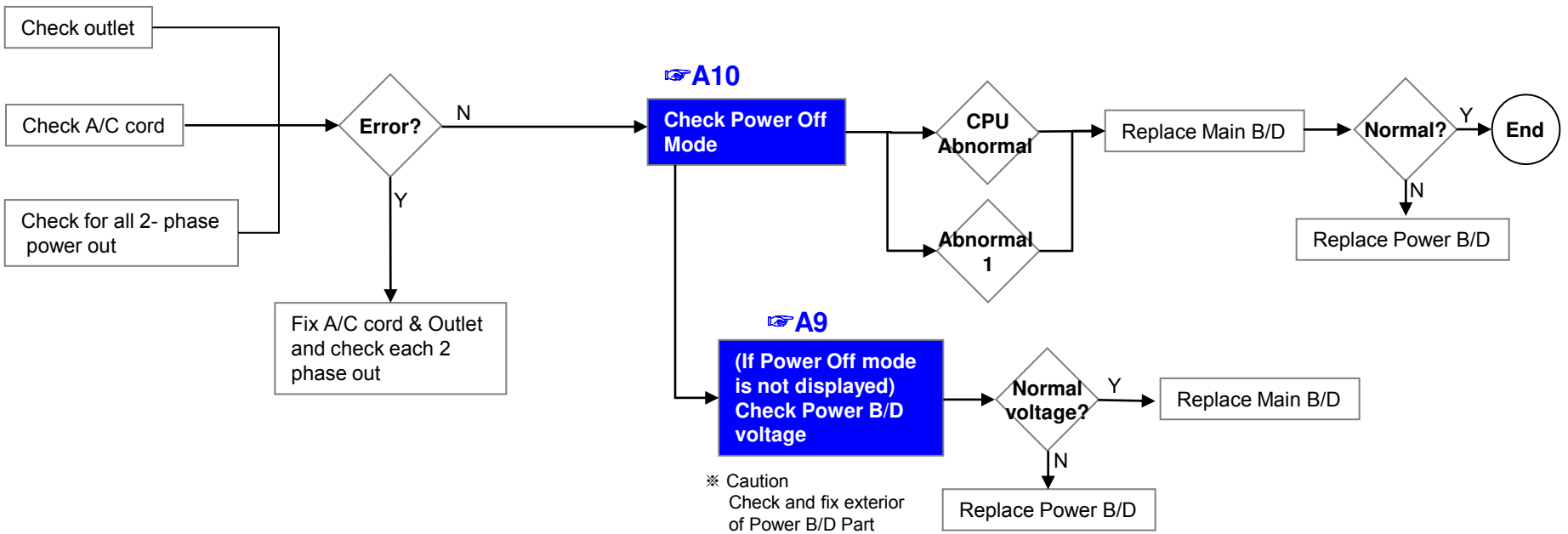
External device screen error-Color error



	Error symptom	B. Power error	Established date		
		No power	Revised date		



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

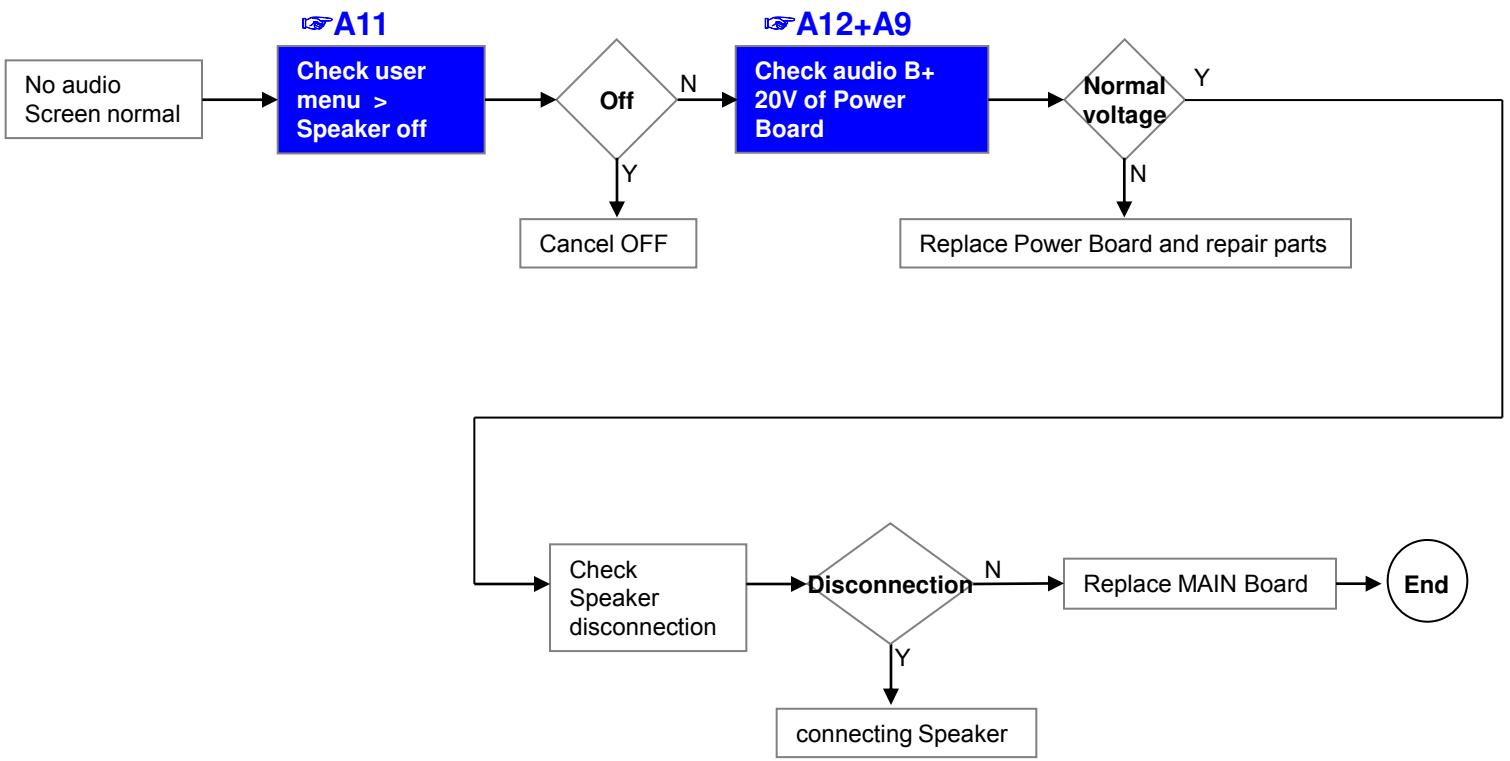


	Error symptom	B. Power error	Established date		
		Off when on, off while viewing, power auto on/off	Revised date		

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

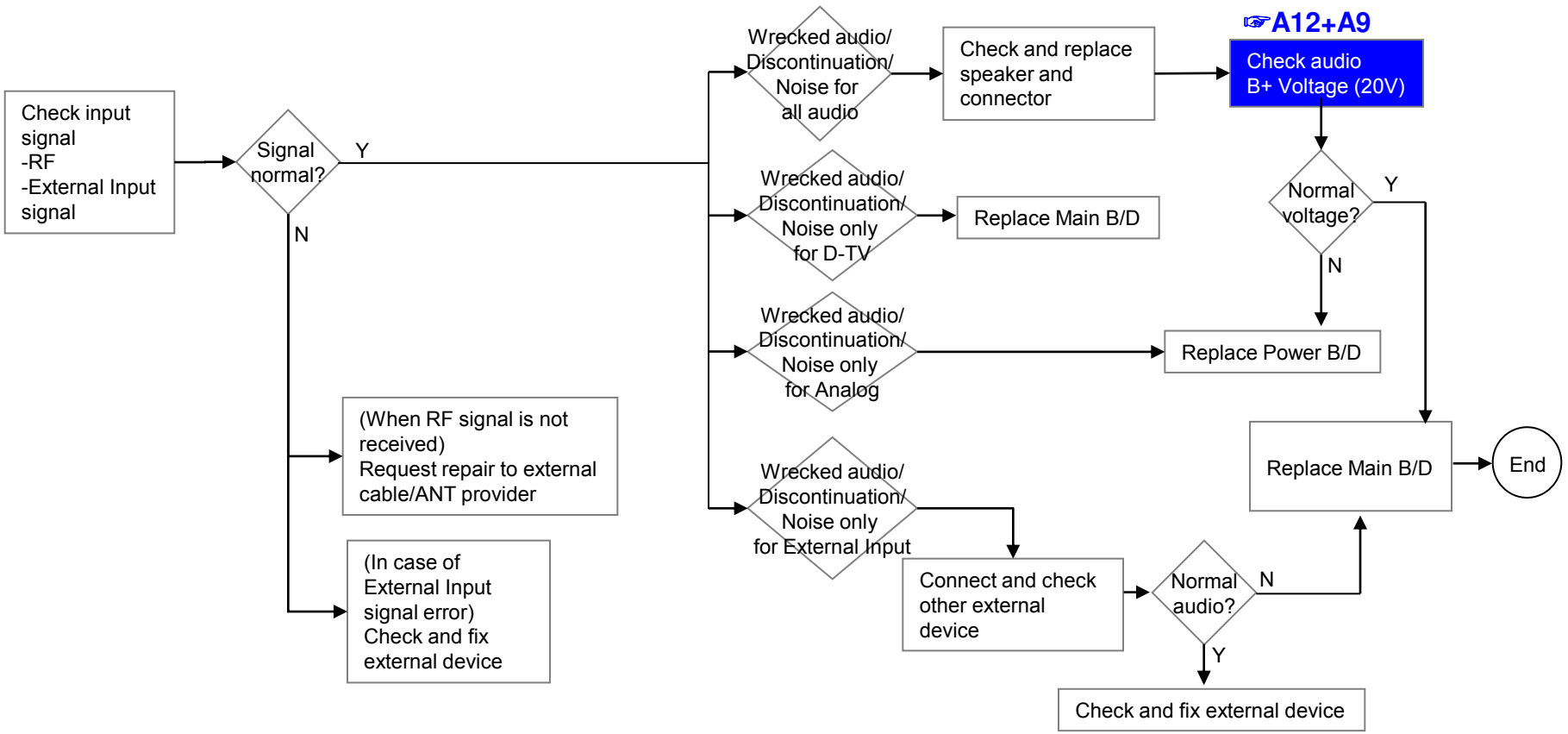
Power Off list	Explanation	Action contents
KEYTIMEOUT	Power off when TV is not turned off during a certain time RESULT : micom force to trigger TV power off. CONDITION : When pressing power key while power on/off status, CPU does not response within 8 seconds	Check & Change Main B/D
1SEC Power OFF	Almost the same as Power Off by KEYTIMEOUT. If there is no vaild communication Bet ween CPU and MICOM for more than 5 seconds, the MICOM switcheds off PSU and Records. Power off by 1SEC Power off. In this case, we don't have information where the malfunction exactly occurred. But in in indicates that CPU had stopped and rebooted.	Check & Change Main B/D
ACDET	In case of AC Off (It is normal when the power cord is unplugged.)	Normal
	If there are many ACDETs connected, Power Board is defective	Check & Change Power B/D
5V MNT	Power off by 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 Power B/D
CPUABNORMAL	If the CPU attempts to reset in case of abnormal operation and Shut Down in case of failure.	Check & Change Main B/D
NO POLING	Power off when receiving no ack. RESULT : TV power off/on (Reboot) CONDITION : There is no I2C response from CPU for 15 seconds.	Check & Change Main B/D
CPUCMD	Power off by main SoC command.	Check & Change Main B/D
INV_ERROR	Power off by module error (OLED) CONDITION : OLED Module send signal to micom	Check & Change OLED Module
ONRF_FAIL	RESULT : Reboot, CONDITION : OLED module compensation is running but fails.	Check & Change OLED Module
PNWASHFAIL	Power off by panel noise wash function fail case.	Check & Change OLED Module
RESET	When Micom is reset by AC Off	Normal Case
KEY	Power off by Local key	
OFFTIMER	Power off by Off timer	
SLEEPTIMER	Power off by sleep timer	
NOSIG	Power off by No Signal	
FANSTOP	Power off by FAN operation stopped	
INSTOP	Power off by Instop Key	
AUTO OFF	Power off by auto off function	
RESREC	Power off by reserved recording	
RECEND	Power off when recording stops	
SWDOWN	Reboot by SW down load function	
UNKNOWN	No meaning (same as initial value)	
COMP_END	OLED threshold voltage degradation(Compensation) completes.	
PNWASHDONE	Power off by panel noise wash function complited. (OLED)	

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



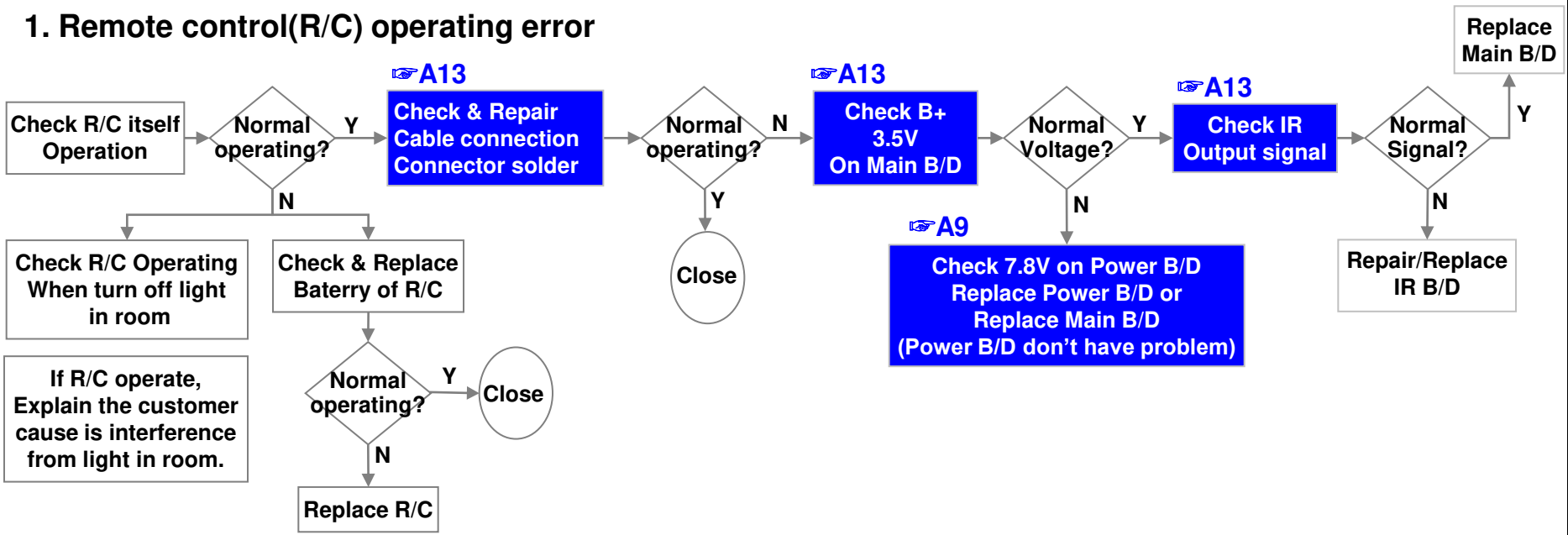
	Error symptom	C. Audio error	Established date		
		Wrecked audio/ discontinuation/noise	Revised date		

→ abnormal audio/discontinuation/noise is same after “Check input signal” compared to No audio



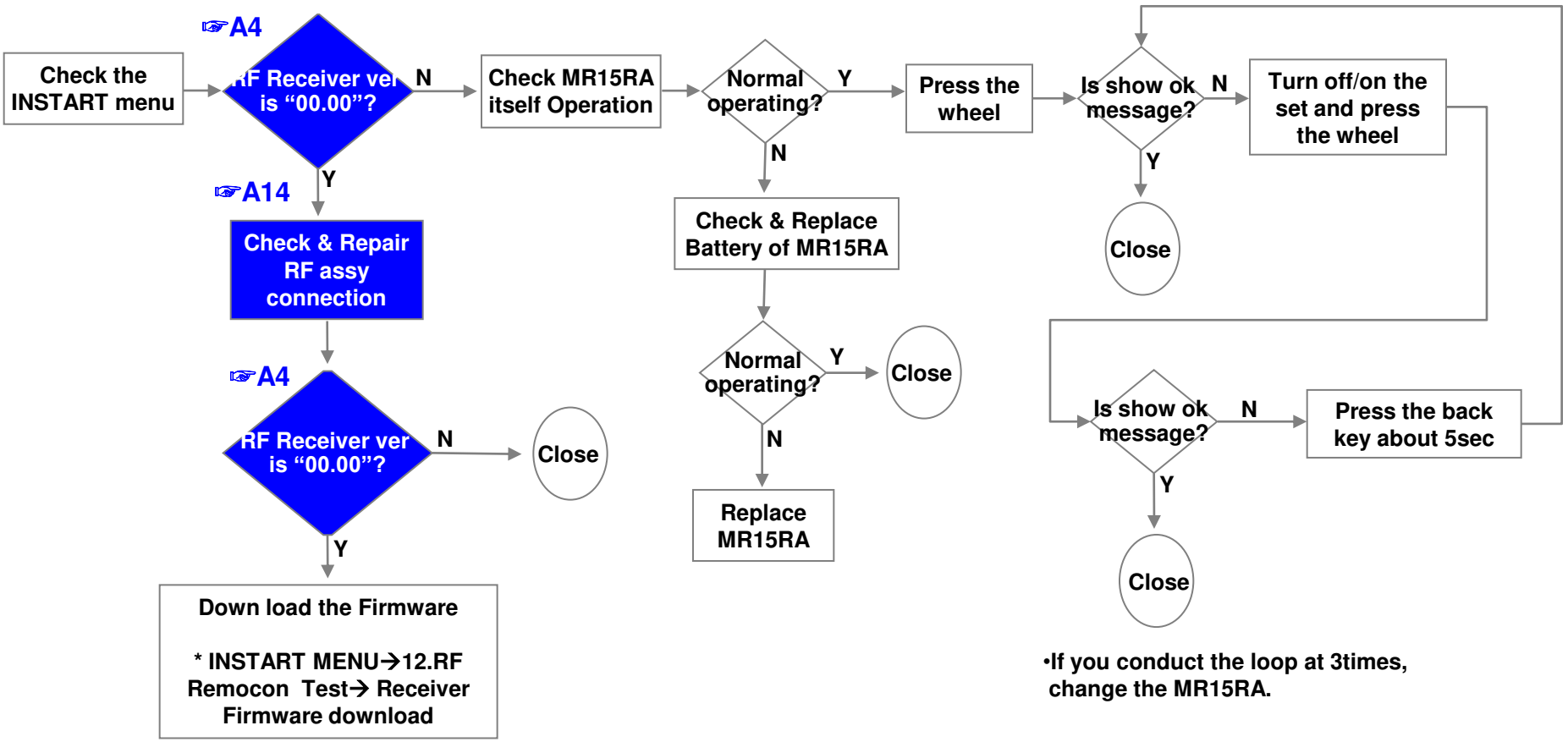
	Error symptom	D. Function error	Established date		
		Remote control & Local switch checking	Revised date		

1. Remote control(R/C) operating error



	Error symptom	D. Function error	Established date		
		MR15RA operating checking	Revised date		

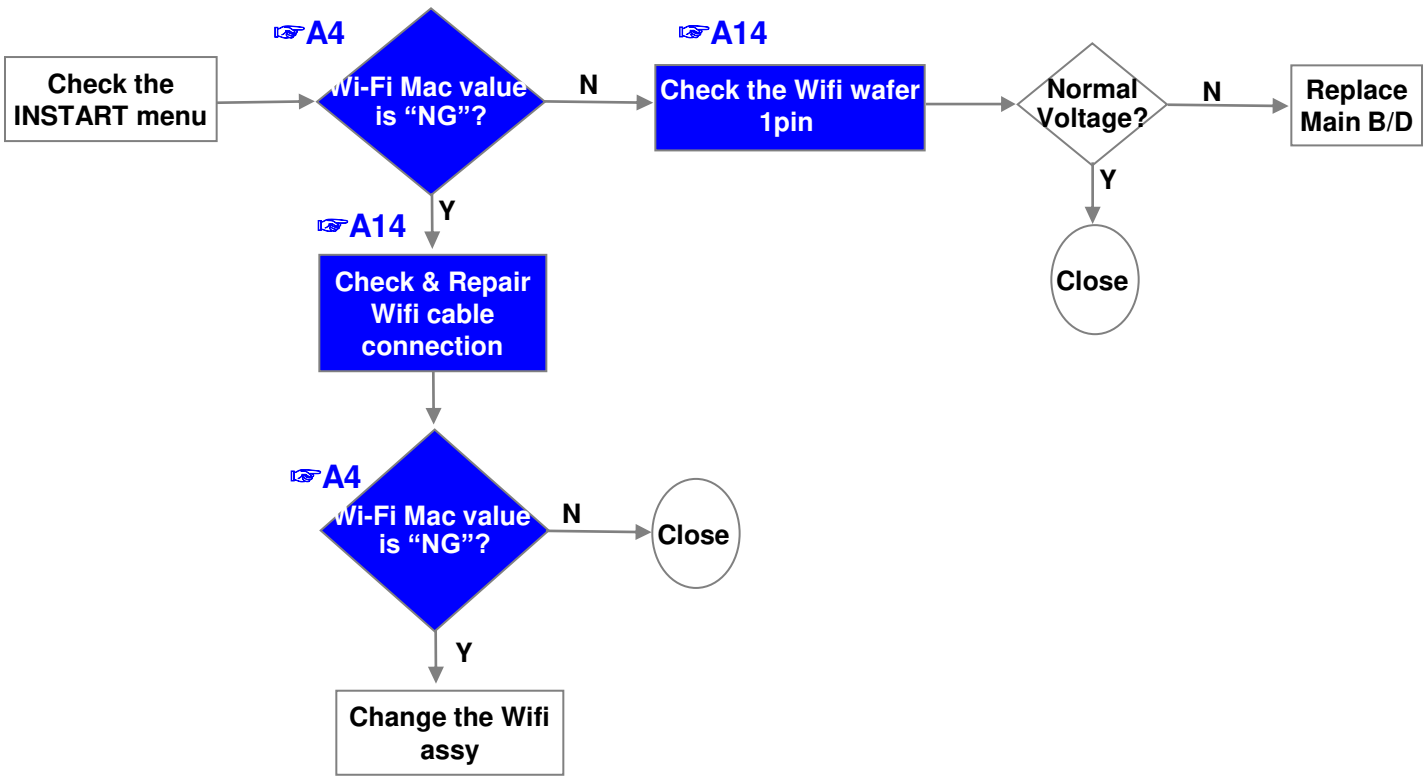
2. MR15RA (Magic Remocon) operating error



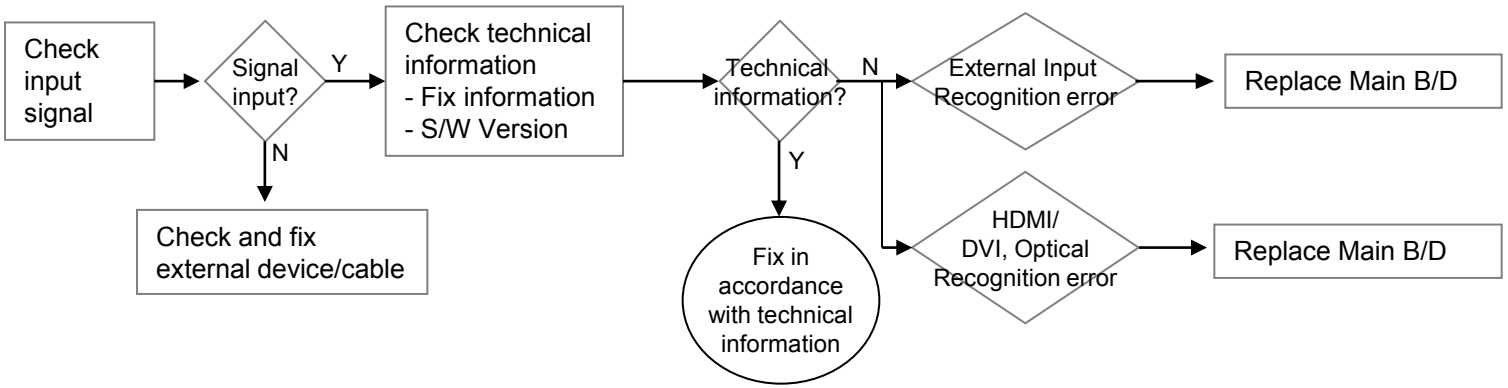
•If you conduct the loop at 3times, change the MR15RA.

	Error symptom	D. Function error	Established date		
		Wifi operating checking	Revised date		

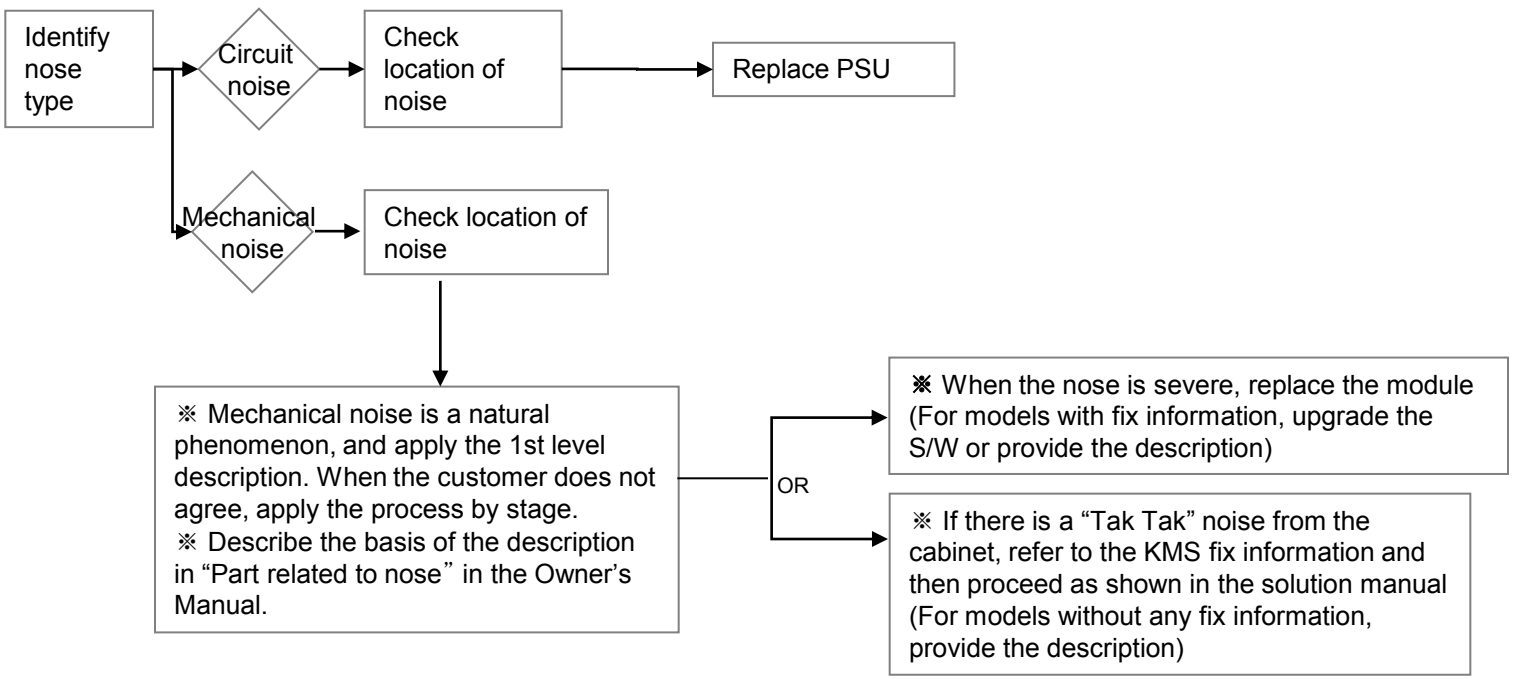
3.Wifi operating error



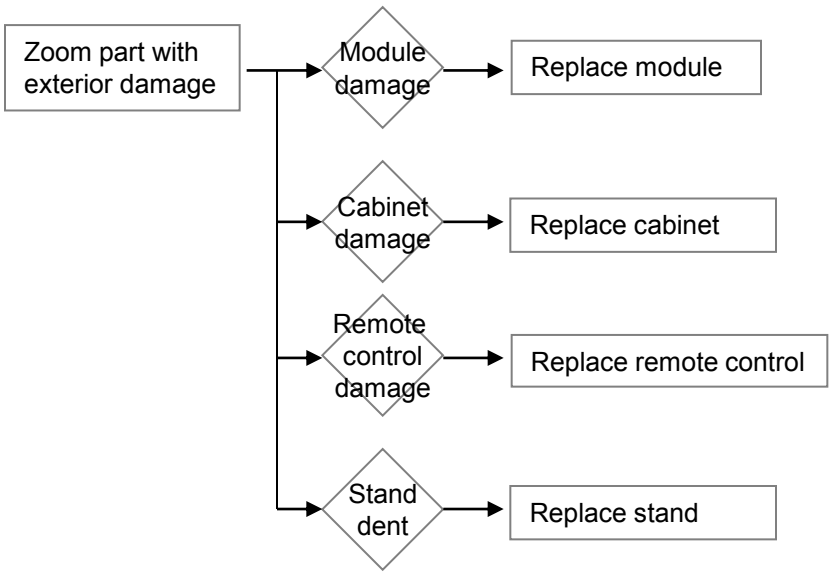
	Error symptom	D. Function error	Established date		
		External device recognition error	Revised date		



	Error symptom	E. Noise	Established date		
		Circuit noise, mechanical noise	Revised date		



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

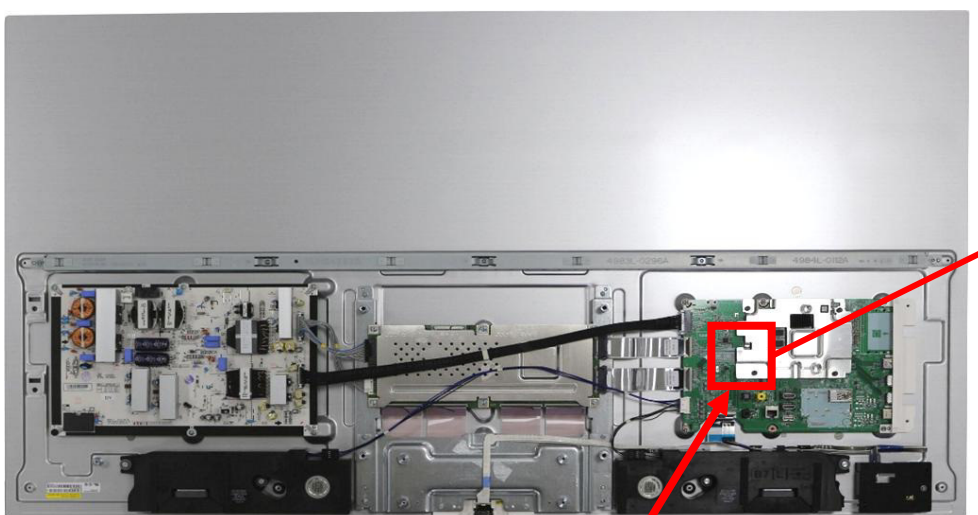


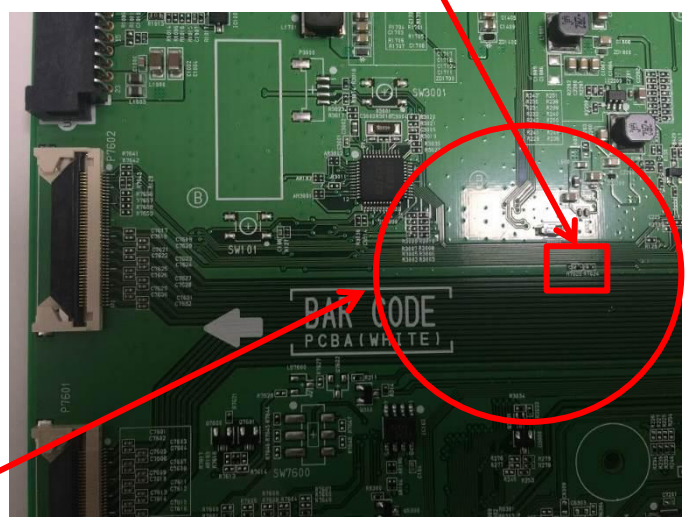
Contents of Standard Repair Process Detail Technical Manual

Contents of Standard Repair Process Detail Technical Manual

Continued from previous page

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





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