

SERVICE MANUAL

MODEL :LD1534SU

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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.

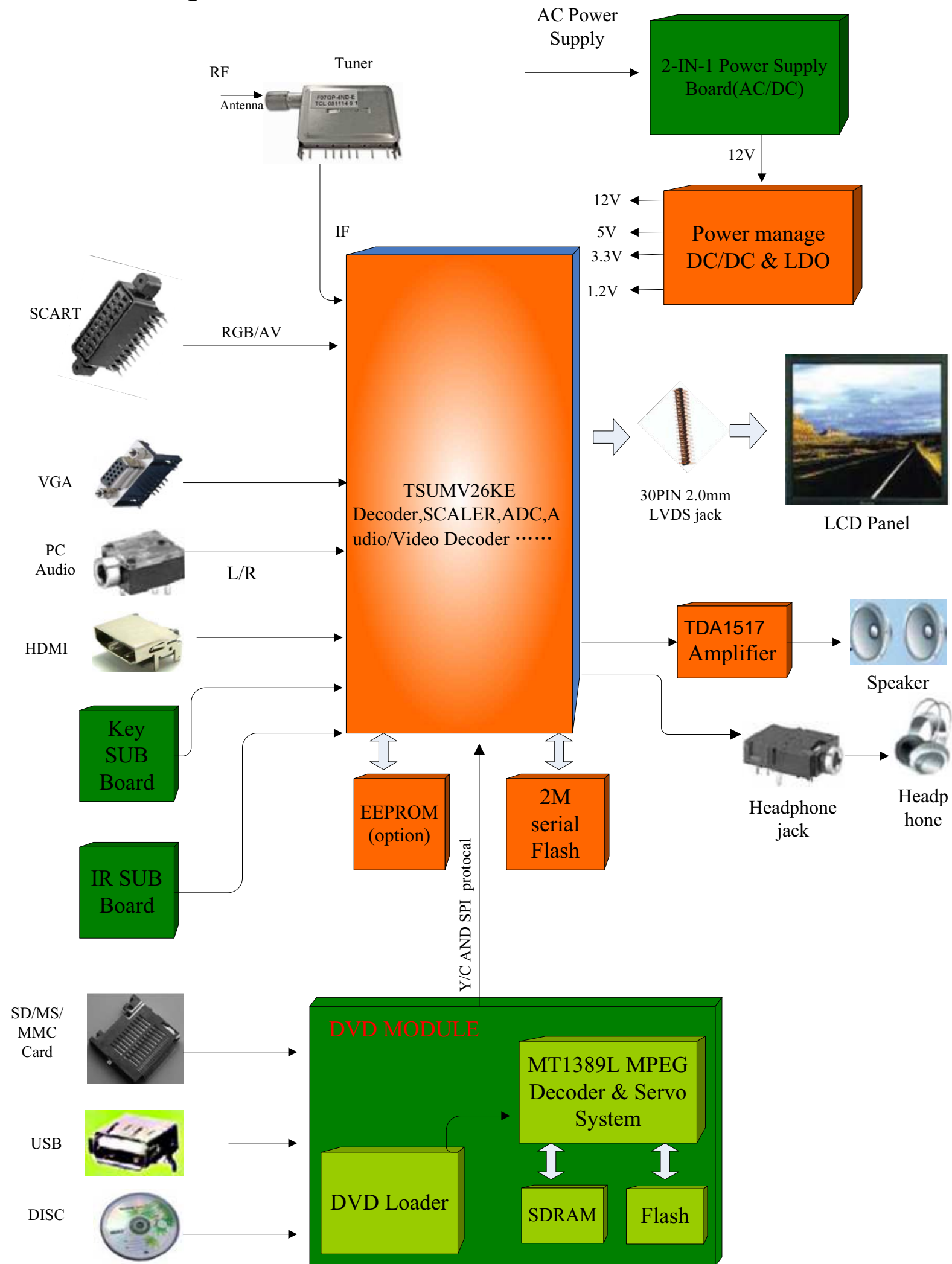
Specification

TV System		PAL BG/DK/ I SECAM BG/DK/L/L'			TV
Channel Coverage		48.25~865.25 MHz			
Intermediate Frequencies		Picture I.F.	38.90MHz (BG,DK,I)		
		Sound I.F.	33.40 MHz (BG) 32.40MHz(DK,L) 32.90MHz(I)		
Reception		Tuning System		FS With PLL	
		Tuner Band		Full Band	
		Auto Channel Scanning		Yes	
		Number Of Preset Channels		100	
Antenna Impedance		75 Ohm Unbalanced			
Power Supply		Power supply: AC 100V-240V, 50/60Hz			
Right panel		TV KEY	STANDBY,SOURCE, MENU, CH+/CH-, VOL +/-		
		DVD KEY	EJECT,STOP,PLAY/PAUSE		
Front Panel		LED Indicators (Red/Green)			Standby/On
Terminals		back	Image In	TV 75ohm Aerial	X 1
				HDMI Connector	X 1
				SCART	X 1
				RCA Video Jack	X 0
				D-sub 15 Pin VGA Connector	X 1
		Audio In	Audio In	RCA Audio (L/R) Jack - White/Red	X0
				φ3.5 Stereo Jack(PC audio)	X 1
		Left	Image In	RCA Video Jack	X 1
			Audio In	RCA Audio (L/R) Jack - White/Red	X2
			Audio Out	φ3.5 Earphone Jack	X 1
		Right	Multimedia	USB	X 1
				Card Reader	X 1
DVD		DVD Loader		DL-08HA-00-044	
		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)		2W
	NICAM / STEREO		Yes
	Bass		Yes
	Treble		Yes
	Balance		Yes
OSD Language	Russian , English		
LCD Panel (For Reference)	Brand		CMO
	Model		M156B1-L02
	Size		15.6"
	Backlight		CCFLx 2
	Pixel Pitch		0.252mm (H) x 0.252mm(V)
	Resolution	Horizontal (dots)	1366
		Vertical (Lines)	768
Support Resolution(For PC)	Horizontal (dots) (Max)		1360
	Vertical (Lines) (Max)		768
Speaker	8 Ohm /3W		x2pcs
Power Consumption		On working	45W
		Standby	≦ 1W

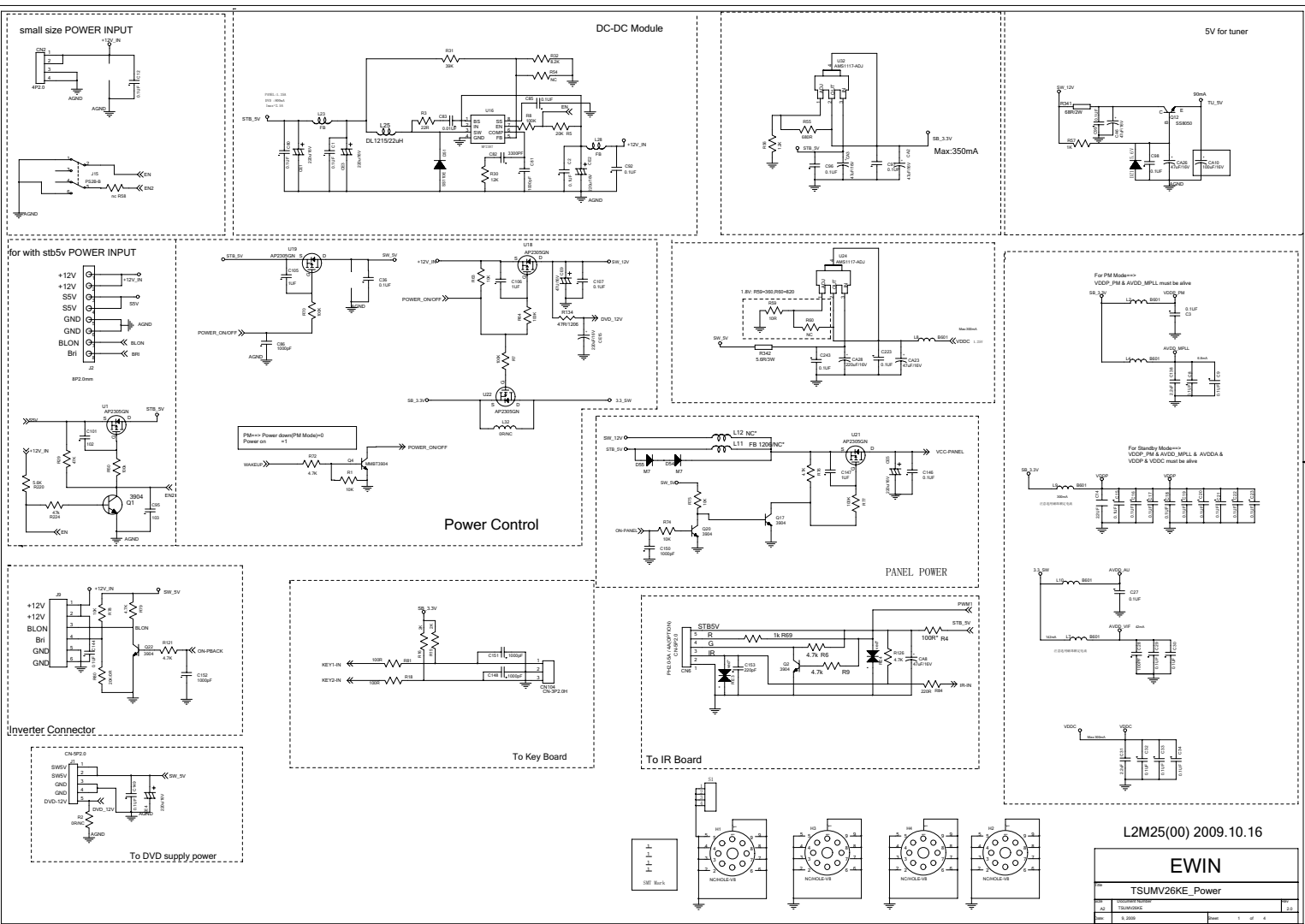
Specifications are subject to change without notice.

Block Diagram



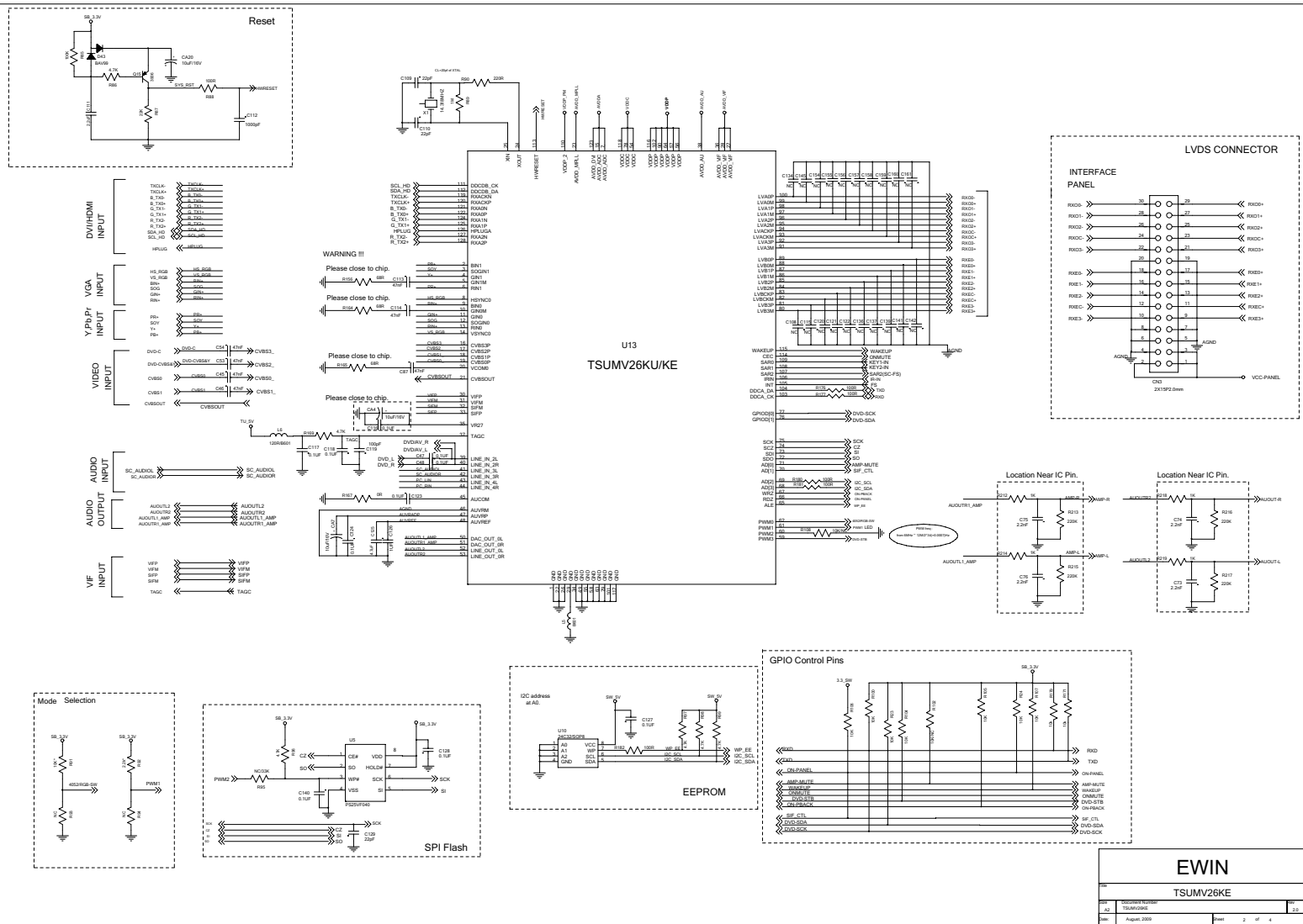
CIRCUIT DIAGRAM

MAIN BOARD SCHEMATICS-1



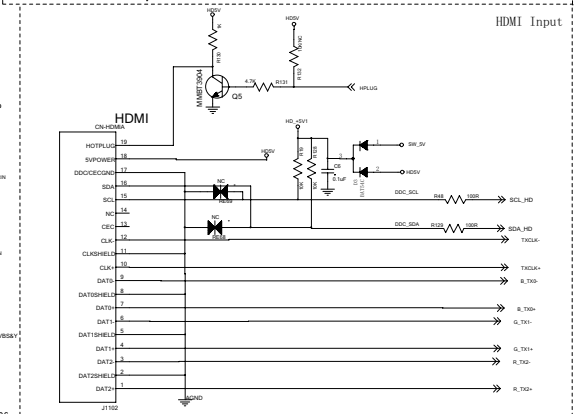
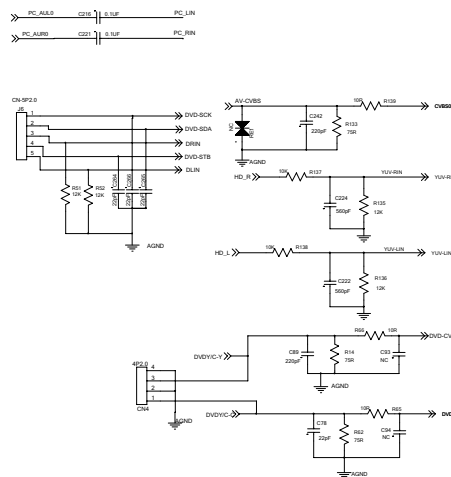
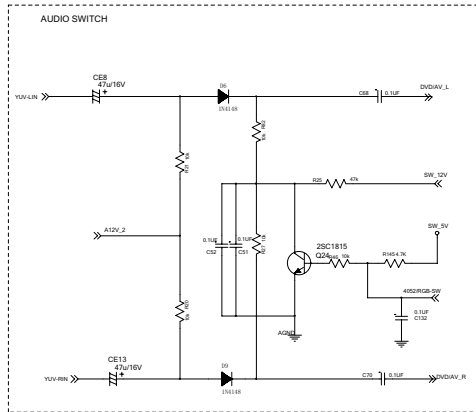
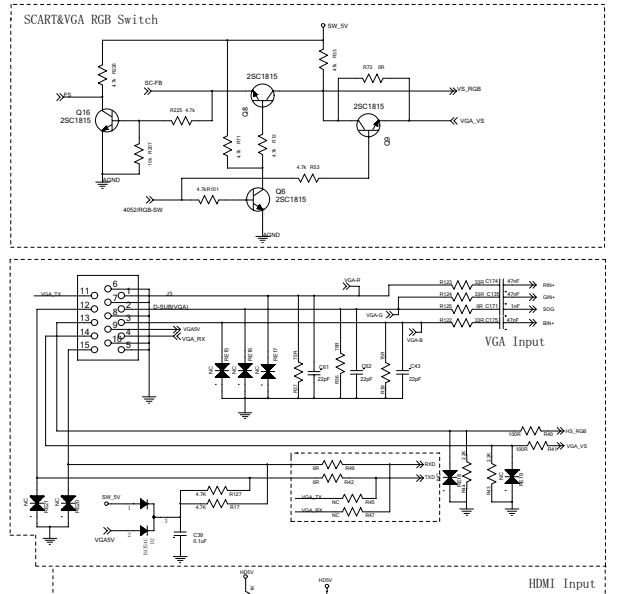
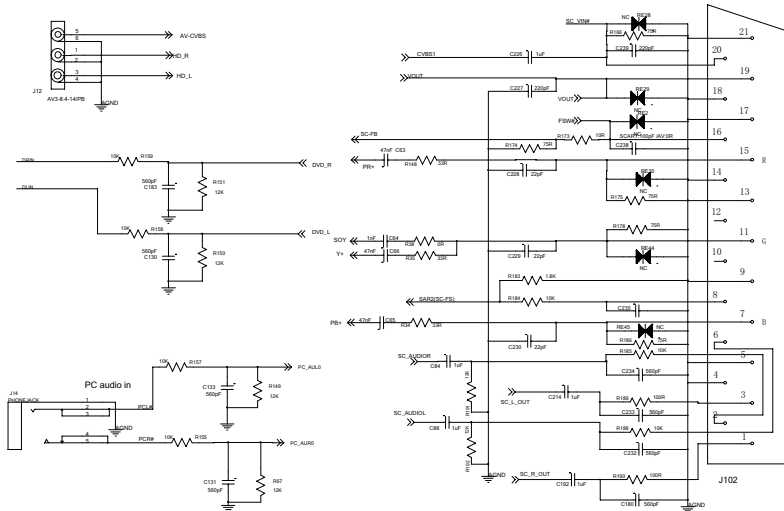
CIRCUIT DIAGRAM

MAIN BOARD SCHEMATICS-2



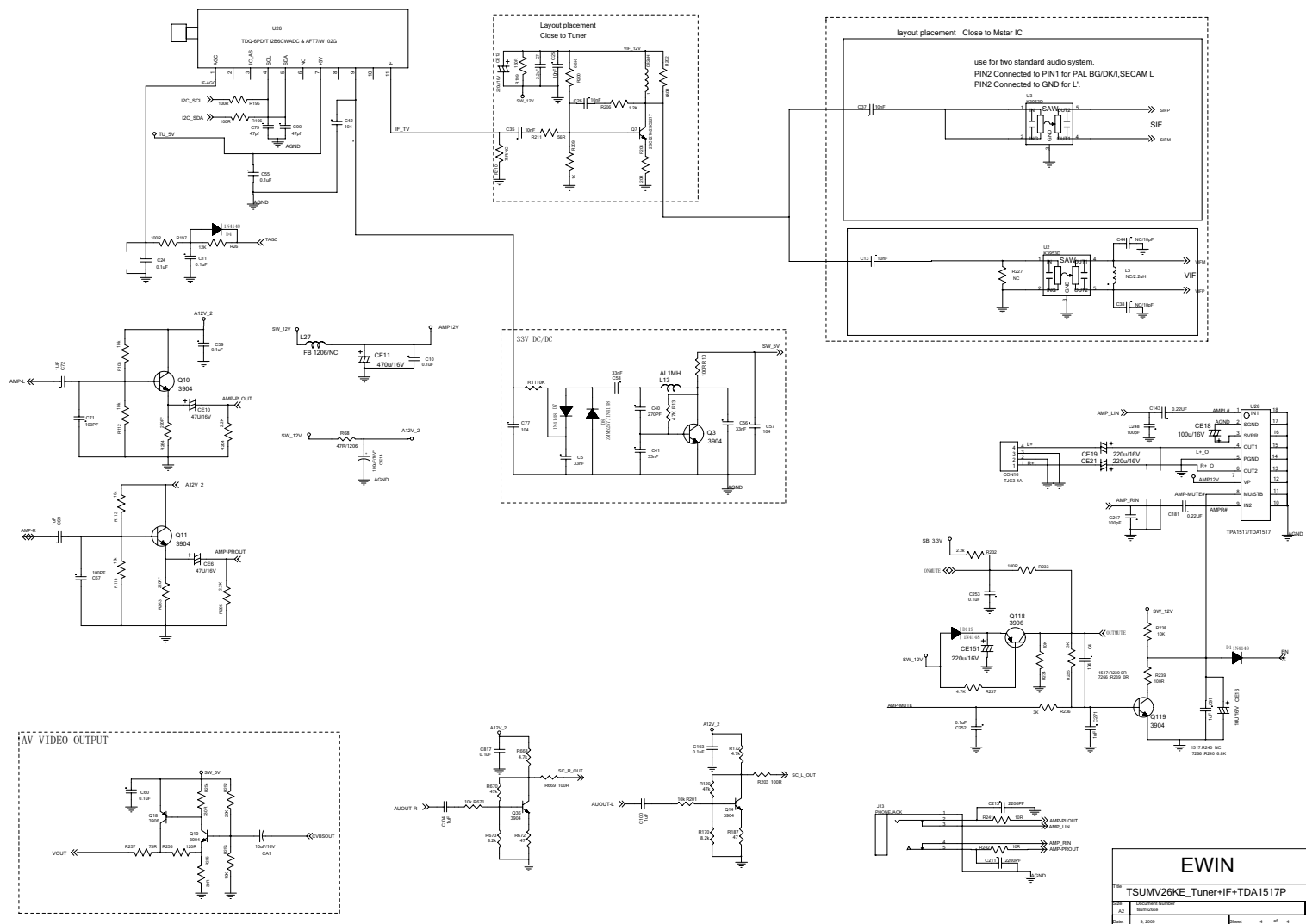
CIRCUIT DIAGRAM

MAIN BOARD SCHEMATICS-3



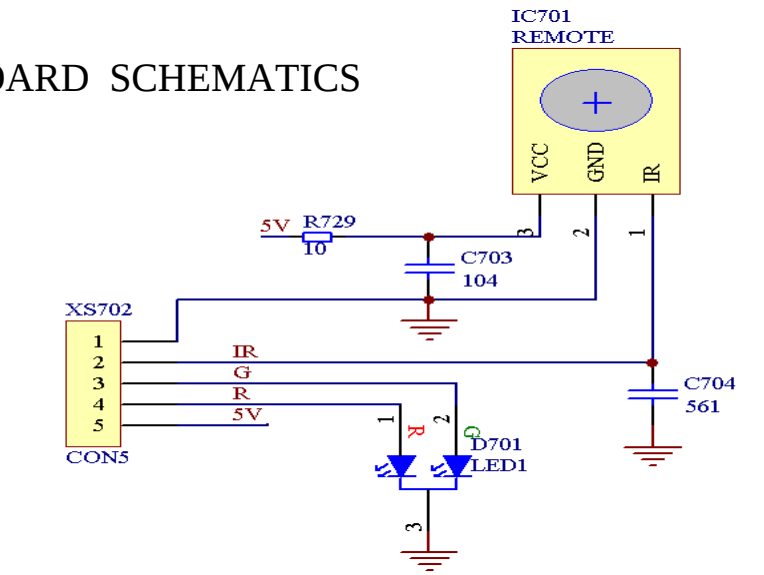
EWIN			
TSUMV26KE_IN & OUT			
REV	1.0	DATE	2008.12.10
DESIGNER	WUJUN	DATE	2008.12.10
DATE	2008.12.10	DATE	2008.12.10

MAIN BOARD SCHEMATICS-4

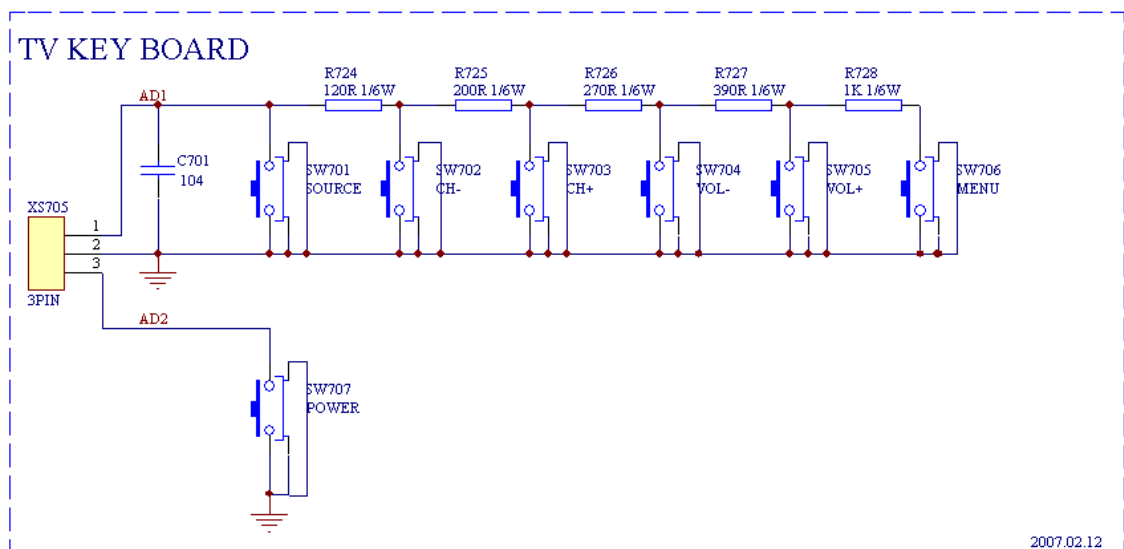


CIRCUIT DIAGRAM

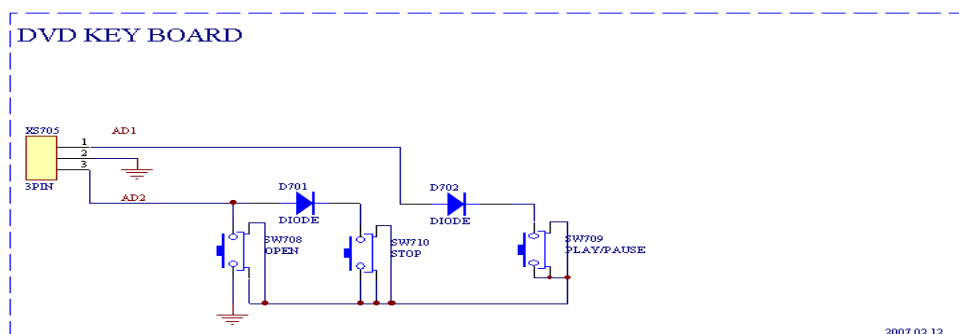
IR BOARD SCHEMATICS



TV KEY BOARD SCHEMATICS



DVD KEY BOARD SCHEMATICS



INTERFACE DEFINITION AND PIN FUNCTION

★J15: Power Switch Button

NO.	Definition	Description
1	GND	Ground
2	EN1	SW_12V Enable
3	NC	NO Connect
4	NC	NO Connect
5	EN2	SW_5V Enable
6	GND	Ground

★J9: Inverter jack(6P 2.0mm)

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

★CON16: Speaker jack(4P 2.54mm)

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

★ CN104: Key jack(3P 2.0mm)

NO.	Definition	Description
1	K1	Key 1 (ADC Input)
2	GND	Ground
3	K2	Key 2 (ADC Input)

★J6: DVD SPI and DVD Audio jack(5P 2.0mm)

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

★CN4: DVD Y/C Signal jack(4P 2.0mm)

NO.	Definition	Description
1	DVD_C	DVD Signal C
2	GND	Ground
3	DVD_Y	DVD Signal C
4	GND	Ground

★J1: DVD Power jack(5P 2.0mm)

NO.	Definition	Description
1	5V	DVD 5V Power Supply
2	5V	DVD 5V Power Supply
3	GND	Ground
4	GND	Ground
5	12V/MGND	DVD 12V Power Supply/ motor Ground

★CN6: IR&LED jack(5P 2.0mm)

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

★CN2: Internal power supply jack (without inverter 4P 2.0mm)

NO.	Definition	Description
1	12V	12V Supply
2	12V	12V Supply
3	GND	Ground
4	GND	Ground

★J2: Internal power supply jack (with inverter 8P 2.0mm)

NO.	Definition	Description
1	12V	12V Supply
2	12V	12V Supply
3	5V	5V Supply
4	5V	5V Supply
5	GND	Ground
6	GND	Ground
7	BLO	Black-Light ON/OFF Control
8	Bri	Brightness Adjustment

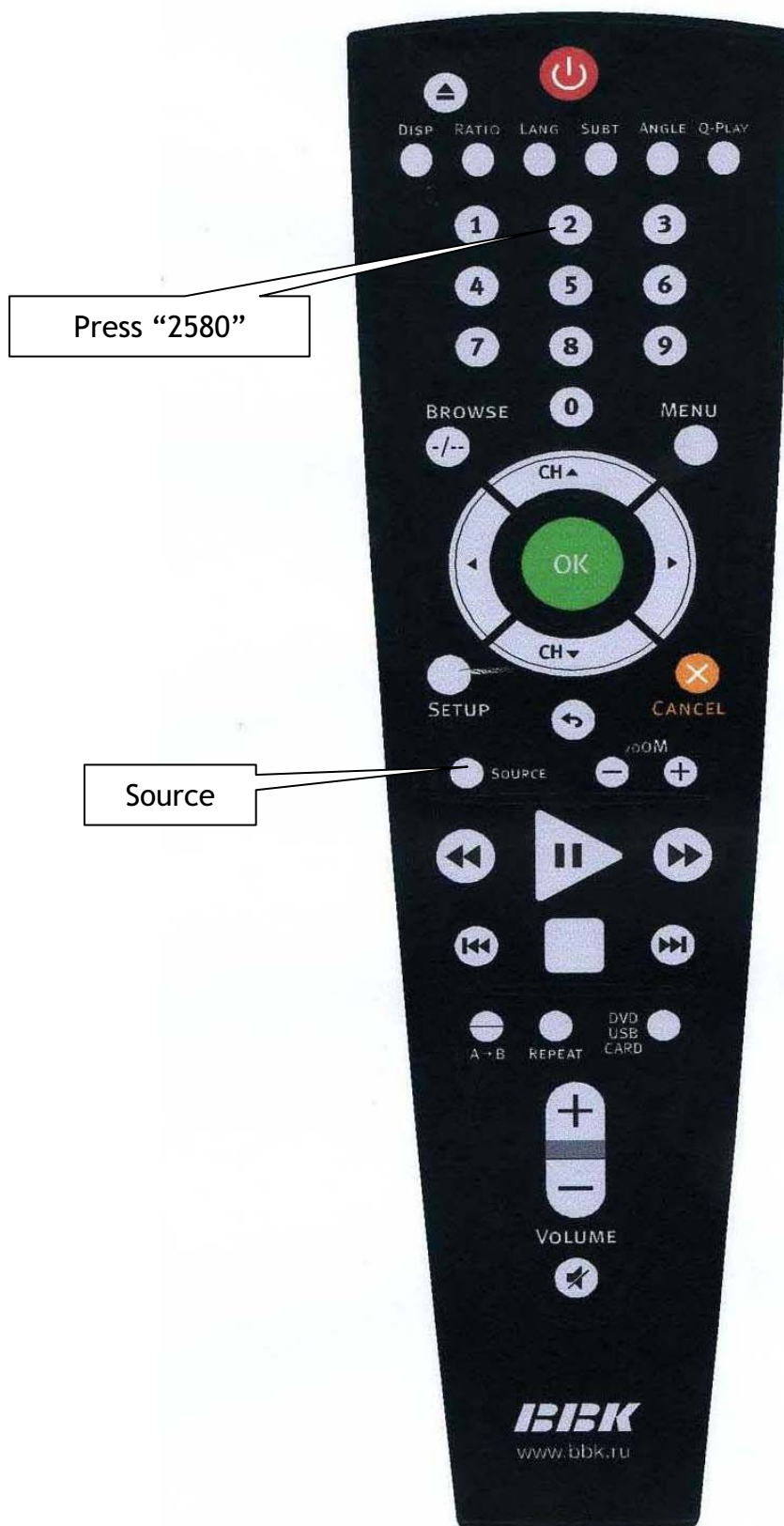
★CN3: LVDS Jack(2×15P 2.0mm)

NO.	Definition	Description
1	LCD-VDD	Power for Panel
2	LCD-VDD	Power for Panel
3	LCD-VDD	Power for Panel
4	NC	NO Connect
5	GND	Ground
6	GND	Ground
7	GND	Ground
8	GND	Ground
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	Ground
20	GND	Ground
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;

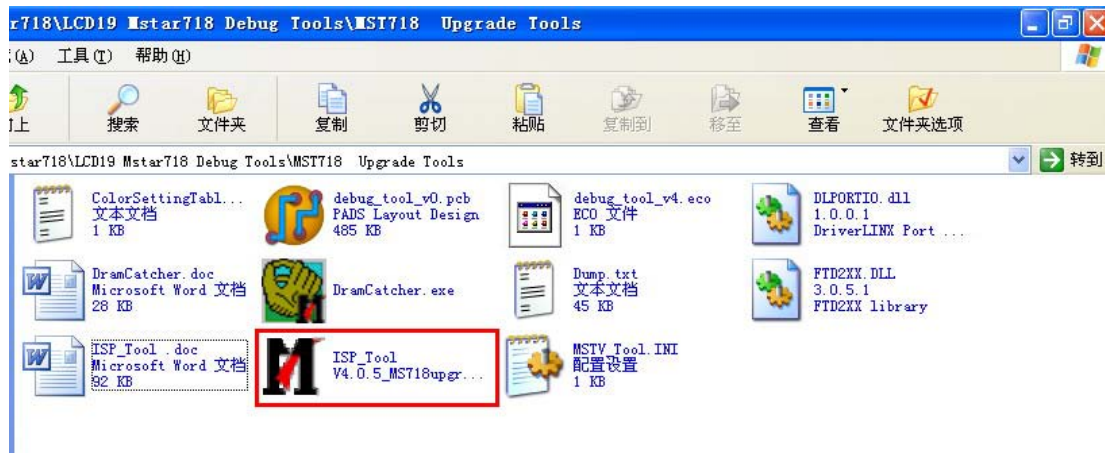
Volume:to setting the max sound volume when hotel mode is active;

AGC: to setting tuner's RF AGC value;

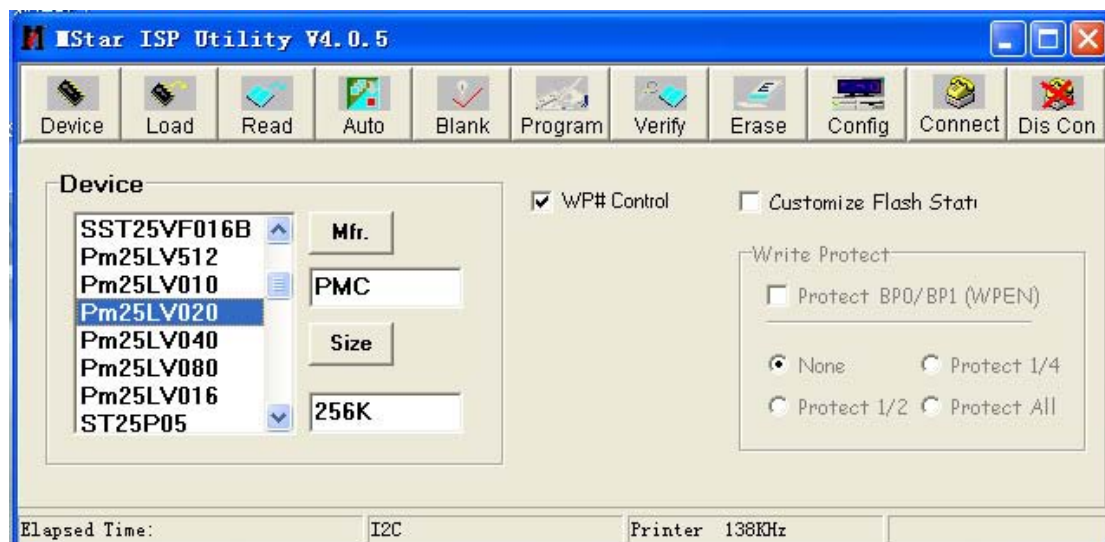
Notes:

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.

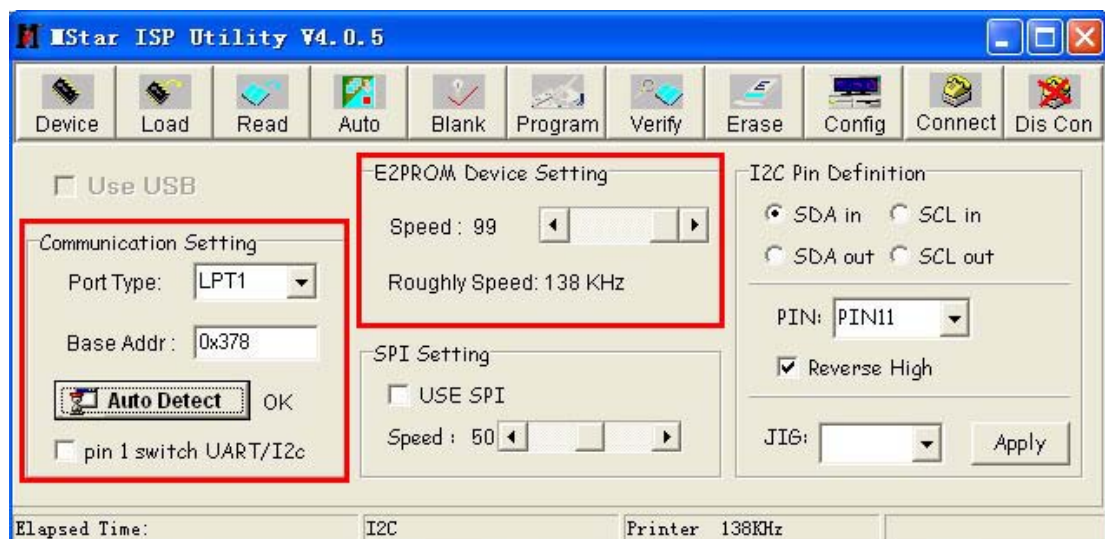
1) Open the update tools--Mstar ISP Utility



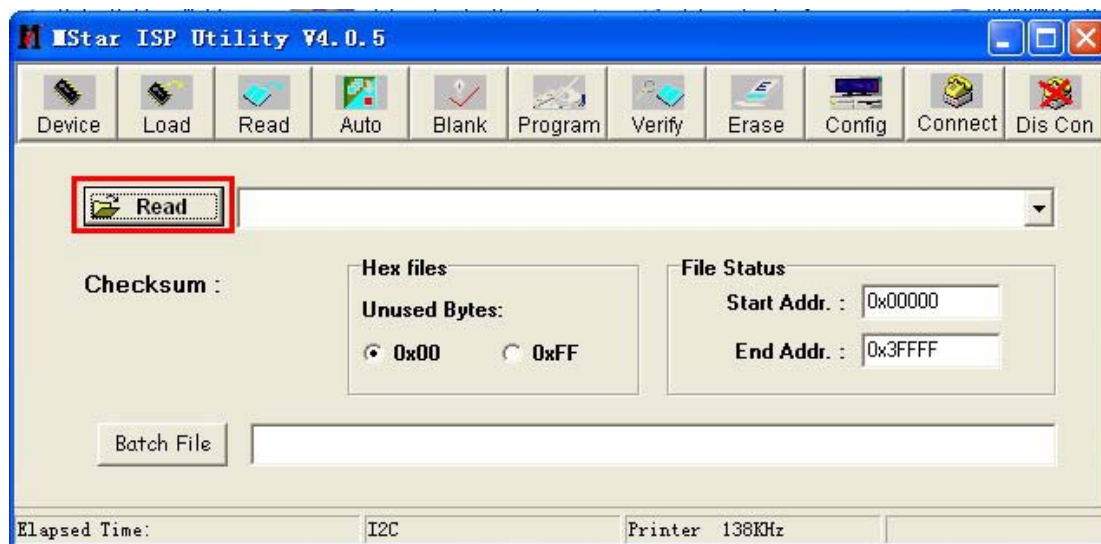
2) Click “Device” button and double click select correctly type(For TSUMV26 chassis select Pm25LV040 normally)



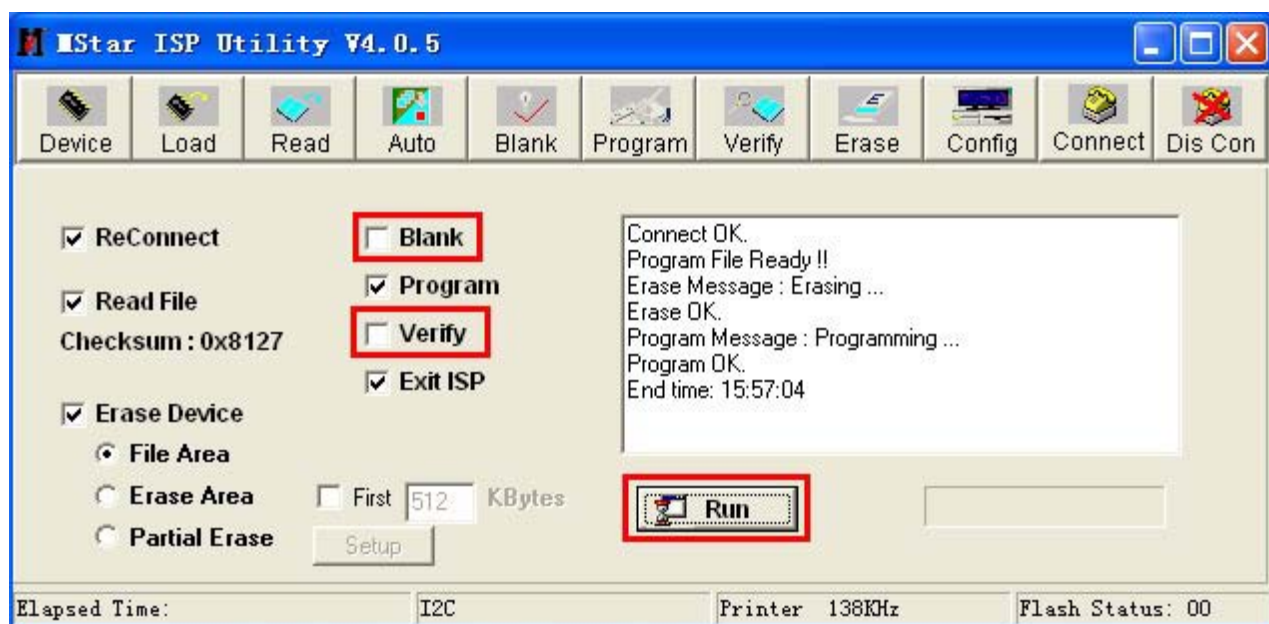
3) Click “Config” button and click “Auto Detect” button confirm that the PC and ISP tool connect properly. Adjust the LPT port speed to 138K, in order to speed up update process.



4) Click “Read” button then select the binary file of firmware.

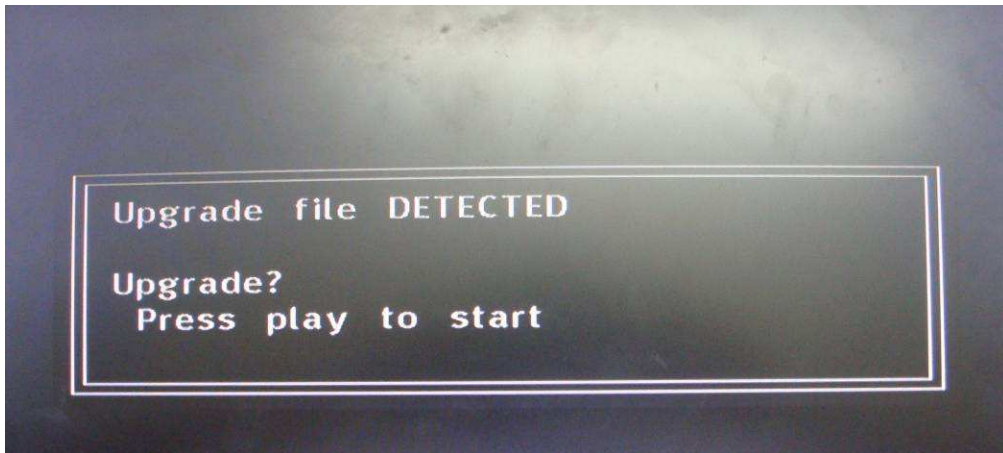


5) Click “Auto” button and remove the marker of “Blank” and “Verify” items. Then click “Run”, after several seconds the update process will be finish.

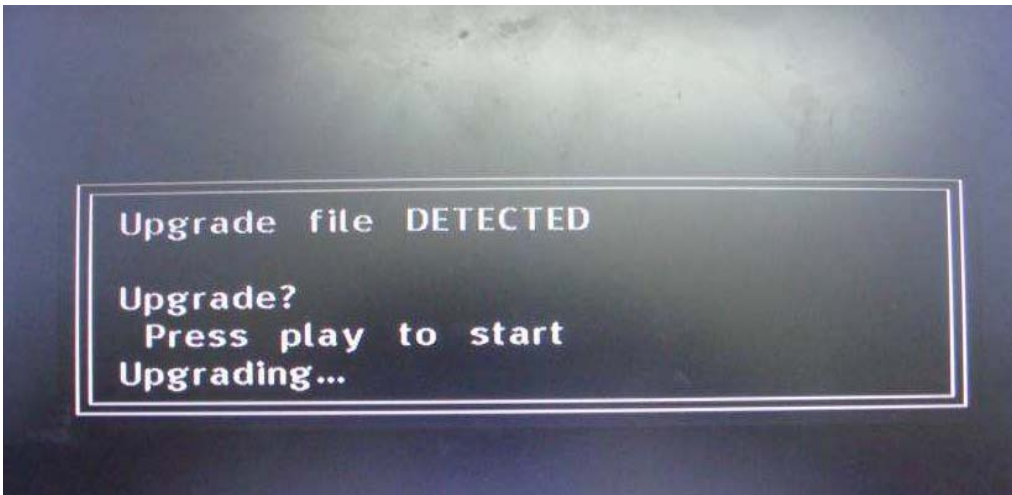


DVD Software upgrade

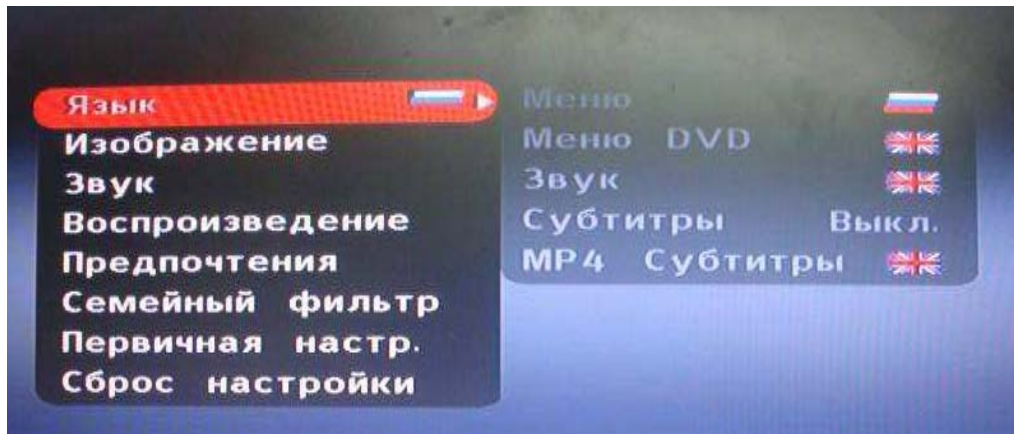
- 1) Please rename the upgrading file to "MTK1389FE.BIN". and download it to a USB device
- 2) Enter DVD source and insert USB device to TV set.
- 3) Press "DVD USB CARD" button, Will shown a dialog box as below.



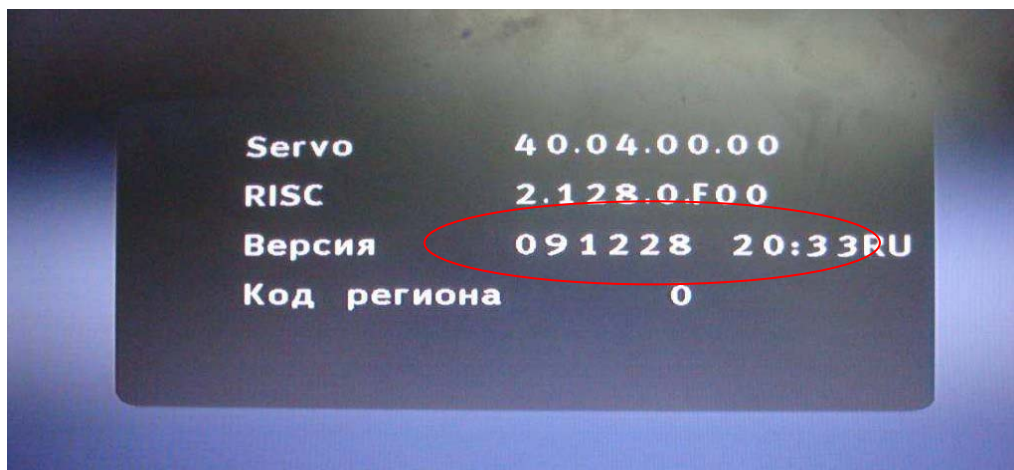
- 4) Press  button on remote control, Will shown a dialog box as below,
Please wait a few minutes(about 5 minutes) ,then DVD will restart auto .
During upgrading time, make sure to do not power off and pull out USB device.



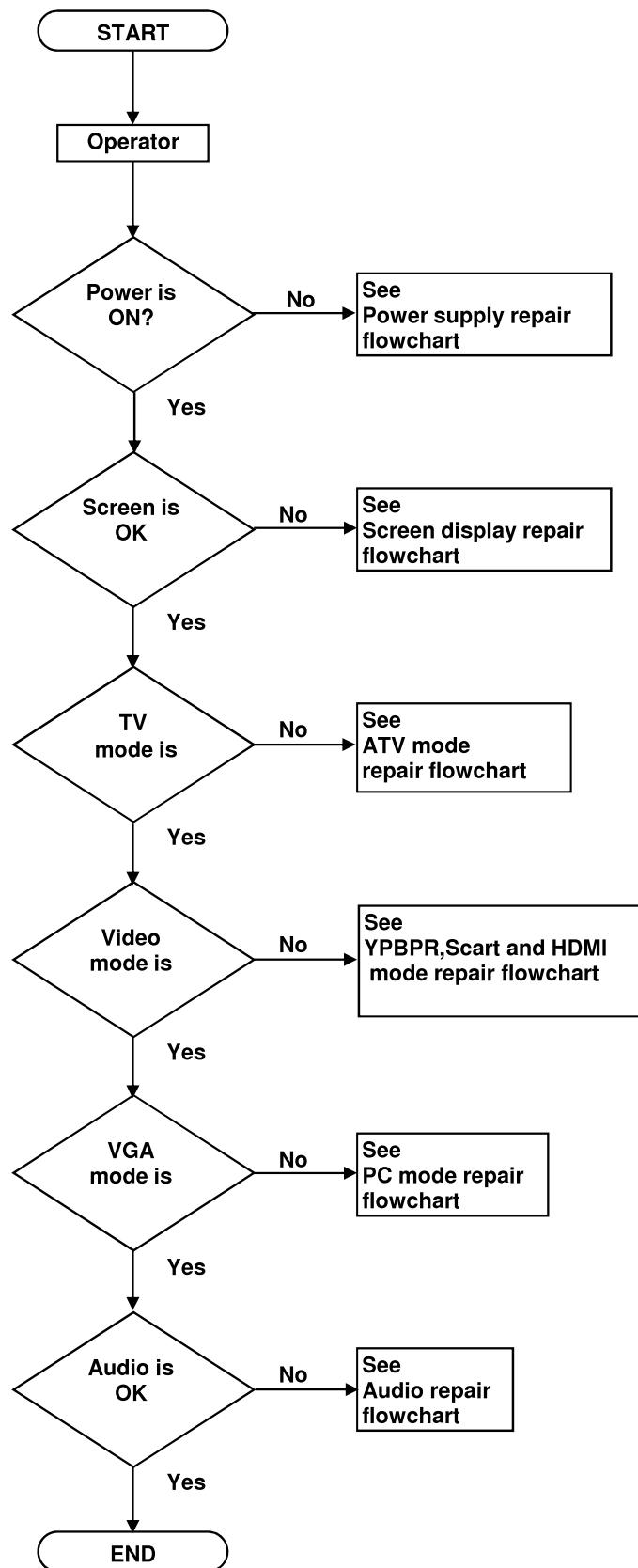
4) After TV restart, Enter DVD setup menu in order to check the version number.



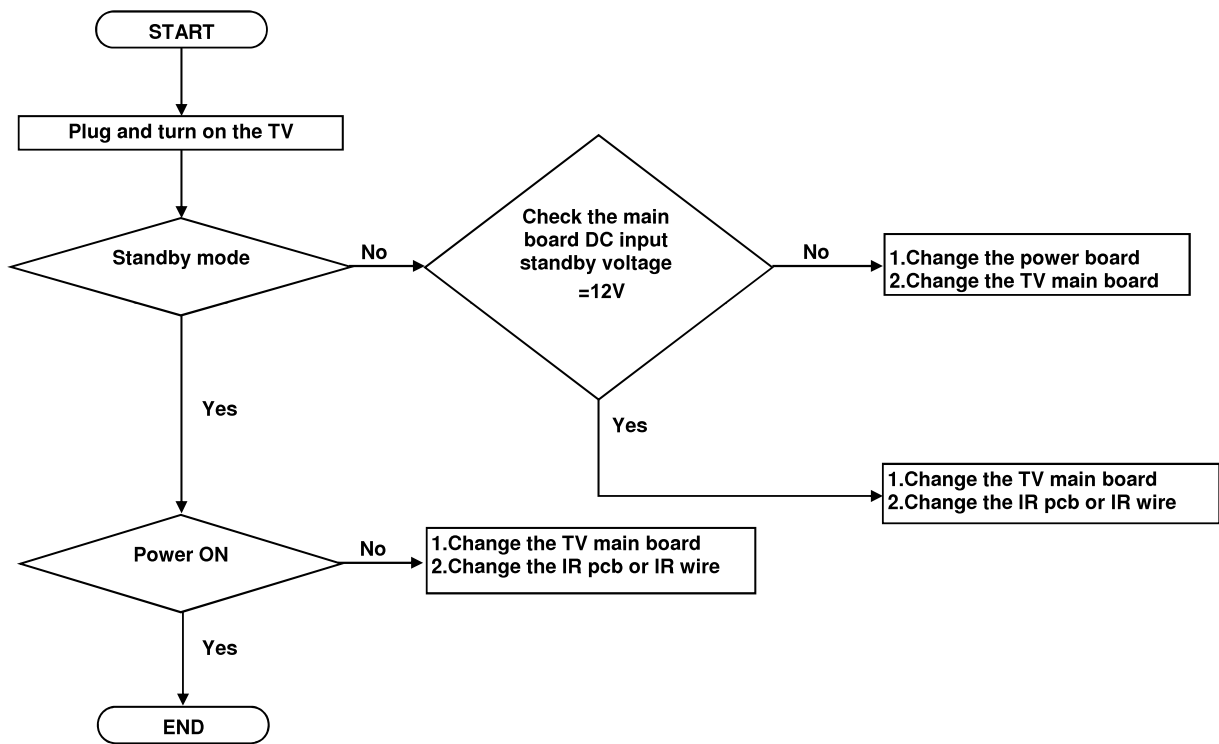
5) Press "9" "2" "1" "0" button serially, You will see DVD factory menu. A dialog box will be showed as below. Marked with red circle is the version number.



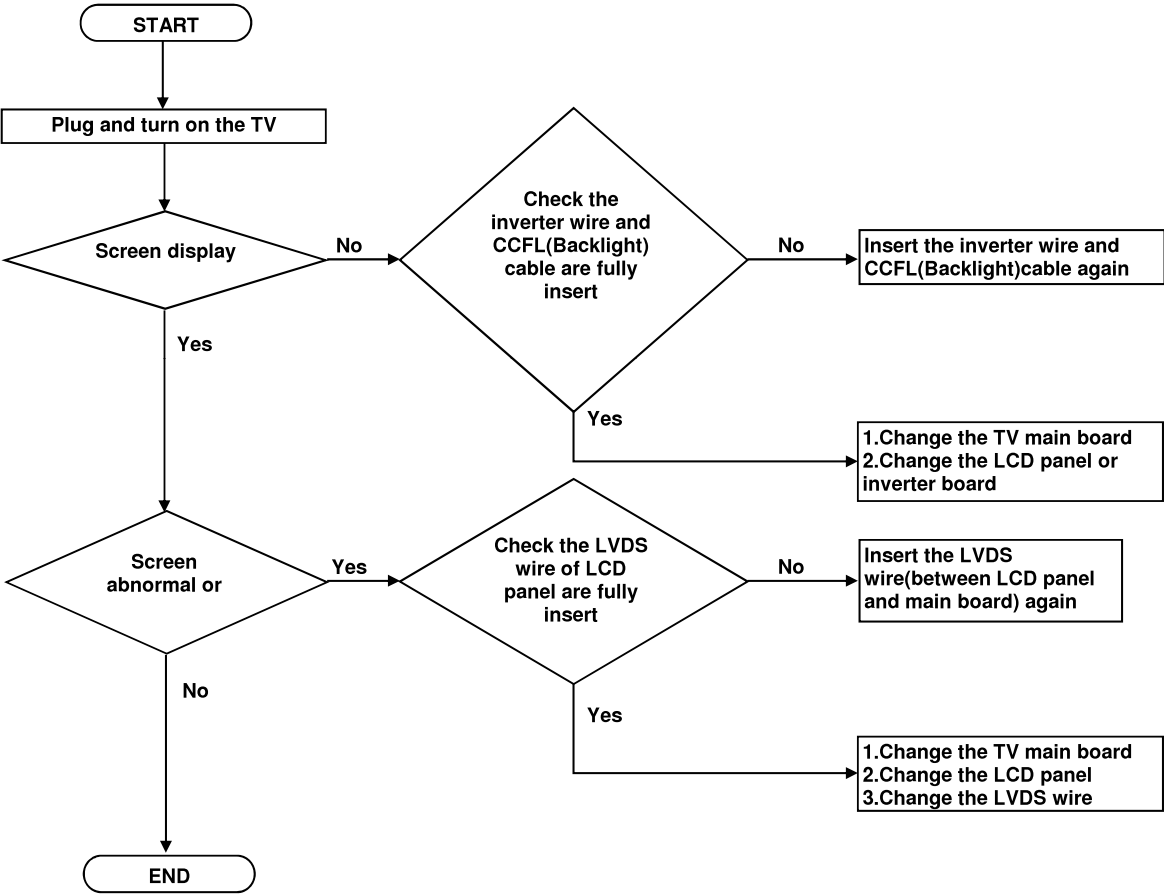
TV Fault finding tree



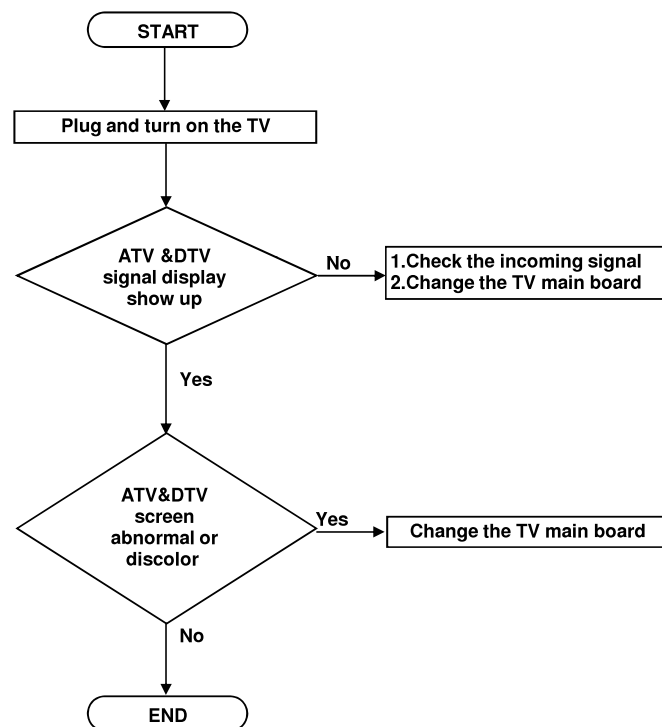
Power supply repair flowchart



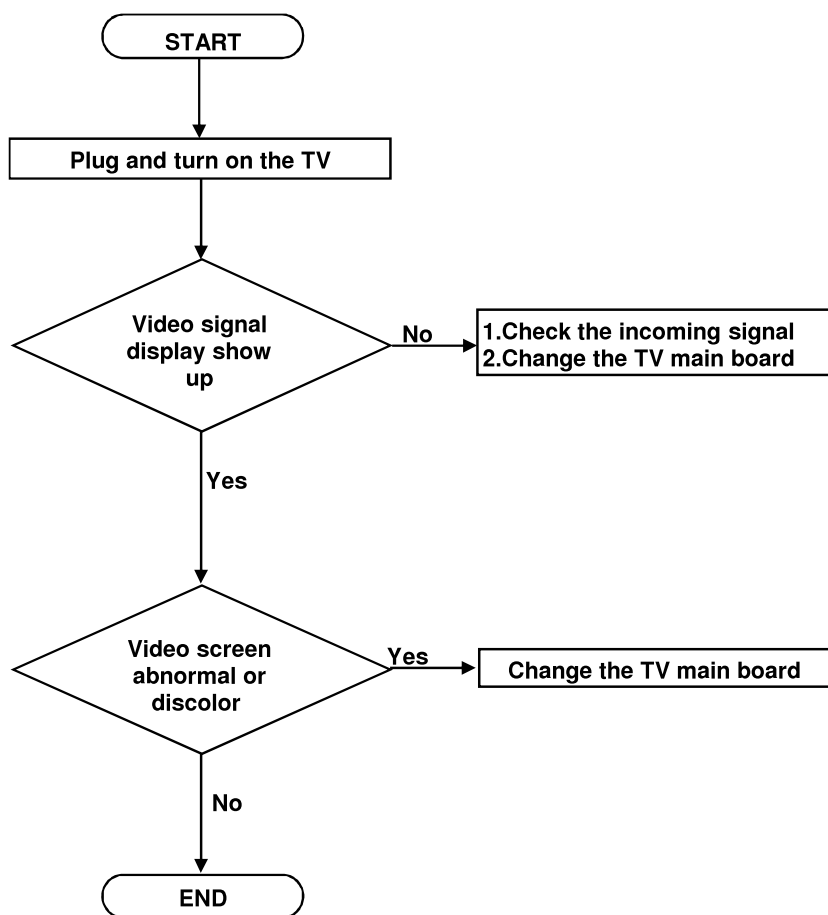
Screen Display repair flowchart



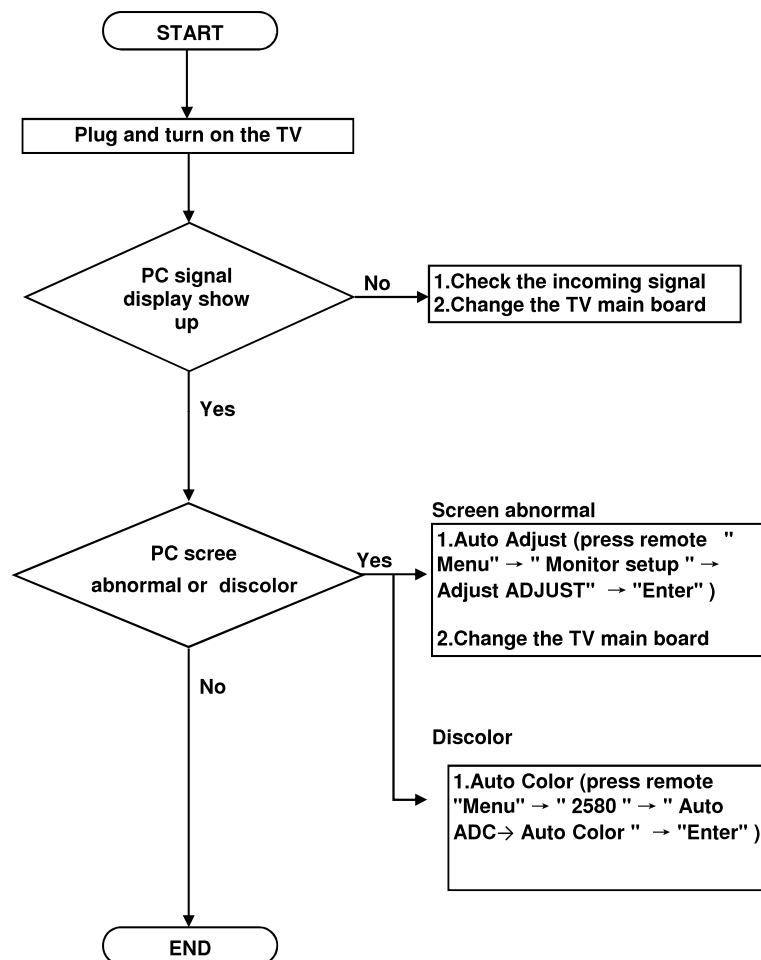
TV mode repair flowchart



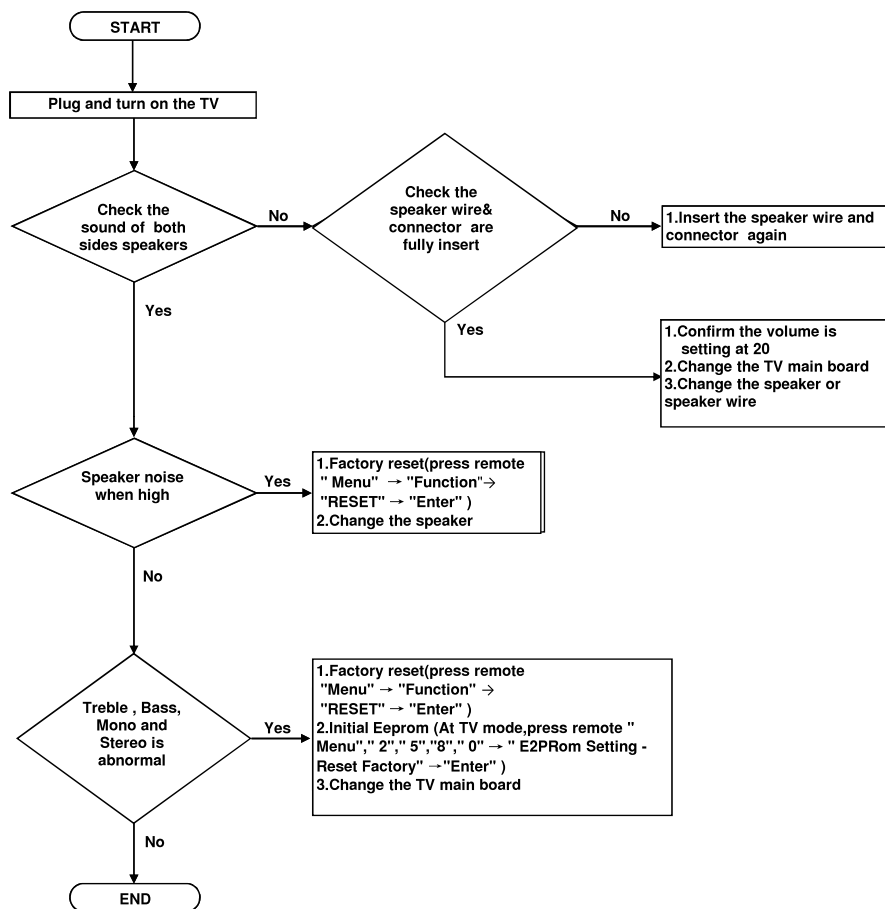
YPBPR ,Scart and HDMI mode repair flowchart



PC mode repair flowchart

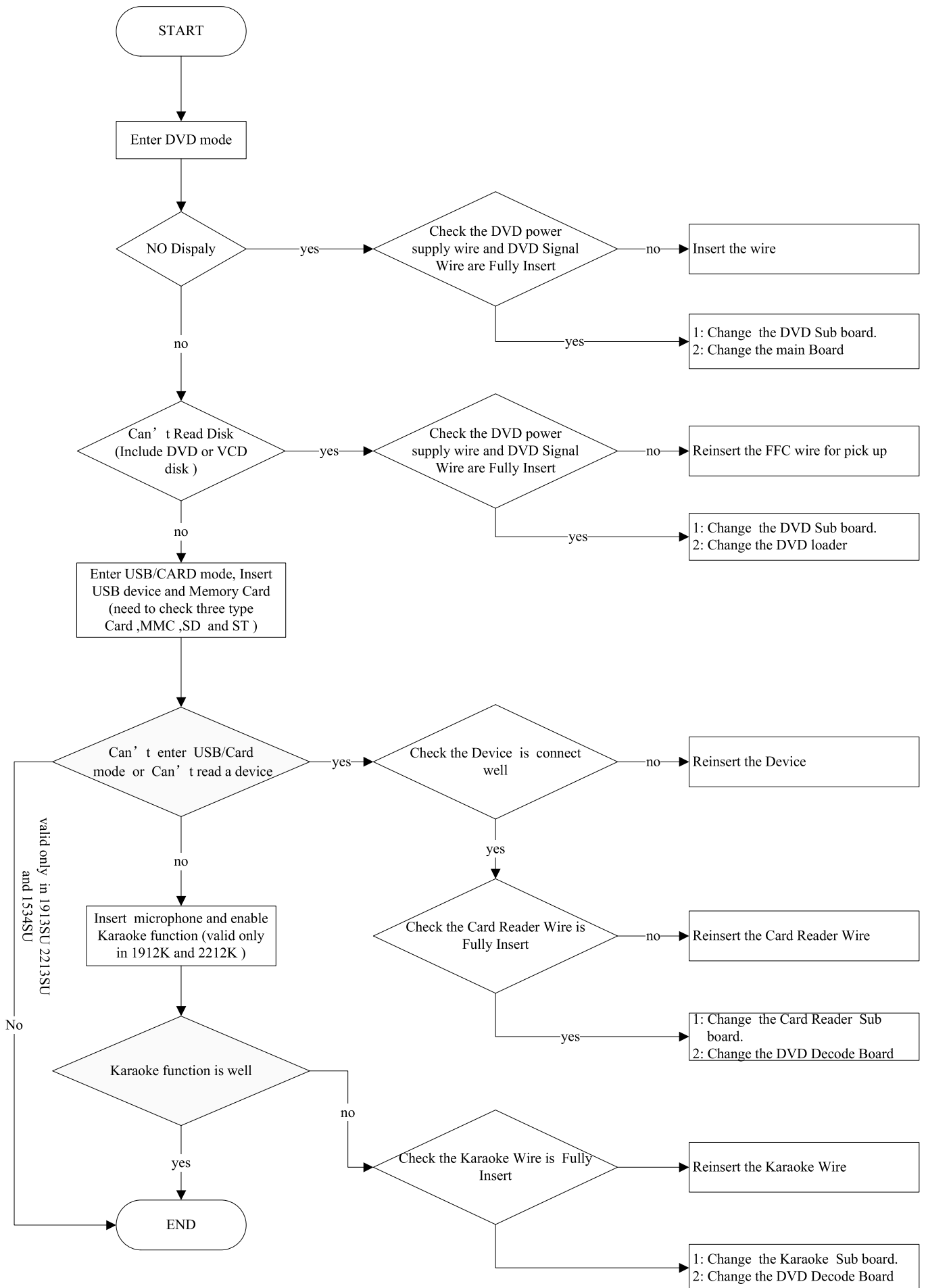


Audio repair flowchart

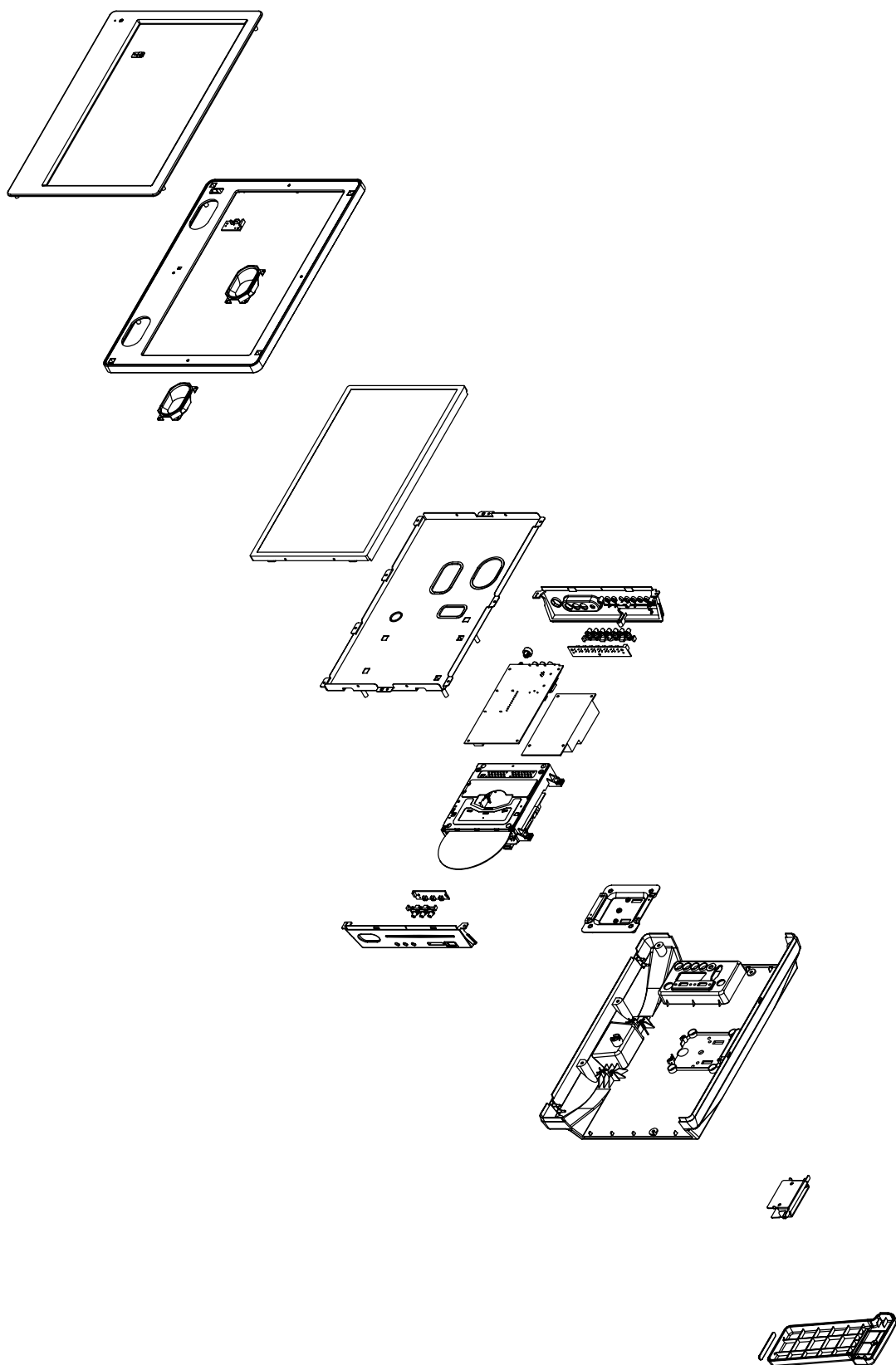


REMARK : After Default Setting , PC mode must " Auto Color"(press remote " Menu" → "2580" → "Auto ADC"→ "Auto Color" → "Enter")

DVD fault Finding and Trouble Shooting

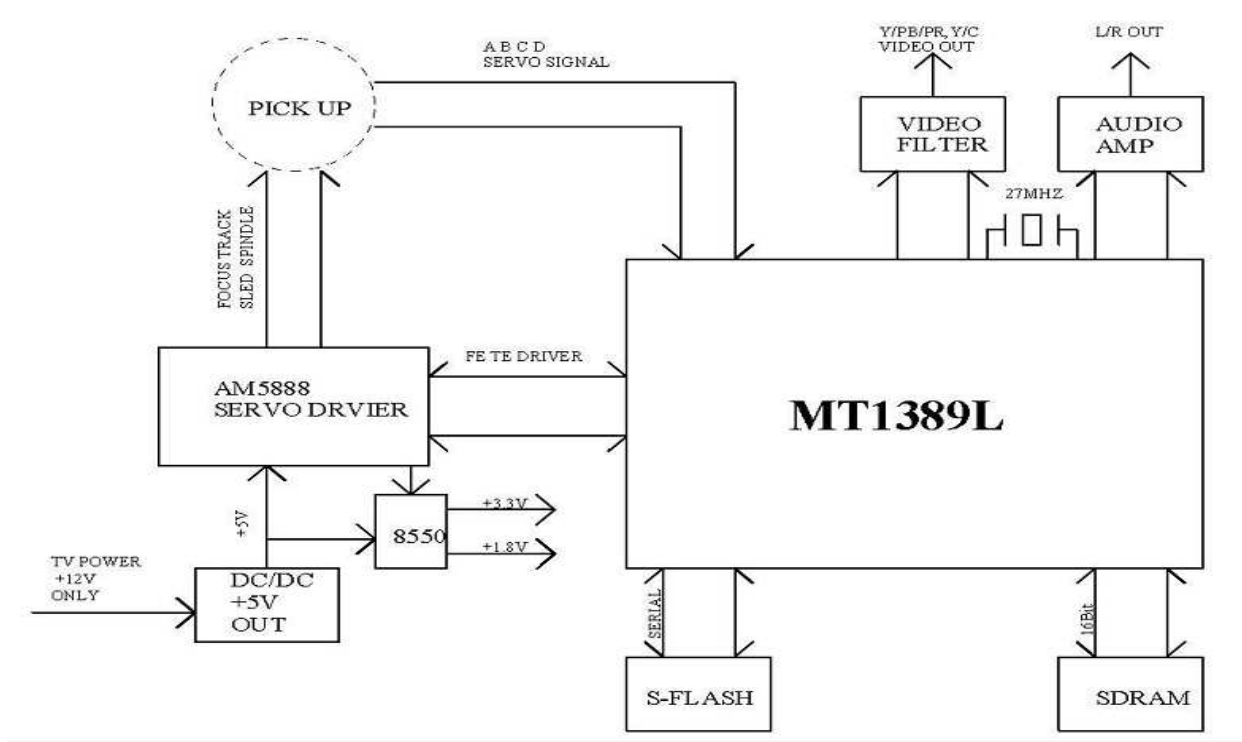


EXPLODED VIEW

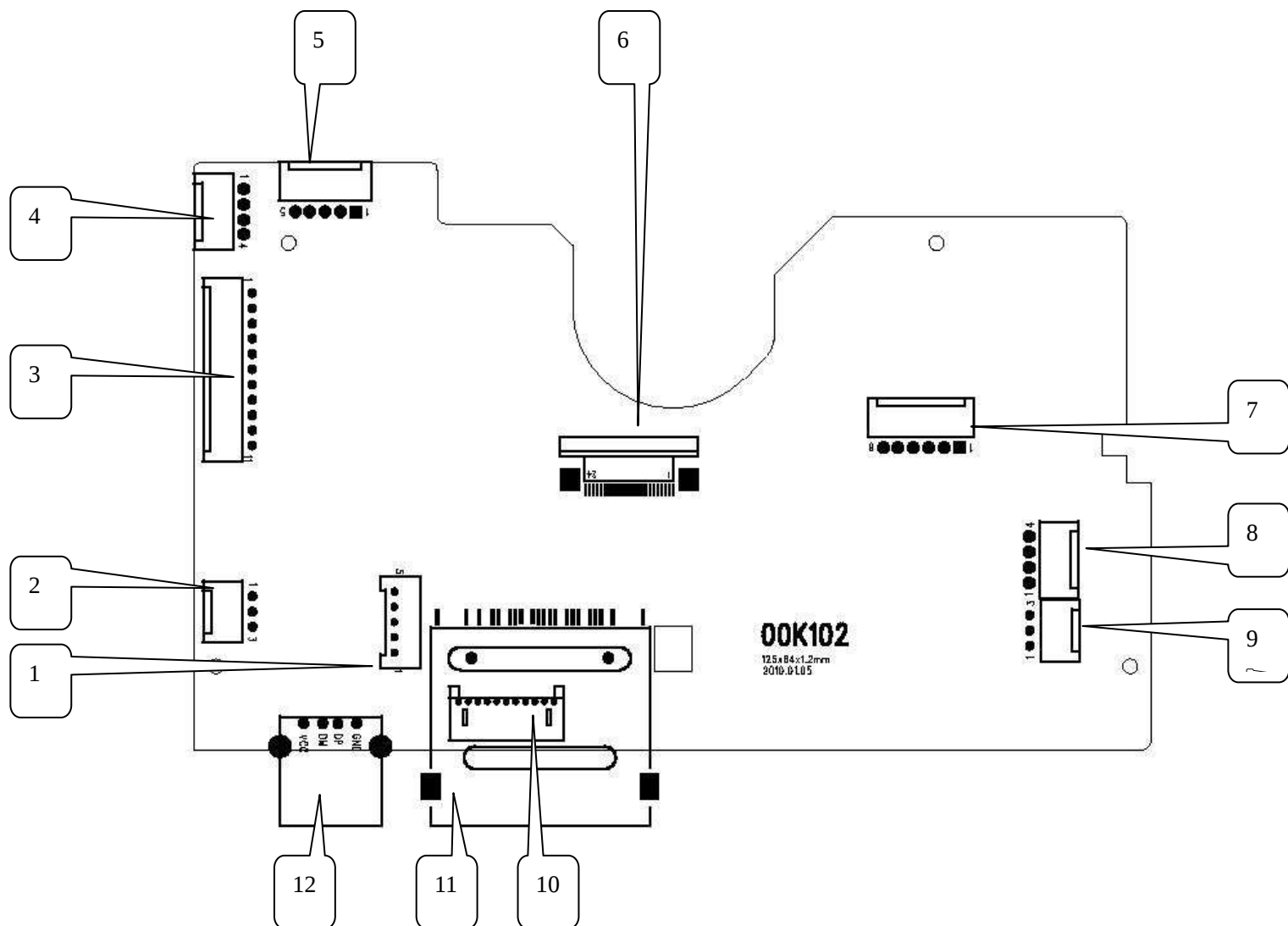


APPENDIX A: DVD Decode Board Specification

Block Diagram



Interface Description (marked with * is optional)



*1(CN10)	Extended USB interface	*8 (CN7)	Karaoke sub board interface
2(CN8)	DVD Detection signal interface	9 (CN9)	DVD KEY interface
3 (CN21)	DVD Video and control signal interface	*10(CN25)	USB,CARD reader extended interface
4 (CN2)	Loading disk control	*11(J1)	3-in-1 card reader interface
5 (CN1)	Power Supply	*12(J2)	USB2.0 interface
6 (CN6)	Pick up interface		
7 (CN5)	Reading Disk control		

Interface define

◆ CN10 (5Pin2.0mm) Extended USB interface

NO	Define	Description
1	GPIO	USB channel control
2	GND	0V Reference
3	USB+	Extended USB+ input
4	USB-	Extended USB- input
5	5V	5V power supply

◆ CN8 (3Pin2.0mm) DVD Detection signal interface

NO	Define	Description
1	TROUT	Ejecting finish signal detection signal
2	DISCEJT	Disk detection signal
3	GND	0V Reference

◆ CN21 (11Pin2.0mm) DVD Video and control signal interface

NO	Define	Description
1	DSCL	Clock of DVD control signal
2	DSDA	Data of DVD control signal
3	DR	Right audio output
4	DSTB	Standby signal
5	DL	Left audio output
6	CVBS	Composite video output
7	GND	0V Reference
8	SPDIF	Coaxial out put
9	DVD_C	DVD-C output
10	GND	0V Reference
11	DVD_Y	DVD-Y output

◆ CN2 (4Pin2.0mm) Loading disk control

NO	Define	Description
1	GND	0V Reference
2	TRIN	Disk loading completed signal
3	SL-	Feed motor input
4	SL+	Feed motor input

◆ CN1 (5Pin2.0mm) Power supply

NO	Define	Description
1	5V	5V Input
2	5V	5V Input
3	GND	0V Reference
4	GND	0V Reference
5	GND	0V Reference

◆ CN5 (6Pin2.0mm) Read disk interface

NO	Define	Description
1	LOAD+	Loading motor + input
2	LOAD-	Loading motor - input
3	GND	0V Reference
4	LIMIT	Pick up detecting signal
5	SP+	Spindle motor input
6	SP-	Spindle motor input

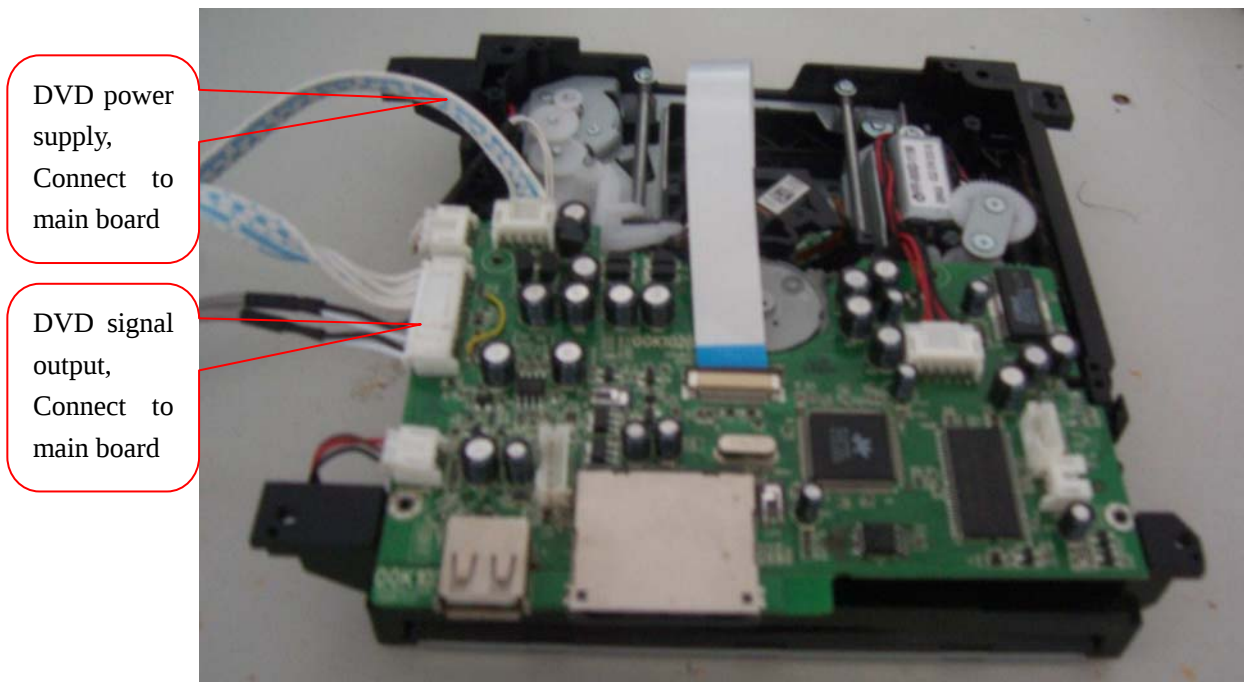
◆ CN7 (4Pin2.0mm) Karaoke Interface

NO	Define	Description
1	MIC_DET	Microphone detecting signal
2	MIC_IN	Microphone audio input
3	GND	0V Reference
4	5V	5V supply for karaoke board

◆ CN9 (3Pin2.0mm) DVD key interface

NO	Define	Description
1	SW1	Key 1
2	GND	0V Reference
3	SW2	key2

Assembly Instruction Picture



2-IN-1 Power Supply Board Specification

Power Supply Overview:

Input Electrical Characteristics Overview

Input voltage range : 90Vac to 264Vac

Normal voltage range :100Vac to 240Vac

Frequency range:50Hz/60Hz $\pm 5\%$

Max input ac current: 2.0Amax at full load condition

Inrush current:30Atyp peak, 120Vac; 60Atyp peak, 220Vac

Efficiency:80%min at 100Vac; 86%min at 220Vac

Harmonic current:Meet GB17625.1-1998/IEC61000-3-2 class D

Leakage Current: Less Than 0.75mA, 230Vac input

Standby Power Loss ≤ 1 W, 240Vac input

Input Fuse: T2AL/250Vac

Output Voltage ,Current & Regulation.

Output Voltage	Regulation	Min. current	Rated current	Peak current
+12V	$\pm 10\%$	0.3A	1.2A	3A
			0.8A	2A*
+5V	$\pm 10\%$	0.1A	2.2A	3A

Output Ripple & Noise.

Output Voltage	Ripple & Noise (Max.)
+12V	120mVp-p@25°C ; 300mVp-p@-10°C
+5V	100mVp-p@25°C ; 150mVp-p@-10°C

Note: 1) Measurements shall be made with an oscilloscope with 20MHz bandwidth.

2) Outputs shall be bypassed at the connector with a 0.1uF ceramic capacitor and a 10uF electrolytic capacitor to simulate system loading.

Pin Connection

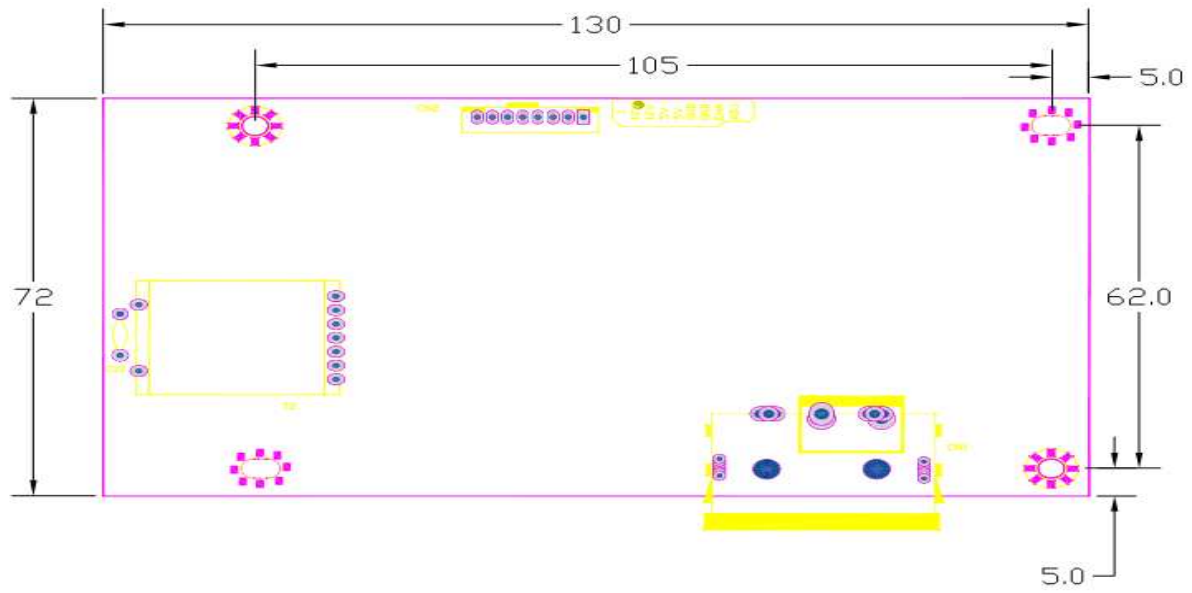
Pin-CN1 AC.Connection And Function TYPE :立式3.96.0MM*3PIN中空

NO.	Pin Connection	Function
1	L	L-INPUT
2		nc
3	N	N-INPUT

Pin-CN2 Connection And Function TYPE : 2.0MM*8PIN

NO.	Pin Connection	Function
1	+12V	+12V OUTPUT
2	+12V	+12V OUTPUT
3	+5V	+5V OUTPUT
4	+5V	+5V OUTPUT
5	GND	RETURN
6	GND	RETURN
7	ENA	INVERTER ON
	ADJ	0—5V ADJ

Power Supply Mounting



Inverter section

General Description

This DC-AC Inverter was developed for 2 CCFL lamps of LCD back lighting system.

Suitable load

High performance low consumption

Lower temperature raising

Open lamp protection

Wide Dimming Range

Lamp Current Balance Control

Absolute Maximum Rating Lf Environment

Temperature operating : -10°C --50°C

Temperature storage : -20°C --80°C

Humidity operating : 10% --90RH

Humidity storage : 10% --90RH

Input Electrical Characteristics

NO.	Parameter	Symbol	MIN	TYPE	MAX	Unit
1	input voltage	Vin	11.4	12	12.6	V
2	Input current	Iin	---	1.0	---	A @Vin=12.0VDC
3	Input power	Pin	---		---	W @Vin=12.0VDC
4	Dimming Adjust: Burst mode(With DC)	Vbrit	0		5	V(0Vmaximun brightness)
5	Control voltage	ON: Von/off=1V~5v OFF: Von/off=0~1.0V				
6	Open lamp protection	Yes				

Output Electrical Characteristics

NO.	Parameter	Test Conditions	Symbol	MIN	TYPE	MAX	Unit
1	Output voltage	maximun brightness	Vout	---	700	---	Vrms
2	Output current	Brightness	Lout		7		mA
3	Frequency	Maximnu brightenss	F	48	50	52	kHz
4	Efficiency	Maximun brightenss	η	80	---	---	%
5	Open lamp protection time	No Load,25℃	To	0.5	1	1.5	S
6	Open lamp voltage	No Load,25℃	Vst	---	1700	---	Kvmax

Inverter topview

