

Haier SERVICE MANUAL

Order No. TV1012S001V0

LCD TV

Model No. **L26F6**
 L32F6
 L42F6
RTD2674S **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.

© 2011 Qingdao Haier Electronics Co., Ltd.

All rights reserved. Unauthorized copying and distribution is a violation of law.

Haier Group

CONTENTS

Chapter 1. General Information

1-1. Document Information	3
1-2. General Guidelines	3
1-3. Important Notice	3
1-3-1. Follow the regulations and warnings	3
1-3-2. Be careful to the electrical shock	3
1-3-3. Electro static discharge (ESD)	3
1-3-4. About lead free solder (PbF)	4
1-3-5. Use the genewing parts (specified parts)	4
1-3-6. Safety check after repairment	4
1-3-7. Ordering Spare Parts	6
1-3-8. Photo used in this manual	6
1-4. How to Read this Service Manual	7
1-4-1. Using icons:	7

Chapter 2. Specification

2-1. Specification list	8
2-2. External pictures (four faces)	9

Chapter 3. Disassemble and Assemble

3-1. L26F6	15
3-2. L32F6	17
3-3. L42F6	19

Chapter 4. Location of Controls and Components

4-1. Board Location	21
4-2. Main Board & AV Board	23
4-2-1. Function Description:	23
4-2-2. Connector definition	23
4-3. Power Supply Board	26
4-3-1. Function description:	26
4-3-2. Connector definition:	26
4-4. LCD Panel	29
4-4-1. Function Description: Display the signal.	29
4-4-2. Connector definition:	29

Chapter 5. Installation Instructions

5-1. Accessories.....	35
5-2. External Equipment Connections	35

Chapter 6. Operation Instructions

6-1. Get To Know Your TV.....	39
6-2. Get To Know Your Remote Control	40

Chapter 7. Electrical Parts

7-1. Block Diagram.....	41
7-2. Circuit Diagram	42
7-3. Wiring Connection Diagram.....	53

Chapter 8. Measurements and Adjustments

8-1. Service Mode	55
8-1-1.How to enter into Service Mode.....	55
8-1-2.How to exit	55
8-2. Measurements and Adjustments	55
8-2-1. The Main Menu	55
8-2-2. Video.....	56
8-2-3. Audio	57

Chapter 9. Trouble shooting

9-1. Simple check	58
9-2. Power Supply Board Failure Check.....	59
9-3. Mainboard Failure Check	60
9-4. Pannel Failure	61

Chapter 1. General Information

1-1. Document Information

Document format: Adobe PDF

Author:

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 kind of contact with any inside part of this product.



This symbol indicates that there are important operating and maintenance instructions in the literature 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 electrostatic 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 incidence of component damage caused by static by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed to prevent potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

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 external 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

1-4-1. 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, lose 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	L26F6	L32F6	L42F6
Screen size	26 inch	31.5 inch	42 inch
Aspect ratio	16:9	16:9	16:9
Resolution	1366*768	1366*768	1920*1080
Response time	6.5ms	6.5ms	6.5ms
Angel of view	H:178/V:178	H:178/V:178	H:178/V:178
Contrast	3000:1	3000:1	4000:1
Brightness	420cd/m2	420cd/m2	450cd/m2
OSD language	English Spanish	English Spanish	English Spanish
Color system	NTSC PAL	NTSC PAL	NTSC PAL
Audio system	M N	M N	M N
Audio output power (Built-in) (W)	7W*2	9W*2	9W*2
Total power input (W)	≤90W	≤115W	≤170W
Voltage range (V)	~110-240V	~110-240V	~110-240V
Power frequency (Hz)	50/60HZ	50/60HZ	50/60HZ
Net weight (KG)	7.8KG (withstand)	10KG (withstand)	17.5 (withstand)
Gross weight (KG)	9.5KG (withstand)	13KG (withstand)	24KG (withstand)
Net dimension (MM)	658*200*491 (withstand)	790*230*572 (withstand)	1020*300*697 (withstand)
Packaged dimension (MM)	885*180*535 (withstand)	870*267*657 (withstand)	1115*355*810 (withstand)

2-2. External pictures (four faces)

2-2-1 L26F6



Front Side



Left Side



Right Side



Back Side

2-2-2 L32F6



Front Side



Left Side



Right Side



Back Side

2-2-3 L42F6



Front Side



Left Side



Right Side

Back Side



Chapter 3. Disassemble and Assemble

3-1. L26F6

3-1-1. Remove the Stand



- ① Lay down the unit so that rear cover faces upward
- ② Remove the four screws from the rear cover indicated with ➤
- ③ Then remove the stand.

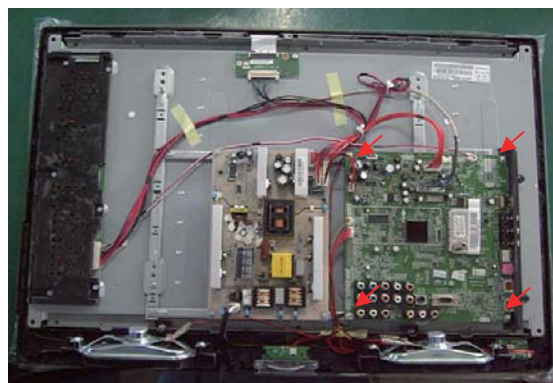
3-1-2. Remove the Back Cover



- ① Remove the fourteen screws indicated on figure above by ➤

- ② Then remove the back cover from the unit.

3-1-3. Remove the mainboard



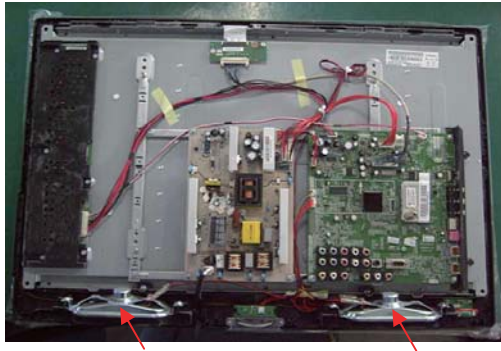
- ① Disconnect the coupler CN21 CN22 CN23 CN24 CN25 CN26 CN27 CN18
- ② Remove the four screws indicated on the figure above by ➤
- ③ Remove the Main board

3-1-4. Remove the power supply

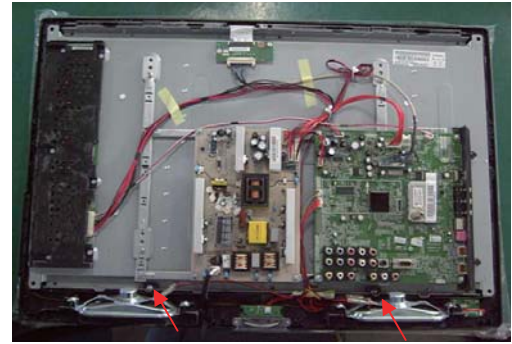



- ① Remove the four screws indicated on the figure above by ➤
- ② Then remove the power supply.

3-1-5. Remove the Speaker



Take out the speaker directly.



- ① Remove the two screws indicated on the figure above by 
- ② Then remove the Panel.


3-1-6. Remove the remote control



Remove the screw,
take out the remote control board.

3-1-7. Remove the Ornamental Assembly




- ① Remove the two screws indicated on the figure above by 
- ② Then remove the Ornamental Light Assembly

3-1-8. Remove screws fastened the Panel

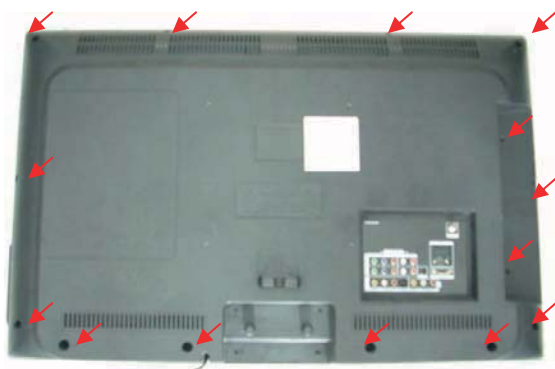
3-2. L32F6


3-2-1. Remove the Stand



- ① Lay down the unit so that rear cover faces upward
- ② Remove the four screws from the rear cover indicated with 
- ③ Then remove the stand.


3-2-2. Remove the Back Cover



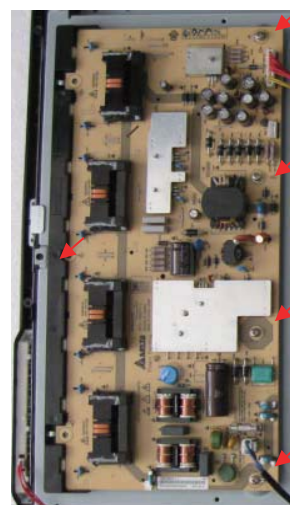
- ① Remove the fourteen screws indicated on figure above by 
- ② Then remove the back cover from the unit.


3-2-3. Remove the mainboard and bracket of Side AV



- ① Disconnect the coupler CN21 CN22 CN23 CN24 CN26 CN27 CN18
- ② Remove the four screws indicated on the figure above by 
- ③ Remove the Main board

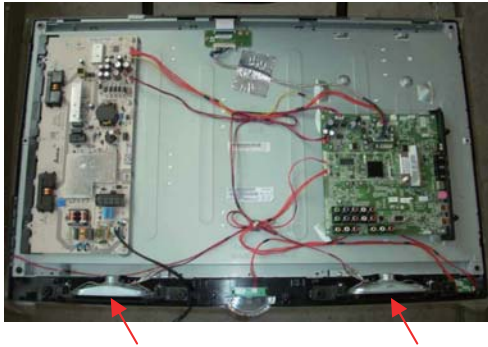
3-2-4. Remove the power supply



- ① Remove the five screws indicated on the figure above by 
- ② Then remove the power supply.

- ② Then remove the Ornamental Light Assembly


3-2-5. Remove the Speaker



Take out the speaker directly.

3-2-8. Remove the Panel



- ① Remove the six screws indicated on the figure above by 
- ② Then remove the panel.


3-2-6. Remove the remote control



Remove the screw,
take out the remote control board.

3-2-7. Remove the Ornamental Assembly




- ① Remove the two screws indicated on the figure above by 

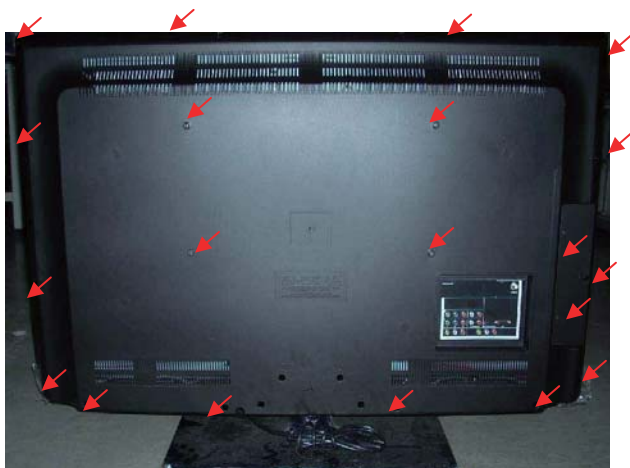
3-3. L42F6


3-3-1. Remove the Stand



- ① Lay down the unit so that rear cover faces upward
- ② Remove the four screws from the rear cover indicated with 
- ③ Then remove the stand.


3-3-2. Remove the Back Cover



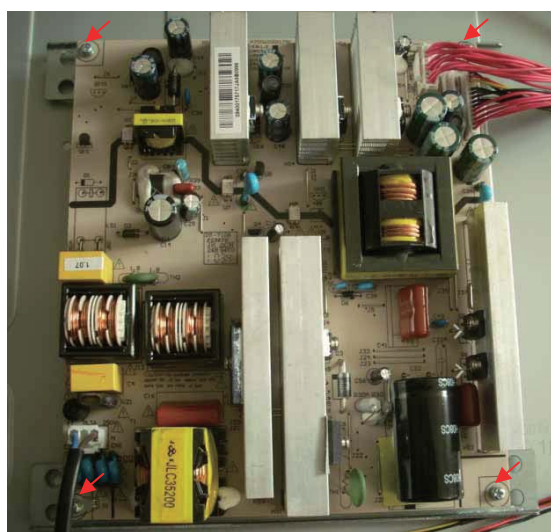
- ① Remove the twenty screws indicated on figure above by 
- ② Then remove the back cover from the unit.

3-3-3. Remove the mainboard and bracket of Side AV



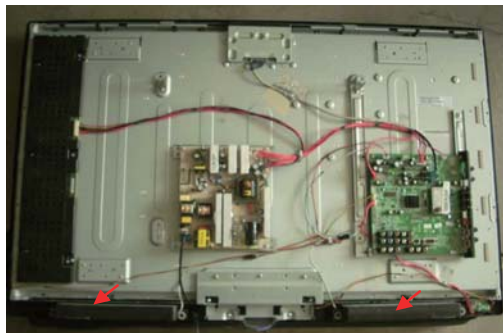
- ① Disconnect the coupler CN21 CN22 CN23 CN24 CN25 CN26 CN27 CN18
- ② Remove the four screws indicated on the figure above by 
- ③ Remove the Main board

3-3-4. Remove the power supply



- ① Remove the four screws indicated on the figure above by ➤
- ② Then remove the power supply.

3-3-5. Remove the Speaker



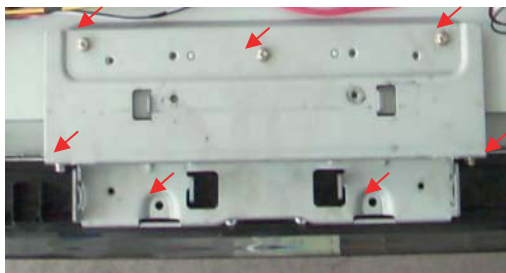
Take out the speaker indicated on the figure above by ➤ directly.

3-3-6. Remove the remote control



Remove the screw,
take out the remote control board.

3-3-7. Remove the Metal connecting board



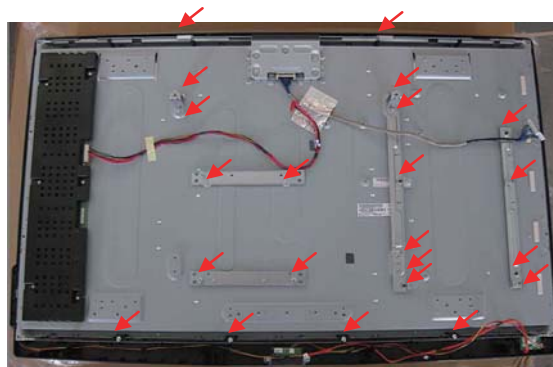
- ① Remove the seven screws indicated on the figure above by ➤
- ② Remove the Metal connecting board.

3-3-8. Remove the Ornamental Light Assembly



- ① Remove the two screws indicated on the figure above by ➤
- ② Then remove the Ornamental Light Assembly

3-3-9. Remove the panel bracket

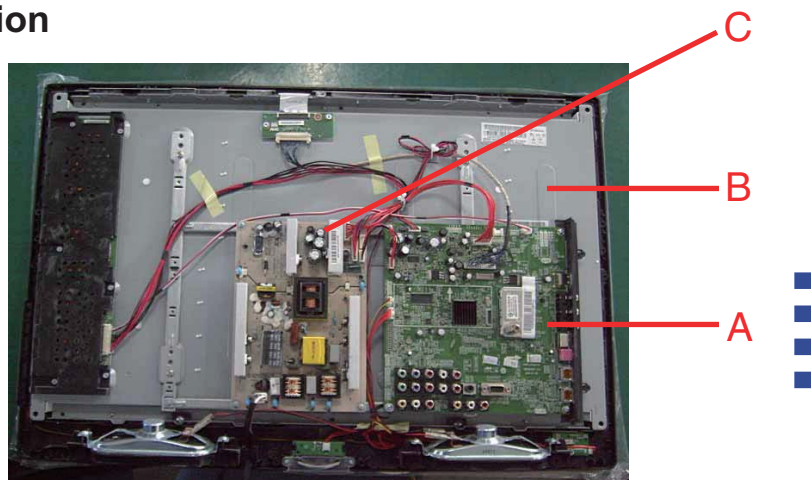


- ① Remove the twenty-two screws indicated on the figure above by ➤
- ② Remove the Panel Bracket and Metal Slice.
- ③ Then you can take off the Panel.

Chapter 4. Location of Controls and Components

4-1. Board Location

4-1-1. L26F6



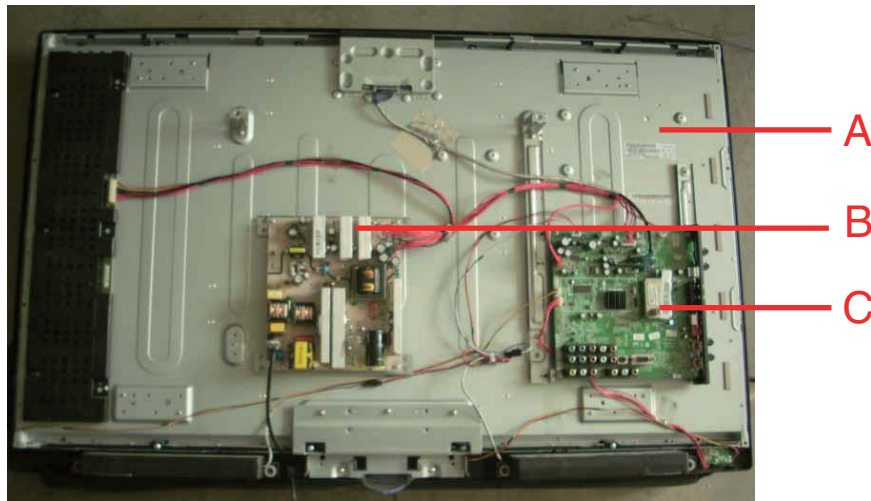
No.	Parts number	Description
A Board	DC1GM0E0300M	Main Board (0090724811F)
B Board	0094001125 DE	LCD Panel
C Board	0094001386A	Power Supply

4-1-2. L32F6



No.	Parts number	Description
A Board	0094001236DC	LCD Panel
B Board	0094001274B	Power Supply
C Board	DC1CS0E0500M	Main Board (0090724811F)

4-1-3. L42F6



No.	Parts number	Description
A Board	0094001165DE	LCD Panel
B Board	0094001757	Power Supply
C Board	DC1C50E0400M	Main Board (0090724811F)

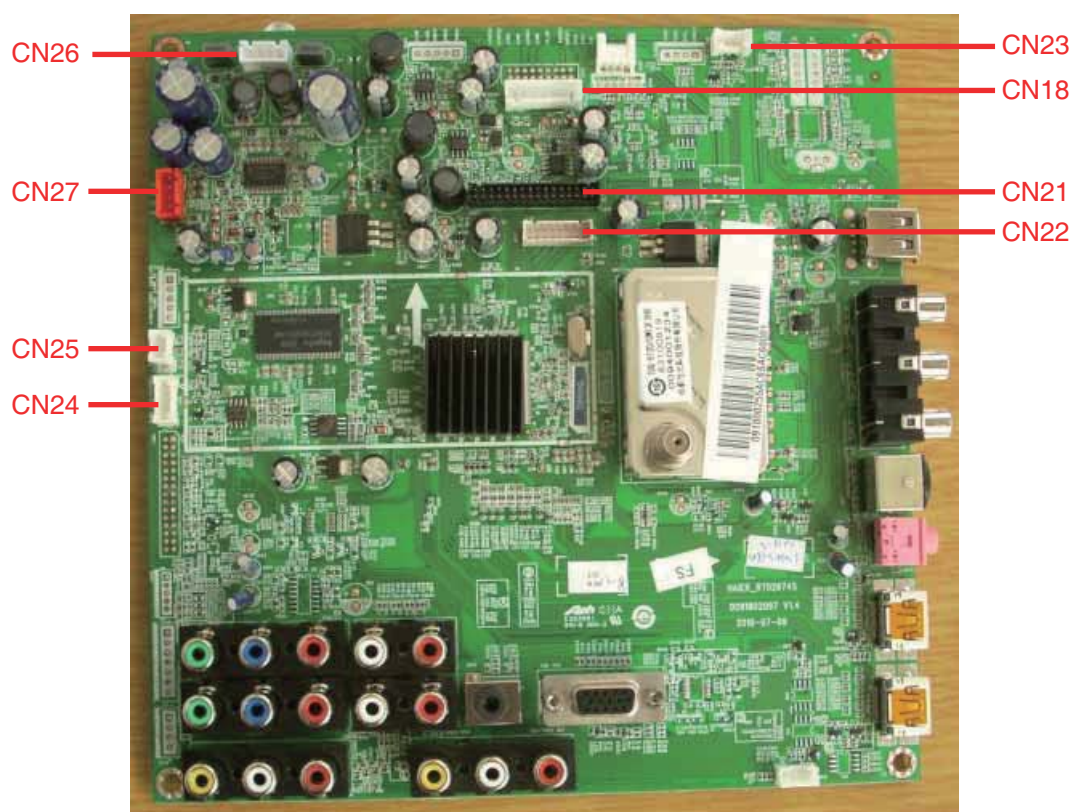
4-2.Mainboard

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

4-2-2-1.Mainboard of L26F6 L32F6



4-2-2-2.Connector definition

Power connectors (CN18)

Pin number	Signal name	Description
1	PW-ON/OFF	ON/OFF
2	GND	GND
3	5VS	5V-Stand
4	GND	GND
5	GND	GND
6	12VA	12V-Mainboard
7	12VA	12V-Mainboard

Back light connectors (CN23)

Pin number	Signal name	Description
1	ADJ	Back light adjust
2	PBON	Back light ON/OFF
3	GND	GND
4	5VS	5VS

Power of audio amplifier connector (CN27)

Pin number	Signal name	Description
1	24V	24V
2	24V	24V
3	GND	GND
4	GND	GND

Speaker connector (CN26)

Pin number	Signal name	Description
1	L+	Left of audio
2	L-	Left of audio
3	L+	Right of audio
4	R+	Right of audio

Key connector (CN25)

Pin number	Signal name	Description
1	GND	GND
2	KEY1	KEY1
3	KEY0	KEY0

Remote connector (CN24)

Pin number	Signal name	Description
1	5V	5V
2	IRIN	IR IN
3	LEDR	LED-RED
4	LEDB	LED-BLUE
5	GND	GND

LVDS Connector (CN21)

Pin number	Signal name	Description	Pin number	Signal name	Description
1	GND	GND	17	GND	GND
2	GND	GND	18	GND	GND
3	B0+	BO+	19	ODSEL2	ODSEL2
4	B0-	BO-	20	ODSEL1	ODSEL1
5	B1+	B1+	21	B4-	B4-
6	B1-	B1-	22	B4+	B4+
7	GND	GND	23	PNL_SDA	PNL_SDA
8	GND	GND	24	PNL_CLK	PNL_CLK
9	B2-	B2-	25	GND	GND
10	B2+	B2+	26	GND	GND
11	BC-	BC-	27	VCC	VCC
12	BC+	BC+	28	VCC	VCC
13	GND	GND	29	VCC	VCC
14	GND	GND	30	VCC	VCC
15	B3-	B3-	31	BRI_IN	BRI_IN
16	B3+	B3+	32	PB-ADJUST	PB-ADJUST

LVDS Connector (CN22)

Pin number	Signal name	Description	Pin number	Signal name	Description
1	A0-	A0-	9	AC-	AC-
2	A0+	A0+	10	GND	GND
3	A1-	A1-	11	A3-	A3-
4	A1+	A1+	12	A3+	A3+
5	A2-	A2-	13	A4-	A4-
6	A2+	A2+	14	A4+	A4+
7	GND	GND	15	N/A	N/A
8	AC+	AC+	16	N/A	N/A

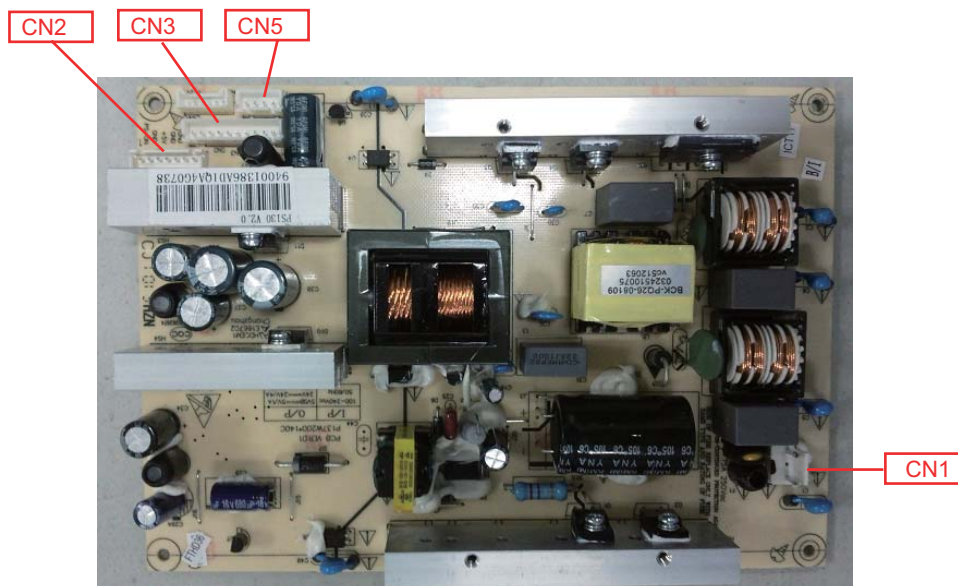
4-3. Power Supply Board

4-3-1. Function description:

To supply power for Mainboard, Panel.

4-3-2. Connector definition:

4-3-2-1.L26F6



CN1

Pin number	Signal name
1	L
2	N

CN2

Pin number	Signal name	Pin number	Signal name
1	PS_ON	5	GND
2	GND	6	+12V
3	+5V	7	+12V
4	GND		

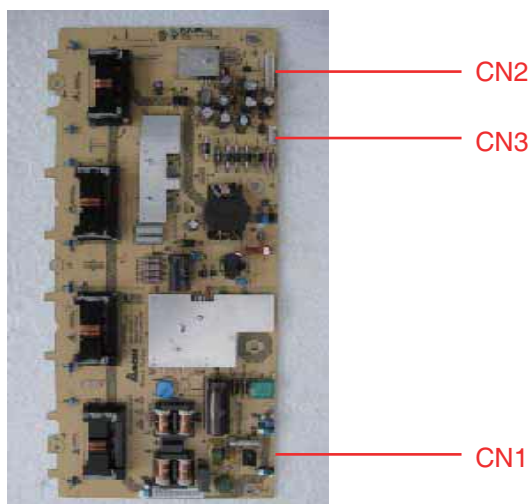
CN5

Pin number	Signal name
1	+24VD
2	+24VD
3	GND
4	GND

CN3

Pin number	Signal name
1-5	+24V
6-10	GND

4-3-2-2.L32F6



CN2

PIN NUMBER	DESIGNATION
1	12V
2	12V
3	GND
4	GND
5	5VSTB
6	GND
7	STN
8	SEL
9	V-IPWM
10	BL-ON
11	V-EPWM

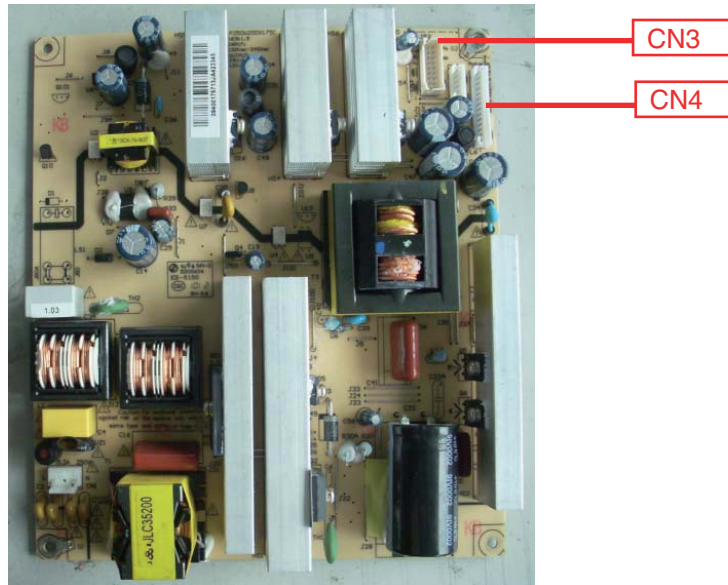
CN1

Pin number	Signal name
1	L
2	N

CN3

Pin number	Signal name
1	24V
2	24V
3	GND
4	GND

4-3-2-3.L42F6



CN3

Pin number	Signal name	Pin number	Signal name
1	24V	8	GND
2	24V	9	GND
3	24V	10	GND
4	24V	11	DC-DIMMING
5	24V	12	BL-ON/OFF
6	GND	13	PWM-DIMMING
7	GND	14	STATUS

CN4

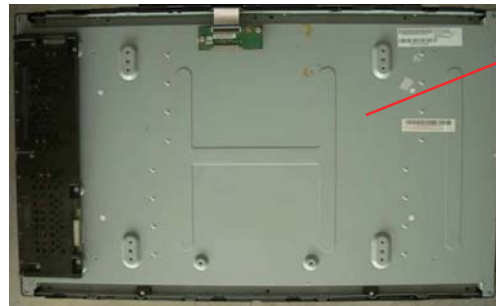
Pin number	Signal name	Pin number	Signal name
1	12V	10	GND
2	P-ON/OFF	11	DC-DIMMING
3	12V	12	GND
4	24V	13	PWM-DIMMING
5	12V	14	GND
6	24V	15	BL-ON/OFF
7	GND	16	GND
8	GND	17	STATUS
9	GND	18	5V

4-4.LCD Panel

4-4-1. Function Description: Display the signal.

4-4-2. Connector definition

4-4-2-1.L26F6



T260XW04V7

LVDS Connector

- LCD connector: CN1: Starconn 093G30-B0001A-1
- Mating connector:

PIN	Symbol	Description
1	VDD	Power Supply, +12V DC Regulated
2	VDD	Power Supply, +12V DC Regulated
3	VDD	Power Supply, +12V DC Regulated
4	VDD	Power Supply, +12V DC Regulated
5	GND	Ground
6	GND	Ground
7	GND	Ground
8	GND	Ground
9	LVDS_SEL	Open/High(3.3V) for NS, Low(GND) for JEIDA
10	Reserved	AUO Internal Use Only
11	GND	Ground
12	CH1_0-	LVDS Channel 1, Signal 0-
13	CH1_0+	LVDS Channel 1, Signal 0+
14	GND	Ground
15	CH1_1-	LVDS Channel 1, Signal 1-
16	CH1_1+	LVDS Channel 1, Signal 1+
17	GND	Ground
18	CH1_2-	LVDS Channel 1, Signal 2-
19	CH1_2+	LVDS Channel 1, Signal 2+
20	GND	Ground
21	CH1_CLK-	LVDS Channel 1, Clock -
22	CH1_CLK+	LVDS Channel 1, Clock +
23	GND	Ground
24	CH1_3-	LVDS Channel 1, Signal 3-
25	CH1_3+	LVDS Channel 1, Signal 3+
26	GND	Ground
27	Reserved	AUO Internal Use Only
28	Reserved	AUO Internal Use Only
29	GND	Ground
30	GND	Ground

Backlight Characteristics

Inverter Connector: CI0114M1HRL-NH (Cvilux)

Pin No	Symbol	Description
1	VDDB	Operating Voltage Supply, +24V DC regulated
2	VDDB	Operating Voltage Supply, +24V DC regulated
3	VDDB	Operating Voltage Supply, +24V DC regulated
4	VDDB	Operating Voltage Supply, +24V DC regulated
5	VDDB	Operating Voltage Supply, +24V DC regulated
6	BLGND	Ground and Current Return
7	BLGND	Ground and Current Return
8	BLGND	Ground and Current Return
9	BLGND	Ground and Current Return
10	BLGND	Ground and Current Return
11	DET ⁽²⁷⁾	BLU status detection: Normal : 0~0.8V ; Abnormal : Open collector
12	VBLOn	BL On-Off control: High/Open (2.0V~5.5V) for BL On, Low (GND) for off
13	Internal PWM ⁽²⁶⁾ (VDIM)	Internal PWM (0~3.1V, 10~100% Duty) < NC ; when External PWM mode > ⁽²⁹⁾
14	External PWM ⁽²⁸⁾ (PDIM)	External PWM (5%~100% Duty ratio) < NC ; when internal PWM mode > ⁽²⁹⁾

4-4-2-2.L32F6

AU (T315XW03 V5)



BACKLIGHT CONNECTOR PIN CONFIGURATION :

	Description		Min	Typ	Max	Unit	Condition/Note
1	Operating Voltage	Vo	639	710	781	Vrms	1. Dimming range is set 100% 2. Base on lamp specification, for each lamp need to be applied at least minimum operating voltage to ensure each lamp can be normally worked!
2	Operating Current	Io	12	12.5	13	mArms	1. Dimming range is set 100% 2. Base on lamp specification, for each lamp need to be applied at least minimum operating current to ensure each lamp can be normally worked!
3	BL Total Power Dissipation	PBL	76	78	80	Watt	1. Dimming range is set 100%. 2. In order to get typical light out, the backlight need to be applied typical power. 3. Input power of JIG BD is about <u>78 W (typ)</u> by AUO measure!
4	Striking Voltage	At 0°C	Vstrike	1500	1650	Vrms	1. Base on lamp specification, to ensure each lamp can be normally ignited, need to apply at least minimum striking voltage to each lamp
		At 25°C		1350	1500		
5	Striking Time	Ts	1000	-	1500	msec	1. To ensure each lamp can be normally ignited, each lamp need to be applied at least minimum striking voltage during minimum striking time.
6	Operating Frequency	fo				kHz	1. Operating frequency is set by customer. 2. Need to double confirm display quality.(*)
7	PWM Operating Frequency	F_PWM	120	180	240	Hz	1. PWM frequency is set by customer. 2. Need to double confirm display quality.(*)
8	PWM Dimming Duty Ratio	D_PWM	20	-	100	%	Note 1. Dimming range Note 2. Note 3. Duty ratio definition.
9	Lamp Type	U type					
10	Number of Lamps	4				pcs	

LVDS:

Connector on Panel: **093G30-B0001A-1** (Manufactured by Starconn)

Pin No	Symbol	Description	Default
1	VCC	+12V, DC, Regulated	
2	VCC	+12V, DC, Regulated	
3	VCC	+12V, DC, Regulated	
4	VCC	+12V, DC, Regulated	
5	GND	Ground and Signal Return	
6	GND	Ground and Signal Return	
7	GND	Ground and Signal Return	
8	GND	Ground and Signal Return	
9	LVDS Option	Low/Open for Normal (NS), High for JEIDA	NS mode
10	Reserved	Open	AUO internal test
11	GND	Ground and Signal Return for LVDS	
12	RIN0-	LVDS Channel 0 negative	
13	RIN0+	LVDS Channel 0 positive	
14	GND	Ground and Signal Return for LVDS	
15	RIN1-	LVDS Channel 1 negative	
16	RIN1+	LVDS Channel 1 positive	
17	GND	Ground and Signal Return for LVDS	
18	RIN2-	LVDS Channel 2 negative	
19	RIN2+	LVDS Channel 2 positive	
20	GND	Ground and Signal Return for LVDS	
21	RCLK-	LVDS Clock negative	
22	RCLK+	LVDS Clock positive	
23	GND	Ground and Signal Return for LVDS	
24	RIN3-	LVDS Channel 3 negative	
25	RIN3+	LVDS Channel 3 positive	
26	GND	Ground and Signal Return for LVDS	
27	Reserved	Open or High	AUO internal test
28	Reserved	Open or High	AUO internal test
29	GND	Ground and Signal Return	
30	GND	Ground and Signal Return	

4-4-2-3.L42F6

AUO (T420HW06V2)



INVERTER UNIT

Symbol	Description
VDDDB (Main Power)	DV input 24.0 VDC
VDDDB (Main Power)	DV input 24.0 VDC
VDDDB (Main Power)	DV input 24.0 VDC
VDDDB (Main Power)	DV input 24.0 VDC
VDDDB (Main Power)	DV input 24.0 VDC
GND	Ground
GND	Ground
GND	Ground
GND	Ground
GND	Ground
Reserved	Please leave it open
VBILON (Enable Pin)	BL On/Off control signal High/Open: On, Low: Off (Low=0~ 0.8V, High=2.0~5.0V)
VDIM	Internal PWM (3.3V,100% duty)/open for 100% luminance, 0V : 10% duty
NC	

P-TWO 187059-5122 which is compatible FI-RE51S-HF (JAE)

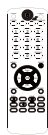
No	Symbol	Description	No	Symbol	Description
1	GND	Ground	27	GND	Ground
2	NC	No connection	28	RE0N	SECOND CHANNEL 0-
3	NC	No connection	29	RE0P	SECOND CHANNEL 0+
4	NC	No connection	30	RE1N	SECOND CHANNEL 1-
5	NC	No connection	31	RE1P	SECOND CHANNEL 1+
6	Reserved		32	RE 2N	SECOND CHANNEL 2-
7	LVDS SEL	LVDS order	33	RE 2P	SECOND CHANNEL 2+
8	NC	No connection	34	GND	Ground
9	Reserved		35	RECLKN	SECOND CLOCK CHANNEL C-
10	Reserved		36	RECLKP	SECOND CLOCK CHANNEL C+
11	GND	Ground	37	GND	Ground
12	RO 0N	FIRST CHANNEL 0-	38	RE3N	SECOND CHANNEL 3-
13	RO 0P	FIRST CHANNEL 0+	39	RE3P	SECOND CHANNEL 3+
14	RO 1N	FIRST CHANNEL 1-	40	NC	No connection
15	RO 1P	FIRST CHANNEL 1+	41	NC	No connection
16	RO 2N	FIRST CHANNEL 2-	42	GND	Ground
17	RO 2P	FIRST CHANNEL 2+	43	GND	Ground
18	GND	Ground	44	GND	Ground
19	ROCLKN	FIRST CLOCK CHANNEL C-	45	GND	Ground
20	ROCLKP	FIRST CLOCK CHANNEL C+	46	GND	Ground
21	GND	Ground	47	NC	No connection
22	RO 3N	FIRST CHANNEL 3-	48	VLCD	Power Supply +12V
23	RO 3P	FIRST CHANNEL 3+	49	VLCD	Power Supply +12V
24	NC	No connection	50	VLCD	Power Supply +12V
25	NC	No connection	51	VLCD	Power Supply +12V
26	GND	Ground	-	-	-

Note: 1. All GND (ground) pin should be connected together to the LCD module's metal frame.

2. All V_{LCD} (power input) pins should be connected.

Chapter 5. Installation Instructions

5-1. Accessories



Remote controller



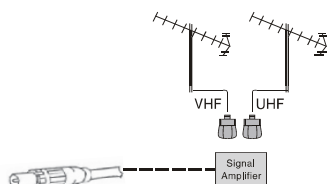
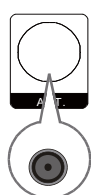
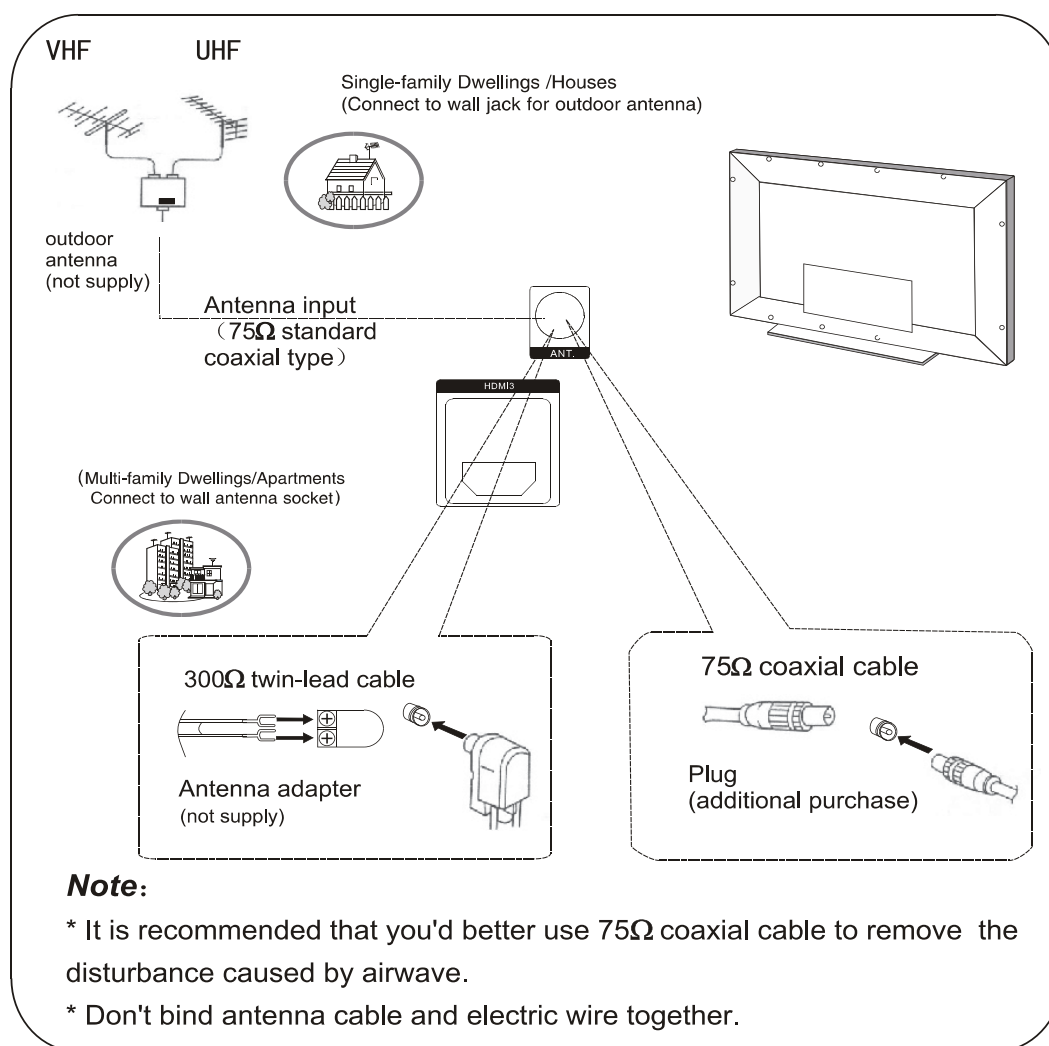
Owner's manual

Alkaline battery
(AAA) × 2

5-2. External Equipment Connections

Antenna Connection

- Antenna or Cable Service without a Cable Box Connections
- For optimum picture quality, adjust antenna direction if needed.



- To improve picture quality in a poor signal area, purchase and install a signal amplifier.
- If the antenna needs to be split for two TV's, install a "2-Way Signal Splitter" in the connections.
- If the antenna is not installed properly, contact your dealer for assistance.

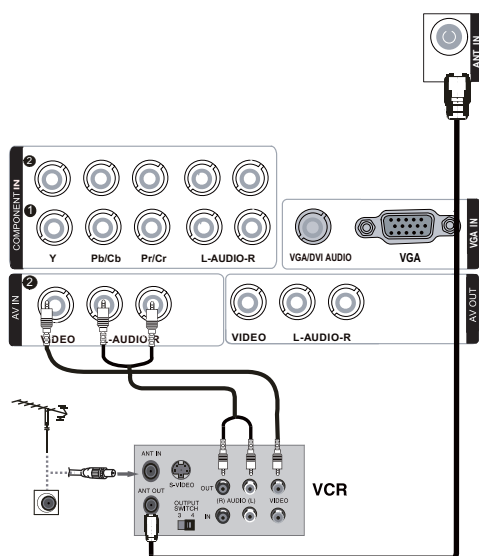
Choose Your Connection

There are several ways to connect your television, depending on the components you want to connect and the quality of the signal you want to achieve.

The following are examples of some ways to connect your TV. Choose the connection which is best for you.

VCR Connection

To avoid picture noise (interference), leave an adequate distance between the VCR and TV.



Connection Option 1

Set VCR output switch to channel 3 or 4 and then tune the TV to the same channel number.

Connection Option 2

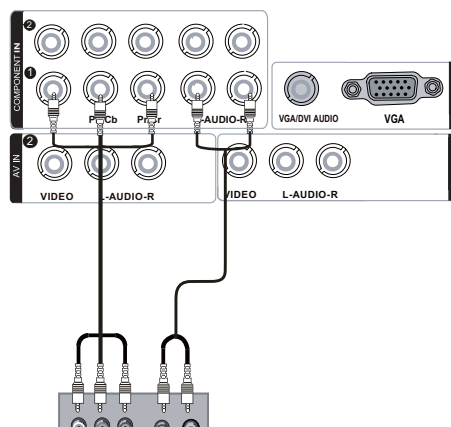
- 1** Connect the audio and video cables from the VCR's output jacks to the TV input jacks, as shown in the figure. When connecting the TV to VCR, match the jack colors (Video = yellow, Audio Left = white, and Audio Right = red).
- 2** Insert a video tape into the VCR and press **PLAY** on the VCR. (Refer to the VCR owner's manual.)
- 3** Select the input source using the **INPUT** button on the remote control, and then press **CH+/CH-** button

to select the source, press the **OK** button to confirm.

DVD Setup

How to connect

- 1** Connect the DVD video outputs (Y, Pb/Cb, Pr/Cr) to the COMPONENT (Y, Pb/Cb, Pr/Cr) input jacks on the TV and connect the DVD audio outputs to the AUDIO jacks on the TV as shown in the figure.



How to use

- 1** Turn on the DVD player, insert a DVD disc.
- 2** Use the **INPUT** button on the remote control, and then press **CH+/CH-** button to select COMPONENT mode, press the **OK** button to confirm.
- 3** Press **Play** button on external equipment for program play.
- 4** Refer to the DVD player's manual for operating instructions.

HDMI or DVI Setup

To watch digitally broadcast programs, purchase and connect a digital set-top box.

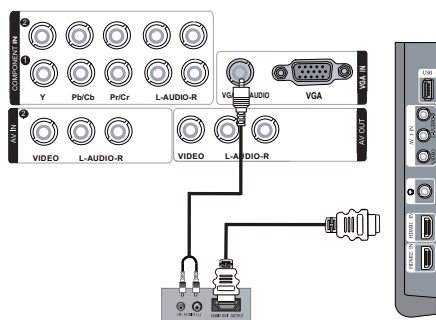
How to connect

- Use the TV's COMPONENT (Y, Pb/Cb, Pr/Cr) INPUT jacks, VGA or HDMI port for video connections, depending on your set-top box connections

available. Then, make the corresponding audio connections.

How to use

- 1 Turn on the digital set-top box.
(Refer to the owner's manual for the digital set-top box.)
- 2 Use **INPUT** on the remote control to select PC or HDMI (Y, Pb/Cb, Pr/Cr) mode.
- 3 Press **Play** button on external equipment for program play.



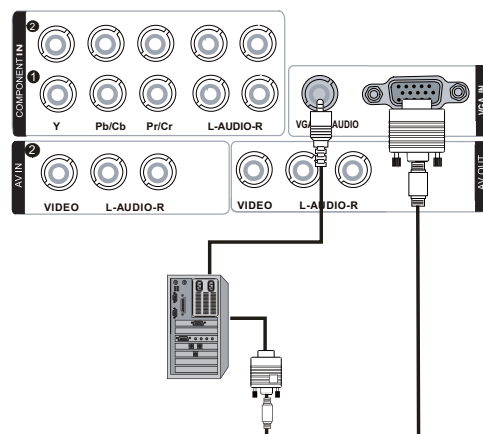
PC Setup

How to connect

- 1 Use the TV's PC IN port for video connections.
- 2 Then, make the corresponding audio connection. If using a sound card, adjust the PC sound as required.

How to use

- 1 Turn on the PC and the TV.
- 2 Turn on the display by pressing the **POWER** button on the TV's remote control.
- 3 Use **INPUT** on the remote control to select PC source.
- 4 Check the image on your TV. There may be noise associated with the resolution, vertical pattern, contrast or brightness in PC mode. If noise is present, change the PC mode to another resolution, change the refresh rate to another rate or adjust the brightness and contrast on the menu until the picture is clear. If the refresh rate of the PC graphic card can not be changed, change the PC graphic card or consult the manufacturer of the PC graphic card.



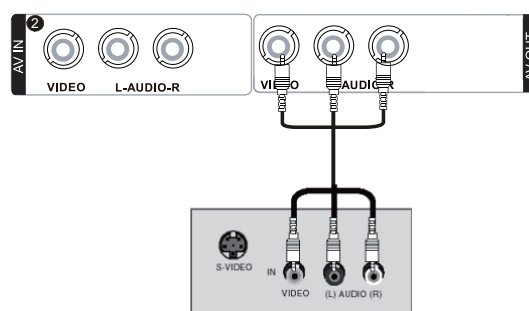
Note

- ❑ Avoid keeping a fixed image on the TV's screen for along period of Time. The fixed image may become permanently imprinted on the screen.
- ❑ The synchronization input form for Horizontal and Vertical frequencies is separate.
- ❑ To obtain the best picture, do not play the USB, YPbPr, HDMI or PC source at the same time.

Monitor Out Setup

The TV has a special signal output capability which allows you to hook up a second TV or monitor.

Connect the second TV or monitor to the TV's AV OUT. See the Operating Manual of the second TV or monitor for further details regarding that device's input settings.



Note

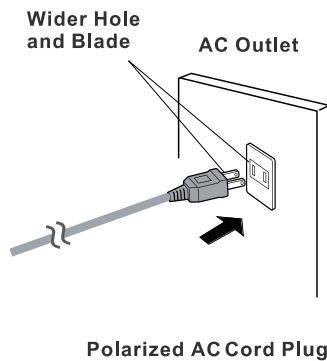
- ❑ Component, PC, HDMI input sources cannot be used for Monitor out.

- ❑ When connecting with external audio equipments, such as amplifiers or speakers, please turn the TV speakers off.

Power source

TO USE AC POWER SOURCE

Use the AC polarized line cord provided for operation on AC. Insert the AC cord plug into a standard polarized AC outlet.



Note

- ❑ Never connect the AC line cord plug to other than the specified voltage. Use the attached power cord only.
- ❑ If the polarized AC cord does not fit into a non polarized AC outlet, do not attempt to file or cut the blade. It is the user's responsibility to have an electrician replace the obsolete outlet.
- ❑ If you cause a static discharge when touching the unit and the unit fails to function, simply unplug the unit from the AC outlet and plug it back in. The unit should return to normal operation. Polarized AC Cord Plug.

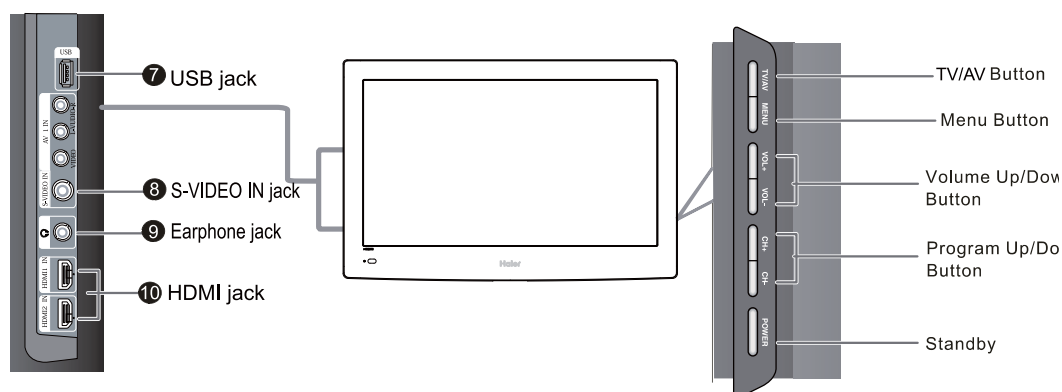
Chapter 6. Operation Instructions

6-1. Get to know your TV

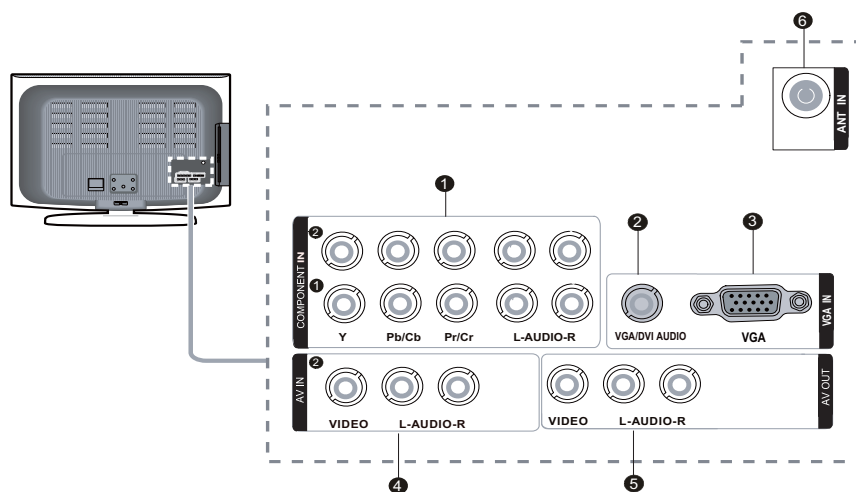
Panel Control and Rear Terminals Control

- This is a simplified representation of front panel.
- Here shown may be somewhat different from your TV.

Panel Control



Rear Terminals Control



①	COMPONENT In	Connect a component Video/Audio device to these jacks
②	VGA/DVI AUDIO	Connect a VGA Audio device to these jacks
③	VGA IN	Connect the monitor output connector from a PC to the jack
④	AV IN	Connect Video/Audio out from an Video/Audio device to these jacks.
⑤	AV OUT	Video/Audio output terminal

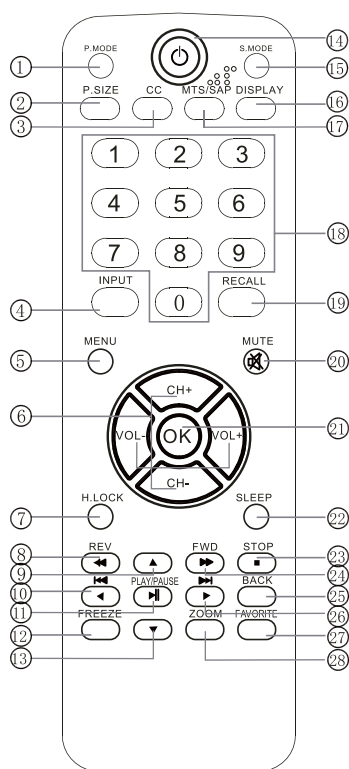
⑥	ANT IN	Connect cable or antenna signal to the TV, either directly or through your cable box.
⑦	USB jack	Connect USB storage device to this jack.
⑧	S-VIDEO	Connect the S-VIDEO cable from an external signal source to this jack.
⑨	Earphone	Earphone audio output terminal.
⑩	HDMI	Connect a HDMI device to receive digital audio and uncompressed digital video.

6-2. Get to know your remote control

Remote Control Function

- The remote control cannot be operated unless the batteries are properly loaded.
- When using the remote control, aim it at the remote control sensor on the TV.

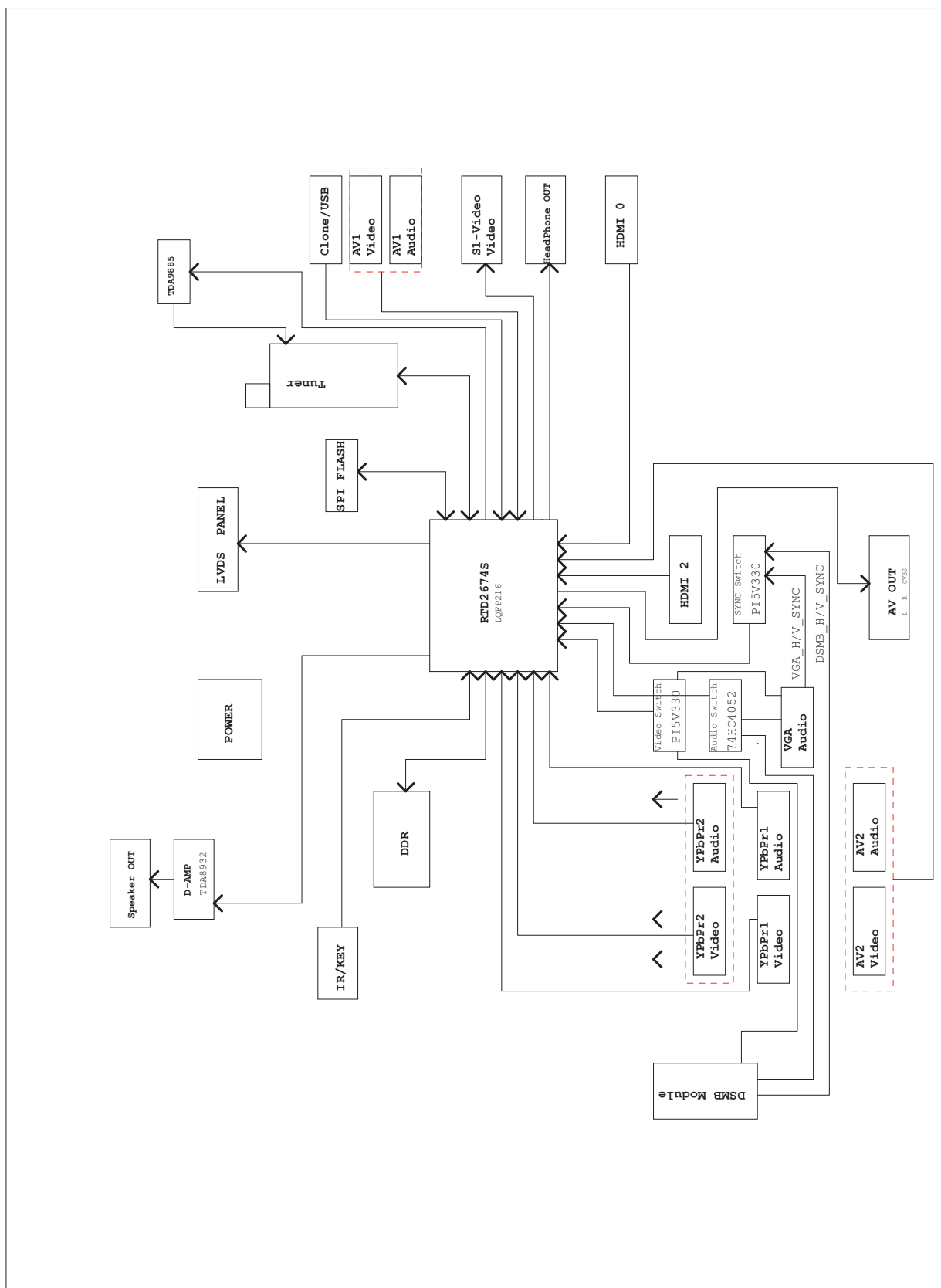
Function introduction



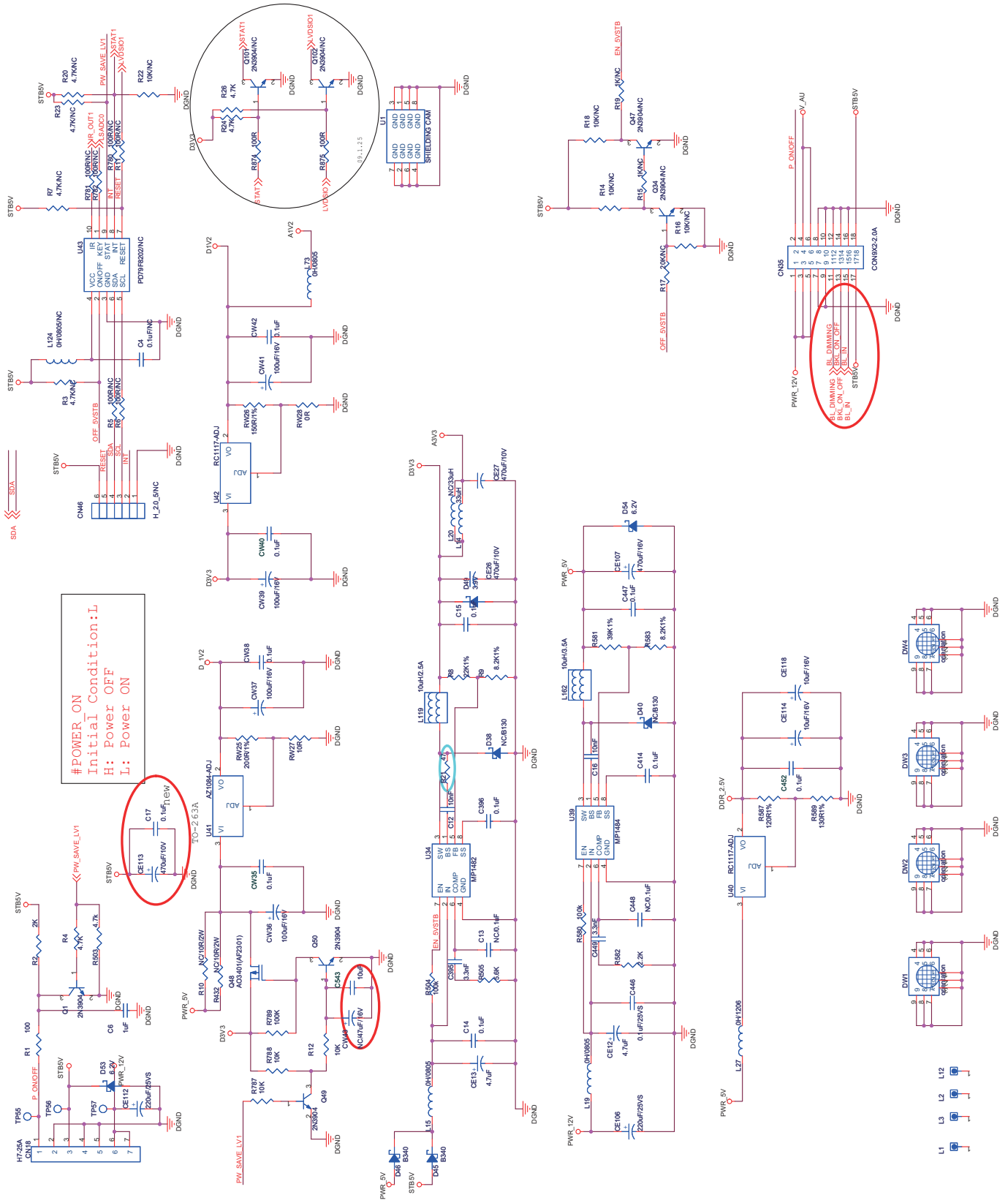
①	Picture Mode	Press this key continuously to select the picture mode.
②	P.SIZE	Press to change the aspect ratio.
③	CC	Select a closed caption option.
④	INPUT	Press this key to open/close signal source option menu.
⑤	MENU	Press this key to display or exit the main menu.
⑥	CH+/-,VOL+/-	Volume/Channel Selection. THUMBSTICK (Up/ Down/Left/Right)
⑦	H.LOCK	Hotel Lock button.
⑧	REV	Fast Reverse in USB function.
⑨		
⑩	THUMBSTICK(Up/ Down/Left/Right)	Allows you to navigate the on-screen items and ⑩ for Previous, ⑫ for Next in USB function.
⑪	PLAY/PAUSE	Press this key to play or pause in USB function.
⑫	Freeze	Press once to display a frozen image of the current program, but audio continues. Press again to return to the program.
⑬		
⑭	POWER	Press this key to start TV from standby mode, press it again to return to standby mode.
⑮	Sound Mode	Press this key continuously to select the sound mode.
⑯	Display	Press to display the TV status information on the top of the TV screen.
⑰	MTS/SAP	Select MONE, STEREO, SAP.
⑱	0-9	This keys are used to select a channel.
⑲	Recall	Press to jump back and forth between two channels.
⑳	MUTE	Press this key to mute the sound, press it again to activate the sound. The sound may be activated by turning the TV on again or increasing the volume.
㉑	OK	Press this key to confirm the selection.
㉒	SLEEP	Displaying the sleep time.
㉓	STOP	Allows you to stop playing a music in USB function.
㉔	FWD	Fast forward in USB function.
㉕	BACK	Press to return to the previous menu.
㉖		
㉗	Favorite	Open the favorite channel list in TV.
㉘	Zoom	Picture zoom function.

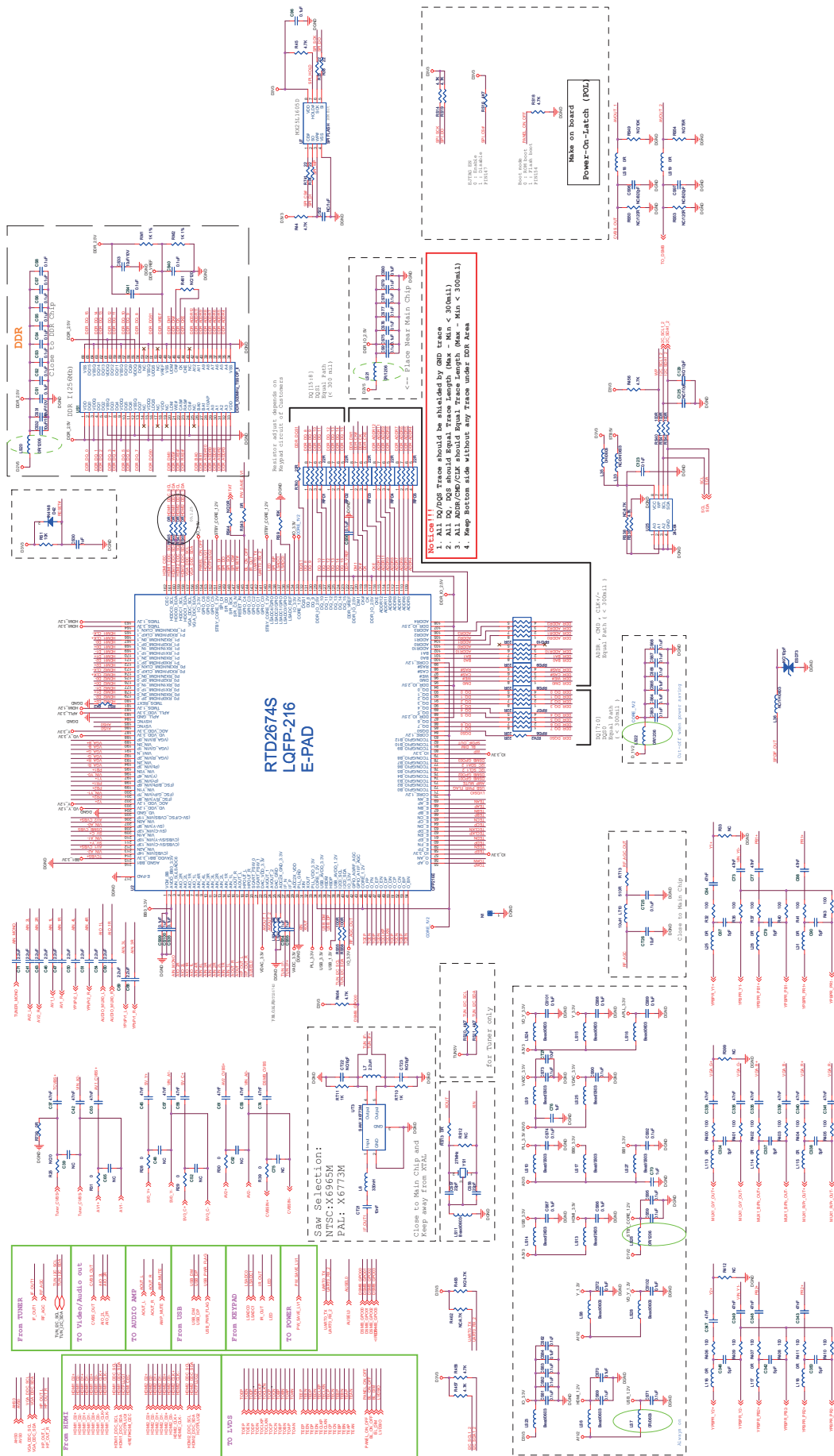
Chapter 7. Electrical Parts

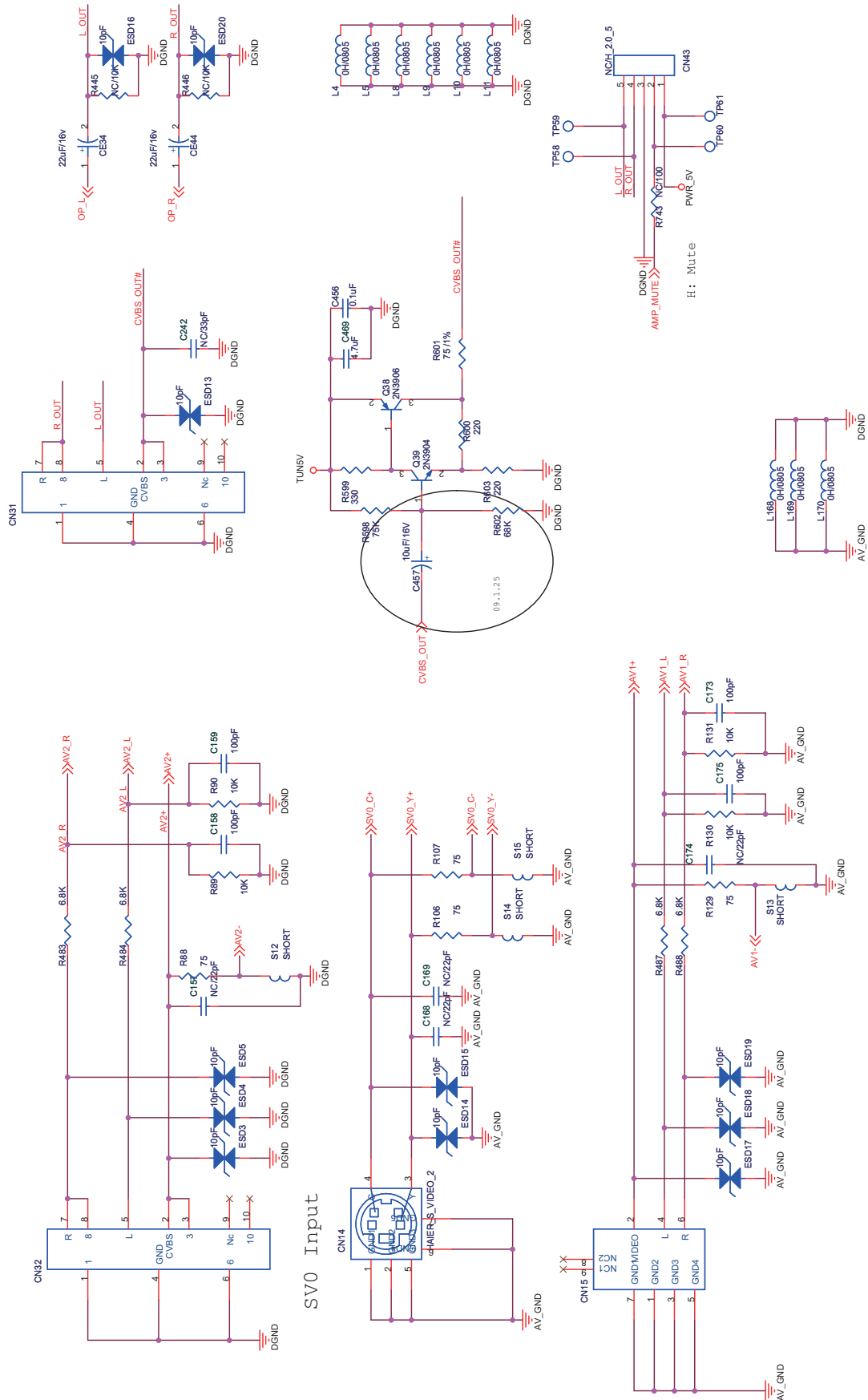
7-1. Block Diagram

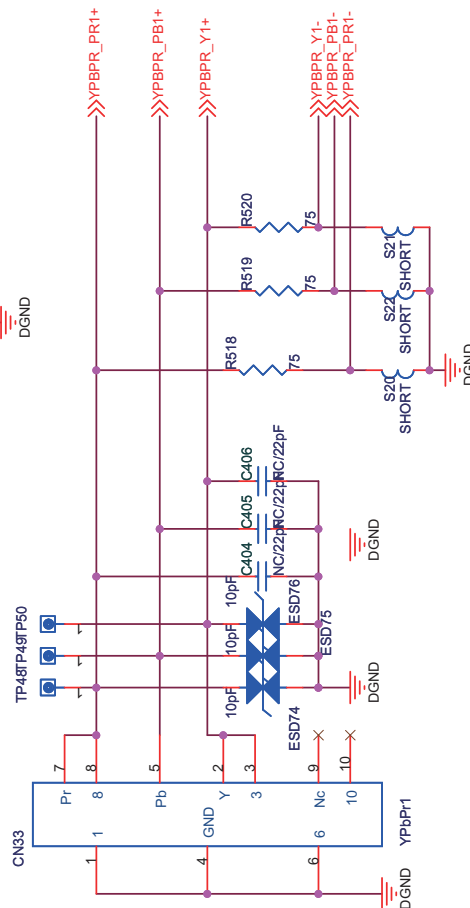
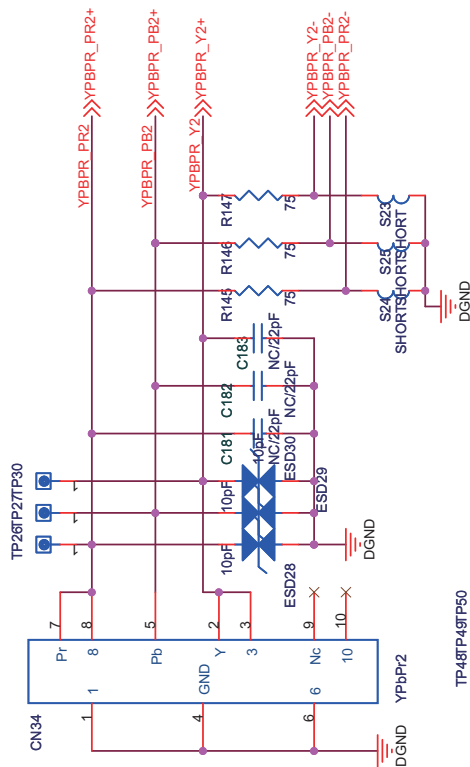
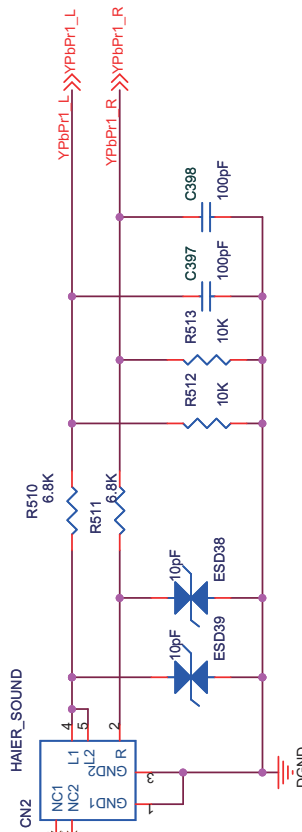
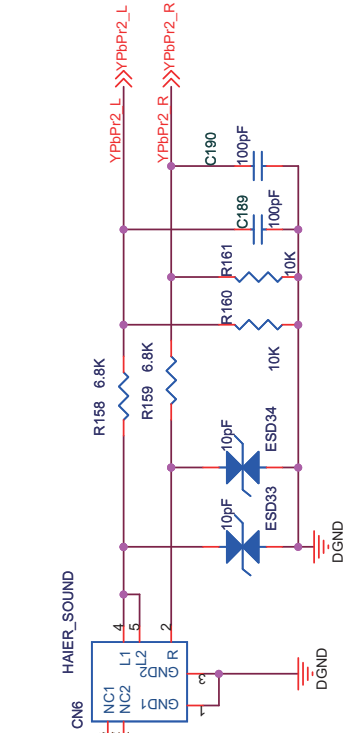


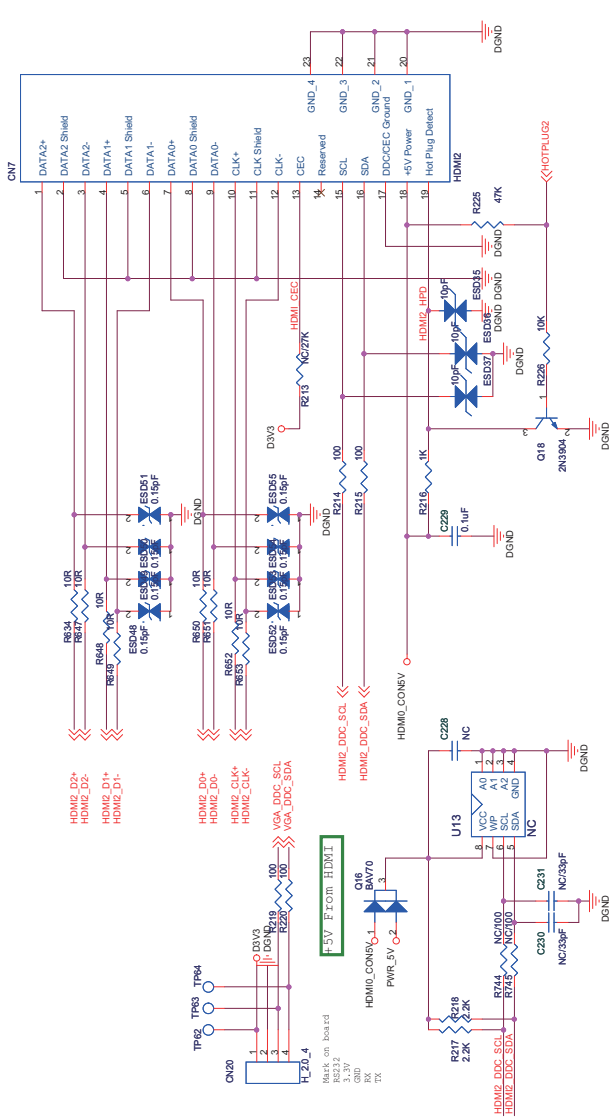
7-2. Circuit Diagram



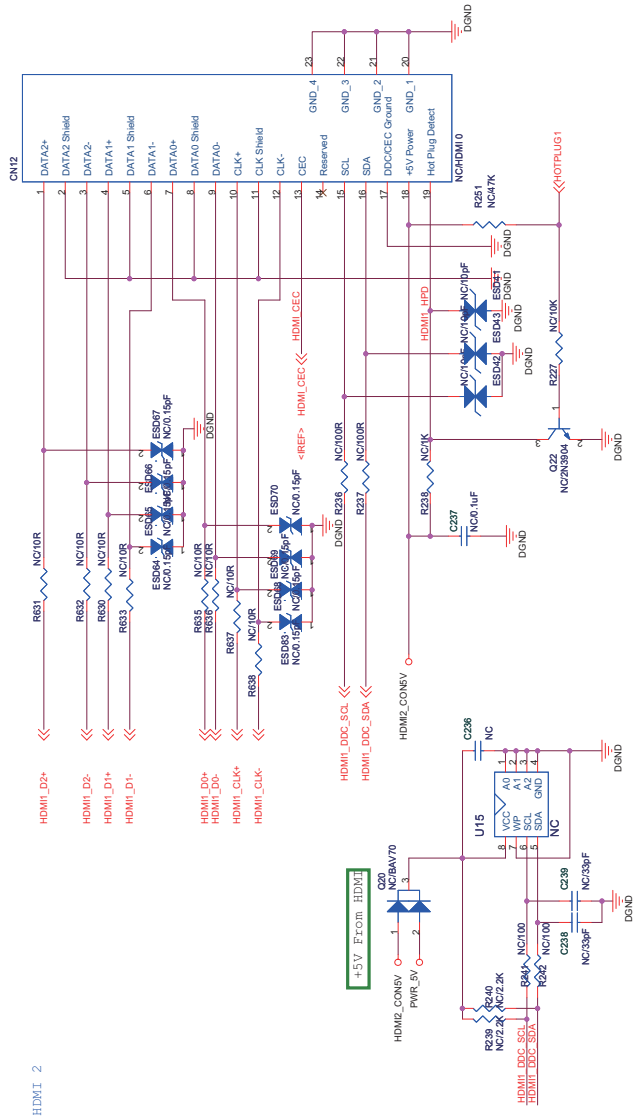


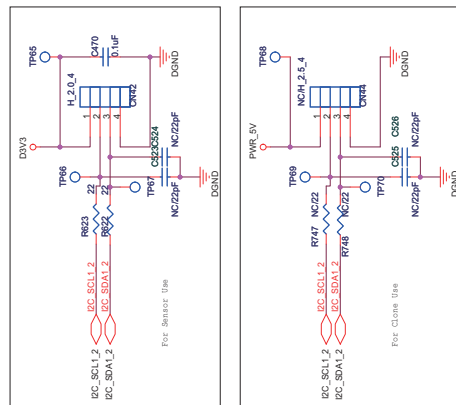


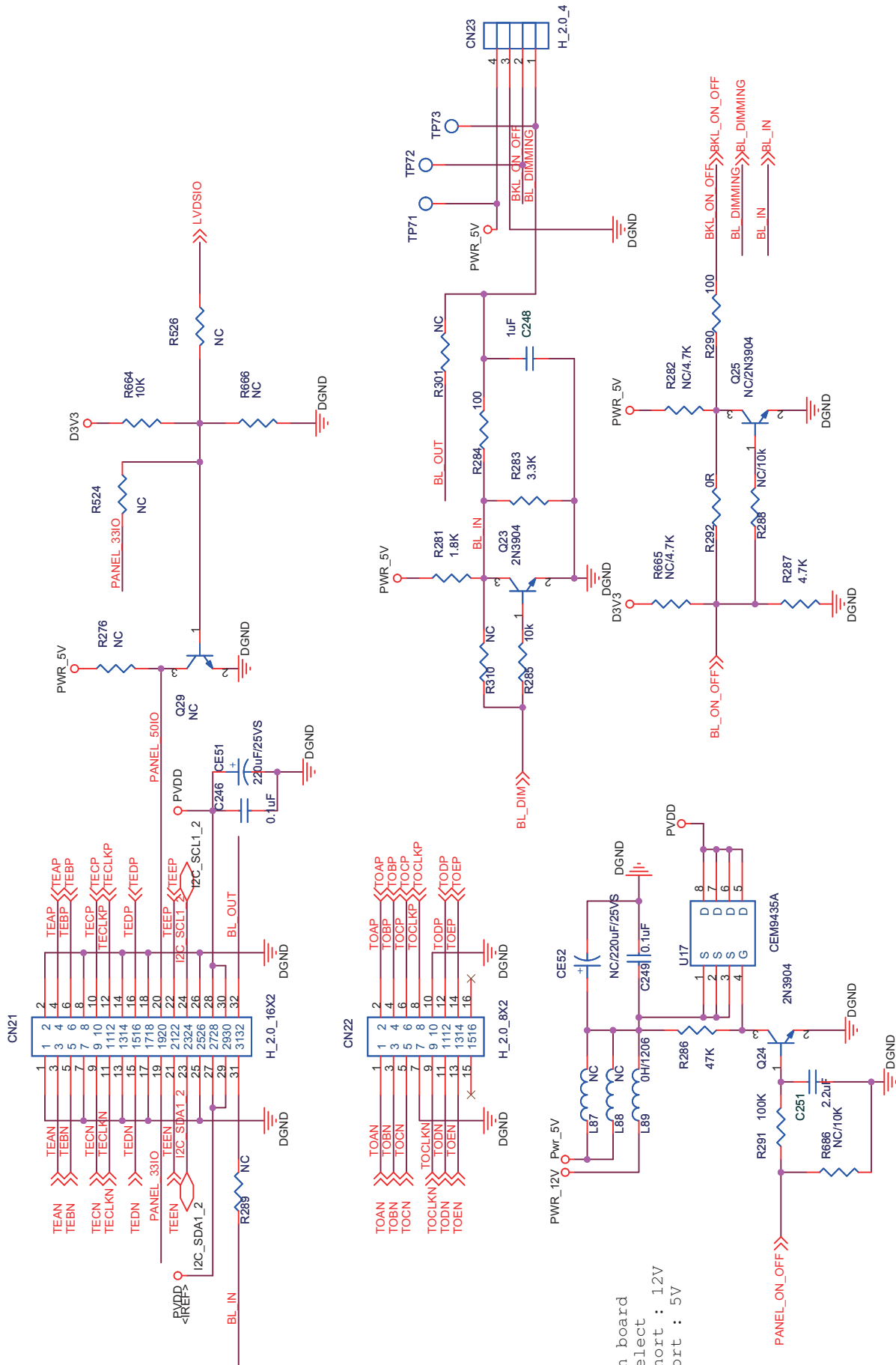




HDMI_I_2



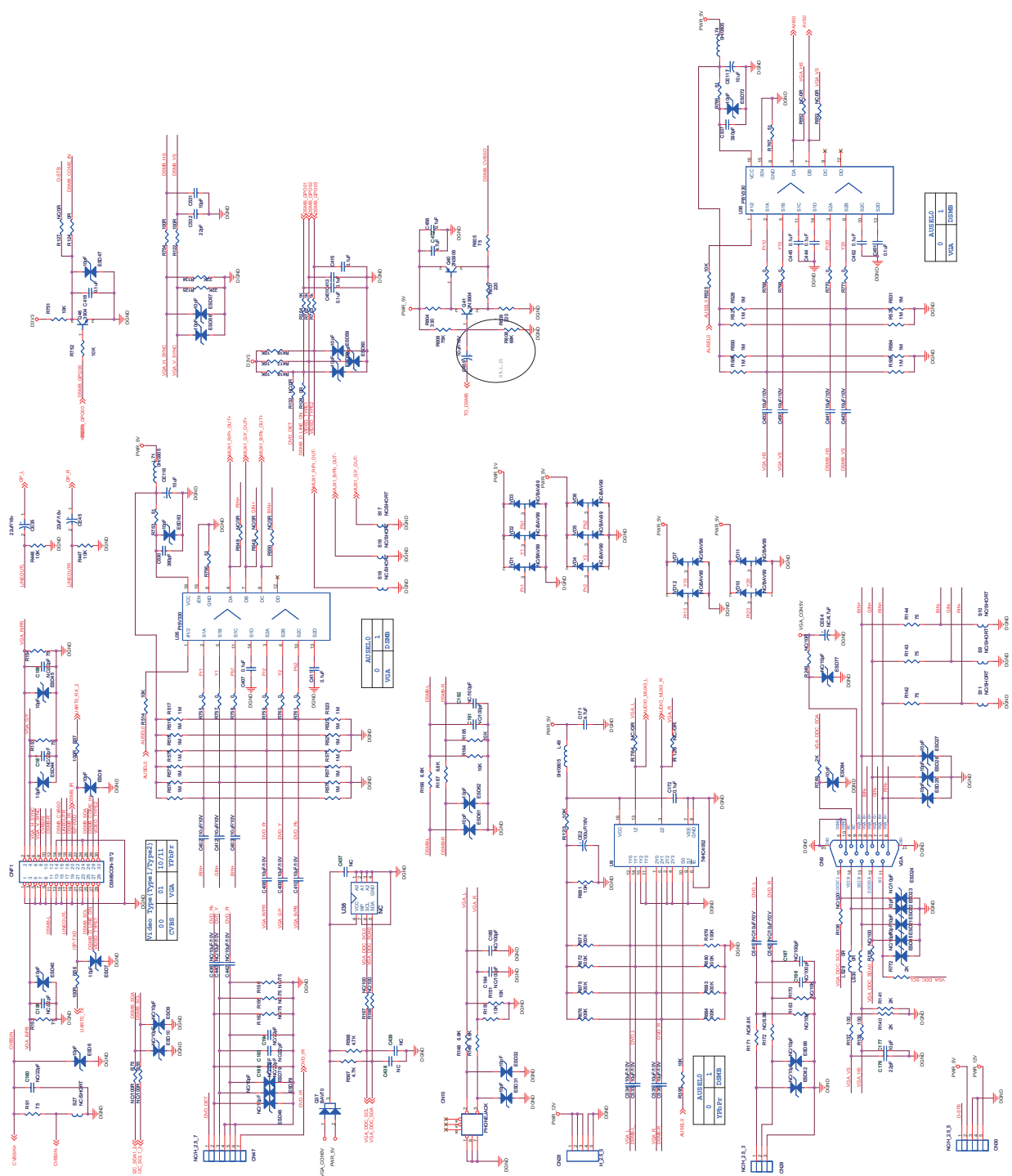


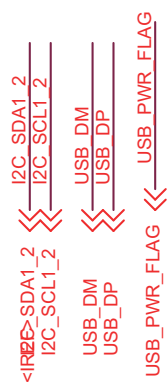
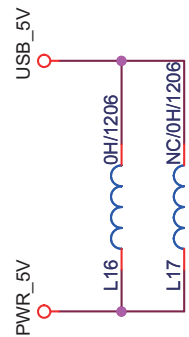
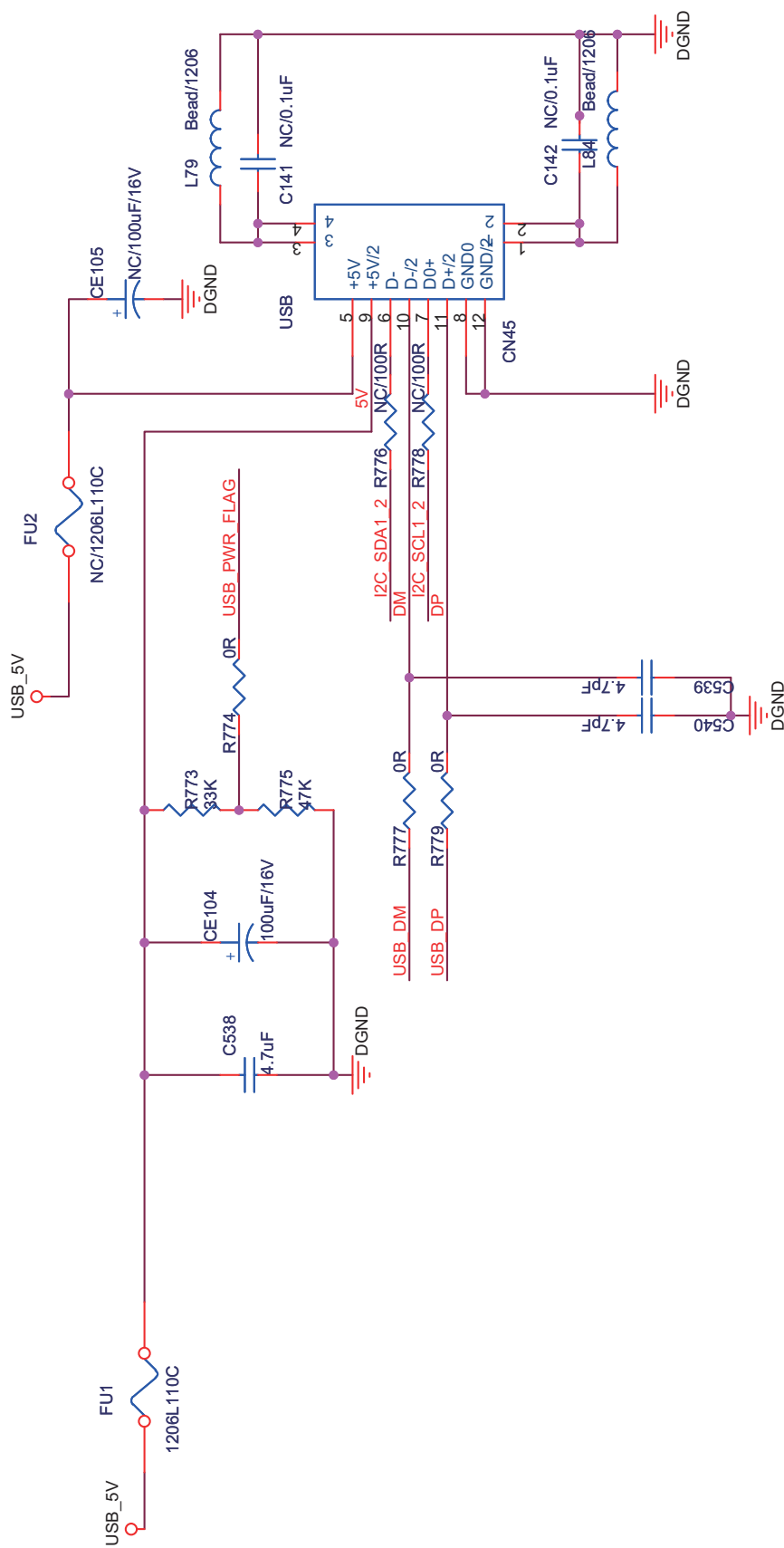


Mark on board
 IVDS Select
 IE10 short : 12V
 IE9 short : 5V



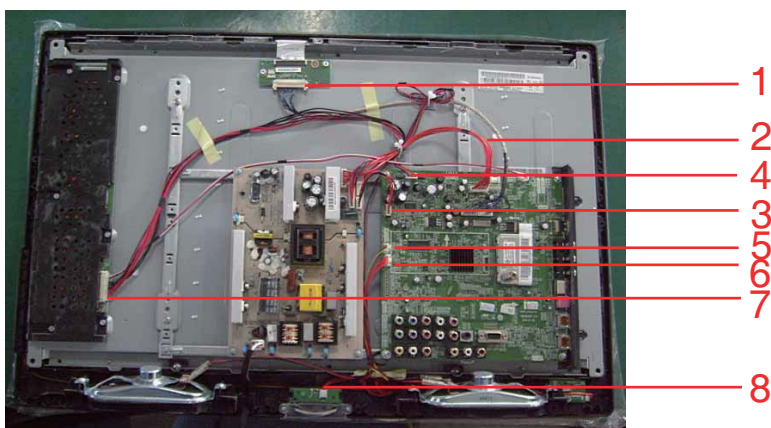






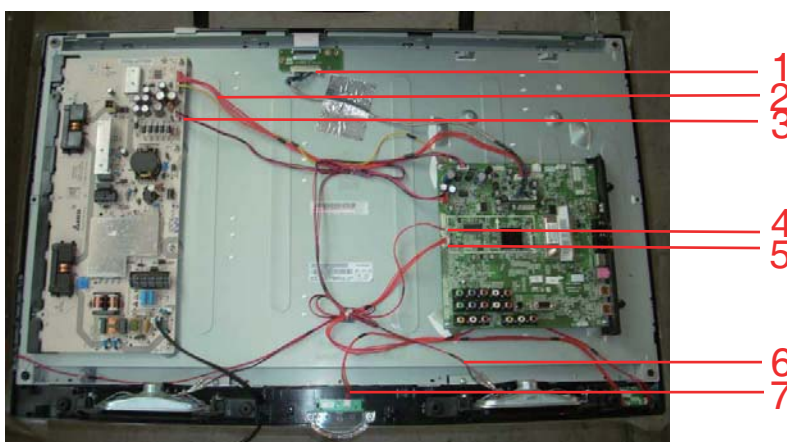
7-3. Wiring Connection Diagram

L26F6



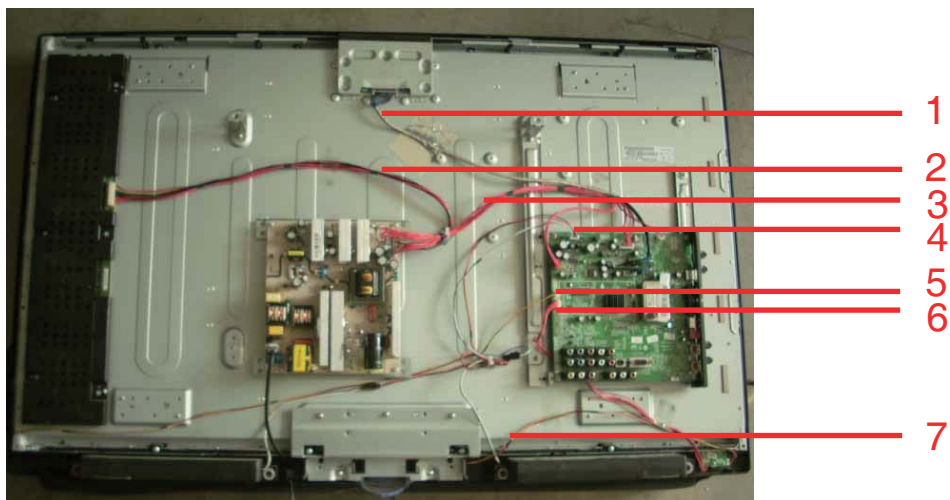
NO.	Name	Parts number
1	LVDS Wire	0090402070A
2	Cable(Power For Mainboard)	0090403469E
3	Cable(Power For Audio Amplifier)	0090403399C
4	Cable(For Speaker)	0090400647D
5	Cable(For Keyboard)	0090402849A
6	Cable(For Remote)	0090401643B
7	Cable(For Backlight)	0090402054A
8	Cable(For Ornamental Light)	0090402750B

L32F6



NO.	Name	Parts number
1	LVDS Cable	0090402070B
2	Cable(Power For Mainboard)	0090402469
3	Cable(Power For Audio Amplifier)	0090403399E
4	Cable(For Keypad)	0090402849A
5	Cable(For Remote)	0090401643D
6	Cable(For Speaker)	0090400647H
7	Cable(For Ornamental Light)	0090402750B

L42F6



NO.	Name	Parts number
1	LVDS Cable	0090402724B
2	Cable(For Back Light)	0090402862B
3	Cable(Power For Mainboard)	0090402865C
4	Cable(For Speaker)	0090401752C
5	Cable(For Keypad)	0090402849B
6	Cable(For Remote)	0090401643F
7	Cable(For Ornamental Light)	0090402750B

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:

1st, press menu,

2en, input 8893,

Finished these operations ,system will be into the factory mode menu.

At the end of the main factory menu, you can see the edition of the software,
like this" L_MST6M36J S_AU32VP_BX ".

8-1-2.How to exit

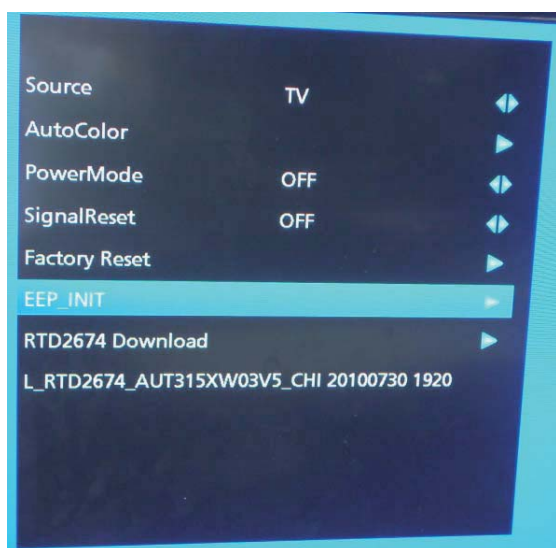
If you want to exit this factory menu, please press the button "Exit" on the remote.
system will be out the factory mode menu.

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 left/right button to the submenu,press "OK"button to affirm .press MENU button go to the next page.

RTD2674S Factory Menu

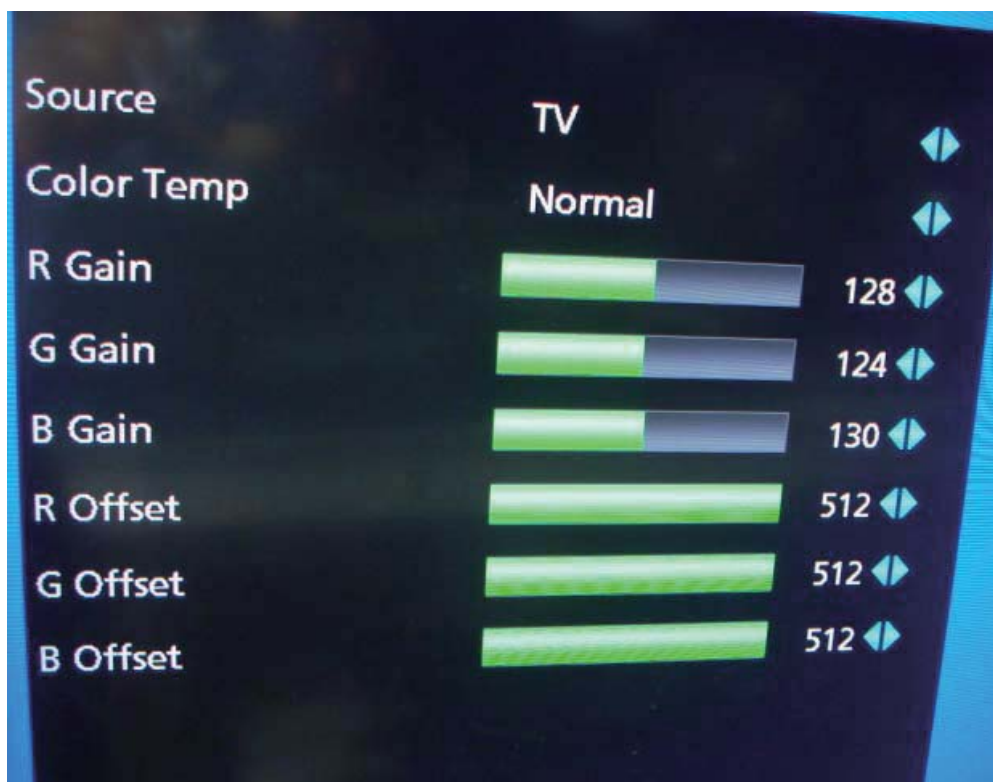


In this page, you should consider "INT EEPROM" function.This function you can reset all date return to original state.if you encounter inextricable problem,you can try this function. Press"CH+/CH-"button to select "INT EEPROM ",then press "VOL+" button.It needs a few seconds. After INT_EEP,choose Factory Reset and reset all data to out-factory state.

NOTE : After reset ,please shut off the power.

Be carefully use this function.

8-2-2. Video



Color Temperature

This page is control the Color Temperature,
like normal,warm,cool.



Picture Mode

This page is control the picture effect , like B
rightness,contrast,color,sharpness.

8-2-3. Audio



This page is control the sound effect ,
(nonlinear volume)

Chapter 9. Trouble shooting

9-1. Simple check

No picture/ No sound	<p>Verify if the television is properly plugged</p> <p>Verify if the television is properly supplied power</p> <p>Verify if electricity is available.</p>
Blank screen	<p>Verify if correct signals are input</p> <p>Press INPUT button to change signal input to TV input</p> <p>Restart the television if power supply is interrupted</p>
No sound	<p>Press Mute button and verify if Mute mode is set.</p> <p>Switch to other channel and verify if the same problem happens.</p> <p>Press VOL+ button to see if the problem can be solved.</p>
Poor sound	<p>Verify if sound system is correct. Refer to some chapter for adjust.</p>
No picture in some channel	<p>Verify if correct channel is selected.</p> <p>Adjust the antenna.</p> <p>Make adjustments by Fine Tune and MANUAL Scan.</p>
No color for some channel program (black and white)	<p>Verify if the same problem exists in other channels.</p> <p>check out of picture and sound system.</p> <p>Refer to relative instructions in the Manual for color adjust.</p>
Spots with some or all pictures	<p>Verify if the antenna is correctly connected.</p> <p>Verify if the antenna is in good condition.</p> <p>Make fine adjustment of channel.</p>
Horizontal/ vertical bars or picture shaking	<p>Check for local interference such as an electrical appliance or power tool.</p>
Television out of control	<p>Disconnect the television from power supply and 10 seconds later, connect the television to the power supply.</p> <p>If the problem still exists, contact authorized after-sales service for technical assistance.</p>

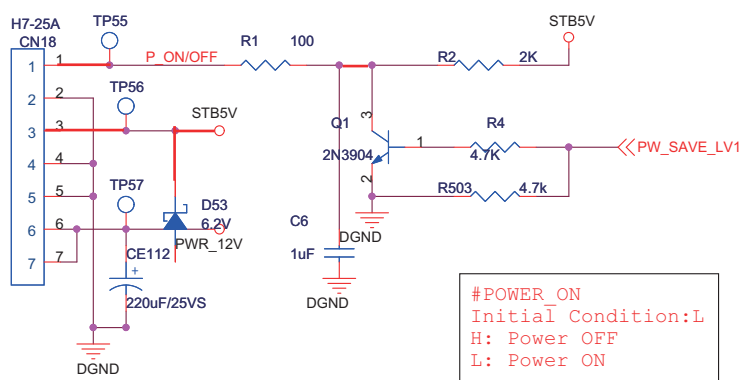
9-2. Power Supply Board Failure Check.

State: No picture

First, check cables which connect with PSU, then check as follows

Check input voltage

voltage: +5VSB----POWER ON(2.6V) -----+12V



State: No sound

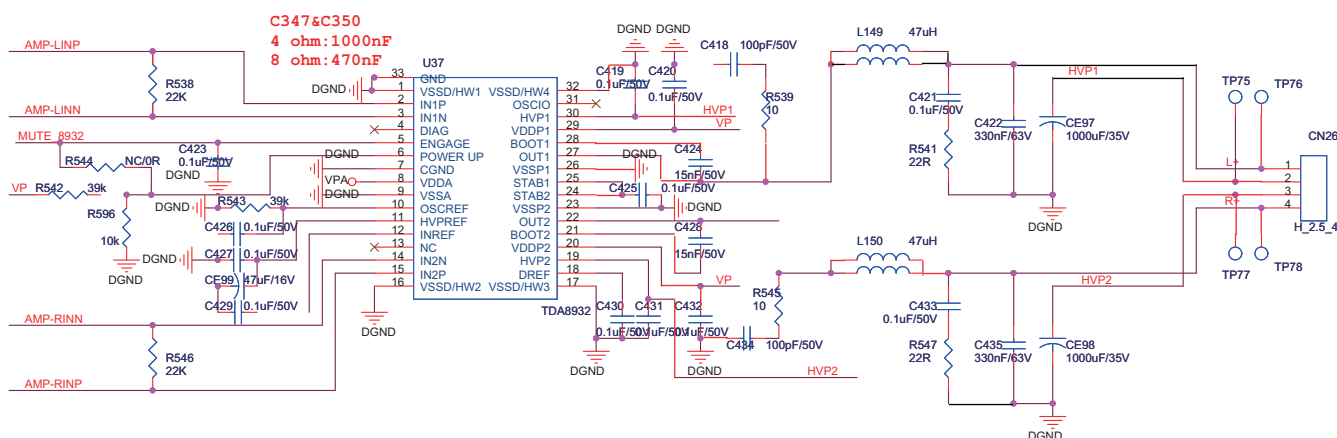
First, check cables which connect with PSU, then check as follows

1) Check input voltage as NO picture

2) Check speaker output

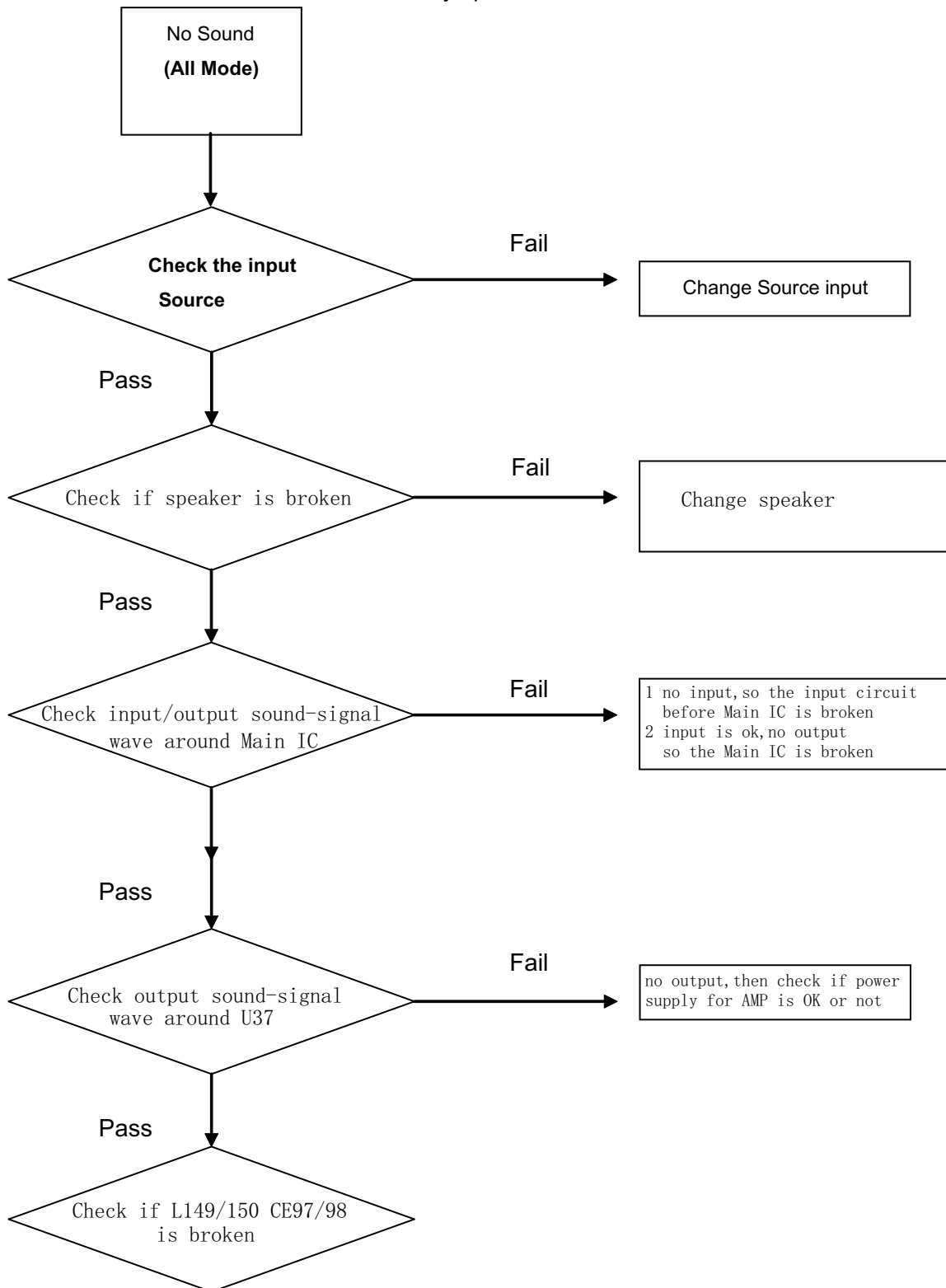
First, check speaker anode(+) and cathode(-), confirm speaker short or not. If short, replace speaker.

Second, check CN26 with oscillograph, confirm wave output or not.









9-3. Mainboard Failure Check






Symptom: No Sound




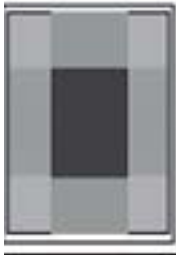





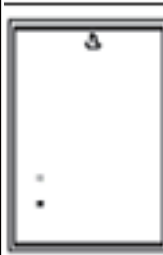
9-4. Pannel Failure



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
	V L/D	Vertical color line(light or dark forever)		:TCP lead cracking :ACF bonding short :Awful environment and something electric enter into LCD :Mis-align between TCP and Panel :Panel failure :TCP failure
	H B/D	Horizontal bar		(A) Chip cracking
	H Dim	Horizontal gary line		(B)TCP cracking
	H L/D	Horizontal line(light or dark forever)		Mis-align betweenTCP and Panel
				(C)TCP sunken (D) something electric on ACF bonding (E)TCP sunken

Part	Name	Description	Phenomena	Failure Cause
Panel or Polarizer	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
Circuit	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		
	Flicker	Crosstalk		LCD Vcom imbalance
	Abnormal Color	Only color abnormal		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
	Mechanical Noise	When turn panel, appear cacophony		Caused by Mechanica noise of backlight unit
	Ripple	Connectric circle		Caused 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 between lamp housing and wire, Because consume power too much
	F/M	F/M in B/L, white, balck Rotundity or wirelike		F/M in B/L unit

Part	Name	Description	Phenomena	Failure Cause
Mechanical 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

Sincere Forever



Haier Group

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