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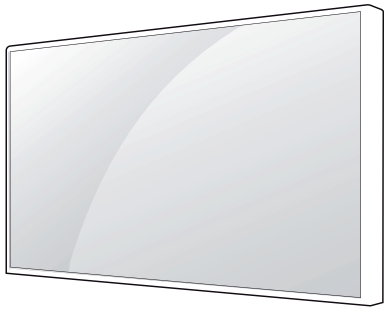
MONITOR SIGNAGE
SERVICE MANUAL

CHASSIS : LW57A

MODEL : 55SE3KB 55SE3KB-BE

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



P/NO : MFL67237442 (1504-REV00)

Printed in Korea

CONTENTS

PRECAUTION

WARNING FOR THE SAFETY-RELATED COMPONENT.

- There are some special components used in LCD monitor that are important for safety. ***These parts are marked ⚠ on the schematic diagram and the Exploded View.*** It is essential that these critical parts should be replaced with the manufacturer' s specified parts to prevent electric shock, fire or other hazard.
- Do not modify original design without obtaining written permission from manufacturer or you will void the original parts and labor guarantee.

TAKE CARE DURING HANDLING THE LCD MODULE WITH BACKLIGHT UNIT.

- Must mount the module using mounting holes arranged in four corners.
- Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.
- Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.
- Protect the module from the ESD as it may damage the electronic circuit (C-MOS).
- Make certain that treatment person' s body are grounded through wrist band.
- Do not leave the module in high temperature and in areas of high humidity for a long time.
- The module not be exposed to the direct sunlight.
- Avoid contact with water as it may a short circuit within the module.
- If the surface of panel become dirty, please wipe it off with a softmaterial. (Cleaning with a dirty or rough cloth may damage the panel.)

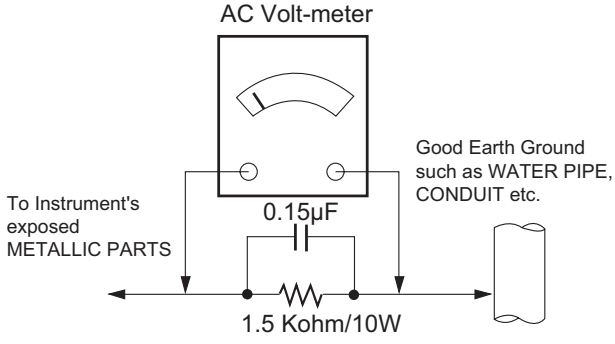
⚠ CAUTION
Please use only a plastic screwdriver to protect yourself from shock hazard during service operation.

⚠ WARNING

BE CAREFUL ELECTRIC SHOCK !

- If you want to replace with the new backlight or inverter circuit, must disconnect the AC adapter because high voltage appears at inverter circuit about 650Vrms.
- Handle with care wires or connectors of the inverter circuit. If the wires are pressed cause short and may burn or take fire.

Leakage Current Hot Check Circuit



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

- **Replaceable batteries**

⚠ CAUTION
RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.
REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE.

ADVARSEL
Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

注意

電池を誤って交換すると爆発する危険があります。

必ず同一又は同等のタイプのものと交換して下さい。

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 1.25cm) 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

1. Application range

This specification is applied to the LW57A 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 5 minutes prior to the adjustment.

3. Test method

1) Performance: LGE Monitor test method followed.
2) Demanded other specification
- Safety : CE, IEC specification
- EMC : CE, IEC

4. General Specification

4.1. General Specification

No.	Item	Content	Remark
1	HDMI Input (1EA)	HDMI	Side / support D-TV&PC resolution
2	DVI-D Input (1EA)	DVI-D	
3	RGB Input(1EA)	RGB-PC	Analog (D-SUB 15Pin)
4	Audio Input (1EA)	RGB/DVI-D Audio	Analog L/R Input
5	Audio Output (1EA)	Line out audio	Analog L/R Output
6	Speaker Output (1EA)	Compatible with Signage speaker	10W*2Ch Output@6ohms * SE3KB Series : Internal Speaker Jack
7	IR Sensor Input (1EA)	IR Sensor	Detachable Type
8	External USB (2EA)	Picture, Music, Movie, SVC, WiFi	Device : USB Memory Stick, WiFi Dongle
9	RS-232C Input/Output (1EA)	Display Control	3.5ø 4pin phone Jack
10	LAN(1EA)	RJ45, 100BASE-T	Network Connection for SuperSign W/C
11	Local Key	Input, MENU, ∧, ∨, <, >, AUTO/SET,Φ(Power)	8 keys

4.2. DVI-D, HDMI Specification

No.	Item	Specification			Remarks
1	Supported Sync. Type	Separate Sync., Digital			
2	Operating Frequency	Analog	Horizontal	30 ~ 83 kHz	
			Vertical	50 ~ 75 Hz	
		Digital	Horizontal	30 ~ 83 kHz	
			Vertical	50 ~ 60 Hz	
3	Operating Frequency	Analog/ Digital	Max	1920×1080 @ 60 Hz	
			Recommend	1920×1080 @ 60 Hz	

5. Signal Timing (Supporting Resolution)

5.1. RGB (PC Mode)

No.	Section	Pol.	Dot Clock [MHz]	Frequency [kHz]/[Hz]	Total Cycle (E)	Display (A)	Front Porch(B)	Sync. (D)	Back Porch(F)	Resolution
1	H(Pixels)	-	28.321	31.468	900	720	18	108	54	720 X 400
	V(Lines)	+		70.8	449	400	12	2	35	
2	H(Pixels)	-	25.175	31.469	800	640	16	96	48	640 x 480
	V(Lines)	-		59.94	525	480	10	2	33	
3	H(Pixels)	+	40.0	37.879	1056	800	40	128	88	800 x 600
	V(Lines)	+		60.317	628	600	1	4	23	
4	H(Pixels)	-	65.0	48.363	1344	1024	24	136	160	1024 x 768
	V(Lines)	-		60.0	806	768	3	6	29	
5	H(Pixels)	+	74.5	44.772	1664	1280	64	128	192	1280 x 720
	V(Lines)	+		59.855	748	720	3	5	20	
6	H(Pixels)	-	108.0	60	1800	1280	96	112	312	1280 x 960
	V(Lines)	-		60	1000	960	1	3	36	
7	H(Pixels)	+	90.5	57.717	1568	1152	64	120	184	1152 X 864
	V(Lines)	+		59.934	897	864	3	4	26	
8	H(Pixels)	+	108.0	63.981	1688	1280	48	112	248	1280 x 1024
	V(Lines)	+		60.02	1066	1024	1	3	38	
9	H(Pixels)	+	148.5	67.5	2200	1920	88	44	88	1920 x 1080
	V(Lines)	+		60	1125	1080	4	5	46	

5.2. DVI, HDMI (PC Mode)

No.	Section	Pol.	Dot Clock [MHz]	Frequency [kHz]/[Hz]	Total Cycle (E)	Display (A)	Front Porch(B)	Sync. (D)	Back Porch(F)	Resolution
1	H(Pixels)	-	25.175	31.469	800	640	16	96	48	640 x 480
	V(Lines)	-		59.94	525	480	10	2	33	
2	H(Pixels)	+	40.0	37.879	1056	800	40	128	88	800 x 600
	V(Lines)	+		60.317	628	600	1	4	23	
3	H(Pixels)	-	65.0	48.363	1344	1024	24	136	160	1024 x 768
	V(Lines)	-		60.0	806	768	3	6	29	
4	H(Pixels)	+	74.5	44.772	1664	1280	64	128	192	1280 x 720
	V(Lines)	+		59.855	748	720	3	5	20	
5	H(Pixels)	-	85.86	47.7	1800	1366	72	144	216	1366 x 768
	V(Lines)	-		60	795	768	1	3	23	
6	H(Pixels)	+	108.0	63.981	1688	1280	48	112	248	1280 x 1024
	V(Lines)	+		60.02	1066	1024	1	3	38	
7	H(Pixels)	-	146.25	65.290	2240	1680	104	176	280	1680 x 1050
	V(Lines)	+		59.954	1089	1050	3	6	30	
8	H(Pixels)	+	148.50	67.5	2200	1920	88	44	88	1920 x 1080
	V(Lines)	+		60	1125	1080	4	5	46	

5.3. HDMI (DTV Mode)

No.	Specification				Remark
	Resolution	H-freq(kHz)	V-freq(Hz)	Proposed	
1	480/60P	31.5	60	EDTV 480p	
2	576/50P	31.25	50	EDTV 576p	
3	720/50P	37.5	50	HDTV 720p	
4	720/60P	45	60	HDTV 720p	
5	1080/50i	28.1	50	HDTV 1080i 50Hz	For Australian
6	1080/60i	33.75	60	HDTV 1080i 60Hz	
7	1080/50P	56.25	50	HDTV 1080P 50Hz	
8	1080/60P	67.5	60	HDTV 1080P 60Hz	

ADJUSTMENT INSTRUCTION

1. Application Range

This spec sheet is applied all of the Digital Signage Product with LW57A/B chassis.

2. Designation

1) The adjustment is according to the order which is designated and which must be followed, according to the plan which can be changed only on agreeing.
2) Power adjustment : Free Voltage.
3) Magnetic Field Condition: Nil.
4) Input signal Unit: Product Specification Standard.
5) Reserve after operation: Above 5 Minutes (Heat Run)
Temperature : at 25 °C ± 5 °C
Relative humidity : 65 % ± 10 %
Input voltage : 220V, 60Hz
6) Adjustment equipments : Color Analyzer (CA-210 or CA-110), DDC Adjustment Jig equipment, SVC remote controller.
7) Push The "IN STOP KEY" – For memory initialization.

Case1 : Software version up

1) After downloading S/W by USB , Multi-vision set will reboot automatically
2) Push "In-stop" key
3) Push "Power on" key
4) Function inspection
5) After function inspection, Push "In-stop" key.

Case2 : Function check at the assembly line

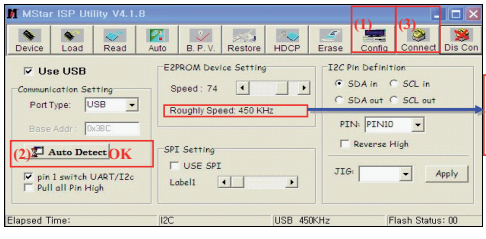
1) When TV set is entering on the assembly line, Push "In-stop" key at first.
2) Push "Power on" key for turning it on.
→ If you push "Power on" key, TV set will recover channel information by itself.
3) After function inspection, Push "In-stop" key.

3. Main PCB check process

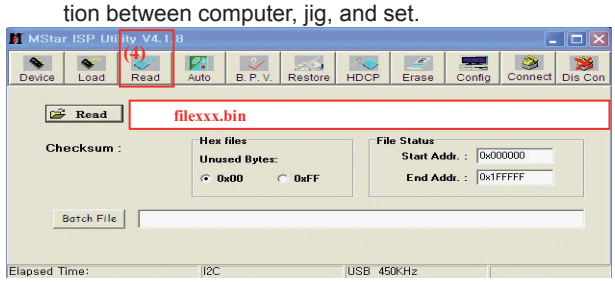
* APC - After Manual-Insult, executing APC

* Boot file Download

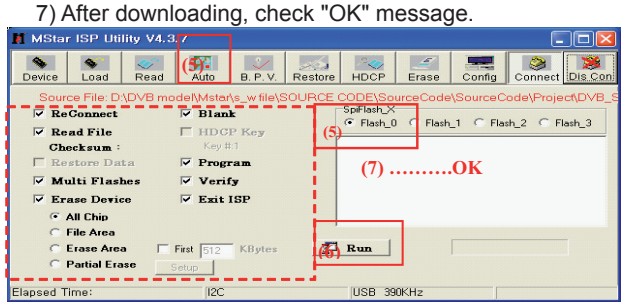
1) Execute ISP program "Mstar ISP Utility" and then click "Config" tab.
2) Set as below, and then click "Auto Detect" and check "OK" message. If "Error" is displayed, Check connection between computer, jig, and set.
3) Click "Read" tab, and then load download file (XXXX.bin) by clicking "Read"



4) Click "Connect" tab. If "Can't " is displayed, Check connection between computer, jig, and set.

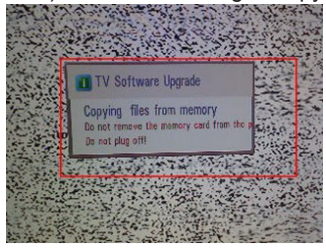


5) Click "Auto" tab and set as below.
6) Click "Run".
7) After downloading, check "OK" message.

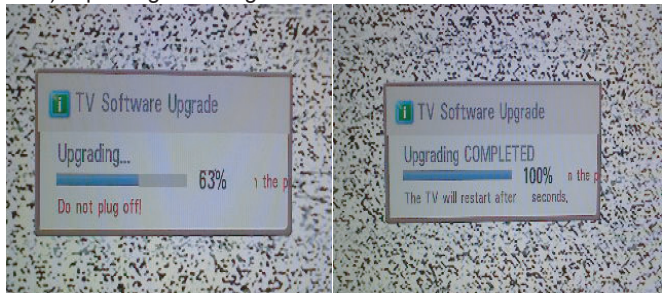


* USB DOWNLOAD(*.epk file download)

1) Put the USB Stick to the USB socket
2) Automatically detecting update file in USB Stick
- If your downloaded program version in USB Stick is Low, it didn't work.
- But your downloaded version is High, USB data is automatically detecting
3) Show the message "Copying files from memory"



4) Updating is staring.

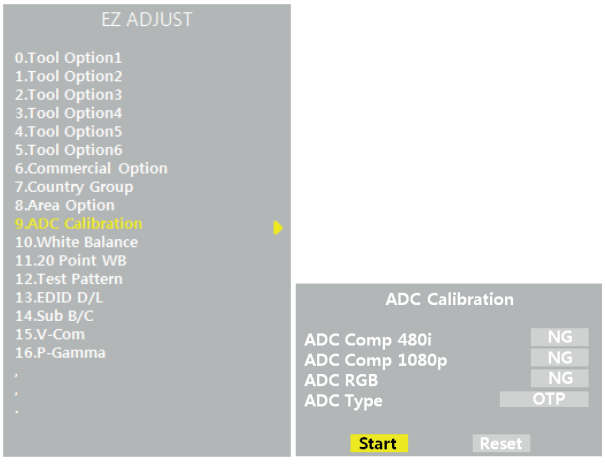


5) Updating Completed, The Multi-vision will restart automatically.
6) If your Multi-vision is turned on, check your updated version and Tool option. (explain the Tool option, next stage)

3.1. ADC Process

3.1.1. ADC

· Enter Service Mode by pushing "ADJ" key,
· Enter Internal ADC mode by pushing "►" key at "ADC Calibration"



* Caution : Using 'power on' button of the Adjustment R/C, power on Multi-vision.

* ADC Calibration Protocol (RS232)

NO	Enter Adjust MODE	ADC adjust
Item	Adjust 'Mode In'	ADC Adjust
CMD 1	A	A
CMD 2	A	D
Data 0	0	1
	0	0
	When transfer the 'Mode In', Carry the command.	Automatically adjustment (The use of a internal pattern)

- Adjust Sequence
▪aa 00 00 [Enter Adjust Mode]
▪xb 00 40 [Component1 Input (480i)]
▪ad 00 10 [Adjust 480i Comp1]
▪xb 00 60 [RGB Input (1024*768)]
▪ad 00 10 [Adjust 1024*768 RGB]
▪aa 00 90 End Adjust mode
* Required equipment : Adjustment R/C.

3.2. Function Check

3.2.1. Check display and sound

· Check Input and Signal items. (cf. work instructions)
1) COMPONENT (480i), RGB Shared.
2) RGB (PC : 1024 x 768 @ 60hz)
3) HDMI
4) DVI
5) COMPOSITE (480i), RGB Shared.(Brazil, Not supported)
* Display and Sound check is executed by Remote controller.
* For Brazil, Composite is not supported.

* Caution : Not to push the INSTOP KEY after completion if the function inspection.

4. Total Assembly line process

4.1. Adjustment Preparation

■ Luminance: 204 Gray
▪ Standard color coordinate and temperature using CS-1000 (over 26 inch)

Mode	Coordinate		Temp	Δuv
	x	y		
Cool	0.271±0.002	0.270±0.002	13,000K	0.0000
Medium	0.286±0.002	0.289±0.002	9,300K	0.0000
Warm	0.313±0.002	0.329±0.002	6,500K	0.0000

■ Color coordination according to aging time
1) ROW Direct LED(32") & EDGE LED(43/49/55/65") models (applied only LGD Module) in LGEKR (GUMI) And LGERS
▪ Luminance: 204 Gray, 80IRE
▪ Standard color coordinate and temperature using CA-210(CH-14) – by aging time
- 32SE3B / 32SE3KB

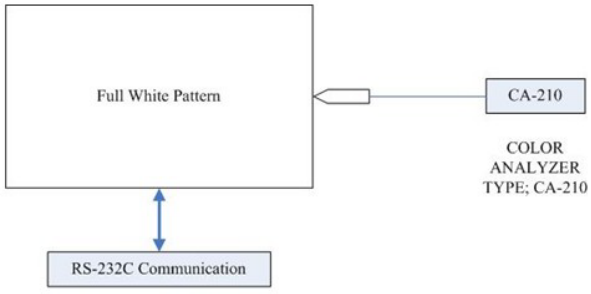
	Aging time (Min)	Cool		Medium		Warm	
		X	y	x	y	x	y
		271	270	286	289	313	329
1	0-2	282	289	297	308	324	348
2	3-5	281	287	296	306	323	346
3	6-9	279	284	294	303	321	343
4	10-19	277	280	292	299	319	339
5	20-35	275	277	290	296	317	336
6	36-49	274	274	289	293	316	333
7	50-79	273	272	288	291	315	331
8	80-119	272	271	287	290	314	330
9	Over 120	271	270	286	289	313	329

- 43/49/55/65SE3B / SE3KB

	Aging time (Min)	Cool		Medium		Warm	
		X	y	x	y	x	y
		271	270	286	289	313	329
1	0-2	282	289	297	308	324	348
2	3-5	281	287	296	306	323	346
3	6-9	279	284	294	303	321	343
4	10-19	277	280	292	299	319	339
5	20-35	275	277	290	296	317	336
6	36-49	274	274	289	293	316	333
7	50-79	273	272	288	291	315	331
8	80-119	272	271	287	290	314	330
9	Over 120	271	270	286	289	313	329

*** Connecting picture of the measuring instrument (On Automatic control)**

- Inside PATTERN is used when W/B is controlled. Connect to auto controller or push Adjustment R/C POWER-ON → Enter the mode of White-Balance, the pattern will come out.



*** Auto-control interface and directions**

1) Adjust in the place where the influx of light like floodlight around is blocked. (Illumination is less than 100Lux).
2) Adhere closely the Color Analyzer (CA210) to the module less than 10cm distance, keep it with the surface of the Module and Color Analyzer's Prove vertically.(80~100°).
3) Aging time

- After aging start, keep the power on (no suspension of power supply) and heat-run over 5 minutes.
- Using 'no signal' or 'full white pattern' or the others, check the back light on.

· Auto adjustment Map(RS-232C)

RS-232C COMMAND

[CMD ID DATA]

wb 00 00 White Balance Start

wb 00 ff White Balance End

	RS-232C COMMAND [CMD ID DATA]			MIN	CENTER (DEFAULT)			MAX
	Cool	Mid	Warm		Cool	Mid	Warm	
R Gain	jg	Ja	jd	00	172	192	192	192
G Gain	jh	Jb	je	00	172	192	192	192
B Gain	ji	Jc	jf	00	192	192	172	192
R Cut					64	64	64	128
G Cut					64	64	64	128
B Cut					64	64	64	128

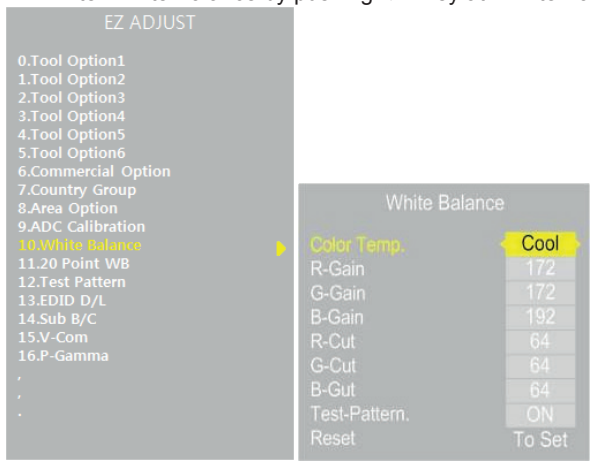
*Caution

- Color Temperature : COOL, Medium, Warm.
- One of R Gain/G Gain/ B Gain should be kept on 0xC0, and adjust other two lower than C0.

(when R/G/B Gain ar e all C0, it is the FULL Dynamic Range of Module)

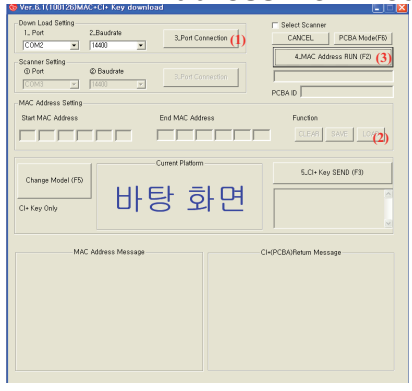
*** Manual W/B process using adjusts Remote control.**

· After enter Service Mode by pushing "ADJ" key,
· Enter White Balance by pushing "►" key at "White Balance".



* After You finish all adjustments, Press "In-start" button and compare Tool option and Area option value with its BOM, if it is correctly same then unplug the AC cable.
If it is not same, then correct it same with BOM and unplug AC cable.
For correct it to the model's module from factory JIG model.
* Push The "IN STOP KEY" after completing the function inspection. And Mechanical Power Switch must be set "ON".

4.2. MAC Address Download



· Com 1,2,3,4 and 115200(Baudrate)
· Port connection button click(1)
· Load button click(2) for MAC Address write.
· Start MAC Address write button(3)
· Check the OK Or NG

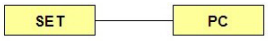
4.3. LAN (Automatic IP)

4.3.1. Equipment & Condition

· Each other connection to LAN Port of IP Hub and Jig

4.3.2. LAN PORT INSPECTION (PING TEST)

Connect : SET→LAN Port == PC→LAN Port

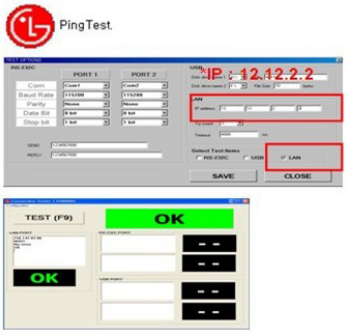


4.3.2.1 Equipment setting

1) Play the LAN Port Test PROGRAM.
2) Input IP set up for an inspection to Test Program.
   *IP Number : 12.12.2.2

4.3.2.2 LAN PORT inspection (PING TEST)

1) Play the LAN Port Test Program.
2) connect each other LAN Port Jack.
3) Play Test (F9) button and confirm OK Message.
4) remove LAN CABLE



4.4. DPM operation confirmation

Section		Sync (H/V)	Video	Wattage	Remark
Sleep Mode (Set=On, Signal=Off)	DPM	Off/Off	Off	0.7W	WOL on
Deep Sleep Mode (Set=Off)	Power Off			0.5W	

4.5. DDC EDID Write (RGB 128Byte)

· Connect D-sub Signal Cable to D-Sub Jack.
· Write EDID DATA to EEPROM (24C02) by using DDC2B protocol.
· Check whether written EDID data is correct or not.

* For SVC main Ass'y, EDID have to be downloaded to Insert Process in advance.
* In case of SKD Ass'y, it is no need to do EDID D/L. Ass'y, Supplier does that in advance.

4.6. DDC EDID Write (DVI 128Byte)

· Connect DVI Signal Cable to DVI Jack.
· Write EDID DATA to EEPROM (24C02) by using DDC2B protocol.
· Check whether written EDID data is correct or not.

* For SVC main Ass'y, EDID have to be downloaded to Insert Process in advance.
* In case of SKD Ass'y, it is no need to do EDID D/L. Ass'y, Supplier does that in advance.

4.7. DDC EDID Write (HDMI 256Byte)

· Connect HDMI Signal Cable to HDMI Jack.
· Write EDID DATA to EEPROM(24C02) by using DDC2B protocol.
· Check whether written EDID data is correct or not.

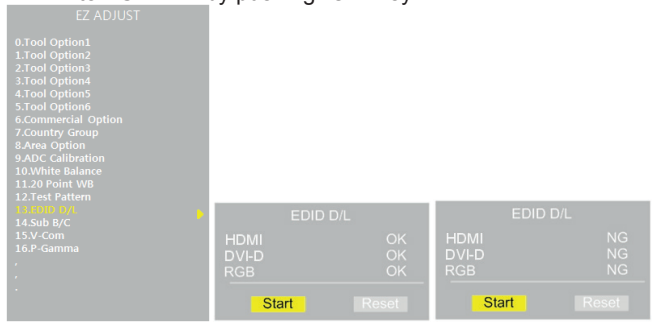
* For SVC main Ass'y, EDID have to be downloaded to Insert Process in advance.
* In case of SKD Ass'y, it is no need to do EDID D/L. Ass'y, Supplier does that in advance.

4.8. EDID DATA

1) All Data : HEXA Value
2) Changeable Data : *: Serial No : Controlled / Data:01
   **: Month : Controlled / Data:00
   ***:Year : Controlled
   ****:Check sum

- Auto Download

· After enter Service Mode by pushing "ADJ" key,
· Enter EDID D/L mode.
· Enter "START" by pushing "OK" key.



*Caution : Never connect HDMI & D-sub Cable when EDID downloaded.

* Edid data and Model option download (RS232)

NO	Enter download MODE	EDID data Model option download
Item	download 'Mode In'	download
CMD 1	A	A
CMD 2	A	E
Data 0	0	00
	0	10
	When transfer the 'Mode In', Carry the command.	Automatically download (The use of a internal pattern)

4.9 RS232 In/Out INSPECTION

1) Connect RS232 In/Out cable with daisy chain. You can control several products at one time by connecting them to a single PC.,
2) Check the RS232 command.

- Manual Download

* Caution

· Use the proper signal cable for EDID Download

- Analog EDID : Pin3 exists
- Digital EDID : Pin3 exists

* Caution

- Never connect HDMI & D-sub Cable at the same time.
- Use the proper cables below for EDID Writing.
- Download HDMI1, HDMI2 separately because HDMI1 is different from HDMI2.

For Analog EDID	For DVI EDID	For HDMI EDID
D-sub to D-sub	DVI to DVI	DVI-D to HDMI or HDMI to HDMI
		

No.	Item	Condition	Hex Data
1	Manufacturer ID	GSM	1E6D
2	Version	Digital : 1	01
3	Revision	Digital : 3	03

- RGB EDID data

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	FF	FF	FF	FF	FF	FF	00	1E	6D	75	9E	01	01	01	01
10	1E	17	01	03	6C	7A	45	78	EA	7C	5B	A6	54	4E	9A	26
20	0F	47	4A	A5	4B	00	B3	00	81	40	81	80	71	40	61	40
30	45	40	31	40	81	C0	02	3A	80	18	71	38	2D	40	58	2C
40	45	00	BF	AE	42	00	00	1E	66	21	56	AA	51	00	1E	30
50	46	8F	33	00	BF	AE	42	00	00	18	00	00	00	FD	00	32
60	4B	1E	53	0F	00	0A	20	20	20	20	20	20	00	00	00	FC
70	00	4C	47	20	53	49	47	4E	41	47	45	0A	20	20	00	01

- DVI EDID data

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	FF	FF	FF	FF	FF	FF	00	1E	6D	76	9E	01	01	01	01
10	1E	17	01	03	80	7A	45	78	EA	7C	5B	A6	54	4E	9A	26
20	0F	47	4A	A1	08	00	B3	00	81	40	81	80	71	40	61	40
30	45	40	31	40	81	C0	02	3A	80	18	71	38	2D	40	58	2C
40	45	00	BF	AE	42	00	00	1E	66	21	56	AA	51	00	1E	30
50	46	8F	33	00	BF	AE	42	00	00	18	00	00	00	FD	00	38
60	3C	1E	53	0F	00	0A	20	20	20	20	20	20	00	00	00	FC
70	00	4C	47	20	53	49	47	4E	41	47	45	0A	20	20	00	3C

- HDMI EDID dat

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	FF	FF	FF	FF	FF	FF	00	1E	6D	77	9E	01	01	01	01
10	1E	17	01	03	80	7A	45	78	EA	7C	5B	A6	54	4E	9A	26
20	0F	47	4A	A1	08	00	B3	00	81	40	81	80	71	40	61	40
30	45	40	31	40	81	C0	02	3A	80	18	71	38	2D	40	58	2C
40	45	00	BF	AE	42	00	00	1A	66	21	56	AA	51	00	1E	30
50	46	8F	33	00	BF	AE	42	00	00	18	00	00	00	FD	00	38
60	3C	1E	53	0F	00	0A	20	20	20	20	20	20	00	00	00	FC
70	00	4C	47	20	53	49	47	4E	41	47	45	0A	20	20	01	3E

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	02	03	1F	F1	4A	90	05	04	14	1F	12	03	13	02	11	23
10	09	07	07	83	01	00	00	67	03	0C	00	10	00	80	2D	02
20	3A	80	18	71	38	2D	40	58	2C	45	00	BF	AE	42	00	00
30	1E	01	1D	80	18	71	1C	16	20	58	2C	25	00	BF	AE	42
40	00	00	9E	01	1D	00	72	51	D0	1E	20	6E	28	55	00	BF
50	AE	42	00	00	1E	01	1D	80	D0	72	1C	16	20	10	2C	25
60	80	BF	AE	42	00	00	9E	02	3A	80	D0	72	38	2D	40	10
70	2C	45	20	BF	AE	42	00	00	1E	00	00	00	00	00	00	A2

4.10. Outgoing condition Configuration

· When pressing IN-STOP key by SVC remocon, Red LED are blinked alternatively. And then automatically turn off. (Must not AC power OFF during blinking)

4.11. Internal pressure

- Confirm whether is normal or not when between power board's ac block and GND is impacted on 1.5kV(dc) or 2.2kV(dc) for one second

5. Model name & Serial number Download

5.1. Model name & Serial number D/L

· Press "Power on" key of service remocon.(Baud rate : 115200 bps)
· Connect RS232 Signal Cable to RS-232 Jack.
· Write Serial number by use RS-232.

5.2. Signal TABLE

CMD	LENGTH	ADH	ADL	DATA_1	...	Data_n	CS	DELAY

CMD: A0h
LENGTH : 85~94h (1~16 bytes)
ADH : EEPROM Sub Address high (00~1F)
ADL : EEPROM Sub Address low (00~FF)
Data : Write data
CS : CMD + LENGTH + ADH + ADL + Data_1 + … + Data_n
Delay : 20ms

5.3. Command Set

No.	1
Adjust mode	EEPROM WRITE
CMD(hex)	A0h
LENGTH(hex)	84h+n
Description	n-bytes Write (n = 1~16)

* Description
FOS Default write : <7mode data> write
Vtotal, V_Frequency, Sync_Polarity, Htotal, Hstart, Vstart, 0, Phase
Data write : Model Name and Serial Number write in EE-PROM,.

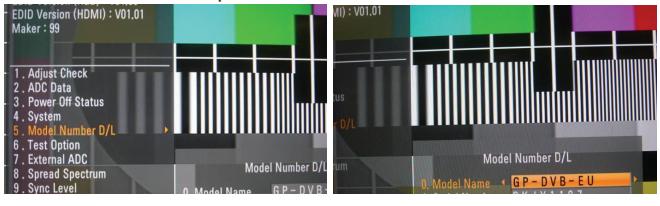
5.4. Method & notice

1) Serial number D/L is using of scan equipment.
2) Setting of scan equipment operated by Manufacturing Technology Group.
3) Serial number D/L must be conformed when it is produced in production line, because serial number D/L is mandatory by D-book 4.0

*** Manual Download (Model Name and Serial Number)**

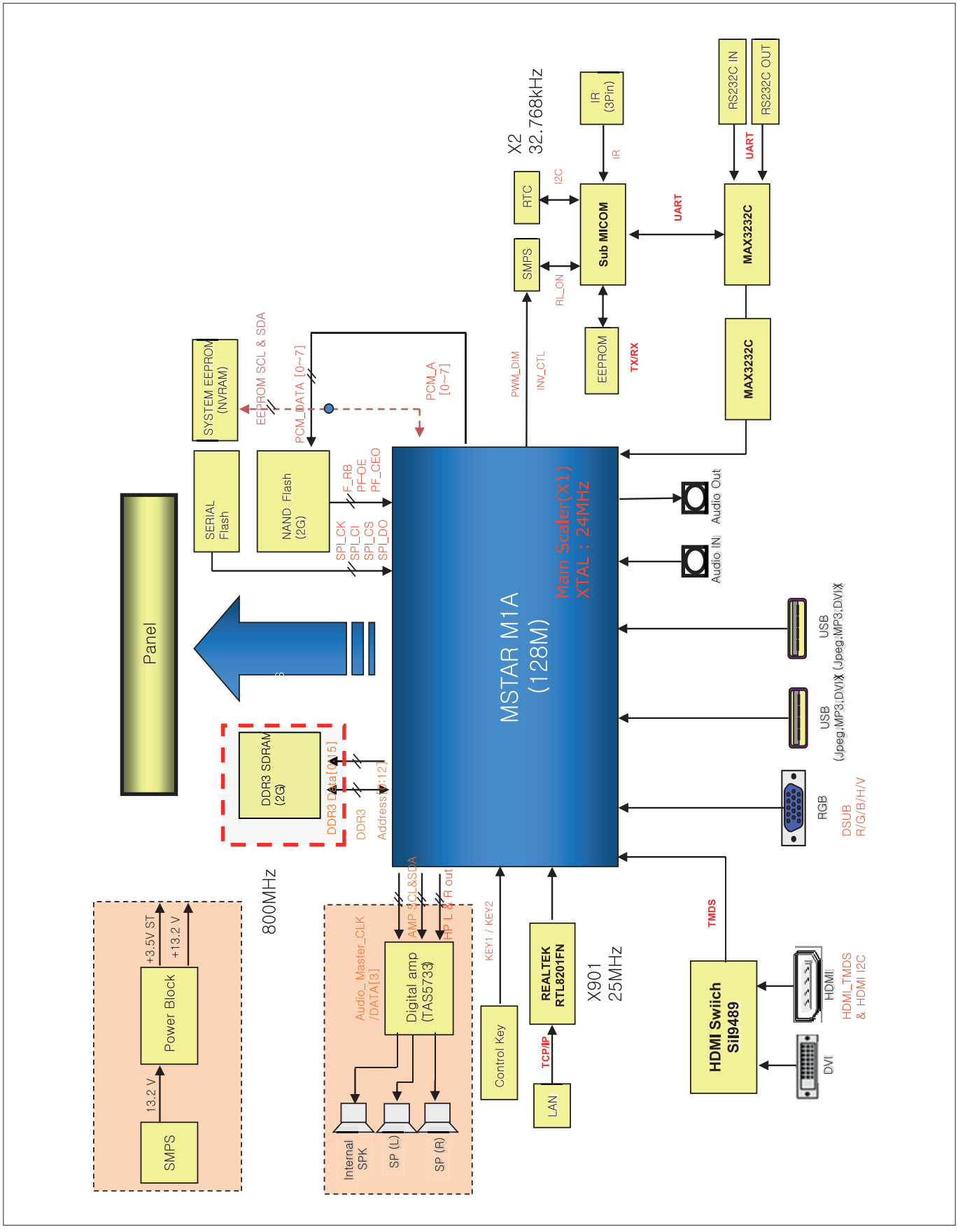
If the TV set is downloaded By OTA or Service man, Sometimes model name or serial number is initialized.(Not always) There is impossible to download by bar code scan, so It need Manual download.

1) Press the 'instart' key of ADJ remote controller.
2) Go to the menu '5.Model Number D/L' like below photo.
3) Input the Factory model name(ex 42LD450-ZA) or Serial number like photo.



4) Check the model name Instart menu → Factory name displayed (ex 42LD450-ZA)

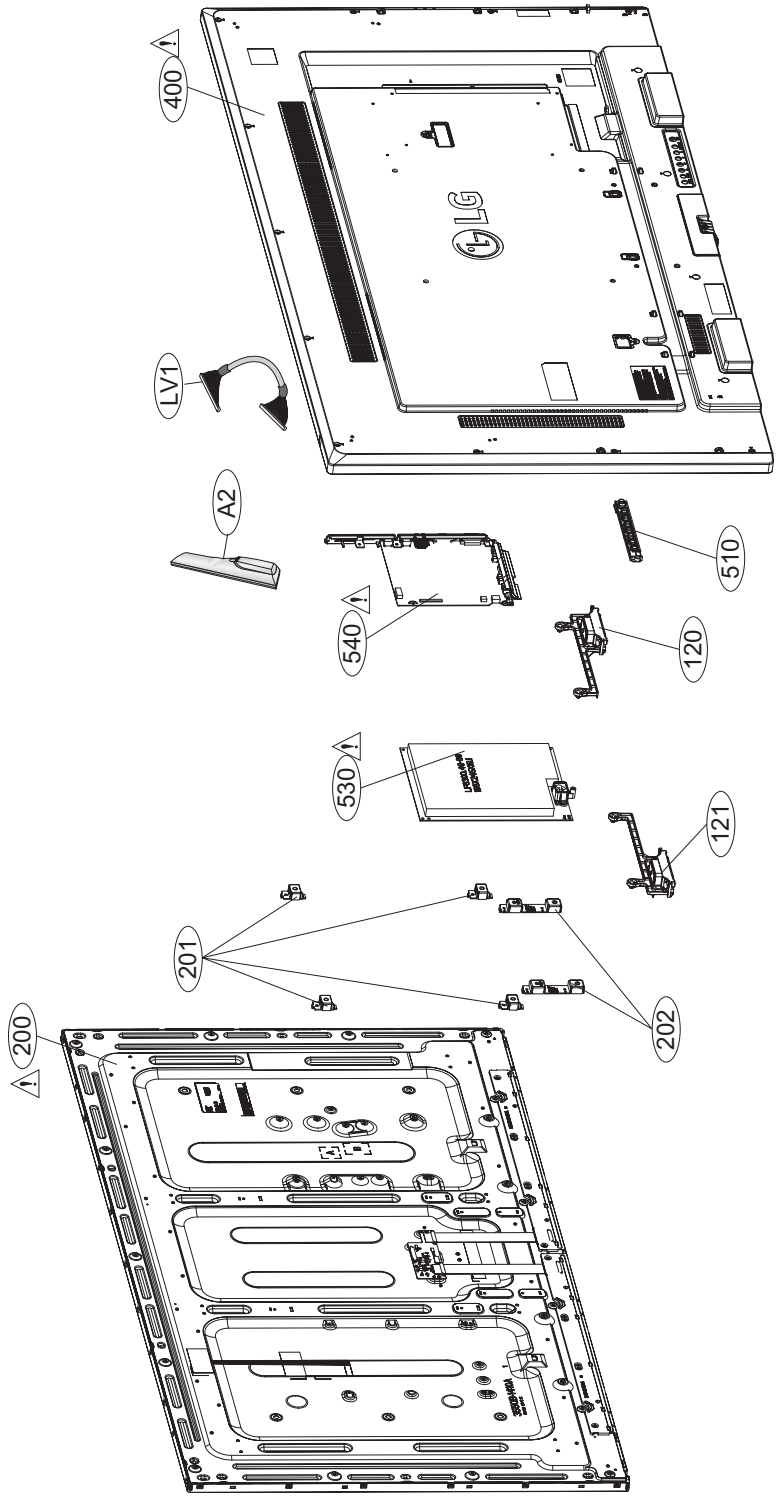
BLOCK DIAGRAM



EXPLODED VIEW

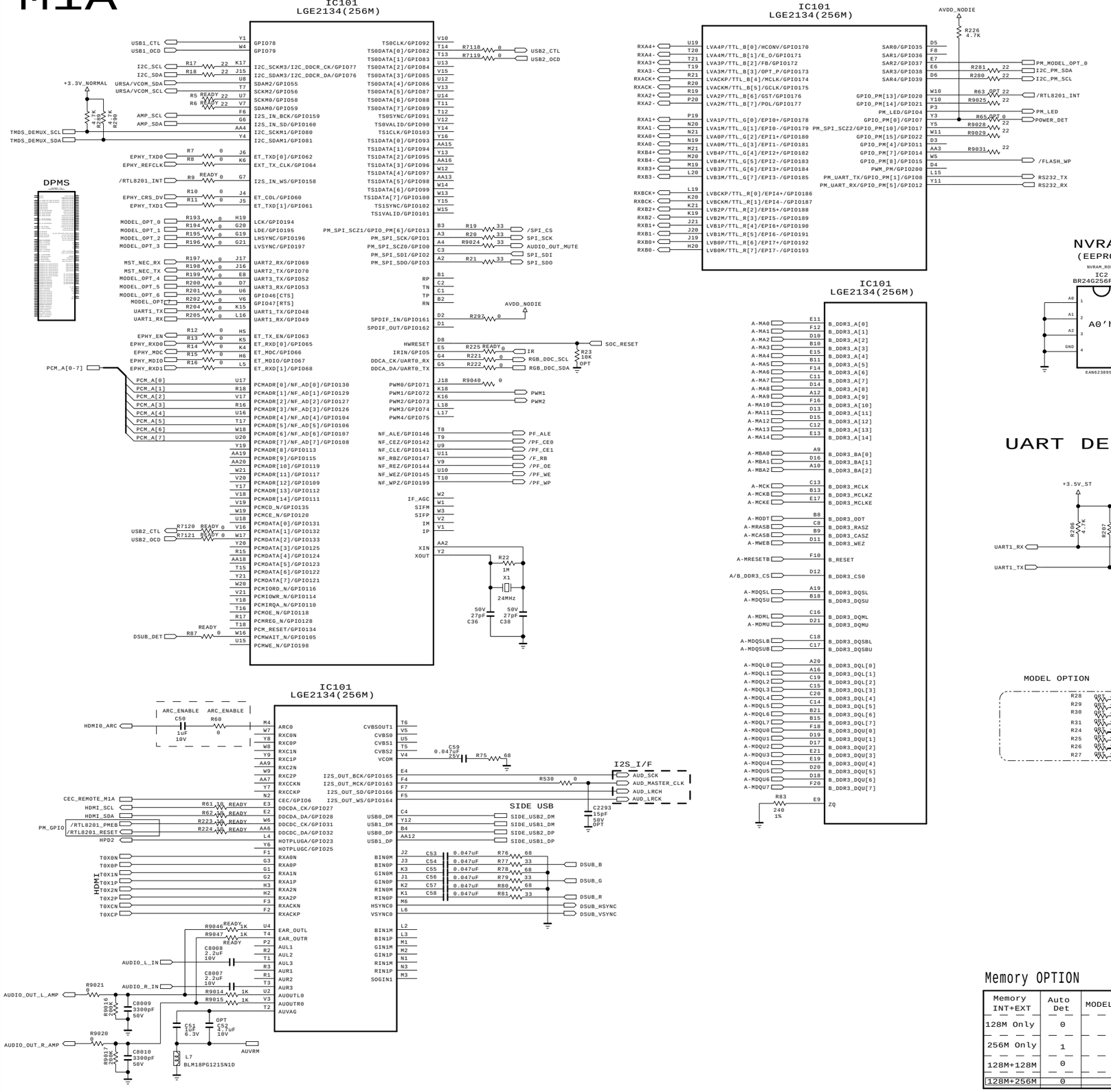
IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by ⚠ in the Schematic Diagram and 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.



M1A

SOC_PW



Memory OPTION

Memory INT+EXT	Auto Det	MODEL_OPT_4	MODEL_OPT_6
128M Only	0	0	0
256M Only	1	0	0
128M+128M	0	1	0
128M+256M	0	0	1

MODEL OPTION

PIN NAME	PIN NO	LOW	HIGH
MODEL_OPT_0	J5	MO_FHD	MO_HD
MODEL_OPT_1	H19	MO_S/W_NON_AJ	MO_S/W_AJ
MODEL_OPT_2	G20	MO_DVB_T/C	MO_DVB_T2/C/S2
MODEL_OPT_3	G19	MO_M120_NON	MO_M120
MODEL_OPT_4	U6	MO_128M+128M_NON	MO_128+128M
MODEL_OPT_5	K5	MO_S/W_TW	MO_S/W_EU/AJ
MODEL_OPT_6	K4	MO_128M+256M_NON	MO_128M+256M
MODEL_OPT_7	L5	MO_DUALSTREAM_NON	MO_DUALSTREAM

* Dual Stream is only Korea 3D spec

THE ⚠ SYMBOL MARK OF THIS SCHEMETIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION. FIRE AND ELECTRICAL SHOCK HAZARDS, WHEN SERVICING IF IS ESSENTIAL THAT ONLY MANUFACTURES SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE ⚠ SYMBOL MARK OF THE SCHEMETIC.

SECRET

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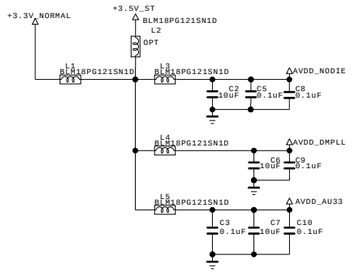
LG ELECTRONICS

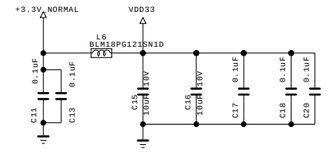
MODEL	LS33B	DATE	14/10/09
BLOCK	M1A_SoC	SHEET	/

System & DDR Parts No.1~300

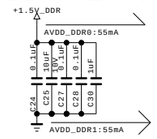
STby 3.5V



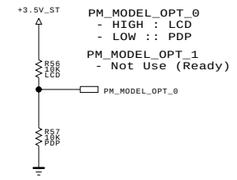
Normal Power 3.3V



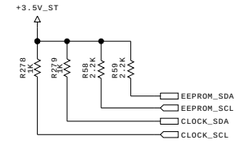
DDR3 1.5V



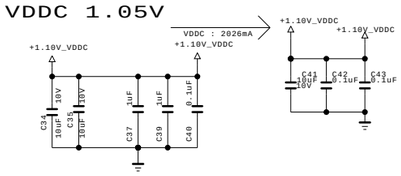
PM MODEL OPTION



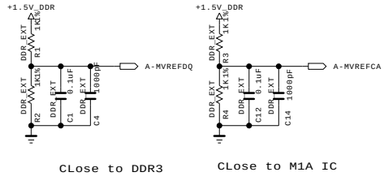
I2C



VDDC 1.05V



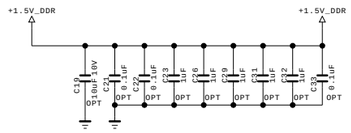
Normal 2.5V
M1A 2.5V inbeded



CLose to DDR3

CLose to M1A IC

Option : Ripple Check !!!

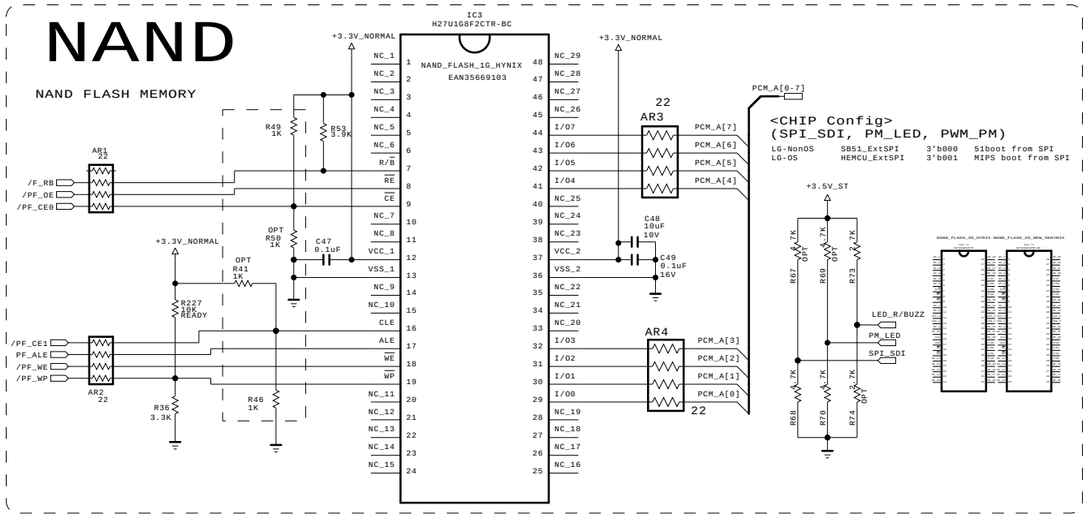


SPI Boot

MSTAR DEBUG 4PIN

NAND

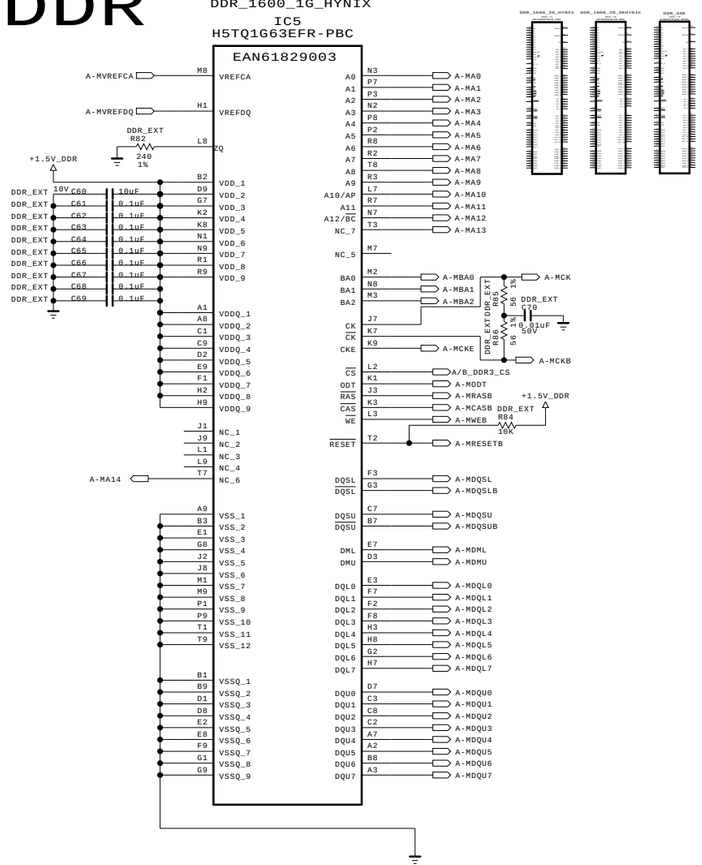
NAND FLASH MEMORY



DDR

SK HYNIX 2G DEFAULT

DDR_1600_1G_HYNIX
IC5
H5TQ1G63EFR-PBC



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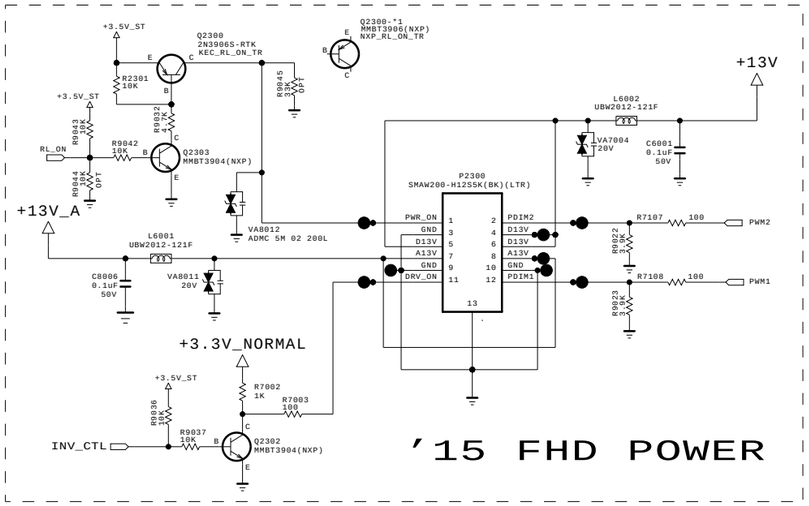
SECRET
LGElectronics

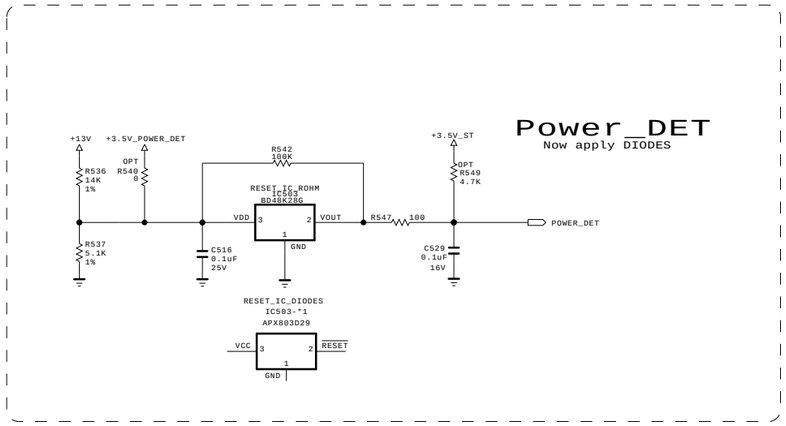
LG ELECTRONICS

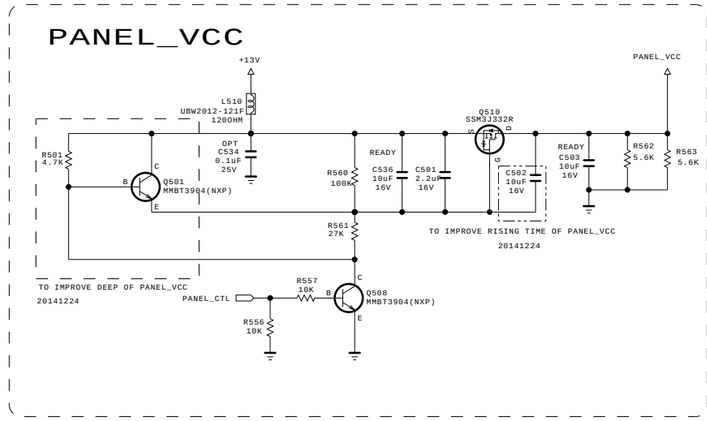
MODEL	LS33B	DATE	14/10/09
BLOCK	DDR & System	SHEET	/

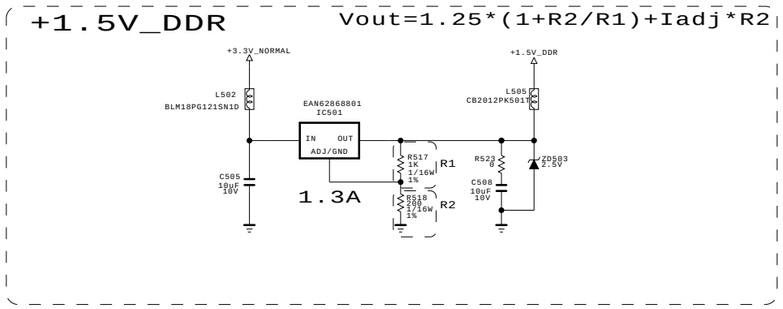
L14 POWER BLOCK

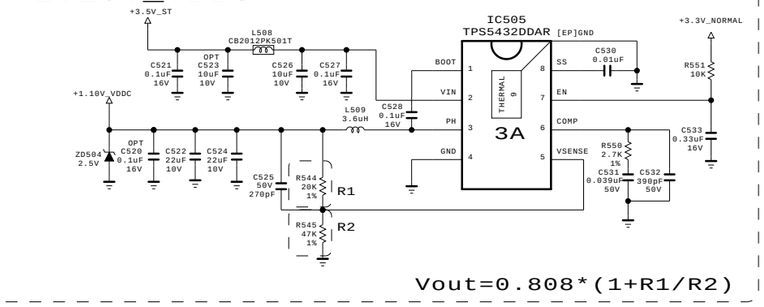
Parts No.501~600

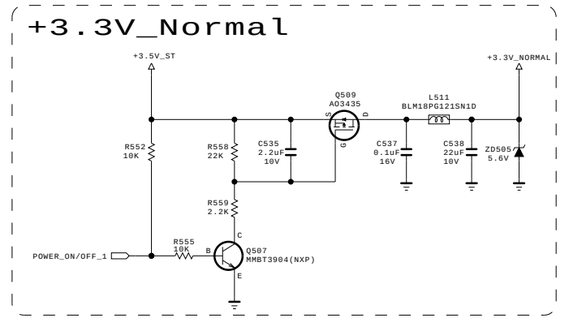


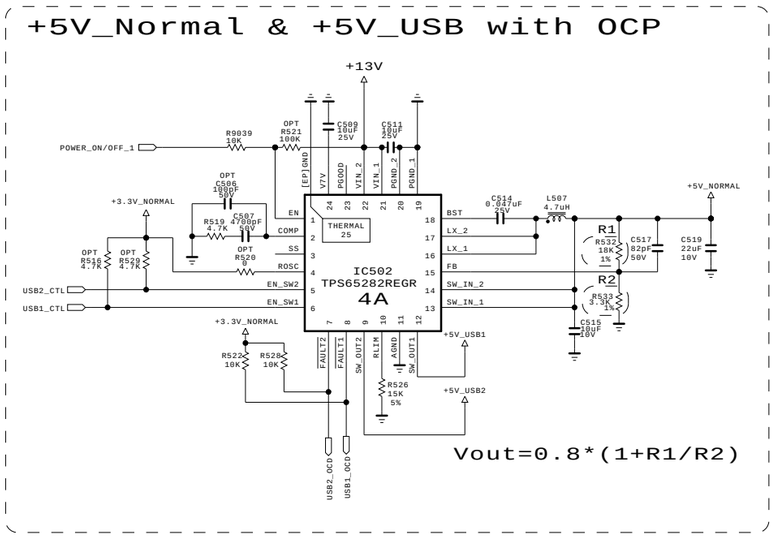


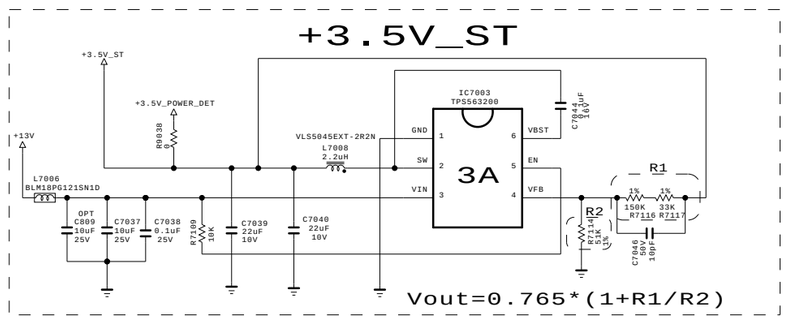












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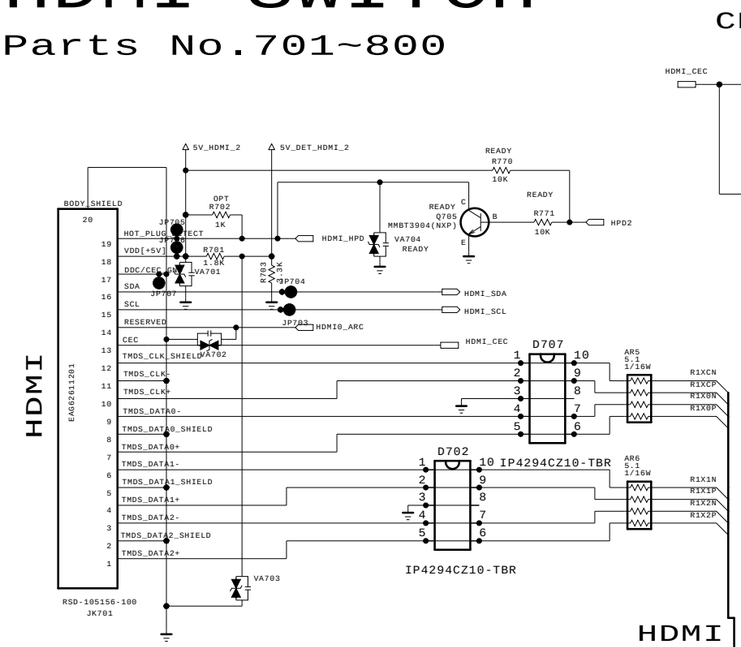
LGElectronics

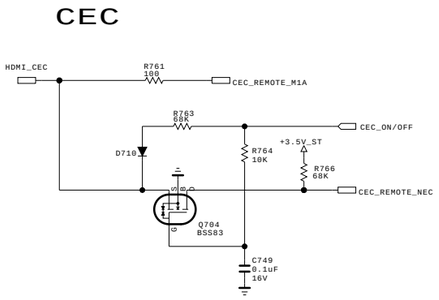
LG ELECTRONICS

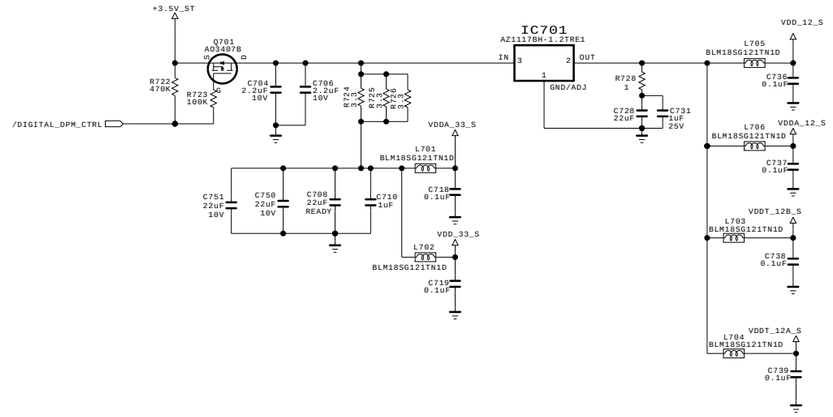
MODEL	LS33B	DATE	14/10/09
BLOCK	Power Block	SHEET	/

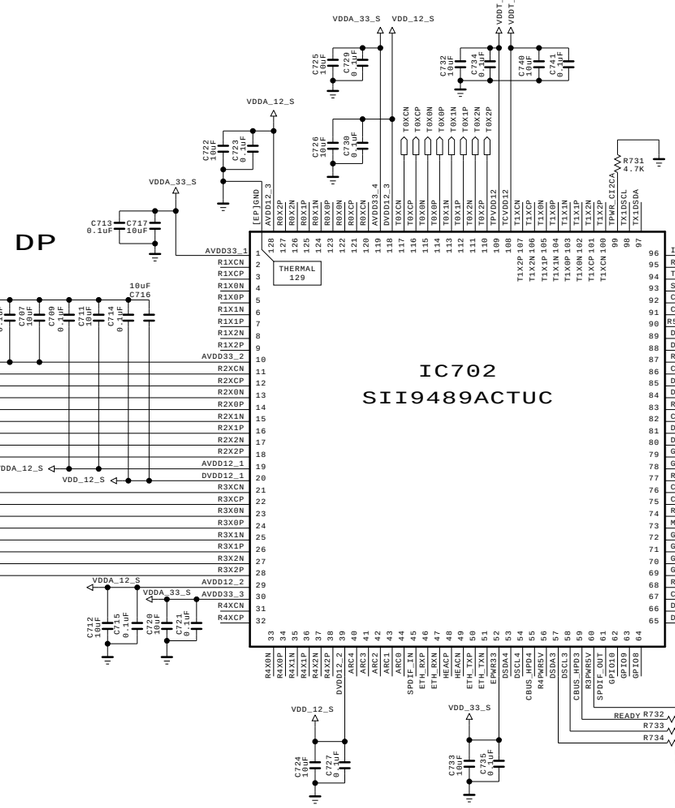
HDMI SWITCH

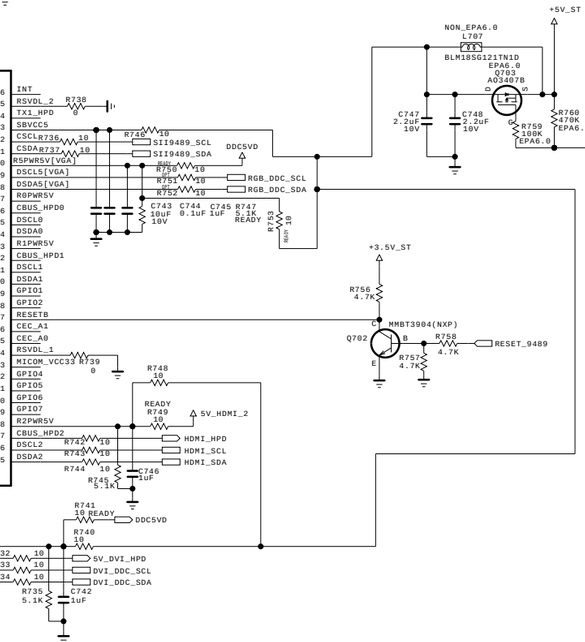
Parts No.701~800

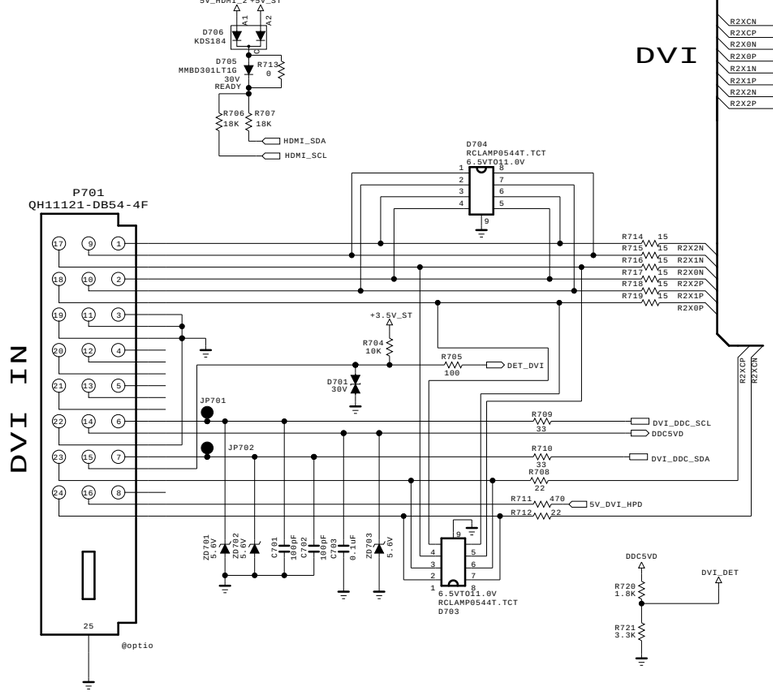


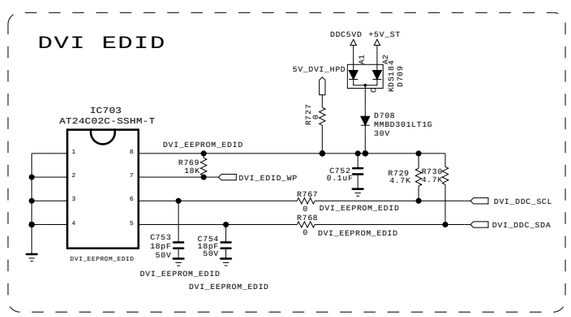












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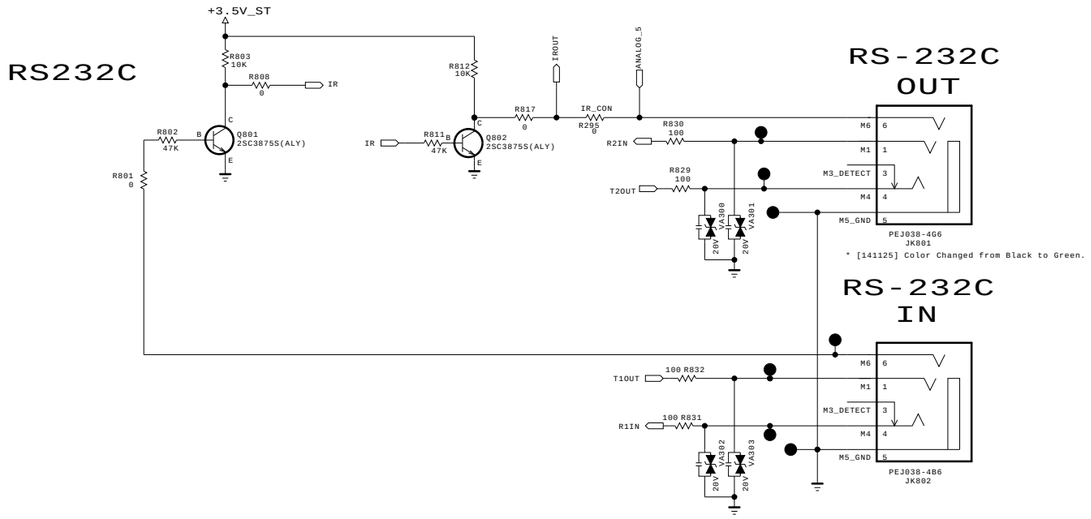
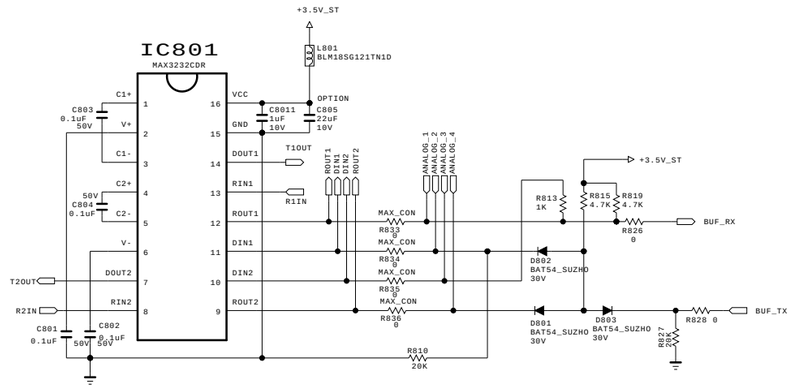
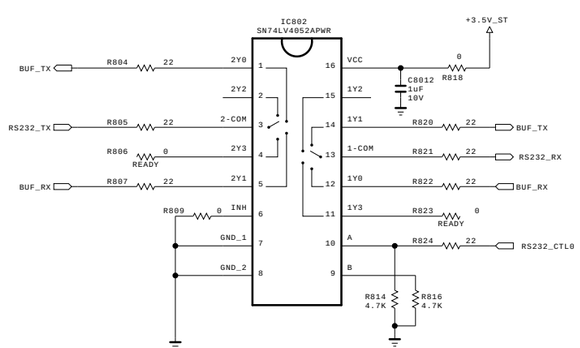
LG ELECTRONICS

MODEL	LS33B	DATE	14/10/09
BLOCK	HDMI_Switch	SHEET	/

RS-232C





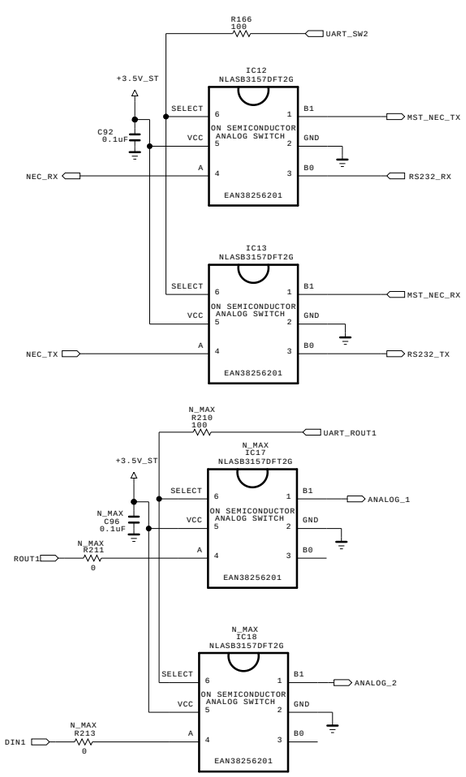


RS-232C MUX

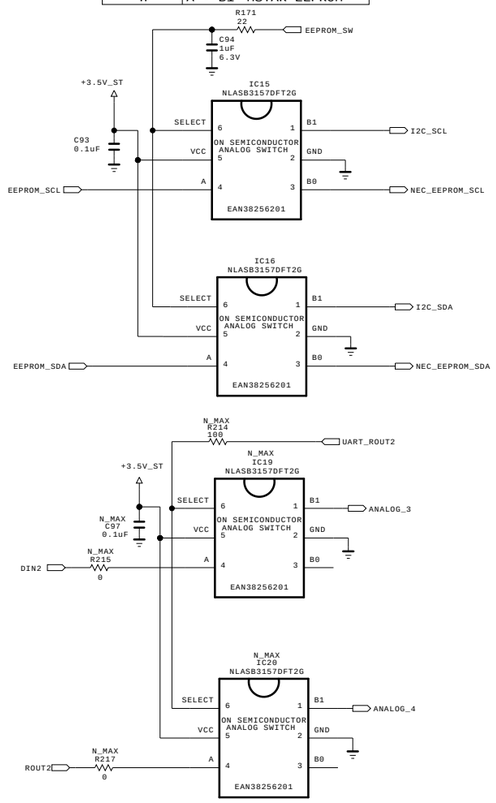
INPUT			ON channel	MODE
INH	B	A		
0	0	0	1Y0, 2YO	S7 NORMAL
0	0	1	1Y1, 2Y1	RS-232C-CLONE
0	1	0	1Y2, 2Y2	RESERVED
0	1	1	1Y3, 2Y3	RESERVED
1	X	X	NONE	

RS232C/I2C SWITCH

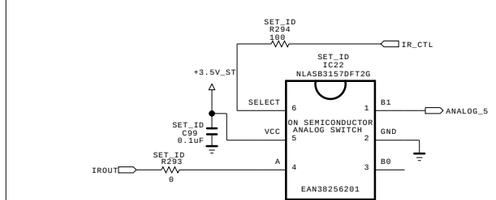
UART_SW2	CONNECTION
L	A - B0 INTERACTIVE
H	A - B1 NEC USB_DOWNLOAD



EEPROM_SW	CONNECTION
L	A - B0 NEC-EEPROM
H	A - B1 MSTAR-EEPROM



AUTO SET ID



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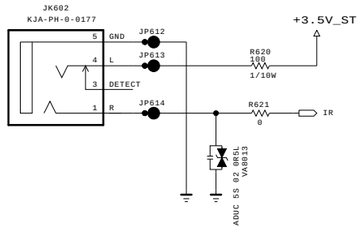
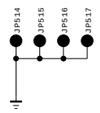
LG ELECTRONICS

MODEL	LS33B	DATE	14/10/09
BLOCK	RS-232C	SHEET	/

IR(3pin)

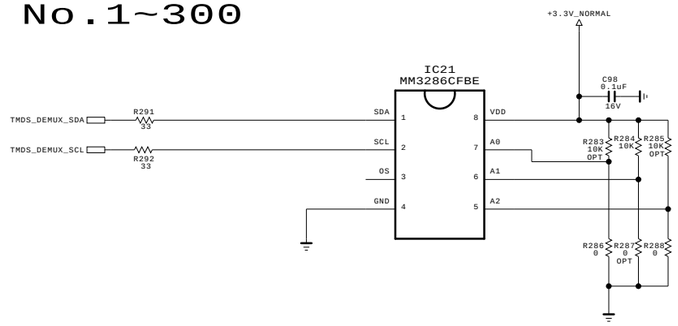


Jig Point

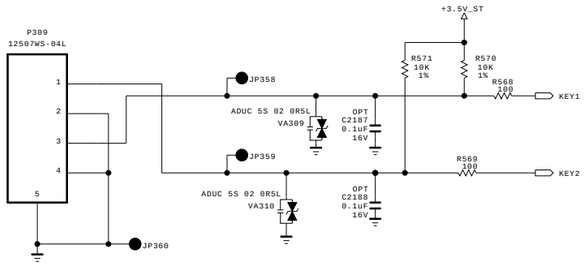


Digital Thermal Sensor

Parts No.1~300



KEY



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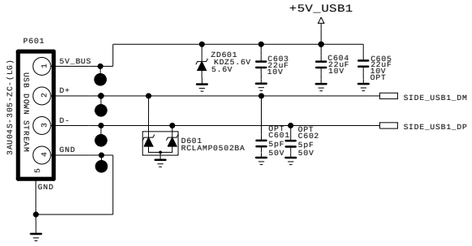
LG ELECTRONICS

MODEL	LS33B	DATE	14/10/09
BLOCK	IR/Key/etc	SHEET	/

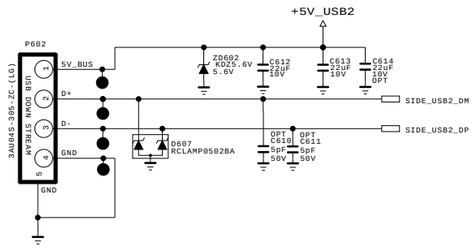
USB1

Parts No.601~700



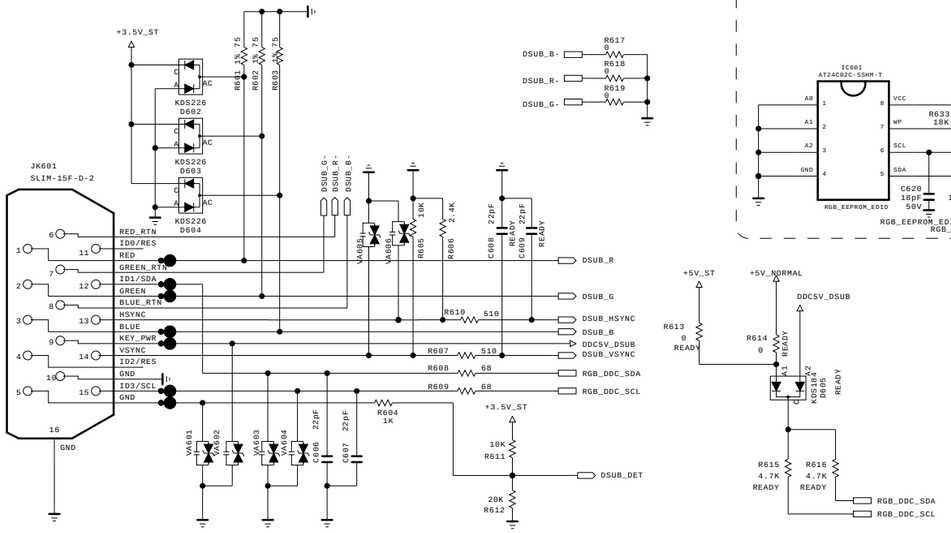
USB2

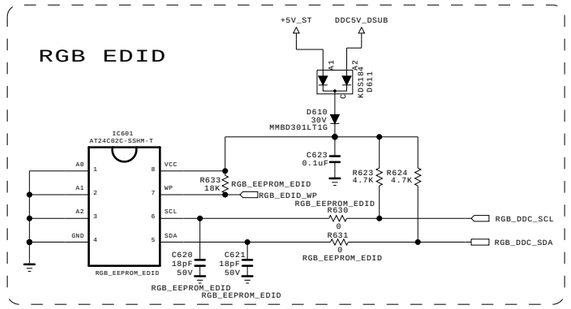
Parts No.601~700



MODEL	LS33B	DATE	14/10/09
BLOCK	USB	SHEET	/

RGB





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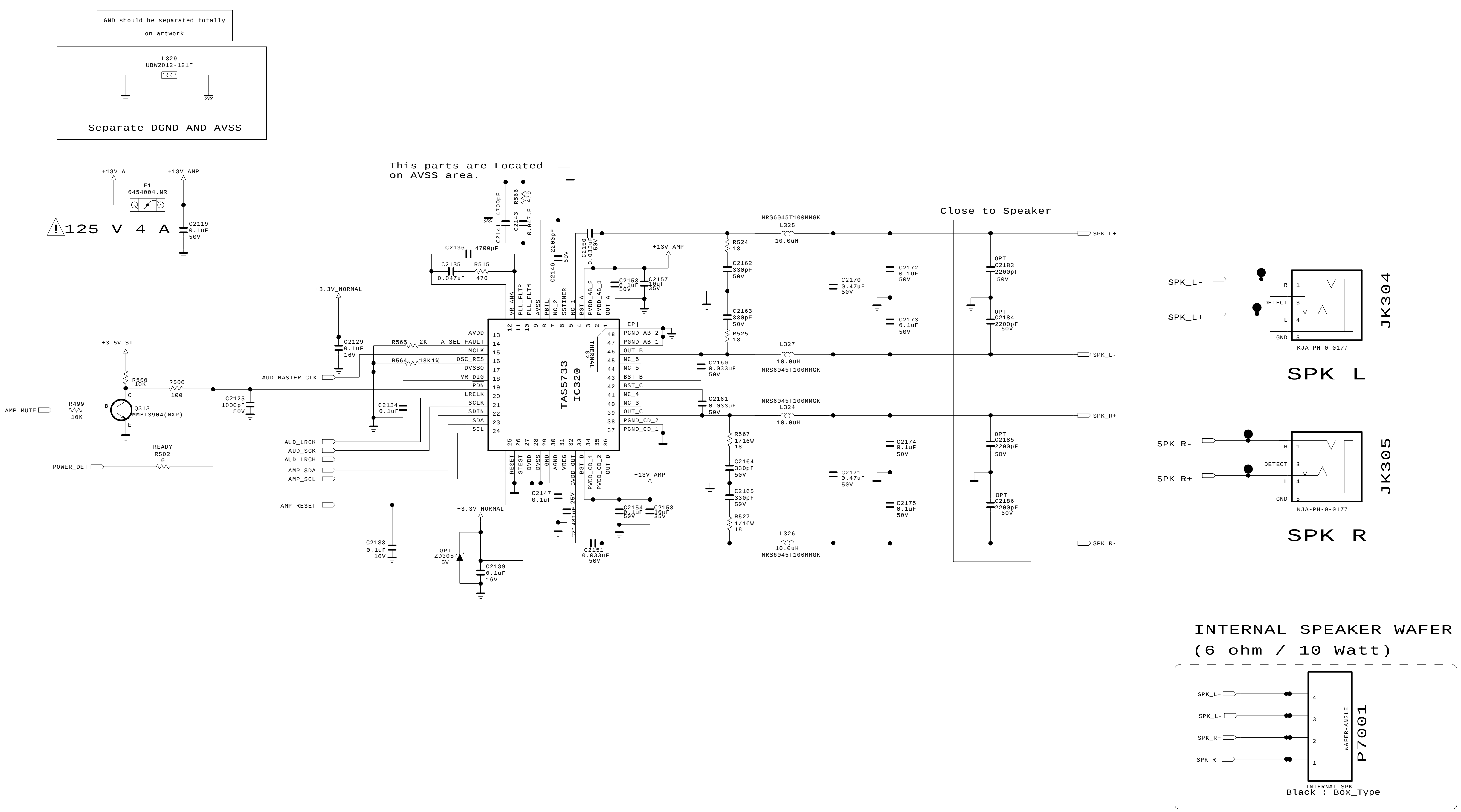
LG ELECTRONICS

MODEL	LS33B	DATE	14/10/09
BLOCK	RGB	SHEET	/

AUDIO AMP(TI)



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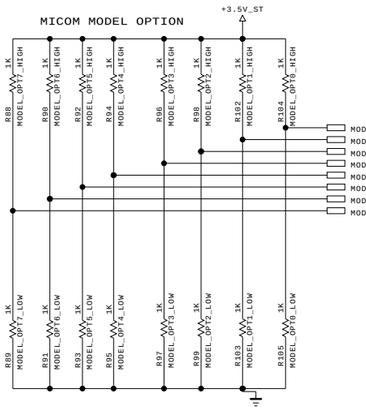
SECRET
LG Electronics

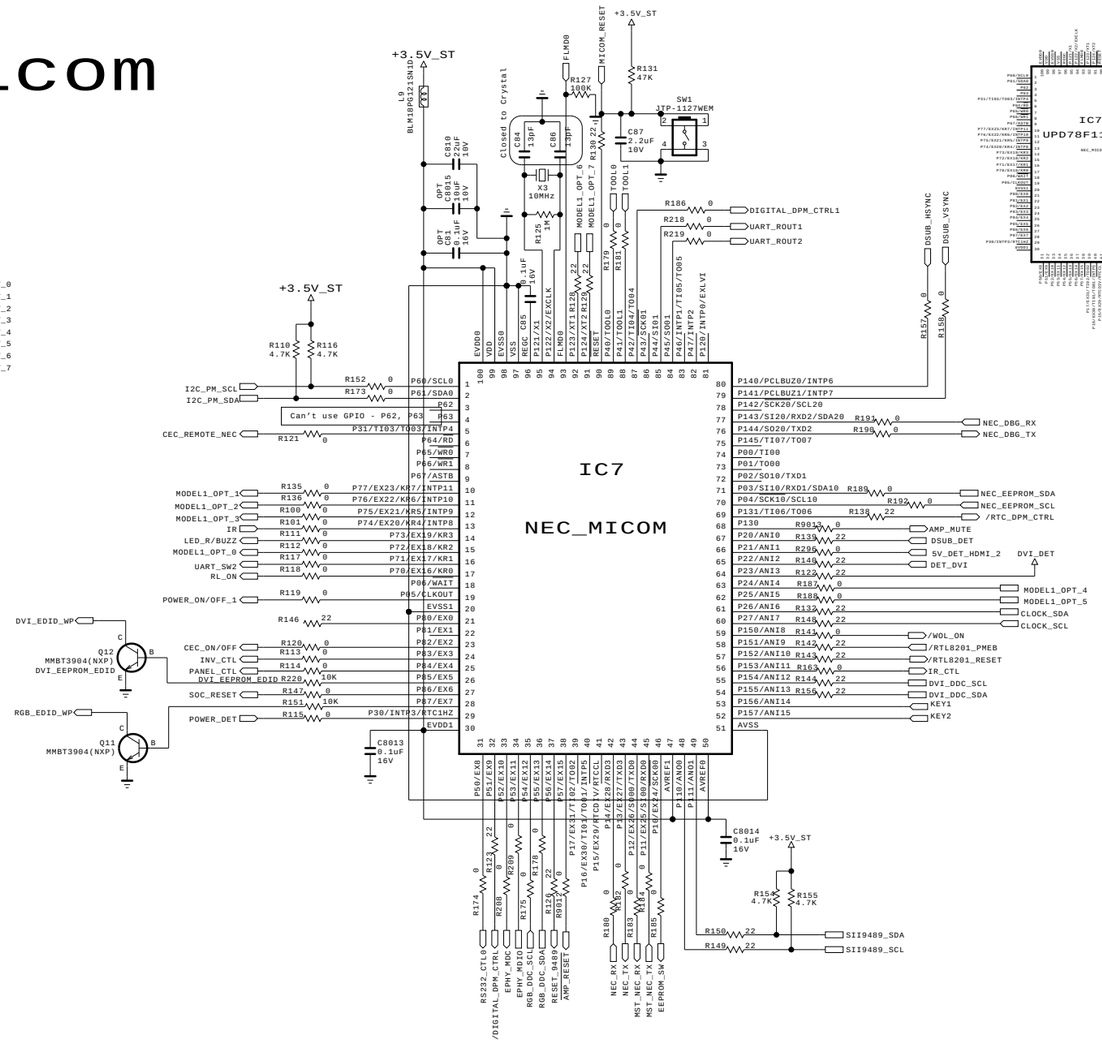
LG ELECTRONICS

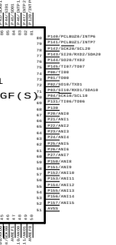
MODEL	LS33B	DATE	14/10/09
BLOCK	AMP(Audio)	SHEET	/

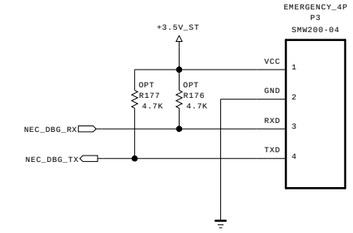
NEC SubMicom

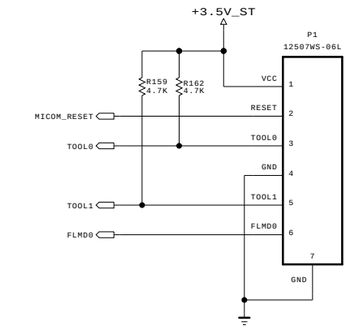
Parts No.1~300

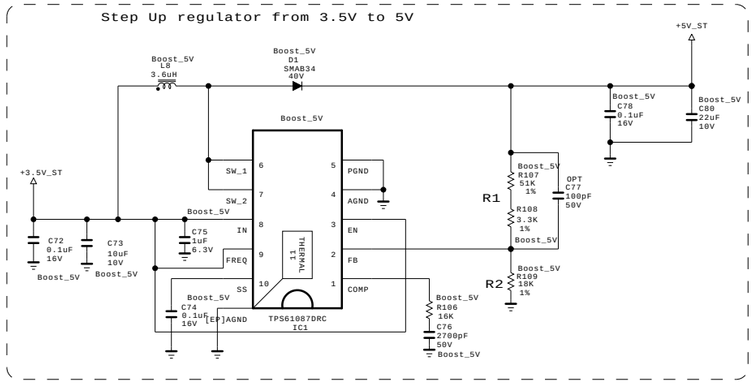


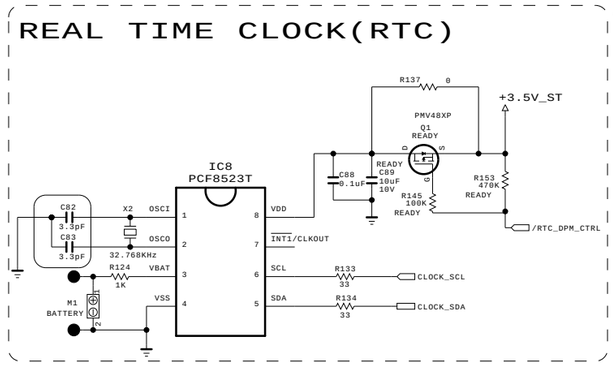


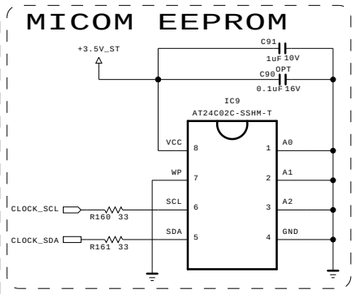












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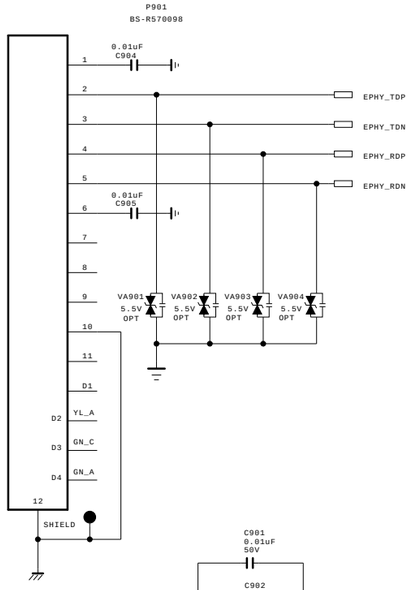
LG ELECTRONICS

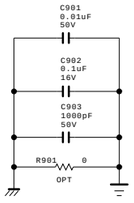
MODEL	LS33B	DATE	14/10/09
BLOCK	Micom_NEC	SHEET	/

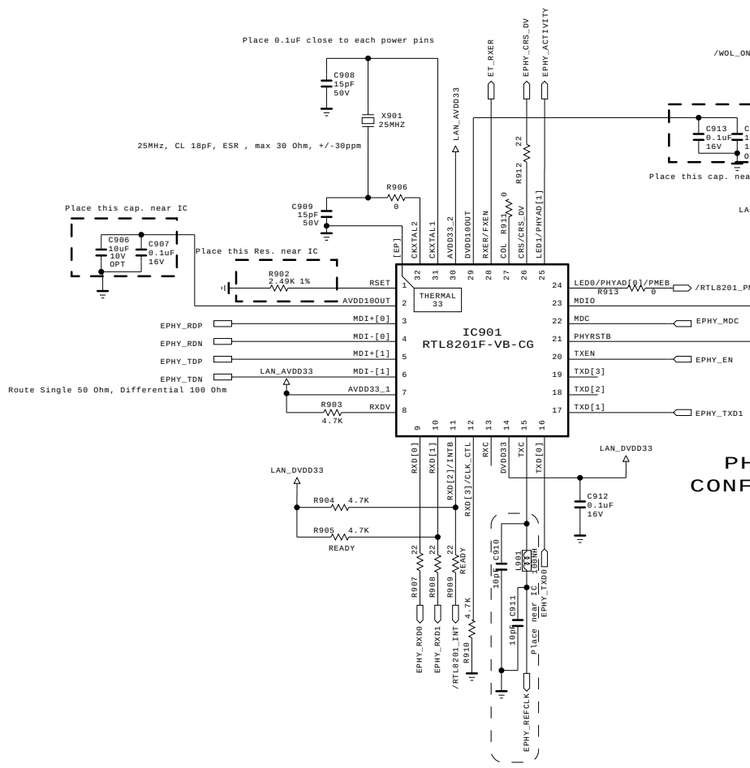
LAN

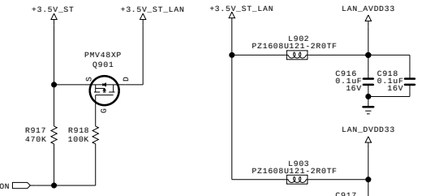
* H/W option : ETHERNET

Parts No.901~1000



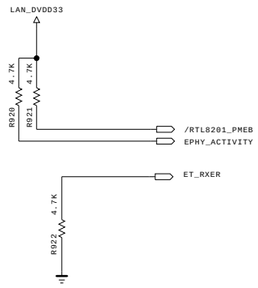






PHY ADDRESS CONFIG

CONFIG PHY_ADDRESS = 11



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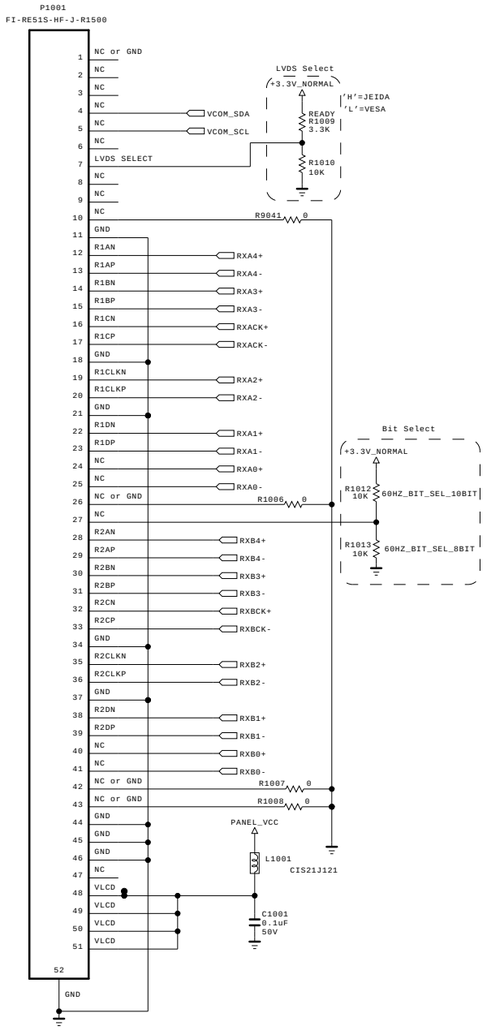
LG ELECTRONICS

MODEL	LS33B	DATE	14/10/09
BLOCK	Ethernet	SHEET	/

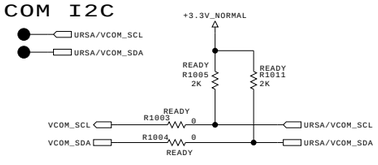
LVDS

[51Pin LVDS Connector]
(For FHD 60Hz)

Parts No.1001~1100



V-COM I2C



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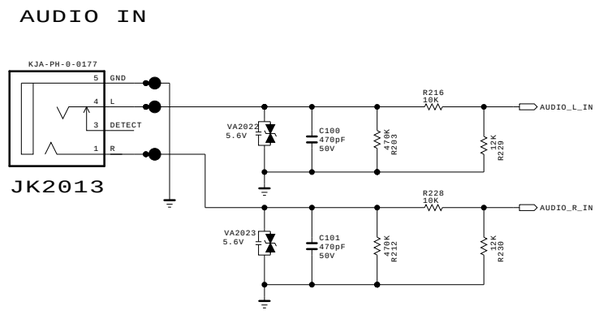
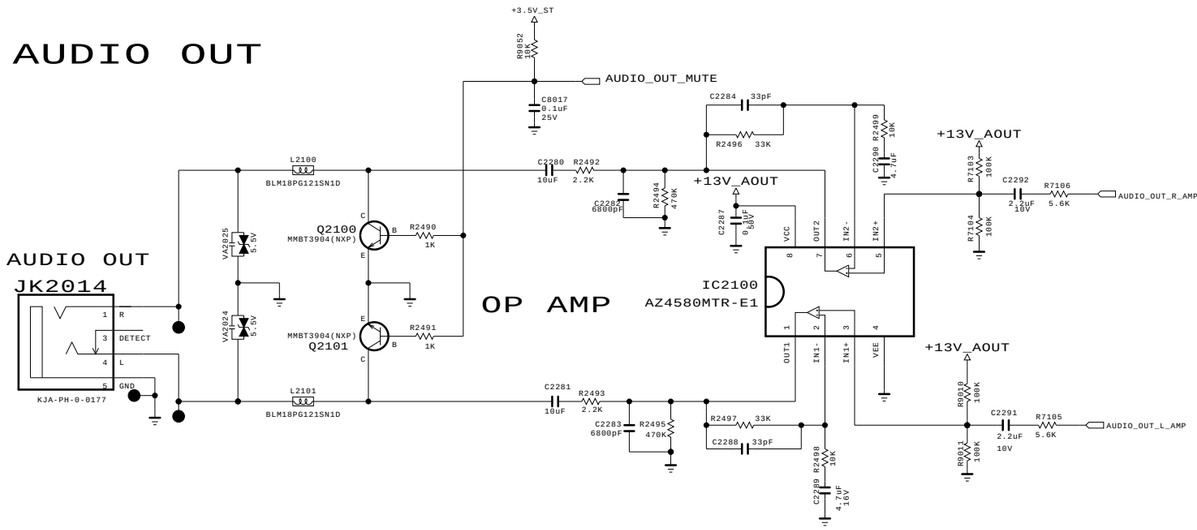
LG ELECTRONICS

MODEL	LS33B	DATE	14/10/09
BLOCK	LVDS	SHEET	/

AUDIO IN



AUDIO OUT



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LG ELECTRONICS

MODEL	LS33B	DATE	14/10/09
BLOCK	Audio In/Out	SHEET	/


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Life's Good

Trouble Shooting

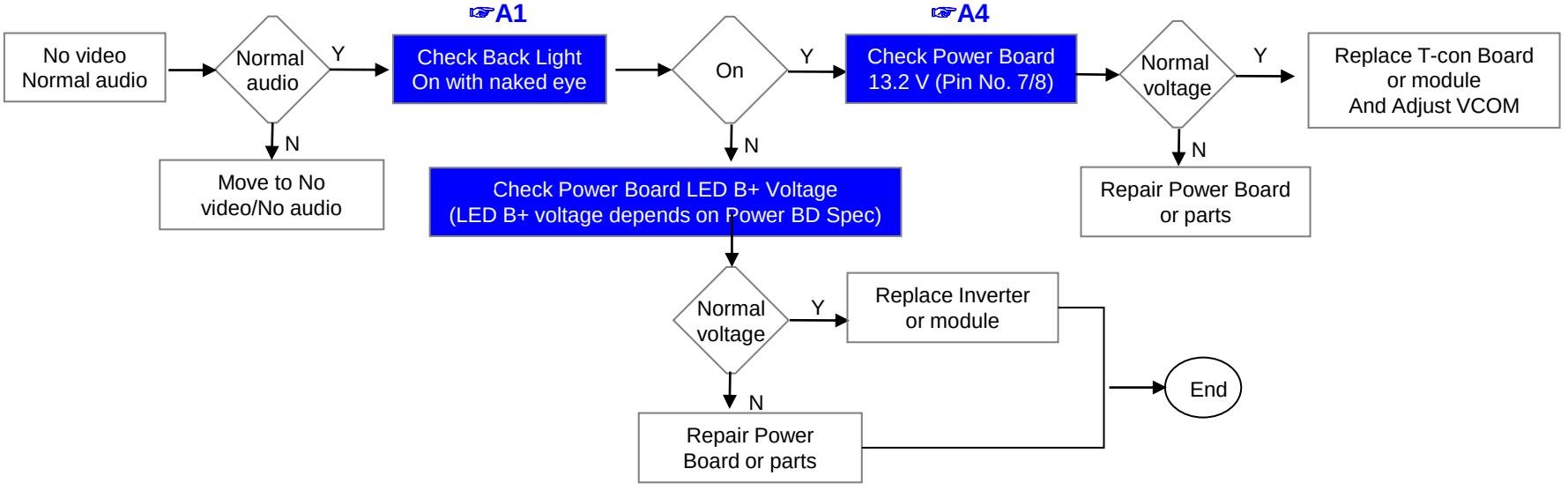
Contents of Monitor Signage Standard Repair Process

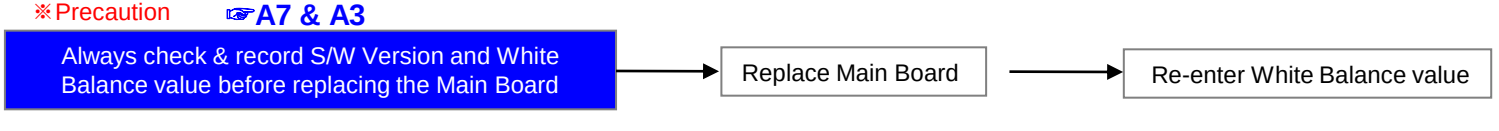
First of all, Check whether there is SVC Bulletin in GCSC System for these model.

Signage Monitor	Error symptom	A. Video error	Established date		
		No video/ Normal audio	Revised date		1/13

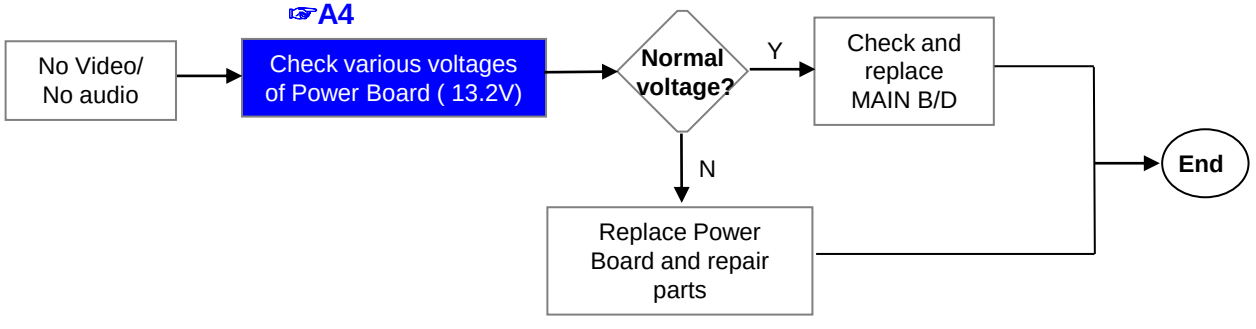
First of all, Check whether all of cables between board is inserted properly or not.

(Main B/D↔ Power B/D, Power Cable, FFC LVDS Cable, Key Cable,,,)

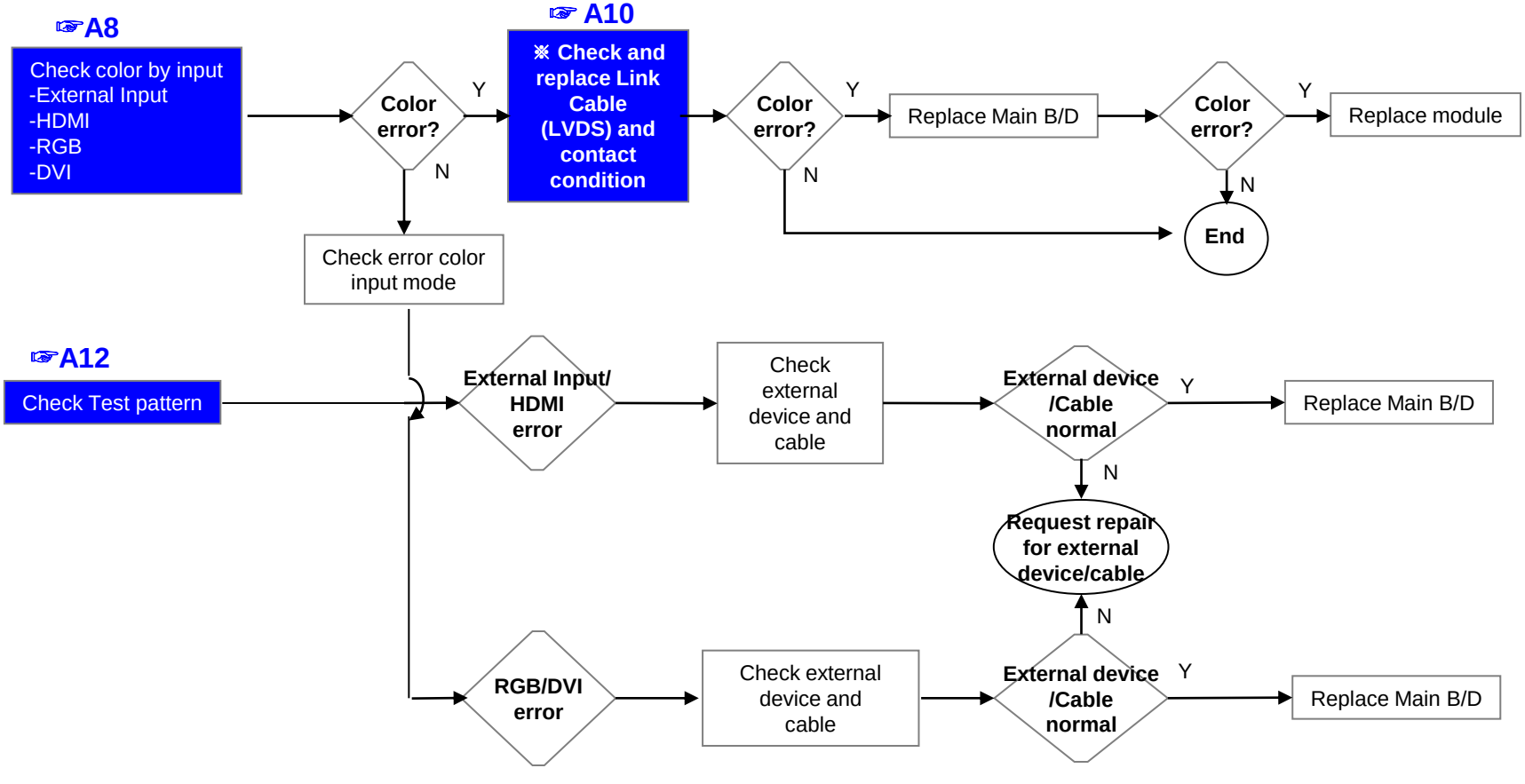




Signage Monitor	Error symptom	A. Video error	Established date		
		No video/ No audio	Revised date		2/13

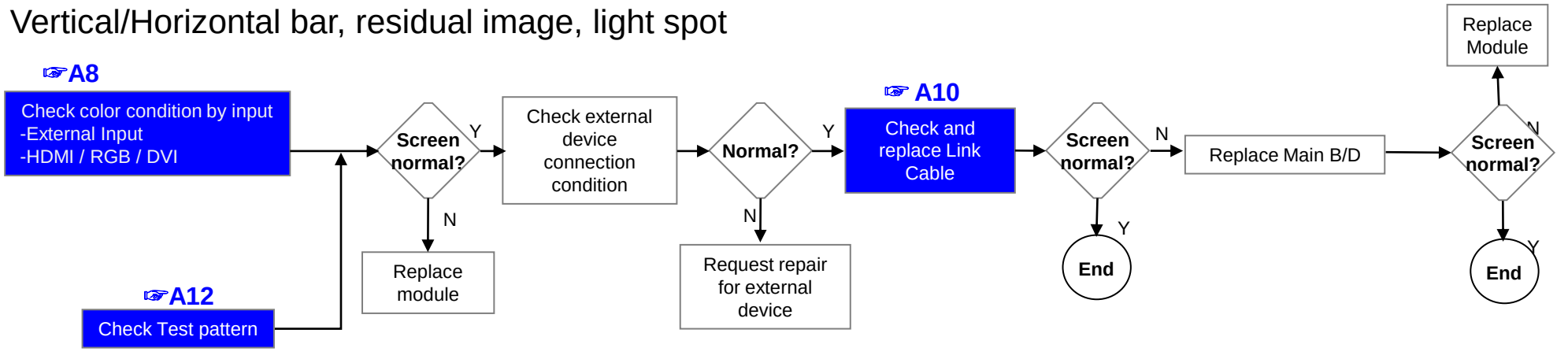


Signage Monitor	Error symptom	A. Video error	Established date		
		Color error	Revised date		4/13

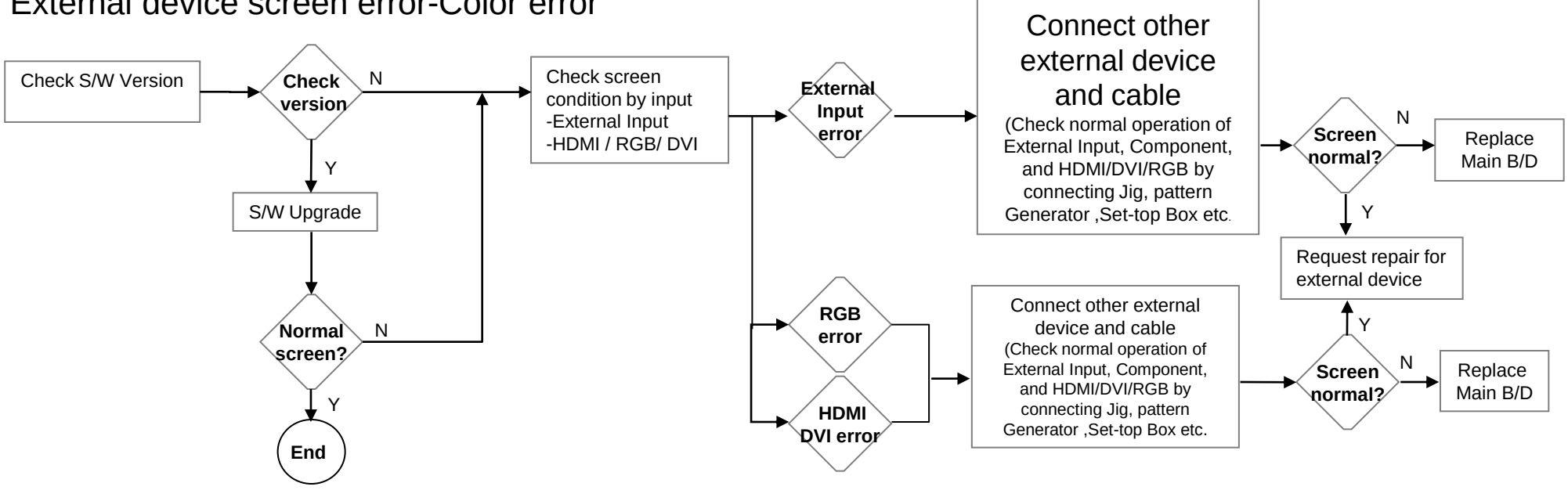


Signage Monitor	Error symptom	A. Video error	Established date		
		Vertical / Horizontal bar, residual image, light spot, external device color error	Revised date		5/13

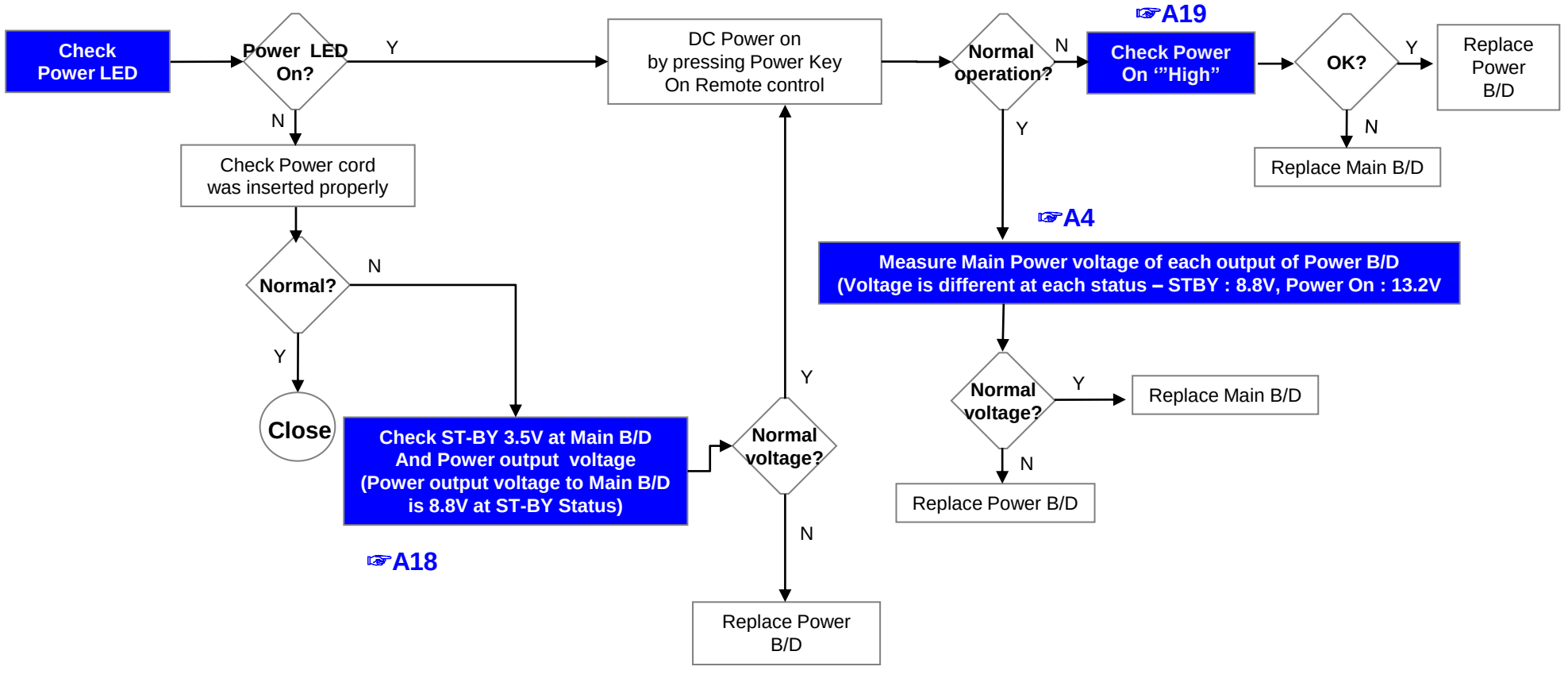
Vertical/Horizontal bar, residual image, light spot



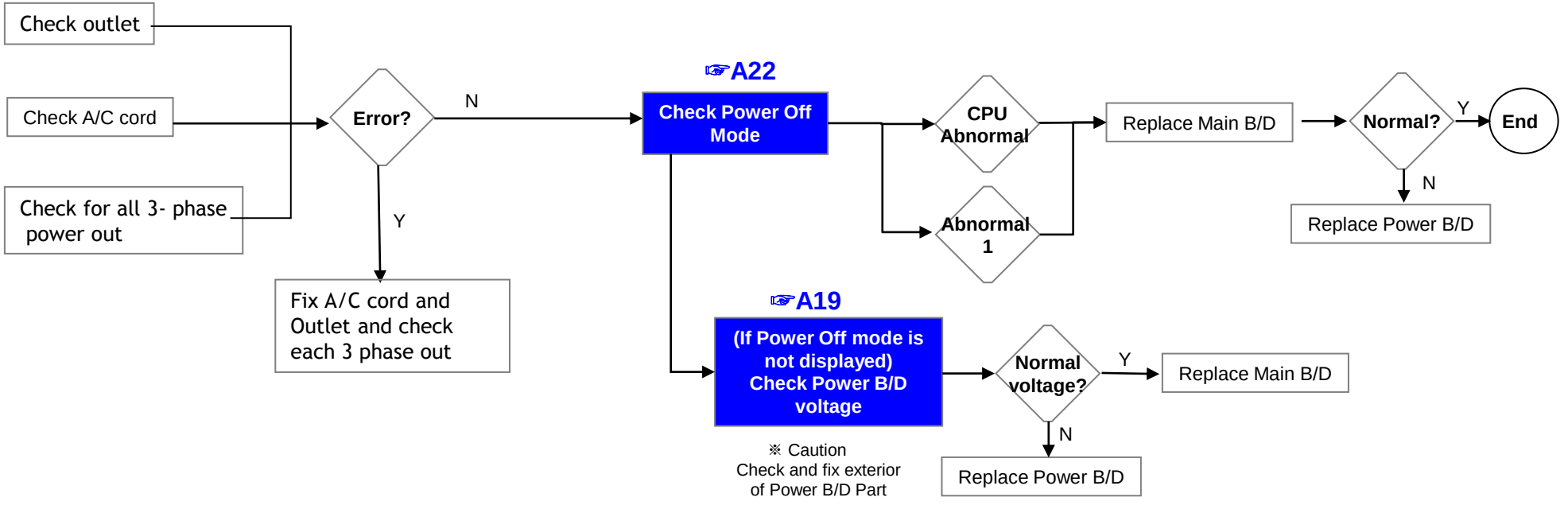
External device screen error-Color error



Signage Monitor	Error symptom	B. Power error	Established date		
		No power	Revised date		6/13



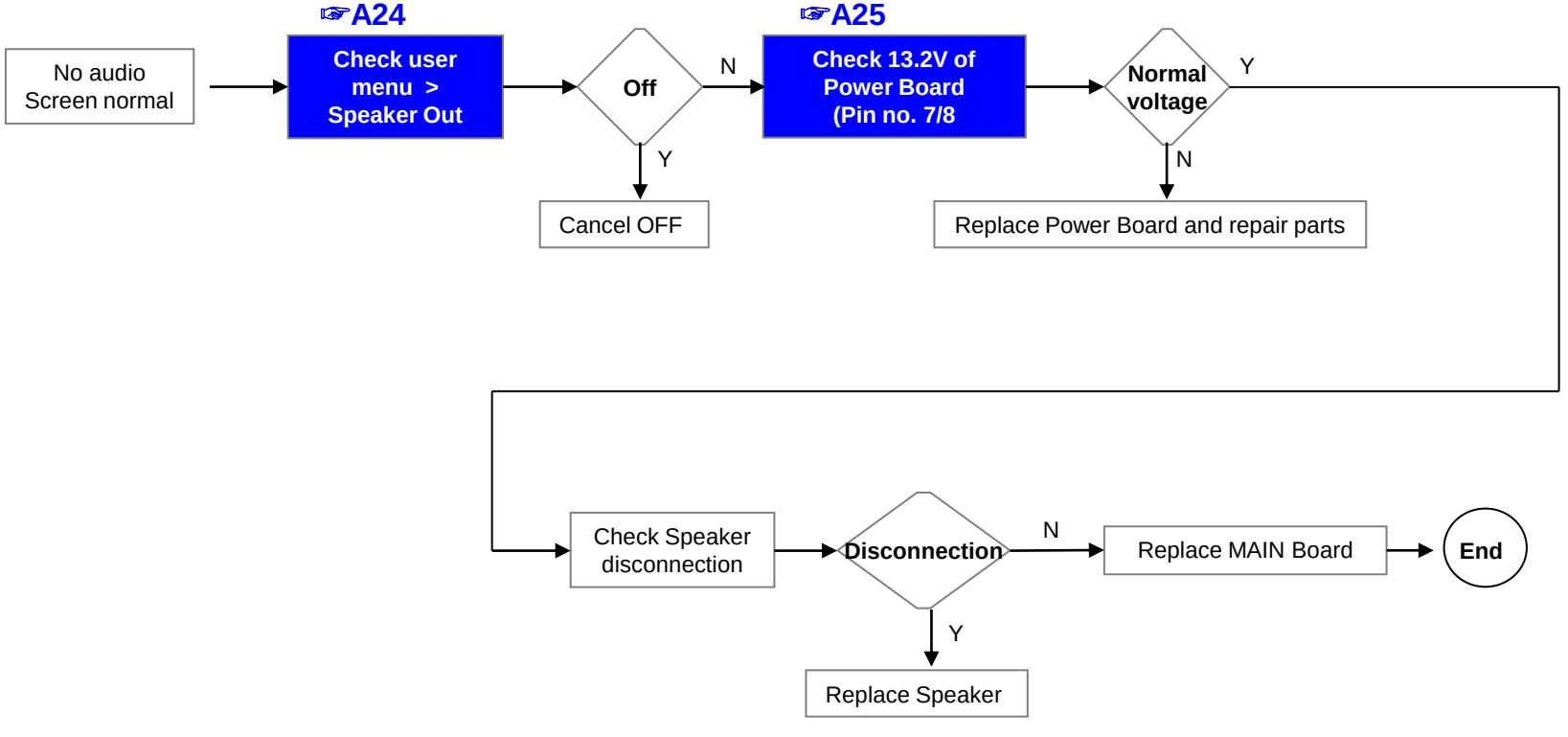
Signage Monitor	Error symptom	B. Power error	Established date		
		Off when on, off while viewing, power auto on/off	Revised date		7/13



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

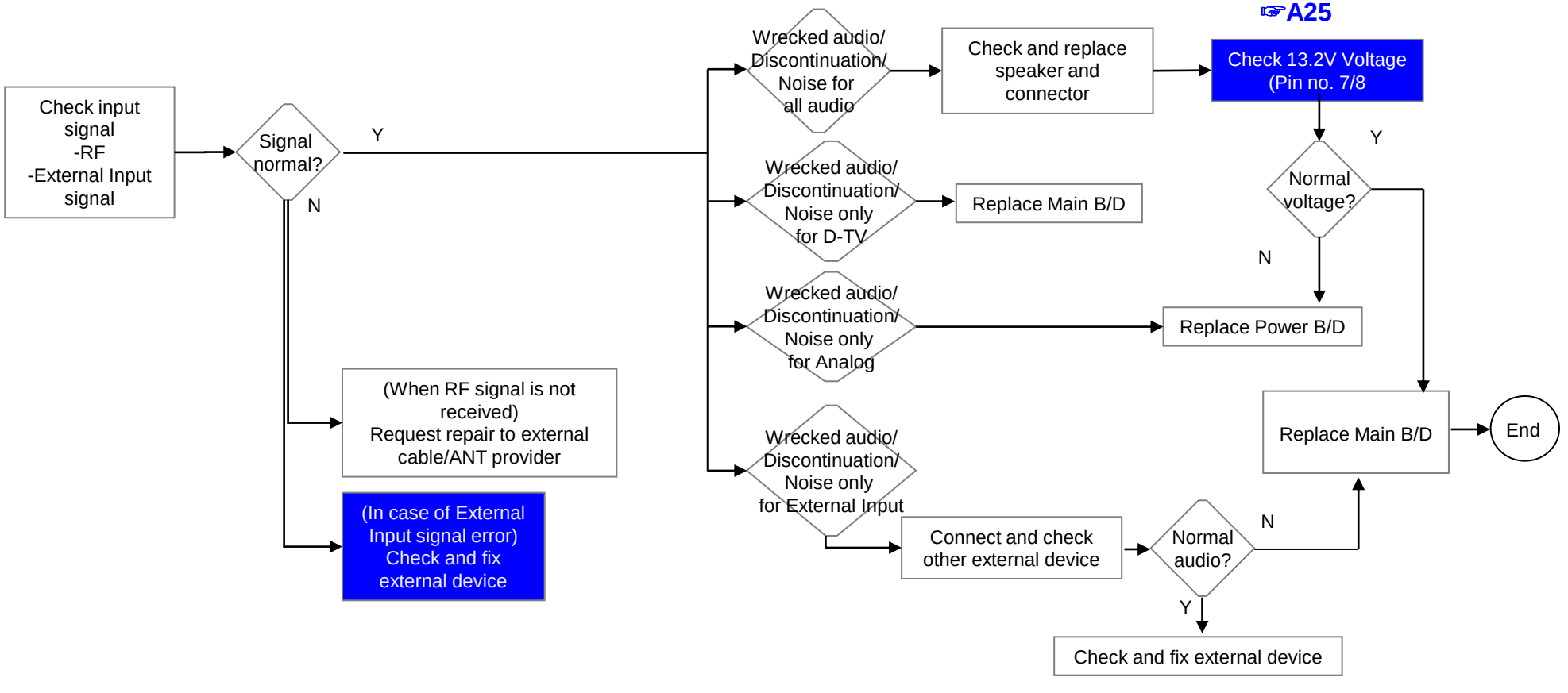
Status	Power off List	Explanation
Normal	"POWEROFF_REMOTEKEY"	Power off by REMOTE CONTROL
	"POWEROFF_OFFTIMER"	Power off by OFF TIMER
	"POWEROFF_SLEEPTIMER"	Power off by SLEEP TIMER
	"POWEROFF_INSTOP"	Power off by INSTOP KEY
	"POWEROFF_AUTOOFF"	Power off by AUTO OFF
	"POWEROFF_ONTIMER"	Power off by ON TIMER
	"POWEROFF_RS232C"	Power off by RS232C
	"POWEROFF_RESREC"	Power off by Reservated Record
	"POWEROFF_RECEND"	Power off by End of Recording
	"POWEROFF_SWDOWN"	Power off by S/W Download
	"POWEROFF_UNKNOWN"	Power off by unknown status except listed case
Abnormal	"POWEROFF_ABNORMAL1"	Power off by abnormal status except CPU trouble
	"POWEROFF_CPUABNORMAL"	Power off by CPU Abnormal

Signage Monitor	Error symptom	C. Audio error	Established date		
		No audio/ Normal video	Revised date		8/13



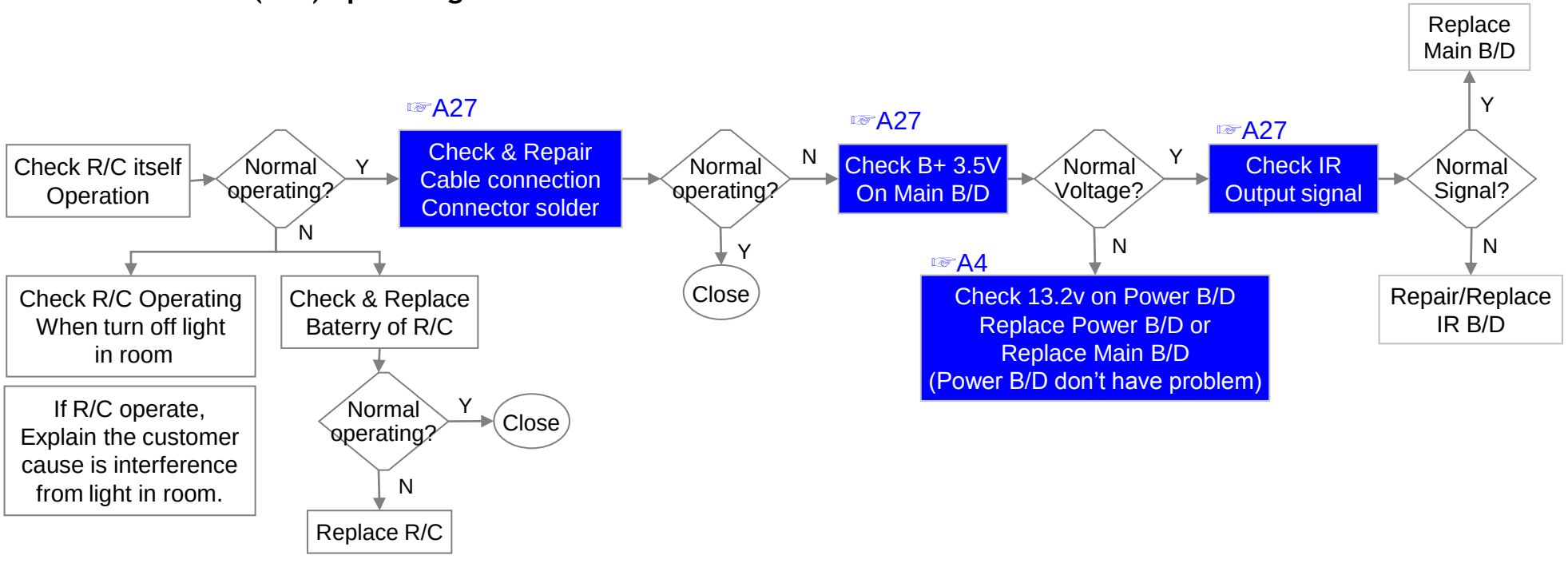
Signage Monitor	Error symptom	C. Audio error	Established date		
		Wrecked audio/ discontinuation/noise	Revised date		9/13

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

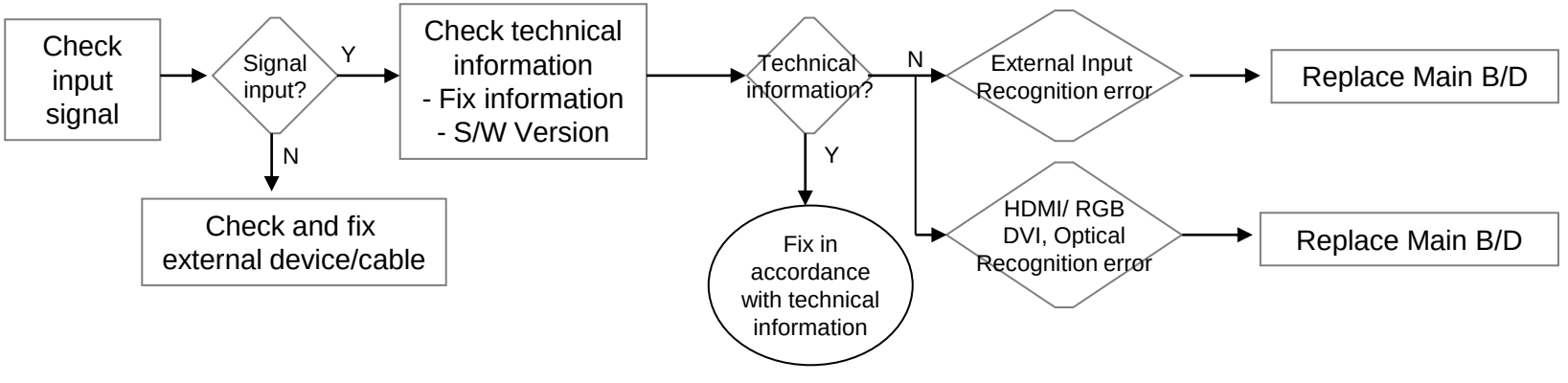


Signage Monitor	Error symptom	D. General Function Problem	Established date		
		Remote control & Local switch checking	Revised date		10/13

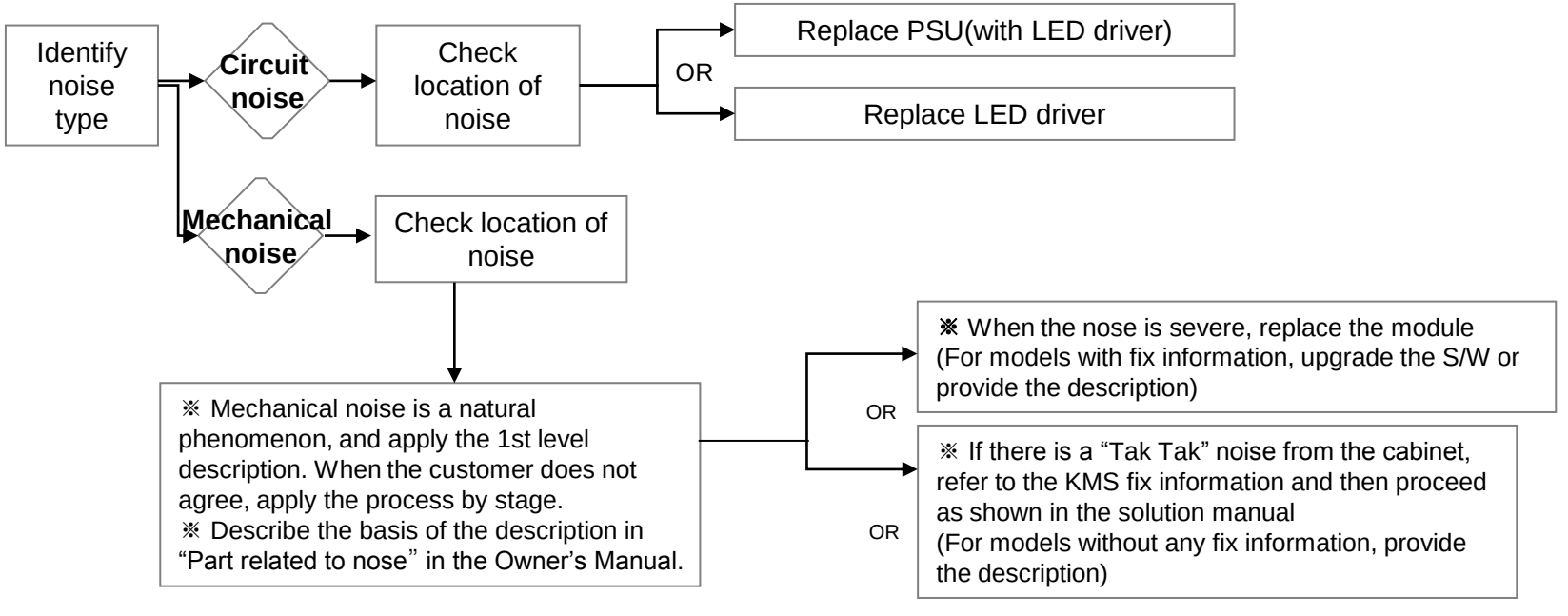
1. Remote control(R/C) operating error



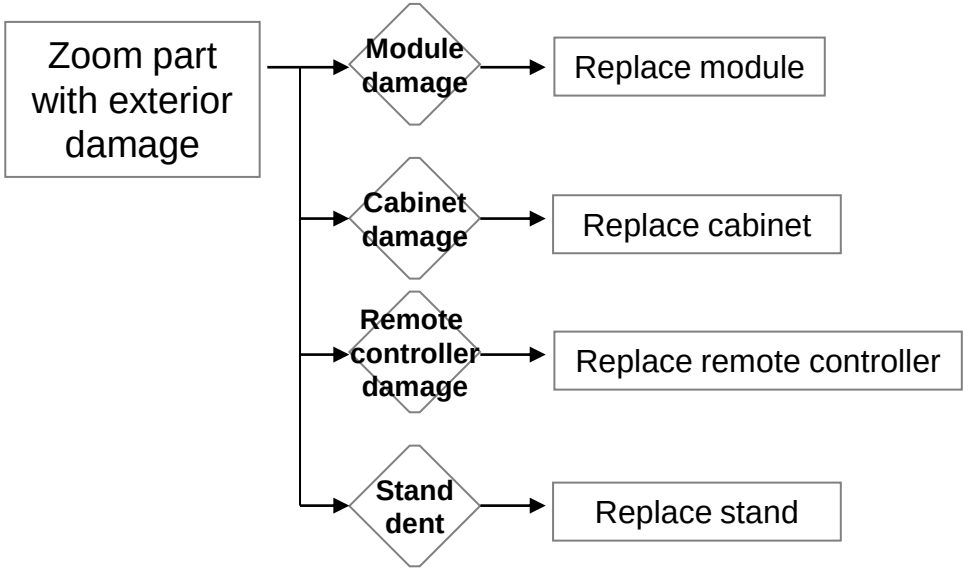
Signage Monitor	Error symptom	D. Function error	Established date		
		External device recognition error	Revised date		11/13



Signage Monitor	Error symptom	E. Noise	Established date		
		Circuit noise, mechanical noise	Revised date		12/13



Signage Monitor	Error symptom	F. Exterior defect	Established date		
		Exterior defect	Revised date		13/13



Contents of Standard Repair Process Detail Technical Manual

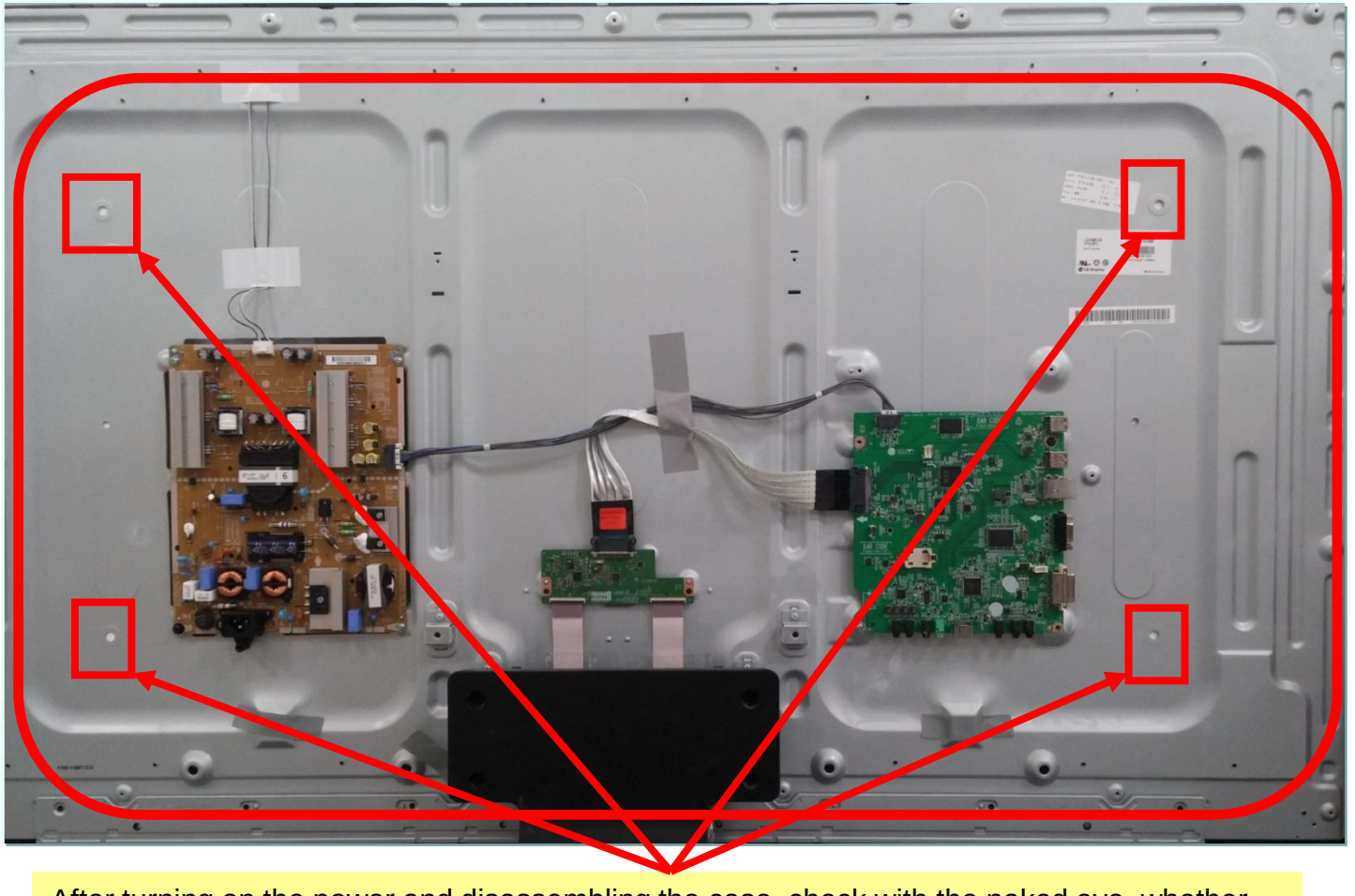
Contents of Standard Repair Process Detail Technical Manual

Continued from previous page

Standard Repair Process Detail Technical Manual

Signage Monitor	Error symptom	A. Video error_No video/Normal audio	Established date		
	Content	Check LCD back light with naked eye	Revised date		A1

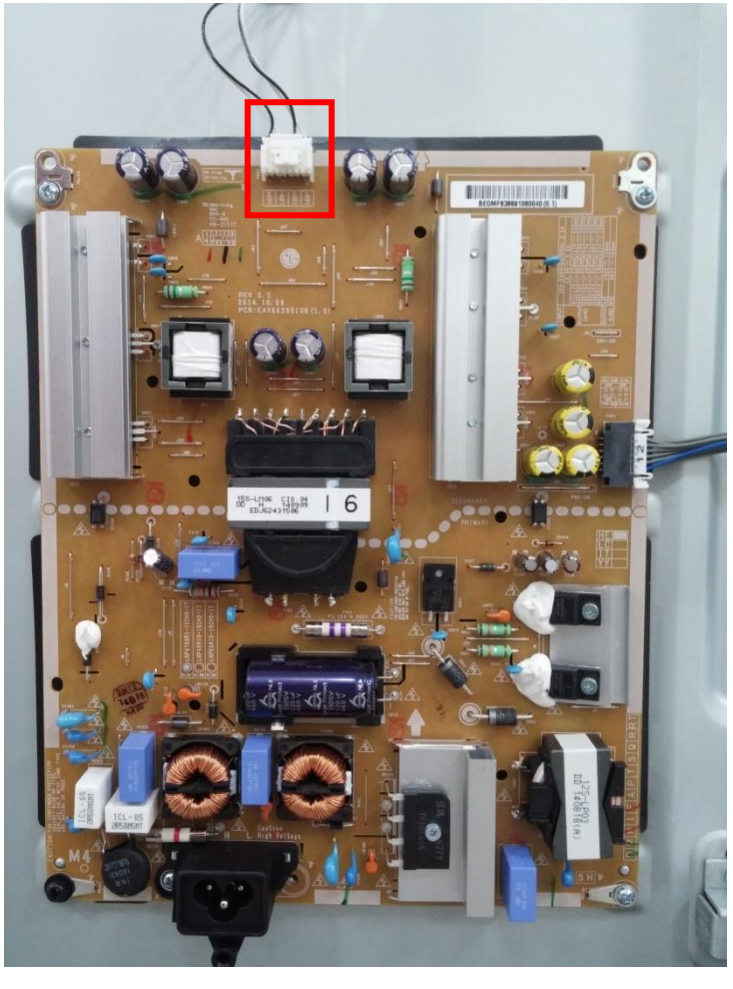
<All MODELS>



After turning on the power and disassembling the case, check with the naked eye, whether you can see light from module holes.

Standard Repair Process Detail Technical Manual

Signage Monitor	Error symptom	A. Video error_No video/Normal audio	Established date		
	Content	LED driver B+ measuring method	Revised date		A2

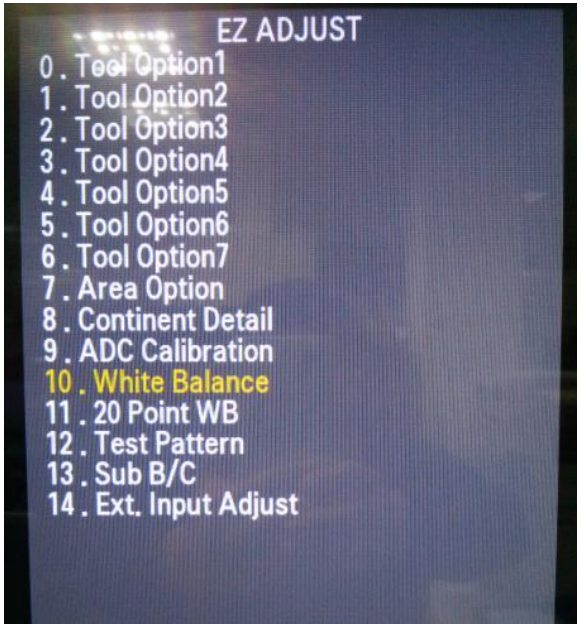


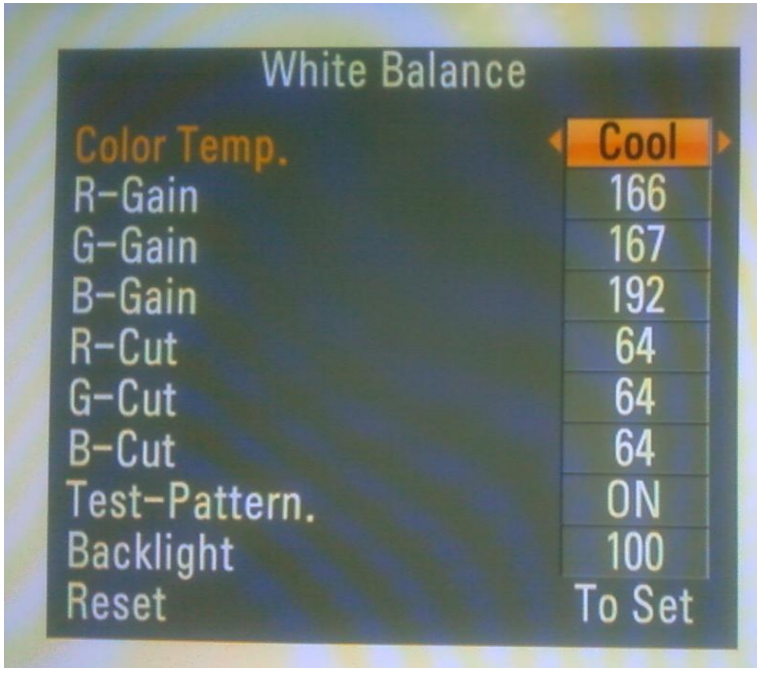
1. Check the Voltage between LED+ / LED-
2. The Voltage spec is in Power B/D spec sheet
3. Refer to the Power B/D Spec sheet

Standard Repair Process Detail Technical Manual

Signage Monitor	Error symptom	A. Video error_No video/Normal audio	Established date		
	Content	Check White Balance value	Revised date		A3

<ALL MODELS>





Entry method

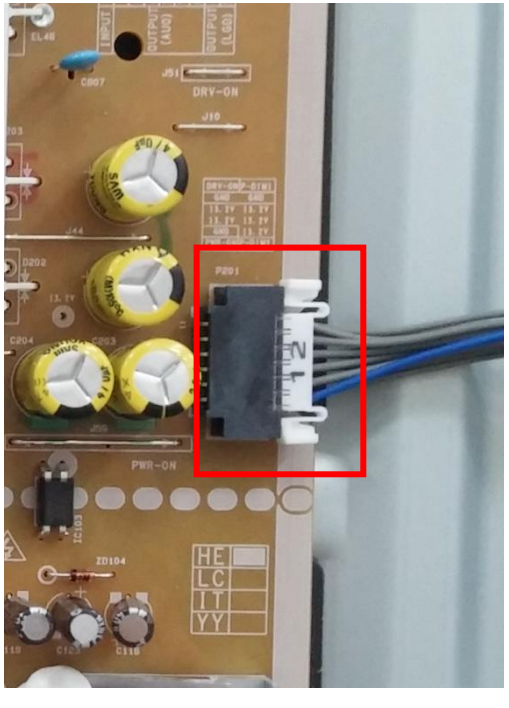
1. Press the ADJ button on the remote controller for adjustment.

2. Enter into White Balance of item 10.

3. After recording the R, G, B (GAIN, Cut) value of Color Temp (Cool/Medium/Warm), re-enter the value after replacing the MAIN BOARD.

Standard Repair Process Detail Technical Manual

Signage Monitor	Error symptom	A. Video error_No video/ Audio	Established date		
	Content	Power Board voltage measuring method	Revised date		A4



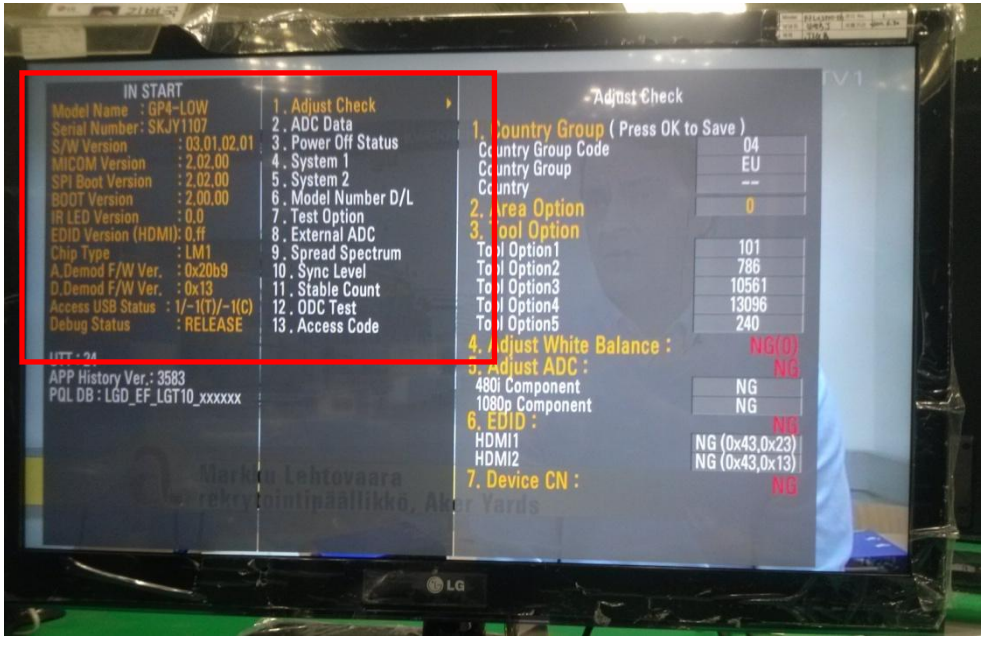
Check the 13.2V for Audio

12 Pin (Power Board ↔ Main Board)			
SMAW200-H12S5K(BK)			
1	PWR On	2	(32/43) N.C (49/55) PWM #2
3	GND	4	D 13.2 V
5	D 13.2 V	6	D 13.2 V
7	A 13.2 V	8	A 13.2 V
9	GND	10	GND
11	DRV On (Inverter –On)	12	PWM #1

<ALL MODELS>

1. Checking method for remote controller for adjustment

Version

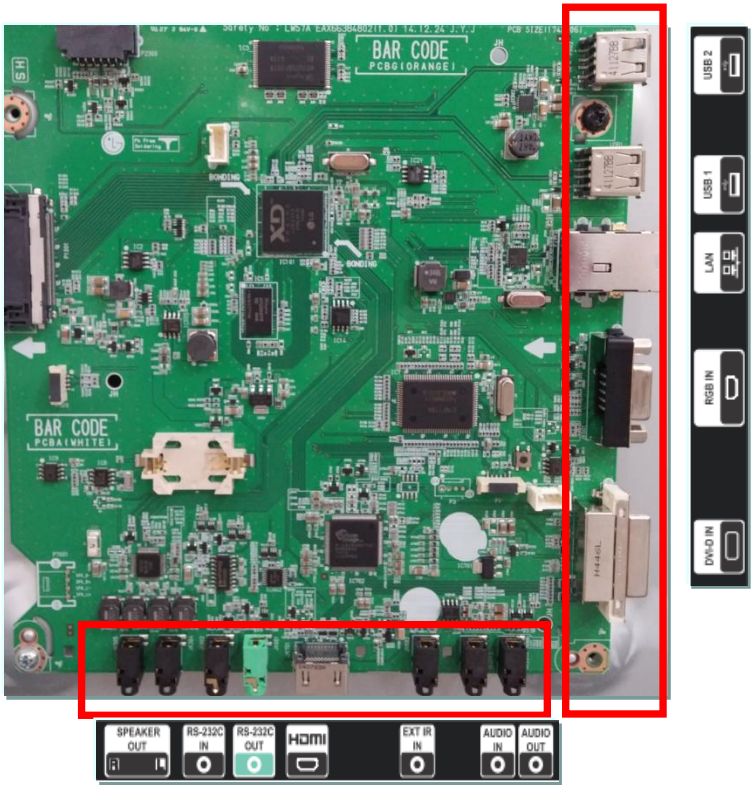


Press the IN-START with the remote controller for adjustment

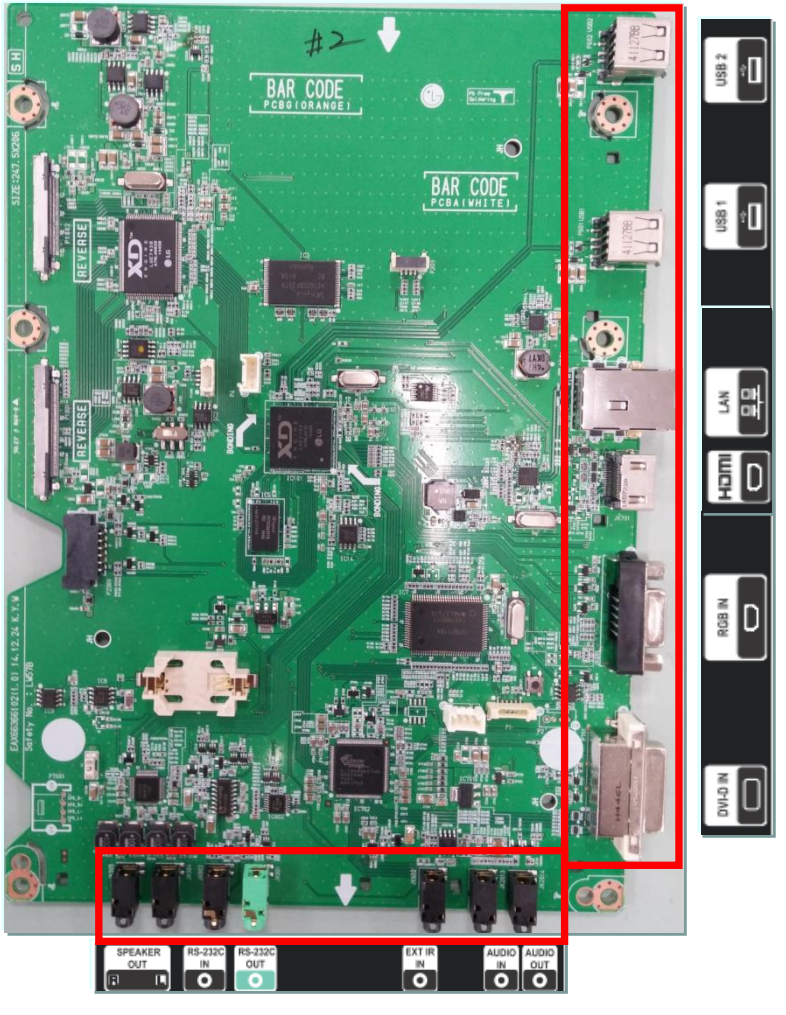
Standard Repair Process Detail Technical Manual

Signage Monitor	Error symptom	A. Video error _Vertical/Horizontal bar, residual image, light spot	Established date		
	Content	connection diagram	Revised date		A8

[SE3B]



[65SE3B]

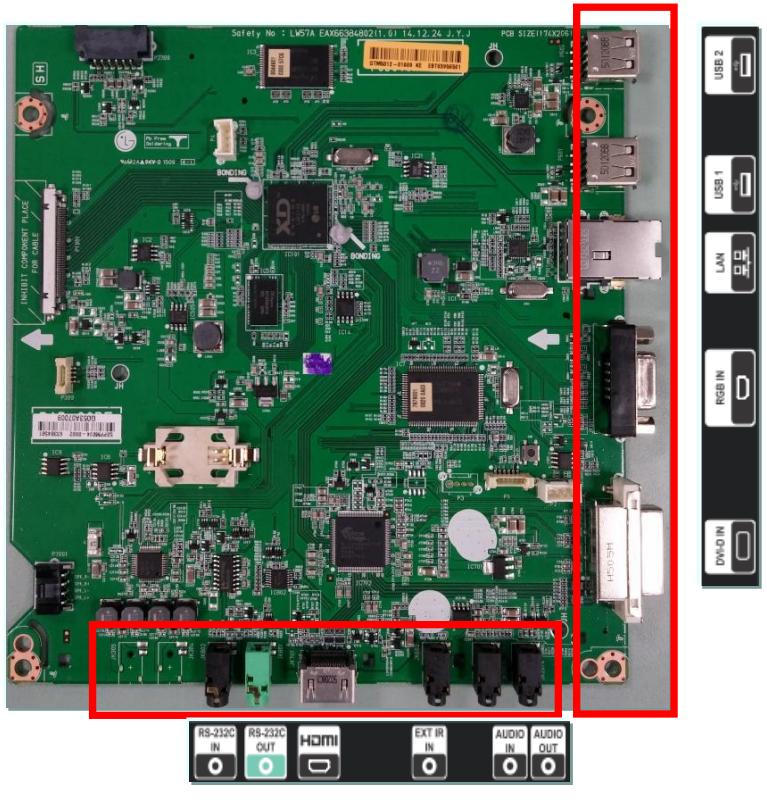


As the part connecting to the external input, check the screen condition by signal

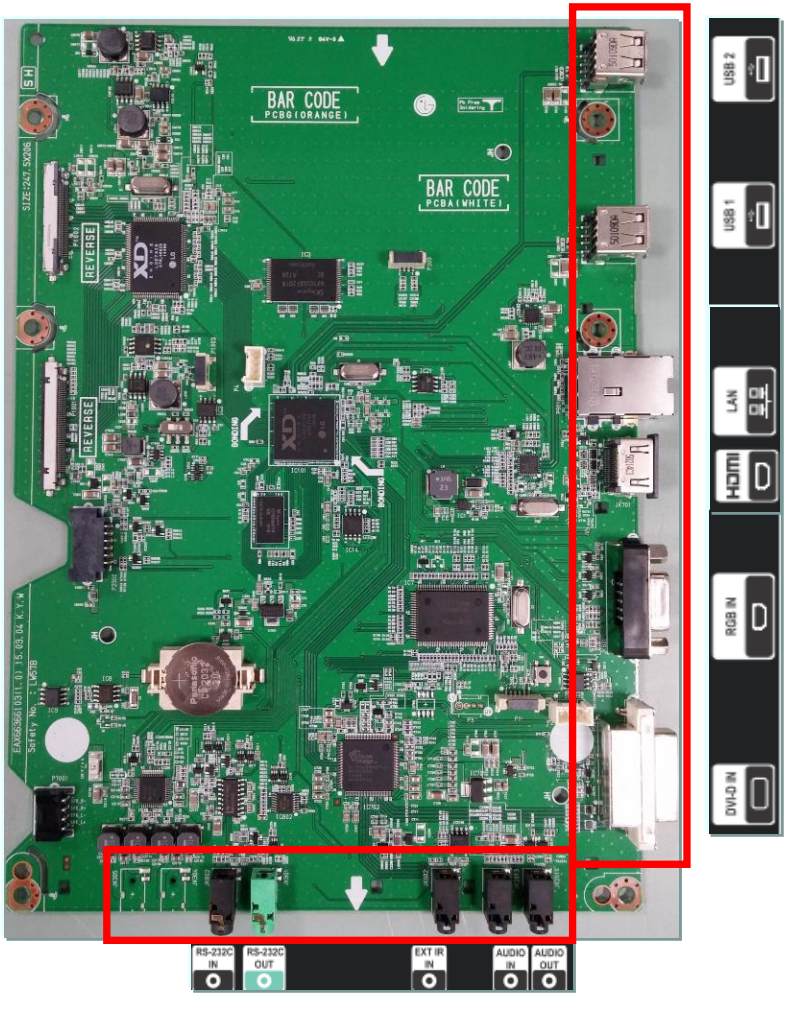
Standard Repair Process Detail Technical Manual

Signage Monitor	Error symptom	A. Video error _Vertical/Horizontal bar, residual image, light spot	Established date		
	Content	connection diagram	Revised date		A8

[SE3KB]



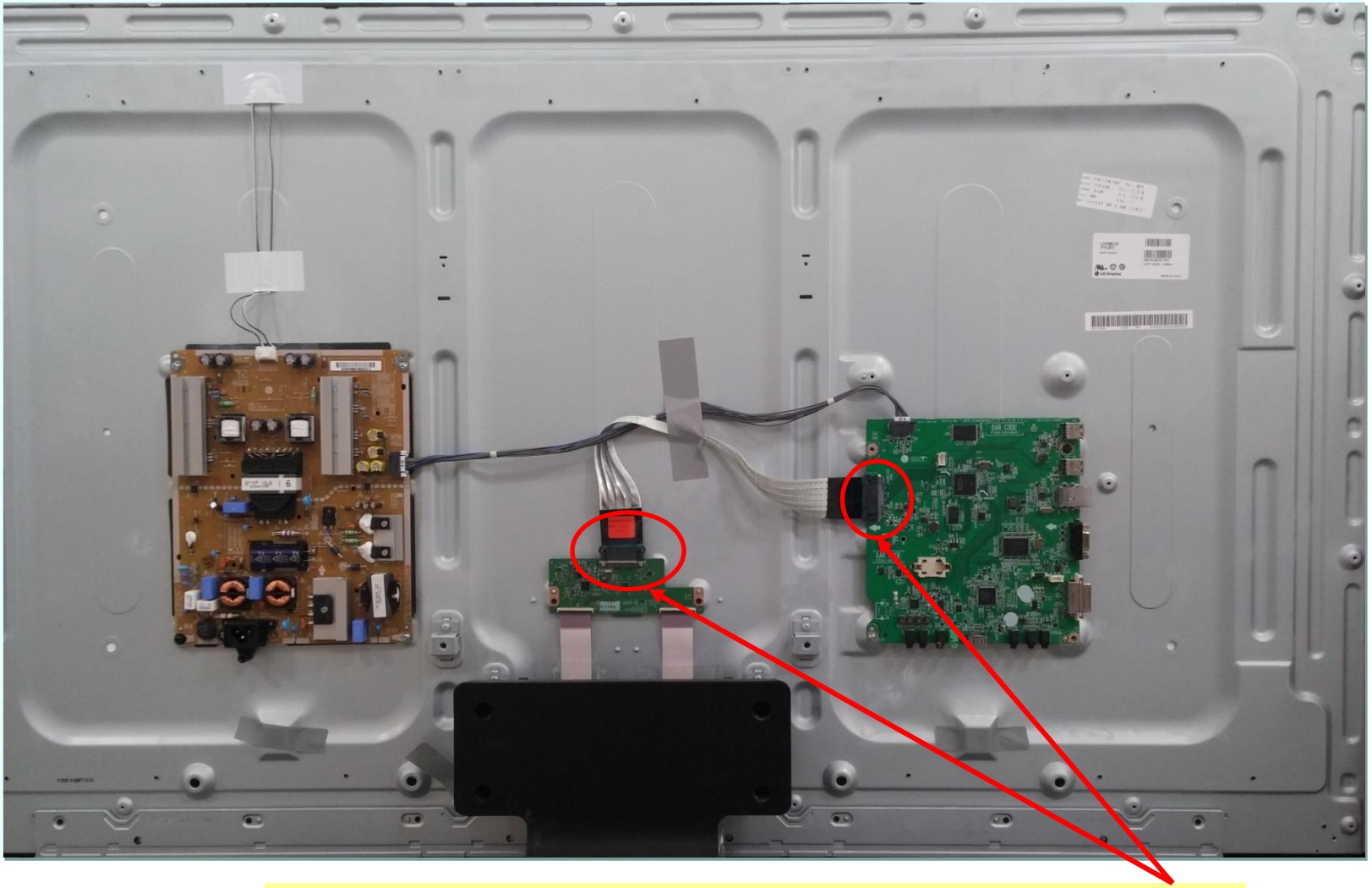
[65SE3KB]



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

Standard Repair Process Detail Technical Manual

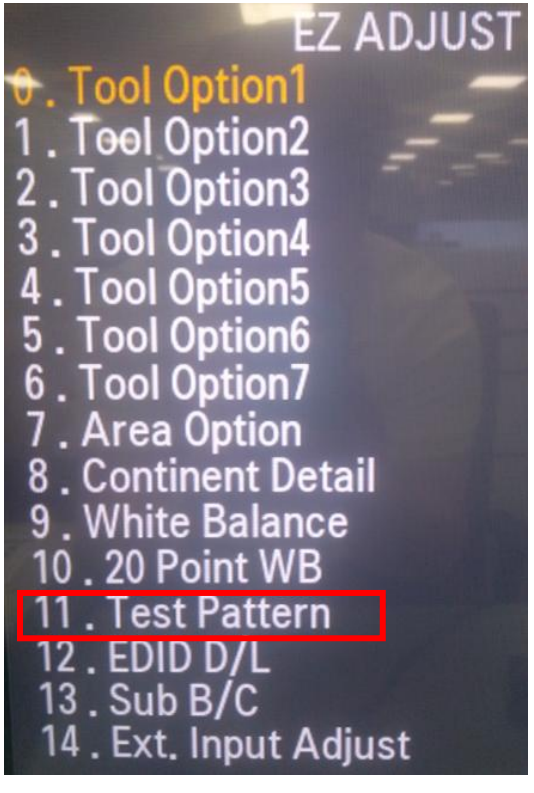
Signage Monitor	Error symptom	A. Video error_Color error	Established date		
	Content	Check Link Cable reconnection condition	Revised date		A10

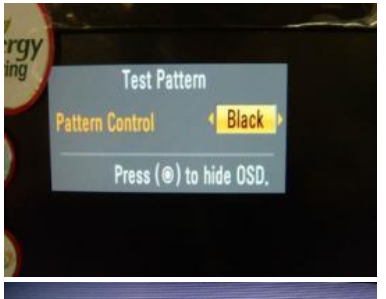


Check the contact condition of the Link Cable, especially dust or mis insertion.

Standard Repair Process Detail Technical Manual

Signage Monitor	Error symptom	A. Video error_Color error	Established date		
	Content	Adjustment Test pattern - ADJ Key	Revised date		A12





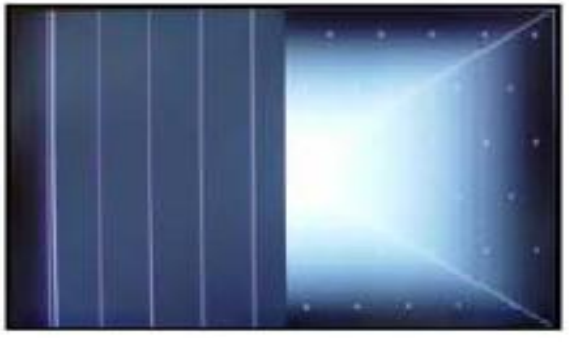
You can view 6 types of patterns using the ADJ Key

Checking item : 1. Defective pixel 2. Residual image 3. MODULE error (ADD-BAR,SCAN BAR..)
4.Video error (Classification of MODULE or Main-B/D!)

Appendix : Exchange LVDS Cable or Main B/D (1)

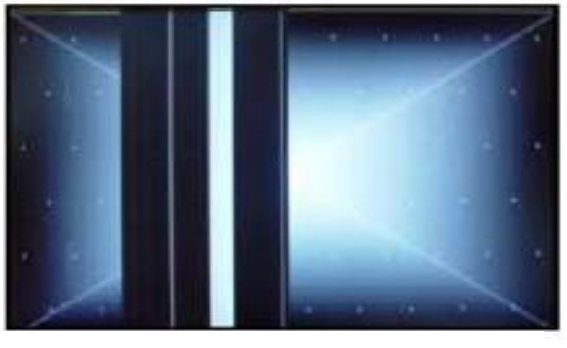
Solder defect, CNT Broken

Solder defect, CNT Broken



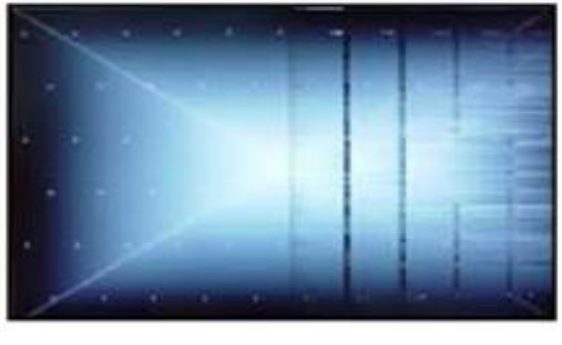
Solder defect, CNT Broken

Solder defect, CNT Broken



Solder defect, CNT Broken

Abnormal Power Section

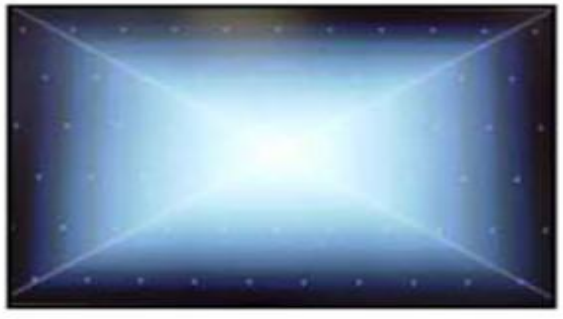


Solder defect, Short/Crack

Abnormal Power Section

Solder defect, Short/Crack

Appendix : Exchange LVDS Cable or Main B/D (2)



Abnormal Power Section

Abnormal Power Section

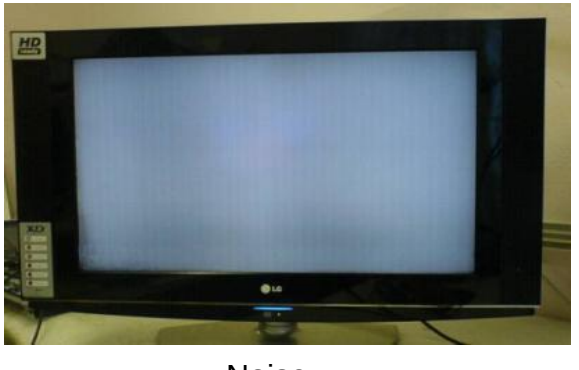
Solder defect, Short/Crack

Solder defect, Short/Crack

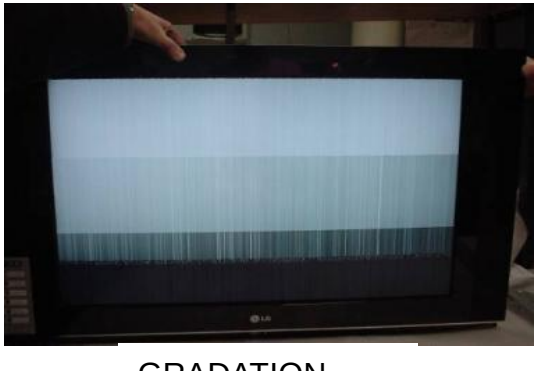
Fuse Open, Abnormal power section

Abnormal Display

GRADATION



Noise



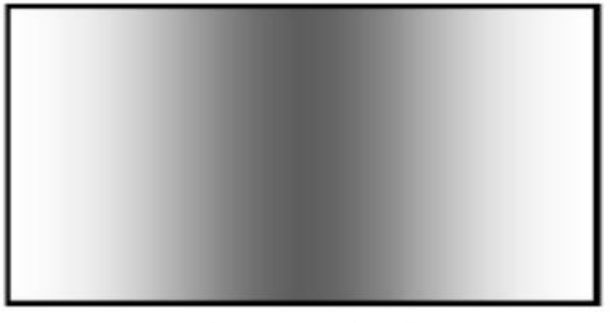
GRADATION

Appendix : Exchange Power Board

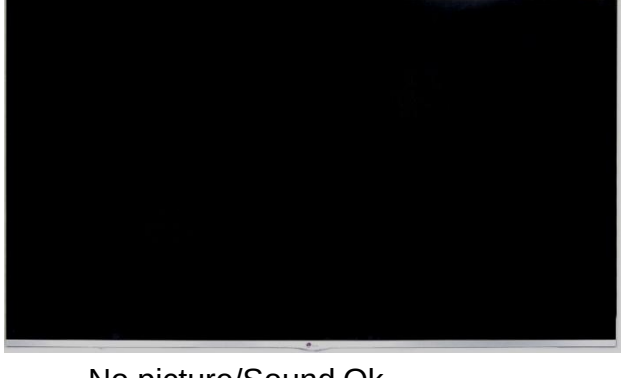
No Light

Dim Light

Dim Light



Dim Light

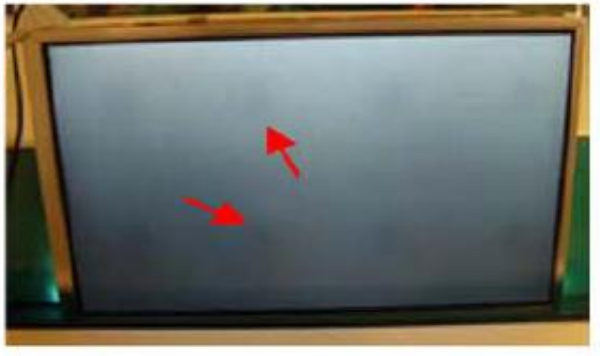


No picture/Sound Ok

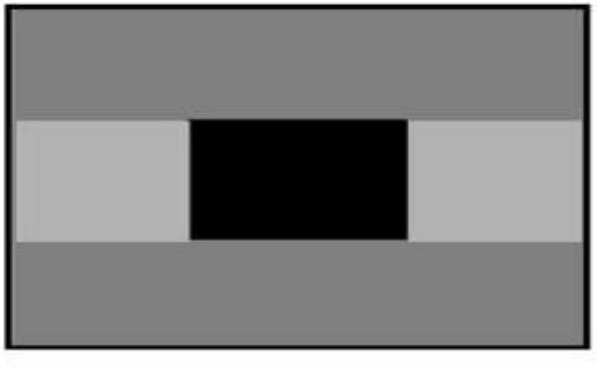
Appendix : Exchange the Module (1)

Panel Mura, Light leakage

Panel Mura, Light leakage

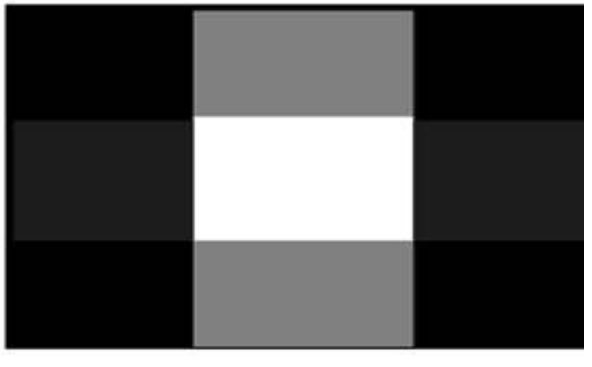


Press damage



Crosstalk

Press damage



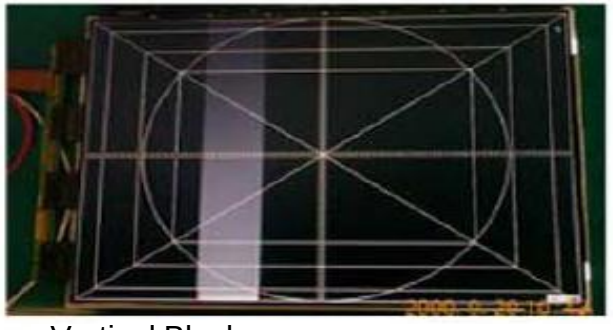
Crosstalk

Press damage

Un-repairable Cases

In this case please exchange the module.

Appendix : Exchange the Module (2)

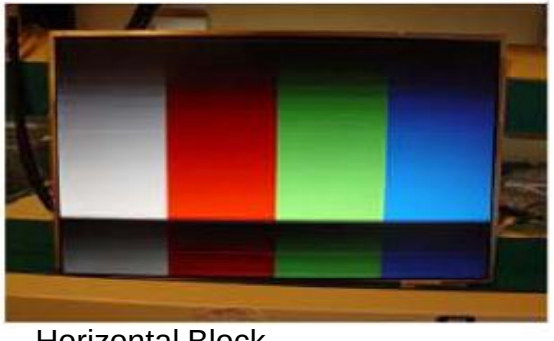


Vertical Block
Source TAB IC Defect

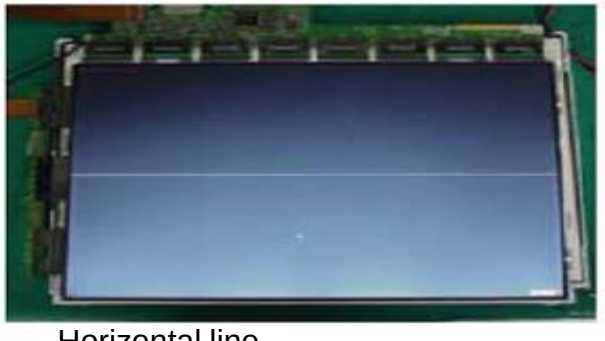
Vertical Line
Source TAB IC Defect

Vertical Block
Source TAB IC Defect

Horizontal Block
Gate TAB IC Defect



Horizontal Block
Gate TAB IC Defect



Horizontal line
Gate TAB IC Defect

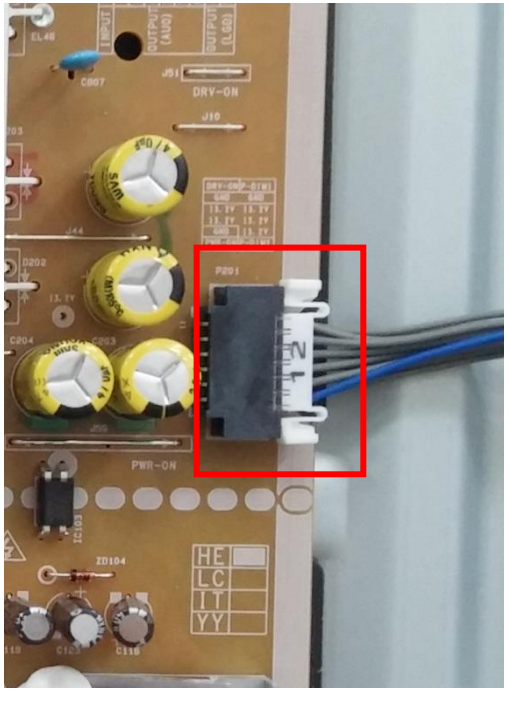
Horizontal Block
Gate TAB IC Defect

Un-repairable Cases

In this case please exchange the module.

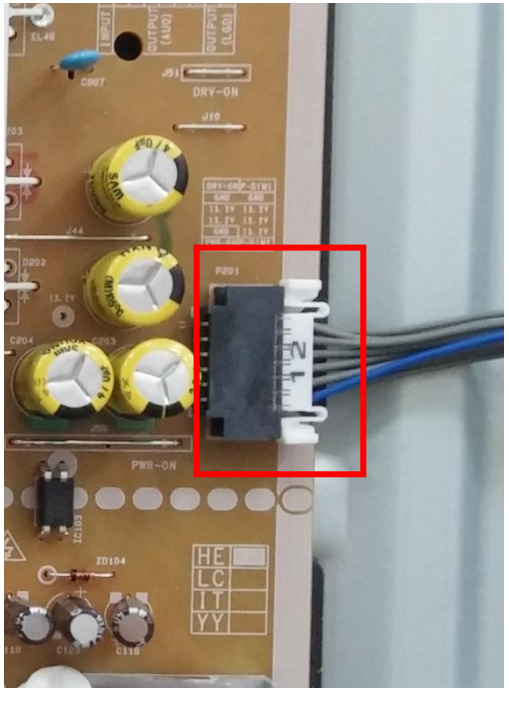
Signage Monitor	Error symptom	B. Power error _No power	Established date		
	Content	Check power input voltage and ST-BY 3.5V	Revised date		A18

Check the Main Power Voltage (4,5,6 Pin)
Power On (DC On) Status : 13.2 V
STBY Status : 8.8 V



12 Pin (Power Board ↔ Main Board)			
SMAW200-H12S5K(BK)			
1	PWR On	2	(32/43) N.C (49/55) PWM #2
3	GND	4	D 13.2 V
5	D 13.2 V	6	D 13.2 V
7	A 13.2 V	8	A 13.2 V
9	GND	10	GND
11	DRV On (Inverter –On)	12	PWM #1

Signage Monitor	Error symptom	B. Power error _No power	Established date		
	Content	Checking method when power is ON	Revised date		A19



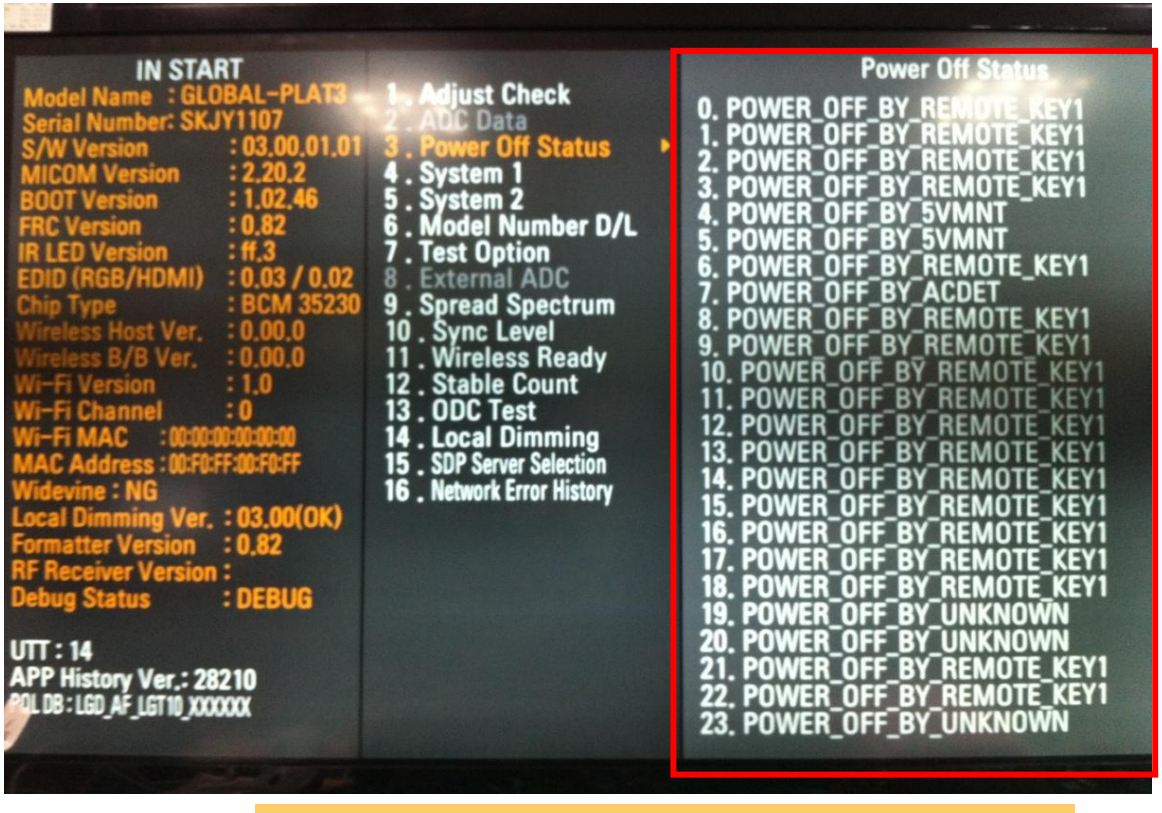
Check “power on(Pin 1)” pin is high

12 Pin (Power Board ↔ Main Board)			
SMAW200-H12S5K(BK)			
1	PWR On	2	(32/43) N.C (49/55) PWM #2
3	GND	4	D 13.2 V
5	D 13.2 V	6	D 13.2 V
7	A 13.2 V	8	A 13.2 V
9	GND	10	GND
11	DRV On (Inverter –On)	12	PWM #1

Standard Repair Process Detail Technical Manual

Signage Monitor	Error symptom	B. Power error _Off when on, off whiling viewing	Established date		
	Content	POWER OFF MODE checking method	Revised date		A22

<ALL MODELS>



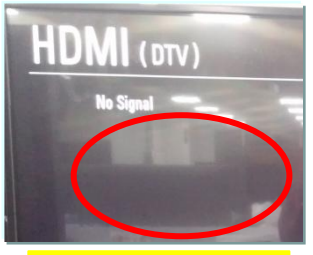
Entry method

1. Press the IN-START button of the remote controller for adjustment

2. Check the entry into adjustment item 3

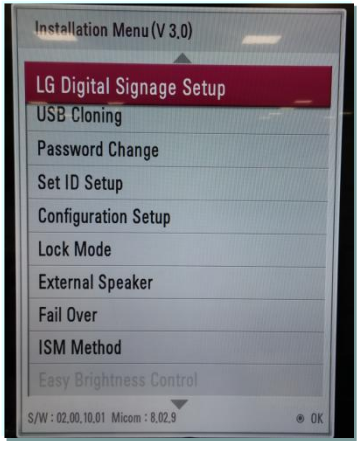
<ALL MODELS>

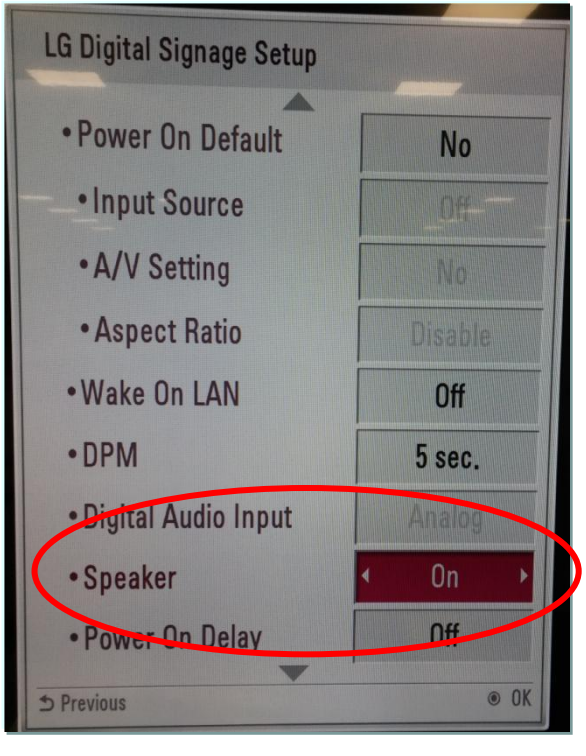
5 Sec



OSD goes away

1. **Press the "0" 4 times.**
2. **Press the "OK" Button**





Checking method

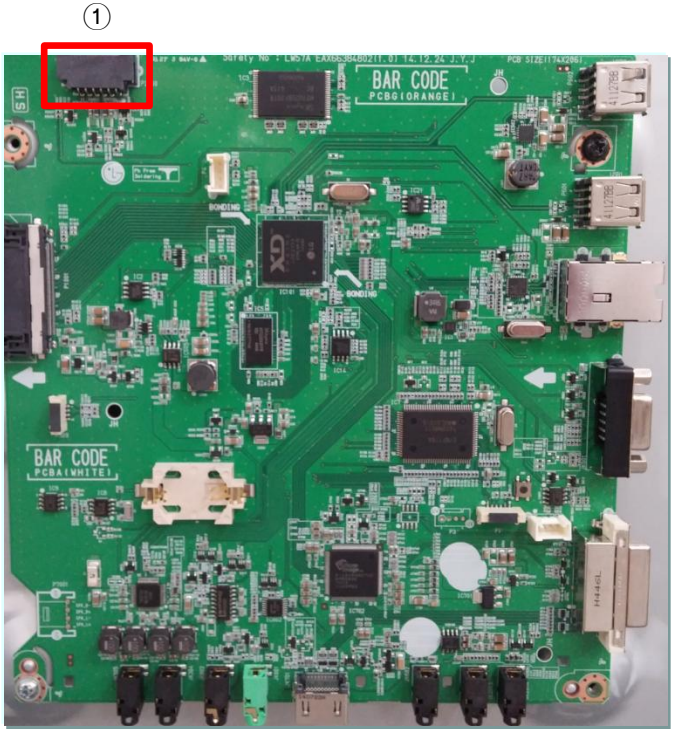
1. Press the MENU button on the remote controller for five seconds.
2. When the OSD disappear, press the "0" 4 times and press "OK".
3. Select the Speaker of LG Digital Signage Setup
4. Select "ON"

Standard Repair Process Detail Technical Manual

Signage Monitor	Error symptom	C. Audio error_No audio/Normal video	Established date		
	Content	Voltage and speaker checking method when there is no audio	Revised date		A25

[SE3B & SE3KB]

12 Pin (Power Board ↔ Main Board)			
SMAW200-H12S5K(BK)			
1	PWR On	2	(32/43) N.C (49/55) PWM #2
3	GND	4	D 13.2 V
5	D 13.2 V	6	D 13.2 V
7	A 13.2 V	8	A 13.2 V
9	GND	10	GND
11	DRV On (Inverter –On)	12	PWM #1



< Main Ass'y>

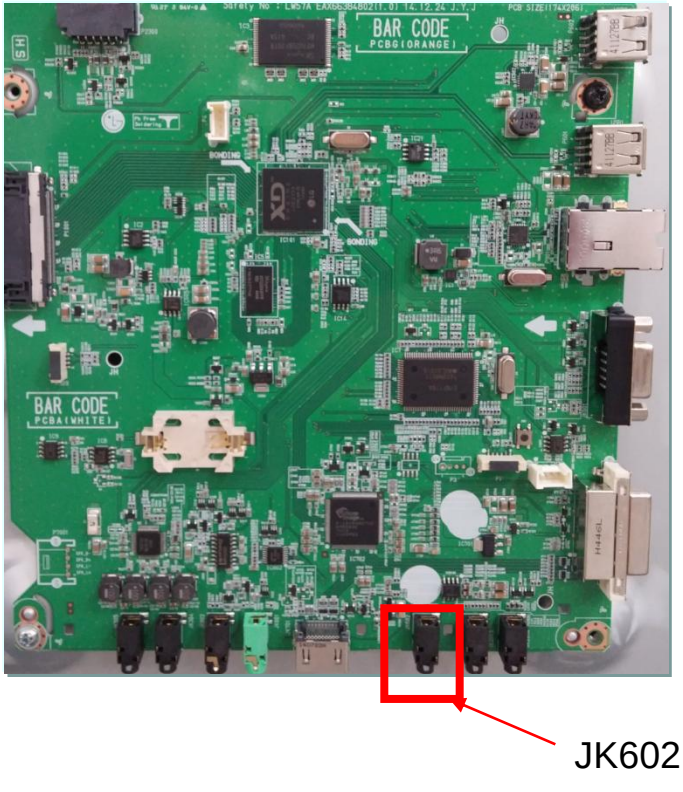
Checking order when there is no audio

① Check the contact condition of or 13V connector of Main Board

② Measure the 13V input voltage supplied from Power Board
(If there is no input voltage, remove and check the connector)

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.

[SE3B & SE3KB Models]



JK602	
M5	GND
M4	+3.5V_ST
M3	NC
M1	IR

Checking order

1. Check IR cable condition between IR & Main board
2. Check the st-by 3.5V on the terminal M1.
3. When checking the Pre-Amp when the power is in ON condition, it is normal when the Analog Tester needle moves slowly, and defective when it does not move at all.