Haier SERVICE MANUAL

LED TV

Model No. 48DR3505

MSD3393LU Chassis

⚠ 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.

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Chapter 1. General Information

1-1. Document Information

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Author: Zhu Yapeng
Compiler:

1-2. General Guidelines

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.

After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.

After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

1) Leakage Current Cold Check
2) Leakage Current Hot Check
3) Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive

1-3. Important Notice

1-3-1. Follow the regulations and warnings

Most important thing is to list up the potential hazard or risk for the service personnel to open the units and disassemble the units. For example, we need to describe properly how to avoid the possibility to get electrical shock from the live power supply or charged electrical parts (even the power is off).

This symbol indicates that high voltage is present inside.It is dangerous to make any king of contact with any inside part of this product.

This symbol indicates that there are important operating and maintenance instructions in the literture accompanying the appliance.

1-3-2. Be careful to the electrical shock

To prevent damage which might result in electric shock or fire, do not expose this TV set to rain or excessive moisture. This TV must not be exposed to dripping or splashing water, and objects filled with liquid, such as vases, must not be placed on top of or above the TV.

1-3-3. Electro static discharge (ESD)

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such

components commonly are called Electrostatically Sensitive (ES) Devices. The following techniques should be used to help reduce the incidence of component damage caused by electros static discharge (ESD).

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 ncidence 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.

1-3-4. About lead free solder (PbF)

This product is manufactured using lead-free solder as a part of a movement within the consumer products industry at large to be environmentally responsible. Lead-free solder must be used in the servicing and repairing of this product.

1-3-5. Use the genewing parts (specified parts)

Special parts which have purposes of fire retardant (resistors), high-quality sound (capacitors), low noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

Safety Component

● Components identified by mark have special characteristics important for safety.

1-3-6 Safety check after repairment

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the positions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

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 is not required.
   Capacitors may result in an explosion hazard.

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. Capacitors may result in an explosion hazard.

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.

9. Remove the antenna terminal on TV and turn on the TV.

10. Insulation resistance between the cord plug terminals and the eternal exposure metal should be more than Mohm by using the 500V insulation resistance meter.

11. If the insulation resistance is less than M ohm, the inspection repair should be required.
If you have not the 500V insulation resistance meter, use a Tester. External exposure metal: Antenna terminal Headphone jack.

12. Use only a grounded-tip soldering iron to solder or unsolder ES devices.

13. 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.

14. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.

15. 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).

16. 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.

17. 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.)

1-3-7. Ordering Spare Parts

Please include the following informations when you order parts. (Particularly the Version letter)

1. Model number, serial number and software version
The model number and serial number can be found on the back cover of each product. Software version can be found in the Spare Parts List.

2. Spare part No. and description
Spare part No. and description can be found in the Spare Parts List.

1-3-8. Photo used in this manual

The illustration and photos used in this Service Manual may not base on the final design of products, which may differ from your products in some way.

1-4. How to Read this Service Manual

Using icons

Icons are used to attract the attention of the reader to specific information. The meaning of each icon is described in the table below:

Note:
A “note” provides information that is not indispensable, but may nevertheless be valuable to the reader, such as tips and tricks.

Caution:

A “caution ” is used when there is danger that the reader, through incorrect manipulation, may damage equipment, loose data, get an unexpected result or has to restart(part of) a procedure.

Warning:
A “warning” is used when there is danger of personal injury.

Reference:

A “reference” guides the reader to other places in this binder or in this manual, where he/she will find additional information on a specific topic.

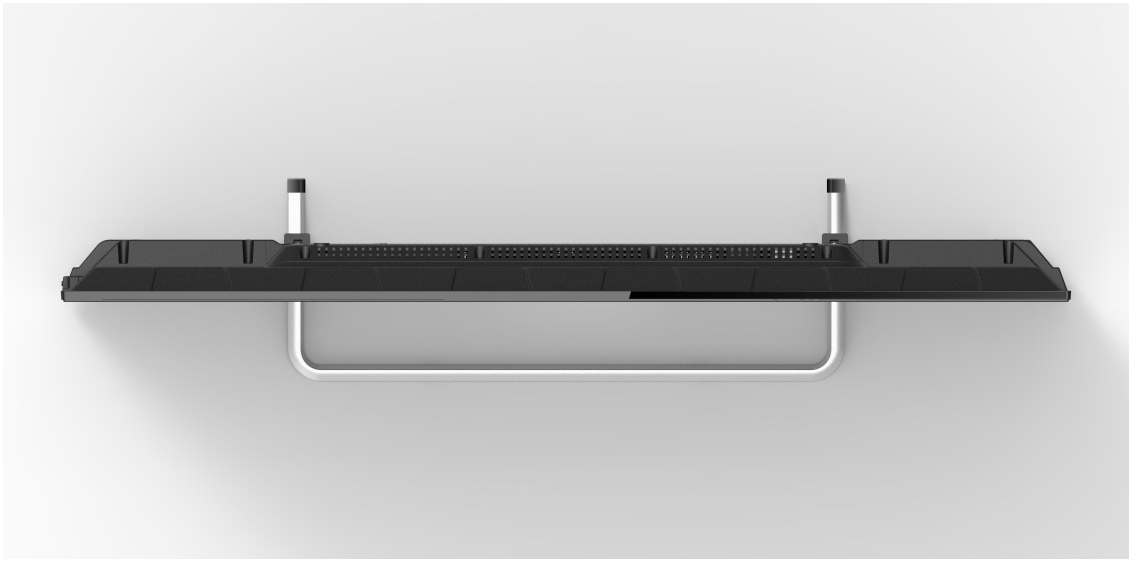
Chapter 2. Specification

2-1. Specification list

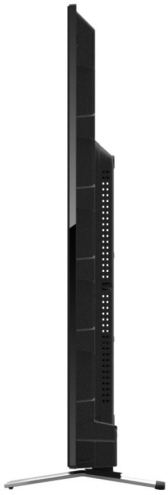
Model	48DR3505
Screen Size	47.6"
Aspect Ratio	16:9
Resolution	1920x1080
Brightness (cd/m²)	250
Contrast	1200:1
Response Time (ms)	8
Angel of View	H:160°, V:150°
Color Display	16.7M
OSD Language	English,French,Spanish.
Color System	NTSC
Audio System	MN
Audio Output Power (Built-in) (W)	8W×2
Audio Output Power (outer) (W)	No
Total Power Input (W)	140W
Voltage Range (V)	AC100V~240V
Power Frequency (Hz)	50~60Hz
Time of Sleep Timer (MINS)	240Min
Net Weight (KG)	22.7 lbs
Gross Weight (KG)	21.8 lbs
Dimensions with Stand	42.7" x 26.2" x 9.8"
Dimensions without Stand	42.7" x 24.8" x 3.0"

2-2. External pictures (four faces)

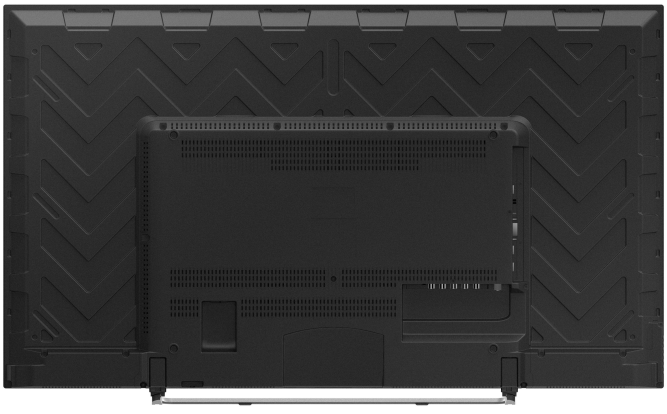
Front Side



Up Side



Right Side

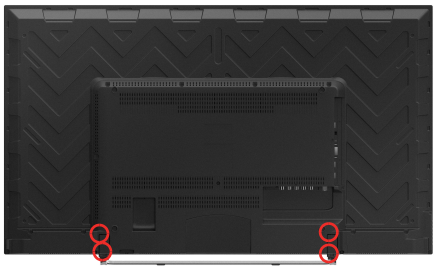


Back Side

Chapter 3. Disassemble and Assemble

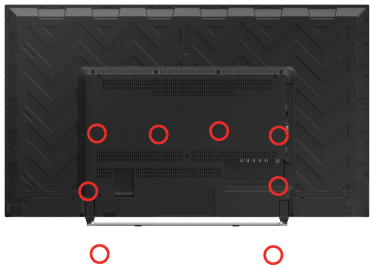
3-1. 48DR3505

3-1-1. Remove the Stand



1. Lay down the TV set .
2. Remove the four screws from the stand which in the picture above.
3. Remove the stand.

3-1-2. Remove the Back Cabinet



1.Remove the screws indicated with red circles.
2. Flip machine, panel side up.
3.Carefully raise the Front shell from bottom.

3-1-3. Remove the Mainboard

1. Remove the six screws indicated with red circles.
2. Remove the Mainbord.

3-1-5. Remove the Speaker

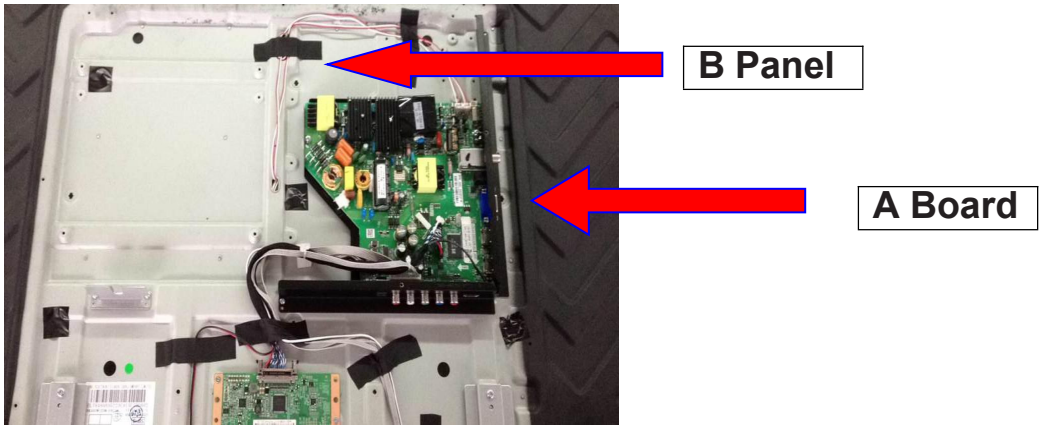
Remove the Speaker indicated by red circle in below picture.

3-1-6. Remove the Remote Control Board And the Key Board

Remove the Remote Control Board and the Key Board indicated by red circle in below picture.

Chapter 4. Location of Controls and Components

4-1. Board Location



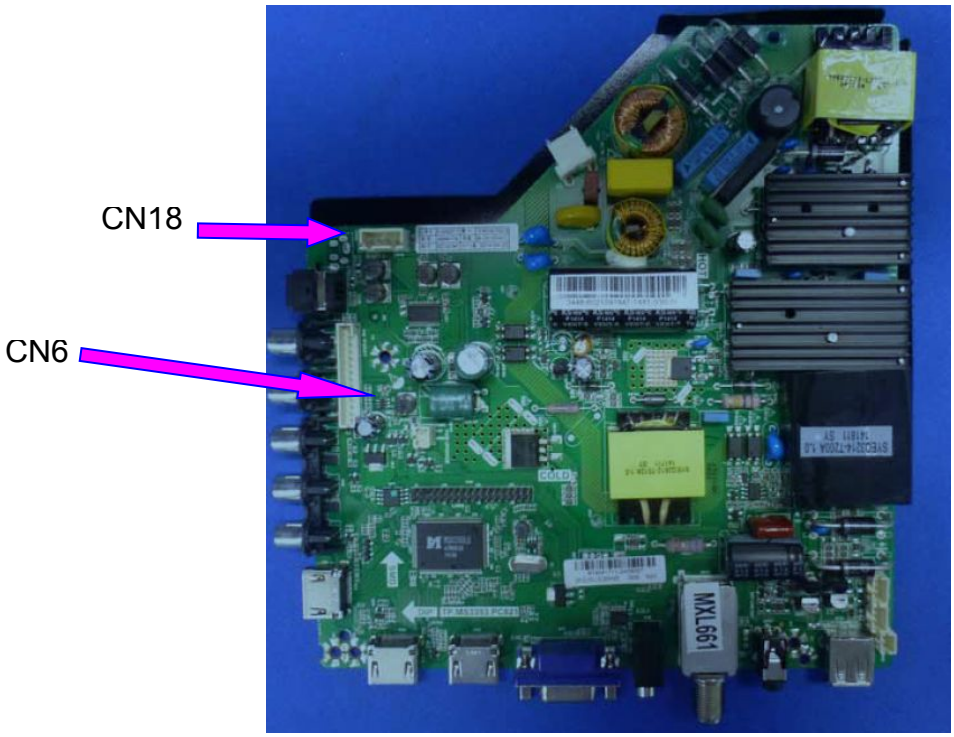
No.	Model	Description
A Board	TP.MS3393.PC821	Mainboard
B Panel	ST4761B01-5	LCD Panel

4-2. Mainboard

4-2-1. Function Description

Process signal which incept from exterior equipment then translate into signal that panel can display.

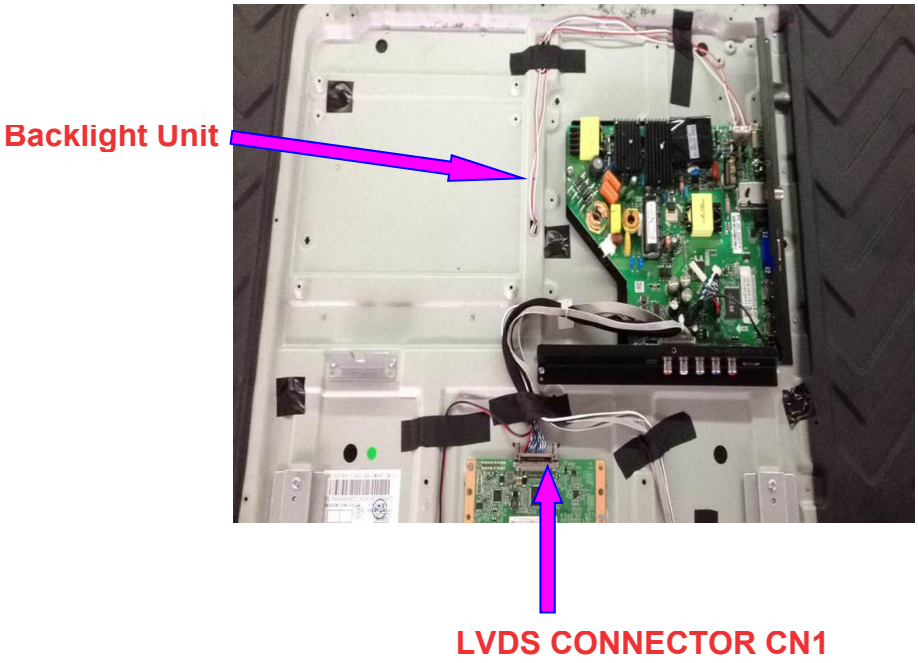
4-2-2. Connector definition



IR & Key Interface CN6	
Pin number	**Signal name**
1	5V
2	RED
3	GRE
4	IR
5	GND
6	K0
7	K1
8	K2
9	K3
10	K4
11	K5
12	K6
13	K7
14	GND

Speaker connector CN18	
Pin number	**Signal name**
1	ROUT+
2	ROUT-
3	LOUT-
4	LOUT+

4-4. LCD Panel



Connector Definition

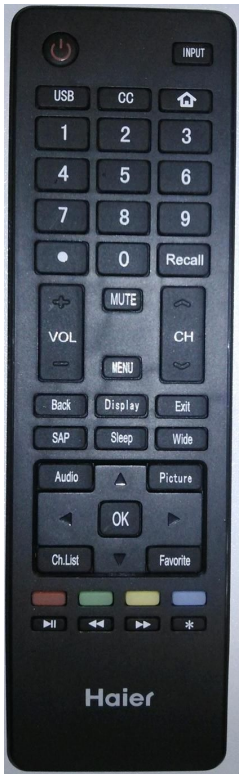
Backlight Unit

Pin No.	Symbol	Description
1	IRLED1	Cathode
2	IRLED2	Anode
3	IRLED3	Cathode
4	IRLED4	Anode

Pin No.	Symbol	Description	Note
1	WP	Write Protect (High: Write Enable, Low or Open: Write Disable)	
2	SCL	I2C Serial Clock (for adjust VCOM)	
3	SDA	I2C Serial Data (for adjust VCOM)	
4	NC	No Connection	
5	NC	No Connection	
6	NC	No Connection	
7	LVDS_SEL	LVDS Data Format Selection	
8	NC	No Connection	
9	NC	No Connection	
10	NC	No Connection	
11	GND	Ground	
12	RO[0]N	Odd LVDS Signal -	
13	RO[0]P	Odd LVDS Signal +	
14	RO[1]N	Odd LVDS Signal -	
15	RO[1]P	Odd LVDS Signal +	
16	RO[2]N	Odd LVDS Signal -	
17	RO[2]P	Odd LVDS Signal +	
18	GND	Ground	
19	ROCLK-	Odd LVDS Clock -	
20	ROCLK+	Odd LVDS Clock +	
21	GND	Ground	
22	RO[3]N	Odd LVDS Signal -	
23	RO[3]P	Odd LVDS Signal +	
24	NC	No Connection	
25	NC	No Connection	
26	NC	No Connection	
27	NC	No Connection	
28	RE[0]N	Even LVDS Signal -	
29	RE[0]P	Even LVDS Signal +	
30	RE[1]N	Even LVDS Signal -	
31	RE[1]P	Even LVDS Signal +	
32	RE[2]N	Even LVDS Signal -	
33	RE[2]P	Even LVDS Signal +	
34	GND	Ground	
35	ROCLK-	Even LVDS Clock -	
36	ROCLK+	Even LVDS Clock +	
37	GND	Ground	
38	RE[3]N	Even LVDS Signal -	
39	RE[3]P	Even LVDS Signal +	
40	NC	No Connection	
41	NC	No Connection	
42	NC	No Connection	
43	NC	No Connection	
44	GND	Ground	
45	GND	Ground	
46	GND	Ground	
47	NC	No Connection	
48	12V	DC power supply	
49	12V	DC power supply	
50	12V	DC power supply	
51	12V	DC power supply	

Chapter 5. Installation Instructions

5-1. Accessories



- Remote Control

Batteries

5-2. External Equipment Connections

Antenna Connection

Connect your aerial to the back of the TV into the ANTENNA IN socket.

Improve Your Signal

To improve picture quality in a poor signal area, use a signal amplifier (not supplied).

Connect Your PC to the TV

You can use your TV as a monitor for your personal computer by connecting it with a VGA cable (not supplied).

A Read your computer user guide and check it has a VGA connector.

B Turn off your TV and PC.

C Connect a D type 15-pin VGA interface cable to the VGA video interface connector on the PC. Connect the other end of the cable to the PC interface connector on the TV. Tighten the screws on the VGA connectors and connect the audio cable (not supplied) to the audio input socket on the back of the TV.

D Turn on the TV firstly and then the PC.

E Press the Source button on the TV or TV remote control to set the video input mode to PC.

F Once the image shows, if there is noise present, change the PC mode to other resolutions, change the refresh rate to other rate or adjust the brightness and contrast on the menu until the picture is clear.

Connect a DVD Player to Your TV

Connect the DVD video outputs (Y, P_b, P_r) to the COMPONENT (Y, P_b, P_r) IN socket on your TV.

A Turn on the DVD player and insert a DVD disk.

B Press the SOURCE button to select COMPONENT mode.

C Refer to the DVD player user guide for operating instructions.

Connect a DVD Player or VCR to Your TV

There are two ways in which you can connect a DVD player or VCR to your TV. Make sure that both the TV and DVD player or VCR are switched off before you connect them.

HDMI Input

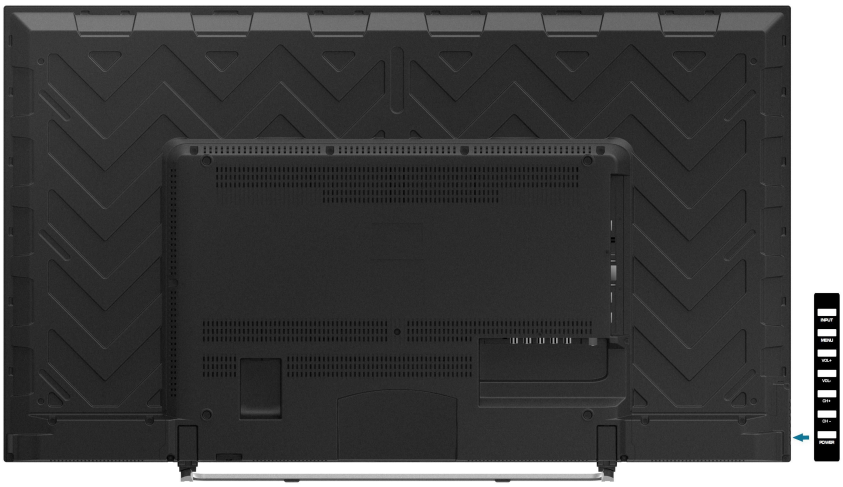
A Connect the cable from the HDMI device to the TV HDMI socket.

B Press the **SOURCE** button to select HDMI mode.

C Refer to the HDMI device user guide for how to operate.

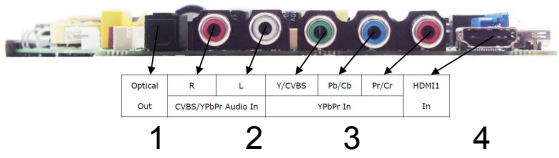
Chapter 6. Operation Instructions

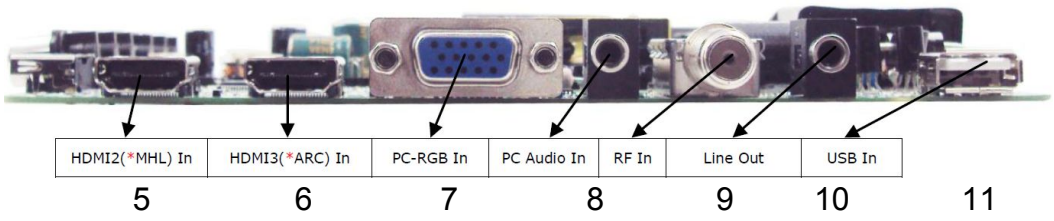
6-1. Front Panel Controls



1	POWER	Press to turn the TV on and off.
2	CH-	TV channel down.
3	CH+	TV channel up.
4	VOL-	Press to decrease the volume.
5	VOL+	Press to increase the volume.
6	MENU	Press to select the main menu.
7	INPUT	Toggles between all the vailable input sources.

6-2. Back Panel Controls

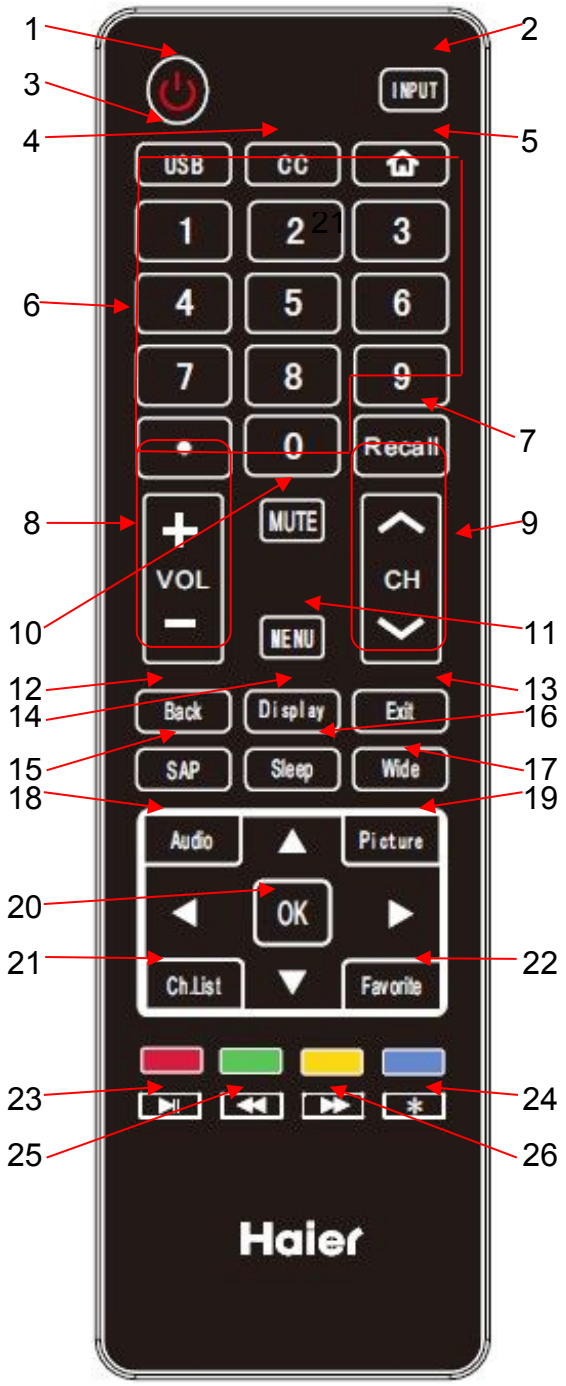




1	Optical	output
2	AV	input
3	YPbPr	intput
4	HDMI3	input
5	HDMI2(MHL)	input
6	HDMI2	input
7	VGA	input
8	PC Audio	input
9	RF	input
10	Line out	output
11	USB	input

6-3. Setting Up Your Remote Control

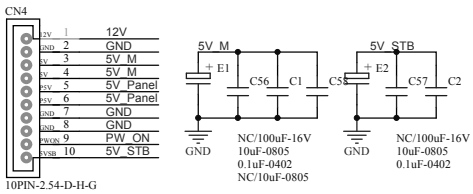
When using the remote control, aim it towards the remote sensor on the TV.

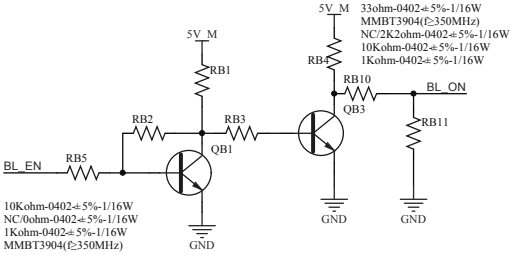


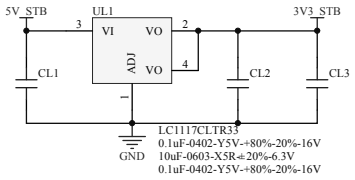
1	POWER.
2	INPUT.
3	USB Shortcut button.
4	CC.
5	HOME;
6	Program Number Channel selection.
7	RECALL button.
8	VOL+/VOL-: Volume selection.
9	CH∧/CH∨: Channel selection.
10	Mute.
11	Menu button.
12	Back button.
13	Exit button.
14	DISPLAY button.
15	SAP button.
16	Sleep button.
17	Wide button.
18	Audio button.
19	Picture Mode.
20	OK button.
21	Channel List.
22	Favorite program.
23	Play / Pause button (only for USB).
24	EPG button.
25	Fast Reverse (only for USB).
26	Fast Forward (only for USB).

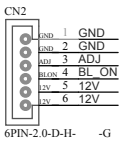
Chapter 7. Electrical Parts

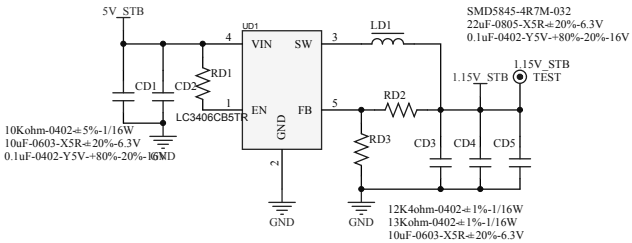
7-1. Circuit Diagram

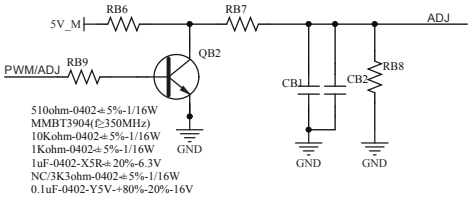


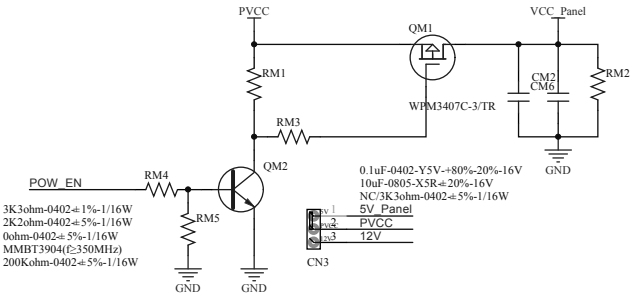


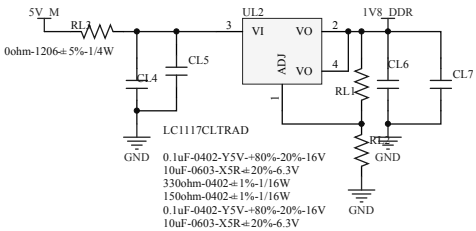


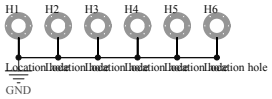


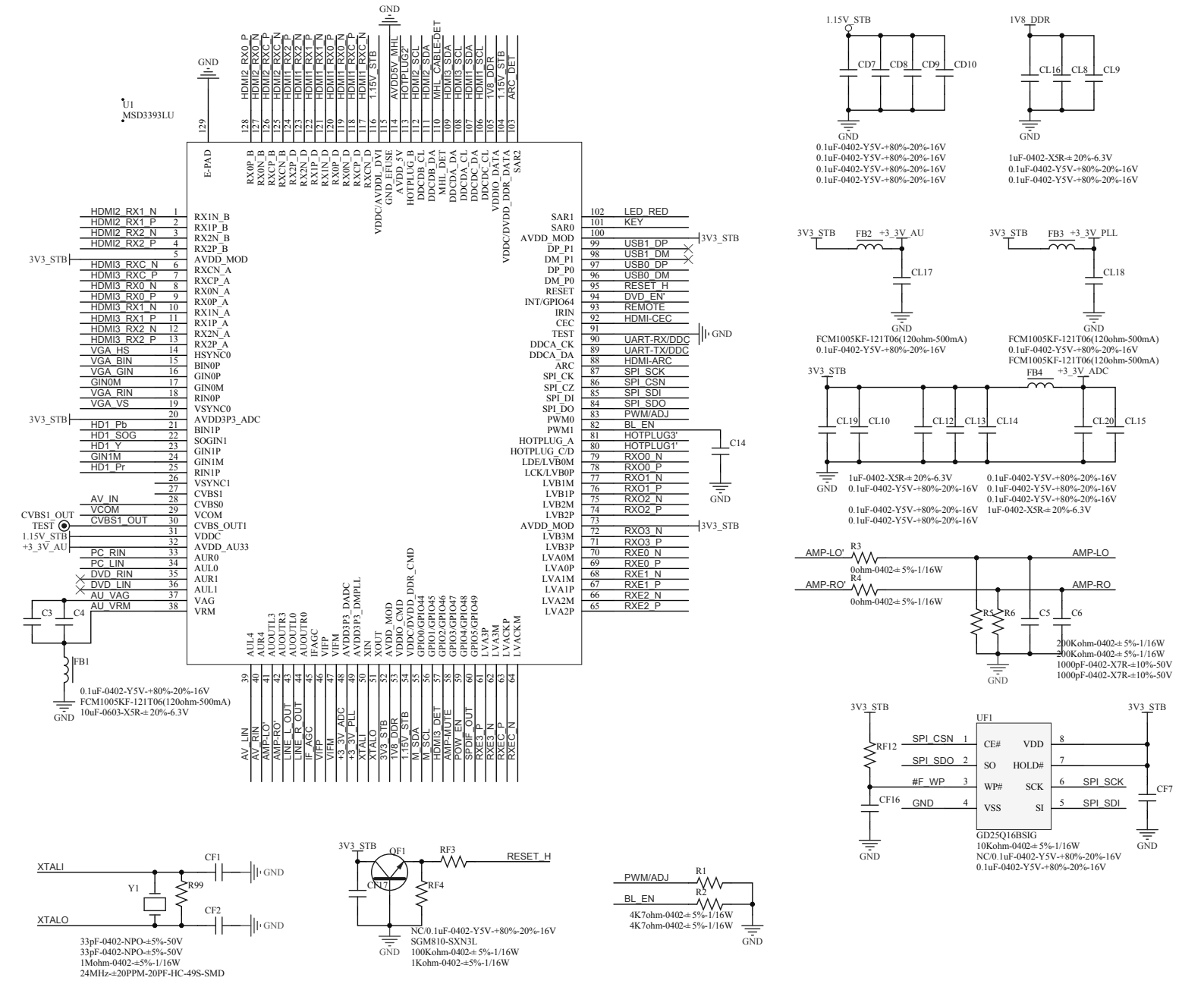











U1
MSD3393LU
E-PAD
HDMI2_RX1_N 1
HDMI2_RX1_P 2
HDMI2_RX2_N 3
HDMI2_RX2_P 4
5
3V3_STB
HDMI3_RXC_N 6
HDMI3_RXC_P 7
HDMI3_RX0_N 8
HDMI3_RX0_P 9
HDMI3_RX1_N 10
HDMI3_RX1_P 11
HDMI3_RX2_N 12
HDMI3_RX2_P 13
VGA_HS 14
VGA_BIN 15
VGA_GIN 16
GIN0M 17
VGA_RIN 18
VGA_VS 19
20
3V3_STB
HD1_Pb 21
HD1_SOG 22
HD1_Y 23
GIN1M 24
HD1_Pr 25
26
27
AV_IN 28
VCOM 29
CVBS1_OUT
TEST
CVBS1_OUT 30
31
1.15V_STB
+3_3V_AU
32
PC_RIN 33
PC_LIN 34
DVD_RIN 35
DVD_LIN 36
AU_VAG 37
AU_VRM 38
RX1N_B
RX1P_B
RX2N_B
RX2P_B
AVDD_MOD
RXCN_A
RXCP_A
RX0N_A
RX0P_A
RX1N_A
RX1P_A
RX2N_A
RX2P_A
HSYNC0
BIN0P
GIN0P
GIN0M
RIN0P
VSYNC0
AVDD3P3_ADC
BIN1P
SOGIN1
GIN1P
GIN1M
RIN1P
VSYNC1
CVBS1
CVBS0
VCOM
CVBS_OUT1
VDDC
AVDD_AU33
AUR0
AUL0
AUR1
AUL1
VAG
VRM
C3
C4
FB1
0.1uF-0402-Y5V-+80%-20%-16V
FCM1005KF-121T06(120ohm-500mA)
10uF-0603-X5R-±20%-6.3V
GND
129
128 HDMI2_RX0_P
127 HDMI2_RX0_N
126 HDMI2_RXC_P
125 HDMI2_RXC_N
124 HDMI2_RX2_P
123 HDMI2_RX2_N
122 HDMI2_RX1_P
121 HDMI2_RX1_N
120 HDMI2_RX0_P
119 HDMI2_RX0_N
118 HDMI2_RXC_P
117 HDMI2_RXC_N
116 1.15V_STB
115 AVDD5V_MHL
114 HOTPLUG2'
113 HDMI2_SCL
112 HDMI2_SDA
111 MHL_CABLE-DET
110 HDMI3_SDA
109 HDMI3_SCL
108 HDMI1_SDA
107 HDMI1_SCL
106 1V8_DDR
105 1.15V_STB
104 ARC_DET
103
RX0P_B
RX0N_B
RXCP_B
RXCN_B
RX2P_D
RX2N_D
RX1P_D
RX1N_D
RX0P_D
RX0N_D
RXCP_D
RXCN_D
VDDC/AVDDL_DVI
GND_EFUSE
AVDD_5V
HOTPLUG_B
DDCDB_CL
DDCDB_DA
DDCDA_DA
DDCDA_CL
DDCDC_DA
DDCDC_CL
VDDIO_DATA
VDDC/DVDD_DDR_DATA
SAR2
SAR1 102 LED_RED
SAR0 101 KEY
AVDD_MOD 100
DP_P1 99 USB1_DP
DM_P1 98 USB1_DM
DP_P0 97 USB0_DP
DM_P0 96 USB0_DM
RESET 95 RESET_H
INT/GPIO64 94 DVD_EN'
IRIN 93 REMOTE
CEC 92 HDMI-CEC
TEST 91
DDCA_CK 90 UART-RX/DDC
DDCA_DA 89 UART-TX/DDC
ARC 88 HDMI-ARC
SPI_CK 87 SPI_SCK
SPI_CZ 86 SPI_CSN
SPI_DI 85 SPI_SDI
SPI_DO 84 SPI_SDO
PWM0 83 PWM/ADJ
PWM1 82 BL_EN
HOTPLUG_A 81 HOTPLUG3'
HOTPLUG_C/D 80 HOTPLUG1'
LDE/LVB0M 79 RXO0_N
LCK/LVB0P 78 RXO0_P
LVB1M 77 RXO1_N
LVB1P 76 RXO1_P
LVB2M 75 RXO2_N
LVB2P 74 RXO2_P
AVDD_MOD 73
LVB3M 72 RXO3_N
LVB3P 71 RXO3_P
LVA0M 70 RXE0_N
LVA0P 69 RXE0_P
LVA1M 68 RXE1_N
LVA1P 67 RXE1_P
LVA2M 66 RXE2_N
LVA2P 65 RXE2_P
3V3_STB
GND
C14
AUL4
AUR4
AUOUTL3
AUOUTR3
AUOUTL0
AUOUTR0
IFAGC
VIFP
VIFM
AVDD3P3_DADC
AVDD3P3_DMPLL
XIN
XOUT
AVDD_MOD
VDDIO_CMD
VDDC/DVDD_DDR_CMD
GPIO0/GPIO44
GPIO1/GPIO45
GPIO2/GPIO46
GPIO3/GPIO47
GPIO4/GPIO48
GPIO5/GPIO49
LVA3P
LVA3M
LVACKP
LVACKM
30 AV_LIN
40 AV_RIN
41 AMP-LO
42 AMP-RO
43 LINE_L_OUT
44 LINE_R_OUT
45 IF_AGC
46 VIFP
47 VIFM
48 +3_3V_ADC
49 +3_3V_PLL
50 XTALI
51 XTALO
52 3V3_STB
53 1V8_DDR
54 1.15V_STB
55 M_SDA
56 M_SCL
57 HDMI3_DET
58 AMP-MUTE
59 POW_EN
60 SPDIF_OUT
61 RXE3_P
62 RXE3_N
63 RXEC_P
64 RXEC_N

XTALI
XTALO
CF1
CF2
Y1
R99
GND
33pF-0402-NPO-±5%-50V
33pF-0402-NPO-±5%-50V
1Mohm-0402-±5%-1/16W
24MHz-±20PPM-20PF-HC-49S-SMD

3V3_STB
QF1
RF3
RESET_H
CF17
RF4
GND
NC/0.1uF-0402-Y5V-+80%-20%-16V
SGM810-SXN3L
100Kohm-0402-±5%-1/16W
1Kohm-0402-±5%-1/16W

PWM/ADJ
BL_EN
R1
R2
4K7ohm-0402-±5%-1/16W
4K7ohm-0402-±5%-1/16W
GND

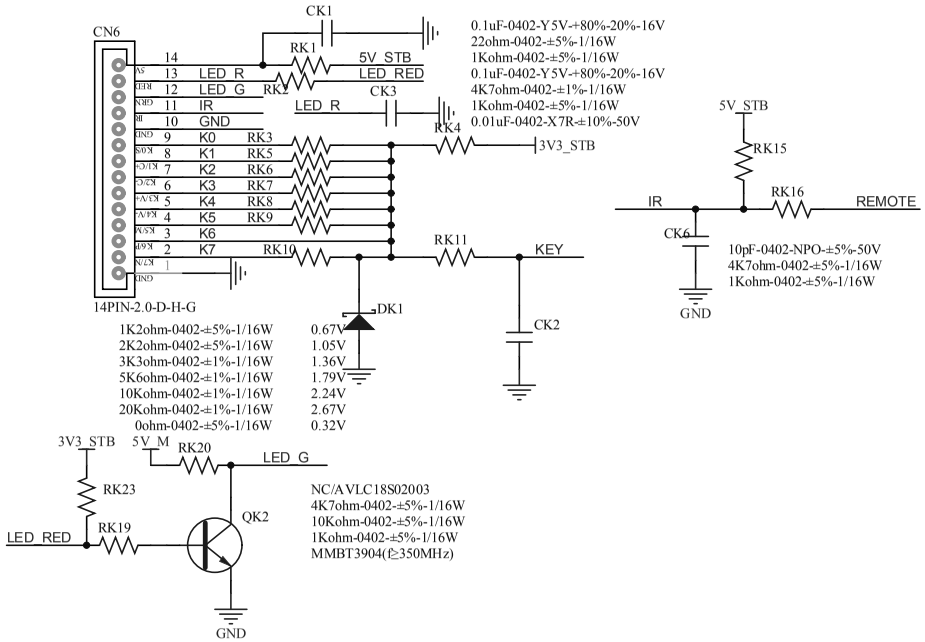
1.15V_STB
CD7
CD8
CD9
CD10
GND
0.1uF-0402-Y5V-+80%-20%-16V
0.1uF-0402-Y5V-+80%-20%-16V
0.1uF-0402-Y5V-+80%-20%-16V
0.1uF-0402-Y5V-+80%-20%-16V
1V8_DDR
CL16
CL8
CL9
GND
1uF-0402-X5R-±20%-6.3V
0.1uF-0402-Y5V-+80%-20%-16V
0.1uF-0402-Y5V-+80%-20%-16V

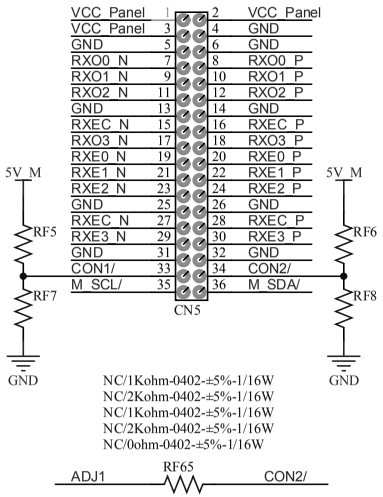
3V3_STB
FB2 +3_3V_AU
CL17
GND
FCM1005KF-121T06(120ohm-500mA)
0.1uF-0402-Y5V-+80%-20%-16V
3V3_STB
FB3 +3_3V_PLL
CL18
GND
FCM1005KF-121T06(120ohm-500mA)
0.1uF-0402-Y5V-+80%-20%-16V
FCM1005KF-121T06(120ohm-500mA)

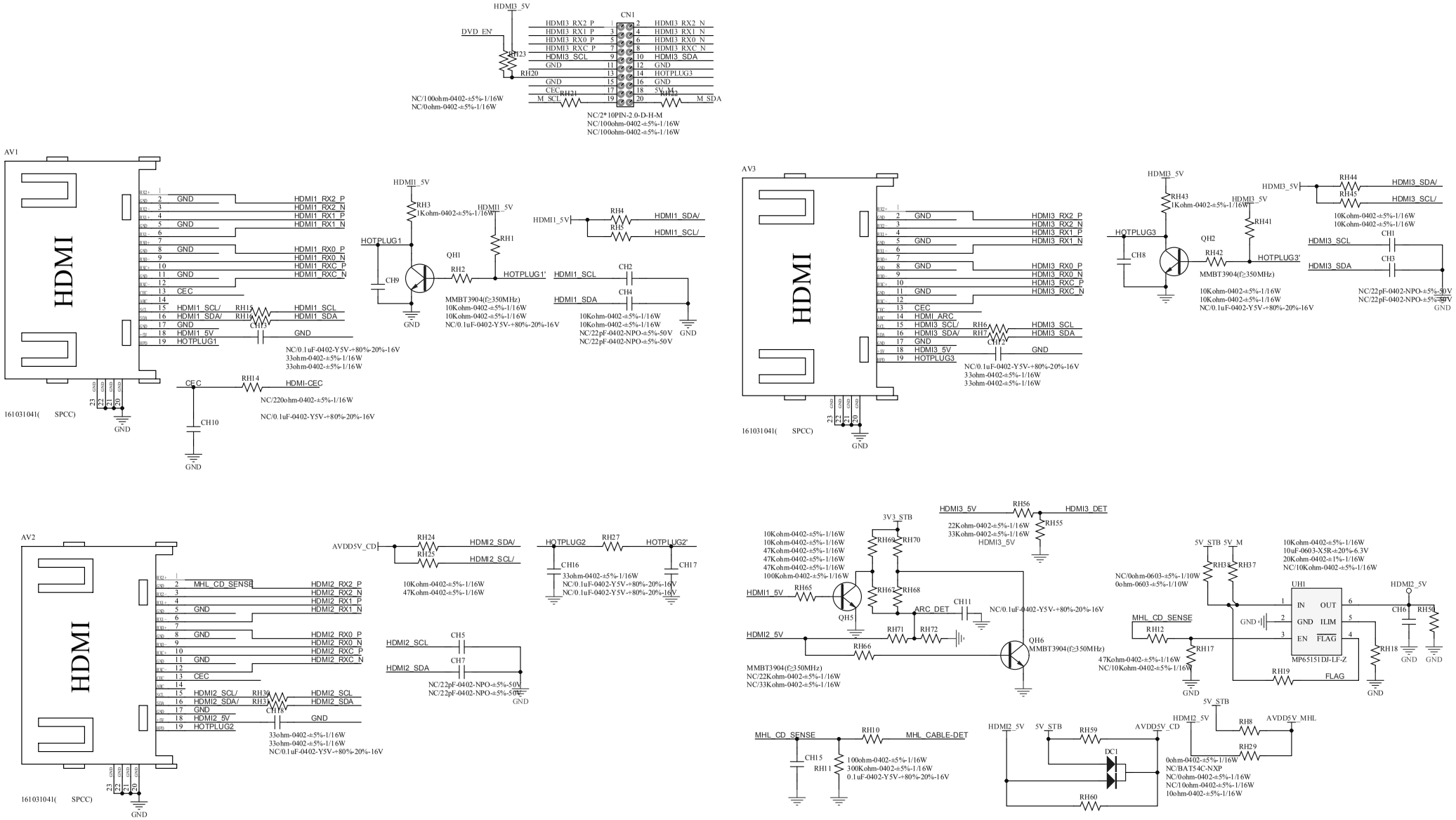
3V3_STB
FB4 +3_3V_ADC
CL19
CL10
CL12
CL13
CL14
CL20
CL15
GND
1uF-0402-X5R-±20%-6.3V
0.1uF-0402-Y5V-+80%-20%-16V
0.1uF-0402-Y5V-+80%-20%-16V
0.1uF-0402-Y5V-+80%-20%-16V
0.1uF-0402-Y5V-+80%-20%-16V
0.1uF-0402-Y5V-+80%-20%-16V
1uF-0402-X5R-±20%-6.3V

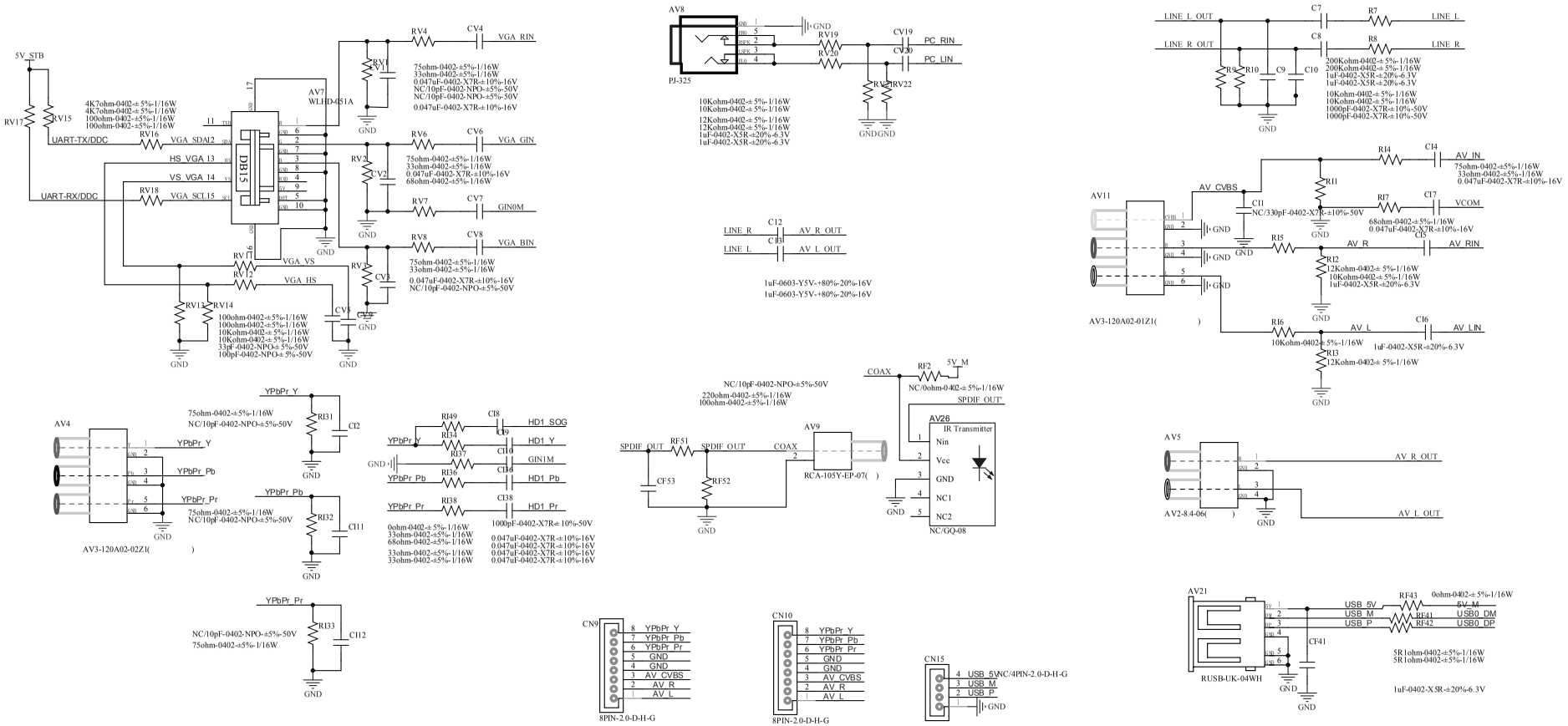
AMP-LO'
AMP-RO'
R3
R4
0ohm-0402-±5%-1/16W
0ohm-0402-±5%-1/16W
AMP-LO
AMP-RO
R5
R6
C5
C6
GND
200Kohm-0402-±5%-1/16W
200Kohm-0402-±5%-1/16W
1000pF-0402-X7R-±10%-50V
1000pF-0402-X7R-±10%-50V

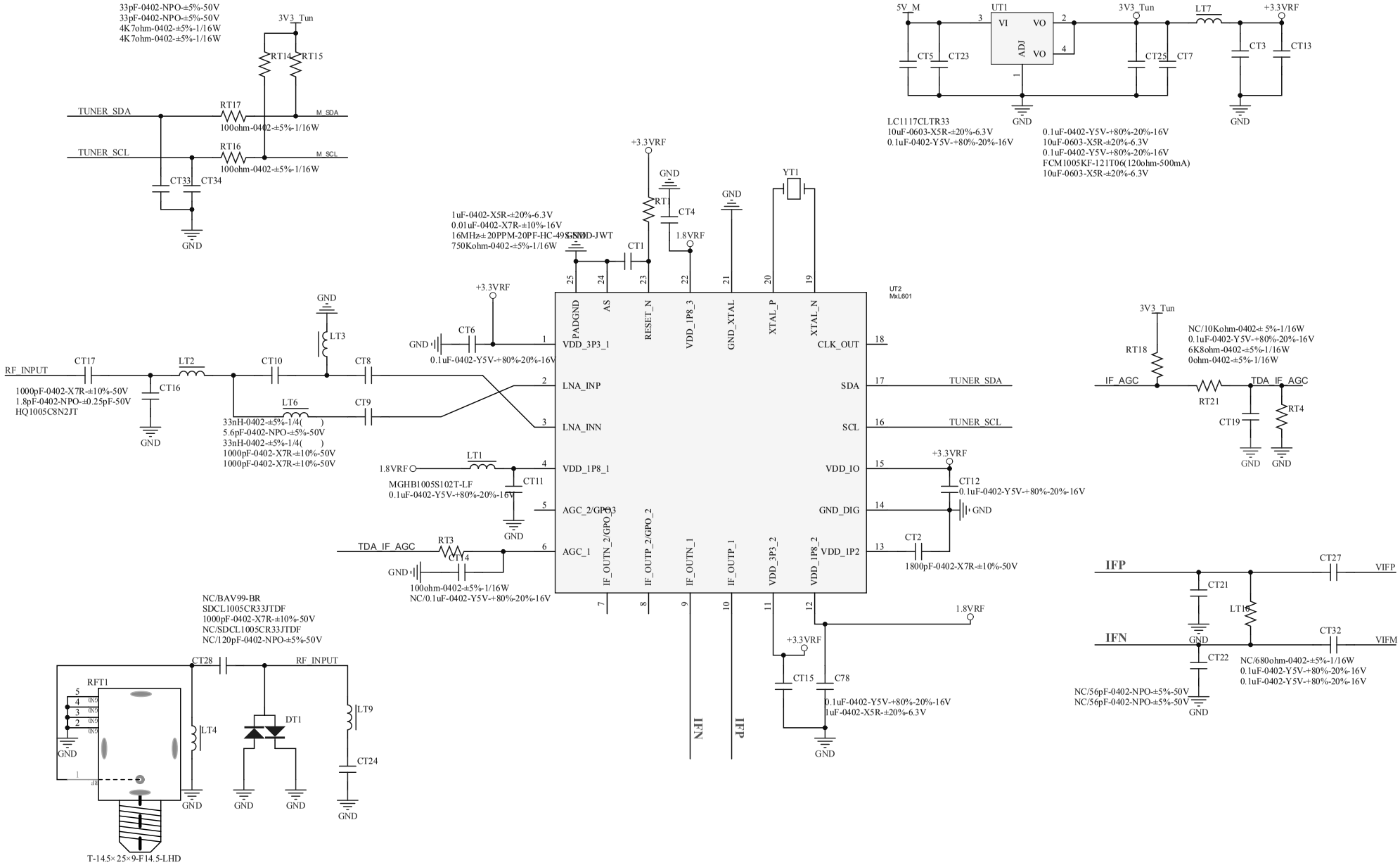
3V3_STB
3V3_STB
UF1
RF12
SPI_CSN 1
SPI_SDO 2
#F_WP 3
CF16
GND 4
CE#
SO
WP#
VSS
VDD 8
HOLD# 7
SCK 6
SI 5
SPI_SCK
SPI_SDI
CF7
GD25Q16BSIG
10Kohm-0402-±5%-1/16W
NC/0.1uF-0402-Y5V-+80%-20%-16V
0.1uF-0402-Y5V-+80%-20%-16V
GND
GND

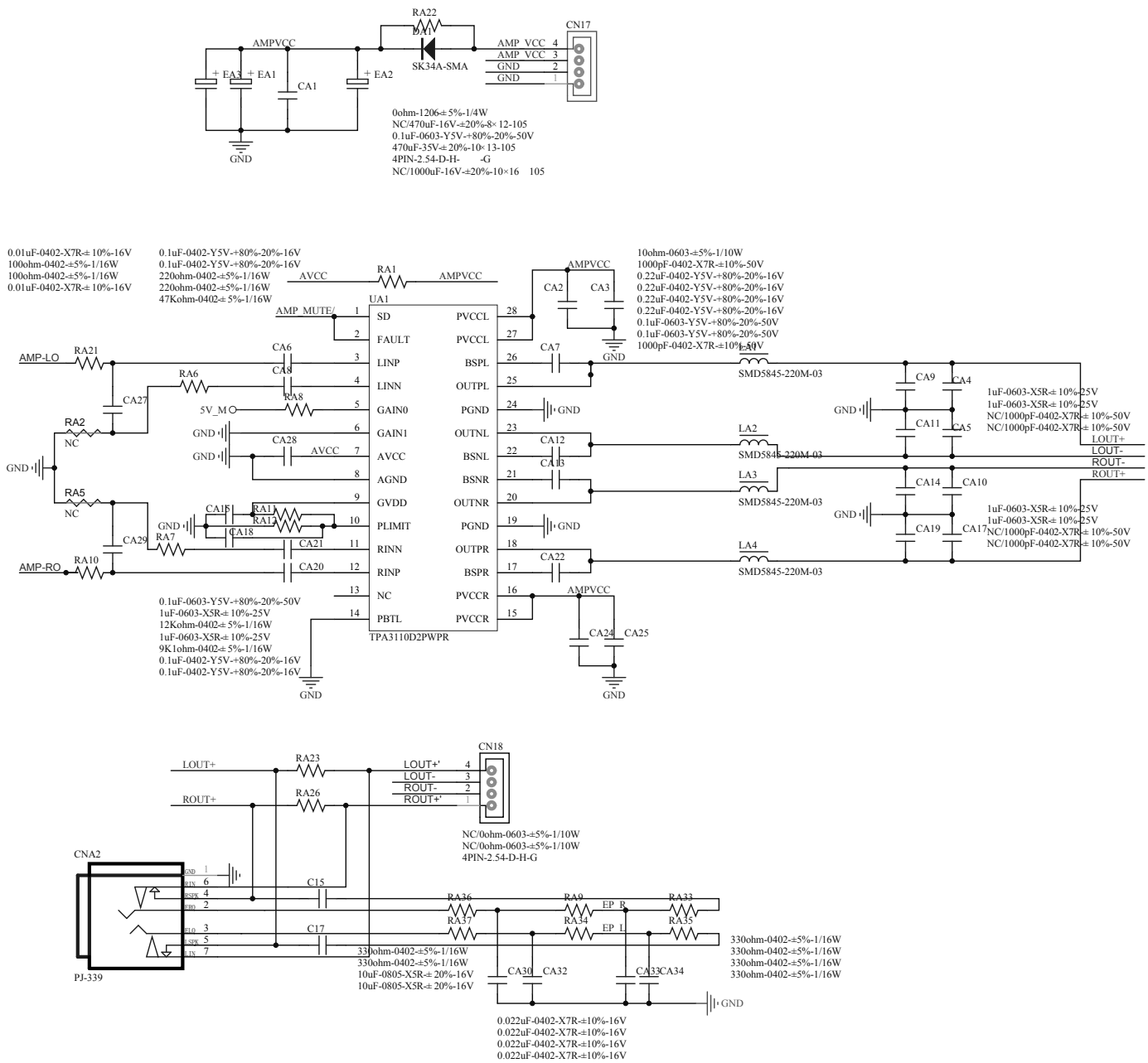

CN6
14PIN-2.0-D-H-G
CK1
0.1uF-0402-Y5V-+80%-20%-16V
RK1
22ohm-0402-±5%-1/16W
5V_STB
LED_R
LED_RED
RK2
1Kohm-0402-±5%-1/16W
LED_G
CK3
0.1uF-0402-Y5V-+80%-20%-16V
LED_R
4K7ohm-0402-±1%-1/16W
RK4
1Kohm-0402-±5%-1/16W
0.01uF-0402-X7R-±10%-50V
3V3_STB
IR
GND
K0
K1
K2
K3
K4
K5
K6
K7
RK3
RK5
RK6
RK7
RK8
RK9
RK10
RK11
KEY
CK2
DK1
1K2ohm-0402-±5%-1/16W 0.67V
2K2ohm-0402-±5%-1/16W 1.05V
3K3ohm-0402-±1%-1/16W 1.36V
5K6ohm-0402-±1%-1/16W 1.79V
10Kohm-0402-±1%-1/16W 2.24V
20Kohm-0402-±1%-1/16W 2.67V
0ohm-0402-±5%-1/16W 0.32V
5V_STB
RK15
RK16
REMOTE
CK6
10pF-0402-NPO-±5%-50V
4K7ohm-0402-±5%-1/16W
1Kohm-0402-±5%-1/16W
GND
3V3_STB
5V_M
RK20
LED_G
RK23
RK19
LED_RED
QK2
NC/AVLC18S02003
4K7ohm-0402-±5%-1/16W
10Kohm-0402-±5%-1/16W
1Kohm-0402-±5%-1/16W
MMBT3904(f≥350MHz)
GND


CN5
VCC_Panel 1
VCC_Panel 3
GND 5
RXO0_N 7
RXO1_N 9
RXO2_N 11
GND 13
RXEC_N 15
RXO3_N 17
RXE0_N 19
RXE1_N 21
RXE2_N 23
GND 25
RXEC_N 27
RXE3_N 29
GND 31
CON1/ 33
M_SCL/ 35
2 VCC_Panel
4 GND
6 GND
8 RXO0_P
10 RXO1_P
12 RXO2_P
14 GND
16 RXEC_P
18 RXO3_P
20 RXE0_P
22 RXE1_P
24 RXE2_P
26 GND
28 RXEC_P
30 RXE3_P
32 GND
34 CON2/
36 M_SDA/
5V_M
RF5
RF7
GND
5V_M
RF6
RF8
GND
NC/1Kohm-0402-±5%-1/16W
NC/2Kohm-0402-±5%-1/16W
NC/1Kohm-0402-±5%-1/16W
NC/2Kohm-0402-±5%-1/16W
NC/0ohm-0402-±5%-1/16W
ADJ1
RF65
CON2/


HDMI3_5V
CN1
DVD_EN
RH23
RH20
HDMI3_RX2_P
HDMI3_RX1_P
HDMI3_RX0_P
HDMI3_RXC_P
HDMI3_SCL
GND
GND
CEC
M_SCL
RH21
HDMI3_RX2_N
HDMI3_RX1_N
HDMI3_RX0_N
HDMI3_RXC_N
HDMI3_SDA
GND
HOTPLUG3
GND
5V
RH22
M_SDA
NC/100ohm-0402-±5%-1/16W
NC/0ohm-0402-±5%-1/16W
NC/2*10PIN-2.0-D-H-M
NC/100ohm-0402-±5%-1/16W
NC/100ohm-0402-±5%-1/16W
AV1
HDMI
HDMI1_RX2_P
HDMI1_RX2_N
HDMI1_RX1_P
HDMI1_RX1_N
HDMI1_RX0_P
HDMI1_RX0_N
HDMI1_RXC_P
HDMI1_RXC_N
CEC
HDMI1_SCL/
HDMI1_SDA/
HDMI1_5V
HOTPLUG1
HDMI1_SCL
HDMI1_SDA
GND
CH13
NC/0.1uF-0402-Y5V-+80%-20%-16V
33ohm-0402-±5%-1/16W
33ohm-0402-±5%-1/16W
CEC
RH14
HDMI-CEC
NC/220ohm-0402-±5%-1/16W
CH10
NC/0.1uF-0402-Y5V-+80%-20%-16V
161031041(SPCC)
HDMI1_5V
RH3
1Kohm-0402-±5%-1/16W
HDMI1_5V
RH1
HOTPLUG1
QH1
RH2
HOTPLUG1'
CH9
MMBT3904(≥350MHz)
10Kohm-0402-±5%-1/16W
10Kohm-0402-±5%-1/16W
NC/0.1uF-0402-Y5V-+80%-20%-16V
HDMI1_5V
RH4
HDMI1_SDA/
RH5
HDMI1_SCL/
HDMI1_SCL
CH2
HDMI1_SDA
CH4
10Kohm-0402-±5%-1/16W
10Kohm-0402-±5%-1/16W
NC/22pF-0402-NPO-±5%-50V
NC/22pF-0402-NPO-±5%-50V
GND
AV3
HDMI
HDMI3_RX2_P
HDMI3_RX2_N
HDMI3_RX1_P
HDMI3_RX1_N
HDMI3_RX0_P
HDMI3_RX0_N
HDMI3_RXC_P
HDMI3_RXC_N
CEC
HDMI_ARC
HDMI3_SCL/
HDMI3_SDA/
HDMI3_5V
HOTPLUG3
HDMI3_SCL
HDMI3_SDA
GND
RH6
RH7
CH12
NC/0.1uF-0402-Y5V-+80%-20%-16V
33ohm-0402-±5%-1/16W
33ohm-0402-±5%-1/16W
161031041(SPCC)
HDMI3_5V
RH43
1Kohm-0402-±5%-1/16W
HDMI3_5V
RH41
HOTPLUG3
QH2
CH8
RH42
HOTPLUG3'
MMBT3904(≥350MHz)
10Kohm-0402-±5%-1/16W
10Kohm-0402-±5%-1/16W
NC/0.1uF-0402-Y5V-+80%-20%-16V
HDMI3_5V
RH44
HDMI3_SDA/
RH45
HDMI3_SCL/
10Kohm-0402-±5%-1/16W
10Kohm-0402-±5%-1/16W
HDMI3_SCL
CH1
HDMI3_SDA
CH3
NC/22pF-0402-NPO-±5%-50V
NC/22pF-0402-NPO-±5%-50V
GND
AV2
HDMI
MHL_CD_SENSE
HDMI2_RX2_P
HDMI2_RX2_N
HDMI2_RX1_P
HDMI2_RX1_N
HDMI2_RX0_P
HDMI2_RX0_N
HDMI2_RXC_P
HDMI2_RXC_N
CEC
HDMI2_SCL/
HDMI2_SDA/
HDMI2_5V
HOTPLUG2
HDMI2_SCL
HDMI2_SDA
GND
RH39
RH33
CH18
33ohm-0402-±5%-1/16W
33ohm-0402-±5%-1/16W
NC/0.1uF-0402-Y5V-+80%-20%-16V
161031041(SPCC)
AVDD5V_CD
RH24
HDMI2_SDA/
RH25
HDMI2_SCL/
10Kohm-0402-±5%-1/16W
47Kohm-0402-±5%-1/16W
HOTPLUG2
RH27
HOTPLUG2'
CH16
CH17
33ohm-0402-±5%-1/16W
NC/0.1uF-0402-Y5V-+80%-20%-16V
NC/0.1uF-0402-Y5V-+80%-20%-16V
HDMI2_SCL
CH5
HDMI2_SDA
CH7
NC/22pF-0402-NPO-±5%-50V
NC/22pF-0402-NPO-±5%-50V
GND
3V3_STB
10Kohm-0402-±5%-1/16W
10Kohm-0402-±5%-1/16W
47Kohm-0402-±5%-1/16W
47Kohm-0402-±5%-1/16W
47Kohm-0402-±5%-1/16W
100Kohm-0402-±5%-1/16W
RH69
RH70
HDMI1_5V
RH65
QH5
RH62
RH68
ARC_DET
CH11
NC/0.1uF-0402-Y5V-+80%-20%-16V
HDMI2_5V
RH71
RH72
RH66
QH6
MMBT3904(≥350MHz)
MMBT3904(≥350MHz)
NC/22Kohm-0402-±5%-1/16W
NC/33Kohm-0402-±5%-1/16W
HDMI3_5V
RH56
HDMI3_DET
22Kohm-0402-±5%-1/16W
33Kohm-0402-±5%-1/16W
RH55
HDMI3_5V
5V_STB 5V_M
RH13
RH37
NC/0ohm-0603-±5%-1/10W
0ohm-0603-±5%-1/10W
10Kohm-0402-±5%-1/16W
10uF-0603-X5R-±20%-6.3V
20Kohm-0402-±1%-1/16W
NC/10Kohm-0402-±5%-1/16W
UH1
IN
OUT
GND
ILIM
EN
FLAG
MP6515TDJ-LF-Z
HDMI2_5V
CH6
RH50
MHL_CD_SENSE
RH12
RH17
47Kohm-0402-±5%-1/16W
NC/10Kohm-0402-±5%-1/16W
RH18
RH19
FLAG
GND
GND
GND
MHL_CD_SENSE
RH10
MHL_CABLE-DET
CH15
RH11
100ohm-0402-±5%-1/16W
300Kohm-0402-±5%-1/16W
0.1uF-0402-Y5V-+80%-20%-16V
HDMI2_5V
5V_STB
RH59
DC1
RH60
AVDD5V_CD
5V_STB
HDMI2_5V
RH8
AVDD5V_MHL
RH29
0ohm-0402-±5%-1/16W
NC/BAT54C-NXP
NC/0ohm-0402-±5%-1/16W
NC/10ohm-0402-±5%-1/16W
10ohm-0402-±5%-1/16W

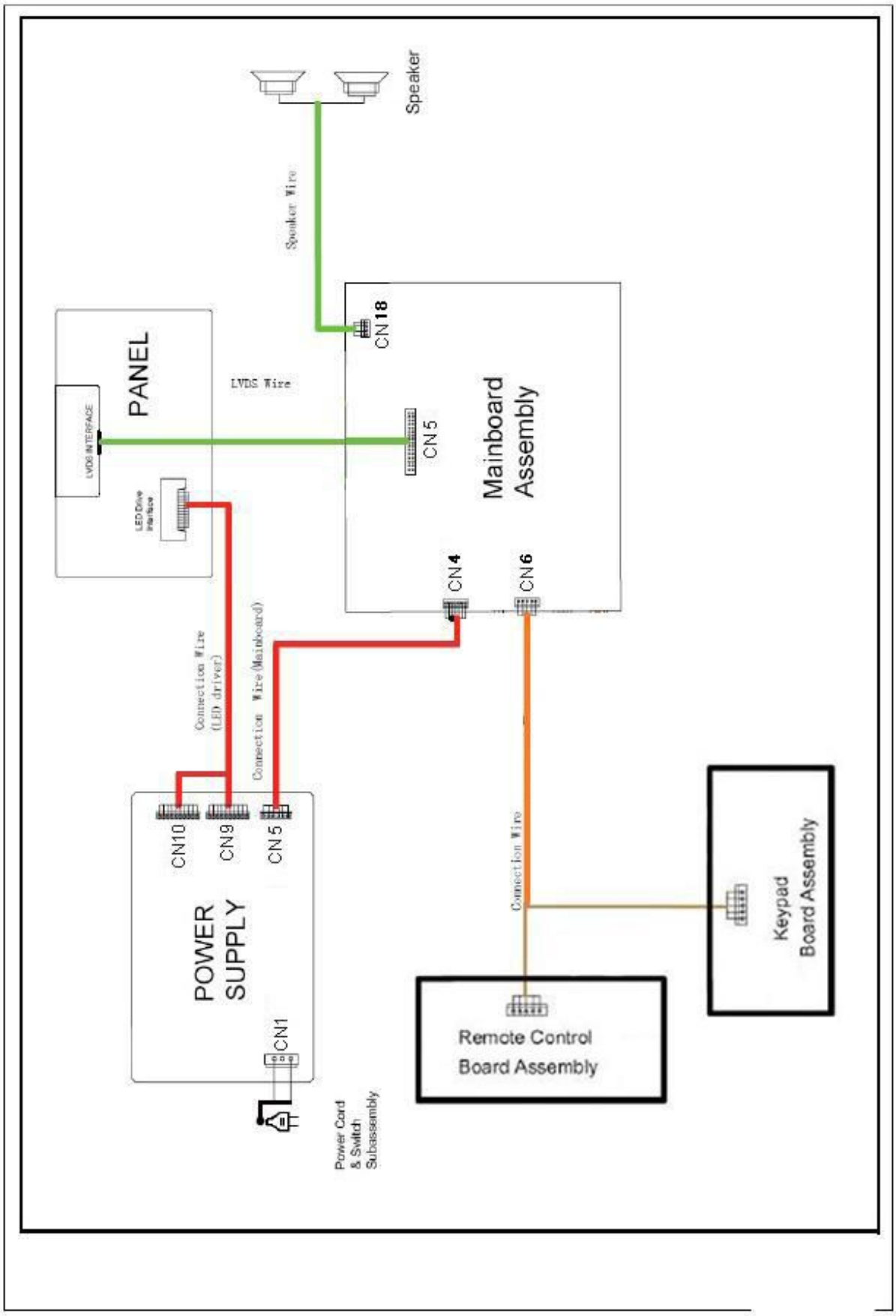

5V_STB
RV17
RV15
4K7ohm-0402-±5%-1/16W
4K7ohm-0402-±5%-1/16W
100ohm-0402-±5%-1/16W
100ohm-0402-±5%-1/16W
UART-TX/DDC
UART-RX/DDC
RV16
RV18
VGA_SDAI2
VGA_SCL15
HS_VGA_13
VS_VGA_14
AV7
WLHD-051A
DB15
RV4
CV4
VGA_RIN
RV1
75ohm-0402-±5%-1/16W
33ohm-0402-±5%-1/16W
0.047uF-0402-X7R-±10%-16V
NC/10pF-0402-NPO-±5%-50V
NC/10pF-0402-NPO-±5%-50V
0.047uF-0402-X7R-±10%-16V
RV6
CV6
VGA_GIN
RV2
CV2
75ohm-0402-±5%-1/16W
33ohm-0402-±5%-1/16W
0.047uF-0402-X7R-±10%-16V
68ohm-0402-±5%-1/16W
RV7
CV7
GIN0M
RV8
CV8
VGA_BIN
RV3
CV3
75ohm-0402-±5%-1/16W
33ohm-0402-±5%-1/16W
0.047uF-0402-X7R-±10%-16V
NC/10pF-0402-NPO-±5%-50V
RV11
RV12
VGA_VS
VGA_HS
RV13
RV14
CV5
CV9
100ohm-0402-±5%-1/16W
100ohm-0402-±5%-1/16W
10Kohm-0402-±5%-1/16W
10Kohm-0402-±5%-1/16W
33pF-0402-NPO-±5%-50V
100pF-0402-NPO-±5%-50V
GND
AV8
PJ-325
RV19
RV20
CV19
CV20
PC_RIN
PC_LIN
RV21
RV22
10Kohm-0402-±5%-1/16W
10Kohm-0402-±5%-1/16W
12Kohm-0402-±5%-1/16W
12Kohm-0402-±5%-1/16W
1uF-0402-X5R-±20%-6.3V
1uF-0402-X5R-±20%-6.3V
C12
C13
LINE_R
LINE_L
AV_R_OUT
AV_L_OUT
1uF-0603-Y5V-+80%-20%-16V
1uF-0603-Y5V-+80%-20%-16V
LINE_L_OUT
LINE_R_OUT
C7
C8
R7
R8
LINE_L
LINE_R
R9
R10
C9
C10
200Kohm-0402-±5%-1/16W
200Kohm-0402-±5%-1/16W
1uF-0402-X5R-±20%-6.3V
1uF-0402-X5R-±20%-6.3V
10Kohm-0402-±5%-1/16W
10Kohm-0402-±5%-1/16W
1000pF-0402-X7R-±10%-50V
1000pF-0402-X7R-±10%-50V
AV11
AV3-120A02-01ZI( )
AV_CVBS
RI4
CI4
AV_IN
75ohm-0402-±5%-1/16W
33ohm-0402-±5%-1/16W
0.047uF-0402-X7R-±10%-16V
RI1
CI1
NC/330pF-0402-X7R-±10%-50V
RI7
CI7
VCOM
68ohm-0402-±5%-1/16W
0.047uF-0402-X7R-±10%-16V
RI5
CI5
AV_R
AV_RIN
RI2
12Kohm-0402-± 5%-1/16W
10Kohm-0402-±5%-1/16W
1uF-0402-X5R-±20%-6.3V
RI6
CI6
AV_L
AV_LIN
10Kohm-0402-± 5%-1/16W
1uF-0402-X5R-±20%-6.3V
RI3
12Kohm-0402-± 5%-1/16W
AV4
AV3-120A02-02ZI( )
YPbPr_Y
YPbPr_Pb
YPbPr_Pr
75ohm-0402-±5%-1/16W
NC/10pF-0402-NPO-±5%-50V
RI31
CI2
RI32
CI11
RI33
CI12
RI49
CI8
HD1_SOG
RI34
CI9
HD1_Y
RI37
CI10
GIN1M
RI36
CI36
HD1_Pb
RI38
CI38
HD1_Pr
0ohm-0402-±5%-1/16W
33ohm-0402-±5%-1/16W
68ohm-0402-±5%-1/16W
33ohm-0402-±5%-1/16W
33ohm-0402-±5%-1/16W
1000pF-0402-X7R-± 10%-50V
0.047uF-0402-X7R-±10%-16V
0.047uF-0402-X7R-±10%-16V
0.047uF-0402-X7R-±10%-16V
0.047uF-0402-X7R-±10%-16V
NC/10pF-0402-NPO-±5%-50V
220ohm-0402-±5%-1/16W
100ohm-0402-±5%-1/16W
SPDIF_OUT
RF51
SPDIF_OUT'
CF53
RF52
AV9
RCA-105Y-EP-07( )
COAX
RF2
5V_M
NC/0ohm-0402-±5%-1/16W
SPDIF_OUT'
AV26
IR Transmitter
Nin
Vcc
GND
NC1
NC2
NC/GQ-08
AV5
AV2-8.4-06( )
AV_R_OUT
AV_L_OUT
CN9
8PIN-2.0-D-H-G
8 YPbPr_Y
7 YPbPr_Pb
6 YPbPr_Pr
5 GND
4 GND
3 AV_CVBS
2 AV_R
1 AV_L
CN10
8PIN-2.0-D-H-G
CN15
4 USB_5V
3 USB_M
2 USB_P
NC/4PIN-2.0-D-H-G
AV21
RUSB-UK-04WH
RF43
0ohm-0402-±5%-1/16W
USB_5V
5V_M
USB_M
RF41
USB0_DM
USB_P
RF42
USB0_DP
CF41
5R1ohm-0402-±5%-1/16W
5R1ohm-0402-±5%-1/16W
1uF-0402-X5R-±20%-6.3V


33pF-0402-NPO-±5%-50V
33pF-0402-NPO-±5%-50V
4K7ohm-0402-±5%-1/16W
4K7ohm-0402-±5%-1/16W
3V3_Tun
RT14
RT15
TUNER_SDA
RT17
100ohm-0402-±5%-1/16W
M_SDA
TUNER_SCL
RT16
100ohm-0402-±5%-1/16W
M_SCL
CT33
CT34
GND
5V_M
UT1
VI
VO
ADJ
VO
CT5
CT23
CT25
CT7
LT7
CT3
CT13
+3.3VRF
LC1117CLTR33
10uF-0603-X5R-±20%-6.3V
0.1uF-0402-Y5V-+80%-20%-16V
0.1uF-0402-Y5V-+80%-20%-16V
10uF-0603-X5R-±20%-6.3V
0.1uF-0402-Y5V-+80%-20%-16V
FCM1005KF-121T06(120ohm-500mA)
10uF-0603-X5R-±20%-6.3V
1uF-0402-X5R-±20%-6.3V
0.01uF-0402-X7R-±10%-16V
16MHz±20PPM-20PF-HC-49SMD-JWT
750Kohm-0402-±5%-1/16W
CT1
RT1
CT4
1.8VRF
YT1
UT2
MxL601
PADGND
AS
RESET_N
VDD_1P8_3
GND_XTAL
XTAL_P
XTAL_N
VDD_3P3_1
LNA_INP
LNA_INN
VDD_1P8_1
AGC_2/GPO_3
AGC_1
IF_OUTN_2/GPO_1
IF_OUTP_2/GPO_2
IF_OUTN_1
IF_OUTP_1
VDD_3P3_2
VDD_1P8_2
CLK_OUT
SDA
SCL
VDD_IO
GND_DIG
VDD_1P2
CT6
0.1uF-0402-Y5V-+80%-20%-16V
RF_INPUT
CT17
1000pF-0402-X7R-±10%-50V
1.8pF-0402-NPO-±0.25pF-50V
HQ1005C8N2JT
CT16
LT2
CT10
LT3
CT8
LT6
CT9
33nH-0402-±5%-1/4( )
5.6pF-0402-NPO-±5%-50V
33nH-0402-±5%-1/4( )
1000pF-0402-X7R-±10%-50V
1000pF-0402-X7R-±10%-50V
LT1
MGHB1005S102T-LF
CT11
0.1uF-0402-Y5V-+80%-20%-16V
RT3
CT14
100ohm-0402-±5%-1/16W
NC/0.1uF-0402-Y5V-+80%-20%-16V
TDA_IF_AGC
TUNER_SDA
TUNER_SCL
CT12
0.1uF-0402-Y5V-+80%-20%-16V
CT2
1800pF-0402-X7R-±10%-50V
1.8VRF
3V3_Tun
NC/10Kohm-0402-± 5%-1/16W
0.1uF-0402-Y5V-+80%-20%-16V
6K8ohm-0402-±5%-1/16W
0ohm-0402-±5%-1/16W
RT18
IF_AGC
RT21
TDA_IF_AGC
CT19
RT4
IFP
IFN
CT27
VIFP
CT21
LT16
CT32
VIFM
CT22
NC/680ohm-0402-±5%-1/16W
0.1uF-0402-Y5V-+80%-20%-16V
0.1uF-0402-Y5V-+80%-20%-16V
NC/56pF-0402-NPO-±5%-50V
NC/56pF-0402-NPO-±5%-50V
CT15
C78
0.1uF-0402-Y5V-+80%-20%-16V
1uF-0402-X5R-±20%-6.3V
NC/BAV99-BR
SDCL1005CR33JTDF
1000pF-0402-X7R-±10%-50V
NC/SDCL1005CR33JTDF
NC/120pF-0402-NPO-±5%-50V
CT28
RFT1
LT4
DT1
LT9
CT24
T-14.5×25×9-F14.5-LHD



RA22
DA1
SK34A-SMA
AMPVCC
EA3
EA1
CA1
EA2
GND
CN17
AMP_VCC 4
AMP_VCC 3
GND 2
GND 1
0ohm-1206-± 5%-1/4W
NC/470uF-16V-±20%-8× 12-105
0.1uF-0603-Y5V-+80%-20%-50V
470uF-35V-± 20%-10× 13-105
4PIN-2.54-D-H- -G
NC/1000uF-16V-±20%-10×16 105
0.01uF-0402-X7R-± 10%-16V
100ohm-0402-±5%-1/16W
100ohm-0402-±5%-1/16W
0.01uF-0402-X7R-± 10%-16V
0.1uF-0402-Y5V-+80%-20%-16V
0.1uF-0402-Y5V-+80%-20%-16V
220ohm-0402-±5%-1/16W
220ohm-0402-±5%-1/16W
47Kohm-0402-± 5%-1/16W
AVCC
RA1
AMPVCC
UA1
AMP_MUTE/
SD
FAULT
LINP
LINN
GAIN0
GAIN1
AVCC
AGND
GVDD
PLIMIT
RINN
RINP
NC
PBTL
PVCCL
PVCCL
BSPL
OUTPL
PGND
OUTNL
BSNL
BSNR
OUTNR
PGND
OUTPR
BSPR
PVCCR
PVCCR
TPA3110D2PWPR
AMP-LO
RA21
CA6
CA8
RA6
CA27
RA8
5V_M
RA2
NC
GND
CA28
AVCC
RA5
NC
CA15
RA11
RA12
CA18
CA29
RA7
CA21
AMP-RO
RA10
CA20
0.1uF-0603-Y5V-+80%-20%-50V
1uF-0603-X5R-± 10%-25V
12Kohm-0402-± 5%-1/16W
1uF-0603-X5R-± 10%-25V
9K1ohm-0402-± 5%-1/16W
0.1uF-0402-Y5V-+80%-20%-16V
0.1uF-0402-Y5V-+80%-20%-16V
GND
CA2
CA3
AMPVCC
CA7
GND
CA12
CA13
CA22
AMPVCC
CA24
CA25
GND
10ohm-0603-±5%-1/10W
1000pF-0402-X7R-±10%-50V
0.22uF-0402-Y5V-+80%-20%-16V
0.22uF-0402-Y5V-+80%-20%-16V
0.22uF-0402-Y5V-+80%-20%-16V
0.22uF-0402-Y5V-+80%-20%-16V
0.1uF-0603-Y5V-+80%-20%-50V
0.1uF-0603-Y5V-+80%-20%-50V
1000pF-0402-X7R-±10%-50V
LA1
SMD5845-220M-03
LA2
SMD5845-220M-03
LA3
SMD5845-220M-03
LA4
SMD5845-220M-03
CA9
CA4
CA11
CA5
CA14
CA10
CA19
CA17
1uF-0603-X5R-± 10%-25V
1uF-0603-X5R-± 10%-25V
NC/1000pF-0402-X7R-± 10%-50V
NC/1000pF-0402-X7R-± 10%-50V
LOUT+
LOUT-
ROUT-
ROUT+
1uF-0603-X5R-± 10%-25V
1uF-0603-X5R-± 10%-25V
NC/1000pF-0402-X7R-± 10%-50V
NC/1000pF-0402-X7R-± 10%-50V
LOUT+
ROUT+
RA23
RA26
CN18
LOUT+' 4
LOUT- 3
ROUT- 2
ROUT+' 1
NC/0ohm-0603-±5%-1/10W
NC/0ohm-0603-±5%-1/10W
4PIN-2.54-D-H-G
CNA2
PJ-339
GND 1
RIN 6
RSPK 4
EBO 2
ELO 3
LSPK 5
LIN 7
C15
C17
RA36
RA37
RA9
RA34
RA33
RA35
EP_R
EP_L
330ohm-0402-±5%-1/16W
330ohm-0402-±5%-1/16W
10uF-0805-X5R-± 20%-16V
10uF-0805-X5R-± 20%-16V
CA30
CA32
CA33
CA34
330ohm-0402-±5%-1/16W
330ohm-0402-±5%-1/16W
330ohm-0402-±5%-1/16W
330ohm-0402-±5%-1/16W
GND
0.022uF-0402-X7R-±10%-16V
0.022uF-0402-X7R-±10%-16V
0.022uF-0402-X7R-±10%-16V
0.022uF-0402-X7R-±10%-16V

7-2 . Wiring Connection Diagram



Chapter 8. Measurements and Adjustments

8-1. Service Mode

8-1-1.How to enter into Service Mode

The way to the factory mode menu:
Step 1: Press Menu,
Step 2: Input “8893”,
System will be into the factory mode menu when 2 steps above are done.
At the end of the main factory menu, you can see the edition of the software,
like this" BUILD TIME 2014.09.15 23:45:32
VERSION v1.0 ”.

8-1-2.How to exit

If you want to exit this factory menu, please press the button ”Exit” on the remote.
system will be out the factory mode menu.

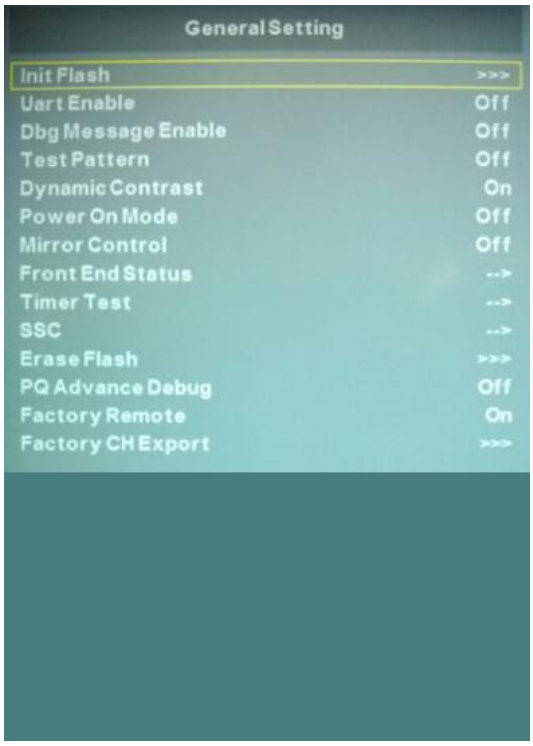
8-2. Measurements and Adjustments

8-2-1. The Main Menu

In factory mode menu,press up/down button to choose the up/down item,press right or OK button to the submenu.press MENU button to go back.

8-2-2. GENERAL SETTING

1)Init Flash;
2)Uart Enable:Choose on or off in Uart Enable;
3)Dbg Message Enable: Choose on or off in Dbg Message Enable;
4)Test Pattern: Choose the Pattern picture;
5)Dynamic Contrast: Choose on or off in Dynamic Contrast;
6)Power On Mode:Choose on or off in Power On Mode;
7)Mirror Control: Choose on or off in Mirror Control;
8)Front End Status
9)Timer Test
10)SSC
11)Erase Flash
12)PQ Advance Debug: Choose on or off in PQ Advance Debug;
13)Factory remote:Open or close the Factory remote;
14)Factory CH Export.



8-2-3. PICTURE

Adjust the Picture Mode,Picture Curve, White Balance and OverScan in different source.

8-2-4. SOUND

Adjust the values of Sound Mode, Volume Curve,Audio Output and True Volume in different source.

8-2-5. Panel Setting

1)LVDS Bit Mode: choose the Bit;
2)LVDS MAP: choose the MAP;
3)LVDS ODD/Even: choose ODD or Even;
4)Bcaklight:Adiust the value of backlight;
5)Reset Panel Setting Date
6)6MX0 LVDS Map: choose the 6MX0 LVDS MAP;
7) 6MX0 Channel: choose the 6MX0 Channel;
8)6MX0 Mirror: choose the 6MX0 Mirror;
9)6MX0 Demo: choose the 6MX0 Demo;
10)6MX0 Update.

8-3. Software Update

8-3-1. MSD3393LU software update

1. Copy the software files to a USB disk on the root directory;

2. Insert the USB disk when the AC power is off;
3. Turn on the AC power in turn to begin;
4. Turn off the AC power until the indicator light fast twinkling;
5. Pull out the USB disk and power on the television.

Note:

Do not turn off the TV while it is updating.

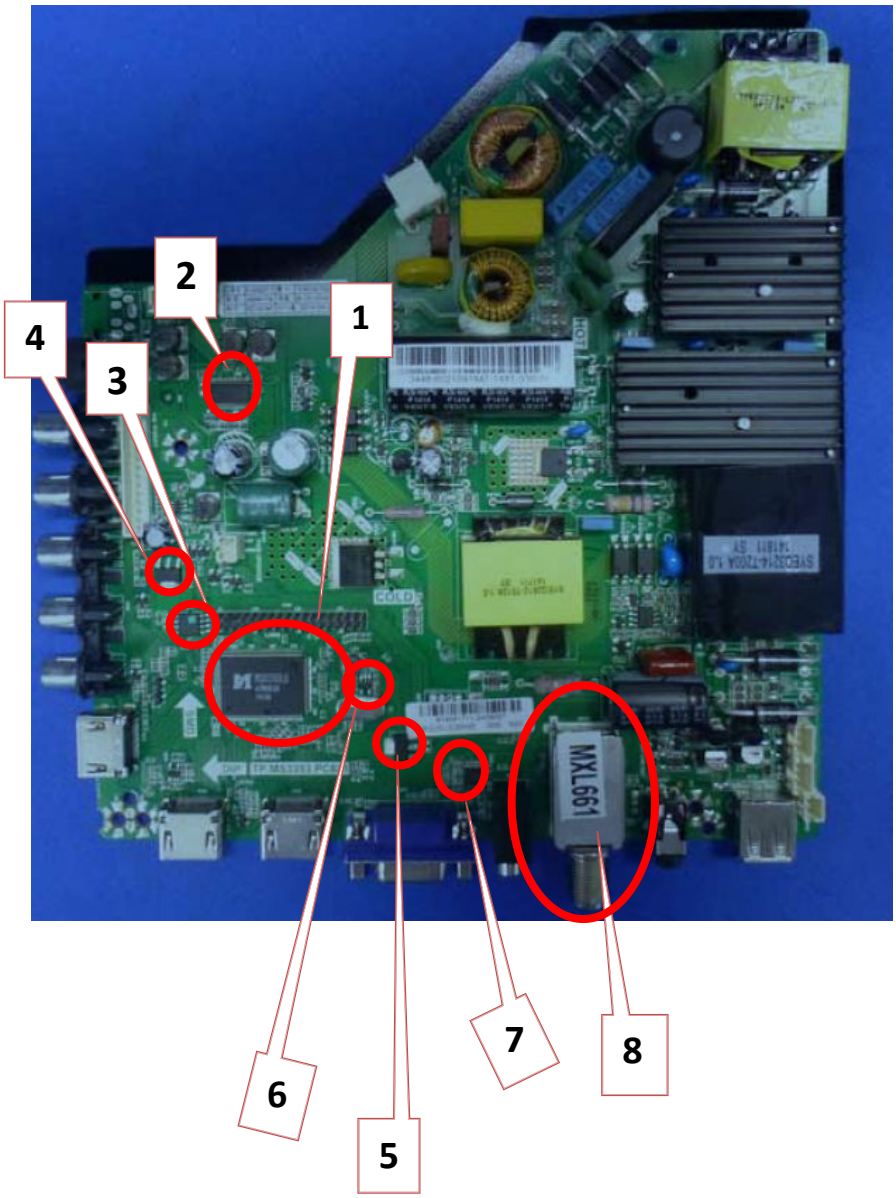
Chapter 9. Trouble shooting

9-1. Simple check

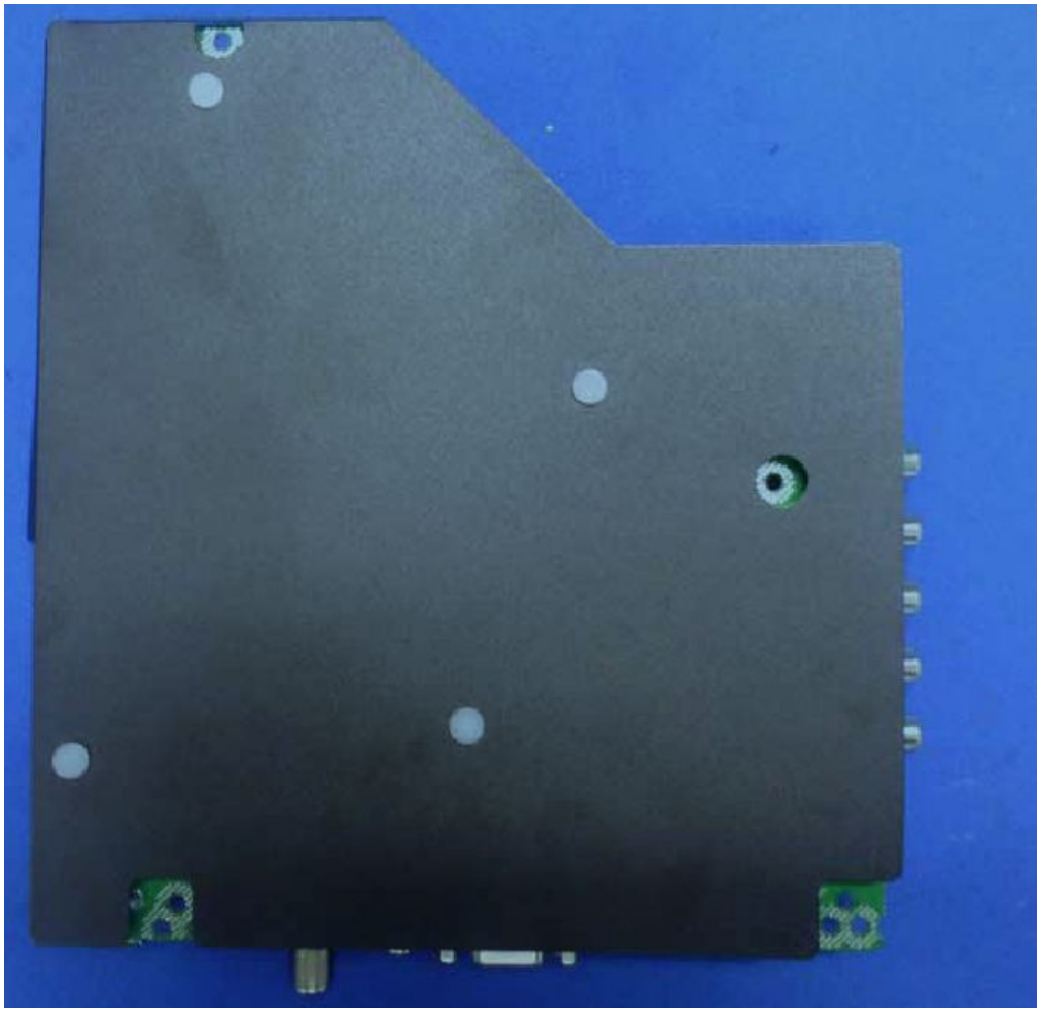
No picture/ No sound	Verify if the television is properly plugged Verify if the television is properly supplied power Verify if electricity is available.
Blank screen	Verify if correct signals are input Press SOURCE button to change signal input to TV input Restart the television of power supply is interrupted
No sound	Press the MUTE button and verify that Mute mode is active. Switch to another channel to check whether the same problem occurs. Press the VOL+ button to see if the problem can be solved.
Poor sound	Verify that the sound system is correct. Refer to the user manual for instructions on how to adjust it.
No picture on some channel	Verify if correct channel is selected. Adjust the antenna. Make adjustments by Fine Tune and MANUAL Scan.
No color for some channel program (black and white)	Verify that the same problem exists on other channels. Check the picture and sound systems. Refer to the relevant instructions in the manual to adjust the colour.
Spots with some or all pictures	Verify if the antennal is correctly connected. Verify if the antennal is in good condition. Make fine adjustment of channel.
Television is not working	Disconnect the television from the power supply for 10 seconds, then reconnect the television. If the problem persists, contact an authorised after-sales service provider for technical assistance.
Television out of control	Disconnect the television from power supply and 10 seconds later, connect the television to the power supply. If the problem still exists, contact authorized after-sales service for technical assistance.

9-2. Mainboard IC Introduction

Top view



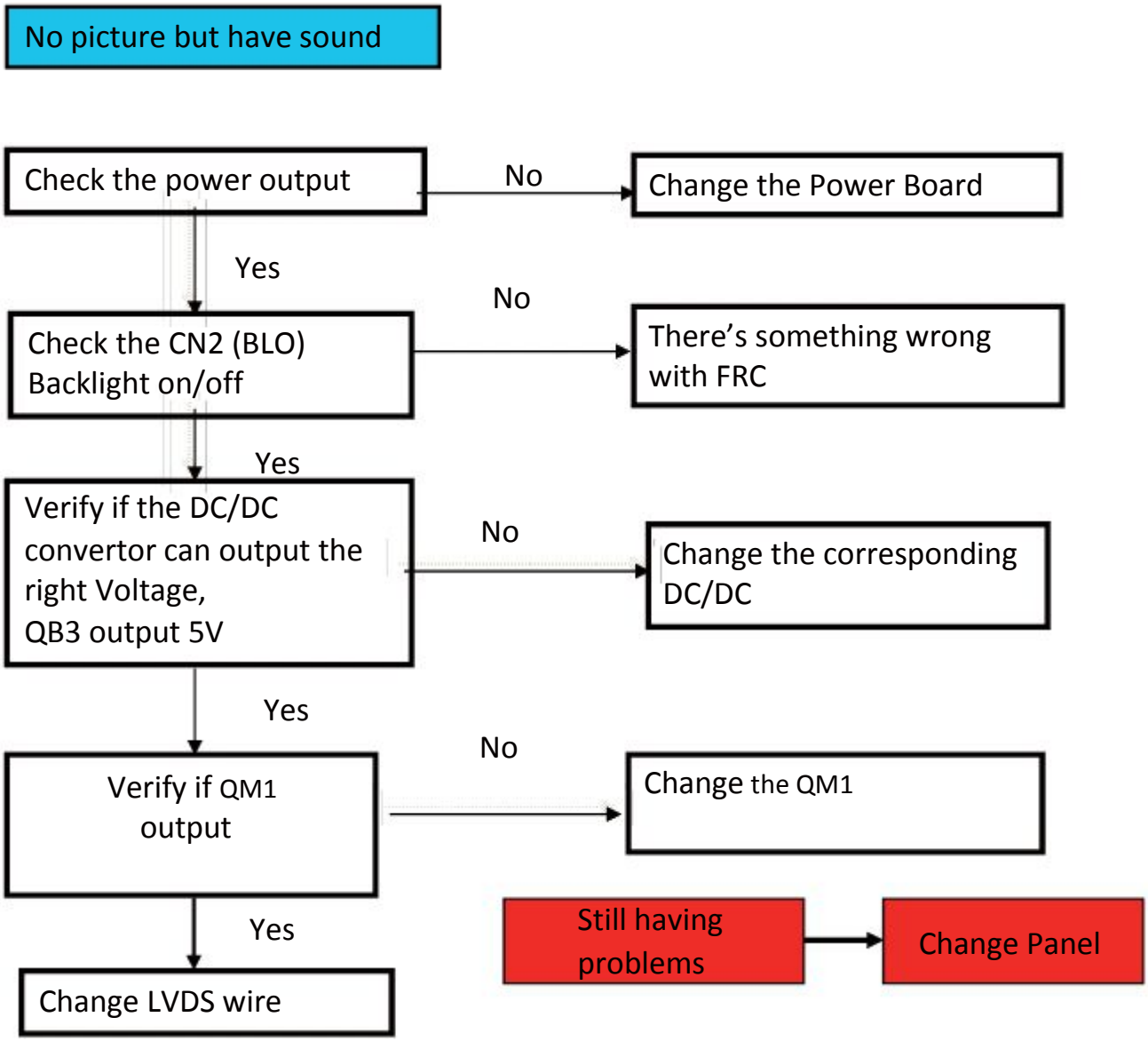
Bottom view

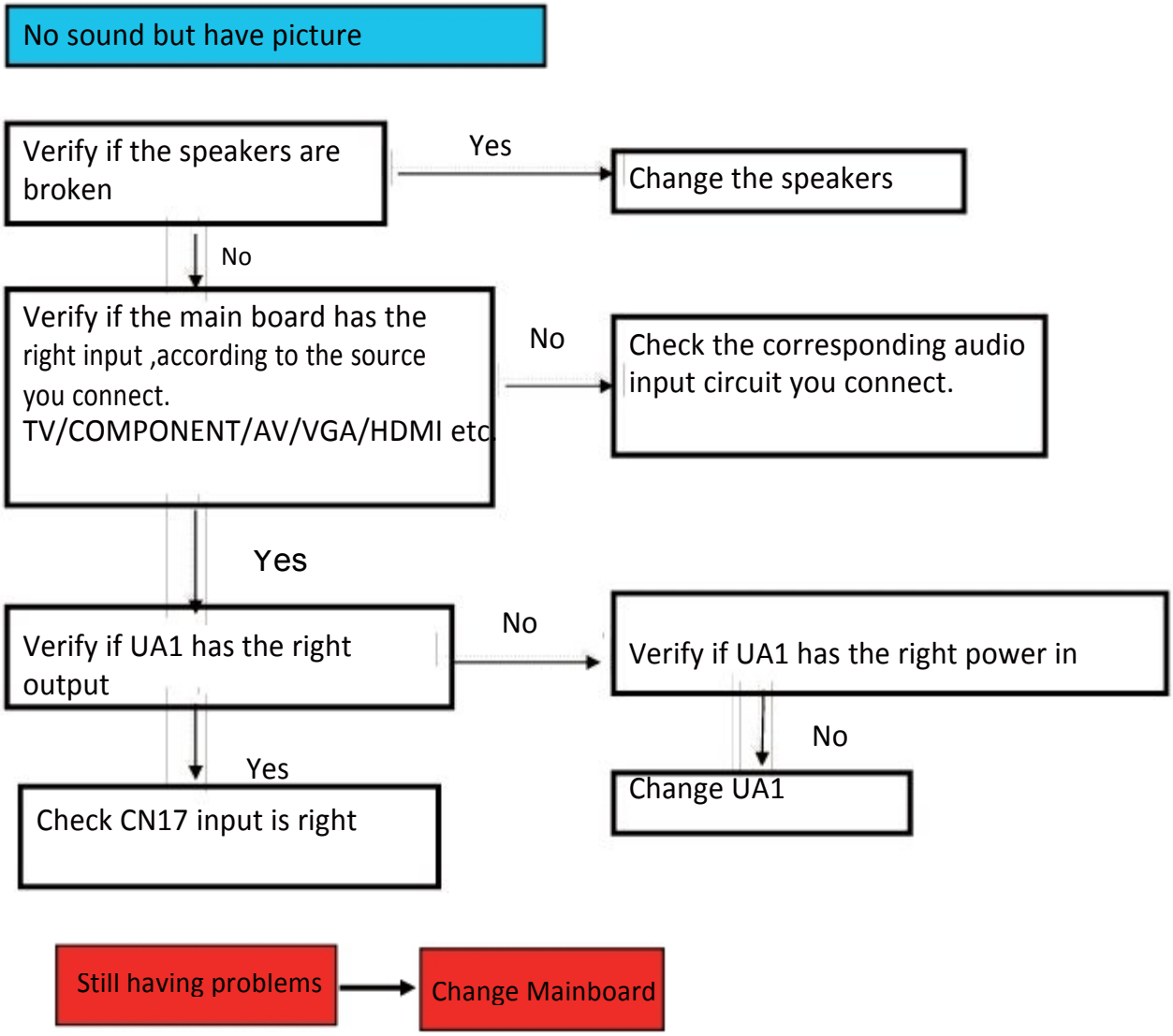


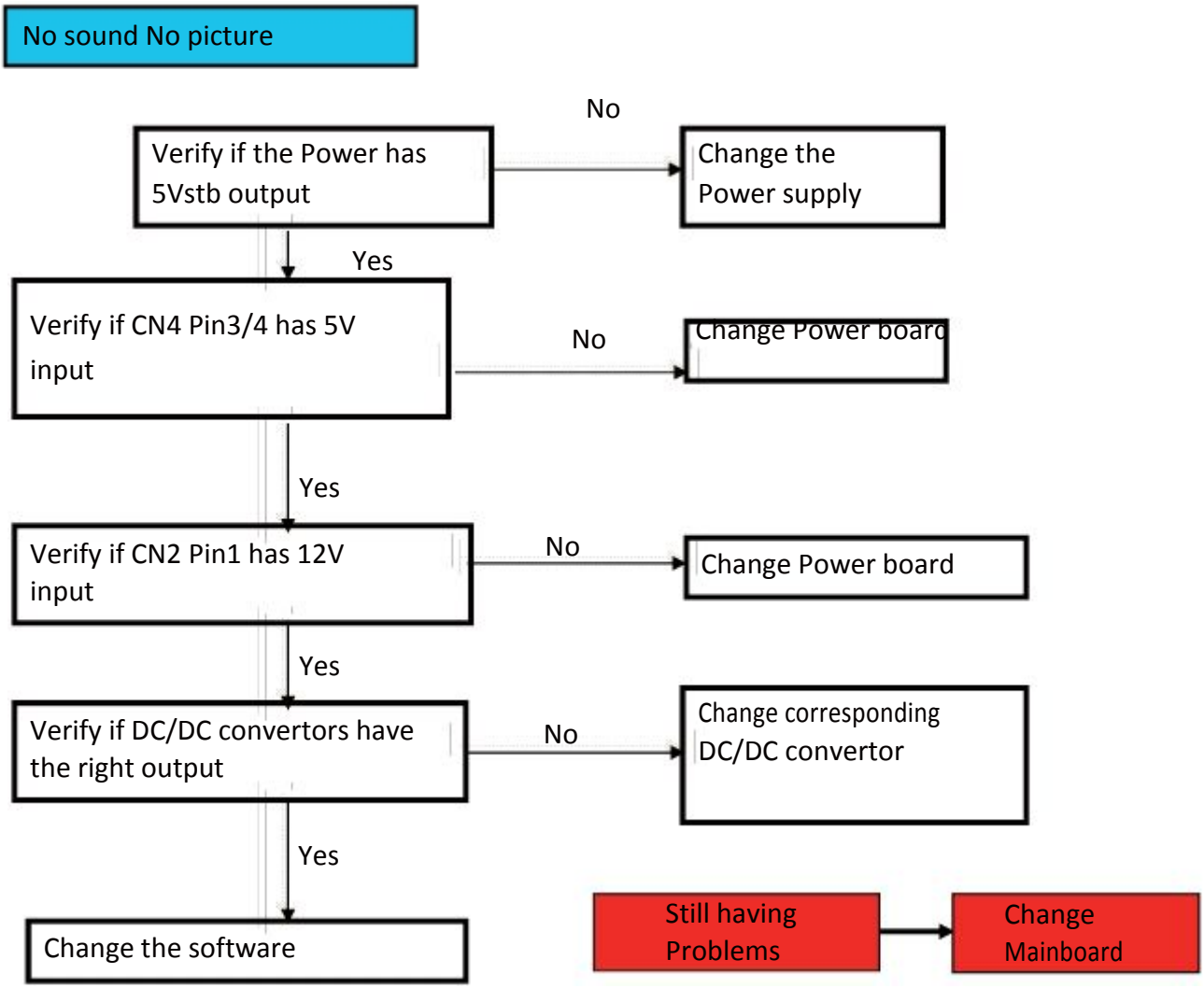
1.Mainchip—MSD3393LU(U1)
2. Audio Amplifier—TPA3110D2PWPR (UA1)
3.Main Flash Memory—GD25Q32BSIG (UF1)
4.DC/DC convertor 5V-1.8V for MSD3393LU (U1)—LC1117CLTRAD (UL2)
5.voltage convertor 5V to 3.3V_STB —LC1117CLTR33 (UL1)
6.voltage convertor 5V to 1.15V_STB —LC3406CB5TR (UD1)
7.voltage convertor 5V to 3V for tuner—LC1117CLTR33 (UT1)
8.Tuner —SDCL1005CR33JTDF (RFT1)

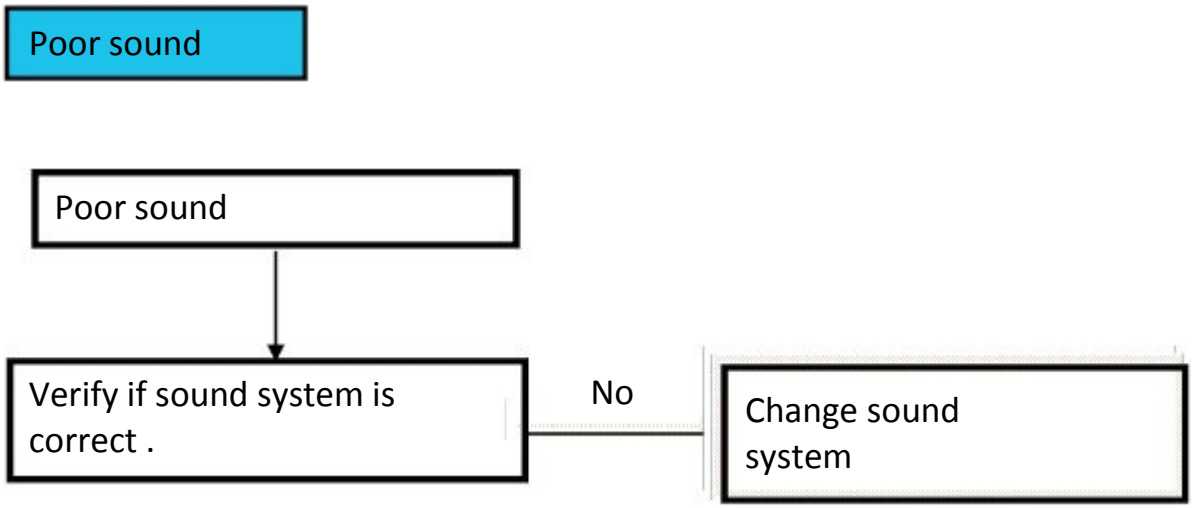
Please check the Schematic Diagram for the particular support

9-3. Mainboard Failure Check

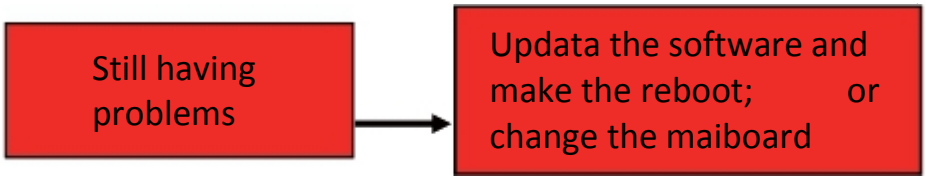


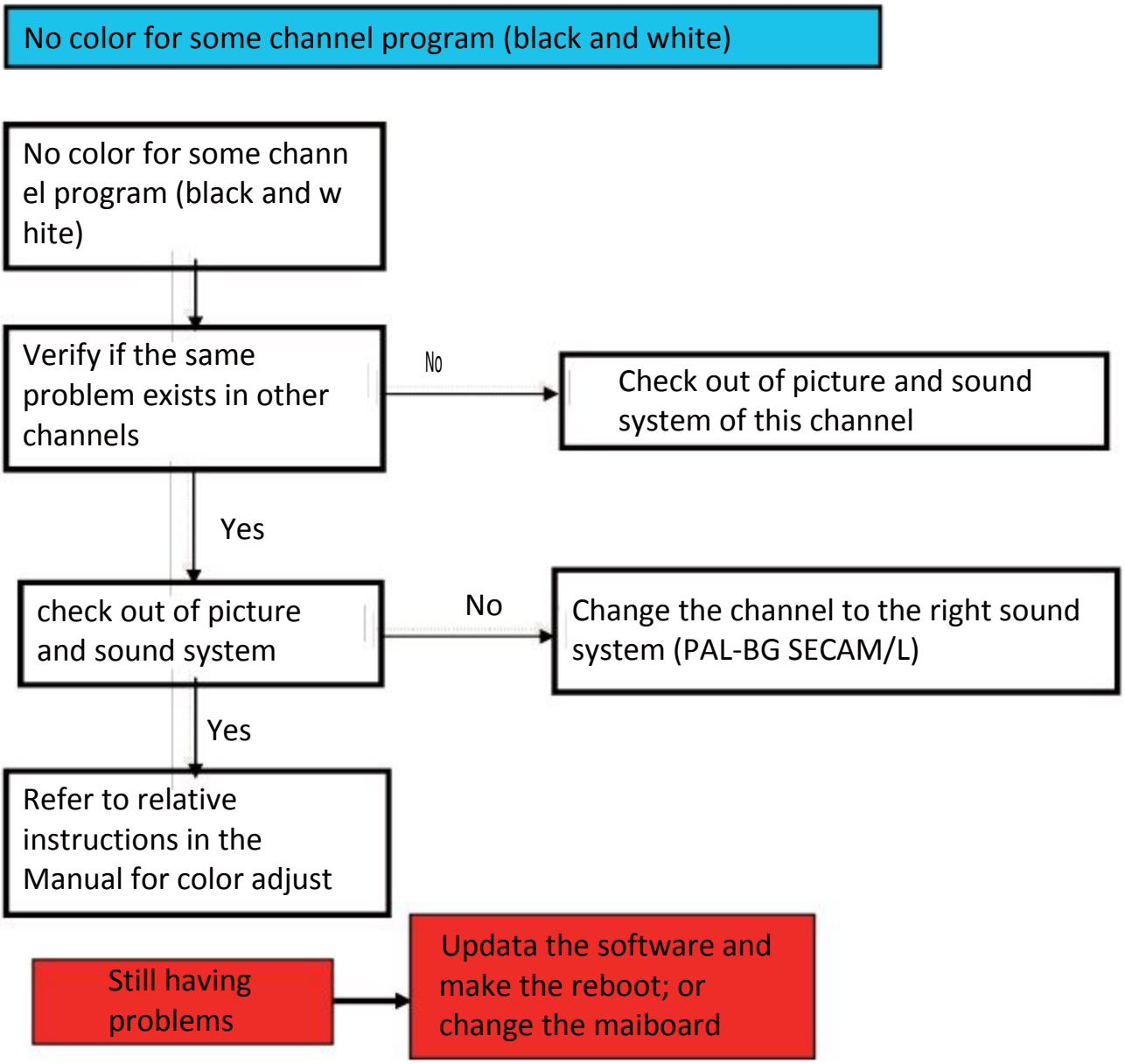

No sound but have picture
Verify if the speakers are broken
Yes
Change the speakers
No
Verify if the main board has the right input ,according to the source you connect.
TV/COMPONENT/AV/VGA/HDMI etc.
No
Check the corresponding audio input circuit you connect.
Yes
Verify if UA1 has the right output
No
Verify if UA1 has the right power in
No
Change UA1
Yes
Check CN17 input is right
Still having problems
Change Mainboard


No sound No picture
Verify if the Power has 5Vstb output
No
Change the Power supply
Yes
Verify if CN4 Pin3/4 has 5V input
No
Change Power board
Yes
Verify if CN2 Pin1 has 12V input
No
Change Power board
Yes
Verify if DC/DC convertors have the right output
No
Change corresponding DC/DC convertor
Yes
Change the software
Still having Problems
Change Mainboard

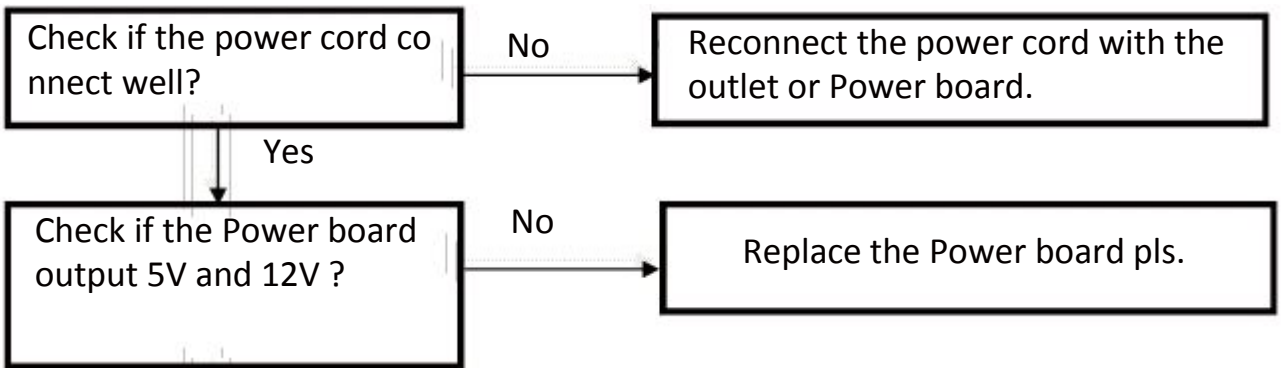


For ease of use, recommend that customer format the picture and sound settings in the automatic option.




No color for some channel program (black and white)
No color for some chann el program (black and w hite)
Verify if the same problem exists in other channels
No
Check out of picture and sound system of this channel
Yes
check out of picture and sound system
No
Change the channel to the right sound system (PAL-BG SECAM/L)
Yes
Refer to relative instructions in the Manual for color adjust
Still having problems
Updata the software and make the reboot; or change the maiboard

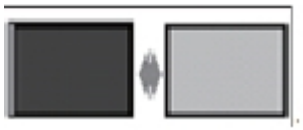
How to know whether the Power board is broken?

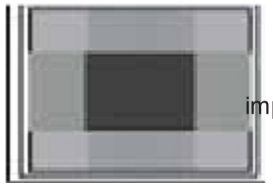


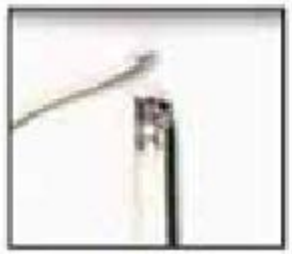
9-4. Pannel Failure

Failure Mode

Part	Name	Description	Phenomena	Failure cause
TCP	V B/D	Vertical bar		Block Defect :TCP cracking or cracking
	V Dim	Vertal gray line		Dim or L/D :TCP Sunken :TCP lead cracking :ACF bonding short :Awful environment and something electric enter into LCD :Mis-align between TCP and Panel :Panel failure :TCP failure
	V L/D	Vertical color line(light or dark forever)		
	H B/D	Horizontal bar		
	H Dim	Horizontal gary line		
	H L/D	Horizontal line(light or dark forever)		

Part	Name	Description	Phenomena	Failure Cause
Panel or Polarlzer	Dot Defect	Bright dot dark dot in pannel		Incoming Inspection Standard
	Polarizer Bubble	Bladder in Polarizer		Bladder between Polarizer and top glass
	Polarizer Scratch	Polarizer Scratch		Tine or rigidity arose
	F/inside Polarizer	Eyewinker inside Polarizer		Eyewinker inside Polarizer
	Abnormal Display	Abnormal Display		1.Chip lose action 2.IC ahort or jointiog bad 3.Pannel and vsc connect bad
Circuit	Flashing	Bright and dark display alternately		

Part	Name	Description	Phenomena	Failure Cause
	White Screen	B/L normal, only white screen display		Maybe caused by surge current and EDS
	Black Screen	B/L normal, only Black screen display		
Circuit	FIIcker	Crosstalk		LCD Vcom imbalance
	Abnormal Color	Only color abormal		Capacitance improper bring crosstalk inside LCD pannel
	Abnormal Color	Only color abnormal		1.Chip lose action 2.IC short or jointion bad 3.Pannel and vsc connect bad

Part	Name	Description	Phenomena	Failure cause
	Mechanlcal Nolse	When turn panel,appear cacophony		Caused by Mechanica noise of backlight unit
	Ripple	Connectric circle		Causeed by between mechanism and pannel
	B/L off	B/L lose action		*Connect badness between wire and electrode
	B/L dark	B/L brightness darker than normal		*Connect badnessShort between wire and electrode
	B/L wire damaged	B/L wire damaged		Operation abnormal or systemic noise
	B/L wire open	Without backlight		Operation abnormal or systemic noise
	B/L shut down	B/L shutdown in sometime		Short bitween lamp housing and wire, Because consume power too much
	F/M	F/M inB/L ,white,balck Rotundity or wirelike		F/M in B/L unit

Part	Name	Description	Phenomena	Failure Cause
Mechanlcal or B/L	Light leakage	Brightness at bottom of LCM brighter than normal		B/L unit badness
	Uniformity	B/L brightness asymmetric		Sheet in B/L unit is uneven
	Mount hole	Lack screw or screw damage		*Lack screw Screw damage

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Haier Group

Haier Industrial Park, No.1, Haier Road
266101, Qingdao, China
http://www.haier.com

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