

SERVICE MANUAL

MODEL: 75 Series and 88 Series

(SOURTION MST6M182VG+2IN1 POWER SUPPLY)

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This manual is the latest at the time of printing, and does not include the modification which may be made after the printing, by the constant improvement of product.

IMPORTANT SAFETY INSTRUCTIONS



This symbol indicates " dangerous voltage " inside the product that presents a risk of electric shock or personal injury.

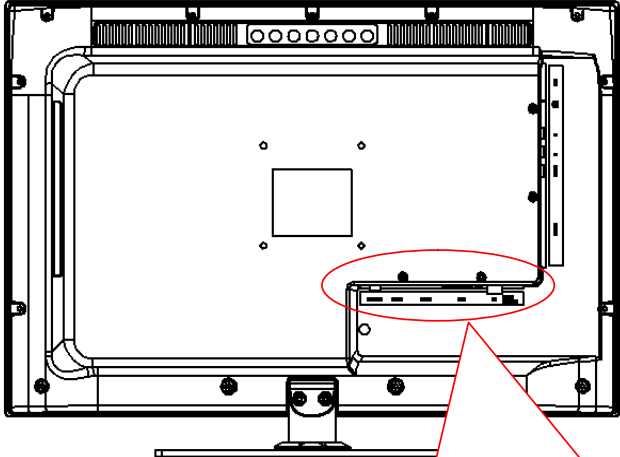


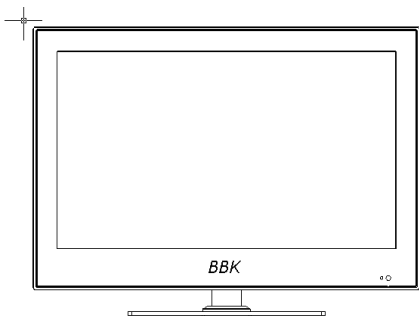
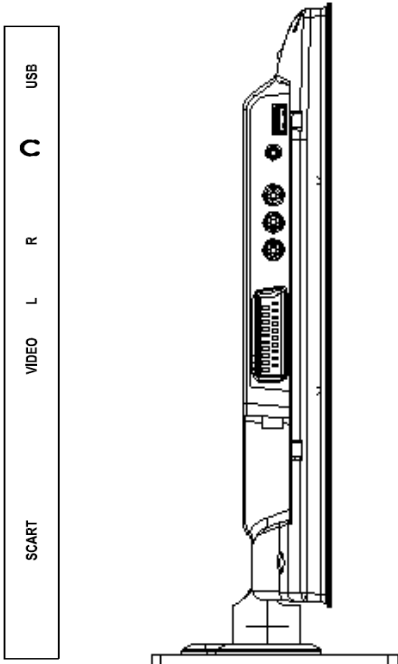
This symbol indicates important instructions accompanying the product.

Please read this manual carefully before using this product.

- Before connecting the AC power cord ,make sure the voltage designation of the LCD TV corresponds to the local electrical supply .
If you are unsure of your power supply , ask your local power company .
- Never insert anything metallic into the cabinet openings of the liquid crystal display LCD TV/monitor; otherwise it may create the danger of electric shock.
- To avoid electric shock, Never touch the inside of the LCD TV/monitor .
Only a qualified technician should open the case of the LCD TV/monitor.
- Never use your LCD TV/monitor if the power cord has been damaged .
Do not allow anything to rest on the power cord, and keep the cord away from place where people can trip over it .
- Be sure to hold the plug, not the cord, when disconnecting the power cord from an electric socket.
- Openings in the LCD TV/monitor cabinet are provided for ventilation.
To prevent overheating, these openings should not be blocked or covered. Also, avoid using the LCD TV/monitor on a bed, sofa ,rug, or other soft surface. Doing so may block the ventilation openings in the bottom of the cabinet. If you put the LCD TV/monitor in a bookcase or some other enclosed space, be sure to provide adequate ventilation.
- Do not expose the LCD TV/monitor to extreme temperature conditions or to extreme humidity conditions.
- The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids.

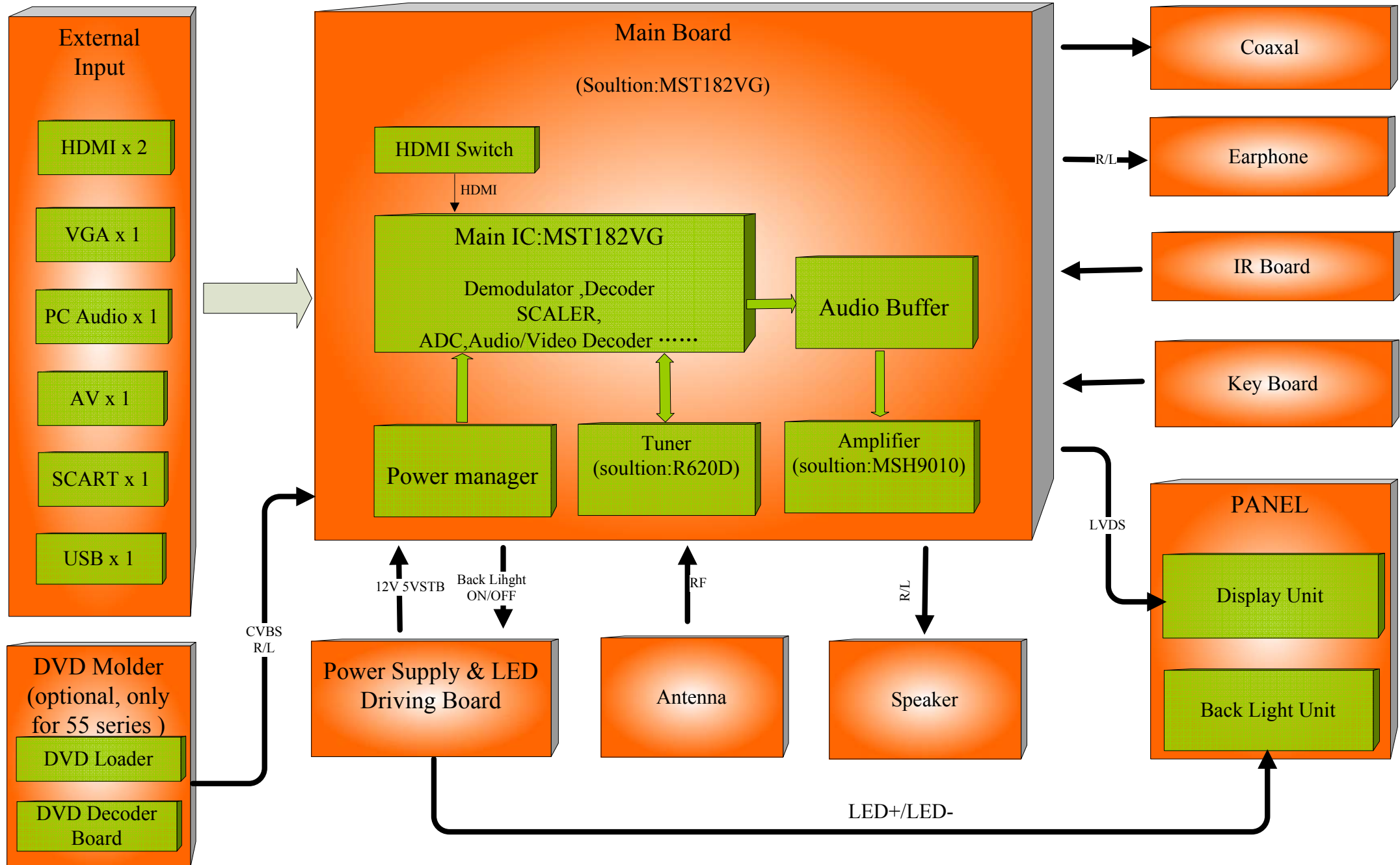
Produce Specification

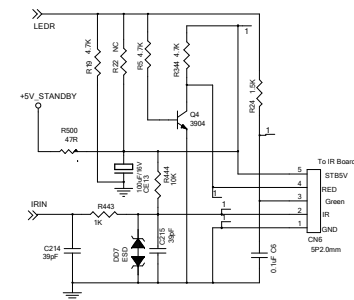
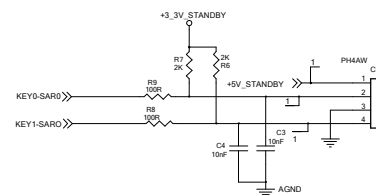
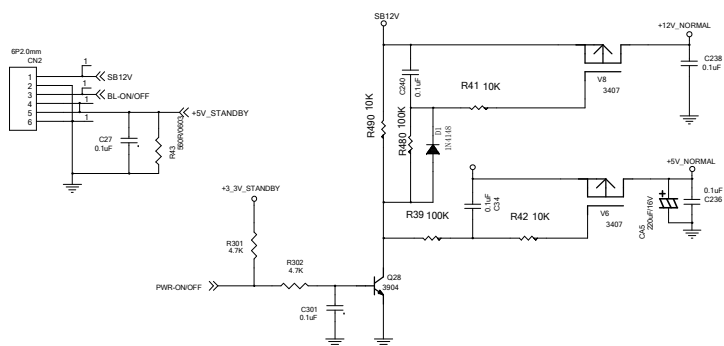
Model	LED1975 LED2275F LED2475F LEM1988 LEM2288F LEM2488F	
Solution	MST6M182VG	
TV System	PAL BG/DK/ I SECAM BG/DK/L/L'	
Channel Coverage	48.25~863.25 MHz	
Intermediate	Picture I.F.	38.90MHz (BG,DK,I)
Frequencies	Sound I.F.	33.40 (BG)
		32.40MHz(DK,L)
		32.90MHz(I)
Reception	Tuning System	FS With PLL
	Tuner Band	Standard system with hyper band
	Auto Channel Scanning	Yes
	Number Of Preset Channels	100
Antenna Impedance	75 Ohm Unbalanced	
Power Supply	Power supply: AC 100V-240V, 50/60Hz	
Back Panel Viewing		
		
	TV KEY	STANDBY,SOUE, MENU, CH+/CH-, VOL +/-
	DVD KEY	EJECT(Shared with CH-), PLAY/PAUSE(Shared with CH+)
	Terminals	HDMI,VGA,RF,PC Audio IN
	USB2.0 Socket	
	DVD disc notch	

Front Panel Viewing			
	LED Indicators (Red/Green)		Standby/On
Side Viewing			
Terminals	Image In	TV 75ohm Aerial	X 1
		HDMI Connector	X 2
		RCA Jack(CVBS) -Yellow	X 1
Terminals	Audio In	RCA Audio (L/R) Jack - White/Red	X 1
		ø3.5 Stereo Jack	X 1
	VGA In	D-sub 15 Pin VGA Connector	X 1
	USB	USB2.0 Host	X 1
	SCART	Full SCART	X 1
	Audio Output	ø3.5 Earphone Jack	X 1
DVD	DVD Loader		DL-10AH(FOR YOU)
	Loading Type		Slot-in
	Disc Format	DVD/CD/VCD/CDR/CDRW/DVD-R/DVD+R/	
		DVD-RW/DVD+RW/SVCD	
	Multimedia Format	MP3/WMA/JPEG/MPEG-1/MPEG-2/MPEG-4 DIVX3.XX-DIVX5.XX	
Audio	Output Power (1 KHz 10% THD)		2.5W
	NICAM / STEREO		Yes
	Bass		Yes
	Treble		Yes
	Balance		Yes
OSD Language	Russian , English		

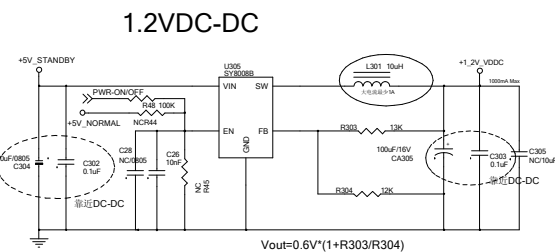
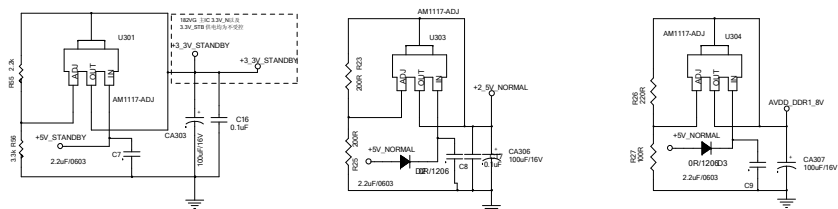
LCD Panel (Only For Reference, Parameters according to panel model)	LED1955	Brand		INNOLUX
		Model		MT185GW01
		Size		18.5"
		Backlight		LED
		Pixel Pitch		0.3mm (H) x 0.3mm(V)
		Resolution	Horizontal (dots)	1366
			Vertical (Lines)	768
	LED2255F	Brand		LG
		Model		LM215WF4
		Size		21.6"
		Backlight		LED
		Pixel Pitch		0.248 mm x 0.248mm
		Resolution	Horizontal (dots)	1920
			Vertical (Lines)	1080
	LED2455F	Brand		LG
		Model		LM230WF5
		Size		23.6"
		Backlight		LED
		Pixel Pitch		0.265 mm x 0.265mm
		Resolution	Horizontal (dots)	1920
			Vertical (Lines)	1080
Support Resolution(For PC)	Horizontal (dots) (Max)		1920	
	Vertical (Lines) (Max)		1080	
Speaker	4 Ohm /5W		x2pcs	
Power Consumption	On working		45W Max	
	Standby		≦1W	
Power Consumption	On working		45W Max	
	Standby		≦1W	
Remote Control				
	Color		Black	
	Batteries		1.5V AAA X2	
	Customer Code		09F6	
	Remark			

Block Diagram



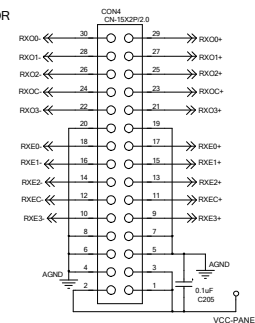
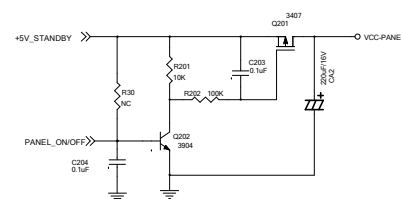


主IC为MST6M181VG、MST6M182VG, 则L4、L7不焊接,但要焊接L5:



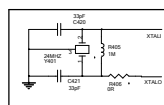
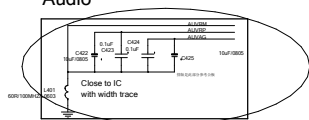
屏供电

LVDS CONNECTOR





主IC为MST6M182VG时,



{I2S_OUT_BCK, I2S_OUT_MCK, PAD_PWM1, PAD_PWM0}	
B51_no_EJ	4'h0
B51_Secure_no_scramble	4'h3
B51_Secure_scramble	4'h7

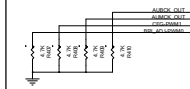
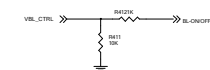
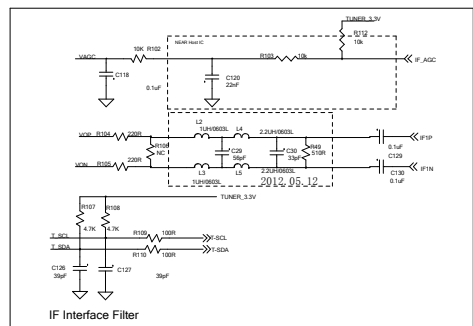
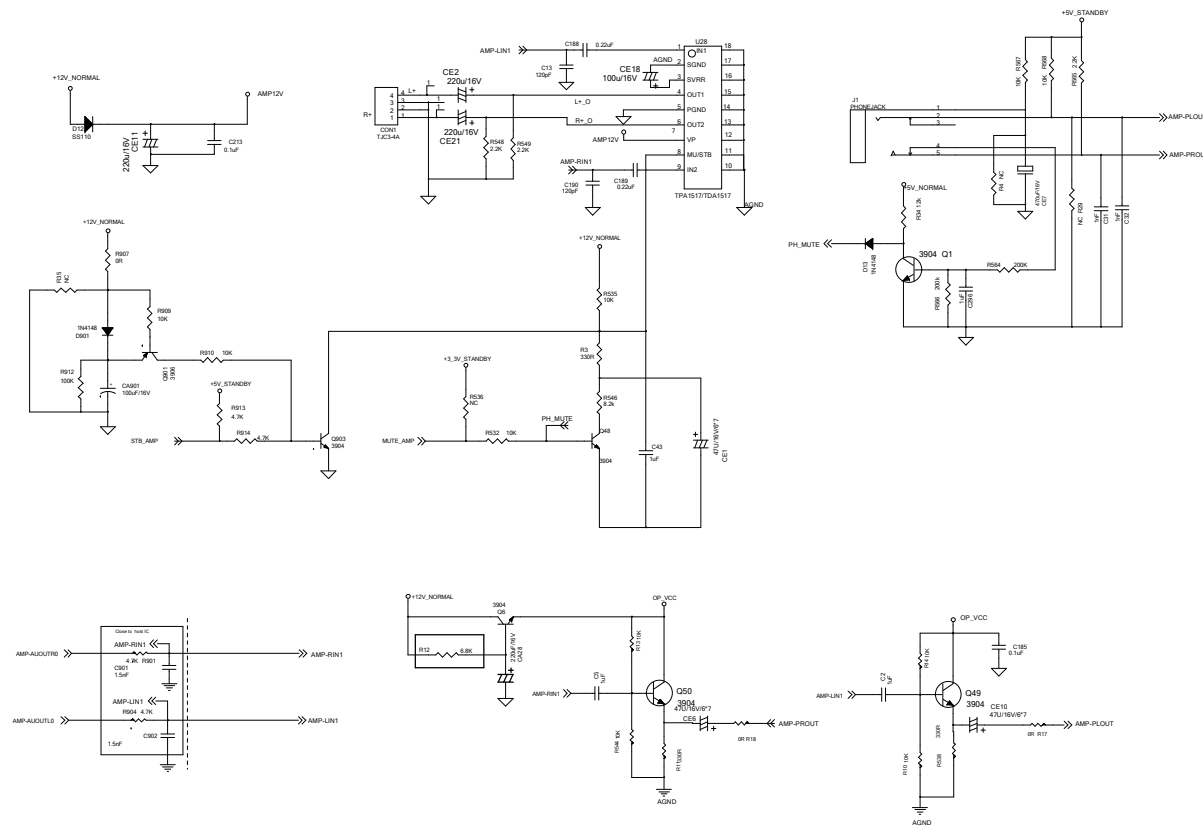
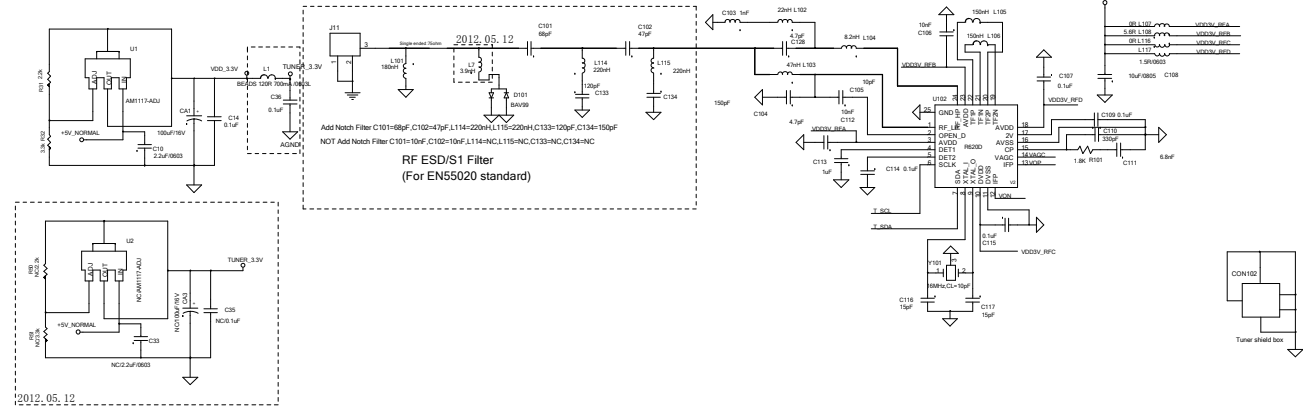
[illegible]

Diagram illustrating the mapping of T-SQL variables to PL/SQL variables:

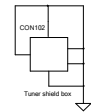
- T_SQL1 maps to PL_SQL1
- T_SQL2 maps to PL_SQL2
- T_SQL3 maps to PL_SQL3
- T_SQL4 maps to PL_SQL4

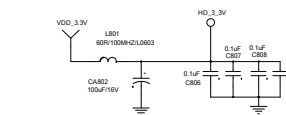
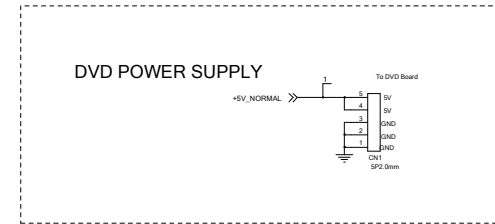
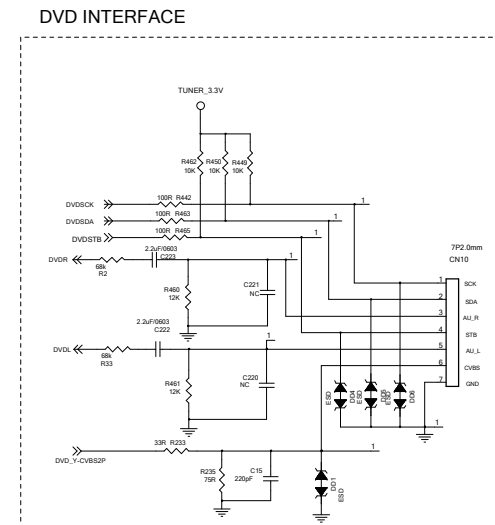
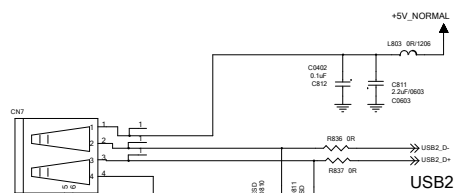
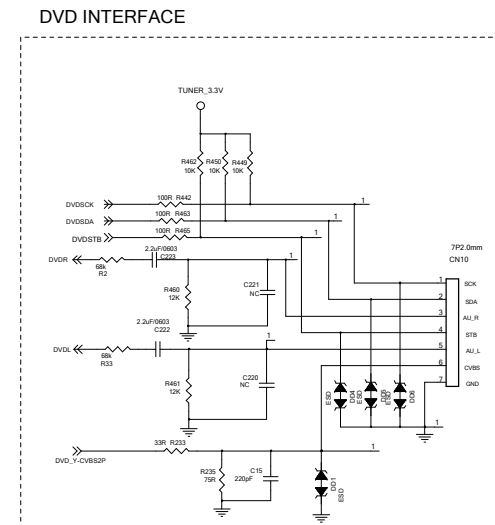
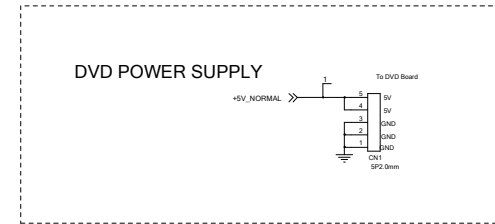
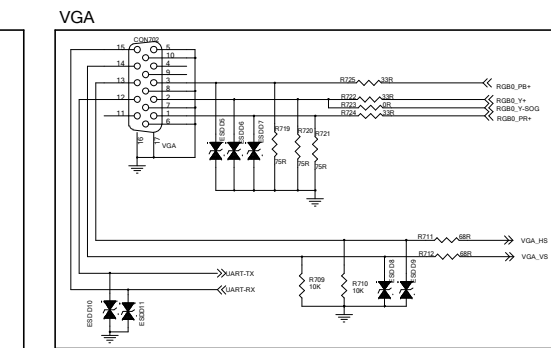


F19

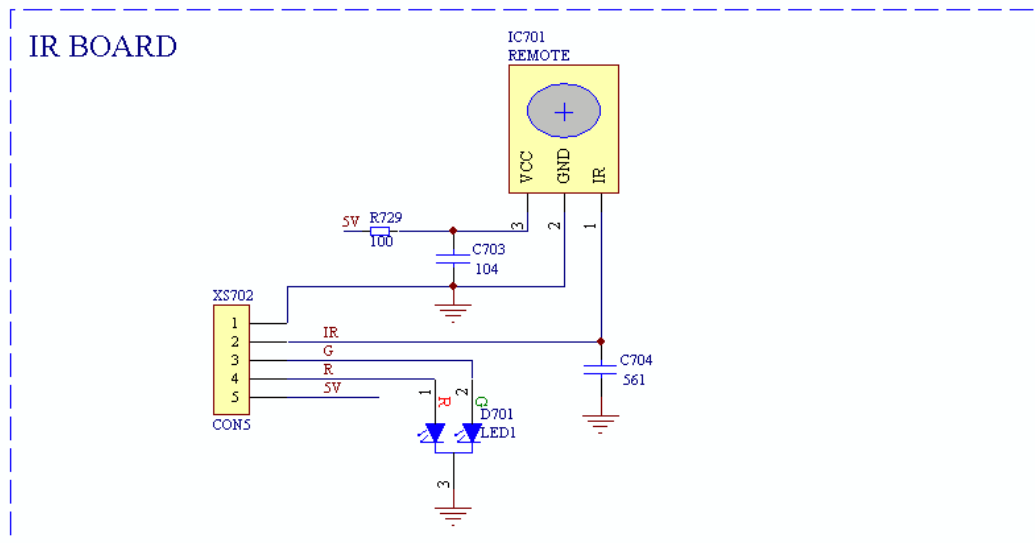


+VDD3V Input Ripple must be under 30mVp-p

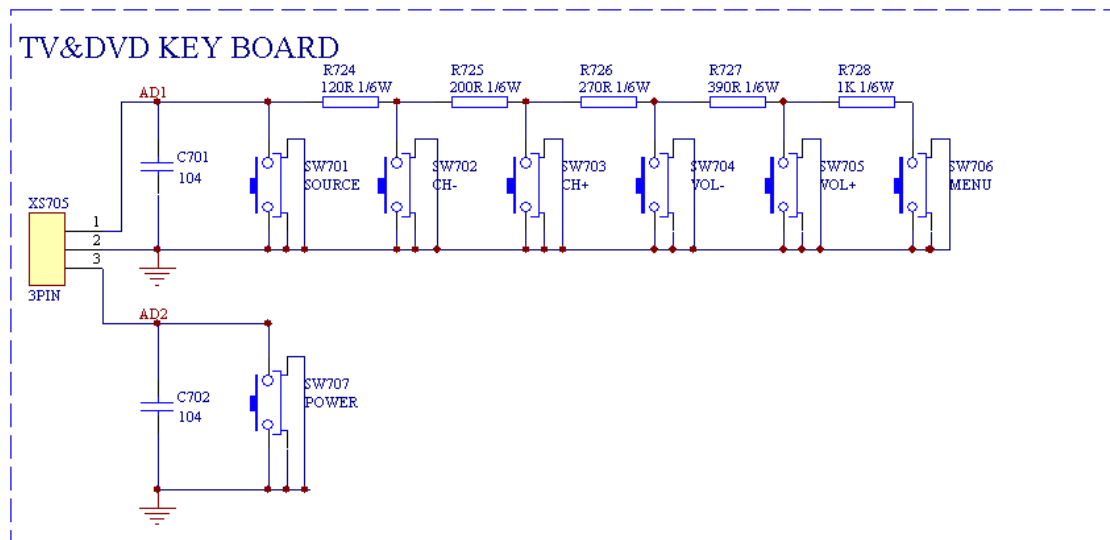




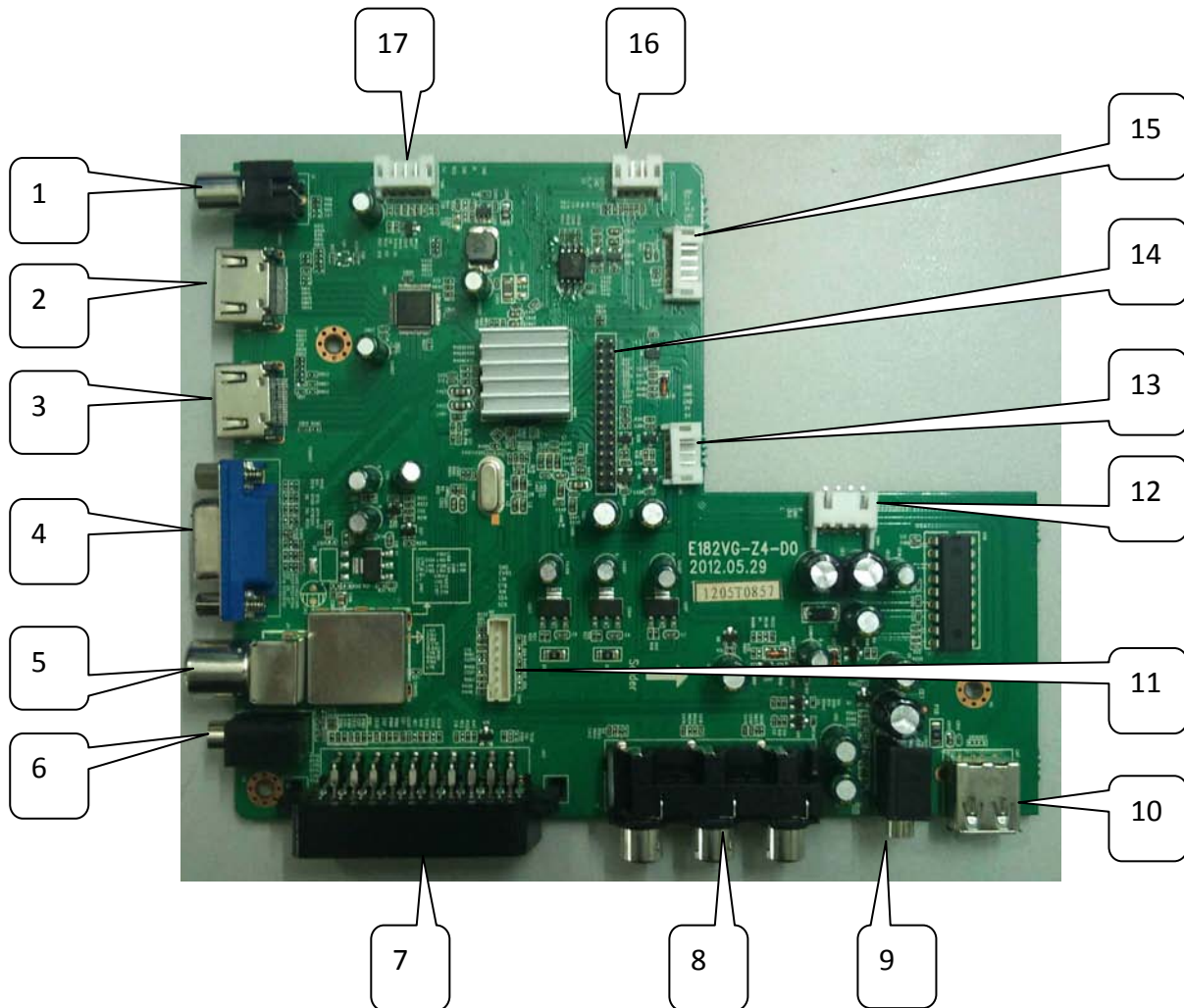
IR BOARD SCHEMATICS



TV&DVD KEY BOARD SCHEMATICS



Interface Description



N0	Ref	Description	N0	Ref	Description
1	J3	Coaxial Out put	10	CN7	USB JACK
2	CON801	HDMI Input	11	CN10	DVD Signal Interface
3	CON802	HDMI Input	12	CON1	Speaker Jack
4	CON702	VGA Input	13	CN1	DVD power supply
5	J11	RF Input	14	CON4	LVDS Interface
6	J17	PC Audio Input	15	CN2	power supply jack
7	J102	Full Scart	16	CN9	Key Jack
8	J5	AV	17	CN6	IR Jack
9	J1	Headphone output			

★CN2(6PIN2.0) Power Supply jack

NO.	Definition	Description
1	12v	12V Power Supply
2	GND	Ground
3	BLO	Black-Light ON/OFF Control
4	5v	5V Power Supply
5	5v	5V Power Supply
6	GND	Ground

★CON1(4PIN2.54) Speaker jack

NO.	Definition	Description
1	R	Right Speaker Output
2	GND	GND
3	GND	GND
4	L	Left Speaker Output

★ CN9: (4PIN2.0) Key jack

NO.	Definition	Description
1	K1	Key 1 (ADC Input)
2	GND	GND
3	K2	Key 2 (ADC Input)
4	VCC	5V Power Supply (50mA)

★CN10: (7PIN2.0) DVD INTERFACE

NO.	Definition	Description
1	SCK	SPI Communication Protocol SCL
2	SDA	SPI Communication Protocol SDA
3	DRIN	Right Channel of DVD Audio Input
4	STB	SPI Communication Protocol STB
5	DLIN	Left Channel of DVD Audio Input
6	CVBS	DVD Video Signal
7	GND	GND

★CN1: (5PIN2.0) DVD Power jack

NO.	Definition	Description
1	5V	DVD 5V Power Supply
2	5V	DVD 5V Power Supply
3	GND	GND
4	GND	GND
5	GND	GND

★CN6: IR&LED jack

NO.	Definition	Description
1	GND	GND
2	IR	Remote Receiver
3	LED-G	Green Indicator
4	LED-R	Red Indicator
5	5V	Power Supply (50mA)

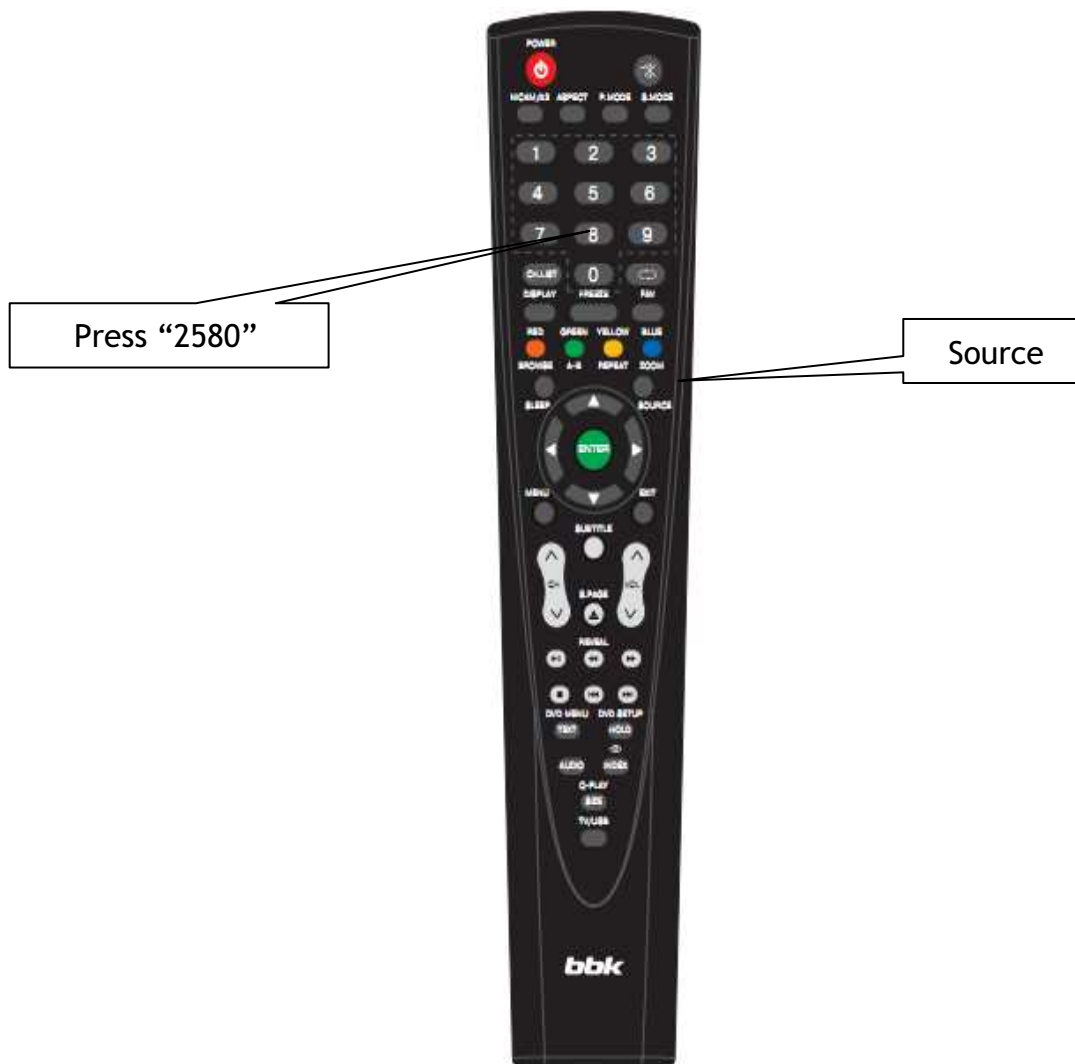
★CON4: LVDS Interface

NO.	Definition	Description
1	LCD-VDD	Power for Panel
2	LCD-VDD	Power for Panel
3	LCD-VDD	Power for Panel
4	GND	GND
5	GND	GND
6	GND	GND
7	GND	GND
8	GND	GND
9	EDA3+	LVDS EVEN3+ Signal
10	EDA3-	LVDS EVEN3+ Signal
11	ECK+	LVDS EVEN Clock + Signal
12	ECK-	LVDS EVEN Clock - Signal
13	EDA2+	LVDS EVEN2 + Signal
14	EDA2-	LVDS EVEN2 - Signal
15	EDA1+	LVDS EVEN1 + Signal
16	EDA1-	LVDS EVEN1 - Signal
17	EDA0+	LVDS EVEN0 + Signal
18	EDA0-	LVDS EVEN0 - Signal
19	GND	GND
20	GND	GND
21	ODA3+	LVDS ODD3 + Signal
22	ODA3-	LVDS ODD3 + Signal
23	OCK+	LVDS ODD Clock + Signal
24	OCK-	LVDS ODD Clock - Signal
25	ODA2+	LVDS ODD2 + Signal
26	ODA2-	LVDS ODD2 - Signal
27	ODA1+	LVDS ODD1 + Signal
28	ODA1-	LVDS ODD1 - Signal
29	ODA0+	LVDS ODD0 + Signal
30	ODA0-	LVDS ODD0 - Signal

FACTORY MODE AND ADJUSTMENT

1) How to enter service mode

Press “Source” button on the remote control, then press “2580”, the service menu will be displayed.



2) Service mode description

Color Temp: select a color temperature mode that you want to adjust;

R Gain: red gain for white balance adjusting;

G Gain: green gain for white balance adjusting;

B Gain: blue gain for white balance adjusting;

R Offset: red offset for white balance adjusting;

G Gain: green offset for white balance adjusting;

B Gain: blue offset for white balance adjusting;

Aging: to turn on or off aging mode, optional setting: On /Off;

Auto config: Auto adjust ADC channel difference, only available in VGA mode;

EEprom clear: reset EEPROM data to default value, all users' program and setting will be lost;

Panel: select different panel for factory;

TTX language: select Teletext language, optional setting: West East Russia;

DVD source set: to turn on or off DVD source in the user menu, optional setting: On/Off;

Hotel mode: to turn on or off hotel mode, optional setting: On/Off;

Key mode:to turn on or off local keyboard, optional setting: On/Off;

Power on: to setting the power on source, optional setting: TV Other;

Power mode: to setting the power on mode, optional setting: Force on Memory standby;

Volume:to setting the max sound volume when hotel mode is active;

AGC: to setting tuner's RF AGC value;

Notes:

1. color temperature adjusting:in different source the white balance can be adjust separated.the details as below:
 - 1) DVD&YpbPr source use same group color temperature value.
 - 2) TV&Scart source use same group color temperature value.
 - 3) VGA&HDMI source use separated color temperature value.
2. Auto Config:please change source to VGA mode and with grey scale pattern then enter service mode to do this item.

Main Board Software upgrade

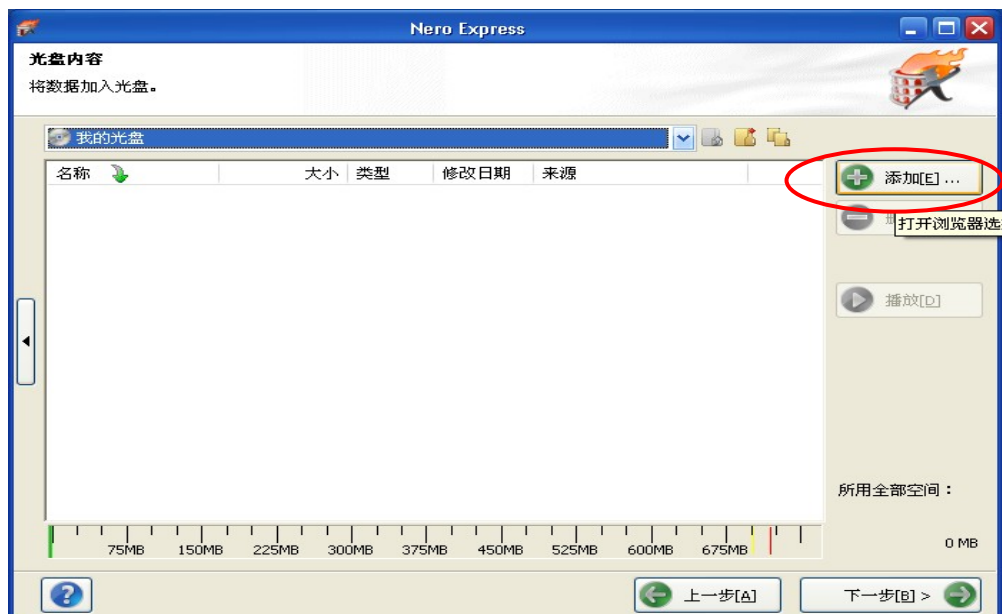
- 1 Please burn the software to USB device. Noted please, software name have to be MERGE182.bin.
- 2 Power on TV, and switch source to ATV.
- 3 Insert USB device to TV, then screen will display a message window to inform you upgrade TV or not. Press" LEFT" direction button to upgrade
- 4 It will cost 40 seconds to upgrade. In this process, please don't unplug USB device, don't power off TV.

DVD Software upgrade

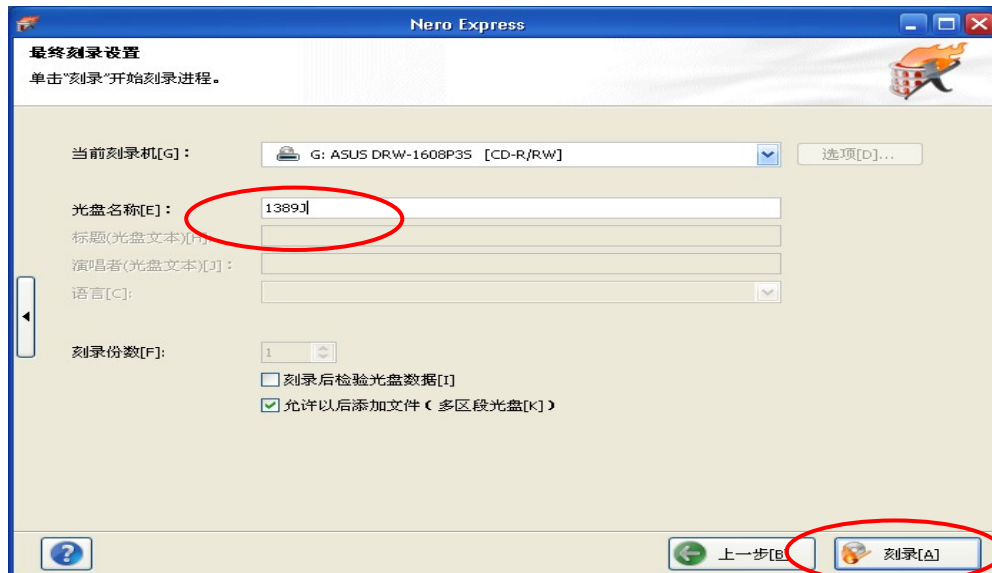
- 1) Please rename the upgrading file to “MTK.BIN”.
- 2) Run “Nero Express” , select burn format “ISO data disc”



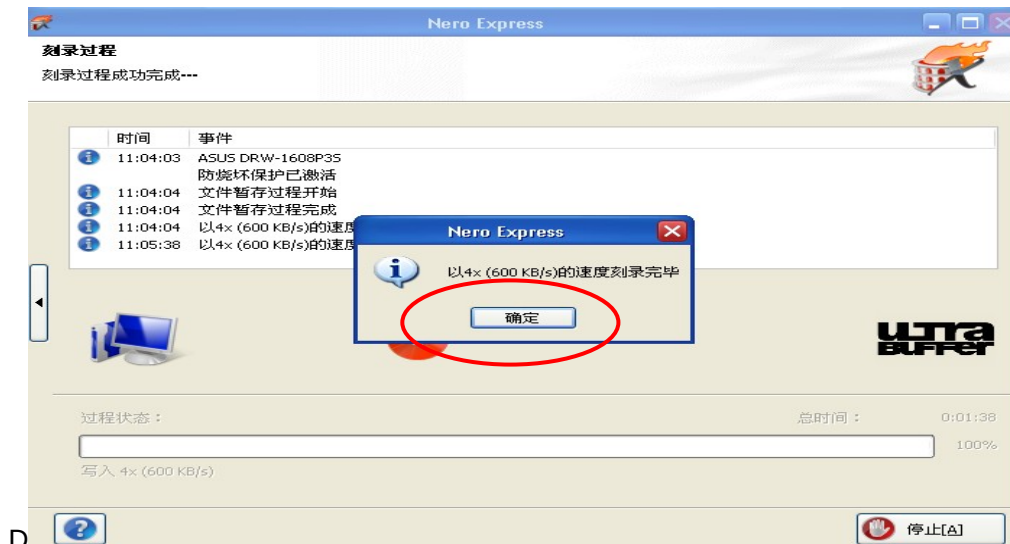
- 3) Add “MTK.BIN” file to burn list



4) Set disc name to “1389J” , then press ”burn” to start

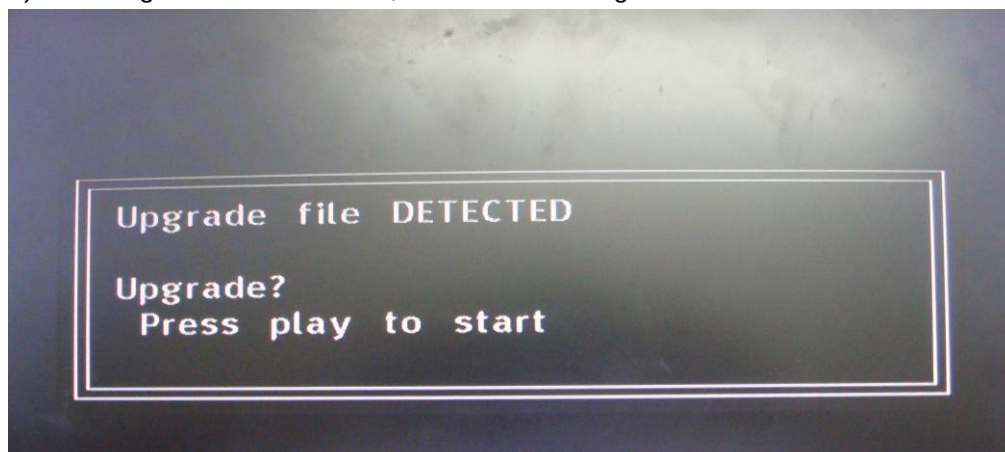


5) After several minutes, it will display the following picture. Press “ok” to finish.

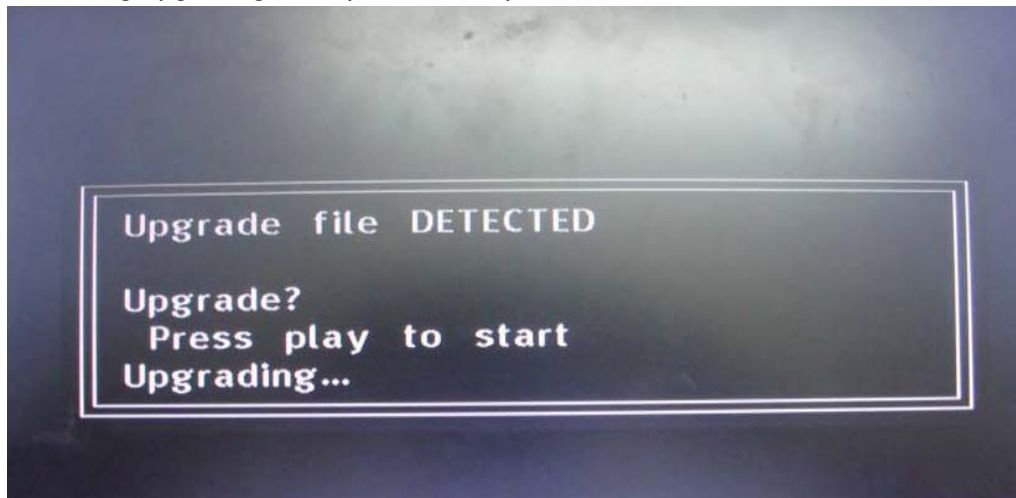


6) Enter DVD source and insert the upgrading disc to DVD loader.

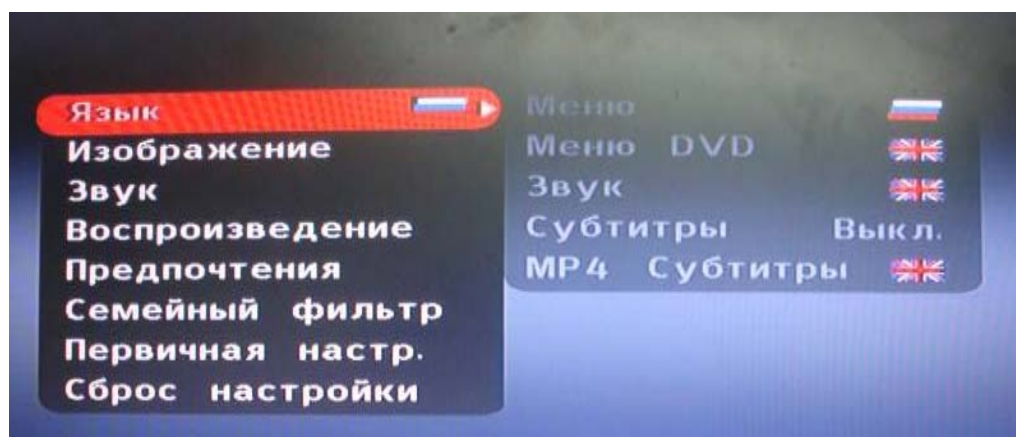
7) DVD begins to read the disc, Will show a dialog box as below.



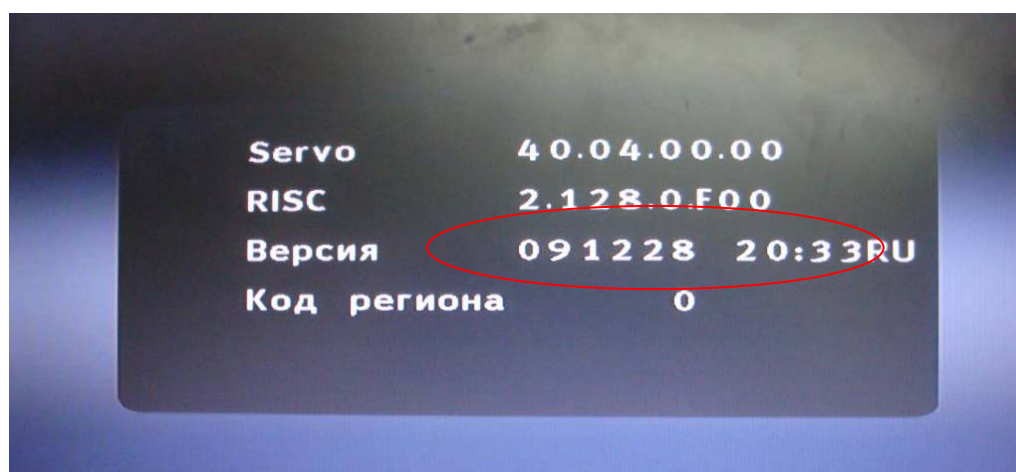
- 8) Press  button on remote control, Will shown a dialog box as below,
Please wait a few minutes(about 5 minutes) ,then DVD will restart auto .
During upgrading time, please don't power off TV.



- 9) After TV restart, Enter DVD setup menu to check the version number.

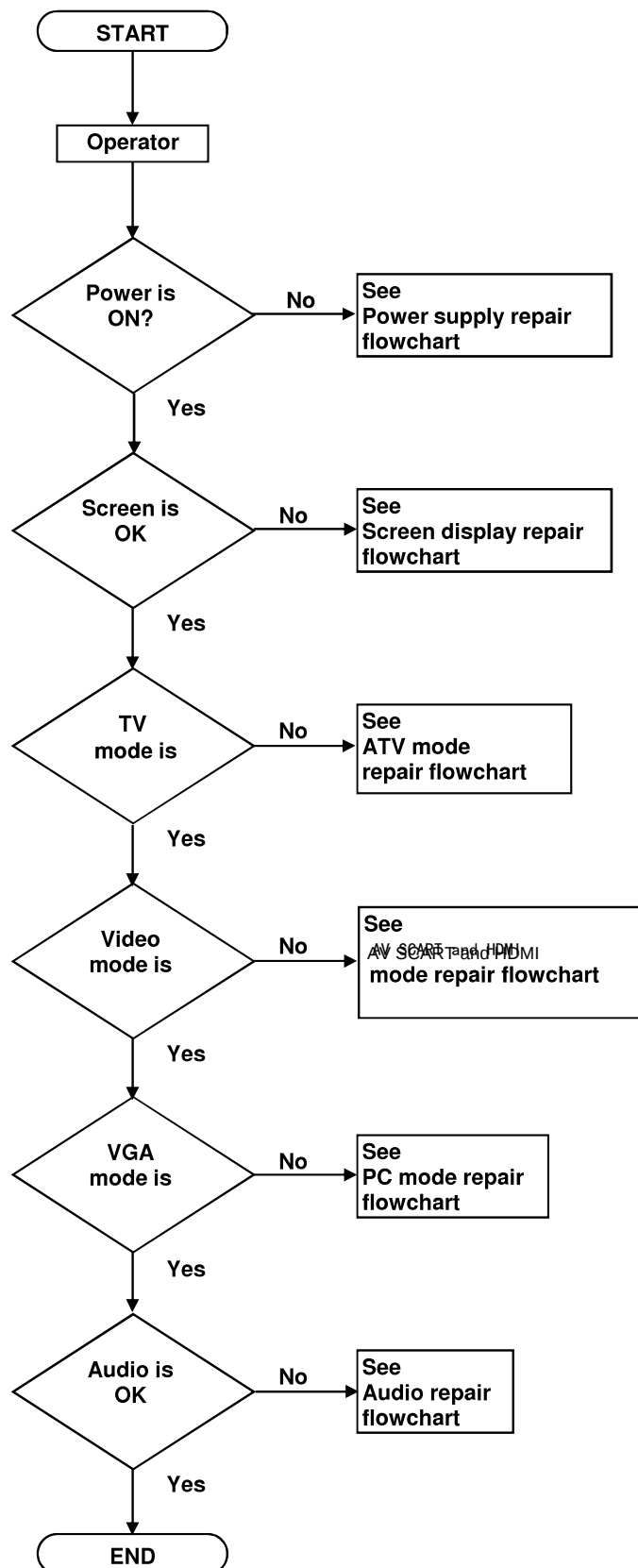


- 10) Press "9" "2" "1" "0" button, You will enter DVD factory menu.
A dialog box will be showed as below. Marked with red circle is the version number.

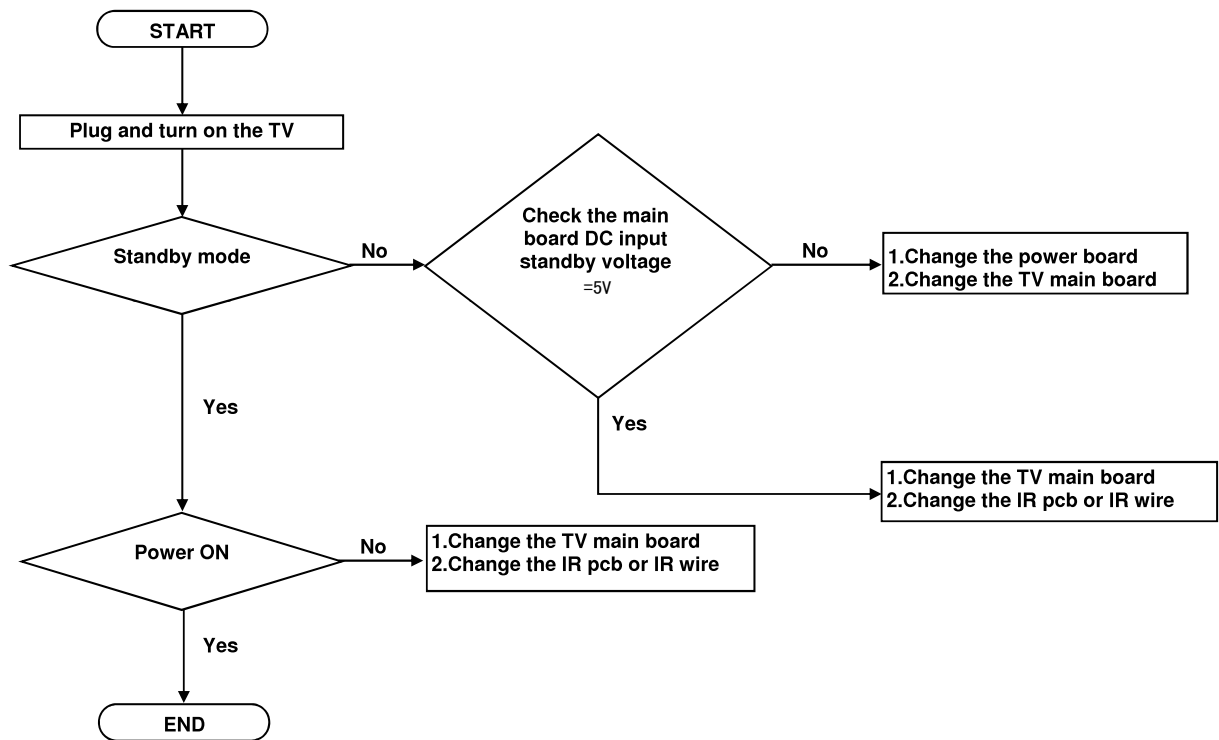


TROUBLE SHOOTING

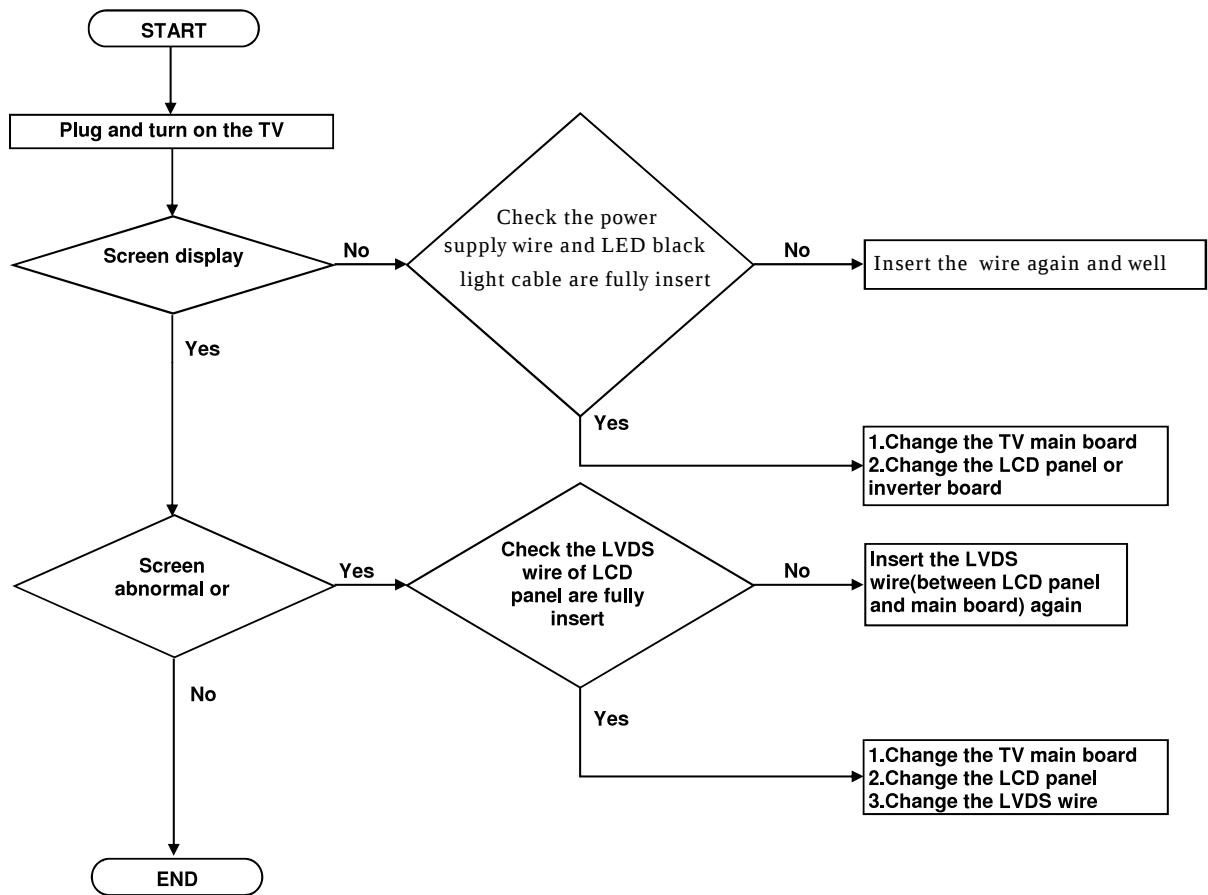
TV Fault finding tree



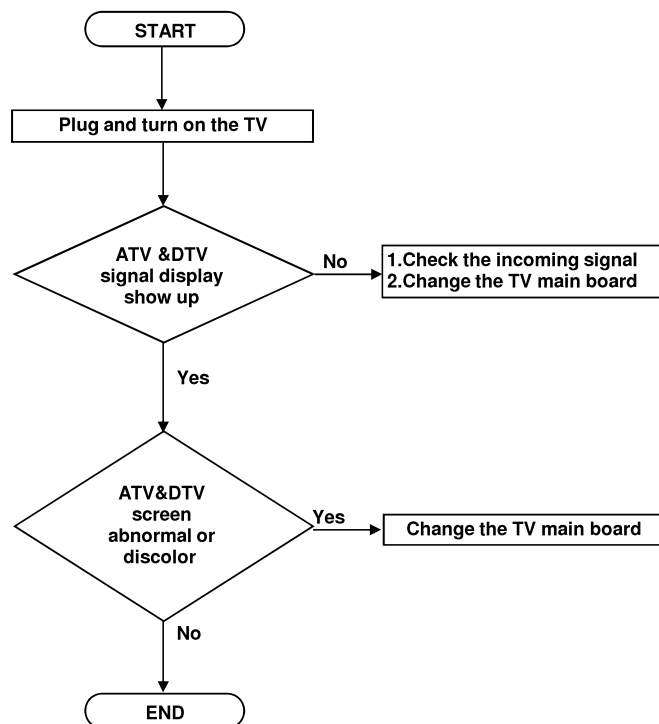
Power supply repair flowchart



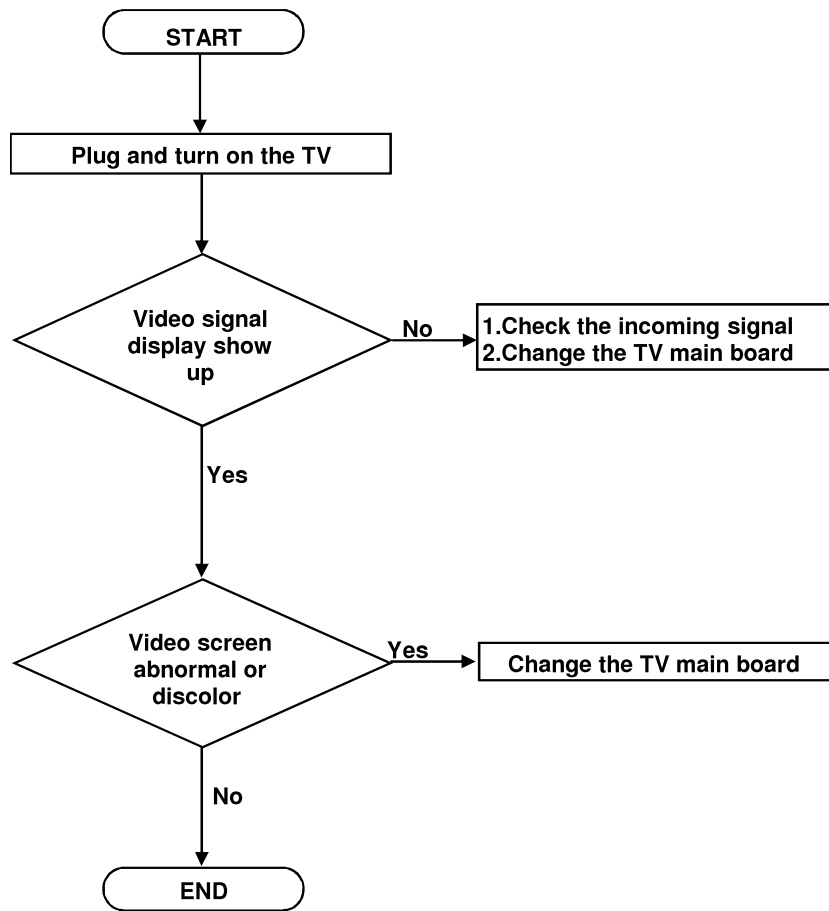
Screen Display repair flowchart



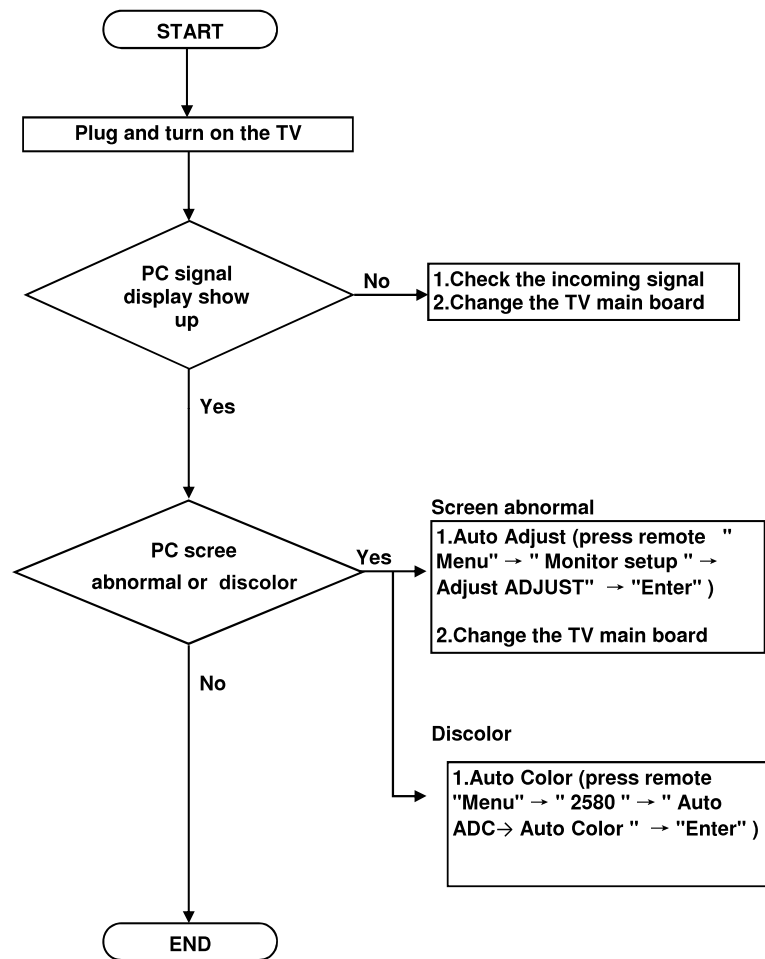
TV mode repair flowchart



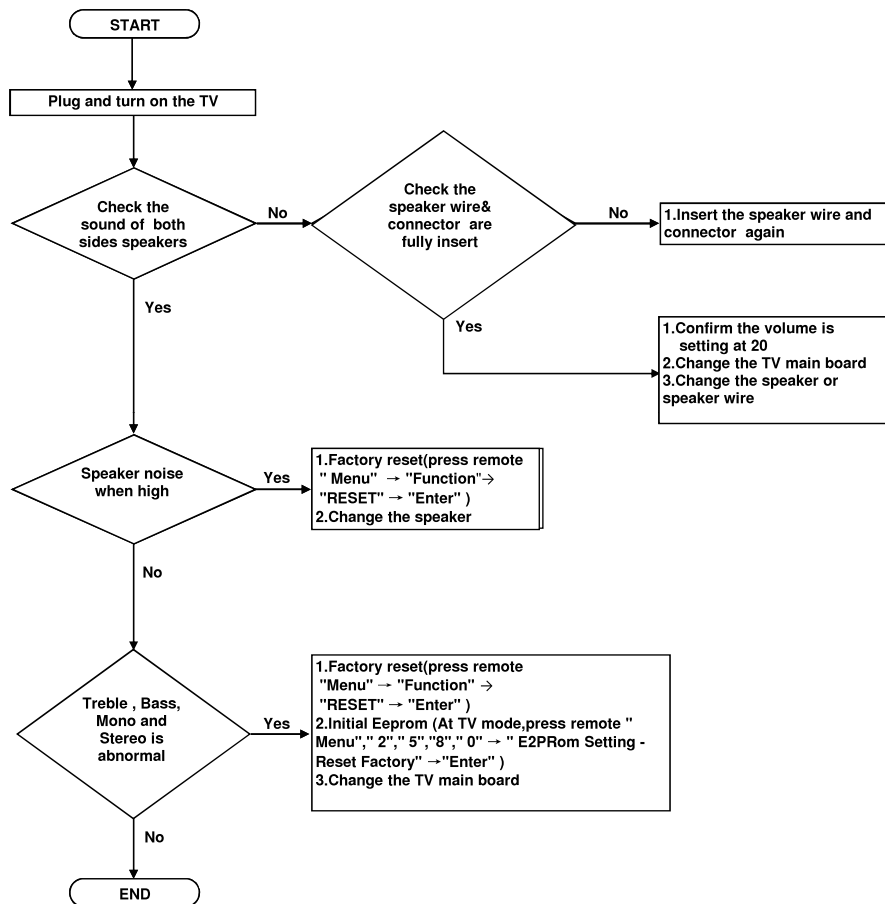
AV, Scart and HDMI mode repair flowchart



PC mode repair flowchart

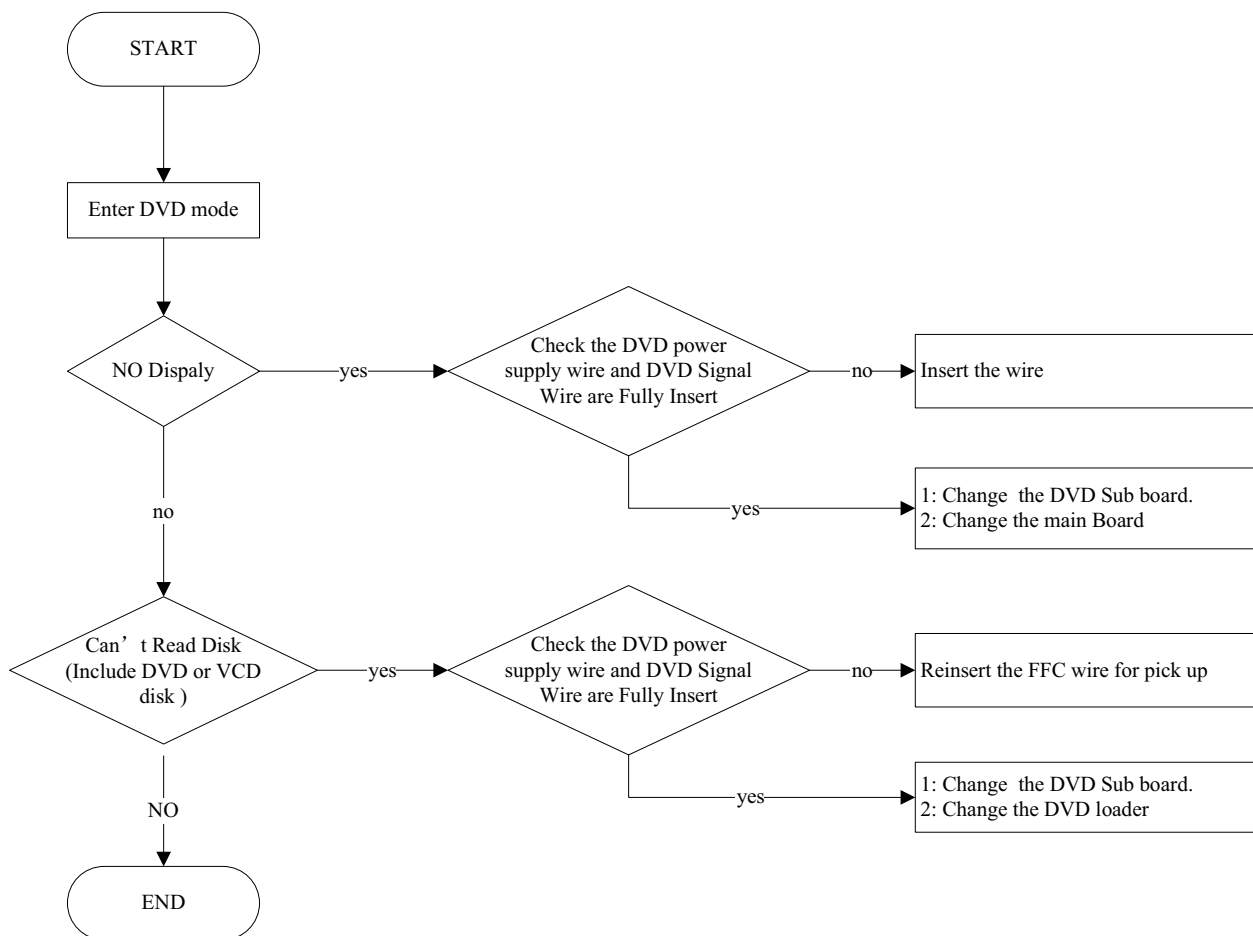


Audio repair flowchart

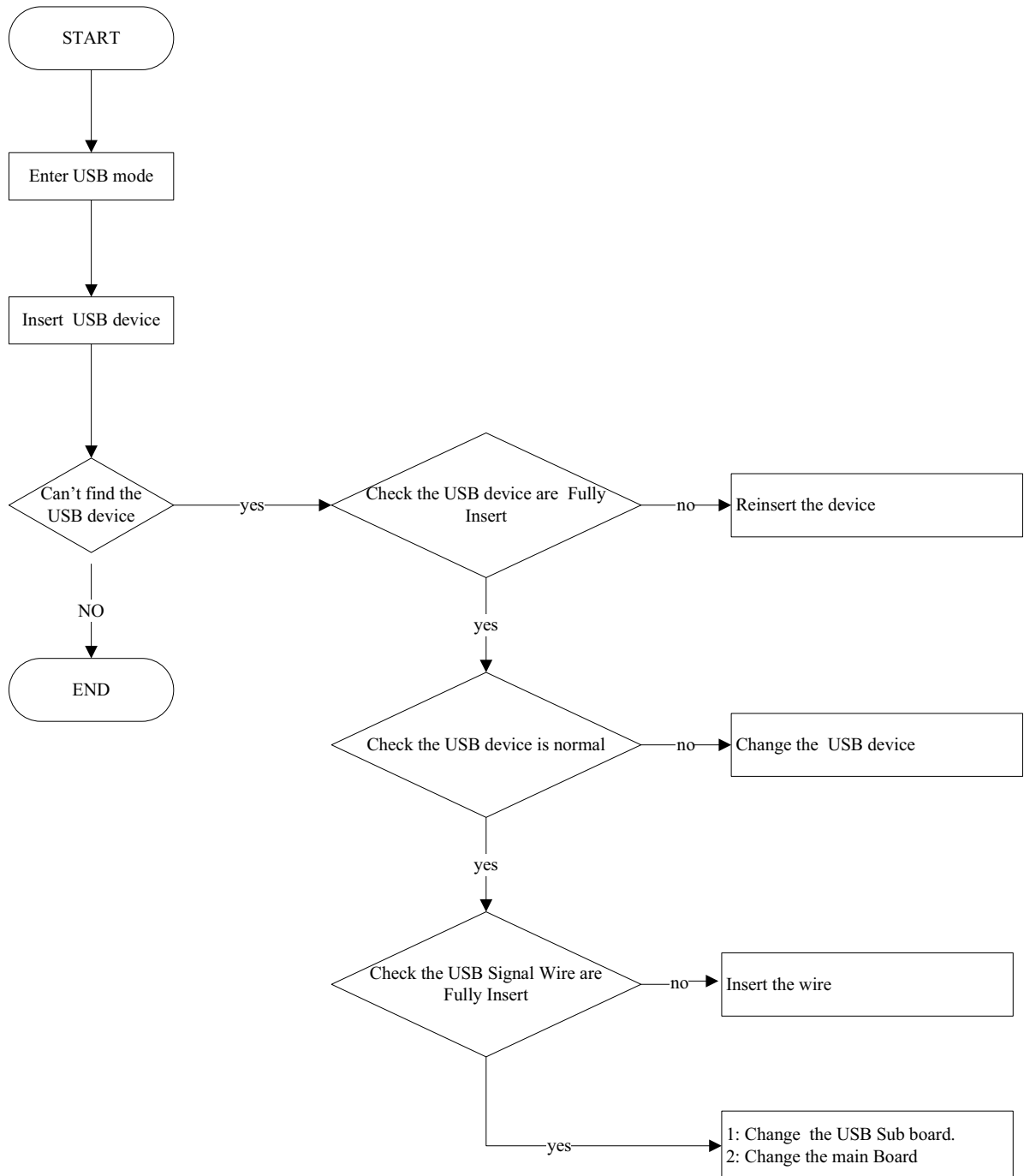


REMARK : After Default Setting , PC mode must " Auto Color"(press remote " Menu" → "2580" → "Auto ADC" → "Auto Color" → "Enter")

DVD Repair Flowchart



USB Repair Flowchart



APPENDIX A : DVD DECODE BOARD SPECIFICATION

1 GENERAL DESCRIPTION

00K104 is a control board of DVD. It supports DVD loaders which are produced by HuaYang It can control a LCD TV(Built-in DVD) with TV control board.

00K104 includes audio output such as 2CH and SPDIF.

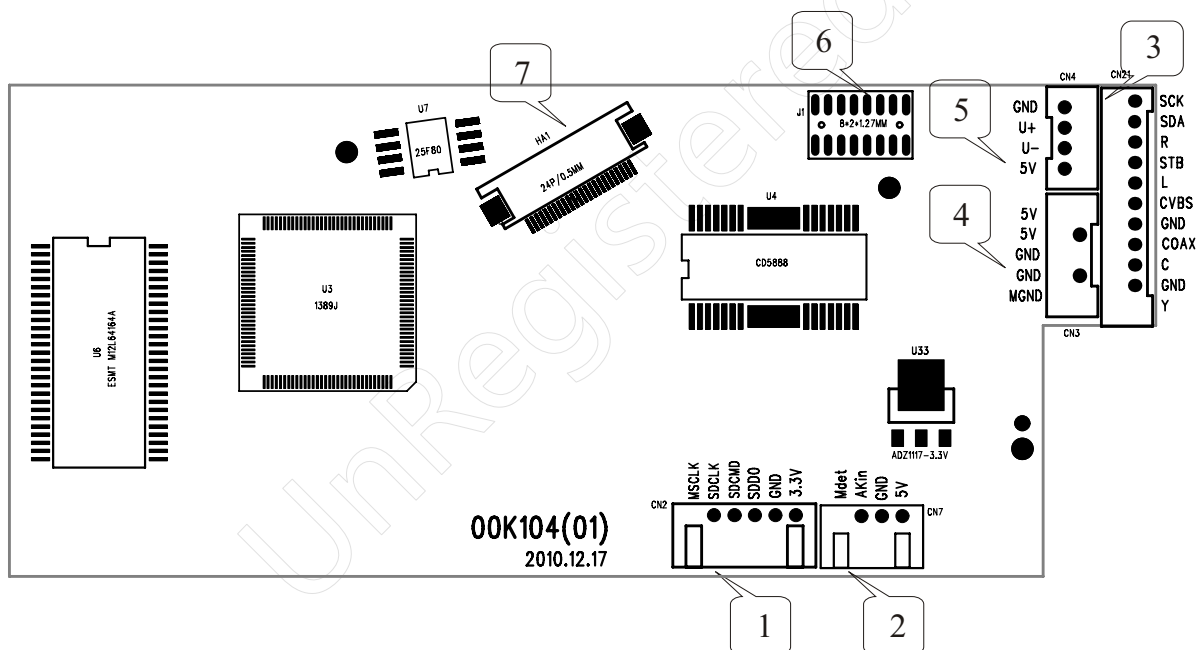
00K104 provides extended functions such as USB2.0 FULL SPEED.

2 FEATURES

In the following table you will find the detailed features.

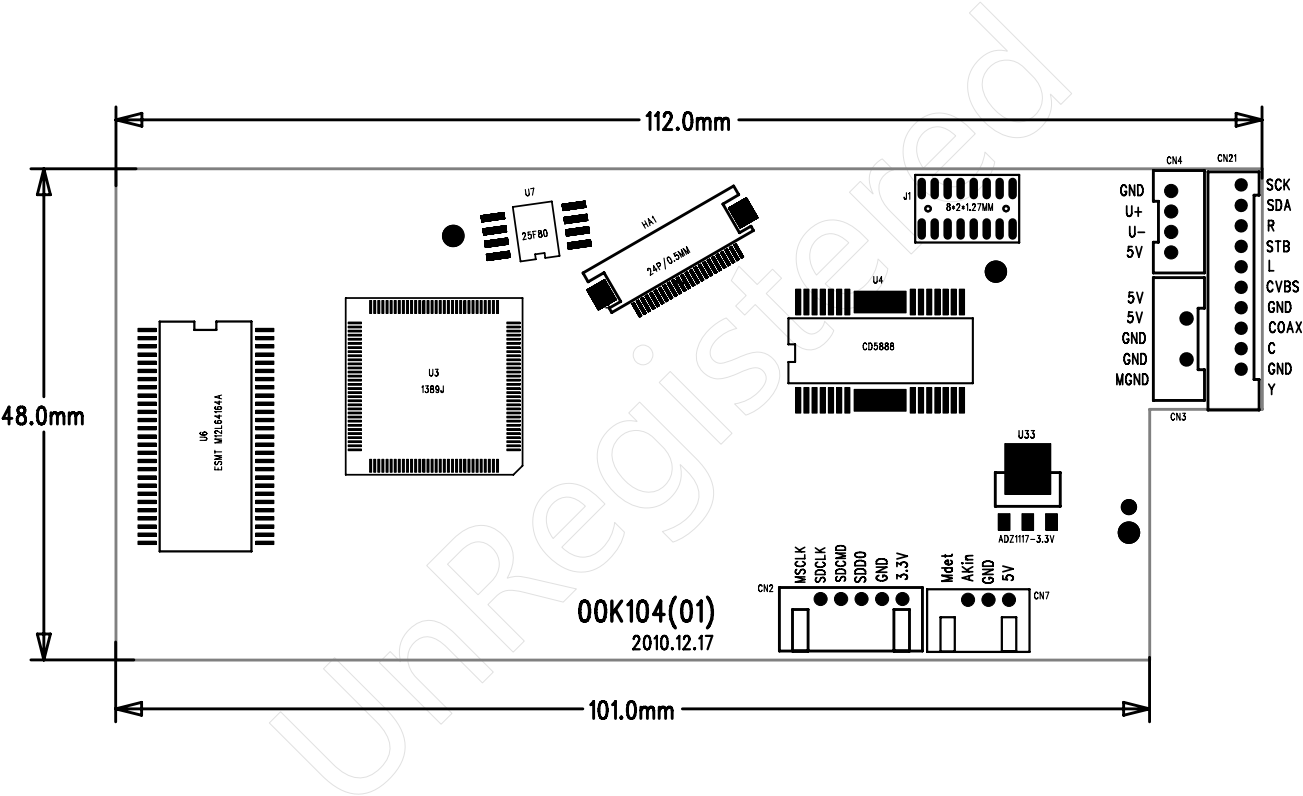
DVD loader	DL-10HA-00-009
Disc	CD, HDCD, VCD, DVD, DVD+R, DVD-R, DVD+RW, DVD-RW
Multimedia Format	JPEG, MP3, WMA, MPEG-1, MPEG-2, MPEG-4
MPEG4 Format	DIVX3.xx, DIVX5.xx, DIVX4.xx
USB	YES
Video Output	Y/C, CVBS
Audio Output	2CH R/L, Coaxial digital output(SPDIF)
Key functions	N0
OSD languages	English, French, German, Spanish(addible and optional)
Power supply	DC +5V

3 FUNCTION LAYOUT



NO.	DESCRIPTION	NO.	DESCRIPTION
1	CARD Input		
2	KAROAR/Input		
3	DVD Signal Output Connector		
4	Main Power Input		
5	USB/ Input		
6	Motor Motor connection		
7	Loaders Input		

4 CONTROL BOARD DIMENSIONS



The height of the whole control board is:19.0mm

5 OPERATION REQUIREMENTS

Can’ t be pressed and distorted.

Keep away from static and water.

Relative humidity: ≤ 80%.

Storage temperature: -10~ +60 °C.

Operation temperature: 0~ +40 °C.

6 INTERFACE DEFINITION

(6PIN/2.0): DVD CARD OUTPUT CONNECTOR

NO.	SYMBOL	DESCRIPTION
1	3.3V	+3.3V DC Power supply
2	MS_CLK	MS Clock
3	SD_CLK	SD Clock
4	SD_CMD	Data
5	SD_DO	Data
6	GND	Ground

(4PIN/2.0): DVD KARAOKE INPUT OUTPUT CONNECTOR

NO.	SYMBOL	DESCRIPTION
1	Mdet	Karaoke Detection switch
2	Akin	Karaoke Input
3	GND	Ground
4	+5V	+5V DC Power supply

(5PIN/2.0):MAIN POWER INPUT

NO.	SYMBOL	DESCRIPTION
1	MGND	Motor Ground
2	GND	Ground
3	GND	Ground
4	+5V	+5V DC Power supply
5	+5V	+5V DC Power supply

(11PIN/2.0): DVD SIGNAL OUTPUT CONNECTOR

NO.	SYMBOL	DESCRIPTION
1	SCK	I/O
2	SDA	I/O
3	R	Audio right channel outp
4	STB	I/O
5	L	Audio left channel outp
6	CVBS	CVBS signal output
7	GND	Ground
8	COAX	SPDIF Output
9	C	Y signal output
10	GND	Ground
11	Y	Y signal output

(4PIN/2.0): DVD USB OUTPUT CONNECTOR

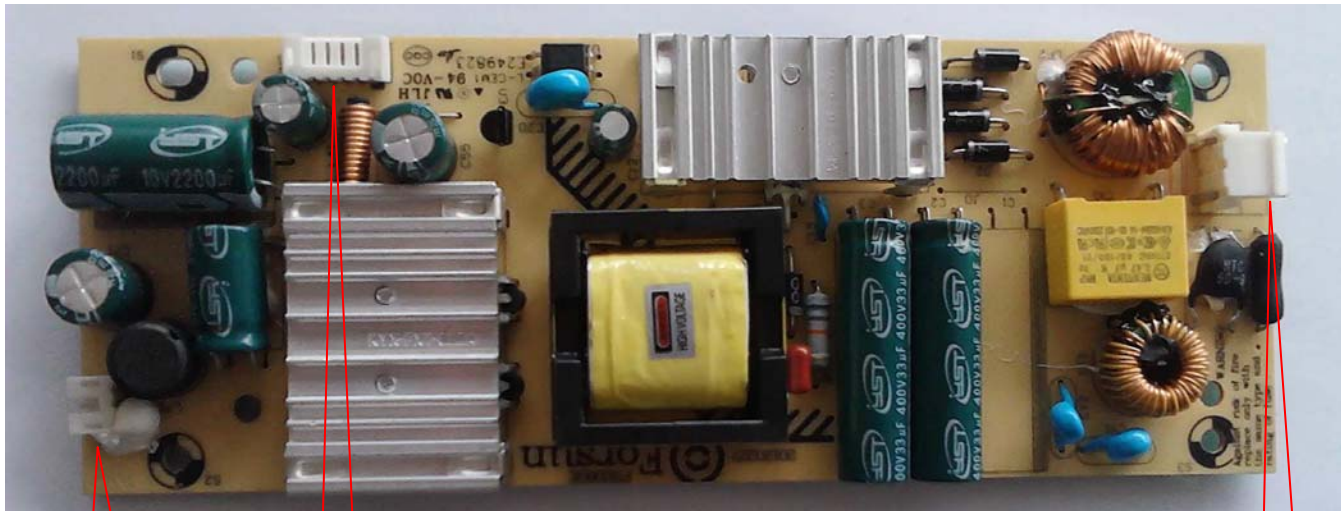
NO.	SYMBOL	DESCRIPTION
1	+5V	+5V DC Power supply
2	U-	Data
3	U+	Data
4	GND	Ground

(24PIN/0.5 FFC):HITACHI 1200X

NO.	SYMBOL	DESCRIPTION
1	GND	Laser diode
2	PUH_DVDLD	
3	GND	
4	5V	
5	DVDMDI	
6	CDLD	
7	DVD_VR	
8	CD_VR	
9	GND	
10	E	
11	A+5V	
12	VREF1	
13	GND	Photo detector
14	F	
15	B	
16	A	
17	PUHRF	
18	HMF	
19	D	
20	C	
21	RAD-	Actuator
22	RAD+	
23	FOC+	
24	FOC-	

Power Supply Board and Small Adaptor Board

FSE060E is a Power board+LED board ASS. Can supply 5V/3A and 12V/1.5A to system, and drive the LED backlight also.



CN3

CN2

CN1

CN1

NO.	Pin connection	Function
1	AC-L	AC input line
2	NC	
3	AC-N	AC input line

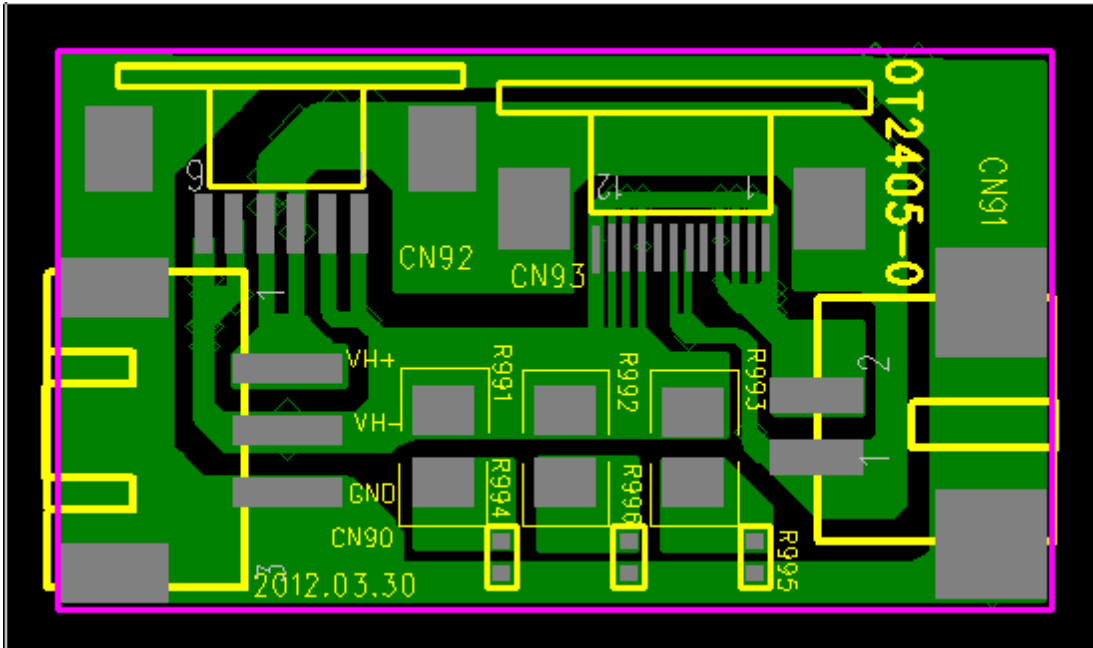
CN2

NO.	Pin connection	Function
1	12V DC OUT	Output 12V
2	GND	Output return
3	PCON	ON/OFF Control
4,5	5V DC OUT	Output 5V
6	GND	Output return

CN3

NO.	Pin connection	Function
1	LED+	LED anode
2	LED-	LED cathode
3	GND	Output return

OT2450 is a LED adaptor board, to work with FSE060E together. By configuring the circuit parameter for OT2450, so that the FSE060E output current value is used to meet the needs of a variety of panel's backlight current.



CN90: (3PIN2.0) Connect to Power Supply Board

NO.	Definition	Description
1	VH+	LED anode
2	VH-	LED cathode
3	GND	Ground

CN90: (6PIN1.0mm) Connect to Panel

Pin number	Output Name
1	IRLED(Current Out)
2	IRLED(Current Out)
3	VLED(Voltage in)
4	VLED(Voltage in)
5	IRLED(Current Out)
6	IRLED(Current Out)

CN92: (12PIN0.5mm) Connect to panel

Pin number	Output Name
1	IRLED(Current Out)
2	IRLED(Current Out)
3	IRLED(Current Out)
4	IRLED(Current Out)
5	NC
6	VLED(Voltage in)
7	VLED(Voltage in)
8	NC
9	IRLED(Current Out)
10	IRLED(Current Out)
11	IRLED(Current Out)
12	IRLED(Current Out)

CN91: (2PIN2.0) Connect to panel

Pin number	Output Name
1	VLED(Voltage in)
2	IRLED(Current Out)

How to configure the circuit parameter

PANEL REF	CNO V185B1-LE1 (160mA)	SKY E185SG01 (160mA)	ODT M215BD1WU3 (220mA)	CNO V215H1-LE1 (240mA)	L230WF5-TLD1 (240mA)
CN90	SMD 3P-2.0mm	SMD 3P-2.0mm	SMD 3P-2.0mm	SMD 3P-2.0mm	SMD 3P-2.0mm
CN91	NC	SMD 2P-2.0mm	SMD 2P-2.0mm	NC	
CN92	NC	NC	NC	NC	SMD 6P-1.0mm
CN93	SMD 12P-0.5mm	NC	NC	SMD 12P-0.5mm	NC
R993	NC	NC	3R	2.4R	2.4R
R995	NC	NC	0R	0R	0R

