Panasonic

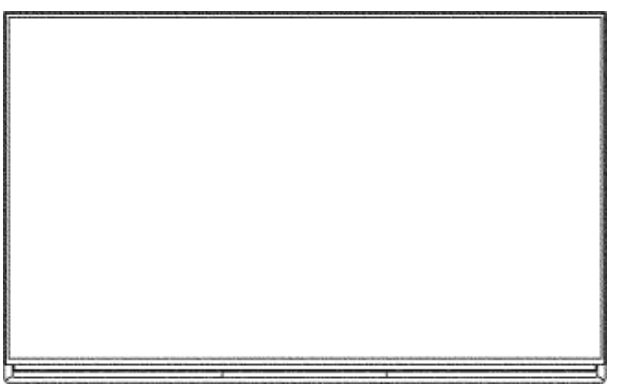
ORDER NO. MTV1401275CE

Service Manual

LED TV

Model No. **TH-60AS800S**

Chassis: LA53
Destination: SINGAPORE



⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

1 Safety Precautions

1.1 General Guidelines

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.
4. When conducting repairs and servicing, do not attempt to modify the equipment, its parts or its materials.
5. When wiring units (with cables, flexible cables or lead wires) are supplied as repair parts and only one wire or some of the wires have been broken or disconnected, do not attempt to repair or re-wire the units. Replace the entire wiring unit instead.

6. When conducting repairs and servicing, do not twist the Faston connectors but plug them straight in or unplug them straight out.

1.1.1 Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be 8.5Mohm to 13Mohm.
   When the exposed metal does not have a return path to the chassis, the reading must be ∞.

1.1.2 Leakage Current Hot Check (See Figure 1 .)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5kohm, 10 watts resistor, in parallel with a 0.15µF capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1 .
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

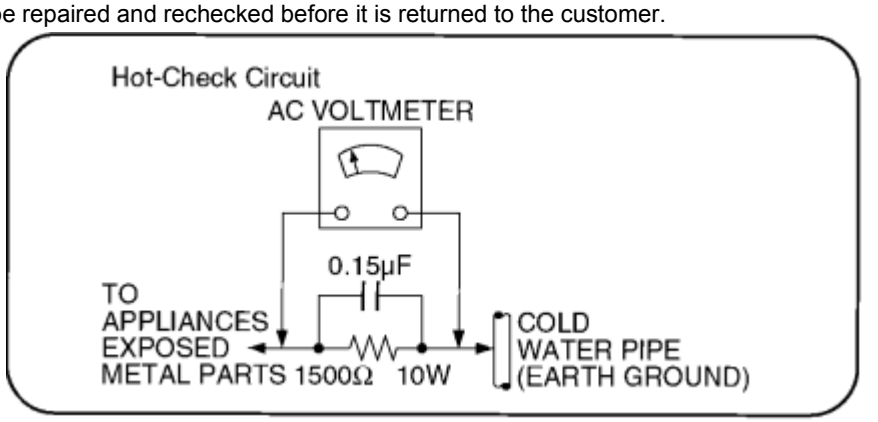


Figure 1

2 Warning

2.1 Prevention of Electrostatic Discharge (ESD) to 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 electrostatic discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for 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 solder removal device. Some solder removal devices not classified as [anti-static (ESD protected)] can generate electrical charge 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 ham less motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

2.2 About lead free solder (PbF)

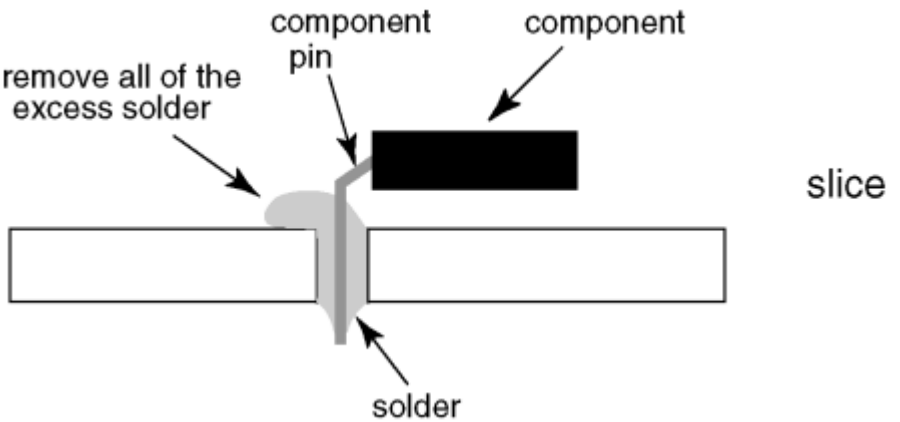
Note: Lead is listed as (Pb) in the periodic table of elements.
In the information below, Pb will refer to Lead solder, and PbF will refer to Lead Free Solder.
The Lead Free Solder used in our manufacturing process and discussed below is (Sn+Ag+Cu).
That is Tin (Sn), Silver (Ag) and Copper (Cu) although other types are available.
This model uses Pb Free solder in it's manufacture due to environmental conservation issues. For service and repair work, we'd suggest the use of Pb free solder as well, although Pb solder may be used.
PCBs manufactured using lead free solder will have the PbF within a leaf Symbol **PbF** stamped on the back of PCB.

Caution

- Pb free solder has a higher melting point than standard solder. Typically the melting point is 50 ~ 70 °F (30~40 °C) higher. Please use a high temperature soldering iron and set it to 700 ± 20 °F (370 ± 10 °C).
- Pb free solder will tend to splash when heated too high (about 1100 °F or 600 °C).
  If you must use Pb solder, please completely remove all of the Pb free solder on the pins or solder area before applying Pb solder. If this is not practical, be sure to heat the Pb free solder until it melts, before applying Pb

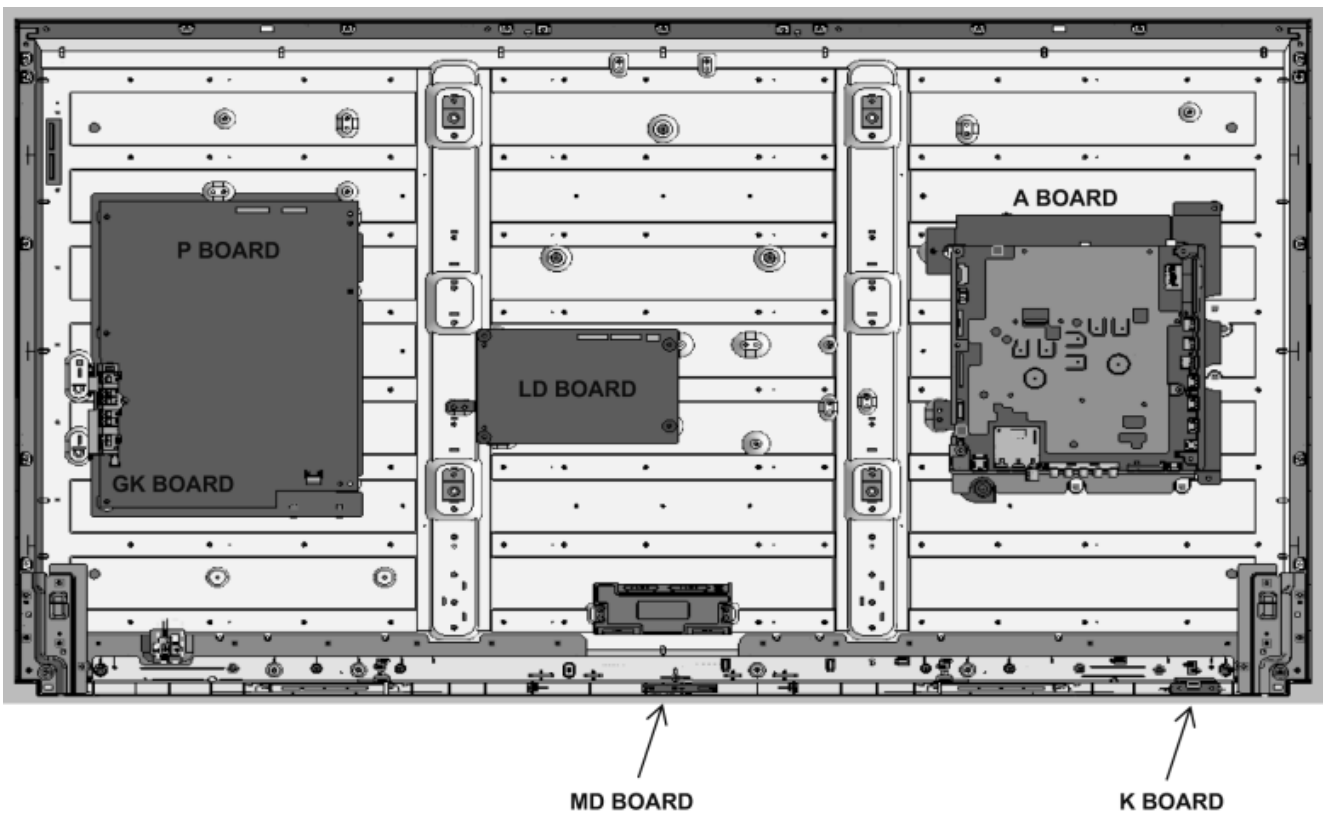
solder.

- After applying PbF solder to double layered boards, please check the component side for excess solder which may flow onto the opposite side. (see figure below)



3 Service Navigation

3.1 Service Hint



Board Name	Main Device	Remarks
A Board	TUN, OFDM, ADV, LD4, STBY EEP	Repairable
P BOARD	Power Supply	Repairable
GK BOARD	Function SW for LGD panel	Repairable
K BOARD	LED/RM/CATS	Repairable
LD BOARD	LED DRIVER	Repairable
MD BOARD	Motion detection	Repairable

4 Specifications

■ TV

Dimensions (W × H*1 × D)	1 350 mm × 812 mm × 303 mm (With Pedestal)	
	1 350 mm × 787 mm × 53 mm (TV only)	
Mass	34.0 kg Net (With Pedestal)	
	25.0 kg Net (TV only)	
Power source	AC 220-240 V, 50 / 60 Hz	
Rated power consumption	254 W	
Standby power consumption	0.20 W	
Visible screen size (diagonal)	151 cm	
Display resolution	1 920 (W) × 1 080 (H)	
Panel	LED backlight Liquid Crystal Display	
Speaker output	18 W (4 W + 4 W + 10 W)	
Connection terminals		
AV IN (COMPONENT / VIDEO)	**VIDEO**	RCA PIN Type × 1 1.0 V[p-p] (75 Ω)
	AUDIO L - R	RCA PIN Type × 2 0.5 V[rms]
	Y	1.0 V[p-p] (including synchronisation)
	PB/CB, PR/CR	±0.35 V[p-p]
HDMI 1 / 2 / 3 / 4 input	TYPE A Connectors	
	HDMI1 / 3 / 4: 3D, Content Type, Deep Colour, x.v.Colour™	
	HDMI2: 3D, Content Type, Audio Return Channel, Deep Colour, x.v.Colour™	
	● This TV supports ‘HDAVI Control 5’ function.	
Card slot	SD Card slot × 1	
ETHERNET	10BASE-T/100 BASE-TX	
USB 1 / 2 / 3	DC 5 V, Max. 500 mA [Hi-Speed USB (USB 2.0)]	
DIGITAL AUDIO OUT	PCM / Dolby Digital / DTS, Fibre optic	

Receiving systems / Band name	17 SYSTEMS	FUNCTION
	1 PAL B, G, H	Reception of broadcast transmissions and Playback from Video Cassette Tape Recorders
	2 PAL I	
	3 PAL D, K	
	4 SECAM B, G	
	5 SECAM D, K	
	6 SECAM K1	
	7 NTSC M (NTSC 3.58 / 4.5 MHz)	
	8 NTSC 4.43 / 5.5 MHz	Playback from Special VCR’s or DVD
	9 NTSC 4.43 / 6.0 MHz	
	10 NTSC 4.43 / 6.5 MHz	
	11 NTSC 3.58 / 5.5 MHz	
	12 NTSC 3.58 / 6.0 MHz	
	13 NTSC 3.58 / 6.5 MHz	
	14 SECAM I	
	15 PAL 60 Hz / 5.5 MHz	Playback from Special Disc Players and Special VCR’s or DVD
	16 PAL 60 Hz / 6.0 MHz	
	17 PAL 60 Hz / 6.5 MHz	
	Digital TV	7 MHz VHF / 8 MHz UHF free-to-air TV broadcast reception

Receiving channels (Analogue TV)

VHF BAND	2 - 12	(PAL / SECAM B, K1)
	0 - 12	(PAL B AUST.)
	1 - 9	(PAL B N.Z.)
	1 - 12	(PAL / SECAM D)
	1 - 12	(NTSC M Japan)
	2 - 13	(NTSC M USA)
UHF BAND	21 - 69	(PAL G, H, I / SECAM G, K, K1)
	28 - 69	(PAL B AUST.)
	13 - 57	(PAL D, K)
	13 - 62	(NTSC M Japan)
	14 - 69	(NTSC M USA)
CATV	S1 - S20	(OSCAR)
	1 - 125	(USA CATV)
	C13 - C49	(JAPAN)
	S21 - S41	(HYPER)
	Z1 - Z37	(CHINA)
	5A, 9A	(AUST.)

Aerial input	VHF / UHF	
Operating Conditions	**Temperature**	0 °C - 40 °C
	Humidity	20 % - 80 % RH (non-condensing)
Built-in Camera	**Focus**	Fixed focus
	Resolution	1 920 × 1 080
Built-in wireless LAN	**Standard compliance and Frequency range*2**	
	IEEE802.11a/n	
	5.15 GHz - 5.35 GHz, 5.47 GHz - 5.85 GHz	
	IEEE802.11b/g/n	
	2.400 GHz - 2.4835 GHz	
	Security	
	WPA2-PSK (TKIP/AES)	
	WPA-PSK (TKIP/AES)	
	WEP (64 bit/128 bit)	
Bluetooth wireless technology*3	Standard Compliance	
	Bluetooth 3.0	
	Frequency Range	
	2.402 GHz - 2.480 GHz	

*1: With Camera pop-up: +23 mm height

*2: The frequency and channel differ depending on the country.

*3: Not all the Bluetooth compatible devices are available with this TV. Up to 5 devices can be used simultaneously (except Touch Pad Controller).

■ 3D Eyewear

Dimensions (W × H × D)	165 mm × 38 mm × 166 mm
Mass	Approx. 18 g
Usage temperature range	0 °C - 40 °C
Materials	
Main body / Lens section	Resin

Use Panasonic 3D Eyewear supporting passive 3D system technology.

Note

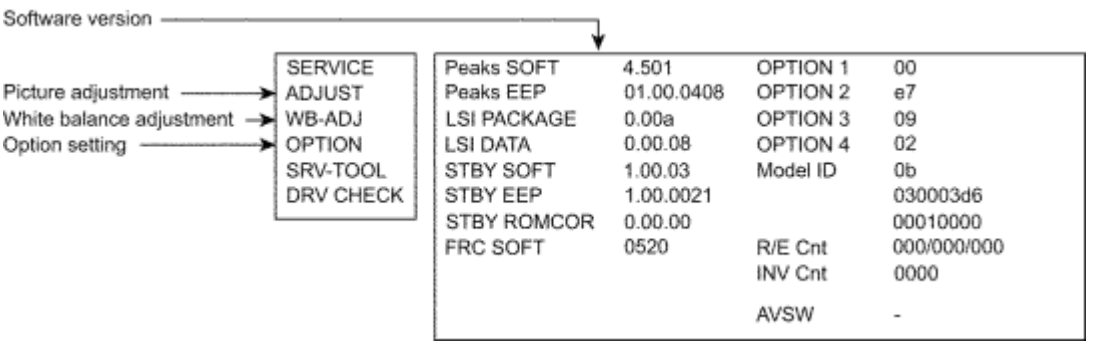
- Touch Pad Controller uses Bluetooth wireless technology.
- Design and Specifications are subject to change without notice. Mass and Dimensions shown are approximate.
- For the information of the open source software, refer to [eHELP] (Support > Licence).

5 Service Mode

5.1 How to enter into Service Mode

5.1.1 Purpose

After exchange parts, check and adjust the contents of adjustment mode.
While pressing [VOLUME (-)] button of the main unit, press [INFO] button of the remote control three times within 2 seconds.



5.1.2 Key command

[1] button...Main items Selection in forward direction
[2] button...Main items Selection in reverse direction
[3] button...Sub items Selection in forward direction
[4] button...Sub items Selection in reverse direction
[VOL] button...Value of sub items change in forward direction (+), in reverse direction (-)

5.1.3 How to exit

Switch off the power with the [POWER] button on the main unit or the [POWER] button on the remote control.

5.1.4 Contents of adjustment mode

- Value is shown as a hexadecimal number.
- Preset value differs depending on models.
- After entering the adjustment mode, take note of the value in each item before starting adjustment.

Main item	Sub item	Sample Data
ADJUST	CONTRAST	
	COLOUR	
	TINT	
	SUB-BRT	
	BACKLGT	
	H POS	
	H AMP	
	V POS	
	V AMP	
	A COM	
WB-ADJ	R-GAIN	8D
	G-GAIN	AE
	B-GAIN	FF

	R-CENT	6C
	G-RENT	80
	B-CENT	A0
OPTION	Boot	ROM
	STBY-SET	00
	EMERGENCY	ON
	CLK MODE	00
	CLOCK	FC7
	Y/C DELAY	DYNAMIC
	OPT 1	00000000
	OPT 2	11100110
	OPT 3	00001001
	OPT 4	00000000
	EDID-CLK	HIGH
SRV-TOOL		00
DRV CHECK		DYNAMIC

5.1.5 Display of SOS History

SOS History (Number of LED blinking) indication.

From left side; Last SOS, before Last, three occurrence before, 2nd occurrence after shipment, 1st occurrence after shipment.

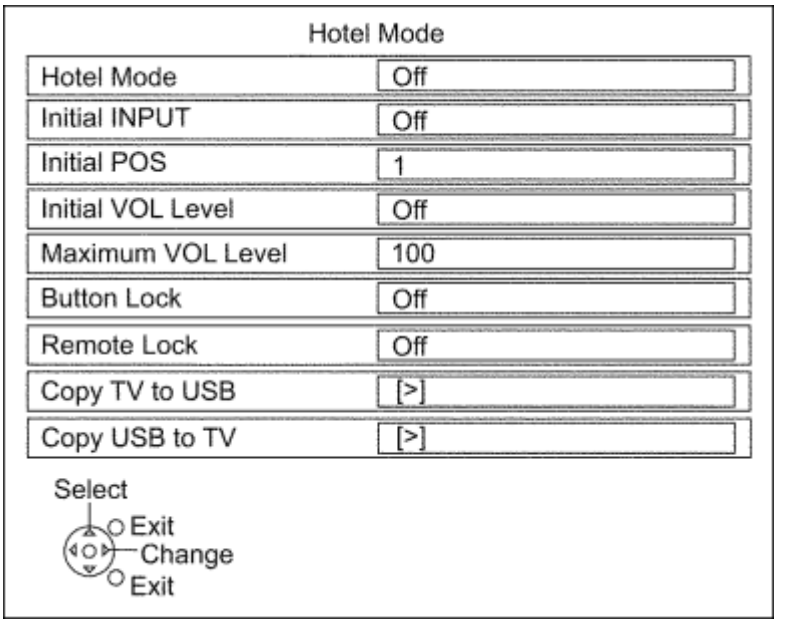
This indication except 2nd and 1st occurrence after shipment will be cleared by [Self-check indication and forced to factory shipment setting].

5.1.6 Exit

1. Disconnect the AC cord from wall outlet.

5.1.7 Hotel Mode

1. Purpose
   Restrict a function for hotels.
2. Access command to the Hotel mode setup menu.
   In order to display the Hotel mode setup menu:
   While pressing [VOLUME (-)] button of the main unit,press [AV] button of the remote control three times within2 seconds.
   Then, the Hotel mode setup menu is displayed.



3. To exit the Hotel mode setup menu
   Disconnect AC power cord from wall outlet.
4. Explain the Hotel mode setup menu

Item	Function
Hotel Mode	Select hotel mode On/Off
Initial INPUT	Select input signal modes. Set the input, when each time power is switched on. Selection : Off,Analogue,DVB-C,DVB-T,AV1,AV2,HDMI1,HDMI2 ● Off: give priority to a last memory. However, Euro model is compulsorily set to TV.
Initial POS	Select programme number. Selection : Off/0 to 99 ● Off: give priority to a last memory.
Initial VOL LEVEL	Adjust the volume when each time power is switched on. Selection Range : Off/0 to 100 ● Off: give priority to a last memory.
Maximum Vol Level	Adjust maximum volume. Range : 0 to 100
Button Lock	Select local key conditions. Selection : Off/SETUP/MENU/ALL ● OFF: altogether valid ● SETUP: only F-key is invalid (Tuning guide (menu) can not be selected.) ● MENU: only F-key is invalid (only Volume/Mute can be selected.)

	● ALL: altogether invalid.
Remote Lock	Select remote control key conditions. Selection : Off/SETUP/MENU ● OFF: altogether valid. ● SETUP: only Setup menu is invalid. ● MENU: Picture/Sound/Setup menu are invalid.
Hotel Mode USB	Basically after user already setup the hotel mode according to their criteria, what they need to do is ● insert USB (while in hotel mode) ● choose 'Copy TV to USB' to copy the setting into the USB (a file will be created to store the hotel mode setting in the USB) ● switch 'OFF' the unit ● pull out USB from unit To copy the hotel mode setting from USB. ● enter hotel mode ● insert USB ● choose 'Copy USB to TV' ● follow instruction as shown on the units ● once finish, switch 'OFF; the unit ● pull out USB from unit
Private Information	Select private information for VIERA Cast is Keep or Reset if Hotel mode is set to [On] when TV power on Selection : Keep/Reset ● Keep: private information for VIERA Cast is keep ● Reset: private information for VIERA Cast is reset

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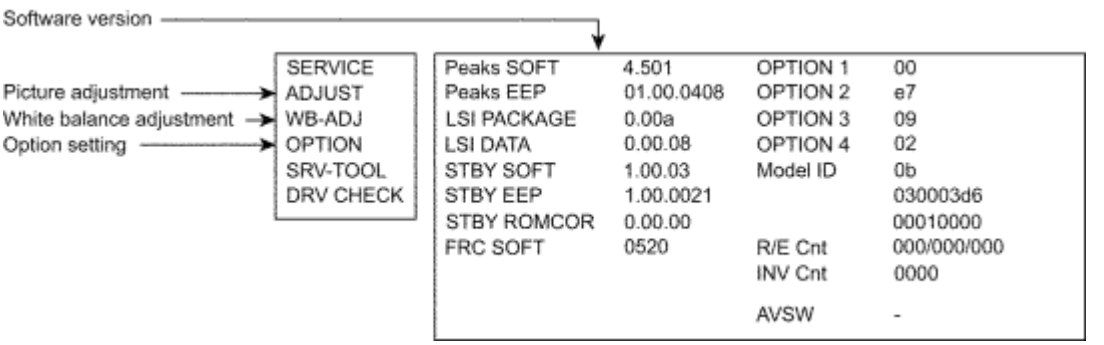

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	BACKLGT	
	H POS	
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	V POS	
	V AMP	
	A COM	
WB-ADJ	R-GAIN	8D
	G-GAIN	AE
	B-GAIN	FF

	R-CENT	6C
	G-RENT	80
	B-CENT	A0
OPTION	Boot	ROM
	STBY-SET	00
	EMERGENCY	ON
	CLK MODE	00
	CLOCK	FC7
	Y/C DELAY	DYNAMIC
	OPT 1	00000000
	OPT 2	11100110
	OPT 3	00001001
	OPT 4	00000000
	EDID-CLK	HIGH
SRV-TOOL		00
DRV CHECK		DYNAMIC

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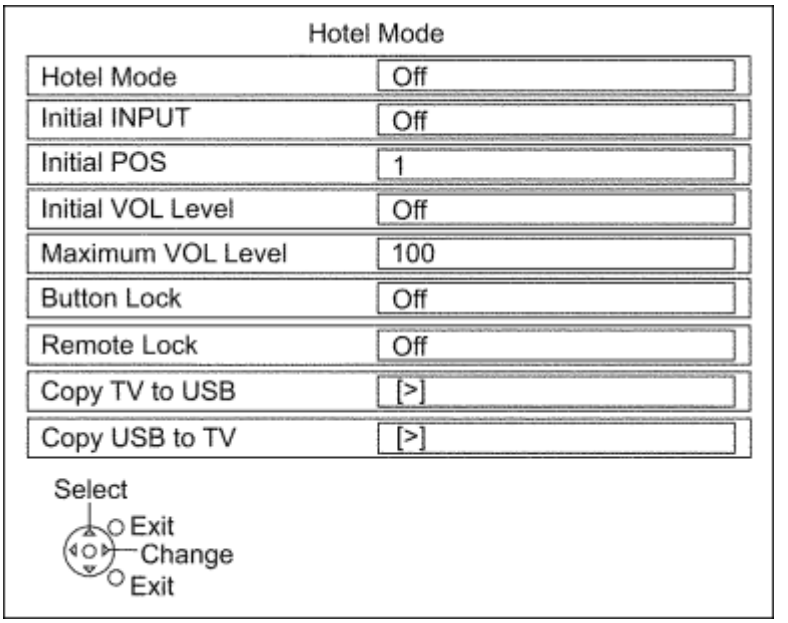

3. To exit the Hotel mode setup menu
   Disconnect AC power cord from wall outlet.
4. Explain the Hotel mode setup menu

Item	Function
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Initial INPUT	Select input signal modes. Set the input, when each time power is switched on. Selection : Off,Analogue,DVB-C,DVB-T,AV1,AV2,HDMI1,HDMI2 ● Off: give priority to a last memory. However, Euro model is compulsorily set to TV.
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	● ALL: altogether invalid.
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Hotel Mode USB	Basically after user already setup the hotel mode according to their criteria, what they need to do is ● insert USB (while in hotel mode) ● choose 'Copy TV to USB' to copy the setting into the USB (a file will be created to store the hotel mode setting in the USB) ● switch 'OFF' the unit ● pull out USB from unit To copy the hotel mode setting from USB. ● enter hotel mode ● insert USB ● choose 'Copy USB to TV' ● follow instruction as shown on the units ● once finish, switch 'OFF; the unit ● pull out USB from unit
Private Information	Select private information for VIERA Cast is Keep or Reset if Hotel mode is set to [On] when TV power on Selection : Keep/Reset ● Keep: private information for VIERA Cast is keep ● Reset: private information for VIERA Cast is reset

6 Troubleshooting Guide

Use the self-check function to test the unit.

1. Checking the IIC bus lines
2. Power LED Blinking timing

6.1 Check of the IIC bus lines

6.1.1 How to access

6.1.2 Self-check indication only

Produce TV reception screen, and while pressing [VOLUME (-)] button on the main unit, press [OK] button on the remote control for more than 3 seconds.

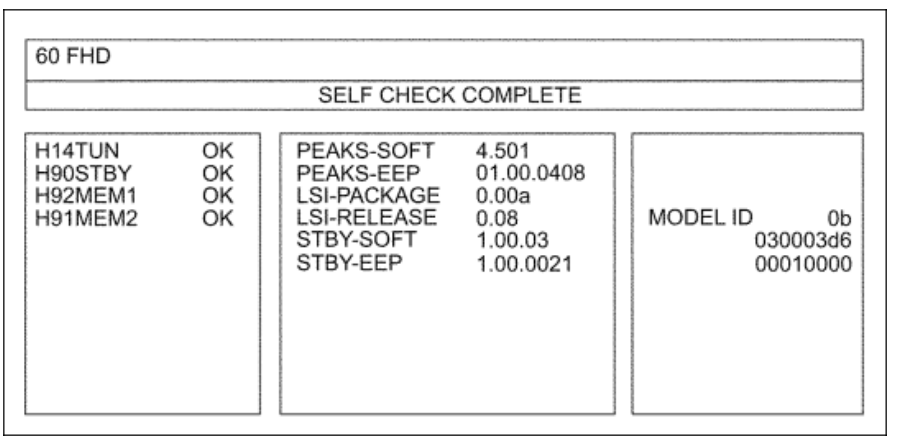
6.1.3 Self-check indication and forced to factory shipment setting

Produce TV reception screen, and while pressing [VOLUME (-)] button on the main unit, press [MENU] button on the remote control for more than 3 seconds.

6.1.4 Exit

Disconnect the AC cord from wall outlet.

6.1.5 Screen display



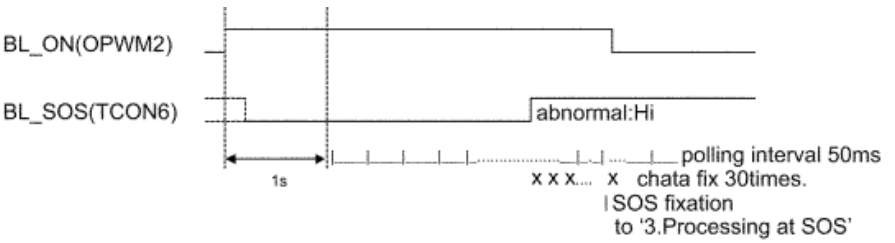
6.2 Power LED Blinking timing chart

1. Subject
   Information of LED Flashing timing chart.
2. Contents
   When an abnormality occurs, the protection circuit will operate and reset the unit to stand by mode. During this time, the defective block can be identified by the number of blinking times of the Power LED on the front panel of the unit as follow:

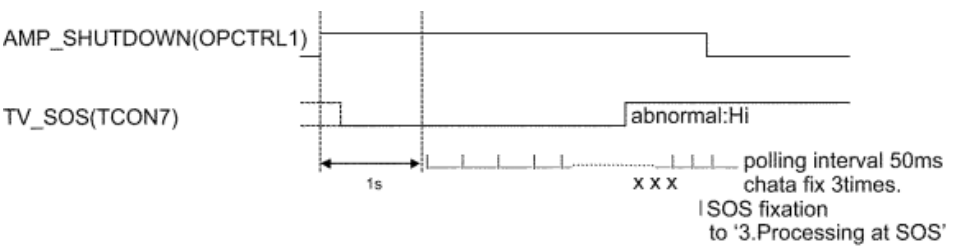
Blinking times	Contents & Check point
1	BL_SOS
3	IROM-SOS
6	FPGA_SOS
7	SUB_3.3V
8	SOS
9	SOUND_SOS
10	GCX/FRC_SOS
12	BE (sLD8/LD6/PRO4) SOS
13	Emergency SOS

6.3 Method of detecting SOS

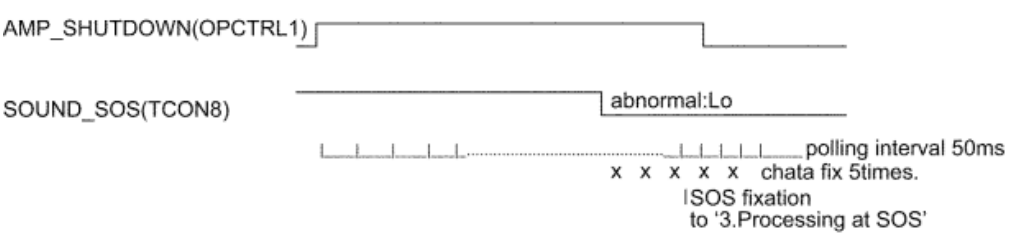
1. BL_SOS
2. Detection beginning after one second pass from 'BL_ON'=ON



1. TV_SOS
2. Detection beginning after one second pass from 'AMP_SHUTDOWN'=ON



1. SOUND_SOS
2. Detection beginning 'AMP_SHUTDOWN'=ON



6.4 LCD Panel test mode

Purpose:
To find the possible failure point where in LCD Panel or Printed Circuit Board when the abnormal picture is displayed.

How to Enter:
While pressing [VOLUME (-)] button of the main unit, press [OPTION] button of the remote control three times within 2seconds.

How to Exit:
Disconnect AC plug from wall outlet.

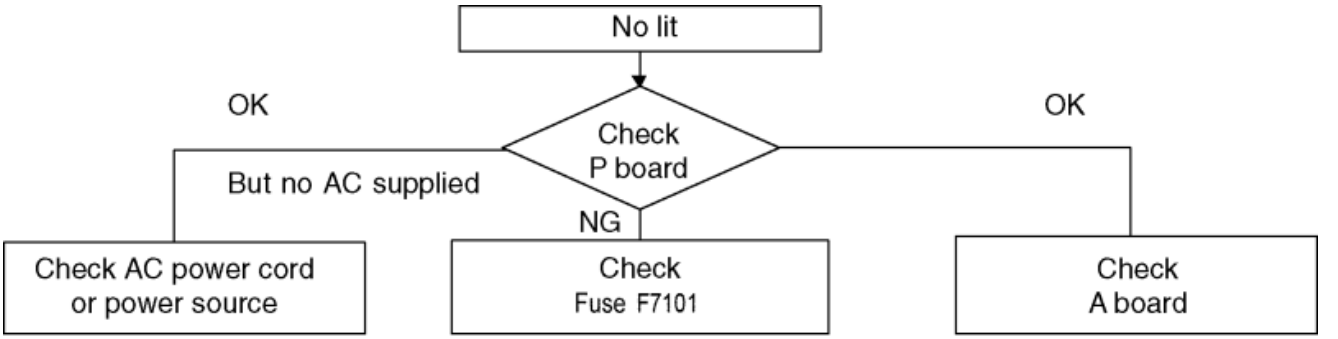
How to confirm:
If the abnormal picture is displayed, go into LCD Panel test mode to display the several test patterns.And then, judge by the following method.Still abnormal picture is displayed: The cause must be in LCD Panel.Normal picture is displayed: The cause must be in A board.

Remarks:
The test pattern is created by the circuit in LCD Panel.In LCD Panel test mode, this test pattern is displayed unaffected by signal processing for RF or input signal.If the normal picture is displayed, LCD Panel must be okay and the cause of failure must be in A board.

6.5 No Power

First check point
There are following 2 states of No Power indication by power LED.

1. No lit
2. Red is lit then turns red blinking a few seconds later. (See 6.2.)


No lit
Check
P board
OK
But no AC supplied
NG
OK
Check AC power cord
or power source
Check
Fuse F7101
Check
A board

6 Troubleshooting Guide

Use the self-check function to test the unit.

1. Checking the IIC bus lines
2. Power LED Blinking timing

6.1 Check of the IIC bus lines

6.1.1 How to access

6.1.2 Self-check indication only

Produce TV reception screen, and while pressing [VOLUME (-)] button on the main unit, press [OK] button on the remote control for more than 3 seconds.

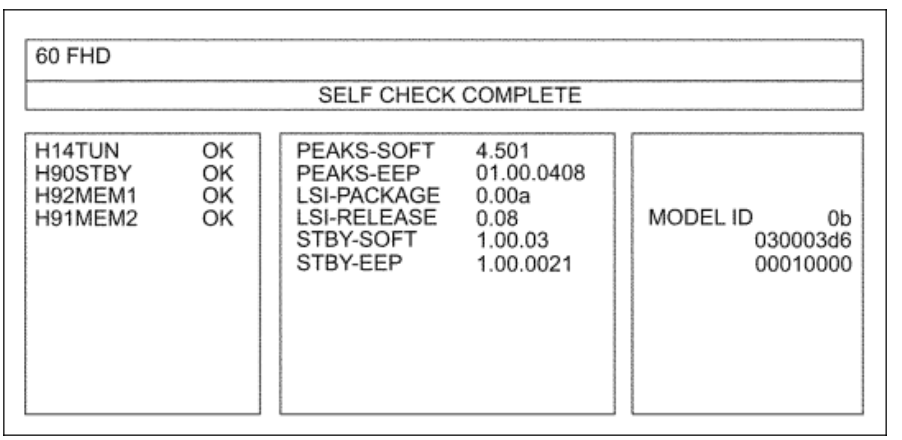
6.1.3 Self-check indication and forced to factory shipment setting

Produce TV reception screen, and while pressing [VOLUME (-)] button on the main unit, press [MENU] button on the remote control for more than 3 seconds.

6.1.4 Exit

Disconnect the AC cord from wall outlet.

6.1.5 Screen display



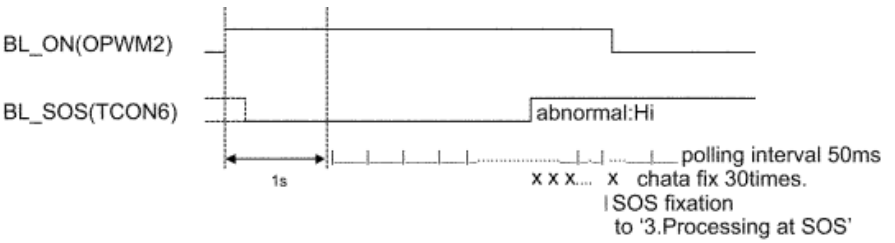
6.2 Power LED Blinking timing chart

1. Subject
   Information of LED Flashing timing chart.
2. Contents
   When an abnormality occurs, the protection circuit will operate and reset the unit to stand by mode. During this time, the defective block can be identified by the number of blinking times of the Power LED on the front panel of the unit as follow:

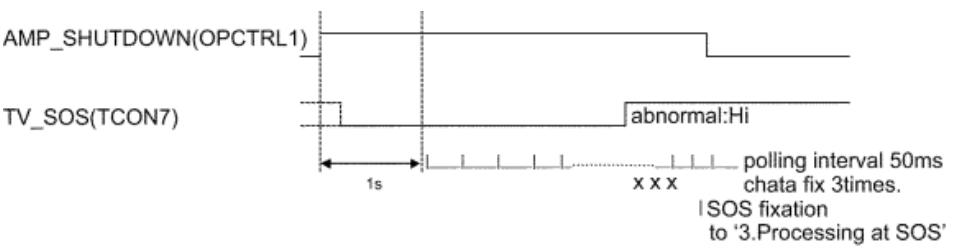
Blinking times	Contents & Check point
1	BL_SOS
3	IROM-SOS
6	FPGA_SOS
7	SUB_3.3V
8	SOS
9	SOUND_SOS
10	GCX/FRC_SOS
12	BE (sLD8/LD6/PRO4) SOS
13	Emergency SOS

6.3 Method of detecting SOS

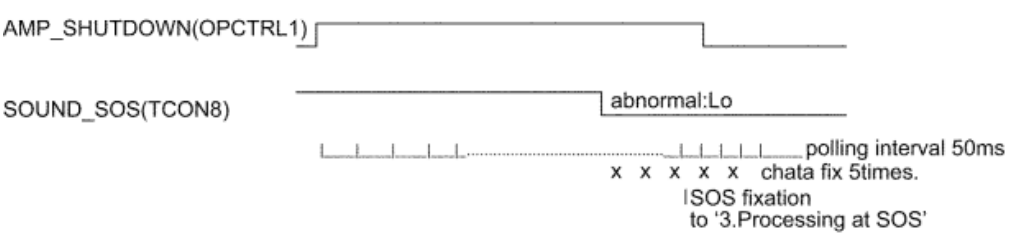
1. BL_SOS
2. Detection beginning after one second pass from 'BL_ON'=ON



1. TV_SOS
2. Detection beginning after one second pass from 'AMP_SHUTDOWN'=ON



1. SOUND_SOS
2. Detection beginning 'AMP_SHUTDOWN'=ON



6.4 LCD Panel test mode

Purpose:
To find the possible failure point where in LCD Panel or Printed Circuit Board when the abnormal picture is displayed.

How to Enter:
While pressing [VOLUME (-)] button of the main unit, press [OPTION] button of the remote control three times within 2seconds.

How to Exit:
Disconnect AC plug from wall outlet.

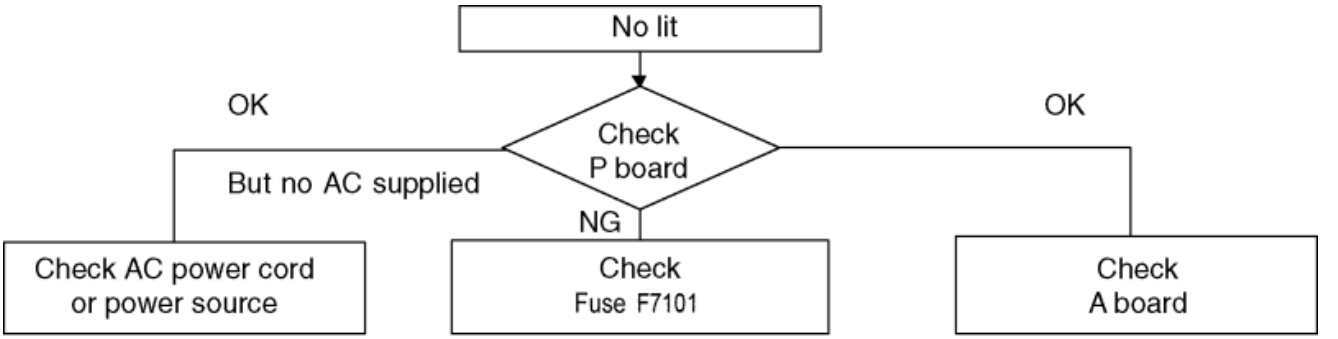
How to confirm:
If the abnormal picture is displayed, go into LCD Panel test mode to display the several test patterns.And then, judge by the following method.Still abnormal picture is displayed: The cause must be in LCD Panel.Normal picture is displayed: The cause must be in A board.

Remarks:
The test pattern is created by the circuit in LCD Panel.In LCD Panel test mode, this test pattern is displayed unaffected by signal processing for RF or input signal.If the normal picture is displayed, LCD Panel must be okay and the cause of failure must be in A board.

6.5 No Power

First check point
There are following 2 states of No Power indication by power LED.

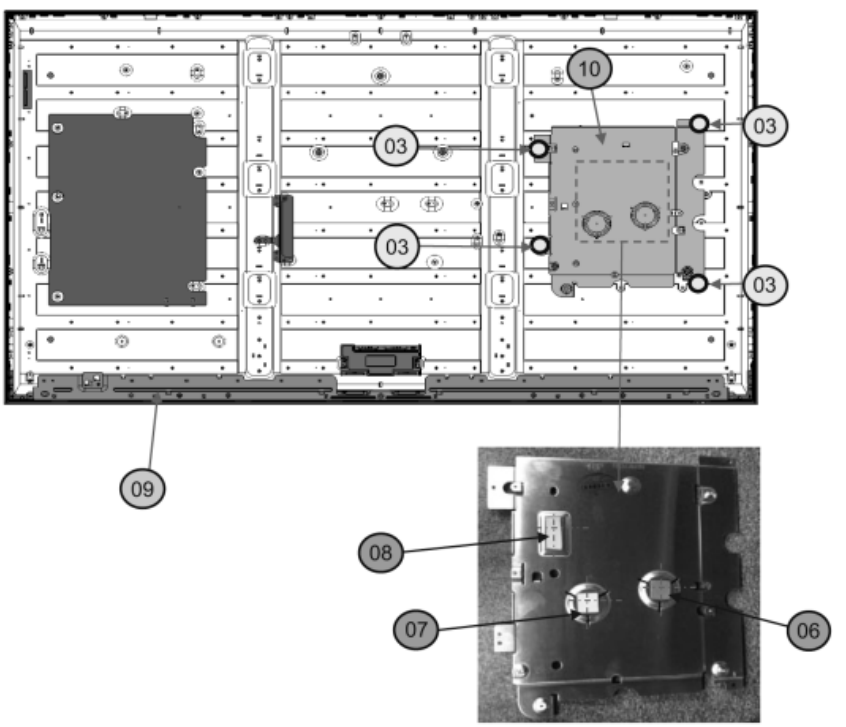
1. No lit
2. Red is lit then turns red blinking a few seconds later. (See 6.2.)

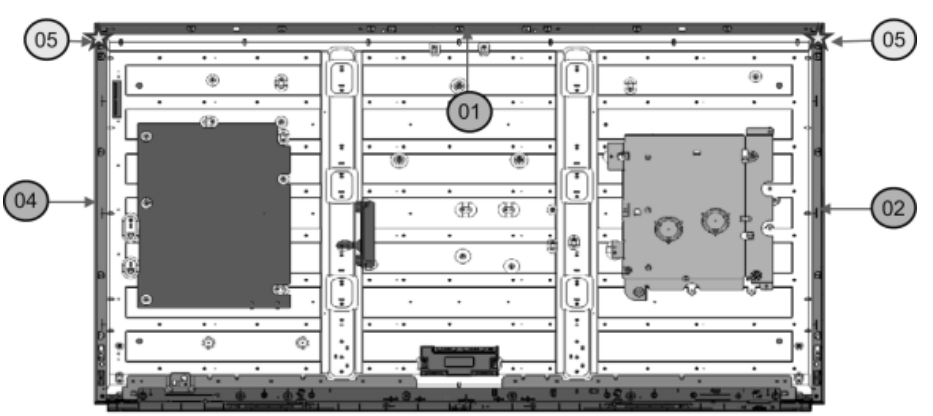

No lit
Check
P board
OK
But no AC supplied
NG
OK
Check AC power cord
or power source
Check
Fuse F7101
Check
A board

7 Disassembly and Assembly Instructions

7.1 Rear Panel Fitting

1. Fix heatsink bottom at panel and screw.
2. Stick heat rubber at heatsink.
3. Fix rear panel and screw.



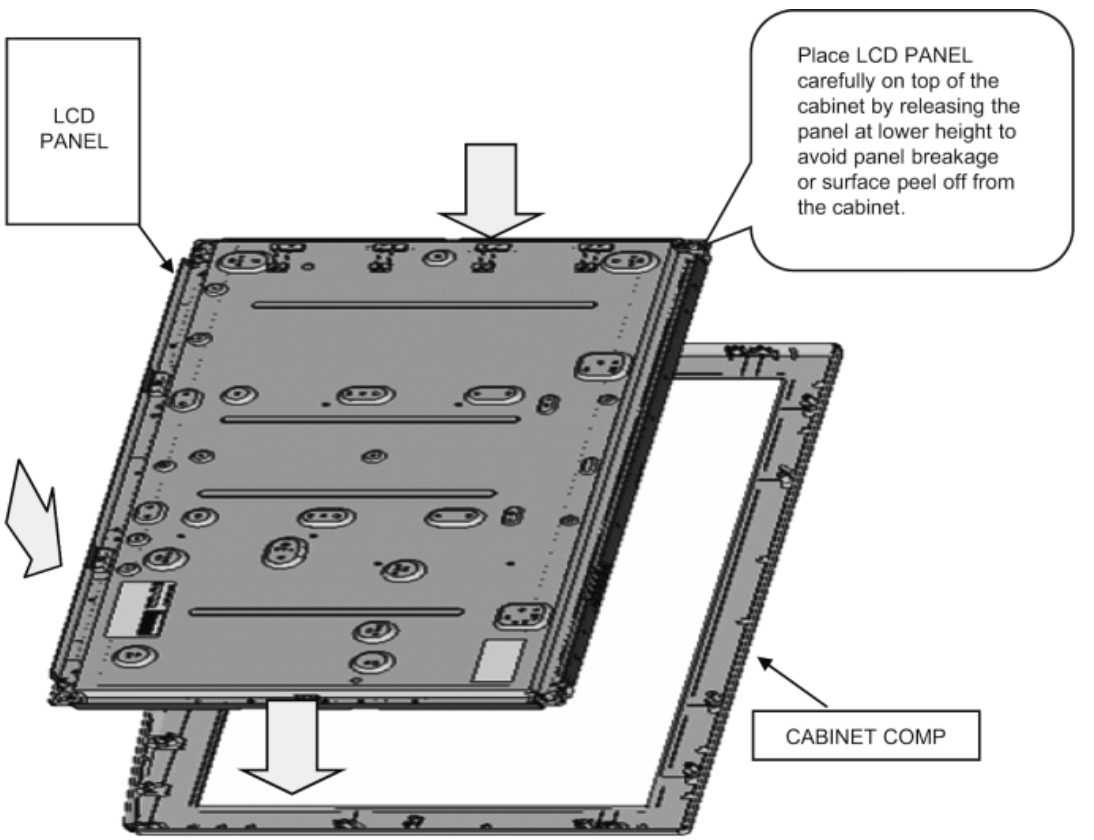


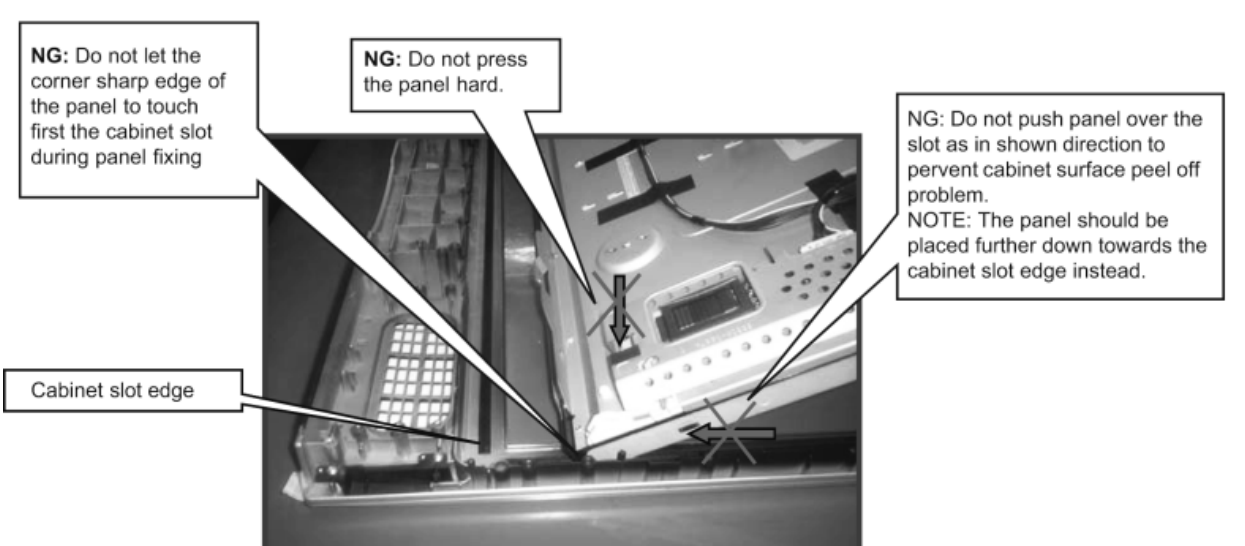
	NO	QTY	UOM	DESCRIPTION	REMARK
	01	1	PC	REAR_PANEL_T_ASSY	
	02	1	PC	REAR_PANEL_L_ASSY	
●	03	4	PC	SCREW (A:10_P:6_LD:4_ONC:8_CAM:2_WIFI:1)	5 ± 1 Kgf.cm
	04	1	PC	REAR_PANEL_R_ASSY	
★	05	2	PC	SCR (BC26_TU5_WIFI1_BT1_INLET1_F-PEDL/R4)	7 ± 1 Kgf.cm

	06	1	PC	CONDUCTIVE SHEET	
	07	1	PC	HEAT RUBBER	
	08	1	PC	HEAT_RUBBER (35*15*2.5)	
	09	1	PC	ORNAMENT_CASE_ASSY	
	10	1	PC	HEATSINK_BOTTOM	

7.2 LCD Panel Fixing & Handling Method

1. Place down the cabinet as shown below.
2. Fix LCD panel into the cabinet by taking below precautions.



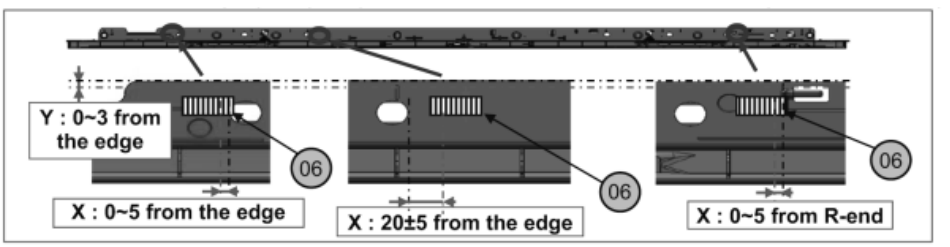


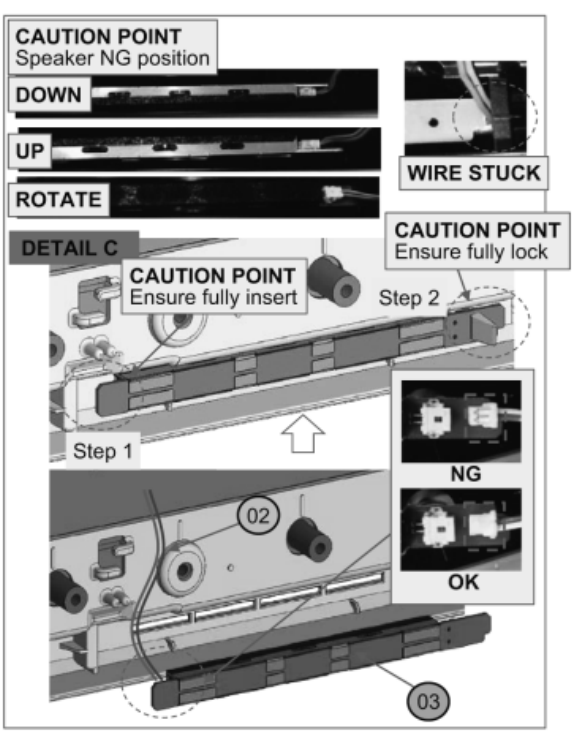
Other general precautions

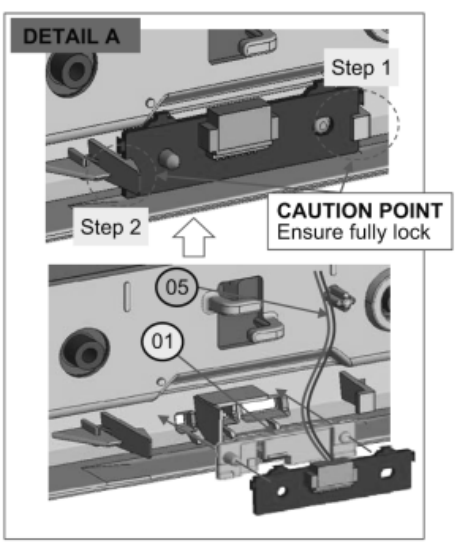
1. Do not press panel surface to avoid blue spot on the panel display.
2. Do not use hard cloth or rub the surface too hard. This may cause scratches on the surface.
3. Take care not to subject the TV's surface to water or detergent. Any liquid (including pets urine) if enters the product could lead to TV failure.
4. Take care not to subject the surface to insect repellent, solvent, thiner or other voiltile substances. This may degrade surface quality or cause peeling of the paint.
5. The surface of the display panel is specially treated and may be easily damaged. Take care not to tap or scratch with your fingernail or other hard objects.

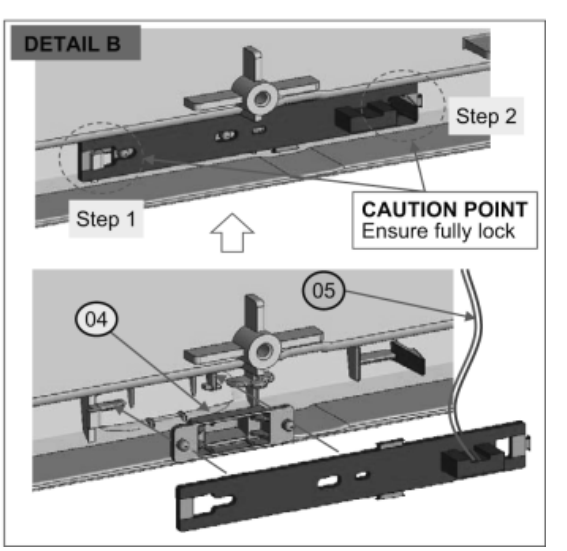
7.3 Ornament Preparation

1. Insert wire at all board.
2. Fix led panel, speaker and ir motion sensor at bottom ornament.







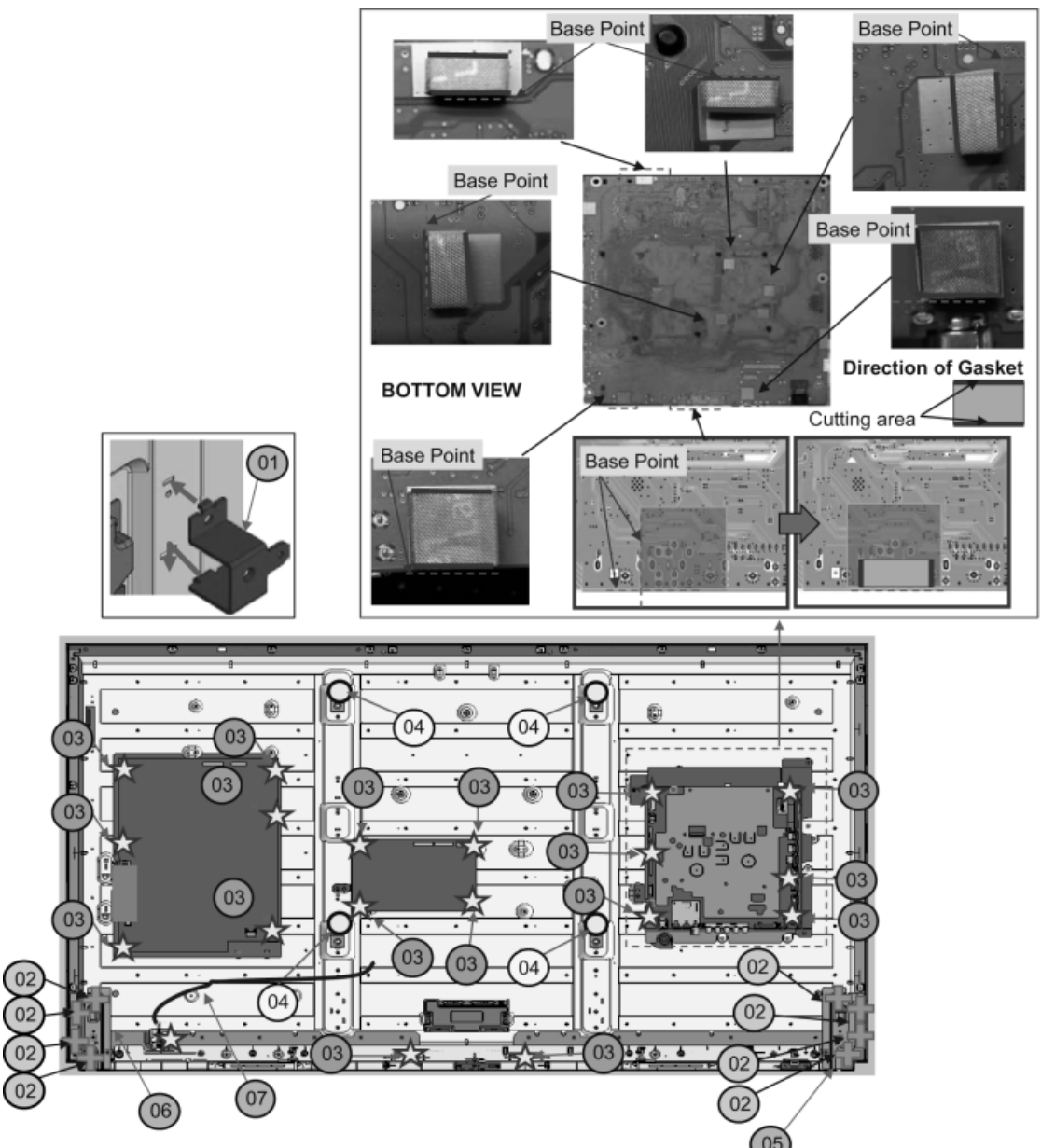


NO	QTY	UOM	DESCRIPTION
01	1	PC	LED_PANEL
02	1	PC	WIRE (A12-SPL/SPR/WF)

03	2	PC	SPEAKER_SQ
04	1	PC	IR_MOTION_SENSOR_LENS
05	1	PC	WIRE (A10-K10/BT/MD1)
06	3	PC	T0.45 × W10 × L20

7.4 Screw PCB

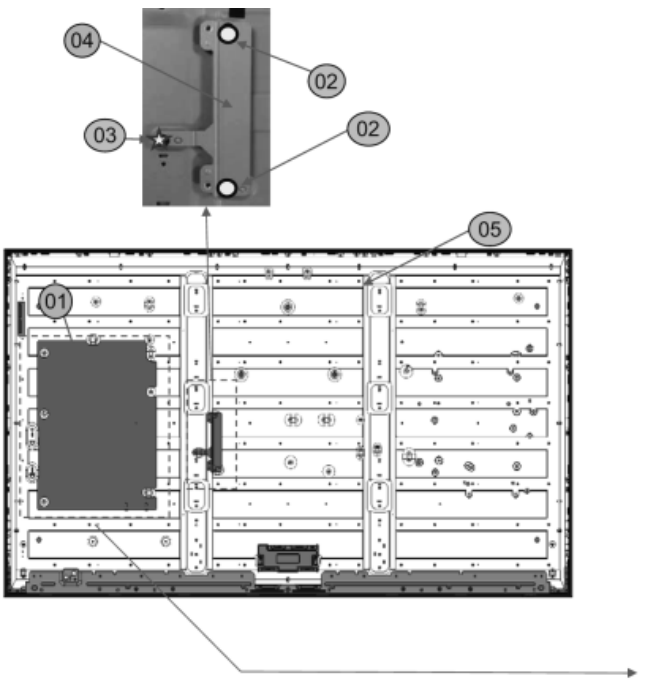
1. Fix vesa metal and bottom panel into panel and screw.

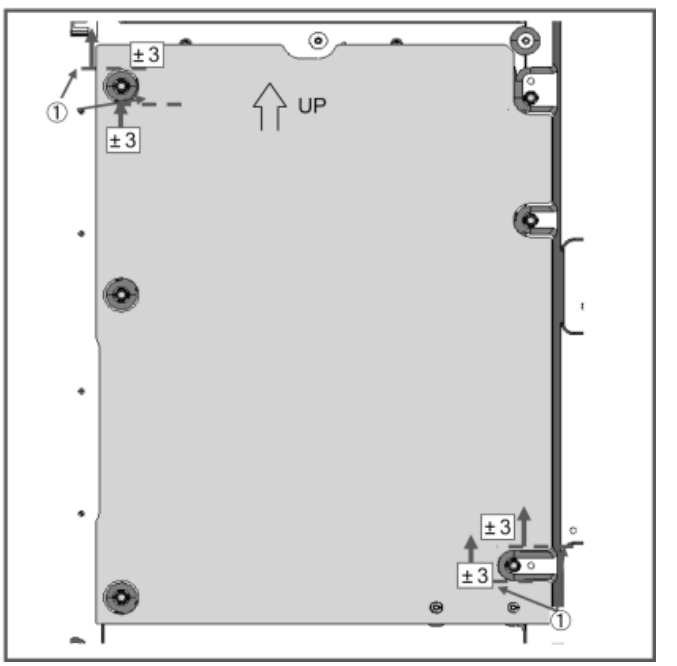


	NO	QTY	UOM	DESCRIPTION	REMARK
	01	4	PC	VESA METAL	
	02	8	PC	SCREW (RP:2 MTL BRKT BTM L/R:8 LD BRKT:2)	7 ± 1 Kgf.cm
	03	19	PC	SCREW (A:10_P:6_LD:4_ONC:8_CAM:2_WIFI:1)	5 ± 1 Kgf.cm
	04	4	PC	SCREW (VESA:4 MTL BRKT BTM:6 LD BRKT1)	6 ± 1 Kgf.cm
	05	1	PC	METAL_BRACKET_BTM_L	
	06	1	PC	METAL_BRACKET_BTM_R	
	07	1	PC	USB_WIRE (A-WIFI)	

7.5 Barrier Fitting

1. Stick barrier at panel.
2. Fix bracket at panel and screw.

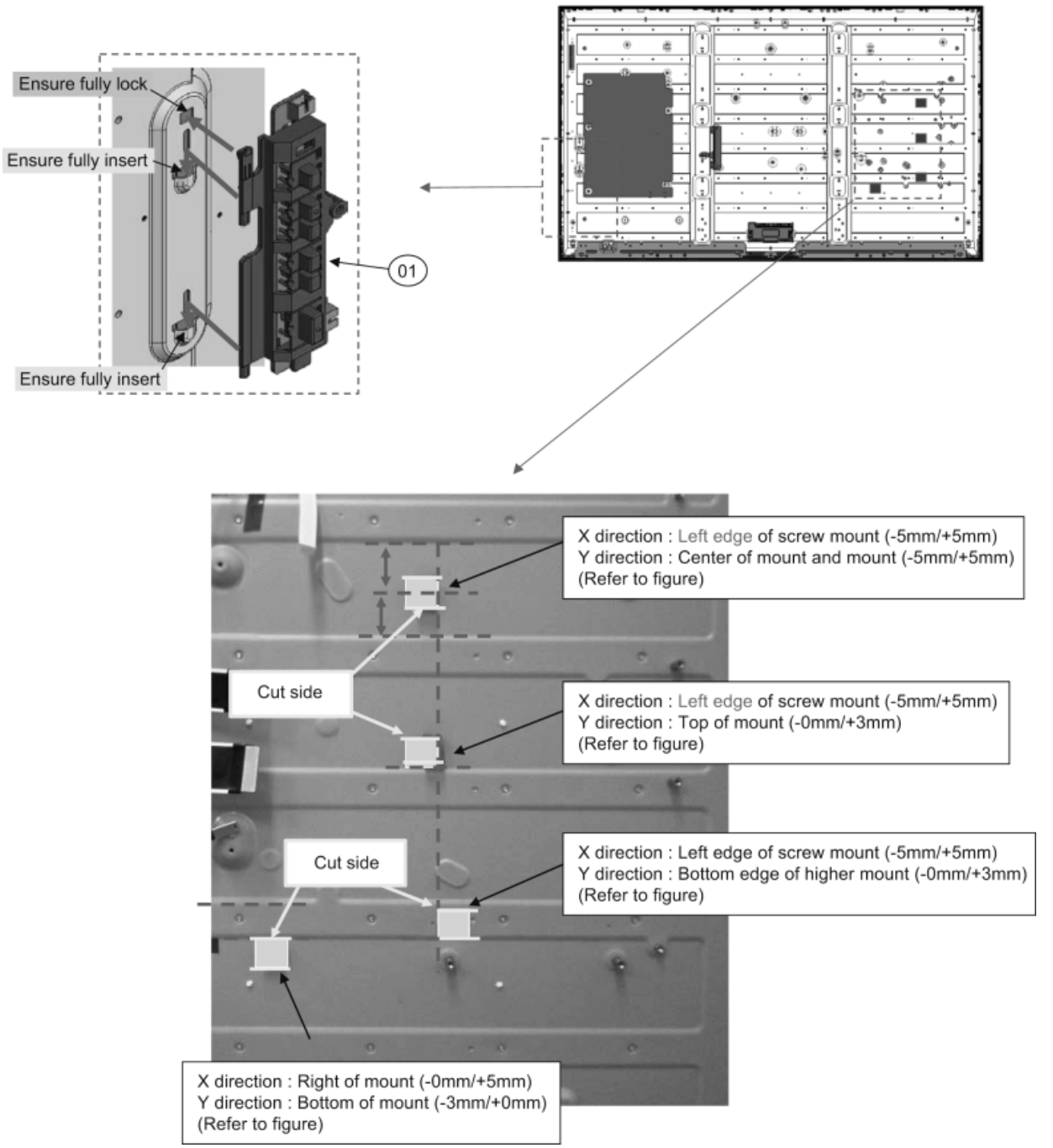




	NO	QTY	UOM	DESCRIPTION	REMARK
	01	1	PC	BARRIER_P-PCB	
	02	2	PC	SCREW (RP:2 MTL BRKT BTM L/R:8 LD BRKT:2)	6 ± 1 Kgf.cm
	03	1	PC	SCREW (VESA:4 MTL BRKT BTM:6 LD BRKT1)	7 ± 1 Kgf.cm
	04	1	PC	METAL BRACKET LD PCB	
	05	1	PC	LCD_PANEL	

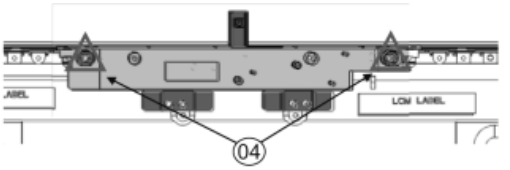
7.6 Gasket Fitting

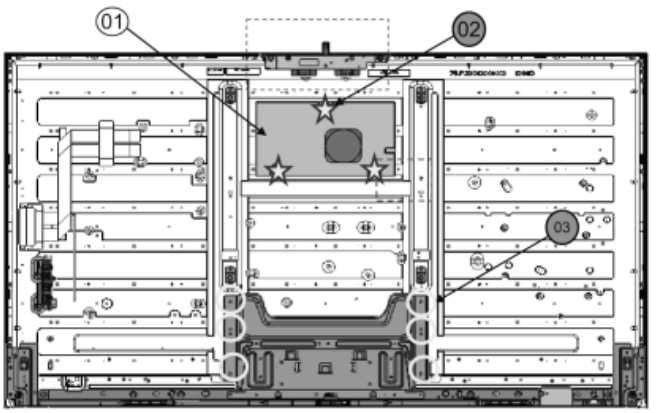
1. Stick gasket.

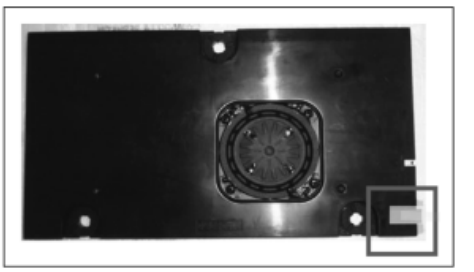


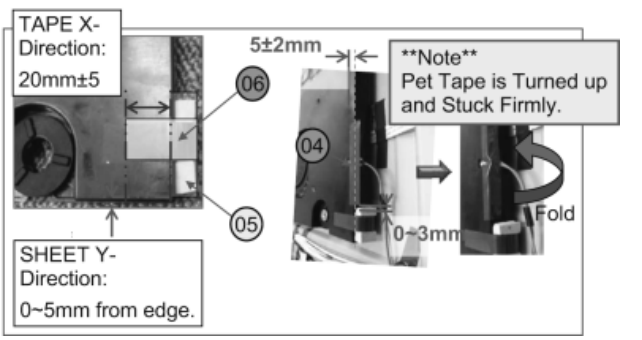
NO	QTY	UOM	DESCRIPTION
01	1	PC	KEY_BUTTON_BRACKET

7.7 Woofer Fixing





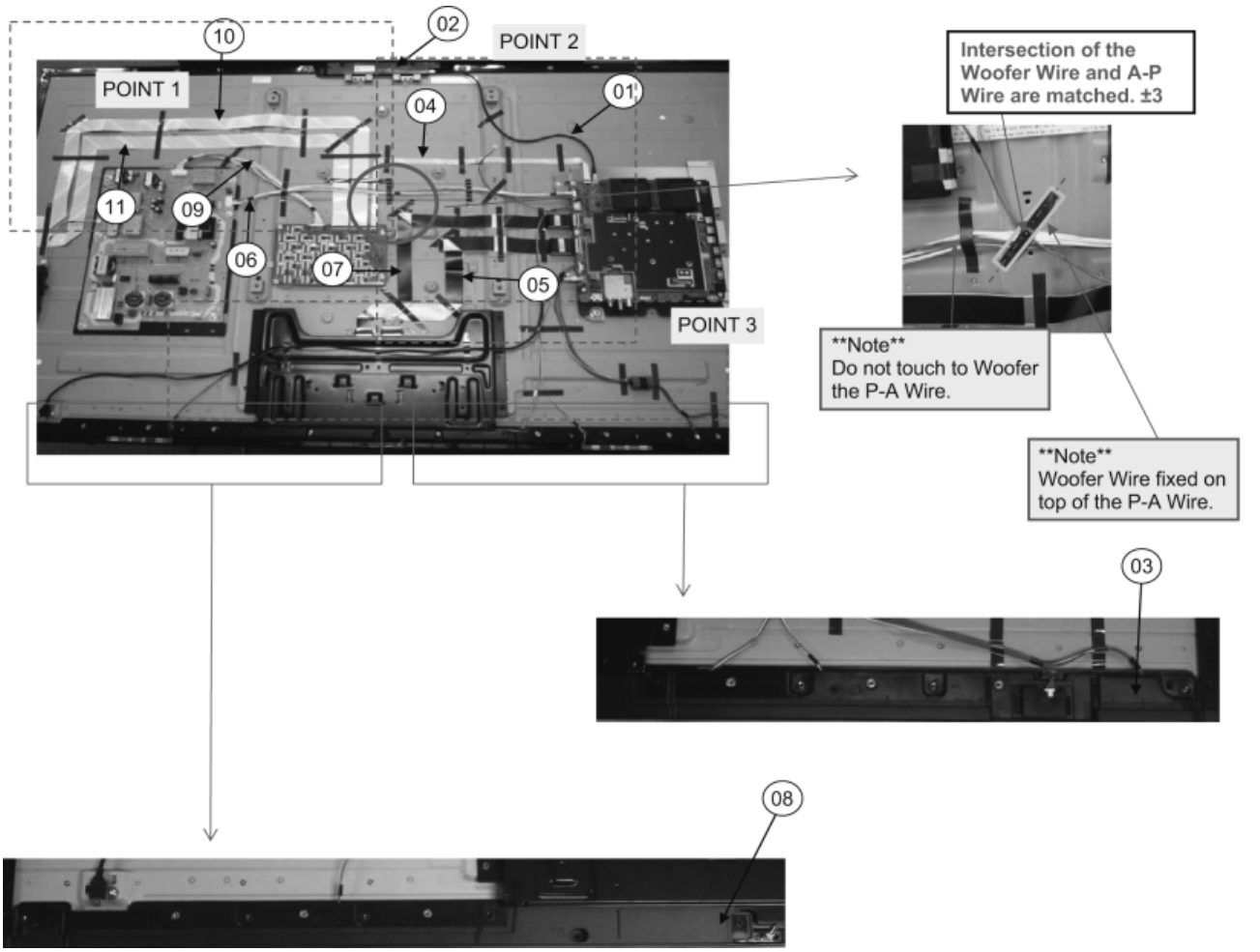




	NO	QTY	UOM	DESCRIPTION	REMARK
	01	1	PC	WOOFER	
☆	02	3	PC	SCREW (WOOFER:3)	6 ± 1 Kgf.cm
○	03	6	PC	SCREW (VESA:4 MTL BRKT BTM:6 LD BRKT1)	
△	04	2	PC	SCREW (A:10_P:6_LD:4_ONC:8_CAM:2_WIFI:1)	5 ± 1 Kgf.cm
	05	1	PC	THERMAL_CONDUCTIVE_SHEET (12*22*T5.0)	
	06	0.06	MT	PET_TAPE	

7.8 Wire Fitting Assembly

1. Fix camera module at panel.
2. Slot power bracket at pcb.
3. Fix bottom metal.
4. Fix ornament cover R first before insert ornament cover L.

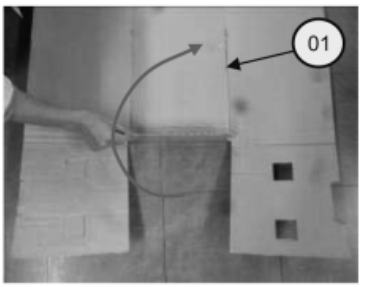


NO	QTY	UOM	DESCRIPTION
01	1	PC	USB_WIRE (A-CAMERA)
02	1	PC	CAMERA_MODULE
03	1	PC	ORNAMENT_COVER_L
04	1	PC	FFC (A-LD(13P)
05	1	PC	FFC_A-TCON_LVDS(51PIN)
06	1	PC	WIRE (A02-P2)
07	1	PC	FFC_LVDS (41PIN)
08	1	PC	ORNAMENT_COVER_R
09	1	PC	WIRE (P6-LD1)
10	1	PC	LD FFC 24pin UPPER
11	1	PC	LD FFC 24pin LOWERS
12	1	PC	WIRE (P5-GK4)

7.9 Bottom Carton

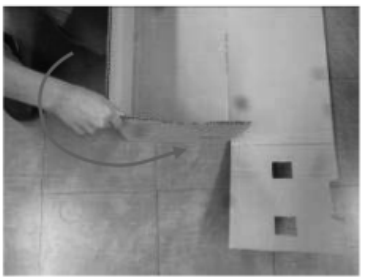
1. Fold bottom carton follow the step and fix pc joint. (Ensure packing case hole align before fix pc joint).

Step 1



Fold up packing case bottom side

Step 2



Fold packing case left side

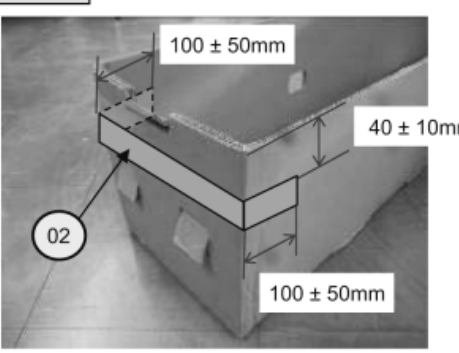
Step 3

Fold packing case right side

Step 4

Push packing case to lock the packing case

Step 5

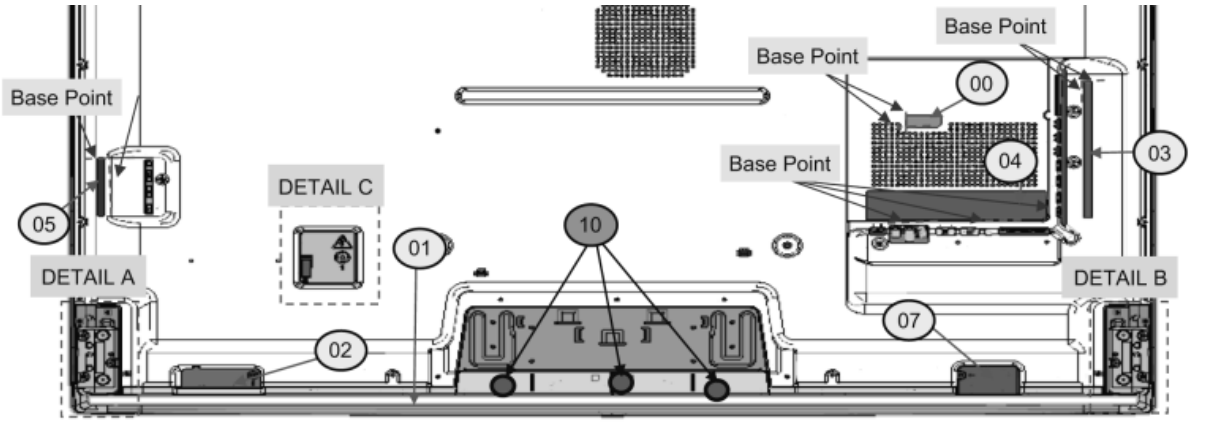


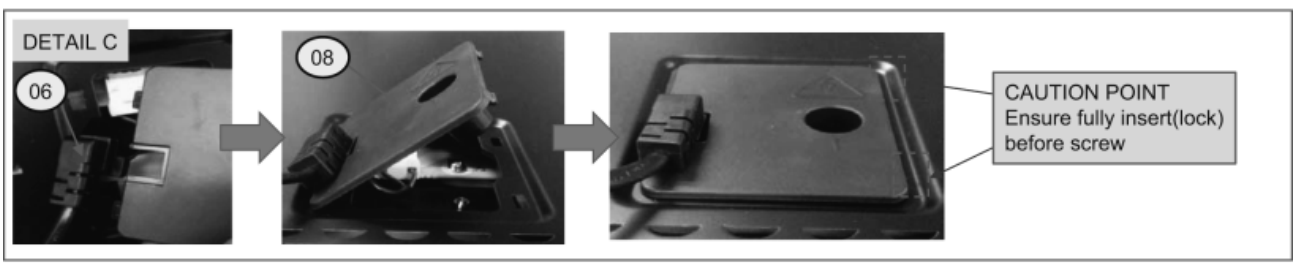
TAPE BOTTOM PACKING CASE

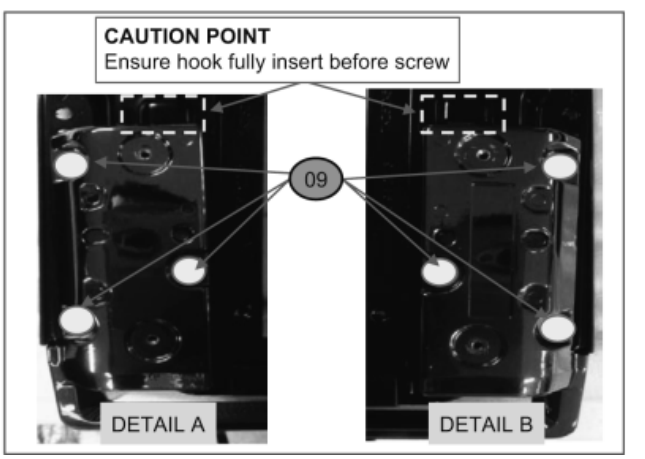
NO	QTY	UOM	DESCRIPTION	REMARK
01	1	PC	CARTON_BOTTOM	
02	3.92	MT	PP (CATOP2.03 BTM0.88/CUTOPL0.2 BOTR0.81)	2 pcs × 440 mm

7.10 Back Cover - Screw & BTM Ornament 1

1. Fix back cover, stick label at cover and screw.



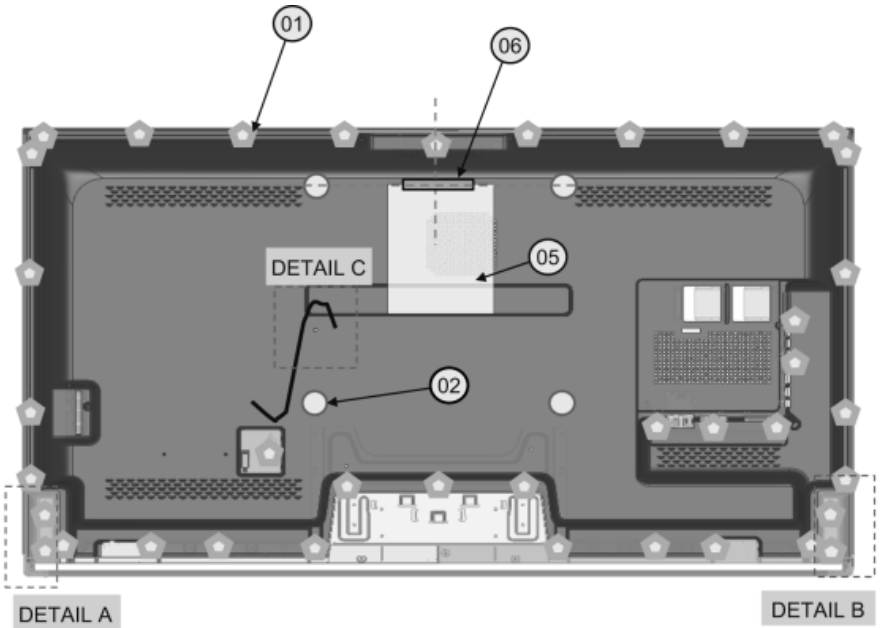


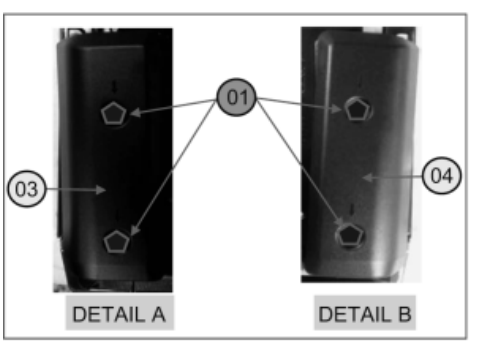


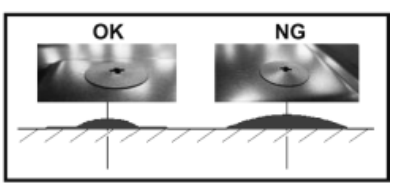
NO	QTY	UOM	DESCRIPTION	REMARK
01	1	PC	FRONT PEDESTAL ASSY	
02	1	PC	WIFI_MODULE	
03	1	PC	AV_INDI_SHEET_SIDE	
04	1	PC	AV_INDI_SHEET_BTM	
05	1	PC	KEY_BUTTON_SHEET	
06	1	PC	AC_CORD	
07	1	PC	BT_COVER	
08	1	PC	INLET_COVER	
09	6	PC	SCREW (F_PEDE_L/R-MTL_BRKT_BTM_L/R:6)	10 ± 1 Kgf.cm
10	3	PC	SCREW	6 ± 1 Kgf.cm

7.11 Back Cover - Screw & BTM Ornament 2

1. Fix back cover, stick label at cover and screw.



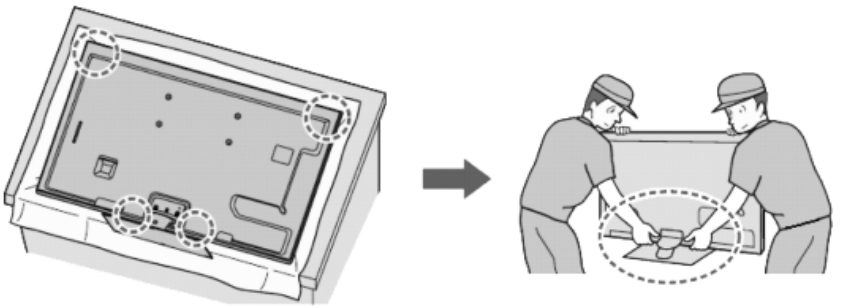




	NO	QTY	UOM	DESCRIPTION	REMARK
	01	38	PC	SCREW (RP:2 MTL BRKT BTM L/R:8 LD BRKT:2)	5 ± 1 Kgf.cm
	02	4	PC	M6_CAP	
	03	1	PC	FRONT_PEDESTAL_COVER_R	
	04	1	PC	FRONT_PEDESTAL_COVER_L	
	05	1	PC	FLIER_FOR_AC_CORD	
	06	0.08	MT	TAPE	

7.12 Handling SPEC

■Moving the LCD module
The module should be handle by two people and hold on that top and bottom long side by both hands without module warping. Never handle the module with keeping horizontal position when moving the module
■About the work table
When tightening a screw, retention structures are required not to deform the LCD module.
■Moving the TV
Hold the specified parts as shown to stand the TV up and move it with two people.



8 Measurements and Adjustments

8.1 Voltage chart of A-board

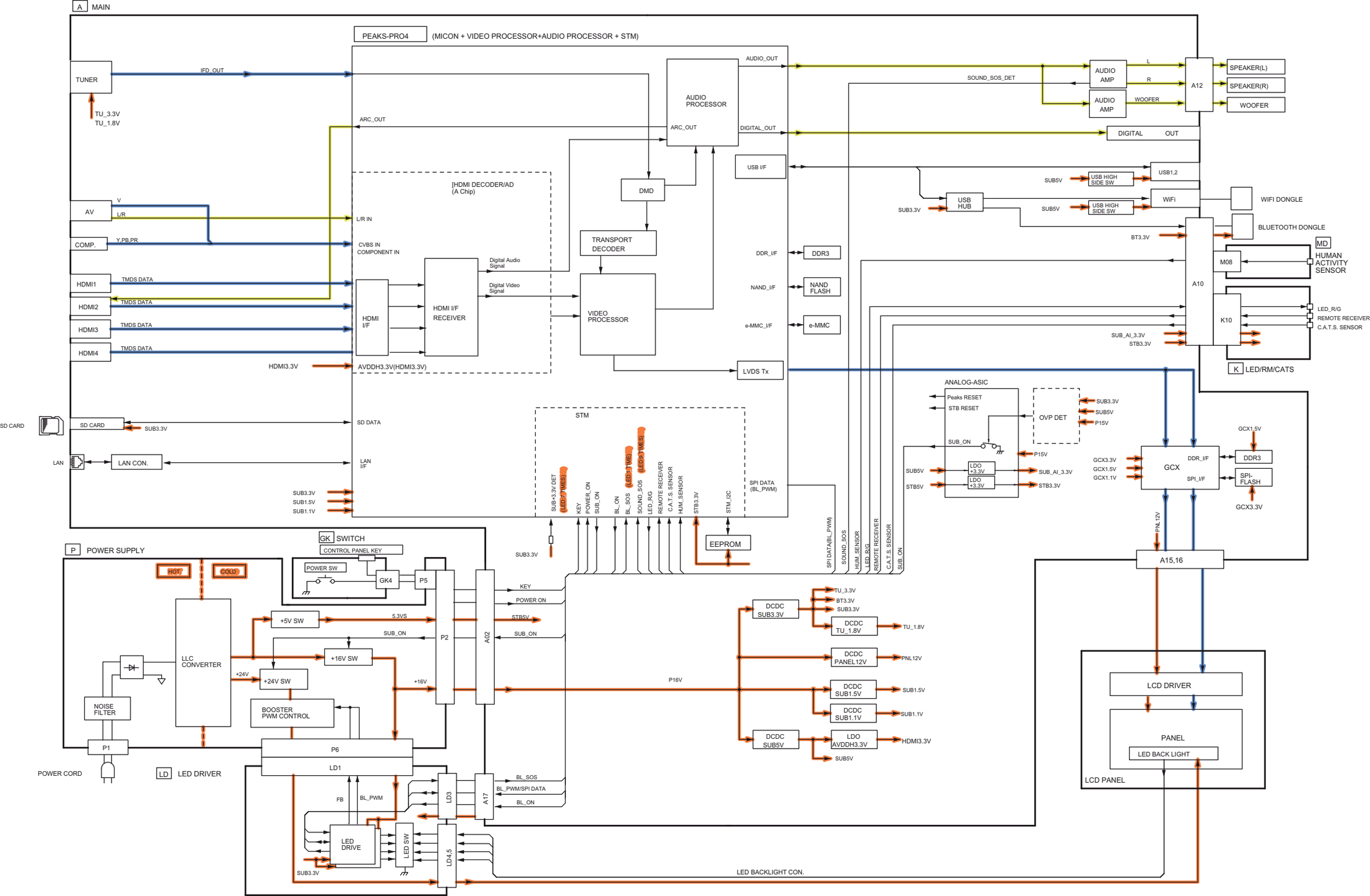
1. Set A-Board to a dummy set and check the satisfaction with the specified voltage as following table.

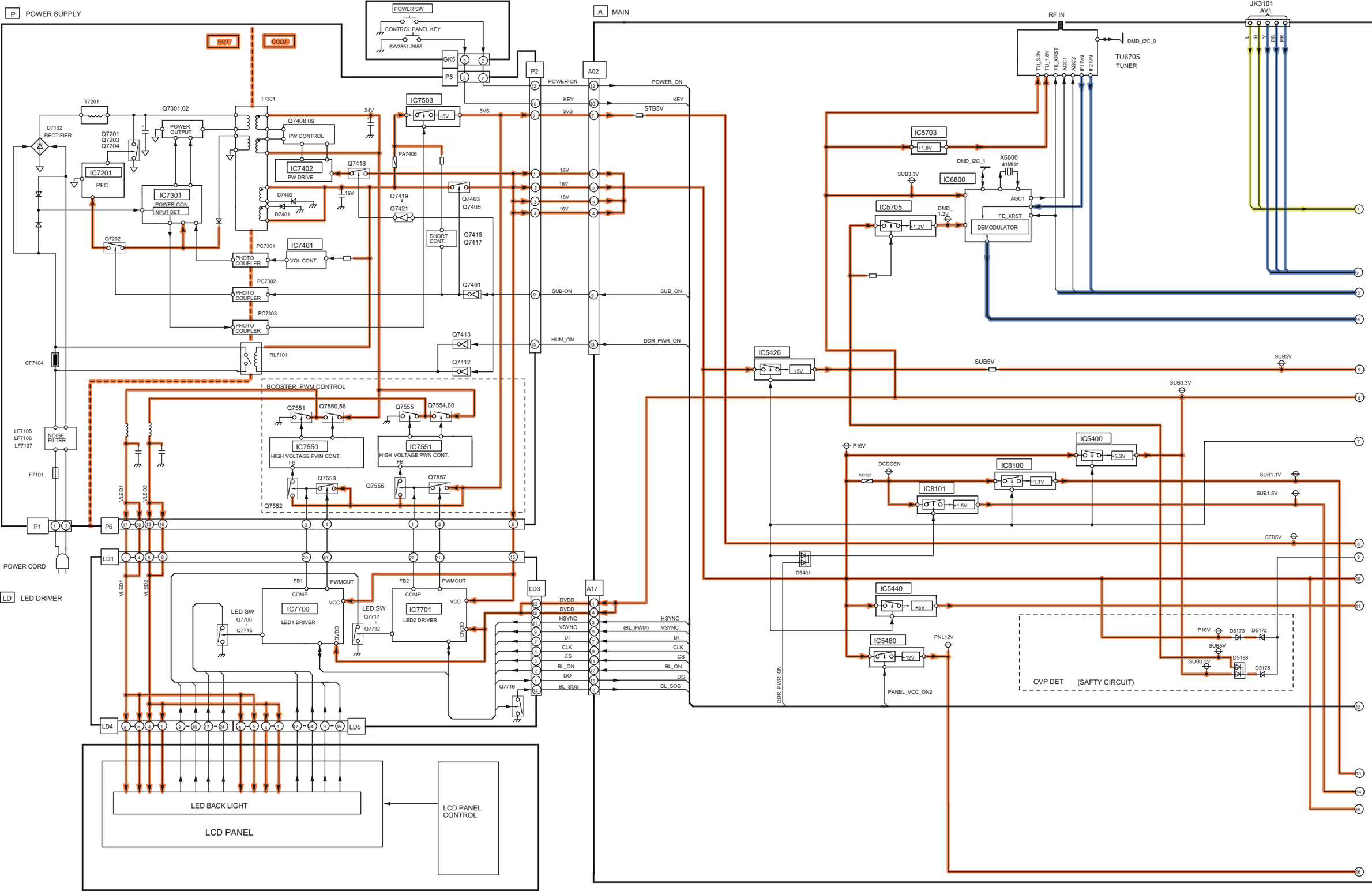
Power Supply Name	Measurement Point	Specification
PANEL12V	TP4000 / 4001	11.50V - 12.50V
SUB5V	TP5420	4.80V - 5.30V
USB5V	TP5440	5.00V - 5.40V
SUB3.3V	TP5401	3.20V - 3.50V
SUB1.8V	TP8714	1.70V - 1.90V
SUB1.5V	TP8101	1.38V - 1.54V
SUB1.1V	TP8100	1.00V - 1.24V
HDMI3.3V	TP8701	3.16V - 3.50V
GCX1.5V	TP9501	1.38V - 1.54V
GCX1.1V	TP9500	1.10V - 1.24V
REG_1.8V	TP5702	1.70V - 1.90V

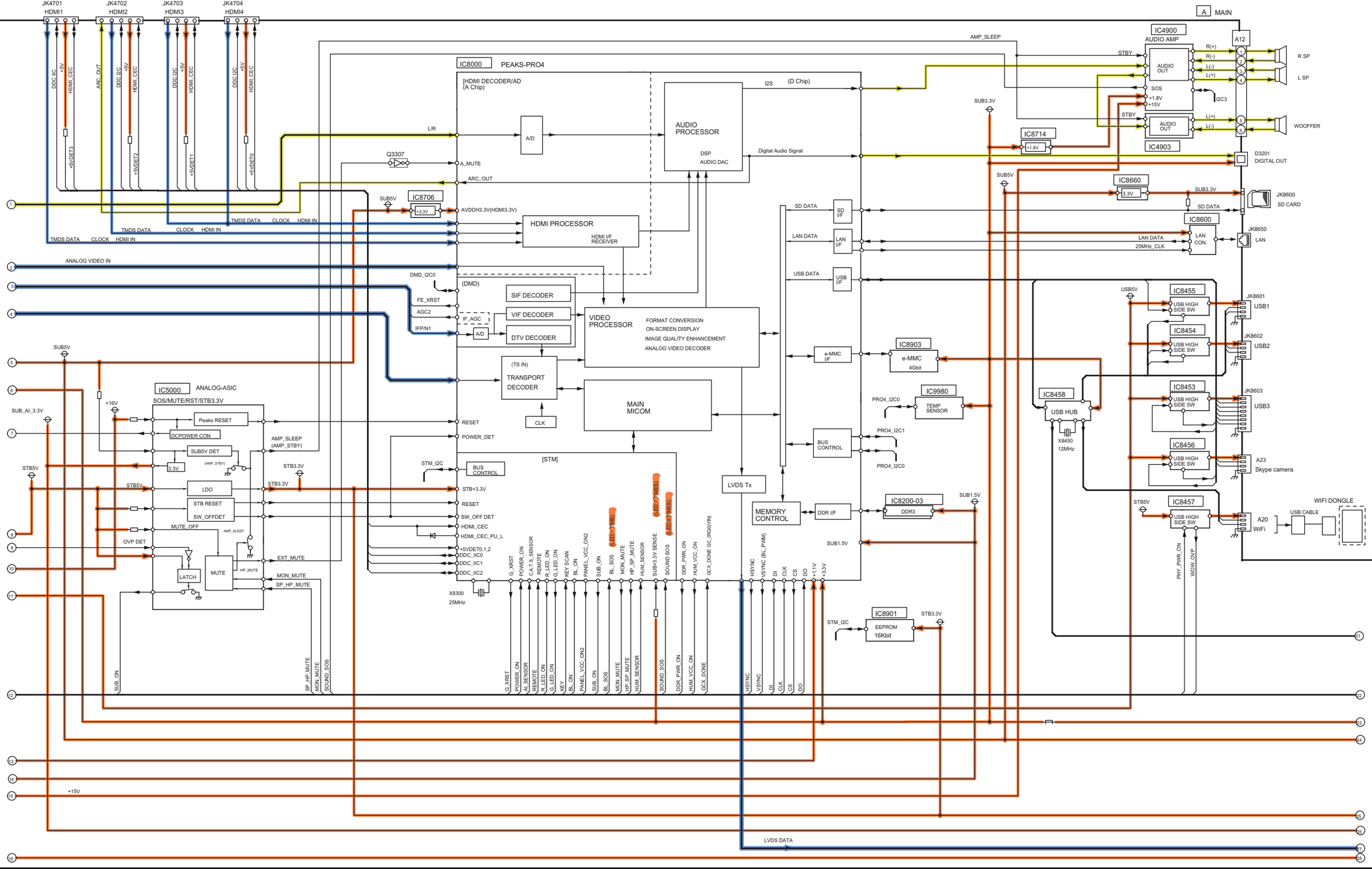
8.2 Voltage chart of P-board

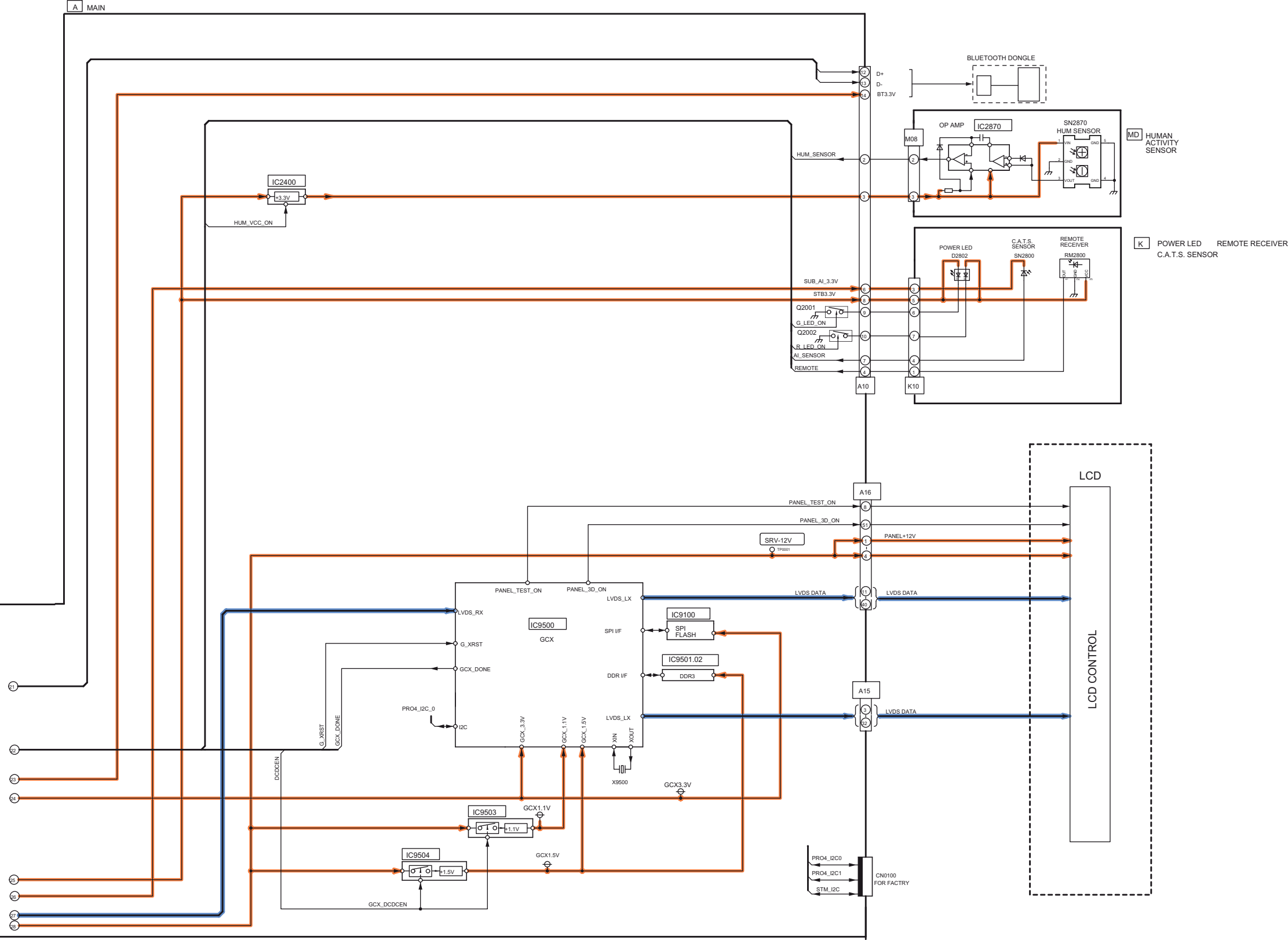
1. Set P-Board to a dummy load and check the satisfaction with the specified voltage as following table.

Output	Test Point	Step 1	Step 2	
24V	TP7407	<1V	24 ± 2.4V	
16V	TP7410	<1V	16 ± 0.8V	
5VS	TP7501	5.25 ± 0.25V	5.25 ± 0.25V	
PFC	TP7201 or TP7202	<340V	390V ± 15V	*HOT


A MAIN
PEAKS-PRO4
(MICON + VIDEO PROCESSOR+AUDIO PROCESSOR + STM)
TUNER
IFD_OUT
TU_3.3V
TU_1.8V
AV
V
L/R
COMP.
Y,PB,PR
HDMI1
HDMI2
HDMI3
HDMI4
TMDS DATA
HDMI3.3V
[HDMI DECODER/AD
(A Chip)
L/R IN
CVBS IN
COMPONENT IN
HDMI I/F
HDMI I/F
RECEIVER
Digital Audio
Signal
Digital Video
Signal
AVDDH3.3V(HDMI3.3V)
ARC_OUT
AUDIO
PROCESSOR
AUDIO_OUT
DIGITAL_OUT
DMD
TRANSPORT
DECODER
VIDEO
PROCESSOR
USB I/F
DDR_I/F
DDR3
NAND_I/F
NAND
FLASH
e-MMC_I/F
e-MMC
LVDS Tx
SOUND_SOS_DET
AUDIO
AMP
L
R
WOOFER
A12
SPEAKER(L)
SPEAKER(R)
WOOFER
DIGITAL OUT
USB HUB
SUB3.3V
SUB5V
USB HIGH
SIDE SW
USB1,2
WiFi
WIFI DONGLE
BLUETOOTH DONGLE
BT3.3V
A10
M08
MD
HUMAN
ACTIVITY
SENSOR
K10
LED_R/G
REMOTE RECEIVER
C.A.T.S. SENSOR
SUB_AI_3.3V
STB3.3V
K LED/RM/CATS
SD CARD
SD DATA
LAN
LAN CON.
LAN
I/F
STM
SUB+3.3V DET
(LED-7 WES)
KEY
POWER_ON
SUB_ON
BL_ON
BL_SOS
(LED-11 WE)
SOUND_SOS
(LED9-7 WES)
LED_R/G
REMOTE RECEIVER
C.A.T.S. SENSOR
HUM_SENSOR
STB3.3V
STM_I2C
SPI DATA
(BL_PWM)
EEPROM
SUB3.3V
SUB1.5V
SUB1.1V
ANALOG-ASIC
Peaks RESET
STB RESET
SUB_ON
OVP DET
P15V
LDO
+3.3V
SUB_AI_3.3V
STB3.3V
GCX
DDR_I/F
SPI_I/F
DDR3
SPI-
FLASH
GCX1.5V
GCX3.3V
GCX1.1V
PNL12V
A15,16
P POWER SUPPLY
HOT
COLD
GK SWITCH
CONTROL PANEL KEY
POWER SW
GK4
P5
P2
A02
KEY
POWER ON
STB5V
SUB_ON
+5V SW
5.3VS
+16V SW
+24V SW
+24V
+16V
P16V
LLC
CONVERTER
NOISE
FILTER
BOOSTER
PWM CONTROL
P1
P6
LD1
POWER CORD
LD LED DRIVER
DCDC
SUB3.3V
DCDC
TU_1.8V
TU_1.8V
DCDC
PANEL12V
PNL12V
DCDC
SUB1.5V
SUB1.5V
DCDC
SUB1.1V
SUB1.1V
DCDC
SUB5V
LDO
AVDDH3.3V
HDMI3.3V
SUB5V
LCD DRIVER
PANEL
LED BACK LIGHT
LCD PANEL
FB
BL_PWM
LD3
A17
BL_SOS
BL_PWM/SPI DATA
BL_ON
LED
DRIVE
LED SW
LD4,5
LED BACKLIGHT CON.


P POWER SUPPLY
A MAIN
LD LED DRIVER
HOT
COLD
POWER SW
CONTROL PANEL KEY
SW2851-2855
GK5
P5
P2
A02
POWER-ON
KEY
5VS
SUB-ON
HUM_ON
POWER_ON
KEY
STB5V
SUB_ON
DDR_PWR_ON
T7201
T7301
Q7301,02
D7102
RECTIFIER
Q7201
Q7203
Q7204
IC7201
PFC
POWER OUTPUT
Q7408,09
PW CONTROL
IC7402
PW DRIVE
IC7301
POWER CON.
INPUT DET.
24V
IC7503
+5V
PA7406
Q7418
Q7419
Q7421
Q7403
Q7405
D7402
D7401
16V
Q7202
PC7301
PC7302
PC7303
PHOTO COUPLER
IC7401
VOL CONT.
SHORT CONT.
Q7416
Q7417
Q7401
Q7413
Q7412
RL7101
CF7104
BOOSTER PWM CONTROL
Q7551
Q7550,58
Q7555
Q7554,60
IC7550
IC7551
HIGH VOLTAGE PWN CONT.
FB
Q7553
Q7556
Q7557
Q7552
LF7105
LF7106
LF7107
NOISE FILTER
F7101
VLED1
VLED2
P1
P6
LD1
POWER CORD
FB1
FB2
PWMOUT
COMP
VCC
IC7700
IC7701
LED1 DRIVER
LED2 DRIVER
LED SW
Q7700
Q7715
Q7717
Q7732
DVDD
LD3
A17
DVDD
HSYNC
VSYNC
(BL_PWM)
DI
CLK
CS
BL_ON
DO
BL_SOS
Q7716
LD4
LD5
LED BACK LIGHT
LCD PANEL
LCD PANEL CONTROL
RF IN
TU6705
TUNER
DMD_I2C_0
TU_3.3V
TU_1.8V
FE_XRST
AGC1
AGC2
IF1PN
IF2PN
JK3101
AV1
L
R
Y
PB
PR
IC5703
+1.8V
DMD_I2C_1
X6800
41MHz
SUB3.3V
IC6800
IC5705
+1.2V
DMD_1.2V
DEMODULATOR
FE_XRST
IC5420
+5V
SUB5V
SUB3.3V
P16V
DCDCEN
PA2002
IC5400
+3.3V
IC8100
+1.1V
IC8101
+1.5V
SUB1.1V
SUB1.5V
STB5V
D5401
IC5440
+5V
IC5480
+12V
PNL12V
PANEL_VCC_ON2
OVP DET
(SAFTY CIRCUIT)
D5173
D5172
D5188
D5178

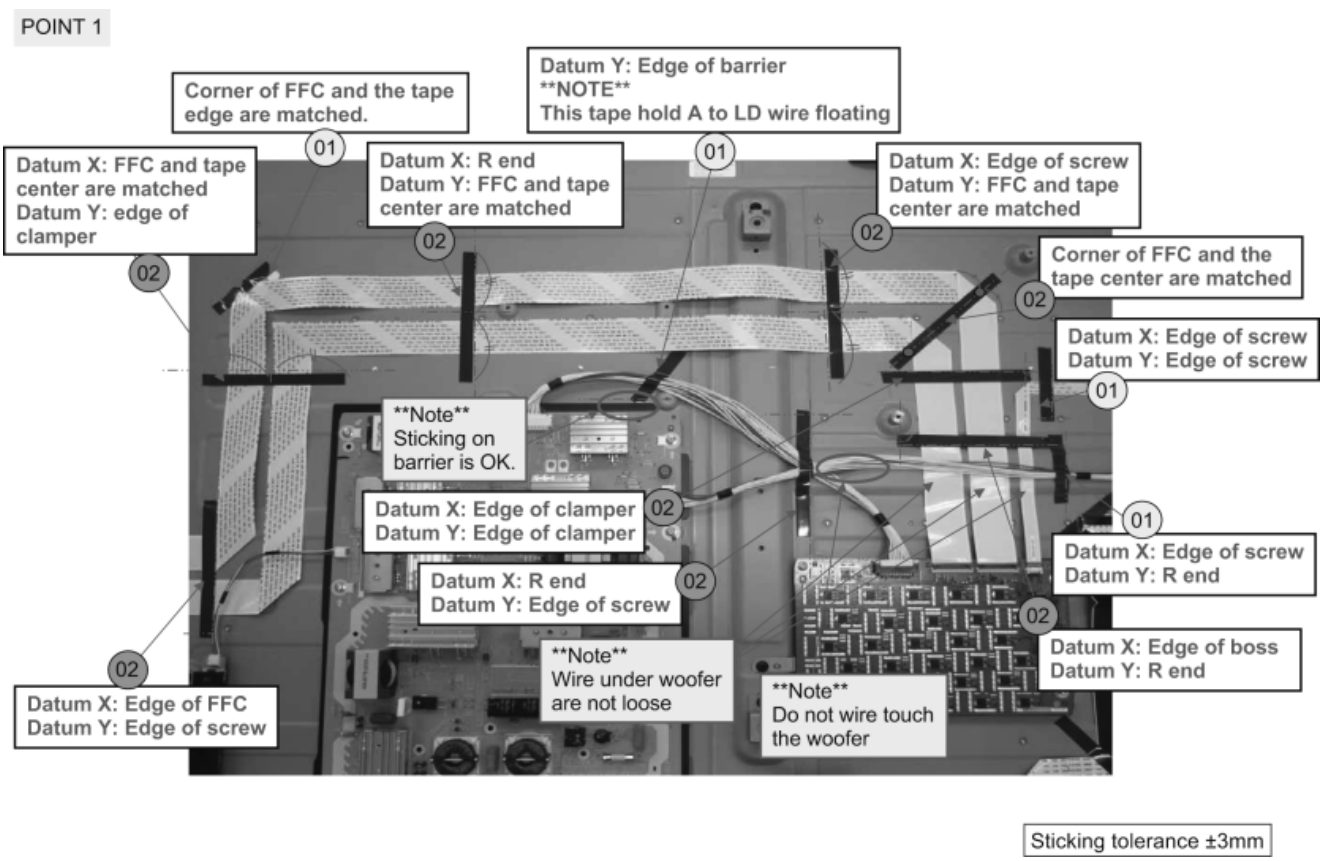

A MAIN
JK4701 HDMI1
JK4702 HDMI2
JK4703 HDMI3
JK4704 HDMI4
DDC IIC
+5V
HDMI CEC
+5VDET3
ARC_OUT
DDC I2C
+5VDET2
DDC1I2C
+5VDET1
DDC2I2C
+5VDET0
TMDS DATA
CLOCK
HDMI IN
ANALOG VIDEO IN
IC8000
PEAKS-PRO4
[HDMI DECODER/AD (A Chip)
A/D
L/R
Q3307
A_MUTE
ARC_OUT
IC8706
+3.3V
AVDDH3.3V(HDMI3.3V)
HDMI PROCESSOR
HDMI I/F RECEIVER
DMD_I2C0
(DMD)
FE_XRST
AGC2
IF_AGC
IFP/N1
SIF DECODER
VIF DECODER
DTV DECODER
VIDEO PROCESSOR
FORMAT CONVERSION
ON-SCREEN DISPLAY
IMAGE QUALITY ENHANCEMENT
ANALOG VIDEO DECODER
(TS IN)
TRANSPORT DECODER
CLK
MAIN MICOM
RESET
POWER_DET
[STM]
STM_I2C
BUS CONTROL
STB+3.3V
RESET
SW_OFF DET
HDMI_CEC
HDMI_CEC_PU_L
+5VDET0,1,2
DDC_IIC0
DDC_IIC1
DDC_IIC2
X8300
25MHz
G_XRST
POWER_ON
AI_SENSOR
REMOTE
R_LED_ON
G_LED_ON
KEY
BL_ON
PANEL_VCC_ON2
SUB_ON
BL_SOS
MON_MUTE
HP_SP_MUTE
HUM_SENSOR
SUB+3.3V SENSE
SOUND SOS
DDR_PWR_ON
HUM_VCC_ON
GCX_DONE GC_IRQ(VN)
(LED-1 WE)
(LED-2 WE)
(LED-3 WE)
I2S
(D Chip)
AUDIO PROCESSOR
DSP
AUDIO DAC
Digital Audio Signal
SD DATA
SD I/F
LAN DATA
LAN I/F
USB DATA
USB I/F
e-MMC I/F
BUS CONTROL
DDR I/F
LVDS Tx
MEMORY CONTROL
HSYNC
VSYNC (BL_PWM)
DI
CLK
CS
DO
+1.1V
+3.3V
LVDS DATA
IC5000
ANALOG-ASIC
SOS/MUTE/RST/STB3.3V
Peaks RESET
DCPOWER CON
SUB5V DET
(AMP_STBY)
3.3V
LDO
STB RESET
SW_OFFDET
MUTE_OFF
OVP DET
LATCH
MUTE
HP_MUTE
EXT_MUTE
MON_MUTE
SP_HP_MUTE
AMP_SLEEP
(AMP_STBY)
SUB5V
STB5V
STB3.3V
SUB_AI_3.3V
+16V
+15V
IC8903
e-MMC
4Gbit
IC9980
TEMP SENSOR
PRO4_I2C0
PRO4_I2C1
IC8200-03
DDR3
SUB1.5V
IC8901
EEPROM
16Kbit
IC4900
AUDIO AMP
STBY
AUDIO OUT
SOS
+1.8V
+15V
I2C3
R(+)
R(-)
L(-)
L(+)
A12
R SP
L SP
WOOFER
IC8714
+1.8V
IC4903
D3201
DIGITAL OUT
IC8660
3.3V
SUB3.3V
JK8600
SD CARD
IC8600
LAN CON.
LAN DATA
25MHz_CLK
JK8650
LAN
USB5V
IC8455
IC8454
IC8453
IC8456
IC8457
USB HIGH SIDE SW
JK8601
USB1
JK8602
USB2
JK8603
USB3
A23
Skype camera
A20
WiFi
WIFI DONGLE
USB CABLE
IC8458
USB HUB
X8450
12MHz
PHY_PWR_ON
WOW_OVP
SUB_ON
SP_HP_MUTE
MON_MUTE
SOUND_SOS
G_XRST
POWER_ON
AI_SENSOR
REMOTE
R_LED_ON
G_LED_ON
KEY
BL_ON
PANEL_VCC_ON2
SUB_ON
BL_SOS
MON_MUTE
HP_SP_MUTE
HUM_SENSOR
SOUND_SOS
DDR_PWR_ON
HUM_VCC_ON
GCX_DONE
HSYNC
VSYNC
DI
CLK
CS
DO


A MAIN
BLUETOOTH DONGLE
D+
D-
BT3.3V
MD HUMAN ACTIVITY SENSOR
OP AMP
IC2870
SN2870
HUM SENSOR
M08
HUM_SENSOR
IC2400
+3.3V
HUM_VCC_ON
K POWER LED REMOTE RECEIVER C.A.T.S. SENSOR
POWER LED
D2802
C.A.T.S. SENSOR
SN2800
REMOTE RECEIVER
RM2800
SUB_AI_3.3V
STB3.3V
Q2001
G_LED_ON
Q2002
R_LED_ON
AI_SENSOR
REMOTE
A10
K10
LCD
A16
PANEL_TEST_ON
PANEL_3D_ON
SRV-12V
TP0001
PANEL+12V
LVDS DATA
LVDS_LX
LVDS_RX
IC9500
GCX
SPI I/F
IC9100
SPI FLASH
G_XRST
GCX_DONE
IC9501.02
DDR I/F
DDR3
A15
PRO4_I2C_0
I2C
GCX_3.3V
GCX_1.1V
GCX_1.5V
XIN
XOUT
X9500
GCX3.3V
DCDCEN
IC9503
+1.1V
GCX1.1V
IC9504
+1.5V
GCX1.5V
GCX_DCDCEN
LCD CONTROL
PRO4_I2C0
PRO4_I2C1
STM_I2C
CN0100
FOR FACTRY

10 Wiring Connection Diagram

10.1 Wire Dressing 1

1. Stick pet tape for wire dressing.

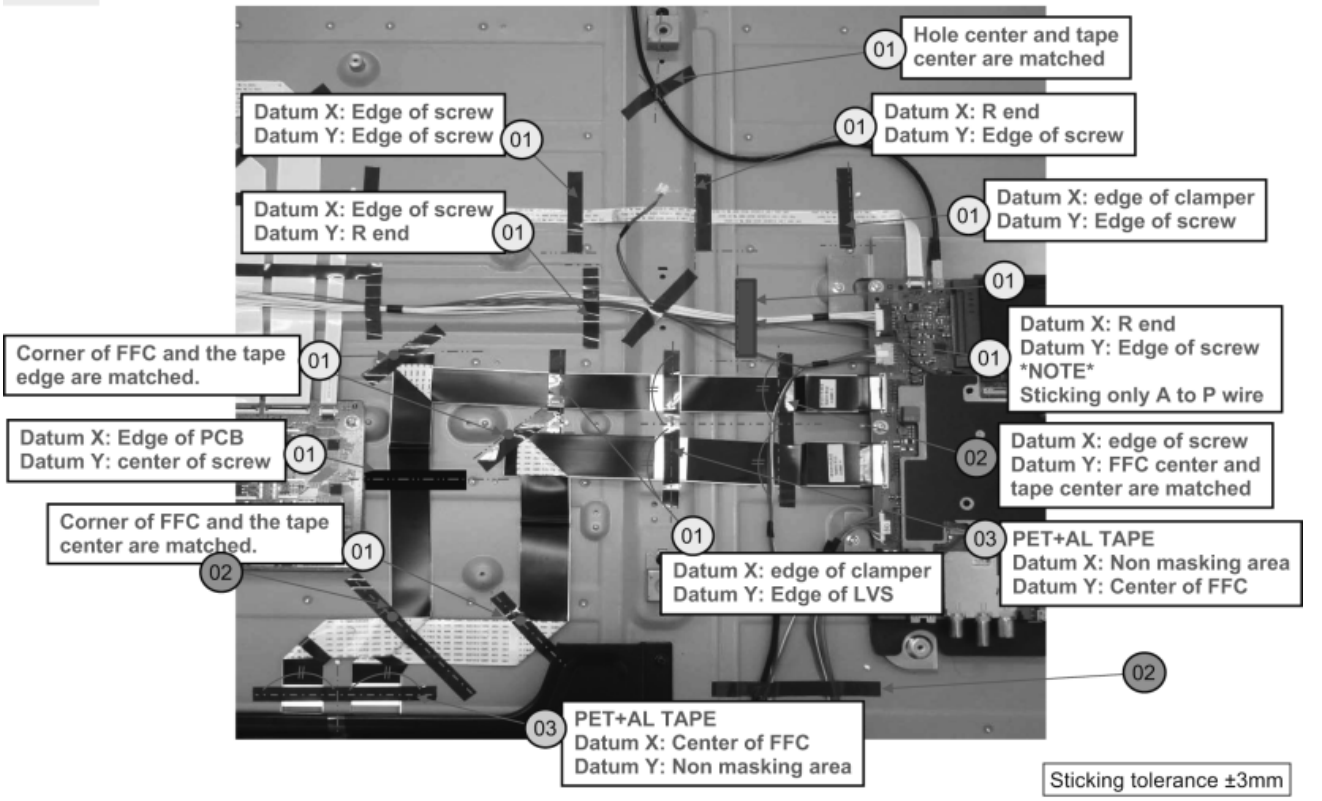


NO	QTY	UOM	DESCRIPTION	REMARK
01	0.24	MT	PET TAPE	60 mm × 4 pcs
02	0.88	MT	PET TAPE (0.06*5+0.11*4)	110 mm × 8 pcs

10.2 Wire Dressing 2

1. Stick pet tape for wire dressing.

POINT 2

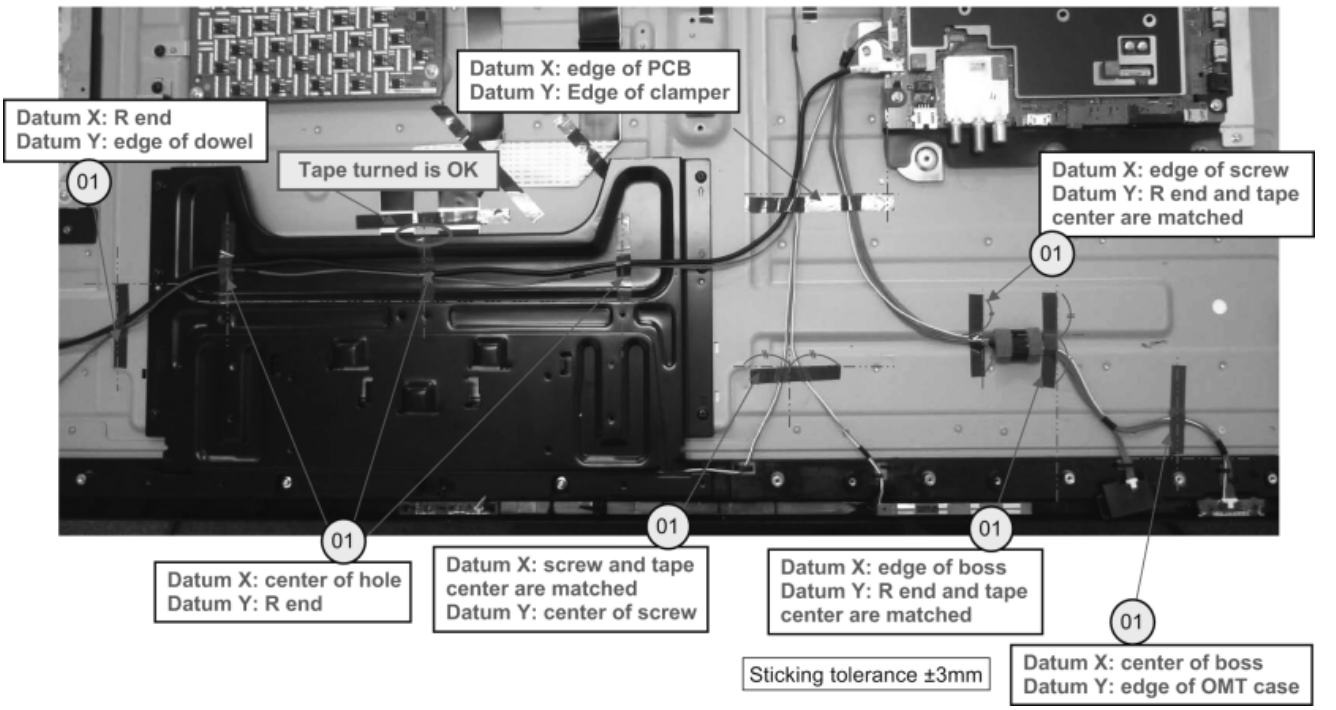


NO	QTY	UOM	DESCRIPTION	REMARK
01	0.66	MT	PET TAPE	60 mm × 11 pcs
02	0.33	MT	PET TAPE	110 mm × 3 pcs
03	2	PC	PET AL + TAPE	

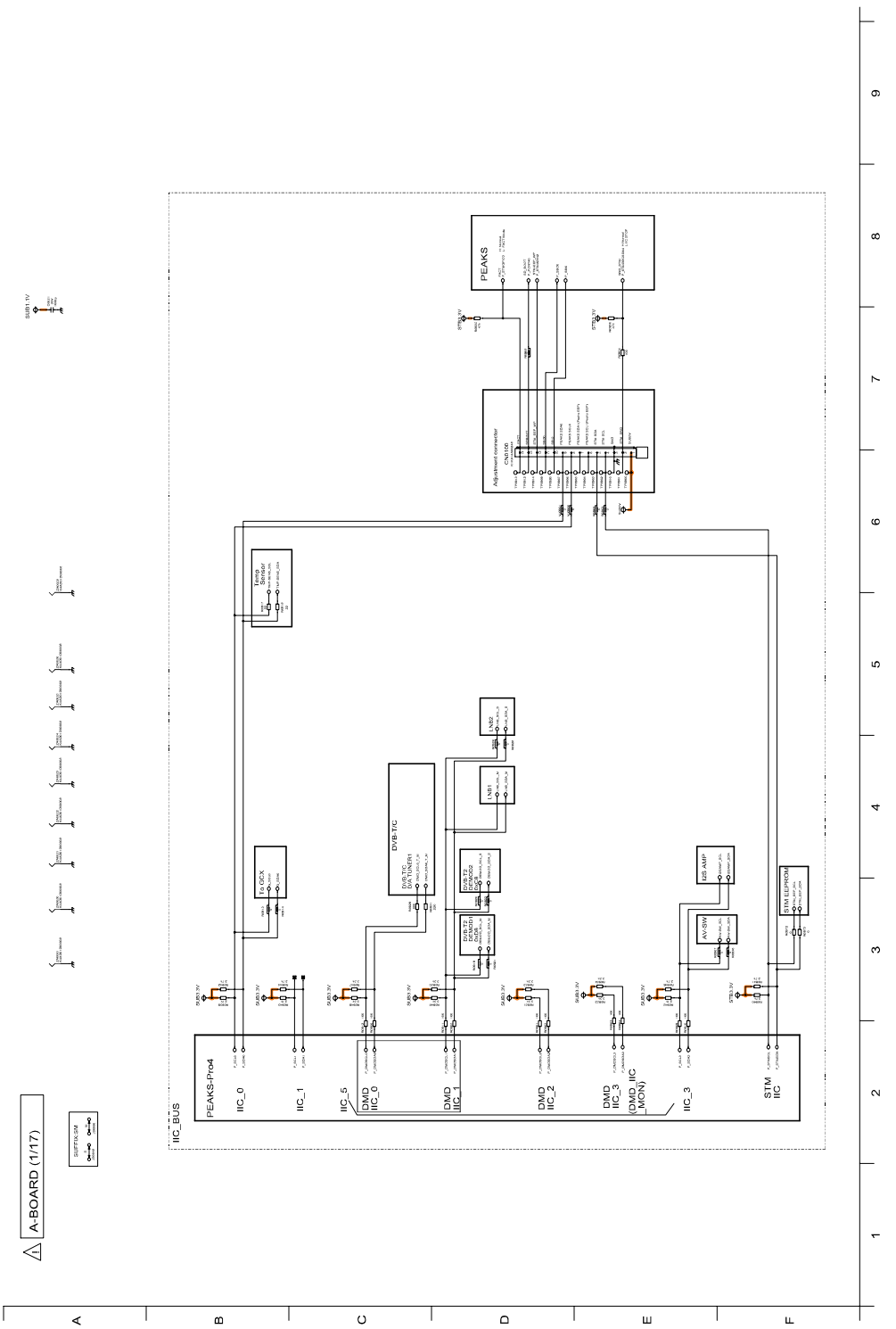
10.3 Wire Dressing 3

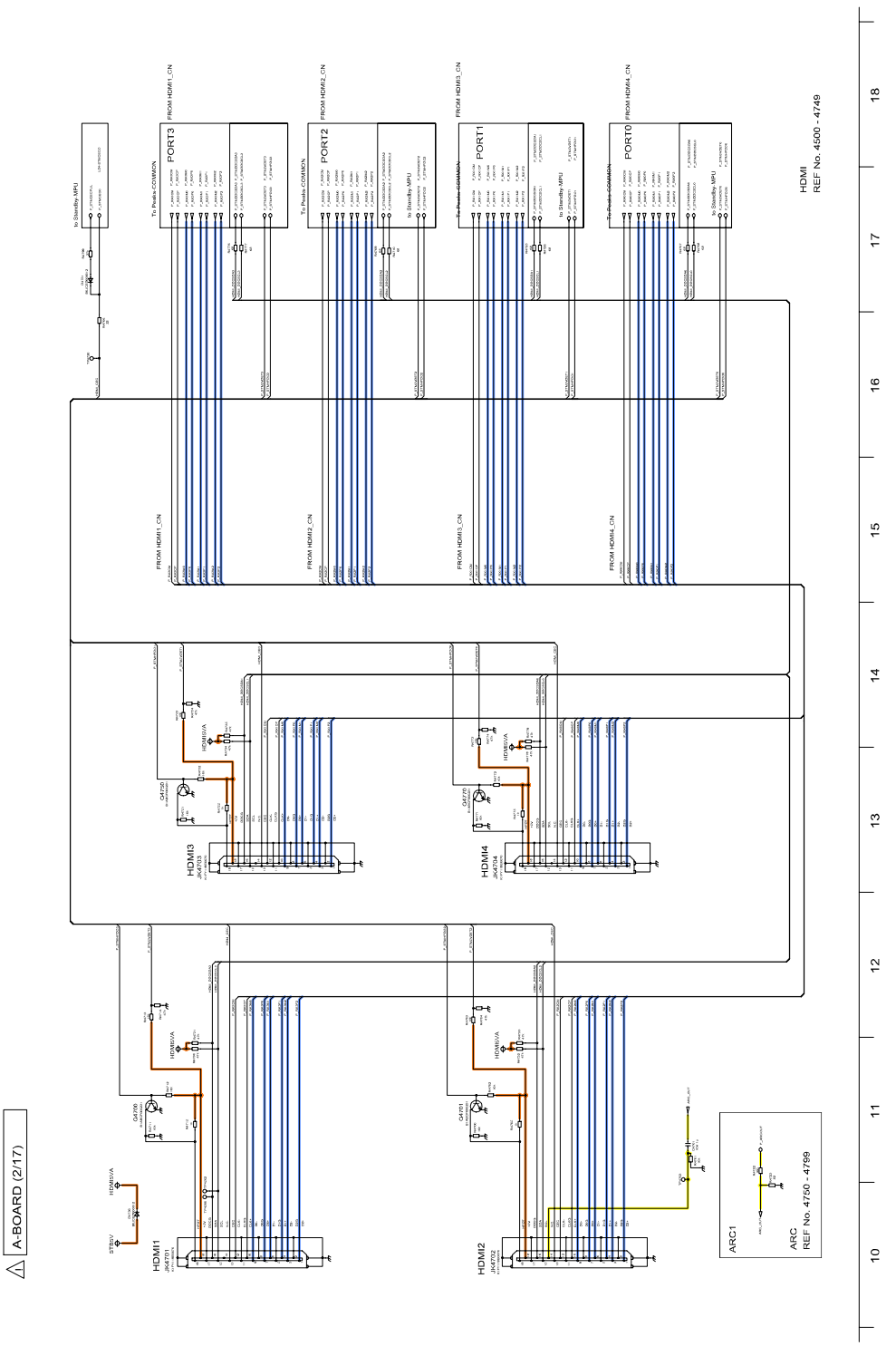
1. Stick pet tape for wire dressing.

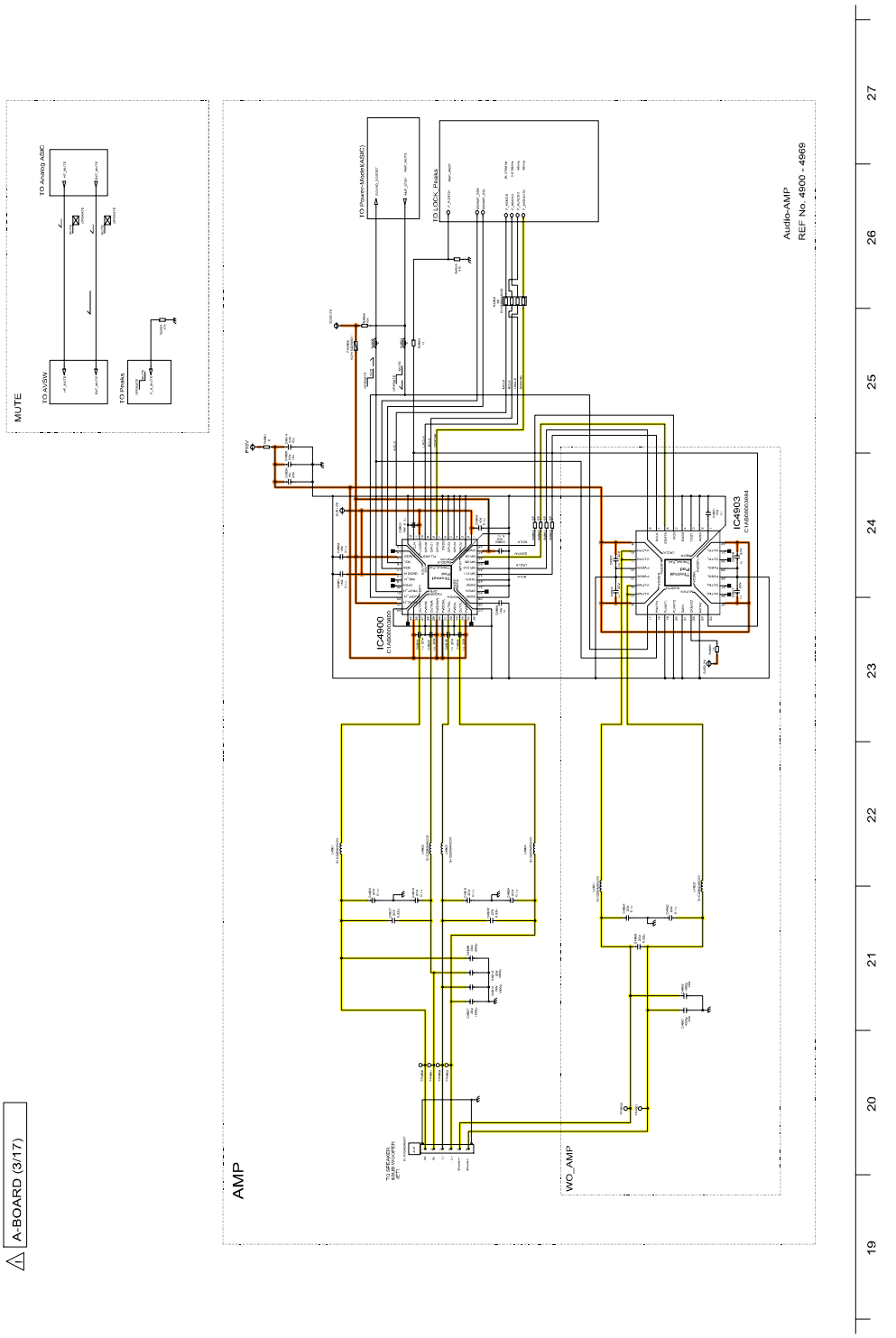
POINT 3

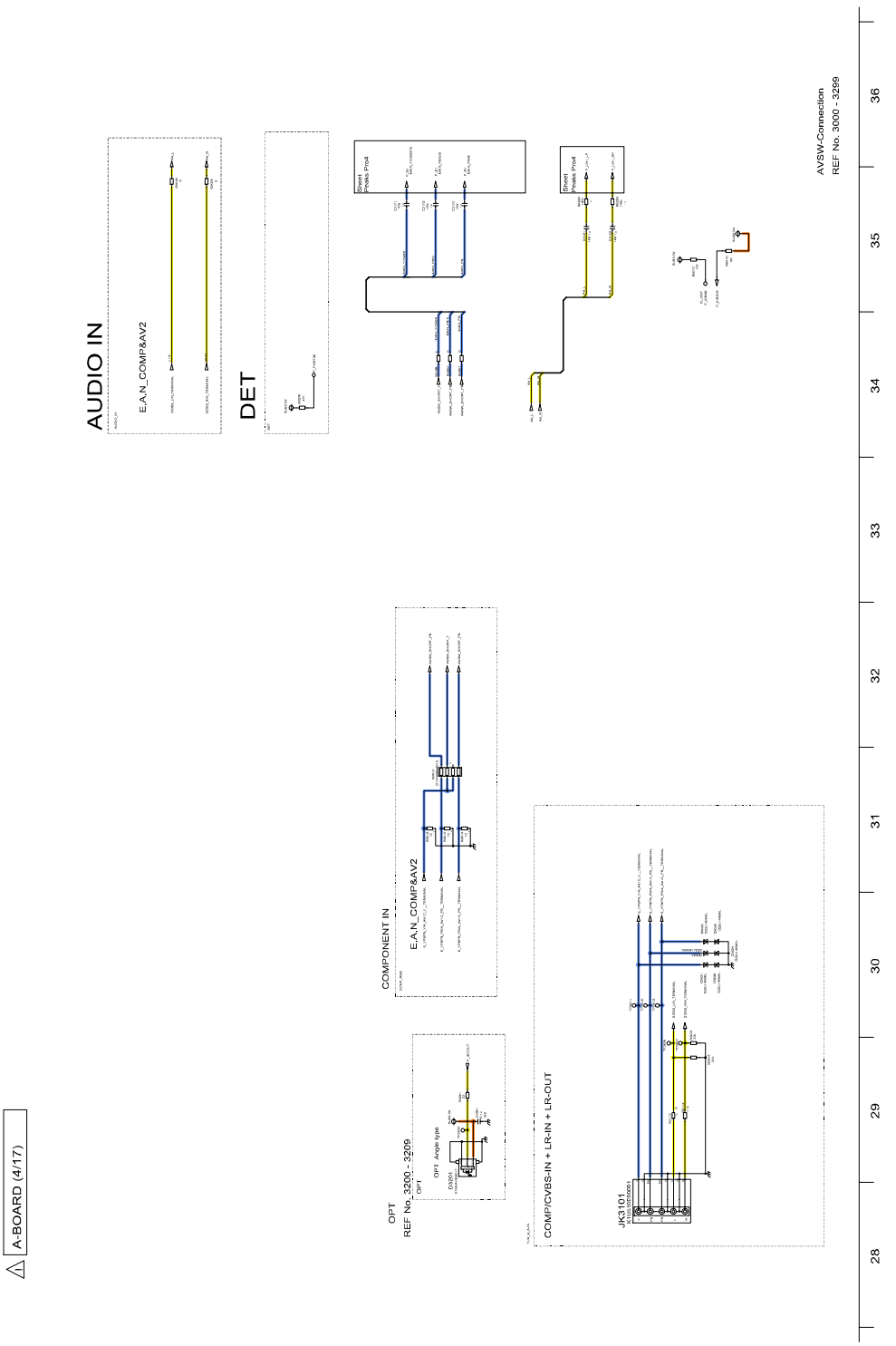


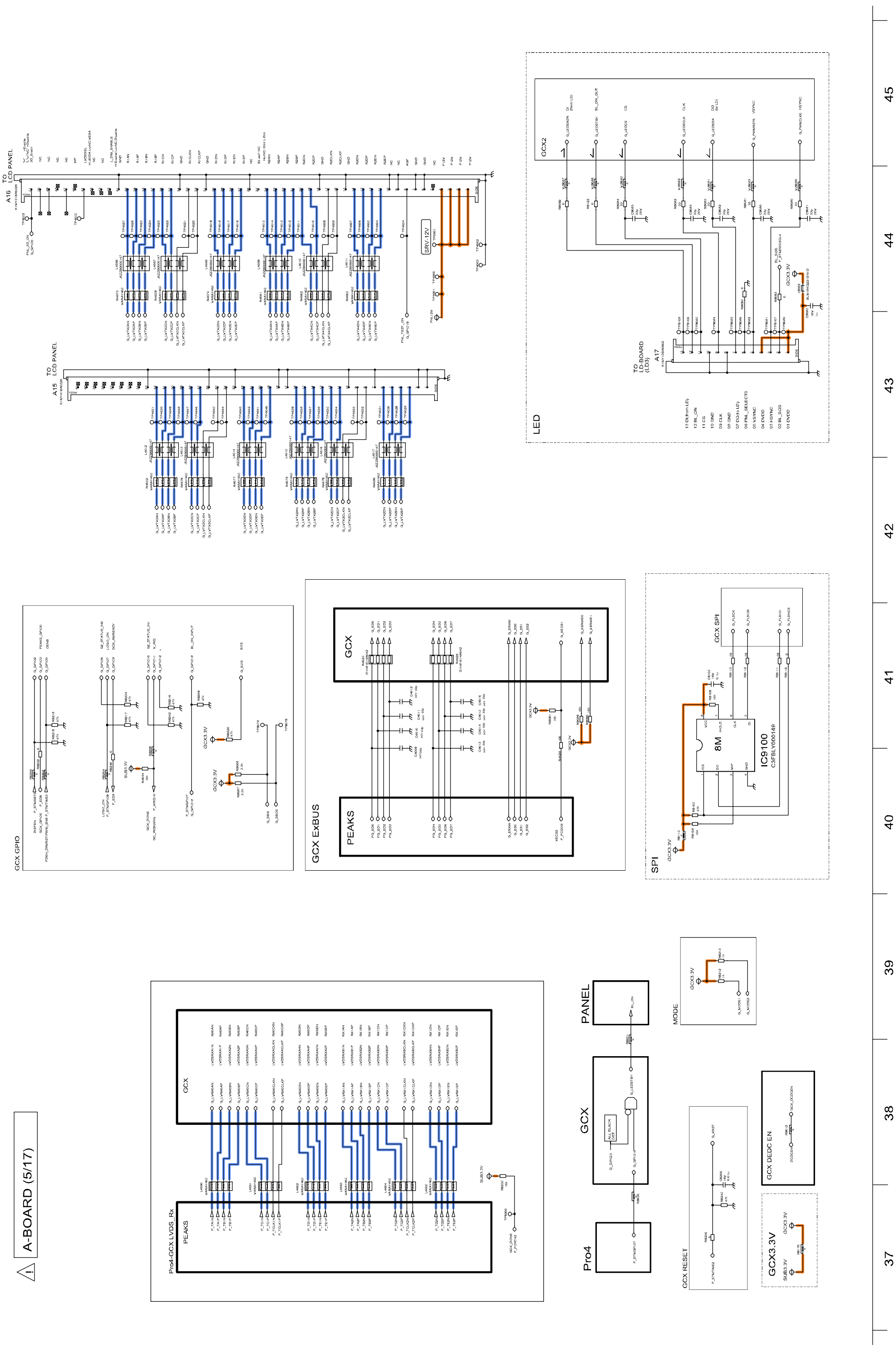
NO	QTY	UOM	DESCRIPTION	REMARK
01	0.480	MT	PET TAPE (0.06*5+0.11*4)	60 mm × 8 pcs

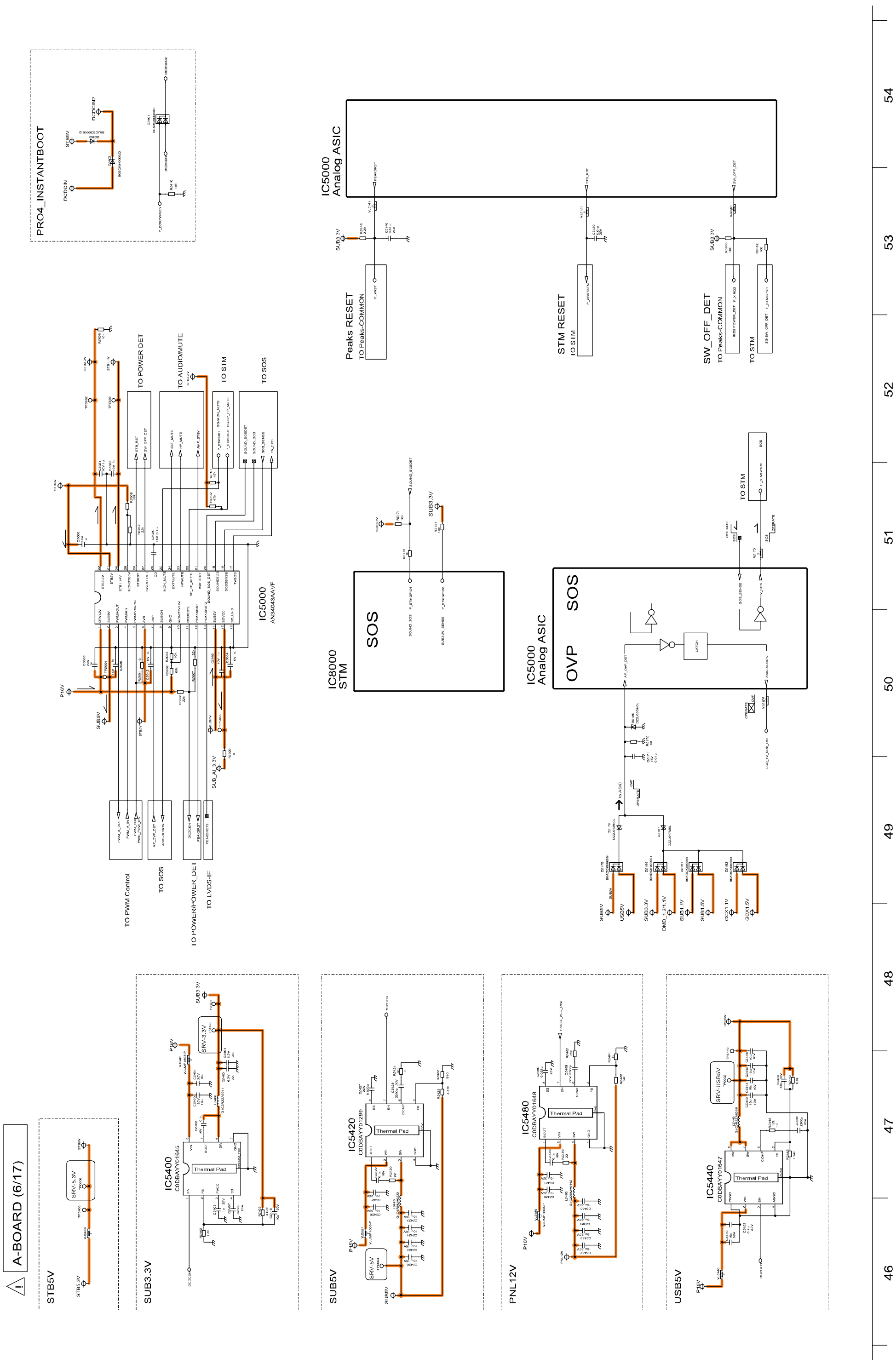

A-BOARD (1/17)
SUFFIX-KM
IIC_BUS
PEAKS-Pro4
IIC_0
IIC_1
IIC_5
DMD IIC_0
DMD IIC_1
DMD IIC_2
DMD IIC_3
(DMD_IIC_MON)
IIC_3
STM IIC
To GCX
Temp Sensor
DVB-T/C DATUNER-I
DVB-T2 DEMOD2
DVB-T2 DEMOD1
LNB
LNB1
PEAKS
Adjustment connector
CN1100
IDS AMP
AV-SW
STM EEPROM
A
B
C
D
E
F
1
2
3
4
5
6
7
8
9


A-BOARD (2/17)
HDMI
REF No. 4500 - 4749
ARC
REF No. 4750 - 4799
HDMI1
HDMI2
HDMI3
HDMI4
PORT0
PORT1
PORT2
PORT3
ARC1
10
11
12
13
14
15
16
17
18

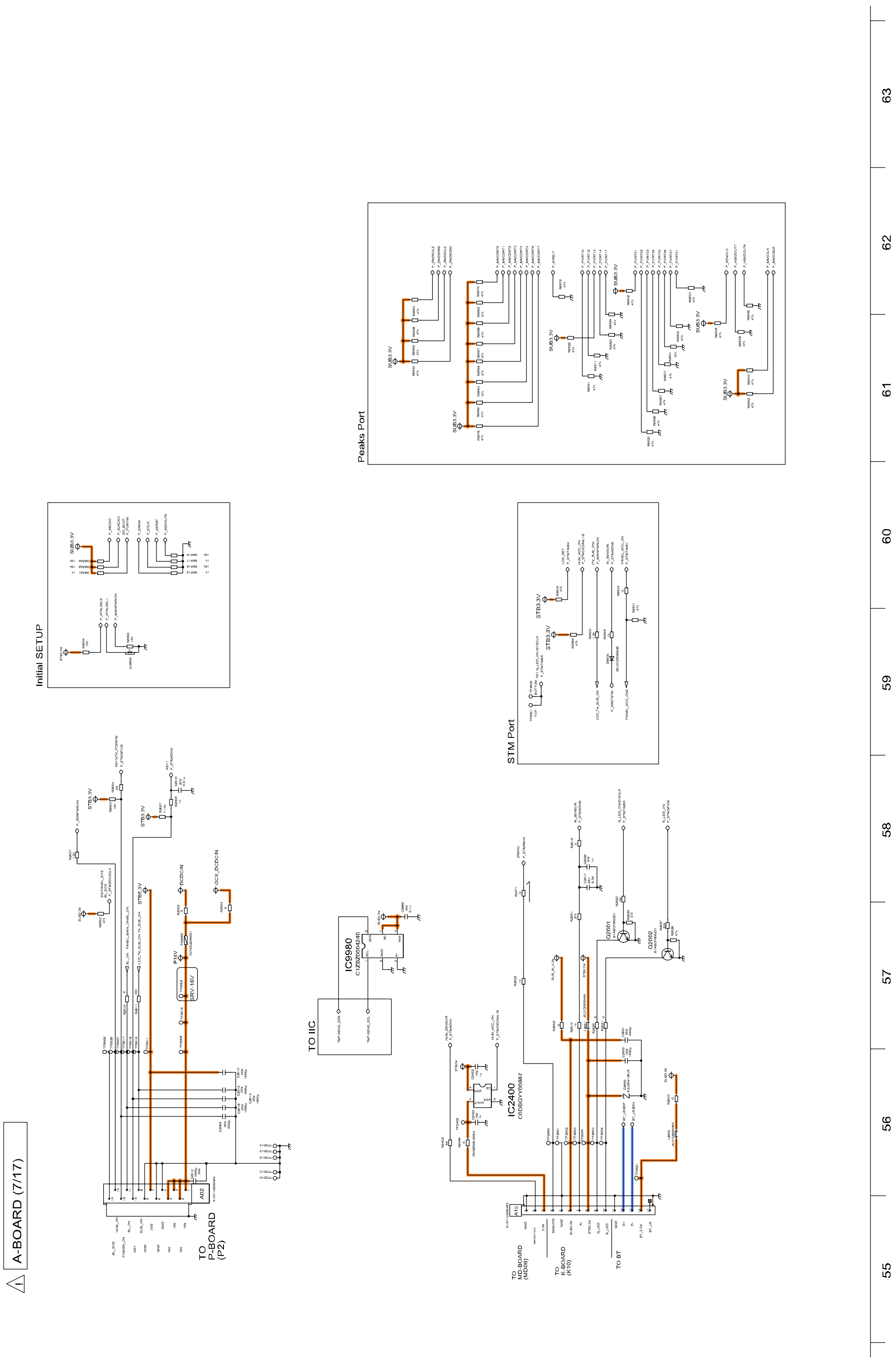

A-BOARD (3/17)
MUTE
TO Analog ASIC
TO AVSW
TO Peaks
AMP
TO Power-Mode(ASIC)
TO LOCK Peaks
Audio-AMP
REF No. 4900 - 4969
IC4900
IC4903
W/O_AMP
TO SPEAKER
19
20
21
22
23
24
25
26
27

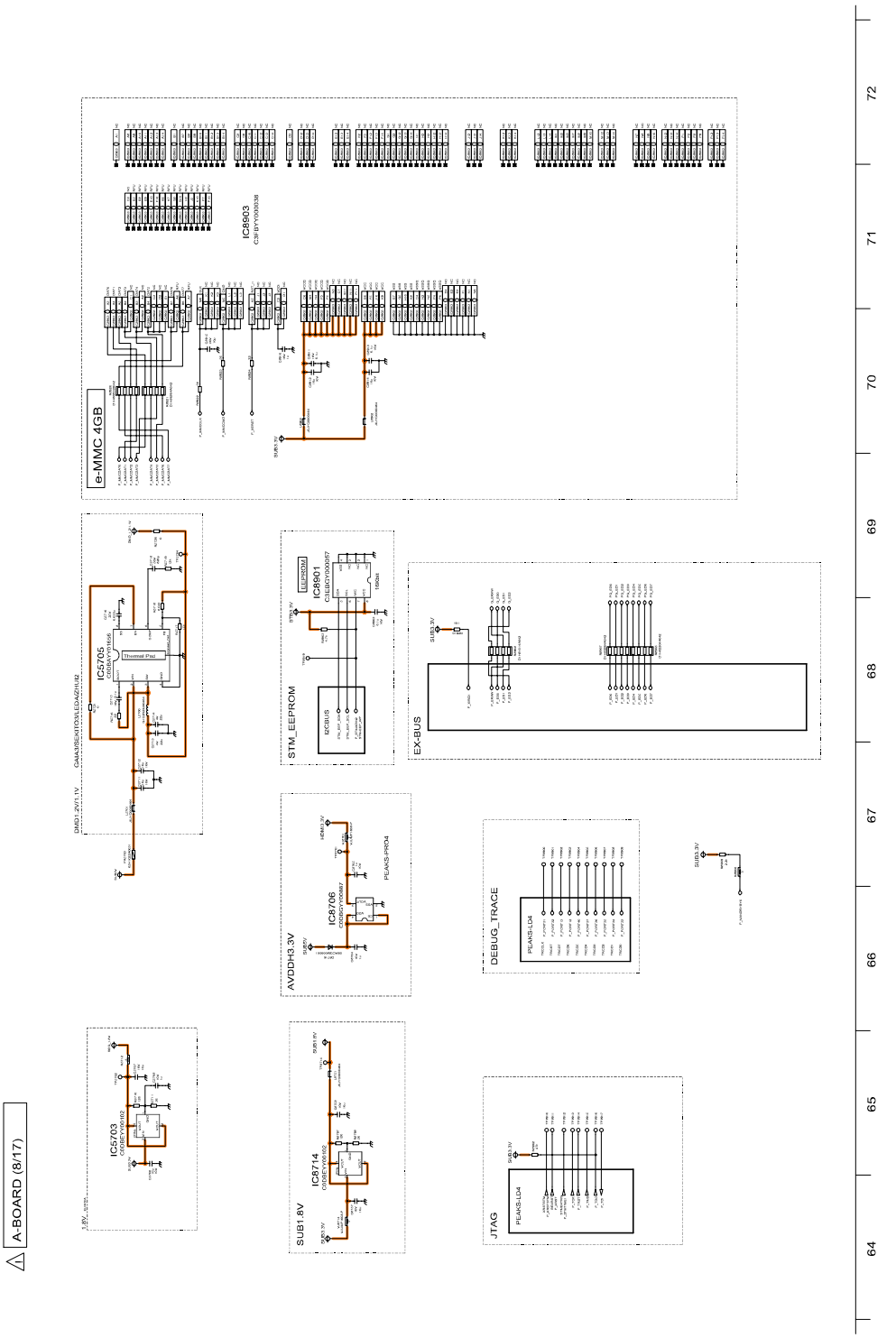

A-BOARD (4/17)
AUDIO IN
E.A.N_COMP&AV2
DET
Sheet
Please Prod
COMPONENT IN
E.A.N_COMP&AV2
OPT
REF No. 3200 - 3209
OPT
OPT Angle type
D3001
COMP/CVBS-IN + LR-IN + LR-OUT
JK3101
AVSW-Connection
REF No. 3000 - 3299
28
29
30
31
32
33
34
35
36

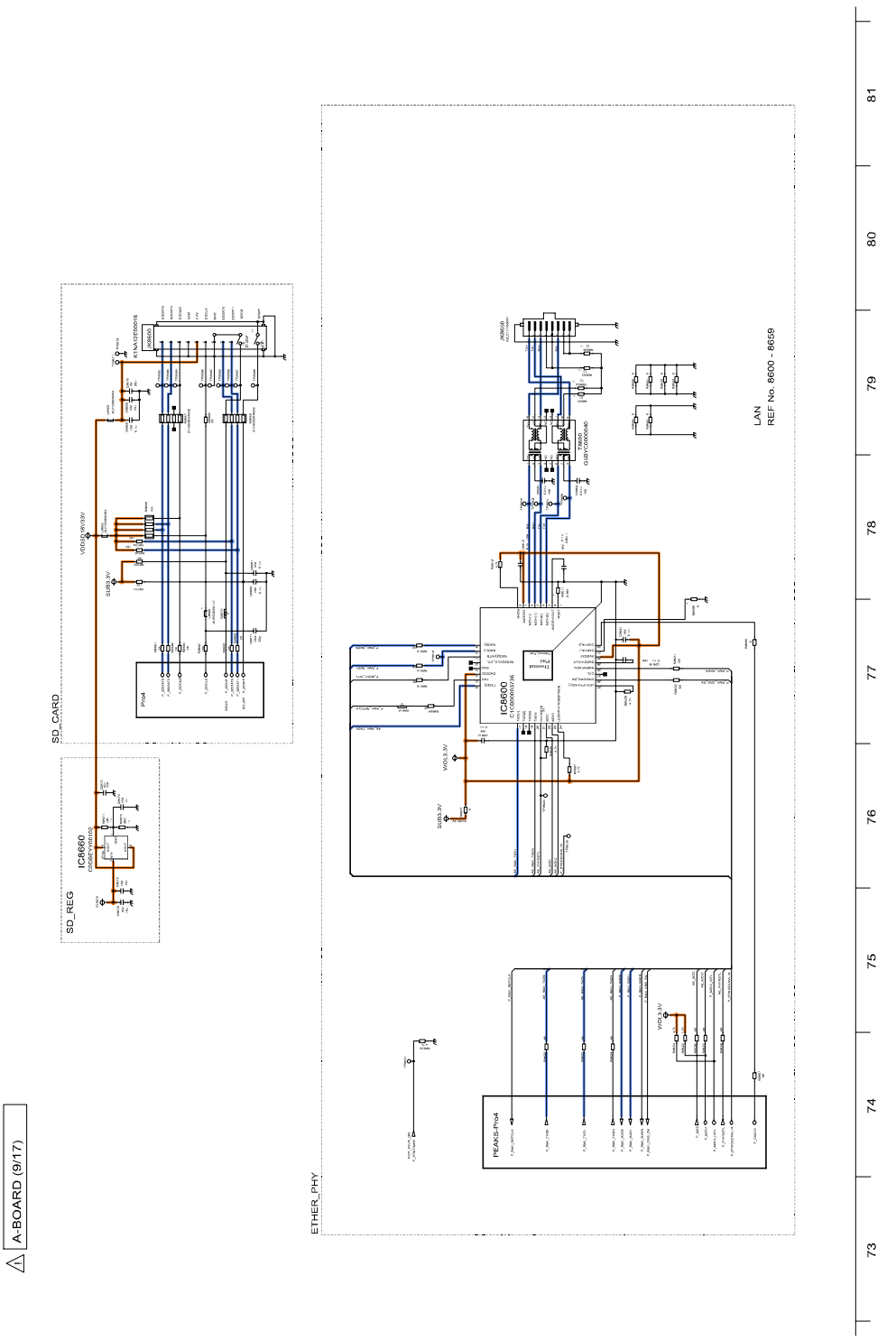

A-BOARD (5/17)
TO LCD PANEL
TO LD BOARD (LD)
LED
GCX2
GCX GPIO
GCX EXBUS
GCX
PEAKS
SPI
GCX SPI
IC9100
8M
Pro4-GCX LVDS_Rx
Pro4
PANEL
MODE
GCX RESET
GCX3.3V
GCX DEDC EN
45
44
43
42
41
40
39
38
37

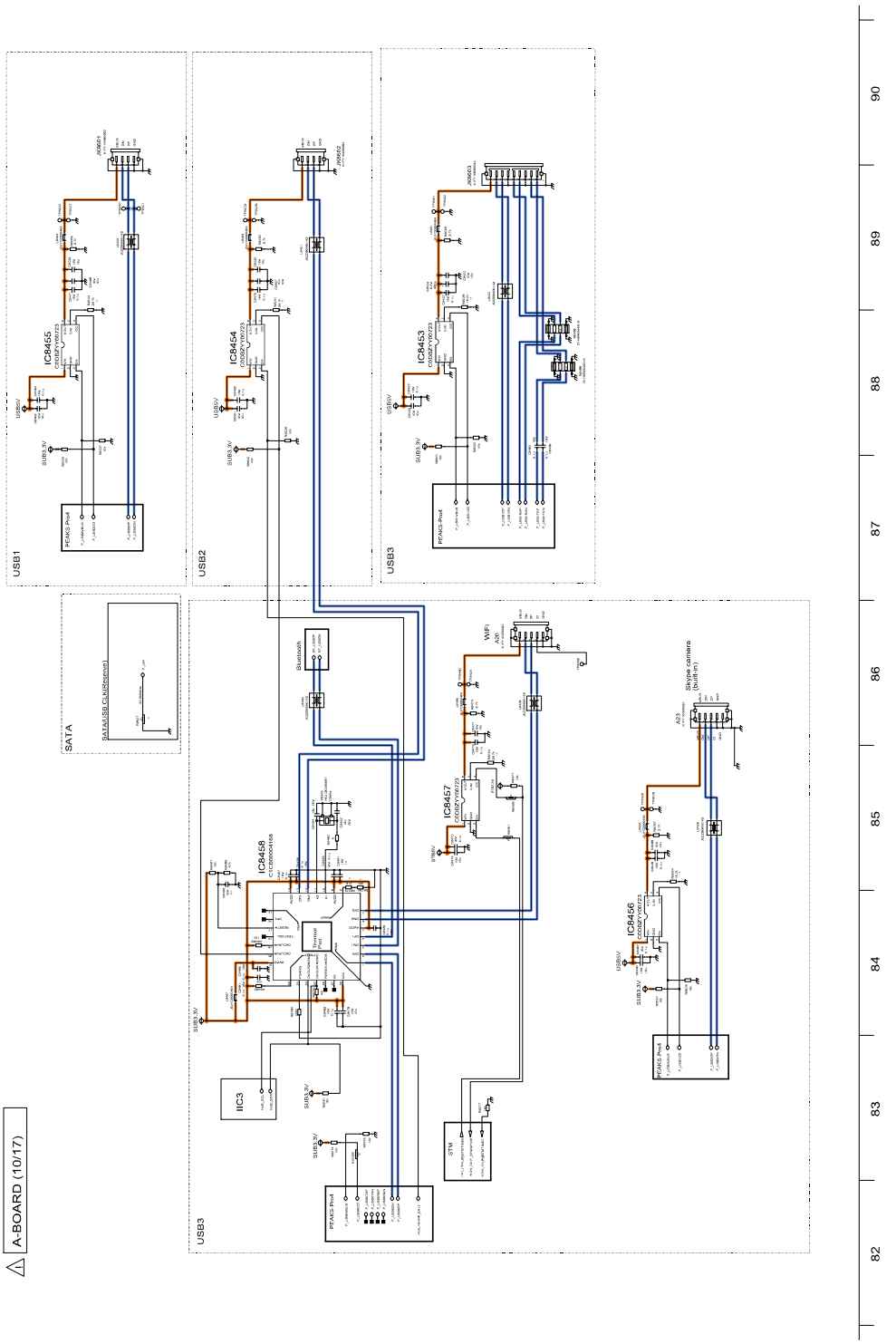


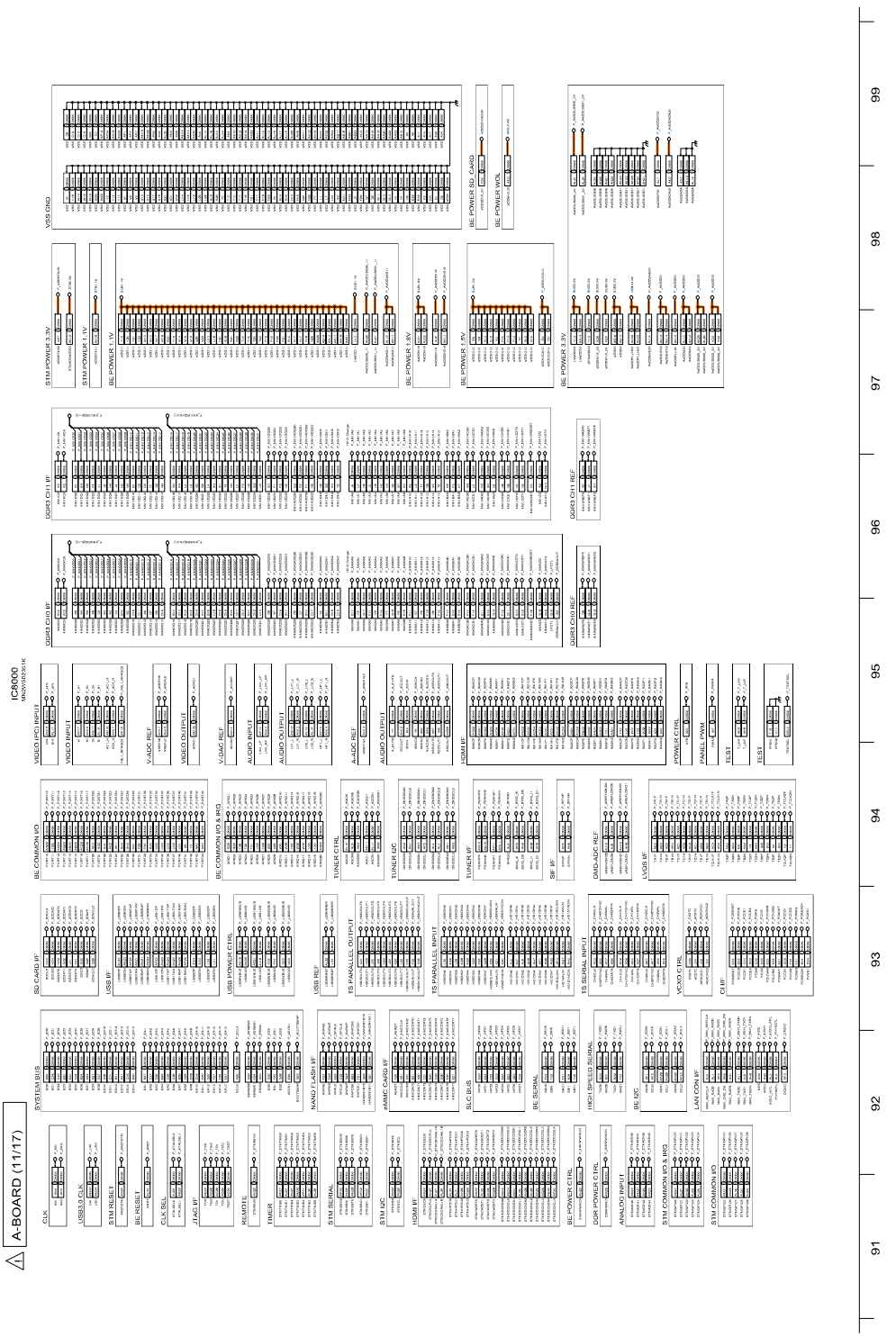
A-BOARD (6/17)
PRO4_INSTANTBOOT
IC5000
Analog ASIC
Peaks RESET
TO Peaks-COMMON
STM RESET
TO STM
SW_OFF_DET
TO Peaks-COMMON
TO STM
TO POWER DET
TO AUDIOMUTE
TO STM
TO SOS
IC5000
AN34043AAVF
TO PWM Control
TO SOS
TO POWER/POWER_DET
TO LVDS-IF
IC8000
STM
SOS
IC5000
Analog ASIC
OVP
SOS
TO STM
STB5V
SUB3.3V
SUB5V
PNL12V
USB5V
IC5400
IC5420
IC5480
IC5440
54
53
52
51
50
49
48
47
46

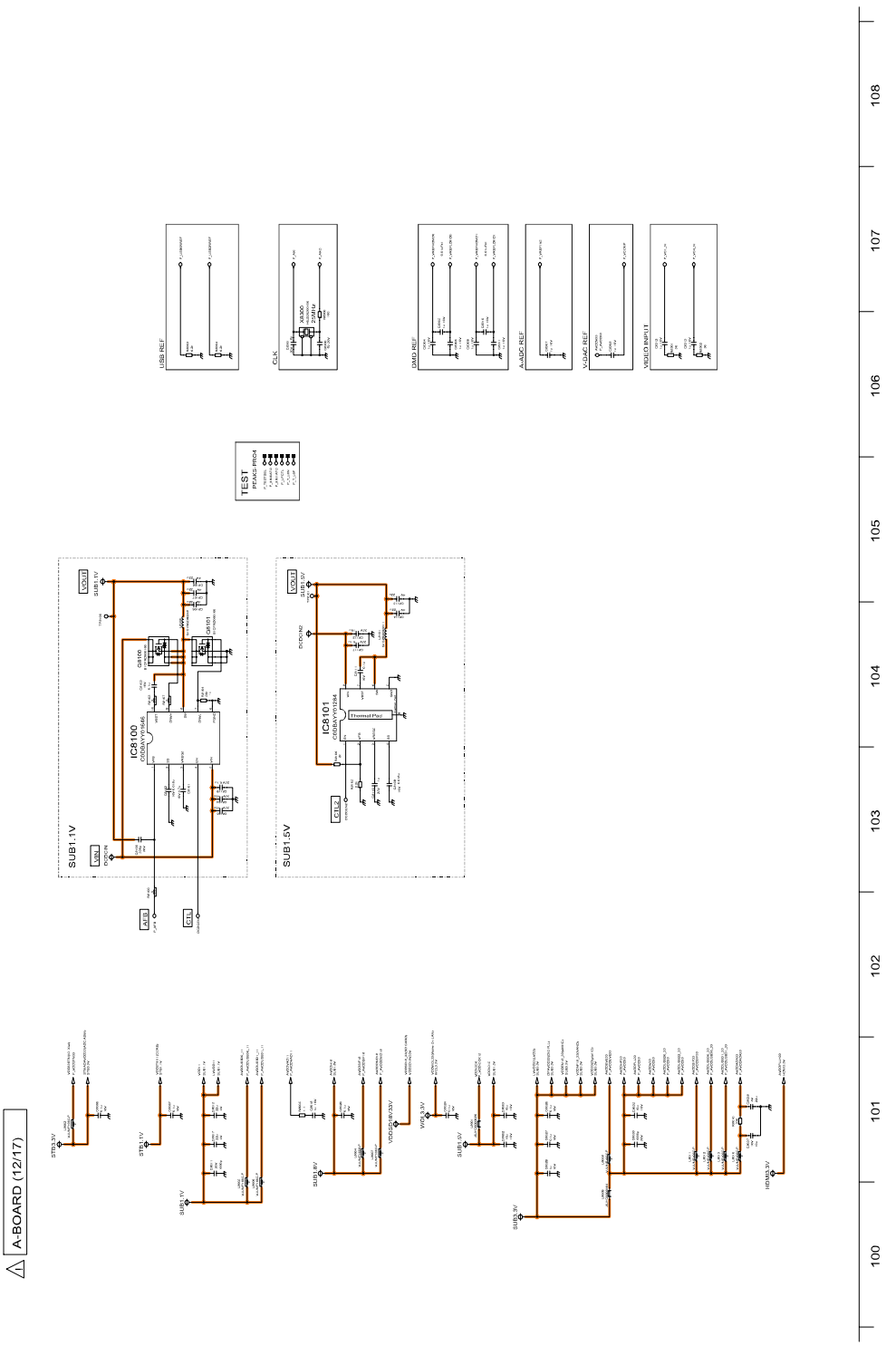

A-BOARD (7/17)
Initial SETUP
Peaks Port
STM Port
TO IIC
IC9980
IC2400
TO P-BOARD (P2)
TO MD BOARD (MD05)
TO K BOARD (K10)
TO BT
55
56
57
58
59
60
61
62
63

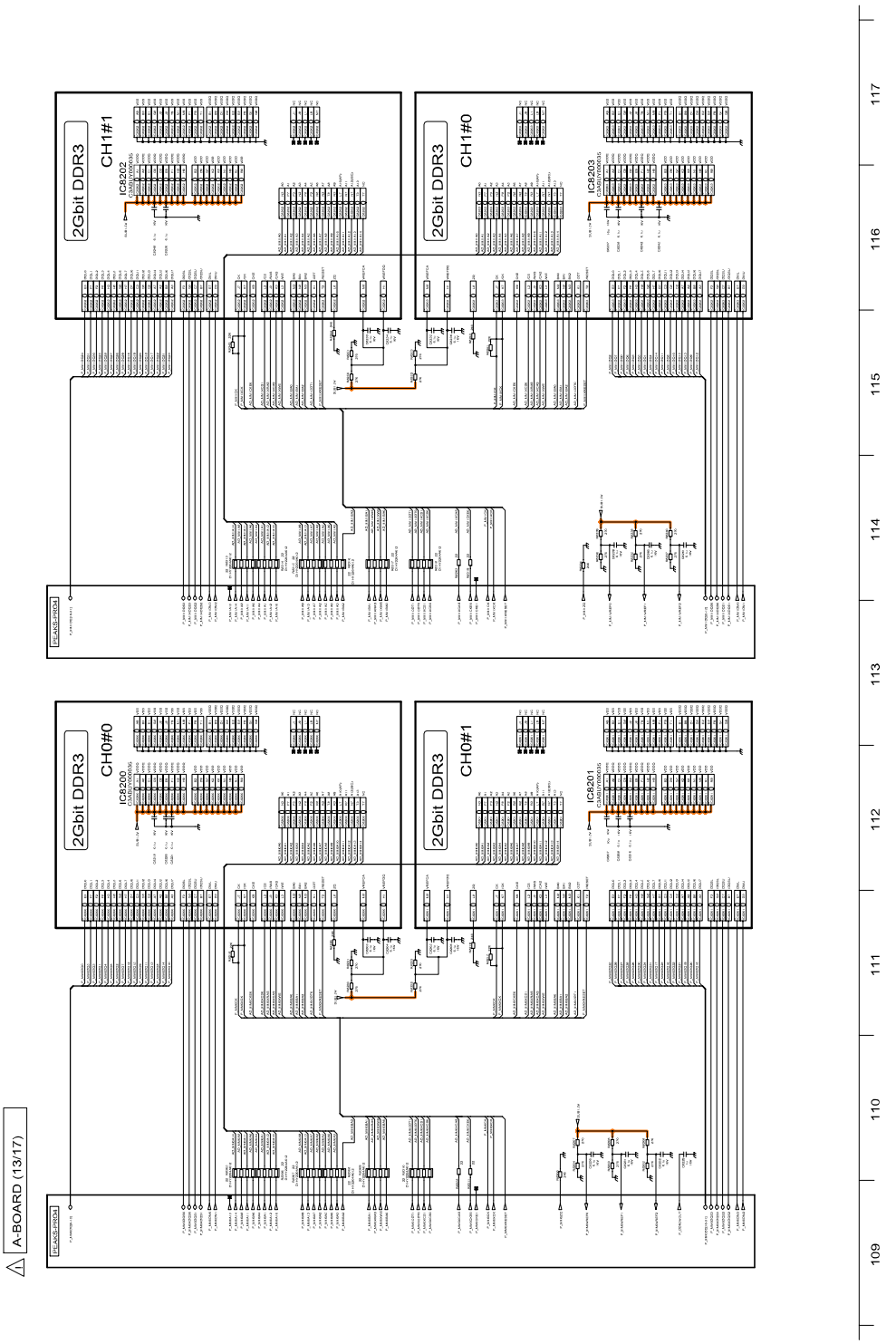

A-BOARD (8/17)
e-MMC 4GB
IC8903
IC5705
IC8901
STM_EEPROM
EX-BUS
IC6706
AVDDH3.3V
DEBUG_TRACE
IC5703
IC6714
SUB1.8V
JTAG
64
65
66
67
68
69
70
71
72

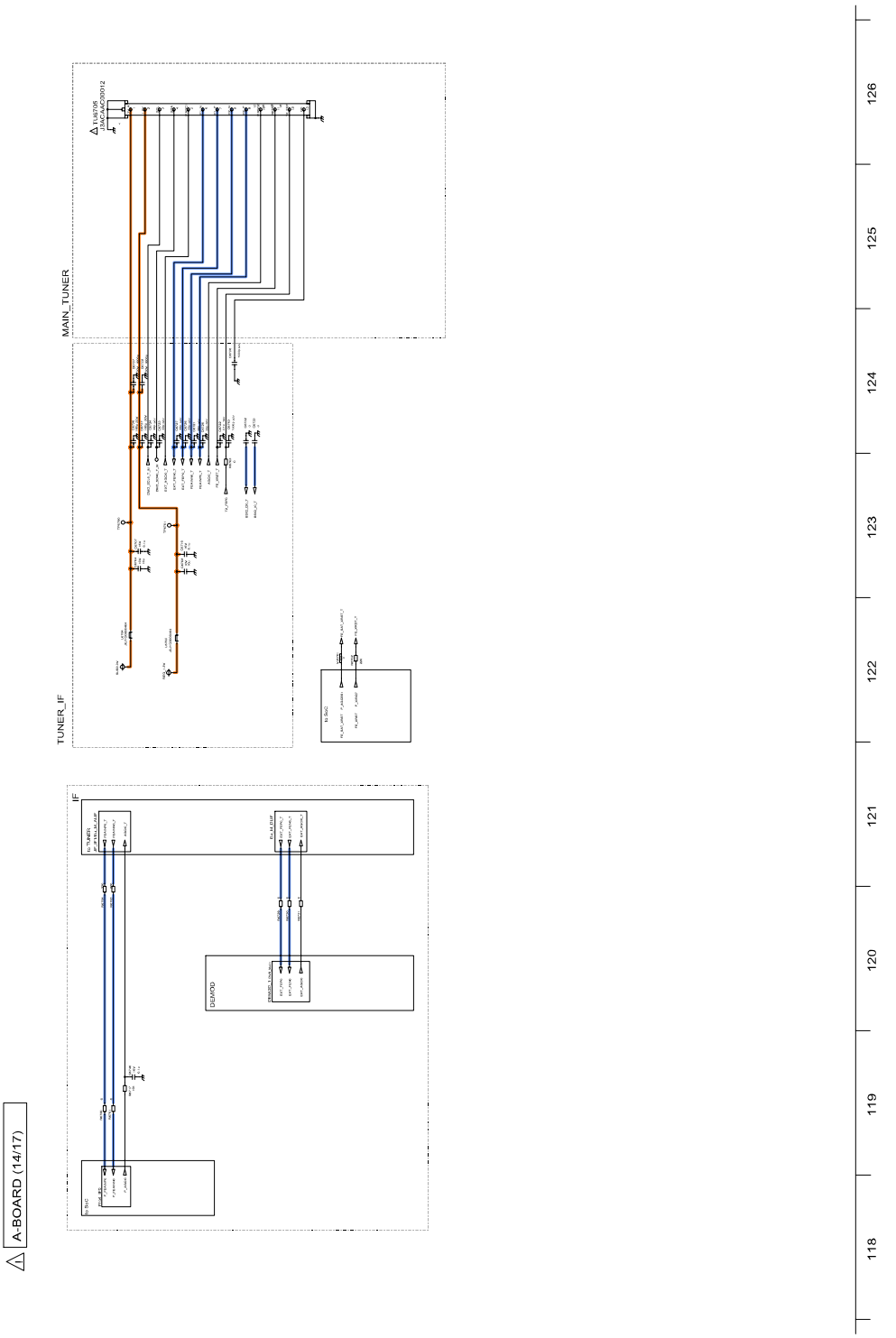

A-BOARD (9/17)
SD_CARD
SD_REG
ETHER_PHY
LAN
REF No. 8600 - 8659
IC8660
IC8600
81
80
79
78
77
76
75
74
73

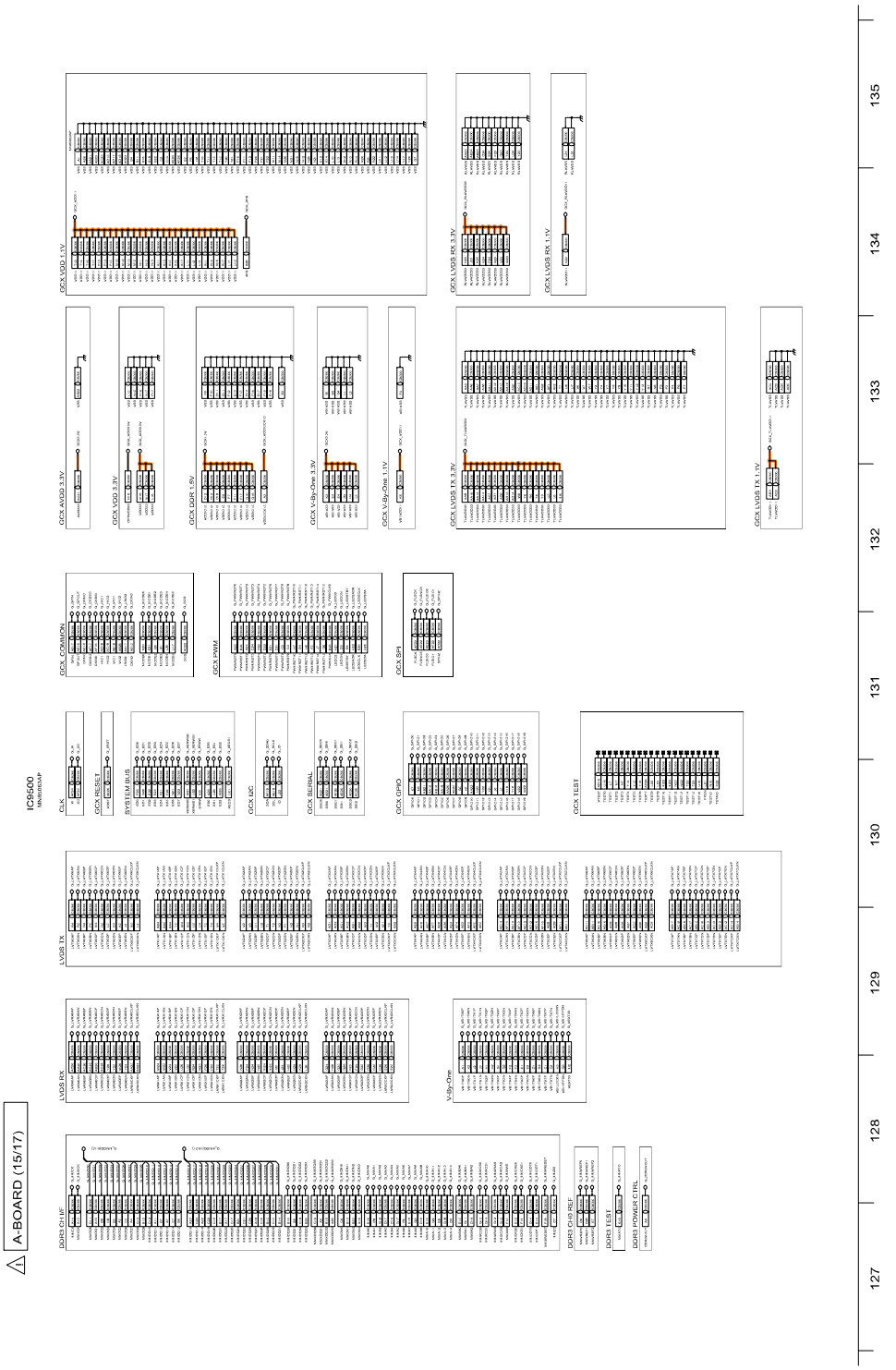

A-BOARD (10/17)
USB1
USB2
USB3
SATA
SATA/USB FLASH(option)
IC8455
IC8454
IC8453
IC8457
IC8458
IC8456
Bluetooth
WIFI
IIC3
STM
Stereo camera (option)
90
89
88
87
86
85
84
83
82

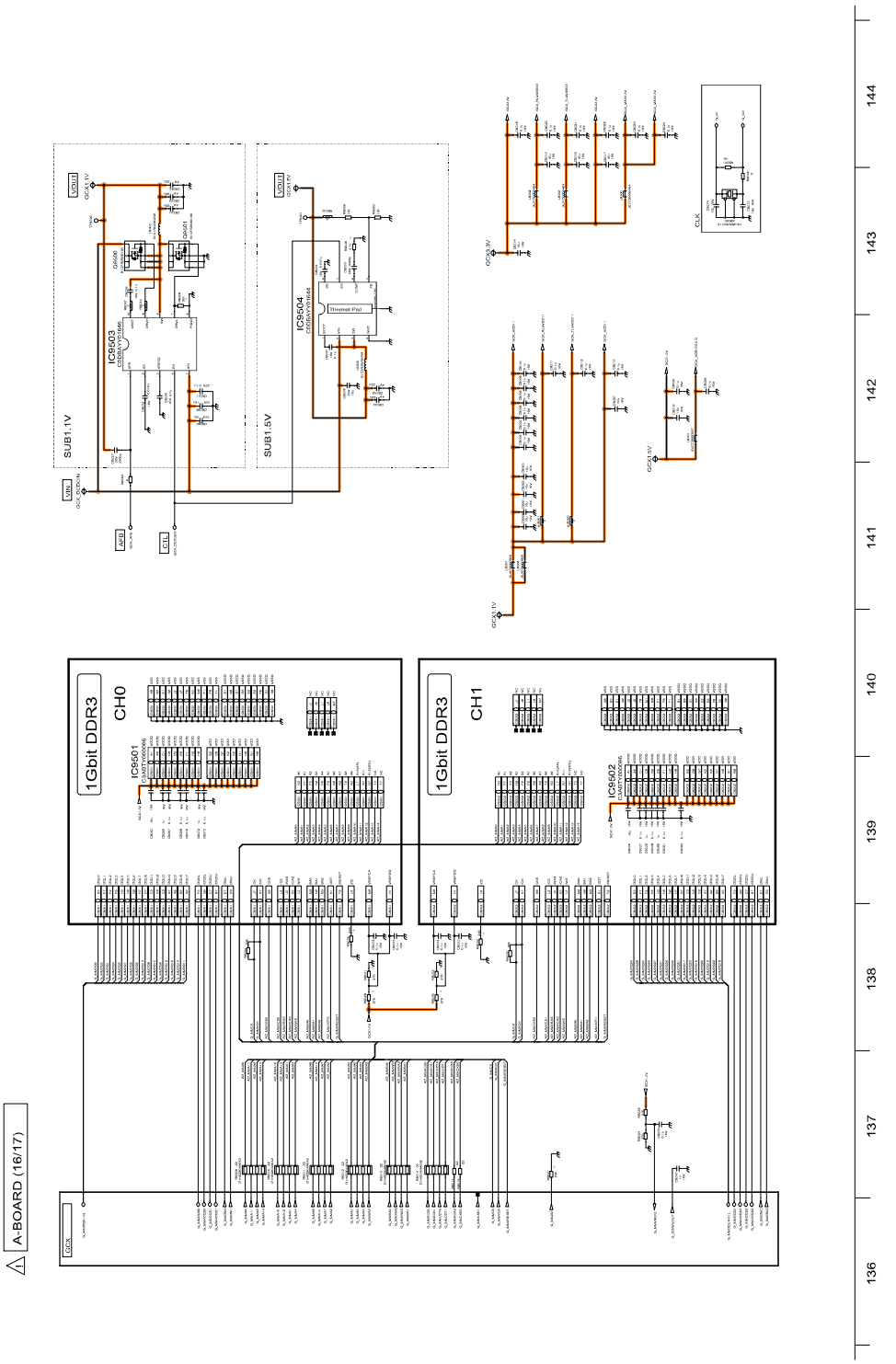

A-BOARD (11/17)
IC6000
MN2WS0251K
VSS GND
STM POWER 3.3V
STM POWER 1.1V
BE POWER 1.1V
BE POWER 1.8V
BE POWER 1.5V
BE POWER 3.3V
BE POWER SD_CARD
BE POWER WOL
DDR3 CH1 I/F
DDR3 CH0 I/F
DDR3 CH1 REF
DDR3 CH0 REF
VIDEO PCI INPUT
VIDEO INPUT
V-DAC REF
VIDEO OUTPUT
AUDIO INPUT
AUDIO OUTPUT
A-DAC REF
HDMI I/F
POWER CTRL
PANEL PWM
TEST
BE COMMON I/O
BE COMMON I/O & IRQ
TUNER CTRL
TUNER I2C
TUNER I/F
SIF I/F
DMD-ADC REF
LVDS I/F
SD CARD I/F
USB I/F
USB POWER CTRL
USB REF
TS PARALLEL OUTPUT
TS PARALLEL INPUT
TS SERIAL INPUT
VCXO CTRL
CI I/F
SYSTEM BUS
NAND FLASH I/F
eMMC CARD I/F
SLC BUS
BE SERIAL
HDMI SERIAL
BE I2C
LAN CON I/F
CLK
USB3.0 CLK
STM RESET
BE RESET
CLK SEL
JTAG I/F
REMOTE
TIMER
STM SERIAL
STM I2C
HDMI I/F
BE POWER CTRL
DDR POWER CTRL
ANALOG INPUT
STM COMMON I/O & IRQ
STM COMMON I/O
91
92
93
94
95
96
97
98
99

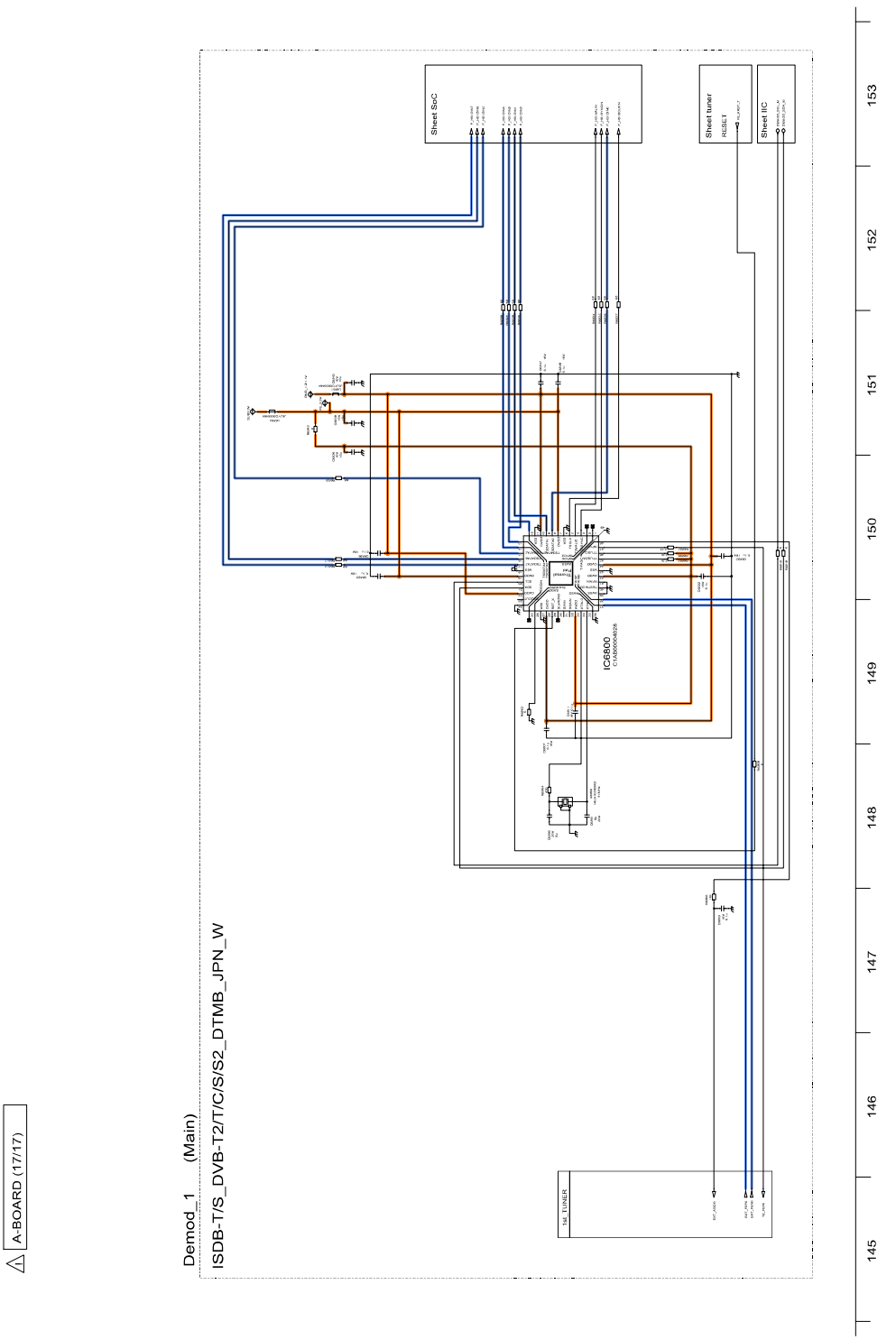

A-BOARD (12/17)
SUB1.1V
SUB1.5V
IC8100
IC8101
TEST
USB REF
CLK
DMD REF
A-DAC REF
V-DAC REF
VIDEO INPUT
100
101
102
103
104
105
106
107
108

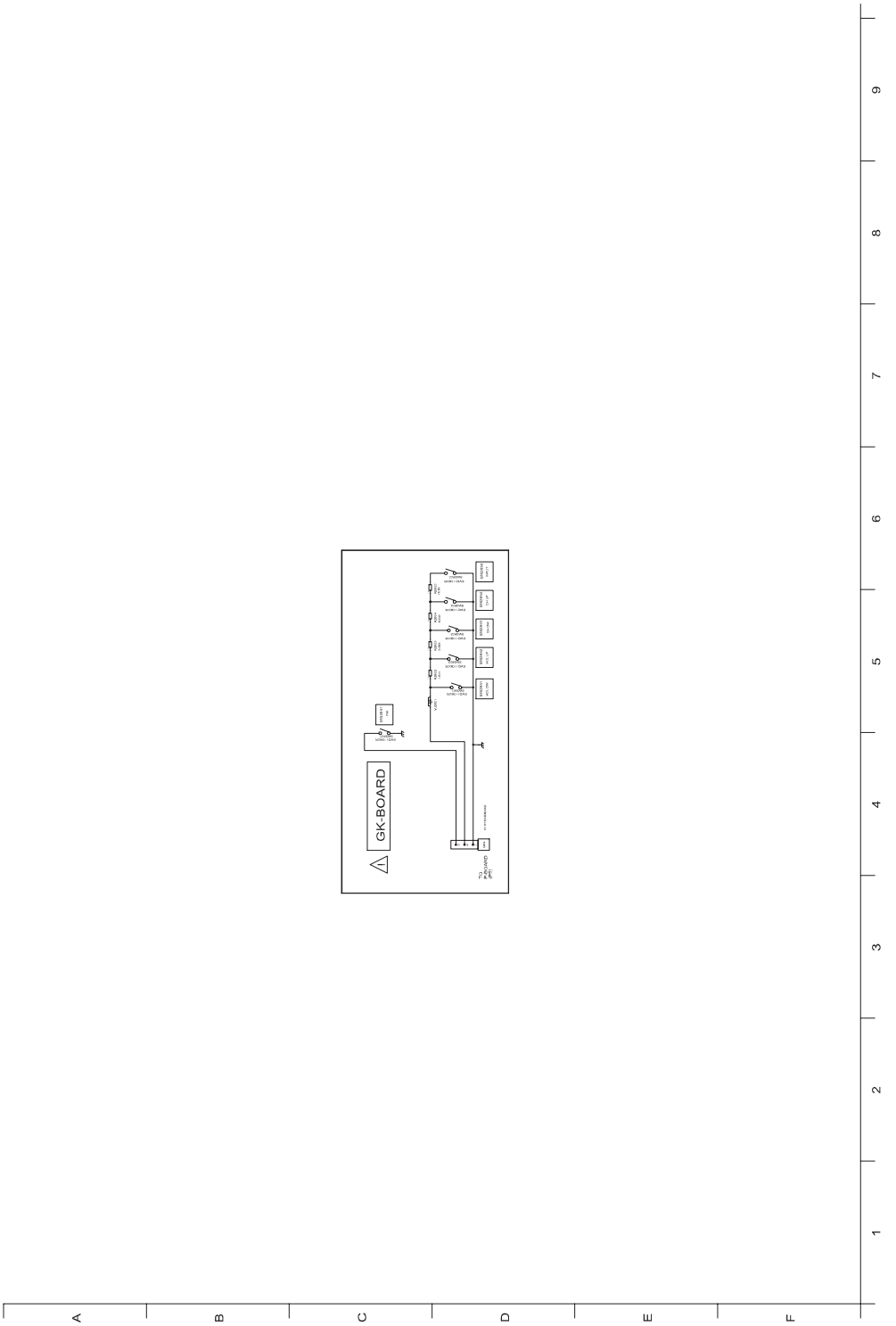

A-BOARD (13/17)
2Gbit DDR3
CH1#1
IC8202
2Gbit DDR3
CH1#0
IC8203
2Gbit DDR3
CH0#0
IC8200
2Gbit DDR3
CH0#1
IC8201
P-BASE-PH34
P-BASE-PH34
109
110
111
112
113
114
115
116
117

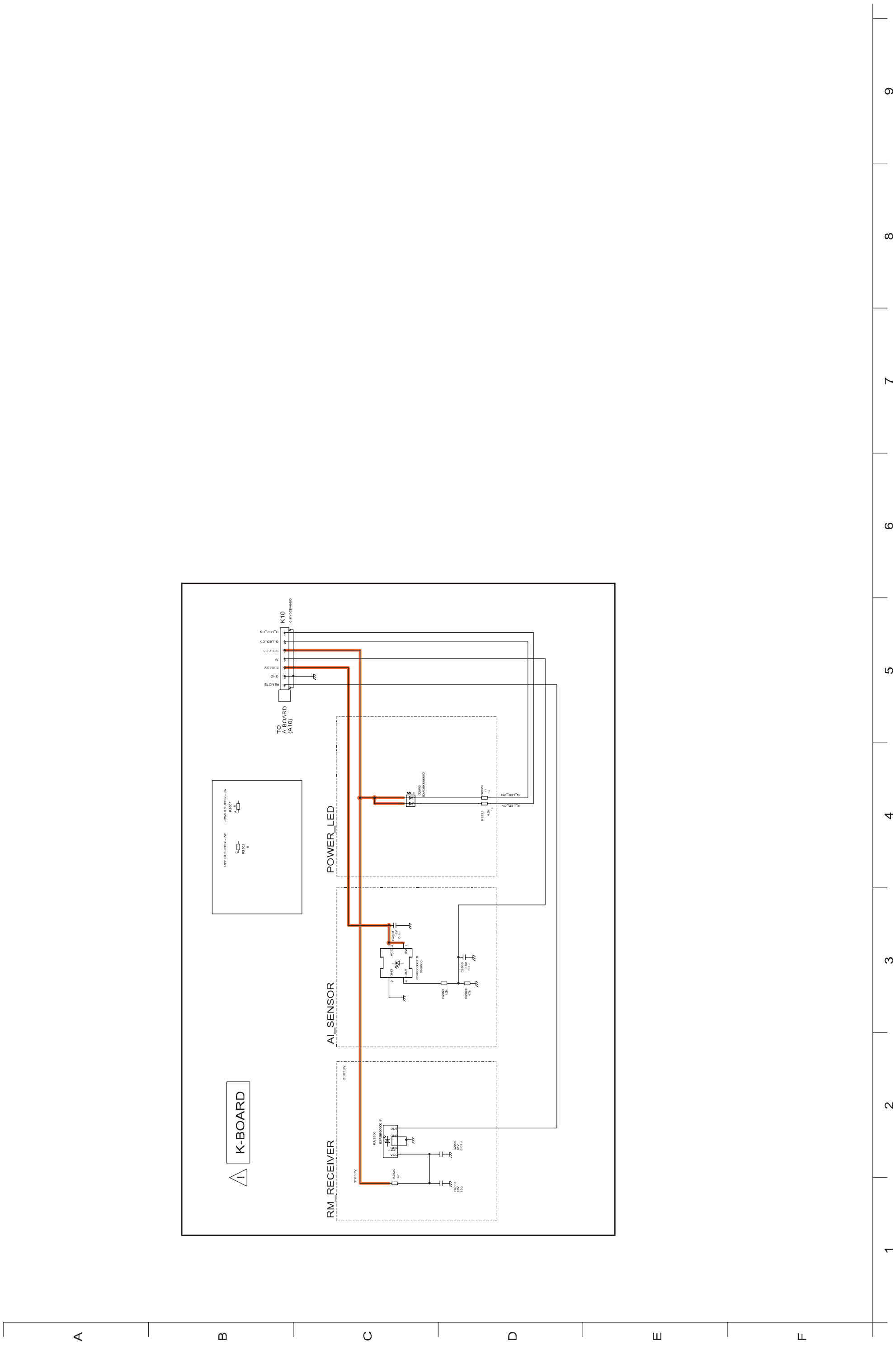

A-BOARD (14/17)
MAIN_TUNER
TUNER_IF
IF
DEMOD
118
119
120
121
122
123
124
125
126

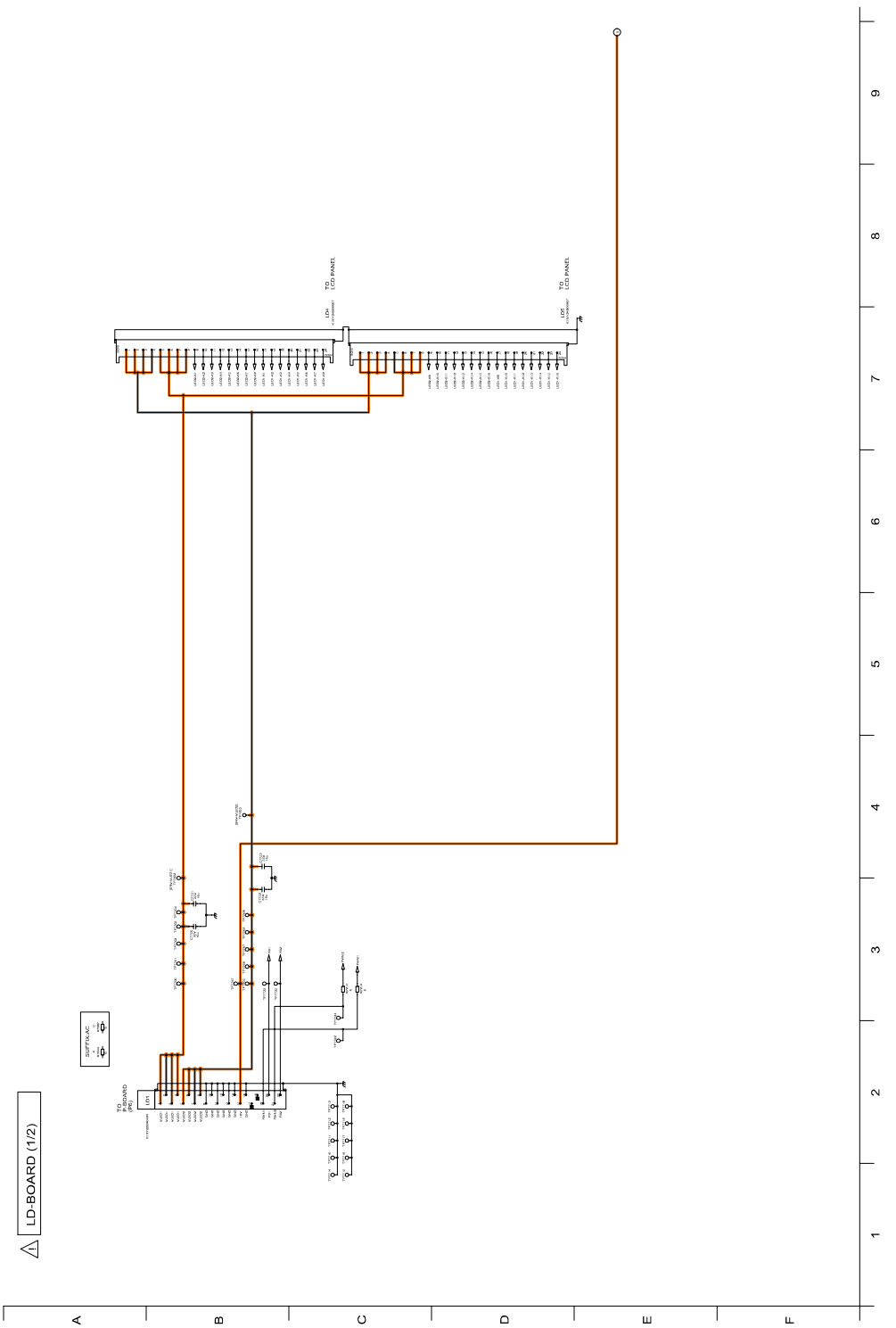

A-BOARD (15/17)
IC9500
MN86093AP
CLK
GCX RESET
SYSTEM I/F
GCX I2C
GCX SERIAL
GCX GPIO
GCX TEST
GCX COMMON
GCX PWM
GCX SPI
GCX AVDD 3.3V
GCX VDD 3.3V
GCX DDR1.5V
GCX V-by-One 3.3V
GCX V-by-One 1.1V
GCX LVDS TX 3.3V
GCX LVDS TX 1.1V
GCX VDD 1.1V
GCX LVDS RX 3.3V
GCX LVDS RX 1.1V
LVDS TX
LVDS RX
V-by-One
DDR3 CH I/F
DDR3 CH0 REF
DDR3 TEST
DDR3 POWER CTRL
127
128
129
130
131
132
133
134
135

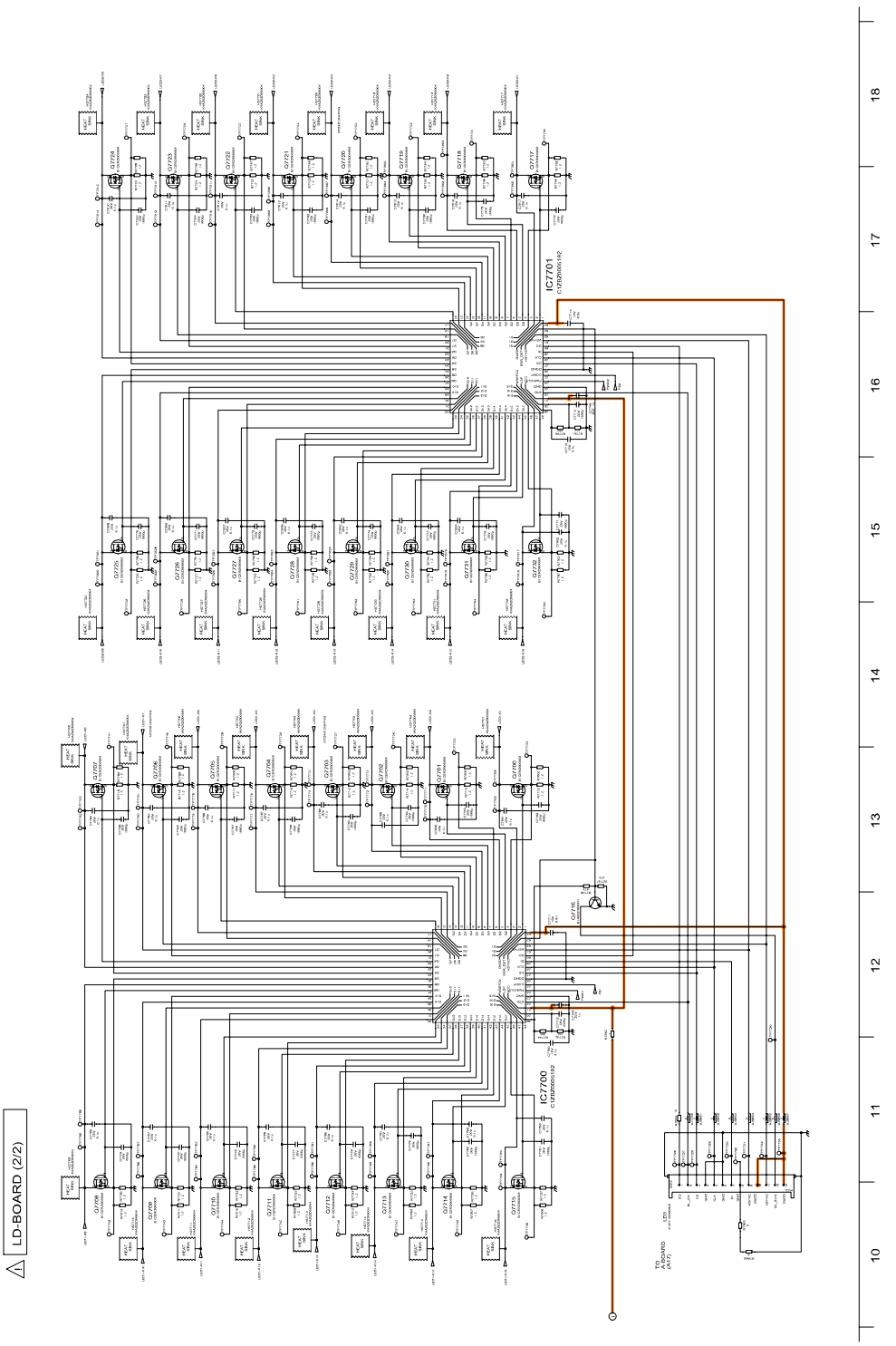

A-BOARD (16/17)
1Gbit DDR3
CH0
IC9501
1Gbit DDR3
CH1
IC9502
SUB1.1V
SUB1.5V
IC9503
IC9504
Thermal Pad
CLK
136
137
138
139
140
141
142
143
144

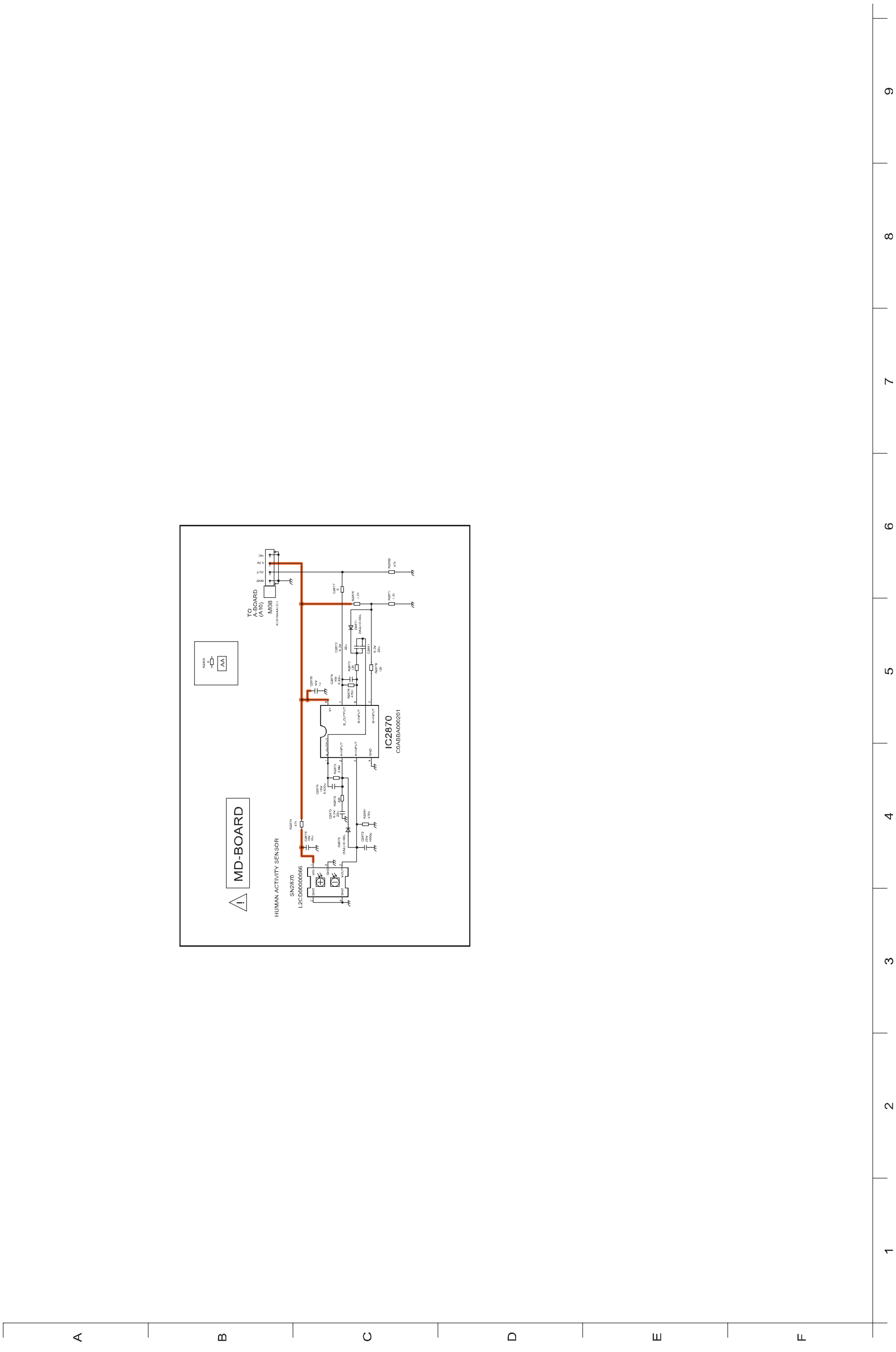

A-BOARD (17/17)
Demod_1 (Main)
ISDB-T/S_DVB-T2/T/C/S/S2_DTMB_JPN_W
Sheet SoC
Sheet tuner
RESET
Sheet IIC
IC6800
TM_TUNER
145
146
147
148
149
150
151
152
153


GK-BOARD
A
B
C
D
E
F
1
2
3
4
5
6
7
8
9

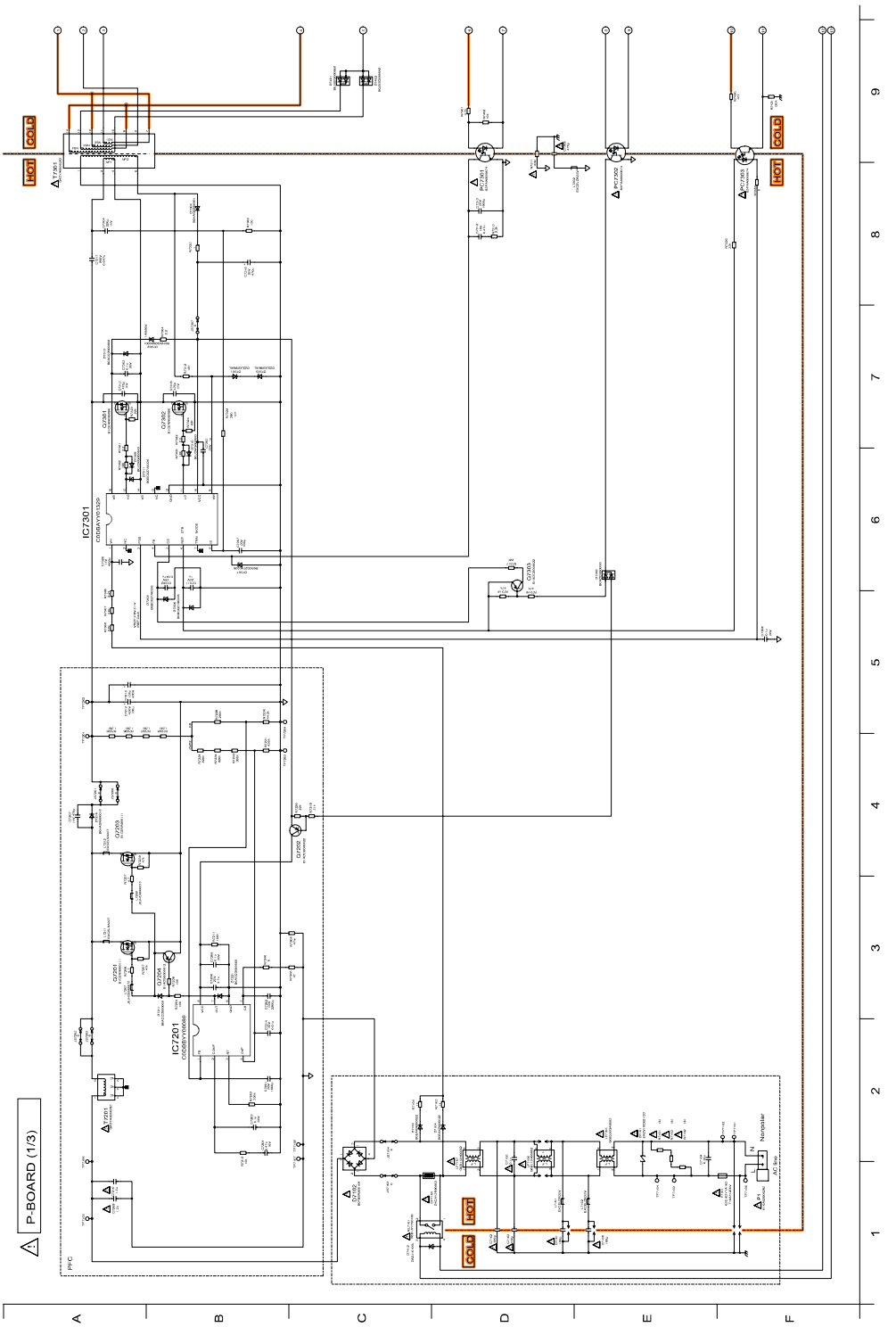

K-BOARD
RM_RECEIVER
AI_SENSOR
POWER_LED
TO
A-BOARD
(A10)
K10
A
B
C
D
E
F
1
2
3
4
5
6
7
8
9

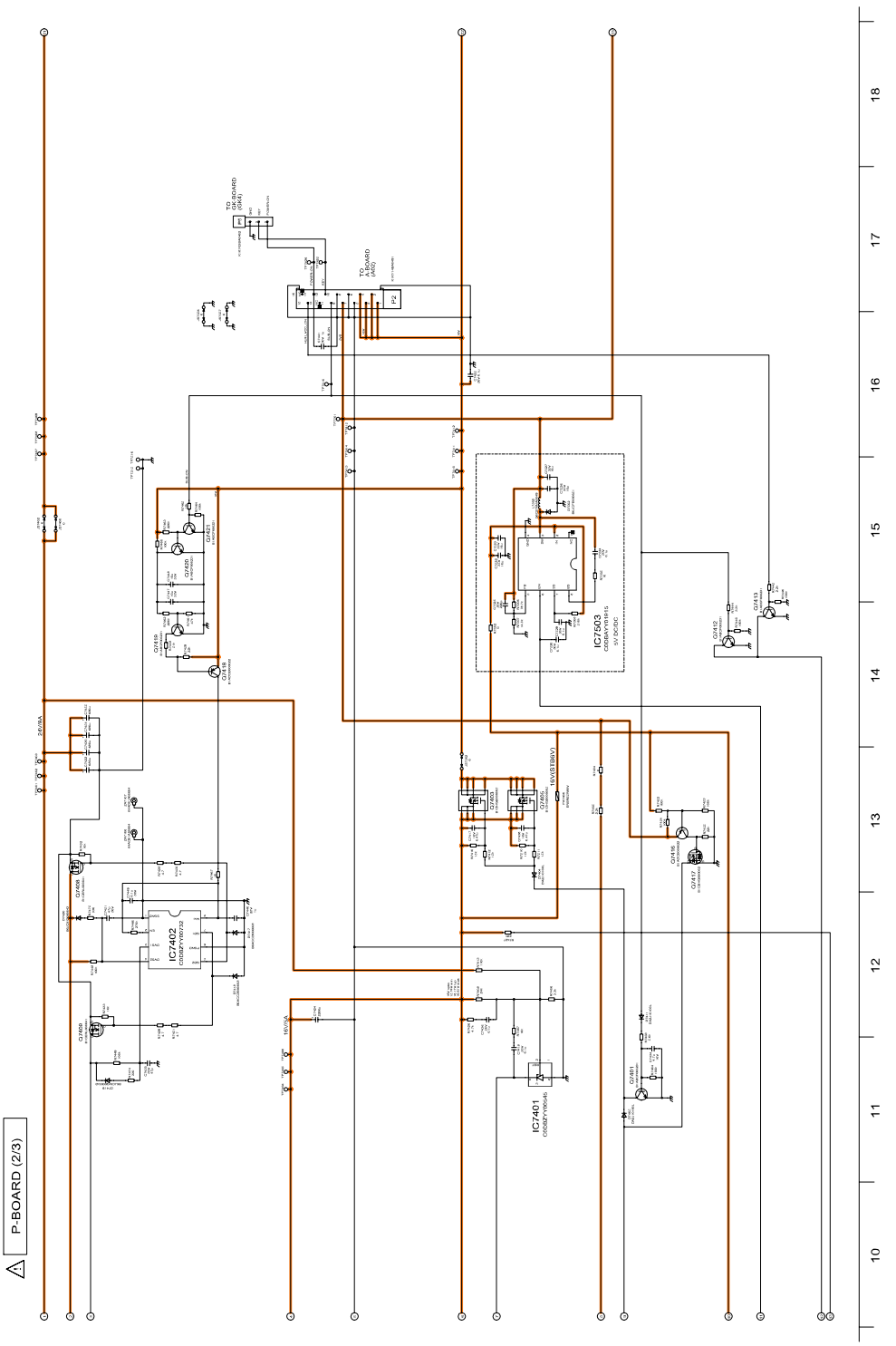

LD-BOARD (1/2)
TO LCD PANEL
TO LCD PANEL
TO P BOARD (PR)
SWITCH AC
A
B
C
D
E
F
1
2
3
4
5
6
7
8
9

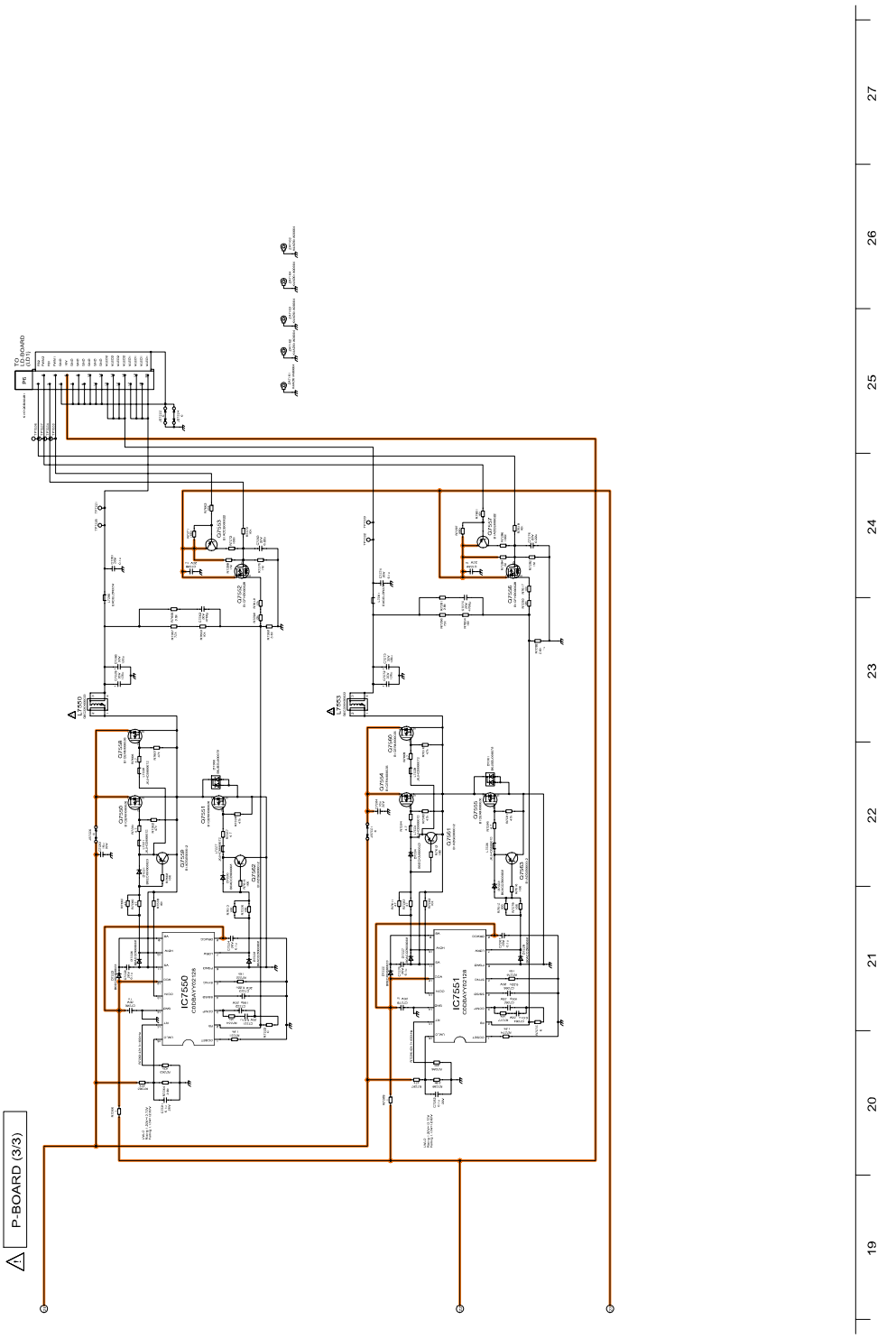

LD-BOARD (2/2)
IC7701
IC7700
TO MAINBOARD (A57)
10
11
12
13
14
15
16
17
18


MD-BOARD
HUMAN ACTIVITY SENSOR
IC2870

Model No. : TH-60AS800S P-Board (1/3)




P-BOARD (2/3)
IC7503
IC7402
IC7401
10
11
12
13
14
15
16
17
18


P-BOARD (3/3)
IC7550
IC7551
19
20
21
22
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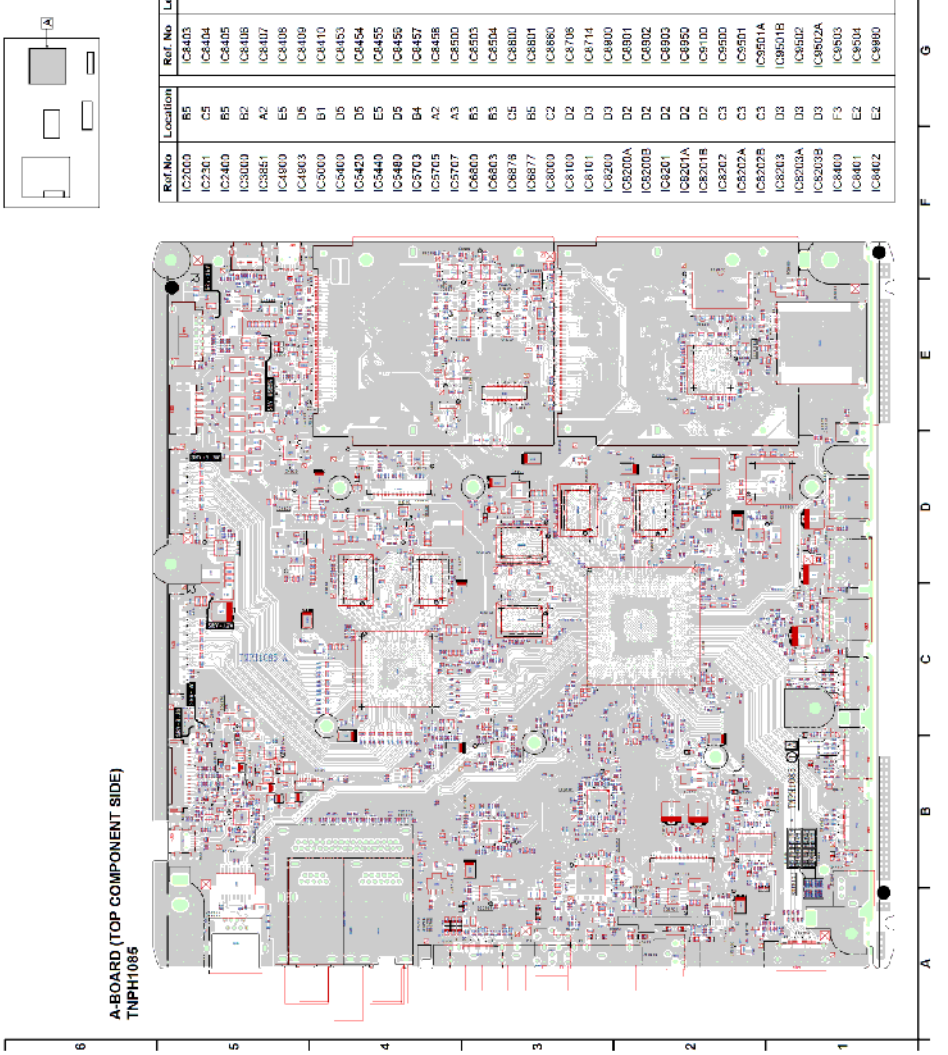
27



Parts Location

Ref. No	Location	Ref. No	Location	Ref. No	Location	Ref. No	Location	Ref. No	Location	Ref. No	Location	Ref. No	Location
IC2000	B5	IC6403	E3	D2000	B5	D4705	B1	D4775	A1	D8455	D1		
IC2301	C5	IC6404	E3	D2001	B5	D4706	B1	D4776	A1	D8456	D1		
IC2400	B5	IC6405	E3	D2002	B5	D4707	B1	D4777	A1	D8457	D1		
IC3000	B2	IC6406	E3	D2003	B5	D4708	B1	D4778	A1	D8458	D1		
IC3851	A2	IC6407	E4	D2004	B5	D4709	B1	D4779	A1	D8702	B2		
IC4900	E5	IC6408	E4	D2005	B5	D4710	A1	D4780	A1	D8716	B2		
IC4903	D5	IC6409	F3	D2006	E5	D4711	C1	D4781	A1	D8890	B2		
IC5000	B1	IC6410	E2	D2007	E5	D4712	B1	D4782	A2	D8951	B1		
IC5400	D5	IC6453	C1	D2300	B5	D4713	C1	D5172	E5				
IC5420	D5	IC6454	C1	D2400	B5	D4714	C1	D5173	E5				
IC5440	E5	IC6455	D1	D3007	A4	D4715	C1	D5176	D4				
IC5480	D5	IC6456	E5	D3008	A4	D4717	C1	D5179	D4				
IC5703	B4	IC6457	B5	D3009	A4	D4718	C1	D5180	B2				
IC5705	A2	IC6458	B5	D3010	A4	D4719	C1	D5182	B2				
IC5707	A3	IC6500	E5	D3011	A4	D4720	C1	D5185	A2				
IC6800	B3	IC6503	E3	D3012	A4	D4721	C1	D5186	B2				
IC6803	B3	IC6504	E4	D3013	A3	D4722	C1	D5187	D2				
IC6878	C5	IC6800	B3	D3014	A3	D4723	B1	D5188	B2				
IC6877	B5	IC6801	B2	D3021	A2	D4724	B1	D5191	D2				
IC8000	C2	IC6860	F1	D3022	A2	D4730	C1	D5192	D4				
IC8100	D2	IC8706	B2	D3023	A3	D4731	B2	D5401	D3				
IC8101	D3	IC8714	B2	D3024	A3	D4750	B1	D5402	D3				
IC8200	D3	IC8800	E2	D3025	A3	D4751	B1	D5403	D3				
IC8200A	D2	IC8801	D4	D3026	A3	D4752	B1	D5700	B5				
IC8200B	D2	IC8802	D4	D3053	A3	D4753	B1	D5701	B5				
IC8201	D2	IC8903	D1	D3201	B1	D4754	B1	D5870	B5				
IC8201A	D2	IC8950	D2	D3851	A2	D4755	B1	D5879	C5				
IC8201B	D2	IC9100	B4	D3852	A2	D4756	B1	D5880	B5				
IC8202	C3	IC9500	C4	D3853	A2	D4757	B1	D5881	B5				
IC8202A	C3	IC9501	C4	D3854	A2	D4758	B1	D5882	B5				
IC8202B	C3	IC9501A	D4	D3855	A2	D4759	B1	D5883	B5				
IC8203	D3	IC9501B	D4	D3856	A2	D4760	B1	D5884	B5				
IC8203A	D3	IC9502	D3	D4700	B1	D4761	B1	D5885	B5				
IC8203B	D3	IC9502A	D3	D4701	B1	D4771	A1	D5451	C1				
IC8400	F3	IC9503	D4	D4702	B1	D4772	A1	D5452	C1				
IC8401	E2	IC9504	D4	D4703	B1	D4773	A1	D8453	C1				
IC8402	E2	IC9980	A2	D4704	B1	D4774	A1	D8454	C1				


A
A-BOARD (BOTTOM COMPONENT SIDE)
TNPH1085
Parts Location
Ref.No
Location
D3201
E1
A
B
C
D
E
F
G
H
I
J
1
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4
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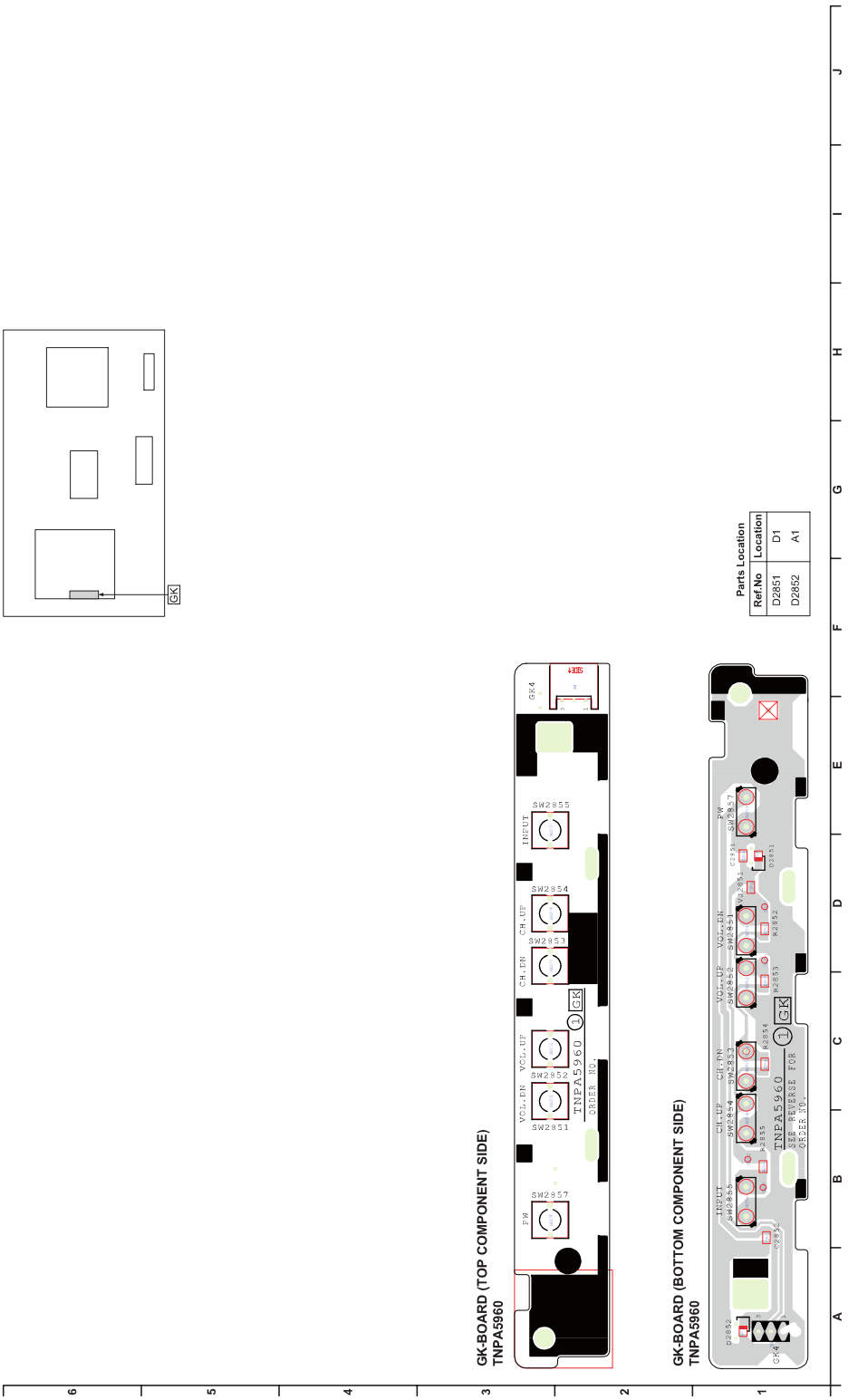
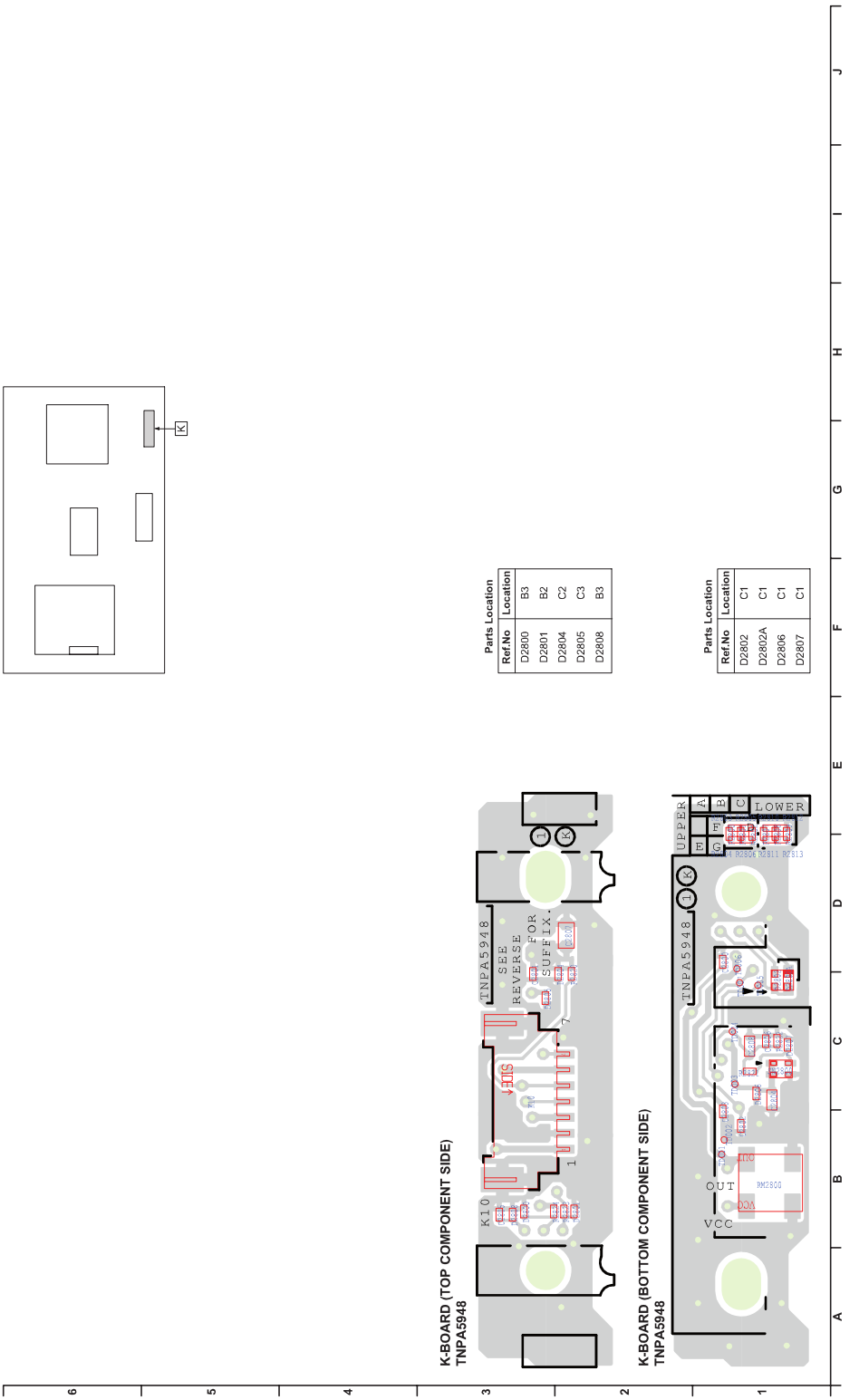
6


GK
GK-BOARD (TOP COMPONENT SIDE)
TNPA5960
GK-BOARD (BOTTOM COMPONENT SIDE)
TNPA5960
Parts Location
Ref.No | Location
D2851 | D1
D2852 | A1

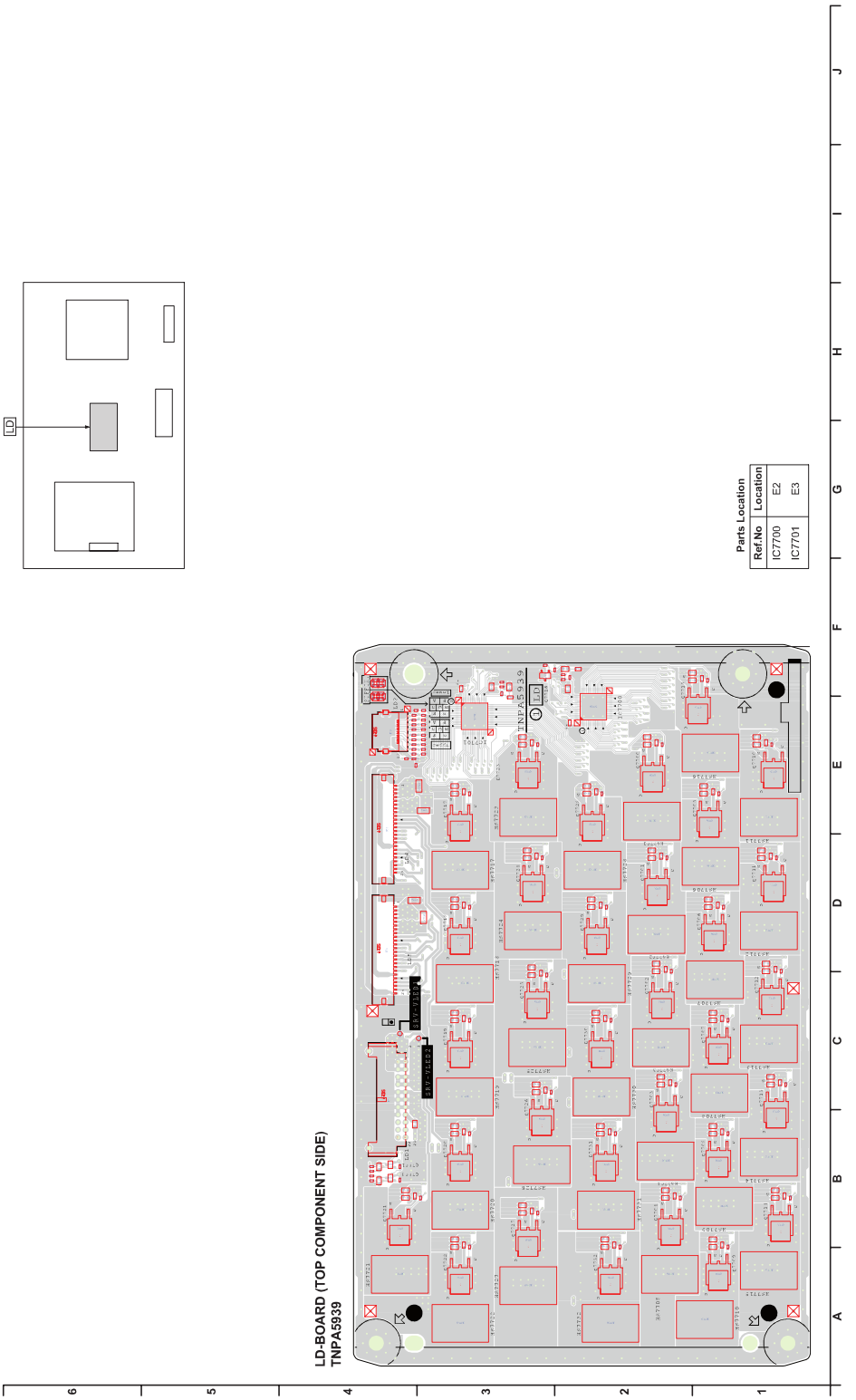


Parts Location

Ref.No	Location
D2800	B3
D2801	B2
D2804	C2
D2805	C3
D2808	B3

Parts Location

Ref.No	Location
D2802	C1
D2802A	C1
D2806	C1
D2807	C1


LD
Parts Location
Ref.No | Location
IC7700 | E2
IC7701 | E3
LD-BOARD (TOP COMPONENT SIDE)
TNPA5939
A
B
C
D
E
F
G
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I
J
1
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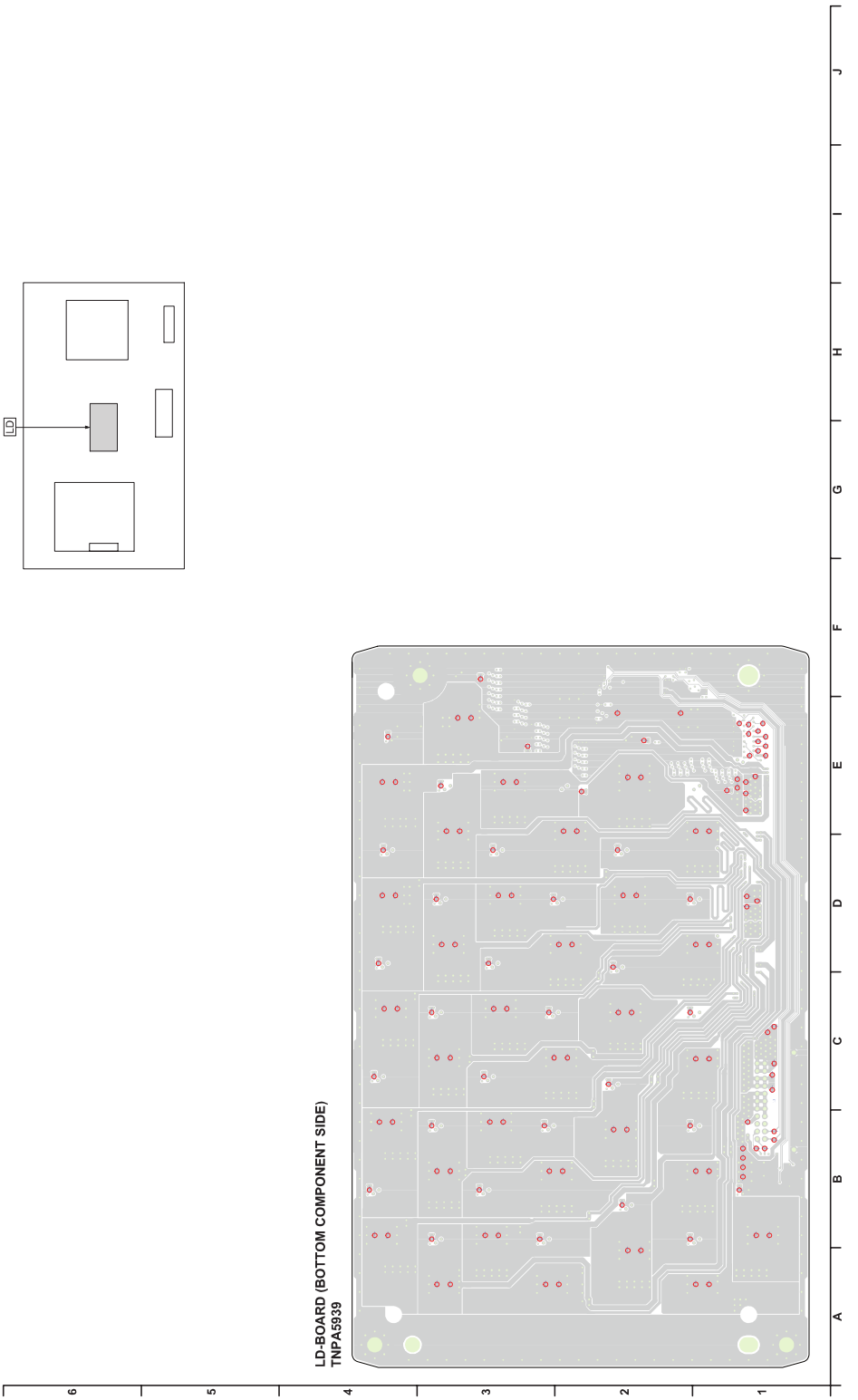
5
6


LD
LD-BOARD (BOTTOM COMPONENT SIDE)
TNPA5939
A
B
C
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E
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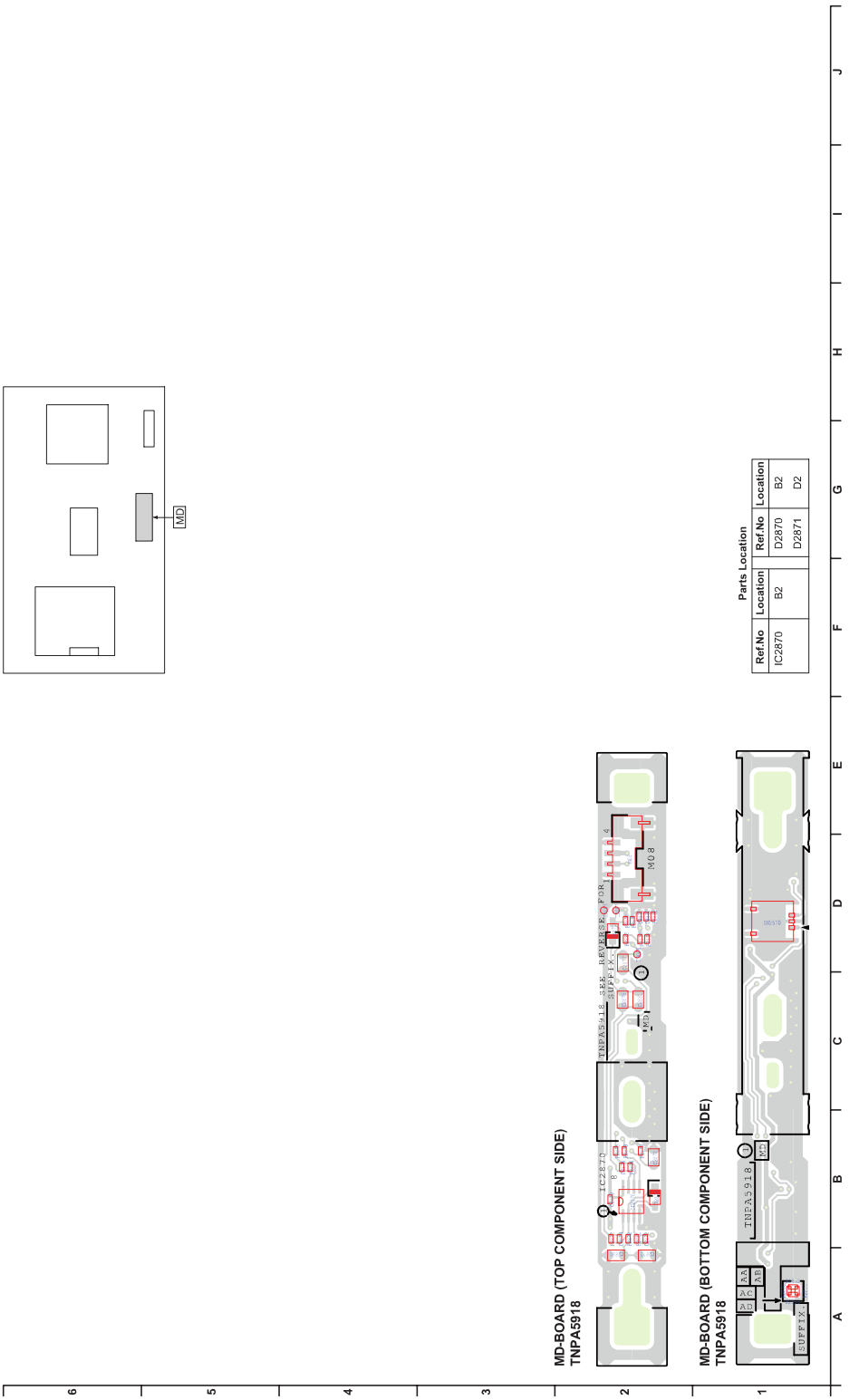
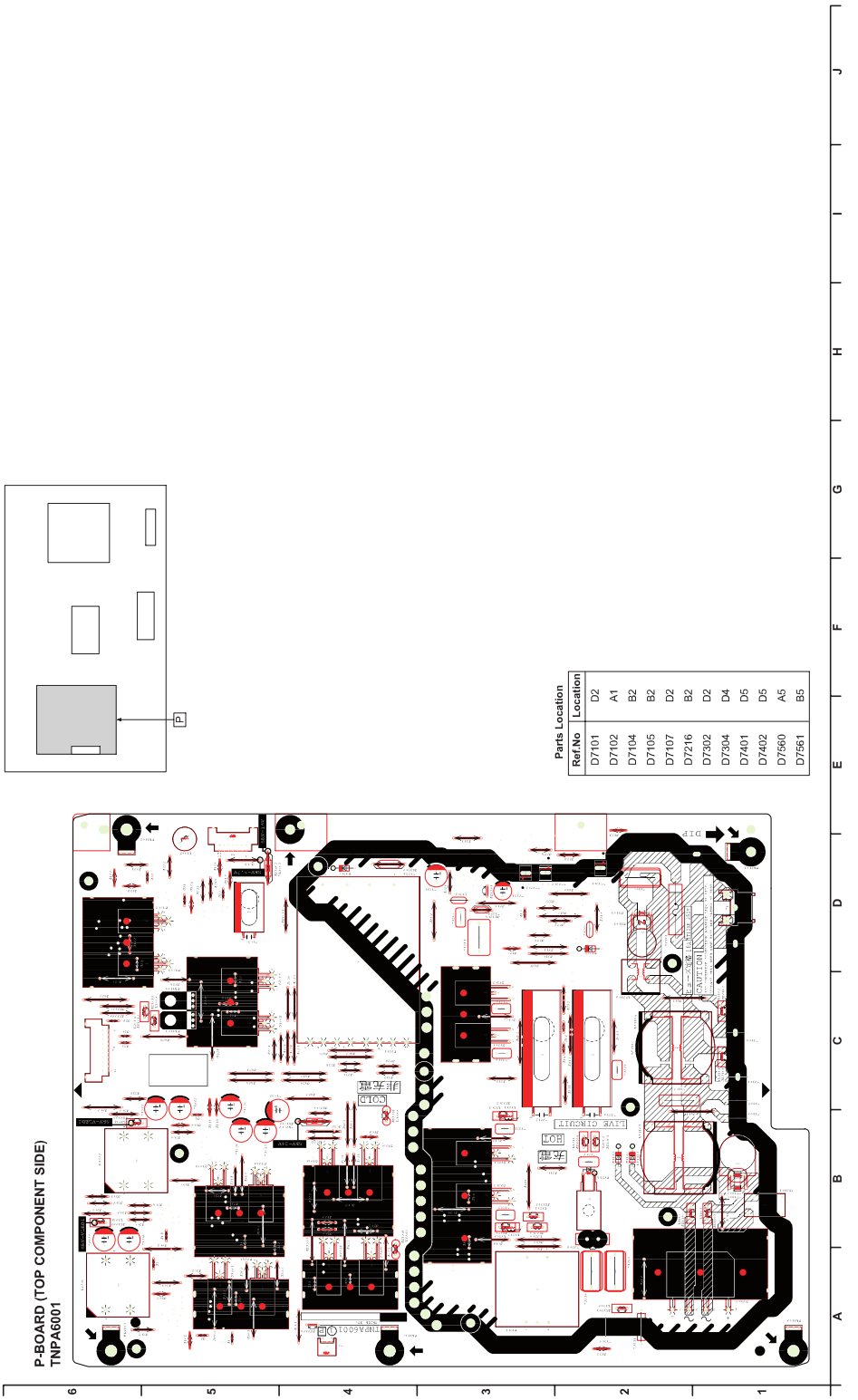
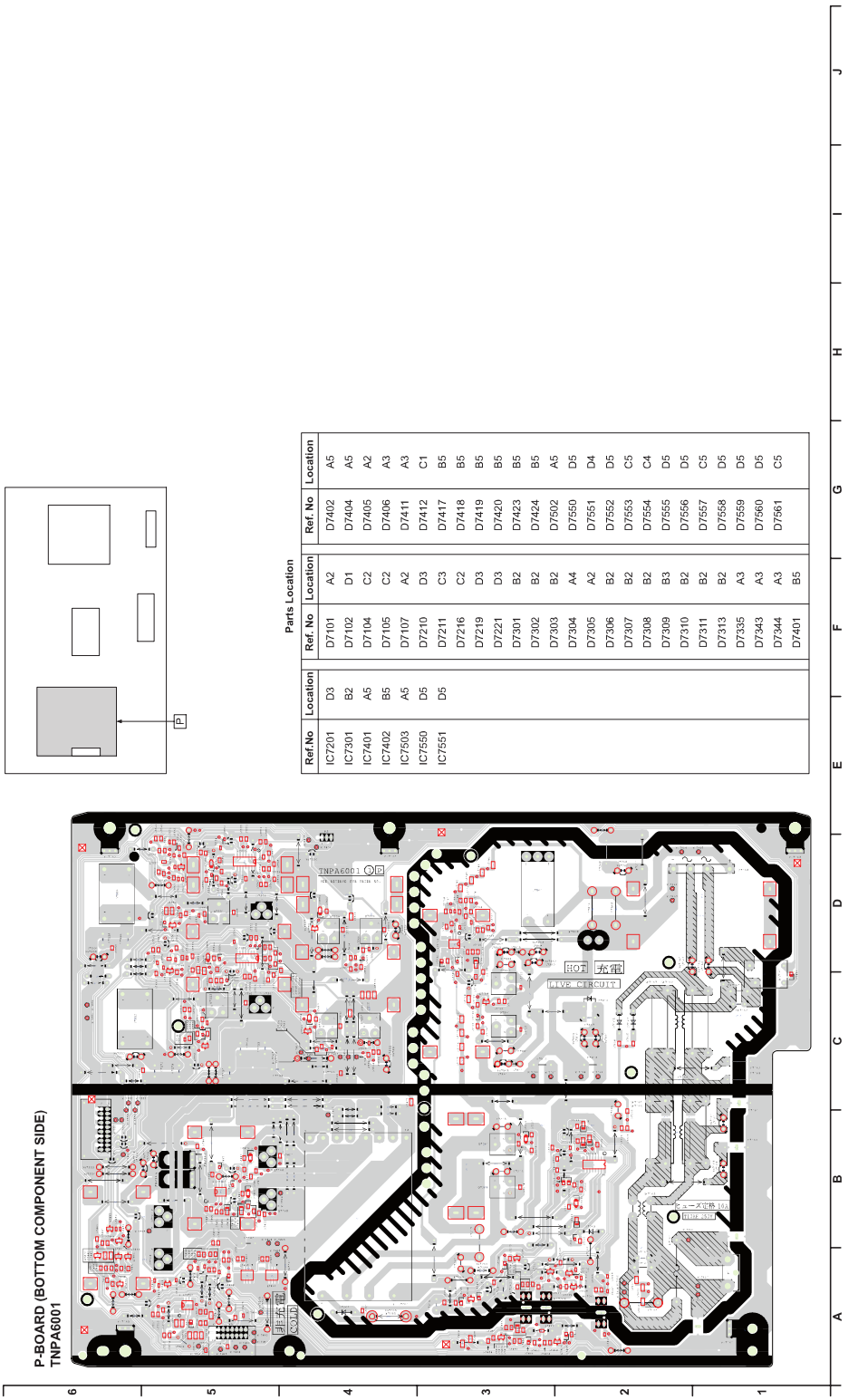
G
H
I
J
1
2
3
4
5
6


MD
MD-BOARD (TOP COMPONENT SIDE)
TNPA5918
MD-BOARD (BOTTOM COMPONENT SIDE)
TNPA5918
Parts Location
Ref.No | Location | Ref.No | Location
IC2870 | B2 | D2870 | B2
D2871 | D2


P-BOARD (TOP COMPONENT SIDE)
TNPA6001
Parts Location
Ref.No | Location
D7101 D2
D7102 A1
D7104 B2
D7105 B2
D7107 D2
D7216 B2
D7302 D2
D7304 D4
D7401 D5
D7402 D5
D7560 A5
D7561 B5



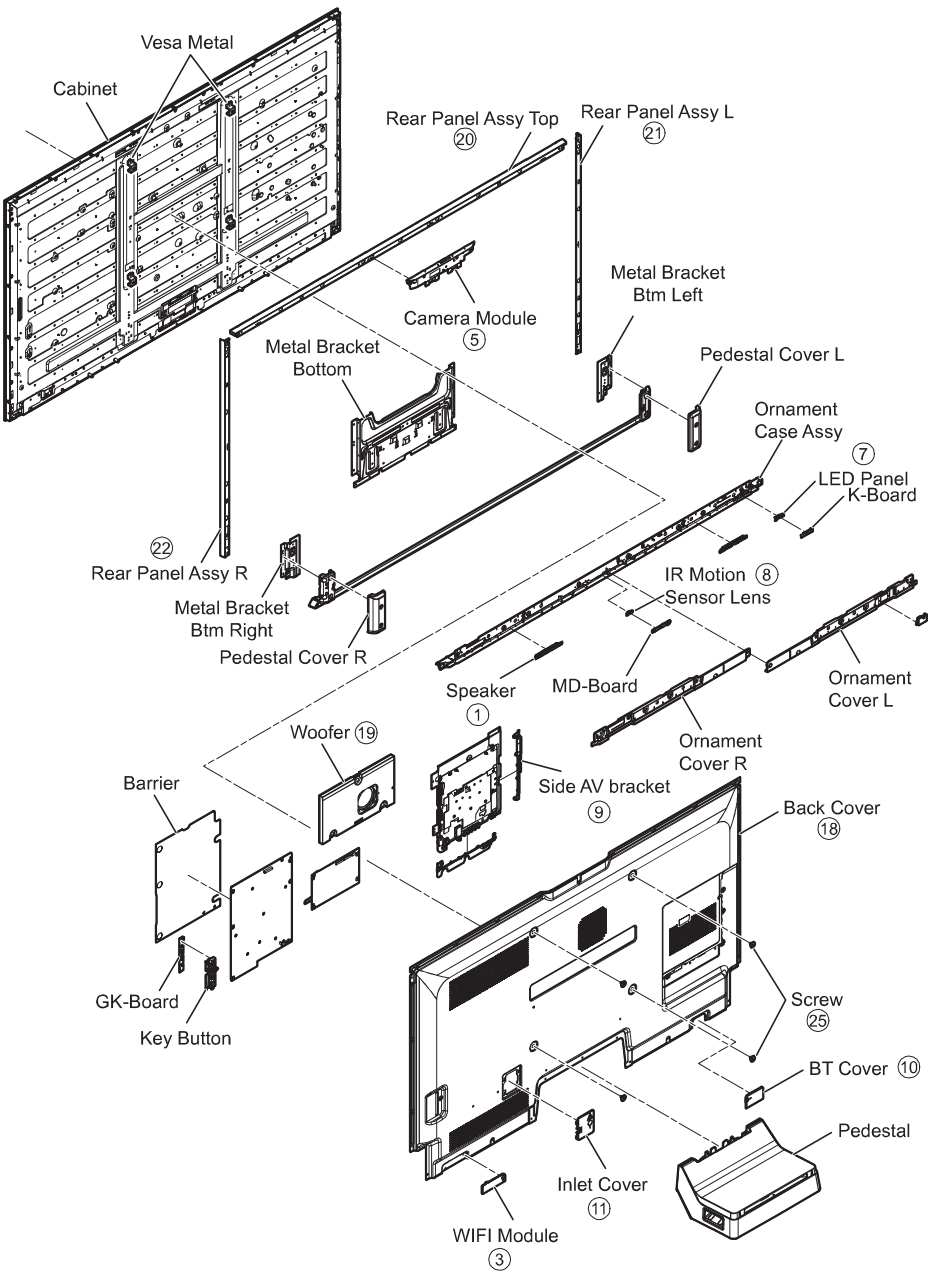
Parts Location

Ref.No	Location
IC7201	D3
IC7301	B2
IC7401	A5
IC7402	B5
IC7503	A5
IC7550	D5
IC7551	D5

Ref. No	Location
D7101	A2
D7102	D1
D7104	C2
D7105	C2
D7107	A2
D7210	D3
D7211	C3
D7216	C2
D7219	D3
D7221	D3
D7301	B2
D7302	B2
D7303	B2
D7304	A4
D7305	A2
D7306	B2
D7307	B2
D7308	B2
D7309	B3
D7310	B2
D7311	B2
D7313	B2
D7335	A3
D7343	A3
D7344	A3
D7401	B5

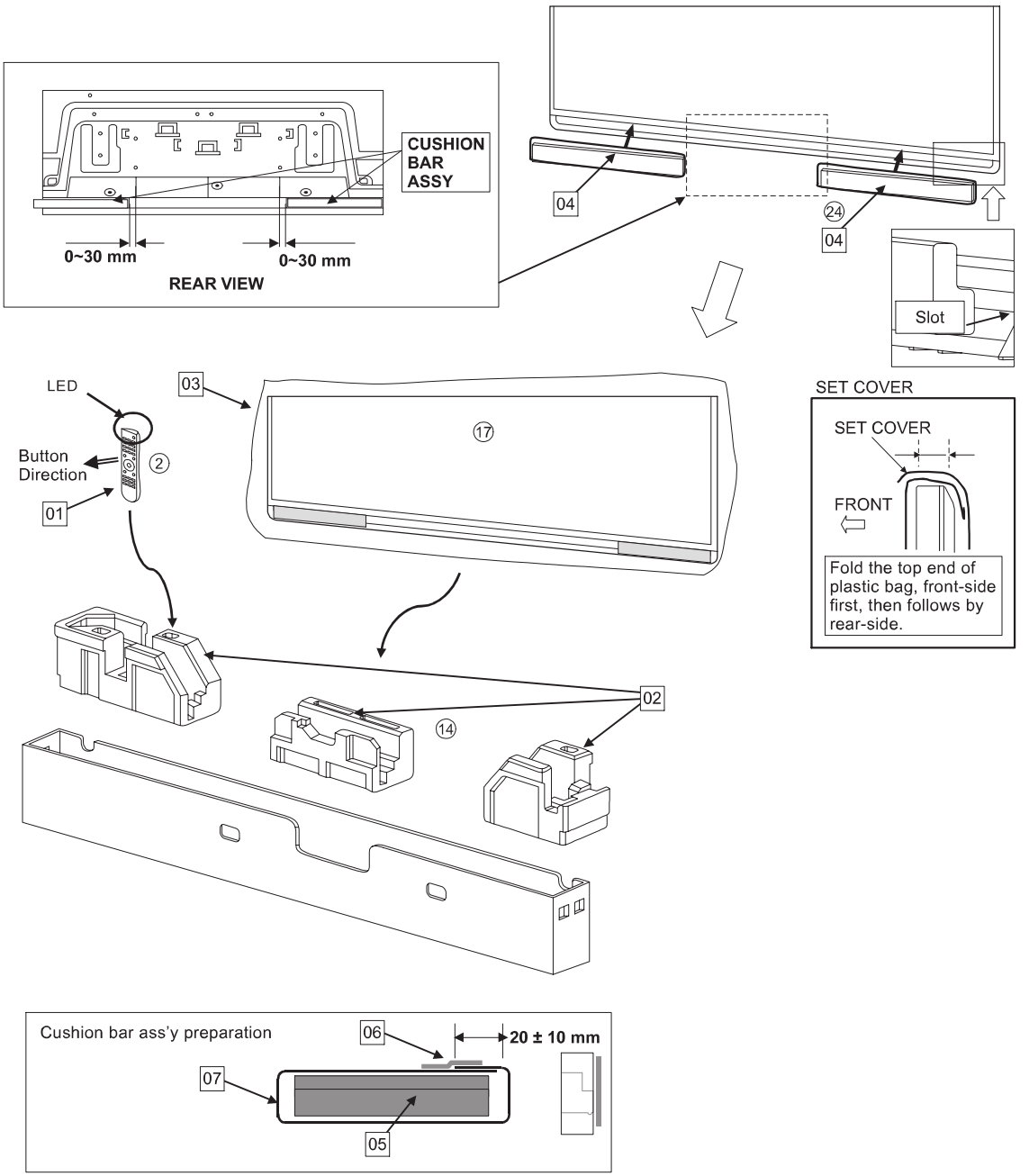
Ref. No	Location
D7402	A5
D7404	A5
D7405	A2
D7406	A3
D7411	A3
D7412	C1
D7417	B5
D7418	B5
D7419	B5
D7420	B5
D7423	B5
D7424	B5
D7502	A5
D7550	D5
D7551	D4
D7552	D5
D7553	C5
D7554	C4
D7555	D5
D7556	D5
D7557	C5
D7558	D5
D7559	D5
D7560	D5
D7561	C5

Model No. : TH-60AS800S Parts Location



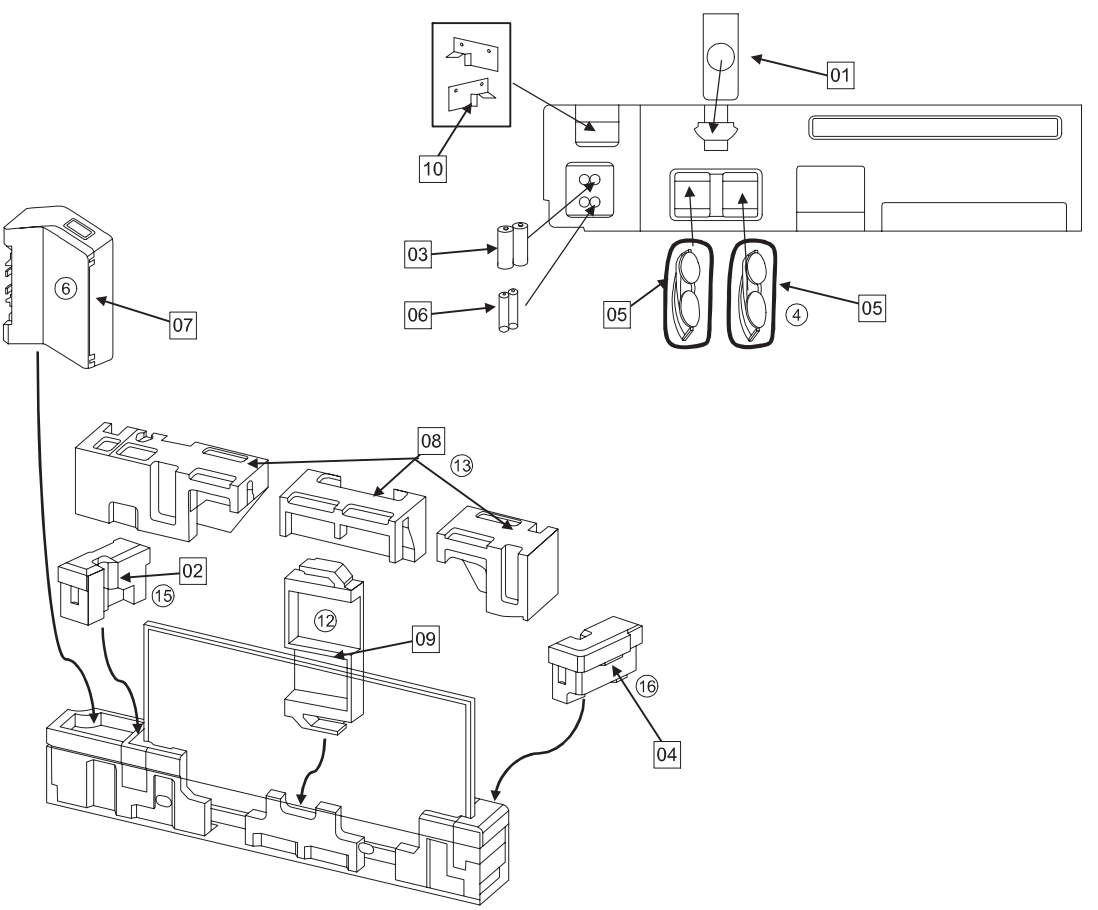
Model No. : TH-60AS800S Packing Exploded View 1

NO	QTY	UOM	DESCRIPTION
01	1	PC	REMOTE_CONTROL
02	1	PC	CUSHION_BOTTOM
03	1	PC	SET_BAG
04	2	PC	CUSHION_BAR_ASSY
05	2	PC	CUSHION_BAR
06	0.08	MT	PAPER_TAPE_FOR_CUSHION BAR
07	2	PC	BAG_FOR_CUSHION_BAR



Model No. : TH-60AS800S Packing Exploded View 2

NO	QTY	UOM	DESCRIPTION
01	1	PC	TOUCH_REMOTE_TRANSMITTER
02	1	PC	SIDE_CUSHION_L
03	1	PC	BATTERY_PACK
04	1	PC	SIDE_CUSHION_R
05	2	PC	3D_GLASSES
06	1	MT	BATTERY_PACK
07	1	PC	PEDESTAL_ASSY
08	1	PC	CUSHION_TOP
09	1	PC	CUSHION FRONT
10	1	PC	CORNER_CAP_ASSY



Model No. : TH-60AS800S Packing Exploded View 3

NO	QTY	UOM	DESCRIPTION	REMARK
01	4	PC	PC_JOINT	
02	1	PC	CARTON_TOP	
03	1	PC	CARTON_LABEL	
04	1	PC	LABEL_COMBINATION	
05	1	PC	ACCESSORIES_ASSY	
06	3.92	MT	PP (CATOP2.03 BTM0.88/CUTOPL0.2 BOTR0.81)	1 pc x 2030 mm
07	3.92	MT	PP (CATOP2.03 BTM0.88/CUTOPL0.2 BOTR0.81)	1 pc x 200 mm