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PLASMA TV SERVICE MANUAL

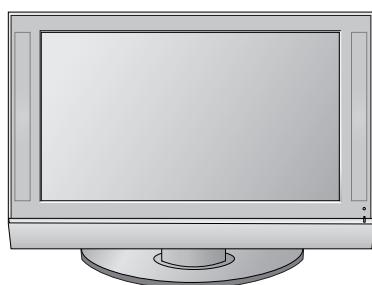
CHASSIS : PD74A

MODEL : 42PT85

42PT85-ZB

CAUTION

BEFORE SERVICING THE CHASSIS,
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.



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SAFETY PRECAUTIONS

IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by  in the Schematic Diagram and Replacement Parts List.

It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent X-RADIATION, Shock, Fire, or other Hazards.

Do not modify the original design without permission of manufacturer.

General Guidance

An **isolation Transformer** should always be used during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks.

It will also protect the receiver and its components from being damaged by accidental shorts of the circuitry that may be inadvertently introduced during the service operation.

If any fuse (or Fusible Resistor) in this monitor is blown, replace it with the specified.

When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB.

Keep wires away from high voltage or high temperature parts.

Due to high vacuum and large surface area of picture tube, extreme care should be used in **handling the Picture Tube**.

Do not lift the Picture tube by its Neck.

Leakage Current Cold Check(Antenna Cold Check)

With the instrument AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc.

If the exposed metallic part has a return path to the chassis, the measured resistance should be between $1M\Omega$ and $5.2M\Omega$.

When the exposed metal has no return path to the chassis the reading must be infinite.

An other abnormality exists that must be corrected before the receiver is returned to the customer.

Leakage Current Hot Check (See below Figure)

Plug the AC cord directly into the AC outlet.

Do not use a line Isolation Transformer during this check.

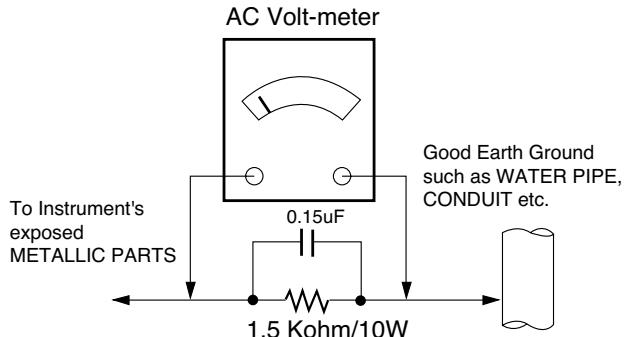
Connect 1.5K/10watt resistor in parallel with a 0.15uF capacitor between a known good earth ground (Water Pipe, Conduit, etc.) and the exposed metallic parts.

Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity.

Reverse plug the AC cord into the AC outlet and repeat AC voltage measurements for each exposed metallic part. Any voltage measured must not exceed 0.75 volt RMS which is corresponds to 0.5mA.

In case any measurement is out of the limits specified, there is possibility of shock hazard and the set must be checked and repaired before it is returned to the customer.

Leakage Current Hot Check circuit



SPECIFICATIONS

NOTE : Specifications and others are subject to change without notice for improvement.

■ Application Range

This spec is applied to the 42" PLASMA TV used PP7BA Chassis.

Chassis	Model Name	Market	Brand	Remark
PD74A	42PT85	UK,France, Germany, Spain, Sweden, Finland, Italy	LG	

■ Specification

Each part is tested as below without special appointment.

- 1) Temperature : $25\pm 5^{\circ}\text{C}$ ($77\pm 9^{\circ}\text{F}$), CST : 40 ± 5
- 2) Relative Humidity: $65\pm 10\%$
- 3) Power Voltage: Standard Input voltage (100-240V~, 50/60Hz)
* Standard Voltage of each product is marked by models.
- 4) Specification and performance of each parts are followed each drawing and specification by part number in accordance with SBOM.
- 5) The receiver must be operated for about 20 minutes prior to the adjustment.

■ Test Method

1) Performance : LGE TV test method followed.

2) Demanded other specification

Safety : CE, IEC specification

EMC : CE, IEC

Model	Market	Appliance	Remark
42PT85	UK,France, Germany, Spain, Sweden, Finland, Italy	Safety : IEC/EN60065 EMI : EN55013, EMS : EN55020	Not yet TEST

■ General Specification (42" XGA Module)

No	Item	Specification	Remark
1	Display Screen Device	42" Wide Color Display Module	Plasma Display Panel
2	Aspect Ratio	16:9	
3	PDP Module	PDP42X4A, RGB Closed Type	Film Filter
4	Operating Environment	1)Temp. : $0\sim 40^{\circ}\text{C}$ 2)Humidity : $20\sim 80\%$	LGE SPEC.
5	Storage Environment	3)Temp. : $-20\sim 60^{\circ}\text{C}$ 4)Humidity : $10\sim 90\%$	
6	Input Voltage	100-240V~, 50/60Hz	Maker : LG

■ Module Specification

No	Item	Specification	Remark
1	Market	UK, France, Germany, Spain, Sweden, Finland, Italy	
2	Broadcasting system	1) PAL-BG 2) PAL - DK 3) PAL - I, I' 4) DVB - T(ID TV)	UK, France, Germany, Spain, Sweden, Finland, Italy
3	Receiving system	Analog : Upper Heterodyne Digital : COFDM	
4	SCART Jack(2EA)	PAL, SECAM	Scart 1 Jack is Full scart and support RF-OUT (analog) Scart 2 Jack is Half scart and support MNT-OUT
5	Video Input (2EA)	PAL, SECAM, NTSC	4 System : PAL, SECAM, NTSC, PAL60
6	S-Video Input (1EA)	PAL, SECAM, NTSC	4 System : PAL, SECAM, NTSC, PAL60
7	Component Input (1EA)	Y/Cb/Cr, Y/Pb/Pr	
8	RGB Input	RGB-PC RGB-DTV	
9	HDMI Input(2EA)	HDMI-PC HDMI-DTV & SOUND	
10	Audio Input(4EA)	PC Audio, Component, AV(2EA)	L/R Input

ADJUSTMENT INSTRUCTIONS

1. Application Object

These instructions are applied to all of the 42" PLASMA TV,
PD74A Chassis.

Each PCB assembly must be checked by check JIG set.
(Because power PCB Assembly damages to PDP Module,
especially be careful)

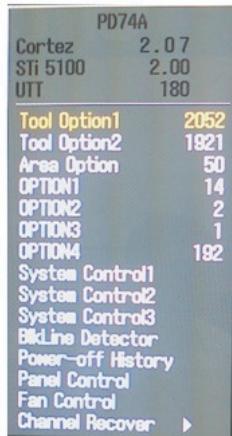
2. Note

- (1) Because this is not a hot chassis, it is not necessary to use an isolation transformer. However, the use of isolation transformer will help protect test instrument.
- (2) Adjustment must be done in the correct order.
- (3) The adjustment must be performed in the circumstance of $25\pm5^{\circ}\text{C}$ of temperature and $65\pm10\%$ of relative humidity if there is no specific designation.
- (4) The input voltage of the receiver must keep $100\text{-}240\text{V}\sim$, $50\text{/}60\text{Hz}$.
- (5) Before adjustment, execute Heat-Run for 30 minutes at RF no signal.

3. Channel memory Setting Method

: You can set channel memory by R/C for adjustment.

- 1) Press ADJ key of Adjust Remote Controller.(P/N:105-210M)
- 2) Select 'Channel Recover' by using $\Delta/\nabla(\text{CH } +/-)$ key, and press 'VOL +'.
- 3) The set is turned off automatically.
- 4) Press 'power' key of Adjust Remote Controller.



5. POWER PCB Assy Voltage Adjustments

(Va, Vs Voltage adjustments)
5-1. Test Equipment : D.M.M. 1EA

5-2. Connection Diagram for Measuring

: refer to Fig.1

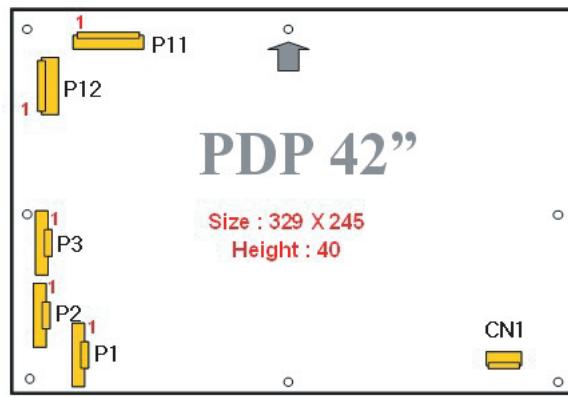
5-3. Adjustment Method

(1) Va Adjustment

- 1) After receiving 100% Full White Pattern, HEAT RUN.
- 2) Connect + terminal of D.M.M to Va pin of P12(P812), connect - terminal to GND pin of P12(P812).
- 3) After turning VR901, voltage of D.M.M adjustment as same as Va voltage which on label of panel right/top. (Deviation; $\pm 0.5\text{V}$)

(2) Vs Adjustment

- 1) Connect + terminal of D.M.M to Vs pin of P812, connect - terminal to GND pin of P812.
- 2) After turning VR951, voltage of D.M.M adjustment as same as Vs voltage which on label of panel right/top. (Deviation; $\pm 0.5\text{V}$)



(Fig.1) Connection diagram of power adjustment for measuring

4. PCMCIA CARD Checking Method

: You must adjust DTV #(Scrambled) Channel and insert PCMCIA CARD to socket.

- 1) If PCMCIA CARD works normally, normal signals display on screen.
But it works abnormally, "No CA module" words display on screen.

6. EDID (The Extended Display Identification Data)/ DDC (Display Data Channel) download

* Caution

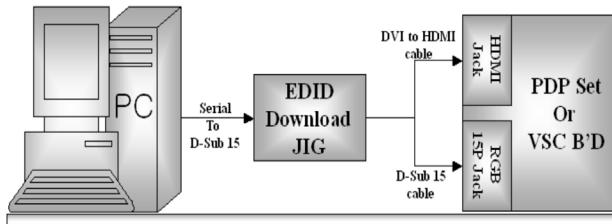
- (1) Use the proper signal cable for EDID Download.
 - Analog EDID : Pin3 exists.
 - Digital EDID : Pin3 exists.
- (2) Never connect HDMI & DVI-D & DVI-A Cable at the same time.
- (3) Use the proper cables below for EDID Writing.



6-1. EDID Date

Item	Condition	Hex Data
Manufacturer ID	GSM	1E6D
Version	Digital : 1	01
Revision	Digital : 3	03

6-2. Setting of device



(Fig. 2) Connection Diagram of DDC download

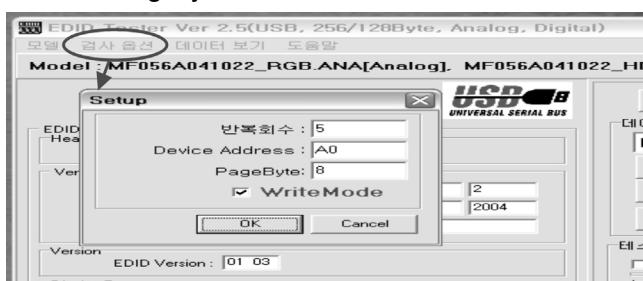
6-3. Preparation for Adjustment

- 1) As above Fig. 2, Connect the Set, EDID Download Jig, PC & Cable.
- 2) Turn on the PC & EDID Download Jig. And Execute the S/W : EDID TESTER Ver.2.5.
- 3) Set up S/W option.

Repeat Number : 5

Device Address : A0

PageByte : 8



- 4) Power on the Set.

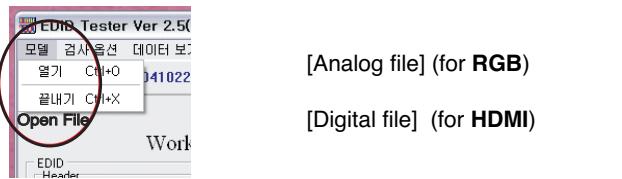
6-4. Sequence of Adjustment

- EDID Download

- 1) Init the data.

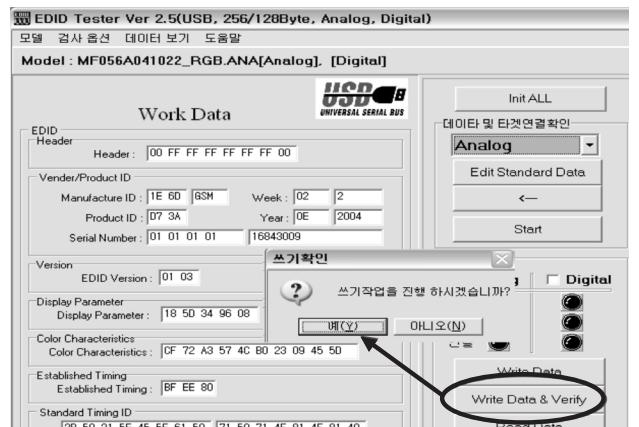


- 2) Load the EDID data.(Open File).



- 3) Set the S/W as below.

- 4) Push the "Write Data & Verify"button. And confirm "Yes".
- 5) If the writing is finished, you will see the "OK" message.
- 6) If TV has two HDMI, you must download two times for each HDMI.



8. Auto RF/AV/S-VIDEO Color Balance

8-1. Requirement

- This AV color balance adjustment should be performed before white Balance Adjustment.

8-2. Required Equipment

- 1) Remote controller for adjustment.
- 2) MSPG-925FS Pattern Generator (Which has Video Signal: 7 Color Bar Pattern shown in Fig.3).
(1) Model: 202 / Pattern: 65 - Models use PAL-BGDHI.
(composite signal)

8-3. Method of Auto RF/AV/S-VIDEO Color Balance(PAL_BGDHI)

- 1) Input the PAL Video signal 7 color Bar (MSPG-925FS Model : 202, pattern : 65) signal into AV3.
- 2) Set the PSM to Dynamic mode in the Picture menu.
- 3) Press INSTANT key on R/C for adjustment.



(Fig.3) Color Bar signal

- 4) Press the ▶(Vol. +) key operate to set, then it becomes automatically.



(Fig.4) Color Bar signal

- 5) Auto-RGB OK means completed adjustment.

9. Adjustment of Component

9-1. Requirement

- This AV color balance adjustment should be performed before white Balance Adjustment.

9-2. Required Equipment

- 1) Remote controller for adjustment.
- 2) MSPG-925FS Pattern Generator (Which has Video Signal: 7 Color Bar Pattern shown in Fig.5).
(1) Model: 215 / Pattern: 65 - Models use component.

9-3. Method of Auto Component Color Balance

- 1) Input the Component 720p/50Hz 7 Color Bar (MSPG-925FS Model : 215, pattern : 65) signal into Component.
- 2) Set the PSM to Dynamic mode in the Picture menu.
- 3) Press IN-START key on R/C for adjustment.



(Fig.5) Color Bar signal

- 4) Press the ▶(Vol. +) key to operate the set, then it becomes automatically.



(Fig.6) Color Bar signal

- 5) Auto-RGB OK means the adjustment is completed.

10. Adjustment of RGB

10-1. Requirement

- This AV color balance adjustment should be performed before white Balance Adjustment.

10-2. Required Equipment

- 1) Remote controller for adjustment.
- 2) MSPG-925FS Pattern Generator (Which has Video Signal: 7 Color Bar Pattern shown in Fig.7).
(1) Model: 3 / Pattern: 65 - Models use RGB

10-3. Method of Auto RGB Color Balance

- 1) Input the PC 1024x768 @ 60Hz 7 color bar (MSPG-925FS, Model : 3, Pattern : 65) signal into RGB.(using D-sub to D-sub cable)
- 2) Set the PSM to Dynamic mode in Picture menu.
- 3) Press the IN-START key on R/C for adjustment.



(Fig.7) Color Bar signal

- 4) Press the ▶(Vol. +) key operate to set , then it becomes automatically.



(Fig.8) Color Bar signal

- 5) Auto-RGB OK means adjustment is completed.

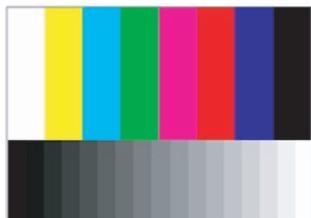
11. Scart RGB(DVR) Adjustment Mode

11-1. Required Equipment

- 1) Remote controller for adjustment
- 2) MSPG-925FS Pattern Generator (Which has Video Signal:
7 Color Bar Pattern shown in Fig.9)
- (1) Model: 232 / Pattern: 08

11-2. Method of Auto Scart RGB(DVB) Balance

- 1) Input the Video Signal : Color Bar signal into AV1(using Full Scart Cable).
- 2) Set the PSM to Dynamic mode in Picture menu.
- 3) Press the IN-START key on R/C for adjustment.



(Fig.9) Color Bar signal



(Fig.10) Color bar Signal

- 4) Press the TURBO-PICTURE Key on R/C for adjustment.
- 5) Press the ▶(Vol. +) key operate To set , then it becomes automatically.(Fig.7)
- 6) Scart RGB(DVR) OK means Scart RGB adjustment is completed.

12. Adjustment of White Balance

12-1. Required Equipment

- (1) Color Analyzer(CA-100+/CH.10)
 - 1) Remote controller of adjustment -> Color Analyzer(CA-100+ of same product) : CH 10
 - 2) Auto W/B adjustment instrument.(only for Auto Adjustment) -> AV Pattern Generator.

- ◆ Color temperature standards according to CSM and Module.

CSM	PLASMA	Remark
Cool	11000K	
Normal	9300K	
Warm	6500K	

- ◆ White balance adjustment coordinate and color temperature.
* PC(for communication through RS-232C)

Cool	CS-100	CA-210(CH 10)
x	0.276	0.276±0.002
y	0.283	0.283±0.002
Δuv	0.000	0.000
Medium	CS-100	CA-210(CH 10)
x	0.285	0.285±0.002
y	0.293	0.293±0.002
Δuv	0.000	0.000
Warm	CS-100	CA-210(CH 10)
x	0.313	0.313±0.002
y	0.329	0.329±0.002
Δuv	0.004	0.004

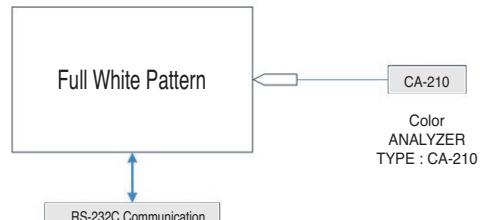
-> UART Baud rate : 115200 bps

* Luminance Y AV : upper 150cd/m² (Typ : 350cd/m²)

-> Applying to Cool, Medium, Warm mode.

12-2. Connection Picture of the Measuring Instrument(On Automatic control)

- (1) Inside PATTERN is used when W/B is controlled. Connect to auto controller or push control R/C IN-START -> Enter the mode of White-Balance, the pattern will come out. power supply) and heat-run over 15 minutes.



(Fig.11) Auto AV(CVBS) Color Balance Test Pattern

■ Auto adjustment Map(RS-232C)

Type		PD74A				
Baud Rate		Data bit		Stop bit		Parity
115200		8		1		None
Protocol	Index	Cmd 1	Cmd 2	Data	Min Value	Max Value
Setting	R-Gain_Normal	j	a	00(00)	128(80)	
	G-Gain_Normal	j	b	00(00)	128(80)	
	B-Gain_Normal	j	c	00(00)	128(80)	
	R-Gain_Warm	j	d	00(00)	128(80)	
	G-Gain_Warm	j	e	00(00)	128(80)	
	B-Gain_Warm	j	f	00(00)	128(80)	
	R-Gain_Cool	j	g	00(00)	128(80)	
	G-Gain_Cool	j	h	00(00)	128(80)	
	B-Gain_Cool	j	i	00(00)	128(80)	
	R-Offset_Normal	I	j	00(00)	128(80)	
	G-Offset_Normal	I	k	00(00)	128(80)	
	B-Offset_Normal	I	l	00(00)	128(80)	
	R-Offset_Warm	I	m	00(00)	128(80)	
	G-Offset_Warm	I	n	00(00)	128(80)	
	B-Offset_Warm	I	o	00(00)	128(80)	
	R-Offset_Cool	I	p	00(00)	128(80)	
G-Offset_Cool	I	q	00(00)	128(80)		
B-Offset_Cool	I	r	00(00)	128(80)		
Internal Pattern Signal	w	b	00	W/B adjustment Start		
Internal Pattern Signal	w	b	10	Internal Pattern use		
Internal Pattern Signal	w	b	ff	W/B adjustment end		

12-3. Auto-control interface and directions

- (1) Adjust in the place where the influx of light like floodlight around is blocked.(illumination is less than 10ux)
- (2) Measure and adjust after sticking the Color Analyzer(CA-100+, CA-210) to the side of the module.
- (3) Aging time
 - After aging start, keep the power on(no suspension of power supply) and heat-run over 15minutes.
 - Keep white pattern using inside pattern.

13. Adjustment of White Balance

(Manual white Balance)

- One of R Gain/ G Gain/ B Gain should be kept on 80, and others are controlled lowering from 80
- (1) press "power on" of the control R/C, set heat run to white by pressing ▶ and heat run over 15 minutes.
(Set: RS-232 Host: PC, Baud Rate: 115200bps,
Download: Cortez)
- 2) Zero Calibrate CA-100+, and when controlling, stick the sensor to the center of PDP module surface.
- 3) Double click In-start key on Controlling R/C and get in 'white balance'.
- 4) Set test-pattern on and display inside pattern. Control is carried out on three color temperature, COOL, MEDIUM, WARM. (Control is carried out three times.)
- 5) When the R/G/B GAIN is 80 on OSD, it is the FULL DYNAMIC Range of the Module. In order to control white balance without the saturation of FULL DYNAMIC Range and DATA, one of R Gain / G Gain / B Gain should be kept on 80, and other two is controlled lowering from 80.

* Color Temperature: Cool, Medium, Warm

- (1) When R GAIN is set to 80
 - Control G GAIN and B GAIN by lowering from 80.
- (2) When B GAIN is set to 80
 - Control R GAIN and G GAIN by lowering from 80.
- (3) When G GAIN is set to 80
 - Control R GAIN and B GAIN by lowering from 80.
 - One of R Gain / G Gain / B Gain should be kept on 80, and adjust other two lower than 80.
 - (When R/G/B GAIN are all 80, it is the FULL DYNAMIC Range of Module).

14. Default Value in Adjustment mode

14-1. Auto Color Balance

<Component>

<RGB>

AutoColor Balance(Hex)	
Auto-RGB	► To Set
Source	MAIN
Red Offset1	0B7
Green Offset1	0D4
Blue Offset1	0D7
Red Offset2	58
Green Offset2	40
Blue Offset2	40
Red Gain	100
Green Gain	100
Blue Gain	100
Reset	► To Set
AV Component	NG
AV Component	NG

(Fig.12) Default Value on OSD

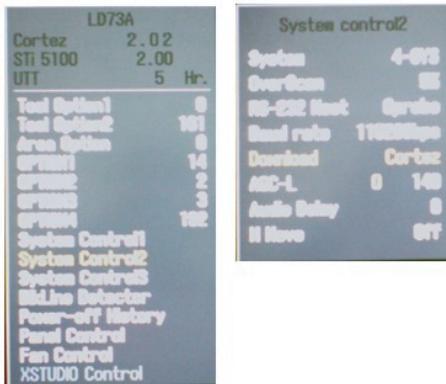
14-2. Write Balance

White Balance(Hex)		
Colour Temp	Cool	
Red Gain	80	
Green Gain	80	
Blue Gain	80	
Red Offset	80	
Green Offset	80	
Blue Offset	80	
Reset	► To Set	
Test-Pattern	ON	

(Fig.13) Default Value on OSD

15. Set information(Serial No & Model name)

- (1) Setting up like bottom figure (After setting white balance, this is set)
- 1) Press ADJ Key in the Adjust remocon.
- 2) Select "System Control 2" by using ▲/▼(CH+/-) key, and press ■(ENTER).
- 3) Using Adjust remocon, RS-232 Host & Baud Rate & Download value change (RS-232 Host:Gprobe, Baud Rate:115200bps, Download:Cortez)

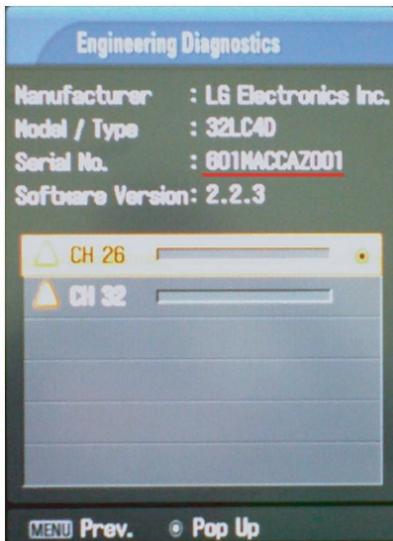


(2) Bar-code scanning

- 1) Push the menu button in DTV mode.
- Select the STATION -> Diagnostics -> To set



2) Check the Serial Number.



16. Select method of Tool option

- (1) Press ADJ Key in the Adjust remote control.
- (2) Select "Tool option 1" and "Tool option2" by using ▲/▼(CH+/-) key, and press ■(ENTER).

PD74A	
Cortez	2.07
STI 5100	2.00
UTT	180
Tool Option1	2052
Tool Option2	1921
Area Option	50
OPTION1	14
OPTION2	2
OPTION3	1
OPTION4	192
System Control1	
System Control2	
System Control3	
BkLine Detector	
Power-off History	
Panel Control	
Fan Control	
Channel Recover	

(3) TOOL OPTION1

- 1) Select "Maker" by using ▲/▼(CH+/-) key, and change the module maker and applied module classification by using ◀/▶(VOL+/-).
- 2) Select "Inch" by using ▲/▼(CH+/-) key, and change the module according to the inch of model.

(4) TOOL OPTION2

- 1) Select "TOOL NUM" by using ▲/▼(CH+/-) key, and change the module maker and applied module classification by using ◀/▶(VOL+/-).
- 2) Select "FAN" by using ▲/▼(CH+/-) key, change the module according to the inch of model.
- 3) Select "DIGITAL" by using ▲/▼(CH+/-) key, and change the tool name according to the model.

Tool Option1	
Tool Option1	2052
Maker	LGX4
Inch	50
Tool	P185
S-Video	0
Side AV	1
Woofier	0
BOOST	0
B-DEF	0

(Inch of model : "42,50" Applied module under the classification :)

Tool option1	Maker	Inch	Tool
2048	LGX4	42	PT85
2052	LGX4	50	PT85

Tool option2	Suffix	FAN	DIGITAL AMP
1665	KE*L(Y)LMP	0	1
1921	KE*L(Y)LMP	1	1
1665	KE*FLMP	0	1

- 6) After changing the Tool option1,2, push the EXIT Key.

TROUBLE SHOOTING GUIDE

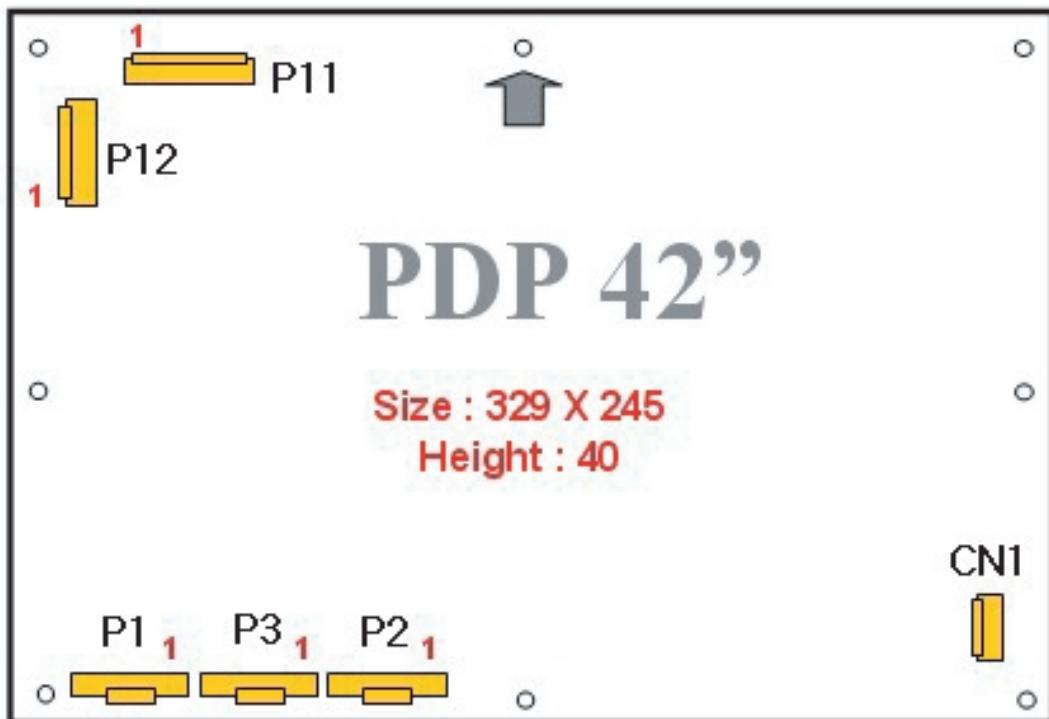
1. Power Board

1-1. The full flowchart for the voltage output



1-2. 42" Power Board Structure(670990001A)

(1) Pin Layout

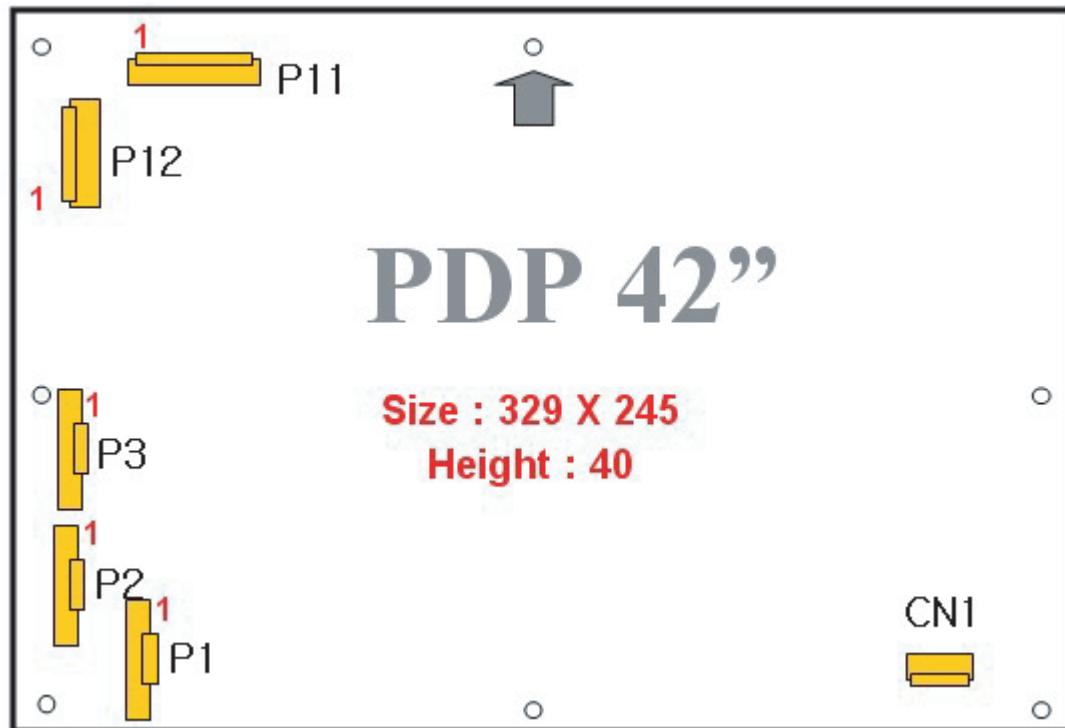


(2) Pin Spec

NO	AC INLET	ANALOG & DIGITAL BOARD			PDP MODULE	
	CN1	P1	P2	P3	P11	P12
1	AC	AC Det	19V	3.4V	Vs	5V
2	NC	RL-ON	19V	3.4V	Vs	GND
3	AC	STBY 5V	GND	GND	NC	Va
4		GND	GND	GND	GND	GND
5		Vs-ON	6V	6V	GND	GND
6		5V Det	GND	6V	Va	GND
7		M5V-ON	3.4V	GND	GND	NC
8		STBY 5V	GND	GND	5V	Vs
9		GND	12V	12V		Vs
10		NC	GND	12V		
11		6V		GND		
12		GND		GND		
13		3.4V-ON				
Wafer P/N	YH396-03V	SMW250-13P	SMW250-10P	SMW250-12P	YH396-08V	YH396-09V

1-3. 42" Power Board Structure(EAY32927901)

(1) Pin Layout



(2) Pin Spec

NO	ANALOG & DIGITAL BOARD				PDP MODULE	
	CN1	P1	P2	P3	P11	P12
1	AC	AC Det	19V	3.4V	Vs	5V
2	NC	RL-ON	19V	3.4V	Vs	GND
3	AC	STBY 5V	GND	GND	NC	Va
4		GND	GND	GND	GND	GND
5		Vs-ON	6V	6V	GND	GND
6		5V Det	GND	6V	Va	GND
7		M5V-ON	3.4V	GND	GND	NC
8		STBY 5V	GND	GND	5V	Vs
9		GND	12V	12V		Vs
10		NC	GND	12V		
11		6V		GND		
12		GND		GND		
13		3.4V-ON				
Description	YH396-03V	SMW250-13P	SMW250-10P	SMW250-12P	YH396-08V	YH396-09V

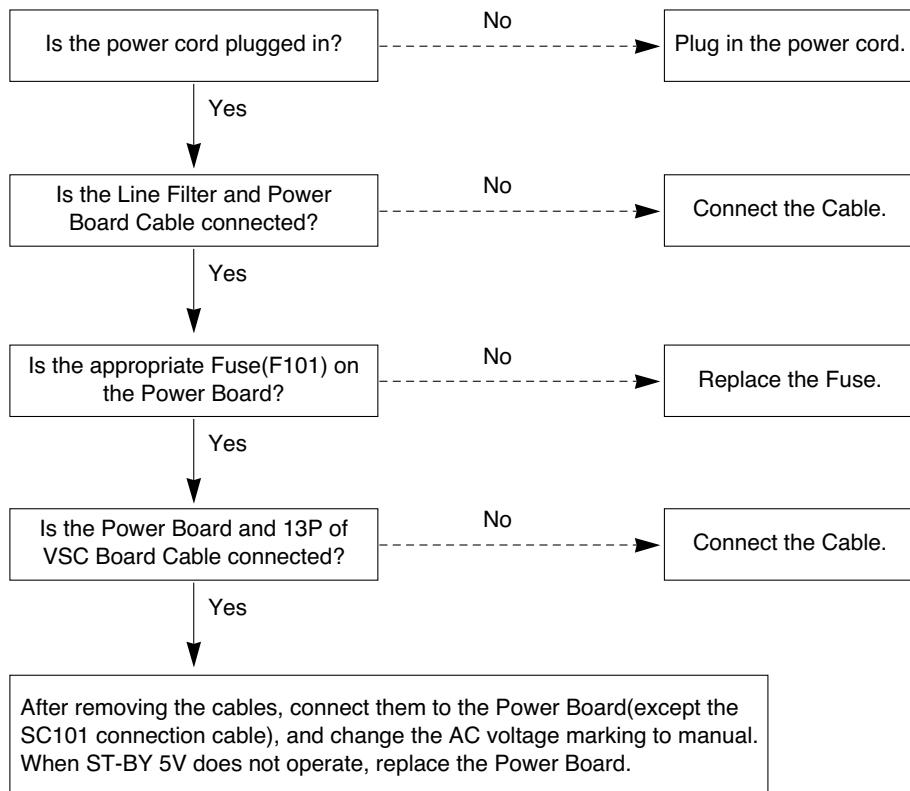
2. No Power

(1) Symptom

- 1) Does not minute discharge at module.
- 2) Non does not come into the front LED.



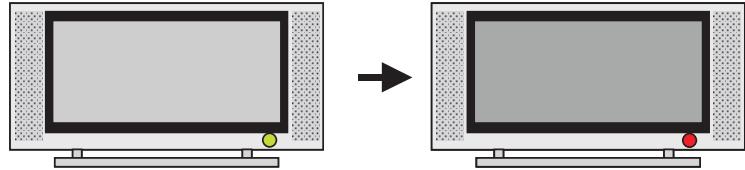
(2) Procedure check



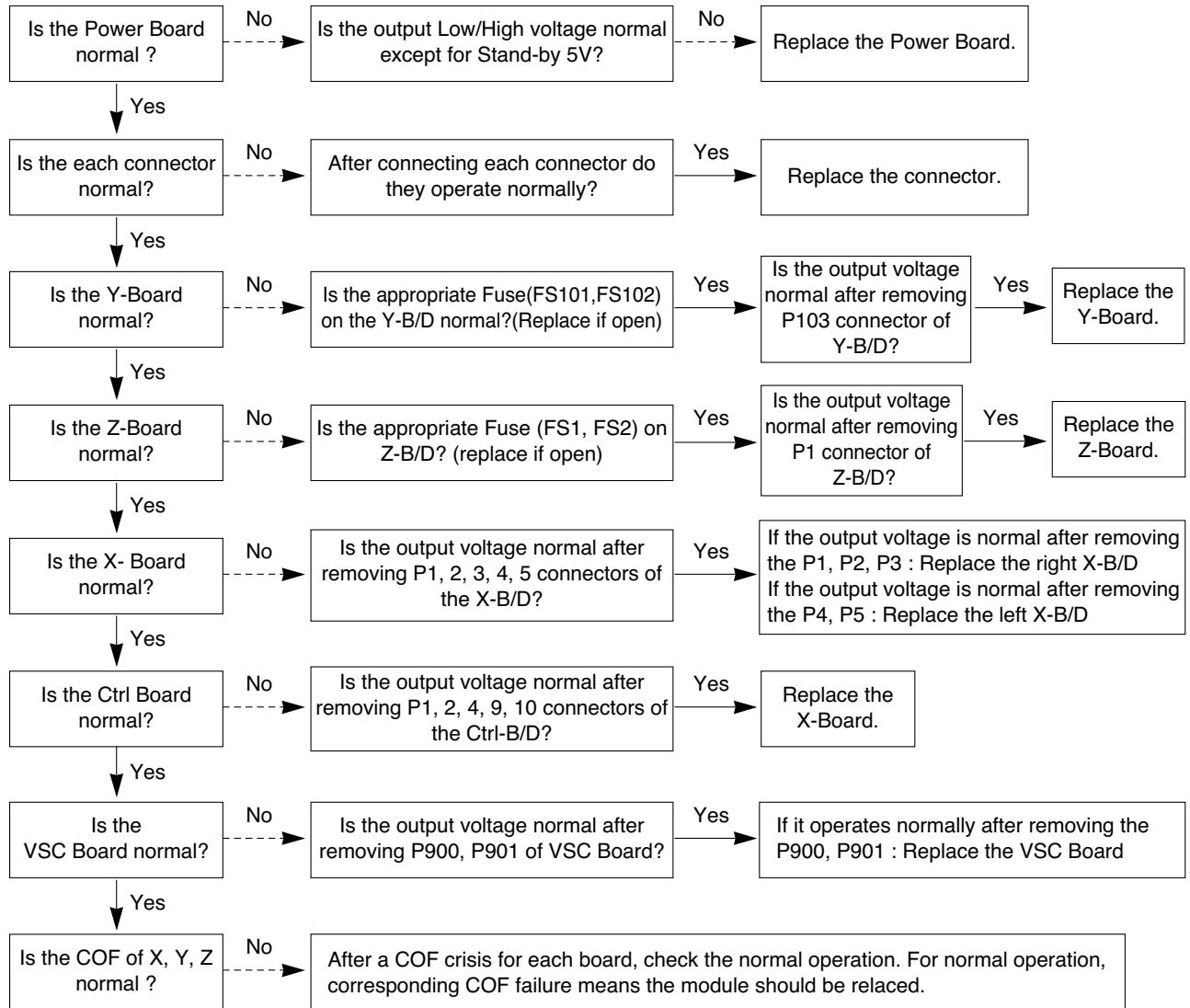
3. Protect Mode

(1) Symptom

- 1) After lighting up once, it does not discharge minutely from module.
- 2) The relay falls.(there is an audible "click")
- 3) The color of the front LED turns from green to red.



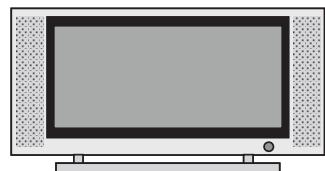
(2) Procedure check



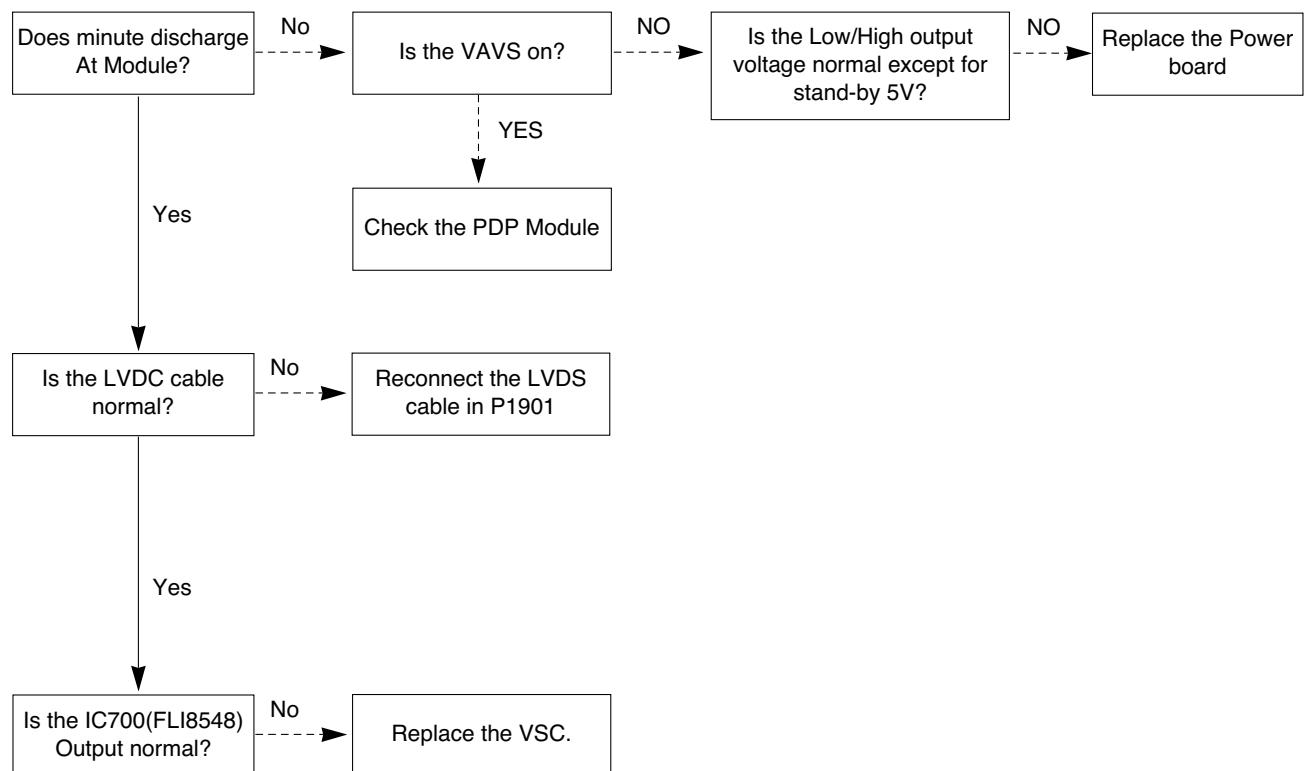
4. No Raster

(1) Symptom

- 1) No OSD and image occur at screen.
- 2) It maintains the condition where the front LED is green.



(2) Procedure check



5. In case of strange screen display in specific modes

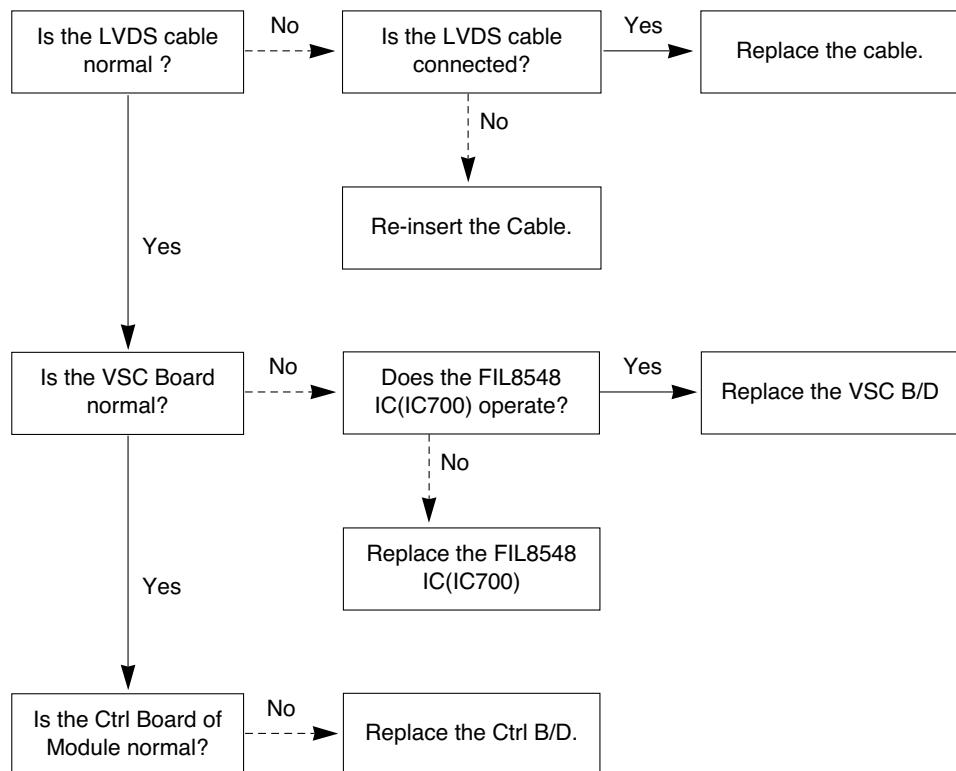
5-1. In case of no OSD display

(1) Symptom

- 1) LED is green.
- 2) The minute discharge is continuously accomplished from the module.



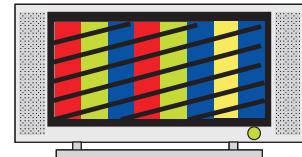
(2) Procedure check



5-2. In case there is no display on the screen in specific modes

(1) Symptom

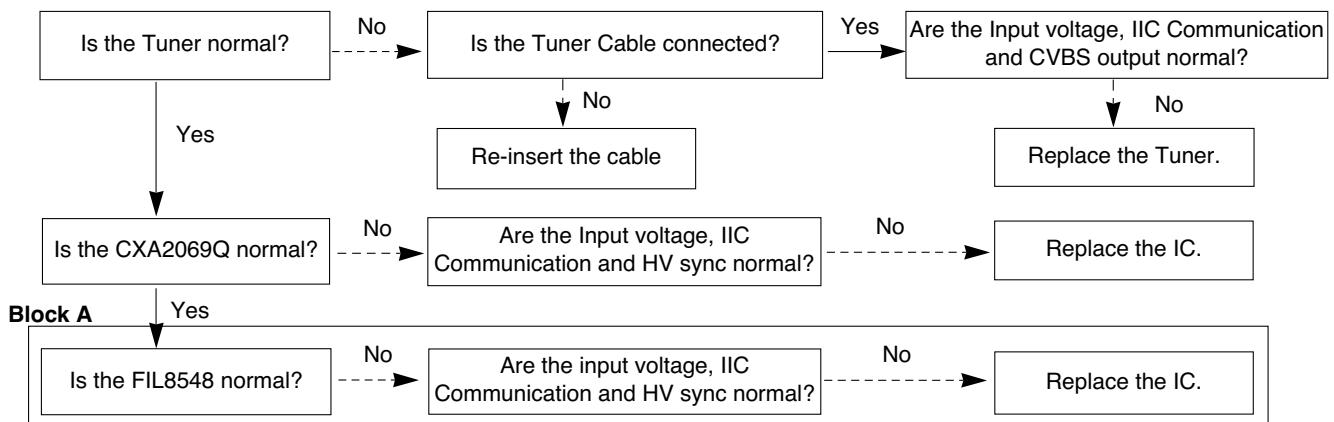
- 1) There is no screen display from a specific input mode
(RF, AV, Component, RGB, DVI).



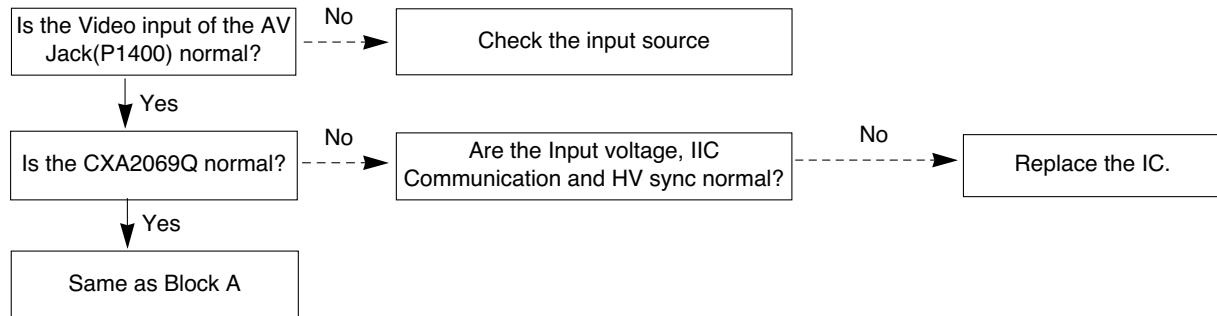
(2) Procedure check

- 1) Check the all input modes have normal display.

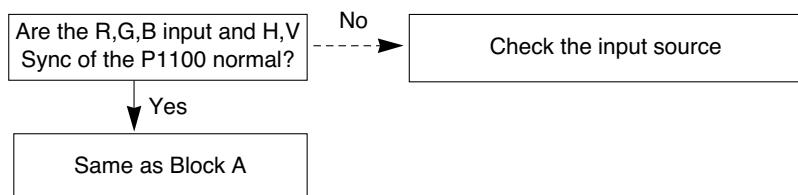
(3) In case of an unusual display in RF mode



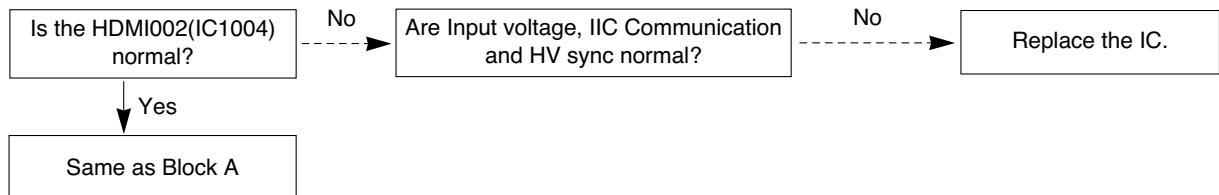
(4) In case of an unusual display in side S-video/ AV mode



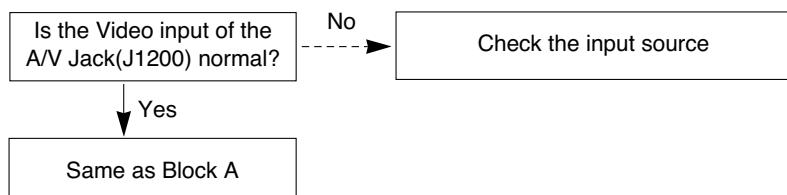
(5) In case of an unusual display in Component, RGB mode



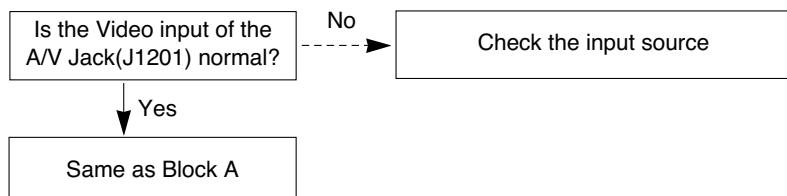
(6) In case of an unusual display in HDMI mode



(7) In case of an unusual display in SCART1 mode



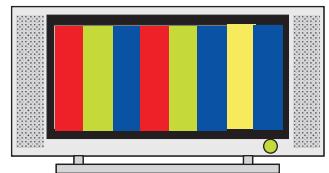
(8) In case of an unusual display in SCART2 mode



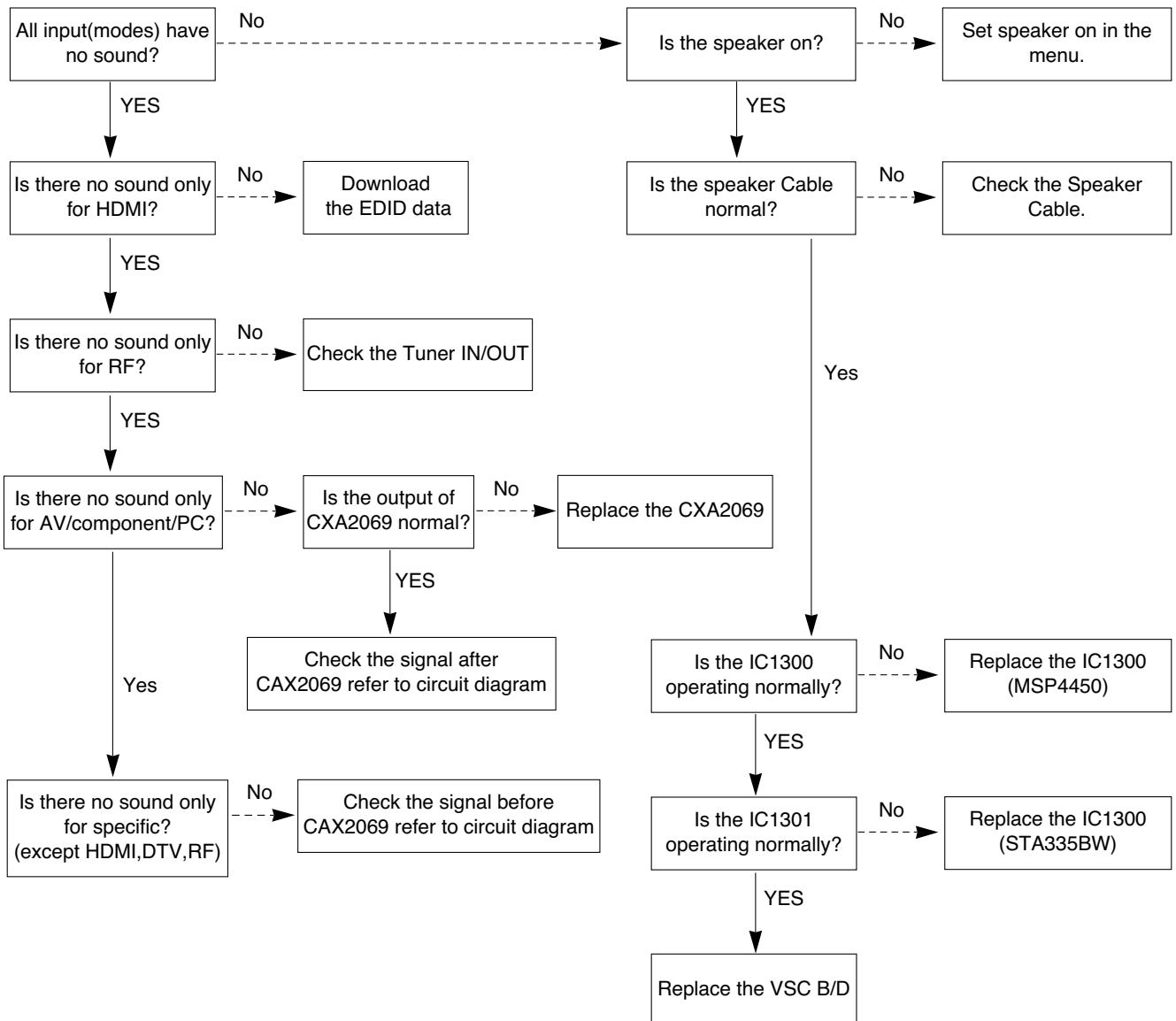
6. In case of no sound

(1) Symptom

- 1) LED is Green.
- 2) Screen display appears but there is no sound.



(2) Procedure check

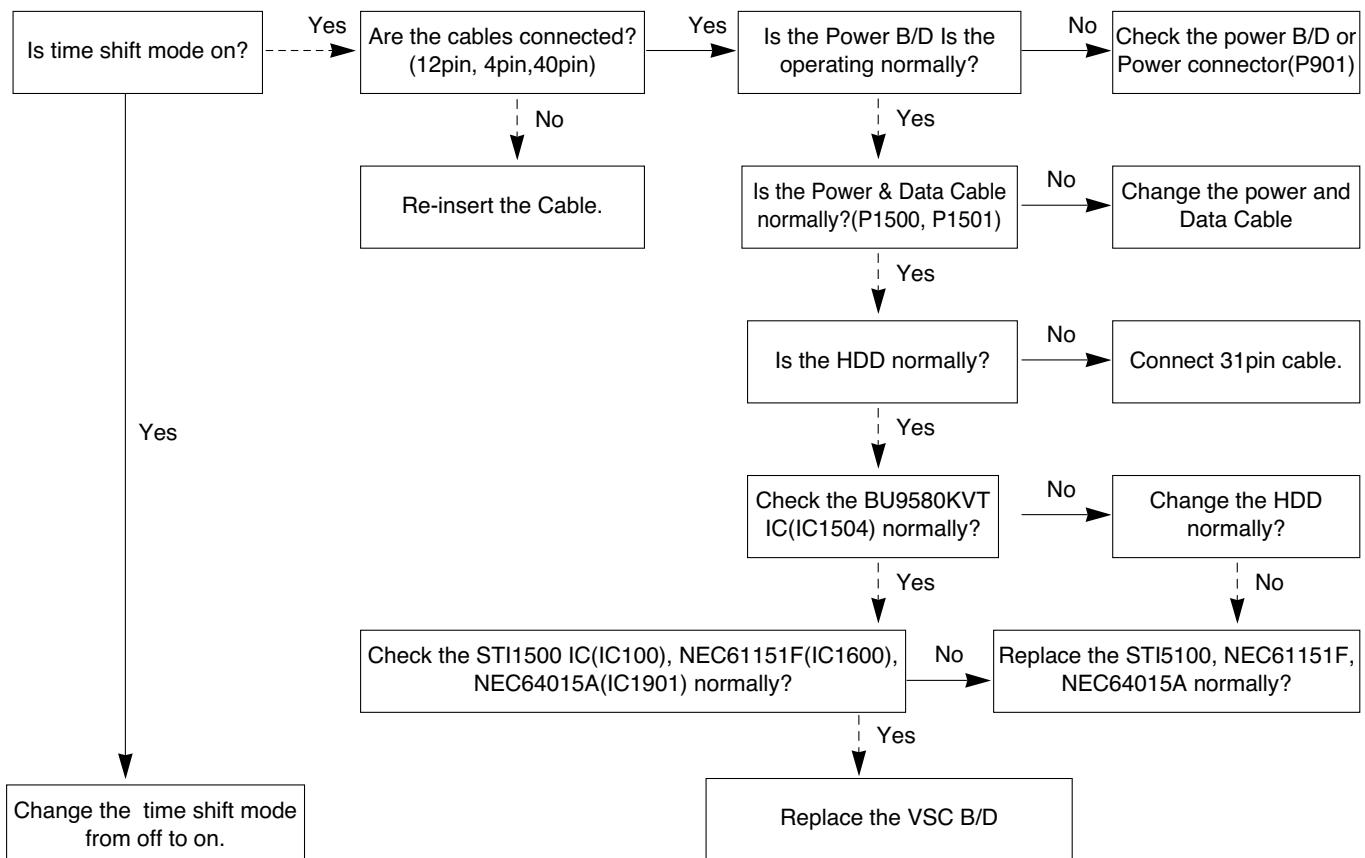


7. Time shift Mode (DVR BOARD)

(1) Symptom

- 1) Does not work time shift mode.
- 2) Can not enter to recorded list.
- 3) Can not record AV/RF.

(2) Follow check

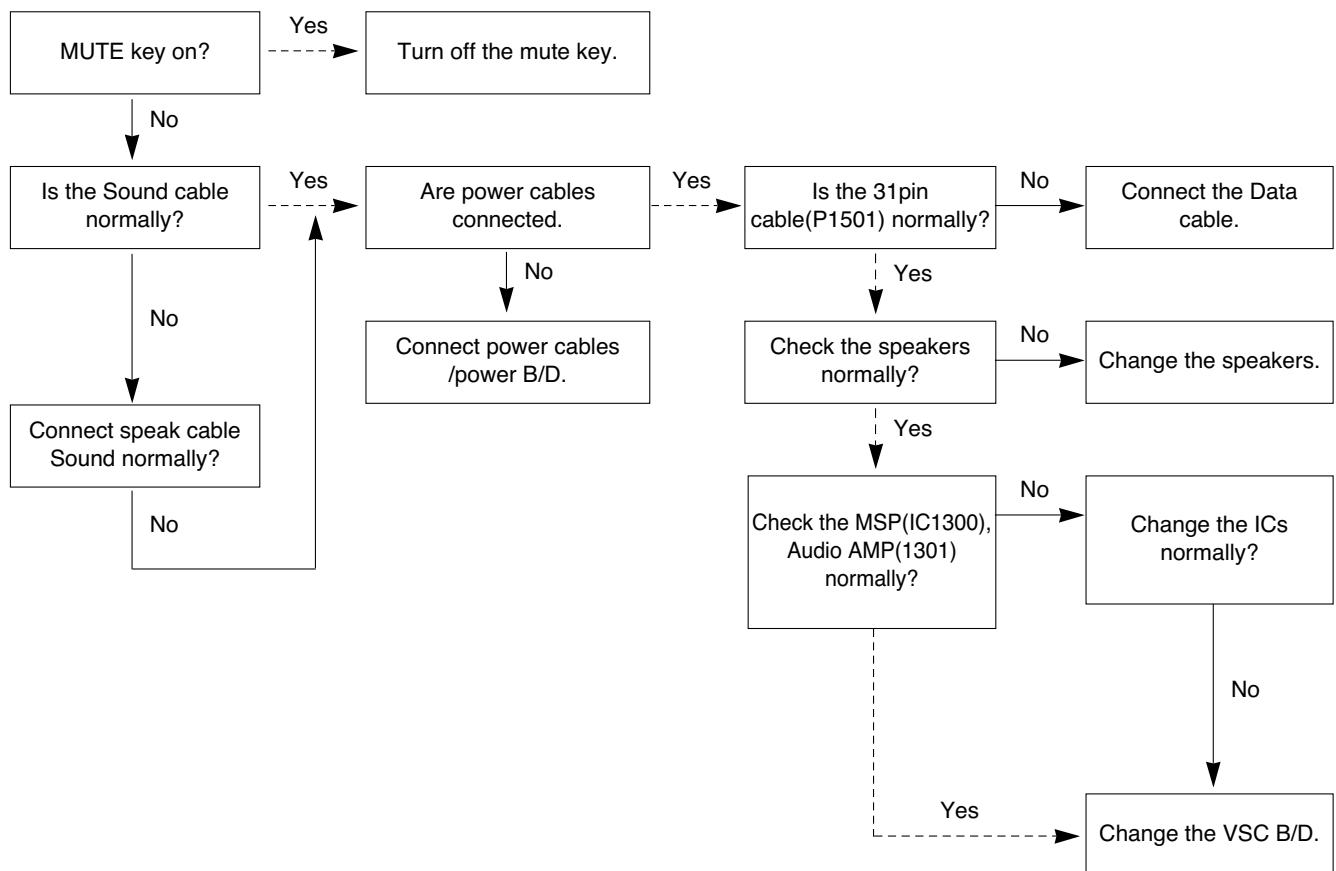


8. Time shift sound and Recorded video sound (DVR BOARD)

(1) Symptom

- 1) SOUND does not come out.

(2) Follow check

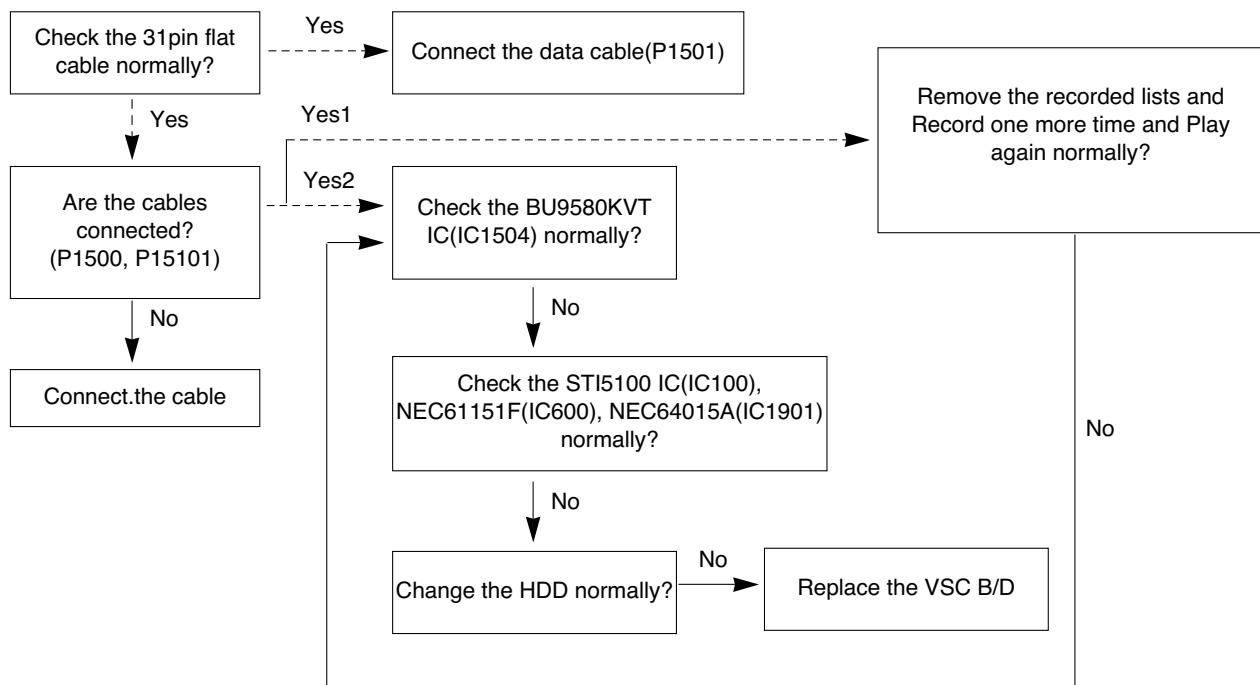


9. Recorded video (DVR BOARD)

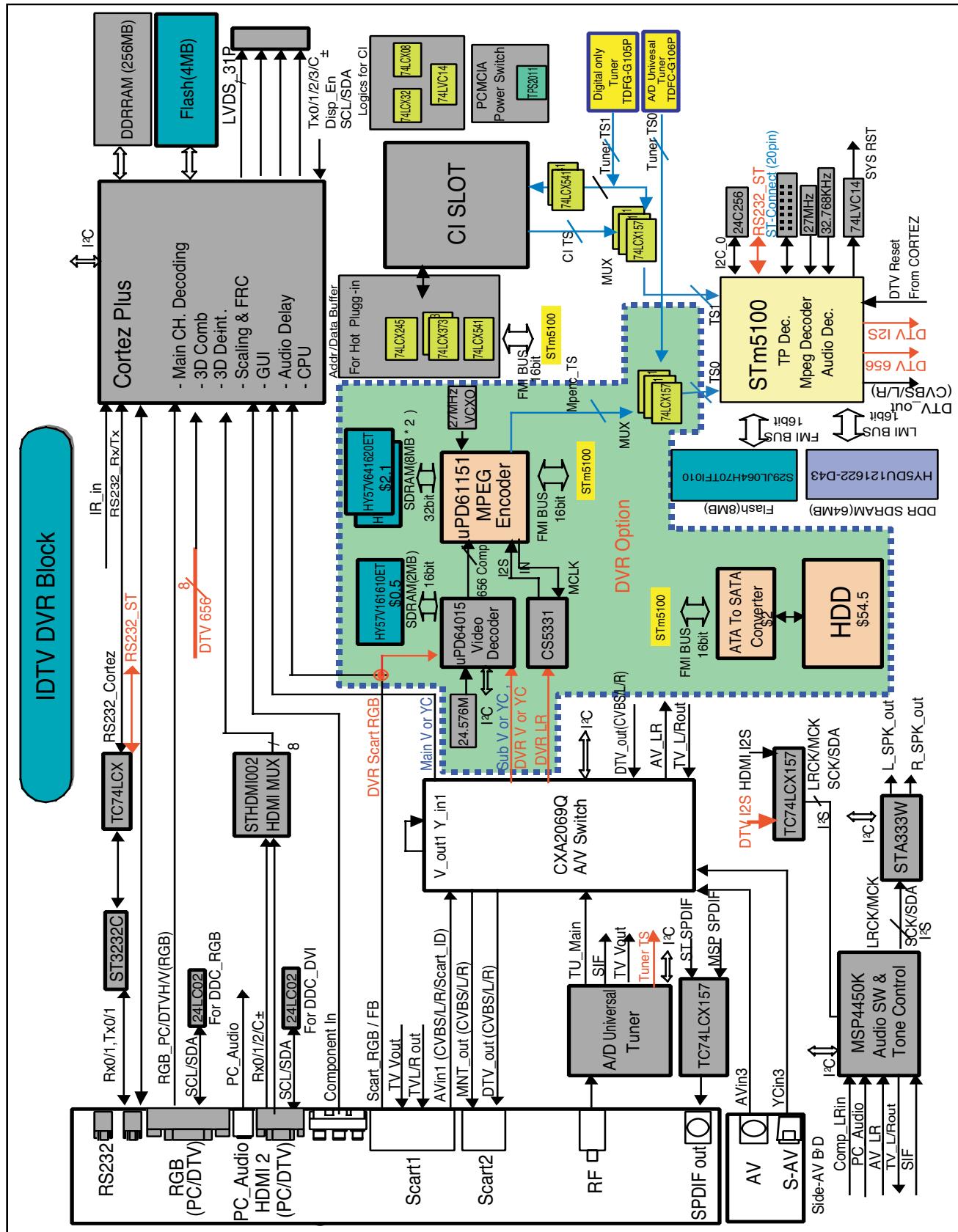
(1) Symptom

- 1) Can not play the recorded video.

(2) Follow check

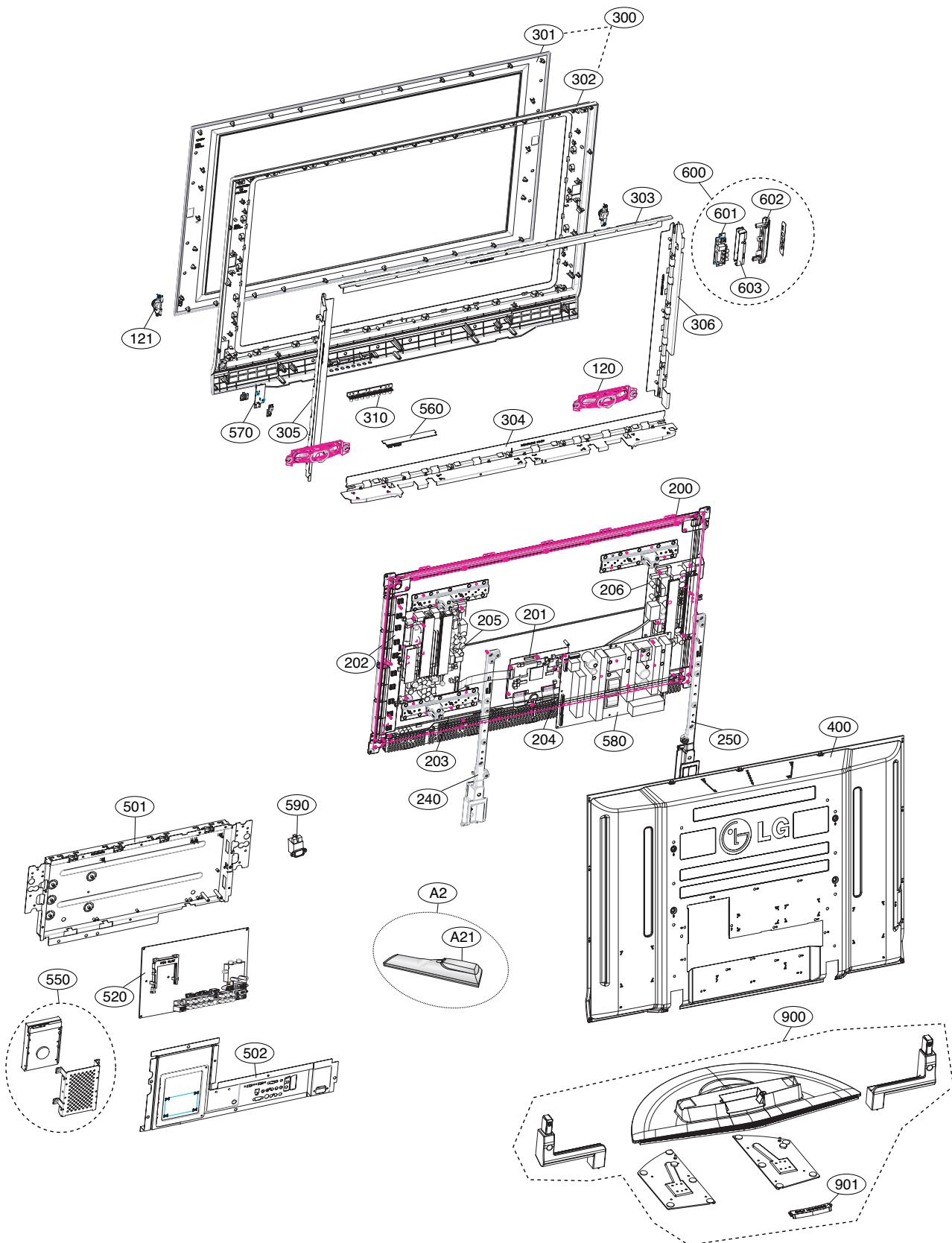


BLOCK DIAGRAM



MEMO

EXPLODED VIEW



EXPLODED VIEW PARTS LIST

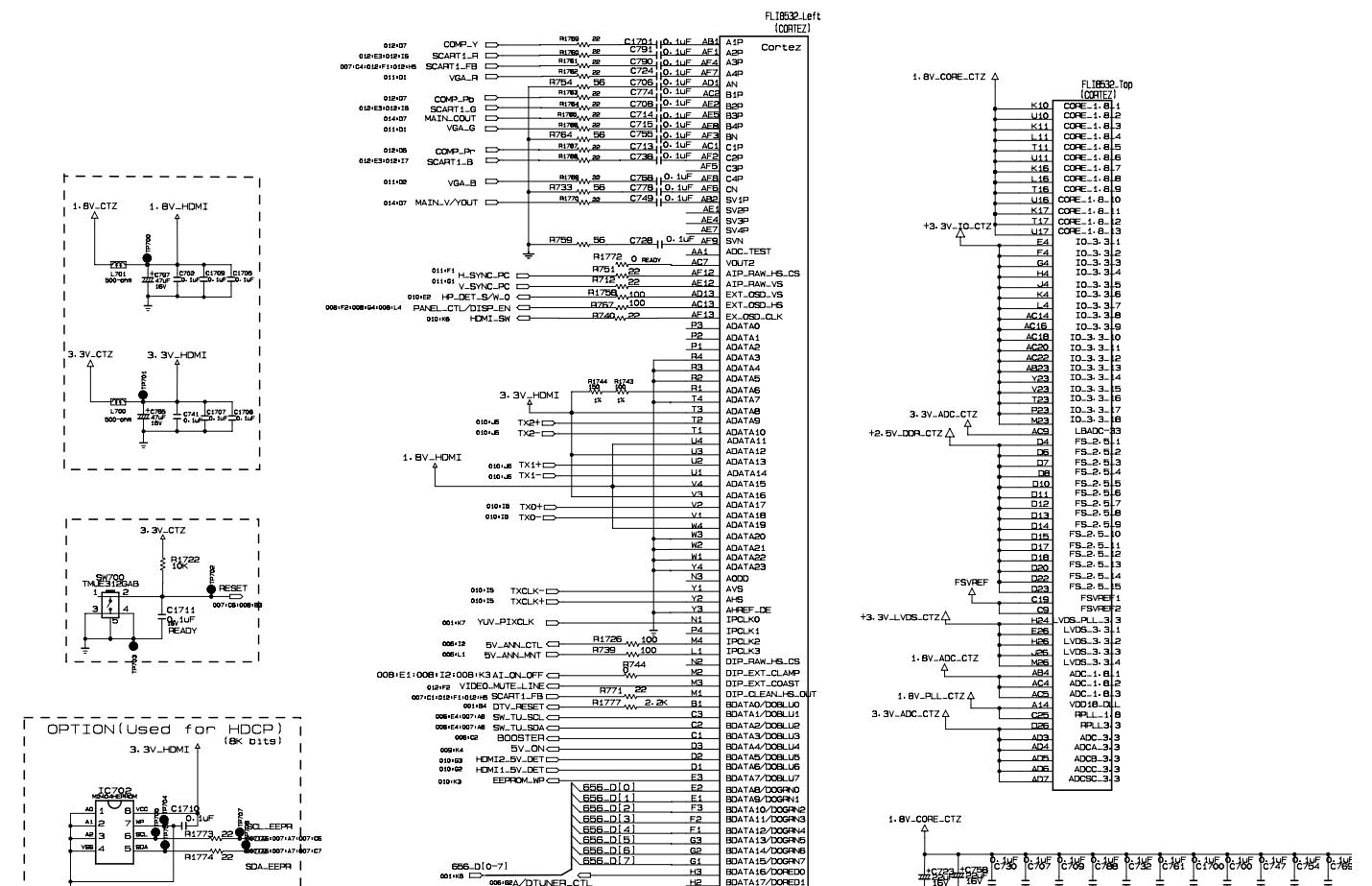
The components identified by mark  is critical for safety.
Replace only with part number specified.

No.	Part No.	Descriptions
120	EAB33775101	Speaker, Full Range EN1562C-6712 ND 10W 8OHM 82DB 100HZ 193.5 X 42 X 39.9 LUG KOREA TOPTONE
121	EAB33893101	Speaker, Tweeter EN10D-6714 ND 10W 8OHM 82DB 0HZ 68 X 23 X 22.7 LUG KOREA TOPTONE
 200	EAJ33726301	PDP, Module-XGA PDP42X40201.AKLGG XGA 42INCH 1024X768 16/9 PDP DIVISION
 201	6871QCH089A	PCB Assembly, 6871QCH089A CTRL ASS'Y 42 X4 PDP DIVISION
 202	6871QDH127A	PCB Assembly, 6871QDH127A YDRV ASS'Y 42 X4 PDP DIVISION
 203	6871QLH072A	PCB Assembly, 6871QLH072A XRLT ASS'Y 42 X4 XL PDP DIVISION
 204	6871QRH082A	PCB Assembly, 6871QRH082A XRRT ASS'Y 42 X4 XR PDP DIVISION
 205	6871QYH063A	PCB Assembly, 6871QYH063A YSUS ASS'Y 42 X4 2L PDP DIVISION
 206	6871QZH067A	PCB Assembly, 6871QZH067A ZSUS ASS'Y 42 X4 2L PDP DIVISION
240	AJJ31816101	Supporter Assembly, 42PB4 SUPP MODULE VERTICAL ASSY_Right
250	AJJ31816201	Supporter Assembly, 42PB4 SUPP MODULE VERTICAL ASSY_Left
 300	ABJ31082301	Cabinet Assembly, 42PB4 Pacific 2 42"
 301	ADV31041201	Frame Assembly, 42PB4 Pacific2 42" Frame Ass'y
 302	MBH32559201	Cabinet, MOLD ABS 42PB4 ABS non
303	AJJ31041601	Supporter Assembly, 42PB4 Filter Supporter Top Assy
304	AJJ31041701	Supporter Assembly, 42PB4 Filter Supporter Bottom Assy
305	AJJ31041801	Supporter Assembly, 42PB4 Filter Supporter Right Assy
306	AJJ31041901	Supporter Assembly, 42PB4 Filter Supporter Left Assy
310	MBG32788501	Button, MOLD ABS CONTROL PC5/PB4 ABS 8KEY
 400	ACQ31041501	Cover Assembly, Rear 42PB4 Pacific2 42"
501	AGU30996801	Plate Assembly, AV 60PY30, Plate Tuner Bottom Assy.
502	AGU30996907	Plate Assembly, REAR AV Plate Tuner Cover Assy. Digital, 42PB4, Europass3, DVR
520	EBR38198801	Hand Insert PCB Assembly, Main MAIN M.I PP79A 42PB4RT-TB - 42PB4RT-TB Hand Insert PCB Assembly
550	EBT38199601	Chassis Assembly, SUB PP79A 42PB4RT-TB HDD Chassis Assembly
560	EBR38051401	PCB Assembly, Sub CONTROL T.T PP79A 42PB4RT-TB - CONTROL KEY TOTAL
570	EBR38052701	PCB Assembly, Sub SUB T.T PP79A 42PB4RT-TB - PREAMP
 580	EAY32927901	SMPS, 1H371W 100VTO240V 400W 50 TO 60HZ UL/CE/TUV - SANKEN ELECTRIC CO
590	EAM35012703	Filter, AC Line IF2-N06CEWL2 5.3mH 250VAC 6A 0.22uF 1000pF VDE/CSA/K/CCC 450/130MM CORE ADDTION
600	EBT38155301	Chassis Assembly, SUB PP79A 42PB4RT-TB SIDE AV/USB SUB ASSY
601	EBR38017001	Hand Insert PCB Assembly, SUB M.I PP79A 42PB4RT - SATURN SIDE AV/USB
602	ABA30998703	Bracket Assembly, AV PY30 AB E3_SIDE AV BRACKET ASSY, USA,With USB
603	MGJ32323501	Plate, Shield PRESS AL 1.0 SHIELD AL E3 PY30 SHIELD,SIDE AV
 900	AAN31626701	Base Assembly, ASSY 42PC5 - FIXED STAND
901	MCK32604801	Cover, MOLD ABS 42PC5 ABS CABLE MANAGEMENT
A2	MKJ39170801	Remote Controller, COMPLEX PP79A 32/37/42LB5RT-TB ,42/50/60PB4RT-TB H4 ANALOG PVR R/C
A21	3550V00590A	Cover, MOLD ABS BATTERY TN-50PY20 ABS 6710V00142

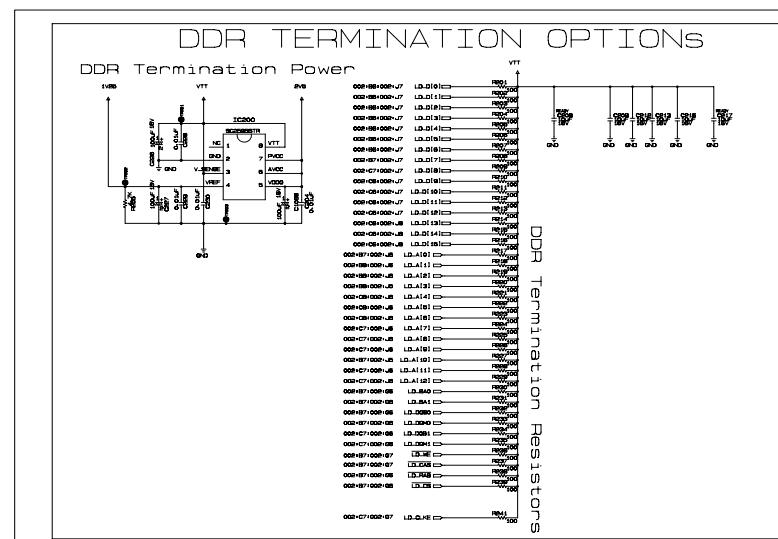
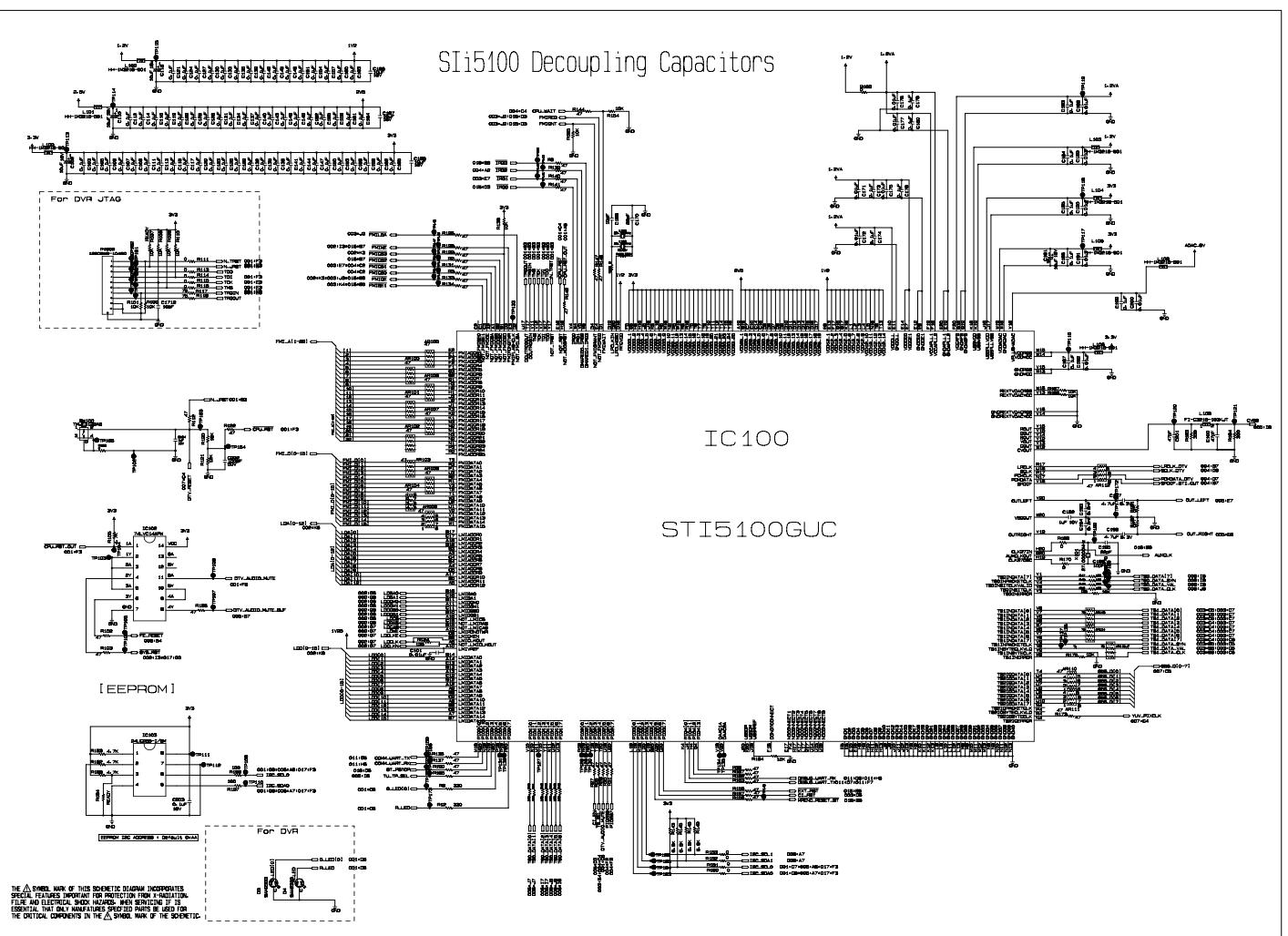
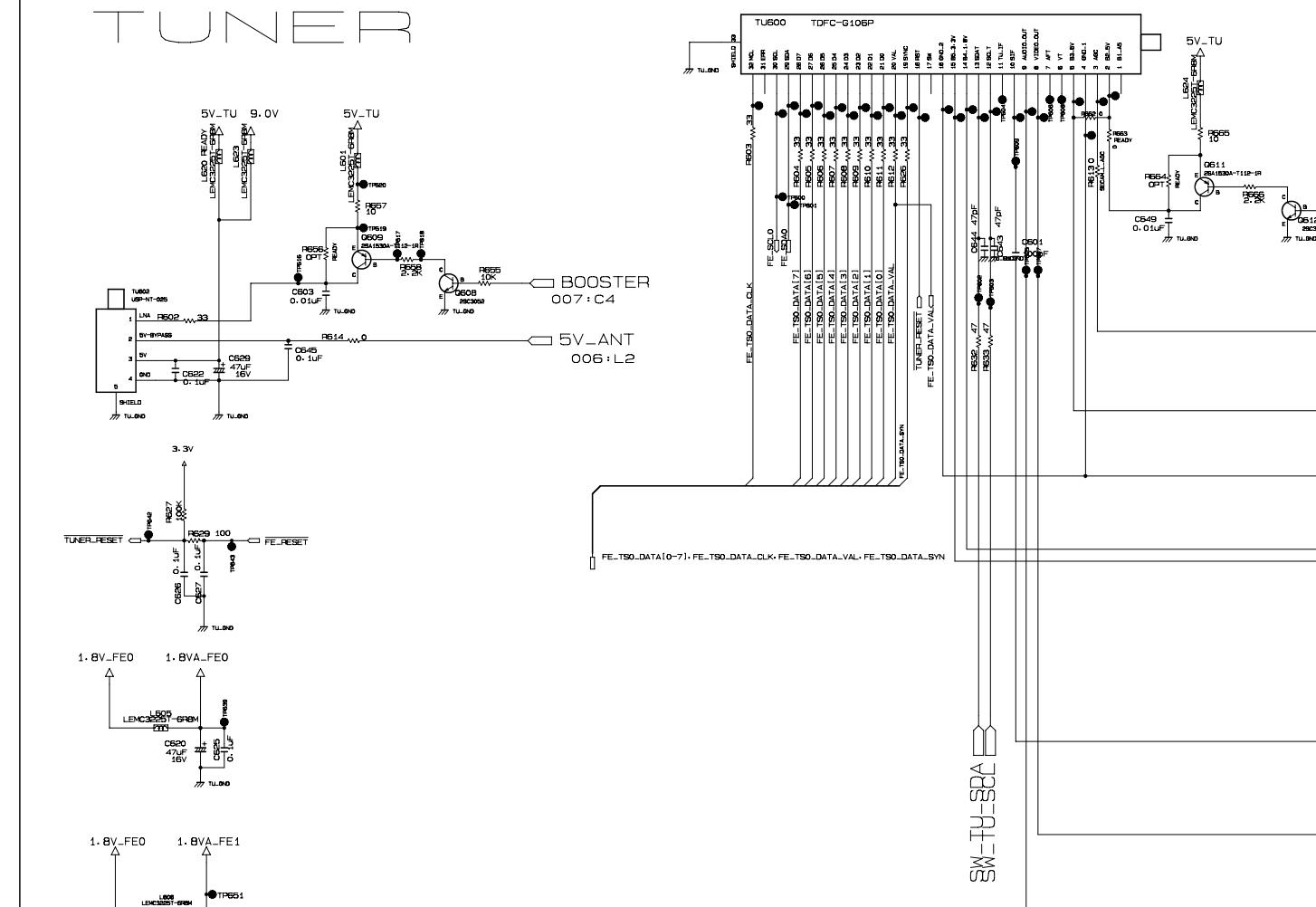
LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
IC900	0IPMGFA061A	FAN1587AD33X 4.8TO10.3V 3.3V 0W T	L400	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
IC901	EAN38059801	BD9130NV 2.7VTO5.5V 1.0VTO2.5V 90	L502	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
IC902	EAN38059801	BD9130NV 2.7VTO5.5V 1.0VTO2.5V 90	L518	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
IC904	EAN32662801	KA7809ERTM 35V to 40V 9V 1W DPAK	L519	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
FILTERs & INDUCTORs			L625	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L700	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L701	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L703	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L704	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L705	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L706	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L707	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L900	EAM38058401	Filter, CB4532UK121E 1200HM 4.5X3.2X1.5MM
			L907	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L909	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L911	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L912	EAM38058401	Filter, CB4532UK121E 1200HM 4.5X3.2X1.5MM
			L913	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L918	EAM38058401	Filter, CB4532UK121E 1200HM 4.5X3.2X1.5MM
			L919	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L920	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L921	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L923	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L925	6210TCE001G	Filter, HH-1M3216-501JT 500OHM 3.2X1.6X1.
			L100	OLC1032101A	Inductor, FI-C3216-103KJT 10UH 10% - 50MA 0
			L109	OLC1032101A	Inductor, FI-C3216-103KJT 10UH 10% - 50MA 0
			L1209	OLCML00020G	Inductor, MLI-201209-3R3K 3.3UH 10% 0V 30MA
			L1210	OLCML00020G	Inductor, MLI-201209-3R3K 3.3UH 10% 0V 30MA
			L1213	OLCML00020G	Inductor, MLI-201209-3R3K 3.3UH 10% 0V 30MA
			L1214	OLCML00020G	Inductor, MLI-201209-3R3K 3.3UH 10% 0V 30MA
			L1216	OLCML00020G	Inductor, MLI-201209-3R3K 3.3UH 10% 0V 30MA
			L1217	OLCML00020G	Inductor, MLI-201209-3R3K 3.3UH 10% 0V 30MA
			L1221	OLCML00020G	Inductor, MLI-201209-3R3K 3.3UH 10% 0V 30MA
			L1222	OLCML00020G	Inductor, MLI-201209-3R3K 3.3UH 10% 0V 30MA
			L1304	EAP38319001	Inductor, DA-8580 22UH 20% 0V 3A 0.1OHM 0HZ
			L1305	EAP38319001	Inductor, DA-8580 22UH 20% 0V 3A 0.1OHM 0HZ
			L501	EAP32842801	Inductor, NR8040T2R0M 2UH 20% 0V 6.3A 0.009
			L600	OLCTA00003A	Inductor, LEMC3225T6R8M 6.8UH 20% 50V 360MA
			L601	OLCTA00003A	Inductor, LEMC3225T6R8M 6.8UH 20% 50V 360MA
			L604	OLC233002A	Inductor, FI-B2012-332KJT 3.3UH 10% 50V 50M
			L605	OLCTA00003A	Inductor, LEMC3225T6R8M 6.8UH 20% 50V 360MA
			L606	OLCTA00003A	Inductor, LEMC3225T6R8M 6.8UH 20% 50V 360MA
			L610	OLCTA00003A	Inductor, LEMC3225T6R8M 6.8UH 20% 50V 360MA
			L621	OLCTA00003A	Inductor, LEMC3225T6R8M 6.8UH 20% 50V 360MA
			L622	OLCTA00003A	Inductor, LEMC3225T6R8M 6.8UH 20% 50V 360MA
			L623	OLCTA00003A	Inductor, LEMC3225T6R8M 6.8UH 20% 50V 360MA
			L624	OLCTA00003A	Inductor, LEMC3225T6R8M 6.8UH 20% 50V 360MA
			L914	EAP32842801	Inductor, NR8040T2R0M 2UH 20% 0V 6.3A 0.009
			L915	EAP32842801	Inductor, NR8040T2R0M 2UH 20% 0V 6.3A 0.009
FETs & TRANSISTORs					
Q1001	OTR830009BA	FET, BSS83 N-CHANNEL MOSFET 10V 2.50MA			
Q100	OTR387500AA	2SC3875S(ALY) NPN 5V 60V 50V 150M			
Q1000	OTRIH80003A	RT1N141C-T112-1 NPN 10V 50V 50V 1			

LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
SWITCHs					
SW100	EBF32593901	TMUE312GAB 1C1P 12VDC 0.5A VERTIC			
SW101	140-313B	KPT-1115AM 1C1P 12VDC 0.05A HORIZ			
SW102	140-313B	KPT-1115AM 1C1P 12VDC 0.05A HORIZ			
SW103	140-313B	KPT-1115AM 1C1P 12VDC 0.05A HORIZ			
SW104	140-313B	KPT-1115AM 1C1P 12VDC 0.05A HORIZ			
SW105	140-313B	KPT-1115AM 1C1P 12VDC 0.05A HORIZ			
SW106	140-313B	KPT-1115AM 1C1P 12VDC 0.05A HORIZ			
SW107	140-313B	KPT-1115AM 1C1P 12VDC 0.05A HORIZ			
SW108	140-313B	KPT-1115AM 1C1P 12VDC 0.05A HORIZ			
SW700	EBF32593901	TMUE312GAB 1C1P 12VDC 0.5A VERTIC			
OTHERs					
B1	3890TKD002P	Box, LB500J(PCB) BRAND 542*397*445			
B2	3890TKD002P	Box, LB500J(PCB) BRAND 542*397*445			
B3	MAY32943847	Box, DW 1167 150 352 NO PRINTING 42PB4			
B4	MAY39537101	Box, DW 1183 865 370 2 COLOR 42PB4			
CA1	68509A0004H	Cable, Assembly RCA R/A TO RCA S/T UL BLACK 70MM			
CA2	EAD35132605	Cable, Assembly SATA CABLE 250MM 7P RED			
X101	6212AB2883A	Crystal, HC-49SM 27.00000MHZ 27MHZ 30PPM			
X102	EAW39040101	Crystal, 9H03200584 32.768KHZ 20PPM			
X1300	156-A02R	Crystal, EUA18.4320F16E33L 18.432MHZ			
X1500	6212AB2872A	Crystal, HC49SM 25MHZ 50PPM 20pF HC49SM			
X1900	6212AB2873A	Crystal, HC-49/SM 24.576MHZ 30PPM 24.576MHZ			
X700	6212AB2015J	Crystal, HC-49SM 19.66080HZ 19.6608HZ 30PPM			
J400	68719ST035B	PCB Assembly, Sub SUB T.SPDIF			
IC101	6712000014A	Receiver Module, KSM-2013TH2A 37.9KHZ 12.4M 3P			
IC203	SAA31081414	S/W, Firmware 3.05 B215 EUROPE FLASH ROM			
IC802	SAA31081512	S/W, Firmware 3.04 AFB4 EUROPE FLASH ROM			
IC407	EBD38015101	Sensor, Temperature MM3286CFBE 0.3~3.6 SOP 8P			
P300	EAG34998901	Socket, PCI 10074998-118MCALF 68P 1.27MM			
TU600	EBL32961504	Tuner, Digital TDFC-G107P DVB-T/PAL 170MHZ			
TU601	EBL37239102	Tuner, Digital TDFG-G105P DVB-T(COFDM) 176MHZ			
TU602	EBL38670801	Tuner, RF Modulator USP-NT-025 DVB-T/PAL			
ACCESSORY					
A1	SAC30033613	Title, CD MANUAL PDP DTV (PD74A) Europass 3			
A1	MFL34441608	Manual, Owners 25lang EUROPASS 3 DVR EU			
A2	MKJ32022814	Remote Controller, COMPLEX EUROPASS_DVR			
A21	3550V00590A	Cover, MOLD ABS 50PC3DD-UE.AUSRSHR ABS			
A3	6410TEW010A	Power Cord, CEE,LP-34A&H05VV-FX3C 1.87M BLACK			
A4	4972V00178A	Supporter, COMPLEX METAL ASSY PDP SET			
A5	3880TKZ004E	Bag, COMPLEX VINYL 180*150 0.58 H&C MODEL			
A6	4950TKA320A	Plate, PRESS SBHG T1.2 SUPPORT UPSET			
A7	FAB30021701	Screw, Machine 1SZZVMR001A RING WALL 5MM 25MM			

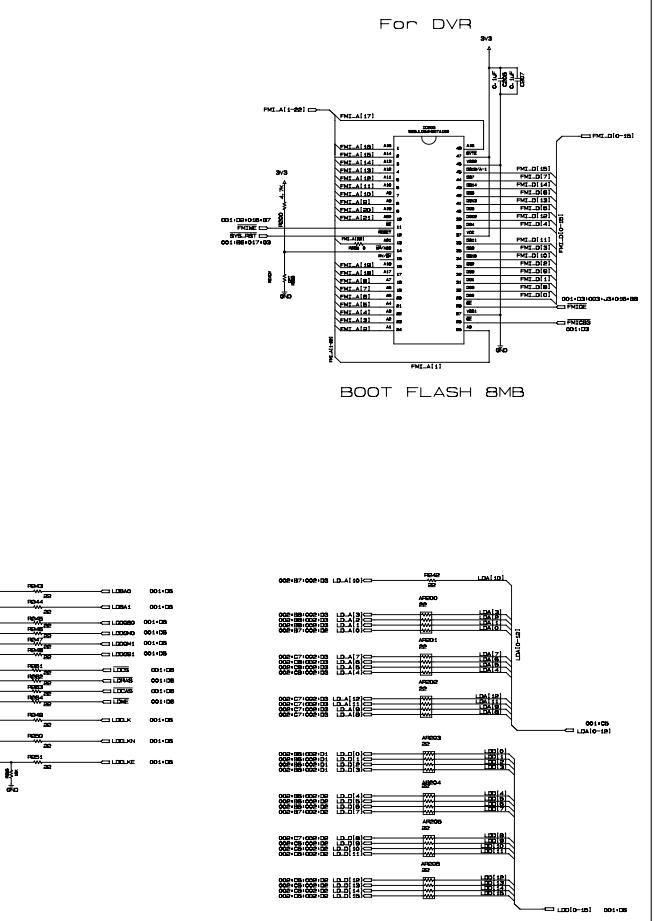
CORTEZ PLUS

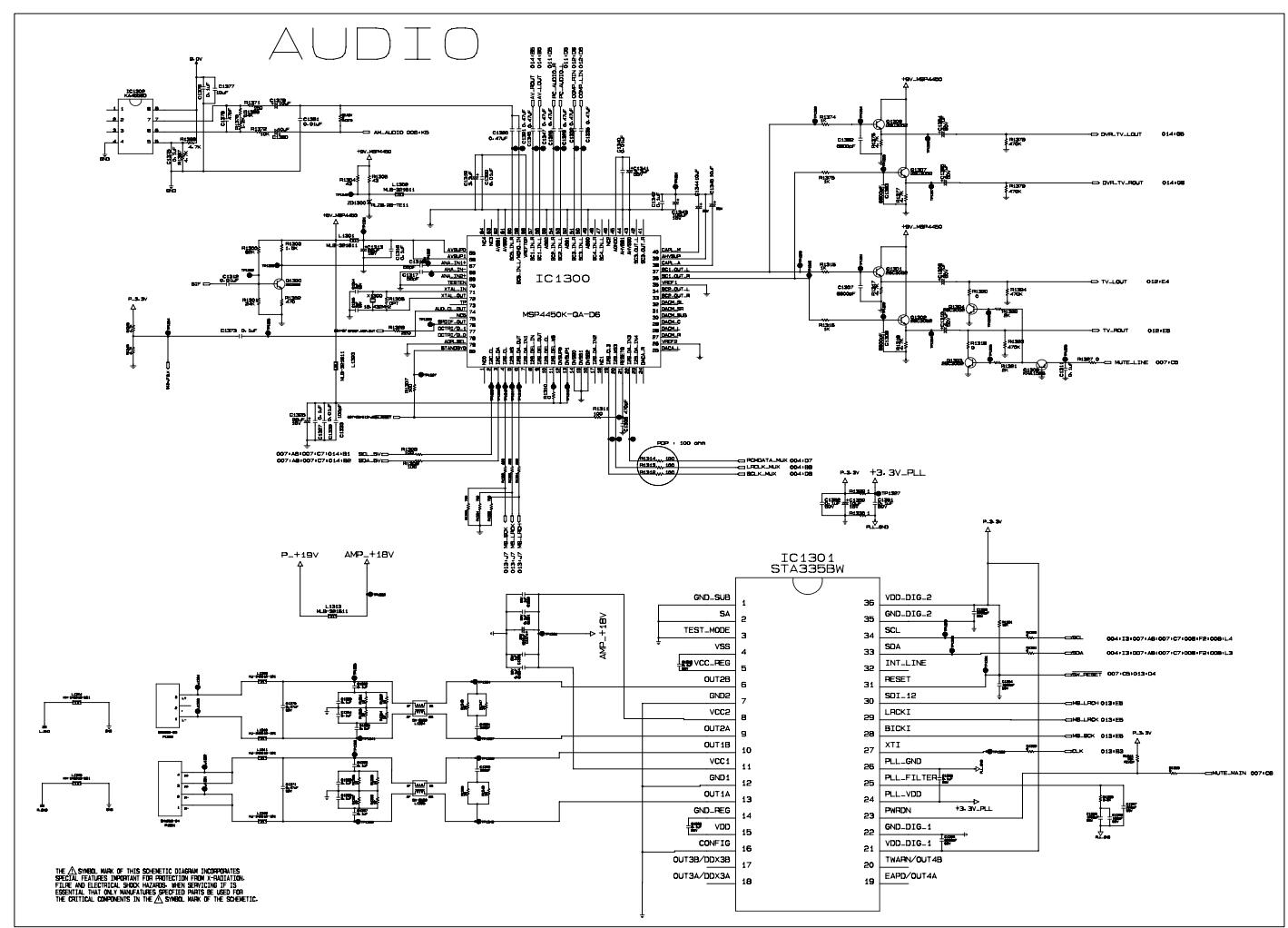
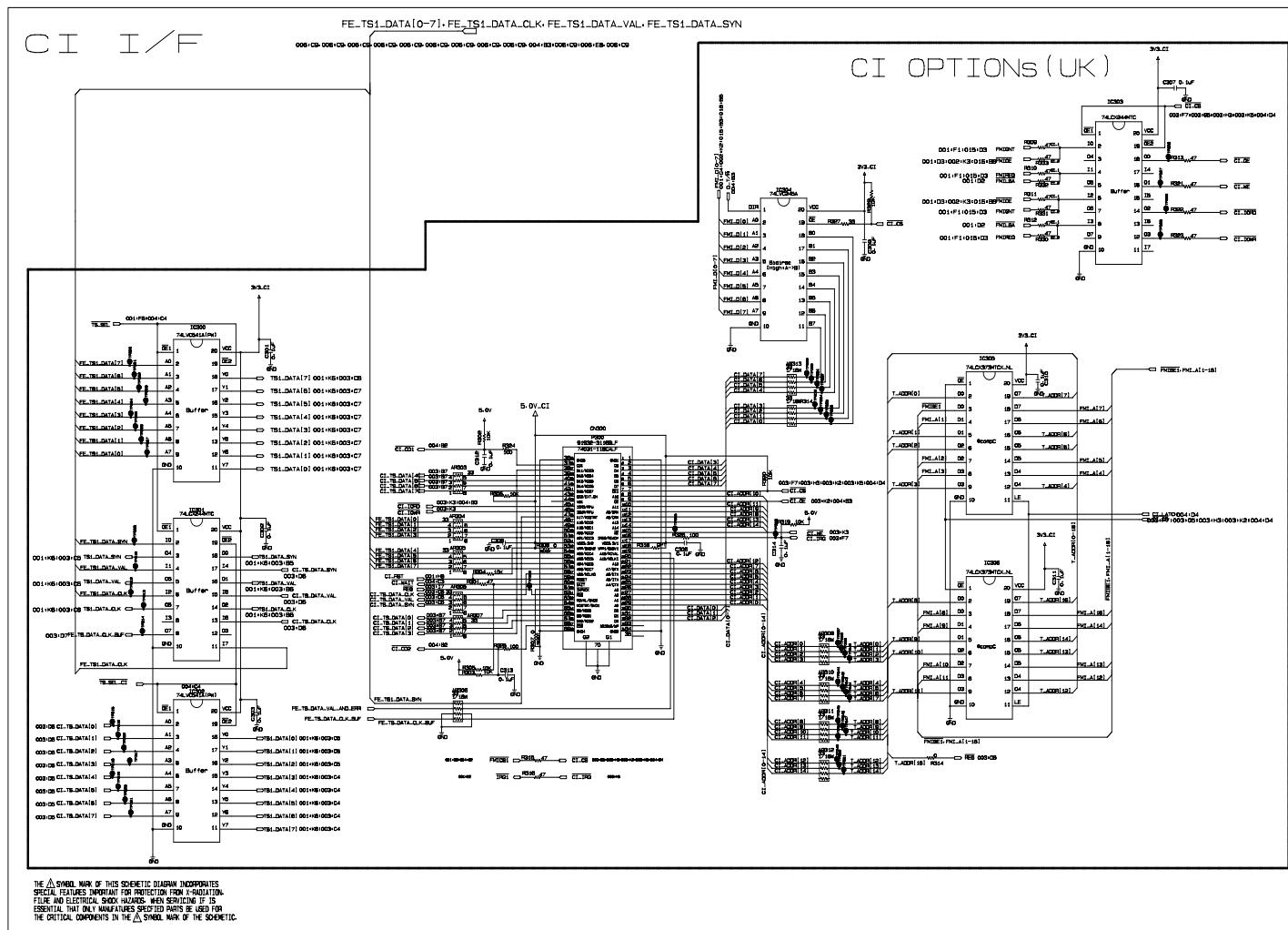
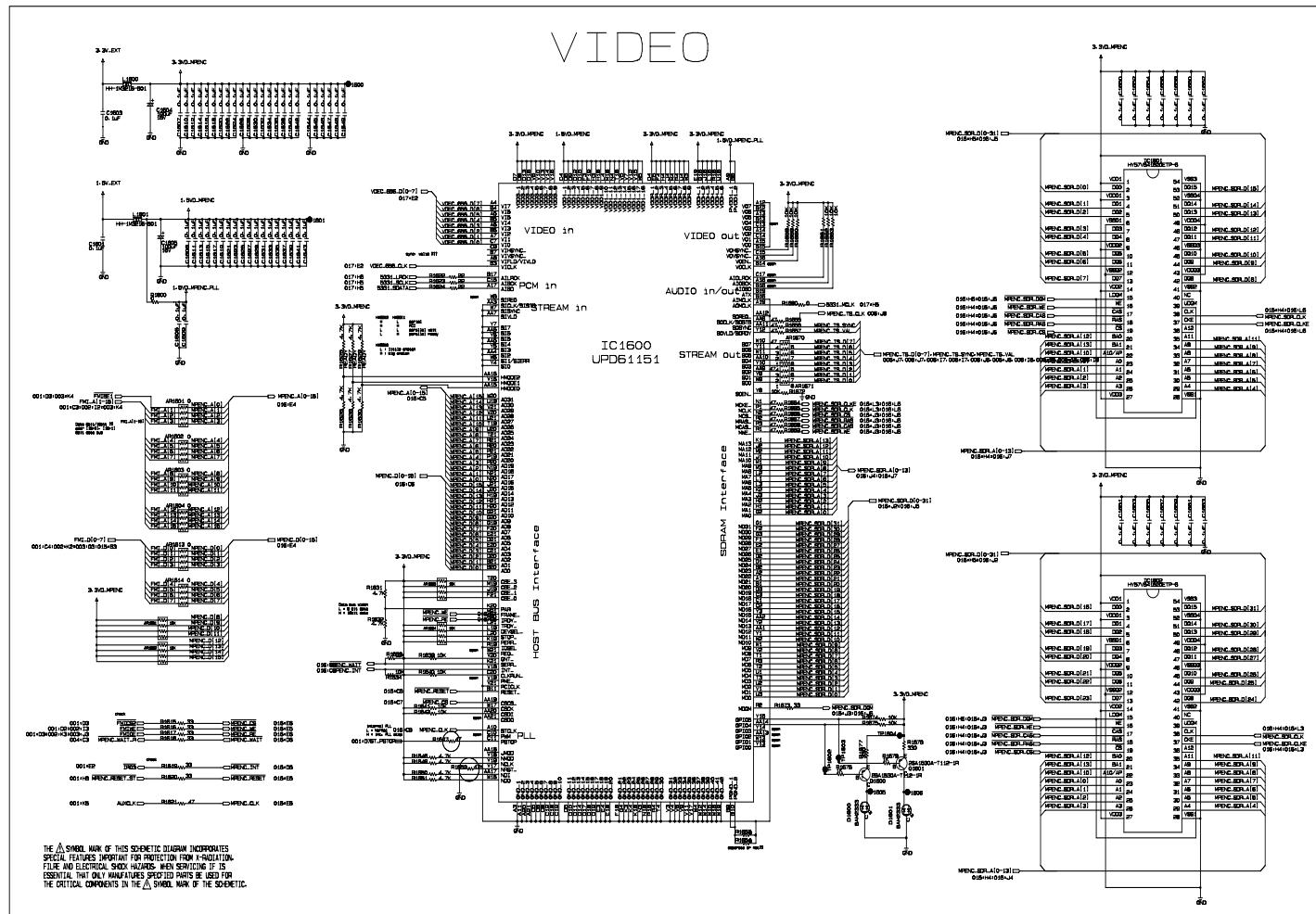
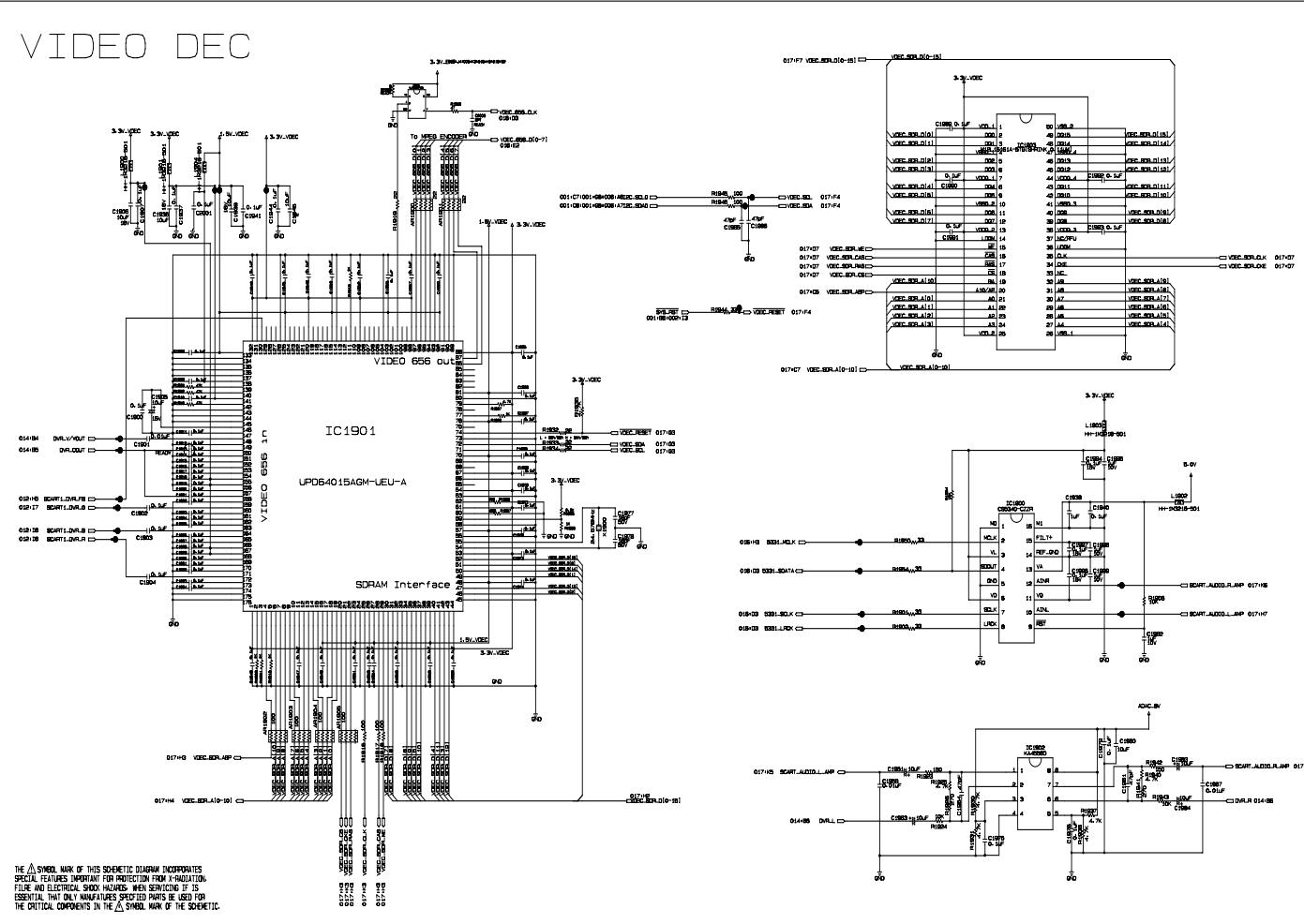


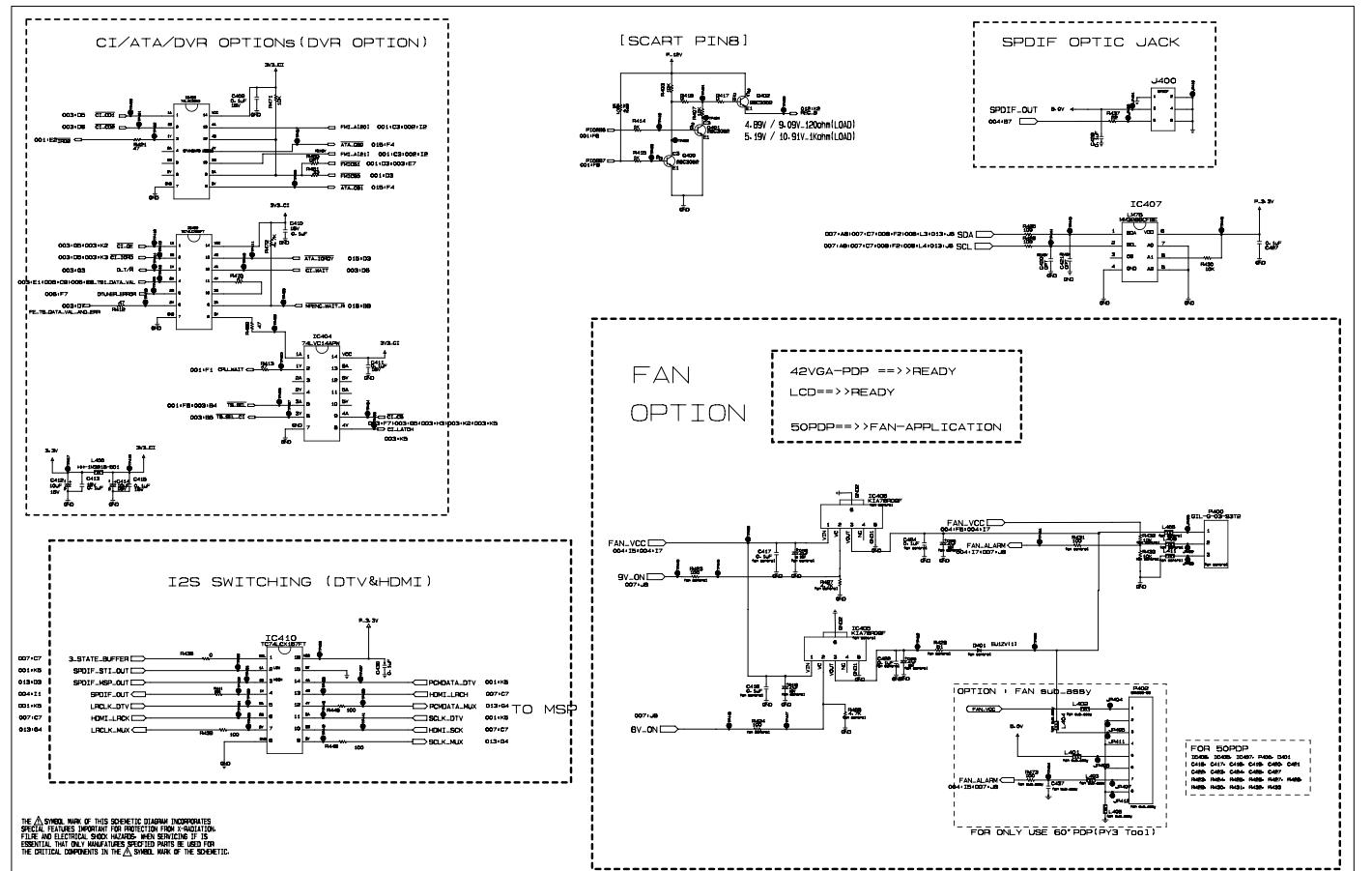
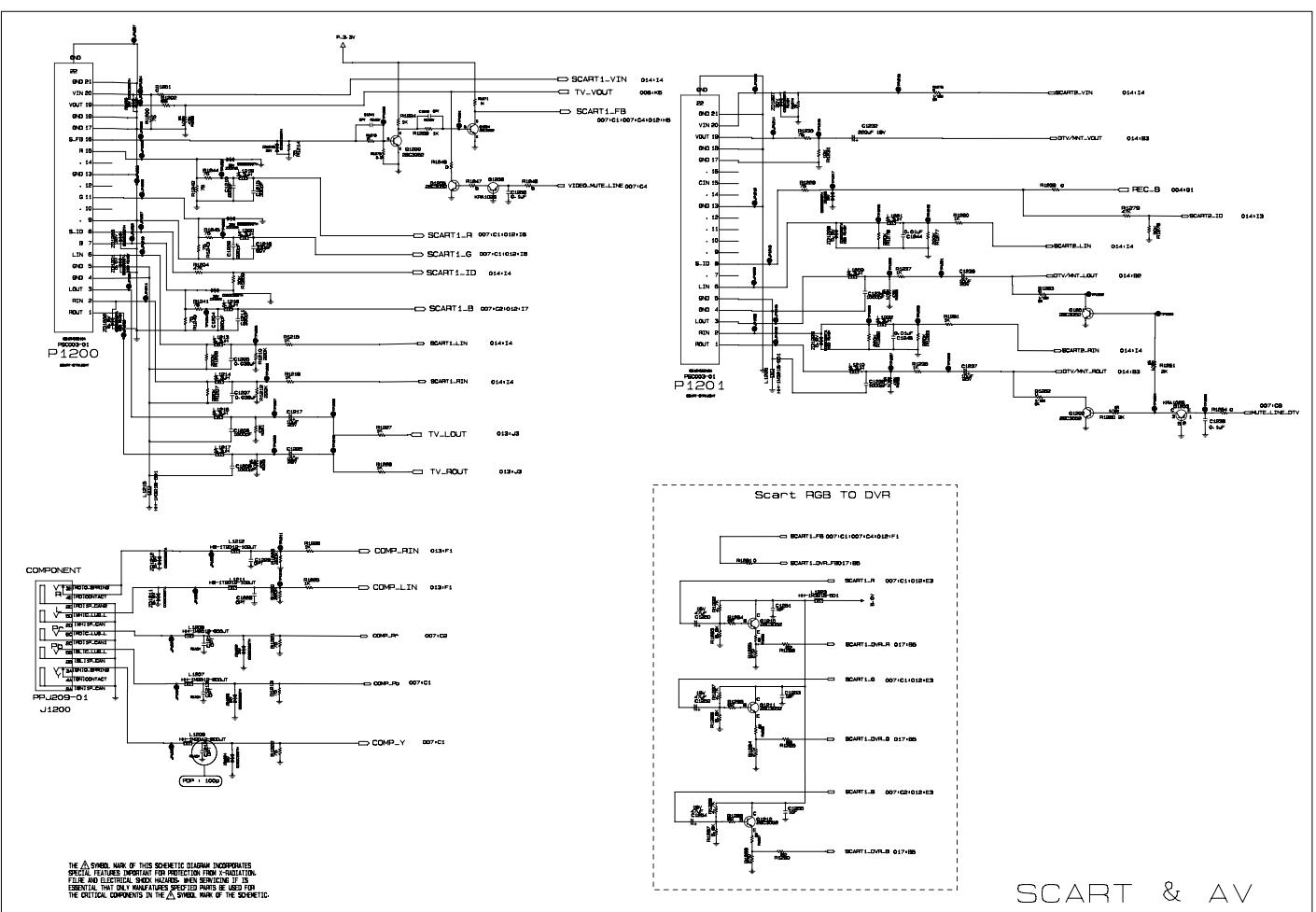
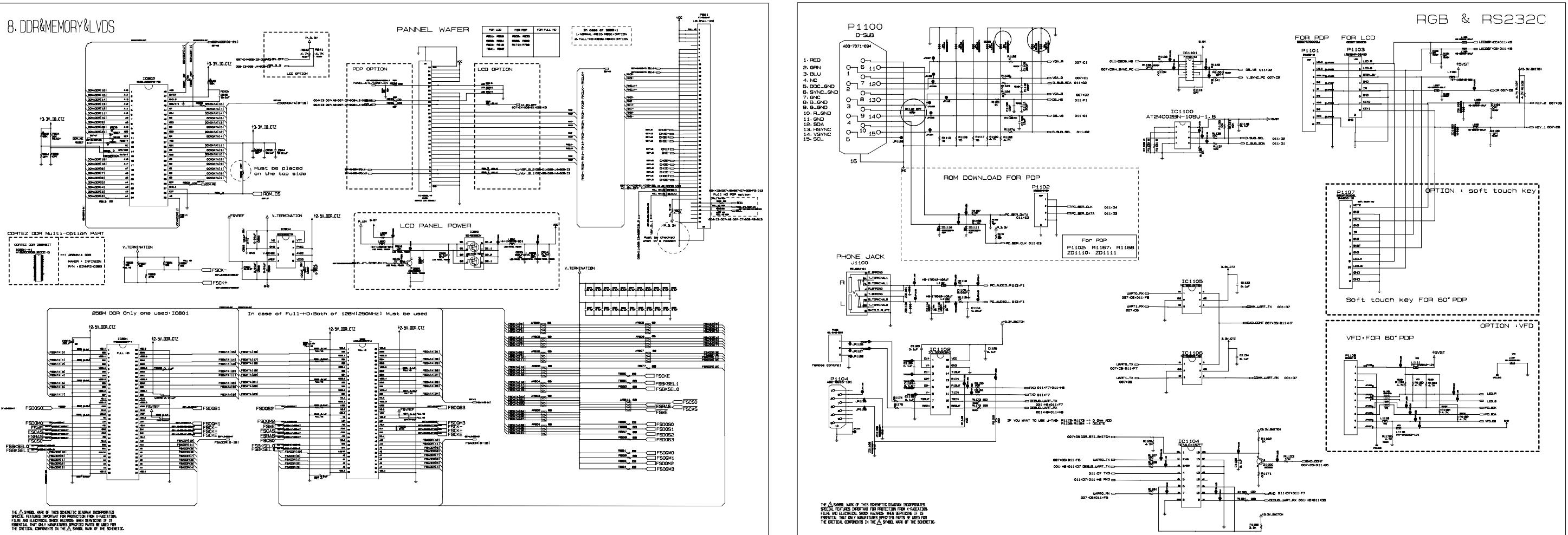
TUNER

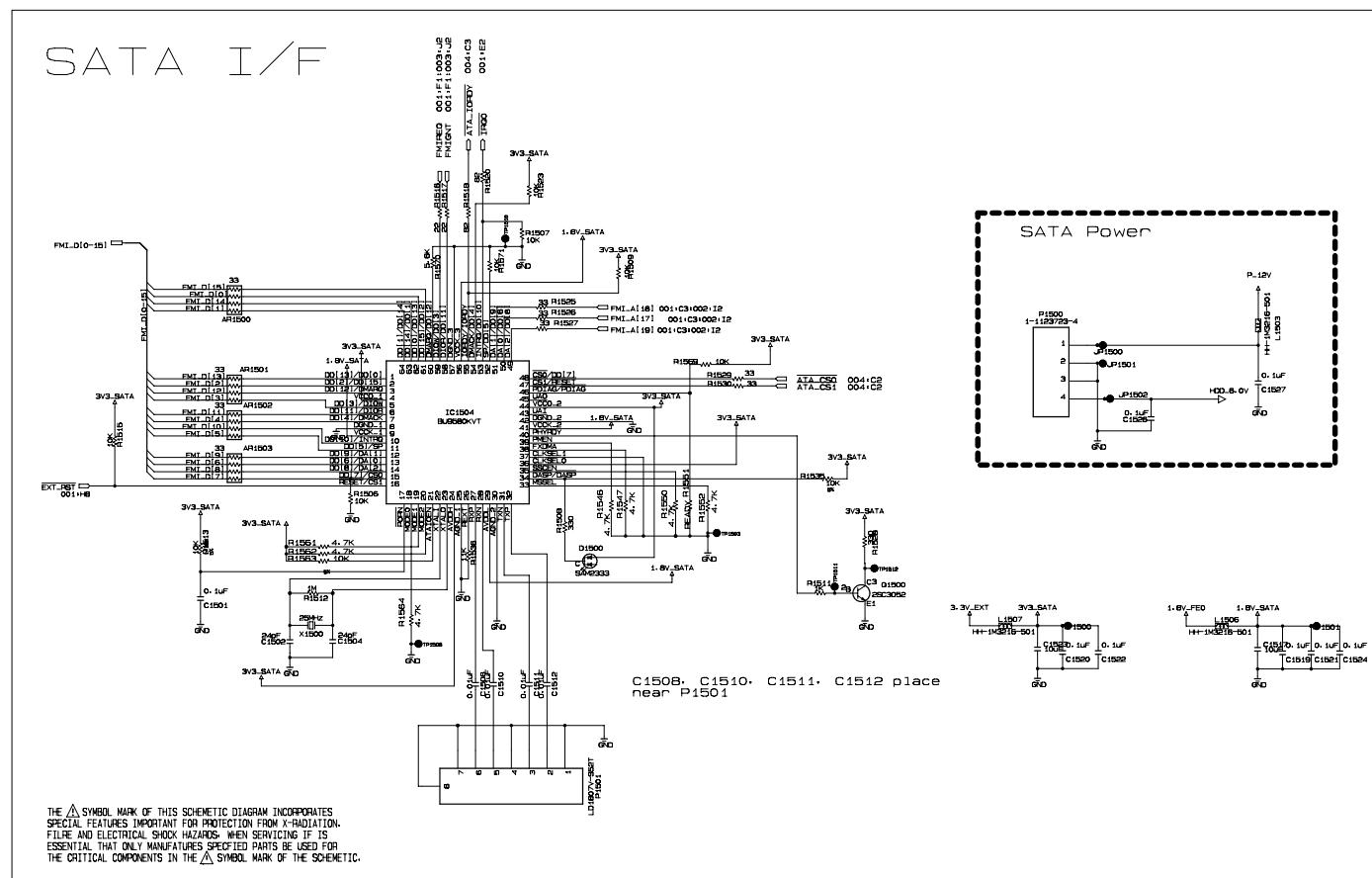
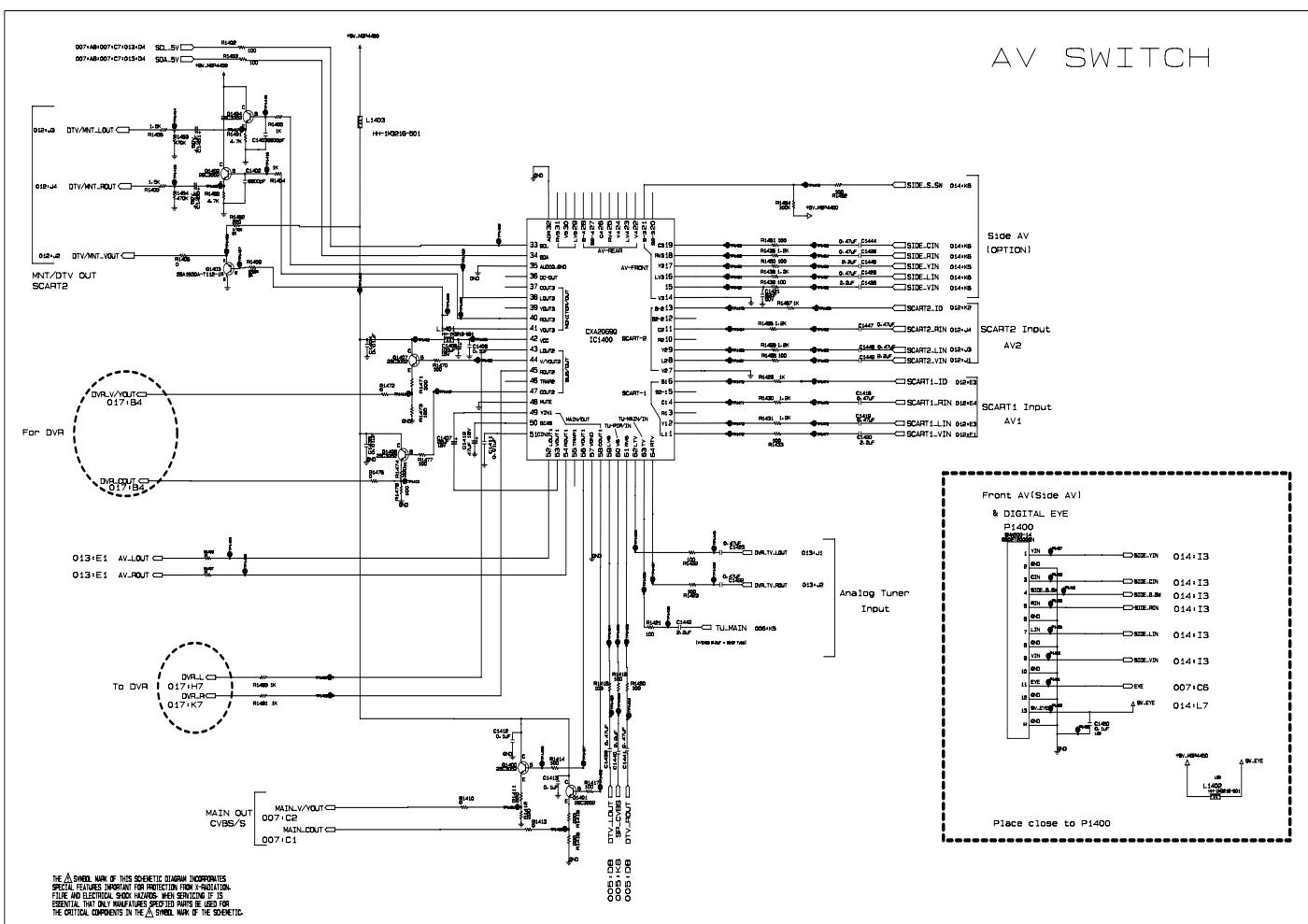
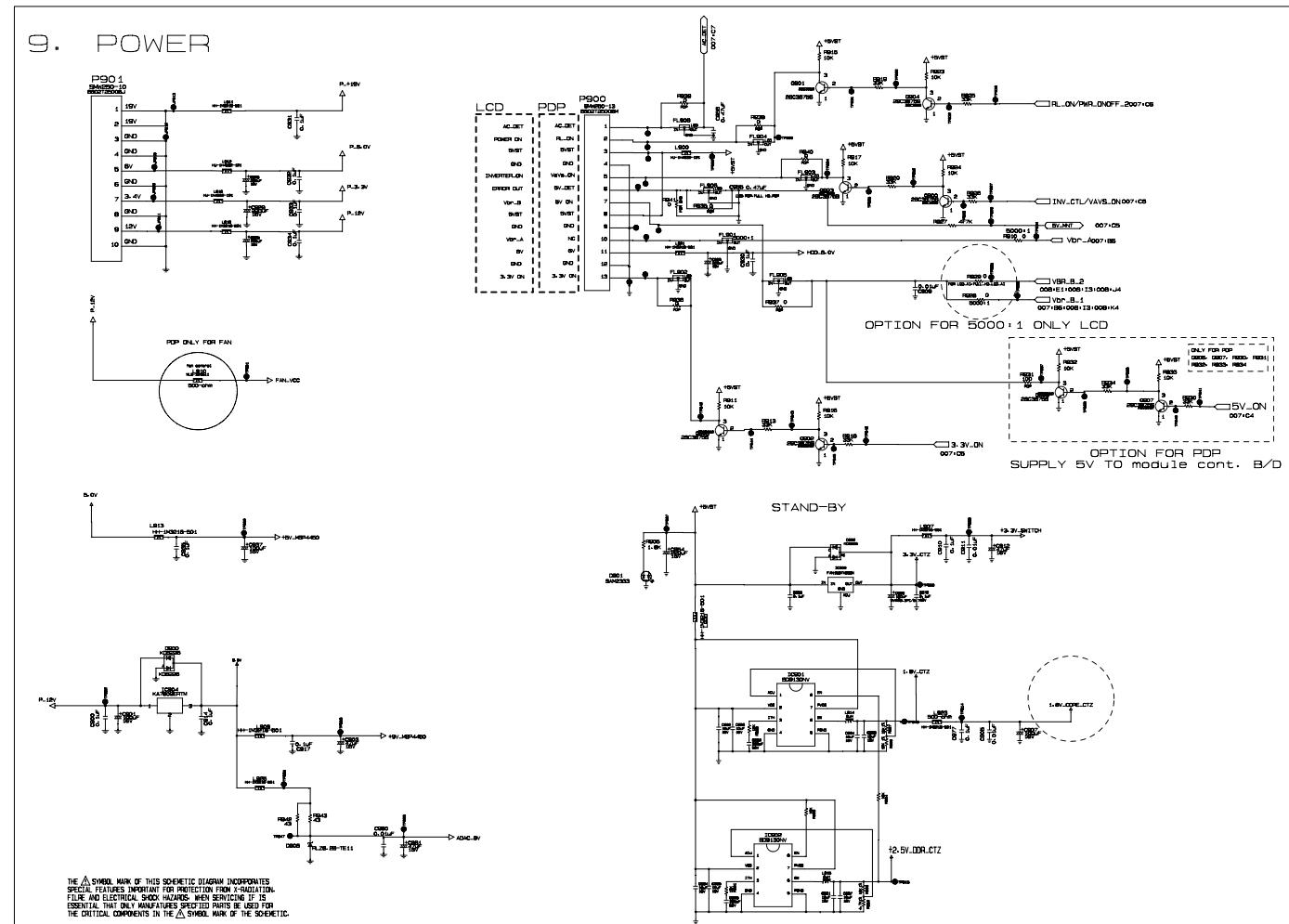
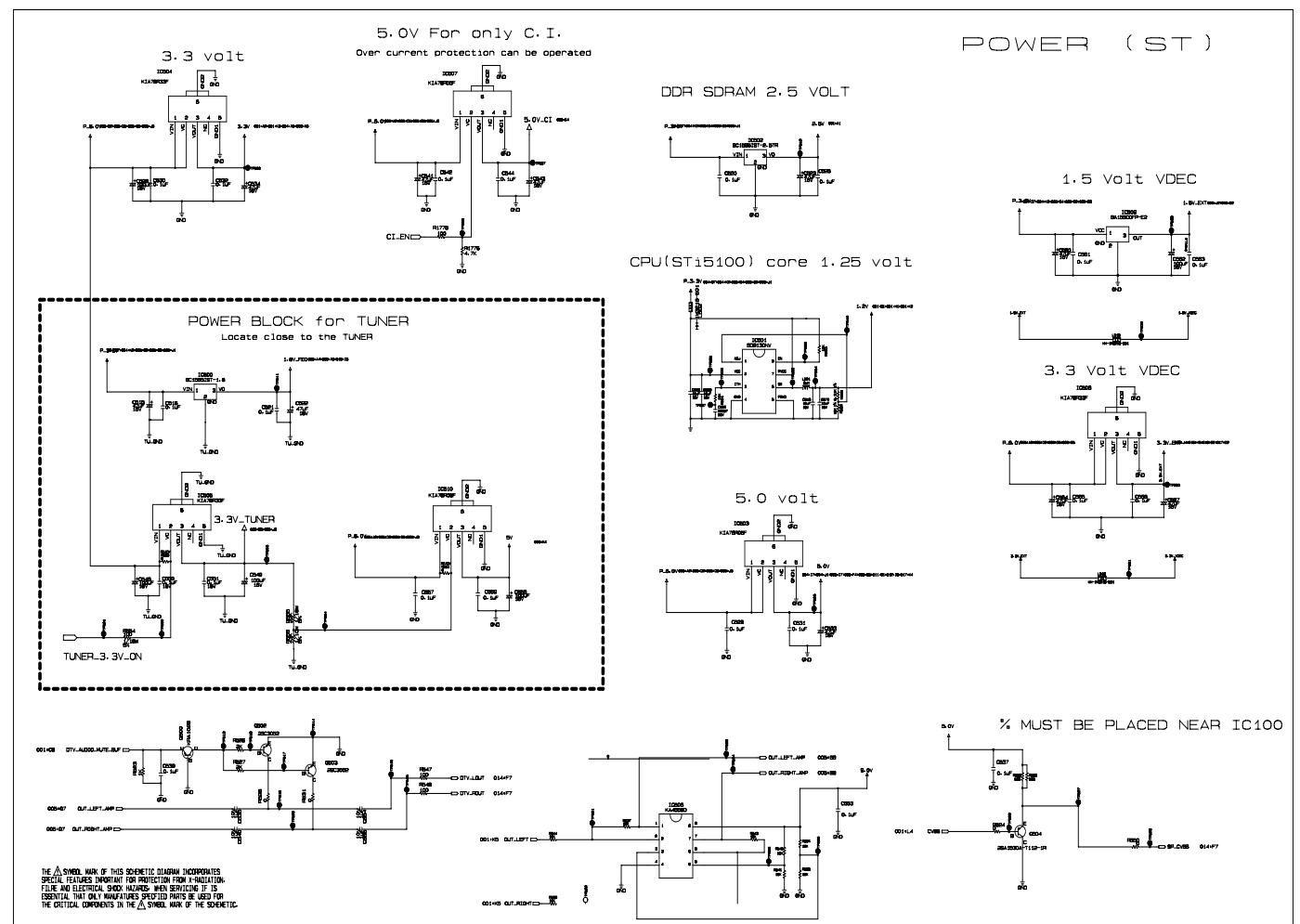


MEMORY (ST)



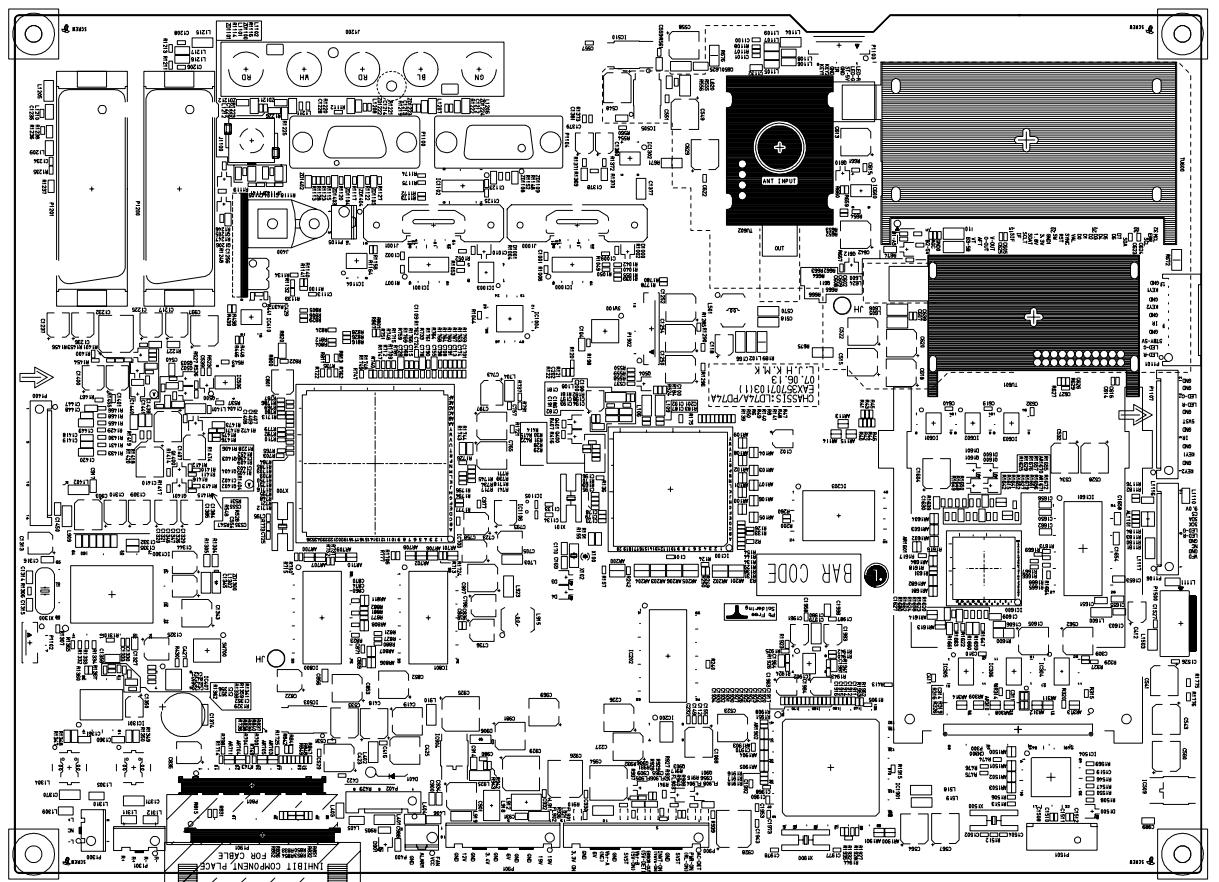




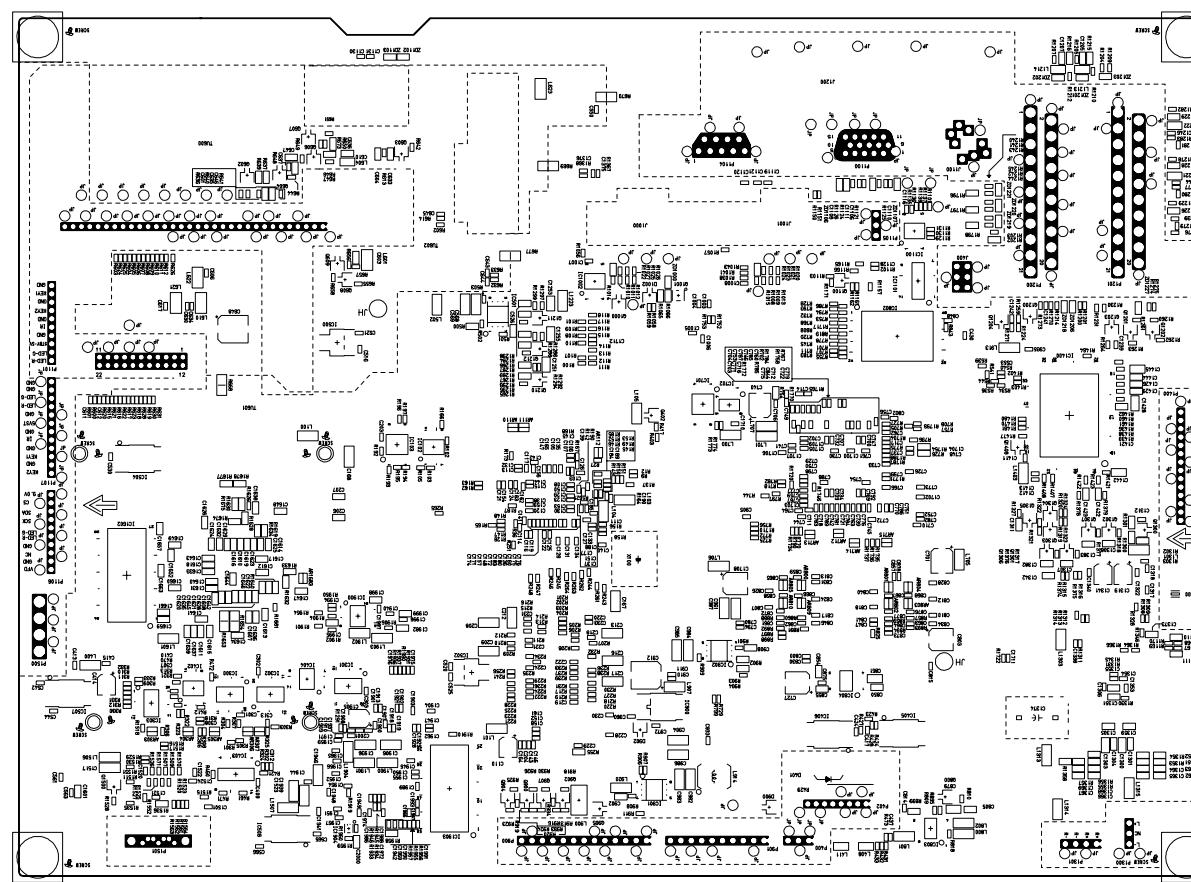


PRINTED CIRCUIT BOARD

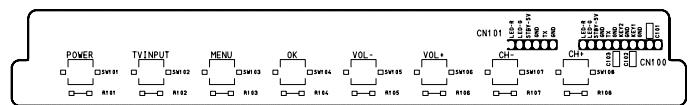
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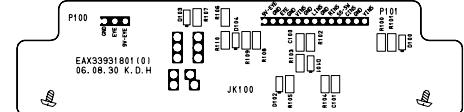
MAIN(BOTTOM)



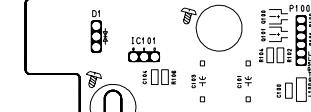
CONTROL



SIDE A/V



SIDE A/V





P/NO : MFL38616703

Sep., 2007
Printed in Korea