

TOSHIBA

FILE No. 810-200603GR

SERVICE MANUAL



DVD HOME CINEMA THEATER

SD-47HKSR



The above model is classified as a green product (*1), as indicated by the underlined serial number. This Service Manual describes replacement parts for the green product. When repairing this green product, use the part(s) described in this manual and lead-free solder (*2).

For (*1) and (*2), see the next page.

JUL.,2006 GREEN

(*1)

GREEN PRODUCT PROCUREMENT

The EC is actively promoting the WEEE & RoHS Directives that define standards for recycling and reuse of Waste Electrical and Electronic Equipment and for the Restriction of the use of certain Hazardous Substances. From July 1, 2006, the RoHS Directive will prohibit any marketing of new products containing the restricted substances.

Increasing attention is given to issues related to the global environmental. Toshiba Corporation recognizes environmental protection as a key management tasks, and is doing its utmost to enhance and improve the quality and scope of its environmental activities. In line with this, Toshiba proactively promotes Green Procurement, and seeks to purchase and use products, parts and materials that have low environmental impacts.

Green procurement of parts is not only confined to manufacture. The same green parts used in manufacture must also be used as replacement parts.

(*2)

LEAD-FREE SOLDER

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 repair of this product.

WARNING

This product is manufactured using lead free solder.

DO NOT USE LEAD BASED SOLDER TO REPAIR THIS PRODUCT !

The melting temperature of lead-free solder is higher than that of leaded solder by 86°F to 104°F (30°C to 40°C). Use of a soldering iron designed for lead-based solders to repair product made with lead-free solder may result in damage to the component and or PCB being soldered. Great care should be made to ensure high-quality soldering when servicing this product — especially when soldering large components, through-hole pins, and on PCBs — as the level of heat required to melt lead-free solder is high.

[CONTENTS]

○ SECTION 1. GENERAL

- SAFTY PRECAUTIONS 1-2
- SPECIFICATION..... 1-3

○ SECTION 2. ELECTRICAL

- TROUBLESHOOTING 2-1
- OVERALL BOLCK DIAGRAM..... 2-2
- DVD SCHEMATIC DIAGRAM..... 2-3
- FRONT SCHEMATIC DIAGRAM..... 2-4
- POWER AMPLIFIRE DIAGRAM..... 2-5
- POWER SUPPLY DIAGRAM..... 2-6

○ SECTION 3. EXPLODED VIEW

- EXPODED VIEW..... 3-1

○ SECTION 4. PACKING VIEW..... 4-1

○ SECTION 5. REPLACEMENT PARTS LIST 5-1

SECTION 1. GENERAL

Safety Precautions

WARNINGS



The exclamation mark within a triangle is a warning sign alerting the user to important instructions accompanying the product.



The lightning flash with arrowhead symbol within a triangle is a warning sign alerting the user to "dangerous voltage" inside the unit.



To reduce the risk of electric shocks, do not remove the cover. No user-serviceable parts inside the unit. Refer all servicing to qualified personnel.



This unit uses a laser. Only a qualified service person should remove the cover or attempt to service the player due to possible eye injury.



Invisible laser radiation may occur when the unit is opened or interlocks are by-passed. Avoid exposure to laser beam. Use of controls, adjustments or procedures other than those specified herein may result in hazardous radiation exposure.



This unit operates on 230V ~50Hz. If it is not to be used for a long time, the AC power cord should be unplugged.



The unit must not be exposed to moisture or rain. The unit should not be exposed to dripping or splashing and objects containing liquids, such as vases, should never be placed on top of it.



The power switch for the unit is mounted on a secondary circuit and does not disconnect the whole unit from the mains in OFF position.



Please ensure that all connections are properly made before operating the unit.



The unit should be positioned so that it is properly ventilated. Avoid placing it, for example, close to curtains, on a carpet or inside a built-in fixture such as a bookcase. Openings for ventilation must not be blocked or covered during use.



Do not expose this unit to direct sunlight or heat sources.

NOTE

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

Manufactured under licence from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories. Confidential Unpublished works. © 1992-1997 Dolby Laboratories, Inc. All rights reserved.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure. Do not open covers and do not repair yourself. Refer servicing to qualified personnel. This DVD VIDEO player is classified as a CLASS 1 LASER PRODUCT as stated on the back of the set.

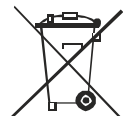
CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

CAUTION:

1. Do not operate the system in an enclosed cabinet and allow about 10cm (4 inches) of free space all around the receiver for adequate ventilation.
2. No naked flame sources, such as lighted candles, should be placed on the apparatus.
3. Attention should be drawn to the environmental aspects of battery disposal.

Following information is only for EU-member states:

The use of the symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.



Specification

Technical data

Power supply	220-240V mains voltage, 50Hz
Power consumption	120W ; In standby <3W
Dimensions	430W x 50H x 350D
Laser	Semiconductor laser, wavelength 650 nm
Video signal-noise ratio	55dB (DVD)
Audio frequency range	DVD (PCM) 125Hz ~ 20kHz (+/- 3dB); CD 125Hz ~ 20kHz (+/- 3dB)
FM tuner	
System	Quartz-controlled PLL synthesiser system
Reception range	87.5~108.00 MHz (50kHz increments)
Audio output signal	
Audio	L/R 2Vrms, 47kOhm
Audio output	
Stereo	80W+80W \leq (6 Ohms at 1kHz, THD 10%)
Surround	Front: 80W+80W \leq (6 Ohms at 1kHz, THD 10%) Center: 80W \leq (6 Ohms at 1kHz, THD 10%) Rear: 80W+80W \leq (6 Ohms at 1kHz, THD 10%)
Subwoofer	Oupput: 80W (6 Ohms at 80Hz, THD 10%)
Headphones	Stereo output 3.5mm jack
Front/Rear speakers	
Dimensions	92W x 140H x 100Dmm
Impedance	6ohms
Center speakers	
Dimensions	230W x 92H x 100Dmm
Impedance	6 Ohms
Subwoofer	
Dimensions	202W x 305H x 317Dmm
Impedance	6 Ohms

Specifications subject to change without prior notice.

REFERENCE

SECTION 2. ELECTRICAL

Troubleshooting

If you experience any of the following difficulties while using the system, use this troubleshooting guide to help you solve the problem. Should any problem persist, consult your nearest service center.

No power

- Is the power cord firmly plugged into the power outlet?
- One of the safety mechanisms may be operating. In this event, unplug the player from the power outlet briefly and then plug it in again.

No picture

- Check that the system is connected securely.
- The video connecting cord is damaged. Replace it with a new one.
- Make sure you connect the system to video input connector on the TV.
- Make sure you turn on the TV.
- Make sure you select the video input on the TV so that you can view the pictures from this system.
- Make sure the TV SYSTEM and VIDEO output setting in the setup menu are set correctly.

The picture noise appears

- Clean the disc.
- If video from this system has to go through your VCR to get to your TV, the copy-protection applied to some DVD programs could affect picture quality. If you still experience problems after checking your connections, please try connecting your DVD system directly to your TV's input.

The aspect ratio of the screen cannot be changed even though you set "TV TYPE" in the SETUP menu when you play a wide picture

- The aspect ratio is fixed on your DVD disc.
- Connect the system directly to the TV. Otherwise, you may not change the aspect ratio.
- Depending on the TV, you may not change the aspect ratio.

There is no sound or only a very low-level sound is heard

- Check that the speakers and components are connected securely.
- Make sure that you have selected the correct source on the system.
- The protective device on the system has been activated because of a short circuit. Turn off the system, eliminate the short circuit problem and turn on the power again.
- The audio connecting cord is damaged. Replace it with a new one.
- The system is in pause mode or in slow-motion play mode, or fast forward or fast reverse is performed. Press ►/|| to return to normal play mode.
- Check the speaker settings.

The left and right sounds are unbalanced or reversed

- Check that the speakers and components are connected correctly and securely.
- Adjust front balance parameter using **SELECT** and **VOLUME+/-**.

Severe hum or noise is heard

- Check that the speakers and components are connected securely.
- Check that the connecting cords are away from a transformer or motor, and at least 3 meters away from a TV set or fluorescent light.
- Move your TV away from the audio components.
- The plugs and jacks are dirty. Wipe them with a cloth slightly moistened with alcohol.
- Clean the disc.

No stereo sound effect when you play a Video CD or a CD

- Set the Audio mode to STEREO.
- Make sure you connect the system appropriately.

The surround effect is difficult to hear when you are playing a Dolby Digital sound track

- Check the speaker connections.
- Depending on the DVD disc, the output signal may not be the entire 5.1 channel but monaural or stereo even if the sound track is recorded in Dolby Digital format.

The sound comes from the center speaker only

- Depending on the disc, the sound may come from the center speaker only.

No sound or only a very low-level sound is heard from the rear speakers

- Adjust the speaker volume.

The language for the subtitles cannot be changed when you play a DVD

- Multilingual subtitles are not recorded on the DVD.
- Changing the language for the subtitles is prohibited on the DVD.

The subtitles cannot be turned off when you play a DVD

- Depending on the DVD, you may not be able to turn the subtitles off.

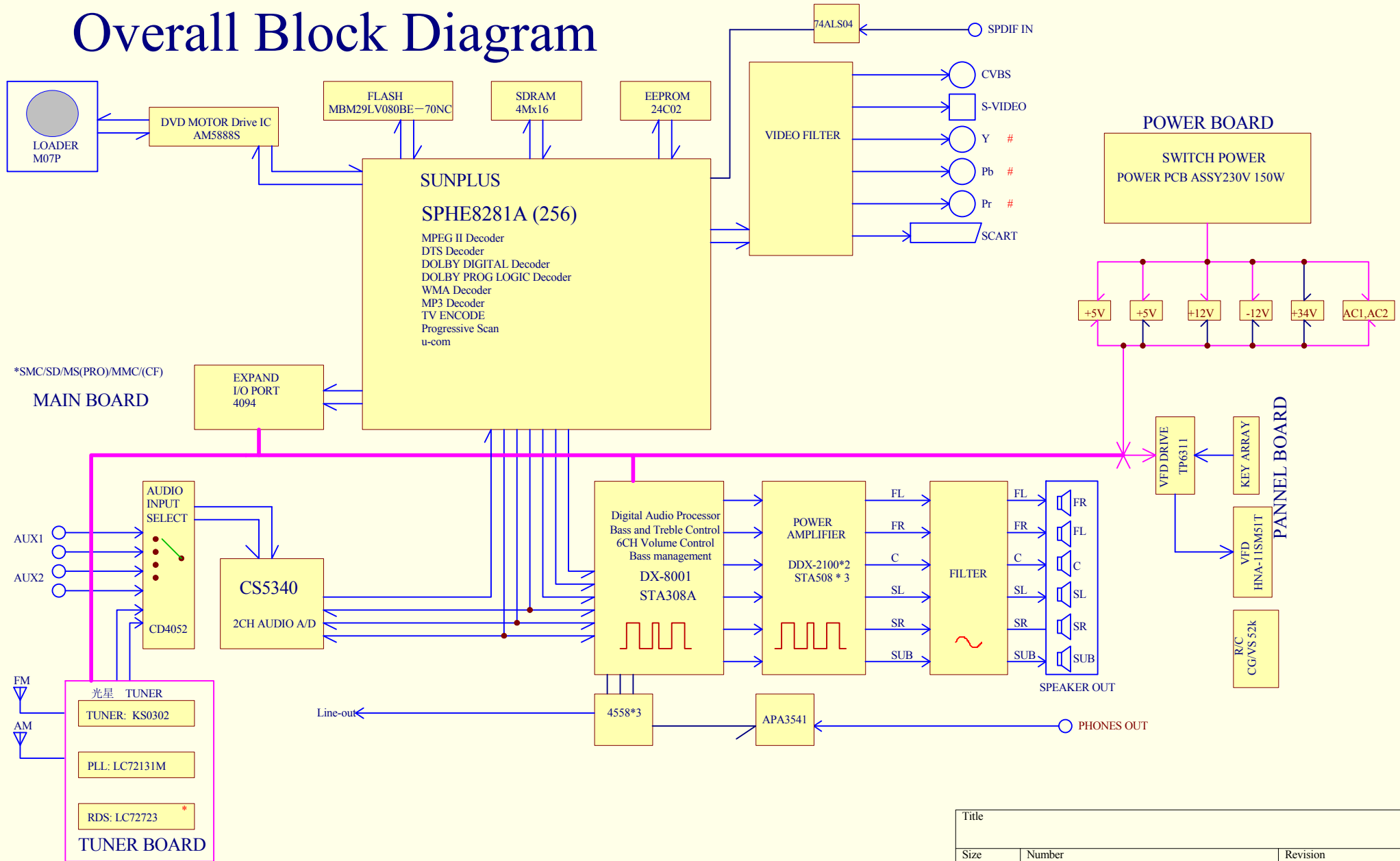
The angles cannot be changed when you play a DVD

- Multi-angles are not recorded on the DVD.
- Change the angles when the angle mark appears on the TV screen.

The system does not operate properly

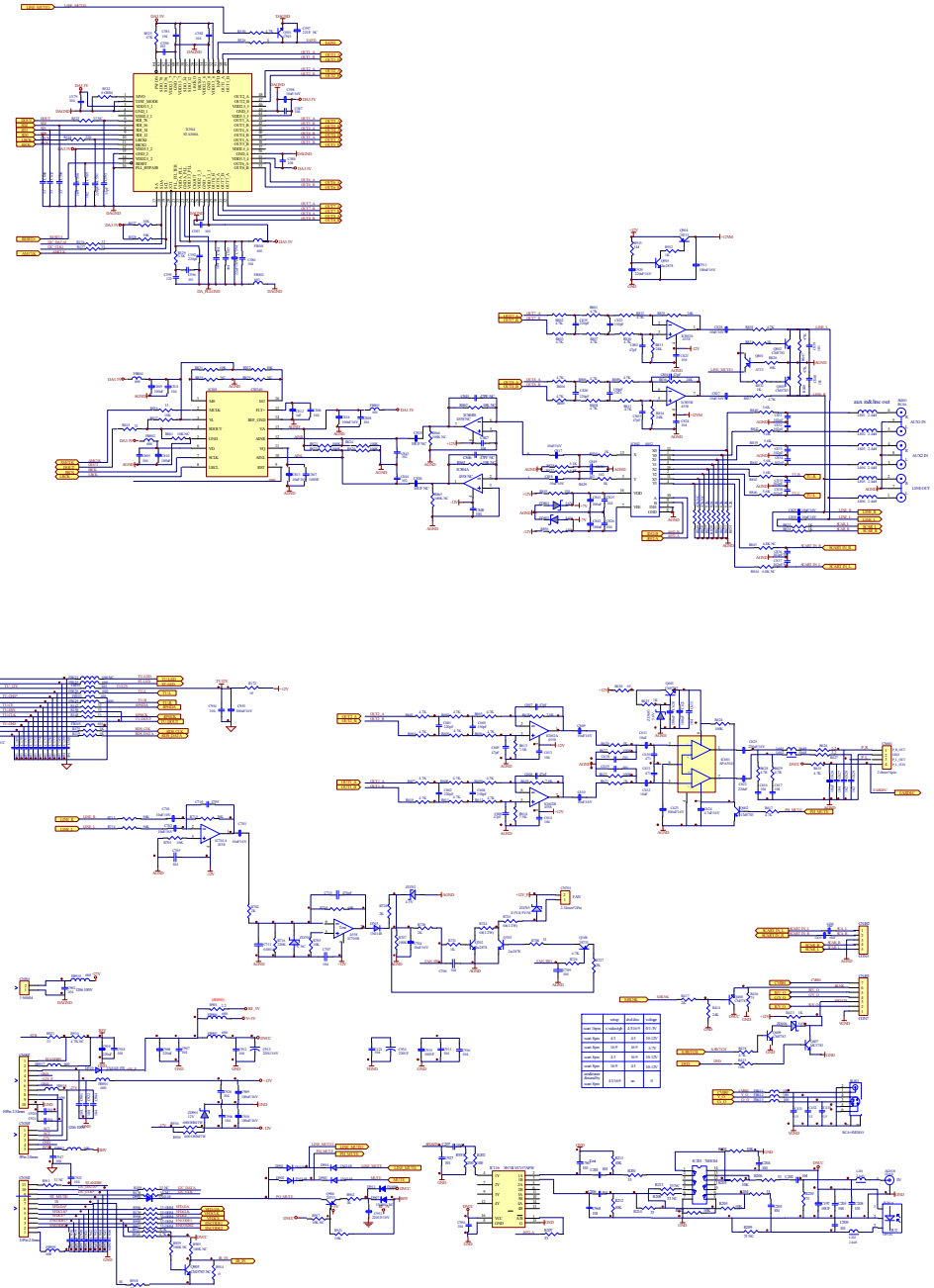
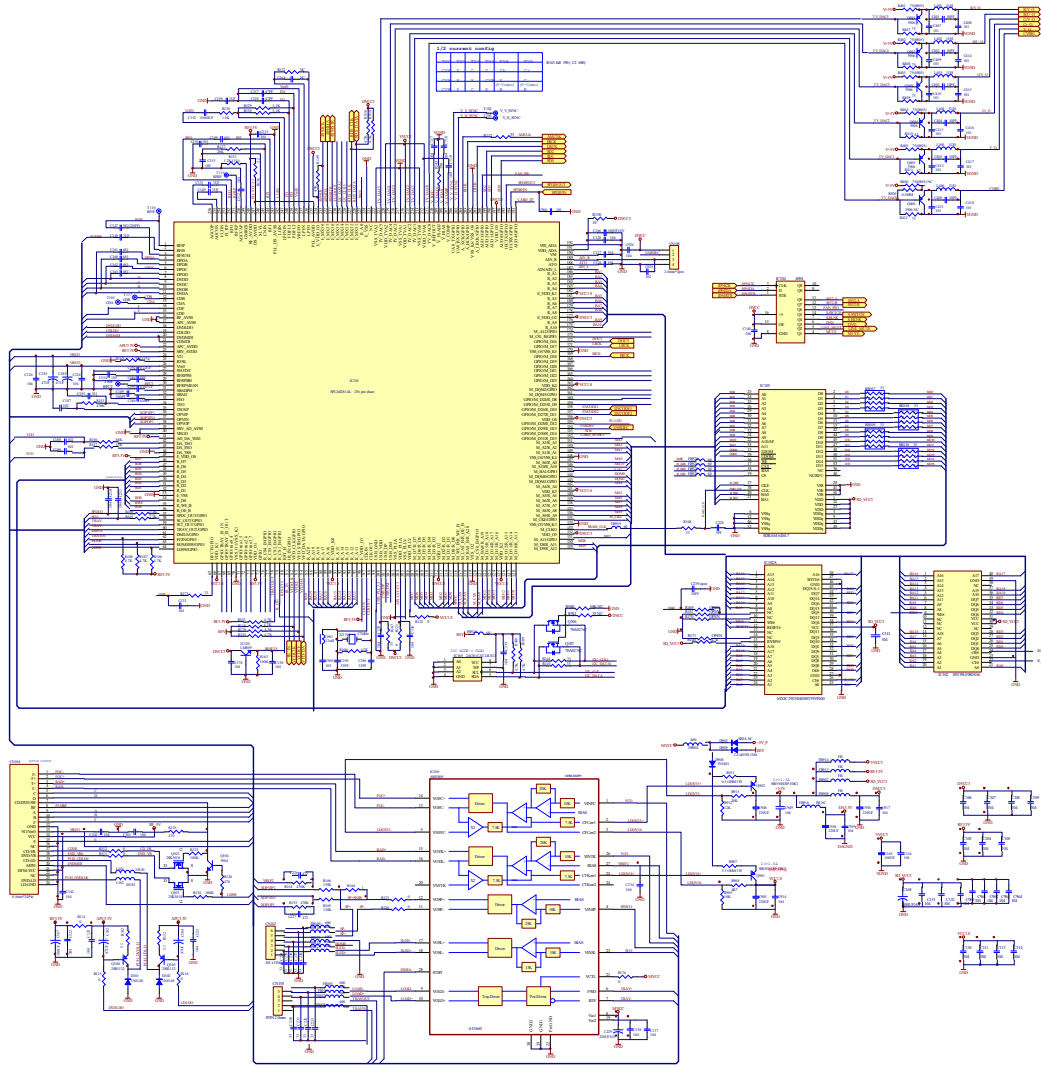
- Static electricity, etc., may affect the system's operation. Press **ON/STANDBY** button to turn off, then press again to turn on.

Overall Block Diagram

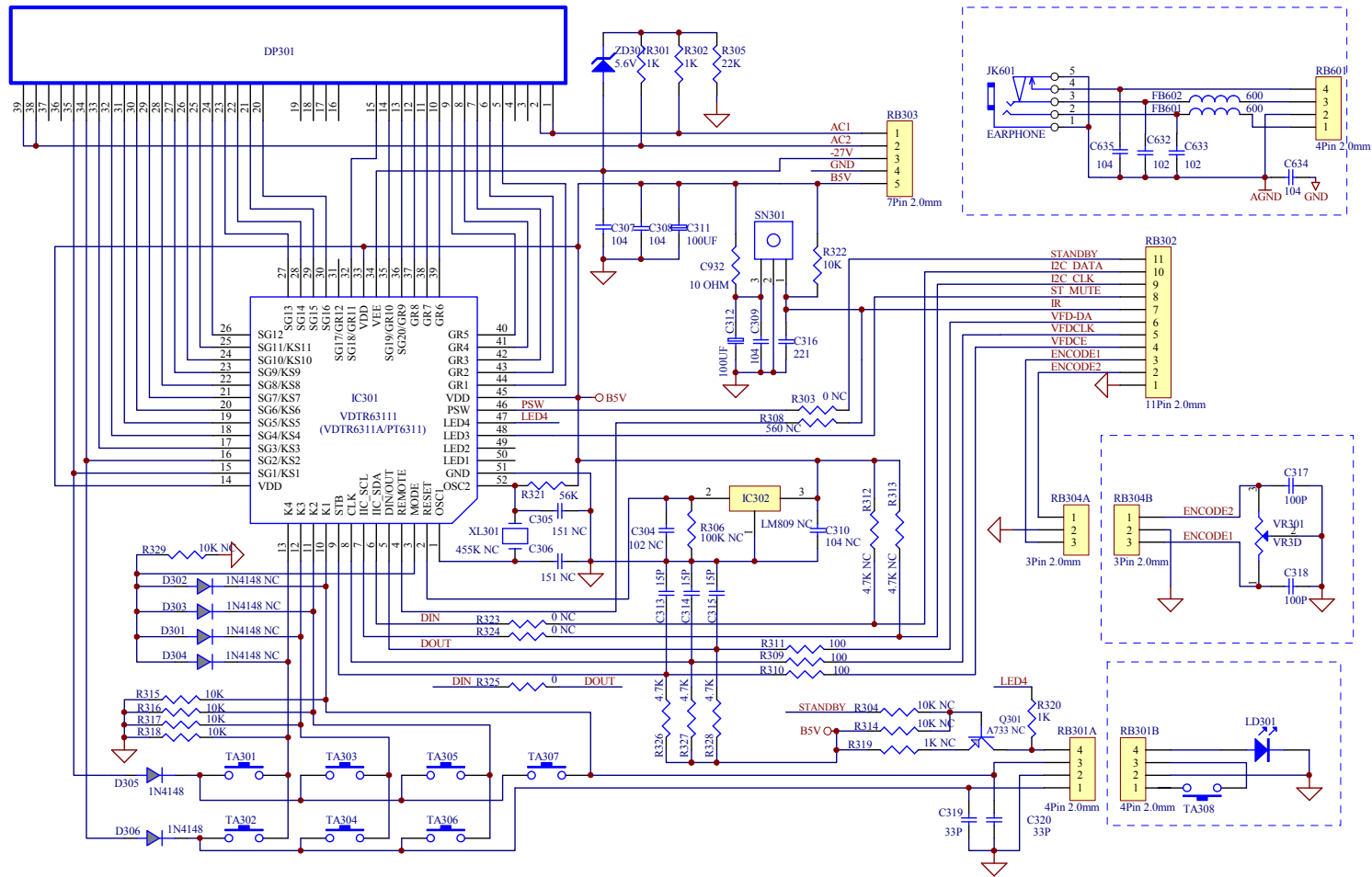


Title		
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Date:	12-Dec-2005	Sheet of
File:	E:\DR30H5\DR30H5.ddb	Drawn By:

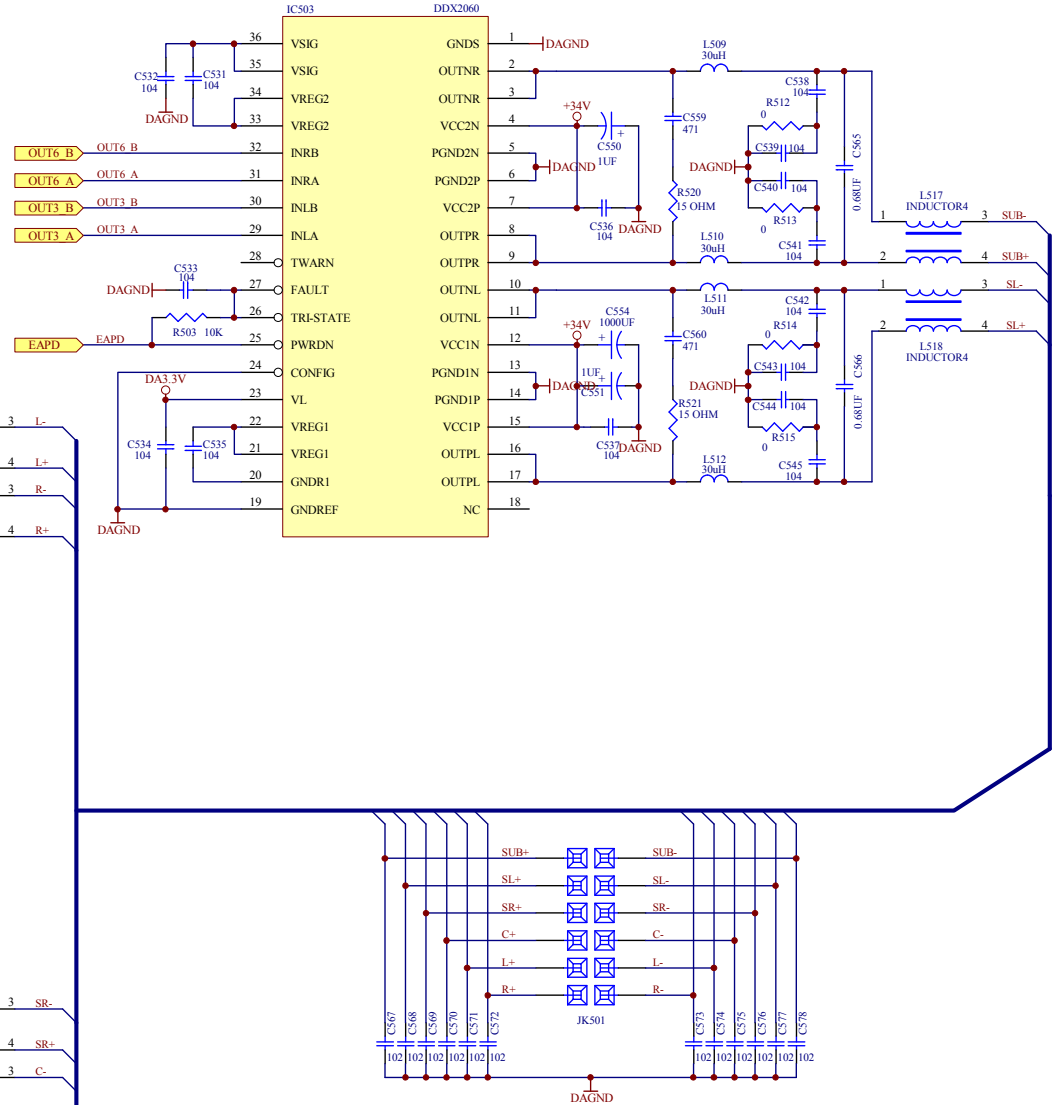
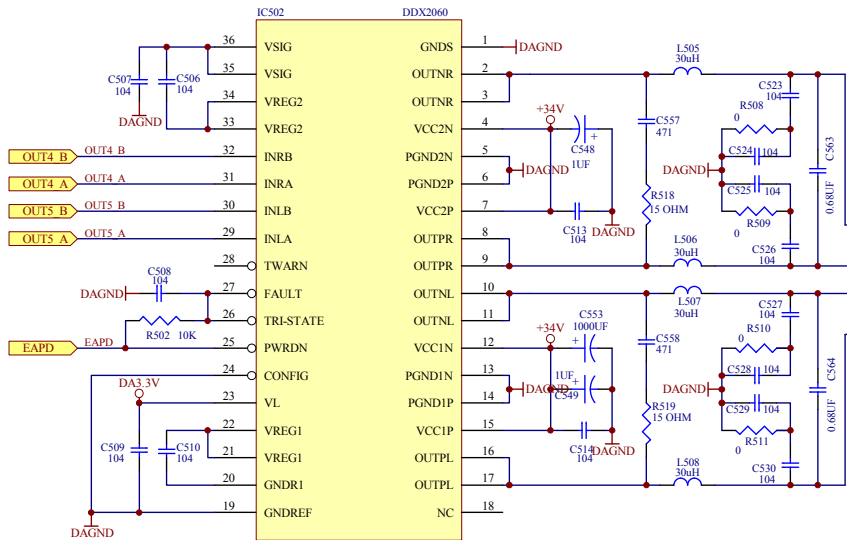
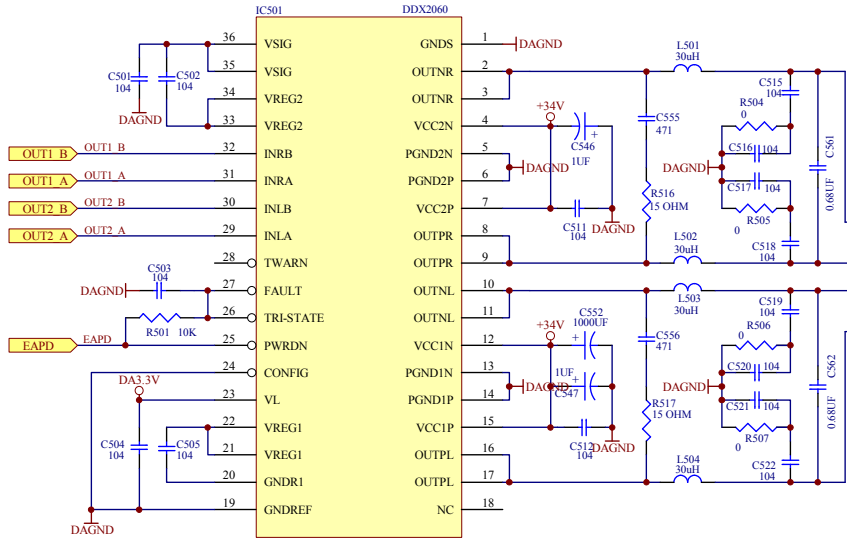
DVD Schematic Diagram



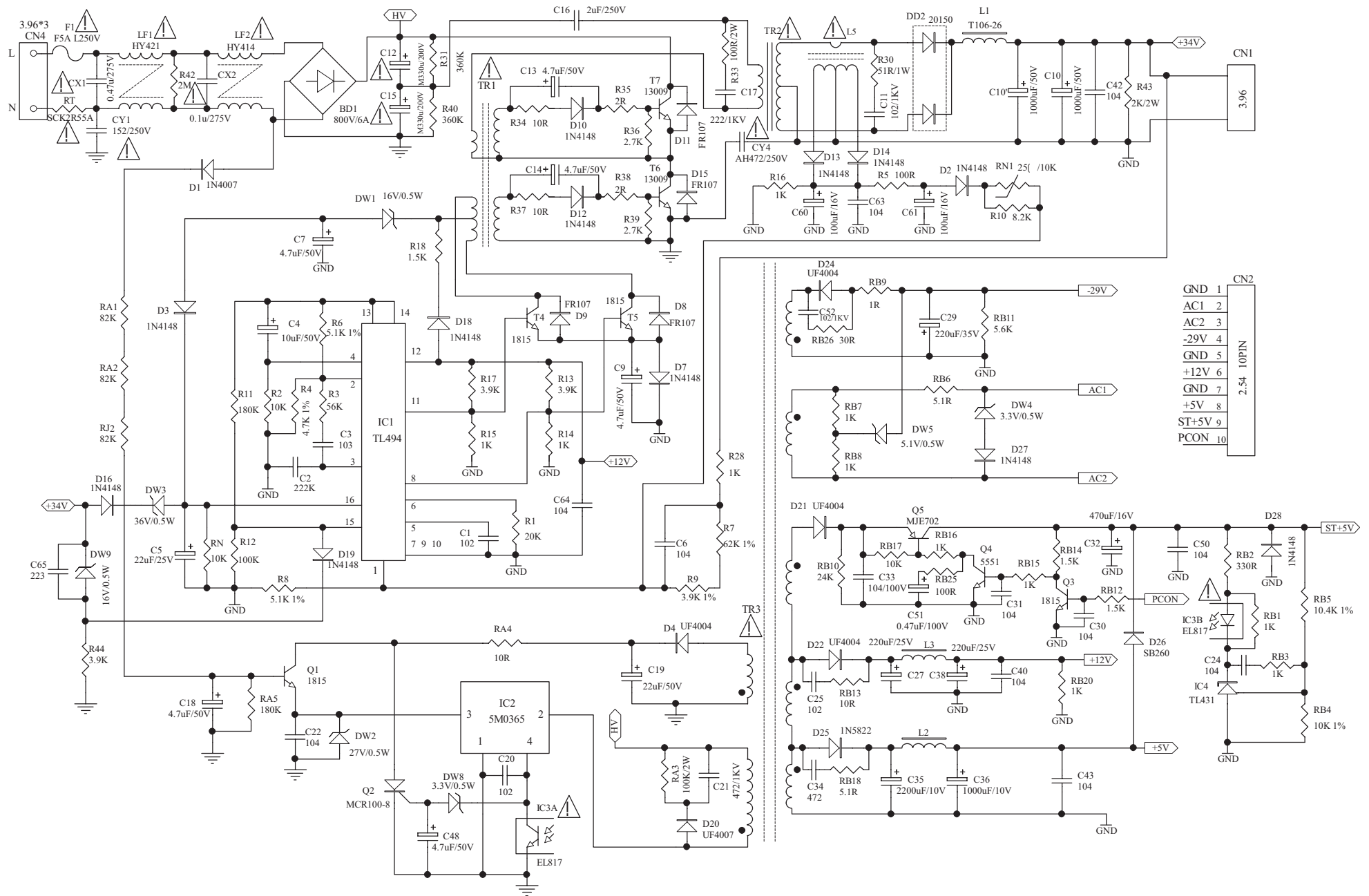
Front Schematic Diagram



Power Amplifier Diagram



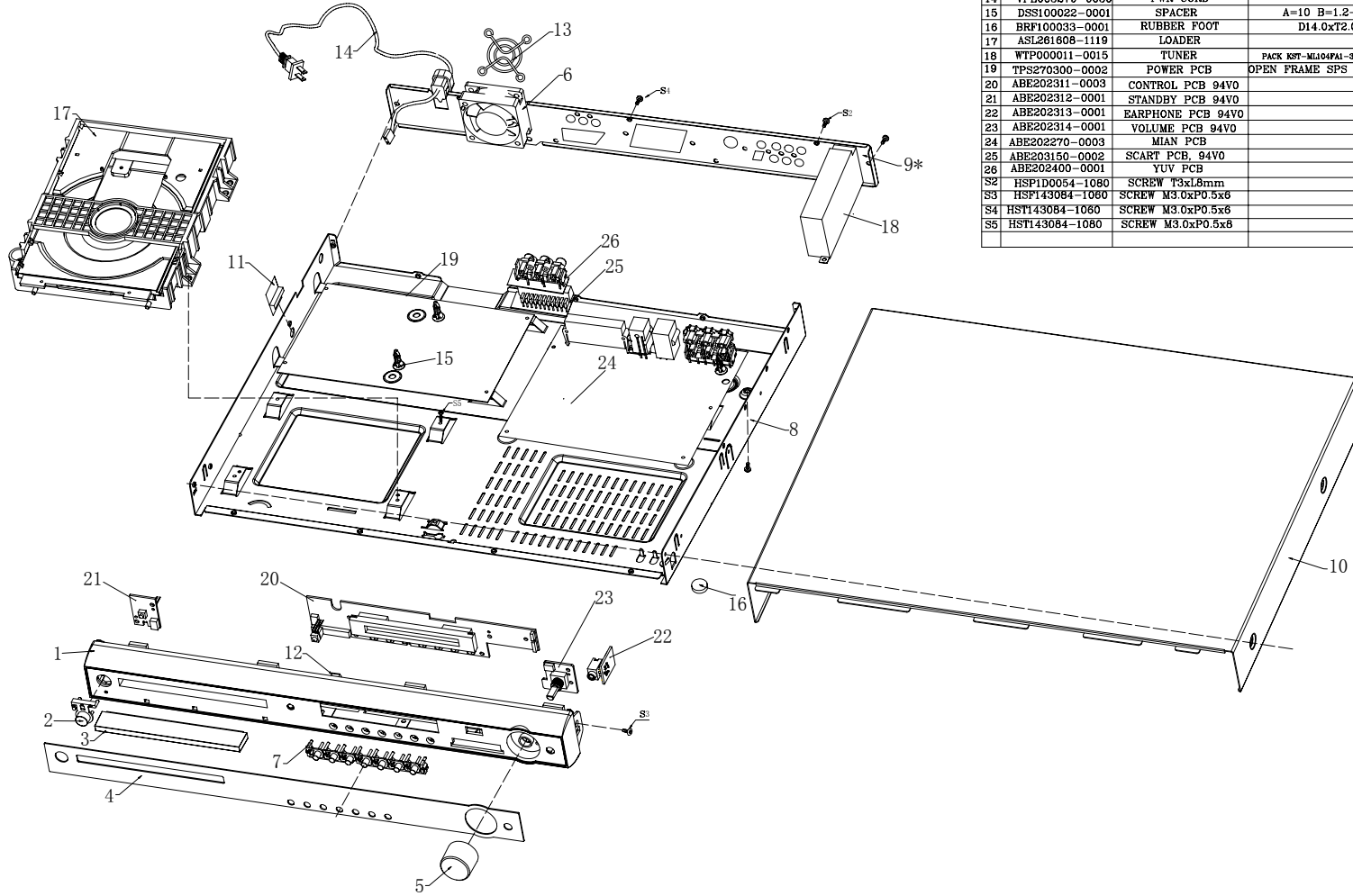
• Power supply diagram



GND	1
AC1	2
AC2	3
-29V	4
GND	5
+12V	6
GND	7
+5V	8
ST+5V	9
PCON	10

2.54 10PIN

EXPLODE D VIEW

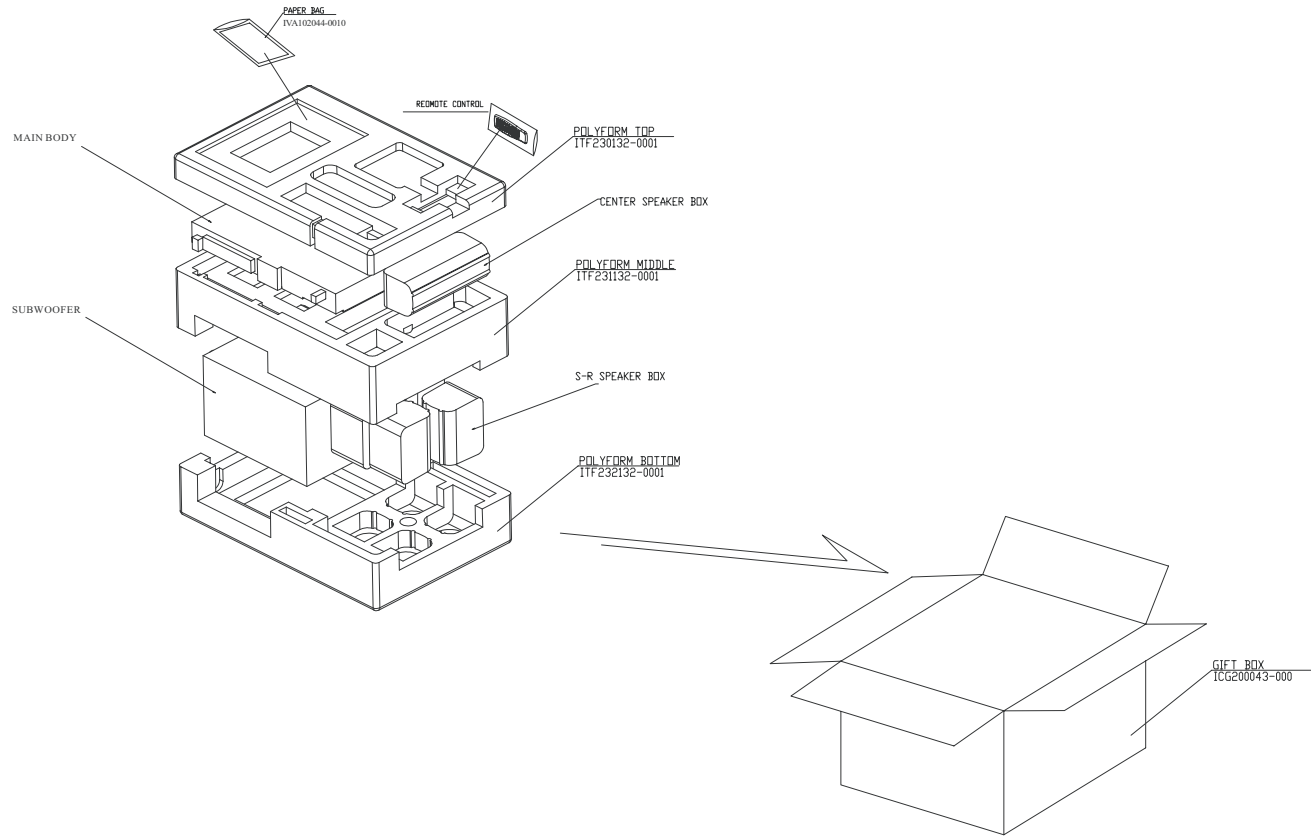


NO	PART NO	PART NAME	DESCRIPTION	QTY	REMARK
1	BPF106023-1006	FRONT CAB CARD HIPS	L430xW48xH25mm HIPS	1	
2	BPK112095-0001	STANDBY KNOB	L20.75xW14xH7.4mm ABS	1	
3	BFD101095-0005	DVD DOOR	130x6x20 ABS	1	
4	BPN100234-2006	MASK PANEL	L425.3xW31xH1.0mm PC	1	
5	BPK105085-0001	VOLUME KNOB	D26x20 ABS	1	
6	PAN021208-0002	FAN	12V 70mA SUNON 0.8W	1	
7	BPK102095-0001	FUN KNOB	L103.75xW14.25xH9.8mm	1	
8	GSE200181-0001	BOTTOM	SECC T=0.8mm	1	
9	GSE200180-0002	BACK	SECC T=0.8mm	1	
10	GSE100528-0001	TOP COVER	T=0.8mm SECC	1	
11	GSW200009-0001	SPRING	T=0.5mm L25.5xW15	1	
12	GSE200182-0001	BRACKET	SECC T=0.8mm	1	
13	GSW200011-0001	PAN NET	SWPA D=1.6mm	1	
14	VP8003279-0030	PWR CORD		1	
15	DSS100022-0001	SPACER	A=10 B=1.2-1.6mm	2	
16	BRF100033-0001	RUBBER FOOT	D14.0xT2.0mm	4	
17	ASL261608-1119	LOADER		1	
18	WTP000611-0015	TUNER	PACK INST-M164PA1-32 KWANG SUNG	1	
19	TPS270300-0002	POWER PCB	OPEN FRAME SPS 7 O/P 300W	1	
20	ABE202311-0003	CONTROL PCB 94V0		1	
21	ABE202312-0001	STANDBY PCB 94V0		1	
22	ABE202313-0001	EARPHONE PCB 94V0			
23	ABE202314-0001	VOLUME PCB 94V0			
24	ABE202270-0003	SCART PCB 94V0			
25	ABE203150-0002	MIAN PCB			
26	ABE203400-0001	YUV PCB			
S2	HSP1D0054-1060	SCREW T3xL6mm		21	
S3	HSP143084-1060	SCREW M3.0xP0.5x6		2	
S4	HST143084-1060	SCREW M3.0xP0.5x6		28	
S5	HST143084-1060	SCREW M3.0xP0.5x6		4	

SECTION 3. EXPLODE VIEW







PART NO. :

ISSUE-CHANGE ORDER-DATE-INITIAL



SECTION 4. PACKING VIEW

SECTION 5. REPLACEMENT PARTS LIST

 Location No.	TSB P/N	Reference No.	Description	
1	AH800501	BPF106023-1006	FRONT CAB CARD HIPS, L430xW48xH25mm HIPS	
2	AH800502	BPK112095-0001	STANDBY KNOB, L20.75xw14xH7.4mm ABS	
3	AH800503	BPD101095-0005	DVD DOOR, 130x6x20 ABS	
4	AH800504	BPN100234-2006	MASK PANEL, L425.3xW31xH1.0mm PC	
5	AH800505	BPK105085-0001	VOLUME KNOB, D26x20 ABS	
6	AH800506	FAN021208-0002	FAN, 12V 70mA SUNON 0.8W	
7	AH800507	BPK102095-0001	FUN KNOB, L103.75xW14.25xH9.8mm	
8	AH800508	GSE200181-0001	BOTTOM, SECC T=0.8mm	
10	AH800510	GSE100528-0001	TOP COVER, T=0.8mm SECC	
11	AH800511	GSW200009-0001	SPRING, T=0.5mm L25.5xW15	
12	AH800512	GSE200182-0001	BRACKET, SECC T=0.8mm	
13	AH800513	GSW200011-0001	FAN NET, SWPA D=1.6mm	
	14	AH800514	VPE003279-0030	PWR CORD, 2P 1926 BK EUR 100W KE-21
	15	AH800515	DSS100022-0001	SPACER, A=10 B=1.2-1.6mm
	16	AH800516	BRF100033-0001	RUBBER FOOT, D14.0xT2.0mm
	17	AH800517	ASL261608-1119	DVD ROADER MECHANICAL ASS'Y M07S-B2(G)
	18	AH800518	WTP000011-0015	TUNER, PACK KST-ML104FA-32 KWANG SUNG LF
	19	AH800519	TPS270300-0002	POWER PCB, OPEN FRAME SPS 7 O/P 300W HYSPSU3-DY-04
	20	AH800520	ABE202311-0003	CONTROL PCB 94V0
	21	AH800521	ABE202312-0001	STANDBY PCB 94V0
	22	AH800522	ABE202313-0001	EARPHONE PCB 94V0
	23	AH800523	ABE202314-0001	VOLUME PCB 94V0
	24	AH800524	ABE202270-0003	MAIN PCB, FR-4 L247mmxW140mm
	25	AH800525	ABE203150-0002	SCART PCB, 94V0 L196mmxW176mm
	26	AH800526	ABE202400-0001	YUV PCB, 94V0 L168mmxW140mm
	-	AH800527	YOM200061-0001	OWNER'S MANUAL, ENGLISH+RUSSIAN
	-	AH800528	ESD20C801-0602	1 SET SPEAKER SYSTEM, FR80Wx2+C80W+SR80Wx2+SUB80W
	-	AH800529	WIR248001-EP01	REMOTO CONTROL, 48KEYS
	-	AH800530	VTA400001-1060	FM ANTENNA, OHM MALE , 1600mm
	-	AH800531	VRC303001-0010	RCA CABLE, 0D2.6x7.8,1500mm BLK

MISCELLANEOUS

TA301	AH800532	MAW060001-0010	GP AI TACT SW SKHVBE3520 ALPS
TA302	AH800532	MAW060001-0010	GP AI TACT SW SKHVBE3520 ALPS
TA303	AH800532	MAW060001-0010	GP AI TACT SW SKHVBE3520 ALPS
TA304	AH800532	MAW060001-0010	GP AI TACT SW SKHVBE3520 ALPS
TA305	AH800532	MAW060001-0010	GP AI TACT SW SKHVBE3520 ALPS
TA306	AH800532	MAW060001-0010	GP AI TACT SW SKHVBE3520 ALPS
TA307	AH800532	MAW060001-0010	GP AI TACT SW SKHVBE3520 ALPS
TA308	AH800532	MAW060001-0010	GP AI TACT SW SKHVBE3520 ALPS
VR301	AH800533	MSW005012-0070	GP R-ENCODER EC121102E2B-HA1-24P5
XT101	AH800534	JQC022000-2760	GP CRYSTAL 27.0000MHz HC-49US +/-20ppm



**Location
No.**

TSB P/N

Reference No.


Description

INTEGRATED CIRCUIT


IC101	AH800535	RCI008281-0001	GP IC 256P SPHE8281AL-U SUNPLUS
IC102	AH800536	RCI390080-0001	GP IC 40PIN SST39VF080 3.3V PROGRAM IC
IC103	AH800537	RCI641620-0006	GP IC 54P HY57V641620ETP-7 TSOPII HYNIX
IC104	AH800538	RCI744094-0002	GP IC 16P CD74HC4094M96 SOIC TI
IC105	AH800539	RCI024002-0008	GP IC 8P TU24C02CS2BF SOIC TURBO CMOS
IC106	AH800540	RCI005888-0002	GP IC 28P V5888S HSOP VAITECH 5-CH BTL
IC116	AH800541	RCI050330-1002	GP IC 16P TS5V330DBQR QSOP TI QUAD SPDT
IC120	AH800543	RCI000809-0008	GP IC 3P AZ809NSTR-E1 SOT23 AAC 2.93V
IC201	AH800544	RCI740004-0003	GP IC 14PIN 74HCU04D PHILIPS TSOP
IC301	AH800545	RCI006311-1003	GP IC 52P TP6311QH QFP TOPRO VFD DRIVER
IC501	AH800546	RCI000508-0001	GP IC 36P STA508 SO ST 40V 4.5 QUAD
IC502	AH800546	RCI000508-0001	GP IC 36P STA508 SO ST 40V 4.5A QUAD
IC503	AH800546	RCI000508-0001	GP IC 36P STA508 SO ST 40V 4.5A QUAD
IC504	AH800548	RCI008001-0001	GP IC 64P DDX-8001 TQFP APOGEE MULTI-CH.
IC601	AH800549	RCI003541-1001	GP IC 8P APA3541-TRL SOP-8 HEADPHONE
IC602	AH800550	RCI004558-1003	GP IC 8P TEXAS RC4558D SOIC
IC701	AH800550	RCI004558-1003	GP IC 8P TEXAS RC4558D SOIC
IC801	AH800551	RCI005340-0001	GP IC16 PIN CS5340-CZ TSSOP CIRRUS
IC802	AH800552	RCI004052-1002	GP IC 16P CD4052BM SOIC TI
IC803	AH800550	RCI004558-1003	GP IC 8P TEXAS RC4558D SOIC

TRANSISTOR

Q100	AH800553	RCP201132-0004	GP XISTR PNP 2SB1132R SOT-89GR
Q102	AH800554	RCM203018-1002	GP MOSFET 2SK3018 30V/0.1A SOT23 GR N-CH
Q103	AH800554	RCM203018-1002	GP MOSFET 2SK3018 30V/0.1A SOT23 GR N-CH
Q104	AH800555	RCN003875-1101	GP XISTR NPN KTC3875-Y SOT23 CHANGJIANG
Q105	AH800553	RCP201132-0004	GP XISTR PNP 2SB1132R SOT-89GR
Q108	AH800556	RCP200733-1001	GP XISTR PNP 2SA812 HFE:200-400
Q401	AH800556	RCP200733-1001	GP XISTR PNP 2SA812 HFE:200-400
Q402	AH800556	RCP200733-1001	GP XISTR PNP 2SA812 HFE:200-400
Q403	AH800556	RCP200733-1001	GP XISTR PNP 2SA812 HFE:200-400
Q404	AH800556	RCP200733-1001	GP XISTR PNP 2SA812 HFE:200-400
Q405	AH800556	RCP200733-1001	GP XISTR PNP 2SA812 HFE:200-400
Q406	AH800556	RCP200733-1001	GP XISTR PNP 2SA812 HFE:200-400
Q407	AH800555	RCN003875-1101	GP XISTR NPN KTC3875-Y SOT23 CHANGJIANG
Q408	AH800555	RCN003875-1101	GP XISTR NPN KTC3875-Y SOT23 CHANGJIANG
Q409	AH800555	RCN003875-1101	GP XISTR NPN KTC3875-Y SOT23 CHANGJIANG
Q501	AH800555	RCN003875-1101	GP XISTR NPN KTC3875-Y SOT23 CHANGJIANG
Q601	AH800555	RCN003875-1101	GP XISTR NPN KTC3875-Y SOT23 CHANGJIANG
Q602	AH800555	RCN003875-1101	GP XISTR NPN KTC3875-Y SOT23 CHANGJIANG
Q702	AH800555	RCN003875-1101	GP XISTR NPN KTC3875-Y SOT23 CHANGJIANG
Q703	AH800555	RCN003875-1101	GP XISTR NPN KTC3875-Y SOT23 CHANGJIANG
Q801	AH800556	RCP200733-1001	GP XISTR PNP 2SA812 HFE:200-400
Q802	AH800555	RCN003875-1101	GP XISTR NPN KTC3875-Y SOT23 CHANGJIANG
Q803	AH800555	RCN003875-1101	GP XISTR NPN KTC3875-Y SOT23 CHANGJIANG

 Location No.	TSB P/N	Reference No.	Description
Q901	AH800557	RAP008550-0001	GP XISTR PNP 8550SS-D TO-92 CJ
Q902	AH800557	RAP008550-0001	GP XISTR PNP 8550SS-D TO-92 CJ
Q904	AH800556	RCP200733-1001	GP XISTR PNP 2SA812 HFE:200-400
Q905	AH800555	RCN003875-1101	GP XISTR NPN KTC3875-Y SOT23 CHANGJIANG
Q906	AH800556	RCP200733-1001	GP XISTR PNP 2SA812 HFE:200-400

SAFETY PRECAUTION

The parts identified by  mark are critical for safety. Replace only with part number specified. The mounting position of replacement is to be identical with originals. The substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

TOSHIBA CORPORATION

1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN